Draft Environmental Impact Statement
Digital Multi-Purpose Range Complex
Fort Benning, GA

Prepared by:
Directorate of Facilities Logistics and Engineering
Fort Benning, GA

On behalf of:
Directorate of Operations and Training
Fort Benning, GA

January 2004

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DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DIGITAL MULTI-PURPOSE RANGE COMPLEX, FORT BENNING, GEORGIA

Prepared by:
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On behalf of:
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JAN 29 2004
Date of Approval

JOSEPH H. PLUNKETT
Director, Southeast Region
U.S. Army Installation Management Agency

30 Jan 04
Date of Approval

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Major General, GS
Deputy Chief of Staff
for Operations and Training
U.S. Army, Training and Doctrine Command

This proposed action consists of the construction, operation, and maintenance of an approximately 1,800-acre Digital Multi-Purpose Range Complex (DMPRC) and its associated support facilities, tank trails, and maintenance roads.

The document is available for review at the following website: www.benning.army.mil/EMD/Legal&PublicNotices.htm. In addition, the following person may be contacted for additional information concerning this document:

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Comments on this document must be received within 45 days of publication of the Notice of Availability in the Federal Register and may be sent to the following address: Chief, Environmental Management Division, ATZB-ELN-E (Attn: John E. Brown), Building 6 (Meloy Hall), Room 310, Fort Benning, GA 31905-5122.

SUMMARY FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX (DMPRC)

I. Summary of the Purpose, Need, Proposed Action, and Alternatives

A. Purpose and Need

Fort Benning proposes to construct, operate, and maintain a Digital Multi-Purpose Range Complex (DMPRC), which would provide a state-of-the-art range facility, meeting the Installation's training needs for conducting advanced gunnery exercises in a realistic training environment. The DMPRC would provide training facilities for the Bradley Fighting Vehicle (BFV), the Abrams M1A1 Tank System (Tank), and currently developing future systems (such as the Stryker), providing the capability for both active and reserve components to train to required standards under realistic conditions. Fort Benning provides training facilities for several Forces Command (FORSCOM) units and is home to the following units that conduct training on the Installation: the 4th Ranger Training Brigade, 29th Infantry Regiment; 11th Infantry Regiment; Henry Caro Noncommissioned Officer Academy; Infantry Training Brigade; Basic Combat Training Brigade; and Physical Fitness School. In addition, Fort Benning hosts a number of tenant units that conduct much of their training at the Installation, including the 3rd Brigade/3rd Infantry Division (Mechanized), the 75th Ranger Regiment, the 36th Engineer Group, and the Western Hemisphere Institute for Security Cooperation (WHINSEC). The missions of these various units are diverse and consist of varying combinations of mobile mechanized (tracked/wheeled military vehicle) and infantry task forces with organic armor, mechanized infantry, field artillery, and combat engineer assets utilizing both mounted (movement by tracked vehicle) and dismounted (movement by foot) elements for offensive and defensive engagements.

BFV crews and Tank crews must train and qualify at different skill levels (gunnery tables) that are designed to develop and test the proficiency of individual, crew, and platoon (up to four vehicles) techniques. The training in each gunnery table is intended to imitate as closely as possible the typical battlefield tasks under realistic conditions. Army Field Manuals (FM) set forth the gunnery training standards by these gunnery tables, starting with non-firing exercises at Table I and progressing to advanced qualification exercises in Table XII. Existing facilities at Fort Benning do not currently meet training standards for BFV and Tank training for "full" Table XII of gunnery qualification. Specifically, the existing range targetry is antiquated and replacement parts must therefore be fabricated on site or "cannibalized" from other systems when repairs/replacements are needed; the natural terrain features of Hastings Range impedes the "line of sight" for Tanks and/or BFVs attempting to lock onto targets and therefore hampers training effectiveness and efficiency; the nearness to the Installation boundary restricts training due to noise; and the lack of digital components on the existing range delays the After Action Review (AAR) or analysis of the training exercise.

B. Description of the Proposed Action and Alternatives (DOPAA):

Proposed Action: Fort Benning proposes to construct, operate, and maintain a DMPRC that incorporates the latest technology and provides realistic advanced gunnery training. The optimal standard DMPRC design, per Training Circular 25-8, would provide such a facility and would consists of the construction of a 2,500-by-8,000-meter (approximately 4,942 acres) range and target firing area; however, this optimal standard design was reduced in size to account for site limitations, environmental concerns, and other factors at the site of the two action alternatives. The range is made up of three lanes approximately 250 meters wide and would use

an ordnance impact area. Rounds are non-explosive training rounds. Most of the rounds would be stopped either by berms, terrain, or trees, but some may be diverted from their course and into the ricochet area. The optimal standard DMPRC contains up to 140 stationary armor targets, 45 hostile fire simulators, 39 infantry moving targets, four obstacle breach sites, two defense trenches, 12 two-man foxholes, and 39 defilade positions. A calibration point (area used for sighting weapons) would also be needed at the DMPRC or elsewhere. The stationary targets are implanted into the ground; the moving targets use a rail system similar in appearance to the rails utilized by modern trains. If this optimal standard design were placed on either of the two action alternatives (Alternatives II and III), there would be as many as 22 water crossings (average dimensions: 350 feet long by 29 feet wide each) in varying locations utilized by Tanks/BFVs during training. Additional use of these crossings may include routine range repair and maintenance. Trenches and/or berms would be placed in front of the targetry to protect the equipment; tank trails and/or access roads would be selectively placed to facilitate rapid maintenance and repairs, as needed.

Support facilities associated with the DMPRC would be located on an adjacent area and typically consist of a Control Building, an After Action Review (AAR) building, latrines, BIVOUAC pads, two general instruction buildings, an operations and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess (dining area), vehicle holding and maintenance areas, a well-house and water distribution/collection/treatment system, and a secondary power and data distribution system. In addition, a helipad would be needed for emergency evacuation purposes. The DMPRC would include a Surface Danger Zone (SDZ) that is inaccessible during operation of the range and is a factor for range siting and design. The SDZ is an "invisible" safety boundary that surrounds the firing range and impact area portions of a range and provides a buffer area to protect personnel from the non-dud producing rounds that may be ricocheted during operation of the range (see DEIS Figure 3 and Section 3.2.13.2) for additional detail). The area comprising the SDZ would be closed to all unauthorized personnel during each training exercise on the range.

During the alternative development and review process, efforts were made to avoid potential environmental impacts due to tree/vegetation removal; therefore, additional measures were added into the proposed action. The portions of the range complex marked for construction of support facilities, roads, trails, targets, and berms would be cleared of vegetation and debris. For Line of Sight (LOS) areas that require vegetation removal so that Soldiers can see the targets from the firing points, only selective tree clearing would occur in wetland areas and adjoining buffers. Shorter-growing species and stumps in wetlands would not be removed, allowing as much vegetative cover as possible to remain. Tree clearing would occur in accordance with the Timber Harvest Plan for the DMPRC and in two phases, removing the marketable (saleable) timber first and then removing the non-marketable vegetation (smaller trees and shrubs) and logging slash (limbs/debris remaining after timber harvest). Prior to any tree clearing activities at the site, the boundaries of work would be established and marked. Options to deal with the debris resulting from the tree clearing include: using slash used for on-site brush barrier berms; chipping debris and moving off range for use as fuel/fire wood; hauling off site to a non-Federal landfill; grinding debris in place; or piling debris in trenches and burn (in compliance with applicable Federal and/or state regulations).

Other actions connected to the construction, operation, and maintenance of the proposed DMPRC include the following: a contractor staging area for the construction of the DMPRC; acquisition of borrow or "fill" materials (if needed) for use during construction of the DMPRC and future maintenance; haul routes for construction related materials if required; and utility

service (including connections to existing electric power and communication lines). A batch plant (concrete mixing site) may also be utilized during construction.

Because the advanced Tank and BFV gunnery training would be conducted at the new DMPRC, the proposed action also includes adjustment of training on existing ranges. If built, the basic and intermediate Tank and BFV training would move to Carmouche Range. Hastings Range would be dedicated to the training of vehicular mounted weapons systems and dismounted training scenarios utilizing BFVs and developing future technologies, such as the Stryker; training on Tanks would cease on Hastings Range under normal circumstances. In addition, Ruth Range would serve as a "feeder range" for 0.50 Caliber and MK19 weapons. Routine range maintenance of range targetry and roads would be in accordance with established procedures.

Alternative II and III would implement the Proposed Action description with reduced range footprints, but in the locations indicated. Deviations from the Proposed Action description for those two alternatives are noted below. The No Action Alternative, Alternative I, is also described.

Alternative I: "No Action / Status-Quo": This alternative does not support digitized training, since Hastings Range can only support modified advanced gunnery training due to deficiencies in the facilities; therefore, it does not meet the purpose and needs of the proposed action. Alternative I is presented to provide a comparison with the action alternatives, however, as required for compliance with the National Environmental Policy Act (NEPA). Under this alternative, a DMPRC would not be constructed at Fort Benning; however, units would continue to conduct gunnery tables on existing ranges. Basic and intermediate Tank and BFV tables would be fired on Caramouche Range and all advanced tables would be fired on Hastings Range. In addition, Ruth Range would continue to serve as a "feeder range" for qualification on 0.50 Caliber and MK19 weapons, which are utilized in various Tank and BFV training and which serve to further hone the skills of the crewmembers in combining standard hand-held weaponry with Tank and BFV skills and tactics. These exercises may be conducted in either day or night phases. After completion of the basic and intermediate gunnery exercise, the units and all needed equipment (to include Tanks and/or BFVs) may opt to transport from Fort Benning to existing ranges at Fort Stewart to conduct the remainder of advanced gunnery training.

Support facilities are located on an adjacent complex and consist of a Control Building, latrines, BIVOUAC pads, general instruction buildings, an operations and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess, vehicle holding and maintenance areas, a well-house, and a secondary power and data distribution system. In addition to the range area and the support facility complex, Hastings Range has an SDZ that is inaccessible during operation of the range.

Alternative II: "Compartment K-21" (Alternate Site): Under this alternative, an approximately 1,800 acre DMPRC would be constructed on Fort Benning in the K21 area, allowing troops to conduct all Tank and BFV Tables and related gunnery training. Ruth Range would primarily be utilized for qualification on the 0.50 caliber and MK19 weapons. Basic and intermediate Tank and BFV tables would be shot at the existing Carmouche and Cactus ranges, with advanced tables conducted on the newly constructed DMPRC. Hastings Range would be dedicated to the training of vehicular mounted weapons systems and dismounted training scenarios utilizing BFVs and developing future technologies such as the Stryker; training on Tanks would not continue to occur on Hastings Range under normal circumstances. The location for this alternative is less than 0.25 miles northeast of Buena Vista Road and less than 0.25 miles west of Cactus Road and would utilize an existing dudded impact area, K-15. This

alterative utilizes a range footprint dimension similar to that of Alternative III, although a specific design has not been developed for this alternative. The dimensions of the range and target firing area could vary from 1800 acres, and the support facilities and specific target and firing positions are not currently identified. Also a standard SDZ is currently being used because a more specific SDZ cannot be generated without knowing specific target and firing positions. If this alternative is selected as the Preferred Alternative during the NEPA process, a design would be developed and additional NEPA evaluations of the specific design would be undertaken. The use of a footprint that is comparable in size to the Alternative III footprint is reasonable and gives a sound means to compare potential environmental impacts and mitigation of Alternative II with Alternative III.

Alternative III: "Compartment D-13" (Preferred Alternative): Under this alternative, the DMPRC would be constructed on Fort Benning in the D13 area, using the parameters and processes as described in the Proposed Action and Alternative II. This alternative also consists of a modification to the standard optimal design, due to operational and environmental constraints at the site of the preferred alternative and the site design and analysis process. It would consist of the construction of an approximately 1,800-acre DMPRC containing a firing range made up of three lanes approximately 250 meters wide and utilization of an existing dudded impact area, K15. As of the current design stage, this alternative contains fewer targets than the Proposed Action lists. The DMPRC would contain seven stationary infantry targets (SIT), 11 evasive moving armor targets (MAT), 55 stationary armor targets (SAT), two defense trenches with two-man foxholes, and 19 defilade positions (Tank and BFV hiding places). Modifications made during the design process also reduced the standard number of water crossings by using four tanks trails, rather than six, for a portion of the range; therefore, Tanks and BFVs will use four low-water crossings (approximately 150-350 feet long by 29 feet wide) along Bonham Creek and four low-water crossings (same dimensions) across Sally Branch, for a total of eight crossings. Additional use of these crossings may include routine range repair and maintenance. Trenches and/or berms will be placed in front of the targetry for protective measures and Tank trails and/or access roads will be selectively placed to facilitate rapid maintenance and repairs, as needed. One helipad will also be constructed, for use as an emergency evacuation site. The approximate dimensions of the range and target firing area are 4,500 meters long by 1,500 meters wide, not including support facilities, which are discussed below.

These support facilities would be located to the southwest of the DMPRC complex and just off of Hourglass Road. Support facilities would be located on approximately 20-acres and consist of a Control Building, an After Action Review (AAR) building, two latrines (with separate 70-by-150-foot tile fields), eight BIVOUAC pads, two general instruction buildings, an operations and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess, vehicle holding and maintenance areas, a well-house, and a secondary power and data distribution system. In addition to the range area and the support facility complex, the DMPRC would include a Surface Danger Zone (SDZ) that is inaccessible during operation of the range. The SDZ area would be closed to all unauthorized personnel during training exercises on the DMPRC.

Alternatives Considered but Not Evaluated in Detail:

Initial internal planning for the DMPRC began in 1997 with an analysis of all potential locations for a DMPRC on Fort Benning. Fort Benning then scrutinized the several feasible sites against initial concerns or criteria, allowing Fort Benning to determine which ones were viable and most reasonable alternative locations on which to build the range complex. The five

screening criteria for range siting included: earth-moving requirements, noise levels, cultural resources sites, the Federally Endangered red-cockaded woodpecker (*Picoides borealis*) (RCW), and conflicts with other training missions or ranges on the Installation. During this initial location screening, use of an existing ordnance impact area was preferred. This screening process identified six possible alternatives including "No Action". For more information about these six alternatives refer to the DEIS Section 2.3 and Figure 6. As a result of further internal environmental evaluation, three action alternatives (sites 1, 2, and 5) were eliminated from further review due to probable excessive environmental impacts and the failure to meet the purpose and need for the project. Also two of the action alternatives (sites 3 and 4) did meet the purpose and need for the project, had the lowest impact scores on the decision matrix, and were selected for further review and analysis. These two alternatives are presented and discussed in the DEIS for the DMPRC as Alternatives II (Site 4) and III (Site 3). The potential use of existing ranges at Fort Stewart, GA, was also considered, but was eliminated from further detailed review after preliminary analysis deemed it unfeasible and unable to meet the purpose and need for the project.

II. Results of the Current DEIS

A. Summary of Major Issues, Potential Impacts and Proposed Mitigation

During the scoping process and preparation of the DEIS, several major issues for study were identified, including soil erosion control and sedimentation concerns, wetland and streambank impacts, potential impacts and mitigation for Federally or state listed species (the RCW and gopher tortoise in particular), removal of vegetation, noise and safety related to range operations, and others. These issues were all considered in the DEIS as indicated below. Mitigation for each alternative is also discussed below and listed in Table S-1.

Alternative I, "No Action/Status Quo," would have minimal to no adverse effect on the natural and human environment at Fort Benning. Although temporary minor adverse effects to soils, water quality, and Unique Ecological Areas (UEAs) do occur at Hastings Range, the Alternative I location, these effects are easily mitigated through compliance with existing Federal and state laws and regulations and through the implementation of Installation policies, guidelines, and, where applicable, best management practices (BMPs). Minor adverse to wetlands, streambanks, Federally-protected species, state-protected species, migratory birds, and air quality also occur, but are minimized through these same processes. Moderate adverse effects to land use resulting from noise are ongoing at this location, due to its use as an active Tank and BFV gunnery range. Significant adverse effects to noise also occur at this area; while no "physical" mitigation (such as monitors or barriers) is currently in place for this adverse effect, the Public Affairs Office (PAO) routinely submits notices to Fort Benning personnel, residents, and the public for larger-than-normal training events where noise levels are predicted to be more obtrusive than the existing levels. Noise complaints are also managed by the PAO. There would be no adverse effect on socioeconomics, cultural resources, utilities, public health and safety, hazardous materials, or transportation under this alternative. Cumulatively, this alternative would not result in any incremental adverse effects on most of the natural and cultural resources; however, significant cumulative effects as a result of noise are predicted. This alternative does not meet the purpose and need for advanced gunnery training.

Alternative II, "Compartment K21 (Alternate Site)," would have minor adverse effects to water quality, state protected species, migratory birds, land use, cultural resources, noise, air quality, and hazardous materials and wastes. Effects to water quality would be mitigated through implementation of mitigative measures required through the associated National Pollutant Discharge Elimination System (NPDES) Permit and by implementation of the Spill Pollution

Control and Countermeasures (SPCC). Any effects on state protected species would be mitigated through relocation of the gopher tortoises prior to initiating any earth-moving activities; effects to cultural resources would be mitigated through established Installation practices, to include consultation with the State Historic Preservation Office (SHPO) and Tribes and development of a Memorandum of Understanding (MOA); and effects to air quality would be mitigated through adherence to the construction permit for the DMPRC. Moderate adverse effects are predicted for soils, wetlands, and UEAs in the area. Effects to soils would be mitigated through implementation of a Soil and Erosion Control Plan. Mitigation for wetlands would be in adherence to the 404 Permit and the Soil Erosion and Pollution Prevention Plan (SECP3) for the DMPRC and through either restoration of wetlands on Post or through the purchase of off-Post credits; effects to UEAs would be minimized through implementation of established Installation policies and guidelines. Significant adverse effects are predicted for vegetation, streambanks, and Federally-protected species. Significant effects vegetation would also occur as a result of earth-moving activities and tree clearance for the DMPRC and its associated support facilities; and its associated BMPs and through adherence to protocols established in the Timber Harvest Plan for the DMPRC. Mitigation for streambanks would be through the use of BMPs for soils erosion and the restoration of streambanks outside of the construction area. Mitigation for Federally protected species would occur through adherence to guidance obtained through consultation with the United States Fish and Wildlife Service (USFWS); as of this time, protective berms will be placed in locations suitable to protect/prevent impacts to RCW cluster trees, additional RCW management staff will be hired, and recruitment clusters will be established, with the understanding that additional mitigation may also be required. Temporary minor positive effects are predicted for socioeconomics and minor positive effects are predicted for utilities, primarily due to the fact that, respectively, the construction of the DMPRC would provide additional job sources and bring utilities access to previously unconnected portions of the Installation. There would be no adverse effect on public health and safety or transportation under this alternative. Cumulatively, this alternative would result in no incremental adverse effects on water quality and public health and safety; minor incremental adverse effects on soils and vegetation, wetlands and streambanks, and Federally and state protected species, and significant incremental adverse effects on UEAs and noise. This alternative would result in more potential adverse effects than Alternative III and less potential adverse effects than Alternative I. In addition, this alternative meets the purpose and need for this action.

Alternative III: "Compartment D13 (Preferred Site)" would have a minor adverse effect to water quality, UEAs, migratory birds, land use, cultural resources, noise, air quality, and hazardous materials and wastes; effects would be mitigated as described under Alternative II. Moderate adverse effects are predicted for soils, wetlands, and state protected species; effects would be mitigated as described under Alternative II. Significant adverse effects would occur to vegetation, streambanks, Federally protected species, and noise; effects would be mitigated as described under Alternative II. Temporary minor positive effects are predicted for socioeconomics and minor positive effects are predicted for utilities. There would be no adverse effect on public health and safety or transportation under this alternative. Mitigation for this alternative is also defined in the DMPRC Mitigation and Monitoring Plan. Cumulatively, this alternative would result in no incremental effects on water quality and public health and safety; minor cumulative effects are predicted for soils and vegetation, wetlands and streambanks, UEAs, and Federally and state protected species; and significant incremental adverse effects on noise. This alternative would result in less adverse potential effects than Alternative II and more

adverse potential effects than Alternative I. In addition, this alternative meets the purpose and need for this action.

B. Unresolved Issues and/or Potential Major Controversies

During the initial internal Army and public scoping processes, no issues of Army-wide concern were identified; however a few major issues of community concern were identified, including noise impacts in adjacent communities, and safety of range operations. The current noise impacts are primarily based upon a Zone III noise level crossing into Marion County rural residences and communities. Noise modeling was conducted and results presented in this DEIS, indicating that operation of a DMPRC at either Alternative II or Alternative III would move Zone III within the Installation boundary and generally cause less noise annoyance to communities near the north and eastern boundary. Cumulative analysis of noise impacts does show that the proposed project to upgrade Hastings Range to a Digital Multipurpose Training Complex (DMPTR) would again cause some Zone III noise to extend across the northeastern boundary, but the Zone III noise contour would cover less area off-post than the current (Alternative I) noise situation. Presentation of this information to the public through this DEIS and through public meetings, newsletters and other means, should alleviate some community concerns about noise impacts of the proposed DMPRC. Also before the upgrades to Hastings Range could occur, additional noise studies and environmental evaluation of impacts and mitigation is required.

Another concern identified during public comment involved the safety of range operations, and especially the orientation of the ordnance firing as related to distance from the Installation boundary. Fort Benning has initially identified a maximum Surface Danger Zone (SDZ), which is a temporary exclusion area to ensure no unauthorized personnel enter the area during range usage. The SDZ includes an ordnance dispersion area, ricochet area and a extra buffer zone. The range-specific SDZs were utilized for Alternative I and Alternative III in this DEIS; however the standard SDZ was used for Alterative II because a range design with target and firing point locations is required to generate a range-specific SDZ fan. The Alternative III SDZ currently stretches from the D13 training compartment toward the eastern Installation boundary. Fort Benning is conducting additional studies to include terrain and other factors to ensure that Alternative III operations are safe and within all required SDZ parameters. The SDZ may be reduced if natural backstops for ordnance exist in the terrain, or if targets are moved to shorten the distance fired ordnance will travel. This DEIS used the latest information regarding SDZs available, which is probably a worst-case scenario based upon the current design for Alternative III, so this was considered adequate information at this stage. Additional information will be incorporated into the Final EIS and provided for public and stakeholder review and comment.

No issues are deemed to be unresolved for this DEIS. Other environmental planning processes for the proposed DMPRC are ongoing to comply with requirements for wetlands permitting, consultation with USFWS for potential effects to Federally-protected species, coordination with the SHPO and Tribes regarding impacts to cultural resources, and other processes. In the next several months, those processes will likely identify more specific impacts and mitigation requirements. This DEIS is based upon the best available data and information at the time of preparation. Any additional range design and environmental information will be incorporated into the DEIS after public review and comment**.** No substantial gaps in available information that would prevent the assessments required in this DEIS have been identified; however, some additional information is expected that may cause changes to impact analysis or proposed mitigation.

III. Required Federal, State or Local Permits, Licenses, and Other Authorizations; Statement of Compliance

The DEIS identifies many requirements for permits in the Environmental Consequences section, which is Section 4.0. In general, Alternative I requires few if any permitting or other authorizations because no construction and only continued operations and routine maintenance would occur. Alternative II and III, on the other hand, would require several permits and related plan approvals to address potential impacts to wetlands and stream banks, soil erosion and sediment control, plans to prevent spills and contamination, a biological opinion for Federally listed species, a cultural resource MOA, etc. Fort Benning and the Army will work closely with the DMPRC contractors to ensure all permits and other authorizations are in place before any timber harvest or construction activities for the actions alternatives.

This DEIS is prepared as one step in the compliance process for the NEPA. The action alternatives would require compliance with additional environmental laws and regulations. Fort Benning has initiated informal coordination with several of the regulators that oversee the Army's compliance with environmental requirements related to one of the action alternatives; in fact, the informal assistance of those regulators has aided in efforts to prepare for compliance with those requirements during planning sessions and initial document reviews. Fort Benning and the Army will comply with all applicable Federal, state and local environmental requirements for the proposed action as implemented by one of the action alternatives. Mitigation measures will likely be required as part of compliance with several environmental requirements, and Fort Benning will monitor the mitigation to help ensure compliance.

Table S-1: Potential Direct and Indirect Effects and Mitigation

Table Legend:

ℵ	No Effect		
θ	Minor adverse	⊕	Minor positive
θθ	Moderate adverse	⊕⊕	Moderate positive
θθθ	Significant adverse	⊕⊕⊕	Significant positive

(* beside a symbol indicates temporary effect, e.g., *θ is temporary minor adverse)

Summary of Environmental Consequences and Mitigation – Alternative I

Affected Environment	**Potential Effect/ Consequences**	**Proposed Mitigation Measures**
Soils & Vegetation	*θ - Soils ℵ - Vegetation	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Water Quality	*θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Wetlands & Streambanks	θ - Wetlands θ - Streambanks	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
UEAs	*θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Federally Protected Species – RCW	θ	Construction: None proposed. Operation & Maintenance: No additional mitigation is proposed.
State Protected Species	θ	Construction: None proposed. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no other state protected species present. No additional mitigation is proposed.
Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	ℵ	None proposed.
Land Use	θθ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Cultural Resources	ℵ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Utilities	ℵ	None proposed.
Noise	θθθ	Construction: None proposed.

		Operation & Maintenance: No additional mitigation proposed. Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	ℵ	None proposed.
Hazardous Materials & Wastes	ℵ	None proposed.
Transportation	ℵ	None proposed.

Summary of Environmental Consequences and Mitigation – Alternative II

Affected Environment	**Potential Effect/ Consequences**	**Proposed Mitigation Measures**
Soils & Vegetation	θθ - Soils θθθ - Vegetation	Construction: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division. Operation and Maintenance: Additional mitigation would consist of monitoring, as described above.
Water Quality	θ	Construction: No mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Wetlands & Streambanks	θθ - Wetlands θθθ - Streambanks	Construction: Attempt to reduce potential impacts during design. Additional mitigation would consist of restoration of wetlands and streambanks outside the project area, utilization of erosion control BMPs, and submittal of a Diversion Plan to EMD when stream crossings are ready for emplacement. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division. Optional mitigation – utilization of SEMP streambanks monitoring practices and tools.
UEAs	θθ	Construction: Attempt to reduce potential impacts during design. No additional mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.

Federally Protected Species – RCW	θθθ	Construction: Attempt to reduce potential impacts during design. Adherence to the Fort Benning RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP; Consultation with USFWS; Additional mitigation would include management of new clusters in A20 ordnance impact area. Optional mitigation - research of impacts occurring at new range, when built. Operation and Maintenance: Additional mitigation would consist of staffing two additional personnel for five-year terms to monitor the RCWs and their habitat; and monitoring and appropriate follow-up action by Range Division.
State Protected Species	θ	Construction: Gopher tortoise relocation; no other species present. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no effect predicted for other species. No additional mitigation is proposed.
Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	*⊕	None proposed.
Land Use	θ	Construction: None proposed. Operation & Maintenance: Adherence to existing Installation policies. Another action could be developing a JLUS, if/when funds become available.
Cultural Resources	θ	Construction: Avoidance of cultural resources sites during design, consultation and MOA with SHPO and Tribes, and placement of protective berms. Operation & Maintenance: No additional mitigation proposed.
Utilities	⊕	None proposed.
Noise	θ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: Avoid use of chlorine gas. No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	ℵ	Construction: UXO survey; and berms or backdrops for lasers. No additional mitigation proposed.

		Operation & Maintenance: No additional mitigation proposed.
Hazardous Materials & Wastes	θ	Construction and Operation & Maintenance: No additional mitigation proposed.
Transportation	ℵ	None proposed.

Summary of Environmental Consequences and Mitigation – Alternative III

Affected Environment	**Potential Effect/ Consequences**	**Proposed Mitigation Measures**
Soils & Vegetation	θθ - Soils θθθ - Vegetation	Construction: No additional mitigation. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Water Quality	θ	Construction: None proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Wetlands & Streambanks	θθ - Wetlands θθθ - Streambanks	Construction: Avoidance during design resulted in reducing potential effects. Additional mitigation would consist of restoration of wetlands and streambanks outside the project area, utilization of erosion control BMPs, and submittal of a Diversion Plan to EMD when stream crossings are ready for emplacement. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division Optional mitigation – utilization of SEMP streambanks monitoring practices and tools.
UEAs	θ	Construction: Avoidance during design resulted in reducing potential effects. No additional mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Federally Protected Species - RCW	θθθ	Construction: Avoidance by design resulted in reducing potential effects. Additional mitigation would include management of new clusters in A20 ordnance impact area; protective berms on range, if feasible; and 2 new staff members for RCW management. Optional mitigation - research of impacts occurring at new range, when built.

		Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
State Protected Species	θθ	Construction: There is a greater potential for adverse effect than under Alternative II and Gopher tortoise relocation would still be needed; no other species present. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no other species present. No additional mitigation proposed.
Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	*⊕	None proposed.
Land Use	θ	Construction: None proposed. Operation & Maintenance: Placement of the DMPRC further within the Installation boundary would result in similar effects to Land Use as under Alternative II, but would result in less potential encroachment. Adherence to existing Installation polices is required. Another action could be developing a JLUS, if/when funds become available.
Cultural Resources	θ	Construction: Mitigation during design (to include avoidance and berm placement) resulted in the minimization of potential effect and, therefore, less potential effect than under Alternative II; however, ongoing consultation and MOA with SHPO and Tribes will be needed. Operation & Maintenance: No additional mitigation proposed.
Utilities	⊕	None proposed.
Noise	θ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	⊼	Construction: UXO survey; and berms or backstops for lasers. No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.

Hazardous Materials & Wastes	θ	Construction and Operation & Maintenance: No additional mitigation proposed.
Transportation	ℵ	None proposed.

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1.0 Purpose and Need

1.1 Introduction

Fort Benning is the Home of the Infantry and the U. S. Army Infantry Center and School (USAIC/USAIS) and has three basic missions: to provide the nation with the world's best infantry soldiers and trained units, to provide the nation with a power projection platform capable of deploying soldiers and units anywhere in the world on short notice, and to provide the nation with the Army's premier Installation and home for soldiers and their families, civilian employees, and military retirees. Fort Benning also has three basic training missions: (1) to conduct Basic Training for new Infantry and non-branch specific recruits, conduct Infantry, Airborne, and Ranger training for officers and enlisted personnel, and operate a non-branch specific Officer Candidate School; (2) to study the doctrine, rationale, equipment, and future of infantry combat; and (3) to provide a home station and deployment facility for Forces Command (FORSCOM) and Special Operations Command (SOCOM) units.

Fort Benning proposes to construct, operate, and maintain a Digital Multi-Purpose Range Complex (DMPRC), which would provide a state-of-the-art range facility, meeting the Installation's training needs for conducting effective gunnery exercises in a realistic training environment. The DMPRC would provide training facilities for the Bradley Fighting Vehicle (BFV), the Abrams M1A1 Tank System (Tank), and currently developing future systems (such as the Stryker), providing the capability for both active and reserve components to train to required standards under realistic conditions. Changes in training on other existing ranges (Ruth, Cactus, Carmouche, and Hastings) to incorporate the new DMPRC into the training regime is also proposed.

Fort Benning provides training facilities for several FORSCOM units. Currently, Fort Benning is home to the following units that conduct training on the Installation: the 4th Ranger Training Brigade, 29th Infantry Regiment; 11th Infantry Regiment; Henry Caro Noncommissioned Officer Academy; Infantry Training Brigade; Basic Combat Training Brigade; and Physical Fitness School. In addition, Fort Benning hosts a number of tenant units that conduct much of their training at the Installation, including the 3rd Brigade/3rd Infantry Division (Mechanized), the 75th Ranger Regiment, the 36th Engineer Group, and the Western Hemisphere Institute for Security Cooperation (WHINSEC). The missions of these various units are diverse and consist of varying combinations of mobile mechanized (tracked/wheeled military vehicle) and infantry task forces with organic armor, mechanized infantry, field artillery, and combat engineer assets utilizing both mounted (riding on vehicles) and dismounted (movement by foot) elements for offensive and defensive engagements.

Of these units, the 3rd Brigade/3rd Infantry Division is the primary user of existing Fort Benning ranges for the purpose of mechanized training with the Tank and the BFV. The mission of the 3rd Brigade/3rd Infantry Division (Mechanized) "Sledgehammer" is to alert, upload, and deploy by air, sea, and land anywhere in the world to conduct mobile, combined arms offensive and defensive operations in support of United States policies and objectives. The 3rd Brigade is a highly trained and mobile mechanized infantry task force with armor, mechanized infantry, field artillery, and combat support/service support assets. A tenant unit on Fort Benning, it reports to the 3rd Infantry Division at Fort Stewart, GA. The 3rd Brigade mechanized forces must be capable of deployment worldwide to support a wide range of operations. It must also be able to deploy Brigade components within 18-72 hours of notification. The 3rd Brigade utilizes a large

number of mechanized infantry, armor, artillery, and combat engineer vehicles; therefore, the soldiers must spend a large amount of their time maintaining this equipment and training to efficiency standards on it. To maintain this level of deployment readiness and training efficiency, the 3rd Brigade, in addition to other tenant, visiting, and reserve units on Fort Benning, must train in a realistic (battlefield) environment.

To support the newly evolving Army Transformation process, the Army is procuring intermediate armored vehicles, such as the "Stryker." These wheeled combat/carrier vehicles will be utilized in the field by the Stryker Brigade Combat Teams (SBCTs). The first of the SBCTs were available for deployment in 2003. In addition, the Army plans to continue upgrading its current forces, or "heavy," armed forces that utilize the M1A1 Tanks and BFVs, because most of these forces will continue in operation for at least 20 more years. The ranges at Fort Benning must be able to accommodate these existing and developing systems.

Tank and BFV gunnery exercises are currently conducted twice a year (per unit, on average) on existing Fort Benning ranges and are designed to train crewmembers progressively. BFV crews and Tank crews must train and qualify at different skill levels (gunnery tables) that are designed to develop and test the proficiency of individual, crew, and platoon (up to four vehicles) techniques. The training in each gunnery table is intended to imitate as closely as possible the typical battlefield tasks under realistic conditions.

Above: Tank with Mounted Crew.

Above: Bradley Fighting Vehicle.

Above: Crew dismounting from Bradley Fighting Vehicle.

Army Field Manuals (FM) set forth the gunnery training standards by these gunnery tables, starting with non-firing exercises at Table I and progressing to advanced qualification exercises in Table XII. The Tables can be summarized as follows:

I-IV: Trains crews to identify stationary and moving targets, assume firing positions, and integration of mounted and dismounted crewmembers
V-VIII: Live-fire crew training and qualifications
IX-X: Advanced gunnery training and qualifications in performing security missions and weapons firing
XI-XII: Platoon level (up to four BFVs) vehicle and dismounted infantry integration during tactical scenarios at advanced gunnery levels

Tank Tables:

I-IV: Basic gunnery skills and training course for individuals and crew
V-VIII: Crew gunnery firing practice and qualifications with stationary and moving targets
(No Tank Tables IX or X)
XI-XII: Platoon level (up to four Tanks) advanced course integrating weapons fire and maneuver.
Qualification tables must be fired successfully and in sequence before advancing to the next higher level of gunnery (FM 17-12-1-2; FM 23-1) (see Appendix A for further description).

Fort Benning currently has existing ranges that support Tank and BFV Tables I through a modified Table XII (Figure 6). Basic Tank and BFV tables (Tank Tables I-VI and BFV Tables I-IV) and Intermediate Tank and BFV tables (Tank Tables VII-VIII and BFV Tables V-VIII) are fired on Cactus Range and Carmouche Range and all advanced tables (Tank Tables XI-XII and BFV Tables IX-XII) are fired on Hastings Range. In addition, Ruth Range serves as a "feeder range" for 0.50 Caliber and MK19 weapons, which are utilized in various Tank and BFV Tables and which serve to further hone the skills of the crew members in combining standard hand-held weaponry with Tank and BFV skills and tactics. These exercises may be conducted in either day or night phases. Day firing phase exercises train and test the Tank/BFV crew in rapid engagement and destruction of targets during daylight. Night firing phase exercises train and test the Tank/BFV crew in rapid engagement and destruction of targets at night and during periods of reduced visibility. Day firing should precede night firing; however, this is not a requirement (FM 17-12-1-2; FM 23-1).

Existing facilities at Fort Benning do not currently meet training standards for BFV and Tank training for "full" Table XII of gunnery qualification. Specifically, the existing range targetry is antiquated and replacement parts must therefore be fabricated on site or "cannibalized" from other systems when repairs/replacements are needed; the natural terrain features of Hastings Range impedes the "line of sight" for Tanks and/or BFVs attempting to lock onto targets and therefore hampers training effectiveness and efficiency; the nearness to the Installation boundary results in noise concerns; and the lack of digital components on the existing range delays the After Action Review (AAR) or analysis of the training exercise. Even if the current Hastings Range targets were upgraded, modern gunnery requirements would still not be met (Weekley, 2002; Caldwell, 2001). This situation limits the Installation's ability to support the Force Projection Platform Mission for Mobilization; restricts the USAIS mission of training Bradley Master Gunners Course and Officer and Non-Commissioned Officer (NCO) Battle Focused Training for those being assigned to Bradley M2A3 units; and limits the ability to properly train Battalion and Brigade Level Pre-Command Course requirements. Further support for this assessment is provided in the "Operational Requirements Document for the Digitized Multi-Purpose Range Complex (DMPRC) Cards # 2512, Army Training Modernization (ATM)

Directorate, U.S. Army Training Support Center (USATSC), 27 September 1999," which states that existing ranges (to include those on Fort Benning) have the following specific weaknesses.

- Current ranges and target systems are no longer large enough or modern enough to create the conditions necessary to allow the crew/unit to fully maximize the capabilities of the combat systems. Present ranges are too narrow and do not provide the depth required to stress most systems; and
- After Action Reviews (AAR) systems do not capture the information generated by the evolving technological systems. Current systems do not provide the fidelity necessary to enhance the training opportunity. Information systems data is not collected, downrange viewing is not available, and through sight video feeds are not provided for in the current AAR systems. The DMPRC will allow us the opportunity to build the AAR requirements into the range complex, not add them after construction.

Recently, an updated study of Fort Benning's range capacities and needs was completed via the Range and Training Land Program (RTLP). The resultant document, the RTLP Development Plan (RDP) verifies Fort Benning's continuing need for a DMPRC for advanced gunnery training with digital components (RDP, 2003). For more information or review of the RDP, contact Range Division, Directorate of Operations and Training (DOT), Fort Benning.

1.2 Scope and Limitations of This Document

The National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.)(NEPA) is a broad environmental law requiring all Federal agencies to disclose and consider the environmental implications of their proposed actions. NEPA applies to all Federal agencies (to include the U.S. Army and, specifically, Fort Benning) and most of the activities they manage, regulate, or fund that may affect the environment. NEPA provides an inter-disciplinary framework for Federal agencies to prevent environmental damage and contains action-forcing procedures to ensure that Federal agency decision-makers take environmental factors into account. Two Federal agencies have responsibility for administering, overseeing and reviewing the implementation of NEPA by other agencies: the President's Council on Environmental Quality (CEQ) and the United States Environmental Protection Agency (USEPA). The CEQ has adopted regulations and other guidance to provide detailed procedures Federal agencies must follow to implement NEPA. In addition, specific guidance on the Army's responsibility for environmental stewardship and for implementing NEPA is outlined in Army Regulation (AR) 200-2 (32 Code of Federal Regulations, Part 651; 67 Federal Register 15289 et seq.).

Fort Benning is preparing this PDEIS to identify and evaluate the potential environmental effects of the proposed DMPRC on the natural and human environment. This document consists of an objective appraisal of the potential effects, both adverse and positive, of the proposed action and its alternatives on the natural and human environment, as well as an appraisal of the potential cumulative effects of said actions in a specifically defined region of influence. It also contains discussions of mitigation, permit requirements, and findings and conclusions in accordance with NEPA guidelines. This DEIS contains the following:

- Section 1.0 includes a background on the proposed action and presents the purpose of and need for the proposed action;
- Section 2.0 provides a description of the proposed action and its alternatives;
- Section 3.0 presents the baseline conditions (existing environment) for Fort Benning;

- Section 4.0 is an analysis of the potential direct and indirect environmental consequences of each alternative discussed in the PDEIS, in addition to proposed mitigation actions;
- Section 5.0 is an analysis of the potential cumulative environmental consequences of under each alternative discussed in the PDEIS; and
- Other sections of the PDEIS include regulatory coordination and appendices addressing selected topics.

1.3 Public and Stakeholder Participation

Public and stakeholder involvement is a key element in the Federal decision-making process and is preferably incorporated as early as possible. "Stakeholder" is used to identify those entities that have a relationship to Fort Benning environmental resources or regulatory or governmental duties (Fort Benning, 2002). Stakeholders include Federally-recognized Indian Tribes affiliated with the Fort Benning area (Tribes); Federal, state and local governmental agencies with regulatory authority over Fort Benning (e.g. United States Fish and Wildlife Service, and Georgia Environmental Protection Division); special interest groups with a charter involving environmental or military matters, and others. Public information activities will be undertaken to inform the community of the proposed project, its alternatives, and the potential predicted impacts to the natural and human environment, to include any potential cumulative effects and required mitigation and monitoring. Appendix D to Part 651, AR 200-2, requires that a public participation plan be drafted as part of the NEPA process. Fort Benning drafted a DMPRC Public and Stakeholder Involvement Plan (hereafter, the "PIP") on 30 May 2002 that delineated both the need for the project and how to best encourage public and stakeholder input and participation in the NEPA and other planning processes associated with the proposed DMPRC at Fort Benning; the PIP has been periodically reviewed and edited throughout the course of the project, with the most current version available for review in Appendix B.

In October 2002, the first of a series of newsletters (Appendix C) was mailed to the agencies, organizations, and individuals on the Distribution List (Appendix D) for the proposed Fort Benning DMPRC. It focused on introducing them to the proposed action, the NEPA process, and the role of the public/stakeholder in that process. The second newsletter in this series was mailed in January 2003 and focused specifically on the NEPA process, a discussion of alternatives for the proposed action, and potential environmental issues of concern. The third newsletter in this series was mailed in October 2003 and focused on the potential impacts and mitigation for Protected Species and Wetlands/Water Quality. These newsletters promote the ongoing public involvement process for the project and resulted in several phone calls to Installation personnel. More newsletters are planned for the future and will include the subjects of Noise and Safety and Mitigation and Monitoring. The newsletters were also posted on the Fort Benning website and may be viewed at www.benning.army.mil/EMD/Legal&PublicNotices.htm. All future newsletters, notices of meetings, and other public and stakeholder participation opportunities will also be posted on this website. Comments or questions may also be submitted to Fort Benning via this website.

On 18 February 2003, a public scoping meeting for the proposed DMPRC was held in Columbus, GA, at the Elizabeth Bradley Turner Center, Columbus State University. The meeting lasted from 6-8 p.m. and consisted of an open house format with displays, a terrain model, and subject matter experts to answer questions from the public. A public scoping meeting was also held at the Marion County Courthouse in the nearby city of Buena Vista on 20

February 2003, utilizing the same displays, terrain model, and subject matter experts. Comments obtained at these meetings may be viewed in Appendix E. In addition, numerous comment sheets (given out at the public scoping meetings) were also mailed to Fort Benning by the meeting attendees; these are included in Appendix D, as are documentation of all comments received by phone. Additional meetings will occur to facilitate review of and comment on the DEIS and during the public review period for the document. All comments received as of 1 October 2003 have been considered in the development of this DEIS.

1.3.1 Notice of Intent (NOI)

In accordance with CEQ Regulation 1508.22 and AR 200-2, an NOI advising the public of the intent of the Army to prepare an EIS for the DMPRC was published in February 2003 in the Federal Register and in the following local newspapers (Appendix F): The Columbus Ledger-Enquirer (Columbus), The Tri-County Journal (Buena Vista), and The Savannah Morning News (Fort Stewart). The NOI described the proposed action, the purpose of the EIS documentation, and the evaluation of alternatives. In addition, the NOI also invited participation in the two public scoping meetings held on 18 and 20 February in Columbus and Buena Vista, GA, as described above. Due to the occasional use of existing ranges on Fort Stewart in "Alternative I, No Action/Status Quo," of the DEIS and the initial consideration of another alternative involving Fort Stewart, the organizations/agencies/individuals in Fort Stewart and its surrounding communities also received copies of the NOI and other public documents, such as the aforementioned newsletters. No comments were received from the Fort Stewart area. In addition to notices published in the Federal Register and the local newspapers, copies of the NOI were sent to a list of agencies and individuals on the Distribution List for the proposed DMPRC, representing Federal, state and local agencies, elected officials, and interested parties such as environmental groups, media outlets, and local landowners (Appendix C).

1.3.2 Delegation of Authority for NEPA Approval

AR 200-2 contains a provision allowing Installations to request that approval authority for an EIS be delegated down from the Headquarters, Department of the Army (HQDA) level to the Major Command (MACOM) level. The proponent of the action, through the appropriate chain of command and with the concurrence of the environmental offices, forwards to HQDA the request to propose, prepare, and finalize the EIS through the Record of Decision (ROD) stage (32 CFR 651.6, AR 200-2, 2002). On 6 June 2002 Fort Benning formally requested that DA delegate authority for the EIS for the DMPRC to Training and Doctrine Command (TRADOC), which serves as the MACOM for the Installation. On 11 December 2002, HQDA approved this delegation request and dual authority for the EIS process for the proposed Fort Benning DMPRC was delegated down to TRADOC and the South East Regional Office (SERO), which serves as the regional office of the Installation Management Agency (IMA) for Fort Benning. Therefore, the approval authorities for this NEPA process are SERO and TRADOC, although Fort Benning will work with SERO and TRADOC to keep Headquarters Department of the Army (HQDA) informed and engaged as appropriate.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 Location of the Proposed Action

Fort Benning is located south of the City of Columbus, Georgia (Figure 1, Area Map). The Installation is approximately 100 miles south-southwest of Atlanta, Georgia, and can be accessed by the major highway routes of U.S. Interstate 185, U.S. Highway 27, Georgia Highways 26 and 520, and Alabama Highway 165, in addition to several smaller county and Installation-maintained roads. This area of Georgia and Alabama is located just south of the Fall Line, which extends from central Alabama to southern New York and is a transitional area between the lower Piedmont and upper Coastal Plain Physiographic Provinces. The Fall Line is characterized by a number of rapids and falls in streams and rivers as they flow from the sloping Piedmont region into the flatter Coastal Plain.

The Installation occupies approximately 184,000 acres of land, of which approximately 172,400 acres are located in Georgia and 11,600 acres are located in Alabama. The Installation is divided into compartments, each with a letter and number designation. The Installation covers approximately 80 percent of the land in Chattahoochee County, Georgia, as well as small portions of Muscogee County and Marion County, Georgia, and Russell County, Alabama. The Chattahoochee River, which serves as the border between portions of Georgia and Alabama, traverses the southwestern tip of the Installation. The locations of the two action alternatives for the proposed DMPRC are in the northeastern portion of the Installation in order to utilize an existing ordnance impact area and to facilitate the use of other nearby training facilities. The city of Buena Vista lies to the eastern boundary of Fort Benning and is approximately 14 miles from the location of Alternative I, eleven miles from the location of Alternative II, and 16 miles from the location of Alternative III (Figure 2). More information concerning the locations for each action alternative is provided in the alternatives description in Section 2.3.

2.2 Description of the Proposed Action

Fort Benning proposes to construct, operate, and maintain a DMPRC that incorporates the latest technology and provides realistic advanced gunnery training. The optimal standard DMPRC design (Figure 3), per Training Circular 25-8, would provide such a facility and would consists of the construction of a 2,500-by-8,000-meter (approximately 4,942 acres) range and target firing area; however, this optimal standard design was reduced in size to account for site limitations, environmental concerns, and other factors at the site of the two action alternatives. The range is made up of three lanes approximately 250 meters wide and would use an “ordnance impact area.” Rounds are non-explosive and will result in less ground disturbance than explosive rounds. Berms, terrain, or trees would stop most of the rounds, but some may ricochet, “skip,” or skid along the surface and insert themselves into the soil along their impact route (personal communication, Caldwell, 2002). The optimal standard DMPRC contains up to 140 stationary armor target emplacements, 45 hostile fire simulator emplacements, 39 infantry moving target emplacements, four obstacle breach sites, two defense trenches, 12 two-man foxholes, and 39 defilade positions (hiding places behind berms or earthen works**).** It is best to have a calibration point (area used for sighting weapons) at the DMPRC, but it can be located elsewhere. The stationary targets are implanted into the ground; the moving targets use a rail system similar in appearance to the rails utilized by modern trains. If this optimal standard

design were placed on either of the two action alternatives (Alternatives II and III), there would be as many as 22 water crossings (average dimensions: 350 feet long by 29 feet wide each) on tank trails utilized by Tanks/BFVs during training. These tank trails may also be used by other vehicles for routine repair and maintenance purposes, in addition to the use of dedicated maintenance roads. . Trenches and/or berms would be placed in front of the targetry for instrumentation-protective measures; tank trails and/or access roads would be selectively placed to facilitate rapid maintenance and repairs, as needed.

Support facilities associated with the DMPRC would be located on an adjacent area and typically consist of a Control Building, an After Action Review (AAR) building, latrines, BIVOUAC pads, two general instruction buildings, an operation and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess (dining area), vehicle holding and maintenance areas, a well-house and water distribution/collection/treatment system, and a secondary power and data distribution system. In addition, a helipad would be needed for emergency evacuation purposes. The DMPRC would include a Surface Danger Zone (SDZ) that is inaccessible during operation of the range and is a factor for range siting and design. The SDZ is an "invisible" boundary that surrounds the firing range and impact area portions of a range and provides a buffer area to protect personnel from the non-dud producing rounds that may ricochet during operation of the range (see Figure 4 and Section 3.2.13.2 for additional detail). The area comprising the SDZ would be closed to all unauthorized personnel during each training exercise on the range.

During evaluation of the optimal standard design, efforts were made to avoid potential environmental impacts due to tree/vegetation removal; however, vegetation removal cannot be avoided on the portions of the range complex needed for construction of support facilities, roads, trails, targets, and berms. Tree clearing for construction purposes, such as target emplacement and trail/access road development, may require stump removal and grubbing in wetland areas; however, this activity will be kept to a minimum and will be addressed in the Section 404 Wetlands Permit and Timber Harvest Plan for this action. For Line of Sight (LOS), only selective tree clearing would occur in wetland areas and adjoining buffers, consisting of the removal only of tall trees and species with the potential to grow tall and therefore impede LOS; in addition, these removed trees would be cut to four-to-eight inch stump height, with no grubbing, disking, or stump/root removal occurring. Shorter-growing species and stumps in wetlands would not be removed, allowing as much vegetative cover as possible to remain. Tree clearing would occur in accordance with the Timber Harvest Plan for the DMPRC (Appendix I, currently in draft format) and in two phases, removing the marketable (saleable) timber first and then removing the non-marketable vegetation (smaller trees and shrubs) and logging slash (limbs/debris remaining after timber harvest). Prior to any tree clearing activities at the site, the boundaries of work would be established and marked. Debris resulting from the tree clearing would be dealt with in one or more of the following ways:

- Slash used for on-site brush barrier berms.
- Chipping of debris and moving off range for use as fuel.
- Haul off site to a non-Federal landfill.
- Grind Debris in Place. Stumps would be ground to the surface of the ground (but not removed), with resulting mulch remaining on site.
- Pile debris in trenches and burn. This would require compliance with applicable Federal and/or state regulations.

Other actions connected to the construction, operation, and maintenance of the proposed DMPRC include the following: use of a staging area for the storage of contractor equipment and materials during the construction of the DMPRC and its associated support facilities; acquisition of borrow or "fill" materials (if needed) for use during construction of the DMPRC and future maintenance of its associated access roads and training lanes; use of a haul route for borrow or "fill" materials (if needed) from the (approximate) point of origin to the site of the proposed DMPRC; use of a haul route for concrete during construction of the support facilities and Tank trail turn-around points for the proposed DMPRC; and the establishment of electric power and communication lines to the site. A batch plant (concrete mixing site) may also be set up as part of this proposed action. If utilized, this must comply with all applicable Federal and state requirements.

Flint Energies would meet the energy requirements for the proposed DMPRC through the establishment of new electric lines and pad-mounted transformers. The power lines would be pole mounted leading up to the DMPRC and would be buried on the range itself, extending from existing points of service to the range and its support facilities. Communications service would be established from the nearest point of service and would consist of buried fiber optic cable and would incorporate the appropriate fire reporting/emergency communications system. All solid waste accumulated during the construction/operation of the DMPRC would be disposed of in an off-Post landfill. Per Installation policy, all recyclable materials accumulated as a result of either the construction or operation of the DMPRC would be taken to the Installation Material Recovery Facility (MRF) for appropriate recycling action.

Because the advanced Tank and BFV gunnery training would be conducted at the new DMPRC, the proposed action also includes adjustment of training on existing ranges. If built, the basic and intermediate Tank and BFV tables would continue to be fired on Cactus Range and Carmouche Range. Hastings Range would be dedicated to the training of vehicular mounted weapons systems and dismounted training scenarios utilizing BFVs and developing future technologies, such as the Stryker; training on Tanks would not continue to occur on Hastings Range under normal circumstances. In addition, Ruth Range would then serve as a "feeder range" for 0.50 Caliber and MK19 weapons (see Figure 6 for range locations). Routine range maintenance of range targetry and roads would be in accordance with established procedures.

2.3 Scoping of Issues and Development of Alternatives

Internal Army scoping for potential environmental issues began in the late 1990s (see Section 2.3.2). On 22 May 2002, a design "charrette" meeting was held at Fort Benning, utilizing the expertise of the Fort Benning personnel, Architect/Engineering (AE) firm, and the United States Corps of Engineers-Savannah District Army (USACE) to place the standard design, which is substantially smaller than the optimal standard design, on the site of the preferred alternative. In addition, experts on range construction, maintenance, targetry, and operation from FORSCOM, Simulation Training and Instrumentation Command (STRICOM), the Huntsville Corps of Engineers, the U.S. Fish and Wildlife Service, and the Albany, GA, Corps of Engineers (COE) Regulatory Branch provided input, resulting in modifications to the standard design due to environmental concerns, terrain issues, and operational constraints on the site. The resulting design (15% level) was incorporated into the DEIS. Fort Benning environmental personnel participated in the design review, analysis, and comment process several times, resulting in a 35% design in May 2003, a 60% design in July 2003, and the current

design in September 2003, which is used as the basis for the analysis in this PDEIS. As the final design is developed, it will undergo the same process and be incorporated into the Final EIS (FEIS). The Army will consider further modifications to the design from stakeholder and public participation until at least the conclusion of the EIS process with a Record of Decision (ROD). Further NEPA evaluation will be done on all design changes that occur after the ROD.

Also since the summer of 2001, the Fort Benning Interdisciplinary (ID) Team, which consists of personnel from Fort Benning, the USACE, regulatory agencies, and others, conducted monthly in-progress review (IPR) meetings to facilitate the development of the proposed action and its alternatives and to provide input into the progressing design for the DMPRC. Subject-specific meetings were also conducted, focusing on the NEPA, protected species, wetlands/water quality, cultural resources, noise, and miscellaneous issues for the proposed action and its alternatives. Input from the ID Team meetings and from the public scoping efforts were utilized for the development of the environmental documentation and design for this proposed action and its alternatives.

2.3.1 Alternatives Considered

2.3.1.1 Alternative I: "No Action / Status-Quo" (Figure 2)

Under this alternative, a DMPRC would not be constructed at Fort Benning; however, units would continue to conduct gunnery tables on existing ranges. Basic and intermediate Tank and BFV tables would be fired on Carmouche Range and all advanced tables would be fired on Hastings Range. In addition, Ruth Range would continue to serve as a "feeder range" for qualification on 0.50 Caliber and MK19 weapons. These exercises may be conducted in either day or night phases. After completion of the basic and intermediate gunnery exercise, the units and all needed equipment (to include Tanks and/or BFVs) may opt to transport from Fort Benning to existing ranges at Fort Stewart to conduct the remainder of advanced gunnery training, rather than training to a modified Table XII level on Hastings Range, although this rarely occurs.

Support facilities are located on an adjacent complex and consist of a Control Building, latrines, BIVOUAC pads, general instruction buildings, an operation and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess (dining area), vehicle holding and maintenance areas, a well-house, and a secondary power and data distribution system. In addition to the range area and the support facility complex, Hastings Range has an SDZ that is inaccessible during operation of the range.

This alternative does not support digitized training, since Hastings Range can only support modified advanced gunnery training due to deficiencies in the facilities; therefore, it does not meet the purpose and needs of the proposed action. Alternative I is presented to provide a comparison with the action alternatives, however, as required by NEPA.

2.3.1.2 Alternative II: "Compartment K21" (Alternate Site) (Figure 2)

Under this alternative, the DMPRC would be constructed, operated, and maintained as described in the proposed action on Fort Benning in the K21 area, allowing troops to conduct all Tank and BFV Tables and related gunnery training. Changes to training on Ruth, Carmouche,

Cactus, and Hastings ranges would be as discussed in the proposed action. This arrangement, in summary, would allow for Ruth, Carmouche, Cactus, and Hastings ranges to act as "feeder" ranges for the proposed DMPRC, which is capable of shooting all Tank and BFV tables, if needed.

The location for this alternative is less than 0.25 miles northeast of Buena Vista Road and less than 0.25 miles west of Cactus Road and would utilize the existing ordnance impact area, K15. This alternative would consist of a modification to the standard optimal design, due to operational and environmental constraints at the site of this alternative, and would require a design analysis to position the various components of the range, such as targets, tank trails, and access roads; in addition, avoidance of environmentally sensitive areas, such as wetlands, protected species habitat, and cultural resources sites, would also be considered as part of the design analysis. If this alternative were chosen, additional efforts would be made to avoid siting the range targets and equipment in areas with environmental concerns. Also, the design for this alternative may be modified to reduce the standard number of water crossings, similar to Alternative III.

This alterative utilizes a range footprint dimension similar to that of Alternative III, although a specific design has not been developed for this alternative. The dimensions of the range and target firing area could vary from 1,800-2,000 acres (approximately), and the support facilities and specific target and firing positions are not currently identified. Also a standard SDZ is currently being used because a more specific SDZ cannot be generated without knowing specific target and firing positions. If this alternative is selected as the Preferred Alternative during the NEPA process, a design would be developed and additional NEPA evaluations and studies (such as the tree clearing viewshed model and a leave trees map, as described in Alternative III) of the specific design would be undertaken. The use of a footprint that is comparable in size to the Alternative III footprint is reasonable and gives a sound means to compare potential environmental impacts and mitigation of Alternative II with Alternative III. The DMPRC would be approximately 4,500 meters long by 1,500 meters wide and would contain a firing range made up of three lanes approximately 250 meters wide and would utilize the existing "ordnance impact area," (compartment K15). The DMPRC will contain up to seven stationary infantry targets (SIT), eleven evasive moving armor targets (MAT), 55 stationary armor targets (SAT), two defense trenches with two-man foxholes, and 19 defilade positions (Tank and BFV hiding places). Associated actions, such as the contractor staging area, borrow or "fill" materials acquisition, and batch plant establishment (if needed), would also be consistent with those described in Section 2.2. Utilities would be provided and solid waste disposed of as discussed in Section 2.2. Maintenance would also be conducted as discussed in Section 2.2.

2.3.1.3 Alternative III: "Compartment D13" (Preferred Alternative) (Figure 2)

Under this alternative, the DMPRC would be constructed, operated, and maintained on Fort Benning in the D13 area, using the same processes for timber harvest, slash removal, and construction as discussed in Section 2.2, allowing troops to conduct all Tank and BFV Tables and related gunnery training. Changes to training on Ruth, Carmouche, Cactus, and Hastings ranges would be as discussed in the proposed action.

The preferred alternative consists of a modification to the standard optimal design, due to operational and environmental constraints at the site of this alternative and the site design and analysis process, as described in Section 1.2. It would consist of the construction of an

approximately 1,800-acre DMPRC containing a firing range made up of three lanes approximately 250 meters wide and utilization of the existing "ordnance impact area," (compartment K15). The approximate dimensions of the range and target firing area, as of the current design level, are 4,500 meters long by 1,500 meters wide, not including support facilities, which are discussed later. The DMPRC will contain seven stationary infantry targets (SIT), eleven evasive moving armor targets (MAT), 55 stationary armor targets (SAT), two defense trenches with two-man foxholes, and 19 defilade positions (Tank and BFV hiding places). During design, considerable effort was made to avoid siting the range targets and equipment in areas with environmental concerns, such as wetlands, RCW clusters, and cultural resource sites. Therefore, placement of each range component (including road and utility access and support facilities) is a critical aspect of the preferred alternative. The design modifications also reduced the standard number of water crossings by using four tank trails, rather than six, for a portion of the range; therefore, Tanks and BFVs will use four low-water crossings (150-350 feet long by 29 feet wide) along Bonham Creek and four low-water crossings (same dimensions) across Sally Branch, for a total of eight crossings. One lane was also shortened to avoid additional crossings of Pine Knot Creek. These lanes and some water crossings would also be used by maintenance vehicles for routine range repair and maintenance. Tree clearing under this alternative would consist of approximately 1,500 acres, with up to 300 acres of trees remaining within the DMPRC. This approximation of remaining vegetation is based on a tree clearing viewshed model developed by the Fort Benning Range Division and is used for the assessment of potential impacts for Alternative III in the Environmental Consequences Section (3.0) of this document; a "leave trees" map was also generated by Fort Benning Range Division and is shown on Figure 46 of this document. The viewshed map is in preliminary form at this time and has the following limitations: it is based on the 35% design and not the current design; it does not account for changes in terrain (e.g. hills and ridges are not shown); it does account for the height of existing vegetation; and it does not show all possible firing considerations, only those required. A more advanced tree clearing viewshed modeling result should be available for the Final EIS.

Support facilities would be located to the southwest of the DMPRC on approximately 30-acres and consist of a control building, an after action review (AAR) building, two latrines (with separate 70-by-150-foot tile fields), eight BIVOUAC pads, two general instruction buildings, an operation and storage building, a central maintenance building (for target maintenance only), an ammunition breakdown building with ammo dock, a bleacher enclosure, a covered mess, vehicle holding and maintenance areas, a well-house, and a secondary power and data distribution system. In the preferred alternative, the calibration firing point would be located adjacent to the range; in addition, the control tower would be located at the beginning of the calibration firing point. In addition to the range area and the support facility complex, the DMPRC would include a Surface Danger Zone (SDZ) that is inaccessible during operation of the range. Flint Energies would provide power lines to the proposed DMPRC as described in the proposed action, except that the lines would be underground leading up to the range complex (Figure 5). Buena Vista Road, currently only used on Post and not as an off-Post throughway, is in the footprint of this alternative, as well as in the SDZ.

2.3.2 Alternative Sites Considered But Eliminated From Further Review (Figure 7)

Initial internal planning for the DMPRC began in 1997 with an analysis of all potential locations for an MPRC on Fort Benning; digitization was not available as part of the design until

later on in the planning process. Fort Benning then scrutinized the several feasible sites against initial concerns or criteria, allowing Fort Benning to determine which were the most viable and reasonable alternative locations on which to build the MPRC. A matrix system summarized the five screening criteria: earth-moving requirements, noise levels, cultural resources sites, the Federally endangered Red-cockaded woodpecker (*Picoides borealis*) (RCW), and potential impacts that each alternative would have on other training missions throughout the Installation. During this initial location screening, use of an existing ordnance impact area was preferred rather than establishing a new ordnance impact area. The results of this screening matrix totaled six possible alternatives including "No Action" (Table 1). The matrix indicated that two of the initial sites (Sites 3 and 4) for the MPRC were feasible to pursue with further environmental analysis. The matrix criteria were weighted and an initial impact assessment was used to assign the values indicated on the matrix.

		Alternatives					
Criteria	**Wt***	**I**	**II**	**III**	**IV**	**V**	**VI**
Earthmoving Requirements	3	2** / 6***	2 / 6	3 / 9	3 / 9	4 / 12	0 / 0
Red-cockaded Woodpecker	4	3 / 12	5 / 20	2 / 8	4 / 16	3 / 12	0 / 0
Archaelogical Sites	3	4 / 12	4 / 12	3 / 9	3 / 9	4 / 12	0 / 0
Noise Levels	5	5 / 25	5 / 25	2 / 10	3 / 15	5 / 25	0 / 0
Impact on Training	2	3 / 6	5 / 10	5 / 10	4 / 8	3 / 6	0 / 0
Totals		61	73	46	57	67	0

* Wt = Weighted continuum from 1, being less important, to 5, being more important

** Rating

*** Weighted product

Rating Legend
5= Major Impact
4= Major/Medium Impact
3= Medium Impact
2= Medium/Minor Impact
1= Minor Impact
0= No Impact

For the rating, lowest is best

Table 1. Decision Matrix from 2000 Draft Environmental Assessment of the Fort Benning DMPRC.

In April 2000, Fort Benning prepared a partial Draft Environmental Assessment (DEA) to analyze the potential effects of constructing an MPRC on Fort Benning. This DEA, utilizing the standard MPRC design and the abovementioned decision matrix, analyzed six alternatives, including the "No Action/Status Quo." After an internal review of the DEA by Fort Benning personnel, a decision was made to prepare an EIS for a more thorough analysis of the project; therefore, the DEA was never formalized or sent out for public review. As a result of this DEA, three action alternatives (sites 1, 2, and 5) were eliminated from further review, due to probable excessive environmental impacts and the failure to meet the purpose and need for the project. Also as a result of the DEA, two of the action alternatives (sites 3 and 4) did meet the purpose and need for the project, had the lowest impact scores on the decision matrix, and were selected for further review and analysis. These two alternatives are presented and discussed in the PDEIS

for the DMPRC as Alternatives II (Site 4) and III (Site 3). The potential use of existing ranges at Fort Stewart, GA, for advanced gunnery training, rather than building a DMPRC on Fort Benning, was also introduced during this time, but was eliminated from further detailed review after preliminary analysis deemed it unfeasible and unable to meet the purpose and need for the project. The discarded alternatives are briefly discussed below.

2.3.2.1 Site 1: "Compartment O09"

The area for this proposed alternative is located approximately 3 miles south of Georgia Highway 80 and is bisected by Moore Road. Site 1 was determined to have medium/minor-level adverse impacts due to earthmoving requirements to establish an adequate line-of-sight for targets in the range and target-firing area; medium-level adverse impacts on eight active and two inactive RCW clusters (an aggregation of cavity trees that is used by a family group of RCWs to roost and nest in) in the SDZ and two active RCW clusters downrange (near the far northern edge of the range and target-firing area); major/medium adverse impacts on four eligible/potentially eligible cultural resources sites in the range and target-firing area, 30 eligible/potentially eligible cultural resources sites in the SDZ, and unknown impacts to 6,989 acres of land not (at that time) surveyed for cultural resources sites in the SDZ; major-level adverse impacts as a result of noise levels increasing in this area and traveling off the Installation; and medium-level adverse impacts on training, because placement of the proposed DMPRC in this location would restrict downrange activities on the existing Ruth Range and create potential scheduling conflicts between Ruth Range and the proposed DMPRC. In addition, this alternative would result in the SDZ for the proposed DMPRC expanding off and beyond the Installation's northwestern boundary and into the City of Columbus. For these reasons, this alternative was eliminated from further consideration in subsequent analyses.

2.3.2.2 Site 2: "Compartment O14"

The range area for this alternative is located less than 0.25 miles north of Buena Vista Road and is bisected by Sunset Trail. The range area is oriented from south/southwest to north/northeast. Site 2 was determined to have medium/minor-level adverse impacts due to earthmoving requirements to establish an adequate line-of-sight for targets in the range and target-firing area; major-level adverse impacts on four active RCW clusters within the range and target-firing area, 25 active, two inactive, and two recently (at that time) installed RCW clusters within the SDZ, and six active and three planned RCW clusters downrange; major/medium-level adverse impacts to four eligible/potentially eligible cultural resources sites in the range and target-firing area, 23 eligible/potentially eligible cultural resources sites in the SDZ, and unknown impacts to 7,478 acres of land not (at that time) surveyed for cultural resources sites in the SDZ; major-level adverse impacts on noise increasing in this area and traveling off the Installation; and major-level adverse impacts on training because placement of the proposed DMPRC in this location would restrict downrange activities on the existing Ware and Ruth ranges and create potential scheduling conflicts between Ruth and Ware ranges and the proposed DMPRC. In addition, this alternative would result in the SDZ for the proposed DMPRC expanding off and beyond the Installation's north boundary and into the City of Columbus. For these reasons, this alternative was eliminated from further consideration in subsequent analyses.

2.3.2.3 Site 5: "Compartment K11 (Hastings Range)"

The range area for this alternative is located approximately 1 mile northwest of Highway 355 and 0.5 miles north of Turpentine Road and would consist of constructing the DMPRC on the site of the existing Hastings Range. The range area is oriented from east/northeast to west/southwest. Site 5 was determined to have major/medium-level adverse impacts due to earthmoving requirements to establish an adequate line-of-sight for targets in the range and target-firing area; medium-level adverse impacts on nine active and two inactive RCW clusters within the SDZ and two active and one inactive RCW cluster downrange; major/medium-level adverse impacts on 39 eligible/potentially eligible cultural resources sites in the SDZ and unknown impacts to 7,674 acres of land not (at that time) surveyed for cultural resources sites in the SDZ, major-level adverse impacts on noise increasing in this area and traveling off the Installation; and medium-level adverse impacts on training because placement of the proposed DMPRC in this location would restrict downrange activities on the existing Ware Range and create potential scheduling conflicts between Ware Range and the proposed DMPRC. In addition, this alternative would result in the SDZ for the proposed DMPRC expanding off and beyond the Installation's eastern boundary and into the residential and rural communities within adjacent Chattahoochee and Marion counties. For these reasons, this alternative was eliminated from further consideration in subsequent analyses.

2.3.3 Alternative Studied Further but Eliminated from Detailed Review: "Transport to Fort Stewart"

Under this alternative, a DMPRC would not be constructed at Fort Benning. Units would continue basic and intermediate Tank and BFV training only on the existing ranges at Fort Benning and then transport to existing ranges at Fort Stewart to conduct all advanced gunnery training. Internal scoping at Fort Benning resulted in the inclusion of this as a potential alternative during initial development of this Draft PDEIS in late 2000 through 2003. Fort Benning personnel traveled to Fort Stewart to acquire data on the Fort Stewart existing environment and ranges and to add agencies/organizations/interested individuals from that area to the mailing list for the proposed DMPRC project. Information acquired during this site visit was incorporated into an early internal draft of the PDEIS and is on file at the offices of the Environmental Management Division, Fort Benning. Fort Benning invited the community in and surrounding Fort Stewart to participate in the early public scoping phase via the first DMPRC newsletter, notices for the first public scoping meeting, and copies of the NOI. No comments from Fort Stewart were received as a result of those efforts; however, some of the comments from Marion County residents indicated transport to Fort Stewart as their preferred alternative (Appendix G).

Ongoing analysis of this alternative determined it to be non-viable and it was eliminated from further in-depth evaluation in this PDEIS. Specifically, the cost to transport all required troops and equipment (to include Tanks and/or BFVs) would be prohibitive, according to U.S. Army range experts. While troop and equipment transport provide some mobility training, relying on an off-site range for these routine exercises would reduce the soldier's training time and not allow enough time for the required on-range advanced gunnery training. Although sufficient range space exists on Fort Stewart to accommodate advanced gunnery training, the time to get on the queue for this training is approximately two years, which is an unrealistic lead

time for scheduling training (personal communication, Weekley, 2003). This alternative may be evaluated later during the NEPA process for this project if more interest develops and/or if it is later deemed to be a feasible alternative.

3.0 AFFECTED ENVIRONMENT

This section describes the existing natural and human environment on Fort Benning that may be impacted by the alternatives. Studies performed at the site of the three alternatives are detailed below. Fort Benning proposes to construct, operate, and maintain a DMPRC and its associated support facilities, such as buildings and utilities trenching. Several studies have already been conducted at the proposed locations of the two action alternatives in order to provide a comprehensive baseline environment for the analysis of alternatives and assessment of impacts for the proposed DMPRC on Fort Benning and to enable informed decisions regarding potential mitigation and monitoring options. Much of this effort has been focused on the site of the preferred alternative (Alternative III); however, existing, up-to-date surveys have been used to evaluate the site of the other build alternative (Alternative II) and the No Action/Status Quo Alternative (Alternative I). If, during this ongoing NEPA process, the Alternative III footprint is modified or if Alternative II or another alternative to the proposed action is selected, then additional surveys will be conducted. Unless otherwise indicated, Fort Benning personnel conducted all of the studies/surveys. A summary of these studies and their status are as follows:

- Wetlands Assessment - A wetlands delineation was conducted on the majority of the site of the preferred alternative (Alternative III) in April 2000, using the standard DMPRC design as a guideline for the parameters of the project area (cite doc). This study resulted in the delineation of 149.14 acres of jurisdictional wetlands. The delineation report was forwarded to the Albany Field Office of the USACE Regulatory Branch, who verified the delineation. In May 2002, a design charrette was held on Fort Benning, resulting in a 15% design for the proposed DMPRC and an expansion of the project footprint. In October 2002, an additional delineation was conducted of the additional acreage not covered in the original study. The 2002 survey report, which included the acreage from the prior report, resulted in the mapping of a total of 324.6 acres of jurisdictional wetlands at Alternative III, although the total number of jurisdictional wetlands was eventually reduced to 315.2 as a result of the Savannah District COE Regulatory Branch's decision to remove several acres of isolated and therefore not jurisdictional, wetlands from the total. The Savannah District COE Regulatory Branch verified the amended delineation on 25 April 2003 (Appendix G). Additional details concerning wetlands issues may be reviewed in Section 3.1.3.5 of this document. Wetlands in the no action/status quo (Alternative I) and the other build alternative (Alternative II) have been identified utilizing the National Wetlands Inventory (NWI) database.
- Biological Assessment (BA) – Fort Benning is preparing a BA for the site of the preferred alternative (Alternative III). When final, the BA will be sent to the U.S. Fish and Wildlife Service (USFWS) for formal review, consultation, and development of their Biological Opinion (BO) on the proposed action.
- Endangered Species Surveys – Surveys for the Federally-protected Red-cockaded woodpecker (RCW) were conducted during the Spring of 2001 at the site of the alternatives; these surveys will be updated, as needed, and used as the basis for continued

analysis in this document and the abovementioned BA. Additional surveys will be conducted prior to timber harvest or construction.

- Cultural Resources Surveys - Intensive cultural resources surveys (Phase I and/or II) have been conducted for the areas comprising Alternatives II and III. A Phase I survey is in process for the area comprising Hastings Range, or Alternative I. The Cultural Resources Program Manager has currently used the best information available in evaluating the potential environmental consequences of this Alternative, which consists of the "No Action/Status Quo." Several sites potentially eligible for the National Register of Historic Places (NRHP) were identified in the area comprising Alternative III (preferred); therefore, Phase II surveys were conducted to further evaluate the status of most of these potentially eligible sites. As a result of the Phase II survey, five sites of Euro-American heritage and two sites of Indian heritage were determined eligible or potentially eligible for the NRHP. During the past two years, Fort Benning has informally coordinated this project with the Tribes during several consultation meetings. Formal consultation with both the SHPO and the Tribes will be initiated regarding the potential impacts to and protection of these sites.
- Noise – Fort Benning is currently awaiting receipt of the Environmental Noise Management Plan from United States Army Center for Health Promotion and Preventive Medicine (USACHPPM). The Fort Benning Range Division submitted information to USACHPPM detailing current and future rounds fired on Fort Benning; this information was used to generate noise contour maps and was used in the analysis of potential noise impacts as a result of the alternatives.

3.1 Natural Environment

3.1.1 Topography

Most of Fort Benning is located south of the Fall Line; however, there is a small area of the Piedmont Province located in the northeastern part of the Installation. The Fall Line is defined by the overlap of Coastal Plain strata on top of Piedmont rocks. This is also the area where the Piedmont basement rocks are exposed in streams flowing to the Atlantic Ocean and the Gulf of Mexico. The location of Fort Benning in relation to the Fall Line makes the Installation unique. The result is the overlapping diversity of Piedmont and Coastal Plain habitats and the associated occurrence of diverse plant and animal communities. The effect is not limited to terrestrial (land-based) communities, but also is reflected in the physical features and aquatic (water-based) communities of the streams that pass through or arise within the Installation. The predominately rolling terrain is highest in the east (which includes the location of the proposed action and its alternatives), rising approximately 740 feet above sea level, and lowest in the southwest along the Chattahoochee River, about 190 feet above sea level. Along the Fall Line Sand hills, the crystalline rocks of the Piedmont lie beneath the marine or fluvial sediments. The crystalline and sedimentary deposits may be exposed in relatively close proximity. For this reason Fort Benning contains a varied topography. Upland slopes range from steep to gently sloping and comprise most of the land on the Installation. The remaining area consists of relatively flat uplands or terraces adjacent to or near the Chattahoochee River.

3.1.1.1 Surface Geology

The sedimentary sequences (soil layers) of the Coastal Plain that overlie the crystalline basement rocks at Fort Benning consist of materials deposited during the Cretaceous, Tertiary, and Quaternary Periods. The Cretaceous Period sediments form the uplands and consist of the five following geologic formations. Descriptions are taken from Reinhardt and others (1994).

- Kr - Ripley Formation (Upper Cretaceous): Fine to very fine, calcareous quartz sand, massive burrowed to bioturbated, greenish-gray, weathers to dusky yellow, contains abundant muscovite, glauconite, and locally abundant carbonaceous debris; local clean quartz sand lenses. Ledge-forming, carbonate-cemented sand beds and calcareous concretions are common in upper part of unit. Thickness ranges from 133 to 250 feet. The Ripley Formation is found only along the southeastern boundary of Fort Benning. This area is also where the highest elevations on the installation are found.
- Kc - Cusseta Sand (Upper Cretaceous): Medium to coarse quartz sand, pale yellow to light olive gray, thinly bedded to laminated clay, medium olive-gray to brownish-black, and micaceous fine sand, light olive-gray. Formation thickness ranges from 150 to 233 feet.
- Kb - Blufftown Formation (Upper Cretaceous): Fine sand to sandy clay, calcareous, glauconitic, and micaceous, light brownish-gray to olive-gray, interfingers with medium to coarse sand, quartzose, pale yellow. Locally abundant carbonaceous debris, shell beds, and calcareous concretions. Formation thickness ranges from 200 to 433 feet.
- Ke - Eutaw Formation (Upper Cretaceous): Fine to very coarse sand, very pale orange to yellow, and clay, brownish -gray. Thickness of the unit ranges from 100 to 280 feet.
- Kt - Tuscaloosa Formation (Upper Cretaceous): Fine to very coarse sand, pale yellowish-green to pale orange, crossbedded, quartzose and containing abundant potassium feldspar, interbedded with massive sandy clay, pale olive to reddish-brown, locally mottled. Gravelly and poorly bedded deposits at base difficult to distinguish from residuum on underlying crystalline rocks. Thickness ranges from 165 to 500 feet.

3.1.1.2 Soils (Figure 8)

The soil surveys completed at this time by the U. S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) for Fort Benning on the Georgia side are for Chattahoochee and Marion Counties and Muscogee County. The soil survey for Russell County, Alabama, has recently been updated and a text version of the survey, including a description of the soils, is available through the following USDA website: http://soils.usda.gov/soil_survey/surveys/al_russell/al_russell.pdf.

There are two basic soil provinces on Fort Benning: the Georgia Sand Hills and the Southern Coastal Plains. The Georgia Sand Hills are a narrow belt of deep sandy soils with rolling to hilly topography. These soils are primarily derived from marine sands, loams, and clays that were deposited over acid crystalline and metamorphic rocks. South of the Sand Hills are the Southern Coastal Plain soils, which are divided into nearly level to rolling valleys and gently sloping to steep uplands. Southern Coastal Plain soils in this area have a loamy or sandy surface layer and loamy or clayey subsoil (Cooperative Extension Service 1993).

Soils in the Russell County portion of Fort Benning range from sandy to clayey and from somewhat excessively drained to very poorly drained. The topography in this area is varied, ranging from highly dissected upland areas that have high relief to broad, nearly level stream

terraces and flood plains along the Chattahoochee River and other major streams. Soils in the Blackland Prairie area, located in the west-central part of the county, are dominantly clayey and range from acid to alkaline in reaction. The topography in this area is generally smooth to gently rolling with low relief (USDA, 2002).

3.1.1.3 Generalized Surface Soil Textures

A soil texture map for Fort Benning is provided in Figure 8; features on this map represent the relative proportions of sand, silt, and clay in a soil. The existing ordnance impact areas of A20 and K15 and the areas around the firing ranges along Dixie Road are not mapped in the modern method of soil surveying as these areas have restricted access. As a result, data from a 1928 USDA soil survey was manually digitized to fill in the gaps.

3.1.1.4 Highly Erodible Soils

Based on the available soil survey data, most of Fort Benning's soils are identified as highly erodible. The degree of erodibility is determined by factors such as drainage, permeability, texture, structure, and percent slope. The existing ordnance impact areas of A-20 and K-15 and the areas around the firing ranges on Dixie Road were not mapped because of safety/access restrictions. The locations of the three alternatives are all within areas containing highly erodible soils (personal communication, Hollon, 2003).

3.1.1.5 Physiographic Soil Units

Piedmont - Although Fort Benning lies entirely to the south of the Piedmont ecological unit, small inclusions of Piedmont geology, soils, and vegetation occur in the northeastern portions of the Installation. The Piedmont is characterized by ultisols (Thermic Udic Kanhapludults and Rhodudults), which have weathered in place from micaceous, clayey, sandy saprolite. Upland Piedmont soil series in the vicinity of Fort Benning include the Cecil sandy clay loam, Pacolet clay loam, and Wedowee sandy loam. Upland Piedmont soils in this region are typically highly eroded and often only subsoil remains. Piedmont soils mapped on Fort Benning are mostly alluvial soils associated with streams, which flow onto the Installation from the Piedmont. Prominent among these are the Toccoa and Chewacla series, mapped on Holocene alluvium in the northeastern portion of the Installation.

Sand Hills - The Sand Hills subsection covers approximately the northeastern two thirds of Fort Benning, and consists largely of light-textured soils on a dissected upper Coastal Plain landscape. Sand Hills soils are also found in the southeastern portion of the Installation. The Sand Hills are part of the Lower Coastal Plains and Flatwoods section of McNab and Avers (1994), as are the Lower Clay Hills (below). Upland soils in the Sand Hills are loamy sands and sands, and on Fort Benning are found on the Tuscaloosa, Eutaw, and Cusseta geologies. Prominent upland soil series are the Ailey loamy coarse sand, Troup loamy fine sand, and Vaucluse sandy loam on the hilltops and Troup, Vaucluse, and Pelion loamy sand on side slopes. All of these soils have sandy surface horizons and loamy subsoils and are highly permeable, droughty, and low in organic matter. The locations of the three alternatives are all within the Sand Hills subsection (personal communication, Hollon, 2003).

Upper Loam Hills - The Upper Loam Hills are a subsection of the Middle Coastal Plains of McNab and Avers. They cover most of the southwestern third of Fort Benning. Soils in this subsection are Thermic Udic Hapludults and are heavier textured and more mesic than soils of the Sand Hills (McNab and Avers, 1994). They also generally have higher water holding capacity and higher organic matter content. Predominant series include Cowarts loamy sand and Nankin sandy clay loam. On Fort Benning, the Upper Loam Hills occur on the Blufftown geological formation.

Lower Clay Hills - Fort Benning lies to the north and east of the Lower Clay Hills subsection. This subsection is characterized by Thermic Udic Paleudults, Hapludults, and Kandiudults formed in Tertiary and Quaternary marine deposits on the Coastal Plain.

3.1.2 Vegetation

Fort Benning is included within the Longleaf Pine Ecosystem, which once covered over 90 million acres of the southeastern United States. Within this region the upland areas were historically dominated by longleaf pine (*Pinus palustris*) with a mixture of other pine species within the stands. Oaks and other less fire tolerant species dominated the drains and areas, which were not subject to natural wildfires. As a result of changes in agricultural and forestry practices and of land ownership through the past 150 years, however, the original vegetative cover has been modified to a predominantly coniferous/deciduous mixture. Vegetated acreage on Fort Benning consists of approximately 16,000 acres of lawn and grassed areas, approximately 4,000 acres of open land and old fields (shrubs and herbaceous plants), and approximately 163,000 acres of woodland (includes the ordnance impact areas and excludes the approximately 1,000 acres of water bodies). Loblolly (*Pinus taeda*) and Longleaf Pine (*Pinus palustris*) are the principal conifers on the reservation and comprise approximately 54,000 acres of the woodlands. The remaining 109,000 acres of woodland are comprised of approximately 55,000 acres of mixed pine and hardwoods and 54,000 acres of hardwood forest (personal communication, Thornton and Larimore, 2002, 2003).

There are more than 1,275 species of plants on Fort Benning. These include trees such as the Longleaf Pine and White Oak (*Quercus alba*), shrubs such as Waxmyrtle (*Myrica cerifera*), vines such as Muscadine Grape (*Vitis rotundifolia*) and Poison Ivy (*Rhus radicans*), and herbaceous groundcover such as grasses and legumes. Trees and other plants are also important for many other reasons, including shade, erosion control, wildlife habitat, timber products, medicinal products, and realistic training scenarios. Various controls are in place to protect plant life, but some use is authorized. For example, underbrush and grass may be cut and used for camouflage during training exercises, but no vegetation may be disturbed inside RCW clusters. Cutting of trees and live limbs in training areas cannot occur without prior approval of Directorate of Facilities Engineering and Logistics (Conservation Branch) through the FB Form 144-R (Record of Environmental Consideration) process. Harvest of firewood is allowed by permit from the Corps of Engineers; in addition, USAIC Regulation 210-4 (Range and Terrain Regulation) and USAIC Regulation 210-5 (Garrison Regulation) address these issues in more detail.

There are currently 14 United States National Vegetation Classification Alliances (USNVCA) within the area of the three alternatives (Tables 2-4, below). The current acreage for the vegetation types and forest stand types are presented in the following tables for the three alternatives.

Table 2. Vegetation within Alternative I Area.

Alternative I (No Action/Status Quo)	
United States National Vegetation Classification Alliances	**Acres**
Nyssa biflora - Acer rubrum - (Liriodendron tulipifera) saturated forest	1
Unvegetated range lands	254
Pinus palustris / Quercus spp. Woodland	7
Pinus palustris planted forest	1
Pinus taeda woodland	1
Quercus laevis woodland	101
Total Acres	**365**

Table 3. Vegetation within Alternative II Area.

Alternative II (Compartment K21)	
United States National Vegetation Classification Alliances	**Acres**
Liquidambar styraciflua – (Liriodendron tulipifera, Acer rubrum) temporarily flooded forest	25
Liquidambar styraciflua forest	35
Unvegetated range lands	79
Nyssa (aquatica, biflora, ogeche) floodplain seasonally flooded forest	129
Nyssa biflora – Acer rubrum – (Liriodendron tulipifera) saturated forest	119
Pinus palustris / Quercus spp. Woodland	452
Pinus taeda – Liquidambar styraciflua – Acer rubrum saturated forest	6
Pinus palustris planted forest	20
Pinus taeda forest	20
Pinus taeda woodland	472
Quercus alba – Quercus (falcata, stellata) forest	84
Quercus falcate forest	96
Quercus laevis woodland	84
Quercus nigra forest	20

Total Acres	**1627**

Table 4. Vegetation within Alternative III Area.

Alternative III (Compartment D13 – Preferred)	
Fort Benning's Forest Stand Classification	**Acres**
Bottomland Hardwood-Yellow Pine	389
Loblolly Pine	415
Longleaf Pine	163
Unvegetated range lands	60
Mixed Pine	213
Mixed Pine – Longleaf	10
Sweetbay-Swamp Tupelo-Red Maple	170
Upland Hardwood-Yellow Pine	223
Yellow Pine-Cove Hardwood	4
Yellow Pine-Upland Hardwood	162
Total Acres	**1809**

3.1.3 Water Quality

3.1.3.1 Ground Water

The state of Georgia possesses some of the largest and purest groundwater aquifers in the world. Fort Benning is in the Coastal Plain hydrogeologic province of Georgia and Alabama, whose principal ground water source is the Cretaceous aquifer system. The recharge area for these aquifers is the Sand Hills area (Georgia DNR, 1986). The Georgia Geologic Survey identifies the Cretaceous aquifers in the Fort Benning area as the A-3 through A-6 aquifers. The confining strata above and below the aquifers are designated C-3, C-4, and C-5. Aquifer A-6 is part of the upper Tuscaloosa and the overlying Lower Eutaw formations. This aquifer typically has the capacity to yield approximately 50 gallons of water per minute (gpm) near the Fall Line, but yields increase to approximately 700 gpm near the southern Installation boundary. Aquifer A-6 water is usually of uniformly good quality.

Aquifer A-5 is part of the basal sedimentary sequence of the Blufftown Formation. The A-5 water is more acidic than that of A-6. Some sedimentary lenses of the A-5 aquifer contain gypsum crystals, which result in a high sulfate content. Aquifer A-4 is in the upper sedimentary sequence of the Blufftown Formation and it has increasing amounts of dissolved solids, sodium, and bicarbonate concentrations. Both the A-5 and A-4 aquifers have low yields and are usually combined with other aquifers to produce adequate supplies. The A-3 aquifer correlates with the

Cusseta Sand Formation. Yields from this aquifer range from 1-10 gpm in the area around the Installation. This aquifer is not considered an individual source aquifer (Georgia DNR, 1986). There are seven water supply (drinking water) wells on Fort Benning proper; however, it is not proposed to use any of those wells for the water needs of the proposed DMPRC, which would be met via the sinking of a new well dedicated for sole use by the new range and its associated support facilities.

3.1.3.2 Surface Water (Figure 9)

The Chattahoochee River dominates the surface water regime at Fort Benning (Figure 8). The Chattahoochee River, along with the Flint River to the east, is a major component of the Apalachicola River drainage basin of eastern Alabama, western Georgia, and the Florida panhandle. The principal tributaries on the Installation to the Chattahoochee are Bull Creek and Upatoi Creek, each of which has several lesser tributaries flowing into them. Smaller streams proximate to the northeastern portion of the Installation are Sally Branch Creek to the east and Bonham Creek to the west (personal communication, Swiderek, 2002).

Most streams found within the Installation boundary drain into the Chattahoochee River. A very small area in the southeast corner of the Installation drains into the Flint River Basin to the east. These two rivers join to the south and flow into the Gulf of Mexico. The largest body of water associated with the northeastern portion of the Installation is the Chattahoochee River, a major perennial stream that flows broadly over extensive lowlands in a southerly direction, separating the Georgia and Alabama portions of Fort Benning. Numerous oxbows, abandoned meander channels, isolated ponds, and wetland areas are found along the Chattahoochee River. Another significant surface water body is Upatoi Creek, which serves as the source of surface water withdrawal for drinking water, residential, commercial, and other uses on Fort Benning (INRMP, 2001). It is a major perennial stream and serves as the main drainage basin for the other streams and tributaries on Fort Benning, eventually emptying into the Chattahoochee River.

Surface water systems at the site of the two proposed action alternatives include Pine Knot Creek, Sally Branch, and Bonham Creek. At the site of the preferred alternative, Alternative III, Bonham Creek flows from southeast to northwest. Within this area, two small, unnamed tributaries also flow into the creek. Several large, south-facing, sloped seepage areas are located on the northeastern side of the creek and are at a higher elevation than the creek. This situation causes water from these seepage areas to flow into the creek. Sally Branch flows from southeast to northwest. Two small, unnamed tributaries flow into Sally Branch from the western side. Several south-facing, sloped seepage areas are located on the northeastern side of the stream and are at a higher elevation than the stream, causing water to flow into the stream. Pine Knot Creek flows from east to west. The elevations of these seepage areas are approximately 325 feet to 350 feet above sea level.

Fort Benning is conducting ecosystems research under the Defense Department's Strategic Environmental Research and Development Program (SERDP). This SERDP Ecosystem Management Project (SEMP) has more than 20 researchers from 12 universities and four government laboratories taking the post's environmental pulse from some 800 monitoring sites. Fort Benning and SEMP researchers will work together to help ensure that ecological monitoring is useful for pre-construction and post-construction monitoring. For example, the monitoring required under the construction contract specifications for an erosion and sediment control plan

incorporate existing SEMP monitoring. Fort Benning will seek adjustments to the SEMP research plan to help ensure some monitoring occurs on, and downstream from, the DMPRC site.

3.1.3.3 Impaired Streams and Total Maximum Daily Loads on Fort Benning (Figure 10)

A Total Maximum Daily Load (TMDL) is defined as the amount of a particular pollutant that a water body (stream or water segment, lake or estuary) can receive and still meet its beneficial use designation, and state water quality standards for that pollutant. TMDLs are developed for all water bodies identified as not meeting water quality standards and for which there are no ongoing actions to resolve the impairment.

3.1.3.3.1 Total Maximum Daily Loads for Sediment

The State of Georgia has identified 31 stream segments in the Chattahoochee River Basin as "water quality limited" [i.e., Clean Water Act, Section 303(d) listed] or impaired due to sedimentation. The Biota Impacted designation is given when studies show a modification of the biological community. The following six impaired stream segments are located within the Installation boundaries (see Figure 10 and Table 5):

Table 5. Impaired Streams (TMDLs) on Fort Benning (GADNR, 2002a).

Water Body Name	Location	Portion of the Water Body on Fort Benning	Media of Concern	Annual Average Load (tons/year)
Little Hitchitee Creek	Southern boundary of installation	Less than 100 meters (± 50 m)	Sediment	555
Little Juniper Creek	Northeast boundary of installation	5 Kilometers	Sediment	1,486
Little Pine Knot Creek	South of K-15 Ordnance impact area	6.5 Kilometers	Sediment	272
Pine Knot Creek	East of K-15 Ordnance impact area to eastern boundary	20 Kilometers	Sediment	6,945
Tiger Creek	Sand Hill cantonment area	6 Kilometers	Sediment	625
Chattahoochee River	Upatoi Creek to Railroad at Omaha	16 Kilometers	Fecal Coliform	NA (as long as NPDES limits not exceeded)

Data collected during the development of the TMDL suggest that impaired streams may be sediment resulting from past land use practices. Farmland use, specifically row crops, appears to have been a major source of sediment. The established TMDL determines the allowable sediment load and is based on the hypothesis that an impaired watershed having annual sediment loading rates similar to other streams that are not impaired will remain stable. It

is believed that if sediment loads are maintained at an allowable level (i.e., no more than the 2002 annual average sediment load), streams will repair themselves over time. (GA DNR, June 2002b). No set "allowable" level has been established for the stream segments on Fort Benning; instead, the Installation is utilizing management practices, as defined in the GA DNR guidance for TMDLs (GA DNR, 2002a, 2002b), which include the following:

- Compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit program
- Implementation of Georgia Forestry Commission (GFC) Best Management Practices for forestry
- Adoption of Natural Resources Conservation Service (NRCS) Conservation Practices
- Adherence to the Mined Land Use Plan prepared as part of the Surface Mining Permit Application (not applicable to the DMPRC proposal)
- Adoption of proper unpaved road maintenance practices
- Implementation of Erosion and Sedimentation Control Plans for land disturbing activities
- Mitigation and prevention of stream bank erosion due to increased stream flow velocities caused by urban runoff.

3.1.3.3.2 Total Maximum Daily Loads for Fecal Coliform

The State of Georgia has identified 79 stream segments located in the Chattahoochee River Basin as water quality limited due to fecal coliform. A stream is placed on the partial support list if more than 10% of the samples exceed the fecal coliform criteria, and is placed on the not support list if more than 25% of the samples exceed the standard. Currently, the Chattahoochee River segment located between the Upatoi Creek and the railroad at Omaha, GA, is the only stream segment on Fort Benning identified as not meeting the fecal coliform standard.

Part of the TMDL development process is to identify potential source categories. Sources are broadly classified as either point or non-point sources. A point source is defined as a discernable, confined, and discrete conveyance from which pollutants are or may be discharged to surface waters. Non-point sources are diffuse, and generally, but not always, involve accumulation of fecal coliform bacteria on land surfaces that wash off as a result of storm events. (GA DNR June 2002b). Fort Benning has two permitted point sources (wastewater treatment plants) that discharge to the Chattahoochee River, as well as a general storm water permit. Combined point and non-point source fecal coliform releases originating from sources located upstream from the Installation are also contributors for fecal coliform in the Fort Benning section of the Chattahoochee River. The waste load allocation (WLA) is established by the GA DNR and is used to determine the "maximum allowable" levels of fecal coliform that may be discharged into the stream or river. As long as Fort Benning maintains its discharges below the WLA, it is not required to reduce its discharge into the Chattahoochee River and is in compliance with the TDML program (GA DNR, 2002b).

Management practices recommended by GA DNR, and followed by Fort Benning, to reduce and/or maintain point and non-point fecal coliform source loads include; compliance with NPDES permit limits and requirements, adoption of Natural Resource Conservation Service Conservation Practices, and application of Best Management Practices (BMPs) appropriate to agricultural or urban land uses. Impaired streams in the vicinity of the three alternatives are Pine

Knot and Little Pine Knot creeks; both are listed as being impaired for sediments (personal communication, Clarke, 2003).

3.1.3.4 Storm Water

Storm water discharge in the Main Post districts of Fort Benning, GA, drains directly into the Chattahoochee River through a storm drain system. Other stormwater on the Installation drains via culverts, ditches, swales, and natural seepage and overland flow. Stormwater from the satellite cantonment areas of Harmony Church, Kelley Hill and Sand Hill, as well as the training compartments, drain directly or indirectly into nearby surface water bodies.

3.1.4 Wetlands (Figure 11)

Fort Benning has an overlay map of the wetland areas on Post that was generated from data obtained from National Wetland Inventory (NWI) maps (also available at DFEL for review) and USDA Natural Resources Conservation Service county soil surveys that show soil types that are hydric. Color infrared aerial photographs, and the terrain analysis for Fort Benning also provide information on hydric soils. The vegetation and hydrology criteria, required for jurisdictional wetland delineation, do exist in the northeastern portion of the Installation (Figure 11) and specifically at the two action sites for the proposed DMPRC (Alternatives II and III); no wetlands are known to exist at the site of Alternative I, Hastings Range. The decision to fully delineate only the Alternative III site was determined during planning meetings for the proposed DMPRC because of limited resources, when it was designated as the preferred alternative; analysis of wetlands impacts to the Alternative II site were completed utilizing information obtained from the NWI. If Alternative II were chosen, a full wetlands delineation would be conducted.

The footprint of Alternative II is situated directly over Little Pine Knot Creek and its tributaries. This site contains approximately 15,071 linear meters of tributaries and approximately 194 acres of associated wetlands. Most of the wetland area contains Bibb sandy loam soil (a hydric soil) as shown in the Soil Survey of Chattahoochee and Marion Counties. Little Pine Knot Creek is located near the center of the project area and is listed as an “impaired stream” for sedimentation (see Section 3.1.3.3, TMDLs).

Fort Benning initially delineated the wetlands on the site encompassing Alternative III between 25 October 1999 and 9 February 2000, to provide an evaluation and delineation of potential Federally protected jurisdictional areas. On 6 October 2002, an additional delineation was initiated, due to the expansion of the proposed DMPRC footprint resulting from the development of the 15% design. This supplemental delineation included both the original study area plus an additional 100 meters on all sides beyond the boundaries of the original study to fully encompass the new, expanded footprint for the proposed DMPRC.

The primary purpose of the site studies was to determine the occurrence of Federally-regulated jurisdictional areas (including wetlands, streams, and drainages), as defined by the 1987 version of the Corps of Engineers Wetlands Delineation Manual. The study consisted of a field survey in which the jurisdictional area boundaries are physically marked to classify the site in terms of its status, based on the Federal Manual. The marked boundaries were mapped with a Global Positioning System (GPS) and overlaid onto an existing topographic map, producing a map of the jurisdictional areas.

The 2002 survey, which included the acreage from the 2000 survey, originally resulted in the mapping of a total of 324.6 acres of jurisdictional wetlands at the site of the Preferred Alternative (III), consisting of wetlands along Bonham Creek, Sally Branch, and Pine Knot Creek. After review by the Albany, GA, Corps of Engineers Regulatory Branch (COE), some of the isolated wetlands at the site were deducted from the total acreage because they were not considered jurisdictional wetlands, resulting in a revised wetland acreage total of 315.2 acres at the site of the Preferred Alternative (III).

The Federal Water Pollution Control Pollution Act Amendments of 1972, Section 401, requires that anyone or agency applying for a Federal license/permit for an activity that may result in a discharge into navigable waters to obtain a certification from the state in which the discharge will originate or, if appropriate, from the agency regulating such discharges, such as the USACE. Water quality standards have been deemed an effective tool for states to protect the overall health of their wetland resources. The Section 401 Water Quality Certification allows for better consideration of state-specific water concerns. The certification allows state regulators to consider the extent of the impacts and regulators must be assured no further degradation of the environment will occur. The 1976 "Memorandum of Agreement for Coordination of Joint Application for a Department of the Army, Corps of Engineers, Dredge and Fill Permit, State of Georgia Marshland Protection Permit, Water Quality Certification" allows for the publication of a joint public notice for a permit to conduct an activity in navigable waters of the U.S. This certification, and joint public notice, would be required for Alternatives II and III only, since no wetlands exist at the site of Alternative I.

3.1.5 Unique Ecological Areas (Figure 12)

In accordance with Department of Defense Instruction 4715.3, Fort Benning, in conjunction with conservation partners, identified several areas that either have unique or rare ecological characteristics or that represent the best example on Fort Benning of a particular habitat or plant community type. These areas were chosen based on characteristics of their soil type, topography, slope, aspect, elevation, hydrology, flora, fauna, and other biotic and abiotic features. Many areas apparently contain remnant native plant communities that have experienced minimal disturbance relative to other similar communities. As a result, at least a few areas, or portions thereof, may require little or no active management to maintain their condition. Such areas can serve as reference sites for the biodiversity and ecological processes associated with natural communities. Additionally, each area seems to have experienced only minimal impacts in the past and is now experiencing only relatively minimal impacts, if any, from military training activities. To preserve the ecological integrity of these areas, Fort Benning will use their designation as Unique Ecological Areas (UEAs) (Figure 12) to ensure now and into the future that land-use planning and training activities account for their presence and their preservation requirements.

Designation as a UEA shifts management emphasis from a single species to a community focus, a key element in the ecosystem management approach. The UEA designation is a proactive management tool, rather than a set of legal restrictions. Designation as an UEA does not mean that there is any required change in land use, restriction from cutting trees, or other similar restrictions; however, since UEAs represent some of the rarest or highest quality areas on Fort Benning they receive priority for management activities and monitoring efforts, as identified in the Fort Benning INRMP. In some cases, such as in hardwood bottomlands, no "active"

management is required. These areas are monitored, however, for unauthorized disturbances and surveys are conducted to determine threatened and endangered species presence. Some UEAs receive active management in the form of timber harvest. Although no permit is required to cut trees in this area based on their status as a UEA, special consideration is given to these areas in the Installation's training compartment timber harvest plan. For example, the cut-to-length timber harvest method is usually used in these areas as it has the least adverse impacts on the soil, remaining trees, and appearance of the area because it leaves no skid trails or logging decks. It is considered an ecosystem friendly method of cutting. UEAs also receive priority for soil erosion projects, invasive species control, longleaf pine reforestation, road closures, and strict adherence to Best Management Practices. Further development of the UEAs concept will include a determination of the conservation significance of these areas, better-defined boundaries and buffers, and a specific management plan for each UEA.

In total, including designated buffer zones for the Piedmont Interface area, they encompass almost 21,400 acres and 15 separate sites. At present most boundaries and acreages are approximate representations and will be refined as the areas are further studied. Each UEA was identified initially by Fort Benning staff or by USFWS, The Nature Conservancy, or Georgia Natural Heritage staff who evaluated their condition in the field and made a preliminary determination that each area deserved consideration as an area of conservation significance. Those UEAs proximate to the site of the three alternatives are listed below.

- **Piedmont Interface -** This area is located within the northeastern part of the Installation. Although this area occurs within the Fall Line transition between the Piedmont and the Coastal Plain Physiographic Regions, some of its geologic and vegetative features are not characteristic of the Fall Line Sandhills. The area contains seven streams that flow out of the Piedmont, generally from north to south, and that are characterized by extensive floodplains with high-quality hardwood stands. The area also contains the largest granite rock outcrop on Fort Benning in training compartment O7, which extends for a quarter mile along a bluff above the old Randall Creek channel. Characteristic flora of the area consists of: Shumard oak (*Quercus shumardii*), White oak (*Q. alba*), Cherrybark oak (*Q. pagoda*), Swamp chestnut oak (*Q. michauxii*), ash (*Fraxinus spp*.), Loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), sycamore (*Platanus occidentalis*), hickory (*Carya spp.),* elm (*Ulmus spp.),* maple (*Acer spp.*), and Flowering dogwood (*Cornus florida*). This area is characteristic of the Stream Floodplain Ecological Group. Relict trillium (*Trillium reliquum*), a Federally-endangered plant, occurs in at least seven separate populations in this area. Cox Creek contains the most diverse mussel fauna on Fort Benning and harbors three state-protected (Special Concern-Alabama) species: *Elliptio complanata*, *Villosa lienosa*, and *Villosa vibex*. Additional state-protected (Georgia) species in the area include: Sandhills bean (*Phaseolus polystachios sinuatus*), Smith's sunflower (*Helianthus smithii*), Incised agrimony (cut-leaf harvest lice) (*Agrimonia incisa*), Flyr's nemesis (*Brickellia cordifolia*), Needle palm (*Rhapidophyllum hystrix*), and Wide-leaved bunchflower (*Melanthium latifolium*).
- **Hastings Relict Sandhills Community -** This area is located within the northeast part of the Installation. Loblolly pines are scattered throughout some areas, but Longleaf pine (Pinus palustris) dominates the overstory vegetation. Mixed upland oaks (turkey, bluejack, and sand post oaks) (*Quercus laevis, Q. incana, and Q. margarettiae*, respectively) and Common persimmon (*Diospyros virginiana*) are co-dominants in the overstory and dominate the midstory. Common herbaceous species include: common

Yellow false foxglove (beardgrass) (*Aureolaria pectinata*), Prickly pear cactus (*Opuntia compressa*), Goat's rue (*Tephrosia virginiana*), legumes, Pineland silkgrass (*Heterotheca graminifolia [= Pityopsis aspera; = Chrysopsis graminifolia]*), and other perennials. Some portions of the area have only grasses, herbs, and small shrubs due to removal of longleaf pine and subsequent disturbance by tracked vehicles (for example, M1A1 Main Battle Tank) and frequent fire. This area is characteristic of the Longleaf Pine Sandhills Ecological Group. The deep sands of this area contain the densest population of Gopher tortoises (*Gopherus polyphemus*) (State Threatened – Georgia) on the Installation. The Dusky gopher frog (*Rana capito sevosa*) (Special Concern - Georgia) is found only in this area on Fort Benning. Other species found here include: the Eastern diamondback rattlesnake (*Crotalus adamanteus*) (Special Concern-Alabama), Southern hognose snake (*Heterodon simus*), Florida pine snake (*Pituophis melanoleucus mugitus*) (Special Concern-Georgia, State Protected-Alabama), Southeastern pocket gopher (*Geomys pinetis*) (State Protected-Alabama), Bachman's sparrow (*Aimophila aestivalis*) (Rare-Georgia, Special Concern-Alabama), Common ground dove (*Columbina passerina*) (State Protected-Alabama), RCW (*Picoides borealis*) (Endangered-Federal), and Incised agrimony (Special Concern-Georgia and Alabama). The deep sands that are characteristic of the soils in this area are subject to erosion. The dominant soils are Lakeland sand and Troup loamy sand. Isolated clay pockets occasionally lie close to the surface. These clay pockets support ephemeral ponds, such as those used by the Dusky gopher frog.

- **Lakeland Sandhills –** This area is located within the central portion of the Installation and contains some of the deepest sand on Fort Benning. It is a good example of a longleaf pine – scrub oak savannah. Typical flora includes longleaf and loblolly pine and Turkey oak. The area is characteristic of the Longleaf Pine Sandhills Ecological Group. Species present include Gopher tortoise (*Gopherus polyphemus*)(State Protected - Georgia), RCW (Federal – Endangered), Southeastern American kestrel (*Falco sparverius paulus*) (Special Concern-Georgia), and the largest known concentrations of Pickering's morning glory (*Stylisima pickeringii*) (Georgia - State Threatened) and woody goldenrod (*Chrsomya paucifloscculosa)* (Georgia – State Threatened) on the Installation.
- **Pine Knot Creek Blackwaters -** This area is located within the east-central portion of the Installation. This area represents the best example of a Coastal Plain stream on the installation. It encompasses Pine Knot Creek and Little Pine Knot Creek. Unique hydrologic characteristics of a Coastal Plain blackwater stream include relatively constant flow and temperature, high acidity, low sediment load, and low fish diversity. Vegetation is typical of a hardwood bottom in the sandhills. Characteristic flora of the area consists of: sweetgum, American holly (*Ilex opaca*), Swamp blackgum (*Nyssa biflora*), Turkey oak, Red maple (*Acer rubrum*), and Yellow hawthorn (*Crataegus flava*). Species present include the Southern brook lamprey (*Ichthyomyzon gagei*), Broadstripe shiner (*Pteronotropis euryzonus*) (Rare-Georgia) and Bog Sneezeweed (*Helenium brevifolium*) (Special Concern-Georgia and Alabama). This area is characteristic of the Small Stream Swamps Ecological Group.
- **Slopes of Northern Affinities -** This area occurs near the east-central boundary of the Installation. The area shows a remarkable contrast between dry upland areas and north or east facing slopes. The dry upland areas are typical of Coastal Plain Sandhill communities and include Longleaf pine, Turkey oak, and Gopher tortoises. The north or

east facing slopes contain American beech (*Fagus grandifolia*) and some plants of northern affinity representative of the Georgia Piedmont and mountains, including: Mountain laurel (*Kalmia latifolia*), Indian cucumber root (*Medeola virginiana*), Wide-leaved bunchflower (*Melanthium latifolium*) (Special Concern-Georgia and Alabama), Galax (*Galax aphylla*), and Crane-fly orchid (*Tipularia discolor*). The slopes are characteristic of the Mesic Hardwood Forests Ecological Group.

- **Upatoi Creek Flatwoods -** This area is located within the northeast corner of the Installation. The area has high quality forested wetlands along Upatoi Creek, as well as open wetlands. This area is characteristic of the Stream Floodplain Ecological Group. Species present include the Lax water-milfoil, White nymph, and Spotless marsh St. John's-wort (*Triadenum tubulosum*) (Special Concern-Georgia).
- **Longleaf Pine Sandhills -** This area is located within the northeastern part of the installation and is the best example of a pure longleaf pine stand in the sandhills. This area belongs in the Longleaf Pine Sandhills Ecological Group. Species present include Gopher tortoise, Bachman's sparrow, RCW, and Incised agrimony. This area is managed as a reference site. As a result, the only management allowed is prescribed burning.

3.1.6 Wildlife

Fort Benning is inhabited by approximately 345 species of wildlife (personal communication, Swiderek, 2002). These include 152 species of birds, 47 species of mammals, 47 species of reptiles, 24 species of amphibians, 67 species of fish, and 8 species of mussels (shellfish) (INRMP, 2001). Wildlife has many values including outdoor recreation, aesthetics, environmental monitoring, proper functioning of the ecosystem, provide sources of domestic stock, contributions toward medical knowledge, and many more.

State and/or Federal laws protect most species of wildlife, to various degrees. Harvest of game species, such as White-tailed deer (*Odocoileus virginianus*), Wild turkey (*Meleagris gallopavo*), Bobwhite quail (*Colinus virginianus*), rabbits (*Sylvilagus sp*), catfish (*Ictalurus sp.*), and Largemouth bass (*Micropterus salmoides*), is regulated by Installation personnel, Georgia Department of Natural Resources, Alabama Department of Conservation and Natural Resources, and the US Fish and Wildlife Service. Federal and state laws regarding hunting and fishing are addressed in USAIC Regulation 200-3 (Hunting and Fishing Regulation). Specific requirements for protection of some species of wildlife on Fort Benning (such as the RCW and Gopher Tortoise) are contained in USAIC Regulation 210-4 (Range and Terrain Regulation) and in Fort Benning's Endangered Species Management Plans. Other recreational opportunities, such as bird-watching and hiking, also occur on the Installation and are discussed in more detail in Section 3.2.2, "Surrounding and Existing Land Use."

3.1.7 Federally Protected Species (Figure 13)

Five Federally listed, threatened, and endangered species occur on Fort Benning. These include the Red-cockaded woodpecker (E), Wood stork (E), Bald eagle (T), American alligator (T [S/A], in which S/A = due to similar appearance), and Relict trillium (E). The RCW and the relict trillium, described below, are the only Federally protected species known to occur in the vicinity of the three alternatives.

3.1.7.1 Red-Cockaded Woodpecker

The RCW (*Picoides borealis*) was placed on the Federal list of endangered species in 1970. The reasons for its protected status included species rarity, documented declines in local populations and reductions in available nesting habitat. Although populations have become more fragmented and isolated, the RCW is rather widely distributed. The species is still found in all Southern and Southeastern Coastal States from eastern Texas into southern Virginia, and small interior populations are found in southeastern Oklahoma and southern Arkansas, and until recently, southeastern Kentucky. The largest populations are in the Coastal Plain forests of the Carolinas, Florida, Georgia, Alabama, Mississippi, Louisiana, eastern Texas, and in the Sandhills forests of the Carolinas (USFWS Biological Opinion, 1999).

RCWs have a social structure that involves a breeding pair and helpers that assist with cavity excavation and maintenance, egg incubation, feeding young, and defending the group's territory. Nesting generally occurs from April through June with some re-nesting attempts observed as late as August. Groups of RCWs nest in an aggregation of cavity trees called a cluster that is surrounded by contiguous foraging habitat. Discrete cluster sites are typically located where mature pine trees are more than 60 years old. Foraging habitat however, is more variable with timber taking on increasing value as the stands age past 30 years. Both nesting and foraging habitat can be characterized as open stands of pine with a scarce to moderate midstory. As the midstory becomes dense or reaches the height of cavities, cluster abandonment and decreased foraging value results.

Fort Benning has one of the largest RCW populations in the southeastern United States. The RCWs are well dispersed over the entire Installation, except that no active clusters are located on the Alabama portion of the Installation. In September 1994, The United States Fish and Wildlife Service (USFWS) issued a (Jeopardy) Biological Opinion (JBO) against the Installation that determined the ongoing military training and related activities at Fort Benning jeopardized the continued existence of the Installation's RCW population. Since that time, intense efforts were implemented to enlarge the endangered species staff at Fort Benning and to greatly enhance management activities needed to remove the jeopardy status as outlined in the Reasonable and Prudent Alternatives section of the USFWS' 1994 Biological Opinion. On September 27, 2002, the USFWS approved Fort Benning's Endangered Species Management Plan (ESMP) for the RCW and issued a Biological Opinion (BO) that included specific management activities. This relieved Fort Benning of the 1994 JBO and allowed the implementation of the "1996 Management Guidelines for the RCW on Army Installations." Fort Benning is also one of 13 primary core locations selected by the USFWS to manage for a RCW recovery population (451 clusters for Fort Benning). Presently, Fort Benning has a total of 311 manageable RCW clusters (251 active and 60 inactive, as of 2003) (Figure 12). There is an additional estimate of 43 active and 1 inactive clusters in ordnance impact areas A20 and K15.

As of August 2003, there are three active, three inactive, and one (planned) recruitment RCW cluster and 387.11 acres of suitable habitat in the vicinity (1/2 mile radius from range) of Alternative I, Hastings Range; nine active, three inactive, and seven recruitment RCW clusters and 1,946.75 acres of suitable habitat in the vicinity of Alternative II (Compartment K21); and six active, three inactive, and five planned recruitment RCW clusters and 1,033 acres of suitable habitat in the vicinity of Alternative III (Compartment D13) (personal communication, Doresky, 2003). A recruitment cluster is created by the Installation personnel through the use of artificial

inserts to attract RCWs into the area, with the hopes of establishing an active cluster. RCW surveys are updated annually and a supplemental survey would be required prior to any construction activities at either of the two action alternatives, Alternatives II and III.

3.1.7.2 Wood Stork (E)

Wood storks are seen mainly on the Alabama portion of the Installation during late summer. Usually one to 20 birds is seen each year. They use shallow water ponds or Chattahoochee backwater areas depending on available food supplies and appropriate water levels. Management strategy for the Wood stork on Fort Benning is also detailed in an ESMP and consists of maintaining the current transient population and protecting the habitat in which they temporarily live and feed.

3.1.7.3 Bald Eagle (T)

Two Bald eagle nests (used by one pair of eagles) are located on the southern edge of the Installation near the Chattahoochee River. The eagles have produced successfully at least one fledgling since the first nest was discovered in 1992; therefore, the training compartment where their nest is located is closed during their nesting season. Management strategy on Fort Benning for the bald eagle is detailed in an ESMP and consists of maintaining the integrity of their habitat and feeding sources in order to eventually increase the number of nesting pairs from one to two.

3.1.7.4 American Alligator (T [S/A])

Fort Benning is located on the extreme northern limit of the American alligator's range. Large adults up to 13 feet have been observed. Habitat available to the alligator is limited and consists of fishponds and beaver ponds on the Georgia portion of the Installation and the backwaters of the Chattahoochee River in Alabama. Fort Benning also has an ESMP for the American alligator; basic management for this species consists of maintaining a stable population and maintaining the habitat in which it lives and feeds.

3.1.7.5 Relict Trillium (E)

Seven known populations of relict trillium are located in the northeastern-most areas of the Installation. These areas range up to several acres in size and in some cases contain several thousand individuals. These areas are critical to the recovery of the Relict trillium population. Current management activities for this species consist of surveys, monitoring efforts, and protection of sensitive areas. Management strategies on Fort Benning for this species are defined in an ESMP and consist of placing signs prohibiting digging adjacent to known populations, conducting additional surveys for unknown populations, and maintaining the habitat in which they live. Figure 13 indicates that there are no known populations of this plant on or adjacent to the three alternatives.

3.1.8 State Protected Species (Figure 14)

There are 96 species (four amphibians, eight birds, seven fishes, four mammals, four mussels, nine reptiles, and 60 plants) of "conservation concern" (as defined per Department of Defense Instruction 4715.3) found on Fort Benning. A species is categorized as of "conservation concern" if it is listed by either the U.S. Fish and Wildlife Service and/or by a State as threatened (T) or endangered (E) or is otherwise identified as a candidate species, species of special concern, rare species, unusual species, or a watch-list species. Army Installations must be sensitive to those species listed as endangered or threatened under State law, but not federally listed (AR 200-3). State listed species are not protected under the Endangered Species Act (ESA); however, whenever feasible, Installations cooperate with State authorities in efforts to conserve these species. Analysis in this document will be for state threatened and endangered species, per Army policy

3.1.8.1 Gopher Tortoise

The Gopher tortoise (Georgia - Threatened) occurs in the sandy soil habitats found only in the northern two thirds and southeastern tip of the Installation. A dry land turtle, the gopher tortoise (tortoise) has a high, domed shell with shell lengths of up to 15 inches. They have stubby, elephant-like hind feet and flattened front feet with large toenails for digging. They favor dry, sandy ridges with open stands of longleaf pine, turkey oak and other scrub oaks. They also frequent open areas around road shoulders, food plots, and rights-of-way, which have well drained sandy soil. The tortoises dig long sloping burrows up to 30 feet long and extending up to 9 feet below the surface. These dens are used as shelter by tortoises, as well as by a variety of other sandhill residents, including the Eastern diamondback rattlesnake and the Dusky gopher frog. They feed on grasses and other plant material near the ground. Feeding trails are often visible leading from the den's sandy apron to foraging areas. Eggs are laid in or near the den apron in May, June, and July and hatch in about 80-100 days. Young tortoises are about the size of silver dollars and are very vulnerable to predation by crows, raccoons, opossums, foxes, skunks, and other animals. Over 8,200 tortoise burrows have been documented to date on Fort Benning.

The tortoise is a critical component of the longleaf pine-scrub oak community. Species management on Fort Benning consists of burrow and habitat protection. In areas with high vehicular traffic, "Sensitive Area" signs are posted around known active and inactive tortoise burrows, totaling 150 acres, and the burrows are also marked. These sites are located primarily in mechanized training areas. Digging activities and vehicles are required to stay 50 feet away from the burrows to protect the integrity of the burrow area (personal communication, Thornton, 2003). Based on the 1996 survey by USFWS, there are 388 known active/inactive tortoise burrows and 1,453 acres of Gopher Tortoise habitat in the area of the preferred alternative (Alternative III); 76 known active/inactive tortoise burrows and 225 acres of tortoise habitat in the area of the other action alternative (Alternative II); and 519 known active/inactive tortoise burrows and 986 acres of tortoise habitat in the vicinity of Hastings Range (Alternative I) (personal communication, Thornton, 2003). Additional surveys will be conducted to accurately assess the number of active/inactive tortoise burrows and habitat in the site chosen at the conclusion of the NEPA process to obtain a thorough and up-to-date survey prior to construction.

Auburn University is currently conducting a study on Gopher tortoise relocation stress at Fort Benning. So far, the study has resulted in the relocation of 14 gopher tortoises from the D-14 area to the F-3 area, where they will be monitored to see if there is a correlation between

habitat quality and relocation stressers, such as immune system and reproductive functionality. The two year study will also include the relocation of additional Gopher tortoises during the spring of 2004.

3.1.8.2 Indian Olive

Indian Olive (Georgia -Threatened) is found primarily in dry, open, upland forests of mixed hardwood and pine. The species is rare throughout its range and has sustained significant habitat loss due to the clearing of forestland. Many of the remaining populations are of only a single sex (the species is dioecious), are able to reproduce only asexually (that is, via root sprouts), and are therefore especially vulnerable to fragmentation of their habitat. Management for this species on Fort Benning is focused on forestry operation. All known plants on Post are flagged prior to any timber harvests to prevent the plants from being disturbed by the use of heavy equipment. There are no known populations of Indian olive at the location of the three alternatives (personal communication, Thornton, 2003).

3.1.8.3 Pickering's Morning Glory

Pickering's morning glory (Georgia listed - State Threatened) is a perennial, creeping vine. The stems sprawl over the ground from a central crown, with each primary stem one-two meters or more in length and capable of branching extensively, forming an intertwined network of trailing stems. The leaves are held upright, with the base narrowly tapering to a short (two millimeter) leafstalk. The flowers may be either axiliary, solitary, or in clusters with as many as five flowers atop a three-seven centimeters long stalk. The flowers are white, with five fused petals forming a funnel-like shape. The flowering period is from late May to mid-August, with the best search time during flowering, since plants deteriorate rapidly toward the end of summer. The species is found in coarse, white sands on sandhills near the Fall Line. These are scrub habitats with scant litter accumulation, sparse ground cover, and little canopy cover, the latter consisting mostly of scattered scrubby oaks and pines. The species is in decline due to habitat destruction. Fort Benning's management strategy for this species is to control encroachment of woody vegetation through prescribed burning and timber thinning, which should be beneficial to this light-loving plant. There are no populations known to exist near the location of the three alternatives (personal communication, Thornton, 2003).

3.1.9 Migratory birds

Except for some resident game birds such as Wild Turkey and Bobwhite Quail, most of the birds on Fort Benning are protected under the Migratory Bird Treaty Act (MBTA). This Act implements various treaties and conventions between the US and Canada, Japan, Mexico, and former Soviet Union for the protection of migratory birds. Fort Benning manages and conserves migratory bird species through its INRMP and considers effects to migratory birds in any proposed action via the NEPA process.

There are approximately 150 species of birds protected under the MBTA present on the Installation either seasonally or year round. Fort Benning is currently cooperating with Federal, state, and private organizations in gathering information on many migratory bird species in this region. Fort Benning personnel are dedicated to making sound ecological management decisions

while at the same time providing for the needs of the military to accomplish its mission. The proposed action will alter the habitat in the area of construction. This alteration is expected to be detrimental to those species that prefer a wooded habitat, but it may also benefit migratory species, which prefer a grassland setting. Three common migratory birds on the Installation are discussed in more detail, below, as examples.

The Bachman's sparrow (*Aimophila aestivalis*) is a small (6 inches) bird with a brown back (with gray and black streaks), a white unstreaked underbelly, and a pale bill. It lives in the open pinewoods indicative of the northern portion of the Installation (Harper and Row, 1981). During the USFWS Terrestrial Survey 275 male Bachman's sparrows were identified by calls in training areas throughout the Installation. Habitat quality for this species is good and abundant on Fort Benning due mainly to the widespread use of prescribed fire, which promotes the open pine forests in which this species thrives. There are populations known to exist near the location of the three alternatives; however, these are migratory species and do not remain permanently in any one location (personal communication, Thornton, 2003).

The Migrant loggerhead shrike (*Lanius ludovicianus*) is a small to medium-sized (8-10 inches) bird with a dark gray back, a whitish underbelly, a black facemask, and a black bill. It lives in open country with scattered trees, indicative of the northern portion of the Installation (Harper and Row, 1981). There is an abundance of suitable habitat for this species throughout many parts of the Installation There are populations known to exist near the location of the three alternatives; however, these are migratory species and do not remain permanently in any one location (personal communication, Thornton, 2003).

The Southeastern American kestrel (*Falco sparverius*) is a medium-sized (9-12 inches) bird with a reddish back and wings, multicolored head with dark markings, and a buff colored underbelly. It lives in open countryside, which is indicative of the northern portion of the Installation (Harper and Row, 1981). This species is also known to occur and breed on the Installation. It has been observed in a variety of habitats such as open fields, clear-cut areas, loblolly/longleaf stands, open sandhills, and brushy fields. The two action alternatives may benefit the Southeastern American kestrel by opening up the forested areas and converting them to open habitat in which the bird can more easily find its primary prey species (small birds, large insects, and mice). There are populations known to exist near the location of the three alternatives; however, these are migratory species and do not remain permanently in any one location (personal communication, Thornton, 2003).

3.1.10 Feral Swine

Feral swine (*Sus scrofa*), are self-perpetuating populations of swine that are able to survive off the land (free-ranging) without the assistance of humans. These feral swine probably originated from animals illegally released on or adjacent to Fort Benning for hunting purposes and/or had escaped from local pig farms. Feral swine are widespread across the Installation and are considered a pest species for many reasons. A primary concern is the extensive damage due to their feeding habits and their characteristic "rooting" behavior. They can uproot and damage cables, wiring, targetry, bivouac sites, and other military assets. From an environmental perspective they destabilize the soil, which results in soil erosion and sedimentation in streams. Feral swine can jeopardize the establishment of ground cover, which can result in environmental degradation. Due to soil loss and direct impacts from "rooting," military structures could be damaged and the training could be disrupted. Current management for this species on the

Installation focuses on controlling the population by having liberal hunting regulations such as no bag limit and expanded season lengths. In addition, trapping is conducted at specific locations to minimize damage to military assets and sensitive plants.

3.2 Human Environment

3.2.1 Socioeconomics (Figure 32)

The Columbus, Georgia, Metropolitan Statistical Area (MSA), which consists of Muscogee, Harris, and Chattahoochee Counties, Georgia and Russell County, Alabama, encompasses approximately 4,125 square miles. The majority of the social and economic effects of Fort Benning are felt in the Columbus MSA, but some impacts are experienced in the secondary area of influence, which consists of following counties: Barbour, Lee, Macon and Russell, Alabama; and Marion, Stewart, Talbot, and Webster, Georgia. This secondary study area encompasses 13,369 square miles. Certain pertinent data are presented below for the Columbus MSA, with broader data presented for the entire eleven-county area.

In 1980, the Columbus MSA had a population of 254,660. This figure increased to 260,860 by 1990 and to 274,624 by 2000, representing increases of 2.43 percent and 7.83 percent respectively from 1980 (U.S. Census Data, 2001). The majority of these people reside in Columbus, Georgia (Muscogee County), the second largest city in the state. The major urban center in the Alabama portion of the study area is Phenix City (Russell County), located across the Chattahoochee River from Columbus, Georgia. The secondary study area had a 1980 population of 402,598. The population for this area was 418,382 in 1990 and 464,143 in 2000, indicating increases of 3.92 percent and 15.2 percent respectively from 1980 (U.S. Census Data, 2001). In 2000, the largest single ethnical group in the Columbus MSA was Caucasian, accounting for 51.7 percent of the population. African Americans accounted for 44.7 percent of the population, and represent the predominant ethnic group in three counties (Macon, Alabama; and Stewart and Talbot, Georgia). Hispanic Americans accounted for 2.96 percent of the population and Asian Americans represented 0.65 of the population (U.S. Census Data, 2001). A majority of the population of the Columbus MSA resides in urban areas; seven of the eleven secondary counties have a majority of their population living in rural settings.

Housing is predominantly concentrated in the Columbus MSA, which has an inventory of 101,457 units (U.S. Census Data, 2001). Of the occupied units (92,695), almost 40 percent are rentals. Although Columbus has a large inventory of rental housing units, generally in good condition, rents have been increasing at a fairly rapid pace, resulting in a lack of affordable rental housing for lower ranking enlisted personnel. The majority of military personnel are housed on base, although some 3,500 reside off-post in privately owned housing. Of the roughly 19,320 personnel housed on base, roughly 18,900 are housed in enlisted barracks. Approximately 3,600 enlisted personnel and 500 officers are housed in on-post family housing, and 108 officers and 26 enlisted personnel are housed on-post in unaccompanied personnel quarters. No military housing units are located in or proximate to the northeastern portion of the Installation (proximate to the location of the proposed action and its alternatives).

The Columbus MSA supplies most of the employment opportunities in the study area. More than 14,000 workers commute to Columbus, and approximately 7,000 commute to Fort Benning daily. The MSA serves as a regional trade, service, retail, wholesale, medical and cultural center, serving not only the city, but also the surrounding rural area. From 1970 to 1991,

total employment in the secondary study area increased 23.42 percent, rising from 169,772 employees in 1970 to 209,535 in 1991. This increase has been particularly strong since 1980. Employment increases have been particularly strong in the retail trade; finance, insurance and real estate; and services industries. The major sources of employment are the Federal, state, and local governments, service industries, manufacturing, and retail trade. The unemployment rate of the study area has fluctuated from a low of 4.2 percent in 1970, to 7.9 percent in 1980, 6.7 percent in 1990, and 7.3 percent in 2000.

In 2000, Fort Benning employed approximately 7,152 civilian personnel. This figure represents a 16.4 percent decrease from the 1990 work force of 8,330 personnel. Fort Benning civilian employees provide a vast array of professional, technical, administrative, craftsmen, skilled labor jobs in support of the various missions. Currently, 58 percent of Fort Benning employees are paid from appropriations (General Schedule and Wage Grade); the remaining 42 percent are either contracted or paid from non-appropriated funds. A significant number of construction workers are also employed daily by construction contractors. In 2000, approximately 101 million dollars were spent on various construction contracts on Fort Benning. In 2000, the impact of Fort Benning employment (to include military pay) on the MSA economy was estimated at approximately 1.7 billion dollars (2001 Fort Benning Command Data Summary). Bureau of Economic Analysis (BEA) employment projections for the 11 county area indicate very little growth is expected from 1990 to 2035 (only 12.33 percent over that 45 year period). The major increases in employment are expected to occur in the services; finance, insurance and real estate; and retail trade industries. Some growth may also be experienced in the transportation and public utilities industry as well as the construction industry. Overall, manufacturing employment is expected to decline, mainly because of changes in the textile industry, although increases in employment in the durable good sector, specifically in the primary metals industry, are expected.

The major sources of tax revenue for counties in the northern portion of the Installation are school/property and sales taxes. Property tax assessments in the Columbus MSA range from $3.60 to $16.80 per $1,000 in value of property. Georgia and Alabama levy four-percent sales and use tax on the purchase of all goods and services (except for groceries in Georgia). In addition to these taxes, individual cities and counties within the northern portion of the Installation levy a sales tax of one to three percent. Other sources of revenue include the annual proceeds from the sale of forest products (i.e. timber operation) on Fort Benning, which are used for reimbursement of Installation and Corps of Engineer costs associated with the integrated management, production, and sale of forest products. Net proceeds (if any) are distributed as follows: 60% to the Forest Product Reserve Account and 40% to the state or states where the Installation is located. States then disburse funds to the counties based on percent of total acreage of the Installation.

The Installation is primarily served by four school systems: Muscogee County School System, Chattahoochee County School District, Phenix City-Russell County School Systems, and Fort Benning Dependent's Schools. Approximately 7,015 military dependents attend school, 3,815 of which attend school in one of the three off-post districts. The Muscogee County School System is the largest of the three off-post systems, operating 52 schools and serving more than 29,000 students. With approximately 4,500 students and 300 teachers, the Phenix City Educational System is the second largest of the three main school systems and consists of six elementary schools, a middle school, junior high, and high school. Chattahoochee County educates roughly 424 students in its elementary school. Although Chattahoochee County has no high school, an agreement with Muscogee County allows high school students to be educated at one of the

Muscogee County high schools. In addition to public education, there are 18 private and parochial schools in the Columbus MSA. Dependents of military personnel that reside within the Fort Benning Installation are educated at Fort Benning Dependents Schools located on post. There are seven schools within the system, with an enrollment of 3,200 students in grades pre-school to eight. High school students residing on post attend Muscogee County high schools. Higher education is available through several universities in the area, including Auburn University, Mercer University, Columbus State University, Troy State University, Georgia Southwestern, Tuskegee University, Chattahoochee Valley Community College, LaGrange College and Andrews Junior College. Troy State University and Georgia State University offer on-post courses at Fort Benning for military personnel. Vocational and technical training is offered at the Phenix City Vocational School and the Columbus Technical College, where associate degrees of applied technology may be obtained. No schools are located on or proximate to the northern portion of the Installation (proximate to the location of the proposed action and its alternatives).

3.2.2 Surrounding and Existing Land Use

3.2.2.1 Land Management

Fort Benning is the site of training, administrative, and residential activities, as well as associated land management activities. Harris County, north of Columbus and Fort Benning, is sparsely populated but is growing rapidly as a suburb of Columbus. Marion and Talbot Counties to the east of Fort Benning are predominantly agricultural and undeveloped vacant land with low density residential, commercial and public/institutional land use in a few small communities. Chattahoochee County to the south of Fort Benning is predominantly agricultural and undeveloped vacant land used for farming, forestry, and military training on the lands within Fort Benning. Cusseta, the County seat, is a small rural community with scattered residential, commercial and public facilities.

Fort Benning is divided into numerous training compartments (Figure 15), ranges, impact zones, drop zones, exclusion areas, cantonment areas, and recreation areas. The cantonment and family housing areas of Fort Benning occupy about 8 percent of the Installation. There is also a 1,095-acre recreation area located along Uchee Creek on the western bank of the Chattahoochee River (Gulf Engineers and Consultants, undated). Main Post, adjacent to South Columbus, is the largest and most developed of the cantonment areas, containing the Post Headquarters, the Infantry School and the barracks complex known as the Cuartels. Main Post includes Lawson Army Airfield (LAAF), Martin Army Community Hospital, the Post Exchange, the Commissary and various family housing areas. Sand Hill, 4 miles northeast of Main Post, contains barracks, dining facilities, classrooms and other facilities for training. Kelley Hill, 3 miles east of Main Post, contains barracks and support facilities. Harmony Church lies 5 miles southeast of Main Post and south of U.S. Highway 27 and contains semi-permanent barracks and support structures. An active program for demolition of some of these structures is underway for land reclamation (forestry) and other uses, such as Major Construction, Army (MCA) and other projects (DFEL, 2002). Fort Benning has or will conduct NEPA analyses of these actions. The majority of military personnel are housed on base, although a substantial number reside off-post in privately owned housing.

Training occurs on about 104,000 acres of the Installation. Activities include the movement of personnel through wooded and open areas on foot, movement of wheeled vehicles on dirt and gravel roads, and the establishment of bivouac sites. Activities conducted by the mechanized infantry and Tank units at Fort Benning are limited by the amount of suitable terrain to support movement of heavy vehicles. These activities include tactical movements (which involve driving tracked vehicles on Tank trails throughout the Installation), cross-country training (which involves driving tracked vehicles within maneuver areas), deployment training including airborne training involving deployment by helicopter into drop zones, and fording streams with heavy vehicles. Engineer units conduct activities to train and maintain readiness in support of the infantry and mechanized units, as necessary. Major support activities include construction and demolition of obstacles, assisting in river crossing operation, and supporting day-to-day operation and maintenance of the Installation.

Armor, artillery, and mortar firing occur from three established firing areas on the Installation. These are the Alpha Range Complex, Malone Range Complex and Oscar-Kilo Range Complex. Fire is directed toward controlled ordnance impact areas (K15, A20, etc.) covering approximately 16,000 acres. Other weapons fired at the ranges include miscellaneous rifles, pistols, anti-armor, and automatic weapons, as well as special training devices that electronically simulate the firing of weapons systems at targets (Gulf Engineers and Consultants, undated). Other activities related to military training include training in the operation and maintenance of vehicles, academic military training, and physical training. Various supporting units, such as transport units and signal units, also participate in training activities.

Across the Installation, there are existing heavy maneuver training areas for armored and mechanized vehicles and light maneuver training areas for dismounted training. The area of the three alternatives is currently used for heavy maneuver training.

3.2.2.2 Recreation

There are ample recreational opportunities for residents and visitors of the Fort Benning and Columbus, Georgia, and the Phenix City, Alabama, areas. Most recreation and leisure programs on Fort Benning are managed and administered by the Directorate of Communities Activities (DCA) under the Morale, Welfare and Recreation (MWR) Program. The operation and maintenance of those facilities and areas are the responsibility of the DCA and the DFEL. Another activity on the installation is recreational hunting. It is permitted Installation-wide except in restricted areas and designated training areas. Hunting on Fort Benning is regulated and coordinated with the schedule of field training exercise in the training compartments.

3.2.2.3 Range Sustainment

The DOD manages more than 25 millions acres of land. A DOD objective is to preserve natural resources and diversity, while providing the opportunity to achieve the military missions and to improve the health of our personnel by enhancing their work and living environment. Currently, military lands are coming under increasing pressures that have caused the continual loss of sustainability in natural systems and increased operational costs. In order to maintain these natural systems, DOD policies have been crafted to conserve military lands. Urban growth, otherwise known as sprawl or encroachment, has a direct impact on the DOD mission. Encroachment is a threat to sustaining the range management and mission capability of military

installations. A recent amendment to the Official Code of Georgia (OCGA) at Code Section 36-66-6 states that the community leaders must notify the Installation regarding zoning proposals and/or land use changes within 3,000 feet of a military Installation (Senate Bill 261, signed into law by Governor Sonny Perdue, 4 June 2003).

DOD Directive 3200.15 states that, "It is DoD Policy that ranges and OPAREAs (operating areas) shall be managed and operated to support their long-term viability and utility to meet the National defense mission. All functional elements of installation, range, and OPAREA management shall be integrated fully to support the DoD testing and training missions" (DoD, 10 January 03). In order to implement this policy, the Directive points out the procedure for planning and management of the DOD range and OPAREA sustainment program. Under the DOD range and OPAREA sustainment program, Installations are required to identify current and future operational requirements necessary to meet test and training needs. In addition, Installations must identify encroachment concerns, environmental considerations, financial obligations, and safety factors necessary to influence current and future operational requirements. DOD Directive 3200.15 requires that when developing a new range, the Army must ensure that plans consider all aspects of a range's lifecycle including development, use, and closure. Upon range closure, the UXO clearance and any hazardous contamination would be removed or remediated. DOD is in the process of developing the Range Rule (personnel communication Veenstra, 2004) to further specify the process for closing a range and making it suitable for future use.

DOD policy further mandates that responsive range management plans should be developed and implemented to incorporate all other relevant planning documents or portions thereof. Range management plans should address requirements, including the issues identified above, using a functionally integrated decision-making process that includes Installation, range, and OPAREA managers, users, and environmental, legal, public affairs, safety, medical, and other support staffs. In addition, sound Geographic Information System (GIS) based range inventory and scientific data should be developed and utilized as the basis for decision-making to institute multi-tiered coordination and outreach programs that promote the sustainment of ranges and OPAREAs. Coordination and outreach programs should promote the resolution of encroachment issues, and should promote the understanding of the readiness, safety, environmental, and economic considerations surrounding the use and management of ranges and OPAREAs. Range programs should also ensure the consideration of stakeholder interests in DOD range-related decisions. Finally, range programs should improve communications and enter into cooperative agreements and partnerships with other Federal Agencies, and State, tribal, and local governments, and with nongovernmental organizations with expertise or interest in DOD ranges and OPAREAs to further sustainment objectives. At the time of the writing of this DEIS, the Army policy to incorporate range sustainment is still pending. This DEIS furthers these goals by involving public stakeholders, mitigating impacts to natural resources in the range design, and coordinating with other Federal and state agencies.

The Range and Training Land Program (RTLP) Development Plan (RDP) for Fort Benning was developed in accordance with AR 210-21 and the associated revised RTLP Generic Methodology (GM) dated September 1998. The RDP provided a review of the available assets (e.g. ranges and related facilities), identified the users, and established their training needs based on Army training and resource doctrine. It established current requirements and utilization levels for available training assets, providing a near and long term project plan for training, public works, and environmental planners. The projects identified in the RDP consider the impacts on

Fort Benning's mission, economic feasibility, environmental stewardship, and potential productivity enhancements (RDP, 2003). One of the recommended courses of action under the RDP is to construct a DMPRC at Fort Benning. Specifically, the RDP states, "Benning has a documented requirement to support tank, Bradley, and combined arms collective live fire training exercises and Infantry POI courses." This equates to a 115-day throughput requirement on an Army standard MPRC range. The DMPRC is a required range in accordance with TC 25-8.

In addition, the RDP recommends that Fort Benning "Modify an Existing MPTR to an Army Standard Digitized MPTR (FCC 17865). Fort Benning has a documented requirement to support tank and BFV training exercises and infantry Program of Instruction (POI) courses. This equates to a 373-day throughput requirement on an Army standard MPTR range. Fort Benning has one automated and two non-automated MPTRs. Constructing a new MPTR will allow tank, Bradley, and recon units to train to standard. Fort Benning's RDP identifies current and future requirements for ranges, and incorporates a number of interdisciplinary topics. The RDP also generally takes into account some encroachment issues and environmental concerns.

Sustainable Design and Development (SDD) is an integrated approach to planning, designing, building, operating and maintaining Army facilities in a collaborative and holistic manner among all stakeholders. The President and the Army have mandated SDD through Executive Order 13123 (Greening the Government Through Efficient Energy Management), Executive Order 13101 (Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition), Executive Order 12852 (President's Council on Sustainable Development), Executive Order 13148 (Greening the Government Through Leadership in Environmental Management), and an Army Memorandum dated 18 March 2003, because it will improve morale and productivity; save on energy and maintenance costs; produce resource efficiency and minimize raw material consumption; maximize resource use; move towards the use of renewable energy; create a healthy work environment; create facilities with long-term value; and, where possible, restore the natural environment.

According to the U.S. Army Environmental Center, a sustainable Installation optimizes military training while providing for the well-being of soldiers and families. It has a mutually-beneficial relationship with the local community and is life-cycle cost effective to operate. In addition, it systematically decreases dependence on fossil fuels, mining, and non-biodegradable and toxic compounds. It also does not use up resources faster than nature can regenerate them. Finally, a sustainable Installation operates within its "fair share" of the earth's resources. The Sustainable Project Rating Tool (SPiRiT) is used to incorporate into the design those items required to meet sustainable design goals.

For range projects such as the DMPRC, Army policy requires that projects currently under design should meet a minimum Bronze level of sustainable design. According to an Army Memorandum dated 18 March 2003, all future military construction involving buildings must meet a minimum Silver SPiRiT rating. Georgia law requires responsible parties to notify the Installation Commander when proposed developments are in close proximity to the Fort Benning boundary.

3.2.3 Transportation

3.2.3.1 Ground transportation

The Fort Benning area is served by several Federal, state, and county roads located in both Georgia and Alabama. There are nine major roads serving the Fort Benning area, some with multiple designations by Federal, state, or county systems (Figure 1). Because of its juxtaposition to the Columbus and Phenix City areas, primary access to Fort Benning is predominantly from the north. In terms of average daily traffic the four most utilized access roads are Benning Boulevard, Lindsay Creek Parkway (I-185), South Lumpkin Road, and Victory Drive (U.S. 280). The main gate to Fort Benning is located at the intersection of Benning Boulevard and South Lumpkin Road approximately 2.25 miles within the Installation boundary. The interior road net consists of hundreds of miles of improved and unimproved roads and trails. Roads at the location of the three alternatives include Resaca Road, Tricolor Road, Underwood Road, and Buena Vista Road, among other trails and unimproved roads.

In support of a force protection increase measure, General Eric K. Shinseki, United States Army Chief of Staff issued a Department of the Army (DA) directive dated March 1, 2001. This directive mandated permanent vehicle controlled access to all U.S. Army Installations in the world. In a follow up message, Headquarters Training and Doctrine Command (TRADOC) instructed all subordinate commands – to include Fort Benning – to incrementally implement vehicle access control to their Installations starting September 1, 2001. In support of this directive, temporary access control points (ACPs) were installed that restricted unauthorized access to Fort Benning. These ACPs consist of temporary sprung structures that house either military police or civilian law enforcement personnel who check the identification of everyone seeking entry into Fort Benning via the road network (Fort Benning, 2003). There are currently seven ACPs, one each at the following locations: Benning Boulevard, Lindsay Creek Parkway (I-185), South Lumpkin Road, Custer Road, Sand Hill, First Division Road, and Eddy Bridge. Fort Benning will replace these temporary ACPs with permanent structures within the next year to better facilitate the checking of vehicles. Other methods (such as drum/wedge, traffic arm barricades and bollards) to restrict unauthorized access to the Installation have also been emplaced on other paved roads, dirt roads, and trails that formerly provided access across or into the Installation (Fort Benning, 2003). Fort Benning will also emplace a physical security perimeter barrier (fencing, guard rail, or use of existing natural terrain barriers) within the next year to further restrict access by unauthorized vehicular movement into three of the Installation's main cantonment areas and Sand Hill training area. The fencing would impede unauthorized vehicle access to the Installation and would satisfy the DA Directive for force protection and vehicle control access (Fort Benning, 2003). The main east-west corridor for on-Post traffic within the area of the three alternatives is Buena Vista Road. This road has been blocked and is no longer a thoroughfare off Post. Buena Vista Road currently crosses the area of Alternative III.

3.2.3.2 Mass transit

The only form of commercial mass transit in the Fort Benning/Columbus/Phenix City area is bus service. There are two commercial bus lines: Greyhound Bus Lines and the Columbus Transportation System, Metropolitan Transit (METRA). METRA provides bus shuttle service between Fort Benning and Columbus. Three government operated shuttle bus routes are provided within the Installation, serving Main Post, Sand Hill, Kelley Hill, and Harmony Church. No commercial mass transit routes approach or are proximate to the northern

portion of the Installation. Soldiers are routinely transported for training in this area by military mass transit vehicles.

3.2.3.3 Railroad system

Two railroads serve Fort Benning and the Columbus/Phenix City metropolitan area. Each railroad provides only freight service to the Fort Benning/Columbus/Phenix City area. The Installation also has its own rail service, provided by the Rail Loading Facility at Sand Hill. This site is not used for any type of recreational or mass transit purposes, but for the purpose of transporting military equipment (to include vehicles) between Fort Benning and other Installations. No railroad systems are located in or proximate to the area of the three alternatives.

3.2.3.4 Air transportation

Airline service is provided to the Columbus/Phenix City area by four commercial airlines operating out of the Columbus Metropolitan Airport, which is located approximately 12 miles north of Fort Benning with direct access via I-185. Lawson Army Airfield conducts air services at Fort Benning. The airfield supports missions of Fort Benning and area reserve components, using both Army and Air Force aircraft. Almost all aircraft can be accommodated at LAAF, up to and including the C-5A transport. Mission requirements include operation of both airplanes and helicopters. No airports are located in or proximate to the northern portion of the Installation; however, helicopter landing zones for training or emergency transport are located at various points throughout the Installation.

3.2.3.5 Water transportation

The Chattahoochee River is navigable for barge and small craft traffic in the Fort Benning/Columbus area. The river channel is approximately 100 feet wide with a minimum depth of approximately nine feet from Columbus to its terminus at Lake Seminole. Access to the Gulf of Mexico from Lake Seminole is via the Apalachicola River, which empties to the Gulf at Apalachicola, Florida. The Chattahoochee, Flint, and Apalachicola Rivers have been improved by the Corps of Engineers with construction of the Jim Woodruff Lock and Dam, Columbia Lock and Dam, Walter F. George Lock and Dam, and flood control and power facilities in the upper reaches of the Chattahoochee River. Transportation of materials to Fort Benning via water is not considered to be of prime importance. In addition, no transportation of materials occurs on the streams located in or proximate to the northern portion of the Installation.

3.2.4 Other Public Services

The Columbus Consolidated Government employs approximately 2,200 people, based on data compiled in April 1997, and is the governing body that runs Columbus. A mayor, a 10 member elected council and an appointed city manager, runs the government. Like Columbus, a mayor, a city council, and a city manager also run Phenix City. A police department serves the city of Columbus. The Columbus Fire Department consists of full-time firemen at eleven fully equipped stations. Phenix City has a police force and a three-station fire department. In Chattahoochee County, volunteer firemen supply fire protection, while sheriff /police provide

law enforcement protection for the county. There are ample medical and dental facilities serving the area and they are concentrated in the Columbus area. In addition to 911 emergency assistance services, the area also has emergency medical services available at five emergency medical locations. Fort Benning provides MEDEVAC helicopter service and additional medical services to the community when needed. Lawson Army Airfield plays an important role in the operation and maintenance of the aircraft participating in the support of the surrounding communities. Fort Benning personnel also provide emergency response service on Post, including reports of fires, utilizing existing roadways.

3.2.5 Environmental Justice

Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority populations and Low-Income populations, was issued on 11 February 1994. The EO requires Federal agencies to consider disproportionately high and adverse environmental effects on minority and low-income populations. A Presidential Memorandum that accompanied the EO specified that minority and low-income populations be given access to information and opportunities to provide input to decision-making on Federal actions. There are fragments of the population within the Columbus MSA which could be classified as “minority” or “low income” populations and which would be entitled protection under EO 12898. None of these potential “minority” or “low income” populations is located in or proximate to the northern portion of the Installation for the three alternatives and therefore will not be elaborated on in any more detail in this document.

3.2.6 Aesthetics

The people who live and work at Fort Benning enjoy an environment of high visual quality and Fort Benning personnel strive to promote an outstanding planned community and environment. To compliment this, the living and recreational facilities for the troops, cadre, staff, and their families must be equally outstanding. Development in the cantonment areas has occurred in a series of major building programs that have left distinct zones scattered throughout the Installation. There are three basic types of built-up areas on Main Post: those that were planned and have maintained their identities, those that were planned and have not maintained their identities, and those that were not planned and have little or no image identity (Fort Benning, 1999).

The Main Post Historic District, of which historic Benning Boulevard is a part, has a single unified image. The prevalent building materials are stucco, brick, ashlar cut stone detailing, and terracotta tile roofing. The buildings, streets, and open spaces layout is typical of the style of city planning known as the “City Beautiful Movement.” The prevalent architectural style of the major buildings is Spanish Colonial Revival. The Benning Boulevard view-shed (or visual area) is primarily forested, with a landscaped aesthetic appeal. The Stone Gate area (the area running east from Benning Boulevard to Torch Hill Road) view-shed is a recently cleared area running east-west along the Installation boundary. Fort Benning completed a Historic District Tree Management Plan in 1995 to aid the management of the landscape associated with the numerous Installation historic structures. Without a carefully managed landscaping plan, the various historic districts located within the Installation would lose part of their characteristics. The remaining potential historic districts, combining more than five hundred buildings and/or

structures, are: the Lawson Army Airfield Historic District, the Parachute Jump Tower Historic District, the Army Ground Forces Board #3 Historic District, and the Ammunition Storage Area Historic District.

The remainder of Fort Benning, excluding the cantonment areas, is forested and hosts a variety of activities, ranging from military training to recreational activities, including fishing and hunting. Lands adjacent to Fort Benning consist of both urban and rural components, with the cities of Columbus, GA, and Phenix City, AL, to the west and northwest and the city of Buena Vista to the east; in addition, other smaller communities can be found to the north, northeast, and southeast of the Installation boundary. The primary use of lands bordering these communities, based on 2000 census data, is agricultural in nature.

3.2.7 Cultural Resources

3.2.7.1 Site/area history

Note: Information in section 3.2 (unless otherwise indicated) is taken directly from Fort Benning's Draft Integrated Cultural Resources Management Plan (Draft ICRMP), 2001.

Humans have lived on what is now Fort Benning for thousands of years. The earliest settlers were Paleo-Indians who arrived between 10,000 and 9,500 years ago after the end of the last Ice Age. Around AD 1200 a large Chiefdom with populous villages and vast agricultural fields stretched along the Chattahoochee River Valley and for three centuries controlled the region. Called the Mississippian Culture, this era of settlement and agricultural development would last through the mid-1550s and would result in several large sites along the Chattahoochee River and its associated streams. A later culture, called "Creeks" by the subsequent European setters, would be responsible for building Kasita Town, one of the largest and most prominent of these sites, located on a gentle curving bluff above the Chattahoochee River and on the land occupied by present-day Lawson Army Airfield on Fort Benning. In 1775, noted naturalist and explorer William Bartram visited Kasita Town and made a record of its high level of sophistication and the cultural achievements of its inhabitants, who called themselves the Muskogee.

Settlement by individuals of European and African descent began in the late 1790s and resulted in a substantial loss of land and life to the indigenous population of American Indian inhabitants. By 1840, the majority of the American Indian inhabitants had been forcibly removed to Oklahoma via the 1836 "Creek Trail of Tears." During this time, large plantations were being established south of Columbus, GA, inside the large meanders east and west of the Chattahoochee River. For about eighty years, the land was intensively farmed. In 1918, the land was purchased for the establishment of a temporary 50-acre tent encampment, named Camp Benning in honor of General Benning, a Confederate army hero from the area. The U.S. War Department selected Camp Benning to serve as the new home for the U.S. Army Infantry School of Arms (later to become the USAIS) upon the closing of that facility at Fort Sill, Oklahoma. In the fall of 1918, the School's commandant, Colonel Henry Eames, selected a new site nine miles south of Columbus, on a plateau above the Chattahoochee River, for the establishment of Camp Benning.

In June of 1919, the Army purchased a nearby plantation from its owner, Arthur Bussey, and established headquarters in the family residence, which was known as Riverside. Today, the house is the Installation Commander's residence. On January 9, 1922, Congress authorized the

retention of Camp Benning as a permanent military post, by War Department General Order Number 1, and it was redesignated as Fort Benning. Construction of family housing, soldiers' quarters, a hospital, athletic fields, and mess facilities occurred during the 1920s. The former hospital (now the National Infantry Museum) and family quarters on Wold, Sigerfoos, and Austin Loop date from this era, as do the eastern-most cuartel and Doughboy Stadium. By 1930, aviation activities had begun at Fort Benning and the Works Project Administration programs, spawned during the Great Depression, provided the impetus for construction of the first runways and hangars at Lawson Army Airfield, the first airstrip at Fort Benning. Construction during this period was not restricted to aviation facilities, however, and included a new building for the USAIS in 1935, the Post Chapel in 1935 and the Officers Club in 1934.

The birth of the airborne infantry concept resulted in the performance of infantry parachute test jumps over Lawson Airfield, leading to the establishment of the Parachute School in 1942. With increased demand by the war effort for combat officers, Fort Benning met the challenge with the organization and establishment of the Officer Candidate School (OCS), which operated from 1941 to 1946. When the Korean Conflict escalated, the OCS was re-opened to train junior officers. In 1967, under demands of the Vietnam Conflict, the non-commissioned OCS was established to provide squad and fire team leaders. Also during the 1940s, wooden mobilization facilities were constructed at two new areas known as Sand Hill and Harmony Church. A major reorganization occurred following in 1949, when all of the units and activities of Fort Benning were consolidated under one command, forming the USAIC. The 1950s at Fort Benning were characterized by activities reaffirming its permanent status. Several new units were established, including the Ranger Training Command and the U.S. Army Infantry Human Research Unit, designed to study human response to training procedures and techniques. Another new area, Kelley Hill, was added to the reservation and served as a self-sustaining entity, housing an entire infantry brigade. Housing facilities, a school, bachelor officer quarters (BOQ), and Martin Army Hospital was built during this decade to improve the quality of life at Fort Benning.

The escalation of the Vietnam Conflict during the 1960s shifted the emphasis of instruction at the USAIS toward combined-arms training. The cessation of U.S. military involvement in Vietnam was followed by the re-direction of American military organization toward an all-volunteer army. At Fort Benning, the Modern Volunteer Army Program was initiated and in 1973, the 197th Infantry Brigade at Kelley Hill became the Army's first all-volunteer unit and the first combined-arms team under the Strategic Army Forces concept. Since that time, development of the Fort Benning area and the construction of new facilities to accommodate training and housing have continued. Today, Fort Benning continues to serve as the airborne infantry school and trains many soldiers for today’s Army needs. Notable persons who have trained or served at Fort Benning include Generals George S. Patton, Omar Bradley, Dwight David Eisenhower and Colin Powell. These and every soldier who has trained and served their Nation is a tribute to the legacy of Fort Benning.

3.2.7.2 Management of Cultural Resources on Fort Benning

Army Regulation (AR) 200-4 and Department of Defense Instruction (DoDI) 4715.3 require Integrated Cultural Resources Management Plans (ICRMPs). Cultural resources include buildings, structures, sites, districts, and landscapes that are eligible for or included on the National Register of Historic Places (NRHP). They also include sites identified by American Indians as sacred and American Indian burials, funerary objects, sacred objects, and objects of

cultural patrimony as defined under the Native American Graves Protection and Repatriation Act of 1990.

Management of the cultural resources on Fort Benning is an ongoing effort and is accomplished via the Installation's Draft Integrated Cultural Resources Management Plan (Draft ICRMP). The Draft ICRMP provides guidance for implementation of the Army's cultural resources management policy, as prescribed in AR 200-4, Cultural Resources Management, and is in the format of both an internal Army management plan (integrating the entirety of the cultural resources program with ongoing mission activities over a 5-year planning period) and a cultural resources sites component (an extractable portion of the plan that provides for the management and treatment of cultural resources sites and requires external review and approval). Standard Operating Procedures (SOPs) are also included as appendices to the document. The Draft ICRMP allows for ready identification of potential conflicts between the Installation's mission and its cultural resources management program, in addition to identifying the legal compliance actions necessary to maintain the availability of properties and acreage required for combat readiness. The Draft ICRMP should provide Fort Benning with a guide to assess what the Installation should be doing to ensure compliance with historic preservation laws and regulations and with the tools to measure progress towards achieving the objectives outlined in the management section of the Draft ICRMP.

A Historic Building Survey was completed in 1987, and Historic Resource Survey Update was completed in 1997; both documents are available for review at the Environmental Management Division. Archeological sites with components perhaps 10,000 years old, through recent 20th century components have been discovered. For management purposes, all structures that are 50 years or older and all archaeological sites on Fort Benning are treated as eligible for listing on the NRHP until determined otherwise through established processes. In addition, Fort Benning completed a Historic District Tree Management Plan in 1995 (as updated in 2003) to aid management of the landscape associated with the numerous Installation historic structures. Without a carefully managed landscaping plan, the various historic districts located within the Installation would lose part of their characteristics. Five potential historic districts, combining several hundred buildings, were identified at Fort Benning. They are: the Main Post Historic District, the Lawson Army Airfield Historic District, the Parachute Jump Tower Historic District, the Army Ground Forces Board #3 Historic District, and the Ammunition Storage Area Historic District. All known historic cemeteries on Fort Benning property have been inventoried; all cemeteries discovered were marked and are currently maintained by the Installation. Previously unknown historic cemeteries have recently been discovered on Fort Benning as well and are managed through the cultural resources and real property programs.

Fort Benning has stewardship responsibilities for all of its cultural resources. Therefore, the three Alternative locations were surveyed as part of the cultural resource management program to discover and identity of all cultural resources on Post. Each survey produced recommendations as to whether the cultural resources discovered were not eligible, potentially eligible, or eligible for the National Register of Historic Places (NRHP). There are no buildings located on or proximate to the northern portion of the Installation that are considered eligible for listing with the NRHP; in addition, the site currently has no areas eligible for status as potential historic districts. There are, however, numerous known cultural resources sites and/or structures with cultural significance in this portion of the Installation, based on previously conducted surveys ("Phase I and/or Phase II").

Within training compartment K12, which includes Alternative I (Hastings Range), 18 separate cultural resources sites were discovered. Six of the resources were considered potentially eligible for the NRHP; the remaining 12 sites were considered ineligible due to their lack of integrity caused by previous ground disturbing activities. The lands encompassing Alternative II (K21) have also been surveyed, resulting in a finding of 65 cultural resources sites. Twenty of these cultural resources sites are potentially eligible for the Register and are currently in "Protected" status; the remaining 45 sites were considered ineligible. The lands encompassing Alternative III have also been surveyed, resulting in a finding of 32 cultural resources site. Seven of these cultural resources are located within the construction area of Alternative III. Each resource within the construction area was evaluated for eligibility to the NRHP through historic background research and test excavations. The late 19th and early 20th century mill site was the only resource found within the footprint of construction of the DMPRC range and target firing area to possess qualities sufficient to recommend its eligibility to the NRHP. The water-powered technology employed is distinctively characteristic of the type and method of construction, therefore, the site is likely to provide information important to the understanding of the history of the region. Two cultural resources sites, though not directly affected by construction, are within the current approach/glide slope for the proposed helipad for the DMPRC. Both sites have prehistoric Indian components that are potentially eligible for the NRHP. Four cultural resources sites are located within the Alternative III vicinity and close to the area where rounds may impact. One is a late 19th century homestead ruin with features and artifacts considered eligible for the NRHP; one is an early 20th Century house ruin considered eligible for the NRHP; and two are the remains of late 19th to early 20th century house ruins with sufficient integrity and artifact remains to warrant protection until their potential for the NRHP can be further evaluated.

3.2.8 Utilities

3.2.8.1 Drinking Water

Upatoi Creek has a mean annual flow of 451 cubic feet per second (cfs) and is the major supplier of water for Fort Benning. The water from the Upatoi Creek is treated at the Installation treatment plant and distributed throughout Main Post, Kelley Hill, Sand Hill, Harmony Church, and the housing areas via a network of lines ranging in size from three to 20 inches in diameter. There are seven public water supply (drinking water) wells on Fort Benning proper (personal communication, Wilkins, 2001). Water supply for all other areas of the Installation (such as the northern portion of the Installation and several ranges) is transported to the training compartments/sites by water buffaloes (600-gallon tanks on transport trailers). Water supply for the proposed DMPRC and its support facilities would be established via the sinking of a new water supply well (40 gallons per minute capacity); the water from this well would then be treated on site (using a slurry-based system), stored in a pneumatic storage tank, and distributed through water mains and lines to the various buildings (Design for Fort Benning DMPRC, 29 September 2003). The use of water wells is a common practice on the Installation's outlying ranges, where no connection to water and wastewater systems is possible (Wilkins, 2003).

3.2.8.2 Waste Water

There are two wastewater treatment plants (WWTP) that serve the entire Installation with a combined capacity of 16 mgd. Approximately 95,000 gallons per month of anaerobically digested sewage sludge is land applied at 10 locations on the Installation. The sanitary sewage collection system consists of approximately 126 miles of six to 24-inch vitrified clay, cast iron, and concrete lines. Twenty-four lift stations are required to move sewage flows across the rolling terrain of Fort Benning. Fort Benning's water and wastewater systems are currently in the process of privatization. Fort Benning will retain ownership of the underlying lands; however, the ownership, operation, and maintenance of the buildings, systems, and associated water and wastewater facilities will become the responsibility of a non-Federal entity. There are no lift stations or wastewater collection systems on or proximate to the site of the three alternatives. Instead, the support facilities for the proposed DMPRC will include two latrines, which will utilize a septic system (Design for Fort Benning DMPRC, 29 September 2003). The use of latrines with septic systems is a common practice on the Installation's outlying ranges, where no connection to water and wastewater systems is possible (personal communication, Wilkins, 2003).

3.2.8.3 Energy systems

Georgia Power supplies electrical power via two 115-kilovolt (KV) feeders into its substation on Marne Road. Voltage is transformed, metered, and fed to the adjacent Flint EMC-owned substation. Transmission lines leave this substation to supply power to the cantonments, family housing, and other developed areas of the Installation. Electricity is also provided to training facilities (such as the northern portion of the Installation) located outside the cantonment areas in the range and training area of the Installation. There is no power generation system for the entire Installation, but emergency power generators are in place at critical locations, such as the airfield, control tower, hospital, communications center, stockade, water treatment plant, transmitter sites, radio beacon sites, and steam plants. The United Cities Gas Company supplies natural gas to Fort Benning. Mission and loads at the Installation determine the volume of natural gas supplied. Natural gas supplies the majority of non-mobile fuel requirements at the Installation. Fuel oil is used as a backup fuel at Martin Army Community Hospital. No power or gas lines are at the location of the two action alternatives; however, Hastings Range is supplied by these utility services.

3.2.8.4 Communications System

The official on-post telephone system is operated and maintained by contract. Flint Energies provides the unofficial service to family and bachelor housing and other unofficial users. Trunks to facilitate toll-free calling between the two separate systems interconnect the Army-owned and Southern Bell systems. There are no such systems on or proximate to the northern portion of the Installation.

The Fort Benning Fire Department operates a fire reporting communications system. The cable, however, is carried with the telephone cable distribution system. An E-911 (enhanced) public emergency reporting system is in place for the Fort Benning/Columbus area. This system allows emergency responders to immediately locate the place of origin of any emergency called in to the control center. There are no such systems on or proximate to the northern portion of the Installation. Another major communications system at Fort Benning is the cable television

system, which is operated by a private company. The contractor has the responsibility for operation and maintenance of the system under terms of a license. The Public Affairs Office (PAO) operates a separate educational television system in Infantry Hall. It operates under the call letters WFBG. The system is owned and operated by the Installation in support of military training. There are no such systems on or proximate to the northern portion of the Installation.

3.2.9 Noise

Noise is the term used to identify disagreeable, unwanted sound that interferes with normal activities or diminishes the quality of the environment. Military and non-military activity on and around Fort Benning produce both intermittent, pulse sounds--such as tank and artillery fire, and also continuous sounds, such as the sound of vehicles moving along state highways and roadways or aircraft moving across the sky. Loud sounds are produced in Fort Benning's training areas and ranges by the activities of the soldiers training with their vehicles and equipment.

Sound intensity results from the energy used to produce it. It can be measured or predicted based on knowledge of its source, such as the characteristics of an airplane's engine or of a vehicle motor. The human ear's ability to hear covers an enormous range of sound. In order to make sound intensity measurement more meaningful and understandable, the unit of measurement known as the decibel (dB) is used. The decibel scale begins at the approximate level of the smallest amount of sound detectable by the human ear.

Table 6: Decibel Levels for Common Sounds

Source: U.S. Army Armor Center & Fort Knox, 2002	
Sound	**Decibel (dB) Level**
Air raid siren	130
Jet takeoff	120
Amplified rock music	110
Chain saw	100
Lawnmower	90
Heavy traffic	80
Vacuum cleaner	75
Normal conversation	60
Moderate rainfall	50
Library	40
Soft whisper	30

The Army uses computer models to predict and measure environmental noise, and employs the Environmental Protection Agency's recommended Day-Night Sound Level (DNL) framework to analyze noise and as a land–use planning tool. The DNL system describes the average daily sound energy over the period of a year. This averaging means that moments of quiet are compared together with moments of loud sounds. The system also "penalizes" sounds, which may be more annoying because they occur at night (approximately 10 PM to 7 AM) by assigning them a higher sound value of ten (10) decibels.

The Army uses two methods to "weight" the sounds that people actually hear and experience. The first method, called the "A-weighted Day-Night Average Noise Level" (ADNL) closely resembles the frequency responses of the human ear, and is used to analyze such sounds as traffic, airplanes, and the sounds made by rifles and machine guns. The second method, the "C-weighted Day-Night Average Noise Level" (CDNL), is more suited to predict and analyze the impacts of the lower frequency parts of sound, which form a large part of such impulse noises as heavy artillery fire and detonation of explosives. These low frequency components of sound waves can cause windows to rattle and buildings to shake.

The reactions of people who live on or near the Installation to hearing these sounds can be affected by a number of variables. These include closeness to the sounds, strength of the sounds, time of the day or the day of the week of the sounds, and the expectation of hearing them, among other factors. Other factors include the following:

- Intensity
- Duration
- Repetition
- Abruptness of onset or stoppage
- Background noise levels
- Interference with activities
- Previous community experience with the noise or other noise
- Time of day
- Fear of personal danger from the noise source
- Extent that people believe the noise can be controlled

The nearest urban areas adjacent to Fort Benning are Columbus, GA, located to the Installation's west and north, and Phenix City, AL, located to the west of Columbus and across the Chattahoochee River. Noise sources in these areas are typical of urban areas and include highway vehicular traffic, emergency vehicle sirens, aircraft, construction activities, railroads, and commercial and industrial activities. Buena Vista, GA, is located to the east of Fort Benning and has typical noise sources for a small town. Rural areas also lie to the east, southwest, and south of Fort Benning and consist of various farms, timberlands, and isolated residences. Noise sources in these areas are relatively minor and are the result of vehicular and agricultural sources. In addition to these ambient noises, Fort Benning generates noises from rotary and fixed-wing tactical aircraft, small arms firing, mortar, tank gun and artillery firing and impacts, heavy-tracked vehicles and specialized combat vehicles, and various pyrotechnic devices.

Fort Benning's ENMP is being prepared to describe and assess the Installation's existing noise environment. Noise contour lines surrounding and emanating from large caliber weapons are produced on a map to illustrate noise impacts on Fort Benning and the surrounding communities. The contours identify different noise zones that vary according to noise intensity or level: Zone I areas where the noise level is compatible with noise sensitive receptors (e.g. residential communities, schools, churches, etc.), Zone II areas where the noise level is normally

incompatible with those receptors, and Zone III areas where the noise level is incompatible noise sensitive receptors. The three zones are defined by the ADNL sound intensity (dBA) and the CDNL intensity (dBC), and are as follows:

Zone I	"Compatible"	< 65dBA or < 62 dBC
Zone II	"Normally Incompatible"	65 to 75 dBA or 62 to 70 dBC
Zone III	"Incompatible"	> 75 dBA or > 70 dBC

Sensitive noise receptors at and near the Installation include hospitals and other medical/health facilities, schools, Army family housing areas and civilian residential areas. Residential homes and farms are the primary receptors in the area affected by existing military operation near the proposed DMPRC. The ENMP will provide long-range land use planning strategies to protect the Installation from noise incompatibility problems resulting from existing and potential encroachment. Upon completion, the ENMP will be available for local planning committees. Noise monitors were installed near the north and northeastern Installation boundaries in the Fall of 2003. Noise monitoring data will be used to validate noise models and verify noise levels when citizens file a noise complaint. The noise data will be available to Installation commanders to be used to more effectively schedule, locate, and adjust military training exercises to help reduce noise impacts.

The ENMP also addresses the management of noise complaints and mitigation of noise and vibrations. During gunnery training or artillery firing, residents of the communities surrounding the Fort Benning training area occasionally complain. Complaints are primarily originated from communities located northwest to northeast of the Installation. Some residents also complain about noise from low-flying aircraft. Management of noise complaints is the responsibility of EMD. The PAO provides interface between the concerned parties, the noise generators and the Installation Command. Whenever possible, PAO provides advance public notification of training exercises or activities that may cause off-Post noise impacts through the local news media. While several noise-related complaints have been received at Fort Benning, as indicated below, no damage claims related to range or blast operations have been filed within the last 3 years according to the Claims Department, Office of the Staff Judge Advocate. The enclosed noise complaints filed with the Public Affairs Office (PAO) over the last three years indicate relatively few complaints based on blasts rather than over flights, and that only a few specific events fired at night cause several complaints. The noise complaint information for the indicated calendar years can be summarized as follows:

2000: 9 total noise related incidents recorded by PAO.
- 1 information request
- 2 media coverage in late May (1 newspaper/1 TV)
- 1 over flight complaint
- 5 blast related complaints; 2 in October and 3 in late May

2001: 14 total noise related incidents recorded by PAO.
- 1 information request
- 13 blast noise complaints during Hammer Focus from 16 January-1 February

from residents of Box Springs, Upatoi, Midland, Columbus, and Talbotton County (3 complaints on 16 Jan, 8 on 17 Jan, 1 on 18 Jan and 1 on 1 Feb).

2002: 3 total noise complaints, all from the same person in Midland regarding over flights in July

2003: 15 total noise related incidents recorded by PAO.
7 over flight complaints
8 blast related complaints from residents of Midland, Box Springs, Cataula, Buena Vista, Opelika, Newman, and Columbus.

The U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) used the BNOISE2 (U.S. Army 2000) noise simulation program to analyze heavy weapons noise sources and develop noise contours for the heavy weapons. Fort Benning Directorate of Training (DOT) provided to CHPPM the operational data from previous years and projected weapons usage for future years to create the noise contours. Unlike topographic contours on a map, noise contours are not intended to be precise representations of noise zones. Geographic features, forest canopy, weather conditions, and the receiver's perception of the source, etc., can influence the impact of noise. Noise contours cannot be so precise as to define one side of a noise contour line as clearly compatible and the other as incompatible. However, the use of noise contour maps has proven to be a reliable planning tool in noise-affected areas throughout the United States.

Impulse noise from existing Tank, BFV, and artillery fire causes significant adverse noise off-Post; however, other noise sources are not significant because their noise levels do not even generate an off-Post Zone II noise contour. These sources, aircraft (helicopters and fixed-wing aircraft for jump training), small arms fire, and vehicular traffic, can still be annoying even if they do not contribute to a normally incompatible noise zone.

Noise from Lawson Army Airfield (LAAF) occurs primarily on the western portion of the Installation. LAAF operations do not directly affect the locations for the DMPRC alternatives and is not analyzed further. After departing LAAF or other airfields and helipads, helicopters and fixed-wing aircraft operate in the locations for the DMPRC alternatives as discussed below.

Fixed-wing aircraft are used for jump training. The number of flights associated with jump training is too few to generate noise contours using the NOISEMAP computer program. Because helicopter traffic coming into Fryar Field is routed over the Installation, the impact to civilian residents is minimal though individual aircraft operation may be annoying to residents at times. Helicopter and fixed wing aircraft fly on the established routes and within restricted military airspace as low as "nap of the earth" (tree level). On average, there are 3 flights during the day and one at night, not enough to generate a Zone II (Draft ICUZ, 1997). Small arms weapons, which are everything with a caliber less than 20 mm, are currently fired throughout the Installation, but are a sufficient distance from the community to be compatible with off-Post land use.

Noise from aircraft and small arms fire do not generate a Zone II noise contour and the proposed DMPRC does not include any changes to existing levels of operation for these noise sources; therefore they will not be analyzed further in this document. There are two areas of Fort Benning where currently noise zones II and III extend beyond the boundary. The first is west of

the Malone Range Complex, where Zone II goes beyond the Installation boundary; however, Figure 36 indicates that this off-Post Zone II area is not near the DMPRC alternative areas. The second area where Zone II extends beyond the Installation boundary is located east and northeast of Fort Benning; in addition, Zone III extends beyond the boundary by Hastings Range, covering approximately 716 off-Post acres; in addition, Zone II noise contours in this area cover approximately 3,638 off-Post acres. The off-Post land use in this second area is agricultural with scattered residences. The 1997 Draft ICUZ report provides more details on the existing noise data and the environment around Fort Benning.

There may be current impacts from noise on wildlife and protected species; however, studies regarding noise impacts on the RCW indicate little effect. The Federally endangered RCW is found within Zone III noise contours at Fort Benning. The Army Construction Engineering Research Laboratory completed a rigorous three-year experiment to evaluate the RCW's reaction to a range of military noise events. The study found that the RCW adjusts to the noise and that military noise exposure does not produce any mortality or statistically detectable changes in reproductive success.

Fort Benning has voluntarily imposed the following operational restrictions for range firing to reduce the existing range noise impacts on the community:

- Firing of weapons .50 caliber or greater restricted between midnight and 6:00 AM
- Exceptions approved in advance by a Brigade or Regiment Commander
- The Fort Benning Public Affairs Officer will be notified of any firing during restricted hours and, in turn, distributes that information through the local news media to the public.

Fort Benning maintains a noise complaint system to address individual concerns. Civilian noise complaints may be reported to Fort Benning by calling the Fort Benning 24-hour Staff Duty Officer. Investigation and further action would follow if warranted (personal communication, Veenstra, 2003).

3.2.10 Air Quality

3.2.10.1 Climate

Fort Benning is located approximately 170 miles north of the Gulf of Mexico and 225 miles west of the Atlantic Ocean, with a climate classified as humid continental. The seasons are well defined, with hot, humid summers and mild winters. The annual mean temperature is slightly over 65 degrees Fahrenheit. The coldest month is usually January and the warmest usually July. Winter temperatures are affected by frequent alternation between continental influence (with cold winds sweeping down from Canada over the Great Plains and the Midwest region through Georgia) and maritime influence (with southerly winds bringing tropical Gulf air over the area).

Summer months' temperatures are primarily affected by maritime influence and seldom vary. Prevailing winds are from the northwest and average 7 miles per hour. Atmospheric stagnation average 12 days per year. The sudden rise of Pine Mountain and associated ridges reaching over 1000 feet in elevation 21 miles north of Fort Benning is a trigger mechanism for convectively unstable maritime tropical air flowing from the south, causing it to release its energy in thunderstorms. The Chattahoochee River plays a major role in the formation of ground fog. Ground fog would form on the average 40% of the days of each year (this does not include

ground formation associated with precipitation or low ceilings). The frequency of ground fog occurrence is at a maximum from late spring to early fall, primarily during the period May through October.

3.2.10.2 Emissions

According to the 2000 Air Emission Inventory (AEI) Fort Benning is a major source of criteria pollutant emissions. The major source determination is due to the Installation's potential to emit 100 tons per year (tpy) of any one criteria pollutant, (carbon monoxide, lead, ozone, nitrogen dioxide, sulfur dioxide, and particulate matter 10 and 2.5 microns in size, or PM 10 and PM 2.5, respectively) total, from all stationary sources. Heating units and stationary internal combustion engines provide the greatest potential for emitting criteria pollutants; however, prescribed burning is the largest source of actual criteria pollutant emissions.

The "major source" designation triggers the provisions of 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The PSD provisions require Fort Benning to assess all new emission units to determine if their operation constitutes a major modification as defined in "Georgia Rules for Air Quality Control." If a new unit fits the definition of a major modification, then a construction and operating permit is required for the unit. The major source designation also subjects Fort Benning to the Clean Air Act Part 70 Operating Permit Regulations, usually referred to as Title V.

Fort Benning is currently in attainment for the six criteria pollutants listed above, but the region in which Fort Benning lies is in danger of being designated as non-attainment for ozone and/or PM 2.5 within the next few years. If the Fort Benning area is designated as non-attainment, then Army actions would undergo a general conformity determination. In 2000, Governor Roy Barnes submitted a letter to the US EPA Region 4 stating that Muscogee County was no longer in attainment for ground level ozone; however, the EPA did not take action on that recommendation. Georgia sent a subsequent letter in 2003 recommending other areas for non-attainment status with regards to ozone, but, due to improvements in the Fort Benning and Muscogee County air quality levels, Georgia did not recommend the Fort Benning-Muscogee County area for non-attainment designation. EPA responded in 2003 and did not include the Fort Benning-Muscogee County area in the list of those designated for ozone non-attainment. Future exceedances of the ozone air quality standards in the Fort Benning-Muscogee County area could result in a designation of non-attainment.

Evaluations of attainment status for PM 2.5 are currently underway; however, the Fort Benning-Muscogee County area may have exceeded the air quality standards for PM 2.5 so that a non-attainment designation for that air pollutant is possible. Fort Benning is working with GA DNR to establish a Smoke Management Program (SMP), per EPA guidelines, because much of the PM 2.5 in the area seems to come from wildfires and fires utilized for land management purposes. A state-certified SMP may avoid PM 2.5 non-attainment designation in the Fort Benning area.

The Muscogee County area also hosts two Particulate Matter 2.5 (PM 2.5) monitors. Recent monitoring shows that the Muscogee County area is out of attainment for PM 2.5. Non-attainment designations are due from GA EPD to the US EPA on 14 February 2004. GA Institute of Technology staff conducted extensive research on the size and amounts of particulate matter generated from prescribed burning; results are pending. Fort Benning and GA EPD Air Permitting Branch are working on a state wide Smoke Management Plan (SMP). The SMP is

based on the “US EPA Interim Air Quality Policy on Wildland and Prescribed Fires,” (23 April 1998). If the SMP is certified by the state then according to the Policy, PM 2.5 emissions from prescribed burns should not count towards non-attainment. The AEI of stationary air emissions sources is conducted annually. The AEI also reviews and updates Fort Benning’s current Title V Permit. The Title V Permit application was submitted for review in 1996, as per the request of GA EPD Air Permitting Section and issued by the state on 16 July 2003. The permit will be renewed five years from the issue date.

Sources of potential air emissions at the northeastern portion of the Installation include particulate matter (PM) from dust, CO and PM from prescribed burning activities, and nitrous oxides from the combustion of fuels. These operations should not constitute a significant source of air emissions under the Georgia Rules for Air Quality Control, Chapter 391-3-1 (personal communication, Gustafson, 2003; Georgia DNR, 1998). A letter from Harold Reheis, Director, GA DNR, to the Southeastern Regional Environmental Office (SREO), dated 21 April 2003, states the "use of vehicles and equipment in military training and military exercises, on ranges and unpaved road and trails, is not subject to Rule (n)." The letter further states "...Rule (n) is not applicable to most vehicle and equipment travel at a military base, since the travel is not a part of a process and there is no manufactured product."

In 2002, Fort Benning EMD and Staff Judge Advocate personnel met with the GA EPD Air Protection Branch to challenge the 40% opacity limit for all outdoor burning, which includes prescribed burning. In spring 2003, this rule was changed to exempt Fort Benning’s prescribed burning program as a source of emissions. At this time Georgia EPD does not regulate mobile sources on Fort Benning; however, new regulations proposed by the U.S. EPA concerning particulate matter and nitrous oxides may result in changes to this situation in the future. Therefore, air issues may need to be addressed again before the completion and use of the proposed DMPRC. As of this time, any emission units to be built or installed as a result of the proposed action must also be covered by a construction/operating permit. In addition, any storage of chlorine (including amounts less than 2,500 pounds) is subject to Section 112(r) of the CAA and requires the preparation and implementation of a Level III Risk Management Program (RMP), in coordination with the Installation Air Quality Program Manager. A Level III RMP includes determining worse case and alternative case release analysis, performing a Process Safety Hazard Analysis, establishing operating procedures and an emergency response program, conducting monthly safety briefings and yearly compliance audits, and coordinating with local emergency personnel.

Fugitive Dust is particulate emissions released from sources that do not have a pinpoint exit such as a stack or vent. Examples are an uncovered truck bed, or train car, or emissions caused by vehicles traveling over an unpaved road. The letter referenced above from Harold Reheis, GA EPD, April 2003, gives relief during military training and exercises, but not for other activities such as construction. Fugitive Dust is of a concern during the construction phase of the project. The Georgia Rule for Air Quality (391-3-1.02(2)(n) suggests several ways to mitigate for fugitive dust for activities not related to military training. Fort Benning's Title V Permit contains sections on Particulate Emissions and Visible Emissions. GA Rules for Air Quality 391-3-1.02(2)(b) Visible Emissions were amended in Spring 2003 in order to delete the 40 % opacity condition for smoke from prescribed burns, control burns, and slash burns. The Title V section Particulate Emissions states the exact wording as the GA Rules for Air Quality 391-3-1.02(2)**(e)** Particulate Emissions for Manufacturing Processes except for the section title.

GA Rules for Air Quality 391-3-1.02(2)(n) Fugitive Dust

1. All persons responsible for any operation, process, handling, transportation, or storage facility, which may result in fugitive dust, shall take all reasonable precautions to prevent such dust from becoming airborne. Some reasonable precautions which could be taken to prevent dust from becoming airborne, include, but are not limited to the following:

(i) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operation, the grading of roads or the clearing of land;

(ii) Application of asphalt, water, or suitable chemicals on dirt roads, materials, stockpiles, and other surfaces which give rise to airborne dusts;

(iii) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods can be employed during sandblasting or other similar operation;

(iv) Covering at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dusts;

(v) The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited.

2. The percent opacity from any fugitive dust source listed in paragraph 2(n)(1) above shall not equal or exceed 20 percent.

3.2.11 Solid Waste

3.2.11.1 Landfills

Fort Benning generates uncompacted solid waste at an estimated rate of 1,200-1,500 tons per month. The Installation does not have a permitted sanitary landfill in operation. Currently, all Fort Benning sanitary waste is transported to a state permitted facility located off-post. There are three approved inert landfills on the Installation; however, only one is currently in operation. These landfills are designed to accept only inert materials such as fallen limbs and trees, concrete (free of lead base paint), and cured asphalt. There are no landfills on or proximate to the three alternatives.

3.2.11.2 Solid Waste Management Units (SWMU)

Past resource and waste management practices at Department of Defense (DoD) facilities have resulted in the presence of toxic and hazardous waste contamination at some installations, including Fort Benning. In response, DoD has undertaken environmental restoration activities under its Installation Restoration Program (IRP) to manage these sites, known as Solid Waste Management Units (SWMU) (Fort Benning, 2003). Fort Benning's IRP activities fall under compliance with the Resource Conservation Recovery Act (RCRA). This federal law, enacted in 1976, ensures the proper management of hazardous waste at active sites or facilities. The IRP also conforms to the requirements of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). U.S. Environmental Protection Agency (EPA) guidelines are followed in conducting investigation and cleanup work in the program. Disturbance of a SWMU is prohibited unless prior coordination with GA DNR determines otherwise.

Fort Benning identified 44 Defense Environmental Restoration Account (DERA) SWMU sites and 87 Operation and Maintenance Account (OMA) SWMU sites, including landfills, paint facilities, pesticide contamination, other industrial areas, a fire training area, a chemical agent burial site, and petroleum-oil-lubricant (POL) contaminated areas. Twenty-five of the 44 DERA SWMU sites were found to require no further action, either because contamination no longer exists or because the levels of contamination pose no risk to human health or the environment. The remaining 19 DERA SWMU sites are considered active and are subject to current or future investigation, removal action, cleanup, or long-term monitoring. Forty-two (42) of the OMA SWMU sites have been determined to need no further action, as well, with 45 currently managed as active and subject to further investigation (personal communication, Morpeth, 2003). Military ordnance firing on and landing within a range is not considered a solid waste when it is involved in training, emergency response, or on-range ordnance clearing (personal communication, Veenstra, 2003). No SWMU sites are located at or in close proximity to the site of the three alternatives.

3.2.11.3 Recycling

Recycling reduces disposal cost, conserves natural resources and minimizes environmental problems associated with land disposal. Fort Benning's policy on recycling is governed by the April 3, 1996 Policy Memorandum #96-13, entitled "Qualified Recycling Program." Under this policy, Army personnel and contractors are required to actively participate in the recycling program, and all of the proceeds from the program are retained by the Installation. Recyclable materials that may be collected include paper, cardboard, metal cans, glass containers, scrap lumber, used motor oil and plastics; however the list of materials that Fort Benning accepts varies according to market conditions and other factors. Recyclable materials are turned-in to the Installation Defense Reutilization Marketing Office (DRMO) and the Materials Recovery Facility (MRF) for processing.

3.2.12 Hazardous and Toxic Materials/Waste

Fort Benning's Hazardous and Toxic Materials/Waste Management program has three major functions: (1) storage, handling, and disposal; (2) waste minimization; and (3) remediation. A detailed discussion of these programs is presented in the Installation Hazardous Waste Remedial Actions Program (HAZWRAP). Fort Benning operates under Hazardous Waste Facility Permit [Resource Conservation and Recovery Act (RCRA) Part B] No. HW-021 (S)-2 and Facility I.D. No. GA3210020084. These documents are available for review at the offices of the EMD.

3.2.12.1 Asbestos Management

Routinely, all Fort Benning facilities scheduled for maintenance, remodeling and demolition are inspected for presence of Asbestos-Containing Materials (ACM), when required by law or as a precautionary measure when ACM is removed through outside contracts by licensed specialized firms. Removed ACM is properly transported off post and disposed in licensed facilities in accordance with Installation policies and guidelines. There are no structures or buildings that are believed to contain ACM on or proximate to the northeastern portion of the

Installation, the location of the three alternatives (personal communication, Clarke, 2003). Therefore, this will not be analyzed further in this document.

3.2.12.2 Lead Based Paint Management

The likelihood for buildings built prior to 1978 to contain lead-based paint (LBP) is high. Painted surfaces can be tested to determine if LBP is present. If testing has not been performed, surfaces painted before 1978 should be assumed to contain lead-based paint. There are two primary methods for testing paint for lead: X-ray fluorescence detector (XRF) and laboratory analysis of paint chips. A third method, using chemical kits for spot testing, has not been widely accepted as a reliable means of detecting low levels of lead in paint. The most dependable way to test for a lead-paint dust hazard is wipe tests followed by laboratory analysis. There are no structures or buildings believed to contain LBP on or proximate to the northeastern portion of the Installation; in addition, no use of LBP is included as a part of the construction or operation of the proposed DMPRC. Therefore, this will not be analyzed further in this document.

3.2.12.3 Radiation

Radon is an invisible, odorless, radioactive gas produced by the decay of uranium in rock and soil. Radon decays into radioactive particles capable of causing damage to lung tissues and increasing the risk of lung cancer when inhaled. A radon gas survey including 650 Fort Benning priority buildings has been conducted. This survey resulted in an observed measurement of 0.04 pCi/L, which is an acceptable reading in the Sandhills Physiographic region of Georgia. Only one site was recommended for re-survey; however, because of logistical impracticality this site was not resurveyed. The following is the Army Policy for Radon as outlined in AR 200-1, Radon Policy 9-2 e, "Measure radon in newly constructed Army facilities," (i): Use USACE design criteria for radon reduction in new construction. Radon information provided by Region IV, EPA, and statistics maintained by the GA DNR suggest that there are no regional concerns and that there is little potential for radon occurrence (above "concern" level threshold of 0.4 pCi/l) in the area of the proposed action and its alternatives; therefore, this will not analyzed further in this document.

3.2.12.4 Poly-Chlorinated-Biphenyl (PCB)

Poly-Chlorinated Biphenyls (PCBs) are highly stable compounds with a low flammability, high heat capacity, and low electrical conductivity; therefore, they were extensively used as a component of many materials, most notably as heat insulating materials (such as hydraulic fluid in vehicles) and as dielectric fluids in electrical transformers. The harmful effects of PCBs were not readily apparent, but are now known to cause skin irritation and even cancer (Fort Benning, 1998). In 1976, Section 6 of the Toxic Substances Control Act (TSCA) identified the need to regulate PCBs to minimize the adverse effects of these components on human health and the environment; this minimization was enacted through the reduction or complete phase-out, by law, of the use of PCBs in insulatory materials, dielectric fluids, and other products (40 CFR Parts 750 and 761).

On Fort Benning, a PCB Inventory Report was conducted in 1998 and indicated that of the 2,157 transformers surveyed on the Installation, 1,166 were assumed to be "PCB

Transformers" (500 or greater parts-per-million PCBs) (personal communication, Clarke, 2003). Also in 1998, a PCB Management Plan was prepared for Fort Benning and provided details regarding the implementation of TSCA and its regulatory requirements. Topics covered include transportation, storage, sampling, and disposal of PCBs. The operation, maintenance, and repair of the electrical distribution system and, therefore, most of the PCB-containing electrical equipment on Fort Benning, GA, is currently under the control of Flint Electric; with the exception of the electrical systems at Lawson Army Airfield, which is under the management of Interior Electric. PCB-containing materials are not purchased and utilized at Fort Benning in any of these systems or as part of insulatory materials for construction/maintenance/renovation projects on the Installation (personal communication, Clarke, 2003). The proposed DMPRC will not utilize PCB-containing materials; therefore, this will not be analyzed further in this document.

3.2.13 Public Health and Safety

3.2.13.1 Unexploded Ordnance

Infantry training at Fort Benning has been conducted since the beginning of the Installation in 1918. Infantry training has required, and continues to require, the use of "blank" as well as "live" ammunition. The type of ammunition used for training purposes is very diverse. It virtually encompasses every weapon system from small caliber individual weapons to air delivered 500 lb. bombs, with the exception perhaps of some long-range artillery guns or missiles and air defense systems. Blank ammunition and various pyrotechnic simulators are used throughout the entire training area. Live-fire training is conducted in designated ranges and training areas, with projectiles directed towards designated ordnance impact areas.

The main "dudded" ordnance impact areas on Post are compartments A20 and K-15 with 9,300 and 5,500 acres respectively (Figure 5). Smaller isolated "dudded" ordnance impact areas are found in the periphery of the main ordnance impact areas and within the Malone Range Complex. The Fort Benning military, civilian personnel, and the community are routinely advised and reminded not to handle any suspected unexploded ordnance (UXO), and to report suspicious ordnance to the Explosive Ordnance Detachment (EOD) and to the Director of Public Safety via 911 call. UXO warning articles are periodically published in the Fort Benning Bulletin, as well as in the Post newspaper, "The Bayonet."

On 3-6 March 2003, a meandering surface survey of the site of the preferred alternative (Alternative III) for the DMPRC was conducted to get an idea of what, if any, UXO was present, what needed to be removed, and to determine if any further UXO survey was required. Although no UXO was discovered, it may be present deep below the current surface of the soil or in areas that were not physically searched (personal communication, Allan, 2003). The Fort Benning Range Division plans to conduct an additional survey and any required UXO removal action will occur prior to any ground disturbance related to the timber harvest/slash removal or construction activities.

3.2.13.2 Surface Danger Zone (SDZ)

The surface danger zone (SDZ) is an "invisible" line that surrounds the firing range and ordnance impact area portions of a range and provides a buffer area to protect personnel from the

non-dud producing rounds that may be ricocheted during operation of the range. For each training scenario on a range, the SDZ is computed to take into account the firing positions and ordnance used, so the SDZ exclusion zone will vary. For this document, for the purposes of analysis, the cumulative/maximum SDZ possible for the proposed DMPRC will be utilized (personal communication, Kearns, 2003). The SDZ is an "exclusion" or safety zone for personnel on or in the vicinity of the range (Figure 3). Its function is to provide a buffer zone that contains projectiles, fragments, debris, and components resulting from the firing of weapon systems; statistically, these items have a one in a million chance of landing outside of the SDZ (personal communication, Weekley, 2003). SDZs are updated on the basis of data derived from research and development, testing, and or actual firing experience and differ depending on the type of activity occurring on the range (small arms training versus tank gunnery) and the type of ammunition being fired on the range (AR 385-63, 2003). The area comprising the SDZ is closed to all personnel not directly utilizing the range complex during currently ongoing exercises.

The main areas of concern in the SDZ are the dispersion area, impact area, ricochet area, stationary target and moving target area, Area A, and Area B, (AR 385-63, 2003) (Figure 4). The dispersion area consists of the distribution of rounds fired by one weapon or group of weapons under identical or nearly identical circumstances. It represents a "pattern" of fire and helps predict where rounds fired by a certain weapon or weapon system will land. The range impact area is the primary "danger" area for the range and encompasses the area of impact for all targets within the range. The ricochet area consists of the zone between the impact area and Area A (defined below) and accounts for ammunition that ricochets off targets, berms, hills, or other obtrusive elements and lands outside of the line of fire. The stationary and moving target area is the location where the targets are placed and rounds are expected to land. Area A is the secondary "danger" area and parallels the left and right sides of the impact area; it is designed to contain fragments from rounds exploding or ricocheting on the far right and far left sides of the impact area. Area B is also a secondary "danger" area and is located down-range (far edge) of the impact area; it is designed to contain fragments from rounds exploding or ricocheting on the far edge of the impact area.

3.2.13.3 Protection of Children

Executive Order (EO) 13045, Protection of Children from Environmental Health risks and safety risks, was issued on April 21, 1997. A growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because children's neurological, immunological, digestive, and other bodily systems are still developing; children eat more food, drink more fluids, and breath more air in proportion to their body weight than adults; children's size and weight may diminish their protection from standard safety features; and children's behavior patterns may make them more susceptible to accidents because they are less able to protect themselves (Clinton, 1997).

The EO requires that the Army and other Federal agencies make it a high priority to identify and assess environmental risks that can disproportionately affect children. The EO defines environmental health and safety risks as risks to health or to safety that are attributable to products or substances that children are likely to come in contact with or ingest (such as the air they breathe, the food they eat, the water they drink or use for recreation, the soil on which they live and play, and the products which they use or to which they are exposed). This type of

danger for children would not be involved in the proposed DMPRC; therefore, this will not be analyzed further in this document.

3.2.13.4 Safety During Range Construction and/or Maintenance

The timber harvest/slash removal and range construction, as well as range maintenance, may involve heavy machinery and involve some safety risks to personnel working and/or monitoring these activities. As with all work on Fort Benning, Occupational Safety and Health Administration (OSHA) requirements and other applicable worker safety regulations must be followed. Appropriate measures to limit unauthorized persons from accessing the range area during construction, timber harvest/slash removal, and maintenance are required.

4.0 ENVIRONMENTAL CONSEQUENCES

This section presents an analysis of the potential environmental consequences of each alternative on potentially affected media, such as soils and water. The analysis is separated into effects resulting from construction of the DMPRC and effects resulting from operation, training and maintenance at the DMPRC action alternatives, as well as an analysis of the No Action/Status Quo. Mitigation for potential significant adverse effects, when applicable, is also discussed. Mitigation measures, per AR 200-2, may include avoidance of effect; minimization of effect; repair, rehabilitation, or restoration of effect; reduction of effect; and/or compensation for effect. There is also an analysis of any impacts resulting from changes to training on other ranges, to incorporate a DMPRC. Fort Benning has drafted a Mitigation and Monitoring Plan for the Preferred Alternative (III), which is presented in Appendix J, and summarizes all required mitigation for this alternative. Preliminary analysis of the three alternatives resulted in a finding of no potential effect, either adverse/positive or direct/indirect, on Environmental Justice, Asbestos, Lead Based Paint, Radiation, Polychlorinated biphenyls, and Protection of Children; therefore, these media will not be analyzed in this section.

4.1 Soils and Vegetation

The threshold level of significance for soils is any ground disturbance or other activities that would violate applicable Federal or state laws and regulations, such as the Georgia Erosion and Sedimentation Control Act (ESCA), and the potential for Notices of Violation (NOV) for the failure to receive applicable state permits, such as a NPDES construction permit under the ESCA, prior to initiating a proposed action. The threshold level of significance for vegetation is loss of vegetation at a level that would substantially reduce the occurrence of a plant species or degrade the habitat of a dependent animal species at a population level on the Installation. Vegetation discussed below refers both to under-story or ground cover, such as grasses, and over-story cover, such as mature pines and hardwoods. Alternative I will have virtually no change to soils and vegetation; however, under Alternatives II or III, the change in training on Ruth, Carmouche, Cactus, and Hastings ranges may have potential positive effects on soils and vegetation due to a reduction in intensity of training on those ranges.

4.1.1 Alternative I: “No-Action / Status-Quo” (Figure 16)

As a result of this alternative, no new construction would occur at Hastings Range; however, training exercises utilizing troops and mechanized vehicles would continue to occur. There is a minimal potential for adverse effects to soils and vegetation due to mechanized vehicle movements and activities in the troop camp, or BIVOUAC sites, (such as accidental overland water flow from portable showers) and on roads leading into and on Hastings Range; however, Tanks and BFV travel is restricted to existing roads and trails leading to the range and to existing lanes on the range. These vehicles have the potential to leak or spill petroleum-oil-lubricant materials (POLs) onto the soils, resulting in potential soil contamination concerns, but the vehicles are required to have drips pans underneath when parked to minimize POL spills. Also, routine maintenance of the vehicles helps to identify and repair any conditions that might cause POL leaks. A spill response protocol has been established Post-wide and personnel on the range should have adequate spill response supplies on hand. Maintenance activities on Hastings Range would also continue, resulting in the same level of ground disturbance due to the repair of access roads and/or targetry and the same potential for POL spills from the maintenance vehicles themselves. This alternative would result in no adverse impacts to vegetation from ongoing operation, training, and maintenance. Continued adherence to Federal and state laws and regulations and established Installation policies and guidelines, such as erosion control best management practices (BMPs) and spill control measures, should repair or minimize any adverse impacts to soils and vegetation as a result of this alternative, resulting in temporary minor adverse potential effects only. No additional mitigation is proposed for this alternative.

4.1.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 17)

Construction of the DMPRC and its associated support facilities at the K21 site would result in the displacement of approximately 1.5 million cubic yards of soil as a part of earth-moving and cut-and-fill operation for both the construction of the range itself (to include grubbing for roads and trails) and the trenching for the underground utility lines to support it. Construction would also include the clearing of up to approximately 1,800 acres of trees, brush and shrubs (i.e., tree clearing), although trees would only be thinned in most wetland areas. Construction may result in the migration of airborne or waterborne soil particles and POLs onto adjacent lands and streams, which contribute to sedimentation of off-site areas and interfere with pollination of adjacent vegetation. In addition, the loss of the existing native vegetation during the construction, operation, and maintenance of the new DMPRC would result in a change in both species composition and abundance in this alternative area; plant and animal species that typically thrive in the forested area, for example, would diminish and species that thrive in more open areas would flourish. If this alternative were chosen, efforts would be made during the design process to reduce the number of targets and the maneuver lane area, which would result in fewer water crossings and less earth moving and vegetative removal. In addition, efforts would be made to leave as much trees and other vegetation as possible, especially in wetland and stream areas, while still achieving line of sight requirements for the range. Fort Benning would also consider minor adjustments to the footprint of the range, if possible, but not so that other ranges and operations are adversely impacted.

Adherence to the Soil Erosion Control and Pollution Prevention Plan (SECP3), NPDES permit, and Section 404 Permit is required and will include measures to minimize impacts to soils and vegetation. The DMPRC construction requires the preparation, certification and submission of an SECP3; however, under the NPDES Permit, the approved SECP3 will be part

of the Erosion, Sedimentation and Pollution Control Plan (Plan). Some of the components of the Plan include a project description, soil information, changes to existing contours, existing drainage patterns, best management practices and locations, detailed drawings, and a construction schedule. As part of the Plan under the NPDES construction permit, Spill Prevention, Control and Countermeasure (SPCC) Plan measures are required during construction activities to prevent and/or minimize spill/release from hazardous materials into ground surfaces. Best management practices (BMPs) likely to be included in the Plan are silt fencing, rock check dams, and erosion control blankets. During construction, the NPDES permit also requires monitoring of turbidity (sediments) in adjacent surface water bodies. These, and other, BMPs would help minimize the adverse effects of this alternative; however, the potential for moderate adverse effects to soils and significant adverse effects to vegetation would still remain.

Training at the newly constructed DMPRC would also result in a potential effect to soils and vegetation as described in Alternative I. Maintenance of targets, roads, trails, and vehicles would also occur, resulting in additional potential ground disturbance and POL spills. In addition, travel to and from the new DMPRC will result in vehicles disturbing the soil on the side of either paved or unpaved roads leading into the range, resulting in potential fugitive dust emissions (discussed in more detail in Section 4.11, Air Quality). Implementation of applicable Federal and state laws and regulations and already-established Installation policies and guidelines, such as erosion control BMPs and spill control measures, should repair or minimize potential effects to soils and vegetation as a result of this alternative. Overall, this alternative would result in potential moderate adverse effects to soils and potential significant adverse effects to vegetation without further mitigation.

Additional mitigation after construction for potential soil erosion would require monitoring by Range Division, at least quarterly. Monitoring reports will be submitted to the Chief of the Range Division and the EMD, and appropriate action will be taken.

4.1.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 18)

Construction of the DMPRC and its associated support facilities at the D13 location would result in the displacement of approximately 800,000 cubic yards of soil and the clearing of up to 1,500 acres of trees, brush and shrubs (i.e., tree clearing). Potential impacts from construction to soils and vegetation were reduced by mitigation through the design process. The Alternative III design utilizes fewer targets, has less maneuver lane area, has fewer water crossings, and took earthmoving and vegetation removal into consideration when placing targets, lanes, and crossings. Approximately 300 acres of trees and other vegetation may remain on site, resulting in less erosion control concerns and associated mitigation measures (Figure 46). Consideration was given to burying felled trees and other associated debris on the DMPRC construction area, but this was deemed infeasible due to engineering constraints. Leaving the stumps and their associated root systems intact across the entire tree clearing area would help stabilize soils and prevent soil erosion; however, this was deemed infeasible in the construction areas. The options for tree removal to achieve LOS for the range are as listed in Section 2.2 (on-site berms, chipping for fuel, grinding for site use, and burn debris on site); these options would have similar potential effects, except that on-site berms and grinding for site use may replace/enhance soil erosion control measures more than the other options. Chipping for fuel or burning debris on site would not provide additional soil erosion control material and would have potential minor negative impacts to air quality. Adherence to the SECP3, NPDES permit, and

Section 404 Permit is required and will include measures to minimize impacts to soils and vegetation. During construction, the NPDES permit requires monitoring of turbidity (sediments) in adjacent surface water bodies; plant and animal species that typically thrive in the forested area, for example, would diminish and species that thrive in more open areas would flourish. Mitigation measures would help minimize the adverse effects of this alternative; however, the potential for moderate adverse effects to soils and significant adverse effects to vegetation would still remain.

Training at the newly constructed DMPRC would result in potential effects to soils and vegetation as described in Alternatives I and II. Maintenance of targets, roads, trails, and vehicles would also occur, resulting in more potential ground disturbance and POL spills. In addition, vehicular travel to and from the new DMPRC and range usage will result in the disturbance to soil on the side of either paved or unpaved roads, resulting in potential fugitive dust emissions (discussed in more detail in Section 4.11, Air Quality). The loss of the existing native vegetation during the construction, operation, and maintenance of the new DMPRC would result in a change in both species composition and abundance in this alternative area. Overall, this alternative would result in potential significant adverse effects to vegetation and potential moderate adverse effects to soils without further mitigation.

Additional mitigation after construction for potential soil erosion would require monitoring by Range Division, at least quarterly. Monitoring reports will be submitted to the Chief of the Range Division and the EMD, and appropriate action will be taken.

4.2 Water Quality

Waterways that could be impacted from this proposal include: Pine Knot Creek, Bonham Creek, Upatoi Creek, and Sally Branch Creek (and tributaries or unnamed streams leading to them). The threshold level of significance for water quality is the violation of applicable Federal or state laws and regulations, such as the Clean Water Act and the Georgia Water Quality Control Act, and the potential for NOV for the failure to receive applicable Federal and state permits, such as a NPDES permit (required for all projects one acre or more in size), prior to initiating a proposed action. This also includes not following management practices for "impaired streams," as defined under Georgia's 303(d) List, for Total Maximum Daily Loads (TMDLs).

4.2.1 Alternative I: "No-Action / Status-Quo" (Figure 19)

As a result of this alternative, no new construction would occur at Hastings Range; however, training exercises utilizing troops and mechanized vehicles would continue to occur, resulting in potential temporary minor adverse effect on water quality due to sedimentation of adjacent streams and/or POLs migrating to off-site streams. Routine maintenance of the range could have similar effects, but to a lesser degree. Continued compliance with applicable Federal, state, and local laws and regulations should minimize the transport of sediment and/or contaminants off site and prevent adverse effects. No additional mitigation is proposed for this alternative.

4.2.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 19)

Construction of the DMPRC and its associated support facilities at the K21 site could create potential temporary minor adverse effect on water quality, primarily due to potential sedimentation of adjacent streams from tree clearing, grading, and construction activities. Some of the support facilities for the DMPRC, such as the latrines and their associated septic systems and drainage (tile) fields, may also result in the indirect deposition of contaminants (biota) into the groundwater and possibly even the adjacent streams if the latrines are not operating properly. With respect to impaired streams (TMDLs), this alternative may result in increased management practices to prevent additional stream impairment from sedimentation and fecal coliform. Compliance with the current TMDL for Little Pine Knot Creek and Pine Knot Creek will require adherence to all management practices, as described in Section 3.1.3.3, "TMDL," Except for those specified for mining operation. Compliance with forestry BMPs, as identified in the DMPRC Timber Harvest Plan (Appendix I), would also be required (personal communication, Veenstra, 2003). If this alternative is chosen, attempts would be made to minimize impacts to water flow and quality by using low water crossings rather than standard road crossings, such as culverts, where feasible.

Adherence to applicable Federal and state laws and regulations and Installation policies and guidelines is required and would minimize impacts. All tree clearing and construction activities greater than one acre in size and/or as part of a common development area, such as this proposed action, require a NPDES Permit for Storm Water Discharges under the ESCA. A Notice of Intent (NOI) for construction-related stormwater discharge will be submitted to the GA Environmental Protection Division (EPD) to meet these requirements. The preparation and implement of a SPCC Plan and/or its requirements during construction activities will prevent and/or minimize spill/release from hazardous materials into waterways. Erosion control BMPs, as discussed in Section 4.1, would be utilized to minimize the deposition of sediments into adjacent surface waters at the site of disturbance.

Training at the newly constructed DMPRC could result in potential minor adverse effects to water, due to ground disturbance by mechanized and maintenance vehicles along paved and unpaved roads leading to the new range and from trails and maintenance roads on the new range. The standard design of the complex indicates that up to 22 stream crossings (350 feet long by 29 feet wide each) will be needed to move vehicles in and around the complex. Little Pine Knot Creek is the only impaired stream identified as having one or more potential crossings. Adverse impacts to stream habitats and water quality caused by training would be reduced by adherence to regulatory requirements and the implementation of erosion control BMPs. Overall, potential minor adverse effects may result from this alternative without further mitigation. Additional mitigation after construction for potential effects to water quality would require monitoring, as stated in Section 4.1.2.

4.2.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 19)

Construction of the DMPRC and its associated support facilities at the D13 site would be similar in nature and scope to those predicted under Alternative II; however, fewer stream crossings and acres of soil disturbance would mean that this alternative would likely result in less potential impacts than Alternative II, resulting overall in potential temporary minor adverse effects to water quality. With respect to impaired streams (TMDLs), this alternative may also result in increased management practices. Compliance with forestry BMPs, as identified in the DMPRC Timber Harvest Plan, is also required (personal communication, Veenstra, 2003).

Adherence to applicable Federal and state laws and regulations and Installation policies and guidelines is required and would minimize impacts. All tree clearing and construction activities greater than one acre in size and/or as part of a common development area, such as this proposed action, require a NPDES Permit for Storm Water Discharges under the ESCA. A Notice of Intent (NOI) for construction-related stormwater discharge will be submitted to the GA Environmental Protection Division (EPD) to meet these requirements. The preparation and implementation of a SPCC Plan and/or its requirements during construction activities will prevent and/or minimize spill/release from hazardous materials into waterways. Erosion control BMPs, as discussed in Section 4.1, would be utilized to minimize the deposition of sediments into adjacent surface waters at the site of disturbance. During the design process, Fort Benning decided to use low water crossings rather than standard road crossings, such as culverts, to minimize impacts to water flow and quality.

Training at the newly constructed DMPRC could result in similar impacts as described under Alternative II, but fewer potential minor adverse effects to water. This is because the Alternative III site has fewer streams and wetlands and therefore fewer stream crossings and fewer acres of soil disturbance from mechanized and maintenance vehicles. Through adherence to regulatory requirements and the implementation of erosion control BMPs, stream habitats and water quality should improve over time.

Overall, potential minor adverse effects may result from this alternative without further mitigation. Additional mitigation after construction for potential effects to water quality would require monitoring, as described in Section 4.1.3.

4.3 Wetlands and Streambanks

The threshold level of significance for wetlands is a change from one wetland type or function to another. The threshold level for significance to streambanks is any action requiring a Stream Variance under the GA ESCA.

4.3.1 Alternative I: "No-Action / Status-Quo" (Figures 19 and 20)

As a result of this alternative, no new construction would occur at Hastings Range. There are no known wetlands in the area of, adjacent to, or immediately surrounding Hastings Range. Tributaries leading away from the area of, adjacent to, and immediately surrounding Hastings Range, however, could be transporting small amounts of sediment (from training, range maintenance, and vehicular traffic, both mechanized and other) from the range and roads leading into the range to nearby streams and wetlands through surface water runoff following rain or the accidental release of water from portable shower units, thereby incrementally increasing the sedimentation of these tributaries and, potentially, the wetlands and drainage basins they drain into. Over time, this could indirectly result in potential minor adverse effects to wetlands and streambanks surrounding Hastings Range.

If these potential minor impacts would result in a soil erosion problem, then the area would be stabilized through the use of erosion control measures. No additional mitigation is proposed.

4.3.2 Alternative II: "Compartment K21 (Alternate Site)" (Figures 19 and 21)

Construction of the DMPRC and its associated support facilities at the K21 site may result in impacts to approximately 230 acres of wetlands due to construction activities, resulting in potential moderate adverse effects to approximately 20-30 acres of wetlands without further mitigation. These activities would include removing tree stumps and grubbing in some wetlands and filling some wetland areas to construct low water crossings and other structures. Areas not requiring tree stump removal for construction, such as clearing for LOS only, would not be grubbed and the trees would be cut to ground level only, with the stump and roots remaining. Adherence to applicable Federal, state, and local laws and regulations is required. This would include obtaining and following a Section 404 Permit (CWA) due to potential disturbance to wetlands and possibly obtaining a Stream Variance for tree removal and construction within the 25-foot buffer zone along streams. If Alternative II were chosen, mitigation for impacts to wetlands and streambanks by avoidance would be incorporated into the design process by reducing stream crossings and placing trails, roads, and targets, where possible, out of wetland areas. Construction at the location of this alternative would also require a Section 401 certification since there is a potential for impacts to wetlands and the potential for discharge into navigable waters of the U.S.

Streambank buffer zones will be marked along Bonham Creek, Sally Branch and Pine Knot Creek and their tributaries to protect water quality. Trees and other vegetation in the buffer zone provide shade that moderate water temperatures, provide woody debris necessary for aquatic ecosystem health, and provide natural filtration of sediment and other pollutants. Buffer zones will be marked and some tall species of trees selectively thinned depending on the line of sight required. To reduce potential sources of sedimentation, logging decks and defined skid trails will be located outside the buffer zones and erosion control practices will be constructed along the edge of the wetlands to reduce the chances of sediment getting into the streams. Some areas within the buffer zone will be cleared for construction of low water crossings; however, erosion control measures will be put in place to minimize sedimentation in the streams.

Some aquatic wildlife species such as fish, salamanders, frogs, and turtles may be directly impacted during construction, as streams are temporarily diverted during emplacement of culverts for maintenance roads and construction of low-water stream crossings. Tree removal along streambanks may have an indirect impact to aquatic species due to increase in temperature from the loss of tree canopy. There would also be a potential loss of feeding and nesting areas for migrating waterfowl and wading birds, in addition to a reduction in spawning, feeding and nursery habitat for fish and other aquatic species and a temporary fragmentation of their habitat during construction of low water crossings. Construction activities would result in potential moderate adverse effects to wetlands and potential significant adverse effects to streambanks without further mitigation.

Additional mitigation, in the form of wetland restoration and streambank restoration measures, are proposed as further mitigation for the proposed DMPRC. Thirteen sites were initially identified for mitigation on the Installation; six of those sites (Clear Creek, Midwest Rd, Kirk's Pond, Stephens Pond, Suitor Hill, and First Division Road) have been selected for further consideration for mitigation based on their ability to meet the selection criteria and because they will yield the greatest number of wetland and streambank credits. Site selection criteria included restoration value and feasibility, land use compatibility, cost effectiveness, size, and quantifiable gains. Additional coordination with the Fort Benning Directorate of Training will occur prior to

the selection of any of these sites for mitigation purposes, to avoid conflicts with mission activities. A description of the sites and a map showing their locations are in the November 2003 report entitled "Preliminary Draft Wetland Mitigation Siting Analysis for the Digital Multi-Purpose Range Complex." Mitigation site development normally involves restoring or enhancing the wetland hydrology by excavating sediment from a degraded wetland area, providing appropriate hydrology, and planting native trees and shrubs. Streambank mitigation can include mechanically sloping the stream bank and stabilizing the bank with trees and shrubs. Long term monitoring is normally required to ensure restoration is successful.

Due to the need to begin tree clearing and range construction in the summer or fall of 2004, if possible, Fort Benning proposes to initiate the wetlands and any streambank restoration during that same timeframe. If mitigation by restoration is not reasonable, Fort Benning would pursue the purchase of wetlands and/or streambank credits in the area, if available. To mitigate for the temporary stream diversions utilized to construct low water crossings, the construction contractor must provide a detailed diversion plan at least 60 days in advance of the proposed diversion start date. The contracting officer must ensure coordination and approval of this diversion plan with the EMD and the COE Regulatory Branch prior to any action. Erosion control BMPs would also be implemented to avoid impacts to desirable habitat during construction.

Operation and maintenance of the newly constructed DMPRC may indirectly affect wetlands; for example, there is a possibility for sedimentation/contamination of streams at crossings over time. Recreational areas and opportunities for hunters and fisherman may also decrease in the immediate area of the DMPRC or may be altered by operation of the proposed DMPRC to make them less desirable by fish and waterfowl. Through stormwater runoff or other means, the streambanks may be impacted by POLs or other materials if proper spill prevention and response is not followed. Another potential adverse impact is the potential loss of storage areas for floodwaters and the positive filtering action by wetlands (removal of environmental pollutants such as chemicals, pesticides and heavy metals from water moving through the system), resulting in these contaminants moving on into adjacent streams rather than staying primarily within the wetlands areas. Currently, there is no indication of such contaminants or the migration of contaminants either in this alternative area or at other ranges on Post. For operation and maintenance, this alternative would result in potential minor adverse effects to wetlands and streambanks without further mitigation.

In addition to wetlands and streambank restoration/enhancement, mitigation may consist of using the Strategic Environmental Research and Development Program (SERDP) Environmental Monitoring Program (SEMP) streambank monitoring practices and tools. In addition, SPCC requirements would be implemented during training exercises to avoid/minimize impacts to wetlands and streambanks. Overall, this alternative would result in potential moderate adverse effects to wetlands and potential significant adverse effects to streambanks.

4.3.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figures 19 and 22)

Construction of the DMPRC and its associated support facilities at the D13 site would result in impacts to approximately 16 of the 315 acres of jurisdictional wetlands and streambanks due to tree clearing and construction activities at this site, resulting in potential moderate adverse effects to wetlands and potential significant adverse effects to streambanks without further mitigation. Impacts would be slightly less than those predicted under Alternative II, but would

be the result of the same type of construction activities as described under Alternative II. These activities would include removing tree stumps and grubbing in some wetlands and filling some wetland areas to construct low water crossings and other structures. Areas not requiring tree stump removal for construction, such as clearing for LOS only, would not be grubbed and the trees would be cut to ground level only, with the stump and roots remaining. Some aquatic wildlife species such as fish, salamanders, frogs, and turtles may be directly impacted during construction, as streams are temporarily diverted during emplacement of culverts for maintenance roads and construction of low-water stream crossings. Tree removal along streambanks may have an indirect impact to aquatic species due to increase in temperature from the loss of tree canopy. There would also be a potential loss of feeding and nesting areas for migrating waterfowl and wading birds, in addition to a reduction in spawning, feeding and nursery habitat for fish and other aquatic species and a temporary fragmentation of their habitat during construction of low water crossings. Under this alternative, the latrines are positioned in relatively close proximity to Upatoi Creek, the source of drinking water for the Installation and a major tributary to the Chattahoochee River. Other locations for the latrines were considered, however, the current location was deemed to be the best due to the need for them to be near the classroom and training areas. The drinking water intakes on Upatoi Creek are downstream from the project area. Due to the distance of the latrines and the drinking water intakes and the stringent drinking water treatment requirements and process, there is only a minimal potential for contamination of this water source if the latrine facilities are not operating properly.

Mitigation for impacts to wetlands and streambanks by avoidance was incorporated into the design process by reducing stream crossings and placing trails, roads, and targets, where possible, out of wetland areas. Wetland mitigation and stream bank mitigation measures would be implemented as a part of the mitigation for the proposed DMPRC and would be in accordance with the Section 404 permit and Section 401 Certification for the project. Streambank mitigation can include mechanically sloping the stream bank and stabilizing the bank with grasses and other erosion control measures. SPCC and erosion control BMPs would also be implemented to avoid impacts to desirable habitat during construction. In addition, SPCC requirements would be implemented during training exercises to avoid/minimize impacts to desirable habitat. Streambank buffer zones would be marked and some tall species of trees selectively thinned depending on the line of sight required. To reduce potential sources of sedimentation, logging decks and defined skid trails would be located outside the buffer zones. Erosion control measures would be utilized along the edge of the wetlands, which would be outside the buffer zones to reduce the chances of sediment getting into the streams. Areas within the buffer zone would be cleared for construction of low water crossings; however erosion control measures would be put in place to minimize sedimentation in the streams. This would also likely include obtaining a Stream Variance for tree removal and construction within the 25-foot buffer zone along streams. Overall, this alternative would result in related adverse impacts to fewer wetlands and streambanks than predicted under Alternative II, but would still result in potential moderate adverse effects to wetlands and potential significant adverse effects to streambanks, without further mitigation.

As described under Alternative II, restoration of wetlands and streambanks at another location on Post is proposed to further reduce impacts. Mitigation site development normally involves restoring the wetland hydrology by excavating sediment from a degraded wetland area and planting native trees and shrubs. Fort Benning prefers to use on-Post restoration sites; however, if there are not enough wetland and/or streambank restoration sites/credits available on

Post, then additional mitigation may be via purchase of off-Post credits, if available in the appropriate watershed. Operation and maintenance on the newly constructed DMPRC at this alternative would also be similar to those described under Alternative II, as would the proposed mitigation measures, although to a lesser degree. In addition to wetlands and streambank restoration/enhancement, mitigation may consist of using the Strategic Environmental Research and Development Program (SERDP) Environmental Monitoring Program (SEMP) streambank monitoring practices and tools.

4.4 Unique Ecological Areas

The threshold level of significance for a Unique Ecological Area (UEA) is the removal or destruction of vegetation or other actions (such as sedimentation) sufficient to make the UEA no longer functional as an ecosystem unit.

4.4.1 Alternative I: "No-Action / Status-Quo" (Figure 23)

As a result of this alternative, no new construction would occur at Hastings Range. The Hastings Relict Sandhills Community UEA is located immediately outside Hastings Range (location of Alternative I). No adverse effects are predicted to the vegetation, but some animals, such as gopher tortoises and Eastern diamondback rattlesnakes, may be inadvertently harmed or killed due to mechanized training or range maintenance, resulting in potential temporary minor adverse effects to the UEA. Adherence to existing Installation UEA management practices, as identified in the Fort Benning INRMP, should mitigate any potential temporary minor adverse effects and no additional mitigation is proposed.

4.4.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 24)

Construction of the DMPRC and its associated support facilities at the K21 site would potentially impact the Little Pine Knot Creek portion of the Pine Knot Creek Blackwaters UEA, which consists of two coastal plain streams: Pine Knot Creek and Little Pine Knot Creek. As a result of the construction, the range and target firing area would run parallel to a section of Little Pine Knot Creek. Most or almost all of the 370 acres of the UEA over-story trees growing within the footprint of the Range would be removed. Also, some species may be inadvertently killed due to logging activities and mechanized and repair/maintenance vehicle traffic through the UEA via low water crossings. Erosion occurring from traffic in the stream in adjacent upland areas may increase sedimentation in the UEA, lower water quality, and adversely effect habitat quality. Trees that are felled and left in place to establish LOS may become an obstruction and impede water flow in certain areas of the UEA. Due to the loss of the canopy of 370 acres, water temperature and evaporation rates will increase in Pine Knot Creek. Both of these effects will have an impact on the hydrologic cycle and degrade and reduce populations of some species, resulting overall in potential moderate adverse effects to approximately 25% of this UEA.

Mitigation for this UEA would consist of adhering to requirements in the NPDES permit, Section 404 permit, and ESC Plan for this project. All harvested trees should be felled so the stem is parallel with the run of the stream and therefore reducing the obstruction effect. Installation management polices for UEAs should be utilized to the fullest extent possible to

reduce the amount of erosion that will occur. All upland areas, especially, should be stabilized with erosion control "blankets," vegetation, and/or mulch. Operation and maintenance may result in additional potential effects to the UEA due to soil erosion; this would be mitigated as discussed under Section 4.3.3, "Wetlands." Overall, this alternative would result in potential moderate adverse effects to UEAs.

4.4.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 25)

Construction of the DMPRC and its associated support facilities at the D13 site would result in potential adverse impacts to the Pineknot Creek Blackwaters UEA, which consists of two coastal plain streams: Pine Knot Creek and Little Pine Knot Creek. As a result of the construction at this site, the range and target firing area would encompass 109 acres of the Pine Knot Creek portion of the UEA. Most or almost all of the UEA overstory trees that are in the footprint of the range will have to be cut; however, there will not be any roads through the UEA. As in Alternative II, some species may be injured or killed by logging operation. Erosion from adjacent upland target sites and access trails may increase sedimentation in the UEA, lower the water quality, and adversely impact habitat. Trees that are felled and left in place may become an obstruction and impede water flow in portions of the UEA. Both of these effects will have an impact on the hydrology of the area and may degrade habitat, increase water temperature, and change and/or reduce aquatic populations.

Only several small target locations of the UEA are proposed for fill, resulting in fewer impacts to UEAs; therefore, less extensive mitigation would be required in comparison to Alternative II, and would consist of adhering to requirements in the NPDES permit, Section 404 permit, and ESC Plan for this project. Trees removed for construction should be felled so the stem is parallel with the run of the stream and therefore reducing the obstruction effect. Installation management polices for UEAs should be utilized to the fullest extent possible to reduce the amount of erosion that will occur. All upland areas, especially, should be stabilized with erosion control "blankets," vegetation, and/or mulch. This would result overall in potential minor adverse effects to approximately seven percent of the entire areas of the UEA, but would not impede function of the UEA as an ecosystem. Operation and maintenance may result in additional potential effects to the UEA due to soil erosion; this would be mitigated as discussed under Section 4.3.3, "Wetlands." Overall, this alternative would result in potential minor adverse effects to UEAs.

4.5 Protected Species

4.5.1 Federally Protected Species

The threshold level of significance for Federally protected species occurs if an alternative disrupts normal behavioral patterns or disturbs habitat at a level that substantially impedes the Installation's ability to either avoid jeopardy or conserve and recover the species.

4.5.1.1 Alternative I: "No Action/Status Quo" (Figure 26)

As a result of this alternative, no new construction would occur at Hastings Range; however, there is a potential for the inadvertent mortality of individual and groups of RCWs and

the degradation or loss of RCW habitat due to continuation of military training; for example, wildfires from spent or misfired ammunition landing on dry vegetation. There are currently three active, three inactive, and one RCW recruitment cluster and 387 acres of suitable habitat in the vicinity (w/in approximately half a mile) of Alternative I, Hastings Range.

Adherence to the Installation's existing Endangered Species Management Plan (ESMP) for the RCW would minimize potential effects, including suppressing wildfires that may adversely impact RCW cavity trees and habitat, replacing active cavities with artificial cavity inserts (if tree mortality results in the loss of a cavity tree, for example), shifting clusters to suitable locations if/when adverse effects in the area occur, and routine application of prescribed burns to maintain habitat. Overall, the possible loss of habitat in these clusters may lead to potential minor adverse effects on RCWs. No additional mitigation is proposed.

4.5.1.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 27)

Construction of the DMPRC and its associated support facilities at the K21 site would potentially impact approximately 1,800 acres (of which 921 acres are suitable RCW habitat), consisting of pines and mixed pine-hardwoods. Loss of habitat would be the result of tree clearance/timber harvest activities for the range and target firing area and support facilities. Tree removal is not planned for the entirety of the SDZ; however, tree removal may occur within the boundaries of the ricochet area on an as-needed basis and for purposes of safety and maintenance (for example, to prevent damaged trees falling on personnel and equipment). There would be a potential loss of four RCW clusters within the range and target area (clusters K21-01, K21-04/Inactive and K21-02, K22-01/Active) due to construction activities and the potential displacement of four recruitment sites planned for the nearby area; all four planned recruitment sites are less than 0.13 miles from the area of this proposed alternative. In addition, approximately 146 acres of habitat would be removed from cluster K22-01 and an indeterminate amount of habitat loss in cluster K21-04 (presently inactive) due to range clearing and support facilities construction. Adherence to the RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP during construction is required. During range design, attempts would be made to reduce effects to RCWs and their habitat by the strategic placement of targets, roads, and support facilities. This alternative would result in potential moderate adverse effects to RCWs, without formal consultation with USFWS and implementation of requirements in the Biological Opinion for the DMPRC; however, Fort Benning would initiate formal consultation with USFWS to minimize potential adverse impacts to RCW, if this alternative were chosen.

Once constructed, operation and maintenance on the new DMPRC could also result in potential adverse effects to RCW, although to a more minor degree. Depending on final target locations, clusters near the range footprint could be adversely impacted. During the detailed design process, firing points, targets, etc., would be located to minimize impacts to RCW clusters near the footprint of the DMPRC, if possible. Strategic placement of berms would be attempted to reduce rounds from impacting RCW clusters and/or habitat may further reduce potential effects. In addition, there is the possibility of cluster abandonment in various RCW clusters in and around the range due to various types of disturbance (firing ordnance and increased noise, etc.). Fort Benning would also need to apply for incidental take of RCW clusters and/or trees in the Biological Assessment. Overall, this alternative could result in potential significant adverse effects. Protecting lands off the Installation that could sustain RCWs is an option that was

considered; however, it was deemed infeasible due to the lack of existing lands proximate to the Installation that would provide the needed quality habitat.

Fort Benning would propose reclaiming RCW clusters and habitat in the A20 ordnance impact area to minimize the potential adverse effects from construction, operation, and maintenance. Access to the previously inaccessible active clusters (i.e., those clusters that are on the borders of the A20 ordnance impact area that are not currently counted as part of Fort Benning's population and towards Fort Benning's recovery goal for the RCW) would be required. The number of clusters and/or RCW habitat that would need to be reclaimed in the A20 ordnance impact area would be defined by USFWS, but is unknown at this time. UXO clearance of portions of the A20 ordnance impact area would also be required. Access to the RCW clusters and habitat remaining in the Alternative II area would also be required. This mitigation option would also require that agreements be created between Range Division and EMD personnel to ensure that management opportunities/days are established. Protecting lands off the Installation that could sustain RCWs is an option that was considered; however, it was deemed infeasible due to the lack of existing lands proximate to the Installation that would provide the needed quality habitat.

Additional mitigation for the potential construction, operation, and maintenance impacts on RCW would include staffing at least two (2) new positions for RCW monitoring/management (with at least 5-year terms), to include management of the newly-available clusters in the A20 ordnance impact area and monitoring the clusters within the construction area and, when completed, the newly constructed DMPRC during its routine operation and maintenance. The additional staff members dedicated to concentrated management and monitoring for these RCW clusters in A20 and the clusters surrounding the Alternative II footprint, as well as contributing to management and monitoring at the population level, would be instrumental in ensuring that Fort Benning continues to move towards its recovery goal for the RCW. Obtaining supplemental funding to accelerate and support projects associated with population growth strategies, including funding for longleaf pine underplanting and restoration, forest plan modeling, landscape scale fertilization plan, etc., could also be important for achieving the Fort Benning RCW Recovery Goal, but is proposed as optional mitigation at this time.

4.5.1.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 28)

Construction of the DMPRC and its associated support facilities at the D13 site would potentially impact approximately 1,500 acres (of which 995 are suitable RCW habitat), as described under Alternative II, above. Within this site, four active RCW clusters will lose valuable habitat: cluster D14-04 will lose 160 acres; cluster D3-02 will lose 78 acres; cluster D13-02 will lose 42 acres; and cluster J6-01 will lose approximately nine acres. In addition, the abandonment of these clusters due to construction activities is possible, as described under Alternative II, above.

Adherence to the RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP during construction would be required. During range design, attempts were made to reduce effects to RCWs and their habitat by the strategic placement of targets, roads, and support facilities. Also, the heliport access road was rerouted away from cluster J6-02 and the road leading to the calibration firing point was moved further away from cluster D3-02. This alternative would result in potential significant adverse effects to RCWs from construction, without formal consultation with USFWS and implementation of requirements in the Biological

Opinion for the DMPRC. Fort Benning would initiate formal consultation with USFWS to minimize potential adverse impacts to RCW, if this alternative were chosen.

Once constructed, operation and maintenance on the proposed DMPRC could also result in potential adverse effects to RCW, although to a more minor degree. Strategic placement of berms will be attempted to reduce rounds from impacting RCW clusters and/or habitat may further reduce potential effects. In addition, there is the possibility of cluster abandonment in various RCW clusters in and around the range due to various types of disturbance (firing ordnance, damage to foraging habitat, and increased noise, etc.). Fort Benning will apply for incidental take of RCW clusters and/or trees in the Biological Assessment. Overall, this alternative could result in potential significant adverse effects.

Fort Benning proposes reclaiming RCW clusters and habitat in the A20 ordnance impact area to further minimize the potential adverse effects, if feasible. Access to the previously inaccessible active clusters (i.e., those clusters that are on the borders of the A20 ordnance impact area that are not currently counted as part of Fort Benning's population and towards Fort Benning's recovery goal for the RCW) would be required. The number of clusters that Fort Benning proposes to reclaim in the A20 ordnance impact area is currently estimated at ten clusters and the appropriate habitat to manage them. Further consultation with USFWS is required to concur with this proposal. UXO clearance of portions of the A20 ordnance impact area would be required. Access to the RCW clusters and habitat remaining in the Alternative III area would also be required. This mitigation option would also require that agreements be created between Range Division and EMD personnel to ensure that management opportunities/days are established. Protecting lands off the Installation that could sustain RCWs is an option that was considered; however, it was deemed infeasible due to the lack of existing lands proximate to the Installation that would provide the needed quality habitat.

Additional mitigation for the potential construction, operation, and maintenance impacts on RCW would include staffing two (2) new positions for RCW monitoring/management (with at least 5-year terms), to include management of the newly-available clusters in the A20 ordnance impact area and monitoring the clusters within the construction area and, when completed, the area surrounding the newly constructed DMPRC during its routine operation and maintenance. Obtaining supplemental funding to accelerate and support projects associated with population growth strategies, including funding for longleaf pine underplanting and restoration, forest plan modeling, landscape scale fertilization plan, etc., would also be important for achieving the Fort Benning RCW Recovery Goal, but is proposed as optional mitigation at this time.

Gaining access to ten active, known RCW clusters in the A20 ordnance impact area would be the primary means of mitigating the adverse effects of this alternative. These are RCW clusters previously not under management due to UXO and range activities. Mitigation should also include augmenting the ten clusters in the A20 area with cavity inserts or drilled cavities if signs of cluster abandonment begins, which would be detected via monitoring. Internal (Fort Benning) translocation efforts for the ten clusters in the A20 area may also be conducted if cluster demographics indicate decline or abandonment. These actions may also be needed for the clusters in the vicinity of the range footprint.

Further mitigation for operation and maintenance on the proposed DMPRC will include the construction of protective berms, if feasible, around targets and ahead of selected targets to prevent rounds from impacting clusters within the remaining forested areas behind those targets. The location of the targetry itself is also important to avoid adverse effects on RCWs, RCW

cavity trees, and RCW foraging habitat and has been coordinated between Fort Benning and design personnel at all stages of the proposed DMPRC project. Clusters most likely to be adversely impacted by training are D14-04, D3-01, D3-02, D13-02, K1-01, and K22-03, respectively. Other mitigative measures include supplementing adversely impacted active RCW clusters with cavity inserts or drilled cavities and the translocation of birds if detrimental trends are observed. Because wildfires may also impact RCWs and their habitat and because Buena Vista Road may be closed to emergency response, Fort Benning personnel will develop an alternate strategy to respond to wildfires in the Alternative III area. Another mitigation option for consideration is the initiation of research on the potential effects and area of effects on RCW and their habitat due to range operation. For example, research on the impacts related to RCW clusters and habitat in the SDZ would be beneficial.

4.5.2 State-Protected Species

The threshold level of significance for state protected species is an impact that would either jeopardize the future existence of a state listed species on Fort Benning or lead to the Federal listing of that species.

4.5.2.1 Alternative I: "No Action/Status Quo" (Figure 29)

No new construction is proposed as a result of this alternative; however, there is an ongoing potential for inadvertent mortality of gopher tortoises, the only state protected reptile species in the vicinity of this alternative, due to mechanized maneuvers and training within the area of and surrounding Hastings Range, resulting in potential minor adverse effects on state protected species. No effect to other state protected species is predicted. Adherence to existing management practices would be required. No additional mitigation is proposed.

4.5.2.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 30)

Construction of the DMPRC and its associated support facilities at the K21 site would potentially impact approximately 115 gopher tortoise burrows in the construction and timber harvest/slash removal areas due to the use of heavy equipment and the construction of new structures (targetry, roads, and buildings), resulting in minor adverse effects. In addition, 1,107 acres of gopher tortoise habitat will be lost due to ground disturbances, target installations, and road construction. Commensal species that are dependent on gopher tortoise burrows for refuge will also be potentially adversely affected due to the loss of burrows. Gopher Tortoise populations may also become isolated from each other due to the construction of impassable structures, thereby fragmenting the ecosystem, reducing the quality and quantity of the appropriate habitat, and resulting in damage or mortality.

Adherence to existing Installation management practices would help to minimize the potential adverse effects from construction; however, some additional mitigation would be required. Additional mitigation would include relocation of potentially affected Gopher Tortoises within the range and target firing area to another location on Fort Benning prior to tree clearing or construction. The relocation process can be broken into five steps. The first step is to survey the construction area and establish where and how many tortoise burrows (containing tortoises) will need to be removed. Once the number of tortoises proposed for removal has been

estimated (about 40% of the burrows are occupied) a relocation site or sites must be selected. Relocation sites will be selected based on habit quality and the presence or absence of resident gopher tortoises. The preferred relocation sites will be those with suitable habitat and no resident gopher tortoises. Relocation of the tortoises must occur during mid-April to mid-May; this is the time of year when the tortoises are inactive and can be most readily captured and relocated (personal communication, Thornton, 2003). Tortoises can then be removed by the use of a backhoe and hand excavation. Tortoises that are excavated will then need to have blood samples taken and checked for the presence of respiratory disease. Tortoises will need to be held in a suitable containment pen until the results of the blood tests are received (usually about one week). If the results of the tests are negative, the tortoises can then be released into the relocation site. Tortoises that test positive for respiratory disease will not be relocated into areas with tortoises that tested negative for the disease. Tortoises that are released will need to be provided with a start-burrow (dug by hand approximately 3 feet long) or an abandoned burrow to prevent the tortoise from being exposed to predation and the elements until they can excavate a new burrow. Protecting lands off the Installation that could sustain Gopher tortoises is an option that was considered; however, it was deemed infeasible due to the lack of existing lands proximate to the Installation that would provide the needed quality habitat.

Once constructed, operation and maintenance on the new DMPRC would further restrict species management due to restricted access to the area for surveys and other management issues. In addition, the continual use of mechanized vehicles within the range and target firing area will alter the vegetative ground cover, favoring those species that thrive in disturbed areas and potentially altering the habitat for both the Gopher Tortoise and its commensal species. Incidental loss of Gopher Tortoises and other state protected species may also continue to take place as these animals attempt to re-colonize the newly constructed training area. Gopher tortoises exist and even thrive, however, on many of the other ranges and maneuver corridors on Fort Benning, so the habitat change may be minimal outside of the construction areas, in the long term. Overall, this alternative could result in potential minor adverse effects.

4.5.2.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 31)

Construction of the DMPRC and its associated support facilities at the D13 site would result in similar effects as described under Alternative II, although to a greater degree. Construction may potentially impact approximately 388 Gopher Tortoise burrows due to the use of heavy equipment and the construction of new structures (targetry, roads, and buildings). In addition, 1,453 acres of Gopher Tortoise habitat will be lost due to ground disturbances, timber harvest, target installations, and road construction, resulting in potential moderate adverse effects to State protected species. Potential effects due to training would also be similar to those described under Alternative II. Overall, this would result in greater potential effects to state protected species than in Alternative II. Mitigation for this potential moderate adverse effect would be as described under Alternative II.

4.6 Migratory Birds (no figures)

The threshold for significance for migratory birds is a substantial adverse effect on a species population.

4.6.1 Alternative I: "No Action/Status Quo"

This alternative would not include any potential impacts due to construction, however potential minor adverse effects would be on-going due to the possible unintentional take from range operation or maintenance. No mitigation is proposed.

4.6.2 Alternative II: "Compartment K21 (Alternate Site)"

Construction of the proposed DMPRC under this alternative may result in unintentional take, especially during the removal of timber and other vegetation. Timing of the construction activities that may cause an unintentional take may be adjusted in an attempt to minimize any potential adverse effect to migratory birds, if feasible. No other mitigation is proposed for construction activities.

Operation and maintenance of the range may also result in potential minor adverse effects as discussed in Alternative I. No mitigation is proposed.

4.6.3. Alternative III: "Compartment D13 (Preferred Alternative)"

Construction of the proposed DMPRC under this alternative may result in unintentional take, especially during the removal of timber and other vegetation. Timing of the construction activities that may cause an unintentional take may be adjusted in an attempt to minimize any potential minor adverse effect to migratory birds, if feasible. No other mitigation is proposed for construction activities.

Operation and maintenance of the range may also result in potential minor adverse effects as discussed above, although on a larger scale than Alternative I due to the larger range footprint. No additional mitigation is proposed.

4.7 Socioeconomics

The threshold level of significance for socioeconomics consists of a combination of several factors, to include unusual population growth or reduction, unusual increase/decrease in housing demands, substantial increase/decrease in demands on public services, and the potential to substantially increase/decrease employment opportunities.

4.7.1 Alternative I: "No Action/Status Quo" (Figure 32)

There would no effect, either adverse or positive, on socioeconomics as a result of this alternative, due to the site's ongoing use as an existing mechanized training range and no change in the operation and maintenance of the site. Therefore, no mitigation is proposed.

4.7.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 32)

As a result of this alternative, the construction of the new DMPRC could temporarily increase job opportunities for individuals living and/or working in the Columbus-Phenix City MSA, resulting in potential temporary minor positive effects on socioeconomics. The construction contract may be awarded to a company located outside of the Columbus-Phenix

City MSA; however, there is still the potential for utilization of the local workforce for the actual work on site. Utilization of the local workforce should not increase demands on housing or public services and should not result in an increased population base. Therefore, no mitigation is proposed.

4.7.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 32)

As a result of this alternative, the construction of the new DMPRC could temporarily increase job opportunities for individuals living and/or working in the Columbus-Phenix City MSA, resulting in potential temporary minor positive effects on socioeconomics. The construction contract may be awarded to a company located outside of the Columbus-Phenix City MSA; however, there is still the potential for utilization of the local workforce for the actual work on site. Utilization of the local workforce should not increase demands on housing or public services and should not result in an increased population base. Therefore, no mitigation is proposed.

4.8 Land Use (no figures)

This Land Use category consists of evaluation of impacts to incompatible land uses, recreation, range sustainment/encroachment, and sustainable design. The threshold level of significance for land use is altering the existing use category of the land in such a manner as to cause incompatibility with adjacent land uses. The threshold level of significance relating to range sustainment is encroachment sufficient to interfere with the Installation mission so that mission-essential training is degraded or the failure to meet the required sustainable design (SPiRiT) rating for the buildings.

4.8.1 Alternative I: "No Action/Status Quo"

There would be no new construction on the Installation; however, any future construction near the Installation's northeastern boundary may encroach on military training at this area. The requirement to notify the Installation of such future construction will allow an identification and cooperative resolution of any incompatible land uses. Operations at Hastings Range are not currently impeded by encroachment; however, as discussed in the Noise section (4.10), Zone III (incompatible) noise contours do show an adverse affect on rural residential areas off the Installation. Sustainable design does not apply to this alternative, because there is no new construction proposed. Overall, there is a potential moderate adverse effect on land use as a result of this alternative.

Additional actions for the potential adverse effects from encroachment could be determined via the initiation of a Joint Land Use Study (JLUS), as discussed further in the Noise Section (4.10).

4.8.2 Alternative II: "Compartment K21 (Alternate Site)"

This alternative site would continue to be used for military training and heavy maneuvers, but would now include the DMPRC and its support facilities. The conversion from a mostly undeveloped, forested area to a DMPRC with its associated support facilities, tank trails, and

access roads would have potential minor adverse effects to recreation, to include hunting, fishing, hiking, and bird-watching. Although the area near the eastern boundary of the Installation is currently used for agricultural and rural residential uses, few zoning and other developmental restrictions are in place that would impede future land use changes and encroach on the Alternative II area. The requirement to notify the Installation of such future construction will allow an identification and cooperative resolution of any incompatible land uses. As discussed in the Noise section (4.10), there is less noise encroachment shown because the Zone III (incompatible) noise contours are contained within the Installation boundary and therefore less of an effect on rural residential areas off the Installation, compared to Alternative I. The design for the DMPRC support facilities would be required to comply with a Bronze level of sustainable design. Overall, there is a potential minor adverse effect on land use as a result of this alternative.

Additional actions for the potential adverse effects from encroachment could be determined via the initiation of a Joint Land Use Study (JLUS), as discussed further in the Noise Section (4.10).

4.8.3 Alternative III: "Compartment D13 (Preferred Alternative)"

The effects of Alternative III would be the same as described under Alternative II. The area for this alternative is further from the eastern boundary of the Installation than the Alternative II, so there would be less potential for encroachment due to incompatible land uses. The requirement to notify the Installation of any future construction would allow an identification and cooperative resolution of any potentially incompatible land uses, although the possibility for encroachment in this area is remote. As discussed in the Noise section (4.10), Alternative III would result in the Zone III (incompatible) noise contours remaining entirely with the Installation boundary and resulting in less potential effect on rural residential areas off the Installation, especially as compared to Alternative I. The current design for the DMPRC support facilities meets the Bronze level of sustainable design, and, if all requirements are incorporated, would help achieve a sustainable range. Overall, there is a potential minor adverse effect on land use as a result of this alternative.

Additional actions to reduce the potential adverse effects from encroachment could be via the initiation of a Joint Land Use Study (JLUS), as discussed further in the Noise Section (4.10).

4.9 Cultural Resources

The threshold level of significance for cultural resources is the violation of applicable Federal laws and regulations, such as the National Historic Preservation Act, the Archeological Resources Protection Act, and others.

4.9.1 Alternative I: "No Action/Status Quo" (Figure 33)

Under this alternative, no additional soil disturbance, other than those already resulting from operation and maintenance, would occur. No adverse effects have been reported as of this time from these ongoing actions, due to the use of established Installation policies and guidelines; therefore, no effect on cultural resources is anticipated. No mitigation is proposed.

4.9.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 34)

Construction of the DMPRC and its associated support facilities at the K21 site would potentially impact 20 of the 65 known eligible or potentially eligible cultural resources sites in the area of this alternative, resulting from ground disturbance due to tree and vegetation grubbing or stump removal and cut and fill activities during the construction process. Potential adverse effects resulting from training at the newly constructed DMPRC would differ from those described under Alternative I due to the likely firing of rounds into new areas outside the range. There is a potential for effect on known cultural resources through maneuver of heavy combat vehicles or impacts of large gun rounds, however those vehicles are limited to course roads and trails, which would limit the area of potential impacts. Although it is possible that rounds may land outside of the areas considered for effects to eligible sites, the chances are remote and not considered as a potential impact. Overall, this alternative could result in potential minor adverse effects. Mitigation would be further developed in accordance with existing cultural resources requirements and processes.

Initially, an evaluation of all potentially eligible cultural resources sites would be required to confirm or reject their suitability for the National Register of Historic Places (NRHP). The cultural resources sites determined to be eligible would then require mitigation, such as (1) avoidance of impacts through redesign of the DMPRC via either movement of targets or battle positions or the construction of berms, if reasonable; (2) excavation of the site to acquire the scientific and historic information inherent within their archeological context; or (3) other mitigation, which will be determined through consultation with the SHPO and the Tribes. If this alternative is chosen, Fort Benning would initiate consultation with the SHPO and Tribes to determine any other mitigation and develop a Memorandum of Agreement (MOA). (*TK – because consultation is not yet complete, we do not want to cut off further mitigation options.)

4.9.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 35)

Construction of the DMPRC at the D13 site would have a potential adverse effect to seven if the 32 known cultural resources sites, both eligible and potentially eligible, within the area of the alternative. Each resource was evaluated for eligibility to the NRHP through historic background research, test excavations, and consultation with the GA SHPO. The late 19th and early 20th century mill site was the only resource within the footprint of construction to possess qualities sufficient to recommend its eligibility to the NRHP, because the water powered technology employed is distinctively characteristic of the type and method of construction and because the site is likely to provide information important to the understanding of the history of the region.

Two potentially eligible cultural resources sites, though not directly affected by construction, are within the current approach zone for the proposed helipad for the DMPRC. Both sites have prehistoric Indian components that are potentially eligible for the NRHP. During the design process, the helipad was relocated to avoid construction impacts on one of those sights; however tree clearing will still be required. One eligible and three potentially eligible cultural resources sites are sufficiently close to and within the area of potential impacts of rounds from the planned firing points of the range to warrant consideration. One is a late 19th century homestead ruin with features and artifacts that are considered eligible for the Register and one is an early 20th Century house ruin considered potentially eligible for the Register. Two sites are

the remains of late 19th to early 20th century house ruins with sufficient integrity and artifact remains to warrant protection until their potential for the NRHP can be further evaluated. Sites further away from the firing points were excluded from consideration because they are unlikely to be impacted by training rounds fired during range operation or by maintenance activities. Overall, this alternative could result in minor adverse potential effects without further mitigation.

The additional required mitigation measures for the historically eligible and potentially eligible sites consist of avoiding direct effects to the resource by eliminating or minimizing ground disturbing activities at the site during construction of the DMPRC. This includes using cut-to-length method of timber harvest in the boundaries of the eligible and potentially eligible sites, where feasible. The indirect effects of rounds landing on the sites will be avoided through the construction of five protective berms between the applicable targets and the sites. These berms must be maintained in a manner to ensure continued protection of the sites. The proposed mitigation measures will eliminate adverse effects to the historic property, thereby resulting in a determination of potential minor adverse effects to cultural resources sites for Alternative III. Fort Benning has initiated informal consultation with the SHPO and the Tribes and will initiate formal consultation and develop an MOA to identify any further mitigation. Should unknown cultural resources sites be discovered during either the construction, operation or maintenance at this site, Fort Benning will make an eligibility determination with consulting parties, and eligible sites will require either (1) avoidance of impacts to the site's integrity through purposeful design of the DMPRC via movement of targets/construction of berms; (2) excavation to acquire the scientific and historic information inherent within its archeological and historical context; or (3) other mitigation as determined through consultation and documented in an MOA.

4.10 Utilities (no figures)

The threshold level of significance for utilities is the potential to overload a given utility system on the Installation, such as telephone, fiber optic, and electrical.

4.10.1 Alternative I: "No Action/Status Quo"

There would be no change in utilities (usage or placement, etc) as a result of this alternative since activities would continue per the status quo. Maintenance of these existing systems would be ongoing; however, any changes to the system would undergo separate NEPA review. No effect, either adverse or positive, is predicted as a result of this alternative. No mitigation is proposed.

4.10.2 Alternative II: "Compartment K21 (Alternate Site)"

Construction of the DMPRC and its associated support facilities at the K21 site would result in the need to install telephone, fiber optic, and possibly water and sewer service to this area, which is currently "undisturbed" in terms of utilities and does not have any currently existing or abandoned lines. The exact linear feet of utility lines to be emplaced are unknown at this time. Utility services would be established via the digging of one or more trenches from existing lines along the nearest road or other primary utilities location and the placement of the telephone, fiber optic, and electrical service lines in these trenches, which would then be covered with soil and become "buried" lines. A portion of the electric line would be above ground and

on poles. Any utility work involving construction or excavation in, over, or under wetlands and streams will need authorization from the COE, under the CWA and other requirements, which would include any required mitigation. Water or wastewater lines will not be connected to existing lines as a result of this alternative, but instead use of a new well and septic drains fields would provide service to the site. Sustainable design measures would be implemented to minimize impacts to utility usage.

During operation and maintenance, utility usage in the area would consist primarily as a result of usage of the digitized targetry and review of each Tank/BFV table in the After Action Review (AAR) building. Other utilities usage would occur as a result of lights, telecommunications, and other sources in the other buildings in the support facilities area. It cannot be determined at this time exactly how much utility usage will occur. Overall, this would result in potential minor positive effects on utilities, due to the improved accessibility of this remote portion of Fort Benning via telephone and other means. No mitigation is proposed.

4.10.3 Alternative III: "Compartment D13 (Preferred Alternative)"

Construction of the DMPRC and its associated support facilities at the D13 site would occur as described under Alternative II. A portion of the electric line would be above ground and on poles. Any utility work involving construction or excavation in, over, or under wetlands and streams will need authorization from the COE, under the CWA and other requirements, which would include any required mitigation. Sustainable design measures would be implemented, as indicated in the design, to minimize impacts to utility usage. During operation and maintenance, utility service in the area would support usage of the digitized targetry and review of each Tank/BFV table in the After Action Review (AAR) building. Other utilities usage would occur as a result of lights, telecommunications, and other sources in the other buildings in the support facilities area. It cannot be determined at this time exactly how much utility usage will occur. Overall, this would result in a potential minor positive effect on utilities, due to the improved accessibility of this remote portion of Fort Benning via telephone and other means. No mitigation is proposed.

4.11 Noise

The threshold level of significance for noise is the existence of any Zone III (incompatible) noise contours where sensitive noise receptors (residences, hospitals, libraries, and etc.) are located.

4.11.1 Alternative I: "No Action/Status Quo" (Figure 36)

Fort Benning has used the ranges in the northern and eastern areas of the Installation for decades. The same areas where Zone II and Zone III contours currently extend off the Installation would continue to extend off the Installation. Figure 36 shows the noise contours that would be expected from regular large caliber (25 mm and 120 mm) weapons training if the DMPRC were not constructed. Several individual homes are located within the Zone III noise contour and those residents are exposed to significant adverse noise levels (effects). The Zone III (incompatible) noise would continue for some residents living adjacent to the northeast corner of Fort Benning. This alternative would avoid some potential noise impacts that would be

expected for the other alternatives. There would be no new noise from existing military training or from any new construction activities. Overall, the Zone III noise contours overlap military or agricultural/rural land uses; however, some sensitive noise receptors continue to be affected by this alternative, resulting in potential significant adverse noise effects.

The Installation is considering a Joint Land Use Study (JLUS) that will provide guidelines for available DOD funds to assist local communities in their land use planning to help ensure compatible land uses are located near military training and weapons firing areas. Fort Benning considered obtaining noise easements or the property of sensitive receptors, however, these were determined to be infeasible as part of mitigation for this project due to excessive costs and difficulty in obtaining approval for land acquisition. It is possible that JLUS funds may become available to further develop mitigation for noise concerns.

4.11.2 Alternative II: "Compartment K21 (Alternate Site)" (Figure 37)

Construction activities would generate noise, both from vehicle operation to and from the Alternative II site and from the operation of construction equipment on site. Heavy trucks, backhoes, concrete mixers, cranes, scrapers, generators, and chainsaws are typical construction equipment and they generate noise levels from approximately 72 to 93 dBA (US EPA, 1972). Noise from construction and construction vehicle traffic would be a minor short-term adverse effect because the noise occurs during daytime hours and the noise is reduced through natural barriers (trees) and distance to private property. The construction noise would be slightly more annoying to off-Post residents because this alternative site is closer to the eastern boundary of the Installation.

Alternative II would move some of the heavy weapons training away from Hastings Range and the northeast boundary to a more interior Installation location. Figure 37 shows that the Zone III (incompatible) noise contour would move back inside the Installation boundary because Fort Benning would move most of the heavy weapons firing away from Hastings Range to the Alternative II site. That would reduce noise from existing significant levels (Zone III) to more moderate Zone II levels, resulting in potential minor adverse effects from this alternative. As shown in the noise contour map (Figure 37), the Zone III contour would shrink in the Hastings Range and Ruth Range areas of the north-northeast while it expands slightly towards, but does not exit, the east-central Installation boundary. Some residents near the east-central boundary would detect a moderate increase in noise levels resulting from heavy weapons firing, but only Zone II (normally incompatible) and Zone 1 (compatible) noise contours would affect that area. The voluntary range firing restrictions, as discussed in Section 3.2.9, would apply to operations on the range, which should minimize noise impacts at night. Overall, this alternative would result in potential minor adverse noise effects.

No new mitigation is planned for this alternative because noise is reduced from current noise conditions.

4.11.3 Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 38)

Noise from construction and construction vehicle traffic would be a minor short-term adverse effect because the noise occurs during daytime hours and the noise is reduced through natural barriers (trees) and the considerable distance to private property. The construction noise

would be less irritating to off-Post residents because this alternative site is located further from the Installation's eastern boundary than Alternative II.

Alternative III would move the heavy weapons training further away from the northeast boundary than Alternative II. Figure 37 shows that the Zone III (incompatible) noise contour would move back inside the Installation boundary. That would reduce noise from Zone III levels to Zone II levels. As shown in the noise contour map, the Zone III contour would shrink in the Hastings Range and Ruth Range areas of the north-northeast while it expands slightly towards, but does not exit, the east-central Installation boundary. This change in noise contours would be caused by movement of heavy weapons firing away from the Installation boundary towards the proposed DMPRC southeast of Hastings Range. Some residents near the east-central boundary area would detect a slight decrease in noise levels resulting from heavy weapons firing – less than noise that would be generated under Alternative II. The voluntary range firing restrictions, as discussed in Section 3.2.9, would apply to operations on the range, which should minimize noise impacts at night. Overall, this alternative would result in potential minor adverse noise effects.

This alternative location was proposed in part to reduce noise impacts. No new mitigation is planned for this alternative because noise is reduced from current noise conditions.

4.12 Air Quality (no figures)

The threshold level of significance for Air Quality is the violation of applicable Federal or state laws and regulations, such as the Clean Air Act, and the potential for Notices of Violation (NOV) for the failure to receive applicable state permits (such as those required for construction projects) prior to initiating a proposed action or the failure to follow permit requirements.

4.12.1 Alternative I: "No Action/Status Quo"

No new construction will occur as a result of this alternative; however, training at this site currently results in minor amounts of soil disturbance, due to the movement of mechanized vehicles and travel to and from Hastings Range, and the deposition of particulate matter (PM) on equipment and vehicles, somewhat increasing maintenance time and costs and also contributing to fugitive dust emissions. Training and range maintenance would not result in a violation due to the exemptions granted to Fort Benning by the GA EPD for fugitive dust. Overall, this alternative could result in potential minor adverse effects. No additional mitigation is proposed.

4.12.2 Alternative II: "Compartment K21 (Alternate Site)"

Construction of the DMPRC and its associated support facilities at the K21 site would have the potential to exceed the 20 % opacity rule for fugitive dust. Emissions could be heavy enough to migrate from the area of construction and obscure vision of drivers on any nearby roads and tank trails, potentially leading to accidents. Construction/operating permits for emissions units, such as boilers or generators, must be obtained before construction on any part of the range begins; construction could be delayed until these permits are obtained. A Risk Management Plan (RMP) would have to be developed to address any use of chlorine gas for

potable water treatment on the new range complex; however, if this alternative were chosen, an alternate method of water treatment would be utilized.

Adherence to existing requirements to minimize effects to air quality include spraying disturbed soils with water during construction to control fugitive dust and/or PM emissions. This measure would also be effective for unpaved roads in the area. Covering truck beds carrying materials with the potential to become airborne dust will also help reduce adverse effects on air quality. Prior to the initiation of construction on the site, a construction permit will have to be obtained from the GA EPD Air Protection Division, which will stipulate other mitigation measures and/or BMPs, as needed for the project. There may be potential minor adverse effects to air quality as a result of construction for this alternative without further mitigation. Fort Benning considered and rejected the use of dust suppressant materials because the benefits did not seem to support the cost, the concern of contaminating adjacent resources such as water, and the lack of long-term viability/results of the suppressant. (*ML – this would easily cost in excess of $100,000 and there is no regulatory requirement for it, whereas the regulation does approve of the use of water for this issue.)

Training on the newly constructed DMPRC would result in minor amounts of soil disturbance, due to the movement of mechanized vehicles and travel to, from, and on the DMPRC, and in the deposition of PM on equipment and vehicles; however, as in Alternative I, training is exempt and there would be only potential minor adverse effects to air quality. Overall, this alternative would have potential minor adverse effects and no additional mitigation is proposed.

4.12.3 Alternative III: "Compartment D13 (Preferred Alternative)"

Construction of the DMPRC and its associated support facilities at the K21 site would have the potential to exceed the 20 % opacity rule for fugitive dust. Emissions could be heavy enough to migrate from the area of construction and obscure vision of drivers on any nearby roads and tank trails, potentially leading to accidents, but would be to a lesser degree than described under Alternative II, because Alternative II is located closer to the Installation boundary. Construction/operating permits for emissions units, such as boilers or generators, must be obtained before construction on any part of the range begins; construction could be delayed until these permits are obtained. A Risk Management Plan (RMP) would have to be developed to address any use of chlorine gas for potable water treatment on the new range complex; however, a during the design process, the decision was made to use an alternate method of water treatment to avoid this potential impact. Fort Benning considered and rejected the use of dust suppressant materials because the benefits did not seem to support the cost, the concern of contaminating adjacent resources such as water, and the lack of long-term viability/results of the suppressant.

Adherence to existing requirements to minimize effects to air quality include spraying disturbed soils with water to control fugitive dust and/or PM emissions. This measure would also be effective for unpaved roads in the area. Covering truck beds carrying materials with the potential to become airborne dust will also help reduce adverse effects on air quality. Prior to the initiation or construction on the site, a construction permit will have to be obtained from the GA EPD Air Protection Division, which will stipulate other mitigation measures and/or BMPs, as needed for the project. There may be potential minor adverse effects to air quality as a result of construction for this alternative without further mitigation.

Training on the newly constructed DMPRC would result in minor amounts of soil disturbance, due to the movement of mechanized vehicles and travel to, from, and on the DMPRC, and in the deposition of PM on equipment and vehicles; however, as in Alternative I, training is exempt and there would be only potential minor adverse effects to air quality. Overall, this alternative would have a potential minor adverse effect and no additional mitigation is proposed.

4.13 Public Health and Safety (no figures)

The threshold level of significance for Public Health and Safety is exceeded when the Surface Danger Zone (SDZ) of a range extends off the Installation, when a violation of Occupational Safety and Health Administration Act (OSHA) standards occurs, or when access to the construction site is not adequately managed (unauthorized access).

4.13.1 Alternative I: "No Action/Status Quo"

No new construction is proposed as a result of this alternative (only routine maintenance would continue) and there would be no change to the existing SDZ at Hastings Range. Existing Installation and Department of the Army (DA) training guidelines and protocols regulate entry to and training activities within the SDZ. This is sufficient to prevent any adverse effects to public health and safety from range operation. Unexploded Ordnance (UXO) on Hastings Range is located primarily within the K15 ordnance impact area and warning signs are posted around its perimeter. Installation restrictions would prohibit any unauthorized entry into areas potentially containing UXO. Therefore, no potential adverse effects to public health and safety are predicted due to inadvertent exposure to UXO. Routine range maintenance would be ongoing; however, compliance with OSHA standards would minimize the potential for any safety and health concerns. Overall, this alternative would have no effect to public health and safety. No mitigation is proposed.

4.13.2 Alternative II: "Compartment K21 (Alternate Site)

During construction of the DMPRC, only authorized personnel would be allowed within the footprint for construction; in addition, all workers must adhere to safety standards established by both the Installation and the OSHA. The area is fairly remote, but does lie adjacent to the Installation's eastern boundary; therefore, construction procedures must be implemented that would prohibit unauthorized access to the area. Because of the proximity of the Alternative II construction footprint to the K15 ordnance impact area, a survey for UXO and appropriate response action is required prior to construction. Non-explosive training rounds resulting from advanced gunnery operation on the new range complex would be located primarily within the dispersion and ricochet areas and would be contained entirely within the SDZ. Installation restrictions would prohibit any unauthorized entry into areas potentially containing UXO. The use of lasers in training would also require appropriate backstops and safeguards. Therefore, no potential adverse effects to public health and safety are predicted due to construction, operation or maintenance. No additional mitigation is proposed.

4.13.3 Alternative III: "Compartment D13 (Preferred Alternative)"

During construction of the DMPRC, only authorized personnel would be allowed within the footprint for construction; in addition, all workers must adhere to safety standards established by both the Installation and the OSHA. The area is farther within the Installation's boundary than either the Alternative I or II areas. Construction procedures must be implemented that would prohibit unauthorized access to the area. Because of the proximity of the Alternative III construction footprint to the K15 ordnance impact area, a survey for UXO and appropriate response action is required prior to construction. Non-explosive training rounds resulting from operation on the new range complex would be located primarily within the dispersion and ricochet areas and would be contained entirely within the SDZ. Installation restrictions would prohibit any unauthorized entry into areas potentially containing UXO. The use of lasers in training would also require appropriate backstops and safeguards. Therefore, no potential adverse effects to public health and safety are predicted due to construction, operation or maintenance. No additional mitigation is proposed.

4.14 Hazardous Materials and Waste

The threshold for determining significance of effects for hazardous materials and waste is the violation of applicable Federal, state and local requirements, or noncompliance with the Installation's hazardous waste (RCRA Part B) permit.

4.14.1 Alternative I: "No Action/Status Quo

Any hazardous materials and waste would have to be managed in accordance with existing regulations during operation and maintenance of the range. Few hazardous materials are utilized for range operation and maintenance; therefore few if any hazardous wastes are generated. This alternative would result in no effects to hazardous materials or waste, and mitigation is not proposed.

4.14.2 Alternative II: "Compartment K21 (Alternate Site)"

Construction of the proposed DMPRC would involve some hazardous materials, which would have to be managed, stored and disposed of, in accordance with applicable Federal, State and local requirements. Support facilities where hazardous materials will be stored or used must be designed to meet SPCC requirements under AR 200-1, as well as Federal and state requirements, as applicable. These support facilities include, but are not limited to, maintenance facilities, loading/unloading operation areas, hazardous material and POL storage areas, and generators. This will ensure that discharges from facilities will not impact ground surfaces by preventing or minimizing soil contamination.

Efforts would be made during the design process to avoid the use of hazardous materials if substitute materials are available. Disposal of any hazardous wastes generated by Fort Benning during construction, operation or maintenance of the range would use the existing procedures. Any contractor or other non-Federal entity that generates hazardous waste is required to dispose of that waste off-Post in a non-federal, permitted site; exceptions may be authorized and if granted would have to be appropriately documented. This alternative would

result in potential minor adverse effects due to the generation of hazardous wastes. No additional mitigation is proposed.

4.14.3 Alternative III: "Compartment D13 (Preferred Alternative)"

Construction of the proposed DMPRC would involve some hazardous materials, which would have to be managed, stored and disposed of, in accordance with applicable Federal, State and local requirements. As with Alternative II, support facilities where hazardous materials will be stored or used must be designed to meet SPCC requirements under AR 200-1, as well as Federal and state requirements, as applicable.

Efforts were made during the design process to avoid the use of hazardous materials if substitute materials are available. Specifically, the use of concrete rather than creosote treated wood for use in berm construction was considered but discarded due to cost and maintenance concerns. Disposal of any hazardous wastes generated by Fort Benning during construction, operation or maintenance of the range would use the existing procedures. Any contractor or other non-Federal entity that generates hazardous waste is required by law to dispose of that waste off-post in a non-federal, permitted site; exceptions may be authorized and if granted would have to be appropriately documented. This alternative would result in potential minor adverse impacts due to the generation of hazardous wastes. No additional mitigation is proposed.

4.15 Transportation

The threshold level of significance for transportation is impairment to emergency response efforts or impediment of traffic supporting the training and security mission.

4.15.1 Alternative I: "No Action/Status Quo."

This alternative would involve no change in transportation at the Installation; therefore, there is no effect predicted and no mitigation proposed.

4.15.2 Alternative II: "Compartment K21 (Alternate Site)"

This alternative would result in restricted access to Cactus Road during training at the new DMPRC because it falls within the SDZ. Additional maintenance roads would be developed during the design, if this alternative were chosen, as well as tank trails and access roads. New parking areas would be part of the design and would be adequate to support buses for transporting troops to the range. Emergency response would not be adv ersely affected because training can be temporarily halted to allow emergency vehicle access. In addition, there would be a helipad dedicated to emergency evacuation purposes. This alternative would not impact access control points or any other Installation security measures in any way. Overall, this alternative would result in no adverse effect on transportation and no mitigation is proposed.

4.15.3 Alternative III: Compartment D13 (Preferred Site)"

This alternative would result in restricted access to Buena Vista and RosacaResaca roads, because the tank trails of the DMPRC would actually cross these roads and because they fall

within the SDZ; however, these roads will not be demolished and would be available for emergency vehicle access during non-training hours. In addition, training would be temporarily halted, as described above, to accommodate emergency vehicle access. There would also be a dedicated emergency evacuation helipad, as described above. This alternative would not impact access control points or any other Installation security measures in any way. Overall, this alternative would result in no adverse effect on transportation and no mitigation is proposed.

4.16 Summary of Potential Direct and Indirect Environmental Consequences and Associated Mitigation

The tables below summarize the potential environmental effects of each alternative, along with a summary of proposed mitigation, as applicable.

Table Legend:

ℵ	No Effect		
θ	Minor adverse	⊕	Minor positive
θθ	Moderate adverse	⊕⊕	Moderate positive
θθθ	Significant adverse	⊕⊕⊕	Significant positive

(* beside a symbol indicates temporary effect, e.g., *θ is temporary minor adverse)

Table 7. Summary of Environmental Consequences and Mitigation – Alternative I

Affected Environment	Potential Effect/ Consequences	Proposed Mitigation Measures
Soils & Vegetation	*θ - Soils ℵ - Vegetation	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Water Quality	*θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Wetlands & Streambanks	θ - Wetlands θ - Streambanks	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
UEAs	*θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Federally Protected Species – RCW	θ	Construction: None proposed. Operation & Maintenance: No additional mitigation is proposed.
State Protected Species	θ	Construction: None proposed. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no other state protected species present. No additional mitigation is proposed.

Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	ℵ	None proposed.
Land Use	θθ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Cultural Resources	ℵ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Utilities	ℵ	None proposed.
Noise	θθθ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed. Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: None proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	ℵ	None proposed.
Hazardous Materials & Wastes	ℵ	None proposed.
Transportation	ℵ	None proposed.

Table 8. Summary of Environmental Consequences and Mitigation – Alternative II

Affected Environment	**Potential Effect/ Consequences**	**Proposed Mitigation Measures**
Soils & Vegetation	θθ - Soils θθθ - Vegetation	Construction: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division. Operation and Maintenance: Additional mitigation would consist of monitoring, as described above.
Water Quality	θ	Construction: No mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Wetlands & Streambanks	θθ - Wetlands θθθ - Streambanks	Construction: Attempt to reduce potential impacts during design. Additional mitigation would consist of restoration of wetlands and streambanks outside the project area, utilization of erosion control BMPs, and submittal of a

		Diversion Plan to EMD when stream crossings are ready for emplacement. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division. Optional mitigation – utilization of SEMP streambanks monitoring practices and tools.
UEAs	θθ	Construction: Attempt to reduce potential impacts during design. No additional mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Federally Protected Species – RCW	θθθ	Construction: Attempt to reduce potential impacts during design. Adherence to the Fort Benning RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP; Consultation with USFWS; Additional mitigation would include management of new clusters in A20 ordnance impact area. Optional mitigation - research of impacts occurring at new range, when built. Operation and Maintenance: Additional mitigation would consist of staffing two additional personnel for five-year terms to monitor the RCWs and their habitat; and monitoring and appropriate follow-up action by Range Division.
State Protected Species	θ	Construction: Gopher tortoise relocation; no other species present. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no effect predicted for other species. No additional mitigation is proposed.
Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	*⊕	None proposed.
Land Use	θ	Construction: None proposed. Operation & Maintenance: Adherence to existing Installation policies. Another action could be developing a JLUS, if/when funds become available.
Cultural Resources	θ	Construction: Avoidance of cultural resources sites during design, consultation and MOA with

		SHPO and Tribes, and placement of protective berms. Operation & Maintenance: No additional mitigation proposed.
Utilities	⊕	None proposed.
Noise	θ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: Avoid use of chlorine gas. No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	ℵ	Construction: UXO survey; and berms or backdrops for lasers. No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Hazardous Materials & Wastes	θ	Construction and Operation & Maintenance: No additional mitigation proposed.
Transportation	ℵ	None proposed.

Table 9. Summary of Environmental Consequences – Alternative III

Affected Environment	**Potential Effect/ Consequences**	**Proposed Mitigation Measures**
Soils & Vegetation	θθ - Soils θθθ - Vegetation	Construction: No additional mitigation. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Water Quality	θ	Construction: None proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Wetlands & Streambanks	θθ - Wetlands θθθ - Streambanks	Construction: Avoidance during design resulted in reducing potential effects. Additional mitigation would consist of restoration of wetlands and streambanks outside the project area, utilization of erosion control BMPs, and submittal of a Diversion Plan to EMD when stream crossings are ready for emplacement. Operation and Maintenance: Additional mitigation would consist of monitoring and

		appropriate follow-up action by Range Division Optional mitigation – utilization of SEMP streambanks monitoring practices and tools.
UEAs	θ	Construction: Avoidance during design resulted in reducing potential effects. No additional mitigation proposed. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
Federally Protected Species - RCW	θθθ	Construction: Avoidance by design resulted in reducing potential effects. Additional mitigation would include management of new clusters in A20 ordnance impact area; protective berms on range, if feasible; and 2 new staff members for RCW management. Optional mitigation - research of impacts occurring at new range, when built. Operation and Maintenance: Additional mitigation would consist of monitoring and appropriate follow-up action by Range Division.
State Protected Species	θθ	Construction: There is a greater potential for adverse effect than under Alternative II and Gopher tortoise relocation would still be needed; no other species present. Operation & Maintenance: Adherence to existing Installation management practices for Gopher tortoise; no other species present. No additional mitigation proposed.
Migratory Birds	θ	Construction: None proposed. Operation & Maintenance: None proposed.
Socioeconomics	*⊕	None proposed.
Land Use	θ	Construction: None proposed. Operation & Maintenance: Placement of the DMPRC further within the Installation boundary would result in similar effects to Land Use as under Alternative II, but would would result in less potential encroachment. Adherence to existing Installation polices is required. Another action could be developing a JLUS, if/when funds become available.
Cultural Resources	θ	Construction: Mitigation during design (to include avoidance and berm placement) resulted in the minimization of potential effect and, therefore, less potential effect than under

		Alternative II; however, ongoing consultation and MOA with SHPO and Tribes will be needed. Operation & Maintenance: No additional mitigation proposed.
Utilities	⊕	None proposed.
Noise	θ	Construction: None proposed. Operation & Maintenance: Another action could be developing a JLUS, if/when funds are available.
Air Quality	θ	Construction: No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Public Health & Safety	ℵ	Construction: UXO survey; and berms or backstops for lasers. No additional mitigation proposed. Operation & Maintenance: No additional mitigation proposed.
Hazardous Materials & Wastes	θ	Construction and Operation & Maintenance: No additional mitigation proposed.
Transportation	ℵ	None proposed.

5.0 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) defines cumulative impacts as the "impact on the environment which results from the incremental impact of the action(s) when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (1508.7 CEQ, 1978). The actions proposed under the alternatives in this PDEIS, when added to the projects in the Columbus-Phenix City area, have the possibility to result in either adverse or positive incremental impacts. These projects all occur within a well-defined and specific geographical (spatial) region of influence (ROI), which is defined in the following subsection; in addition, the projects are also limited on a temporal basis, since they all have the potential to be implemented within a 20-year period, as indicated by the planning documents obtained for the individual cities. Each media (such as air, water, wildlife, etc.) has a more specifically defined ROI that may potentially be affected by the proposed projects and is individually addressed in the following subsections.

5.1 Region of Influence

The overall ROI for the purposes of this DEIS is shown in Figure 39 and consists of Chattachoochee, Marion, Muscogee, and Harris counties, GA, and Russell County, AL; this ROI includes the cities of Columbus and Buena Vista, GA, Phenix City, AL, and the Fort Benning Military Installation. Individual ROIs have also been established for some media; these ROIs may be larger or smaller in size than the overall ROI and are defined in subsequent sections.

5.2 Past and Present Actions Within the ROI

The cities of Columbus, GA, and Phenix City, AL, are the sites of numerous residential developments, commercial/retail facilities, industrial activities, and recreational opportunities. The ongoing projects with the potential to impact the ROIs are discussed below; each project is also identified on Figure 47 by its associated number. Two years ago, Columbus and Fort Benning completed a "Land Exchange," swapping two parcels of land, known as the North Tract and the South Tract, for which an EIS and ROD were developed. Columbus is currently developing the North Tract (24) land conveyed to it, a 2,470-acre parcel located adjacent to the Fort Benning northwestern boundary line. Development of the North Tract will be primarily industrial, mixed with recreational land use. In exchange, Fort Benning received the South Tract land (32), a 2,536-acre parcel located at the southernmost end of the Installation, which is currently being utilized by the Installation for training and land management (reforestation and habitat restoration) purposes; future use of the South Tract may also include land-navigation training.

The installation of Anti-Terrorist/Force Protection Measures (10-16) is a currently occurring project on Fort Benning and consists of the construction of an enhanced physical security perimeter barrier around the Installation's four cantonment areas to include either fence, guard rail, or utilization of existing natural barriers, such as streams and steep ridges, and construct permanent access control points (ACPs) at the Installation's seven entry points. Drainage for perimeter roads and erosion control measures will be required, in addition to protective lighting at the seven ACPs. Approximate size of the overall project area is 20-25 acres.

In Columbus, safety improvements to the Highway Interchange at I-185/US 280 (to the north of Fort Benning) (28) are currently underway and consist of reconstructing the interchange at I-185 and US 280. Safety improvements also include removing and replacing guardrails and possibly installing medians (29) along 10.5 miles of US 280. Approximate size of the overall project area is 5-10 acres.

5.3 Reasonably Foreseeable Future Actions Within the ROI (Figure 47)

Fort Benning Community

There are several construction projects planned for implementation on Fort Benning proper during the same time frame as the projects analyzed in the alternatives in this DEIS. Some of the projects have been previously identified in the Installation's Master Plan and have been preliminarily assessed for environmental impacts via the REC process; however, each project is still pending final approval and subsequent compliance with NEPA. The projects determined to have the potential to impact the ROIs are listed below; in addition, each project is identified on Figure 47 by its associated number. Fiscal Year (FY) refers to the period between 1 October and 30 September of each year and is the time period the Army uses for budget phases.

- (1) Barracks Replacement, Kelley Hill, Phase III (FY05) – Work would consist of the demolition of existing buildings (9043, 9046, 9047, 9053, 9054, 9055, 9057, 9058, and 9074), the construction of new facilities, and landscaping around the new facilities in the Kelley Hill area of Fort Benning. Approximate size of the overall project area is 10-15 acres.
- (not indicated on map) Army Transformation at Fort Benning (FY04) - The 3rd Infantry Division will undergo major reorganization to a future force (U.S. Army Transportation Roadmap, 2003, General Shoemaker). While implementation planning is in process and details are not yet known, it is expected that the Division's three Brigades would be divided into five smaller units. The timing of this transformation is not currently known. Updates on the Army Transformation effects on the 3rd Brigade will be provided when available and in future related documents. While no plans currently exist that would affect any of the other units at Fort Benning, the Installation must prepare for this contingency and comply separately with environmental planning requirements.
- (2) FY03 Barracks Project (starting in FY04) – Work will consist of the construction of a new barracks complex along Dixie Road, Main Post, Fort Benning, GA. The new barracks would be located across from the existing Easley and McAndrews ranges. The project would also include the demolition of six existing buildings. Approximate size of the overall project area is 30-35 acres.
- (3) Barracks and Tactical Equipment Shop Projects (FY05-07) – Work would consist of the construction of additional barracks and tactical equipment shops across from existing ranges (beyond Easley and McAndrews ranges) along Dixie Road. These projects are currently in the design phase only. Approximate size of the overall project area is 15-20 acres.
- (4) Receptee Barracks (FY07) – Work would consist of the construction of additional barracks, a dining facility, soldiers' community center, and physical training building with a running track at Sand Hill. The project would also include the demolition of the existing dining facility. Approximate size of the overall project area is 10-15 acres.
- (5) Privatization of the Water and Wastewater Treatment System (FY04) – The wastewater treatment system at Fort Benning, which consists of three facilities and a

network of underground piping, will be privatized within the next one to two years. The contract for the system would include the day-to-day upkeep of the system and would require the contractor to abide by all Federal, state, and Installation policies and guidelines. The process will include either the "mothballing" or demolition to slab of the existing water and wastewater treatment facilities and the construction of a series of new underground utility transport lines, for the purpose of connecting the existing on-Post facilities to the new owner's off-Post facilities. During the construction of these connection lines (18-24 months), the new owner would utilize the on-Post facilities. Alternately, the new owners may continue operation at the existing facilities. Approximate size of the overall project area is 50-60 acres.

- (6) Infantry Squad Battle Course (ISBC) (FY04) – Work would consist of the conversion of an existing Fort Benning range, Galloway Range, into an Infantry Squad Battle Course and would include the removal/replacement and upgrading of existing targetry, the construction of associated support facilities, the demolition of currently existing temporary buildings on site, and associated utility placement. Approximate size of the overall project area is 180-190 acres.
- (7) Infantry Platoon Battle Course (IPBC) (FY06) – Work would consist of the construction of a new IPBC in the A12 portion of Fort Benning and would include tree clearing, grading, cut-and-fill, construction of the range and target firing area, and placement of targetry, in addition to the construction/emplacement of support facilities, access roads and trails, and associated utilities. Approximate size of the overall project area is 1,000 acres.
- (8) Ammunition Supply Point (ASP) Expansion (FY05) – Work would consist of the construction of two aboveground general storage facilities, 11 earth-mounded ammunition storage igloos with associated loading platforms, two small quantity ammunition huts, and ammunition surveillance building, and forklift storage/recharge facilities at the existing ASP on Fort Benning. Work would also include the demolition of 19 structures currently existing within the ASP compound. Approximate size of the overall project area is 10-15 acres.
- (9) Direct Support/General Support (DS/GS) Consolidated Maintenance Facility (FY07) – Work would consist of constructing an approximately 112,000 square foot equipment maintenance complex for DFEL. Facility to be located in the southwest quadrant of US280/27 and First Division Road. Approximate size of the overall project area is 10-15 acres.
- (17, 18, 19) North/South Maneuver Corridors (FY undetermined; pending funding approval) – Work will consist of the development of two corridors in the north and three corridors in the south for the maneuvering of tracked vehicles and training utilization by the 3rd Brigade/3rd Infantry of Fort Benning. The areas proposed for this development are the Oscar 1-15 training compartments in the north and the D2-16, L3, E3-4, and J6-7 training compartments in the south (see Figure 6 for relevant training compartments). These are existing maneuver areas and will have erosion control conducted and will selectively thinned to enable more movement by the mechanized vehicles. Approximate size of the overall project area is 5,000 acres.
- (20) Combined Club Facility (FY undetermined; pending funding approval) – Work would consist of the demolition of the existing Follow Me Golf Course Clubhouse, construction of a new clubhouse to contain the combined functions of the Golf Course

Club and Officer's Club, and the redevelopment of the existing Follow Me Golf Course. Approximate size of the overall project area is 5-10 acres.

- (21) New Post Exchange (AAFES) (FY undetermined – pending final decision by AAFES) – Work would consist of constructing a new AAFES on the land across the street from the existing AAFES on Custer Road, Main Post, Fort Benning. The old AAFES would be abandoned and reutilized in another format; it is not scheduled for demolition at this time. Work would additionally consist of landscaping and parking lot construction. Approximate size of the overall project area is 10-15 acres.
- (22) National Infantry Museum (FY undetermined – project in planning phase only) – Work would consist of constructing a new infantry museum on the land lying between South Lumpkin and Fort Benning roads on the Installation's border with the City of Columbus. The existing museum, located on Baltzell Avenue, Main Post, Fort Benning, would be reutilized in another manner, but would not be demolished. Approximate size of the overall project area is 20-30 acres.
- (23) Digital Multi-Purpose Training Range (DMPTR, aka Hastings Range Upgrade) (FY06 - project in planning phase only) – work would consist of upgrading the existing Hastings Range to an MPTR; would include removal/replacement and upgrading of existing targetry, the construction of associated support facilities, the demolition of currently existing temporary buildings on site, and associated utility placement. Approximate size of the overall project area is 100-150 acres.

A more thorough evaluation of the Privatization of the Water and Wastewater Treatment System, ASP Expansion, new AAFES Main Mall, NIM, ISBC, IPBC, Maneuver Corridors, and DMPTR may be conducted via separate EAs or other appropriate NEPA for each project; the other listed projects are in the preliminary planning phases only, but will undergo NEPA in future documents. Other actions on Fort Benning, such as road and Tank trail maintenance, range and building maintenance, building renovations, unit motor pool maintenance, troop training, and routine airfield activities, would continue in an ongoing manner on an annual basis. These projects/actions are assessed for potential environmental impacts on a case-by-case basis via the REC process.

Columbus-Buena Vista-Phenix City Community

Interviews with Richard Bishop, Deputy City Manager for the City of Columbus, and Greg Glass, City Planner for the City of Phenix City, in 2002 helped to document the pending construction and transportation system improvement projects proposed for the Columbus-Phenix City area during the same time frame as the DMPRC. The projects listed below are those determined to have the potential for moderate adverse impacts to resources within the ROI. Other projects were identified through these interviews and the review of relevant city planning documentation; however, they were analyzed and determined to not have the potential for incremental impacts or to contribute to cumulative impacts in the ROI. The projects identified, but not included for study in this document, may be viewed in the Columbus-Phenix City Transportation Improvement Plan, which is available for review at the DFEL. Reviews of the planning documents for these cities and for the Georgia Department of Transportation (DOT) resulted in a comprehensive projected vision for the area, which is defined in further detail below.

- (25) Oxbow Meadows and Marina, Lumpkin Road, Columbus, GA (FY undetermined; tentatively scheduled to begin within the next 2-3 years), – Work would consist of the further development of the Oxbow Meadows Environmental Learning Center by creating

additional outdoor classrooms, a series of walking trails, a series of hiking trails, and pavilion, and the construction (to include dredge and fill) of a 350-slip capacity marina. Approximate size of the overall project area is 10-15 acres.

- (26) Phenix City Riverwalk Phase II, Phenix City, AL (FY undetermined) – Work would consist of the construction of a hiking/biking trail between the 13th and 14th Street bridges in Phenix City. Approximate size of the overall project area is 5-10 acres.
- (27) Alternative Transportation System, Phase II, North Riverwalk, Columbus, GA (FY undetermined) – Work would consist of continuing to construct the hiking/biking trail (Riverwalk) northward along the Chattahoochee River from 12th Street to 14th Street. Approximate size of the overall project area is 5-10 acres.
- (30) Widening/Improvements to Buena Vista Road, Columbus, GA (FY undetermined) – Work would consist of widening and reconstructing 1.15 miles of an existing two (2) and four (4) lane road to a four (4) through-lane system with turn lanes and medians, as required. Approximate size of the overall project area is 5-10 acres.
- (31) Widening/Improvements to St. Mary's Road, Columbus, GA (FY undetermined) – Work would consist of widening 0.71 miles of a two (2) lane road to a three (3) and four (4) lane system, with intersection improvements as needed. Approximate size of the overall project area is 5-10 acres.

5.4 Assessment of Impacts by Media

Preliminary analysis of this action and its alternatives resulted in a finding of no cumulative effect, either adverse/positive or direct/indirect, on Environmental Justice and Protection of Children. In addition, there is no potential for cumulative impacts to the following media because only a very minor potential adverse impact, if any, is expected: Cultural Resources, Air Quality, Hazardous Materials and Waste, Migratory Birds, Socioeconomics, Land Use, Utilities, and Transportation; therefore, these media will not be discussed in this section.

5.4.1 Soils and Vegetation (Figure 40)

The threshold level of significance for soils is any ground disturbance or other activities that would violate applicable Federal or state laws and regulations, such as the Georgia Erosion and Sedimentation Control Act (ESCA), and the potential for Notices of Violation (NOV) for the failure to receive and follow applicable state permits, such as a NPDES construction permit under the ESCA, prior to initiating a proposed action. The threshold level of significance for vegetation is removal in amounts that will alter the habitat in the ROI in a manner detrimental to the species that live there.

The ROI for soils and vegetation consists of the five county area containing Fort Benning, Columbus, and Buena Vista, GA, and Phenix City, AL, and is shown in Figure 39. Past, present, and future actions in the ROI, such as construction and road/trail maintenance, have the potential to contribute to soil disturbance and erosion and the loss of vegetative cover; however, adherence to applicable Federal, state, and local laws and regulations, such as erosion control BMPs and NPDES permits, would help minimize soil erosion. Minor soil contamination could also occur as a result of these actions, due to potential spills and accidents during construction and maintenance activities; however, legally required mitigation measures, such as

secondary containments and equipment inspections, would help minimize the threat of accidents and subsequent soil contamination. In particular, the construction of the barracks on Main Post, Sand Hill, and Kelley Hill and the construction of the ISBC, IPBC, and DMPTR are the projects that have the potential for moderate adverse impacts due to disturbance to/removal of soils and vegetation in the Fort Benning portion of the ROI; however, the rehabilitation of the Maneuver Corridors have the potential for long-term positive effects due to the proposed erosion control and stabilization measures it will entail. Likewise, the construction of the Oxbow Meadows and Marina and the development of the North Tract would be the only projects that have the potential for moderate adverse impacts due to disturbance to/removal of soils and vegetation in the ROI.

Alternative I: "No-Action / Status-Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR project (starting in FY06). During that time, current projects, such as the construction of the force protection measures and barracks projects on Fort Benning and the development of the North Tract in Columbus, would be ongoing, resulting in potential minor adverse effects to soil and vegetation due to site clearing and construction activities. Potential minor adverse effects may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the DMPTR construction at Hastings Range, which would remove it from the training queue. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC, would have the potential for moderate adverse impacts to soils and vegetation as a result of more extensive cut-and-fill and/or tree clearing activities. Still, these would also be minimized through adherence to applicable Federal, state, and local laws and regulations. Therefore, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse impacts to soils and vegetation in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

The construction, operation, and maintenance of the DMPRC at the Alternative II area would have potential significant adverse effects to vegetation and potential moderate adverse effects to soils. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. During that time, current projects, such as the construction of the force protection measures and barracks projects on Fort Benning and the development of the North Tract in Columbus, would be ongoing, resulting in potential minor adverse effects to soil and vegetation due to site clearing and construction activities. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to soils due to the erosion control and soil stabilization measures the project entails. There should be no potential additional adverse effects at Ruth, Cactus, and Carmouche ranges during this time; however, once the construction of the DMPTR begins in 2006, minor adverse effects to soils may occur as the training queue is shifted to accommodate the new construction. Other construction projects beginning at this time, to include the ISBC and IPBC, would have the potential for more adverse impacts to soils and vegetation as a result of more extensive cut-and-fill and/or tree clearing activities. Requirements established in the permits for these projects would minimize the potential for adverse cumulative effects, but would not prevent them entirely due to the size and scope of projects such as the DMPTR, ISBC, and IPBC. Therefore, this alternative would result in a potential for incremental impacts from the DMPRC and minor cumulative adverse effects on soils and vegetation in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

The construction, operation, and maintenance of the DMPRC at the Alternative III area would have potential significant adverse effects to vegetation and potential moderate adverse effects to soils. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. During that time, current projects, such as the construction of the force protection measures and barracks projects on Fort Benning and the development of the North Tract in Columbus, would be ongoing, resulting in potential minor adverse effects to soil and vegetation due to site clearing and construction activities. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to soils due to the erosion control and soil stabilization measures the project entails. There should be no potential additional adverse effects at Ruth, Cactus, and Carmouche ranges during this time; however, once the construction of the DMPTR begins in 2006, minor adverse effects to soils may occur as the training queue is shifted to accommodate the new construction. Other construction projects beginning at this time, to include the ISBC and IPBC, would have the potential for more adverse impacts to soils and vegetation as a result of more extensive cut-and-fill and/or tree clearing activities. Requirements established in the permits for these projects would minimize the potential for adverse cumulative effects, but would not prevent them entirely due to the size and scope of projects such as the DMPTR, ISBC, and IPBC. Therefore, this alternative would result in a potential for incremental impacts from the DMPRC and minor cumulative adverse effects on soils and vegetation in the ROI.

5.4.2 Water Quality (Figure 41)

The threshold level of significance for water quality is the violation of applicable Federal or state laws and regulations, such as the Clean Water Act and the Georgia Water Quality Control Act, and the failure to receive and follow applicable Federal and state permits, such as a National Pollutant Discharge Elimination System (NPDES) permit (required for all projects one acre or more in size), prior to initiating a proposed action. This also includes not following management practices for "impaired streams," as defined under Georgia's 303(d) List, for Total Maximum Daily Loads (TMDLs). Waterways that could be impacted from this proposal include: Pine Knot Creek, Bonham Creek, Upatoi Creek, and Sally Branch Creek (and tributaries or unnamed streams leading to them).

The ROI for water quality consists of the streams and other surface water bodies within the local watershed. Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance and have the potential to contribute to soil disturbance, erosion, and the loss of vegetative cover. In particular, the privatization of the water/wastewater system and the construction of the ISBC, IPBC, and DMPTR are the projects that have the potential for moderate adverse effects to water quality in the Fort Benning portion of the ROI; likewise, the construction of the Oxbow Meadows and Marina and development related to the Land Exchange would have the potential for moderate adverse effect to water quality in the ROI. The rehabilitation of the Maneuver Corridors has the potential for long-term positive effects to water quality in the ROI due to the proposed erosion control and stabilization measures it will entail, reducing the potential for future sedimentation of adjacent streams. Adherence to mitigation required in the Federal and state permits for these projects would further minimize potential effects.

The Tri-State Water Compact could also affect water quality in the ROI due to the possible change in water allocation and possible lowering or raising of the levels of the Chattahoochee River and its associated creeks and streams. Specifically, decreased water levels in the Upatoi Creek, source of drinking water for Fort Benning, could occur, adversely affecting not only the quantity and flow of the creek but the creek's ability to dilute contaminants. Recreational usage of the surface water systems could also be adversely affected. These same problems could occur in many of the surface water systems in the ROI; however, the specific effects of the compact cannot be ascertained at this time.

Alternative I: "No-Action / Status-Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems, the construction of the force protection measures and barracks projects on Fort Benning, and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to water quality due to the potential sedimentation of adjacent streams resulting from tree clearing and other construction activities. Potential minor adverse effects may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training que is shifted to accommodate the construction at Hastings Range, which would remove it from the training que. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to water quality, due to the erosion control and soil stabilization measures the project entails, preventing some future sedimentation of the associated streams within the corridors. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would also be minimized through adherence to applicable Federal, state, and local laws and regulations. Therefore, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse effects on water quality in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative II area could result in potential temporary minor adverse effects on water quality. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR (approximately the next two years). During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems, the construction of the force protection measures and barracks projects on Fort Benning, and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to water quality due to the potential sedimentation of adjacent streams resulting from tree clearing and other construction activities. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to water quality due to the erosion control and soil stabilization measures the project entails, reducing the potential future sedimentation of the streams within the corridor. There should be no potential additional adverse effects at Ruth, Cactus, and Carmouche ranges during this time; however, once the construction of the DMPTR begins in 2006, minor adverse effects to soils may occur as the training que is shifted to accommodate the new construction, but

would be localized. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would also be minimized through adherence to applicable Federal, state, and local laws and regulations. Therefore, this alternative would result in no potential for incremental impacts from the DMPRC and no cumulative adverse effects on water quality in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative III area could also result in potential temporary minor adverse effects on water quality, although to a lesser degree than under Alternative II. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems, the construction of the force protection measures and barracks projects on Fort Benning, and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to water quality due to the potential sedimentation of adjacent streams resulting from tree clearing and other construction activities. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to water quality due to the erosion control and soil stabilization measures the project entails, reducing the potential future sedimentation of the streams within the corridor. There should be no potential additional adverse effects at Ruth, Cactus, and Carmouche ranges during this time; however, once the construction of the DMPTR begins in 2006, minor adverse effects to soils may occur as the training que is shifted to accommodate the new construction, but would be localized. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would also be minimized through adherence to applicable Federal, state, and local laws and regulations. Therefore, this alternative would result in no potential for incremental impacts from the DMPRC and no cumulative adverse effects on water quality in the ROI.

5.4.3 Wetlands and Streambanks (Figure 41)

The threshold level of significance for wetlands is the violation of applicable Federal or state laws and regulations, such as the Clean Water Act, the GA Water Quality Control Act and the potential for Notices of Violation for the failure to follow applicable state permits, such as a Section 404 permit or a NPDES permit prior to initiating a proposed action. The threshold level for significance to streambanks is any action requiring a Stream Variance under the GA ESCA.

The ROI for wetlands and streambanks consists of the wetlands and streams located within the local watershed. Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance and have the potential to contribute to sedimentation or contamination of wetlands and damage to streambanks in the ROI. In particular, the construction of the new AAFES Main Mall, ISBC, IPBC and DMPTR on Fort Benning and the development of the marina at the Oxbow Learning Center and within the Land Exchange in Columbus have the potential for moderate adverse effects to wetlands and streambanks. The rehabilitation of the Maneuver Corridors on Fort Benning would result in positive effects to wetlands and streambanks. Adherence to applicable Federal, state, and local laws and regulations, such as

following guidance in the wetlands permitting process, any Soil Erosion Control Plans, and Stream Variances, would help minimize this potential for adverse cumulative effects.

Alternative I: "No-Action / Status-Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to wetlands and streambanks due to the potential sedimentation, construction/fill, or intrusion into adjacent wetlands and/or the potential to locate roads or water/wastewater pipelines across or along the streambanks in the area. Development of the Marina, in particular, would require obtaining and complying with a section 404 wetlands permit, including potentially moderate levels of mitigation. Construction of the new AAFES Mini Mall on Fort Benning would also require a section 404 wetlands permit, but the potential adverse effects would be minimal. Potential minor adverse effects to streambanks may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings at and leading to these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to wetlands, due to the erosion control measures the project entails, preventing some future sedimentation of the associated wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects to wetlands due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits, as discussed earlier, but would not completely mitigate all potential effects. Therefore, this alternative would result in no potential for incremental impacts from ongoing operations and no cumulative adverse effects to wetlands and streambanks in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative II area would result in potential moderate adverse effects on wetlands and potential significant adverse effects on streambanks. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR (approximately the next two years). During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to wetlands and streambanks due to the potential sedimentation, construction/fill, or intrusion into adjacent wetlands and/or the potential to locate roads or water/wastewater pipelines across or along the streambanks in the area. Development of the Marina, in particular,

would require obtaining and complying with a section 404 wetlands permit, including potentially moderate levels of mitigation. Construction of the new AAFES Mini Mall on Fort Benning would also require a section 404 wetlands permit, but the potential adverse effects would be minimal. Potential minor adverse effects to streambanks may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings at and leading to these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to wetlands, due to the erosion control measures the project entails, preventing some future sedimentation of the associated wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects to wetlands due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits, as discussed earlier, but would not completely mitigate all potential effects. Therefore, this alternative would result in a potential for incremental impacts from the DMPRC and minor cumulative adverse effects to wetlands and streambanks in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative III area would result in potential moderate adverse effects on wetlands and potential significant adverse effects on streambanks. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. During that time, current projects, such as the privatization of the Fort Benning water and wastewater systems and the development of the North Tract and Oxbow Learning Center and Marina in Columbus, would be ongoing, resulting in potential minor adverse effects to wetlands and streambanks due to the potential sedimentation, construction/fill, or intrusion into adjacent wetlands and/or the potential to locate roads or water/wastewater pipelines across or along the streambanks in the area. Development of the Marina, in particular, would require obtaining and complying with a section 404 wetlands permit, including potentially moderate levels of mitigation. Construction of the new AAFES Mini Mall on Fort Benning would also require a section 404 wetlands permit, but the potential adverse effects would be minimal. Potential minor adverse effects to streambanks may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings at and leading to these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to wetlands, due to the erosion control measures the project entails, preventing some future sedimentation of the associated wetlands within the corridors. Rehabilitation efforts

would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects to wetlands due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits, as discussed earlier, but would not completely mitigate all potential effects. Therefore, this alternative would result in a potential for incremental impacts from the DMPRC and minor cumulative adverse effects to wetlands and streambanks in the ROI.

5.4.4 Unique Ecological Areas (Figures 12)

The threshold level of significance for a Unique Ecological Area (UEA) is the removal or destruction of vegetation combined with impacts due to military training at the new DMPRC which make the UEA no longer functional as an ecosystem unit.

The ROI for UEAs consists of a very localized area and is contained within the Installation boundary. Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance and do have the potential to contribute to adverse effects to the UEA. Most of these areas, however, have been previously disturbed by past and ongoing mechanized and infantry training on the Installation, both in the maneuver areas and on existing ranges, and future construction is not predicted to result in significant cumulative adverse effects. For example, the proposed DMPTR would be constructed on the existing Hastings Range, of which the Hastings Relict Sandhills Community UEA is a part. No adverse effects to this UEA have occurred as a result of this past training and only temporary minor adverse effects are expected to occur as a result of construction in this area. Overall, however, no adverse cumulative effect is predicted. On the other hand, the proposed rehabilitation of the Maneuver Corridors has the potential for positive effects to the UEAs, resulting in erosion control, soil stabilization, and a reduction in sedimentation of the streams and wetlands located within the UEAs. No other projects on Fort Benning are sufficiently proximate to the UEAs to result in additional potential adverse effects. Additional mitigation, as required per project, to include permits and monitoring, would also help reduce the potential for adverse effects.

Alternative I: "No Action / Status Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR. During that time, only routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects to UEAs in the ROI. As stated earlier, no adverse effects have yet to be observed as a result of these routine and ongoing actions. When the DMPTR begins construction in 2006, there is a potential for minor adverse effects to UEAs in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction of the DMPTR at Hastings Range, which would remove it from the training queue. The Hastings Relict Sandhills UEA, in particular, would experience potential minor adverse effects as a result of the construction on the DMPTR, but this effect would only be temporary in

nature. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings of the streams located within the UEAs surrounding these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to UEAs, due to the erosion control measures the project entails, preventing some future sedimentation of the associated streams and wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC, and IPBC would have potentially minor adverse effects to UEAs due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks within the UEAs would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits. Therefore, this alternative would result in no potential for incremental impacts from ongoing activities and no cumulative adverse effects to UEAs in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative II area could result in potential moderate adverse effects on UEAs; in particular, the Pine Knot Blackwaters UEA function would be impaired as a result of the construction of the DMPRC at this location. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR (approximately the next two years). During that time, only routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects to other UEAs in the ROI. As stated earlier, no adverse effects have yet to be observed as a result of these routine and ongoing actions; however, When the DMPTR begins construction in 2006, there is a potential for minor adverse effects to UEAs in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction of the DMPTR at Hastings Range, which would remove it from the training queue. The Hastings Relict Sandhills UEA, in particular, would experience potential minor adverse effects as a result of the construction on the DMPTR, but this effect would only be temporary in nature. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings of the streams located within the UEAs surrounding these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to UEAs, due to the erosion control measures the project entails, preventing some future sedimentation of the associated streams and wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC, and IPBC would have potentially minor adverse effects to UEAs due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks within the UEAs would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects

predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits. Overall, this alternative would result in potential incremental impacts from the DMPRC and significant cumulative adverse effects to UEAs in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative III area could result in minor adverse effects on UEAs. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. During that time, only routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects to other UEAs in the ROI. As stated earlier, no adverse effects have yet to be observed as a result of these routine and ongoing actions; however, When the DMPTR begins construction in 2006, there is a potential for minor adverse effects to UEAs in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction of the DMPTR at Hastings Range, which would remove it from the training queue. The Hastings Relict Sandhills UEA, in particular, would experience potential minor adverse effects as a result of the construction on the DMPTR, but this effect would only be temporary in nature. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges and would be the result of an increase in the frequency of low-water crossings of the streams located within the UEAs surrounding these ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to UEAs, due to the erosion control measures the project entails, preventing some future sedimentation of the associated streams and wetlands within the corridors. Rehabilitation efforts would also include improvements or repairs to existing low-water crossings in the corridors, but would not require a Stream Variance, since these crossings are existing and not new. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC, and IPBC would have potentially minor adverse effects to UEAs due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the necessary permits. Additional effects to streambanks within the UEAs would include the construction of new low-water crossings, which would require Stream Variances for each project. The potential cumulative adverse effects predicted for this alternative would be minimized via the requirements contained in the variance and any additional permits. This alternative would result in minor potential incremental impacts from the DMPRC and minor cumulative adverse effects to UEAs in the ROI.

5.4.5 Protected Species (Figure 42)

5.4.5.1 Federally Protected Species

The threshold level of significance for Federally protected species is the violation of applicable Federal and state laws and regulations (e.g., the Endangered Species Act, 1996 U.S. Department of the Army guidelines, etc.); an adverse effect to Federally threatened or endangered species that initiates consultation with USFWS, or to receiving a Biological Opinion of Jeopardy from USFWS; and actions that significantly disrupt normal behavior patterns, to include, but not be limited to, breeding, feeding, or sheltering.

The ROI for Federally protected species consists of the populations within the Installation boundary plus the area of the Land Exchange (North Tract). Past, present, and foreseeable future

actions in the ROI include construction and road/trail maintenance and have the potential to contribute to degradation or loss of RCW habitat (pine trees 60 years of age or older) in the ROI. In particular, the construction of the force protection measures, the routine maintenance, repair, and training on existing ranges and within existing training compartments on Fort Benning and the development of the North Tract in Columbus would have the potential for minor adverse effects to RCWs in the ROI. On Fort Benning, adherence to the RCW ESMP, the 2003 Recovery Plan for the RCW, and the Fort Benning INRMP during construction projects would be required, which would minimize potential effects. Fort Benning may also apply for incidental take of RCW clusters and/or trees in the Biological Assessment for the proposed DMPRC; this process could also occur in future projects, if needed.

Alternative I: "No-Action / Status-Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR. During this time, the construction of the force protection measures and the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on Fort Benning. In addition, the development of the North Tract in Columbus would be ongoing, resulting in potential minor adverse effects to RCWs as a result of removal of or intrusion into their habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to RCW habitat in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in no potential incremental impacts from ongoing activities and no cumulative adverse effects to RCWs in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative II area could result in potential significant adverse effects on RCWs. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR (approximately the next two years). Also during this time, the construction of the force protection measures and the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on Fort Benning. In addition, the development of the North Tract in Columbus would be ongoing, resulting in potential minor adverse effects to RCWs as a result of removal of or intrusion into their habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to RCW habitat in the ROI, due

to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC, would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in a potential incremental impact from the DMPRC and minor cumulative adverse effects to RCWs in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

The construction, operation, and maintenance of the proposed DMPRC at the Alternative III area could result in potential significant adverse effects on RCWs. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. Also during this time, the construction of the force protection measures and the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on Fort Benning. In addition, the development of the North Tract in Columbus would be ongoing, resulting in potential minor adverse effects to RCWs as a result of removal of or intrusion into their habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to RCW habitat in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC, would have potentially minor adverse effects due to tree clearing and construction activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in a potential incremental impact from the DMPRC and minor cumulative adverse effects to RCWs in the ROI.

5.4.5.2 State Protected Species (Figure 42)

The threshold level of significance for state protected species is an impact that would either jeopardize the future existence of a state listed species in the ROI or lead to the Federal listing of that species.

The ROI for State protected species is localized and consists of the populations of Gopher tortoise, Pickering's morning glory, and Indian olive within the Installation boundary and the area of the Land Exchange (North Tract). Past, present, and foreseeable future actions in the ROI include construction and road/trail maintenance and have the potential to contribute to degradation or loss of sufficient habitat in the ROI. In particular, the construction of the ISBC, IPBC, and DMPTR are the projects that have the potential for moderate adverse impacts due to disturbance of habitat in the ROI; however, the rehabilitation of the Maneuver Corridors has the potential for long-term positive effects due to overall habitat quality improvements. On Fort Benning, adherence to the existing Installation management practices for the Gopher Tortoise, Pickering's Morning Glory, and Indian Olive would be required during both construction and training on Post. For the Gopher Tortoise, mitigation would consist of surveys and relocation

prior to construction; in addition, relocation is also a viable option for the Pickering's Morning Glory and Indian Olive populations, if any are found during the pre-construction surveys, per existing Installation management practices.

Alternative I: "No-Action / Status-Quo"

As a result of this alternative, military training would continue at Hastings Range until that range is upgraded via the DMPTR project. During this time, the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on state protected species. In addition, the development of the North Tract in Columbus would be ongoing, resulting in additional potential minor adverse effects to or intrusion into habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to state protected species in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC, would have potentially minor adverse effects due to earth-moving activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in no potential incremental impact from ongoing activities and no cumulative adverse effects to state protected species in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

Alternative II would have potential moderate adverse effects to gopher tortoises and their habitat. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR (approximately the next two years). In addition, the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on state protected species. In addition, the development of the North Tract in Columbus would be ongoing, resulting in additional potential minor adverse effects to or intrusion into habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to state protected species in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC, would have potentially minor adverse effects due to earth-moving activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in a potential incremental impact from the DMPRC and minor cumulative adverse effects to state protected species in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

Alternative III would have potential moderate adverse effects to gopher tortoises and their habitat. Concurrent with this construction, military training would continue at Hastings Range until the proposed upgrade of the range to a DMPTR. In addition, the routine maintenance, repair, and training on existing ranges and within existing training compartments would have the potential for minor adverse effects on state protected species. In addition, the development of the North Tract in Columbus would be ongoing, resulting in additional potential minor adverse effects to or intrusion into habitat in the area. Potential minor adverse effects as a result of training may also occur in the vicinity of Ruth, Cactus, and Carmouche ranges as the training queue is shifted to accommodate the construction at Hastings Range, which would remove it from the training queue. These effects, resulting from increased training at these locations, would be localized to the vicinity of the ranges. Rehabilitation of the Maneuver Corridors would also occur during this time and would result in minor positive effects to state protected species in the ROI, due to the erosion control and soil stabilization measures the project entails, which will improve the overall quality of the habitat. Construction of the FY06 and beyond projects, to include the DMPTR, ISBC and IPBC would have potentially minor adverse effects due to earth-moving activities, but these potential effects would be minimized through adherence to the existing Installation policies and guidelines. Therefore, this alternative would result in a potential incremental impact from the DMPRC and minor cumulative adverse effects to state protected species in the ROI.

5.4.6 Noise

The threshold level of significance for noise is the existence of any Zone III (incompatible) noise contours where sensitive noise receptors (residences, hospitals, libraries, and etc.) are located.

The ROI for Noise consists of the five county ROI, including the cities of Columbus and Buena Vista, GA, and Phenix City, AL. The Army Environmental Hygiene Agency (the predecessor of the Army Center for Health Promotion and Preventative Medicine) provided Fort Benning with the first heavy weapons noise contour in 1982 (US Army), 1988 (US Army), and 1993 (US Army). Comparison between these and the 2003 noise modeling studies shows that noise levels along the eastern boundary have increased during this time. In 1982, for example, the off post Zone II covered about the same area as the current off post Zone III. At the same time, the Zone II has also increased in size. While the noise has been increasing to support the military training mission, the suburban areas of Columbus and Marion County have been expanding with increased residential and commercial developments along the northern boundary of Fort Benning. This trend is likely to continue to increase the number of sensitive receptors affected by noise from Fort Benning military operation. Fort Benning anticipates the need to upgrade Hastings Range within a decade. If upgraded to a DMPTR, there would be an increase in activity and firing rounds at the upgraded Hastings Range, but those increases would be balanced by a reduction in rounds fired at the proposed DMPRC. There is no plan for increased heavy weapons firing in this area of the Installation.

Alternative I: "No Action/Status Quo" (Figure 43)

Operation and maintenance at existing Fort Benning ranges and the proposed construction of a DMPTR at Hastings Range could result in increased noise levels in the future; also, the Zone I noise would cover slightly more area near the northern Installation boundary

than the noise generated from current operations. The Zone II (normally incompatible) and Zone III (incompatible) noise contours would be approximately the same, because suburban development in this area may expand in the future, additional temporary sources of noise, due to construction, may occur adjacent to Fort Benning in the communities of Columbus and Buena Vista, GA, as well as other areas in the surrounding counties. Therefore, this alternative would result in a potential incremental impact from ongoing activities and significant cumulative adverse effects to noise in the ROI.

Alternative II: "Compartment K21 (Alternate Site) (Figure 44)

Alternative II would move some of the heavy weapons training away from Hastings Range and the northeast boundary to a more interior Installation location. Figure 44 shows that the Zone III (incompatible) noise contour would decrease from the existing area near the northeastern Installation boundary because Fort Benning would move most of the heavy weapons firing away from Hastings Range to the Alternative II site. That would reduce the area affected by existing significant noise levels (Zone III) to more moderate Zone II levels in the area near Hastings Range, resulting in potential minor positive effects from this alternative. The main change for the cumulative effects for noise is that operation of the DMPTR would result in Zone III slightly leaving the Installation at the northeast boundary, but this noise will be less than that generated under current operations. As shown in Figure 44, the Zone II noise contour would shrink in the Hastings Range and Ruth Range areas of the north-northeast while it expands slightly towards and exits the east-central Installation boundary. Some residents near the east-central boundary would detect a moderate increase in noise levels resulting from heavy weapons firing, but only Zone II (normally incompatible) and Zone 1 (compatible) noise would affect that area. Therefore, this alternative would result in a potential incremental impact from the DMPRC and significant cumulative adverse effects to noise in the ROI.

Alternative III: "Compartment D13 (Preferred Alternative)" (Figure 45)

Alternative III would move some of the heavy weapons training away from Hastings Range and the northeast boundary to a more interior Installation location. Figure 45 shows that the Zone III (incompatible) noise contour would move back inside the Installation boundary because Fort Benning would move most of the heavy weapons firing away from Hastings Range to the Alternative III site. That would reduce noise from existing significant levels (Zone III) to more moderate Zone II levels at Hastings Range, resulting in potential minor positive effects from this alternative. Once the DMPTR is constructed at Hastings Range, however, this would result in Zone III again slightly leaving the Installation at the northeast boundary, but would still be less than that generated under current operations. As shown in Figure 45, for cumulative noise effects, the Zone III contour would shrink in the Hastings Range and Ruth Range areas of the north-northeast while it expands slightly towards, but does not exit, the east-central Installation boundary. The residents near the east-central boundary would detect the same or less Zone II noise levels resulting from heavy weapons firing, but only Zone II (normally incompatible) and Zone 1 (compatible) noise would affect that area. Therefore, this alternative would result in a potential incremental impact from the DMPRC and significant cumulative adverse effects to noise in the ROI.

Table 10: Cumulative Effects, Noise
Estimated Rounds Fired on Key Ranges

Cumulative Effects:

Fort Benning Range Gunnery Use

		Alternative I	**Alternatives 2 & 3**	**Cumulative**
Range	**Type of Rounds**	**without DMPRC** Future Training *estimated* rounds fired	**with DMPRC** **Training 2007** *est.* rounds	w/ DMPTR **upgrade Hastings** *2010*
Cactus				
	25mm[1]	10,000	10,000	10,000
	120mm	0	0	0
Carmouche				
	25mm	84,000	84,000	84,000
	120mm	924	924	924
Hastings	*25mm*	56,000	0	14,000
-	*120mm*	3,276	0	350
Ruth	*25mm*	0	0	0
	120mm	0	0	0
-				
DMPRC	*25mm*	N/A	56,000	42,000
Alts. 2 and 3	*120mm*	N/A	3,276	2,926
TOTALS	*25mm*	150,000	150,000	150,000
	120mm	4,200	4,200	4,200

5.4.7 Public Health and Safety (no figures)

The threshold level of significance for Public Health and Safety is exceeded when the Surface Danger Zone (SDZ) of a range extends off the Installation, when a violation of Occupational Safety and Health Administration Act (OSHA) standards occurs, or when access to the construction site is not adequately maintained (unauthorized access).

The ROI for public health and safety is localized and contained within the Installation boundary. During the next 10 years, there are several new and/or upgraded ranges scheduled for Fort Benning, including the upgrade of Hastings Range to a DMPTR in FY06, the upgrade of Galloway Range to an Infantry Squad Battle Course in FY05, and the rehabilitation of the northern and southern (mechanized) maneuver corridors (FY pending); however, SDZ standards, as outline per DA PAM 385-63 and Installation policies and guidelines, would be followed during the construction, renovation, operation and maintenance of all ranges. In addition, adherence to OSHA protocols for worker safety would be required for all construction, renovation, and maintenance projects.

Alternative I: "No-Action / Status-Quo"

This alternative would result in no potential for incremental impacts and no cumulative adverse effects on public health and safety in the ROI.

Alternative II: "Compartment K21 (Alternate Site)"

This alternative would result in no potential for incremental impacts and no cumulative adverse effects on public health and safety in the ROI.

Alternative III: "Compartment D13 (Preferred Site)"

This alternative would result in no potential for incremental impacts and no cumulative adverse effects on public health and safety in the ROI.

Table 11. Summary of Potential Cumulative Impacts and Mitigation – All Alternatives

Table Legend

ℵ	No Adverse Cumulative Effect	⊕	Minor Positive Cumulative Effect
θ	Minor Adverse Cumulative Effect		
⊗	Significant Adverse Cumulative Effect		

Affected Environment	Alternative I	Alternative II	Alternative III
Soils & Vegetation	ℵ	θ	θ
Water Quality	ℵ	ℵ	ℵ
Wetlands & Streambanks	ℵ	θ	θ
UEAs	ℵ	⊗	θ
Federally Protected Species	ℵ	θ	θ
State Protected Species	ℵ	θ	θ
Noise	⊗	⊗	⊗
Public Health & Safety	ℵ	ℵ	ℵ

6.0 Summary of Additional Potential Effects

6.1 Irreversible and Irretrievable Commitment of Resources

An irreversible/irretrievable commitment of resources results from a decision to use or modify resources when they are renewable only over a long period of time, such as soil productivity, or when they are nonrenewable resources, such as cultural resources. The single most irreversible and irretrievable commitment of resources associated with the proposed action is the loss of forested lands committed to the construction of the DMPRC, including its support facilities and access roads. It is considered an irreversible commitment because, for the foreseeable future, this will be used for a range and re-establishing the area as a forest is not reasonable for quite some time. Some wetland areas and vegetation will be permanently lost due to construction; in addition, there is a potential for the displacement of wildlife or the loss of protected species and their habitat. Although these actual resources will be lost, through the design and other mitigation, much of the impacts will be offset or minimized.

The materials and energy required for the construction, operation, and maintenance of the DMPRC also represents an irretrievable commitment of resources. The total amount of construction materials required for this action is relatively insignificant when compared to the resources available in the region. The energy required for construction consists of the fuels necessary to operate heavy construction equipment and trucks. Although energy conservation is a vital and critical issue, the energy resource commitment to this project is not anticipated to be excessive in terms of region-wide usage. Materials and energy are not in short supply and their use would not have an adverse effect upon continued availability of these resources. Construction, operation, and maintenance would also require a substantial expenditure of Federal funds that would not be directly retrievable.

6.2 Unavoidable Adverse Effects

The environmental analysis of the alternatives includes the avoidance, minimization, or other mitigation of potential adverse effects on natural, cultural, and environmental resources; however, all adverse impacts may not be completely avoided and/or mitigated. Some adverse effects would be temporary in nature; for example, there would be temporary minor adverse effects to air quality due to the presence of construction equipment and subsequent training by mechanized vehicles, in addition to the ongoing use of prescribed fire for habitat management. Other adverse effects could be long-term in nature; for example, the removal of protected species habitat due to land-clearing activities for construction and subsequent training/use by mechanized vehicles.

Construction and subsequent activities would transform the sites of the two action alternatives (II and III) from a forested landscape to a range complex, including all of its support facilities and access roads. Even though the land use would still be training, these action alternatives would result in less vegetated cover and could indirectly contribute to erosion control concerns in this and adjoining areas. Disturbance, displacement, or loss of wildlife and/or protected species may occur as a consequence of habitat loss and increased training activity in these previously undisturbed areas. Newly constructed and/or enhanced roads and their associated use can impact wildlife due to human activities associated with new access. Sedimentation of adjacent and connecting surface water bodies could exceed natural rates where

roads and/or trails are being built and maintained or where management activities include harvesting and removal of timber, such as Fort Benning. The use of best management practices (BMPs) and monitoring and evaluation of all mitigation efforts should limit the extent, severity, and duration of these effects.

Alternative I current noise impacts near the Installation boundary would continue and not be readily avoided or completely mitigated. Adverse impacts from Zone II noise in alternatives II and III cannot be completely avoided or minimized. Limiting night firing on the range and communication with the public would help to minimize impacts; however, operation of the range would result in noise generation. Any mitigation measures subsequently identified after the release of this DEIS will be considered to avoid or further minimize the unavoidable adverse effects.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Alternative I, "No Action/Status Quo," would have minimal to no adverse effect on the natural and human environment at Fort Benning. Although temporary minor adverse effects to soils, water quality, and Unique Ecological Areas (UEAs) do occur at Hastings Range, the Alternative I location, these effects are easily mitigated through compliance with existing Federal and state laws and regulations and through the implementation of Installation policies, guidelines, and, where applicable, best management practices (BMPs). Minor adverse to wetlands, streambanks, Federally-protected species, state-protected species, migratory birds, and air quality also occur, but are minimized through these same processes. Moderate adverse effects to land use resulting from noise are ongoing at this location, due to its use as an active Tank and BFV gunnery range. Significant adverse effects to noise also occur at this area; while no "physical" mitigation (such as monitors or barriers) is currently in place for this adverse effect, the Public Affairs Office (PAO) routinely submits notices to Fort Benning personnel, residents, and the public for larger-than-normal training events where noise levels are predicted to be more obtrusive than the existing levels. Noise complaints are also managed by the PAO. There would be no adverse effect on socioeconomics, cultural resources, utilities, public health and safety, hazardous materials, or transportation under this alternative. Cumulatively, this alternative would not result in any incremental adverse effects on most of the natural and cultural resources; however, significant cumulative effects as a result of noise are predicted. This alternative does not meet the purpose and need for advanced gunnery training.

Alternative II, "Compartment K21 (Alternate Site)," would have minor adverse effects to water quality, state protected species, migratory birds, land use, cultural resources, noise, air quality, and hazardous materials and wastes. Effects to water quality would be mitigated through implementation of mitigative measures required through the associated National Pollutant Discharge Elimination System (NPDES) Permit and by implementation of the Spill Pollution Control and Countermeasures (SPCC). Any effects on state protected species would be mitigated through relocation of the gopher tortoises prior to initiating any earth-moving activities; effects to cultural resources would be mitigated through established Installation practices, to include consultation with the State Historic Preservation Office (SHPO) and Tribes and development of a Memorandum of Understanding (MOA); and effects to air quality would

be mitigated through adherence to the construction permit for the DMPRC. Moderate adverse effects are predicted for soils, wetlands, and UEAs in the area. Effects to soils would be mitigated through implementation of a Soil and Erosion Control Plan. Mitigation for wetlands would be in adherence to the 404 Permit and the Soil Erosion and Pollution Prevention Plan (SECP3) for the DMPRC and through either restoration of wetlands on Post or through the purchase of off-Post credits; effects to UEAs would be minimized through implementation of established Installation policies and guidelines. Significant adverse effects are predicted for vegetation, streambanks, and Federally-protected species. Significant effects vegetation would also occur as a result of earth-moving activities and tree clearance for the DMPRC and its associated support facilities; and its associated BMPs and through adherence to protocols established in the Timber Harvest Plan for the DMPRC. Mitigation for streambanks would be through the use of BMPs for soils erosion and the restoration of streambanks outside of the construction area. Mitigation for Federally protected species would occur through adherence to guidance obtained through consultation with the United States Fish and Wildlife Service (USFWS); as of this time, protective berms will be placed in locations suitable to protect/prevent impacts to RCW cluster trees, additional RCW management staff will be hired, and recruitment clusters will be established, with the understanding that additional mitigation may also be required. Temporary minor positive effects are predicted for socioeconomics and minor positive effects are predicted for utilities, primarily due to the fact that, respectively, the construction of the DMPRC would provide additional job sources and bring utilities access to previously unconnected portions of the Installation. There would be no adverse effect on public health and safety or transportation under this alternative. Cumulatively, this alternative would result in no incremental adverse effects on water quality and public health and safety; minor incremental adverse effects on soils and vegetation, wetlands and streambanks, and Federally and state protected species, and significant incremental adverse effects on UEAs and noise. This alternative would result in more potential adverse effects than Alternative III and less potential adverse effects than Alternative I. In addition, this alternative meets the purpose and need for this action.

Alternative III: "Compartment D13 (Preferred Site)" would have a minor adverse effect to water quality, UEAs, migratory birds, land use, cultural resources, noise, air quality, and hazardous materials and wastes; effects would be mitigated as described under Alternative II. Moderate adverse effects are predicted for soils, wetlands, and state protected species; effects would be mitigated as described under Alternative II. Significant adverse effects would occur to vegetation, streambanks, Federally protected species, and noise; effects would be mitigated as described under Alternative II. Temporary minor positive effects are predicted for socioeconomics and minor positive effects are predicted for utilities. There would be no adverse effect on public health and safety or transportation under this alternative. Mitigation for this alternative is also defined in the DMPRC Mitigation and Monitoring Plan. Cumulatively, this alternative would result in no incremental effects on water quality and public health and safety; minor cumulative effects are predicted for soils and vegetation, wetlands and streambanks, UEAs, and Federally and state protected species; and significant incremental adverse effects on noise. This alternative would result in less adverse potential effects than Alternative II and more adverse potential effects than Alternative I. In addition, this alternative meets the purpose and need for this action.

7.2 Recommendation

Alternative III, "Compartment D13 (Preferred Site)," is the recommended course of action because it meets the purpose and need for the action while resulting in fewer adverse environmental effects than the other action alternative analyzed in this PDEIS. Although Alternative I has less adverse environmental effects, it fails to meet the purpose and need and is therefore not the recommended alternative. All predicted adverse environmental effects would be subject to the appropriate mitigation, permitting, and monitoring, in accordance with NEPA and other Federal and state laws and regulations.

8.0 LIST OF PREPARERS

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9.3 ACRONYMS AND ABBREVIATIONS

AEC	Army Environmental Center
AR	Army Regulation
BFV	Bradley Fighting Vehicle
CAA	Clean Air Act
COE	Corps of Engineers
COE-R	Corps of Engineers – Regulatory Branch
CWA	Clean Water Act
DMPRC	Digital Multi-Purpose Range Complex
ENMP	Environmental Noise Management Plan
ESA	Endangered Species Act
ESCA	Georgia Erosion and Sedimentation Control Act
FORSCOM	Forces Command
FM	Field Manual
ICUZ	Installation Compatible Use Zone
IMA	Installation Management Agency
MACOM	Major Command (or higher headquarters)
MCA	Military Construction, Army
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants (per CAA)
NHPA	National Historic Preservation Act
PAO	Public Affairs Office

PM	Particulate Matter (per CAA)
RCW	Red-cockaded woodpecker
ROI	Region of Influence (for Cumulative Effects under NEPA)
SACE	Savannah District, Army Corps of Engineers
SDZ	Surface Danger Zone
SERO	South East Regional Office (higher headquarters/approving authority for Fort Benning, GA, and several other Installations)
SHPO	State Historic Preservation Office
STRICOM	Simulation, Training, & Instrumentation Command
TM	Technical Manual
TRADOC	Training and Doctrine Command
UEA	Unique Ecological Area
USACHPM	United States Army Center for Health and Preventive Medicine
USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound (per to CAA)

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FIGURES

Area Map

Legend

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- Rivers
- Installation Boundary
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- Columbus
- Counties
- States

N

1:860,000

Ft. Benning Location Map

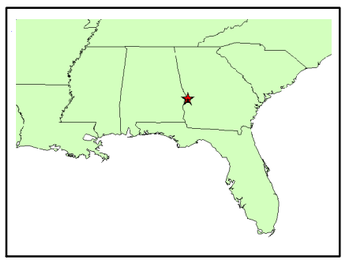

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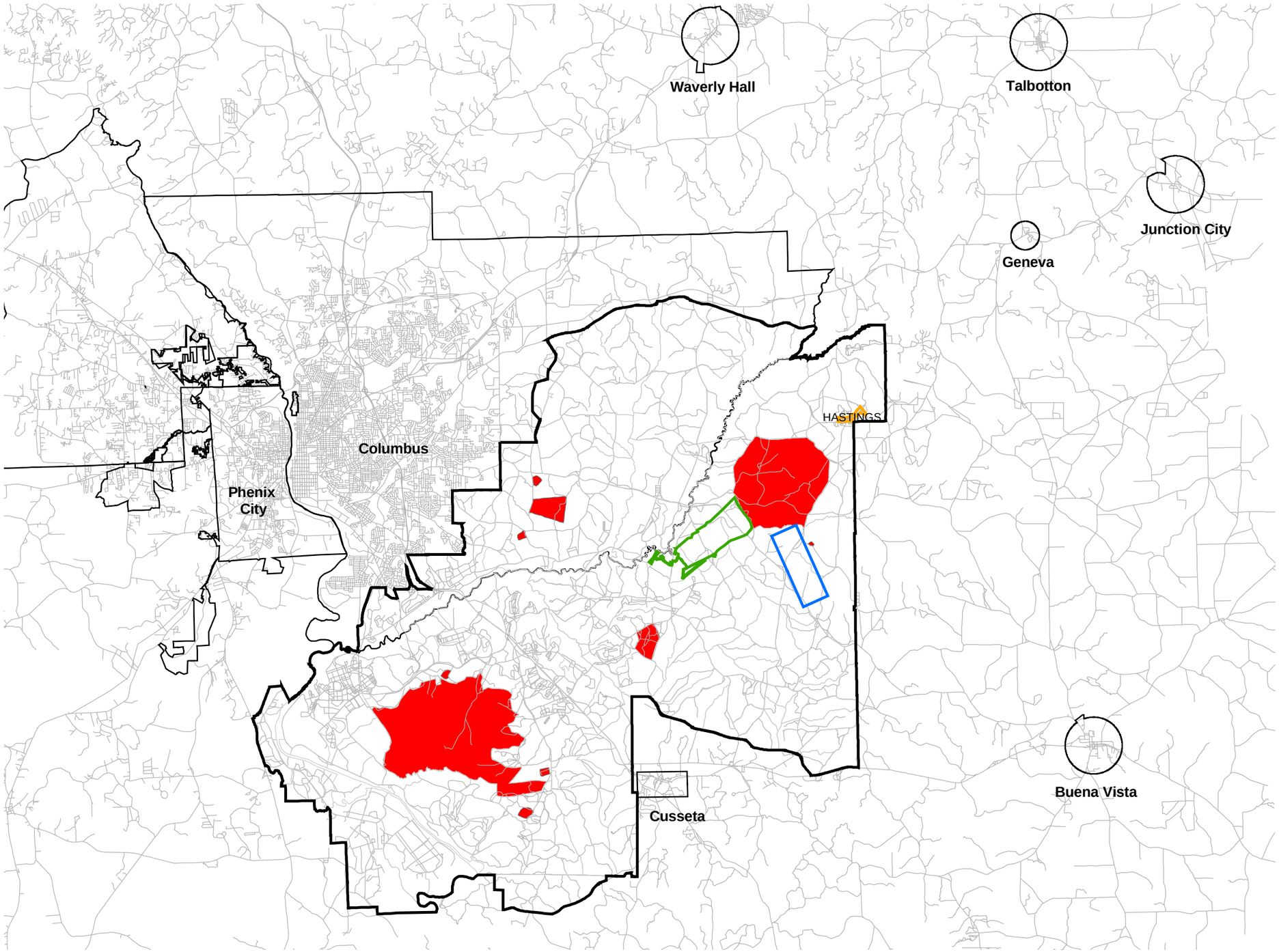
Figure 1



Alternatives I, II, and III

Legend

- Alternative I/Hastings Range Footprint
- Alternative II Range Footprint
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments
- Cities
- Roads

N

1:230,000

Ft. Benning Location Map

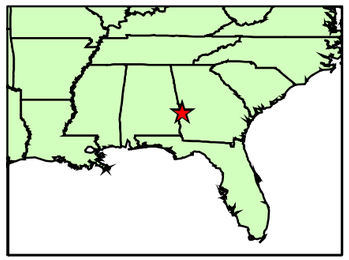


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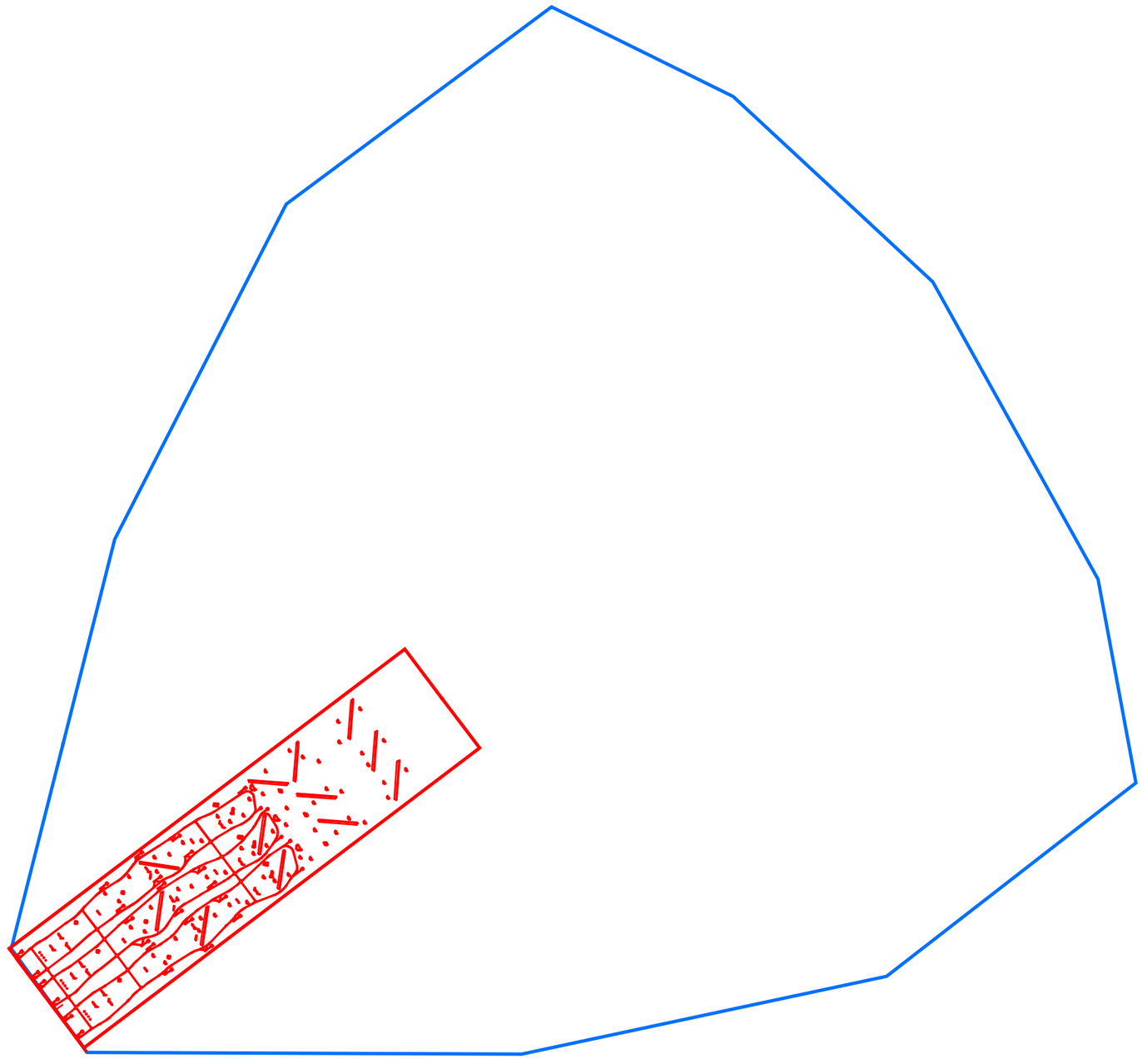
Figure 2



Optimal Standard DMPRC Design

Legend

- Optimal DMPRC Range Footprint
- Optimal DMPRC SDZ

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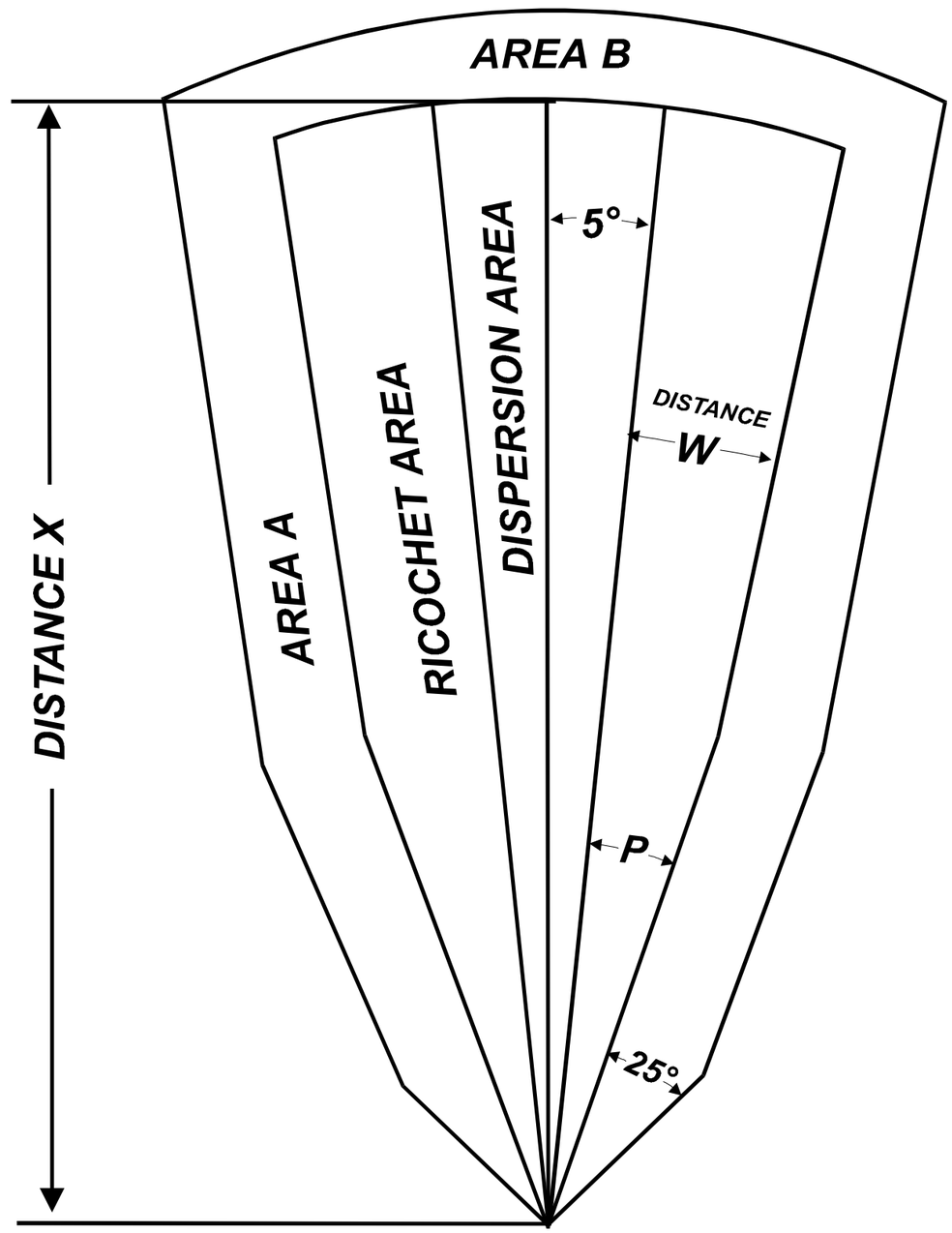
Figure 3

Surface danger zone for firing select tank cannon cartridges



Standard SDZ Layout

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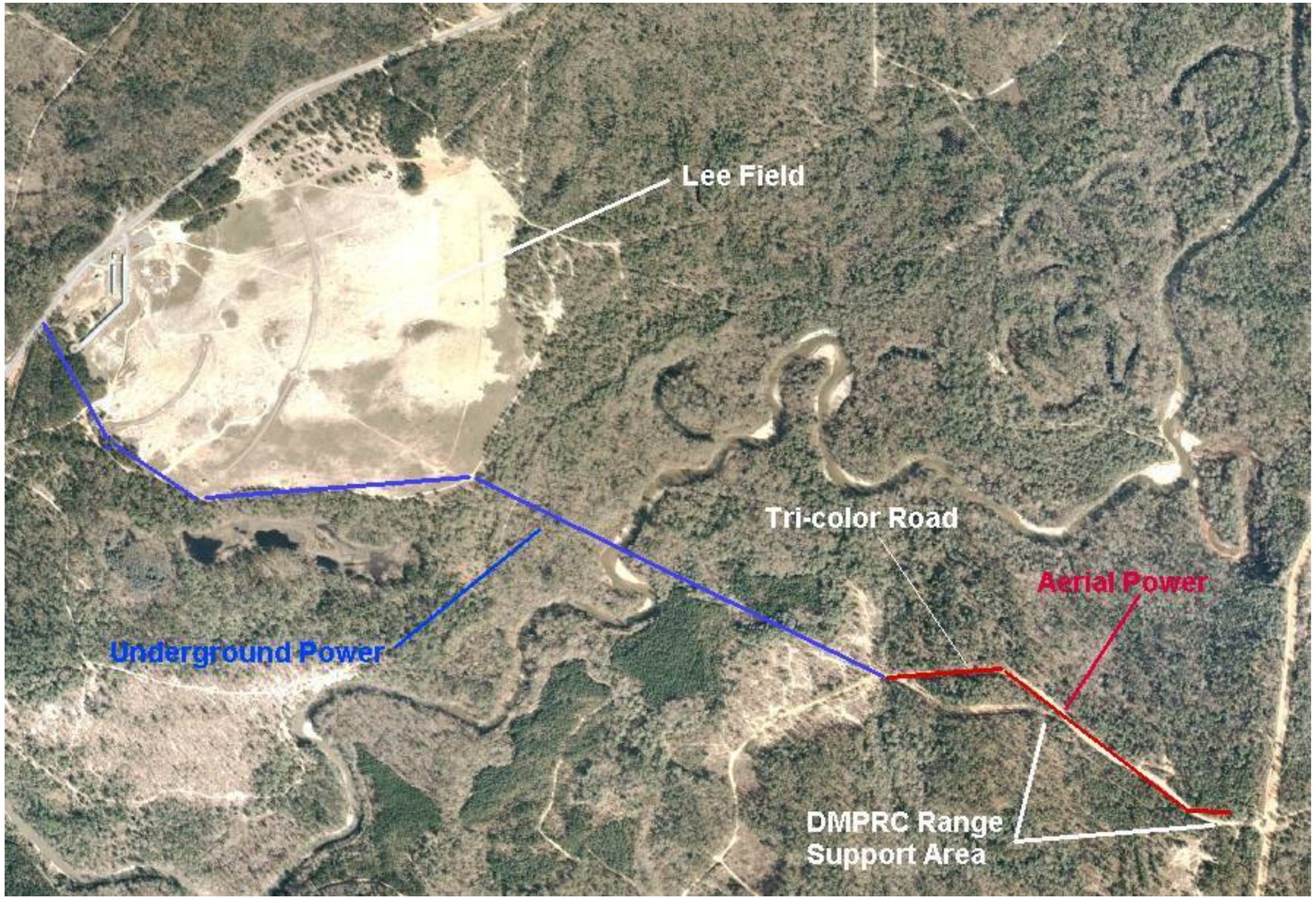
Figure 4

DMPRC
Proposed Alternate Route for Electrical Power



Underground Electrical Service (Proposed)

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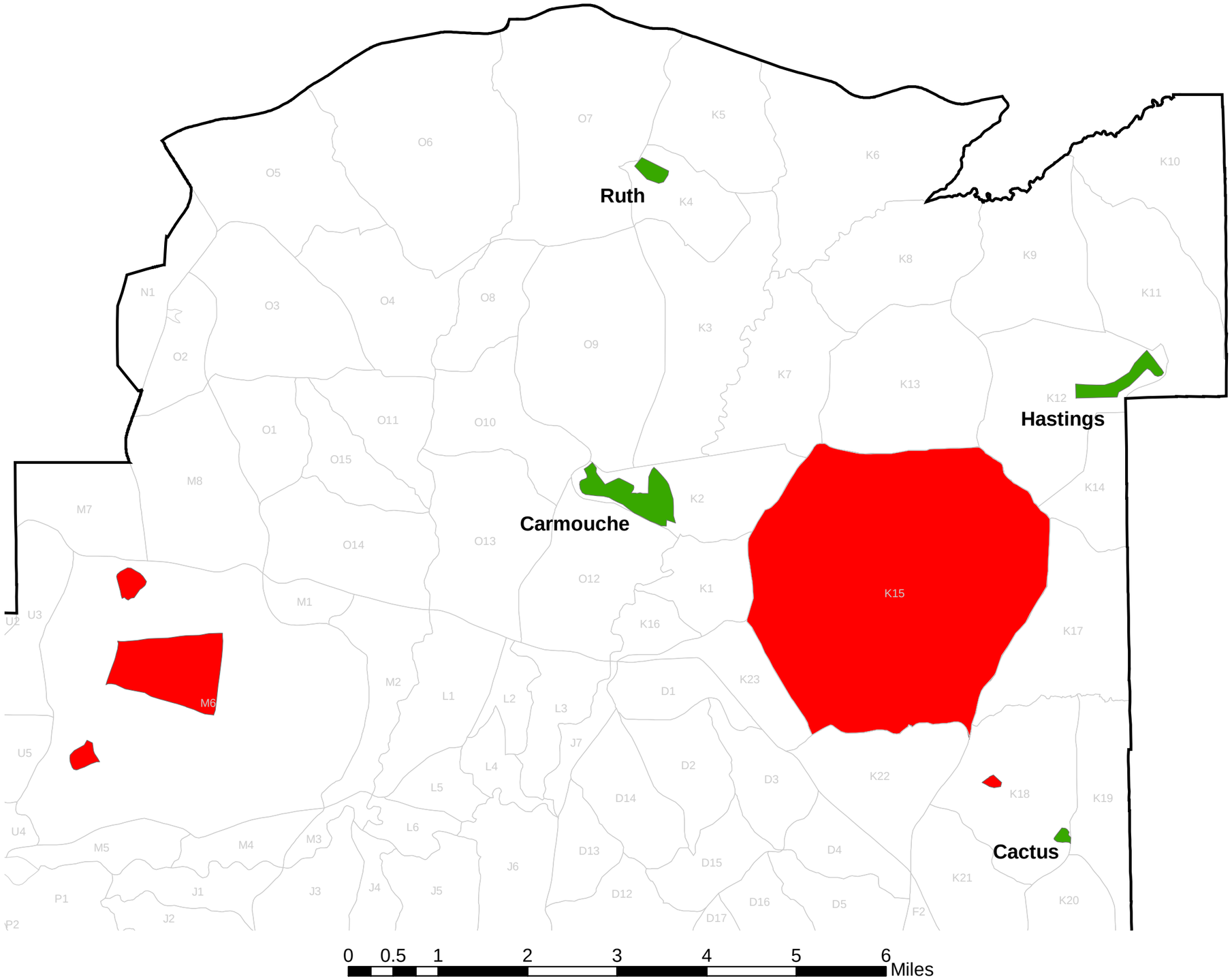
Figure 5



Ruth, Carmouche, Cactus, Hastings Ranges

Legend

- Military Ranges
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:73,000

Ft. Benning Location Map

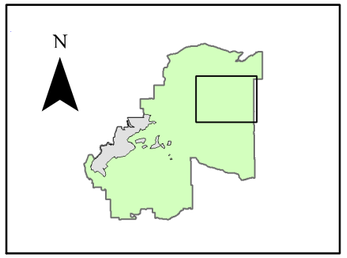


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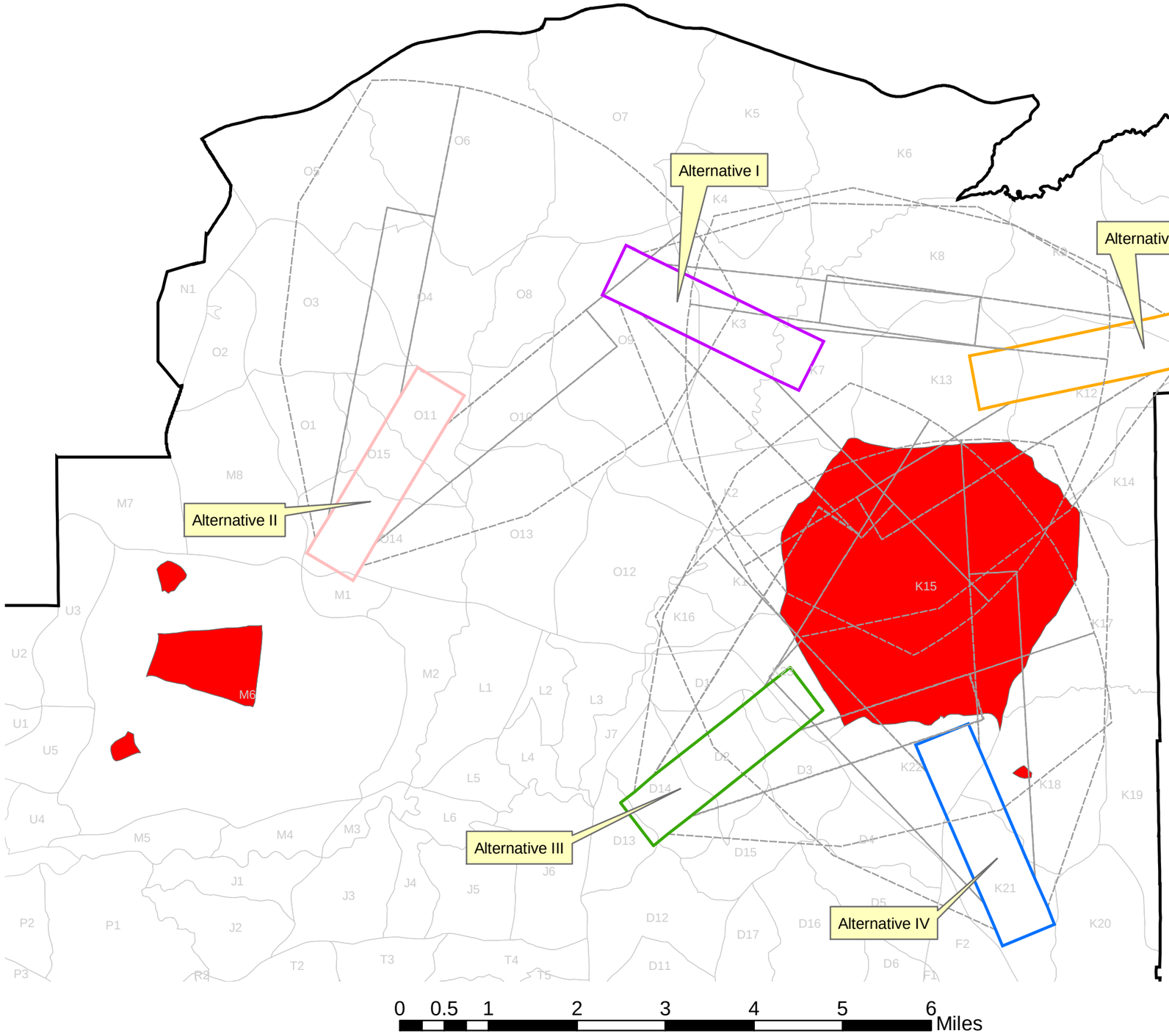
Figure 6

Six Alternatives Analyzed in 2000 Draft EA



Legend

- Alternate I
- Alternate II
- Alternate III
- Alternate IV
- Alternate V
- Alternate VI - No Action/Status Quo
- Standard SDZs
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:78,300

Ft. Benning Location Map

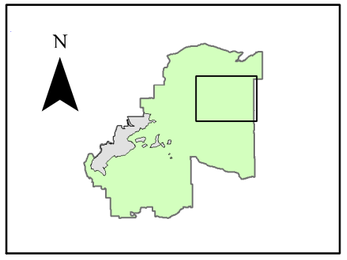


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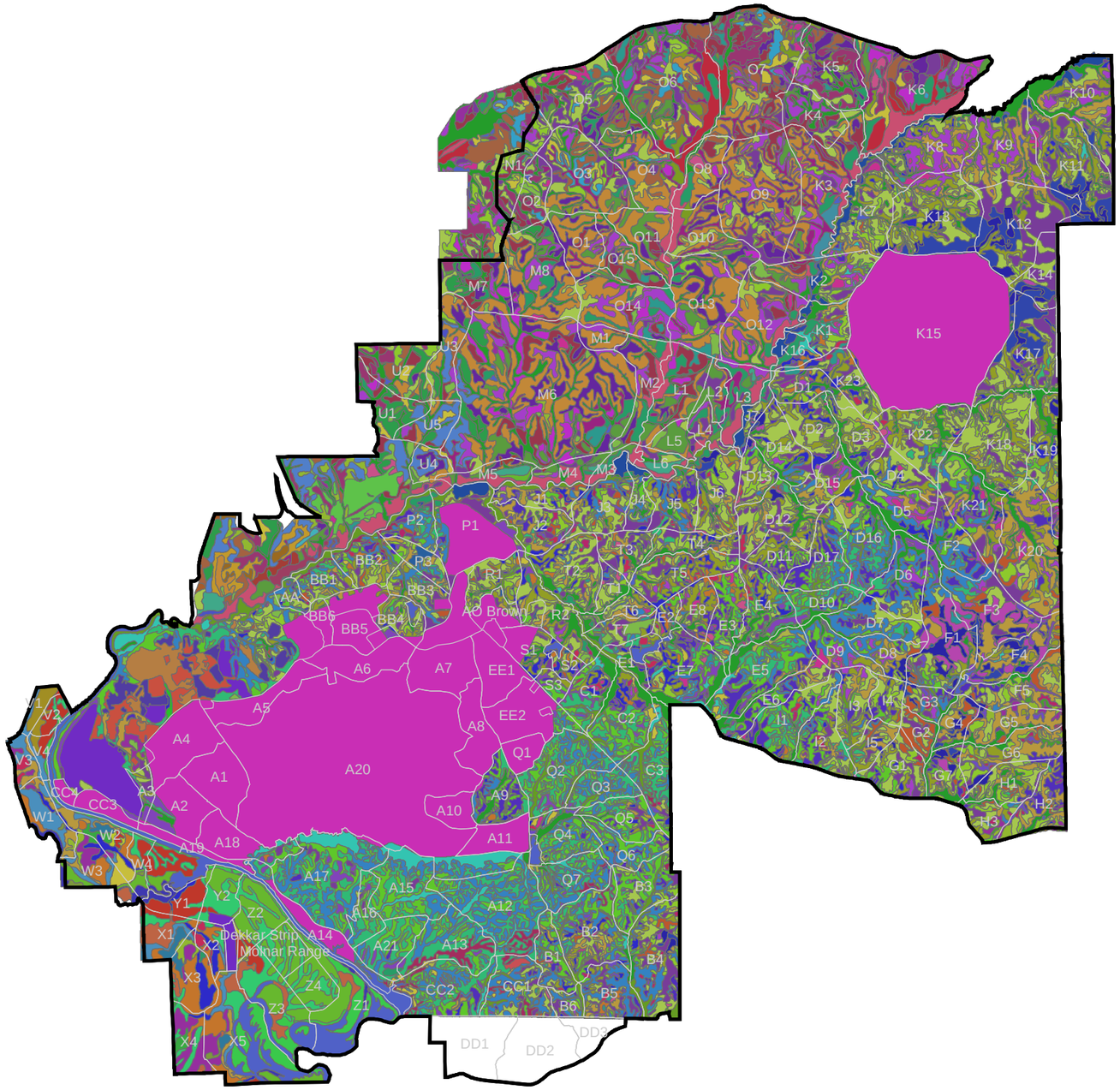
Figure 7

Soils on Fort Benning



Legend

Installation Boundary

Training Compartments

Legend

Soils

AaB, AaC, AnA, BeA, Bh, BoC, BrA, COC, COD, CaA, CaB, CbC, Ch, Ck, Cn, CwE, DgA, DoB, DoC, DuB, EOD, EPE, EmB, EmC, EmD, EnE, EtA, EuA, FuB, FuC, Hy, LaB, LaC, LaCm, LaD, LaE, LkE, LuB, LuC, NaB, NaC, NkC3, NkD3, NnE3, NnF3, Oc, OrA, OrB, OrC, OrD, OuB, OuC, Pm, Ps, Pt, RaA, RbA, RvA, SeA, SuB, SuC, TSD, TVD, To, TrB, TrC, TrD, TrE, Ua, Ub, UbC, Ud, UoC, UtC, VbC2, VeC, VeD, W, WaB, WaC, WbA, WhA, none

N

1:165,000

Ft. Benning Location Map

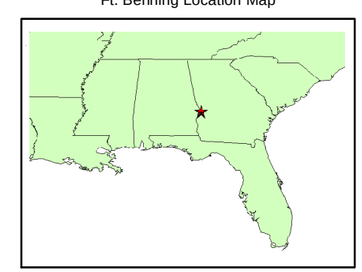


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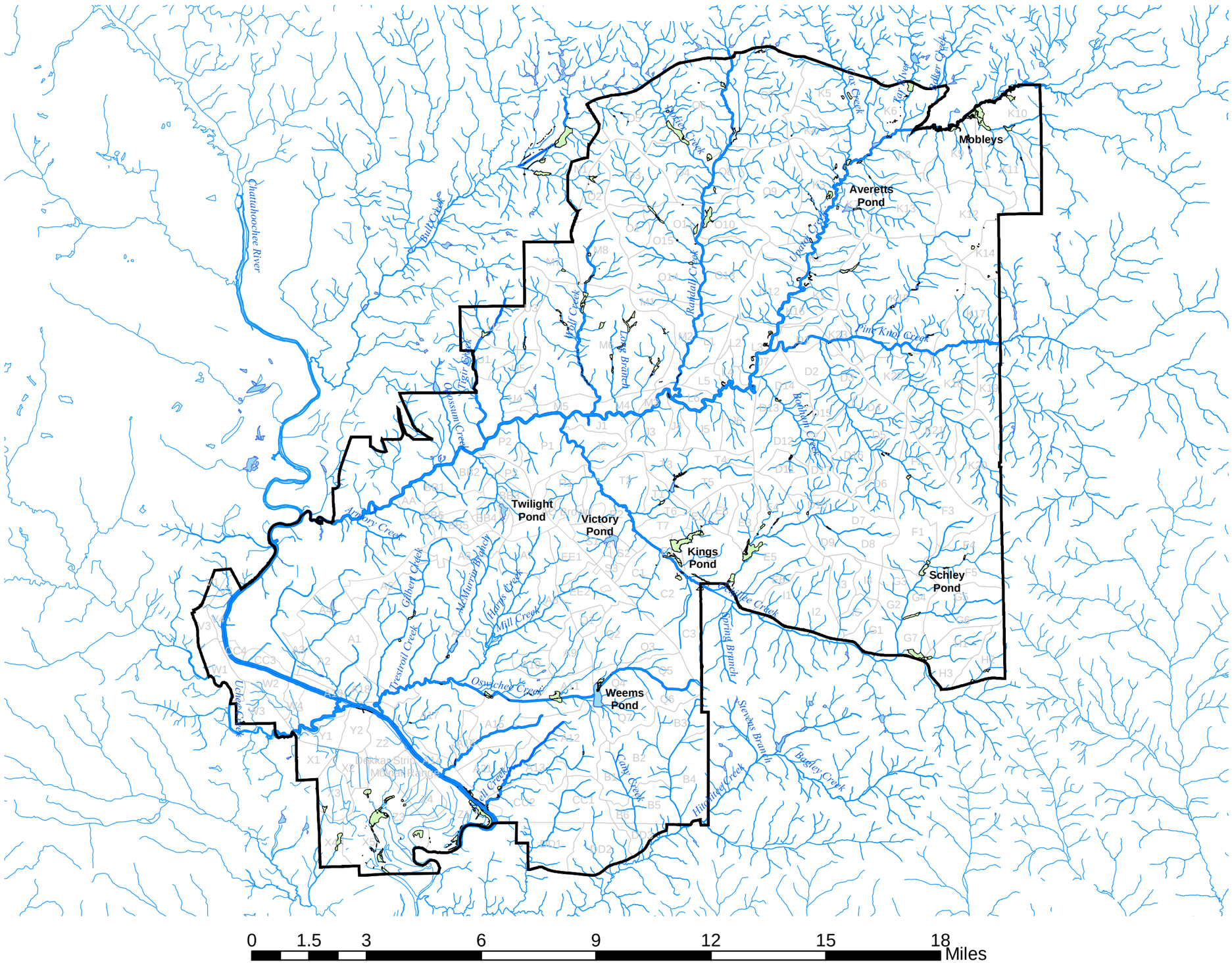
Figure 8



Surface Water on Fort Benning

Legend

- Installation Boundary
- Training Compartments
- Ponds
- Lakes
- Rivers and Streams

N

1:165,000

Ft. Benning Location Map

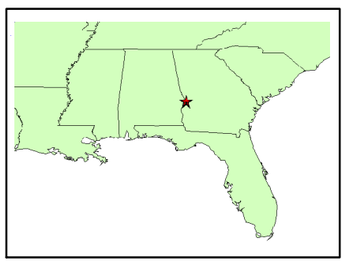


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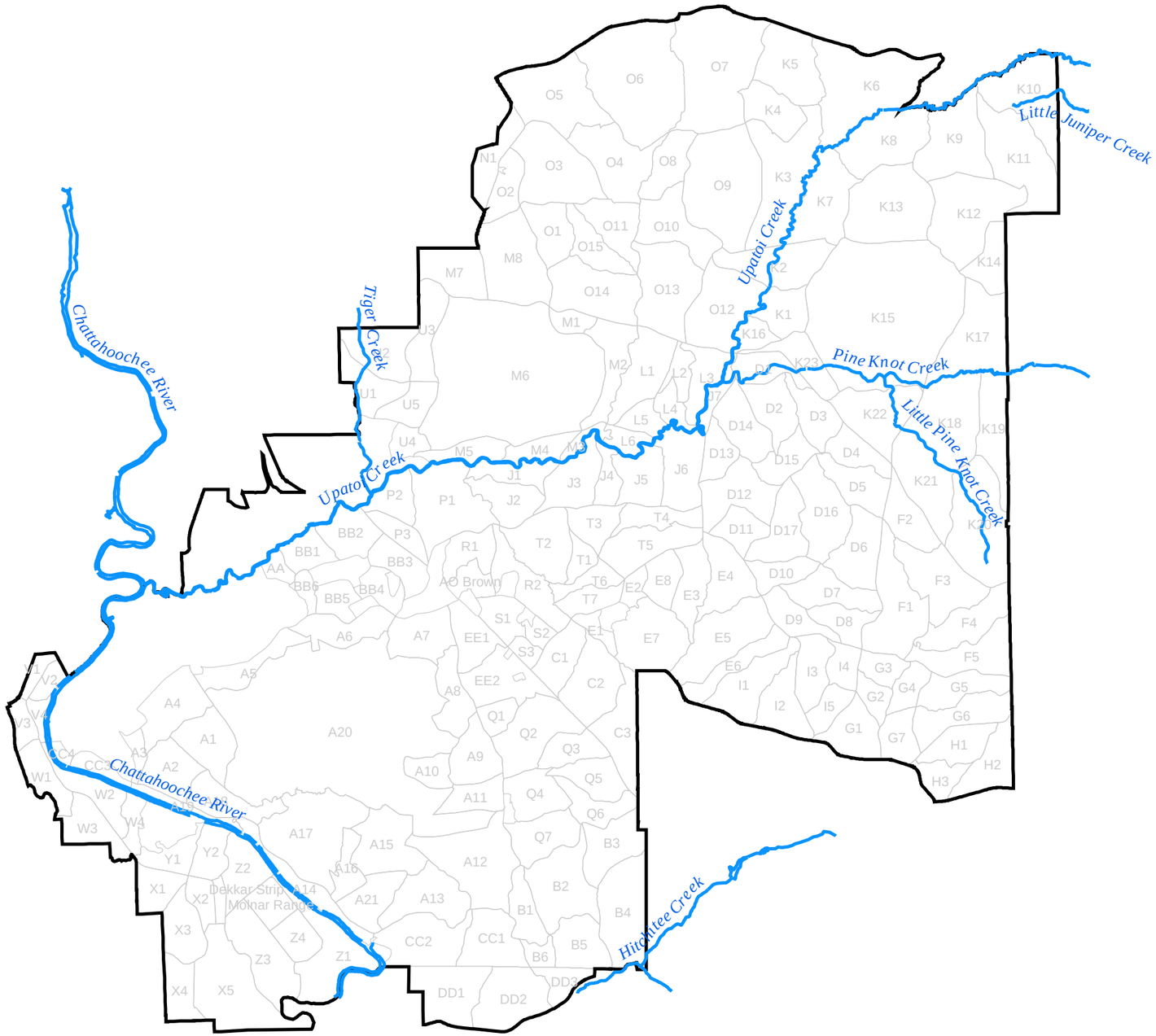
Figure 9



0 1.5 3 6 9 12 15 18 Miles

TMDL Streams on Fort Benning

Legend

- Installation Boundary
- Training Compartments
- TMDL

N

1:165,000

Ft. Benning Location Map

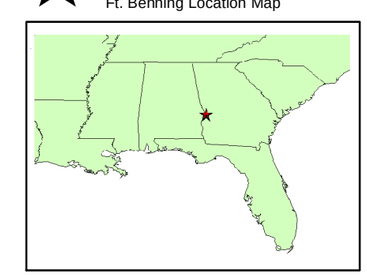


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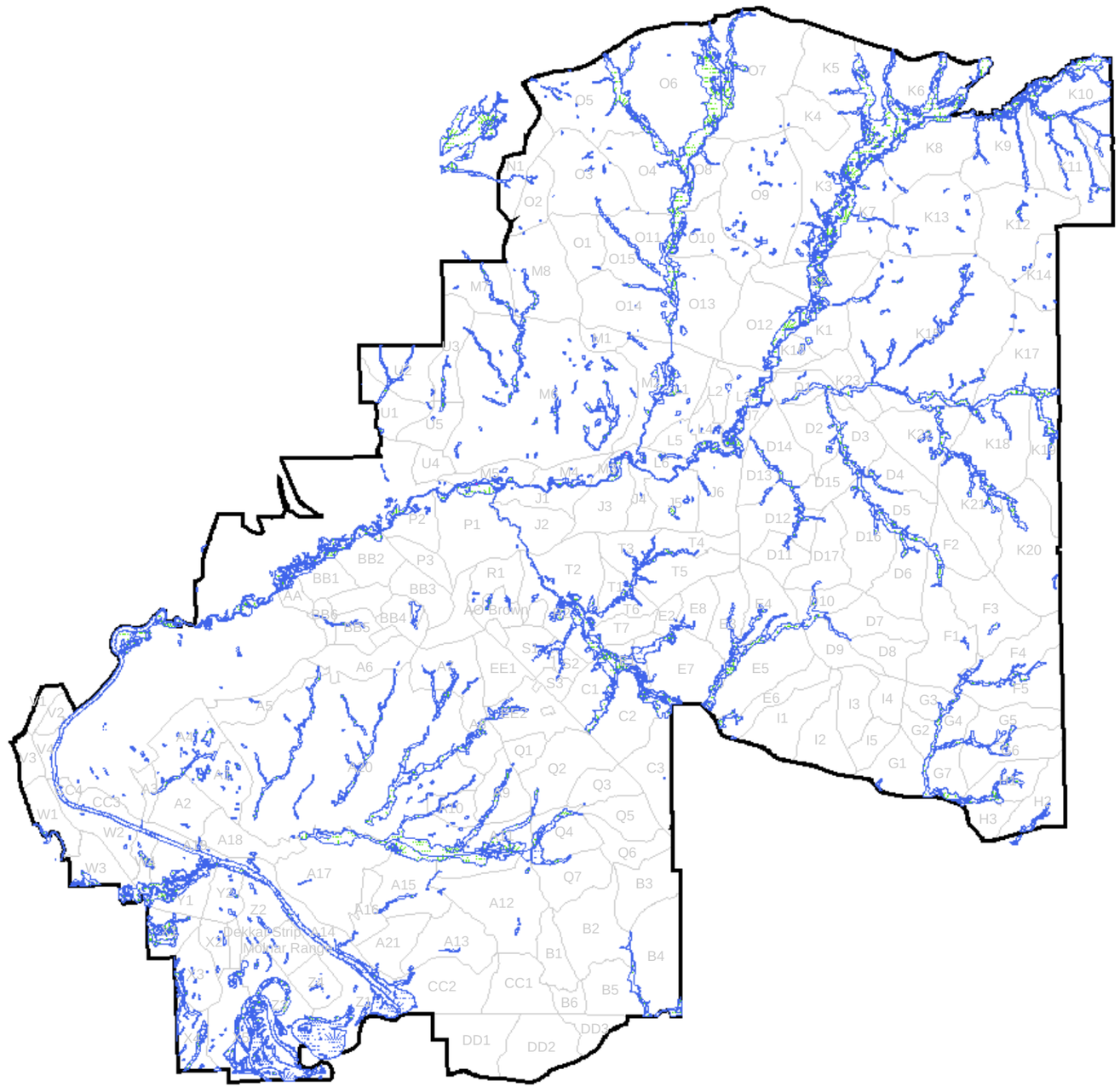
Figure 10



Wetlands on Fort Benning

Legend

Wetlands

- riverine
- palustrine
- lacustrine
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

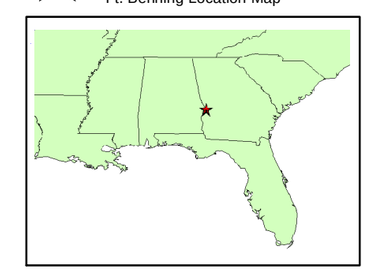


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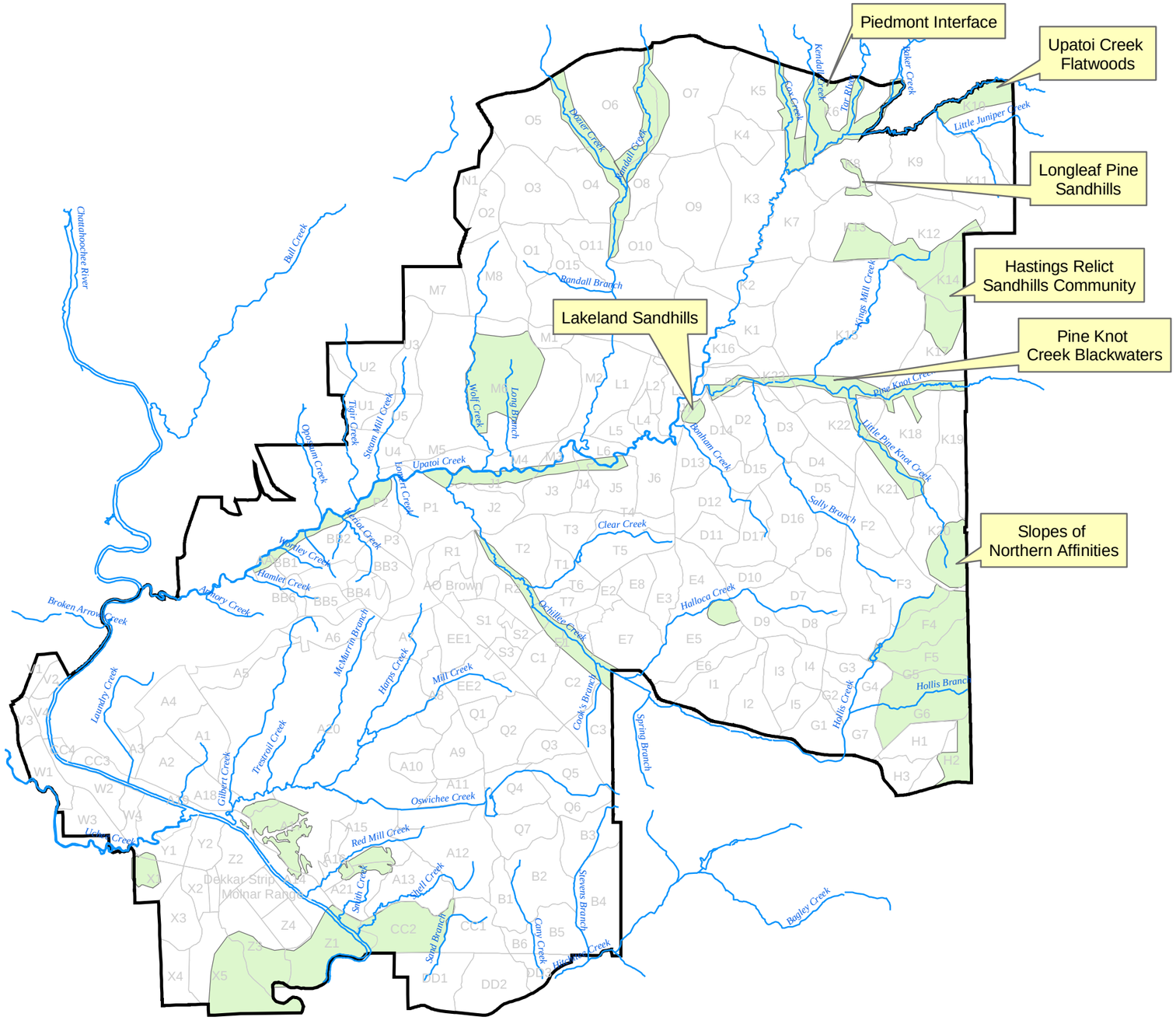
Figure 11



Unique Ecological Areas on Fort Benning

Legend

- Rivers and Streams
- Installation Boundary
- Training Compartments
- Unique Ecological Areas

N

1:165,000

Ft. Benning Location Map

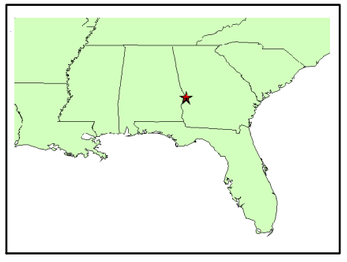


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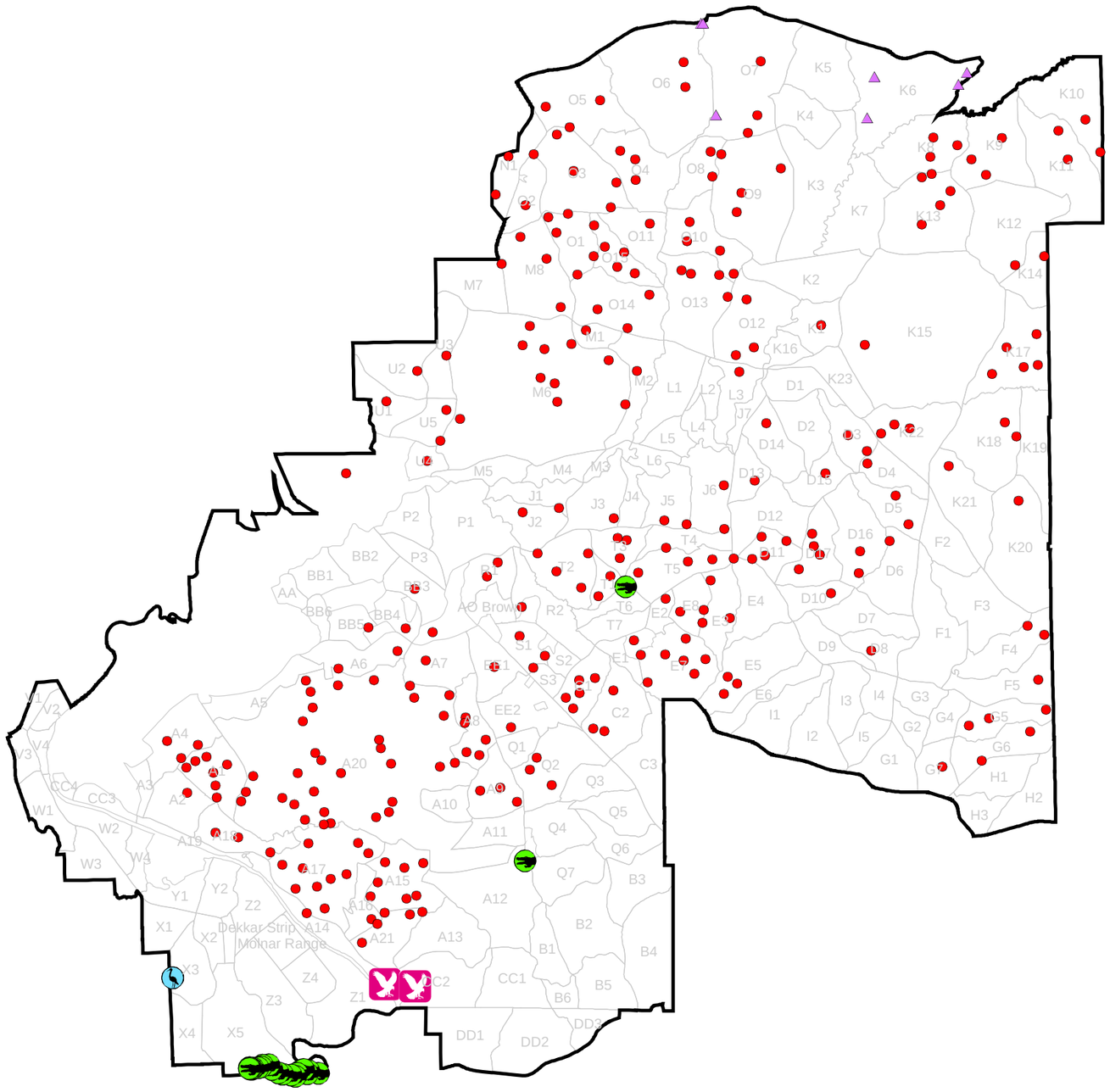
Figure 12



Location of Federally Protected Species on Fort Benning

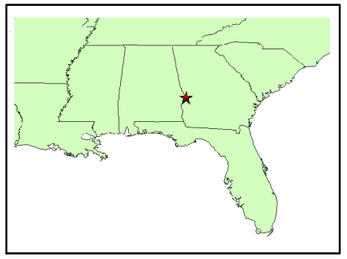
Legend

- Bald Eagle
- Alligator
- Woodstork
- RCW Clusters (Active)
- Relict Trillium

N

1:165,000

Ft. Benning Location Map



0 1.5 3 6 9 12 15 18 Miles

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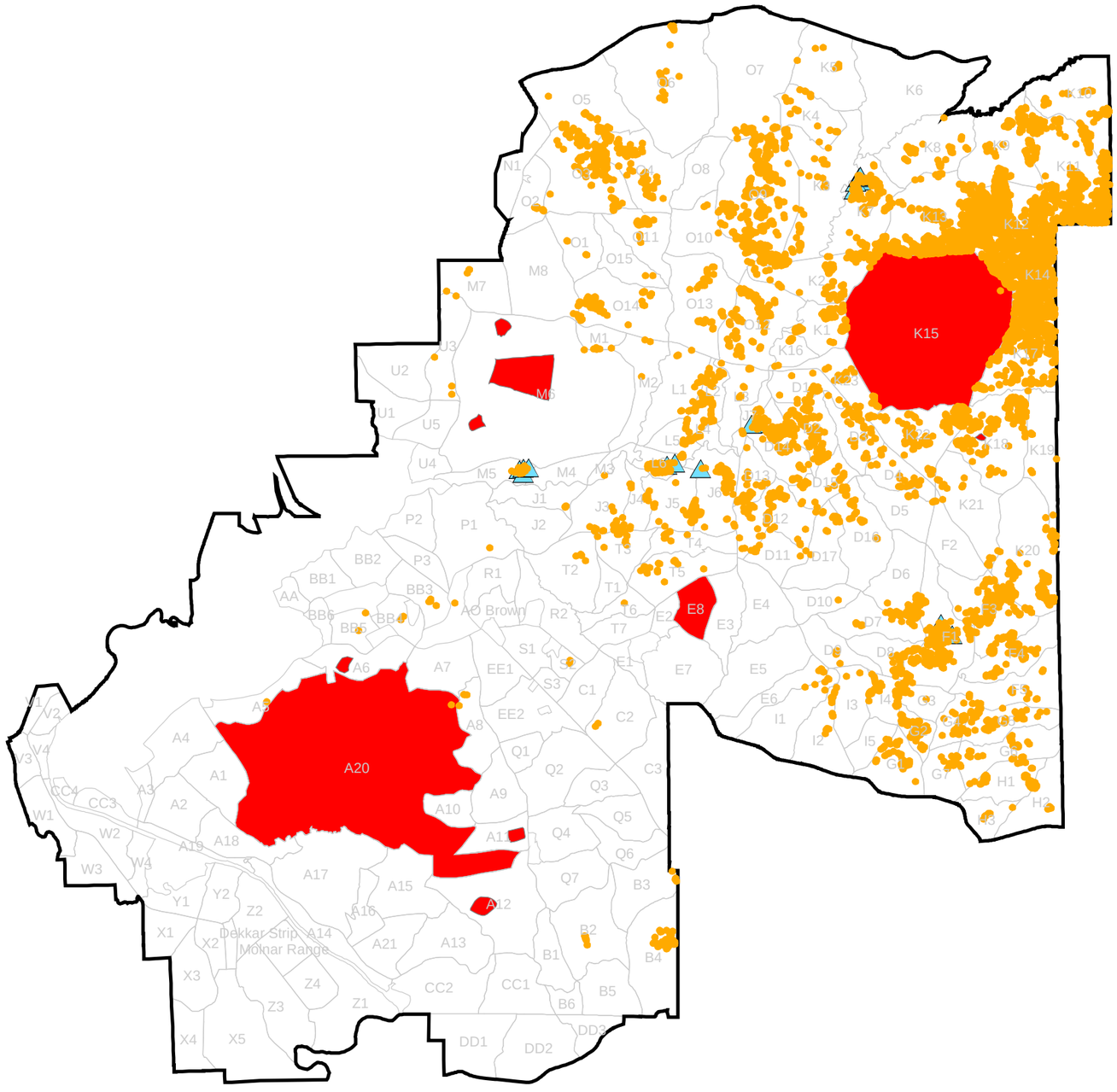
Figure 13



State Protected Species on Fort Benning

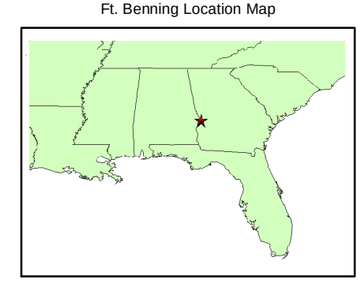
Legend

- Pickering's morning-glory
- Indian olive
- Gopher Tortoise
- Installation Boundary
- Training Compartments
- Dudded Impact Area

N

1:165,000

Ft. Benning Location Map



0 1.5 3 6 9 12 15 18 Miles

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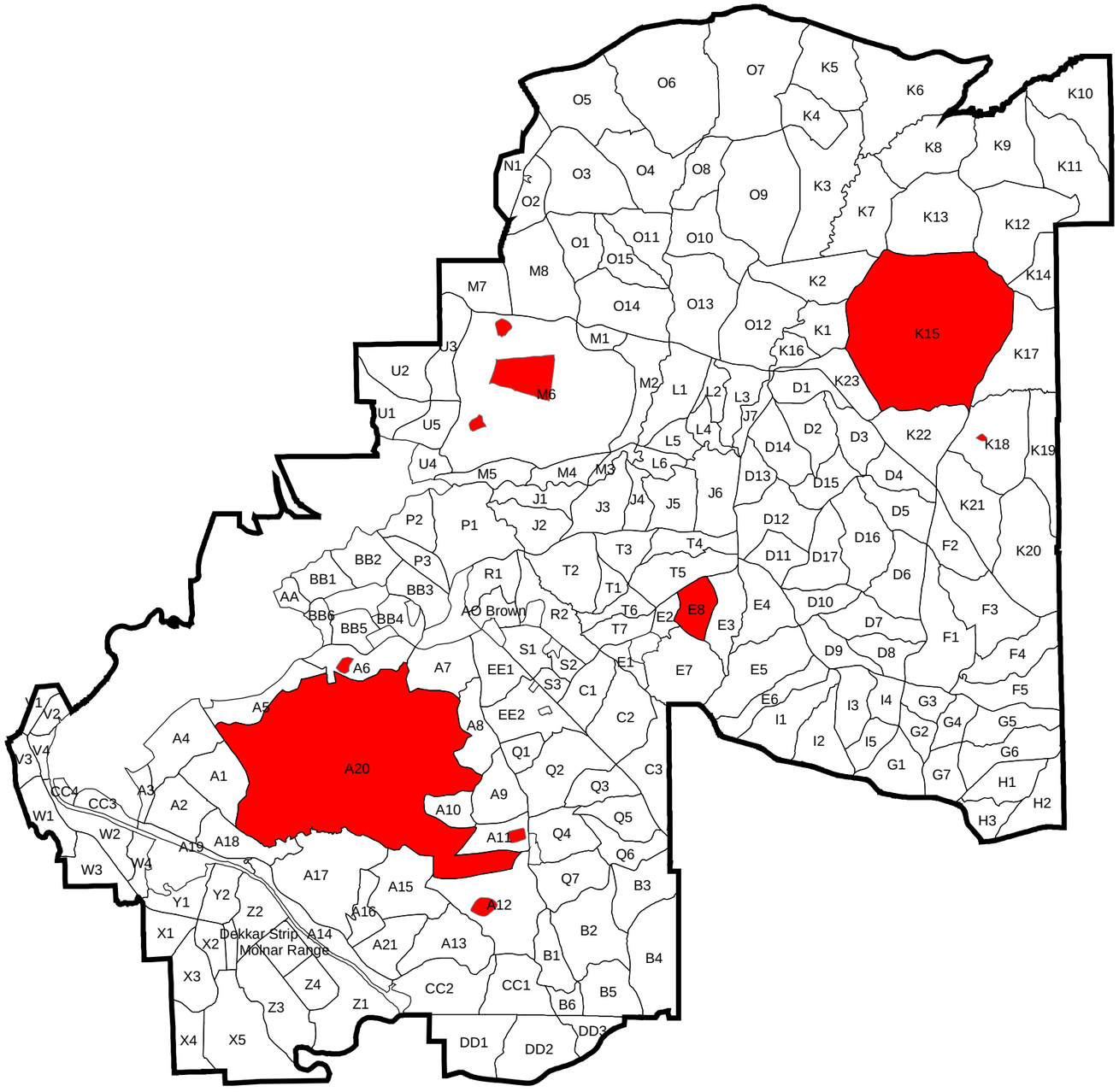
Figure 14



0 1.5 3 6 9 12 15 18 Miles

Fort Benning Training Areas

Legend

- Installation Boundary
- Training Compartments
- Dudded Impact Area

N

1:165,000

Ft. Benning Location Map

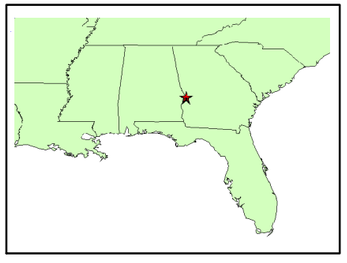


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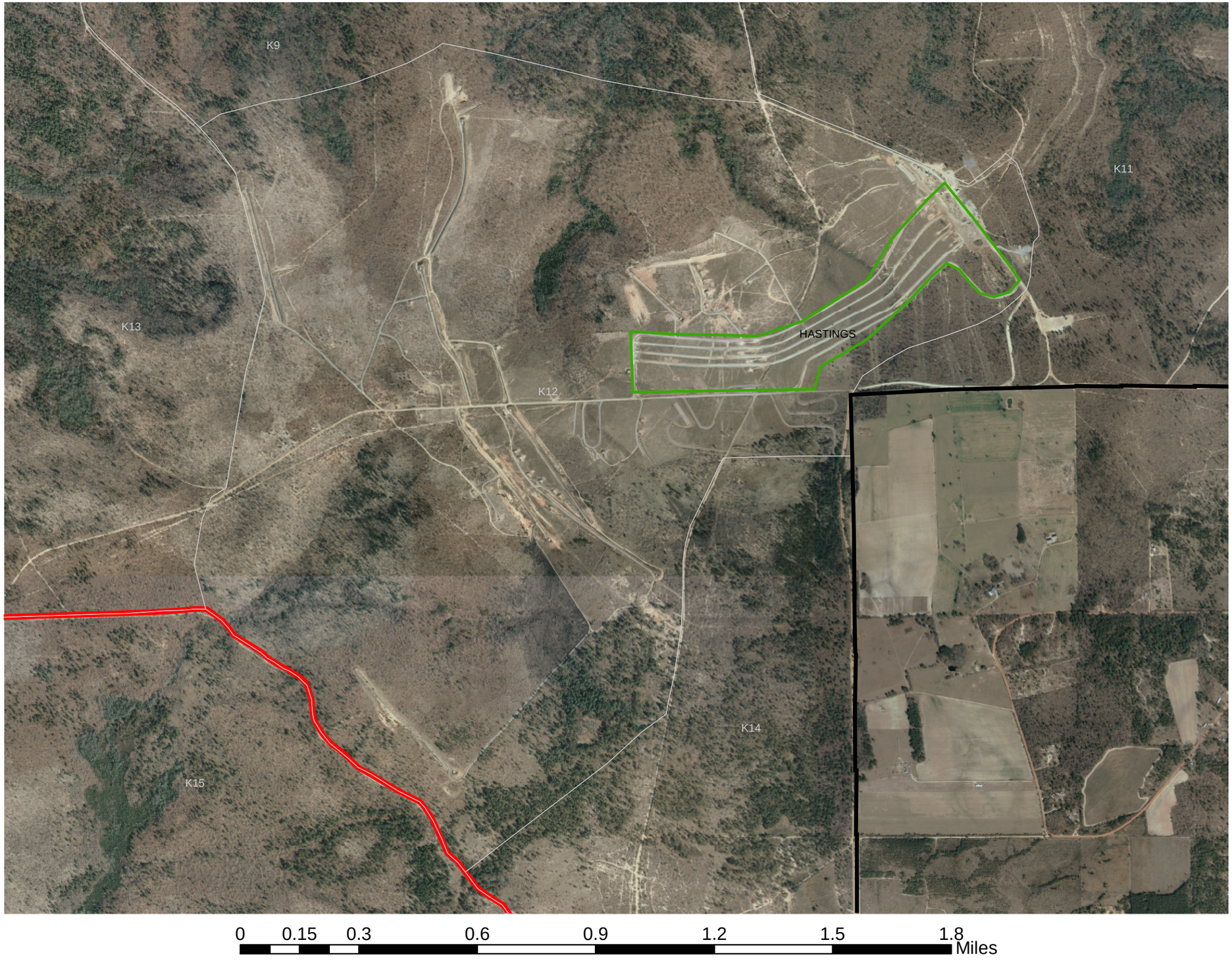
Figure 15



Soils and Vegetation - Alternative I

Legend

- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments
- Dudded Impact Area

Orthophoto

1:16,000

Ft. Benning Location Map

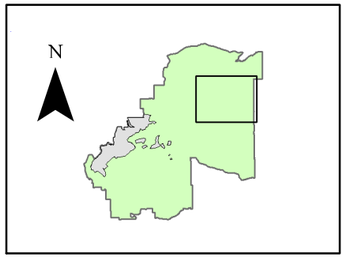


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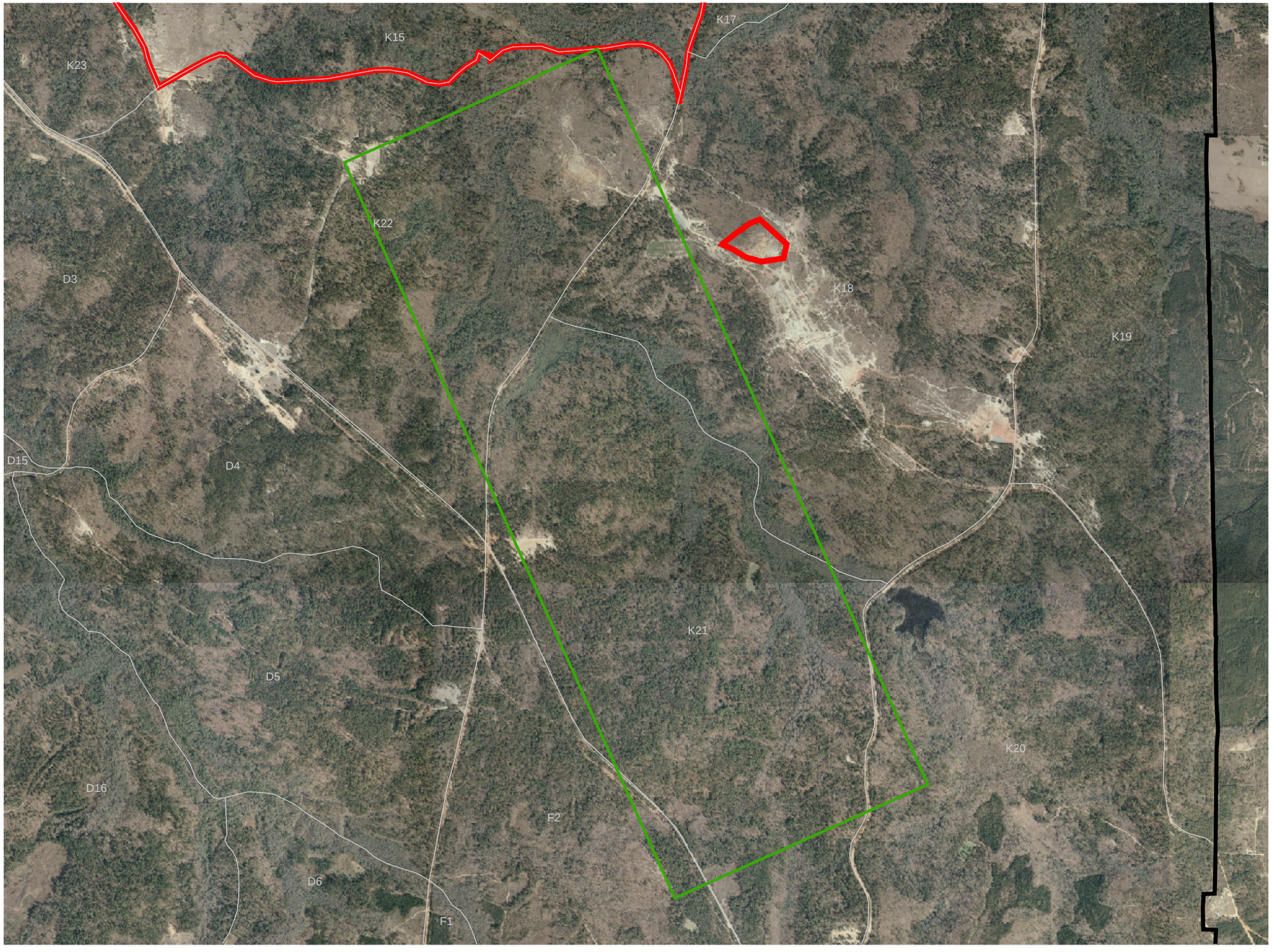
Figure 16



0 0.3 0.6 1.2 1.8 2.4 Miles

Soils and Vegetation - Alternative II

Legend

- Alternative II Range Footprint
- Installation Boundary
- Training Compartments
- Dudded Impact Area

Orthophoto

1:22,000

Ft. Benning Location Map

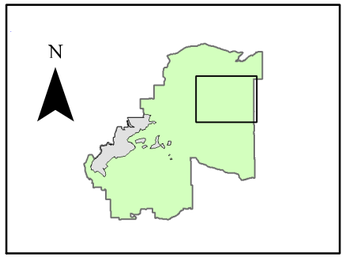


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Figure 17

Soils and Vegetation - Alternative III

Legend

- Alternative III Range Footprint
- Viewshed
- Installation Boundary
- Training Compartments
- Dudded Impact Area

Orthophoto

1:22,000

Ft. Benning Location Map

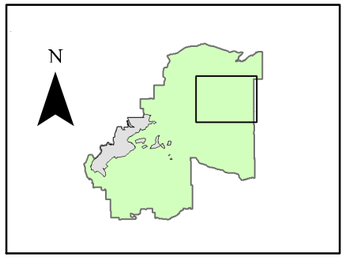

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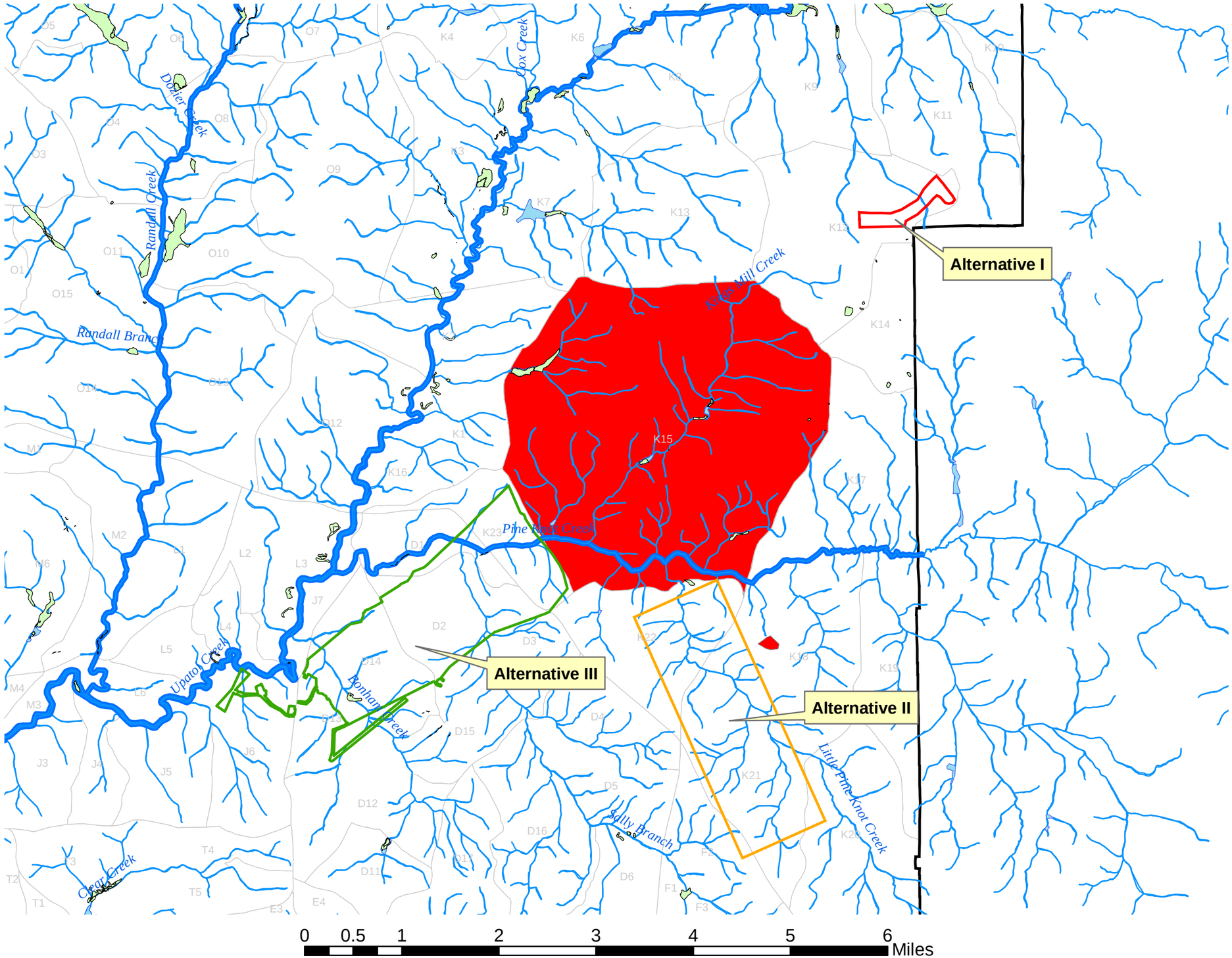
Figure 18



Water Quality, All Alternatives

Legend

- Ponds
- Lakes
- Rivers and Streams
- Alternative I/Hastings Range Footprint
- Alternative II Range Footprint
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments

1:65,000

Ft. Benning Location Map

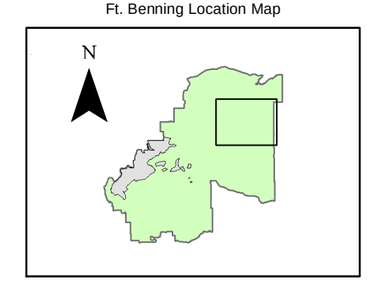


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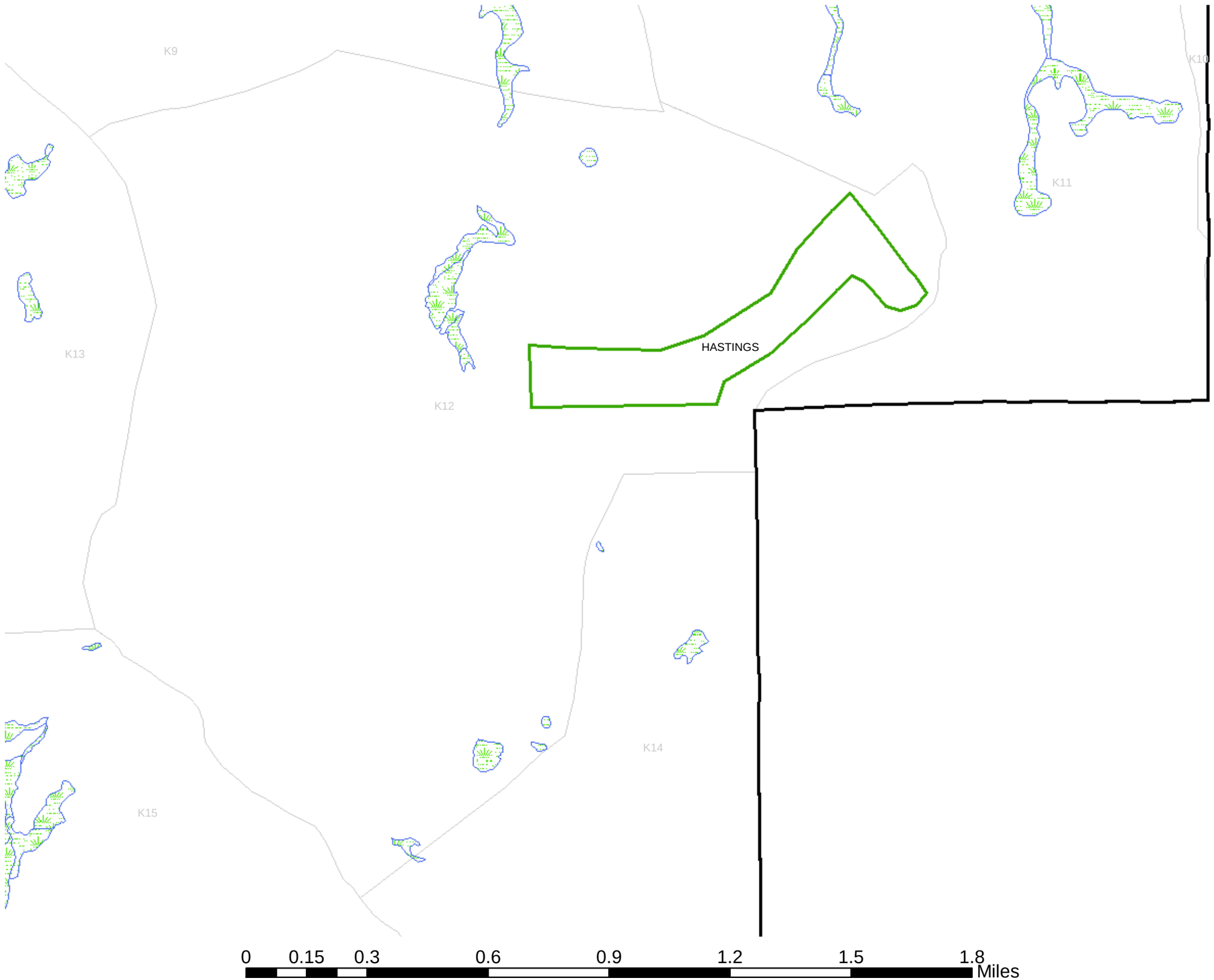
Figure 19



Wetlands, Alternative I

Legend

Alternative I/Hastings Range Footprint

Wetlands

riverine

palustrine

Installation Boundary

Training Compartments

1:16,000

Ft. Benning Location Map

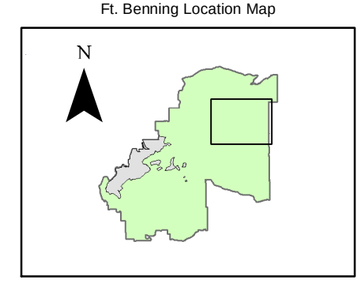


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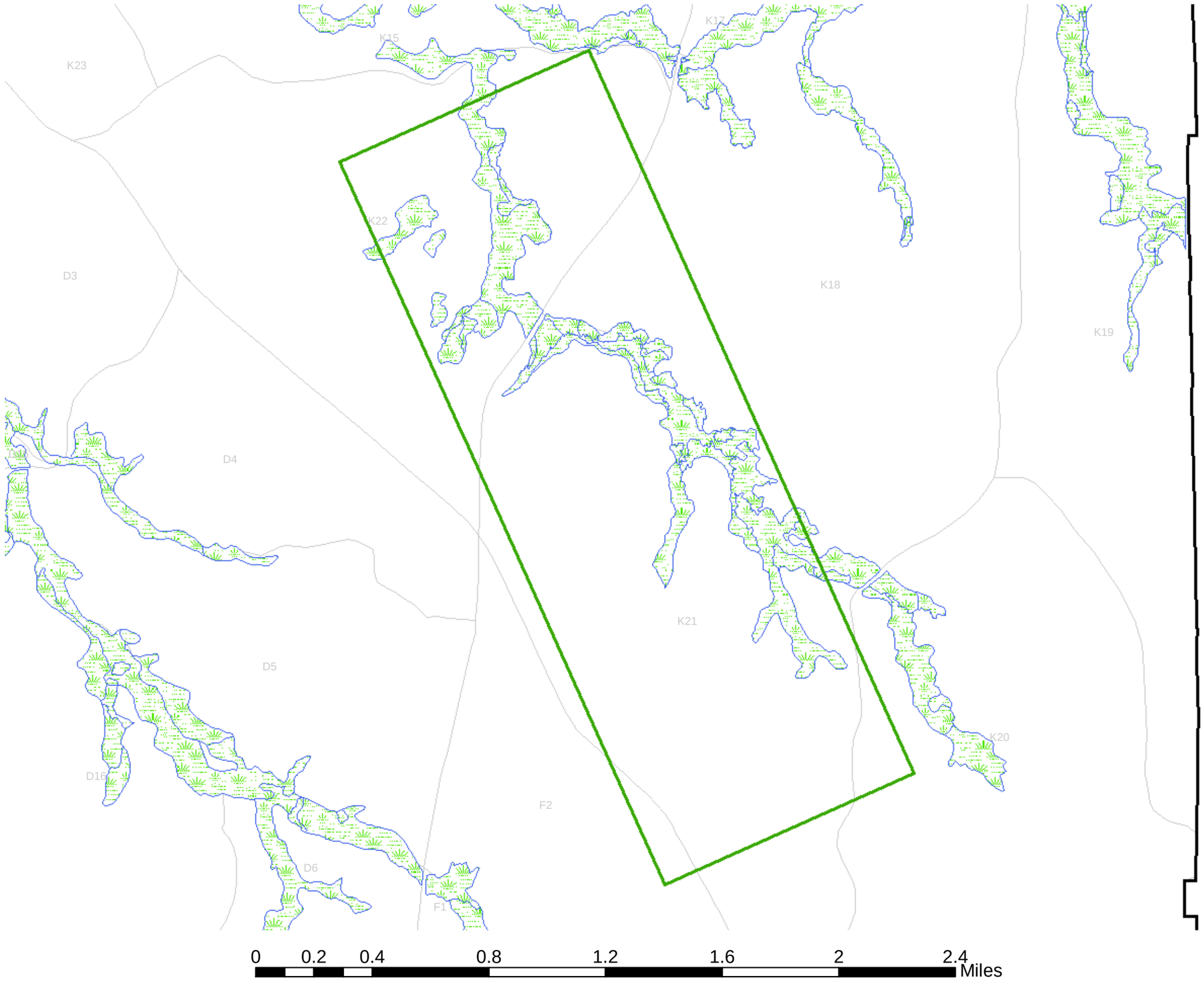
Figure 20



Wetlands, Alternative II

Legend

Alternative II Range Footprint

Wetlands

riverine

palustrine

Installation Boundary

Training Compartments

1:22,000

Ft. Benning Location Map

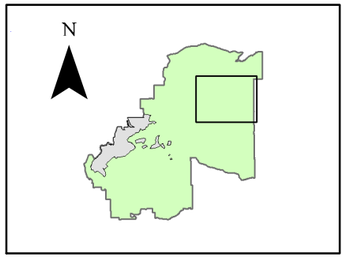


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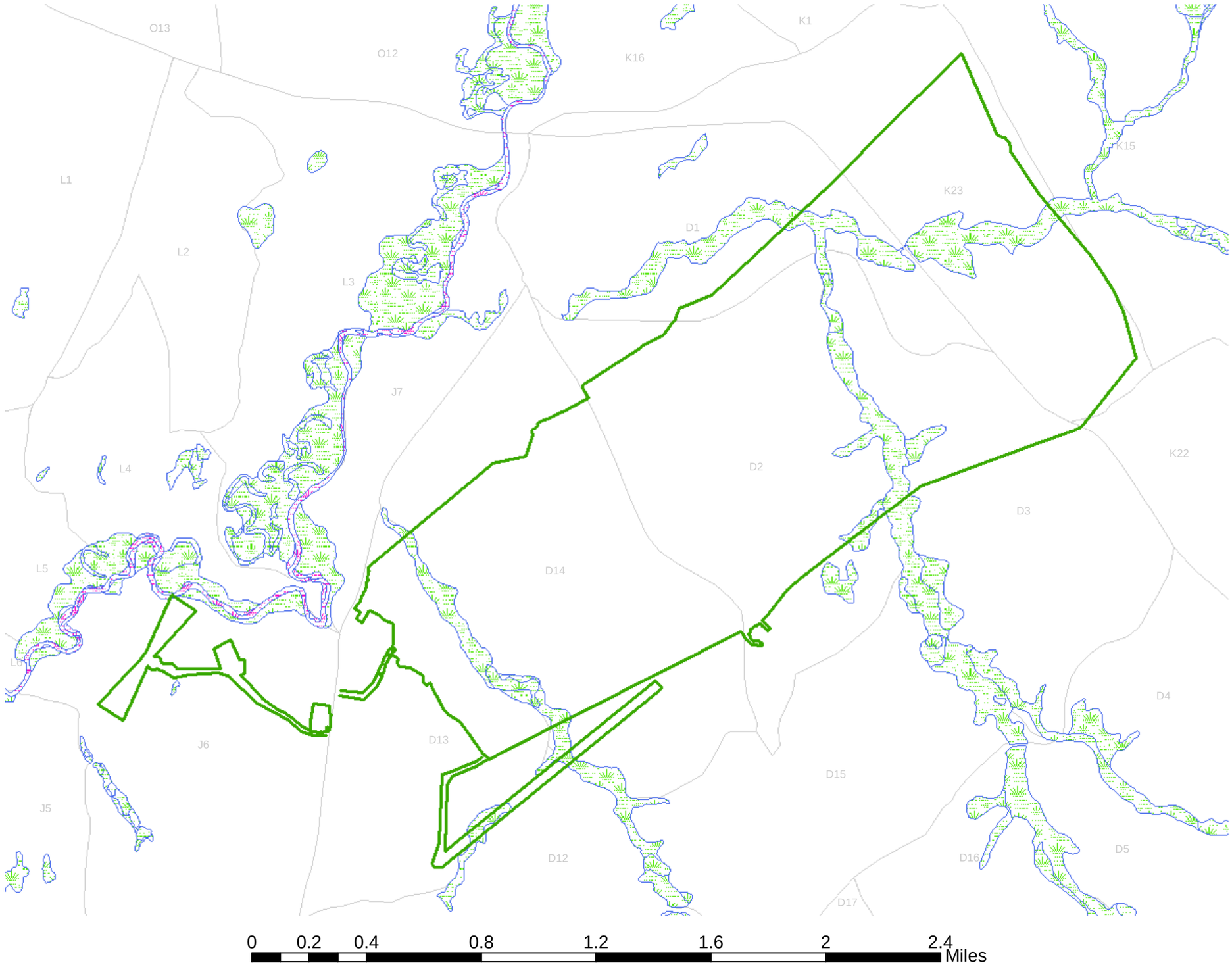
Figure 21



Wetlands, Alternative III

Legend

Alternative II Range Footprint

Wetlands

riverine

palustrine

Installation Boundary

Training Compartments

1:22,000

Ft. Benning Location Map

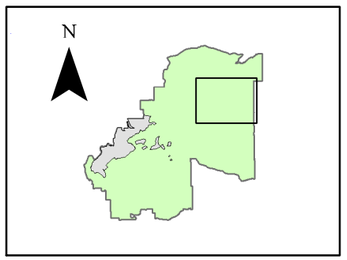


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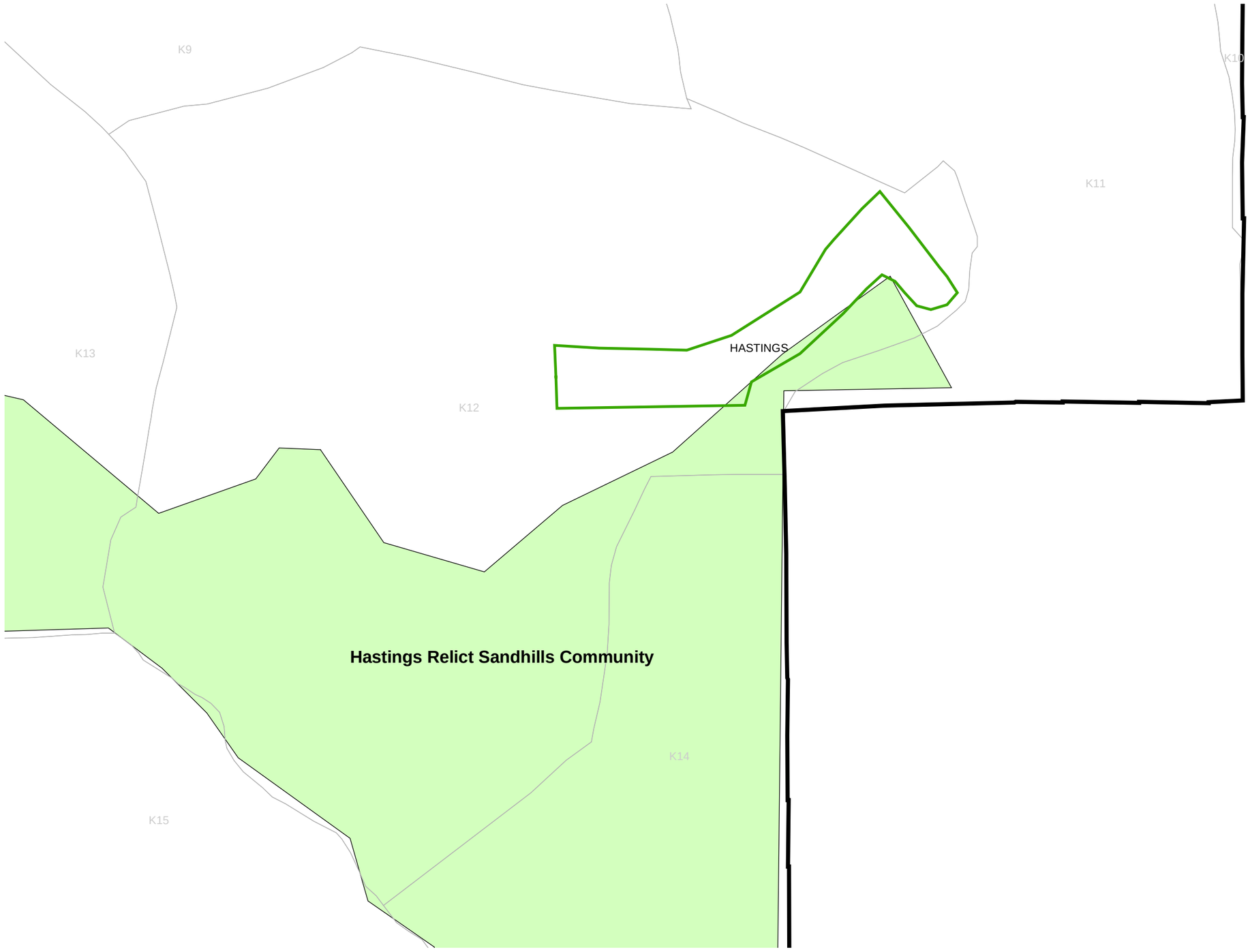
Figure 22



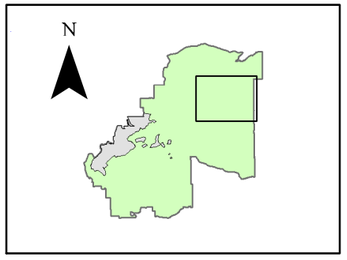
Unique Ecological Areas - Alternative I

Legend

- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments
- Unique Ecological Areas

1:16,000

Ft. Benning Location Map



0 0.15 0.3 0.6 0.9 1.2 1.5 1.8 Miles

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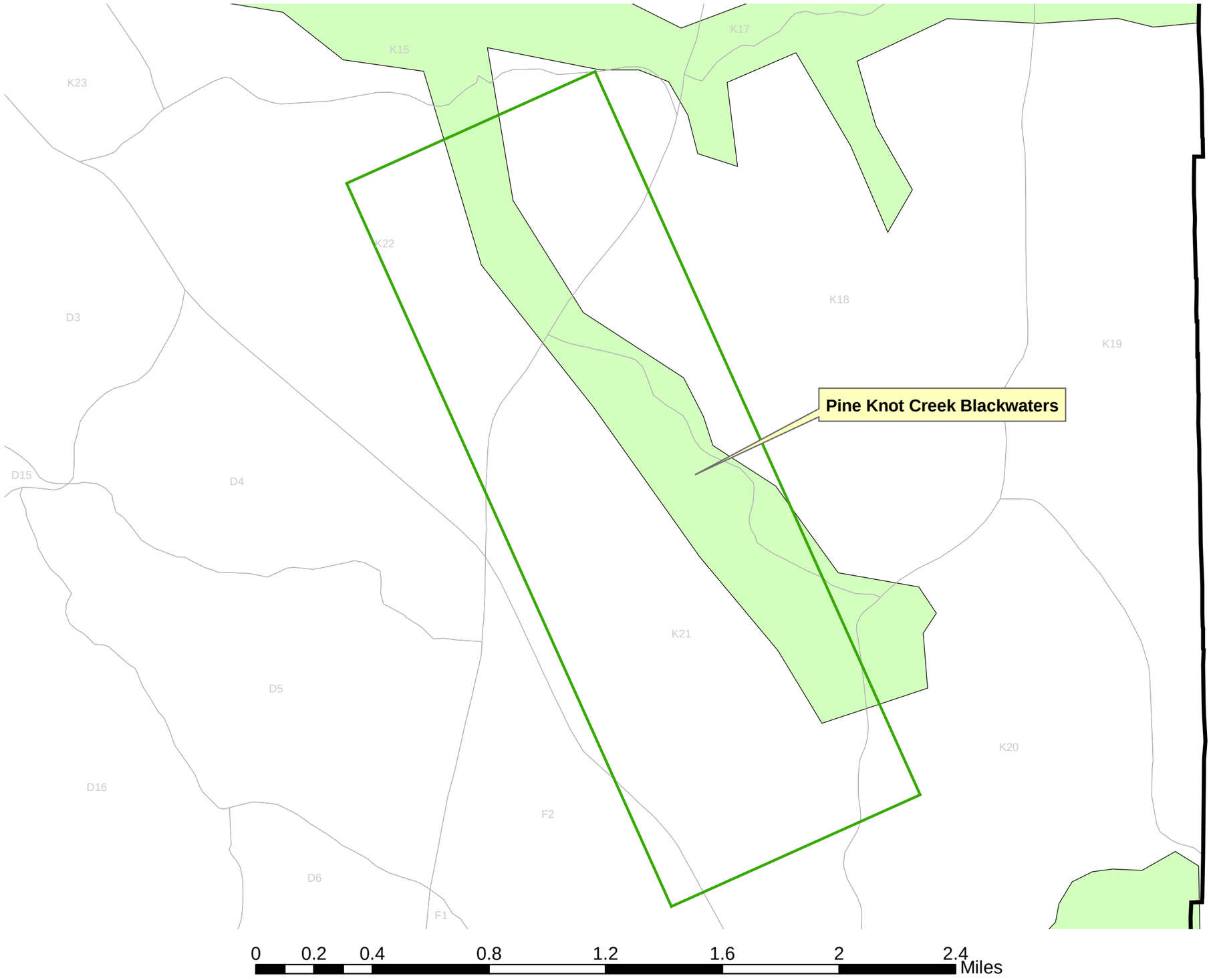
Figure 23



Unique Ecological Areas - Alternative II

Legend

- Alternative II Range Footprint
- Installation Boundary
- Training Compartments
- Unique Ecological Areas

1:22,000

Ft. Benning Location Map

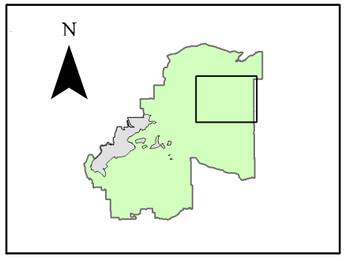


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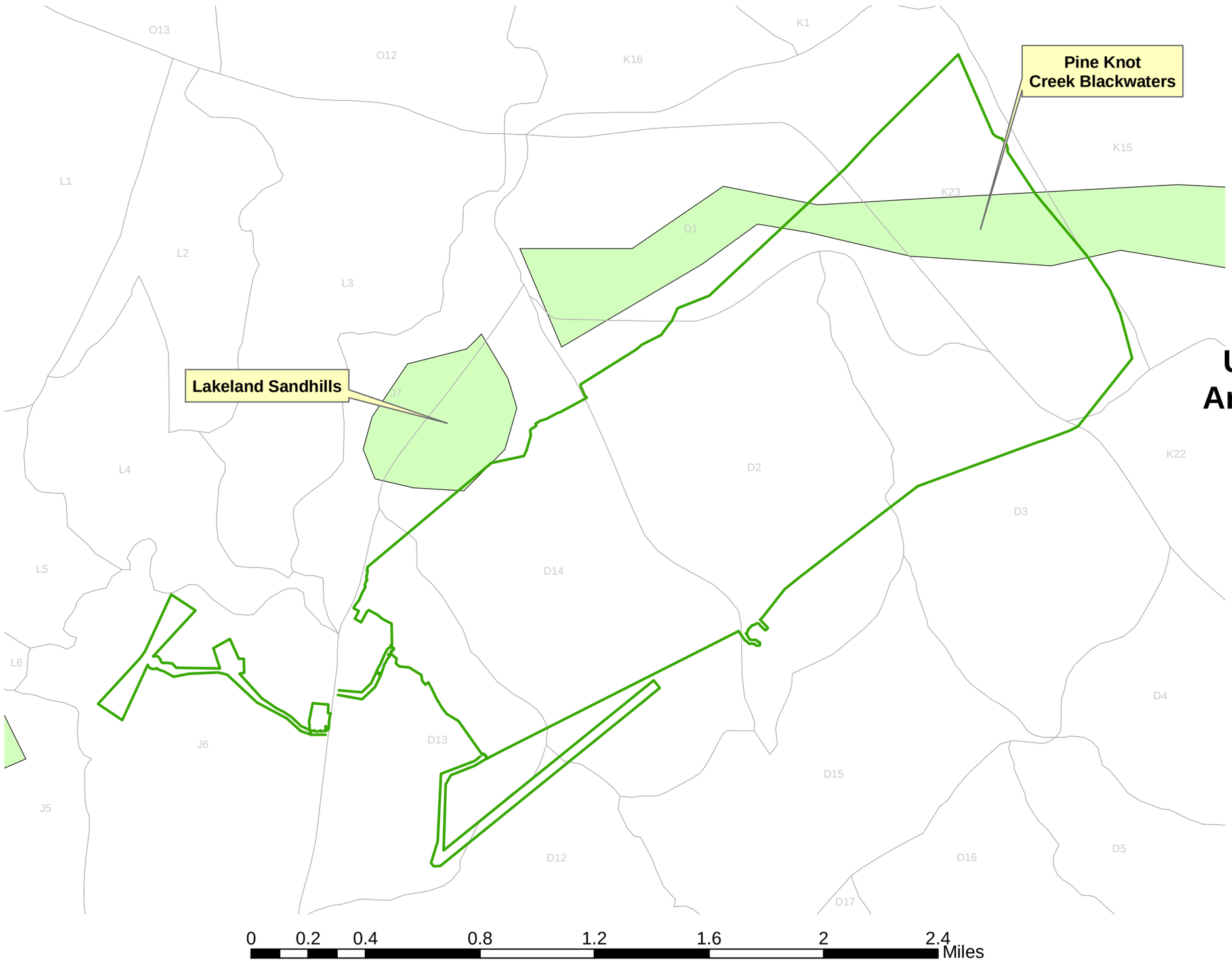
Figure 24



Unique Ecological Areas - Alternative III

Legend

- Alternative III Range Footprint
- Installation Boundary
- Training Compartments
- Unique Ecological Areas

1:22,000

Ft. Benning Location Map

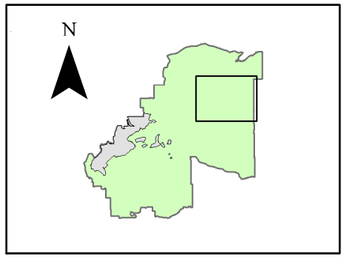


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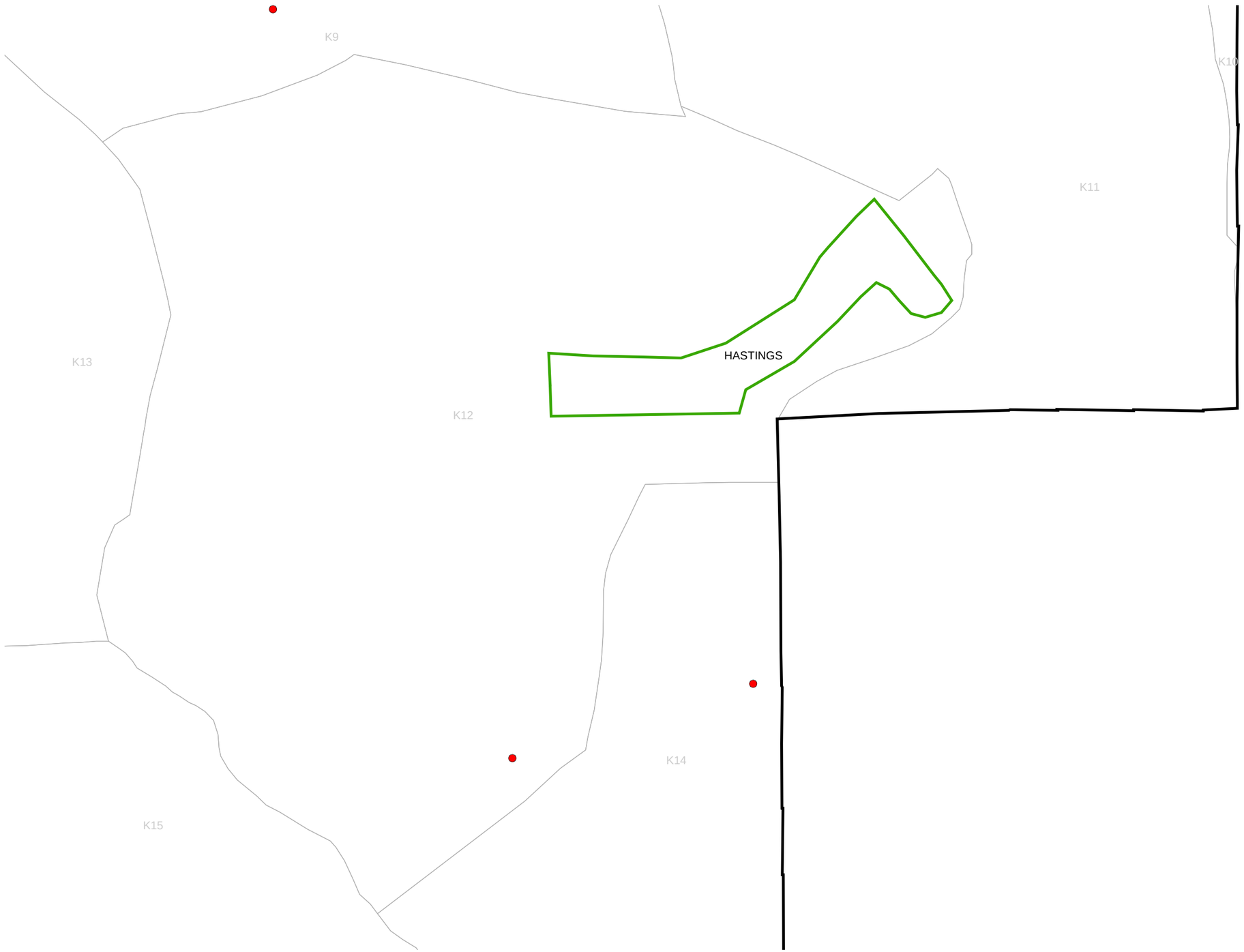
Figure 25



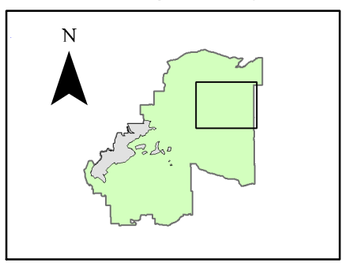
Protected Species, Federal - Alternative I

Legend

- RCW Clusters (Active)
- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments

1:16,000

Ft. Benning Location Map



0 0.15 0.3 0.6 0.9 1.2 1.5 1.8 Miles

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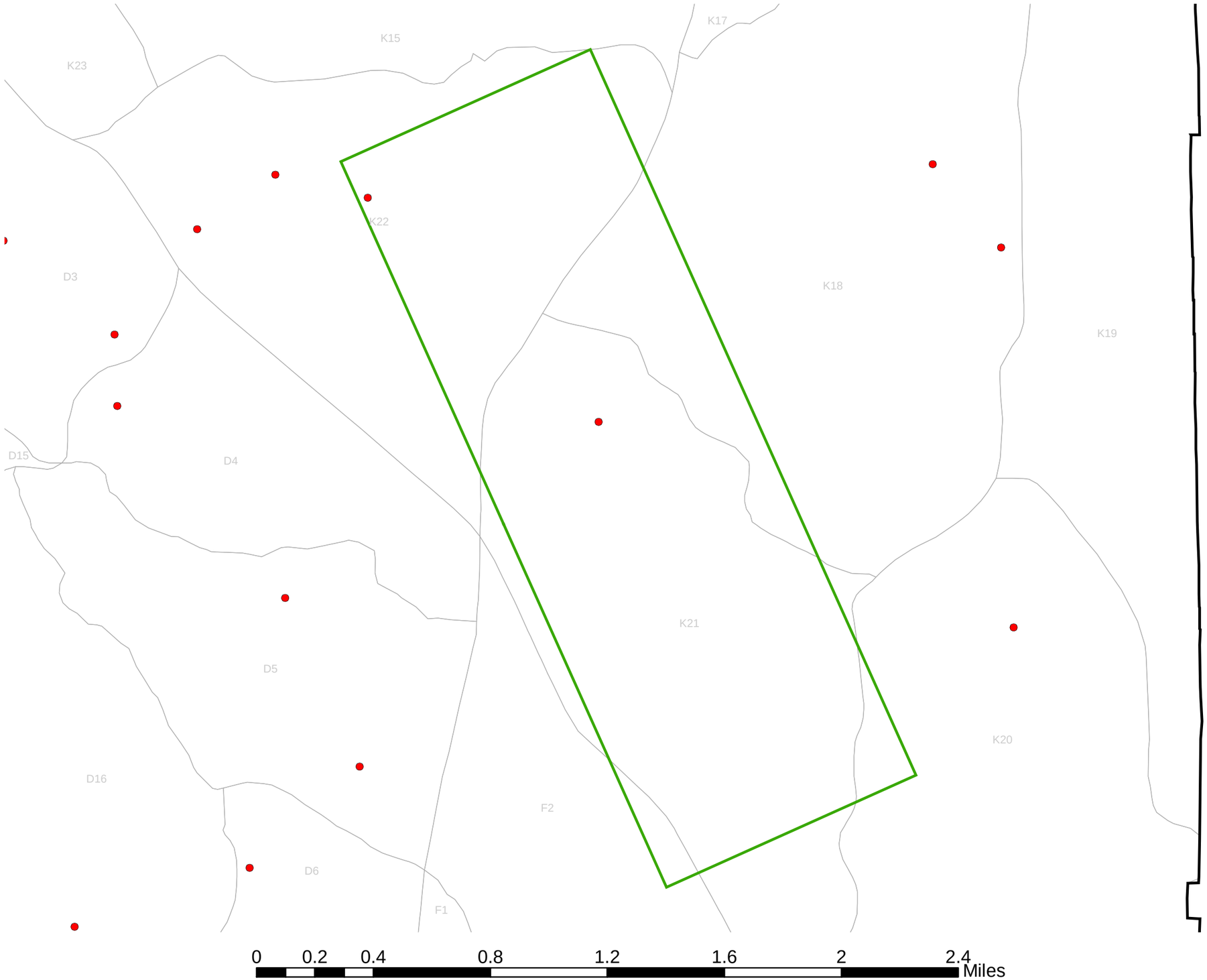
Figure 26



Protected Species, Federal - Alternative II

Legend

- RCW Clusters (Active)
- Alternative II Range Footprint
- Installation Boundary
- Training Compartments

1:22,000

Ft. Benning Location Map

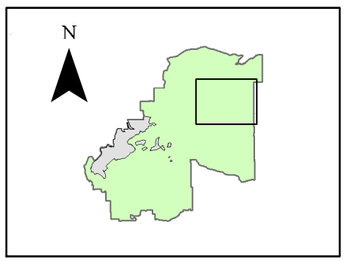


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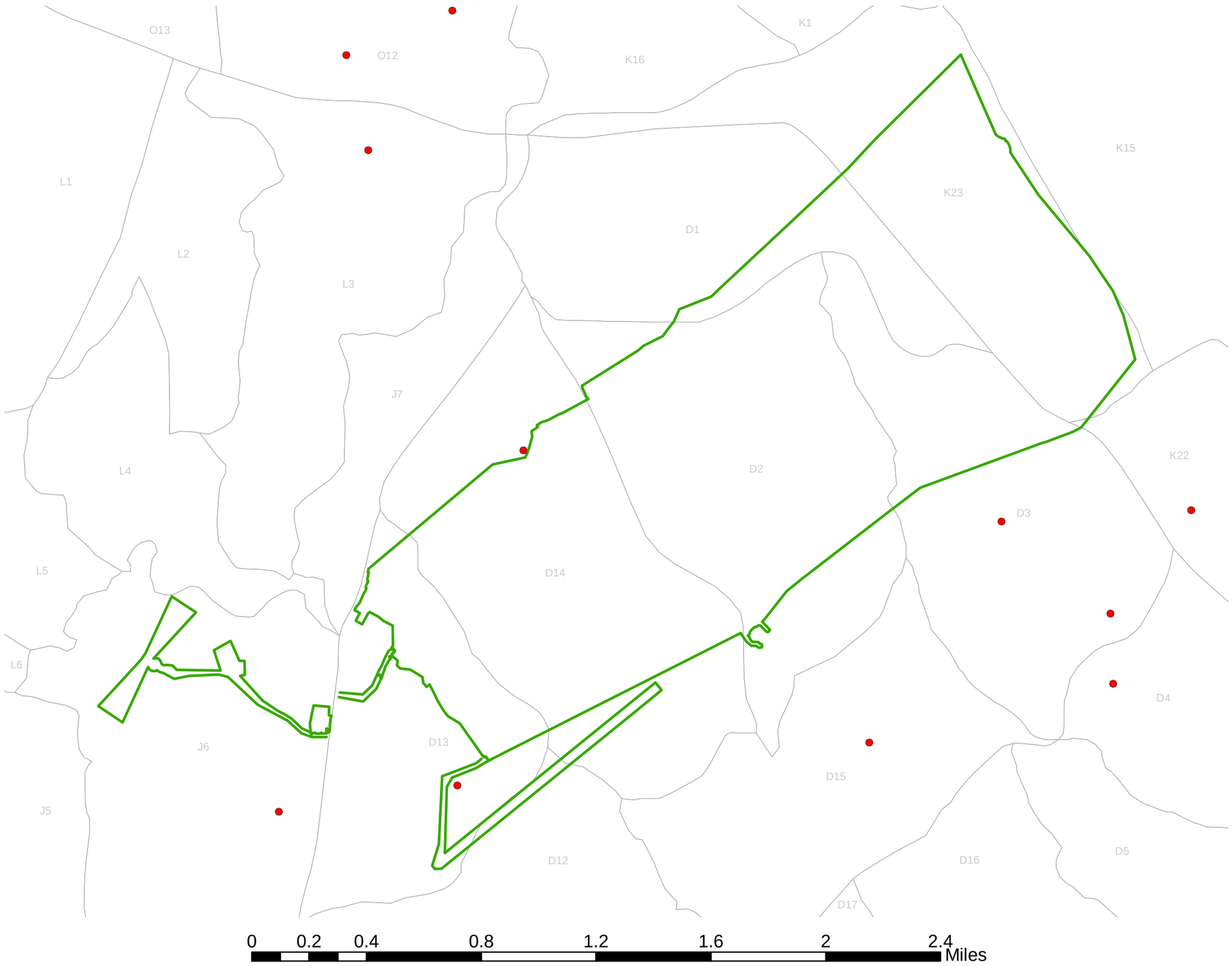
Figure 27



Protected Species, Federal - Alternative III

Legend

- RCW Clusters (Active)
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments

1:22,000

Ft. Benning Location Map

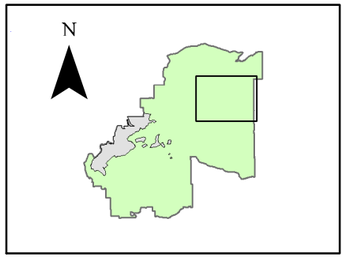


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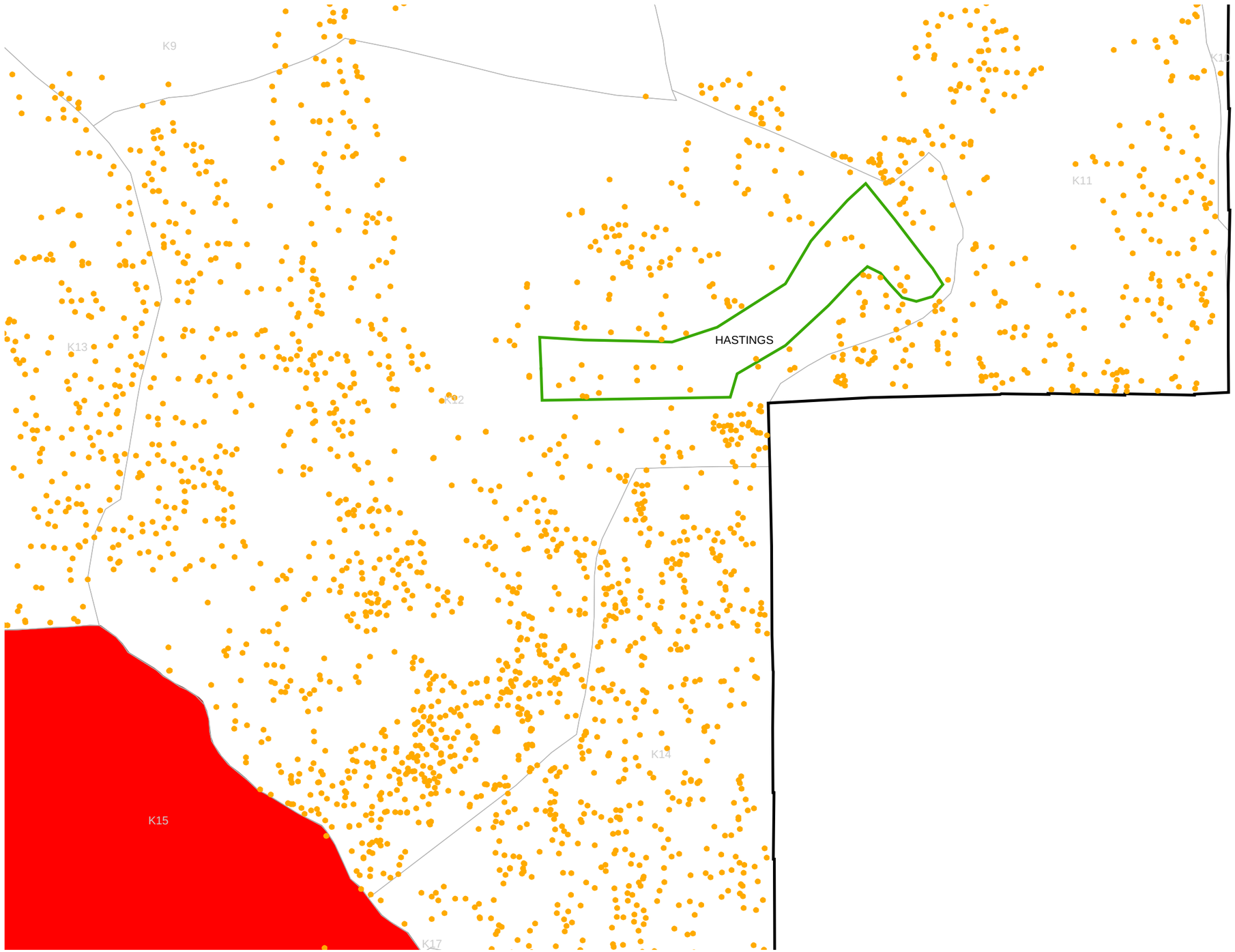
Figure 28



0 0.15 0.3 0.6 0.9 1.2 1.5 1.8 Miles

Protected Species, State - Alternative I

Legend

- Gopher Tortoise
- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:16,000

Ft. Benning Location Map

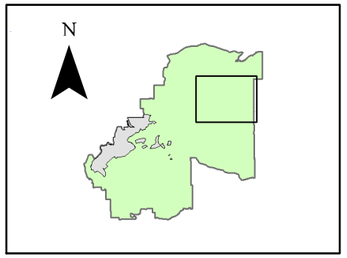


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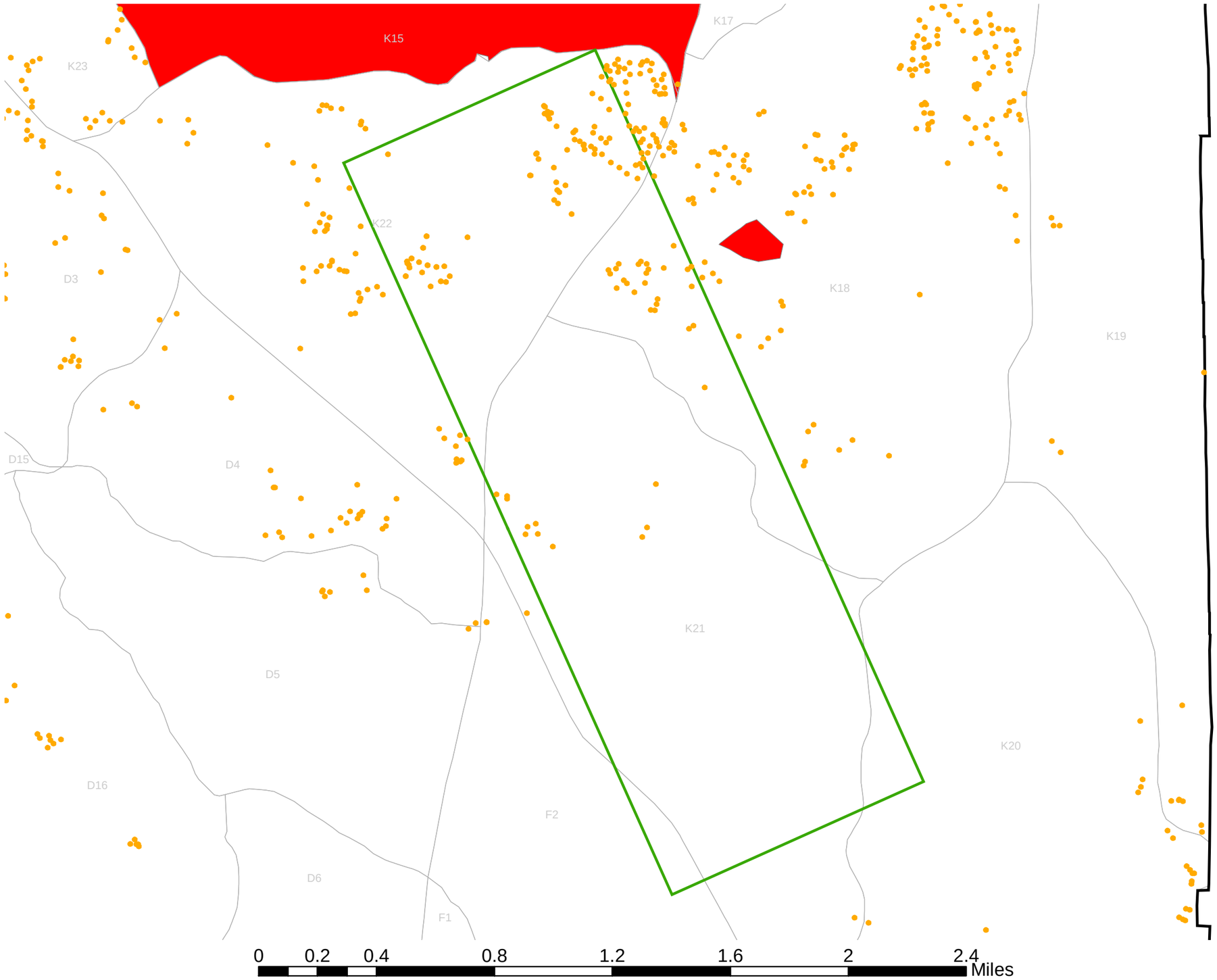
Figure 29



Protected Species, State - Alternative II

Legend

- Gopher Tortoise
- Alternative II Range Footprint
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:22,000

Ft. Benning Location Map

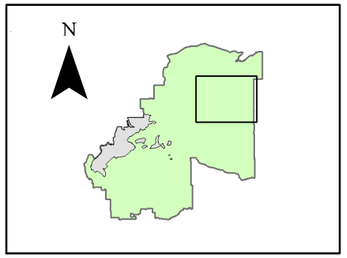


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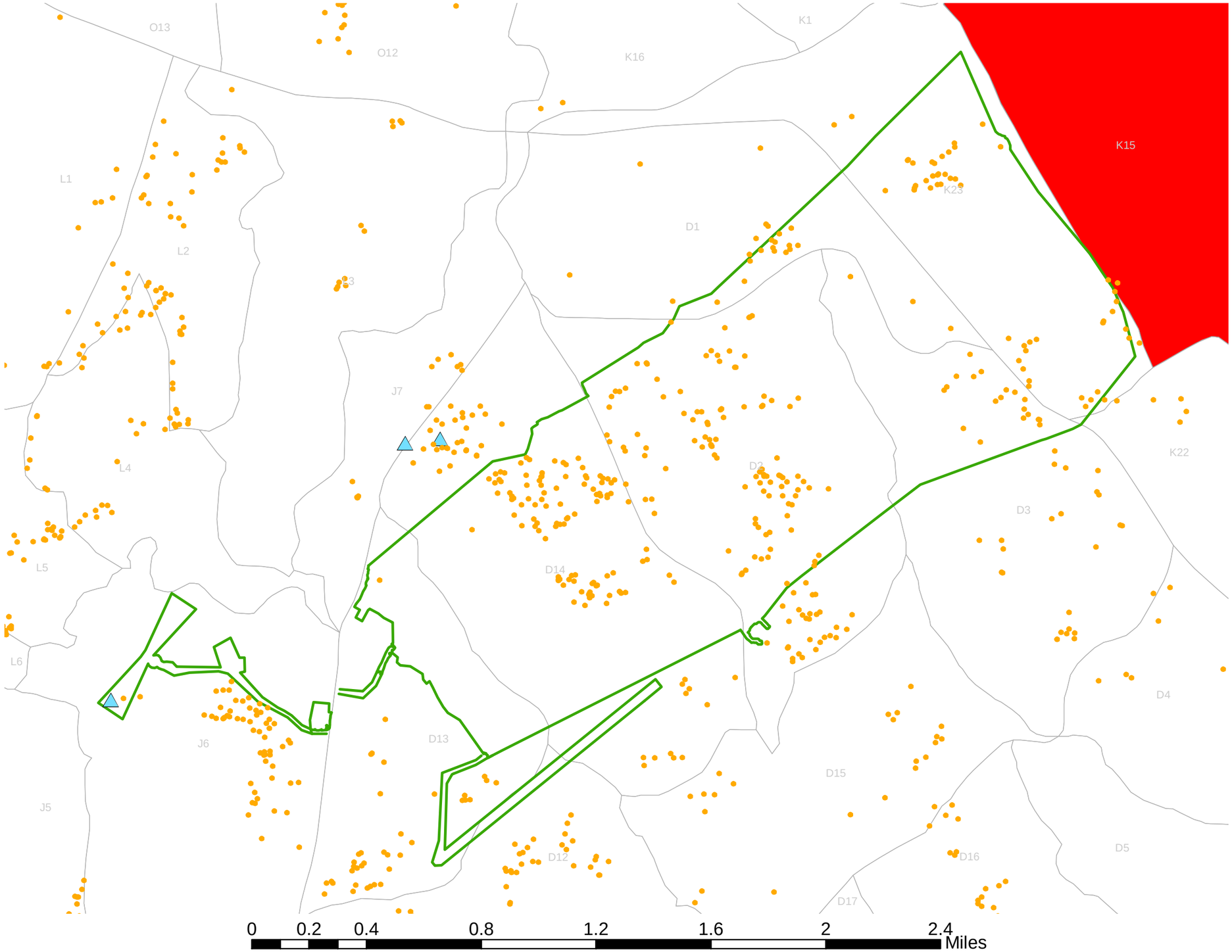
Figure 30



Protected Species, State - Alternative III

Legend

- Pickering's morning-glory
- Gopher Tortoise
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:22,000

Ft. Benning Location Map

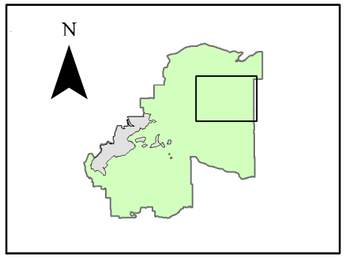


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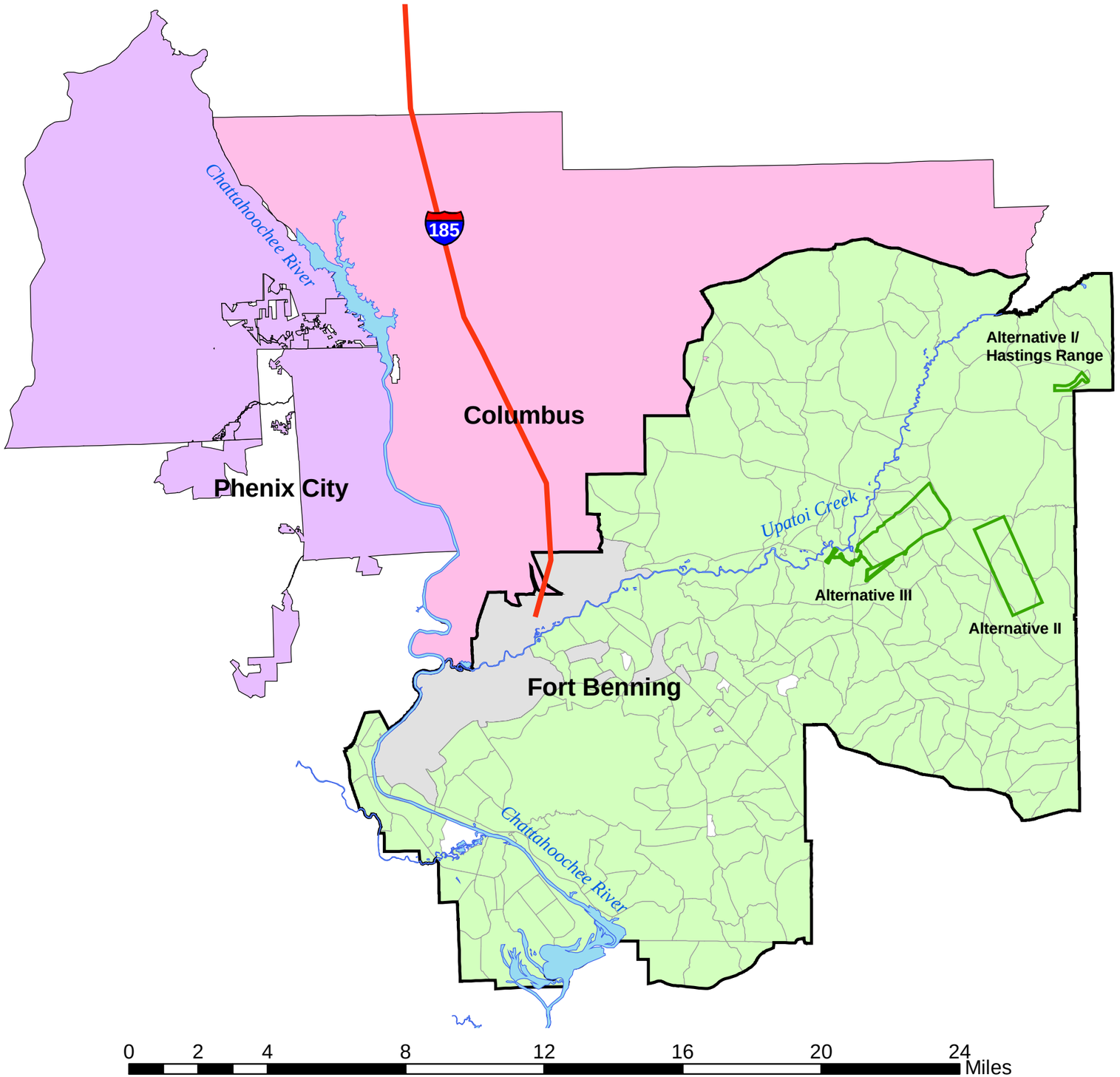
Figure 31



Socioeconomics, All Alternatives

Legend

CITY

- Phenix City
- Columbus
- Roads
- Major Streams
- Installation Boundary
- Training Compartments
- Installation Cantonment Area

N

1:205,000

Ft. Benning Location Map

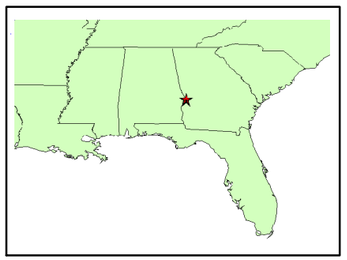


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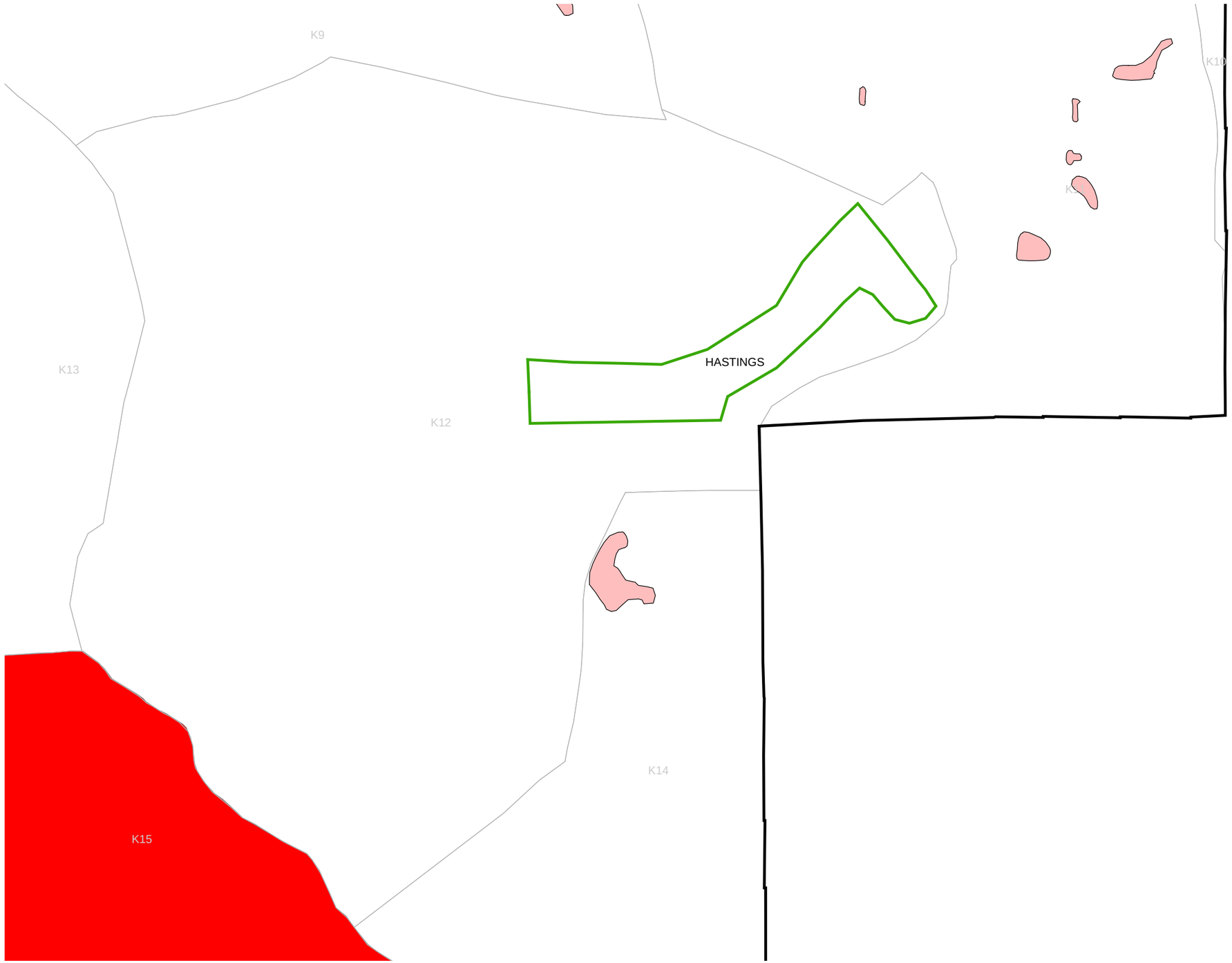
Figure 32



0 0.15 0.3 0.6 0.9 1.2 1.5 1.8 Miles

NOT FOR PUBLIC RELEASE

Cultural Resources, Alternative I

Legend

- Alternative I/Hastings Range Footprint

Cultural Resources

- Protected
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:16,000

Ft. Benning Location Map

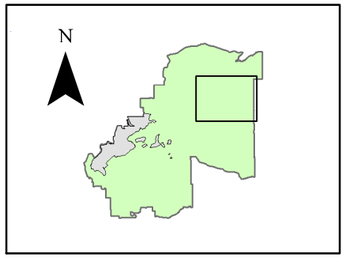


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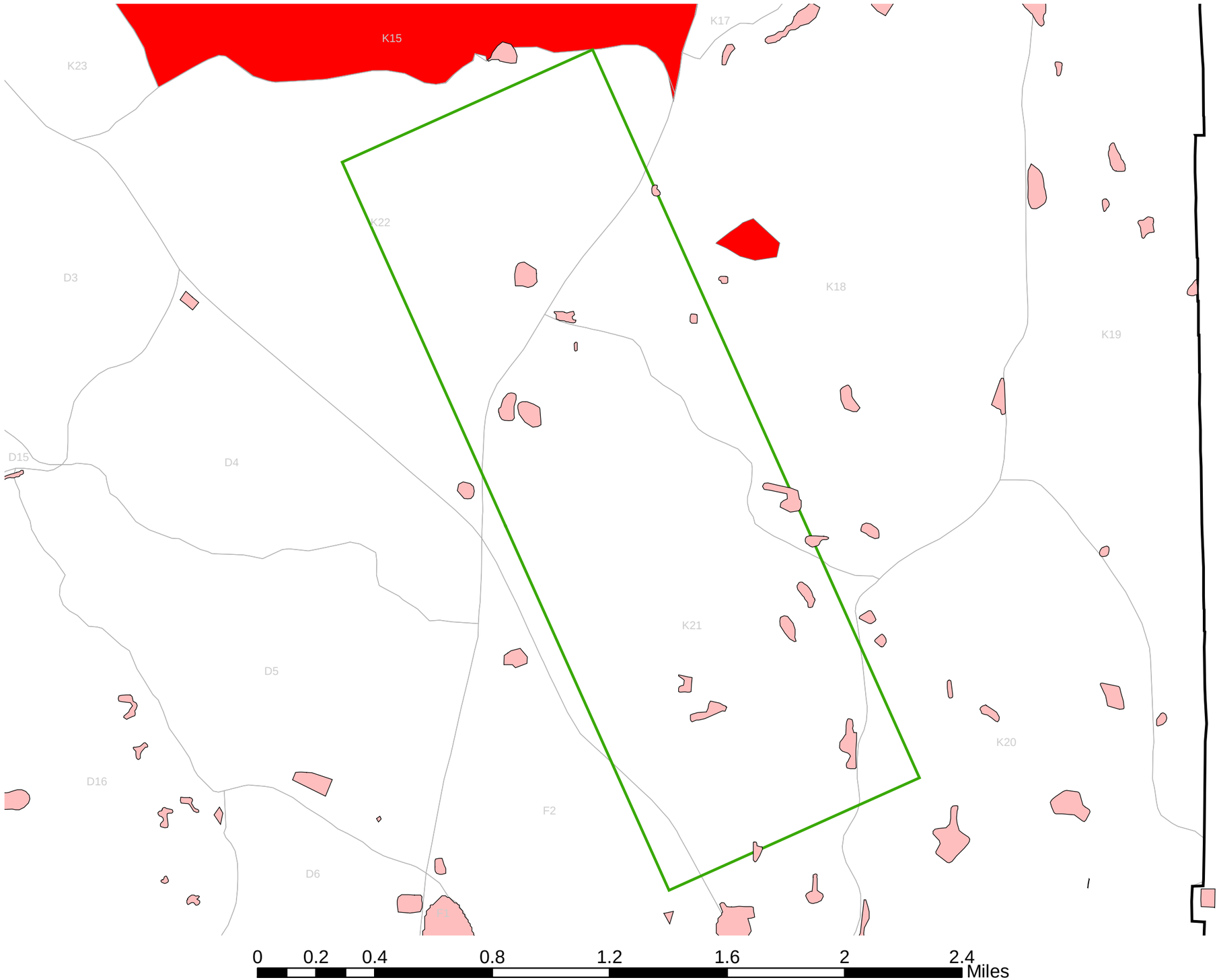
Figure 33



NOT FOR PUBLIC RELEASE

Cultural Resources, Alternative II

Legend

Alternative II Range Footprint

Cultural Resources

Protected

Installation Boundary

Training Compartments

Dudded Impact Area

1:22,000

Ft. Benning Location Map

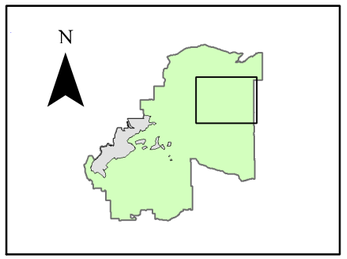


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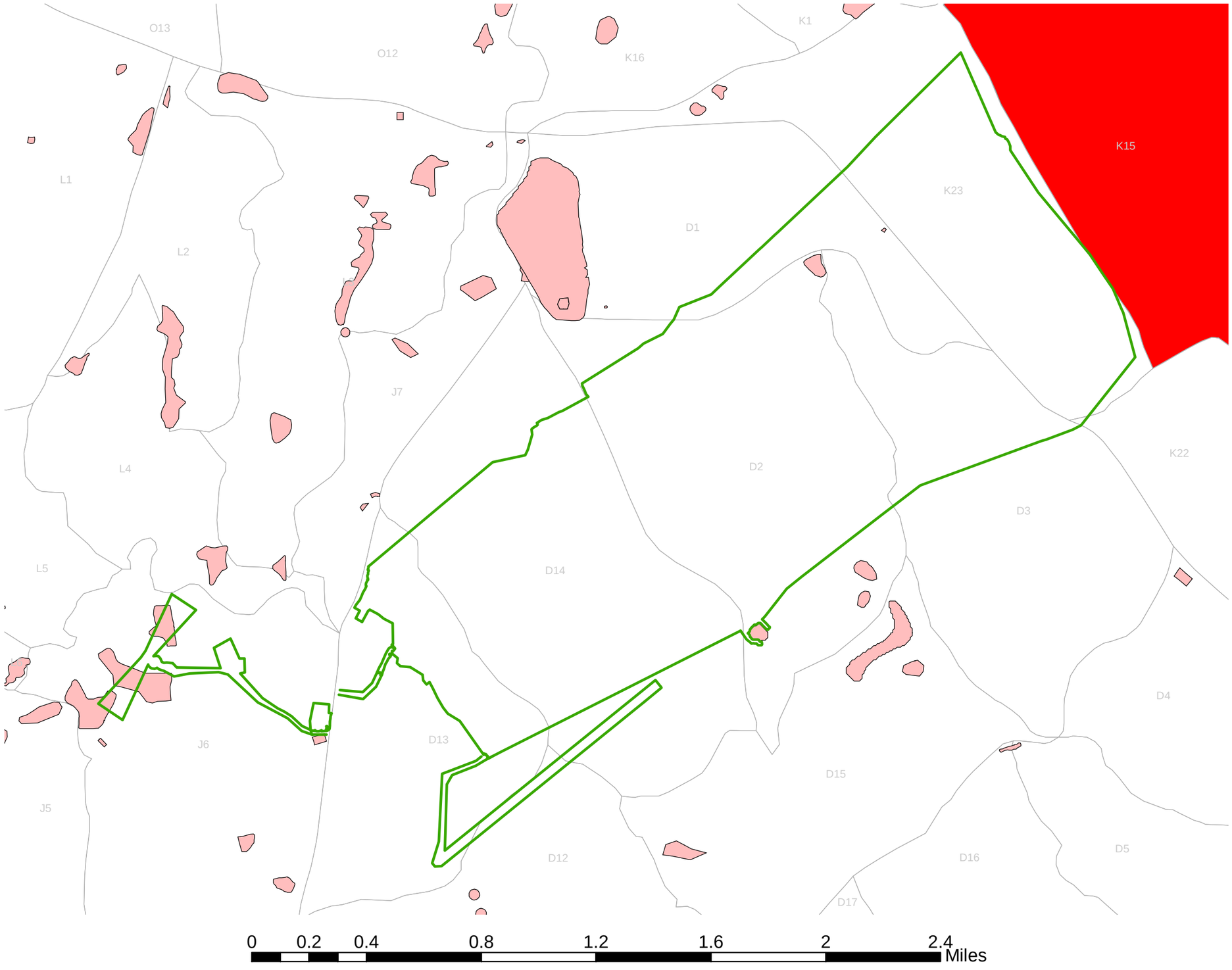
Figure 34



NOT FOR PUBLIC RELEASE

Cultural Resources, Alternative III

Legend

Alternative III Range Footprint

Cultural Resources

Protected

Installation Boundary

Training Compartments

Dudded Impact Area

1:22,000

Ft. Benning Location Map

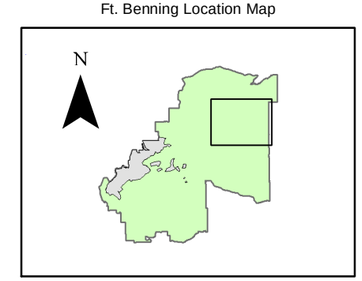


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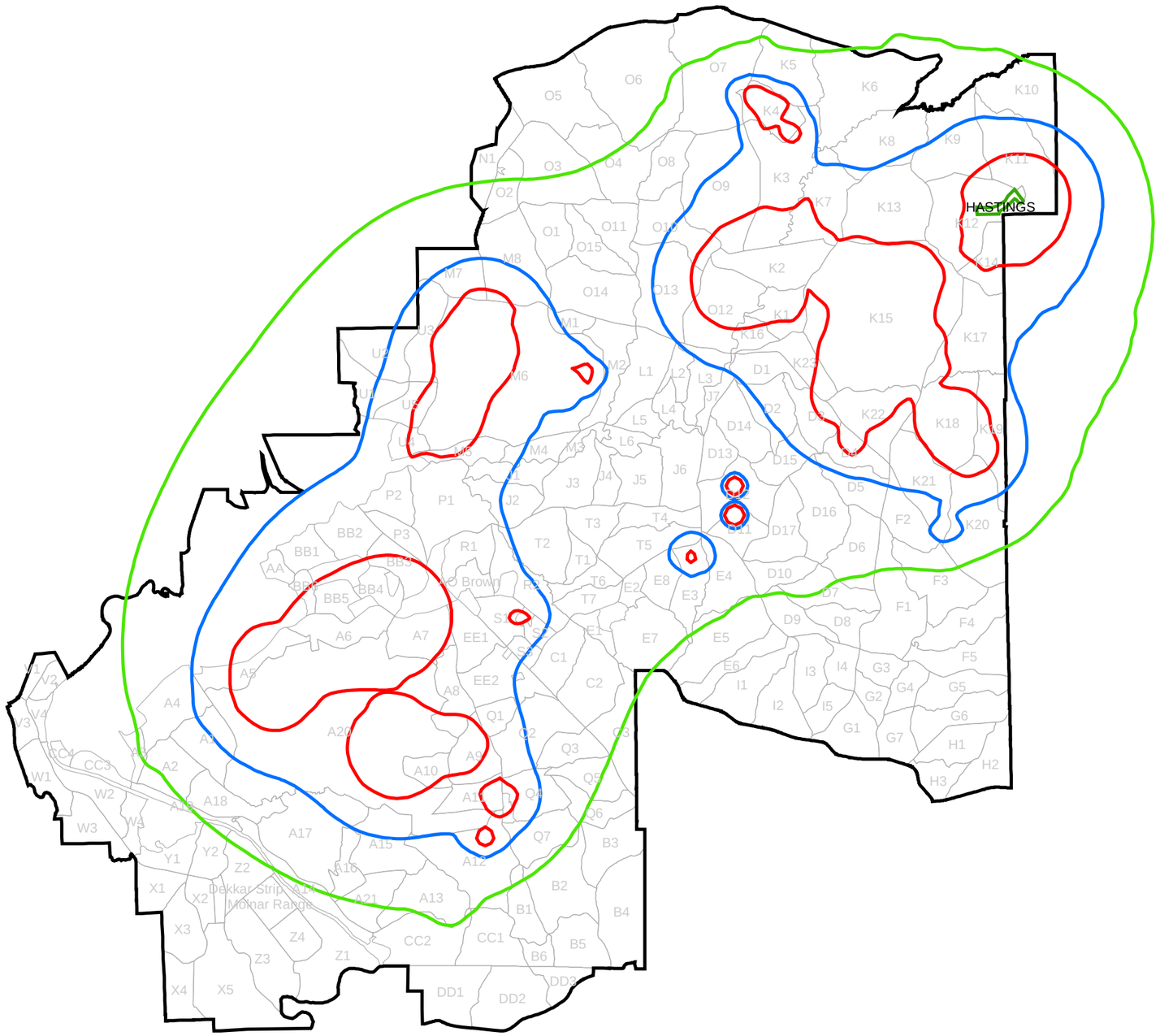
Figure 35



Existing Noise - Alternative I

Legend

Noise Contours

Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

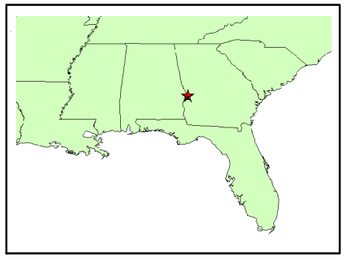


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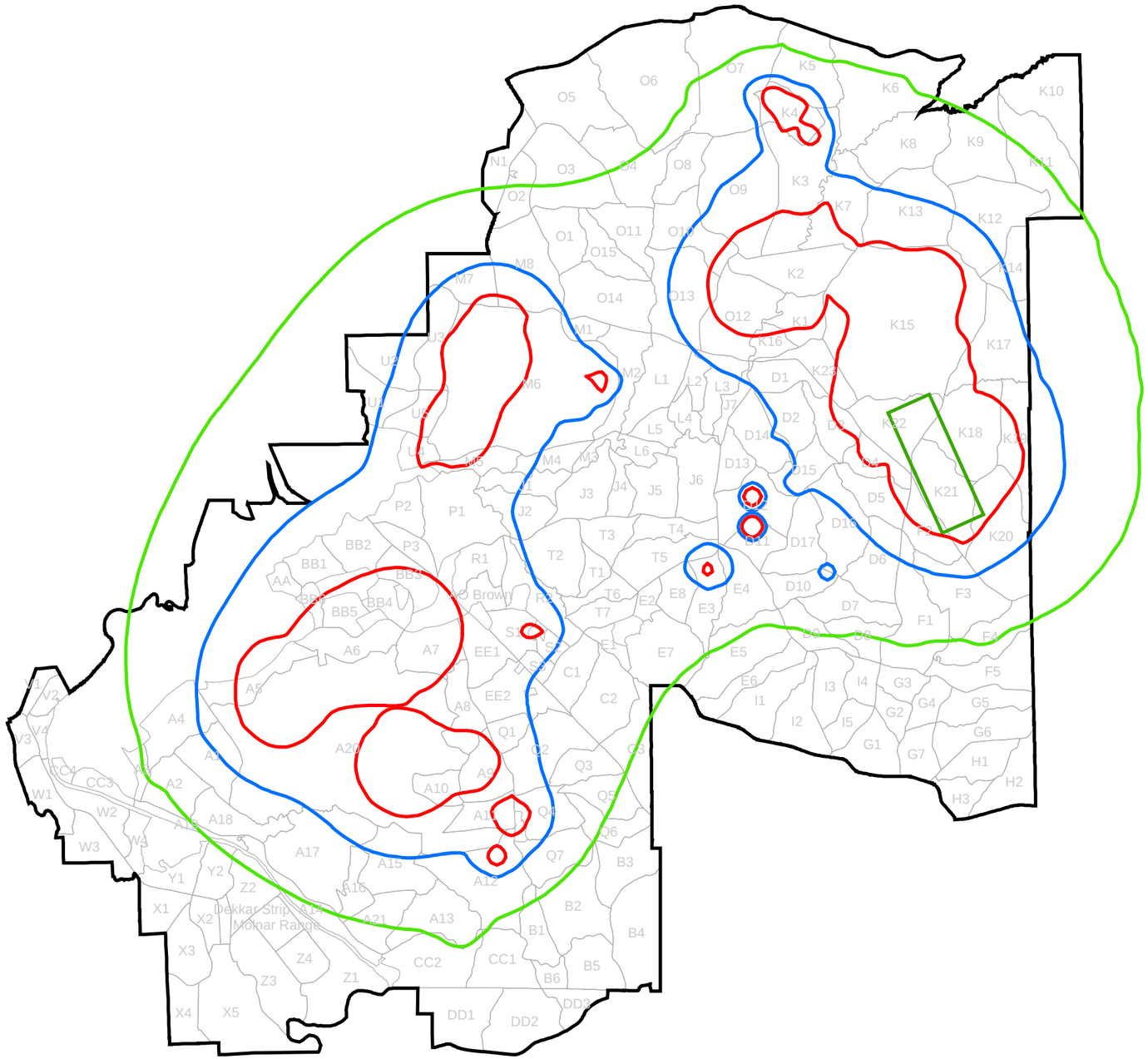
Figure 36



Noise - Alternative II

Legend

Noise Contours

Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative II Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

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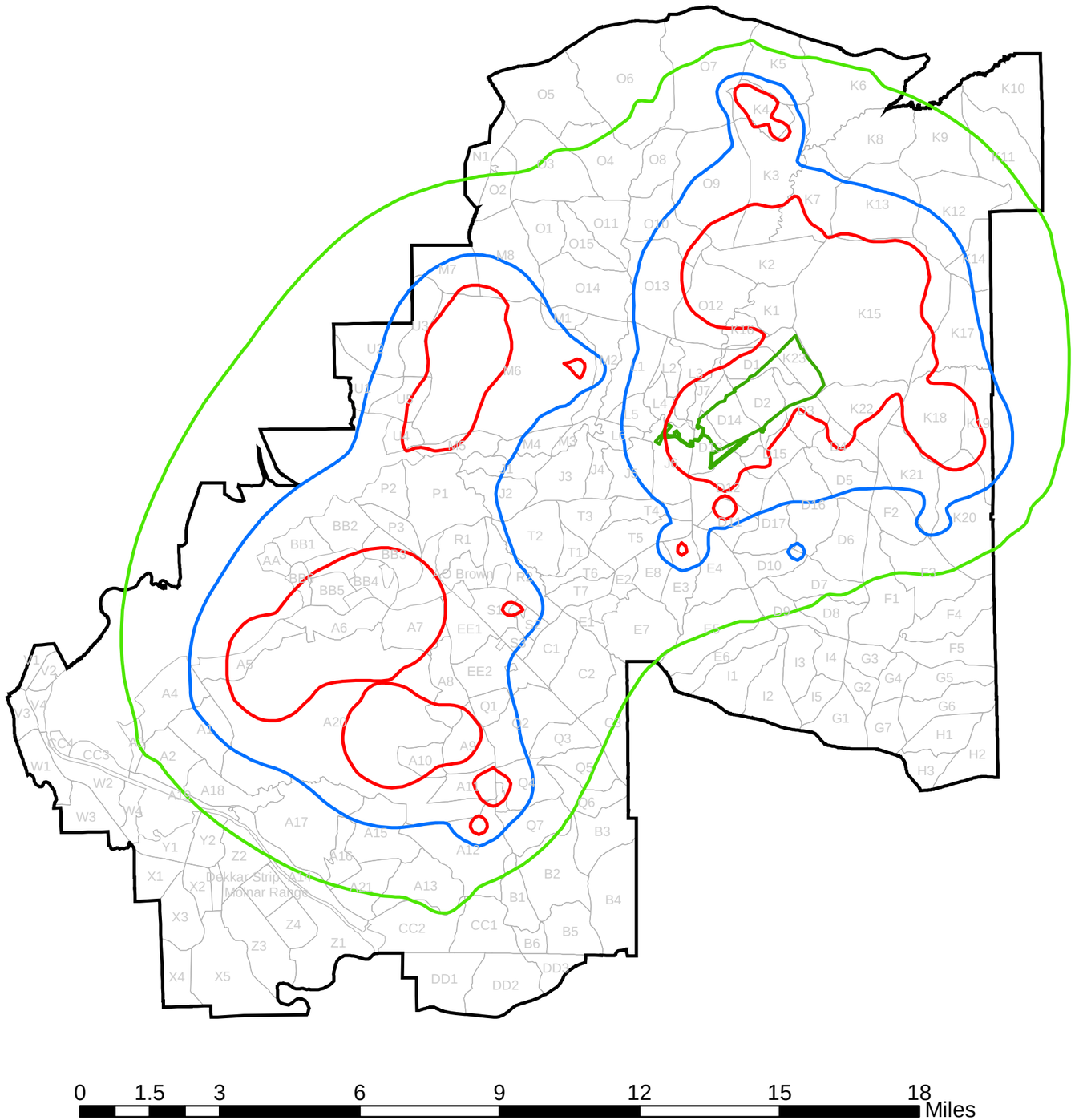
November 2003

Figure 37



Noise - Alternative III

Legend

Noise Contours

Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

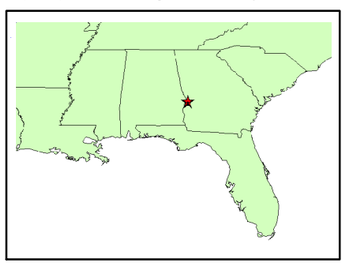


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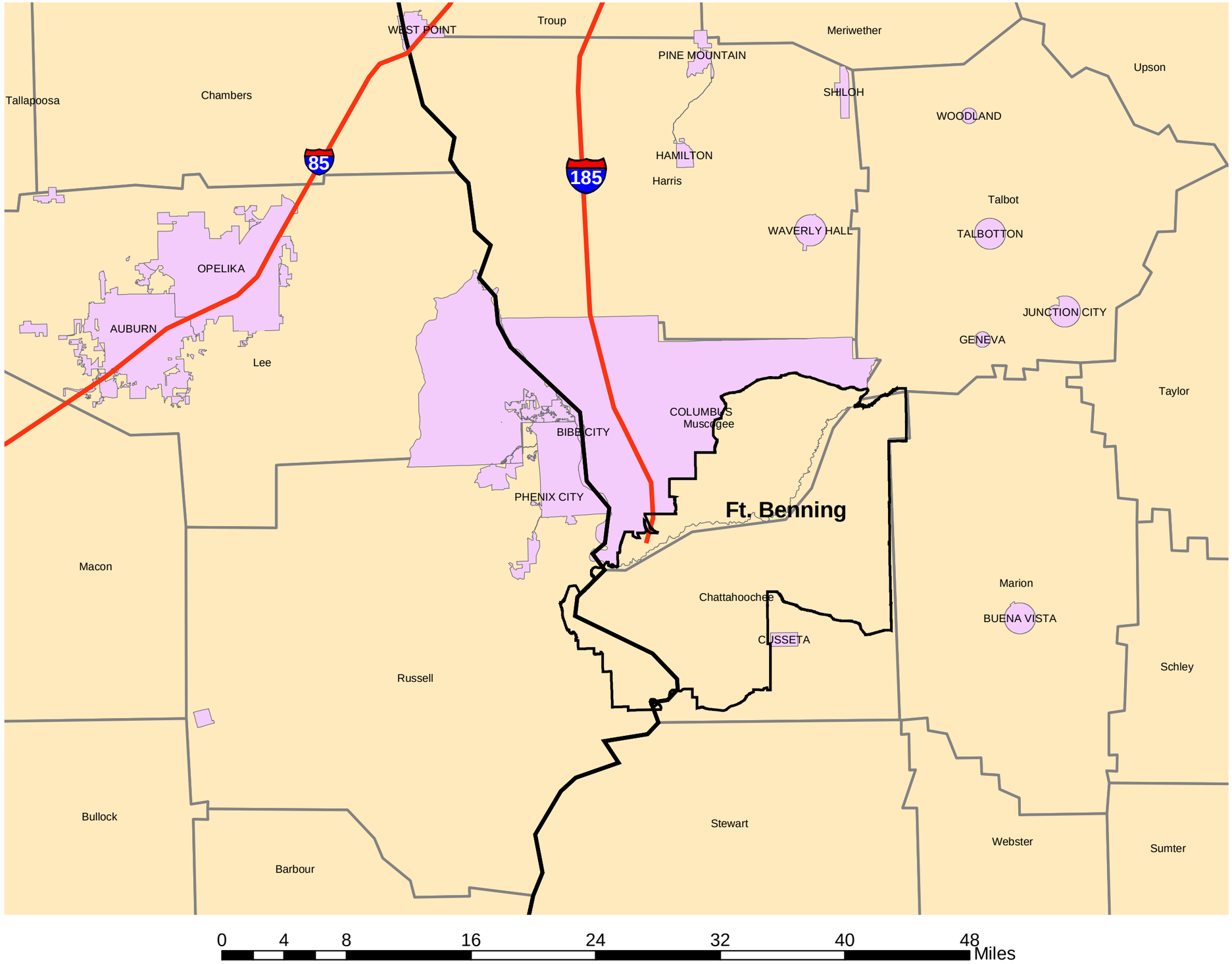
Figure 38



Region of Influence

Legend

- Installation Boundary
- Roads
- States
- Cities
- Counties

N

1:405,000

Ft. Benning Location Map

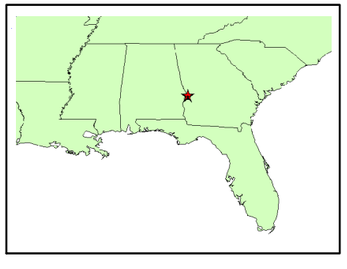


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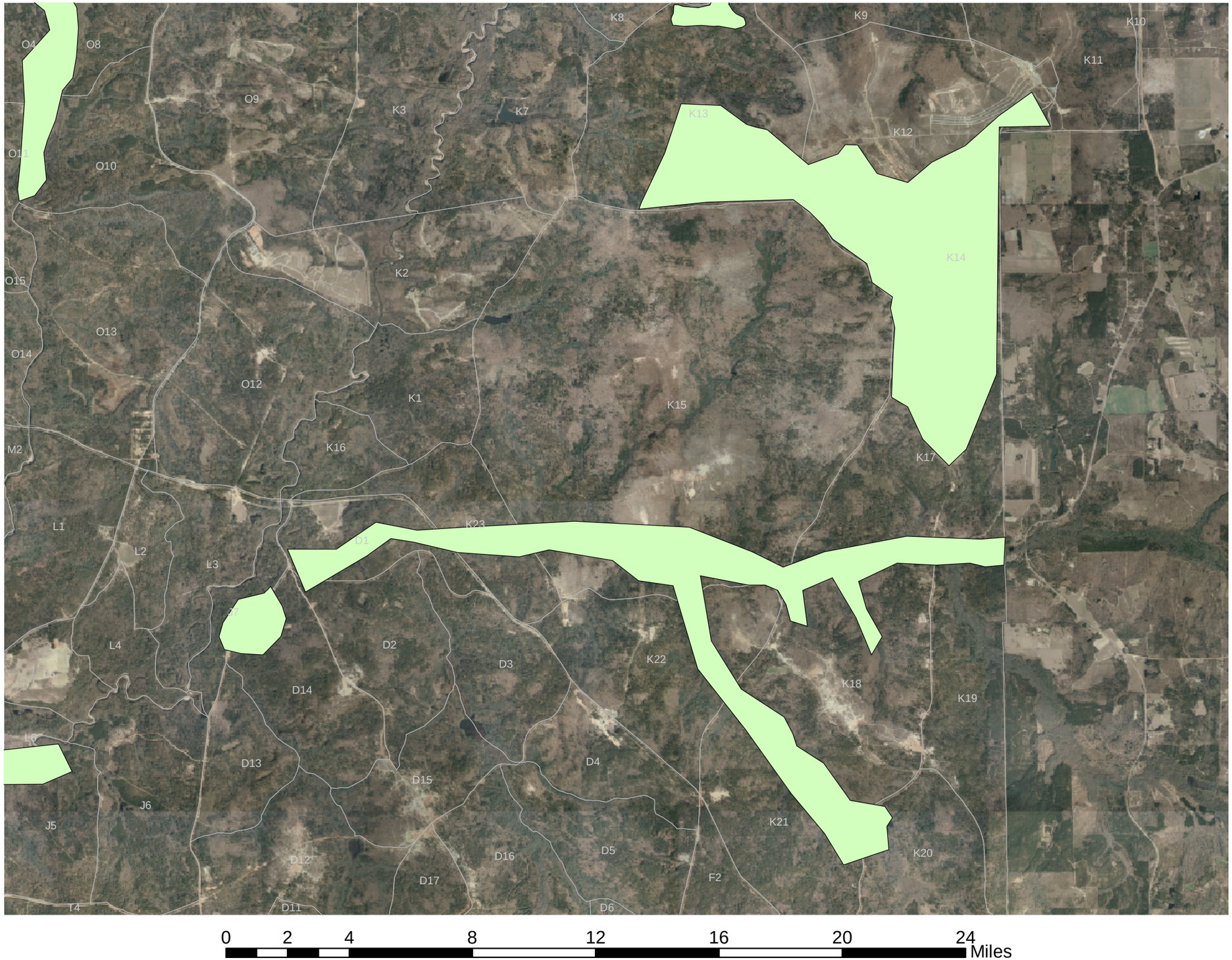
Figure 39



Region of Influence for Soils and Vegetation, Unique Ecological Areas

Legend

- Unique Ecological Areas
- Installation Boundary
- Training Compartments

Orthophoto

1:50,000

Ft. Benning Location Map

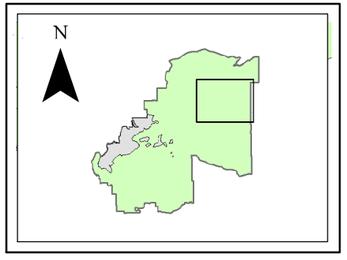


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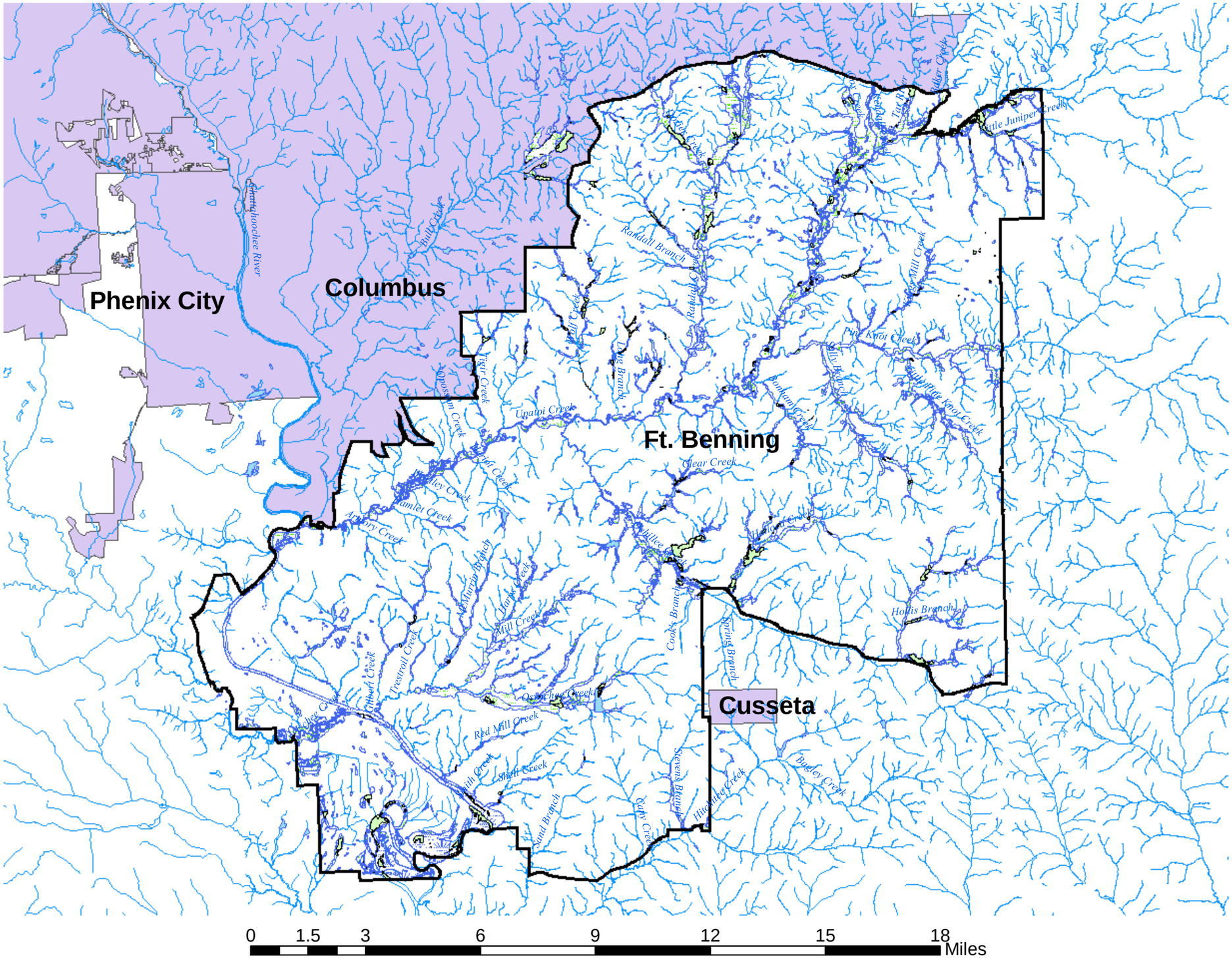
Figure 40



Region of Influence for Wetlands and Water Quality

Legend

- Installation Boundary
- Ponds
- Lakes
- riverine
- palustrine
- lacustrine
- Rivers and Streams
- Cities

N

1:165,000

Ft. Benning Location Map

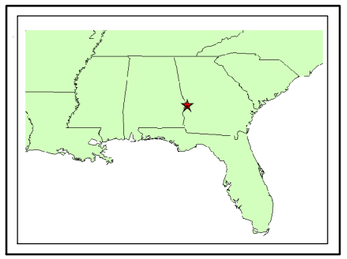


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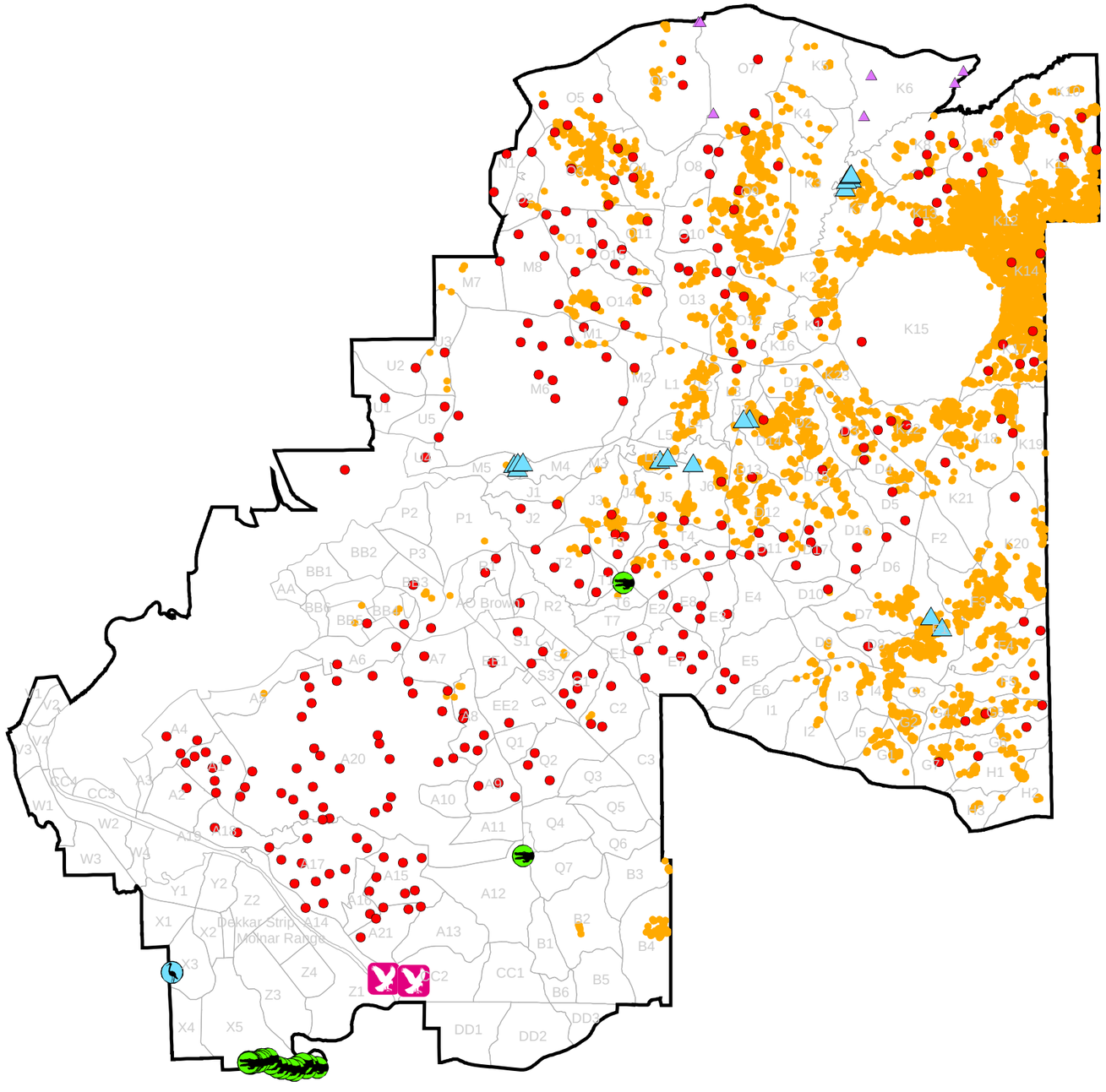
Figure 41

Region of Influence for Protected Species



Legend

- Installation Boundary
- Training Compartments
- Bald Eagle
- Woodstork
- Alligator
- Relict Trillium
- RCW Clusters (Active)
- Indian olive
- Pickering's morning-glory
- Gopher Tortoise

N

1:165,000

Ft. Benning Location Map

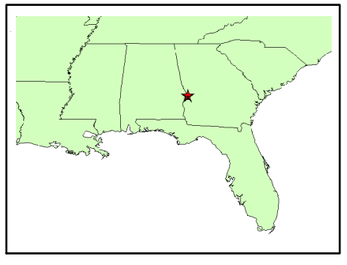


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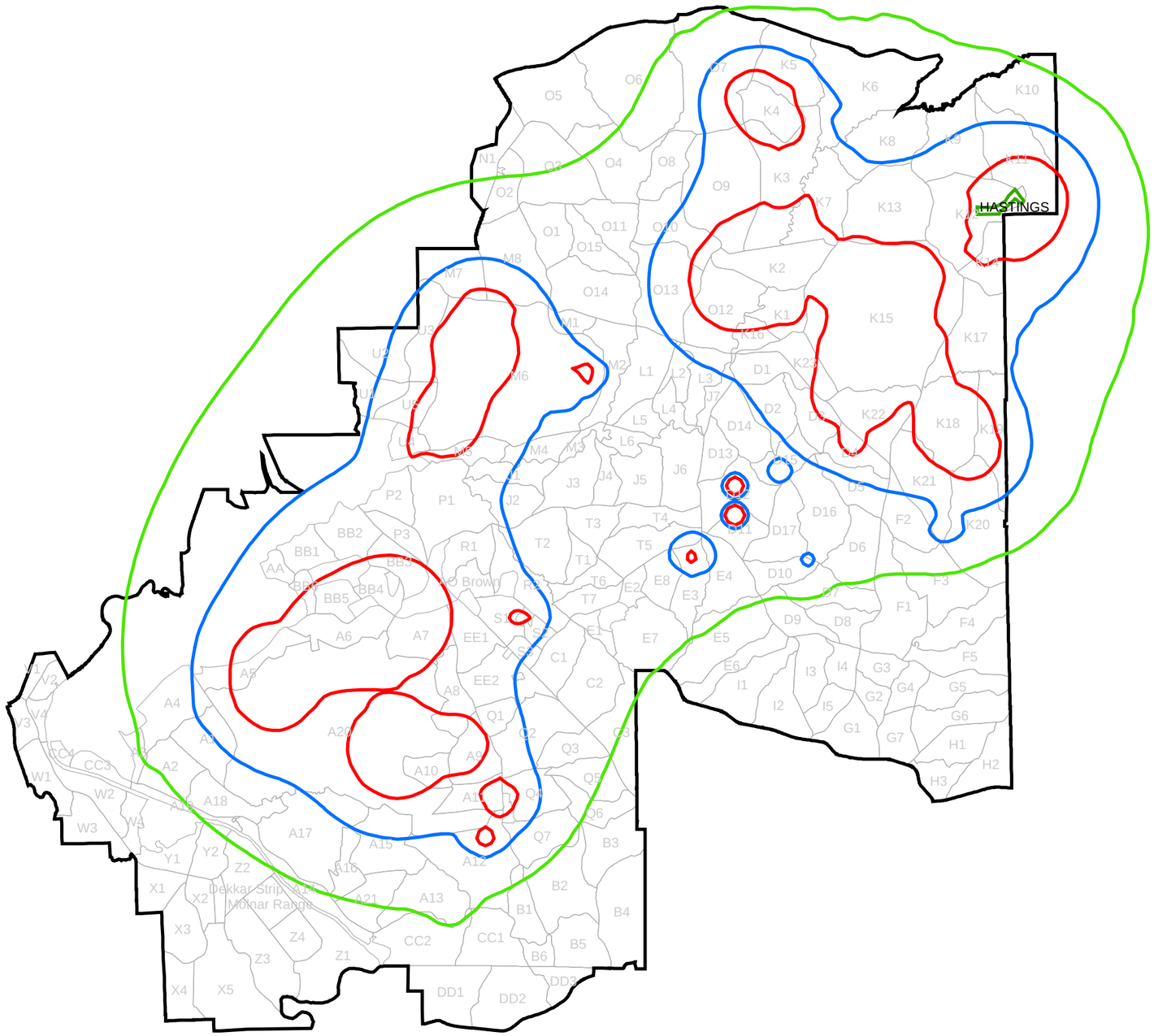
Figure 42



Cumulative Noise Effects - Alternative I

Legend

Noise Contours

Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative I/Hastings Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

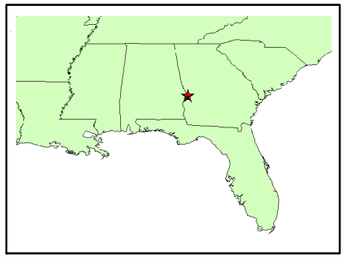


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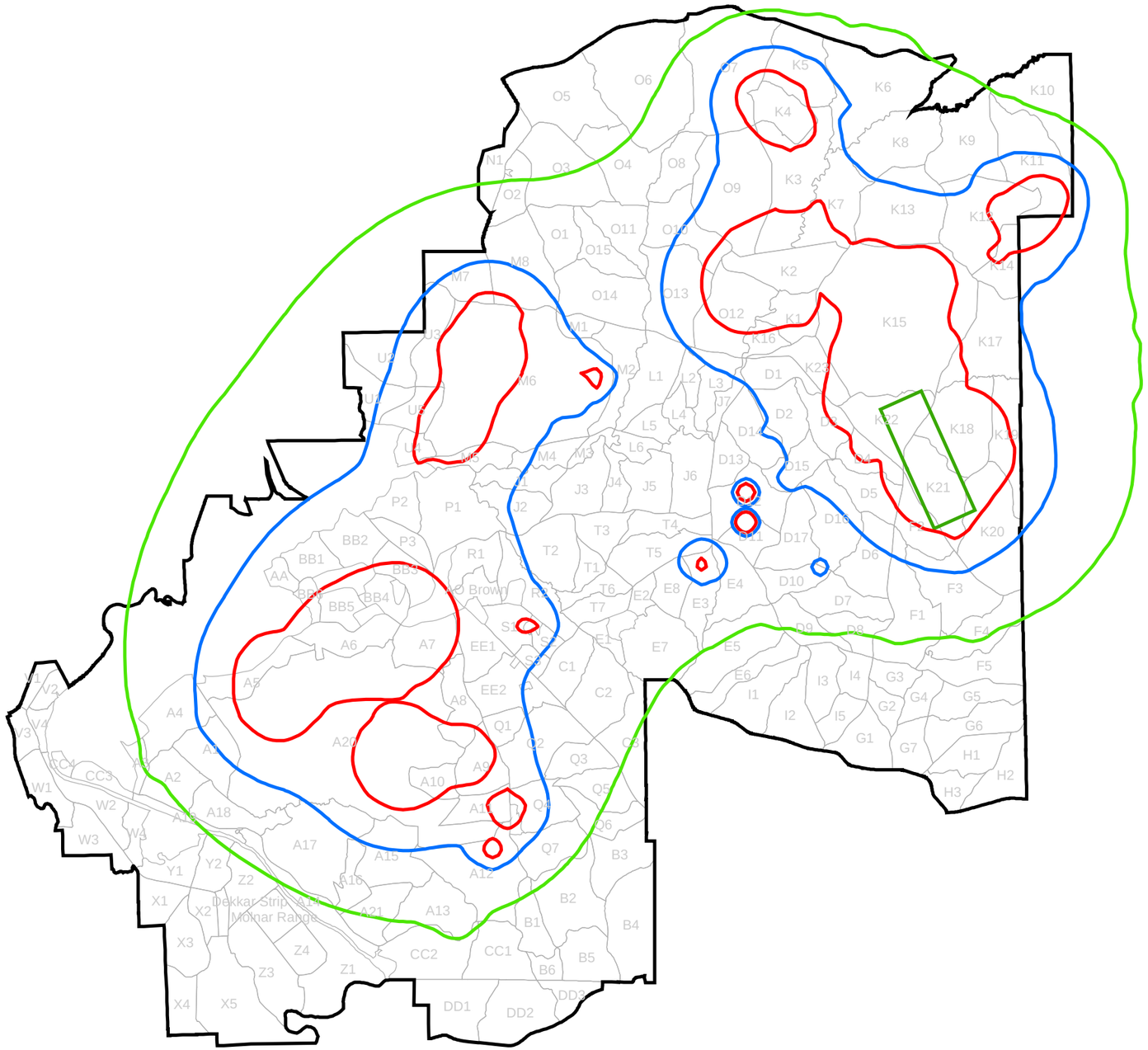
Figure 43



Cumulative Noise Effects - Alternative II

Legend

Noise Contours

Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative II Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map

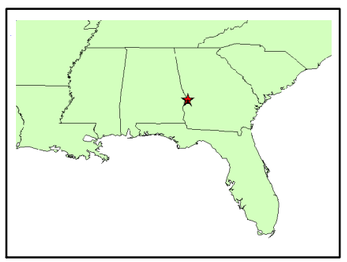


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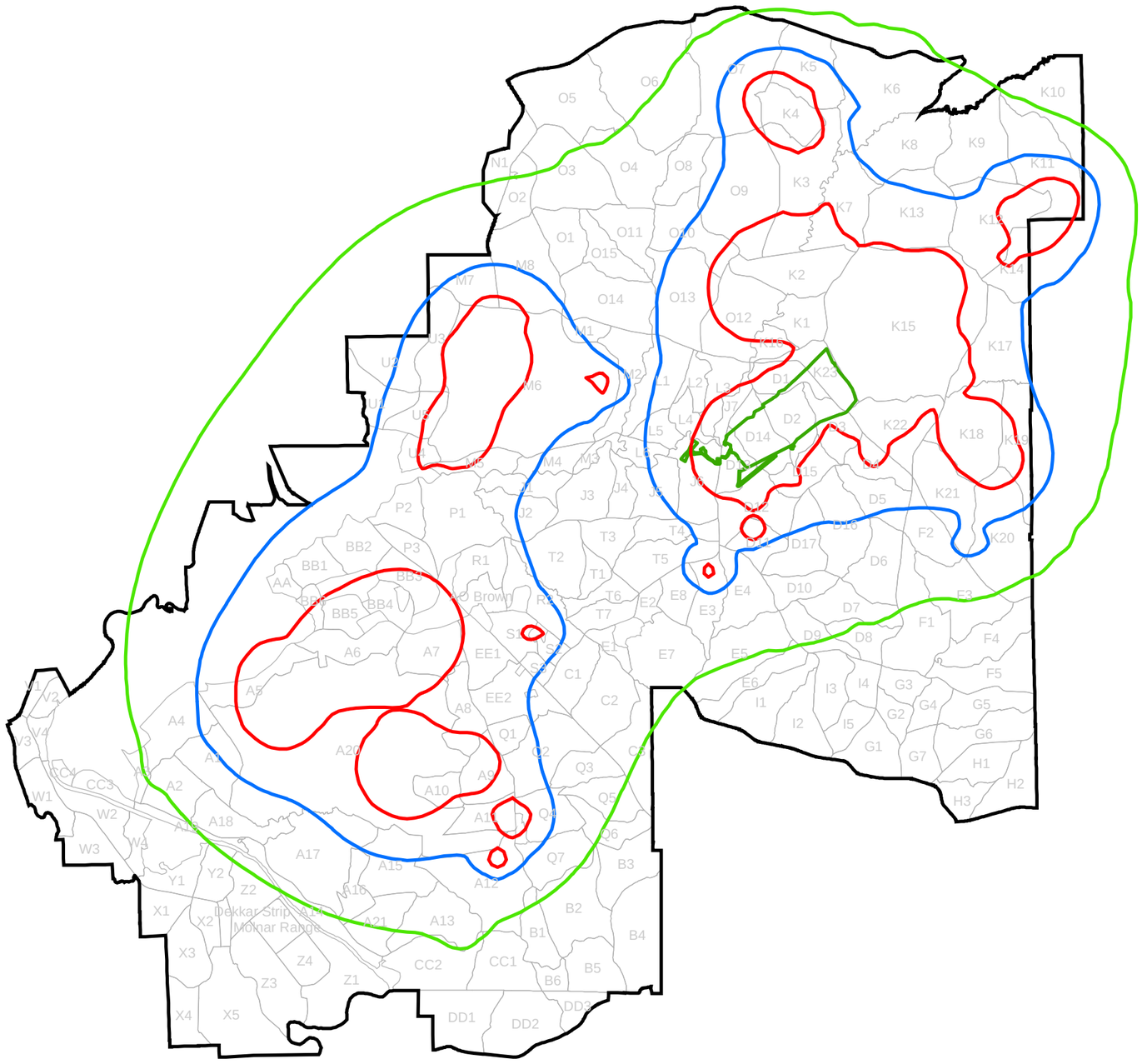
Figure 44



Cumulative Noise Effects - Alternative III

Legend

Noise Contours

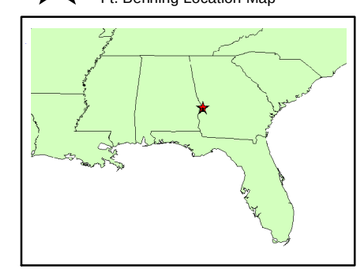
Noise Zones

- 57 CDNL - LUPZ
- 62 CDNL - Zone II
- 70 CDNL - Zone III
- Alternative III Range Footprint
- Installation Boundary
- Training Compartments

N

1:165,000

Ft. Benning Location Map



0 1.5 3 6 9 12 15 18 Miles

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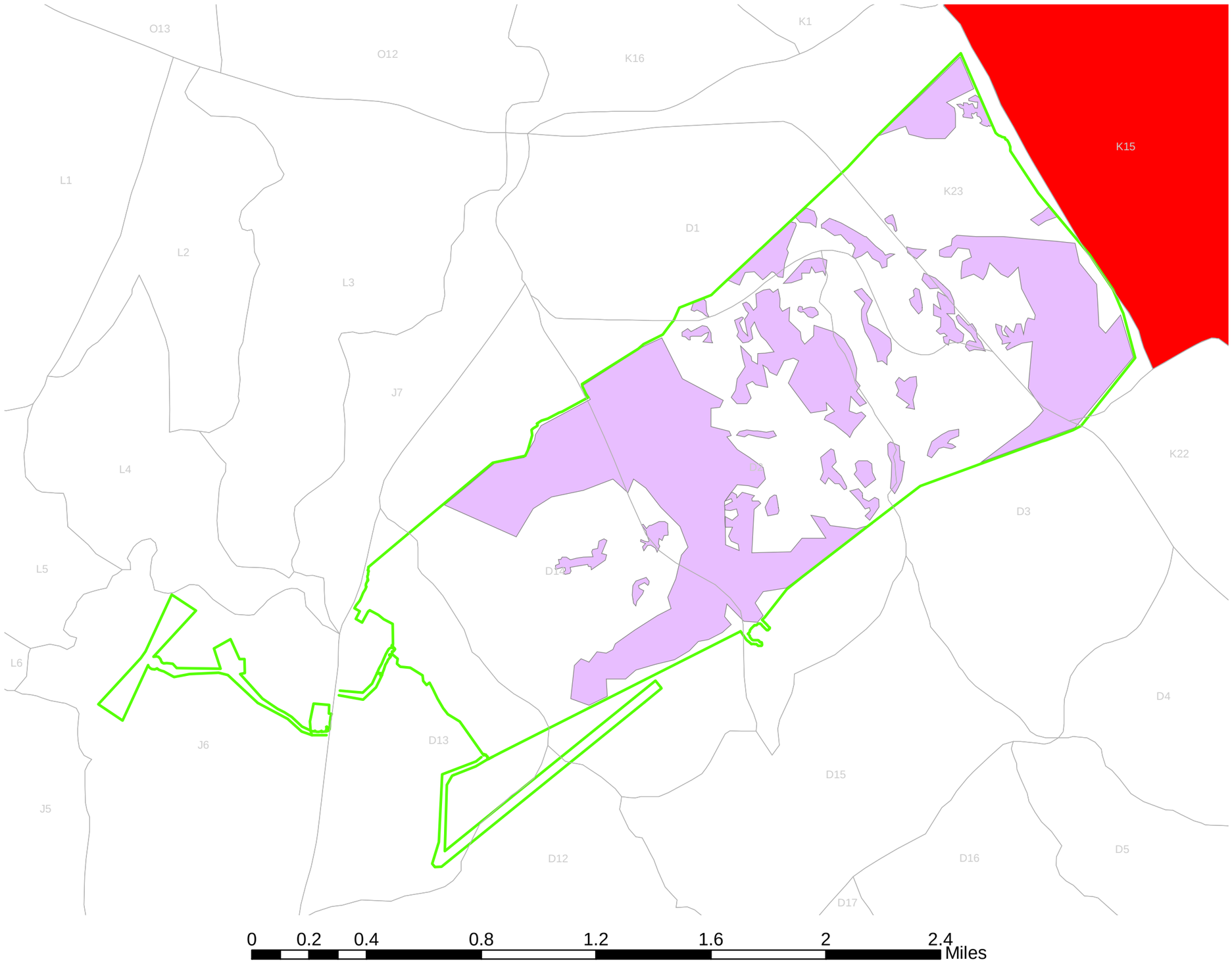
Figure 45



Leave Trees

Legend

- Alternative III Range Footprint
- Leave Trees
- Installation Boundary
- Training Compartments
- Dudded Impact Area

1:22,000

Ft. Benning Location Map

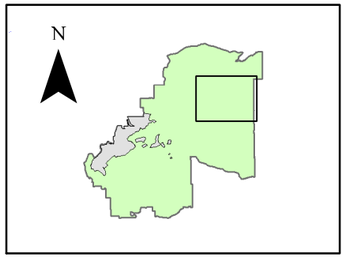


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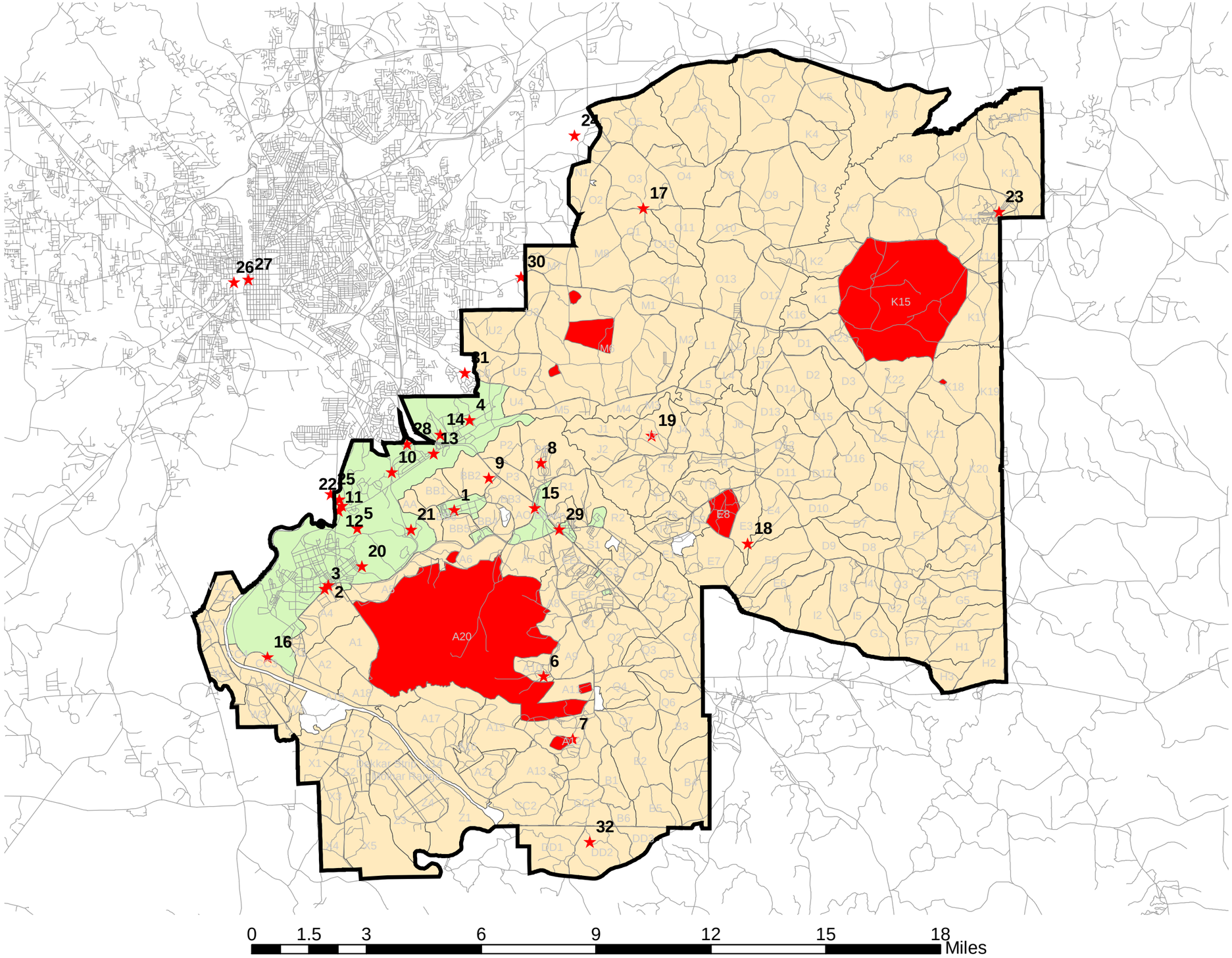
Figure 46



Cumulative Projects

Legend

- Installation Boundary
- Cumulatives
- Roads
- Dudded Impact Area
- Training Compartments
- Installation Cantonment Area

N

1:165,000

Ft. Benning Location Map

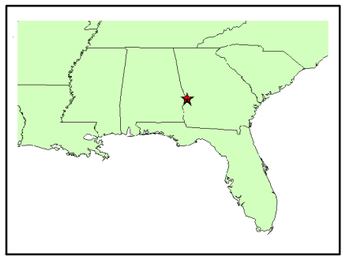


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Figure 47

APPENDIX A

TANK AND BRADLEY FIGHTING VEHICLE GUNNERY TABLES

APPENDIX A
GUNNERY TABLES

Abrams M1A1 Tank Systems gunnery exercises consist of the following tank tables and in the following sequence:

- Table I – Basic Gunnery Skills (Individual)
  - Trains the soldier in basic gunnery skills to include target acquisition, target designation, gun laying, manipulation, and direct-fire adjustment.
- Table II – Basic Gunnery Skills (Individual/Crew)
  - Trains the individual soldier and crew to engage stationary and moving targets, placed in tactical arrays, from a stationary tank.
- Table III – Basic Training Course (Crew)
  - Tasks the crew to refine skills developed in Tables I and II and introduces offensive engagements and Nuclear-Biological-Chemical (NBC) conditions. A minimum of one day and one night engagement will be fired in an NBC environment.
- Table IV – Tank Crew Proficiency Course (Crew)
  - This is the basic qualification table for tanks crews and is designed to evaluate the tank crew's ability to engage stationary and moving targets placed in tactical arrays, from a stationary and moving tank.
- Table V – Preliminary Machine Gun Training (Crew)
  - Trains the tank crew to engage stationary and moving targets, placed in tactical arrays, from a stationary and moving tank with tank-mounted automatic weapons. One day and one night engagement will be fired in an NBC environment.
- Table VI – Preliminary Main Gun Training (Crew)
  - Consists of eight tasks designed to train the tank crew to engage stationary and moving targets using either precision or degraded-mode gunnery techniques from a stationary or moving tank; this is the first table where main gun firing occurs.
- Table VII – Intermediate Training Course (Crew)
  - Trains the tank crew to engage moving and stationary, air and ground targets with tank-mounted weapons; consists of six day and three night tasks with single, multiple, or multiple-weapon system engagements (to include main gun or machine gun); one day engagement will be fired with protective masks and over-pressurization.
- Table VIII – Intermediate Qualification Course (Crew)
  - This is the individual crew qualification table testing the skills learned in the previous tables; consists of five day and five night firing tasks; one of the day and one of the night engagements will be in an NBC environment.
- Table XI – Advanced Training Course (Platoon)
  - Trains the platoon to control and distribute platoon direct fire to destroy enemy targets in a tactical scenario; table is fired using gunnery training devices or dry against full-scale targets; constitutes the "dry run" prior to attempting Table XII tasks.

- Table XII – Advanced Qualification Course (Platoon).
    - This is the platoon qualification course and requires the platoon leader to integrate fire and maneuver while testing the platoon's ability to engage moving and stationary, air and ground targets with all tank-mounted weapons during daylight and periods of limited visibility (such as night); requires the platoon to fire a scenario linking day and night phases; table is fired live (full caliber) (FM 17-12-1-2).

Bradley Master Gunner exercises consist of the following tank tables and in the following sequence:

- Table I – Bradley Crew Defense (Crew)
    - This table trains crews to engage targets with training devices and introduces them to training in a gunnery environment; consists of 10 day and 10 night engagements.
- Table II – Bradley Crew Proficiency Course (Crew)
    - This table introduces the crew to moving BFV engagements and develops the driving skills of the driver while the crew engages moving and stationary targets from a moving and stationary BFV; consists of six day and six night engagements.
- Table III – Bradley Squad/Section Exercise (Squad)
    - This table integrates the dismounted squad with their vehicle section while conducting squad collective tasks; consists of mounted, dismounted, and crew drills.
- Table IV – Bradley Platoon Proficiency Course (Crew)
    - This table integrates the mounted and dismounted elements of the platoon while conducting platoon collective tasks; consists of mounted and dismounted attack and defend scenarios.
- Table V – Crew Practice 1 (Crew)
    - This table introduces the crew to a live-fire gunnery environment utilizing the 7.62mm coax machine gun against stationary and moving targets; consist of five day and five night engagements.
- Table VI – Crew Practice 2 (Crew)
    - This table is the first to require the crew to fire with full-caliber ammunition using the 25mm gun and the 7.62mm coax burst techniques against moving and stationary targets and against point and area targets; consists of four day and three night engagements.
- Table VII – Crew Practice 3 (Crew)
    - This table is the first to require the crew to conduct offensive engagements with full-caliber ammunition at combat ranges to engage moving and stationary targets during day and night from a stationary and moving BFV; consist of four day and four night engagements.
- Table VIII – Crew Qualification (Crew)

    - This is a single-vehicle qualification table that evaluates the crew's ability to acquire and engage targets during various firing conditions; consists of five day and five night engagements.
- Table IX – Scout Team Training (Scout Team)
    - This trains and evaluates scout team tactical and gunnery skills on stationary and moving targets; may be conducted using either live-fire or laser-fire; team training table must contain, at a minimum, the nine combat critical tasks, three commander-selected tactical tasks, and the required percentage of gunnery tasks; consists of four day and three night tasks, including at least one NBC and auxiliary sight engagement.
- Table X – Scout Team Qualification (Scout Team)
    - This evaluates the scout team's tactical and gunnery proficiency in a realistic tactical and live-fire scenario; consists of eight day and two night tasks/engagements, including at least one NBC and auxiliary sight engagement.
- Table XI – Bradley Platoon Practice (Platoon)
    - This table prepares the platoon for qualification and is the first time that BFV and dismounted infantry conduct live-fire at the platoon level; platoon gunnery consists overall of one day and one night engagement; a minimum of two NBC engagements are conducted by both the BFV and the dismounted infantry, with one occurring during the day and one occurring at night.
- Table XII –Qualification (Platoon)
    - This evaluates the platoon's ability to execute collective tasks in a tactical live-fire environment; mounted and dismounted infantry are integrated and evaluated on their ability to fight as a cohesive BFV platoon; consists of an evaluation of tasks learned during Table XI (FM 23-1).

APPENDIX B

PUBLIC and STAKEHOLDER INVOLVEMENT PLAN FOR THE FORT BENNING DMPRC

APPENDIX B
Digital Multi-Purpose Range Complex
Public and Stakeholder Involvement Plan
Revised on 26 August 2003

1. PURPOSE.

1.1 Need for Project. Fort Benning proposes to construct and operate a Digital Multipurpose Range Complex (DMPRC) to enhance realistic training required to prepare Soldiers for their missions. Specifically the current range used to train Bradley Fighting Vehicle crews and Abrams tank crews for gunnery training falls short of the standard called "Table XII." The training capability on the current range (Hastings Range) is limited by several factors including range configuration, and antiquated targetry and equipment. A DMPRC at Fort Benning would support Army Transformation by providing a state-of-the-art range for the legacy forces for decades.

1.2 Need for Public and Stakeholder Involvement Plan. Construction and operation of a DMPRC at Fort Benning involves legally mandated public comment and document review periods, as well as an opportunity to distribute positive news about Fort Benning and the proposed DMPRC while proactively identifying and addressing related community concerns. In addition to the general public, stakeholders must be identified and invited to participate, as well as regulator involvement, as appropriate. This Plan presents a comprehensive means of satisfying legal requirements while enhancing community knowledge and participation in the planning for the proposed DMPRC at Fort Benning. Throughout this Plan, "public" is used to broadly describe individuals that are in communities near the project proposal area or that may be interested or affected by the DMPRC action. "Stakeholder" is used to identify those entities that have an additional relationship to Fort Benning environmental resources or regulatory ore governmental duties. Stakeholders include Federally recognized American Indian Tribes affiliated with the Fort Benning area (Tribes); Federal, state and local governmental agencies with regulatory authority over Fort Benning (e.g. United States Fish and Wildlife Service, and Georgia Environmental Protection Division); special interest groups with a charter involving environmental or military matters, and others.

1.2.1 Public involvement required by environmental laws and regulations.

1.2.1.1 National Environmental Policy Act (NEPA). The primary law that drives public involvement is the National Environmental Policy Act (NEPA). NEPA requires Federal agencies, such as the Army at Fort Benning, to prepare an environmental analysis of the proposed action and alternatives. Potential environmental impacts, both direct and indirect, are identified for the proposal and each alternative, and possible mitigation for any negative impacts is presented. Also, cumulative impacts (i.e. incremental impacts when considering other projects or actions in a region of affect) are

identified as well as any resultant mitigation. Differing levels of NEPA analysis are available, however the proposed DMPRC is a significant Federal action that has the potential to impact the environment, so Fort Benning is preparing an environmental impact statement (EIS).

An EIS is a comprehensive document that generally follows a specific format that can appear daunting to those other than environmental planning professions. The Council for Environmental Quality (CEQ) has NEPA oversight for the Federal government and has published regulations and guidance for preparation of an EIS. The Army supplements NEPA and the CEQ directions with an Army Regulation 200-2, Environmental Effects of Army Actions (AR 200-2), current version effective 29 March 2002. AR 200-2 provides guidelines for the contents of an EIS and the processes required for full environmental analysis with participation by public, stakeholders, and regulators. This Plan will not restate the provisions of AR 200-2, so attention to the specific requirements provided therein is required to fully comply with AR 200-2 and the Army's guidance on public and stakeholder participation and scoping.

NEPA requires several opportunities for public participation, often called public scoping, during preparation of and EIS. Public interaction is based on two-way communication that reflect the needs of the community, utilizing such methods as notices, brochures, news releases, web page information, summaries, draft documents, public meetings, comments and other methods. Fort Benning should update the community at least at each significant phase or milestone of environmental planning. This Plan will address the optimal means of meeting the NEPA requirements at each stage. More details regarding the requirements for notices, documents reviews and comment periods are provided below.

1.2.1.2. Other Laws and Regulations. There are a range of other laws and regulations that require public notices and participation during the planning phases of a Federal project, and some are relevant to the proposed DMPRC. Although NEPA may address some of the topics and issues in the EIS, Fort Benning must still satisfy the requirements of these other laws and regulations. Additional requirements for public or stakeholder involvement include laws, regulations or executive orders addressing: historic properties or cultural resources; permits for wetland disturbance; and others. Often additional planning documents will be required and available for public review and comment.

1.2.1.3. Integration of Information. Fort Benning will use information sharing, referencing, and other means to maximize the efficiency and affect of public and stakeholder involvement in the environmental planning process. Because NEPA is an umbrella-type process and produces a comprehensive document, other public participation requirements will be woven into the existing framework for the NEPA public involvement. When the Environmental Impact Computer System (ECIS) is established in approximately fiscal year (FY) 2004, i.e. the Fall of calendar year 2003, as indicated by AR 200-2, then Fort Benning will utilize the ECIS.

1.2.2. Proactive Information Opportunity. AR 200-2 encourages continuous, two-way communication to enhance public and stakeholder participation. Fort Benning should take this opportunity to educate the public about Fort Benning's mission, environmental stewardship, the proposed DMPRC, and mitigation important to the community. Various methods of communication with the public or more focused audiences are available, such as: mailings in the form of letters, brochures, information packets; electronic communications by emailing or website information; telephone calls and information lines; articles for Post and local newspapers; information presented via radio or television broadcasts; open houses or site visits; and meetings on an individual, small group or large group format. Normally, using a few communication devices that are focused and meet the communities needs will be most effective. This Plan will introduce opportunities to inform the public at various phases or milestone events.

1.2.3. Goals of Plan. Fort Benning is committed to meet the legal requirements and also take measures for more meaningful communication and involvement of the public and stakeholders in our planning of the proposed DMPRC. Limitations in resources, personnel and time impose constraints that necessitate an efficient and realistic Plan. This Plan must assist DMPRC planners and be realistic for implementation. Goals for this Plan include:

i. Promote an understanding of public and stakeholder involvement requirements and opportunities for better resourcing and scheduling;
ii. Specify steps needed to meet legal responsibilities for comment opportunities of public members and stakeholders;
iii. List realistic time frames and responsible persons or offices for each step;
iv. Coordinate activities to maximize the quality of the information, ensure the information relates to planning actions in process, and incorporate any resultant feedback into future participation or planning processes;
v. Incorporate opportunities to present information to better partner with the community; and
vi. Keep PAOs informed at all levels.

2. PLAN STRUCTURE. This Plan is presented chronologically, providing the anticipated steps, time frames and actions. Although this Plan is meant to serve as a foundation for public and stakeholder involvement, it will probably have to be adjusted to accommodate changes. Items in this Plan should be evaluated for suitability before engaging in the recommended actions. AR 200-2 divides the scoping process into three phases for simplification: the preliminary Phase, the Public Interaction Phase, and the Final Phase. Although the majority of public and stakeholder involvement is conducted in the Public Interaction Phase, the other two stages encompass important steps to prepare for and respond to public and stakeholder involvement. This Plan will use the three phases to organize this Plan, although the phases often overlap.

3. PRELIMINARY PHASE.

3.1. Initial Internal Scoping. This is an internal Fort Benning action that is normally very informal and may result in limited amounts of documentation. Often proponents of the proposal start this internal scoping as a natural part of planning for the proposal, rather than as a conscious effort to conduct internal scoping. Internal scoping is a process of identifying project requirements, initial environmental concerns, and possibly explore options to address those concerns. Internal scoping is important because it commences the environmental analysis; however internal scoping obviously is only a precursor to public and stakeholder involvement. It is important for the proponent and all those working with the proponent to keep in mind that the decisions regarding the project are not final and are just proposals. Until the process of environmental analysis and documenting a decision is complete, the proponent should be open to modifying the project, especially to reduce environmental impacts or to incorporate comments or mitigation.

3.1.1. Identify Proponent. Initially, the proponent(s) of the proposal is identified. There is often a misunderstanding that the environmental office is the proponent because environmental analysis is involved; however that is not the case. The environmental office assists the proponent in meeting the proponent's environmental responsibilities, but the Environmental Management Division (EMD) of Fort Benning does not get funding, personnel or resources to complete the environmental planning and documentation. Instead those are normally the proponent's responsibility. Usually the proponent is the person or activity that has initiated the action, has initiated a funding request, and makes the important decisions or recommendations regarding the project. For the DMPRC proposal, the proponent has been identified as the Directorate of Training (DOT), Fort Benning; however, the Directorate of Facilities Engineering and Logistics (DFEL) plays a vital role for Military Construction Activity (MCA) projects. In DFEL the Real Property Master Planner and the DMPRC Environmental Project Manager will work closely with DOT and range planners and users. As the project planning progresses, other units or activities may be added to the list of proponents, but currently they should be considered stakeholders, affected or interested parties, or beneficiaries of the project. This is often a good time to identify who will be the point of contact (POC) for the proponent for routine matters. The Range Division Chief and Range Manager have been designated as the DOT POCs for the DMPRC proposal.

3.1.2. Coordinate with Environmental Planners. For actions that could have, i.e. the potential to have, a negative impact or a substantial positive impact on the environment, the proponent is required to coordinate with EMD. Early coordination is required for large or complex projects. Failure to coordinate early can lead to several problems, including failure to maintain a proper NEPA record, delay in project execution, extra expense from redesigns and incorporation of mitigation, plus other problems. Normally the proponent initiates coordination by submitting a completed Fort Benning Form 144R to EMD to determine what level of NEPA analysis is required; however the NEPA documentation for some proposals obviously requires more complex NEPA analysis and the internal scoping can begin with a kick-off meeting or other ways. Identifying the POC for the environmental office is also beneficial at this point. For the DMPRC project, the main POC is the DMPRC Environmental Project Manager.

The DMPRC internal scoping commenced in 1999 in conjunction with the DOT and the Fort Benning command submitting a request for Major Construction Activity (MCA) funding for

construction of the DMPRC. Obtaining funding is often a long process and often is started before intense interaction with the environmental office because at this stage very little information about the project is available and funding may never be obtained. Normally after funding is reasonably certain, the proponent begins working in earnest on project design and environmental concerns. With indications that the DMPRC project was high on the list of possible projects for approval, DOT coordinated with EMD in 1999 to begin a draft Environmental Assessment. DOT and EMD initially explored possible construction locations for the DMPRC and the obvious environmental concerns. Further data gathering and analysis will be necessary during the NEPA process, but several locations were considered for feasibility based upon mission requirements and estimates of environmental impacts. The draft EA was never finalized because Fort Benning determined an EIS was required; therefore the EIS will incorporate the draft EA scoping only to the extent of the preliminary phase because the draft EA was not presented for public review and comment. One site analyzed in the draft EA was found to best meet mission requirements and minimize environmental impacts, and that site has been considered Fort Benning's preferred site- Alternative III. A secondary site was also carried forward as an action alternative for EIS – Alternative II. Another alternative that arose as a result of internal scoping was the use of existing ranges at Fort Stewart, GA.

Because Fort Stewart has a role in a couple of the currently proposed DMPRC alternatives and was analyzed as a potential alternative in its own right, coordination with Fort Stewart staff was initiated. During the processes outlined in this Plan, Fort Benning worked with Fort Stewart personnel to incorporate that community into the DMPRC public and stakeholder scoping process. This involved inclusion of Fort Stewart area affected or interested persons, information and document distribution, and possibly public meetings. Ongoing analysis of the use of existing Fort Stewart ranges as an alternative, however, determined it to be non-viable and it was eliminated from further in-depth evaluation in the DEIS. Specifically, the cost to transport all required troops and equipment (to include tanks and/or BFVs) would be prohibitive; and, although sufficient range space exists on Fort Stewart to accommodate advanced gunnery training, the time to get on the queue for this training is approximately two years, which is an unrealistic lead time for scheduling training. This alternative may be evaluated later throughout the ongoing NEPA process for this project, should more interest develop as a result of subsequent scoping meetings and public input and/or following the review of the DEIS

3.1.3. Document internal scoping efforts. NEPA compliance involves keeping records of alternatives explored, issues brought up, personnel involved, and other aspects of the internal scoping process. Preparing meeting minutes or notes or other evidence of internal scoping is helpful not only for maintaining an administrative file, but also to later recall information for environmental document preparation. Options that may have been considered informally in the internal scoping process may be a basis for an alternative to study formally in the EIS. This internal scoping does not substitute for public scoping, but it is a necessary precursor.

3.1.4. Coordinate with Public Affairs Officers (PAO). The Environmental Project Coordinator as well as EMD and DFEL will keep the Public Affairs Officers (PAOs) at Fort Benning informed regarding environmental planning and scoping for the DMPRC. The Fort Benning PAO will in turn keep the appropriate TRADOC and DA PAOs, including Fort Stewart

PAO, informed through routine communication and copies of news releases and other informative documents.

3.1.5. Tentative List of Affected and Interested Parties (Mailing List). EMD maintains a NEPA mailing list consisting of individuals or entities that have shown interest in Fort Benning's environmental studies or projects in the past. The mailing list also includes Federal, state and local government offices, consulting American Indian Tribes, and anyone else requesting to be on the mailing list. This list should be thoroughly reviewed and adjusted for each NEPA action. Moving toward an electronic mailing database would be more efficient for many on the mailing list, and EMD should acquire email addresses for those who indicate a preference to receive email rather than traditional mail. At this time however, email cannot totally replace the numerous mailings that are required for notices associated with the DMPRC EIS processing.

For the DMPRC proposal, Fort Benning has taken the basic Mailing List and adjusted it accordingly. Several entities or individuals were added to the List based on interest in similar projects at Fort Benning or other Army installations; incorporating those interested or affected due to potential impacts at Fort Stewart; to expand the List per guidance in AR 200-2 to include additional groups, organizations, individuals, governmental agencies, and others; and in response to initial discussions with other governmental agency representatives. A few names were also removed from the standard list to reflect an initial determination that those individuals or entities would not be interested or affected by the DMPRC proposal. Part of the scoping process will be to continue requesting additional entries for the Mailing List through all stages and means of scoping. This List will be updated routinely to add individuals, organizations, entities and government agencies that may be affected by or interested in the DMPRC proposal.

3.1.6. Tentative environmental planning and decision-making schedule. The DMPRC Environmental Coordinator maintains a schedule of the NEPA process and the other major environmental planning processes. The DMPRC design is required with enough specificity to conduct meaningful environmental analysis, but at an early enough stage that allows further changes based on comments and mitigation requirements. For the DMPRC, Fort Benning is using the standard design for initial environmental planning; however indications are that notable changes may be made by the range designers based on internal Army input until the 60% design stage. This means that development of the PDEIS may be delayed if the design does not proceed in a timely manner. The goal is to incorporate into the PDEIS the supporting environmental information in stages, e.g. the noise information in one month, the wetlands information during the next months, the protected species information after that, and so on. This approach will leverage the information prepared to satisfy other environmental planning requirements by using that in the PDEIS preparation. Drafting of the PDEIS will require collecting additional information and conducting additional analysis, but duplication of effort will be avoided. This means that the PDEIS may be stalled while waiting for specific enough information to sustain rigorous environmental analysis. Fort Benning personnel are working closely to conduct a thorough environmental analysis and avoid delays where possible. Fort Benning will follow the AR 200-2 timeframes required for EIS processing. The EIS preparation process is not considered exempt from any of the normal procedural requirements of scoping or AR 200-2 at this time; however mission and national security or unforeseen events could change that status.

3.2. Preparation of a Notice of Intent to prepare an EIS.

3.2.1. NOI Drafting. A Notice of Intent (NOI) signals to the public that an EIS will be prepared for a proposed project. The NOI is a fairly structured notice that states basic information about the proposal and asks the public for input. Normally plans to hold a public meeting associated with preparation of a draft EIS (DEIS) is included in the NOI. AR 200-2 requires additional draft letters and memorandums to accompany the NOI during Army routing, such as the Information for Members of Congress, Response to Correspondents, Press Release and a section of Questions and Answers. These documents compose the NOI package. Although the proponent is responsible for the NOI package, the environmental office often does most of the drafting of the NOI package.

The NOI must be written in layman's terms. Military and environmental jargon and acronyms should be avoided where possible. Use simple, straightforward language. A suggested format is included in the AR 200-2, but it is better to obtain a recent example of an NOI package that the MACOM and DA approved and use that as a template. The Installation should involve all relevant Installation offices and personnel when drafting the NOI package, to include not only the proponent and the environmental office, but also the public affairs office, the staff judge advocate's office, and others.

3.2.2. NOI Package Routing. The Proponent must staff the NOI package through the Installation and Major Command (MACOM) proponent channels to the Headquarters level per AR 200-2, and the NOI package is coordinated with the environmental staff at each level. Often it is beneficial to have informal coordination between the Installation and MACOM environmental staffs prior to a formal submission. EMD may provide a draft NOI package to TRADOC environmental office with a request for informal review. Informal review comments may be incorporated or addressed prior to the formal submission to the MACOM which may speed up the formal review process. DA usually involves the Army Environmental Center (AEC) in review of the NOI package, but the Installation could request AEC informal review of the NOI package if warranted.

After TRADOC and DA revisions are incorporated into the NOI package, DA sends the NOI to the EPA and notifies Congress of the NOI. Shortly thereafter, EPA normally requests publication of the NOI in the FR. Usually the request must be submitted at least a week prior to publication. The Installation should publish the NOI and possibly the Press Release in the local newspaper and the Installation newspaper (*The Bayonet*). Additional means of getting the notice out to the public should be considered to ensure the public knows about this early opportunity to provide input and attend any expected public scoping meetings.

3.2.3 Current Status of DMPRC NOI (as of 26 August 2003). Using the information obtained from internal scoping, Fort Benning prepared an NOI for the DMPRC and

submitted it via TRADOC to HQDA on 16 August 2001. In September 2001, TRADOC indicated that the NOI package should be revised to include more information regarding the Army Transformation initiative, so Fort Benning withdrew the NOI package (October 01), made appropriate revisions (November 01), rerouted for Ft Benning signature (December 01), and resubmitted it to TRADOC on 25 January 2002. After endorsement by TRADOC and HQDA coordination, HQDA authorized release of the NOI for publication in the FR.

In accordance with CEQ Regulation 1508.22 and AR 200-2, an NOI advising the public of the intent of the Army to prepare an EIS for the DMPRC was published in February 2003 in the Federal Register and in the following local newspapers: the Columbus Ledger-Enquirer (Columbus), The Tri-County Journal (Buena Vista), and The Savannah Morning News (Fort Stewart); in addition, the NOI also invited participation in the two public scoping meetings held on 18 and 20 February in Columbus and Buena Vista, GA, as described above. Due to the potential for utilization of existing ranges on Fort Stewart in "Alternative I, No Action/Status Quo," of the PDEIS, the organizations/agencies/individuals in Fort Stewart and its surrounding communities received copies of the NOI and other public documents, such as the aforementioned newsletters.

3.2.4. Remaining Steps for NOI Approval and Publication. None; see above.

3.2.5. Public Comments Prior to the NOI. Occasionally a member of the public, a stakeholder or a regulator will submit written comments or give verbal input prior to the publication of the NOI. Regulators have a tendency to provide input prior to the NOI publication especially if Fort Benning communicates early with those regulators about the project. Fort Benning should capture those public, stakeholder and regulator comments for the administrative record, and consider them as input or scoping for the proposal. Some regulators will be providing later formal reviews, such as the US Fish and Wildlife Service (USFWS) preparing a biological opinion, or EPA providing DEIS review comments, but earlier comments should be documented if feasible.

4. PUBLIC INTERACTION PHASE. Although the public meetings are often the most publicized opportunity during the Public Interaction Phase of the EIS process, other forms of public scoping should not be neglected. This phase starts at beginning of the public comment period with publication of the NOI and goes through the completion of the public comment period for the DEIS.

4.1. Preparing for the initial scoping meeting.

Planning for the public scoping meeting should involve a disciplinary team which must include the PAO representative, the proponent, environmental specialists, and others as appropriate. The planning must be done well in advance to achieve the following goals:

a. the DMPRC proposal can be presented in a professional manner using media that is readily understandable;

b. experts in various disciplines are on-hand to answer questions and discuss issues in an appropriate manner;

c. the format encourages the public to provide comments in a manner that they can be documented and considered in further project development; and
d. PAO escorts media and coordinates any interviews or statements.

4.1.1. Scheduling the scoping meeting. Estimating the date of the public scoping meeting may be challenging given the dependency on approval and publication of the NOI. The NOI will normally indicate a scoping meeting is planned. Fort Benning's draft NOI states that scoping meeting(s) will be held, but does not set a specific time or place. Further notices through local media, Fort Benning's website, as well as mailing to those affected or interested will be required once the location, date and time are finalized. Scoping meetings should be held no sooner than 15 days after the notices have been published in the local newspapers and publication of the NOI. The comment period will be no less than 30 days from the publication of the NOI.

Fort Benning personnel should make the best estimate of the likely public meeting timeframe and start planning months in advance. Some alternatives currently considered for the DMPRC involve the northeastern portion of the Installation, which is distant from the cantonment area and the nearest large city facilities, or involve Fort Stewart. Therefore scoping meetings may be held in Columbus, Georgia, as well as in Chattahoochee and/or Marion County. The Elizabeth Bradley Turner Center at Columbus State University has worked well for public meetings in the past, and is often used by local government or groups for public meetings. Coordination with Chattahoochee and Marion County offices will assist in identifying available meeting sites. A meeting at Fort Stewart will not be required, although potential impacts to Fort Stewart or the community are anticipated to be minimal at this time.

Displays and visual aids (charts, photographs, video clips, etc.) should be prepared to describe the proposed action; the preferred alternative and other alternatives; the significant potential impacts and mitigation; and public's role in the NEPA process (i.e. opportunity to review DEIS and comment). Layman's terms should be used and acronyms avoided where possible. Displays and media should be content-driven rather than going for glitziness. See AR 200-2 Section 651.50 for more information.

4.1.2. Information dissemination prior to the scoping meeting. Prior to the scoping meeting, either in conjunction with or after the NOI publication, a brochure and news release should be generated to discuss the need for the DMPRC project. This initial communication will lay the framework for later environmental issues, but this is a prime opportunity to address Fort Benning's need for the project.

4.1.3. Conduct of the scoping meeting. Entrance to the public meeting should be made by one route so that all meeting participants pass by a welcome table where each is requested to sign in and is given a comment card. Each person present at the public meeting should sign an attendance list providing full name, address, email, and an indication if they would like to be placed on the regular or email mailing list. Comment cards or forms should be provided for those wanting to make comments at the public meeting, and a Fort Benning POC and mailing address should be included on the form so that those wishing to send in

comments later may do so. Prior brochures, mailings or other information sheets may also be provided at the welcome table. The welcome table should have a clearly marked box or container for receipt of comments. Plenty of writing utensils should also be provided. To accommodate non-writers or those who prefer oral statements, a court reporter may be employed to obtain comments recorded as verbatim transcripts.

On 18 February 2003, a public scoping meeting for the proposed DMPRC was held in Columbus, GA, at the Elizabeth Bradley Turner Center, Columbus State University. The meeting lasted from 6-8 p.m. and consisted of an open house format with displays, a terrain model, and subject matter experts to answer questions from the public. A public scoping meeting was also held at the Marion County Courthouse in the nearby city of Buena Vista on 20 February 2003, utilizing the same displays, terrain model, and subject matter experts. Several written and verbal comments were obtained at these meetings and may be viewed in the DEIS. In addition, comment sheets (given out at the public scoping meetings) were also mailed to Fort Benning by the meeting attendees; these are also included in the DEIS, as are all comments received by phone. No comments, either written or verbal, were received from the Fort Stewart area.

4.1.4. Consideration of scoping meeting comments. Comments may be summarized and grouped by topic. A response to the comment topics will be prepared, and this summary document will be included in the PDEIS. All relevant comments will be considered in drafting of the PDEIS. Individual response to comments is probably not required at this stage, although the content of some comments may warrant an individual response.

5. PREPARATION OF THE DEIS AND THE NOA.

5.1. Involvement in Development of the DEIS. The DEIS is the first full-scale environmental analysis document available for public review and comment in the EIS process. While several partial drafts of the DEIS may be routed for review at the Installation level, the first draft to leave the installation for MACOM and then DA review is the preliminary DEIS (PDEIS). The PDEIS should be the Installation's best attempt to inform the public and incorporate any scoping from the Preliminary Phase into the environmental analysis.

5.2. Preparation of the PDEIS.

5.2.1. PDEIS Drafting. The PDEIS should follow the general format in AR 200-2 although variations can be made as long as all required information and analysis are included. As with the NOI package, generally the Installation may request MACOM informal review of all or portions of the PDEIS before forwarding it for formal review. The PDEIS is not normally made available for the public and should be labeled "For Internal Use Only – Deliberative Process."

Preparation of a PDEIS varies according to information availability and complexity among other factors, but an estimate for the DMPRC PDEIS is approximately 18 months after our first NOI submission to TRADOC. Environmental analysis in the PDEIS requires reliable

information regarding the project design. The DMPRC PDEIS cannot adequately analyze the potential environmental impacts of constructing the DMPRC and operating it without having details regarding ground disturbance, stream crossings, hazardous material use, air pollution source, etc. So the DMPRC PDEIS may be delayed if the design or supporting environmental information are not available. The Installation must schedule surveys and information collection to support preparation of the PDEIS. The Environmental Project Manager (EPM) is attempting to have information flow to the PDEIS preparer in stages appropriate for incorporation into the PDEIS over several months. Developing the PDEIS simultaneously with other environmental planning requirements is efficient and credible.

This approach also supports an outreach program that targets certain topics related to milestones in the DMPRC planning. As a certain study or document is prepared, a related news release, brochure or other appropriate information can be generated to keep the public informed during the process. The schedule is fluid and while changes are inevitable, identifying the relative placement of these proactive opportunities in the schedule should assist in planning.

5.2.2. Gathering information. Due to the comprehensive nature of an environmental impact statement, the PDEIS preparer must have access to numerous types and sources of information. Much information can be obtained from existing sources, however additional surveys and/or analysis will normally be required. Coordination with the proponent, Fort Benning stakeholders and external participants should be conducted early to ensure the information is correctly presented in the PDEIS.

5.2.3. Coordinating with other environmental requirements. Several other environmental requirements will involve collecting of data, analyzing potential project impacts, and considering possible mitigation. Information obtained to satisfy other requirements can be incorporated into the PDEIS when available. Often only a summary of the related information is presented, with either a reference to the full document, placing the full document in an appendix, or incorporating by reference. If either referencing or incorporating another document, the full test of the document should be available for public review when the PDEIS is made publicly available (as a DEIS). Also, the PDEIS should indicate how the other related environmental documents and processes relate to the EIS and the NEPA process. If possible, the public involvement activities should be integrated to meet the requirements of NEPA and other requirements to present a complete picture of the project and potential environmental impacts to the public. The main non-NEPA requirements are listed below, however others may arise during the process, so this is not an exhaustive list. Also care must be taken to protect information from some of these sources from public review or distribution (see section below).

5.2.3.1. Endangered Species. The Endangered Species Act, implementing regulations, and Army regulations require consultation with US Fish and Wildlife Service (USFWS) when the project has the potential to adversely impact Federally protected species, either directly or indirectly. Army regulations further require the Installation to consider a project's potential impact on other species of concern, such as State-protected species and those species that may soon be on the Federal list.

Coordination regarding the State protected species is primarily with the appropriate State agency, such as the Georgia Department of Natural Resources (GA DNR). The DMPRC project has the potential to impact the Federally protected red-cockaded woodpecker, as well as some State species such as the gopher tortoise.

Fort Benning is preparing a biological assessment (BA) to identify the possible impact of the DMPRC construction and operation on the RCWs and other protected species. Informal coordination with the USFWS has started early, and information from those discussions can provide useful insights and information for the PDEIS preparation. Certainly, a draft BA in its final stages is an invaluable source of information for the PDEIS portions addressing protected species. The USFWS normally provides a biological opinion (BO) in reply to the BA. Normally at least portions of the BA and BO are releasable to the public under the Freedom of Information Act (FOIA) or other provision by either the installation or the USFWS. These documents are often included or referenced in the DEIS. Correspondence between the Post and the USFWS or State Agencies may also be placed in an appendix to the EIS. Be sure, however, to carefully review the releasibility of information regarding the locations of protected species that could be harassed or collected, or whose habitat could be damaged. An opportunity to distribute information about protected species arises when the BA is prepared, if not before. Examples of previously used brochures may offer formatting or content aids.

5.2.3.2. Cultural Resources. The main laws that are applicable to most Fort Benning activities include the National Historic Preservation Act (NHPA), the Native American Graves Protection and Repatriation Act (NAGPRA), and the Archeological Resource Protection Act (ARPA), although several other Federal and state laws could also apply. Federal regulations implementing the laws are augmented by Executive Orders and Army regulations. These requirements stress that Fort Benning must make good faith efforts to consult with the Georgia State Historic Preservation Officer (SHPO) as well as any other states that may be involved, and the Federally recognized American Indian Tribes that are associated with the Fort Benning region (Tribes). The Installation must also at least inform the Advisory Council for Historic Properties (ACHP) of consultation actions, and the ACHP may become a consulting party for projects with significant cultural resource issues.

Consultation should start early in the process with an invitation to consult, followed by correspondence, discussions and/or meetings to identify the historic properties, the potential impact to those properties and avoidance or mitigation measures. Information can be gleaned from this consultation process for the EIS, although the consultation process may proceed beyond the timeframe established for the public release of the DEIS. The consultation results are normally documented in a Memorandum of Agreement (MOA) for the project. The MOA and its attachments may be incorporated or referenced in the DEIS, however care must be taken to identify during consultation the information about specific historic properties that should not be released to the public. An opportunity to acquaint the public and stakeholders with the historic property resources and issues should arise during this process, possibly after the Phase II studies or at least once a draft MOA is being considered.

5.2.3.4. Wetlands Permitting and Mitigation. Projects that involve wetlands disturbance may require permitting by either nationwide permit (less disturbance) or individual permit (more disturbance). The Corps of Engineers (COE) wetlands regulatory branch oversees wetland permits and issues. The DMPRC will most likely require an individual permit and appropriate mitigation. The wetlands disturbance permit, often called a 404 permit, is initiated by Fort Benning submitting a permit application. The permit application should include delineation of jurisdictional wetlands, identification of wetlands and stream impacts, and means to avoid or mitigate those impacts where feasible. The COE will review the application for sufficiency, publish notice of the application and request public input, and finally issue the permit if prudent.

The permit application contains a wealth of information for the PDEIS, and that information should be relatively reliable if Fort Benning has properly coordinate with the COE regulators in advance of submitting the permit application. The resultant permit also contains information important for the DEIS and/or the Final EIS. Public involvement through the 404 permit process does not excuse that information from the public review through the EIS process. When enough information is available for wetlands and stream banks, Fort Benning should prepare and distribute an informational brochure or similar communication to the public and stakeholders. Such communication would be appropriate when a draft permit is available, if not before.

5.2.4. Coordinating with Others: Units & Commands; Installations & MACOM; Cooperating Agencies; and Regulators, Stakeholders & Consulting Parties. Once the PDEIS is draft form, it should be routed through the Army channels prior to release outside of the Army. After the PDEIS is cleared for public release, it is considered a DEIS. The review process to transform a PDEIS to the DEIS can take several months, although thorough coordination and scoping can minimize later revisions. The first stage of PDEIS review should involve Fort Benning and tenant commands, cooperating agencies, and probably some regulators, stakeholders and consulting parties. Simultaneously or next the PDEIS is forwarded to the MACOM, TRADOC for review and comment. AR 200-2 states that only a portion of the PDEIS, a summary document, is required for routing via TRADOC to DA, an then a PDEIS would follow only upon request. If TRADOC received delegation authority to review NEPA documents for the DMPRC, then TRADOC would be authorized to approve the PDEIS; however Fort Benning would still be required to submit at least a process summary to HQDA for review and comment prior to approval for release of the DEIS to the public. See AR 200-2 651.45(d)(2) for more information.

5.2.4.1. Coordinating with Fort Benning Units and Commands. Analyzing the environmental implications of DMPRC is impossible without some understanding of the DMPRC construction and operation requirements. Environmental staff must learn from range designers (DFEL Master Planning, Engineers, COEs, and contractors), users (3rd Brigade, 3rd Infantry Division and others), and range maintenance (DOT Range Division), to name a few. The DEIS must present the need for the DMPRC, describe the construction and operation of the DMPRC, explain DMPRC alternatives and

address the associated environmental issues in plain language, i.e. layman's terms. Once the PDEIS is in draft form, the draft PDEIS (or portions thereof) should be routed to those knowledgeable in DMPRC design, construction, operation and maintenance.

5.2.4.2. Coordinating with other Installations and MACOM. The DMPRC alternatives currently include alternatives with actions at Fort Stewart, Georgia. A trip to gather information from Fort Stewart and follow-up in informal coordination provided much of the basic information required for preparation of the PDEIS. Fort Benning should give Fort Stewart the opportunity to review the PDEIS and make corrections or amend information well before public release of the DEIS. Written record of this coordination will clarify the administrative record and provide a basis for later review and response to queries. During the review and concurrence by Fort Stewart, the PDEIS may be forwarded to the MACOM for concurrent, informal review. Often an informal review allows early informal resolutions and revisions that later speed the formal MACOM review and add certainty to further planning, however, this is not a required step. At this stage also consider the desirability to forward the PDEIS to the Army Environmental Center and/or the Southern Regional Environmental Office for information or informal review if issues are involved of interest on a DOD-regional level or on an Army-wide level.

5.2.4.3. Cooperating Agencies. Early in the process of planning for PDEIS preparation, efforts should be made to determine if Federal, state or local agencies, Tribal representatives or other entities should be invited to be cooperating agencies. Some agencies have responsibilities or involvement in the NEPA process that are required by law or regulation, such as the Environmental protection Agency review of the DEIS. Those responsibilities do not alone support cooperating agency status. Instead cooperating agencies should include those agencies or entities that have some jurisdiction in and environmental matter or resource that could be affected, or if the agency has special expertise in environmental matters related to the proposal. Fort Benning should identify possible cooperating agencies, send a request for participation to those potential cooperating agencies, and include enough information in the request to identify the proposal and a suggested means of the potential cooperating agency participation. Provide enough time for response and extend the option of the agency joining in as cooperating a later time even if the request is initially refused. Fort Benning should document every cooperating agency status with a memorandum of agreement (MOA) that described the proposal, the responsibilities of the cooperating agency and any logistical terms (review timeframes, etc.). Note that cooperating agencies generally do not include other Army agencies or entities, except when they have a regulatory role over Fort Benning's actions.

For the DMPRC proposal, preliminary scoping indicates that primary candidates for cooperating agency status include:

a. USFWS for assistance with proactive planning to minimize protected species impacts and to identify reasonable mitigation options, specifically for RCWs and habitat; and

b. COE (Wetlands Regulatory Branch) for assistance with proactive planning to minimize wetlands and stream bank impacts, to identify reasonable mitigation options, and to assist with CWA 404 permitting processing.

Fort Benning will be consulting with each of these agencies to fulfill environmental planning requirements related to the assistance identified above, so cooperating agency status may not be necessary.

Other possible entities that may agree to become cooperating agencies include:

a. Tribes for assistance via consultation and expertise to determine potential impacts to historic properties, and to identify reasonable avoidance or mitigation options; and

b. The Georgia State Historic preservation Officer (SHPO) for assistance via consultation and expertise to determine potential impacts to historic properties, and to identify reasonable avoidance or mitigation options.

While not specifically identified at this time, other possible categories of entities that may be appropriate for cooperating agency status include:

a. State or local agencies or offices that have responsibilities related to Fort Benning's natural resources;

b. Environmental groups that voice concern or interest regarding Fort Benning's resources, potential impacts or mitigation plans, and have expertise to add to the NEPA process for the DMPRC proposal; and

c. Hunters' or fishers' associations with members utilizing Fort Benning's resources.

Fort Benning will be the Lead Agency and will coordinate the DMPRC public and stakeholder participation. Cooperating agency representatives will be invited to join in planning for public scoping, including review of information for distribution and participation at public meetings. Revisions to this Plan can be made if required by Cooperating Agency participation in DMPRC scoping.

5.2.4.4. Coordination of PDEIS with Regulators, Stakeholders and Consulting Parties. Before public review of the DEIS, it may be prudent to ask regulators, stakeholders and/or consulting parties to review the PDEIS, or at least portions of the PDEIS related to their concerns. The goals are to: 1) receive verification of accuracy and further input; 2) present the best information to the public via the DEIS and 3) identify any remaining areas of concern with the regulators, stakeholders or consulting parties. Also, these entities may have a special relationship with Fort Benning that warrant a PDEIS review rather than grouping those entities with the public in the DEIS review process, such as the Tribes.

5.3. Notice of Availability (NOA) and the PDEIS package.

5.3.1. NOA and PDEIS package preparation. The NOA is the official notice that the Army and Fort Benning have prepared a DEIS for public review and comment. The NOA is very similar to the NOI, except the NOA generally includes more information regarding the

environmental analysis and conclusions presented in the DEIS. The NOA indicates where the DEIS is available for public reading and review, and the NOA also generally provides details regarding public meeting(s) and public comment deadlines. The NOA and PDEIS are included in a package which includes additional information for routing and approval, such as the Information for Members of Congress, Response to Correspondents, Press Release and a section of Questions and Answers. The NOA should not be confused with EPA's note of availability of weekly receipts (NWR) of EISs.

The NOA and associated documents should be written in layman's terms, without excessive military or environmental jargon or acronyms. Recent examples of NOA packages and the format suggested in AR 200-2 may be helpful in preparation. While the proponent is responsible for the NOA package, the environmental office usually prepares the documents. The proponent should coordinate the NOA package with the relevant units and office on Post, which includes the Public Affairs Office and the Staff Judge Advocate's Office.

5.3.2. Notice and Distribution of NOA package. After other coordination steps, the MACOM will forward the NOA and the PDEIS to DA for review and comment or revision. DA will coordinate with EPA and notify Congress in a manner similar to that used for the NOI (see paragraph 3.2.2 above and AR 200-2 for detailed information). The NOA will be published in the FR, and simultaneously should be published in the Bayonet, the Columbus Ledger-Enquirer, the Chattahoochee newspaper, and any other suitable media. The Fort Benning website should include the NOA text and at least any summary of the DEIS once approved for release, i.e. after publication in the FR. Because the DEIS may be relatively long, a summary of the DEIS may be distributed in accordance with AR 200-2 Section 651.45(d). News releases should precede the public meeting by at least 15 days, and minimum of 45 days should be allowed for public comment following the news releases or FR NOA publication. EPA also will publish a notice of availability of weekly receipts (NWR) of the DEIS in the FR.

In addition to the announcement of the NOA in various media, Fort Benning is required to make the DEIS available for review. Distribution of the complete DEIS is required unless it is unusually long, in which case a summary of the DEIS may be circulated with an attachment listing the locations where the entire DEIS may be reviewed. At a minimum, the Post will need enough copies of the DEIS for key Installation personnel and for several local libraries, including libraries on and off post. For the DMPRC proposal, libraries that should have the DEIS for review include the Main Post library; the main Columbus Library (Bradley Library or replacement) plus the South Branch; and at least one library in Marion County, which would be closer to the proposed site of the DMPRC on Fort Benning. See AR 200-2 for listing of other entities that may be included in the DEIS or summary distribution. Any person requesting the complete DEIS must be provided with a copy.

5.4. NOA and Public Meeting. Planning for the public meeting should involve a interdisciplinary team which must include the PAO representative, the proponent, environmental specialists, cooperating agencies (if any), and others as appropriate. The planning must be done well in advance to achieve the following goals:

a. a summary of the main DEIS results can be presented in a professional manner using media that is readily understandable;
b. experts in various disciplines are on-hand to answer questions and discuss issues in an appropriate manner;
c. the format encourages the public to provide comments in a manner that they can be documented and considered in further project development; and
d. PAO escorts media and coordinates any interviews or statements.

Be prepared at this public meeting to summarize the comments received from the initial scoping meeting and how those comments were considered in the DEIS preparation.

5.4.1. Preparing for the public meeting. Estimating the date of the public meeting may be challenging given the dependency on approval and publication of the NOA. Fort Benning personnel should make the best estimate of the likely public meeting timeframe and start planning months in advance. Locations and dates for a single or multiple meetings should be determined just as for the scoping meetings in paragraph 4.1 above. The comment period will be no less than 45 days from the publication of the NOA.

Displays and visual aids (charts, photographs, video clips, etc.) should be prepared as described in section 4.1. above for scoping meetings. Graphics should be content-driven and should describe the proposed action; the preferred alternative and other alternatives; the significant potential impacts and mitigation; and public's role in the NEPA process (i.e. opportunity to review DEIS and comment. Layman's terms should be used and acronyms avoided where possible. Complete copies of the DEIS should be available for review, as well as any DEIS summaries, appendices, and referenced documents.

5.4.2. Conduct of the public meeting. This meeting should be conducted similarly to the initial scoping meeting (see section 4.1. above). Entrance to the public meeting should be made by one route so that all meeting participants pass by a welcome table where each is requested to sign in and is given a comment card. Each person present at the public meeting should sign an attendance list providing full name, address, email, and an indication if they would like to be placed on the regular or email mailing list. Comment cards or forms should be provided for those wanting to make comments at the public meeting, and a Fort Benning POC and mailing address should be included on the form so that those wishing to send in comments later may do so. Prior brochures, mailings or other information sheets may also be provided at the welcome table. The welcome table should have a clearly marked box or container for receipt of comments. Plenty of writing utensils should also be provided. To accommodate non-writers or those who prefer oral statements, a court reporter may be employed to obtain comments recorded as verbatim transcripts.

5.4.3. Consideration of scoping meeting comments. All relevant comments will be considered in revising the DEIS. Comments may be summarized and grouped by topic. A response to the comment topics will be prepared, and this summary document will be included in the Final EIS (FEIS). Individual response to comments may also be prudent at this stage. This step may also provide another opportunity for outreach to the public and

stakeholders, i.e. significant issues or recommendation raised by comments could be discussed in a brochure or other media.

6. THE FINAL PHASE. After the close of the timeframe for public comment on the DEIS, the Final Phase begins. Comments requiring DEIS revisions must be incorporated, either by errata sheets for minor revisions or complete revision and production of an FEIS for more comprehensive changes.

6.1. Finalizing the EIS. Preparation, coordination, approval, filing, and public notice requirements for a FEIS are the same as for the DEIS in section 5 above. FEIS distribution will include any person or entity that submitted substantive comments on the DEIS. EPA will publish a NWR in the FR.

6.2. NOA and Record of Decision (ROD). No decision will be made until 30 days after the NWR is published in the FR, or 90 days after the NWR of the DEIS, whichever is later. The ROD includes the decision (which alternative is selected); a description of alternatives considered; explanation of all factors used in making the decision; and an account of avoidance and mitigation requirements. Fort Benning will prepare an NOA to notify the public and stakeholders that the ROD is available. The NOA processing and approval is the same as for the NOI. The NOA will be published in the FR, and the ROD will be distributed to appropriate entities. See AR 200-2, Section 651.45(j) for more information.

6.3. Mitigation and monitoring. Mitigation measures and monitoring requirements will be identified in the ROD. A monitoring plan and enforcement programs will be adopted and carried out by the proponent. Fort Benning will provide the status of the mitigation and implementation and monitoring results upon request. Mitigation and monitoring efforts may also provide a basis for one last update the public and stakeholders about the DMPRC project even absent a specific request.

Prepared By:
Linda M. Veenstra, J.D.
DMPRC Environmental Project Manager
and Environmental Law Specialist
Fort Benning, GA

APPENDIX C

DMPRC NEWSLETTER (sample) and PUBLIC HAND-OUTS/MAIL-OUTS

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF: Environmental Management Division

3 March 2003

Mr. C.J. Robinson, Jr.
3225 Pine Knot Road
Box Sptings, Georgia 31801

Dear Mr. Robinson:

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) and your attendance at the 20 February public scoping meeting in Buena Vista. I apologize for not having enough of the informational handouts at the meeting for everyone. The additional information that you requested concerning the proposed DMPRC is attached.

In addition, please refer to the following website for electronic copies of this and subsequent newsletters and other related documents: www.benning.army.mil/EMD/Legal&PublicNotices.htm.

For further information, please contact Mr. Rich McDowell, Fort Benning Public Affairs Officer, at (706) 545-2211. Please send your written comments regarding the proposed DMPRC to: Ms. Linda M. Veenstra, DMPRC Environmental Project Manager, Meloy Hall (Bldg 6), Room 309, Fort Benning, GA 31905-5122.

Sincerely,

Linda M. Veenstra
DMPRC Environmental Project
Manager

Enclosure:
General Noise Information

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF: Environmental Management Division

3 March 2003

Mr. Darrell Robinson
3229 Pine Knot Road
Box Springs, Georgia 31801

Dear Mr. Robinson:

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) and your attendance at the 20 February public scoping meeting in Buena Vista. I apologize for not having enough of the informational handouts at the meeting for everyone. The additional information that you requested concerning the proposed DMPRC is attached.

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Sincerely,

Linda M. Veenstra
DMPRC Environmental Project
Manager

Enclosures:
Proposed DMPRC Newsletter #1
Proposed DMPRC Newsletter #2
General Noise Information

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF: Environmental Management Division

3 March 2003

Mr. Tom Tidd
909 Brighton Road
Columbus, Georgia 31906

Dear Mr. Tidd:

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) and your attendance at the 20 February public scoping meeting in Buena Vista. I apologize for not having enough of the informational handouts at the meeting for everyone. The additional information that you requested concerning the proposed DMPRC is attached.

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For further information, please contact Mr. Rich McDowell, Fort Benning Public Affairs Officer, at (706) 545-2211. Please send your written comments regarding the proposed DMPRC to: Ms. Linda M. Veenstra, DMPRC Environmental Project Manager, Meloy Hall (Bldg 6), Room 309, Fort Benning, GA 31905-5122.

Sincerely,

Linda M. Veenstra
DMPRC Environmental Project
Manager

Enclosures:
Proposed DMPRC Newsletter #1
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General Noise Information

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF: Environmental Management Division

3 March 2003

Ms. Betty J. Robinson
6571 Georgia Highway 355
Box Springs, Georgia 31801

Dear Ms. Robinson:

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) and your attendance at the 20 February public scoping meeting in Buena Vista. I apologize for not having enough of the informational handouts at the meeting for everyone. The additional information that you requested concerning the proposed DMPRC is attached.

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For further information, please contact Mr. Rich McDowell, Fort Benning Public Affairs Officer, at (706) 545-2211. Please send your written comments regarding the proposed DMPRC to: Ms. Linda M. Veenstra, DMPRC Environmental Project Manager, Meloy Hall (Bldg 6), Room 309, Fort Benning, GA 31905-5122.

Sincerely,

Linda M. Veenstra
DMPRC Environmental Project
Manager

Enclosure:
General Noise Information

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF: Environmental Management Division

17 March 2003

Mr. Kenneth Harmon
263 Young Road
Box Springs, Georgia 31801

Dear Mr. Harmon:

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) and your attendance at the 20 February public scoping meeting in Buena Vista. I apologize for not having enough of the informational handouts at the meeting for everyone. The additional information that you requested concerning the proposed DMPRC is attached.

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For further information, please contact Mr. Rich McDowell, Fort Benning Public Affairs Officer, at (706) 545-2211. Please send your written comments regarding the proposed DMPRC to: Ms. Linda M. Veenstra, DMPRC Environmental Project Manager, Meloy Hall (Bldg 6), Room 309, Fort Benning, GA 31905-5122.

Sincerely,

Linda M. Veenstra
DMPRC Environmental Project
Manager

Enclosure:
DMPRC Newsletter

COMMENTS OR QUESTIONS?

Any questions or comments regarding the proposed DMPRC should be directed to:

Mr. Rich McDowell
Public Affairs Office
Fort Benning, Georgia
(706) 545-2211

COMMENTS

More information on impacts and mitigation can be found in the DEIS and BA. Both documents will be available to the public upon completion.

If you would like to be placed on the DMPRC mailing list and receive future notices and information, please contact Rich McDowell at (706) 545-2211.

DIGITAL
MULTI-PURPOSE RANGE COMPLEX

Environmental Management Division
Meloy Hall (Building 6), Room 310
Fort Benning, GA 31905

TO:

FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

VOLUME III October 2003

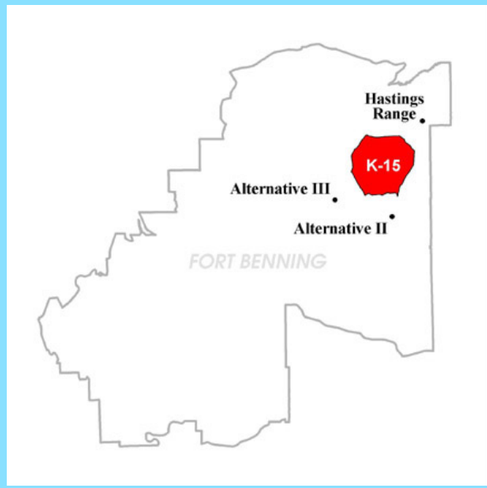
OVERVIEW

Fort Benning is committed to producing a well-trained and mobile Army. In an effort to provide Soldiers with advanced gunnery training, Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC) for tank and Bradley Fighting Vehicle (BFV) crews.

The current advanced gunnery range has inadequate firing distance, antiquated targetry, and non-digitalized equipment. The proposed DMPRC will offer technologically advanced and realistic training on a modern range complex. Soldiers training on the proposed range will be challenged by both static and mobile targets as well as hostile fire simulations. The proposed DMPRC will also have the capability to evaluate training missions much sooner than current ranges, allowing units to fully capitalize on their time on the range.

Fort Benning is considering building the proposed DMPRC on one of two areas, or Action Alternatives, both in the northeastern part of Fort Benning. Like the rest of the Installation, this region is environmentally diverse and conducive to several species and natural resources. Construction of the proposed DMPRC may effect species and resources located in either of the Action Alternative areas.

Fort Benning is studying the potential effects of the proposed DMPRC and is proposing to implement programs and actions to counter any significant negative impacts and continue the Installation's environmental stewardship.



MAP OF ACTION ALTERNATIVE AREAS, IMPACT AREAS, AND HASTINGS RANGE.

PROTECTED SPECIES

FEDERALLY THREATENED OR ENDANGERED SPECIES

Federally threatened or endangered species (plant or animal) are protected under the Endangered Species Act. There are 5 Federally listed threatened and endangered species on Fort Benning.
--Red Cockaded Woodpecker (RCW), Endangered
--Wood Stork, Endangered
--Bald Eagle, Threatened
--American Alligator, Threatened
--Relict Trillium, Endangered

STATE PROTECTED SPECIES

State protected species do not fall under the cover of the Endangered Species Act, but are species of conservation concern that are indigenous to the state of Georgia. There are 96 found on Fort Benning, including the Gopher Tortoise. Under Army Regulation 200-3 Fort Benning considers impacts to state protected species when making decisions that directly effect their habitat.

GAME

Game species are regulated by Installation personnel, Georgia Department of Natural Resources, Alabama Department of Natural Resources, and United States Fish and Wildlife Service (USFWS). Game species on Fort Benning include the white tailed deer, wild turkey, bobwhite quail, large mouth bass, rabbits, and catfish.

FORT BENNING'S LANDSCAPE

Fort Benning occupies approximately 185,000 acres of primarily rolling land, which stretches through the states of Georgia and Alabama. The Installation's location encompasses both Piedmont and Coastal Plain habitats. Because of this unusual landscape Fort Benning is the perfect host to a plethora of species.

RED COCKADED WOODPECKER (RCW)

This tiny non-migratory bird gets its name from the small red feathers located on the sides of the male's black cap. RCWs create nesting cavities in mature pine trees. Their social structure consists of mating pairs and several "helpers." The RCWs within a group help to defend territory and gather food. The area in which a group roosts and nests is known as a cluster.

RCWs are classified as a Federally endangered species, meaning they are protected under the Endangered Species Act because of documented decline in population and reduction in available habitat. They are the only Federally protected species living within the Action Alternative areas for the proposed DMPRC.

Fort Benning has one of the largest RCW populations in the southeastern United States and is chosen by the USFWS to assist in recovering the RCW. Recovery efforts include creating and installing artificial cavities, conducting prescribed burns, and tagging young RCWs in an effort to track the establishment of new clusters. There are currently 311 manageable clusters on Fort Benning, and the population continues to grow.

Construction of the proposed DMPRC will probably result in loss of RCW habitat. To minimize the effects of construction in either Action Alternative areas, Fort Benning wants to accelerate efforts to establish new RCW habitat in other locations on the Installation, and reclaim RCW clusters within an ordnance impact area for management. A reduction in required habitat and relocation of recruitment sites are more of the options under consideration.

GOPHER TORTOISE

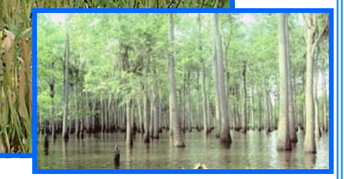
The gopher tortoise is the only dry land tortoise east of the Mississippi. Its high domed shell can reach up to 15 inches. The tortoise has stumpy hind legs and forefeet that are flat and feature large toenails for digging burrows. Their burrows can stretch to 30 feet in length and nine feet below the surface.

Like the RCW, the gopher tortoise co-exists well with active ranges. However, the construction of the range will require digging and other activities that may disturb the burrows in which the tortoises live.

The gopher tortoise is listed as threatened in the state of Georgia. There are gopher tortoise populations located in the Action Alternative areas for the proposed DMPRC. Even though the gopher tortoise is not a Federally protected species, Army Regulation 200-3 requires that Fort Benning considers potential impacts to this and other state protected species during the DMPRC planning process. One possible mitigation action is to relocate the gopher tortoise before range construction.

WETLANDS

Wetlands typically host several species of plant and animal life because they feature both dry land and aquatic characteristics. They act as mechanisms for water purification, erosion control, and flood control.



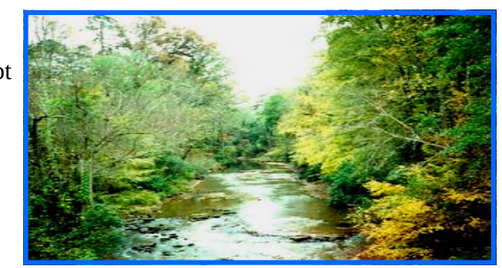
Before the 1972 Clean Water Act, wetlands were often considered to be nuisances. They were routinely drained and used to develop farmland throughout southern states. Now the protection of wetlands is regulated by the US Army Corps of Engineers.

There are about 16,926 acres of wetlands on Fort Benning, some of which are located in the Action Alternative areas for the proposed DMPRC. Most will be avoided through range design, however some wetland acres will likely be impacted by range roads and targetry. For those acres that cannot be avoided, the installation is considering compensating their loss by restoring other wetlands on Fort Benning and/or purchasing wetland credits from area wetland banks, or other mitigation.

STORM WATER/EROSION CONTROL

Most of the soil on Fort Benning can be classified as "highly erodable." Because of this soil characteristic, storm water can create an abundance of sediment in Fort Benning water bodies.

When these water bodies exceed the established Total Maximum Daily Load (TMDL), which is the state water quality standard for a particular pollutant, they are classified as "impaired." Pollutants can include an abundance of sediment.



The proposed DMPRC could contribute to soil erosion if not properly managed. This may result in the release of sediment into streams in the Action Alternative areas. In order to minimize the amount of sediment released during the construction and use of the proposed DMPRC, best management practices such as those required by the National Pollutant Discharge Elimination System (NPDES) permit will be implemented. Fort Benning is also attempting to develop a design that will decrease future sediment issues.

DOCUMENTS FOR REVIEW

Fort Benning embraces its responsibility as a good environmental steward and therefore requests input during the DMPRC planning process. The following documents will be available for public review upon their completion.

—A Biological Assessment (BA) contains information about Federally protected species and proposals to minimize impacts.

—The Draft Environmental Impact Statement (DEIS) is a description of the affected environment, potential impacts, and proposed mitigation. The public will be allowed to comment on this document.

APPENDIX D

DISTRIBUTION LIST

APPENDIX D
DISTRIBUTION LIST

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1350 13th Avenue
Columbus, GA

WPNX (1640 AM) and WVRK (103 FM)
Attn: Legals
1501 13th Avenue
Columbus, GA 31901

WTVM TV 9 (ABC)
Attn: Legals
1909 Wynnton Road
Columbus, GA 31994

WXTX TV 54 (FOX)
Attn: Legals
6524 Buena Vista Road
Columbus, GA 31994

WDAK (540 AM) and WSTH (106 FM)
Attn: Legals
1236 Broadway
Columbus, GA 31901

WOKS (1340 AM) and WXFE (105 FM)
Attn: Legals
P.O. Box 1998
Columbus, GA 31902

WRCG (1420 AM) and WCGQ (107.3 FM)
Attn: Legals
1327 Warren Williams Road
Columbus, GA 31906

Columbus Times
2230 Buena Vista Road
Columbus, GA 31906

Tri-County Journal
P.O. Box 850
Buena Vista, GA 31803

Savannah Morning News
P.O. Box 1088
Savannah, GA 31402-1088

WHRQ Radio
1102 East 52nd Street
Savannah, GA 31404

WGSY (100 FM)
Attn: Legals
1501 13th Avenue
Columbus, GA 31901

WAGH (98 FM)
Attn: Legals
3015 University Avenue
Columbus, GA 31906

WKCN (99.3 FM)
Attn: Legals
1253 13th Avenue
Columbus, GA 31901

Ledger Enquirer/Benning Leader
Attn: Legals
Post Office Box 711
Columbus, GA 31994

Advertiser Company
Attn: The Bayonet
1819 South Lumpkin Road
Columbus, GA 31903

Mellow Times News
2904 Macon Road
Columbus, GA 31907

WSAV-TV
1430 East Victory Drive
Savannah, GA 31404

Savannah Business Report and Journal
5 Oglethorpe Professional Court
Suite 100
Savannah, GA 31406

VI. FORT BENNING and FORT STEWART OFFICIALS

BG Benjamin C. Freakley
Commanding General
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-OT
Fort Benning, GA 31905

Colonel (P) Stephen P. Layfield
Deputy CG/Assistant Commandant
Infantry Hall (Bldg 4)
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-IM
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-JA
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-AG
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PA
Fort Benning, GA 31905-0798

Commander, U.S. Army Infantry Center
Attn: ATZB-PS
Fort Benning, GA 31905

Commander, U.S. Army Infantry Center
Attn: ATZB-PSF
Fort Benning, GA 31905

Commander, 75th Ranger Regiment
Building 2834
Fort Benning, GA 31905

Commander, 2nd Brigade
1009 Gulick Avenue, Ste 100
Fort Stewart, GA 31314-4433

Naresh Kapur
HQ FORSCOM (AFEN-ENE)
1777 Hardee Ave NW
Ft McPherson GA 30330-1062

CERL-ERDC
ATTN: Paul Loechl
P.O. Box 9005
Champaign, IL 61826-9005

Commander, 3rd Brigade, 3rd Infantry Division
Building 9050 (Kelley Hill)
Fort Benning, GA 31905

Commander, 29th Infantry Regiment
Building 5500 (Harmony Church)
Fort Benning, GA 31905

Commander, 11th Infantry Regiment
Building 2749
Fort Benning, GA 31905

Commander, 36th Engineer Group
Building 2827
Fort Benning, GA 31905

Commander, Ranger Training Brigade
Building 5024 (Harmony Church)
Fort Benning, GA 31905

Commander, Infantry Training Brigade
Building 3410 (Sand Hill)
Fort Benning, GA 31905

Myra Todd-Tlacuatl
Environmental Specialist
Environmental Branch
Directorate of Public Works
Fort Stewart, Georgia 31314

Edward W. Hill
NEPA Manager
HQ FORSCOM (AFEN-ENE)
1777 Hardee Ave NW
Ft McPherson GA 30330-1062

Installation Management Agency
Operations Division, Environmental &
Natural Resources Branch
ATTN: SFIM-OP-E (Pamela Whitman)
2511 Jefferson Davis Highway
Arlington, VA 22202

APPENDIX E

COMMENTS RECEIVED AT FEBRUARY 2003 PUBLIC SCOPING MEETING AND OTHER COMMENTS RECEIVED THROUGH 1 OCTOBER 2003

PUBLIC COMMENTS RECEIVED AT SCOPING MEETINGS FOR THE FORT BENNING DMPRC

The Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on 31 January 2003 to formally start the public scoping process, which lasted until 7 March 2003. The NOI, in addition to notices of meeting, were also published in local area newspapers, including the *Columbus Ledger-Enquirer*, the *Tri-County Journal*, and the *Savannah Morning News*. Fort Benning's other requests for comments were presented in newsletters and on the Installation website. Many comments were received in response to these public outreach and involvement efforts.

Public scoping meetings for the proposed Fort Benning DMPRC were held on 18 and 20 February 2003 in Columbus and Buena Vista, GA, respectively. More than 100 people were present for these meetings and many submitted verbatim or hand-written comments concerning the proposed DMPRC; the comments received as of 31 October 2003 are enclosed in this appendix.

Fort Benning has considered all comments received (via telephone, mail, and email) in the preparation of the Draft Environmental Impact Statement (DESI) for the DMPRC, as summarized in the paragraphs below by media and as indicated in the document responses.

Concerns regarding noise levels, both existing and future, potentially impacting communities near Fort Benning generated the most comments from the public, resulting in 18 separate comments. Information on existing and potential future noise levels, to include a definition and explanation of how noise is measured, is in Section 3.2.9 of the DEIS. The potential environmental consequences (effects) of noise resulting from each of the three alternatives addressed in the DEIS is presented is Section 4.11. Fort Benning also analyzed the potential cumulative effects of noise in Section 5.4.6.

Concerns regarding other media were also received and addressed in the same manner as above. Three comments were received regarding public health and safety; information on this issue is presented in Sections 3.2.13, 4.13, and 5.4.7. Two comments were received regarding land use concerns; this information is presented in Sections 3.2.2 and 4.8 One comment was received concerning wetlands and water quality; information on this issue is presented in Sections 3.1.3 through 3.1.4, 4.2 through 4.3, and 5.4.2 through 5.4.3.

Public and stakeholder involvement and comments are ongoing. Comments received after 31 October 2003 will be considered when received and used in preparation of the Final EIS.

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

- [ ] Wetlands
- [ ] Cultural Resources
- [ ] Land Use
- [ ] Protected Species
- [ ] Noise
- [ ] Erosion
- [x] Other: Lives near Hastings Range.

Caller's Name: Jeanette Weibelfleet. Date of Call: Tues, 22 Oct 02

Caller's Address: 73 Pecan Place, Buena Vista, 31803

Caller's Email address (optional): _____

Comments

Received 1st Newsletter. Wants to know when public meeting will be held and where. Call or send info: (no ph # given). Update address to that given above.

Taken by: Linda Veenstra, on voicemail/message.

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

NOISE

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

- [ ] Wetlands
- [ ] Cultural Resources
- [ ] Land Use
- [ ] Protected Species
- [x] Noise
- [ ] Erosion
- [x] Other: ISSUES WITH NOISE & VIBRATION FROM HASTINGS' RANGE ON OTHER AREAS.

Caller's Name: DANIELLE HUDSON Date of Call: 24 Oct 1300

Caller's Address: 92 SPIKE PLACE, 31801

Caller's Email address (optional): SHUDSON@INTERNET.COM

706-326 3724

Comments

WOULD LIKE NOTICE FOR FIRST PUBLIC MEETING VIA E-MAIL. SEEMS ANGRY AT THE PROSPECT OF A RANGE NEAR HIS PROP. HE MAY CONTACT OTHER INTERESTED PROPERTY HOLDERS WHO SHARE HIS OPINION.

J. BRENT

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

☐ Wetlands ☐ Cultural Resources ☐ Land Use

☐ Protected Species X☐ Noise ☐ Erosion

☐ Other: _Location of proposed range_____

Caller's Name:_Chuck Garland _____ Date of Call: _31 Octobe 2002 _____

Caller's Address: Shamanski Rd/Hwy 355, Marion Co._____

Caller's Email address (optional): _____

Comments

Mr. Chuck Garland who resides in rural Marion County, very near the installation boundary at the bend of Shamanski Rd/Hwy 355, across from K17/K19 training areas, where Pine Knot Creek crosses the installation boundary. Mr. Garland said that he had received the DMPRC newsletter and wanted to know if the proposed range was going to be constructed near his house - directly accross the boundary. I answered that to my knowledge, the proposed range location was much further away, inside the installation, approximately the same latitude but west of Buena Vista Rd. approximately 4 miles away from his residence. He asked if the loud firing that takes place directly across the boundary and rattles his house from times to times was going to continue after the range is constructed. I told him that I couldn't answer that for sure. I told Mr. Garland that another newsletter with more detailed information was coming out in the next few weeks. I mentioned to him that any comment or concern he may have about this project were welcomed and I even encouraged him to "stay in touch." I clarified, however, that the preferred way to get in touch with us was through the Public Affairs Officer whose name appears on the newsletter. He said he had tried to reach Mr. McDowell but his office told him that he was out.

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

Kendrick, Melissa B-Contractor

From: Veenstra, Linda
Sent: Friday, November 01, 2002 9:16 AM
To: Chauvey, Patrick P; Kendrick, Melissa B-Contractor
Cc: Brent, John J; Weekley, Fredrick E. Jr.; McDowell, Richard J
Subject: RE: DMPRC Newsletter

Patrick, good summary of your discussion. It's great to know that people are getting our newsletters and reading them!! From the few calls that we've received we should anticipate further questions and concerns from the neighbors along our NE boundary.

Everyone should remember to encourage folks to send in written comments and attend the public meetings - now tentatively planned for mid-January. Also, please use the phone call sheet that Melissa generated as an easy way to record and keep track of comments by phone. See attachment. Those should go to Melissa, but let me know of any issues raised, as Patrick did here.
Melissa, attaching Patrick's email to a phone record sheet would probably be easiest. Thanks,

Linda V.
Linda Veenstra
Environmental Project Manager - DMPRC
Bldg 6, Room 310 (ATZB-JAA)
Fort Benning, GA 31905-5000
706-545-8072 (x58072 for messages)

PhoneCall log.doc

-----Original Message-----
From: Chauvey, Patrick P
Sent: Thursday, October 31, 2002 11:58 AM
To: Veenstra, Linda; McDowell, Richard J
Cc: Brent, John J; Weekley, Fredrick E. Jr.
Subject: DMPRC Newsletter

Linda/Rick:

Today I received a telephone call form Mr. Chuck Garland who resides in rural Marion County, very near the installation boundary at the bend of Shamanski Rd/Hwy 355, accross from K17/K19 training areas, where Pine Knot Creek crosses the installation boundary.

Mr. Garland said that he had received the DMPRC newsletter and wanted to know if the proposed range was going to be constructed near his house - directly accross the boundary. I answered that to my knowledge, the proposed range location was much further away, inside the installation, approximately the same lattitude but west of Buena Vista Rd. approximately 4 miles away from his residence.

He asked if the loud firing that takes place directly accross the boundary and rattles his house from times to times was going to continue after the range is constructed. I told him that I couldn't answer that for sure.

I told Mr. Garland that another newsletter with more detailed information was coming out in the next few weeks. I mentioned to him that any comment or concern he may have about this project were welcomed and I even encouraged him to "stay in touch." I clarified, however, that the preferred way to get in touch with us was through the Public Affairs Officer whose name appears on the newsletter. He said he had tried to reach Mr. McDowell but his office told him that he was out.

Patrick Chauvey
Chief EPMB

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

☐ Wetlands ☐ Cultural Resources ☐ Land Use

☐ Protected Species ☐ Noise ☐ Erosion

☒ Other: EIS enquiry

Caller's Name: not given - EarthTech Date of Call: 13 Feb 03

Caller's Address: not given

Caller's Email address (optional): not given

Comments

Call was to ask who (if anyone had been contracted to do EIS for DMPRC. When I stated it was in-house, they thanked me & hung up. There was no chance to get a name and number.

Taken by: Melissa B Kendrick

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

DMPRC Public Scoping Meeting

February 18, 2003

Elizabeth Bradley Turner Center
Columbus State University
Columbus, Georgia

February 20, 2003

Marion County Court House
Buena Vista, Georgia

Per instruction from Ms. Linda Veenstra, the following are statements recorded and transcribed from attendees who wished to make verbal comments on their issues and concerns about the DMPRC Project. We requested name, address, telephone, and email address from each person. We also asked if they wished to be added to the DMPRC Project mailing list, if they were not already on it.

Columbus, Tuesday, February 18

1. **Mr. Paul W. Bourff, Sr.**

2. **Ms. Frances Veal**

Buena Vista, Thursday, February 20

3. **Ms. Cherry Kersey**

4. **Mr. Robert L. Swint III**

5. **Ms. Deborah Robinson**

6. **Ms. Marion Matthews**

7. **Ms. Jacque Costine**

– 1 –

Mr. Paul W. Bourff, Sr.
408 George Cannon Rd
Juniper, GA 31801
home 229-649-9932, office 706-568-4887, limousin@sowega.net
Currently receives DMPRC Project mailings.

My biggest concern right now is concussion. Because concussion from the weapons that are being fired out there right now are destroying what we have built out there. I am not against them having more training at Fort Benning. I understand that the more training we do here, the better chance Fort Benning as a base has to survive the worldwide cuts in military bases and things of this nature. So I understand that and what it does for the city of Columbus and the ten counties surrounding the area, or whatever. I don't have a problem with that.

The problem I have is, when I bought this place in 1983 you were building Hastings Range. You, being the military, were building Hastings Range. It was supposed to be a 50 caliber range – 50 calibers – rat tat tat tat tat. That's fine – doesn't disturb a whole lot. Then they started bringing M60 A1 tanks in there, firing 100 mm cannons. The concussion from those cannons knocks out foundations, causes older homes, like the old house that was on the homestead, you could see the old fireplaces vibrating before they eventually fell down from the concussion from the cannons. We upgraded to an M60 A2 or M60 A3 tank with a 120 mm cannon on it; the concussion got worse. I've got an 8,000 sq ft house out there that sheetrock is cracking on. You can repair it. They'll go out there and fire for a week in a _____ again. Ok, you can say well maybe your foundation isn't good enough. Well, we're on sand. Everybody has to build a foundation good enough to be on that sand. We know that. Cabinet doors open. Glasses fall out of cabinets. Pictures fall off the walls. I've had smoke detectors shaken out of the ceilings to where they just pop out, even though they've got plastic anchors in the sheetrock. So we've got some real problems and those problems need to be addressed. They've never been addressed before. It's always, "We'll look into it."

I've had Fort Benning run in to my fences. Let me say I'm sitting there on 300-some acres and I've got a cattle operation out there. So everything is fenced and crossfenced. I've had to go get my cows off Hastings Range at 3:00 or 4:00 o'clock in the morning because the army has called up and said, "Your cows are out here. We've got to stop firing." Well, then you go out there and find out where some military vehicle swiped the corner, took the corner of the fence out. That's why the cows are out there, you know? And so I've got to get out there and get the cows back because they can't drive. A little bit of an irritation there.

I've been promised a berm. They were going to build a berm. They never built it. They were going to put trees, and plant trees out there to kind of cut down some

of the noise. The trees never got planted. They were going to build a fence all the way around the back side to keep the GIs from coming over there. I had to get out there one time and hold some of them at bay until the MPs got there. And I was younger then, and probably wouldn't do that today. And they had to get the sheriff and everything else, because they were taking my fence posts and using them to make fires with. I mean, Fort Benning won't allow them to cut the pine trees down. They put them in jail for that. So they shake your fence posts out of the ground and use them for firewood.

Fort Benning is not always a good neighbor. Sometimes they've been a good neighbor. Other times they've been a terrible neighbor. And I'm concerned with what they are going to do with Hastings Range if they go with this alternative.

Right now it looks like that Alternative III would be a lot better for me as an individual because I'm sitting a half mile from Hastings Range. In fact, my actual back fence is Hastings Range. I'm a half mile from the tower. And from the pad that they are firing from up on top, I'm probably less than a half mile. My house is only maybe a mile or mile and a quarter from that pad. And they fire back toward me, so I get a lot of concussion blast as they fire southeast on the post.

If they go with Alternative III, and we know that they are going to have 120 mm main cannons out there, for me as an individual, if they would go back to firing only 50 calibers at Hastings and do all the heavy firing at Alternative III, that's good for me, as an individual, as a person living where I live right now. Now how it's going to affect other people living down off of 137 and so forth, that's another question.

But are they going to do the same thing they did with Hastings Range? Are we going to say we're going to fire 120 and 130 mm cannons and in reality, the next thing we know, we got "big babe" out here – you know, the biggest artillery piece that the army might have. Are we firing it then? The concussion is going to be much greater from it – probably similar to a 500 pound bomb instead of a 120 mm main cannon. So those are issues.

Another issue is, right now they fire southeast away from me. If they take this Alternative III or IV, they're going to fire right at me. The next question is, what's the maximum range on these pieces? Do they have the capability to reach me? I have six kids out there, and 200-300 cows out there. I'd rather lose the cows, the dogs, the horses, and things of that nature than I would the children, but I want to know, are my children safe playing out there? The youngest one is 11 years old. He's going to be there 7 more years. Are my wife and I going to be safe in the house? I've had a bull killed out there. The army paid us $18,000 for a bull that some GI shot riding through the woods. He just ripped off a magazine and happened to hit a bull. I had to go to the crime lab. I had to get help from the State of Georgia to come down there and prove that it came out of a military weapon – what issue, what year that weapon was made. If I hadn't been on the

police department at that time I might not have had the contacts to get everything done, but we got the Georgia State Crime Lab involved and they worked it all out and the army paid us for the bull. So I know there are things that can happen. There are dangers.

I've had to call the MPs out there. They've had to bring out their bomb squad and pick up munitions that have been dumped on my property because they didn't want to take them back to Fort Benning. I've picked up 50 caliber rounds in belts – maybe 100 to 150 rounds in belts. I've had all kinds of problems with flares and everything else out there. It's just a constant thing in our lives. So if we're going to make changes, I want to make sure those changes are for the good if I can. At least get our opinion in.

If I went on and on and on, you and I could sit here until that tape ran out. I mean I could tell you all the things we've had in the last 20 years. How many times I've been up there to Rich McDowell's office. He used to be a colonel before he was a civilian. I used to make a trip up there every week and dump out an FRM feedbag sack full of stuff that I picked up that was being thrown over the fence by the GIs going up and down.

We've lived with this for 20 years. I don't want it to get worse. If they are going to build this area so that the GIs don't have to go to Stewart, I understand that. I understand the impact on Columbus. I understand that base closings is an issue, but I'd like a little more peace out there and a little more cooperation out of the government with what they are doing. And a little more truthfulness as to what their plans are. If we started Hastings Range as a 50 caliber and we're firing 120 mm main guns out there, and everybody goes along with this Alternative III, and they start firing artillery pieces, and they still use Hastings Range to fire 100 mm and 120 mm guns, my situation has gotten no better – it's gotten worse. If they build this Alternative III, they say they can only do limited firing now at Fort Benning, and that's true. Hastings Range only gives them limited capabilities. But once they build this new range, they might be firing seven days a week – where now they fire a couple times a month, heavy, usually after 11:00 o'clock.

And that's another thing; when Gen. White was here he stopped them from firing after 11:00 o'clock. Then the next general came in – I think it was Gen. Hendrix; he had been here as a Deputy Commander, and him and his wife came back – and he was commander, and he said that messed the mission up. They needed to do more night firing. Well, that's when most of us need to sleep. And if you were ever sitting in my house at 11:30 at night when they started firing, you would understand where we're coming from.

It's caused us lots of problems. I've bought cows that were pregnant, that had never been to my farm – hauled them from Kentucky, Texas, or whatever – bring them here, and they calf early. They start firing and scare the hell out of them.

They start running all over the pastures. It caused us lots of problems. The cows that are born there – no problem. They're used to the ground shaking and everything going on, so it doesn't bother them. But being a seed stock producer like we are, and dealing with purebred animals, you're always going out and buying the best you can buy someplace else and bringing them in.

We're not even talking right now about the helicopters that fly over and scare the hell out of everything. We've got a Red Cross helicopter that comes across – we'll it's got a red cross emblem on it – a medivac helicopter is what it is. And I swear that guy gets down as low as he can. He's below treetop level. I watched him one time almost go into the power lines. And he gets right above those cows – likes to chase them across the field. And then he's gone, back into the woods. I wonder sometimes if he's even a soldier because it's been happening too long. That soldier should have left here and went someplace else. But I was a soldier and I know how soldiers act, and how those things happen.

Basically those are my concerns. Without getting any feedback from you, that's what I have.

Ms. Frances Veal
56 George Cannon Rd
Box Springs, GA 31801
Currently receives DMPRC Project mailings.

Some of my concerns are: the noise level, the repercussions from the actual firing, you know how the sound goes through the trees and shakes. The noise doesn't bother you; that is the part that gets to you. You know, that's the part that makes everything rattle and shake. You know, sometimes that can be damaging to some people's property – is that repercussion. So how is that going to be affected by this change? The other thing is, which direction are these bullets going to be going? Is it going to be firing toward my home, and from what I understand, it will be.

The Bradley tanks, [according to?] the gentleman over there, and the Abrams tanks do not fire that far. But the soldier out there with the machine guns and whatever; those bullets can get to my property. I have grandkids who like to ride four-wheelers on my property. And my property is just adjoining. Fort Benning is my neighbor – my closest neighbor. So there's that possibility – that's a concern.

The other concern is the environmental impact study. Does this mean that if they deem it, that they are going to have to put this ranger closer to my house rather than farther away from my house, which, I like the idea of them moving farther away from my house, except that they are going to be firing at me now, instead of away from me, because we're right next to Hastings Range now. I mean, we go off of our property and we're on Hastings Range. So they'll be firing toward us instead of away from us – that could be a concern.

Now these animals that are on the endangered species? They have to move that thing closer to my house? Which direction will they be shooting it at? And then the noise level and the environmental to our homes and everything? Is it going to come up and so, ok, it's too dangerous for you to live here anymore, so we're going to buy you out and let you move someplace else.

The government says they have to give you fair market value, right? What is fair market value going to be if nobody is going to buy the house because they can't move there anyway? So what is fair market value? That's a question.

Now if one of the reasons why they cannot move the range there because of the endangered species, like the bird, the woodpecker, would it be possible to transfer those birds to private property? And if so, what all is involved with that? How much government would be involved, having people walking on our properties making sure the bird is in a safe place? How much privacy do I have

from there? What regulations are going to be involved with that if they decided to do that? What are the advantages and disadvantages of that?

One of the reasons we like living in the area that we are is privacy. We don't have a lot of next door neighbors. I mean you walk out of our back door into your back door. You've got to go places. You know, you've got to go down the road, or you've got to get in your car and go to your neighbor's house. We like that. We'd like to keep it that way. But the noise level, and those birds, and those tortoises, and we've got plenty in our yard already, but how is that going to affect all that? Those are some of my questions that I'd like to have addressed.

In 1977 the government, Congress was looking at it, because the general, or whoever was in charge at Fort Benning, wanted to take over a certain amount of property from the reservation over to Highway 41 down to Buena Vista and up to Juniper. And the power line was in the way so they moved the power line, which passes my property, and a whole lot of other people. Well since that time we've had a whole lot of people move into the area. A lot of people did not get this notification because they don't take the local paper. They work in Columbus all the time. May not get the Columbus paper because they don't have time to read the paper, and not on the internet because we don't have that good of internet access. So the notifications are in, already my address is 30 years old that I'm getting mail from, so a lot of my neighbors are not getting notified that this is happening.

In the 70s Congress said that they would not acquisition our properties at that time because they were going to do an environmental impact study on the environment, what kind of wildlife was in the area, what kind of plants and things like that was, I forgot fish, that sort of thing, was in the area. How was it going to impact all of that? We've got to do an environmental impact study to see how it's going to affect that. So now they're saying, 20 years later, or so many years later, we're doing an impact analysis study. We want your input because we want to move the range over here, but what is behind all this, other than we want to digitize this and make it more technologically usable. So where are all these things coming from, other than it's just new technology and we need to update it?

They said in ten years they were going to review this, but Congress didn't review it because of the economy the way it was at that time, and there were no wars going on. Now we have President Bush ready for war. He's got to train his people. All right, it's going to take two years to build it, they say. And does that mean two years if they work around the clock doing it? If they work around the clock, does that shorten it to one year? In two years? How much time is it going to be before they get this thing ready so that they'll be ready for war, that they're fighting now?

The other thing was the airplanes from all the other air bases that come over and bomb in that area. They will continue to bomb. And how is that noise going to

increase? Because when they fix this range up to be more modern, we're going to have a lot more people training on it than what we do now. We're going to have a lot more activity. How much activity is that going to increase? So what is the long term view of this? How are they going to do that? And if they don't move that range in the center of Fort Benning, but move it closer to where the people live, what's the safety in that? What's our property values going to be? What is our kids that's on the four-wheelers riding around the property – how much danger are they in of getting shot?

So those are some of my questions. I think that's enough for right now. I'll be at the Thursday night meeting.

– 3 –

Ms. Cherry Kersey
424 Cheyenne Rd
Columbus, GA 31904
706-322-8919
cherryupnow@knology.net
Would like to be on DMPRC Project mailing list.

I was raised in Buena Vista and enjoy the peace and quiet except for the occasional firing that we heard growing up. And I hope to retire here one day and I am concerned about any additional noise factors or fallout, and I'd just urge whoever's in charge to look at things with that in mind. Buena Vista is a beautiful place that ought to be preserved.

Mr. Robert L. Swint III
1141 Georgia Hwy 41 North
Buena Vista, GA 31803
229-649-7590
swintb@sowega.net
Would like to be on DMPRC Project mailing list.

My name is Robert Swint and I've been a resident of Marion County, Buena Vista, Georgia for 50 plus years. I'd like to go on record as being in opposition to this proposed project on the basis of concerns for public safety and irreparable harm in environmental impact. There's an array of laws governing our country to protect our environment, including – this is not an all-inclusive list, but a lot of the concerns I would be for sera 313, 311, and 312 chemicals, irreparable harm, impact on the national air quality standards. There are a lot of residents that live adjacent to the proposed sites. Personally, I own property in the county within a distance that would be a concern to me and my family. Thank you.

– 5 –

Ms. Deborah Robinson
6739 Georgia Hwy 355
Box Springs, GA 31801
229-649-6520
Would like to be on DMPRC Project mailing list.

I'm very disappointed that I didn't receive a letter, being that I live on the boundary line. There's only one land owner that lives between me and the reservation line. So I heard about this through the news.

The noise level where I live is greater than the 75db. The asphalt in my driveway is cracked. There's a lot of vibration. The dishes shake. The whole house vibrates. And there are certain times that when they bomb it sounds like somebody is trying to knock the door down, in the middle of the night.

I think that they should have a timeframe where they don't shoot after 10:00pm. We do have children that try to sleep and go to school the next morning. I think that this should be more centrally located since the military reservation has so much land – that it should be more in the middle where there are no people.

I'm not really informed enough, and they should have had the meeting inside. It's cold out there tonight.

– 6 –

Ms. Marion Matthews
922 Pineknot Farms Rd
Box Springs, GA 31801
229-649-2464
Would like to be on the DMPRC Project mailing list.

I went over there to ask the environmental guy, because I've heard of different… I work in a store so I see a lot more people, you know, it's like connecting the dots, we talk about different things. Well, it seems to me, I'm wondering, when they fire all these guns – the gun powder, the lead, that stays in the ground and stuff, you know?

We have the clouds that come over. Well that's dropping stuff. And then you've got the water out there. So where's all this stuff going? Is it sitting in there? Are these people, their kids having higher lead levels because of the stuff that's sitting in the ground and seeping down into our drinking water? You know? Is there somebody that can do a study on that?

He said out there that they study the running water. Well that's running water – that's moving on. It's constantly being produced, with the rain and all that kind of stuff, but what about our drinking water up underneath the ground?

Where we are in that north Marion County area, we don't have county water, which I wouldn't get anyway. I don't want some human having an accident, then I drink whatever they mess up on, you know? But I wonder about my ground water. With all their stuff sitting over all that land, whatever is in all the rain – smoke and powder and all that kind of stuff. So I have concern about that. I'd like them to tell me if they can do a study on that. Like I say, I hear different people talking about how their children's lead levels are up. And I want to know.

And that's my comments. I want them to check it, you know?

– 7 –

Ms. Jacque Costine
265 Fawn Drive
Box Springs, GA 31801
229-649-4924
davidcostine@hotmail.com
Wants to be on the DMPRC Project mailing list.

Where we live we've always experienced a lot of dust. Usually when the ranges are firing we experience a lot more dust out where I live, because I live a half a mile from the Fort Benning border of Hastings Range.

And the other problem we've got is the times when, I don't know if it's CS gas or what it is, but there's something in the air that comes in with the wind, and it will burn our eyes and our nasal passages. And I was in the army, so I have an idea that it's probably some loose CS gas from training or whatever is going on.

My biggest question is, when I moved out there I knew there was sand. You know, I knew there was dust. I didn't realize the extent Fort Benning was at the time that I moved in. But what I want to know is, is it going to increase? Is it going to be worse? Because we all seem to have respiratory problems in our general area because of the amount of dust.

I have a four year old grandson that lives with me, and when he comes in crying because the wind hurt his eyes, you know, I'd like to know what I can do other than move? You know, if that's the only option I've got, then that's what I'll have to do, but I'm wanting to know if this new plan is going to make it better, make it worse?

The sound, I've kind of figured out if they go to the new plans, it will be muffled more because my area won't be used as much to the extent that it was. But basically that's what I would like to know. You know, what they're expecting in the environmental study on the dust and lead, and stuff like that in the air. I don't see how you can fire that many rounds and something not be in the air.

And I'd just like to know what the situation is going to show. Thank you.

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

- [ ] Wetlands
- [ ] Cultural Resources
- [ ] Land Use
- [ ] Protected Species
- [x] Noise
- [ ] Erosion
- [ ] Other: _____

Caller's Name: Mickey Avirett Date of Call: 29 May 03

Caller's Address: 5744 355 Hwy, Box Springs, GA 31801

Caller's Email address (optional): _____

Comments

Sent in prior comments / letter, wanted update. Concerned regarding [illegible] noise firing, especially at night. (LV - along meeting, did take prior readings of noise, can get copy when noise study final - pls use written request). Asked about location (LV - explain hearings - [illegible] - other AA). He said he didn't get prior info & to check that he was on mailing list. (LV - will do.). Also he was concerned [illegible] recently, so would be [illegible] subject to other requirements incl enviro planning - LV).

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

PHONE CALL LOG

FOR COMMENTS ON

THE DIGITAL MULTI-PURPOSE RANGE COMPLEX

Area of concern

- [ ] Wetlands
- [ ] Cultural Resources
- [x] Land Use
- [ ] Protected Species
- [ ] Noise
- [ ] Erosion
- [x] Other: _____

Caller's Name: Stan Hughes Date of Call: 2 June 03

Caller's Address: Raytheon Corporation

Caller's Email address (optional): —

Comments

Raytheon has major contract for management of some DOD ranges – Status of DMPRC? LV – approx 35% design working now, want to start construction Summer 04, Enviro issues include erosion, timber removal wetlands, noise, RCWS, etc. Use training rounds – existing impact area; rebuild in prior maneuver area construction.

Give him Fred Weekley's phone number.

When completed, return form to:

Ms. Melissa B. Kendrick, R.E.M.
Environmental Management Division
Meloy Hall (Bldg 6), Room 310
Fort Benning, GA 31905-5122

From: Kendrick, Melissa B-Contractor
Sent: Tuesday, June 17, 2003 1:04 PM
To: 'beardsley_howard@bah.com'
Subject: Information on Proposed Fort Benning DMPRC

Dear Mr. Beardsley,

Thank you for your interest in the Proposed Fort Benning Digital Multi-Purpose Range Complex (DMPRC) project. We do not have any photographs of the DMPRC, due to the fact that this is still a proposed action and is in the preliminary design phase only; however, some additional information on both the proposed action and the environmental analysis process it is undergoing may be found in the attached newsletter. In addition, please refer to the following website for this and subsequent newsletters and other related documents: www.benning.army.mil/EMD/Legal&PublicNotices.htm.

If you would like to be added to the mailing list for this proposed action and receive future newsletters and notices of future meetings, please respond back with your full name, address, and email address; if you prefer email to regular mail, please indicate so and we will be sure to send you only email notices and documents.

For further information, please contact Mr. Rich McDowell, Fort Benning Public Affairs Officer, at (706) 545-2211. Please send your written comments regarding the proposed DMPRC to: Ms. Linda M. Veenstra, DMPRC Environmental Project Manager, Meloy Hall (Bldg 6), Room 309, Fort Benning, GA 31905-5122.

Thank you,

Melissa B. Kendrick, R.E.M.
Environmental Specialist, Fort Benning, GA

DMPRC Scoping Meeting
18 February, 2003

Name	Address	Email	Mailing List? (Y/N)
Thomas Veal	56 George Cannon Rd Box Springs, GA 31801		✓
C Romero	CSU	romero@arcs.colstate.edu	
DRUID PRESTON	5784 KENTUCKY DOWNS DR. MACON, GA. 31210		✓
Robert Ferrell	3504 Vernon Dr Columbus Ga 31909		✓
Marla Kunkey	6607 Wagon Dr Midland 31820		N
Debbie Addison	3841 GA Hwy 355 Buena Vista, GA 31803	addison@sowega.net	Y
Randy Addison	3841 GA Hwy 355 Buena Vista GA 31803	addison@sowega.net	Y
Guy Horton	3 Lagoon Ct Columbus, Ga. 31904		
Louie Willett	5075 Hwy 315 Buena Vista GA 31803		Y
Yvonne Wesson	5802 Highpoint Dr		Y
C. J. Dill	909 Brighton Rd Columbus GA		
* Amy Dixon	PO Box 5 Box Springs		Y
Paul W. Bourff	408 GEORGE CANNON RD JUNIPER, GA 31801	limousin@sowega.net	Y
Randy Buck	1000 King Place Dr Cols GA 31904	—	No
Jeff Robinson	3120 Pineknot Rd Box Springs GA 31801	JROBS 95981@aol	Y
Kenny Parker	2501 Technology Dr. Columbus, GA. 31906		YES
Brianna Lanstra		mothmuse@lycos.com	No
Dennis Chawey	4911 Glacier Dr	squeuse839@yahoo.com	no

DMPRC Scoping Meeting
18 February, 2003

Name	Address	Email	Mailing List? (Y/N)
John Mitchell	26 Gray Boy Ct Columbia, GA 31804		N
Elaine Gillispie	Congressman S. D. Bishop 18 Ninth St Cols GA 3901	elaine.gillispie@mail.house.gov	Y
Marvin Cohen	Same as above	www.marvincohen.com	Y
Naresh Kapur	HQ Forscom	kapurn@forscom.army.mil	Y
KAREN Brown	4911 Glacier Dr Cols GA		N
James Lindberg	4911 Glacier Dr		N
[illegible]	[illegible] GA 3[illegible]	[illegible]	
Matt Lord	7753 E Winterhill Ln Columbus GA 31820	mattlord83@[illegible].com	Y

COMMENT FORM
FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

Public Scoping Meetings
18 and 20 February 2003

Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC). The DPMRC would provide a state-of-the-art range facility to meet the Army's training needs for Soldiers to conduct advanced gunnery courses in a realistic training environment using digital technology. The current facilities (ranges) do not meet modern gunnery standards and are inadequate to support full advanced gunnery qualification, requiring either training to modified standards or transporting units from Fort Benning to Fort Stewart for the required training. The project would include establishing three training lanes with associated targetry, construction of support facilities, upgrading of associated existing roadways, and construction of utilities to support the site. Training on other Fort Benning ranges would continue but would be redistributed to incorporate the DMPRC. The proposed DMPRC would ensure Soldiers are fully combat ready.

Please take time to review the documents and exhibits and feel free to ask questions of the Army representatives. Fort Benning will consider all written comments in the Draft Environmental Impact Statement. You may leave your written comments with an attendant at this meeting or mail them for receipt no later than March 7, 2003, to the address provided on the reverse side of this document.

(Please print legibly)

— NOISE [illegible] !

Name: NOLIE WILLETT

Address: 4168 WINDTREE LANE
COLUMBUS, GA. 31907

Date:

COMMENT FORM
FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

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(Please print legibly)

No Existing nor ~~noise~~ ~~level~~ proposied noise levels, studies available, so I am told at the 2-19-03 meeting.

Name: Tom Tidd

Address: 909 Brighton Rd.
Cols Ga.

Date: 2-19-03

*Note: Please bring existing and proposed noise level studies to the 2-20-03 meeting at the B.V. Courthouse.

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(Please print legibly)

Our property is right next to the firing range now. The noise pollution, shaking, and impact is horrible. The best proposal would be to go to Ft. Stewart. The next best plan for us would be proposal #3. However instead of firing N/E should be fired S/W.

As it stands, a house cannot be built on our property as planned because the impact would be too damaging to the house. It would break windows + crack the foundation.

Name: Yvonne Wessner

Address: 5802 Highpoint Dr.
Cols GA. 31909

Date: 2-18-03

COMMENT FORM
FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

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(Please print legibly)

Our concerns re: additional noise in the Beaver Run area have been alleviated. We have no problem with this proposal

Name: Mark Kunday

Address: 6607 W. Agon Dr
Midland GA 31820

Date: 2/18/03

COMMENT FORM
FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

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18 and 20 February 2003

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(Please print legibly)

I do not know this Army
This limited in what it can
do and this are other
ranges that are better equip
with technology can be used

Name: _____

Address: _____

_____

Date: _____

February 12, 2003

Richard McDowell
Public Affairs Office
U.S. Army Infantry Center, Ft. Benning
ATTN: ATZB-PO
Building 4 (Infantry Hall)
Fort Benning, GA 31905-5122

Dear Mr. McDowell,

I'm writing this letter as I will be unable to attend either of the public hearings scheduled for next week. I would like to express strong opposition to the placement of another firing range on Fort Benning as is being planned for 2004. This will no doubt lead to the city of Columbus and its residents being subjected to a great deal of noise from this range.

Throughout the last decade or so there has been a great deal of improvement in the level of noise emanating from Ft. Benning that has been audible in the city. We have been able to enjoy some relative peace and quiet under most conditions.

I'm not sure that those on post realize how certain atmospheric conditions affect the city. An easterly or southeast wind sends the sound waves right over the city and this can be very loud and disruptive. The prevailing wind direction is easterly for a good part of the year here. Certain temperature inversions in calm conditions can do the same thing. Aside from the noise, one would also have to consider potential for structural damage done by the bombardment of sound waves.

As a resident of Columbus, I would hope that the Army will consider another site some distance away from Columbus and other cities of this size. I will also pass this along to my U.S. Representative in Congress.

Sincerely,

Kurt R. Schmitz

4731 CHAMPIONS WAY
COLUMBUS, GA 31909

Please Print

DMPRC Scoping Meeting

20 ~~18~~ February, 2003

Name	Address	Email	Mailing List? (Y/N)
Theo & Mary Taylor Parker	324 Oliver St B. V. GA.		
Tim & Juan Johnson	1265 Pine Knot Rd Box Springs 31801	Tindj@gnat.net	
DR. John & Lydia Rogers	PO BOX 388-3330 Hwy 5T Box Springs GA		Y
David R. Taylor	555 George Cannon Rd. 31801		✓
Cathy Fussell	P.O. Box 553 Buena Vista, GA 31803	artsouth@sowega.net	Y
Anita Lewis	5559 Ga Hwy 41 N Mauk Ga 31058		N
Lonie Hale	5570 Ga Hwy 41 N Mauk, Ga. 31058		
Paul Anthony	2543 Backbone Ridge	Buenavista GA	31803
~~[illegible]~~	498 Young Rd		31801
Paula Strickland	498 Young Rd.	Marion Co. Box Springs GA	31801
Robert Ferrell	3504 Vernon Dr Cola 31909		Yes
Bobby Jeard	73 Pecan Place		
Jeanette Jeard	73 Pecan Place, Buena Vista, Ga. 31803		Yes
James E Hanna	133 Pond Rd. Buena Vista	SUZIE@SOWEGA.NET	YES
* Lyndell Timm	323 Country Trail	Bubman2@sowega.net	Yes
Elizabeth Murray	P.O. Box 503 Buena Vista		Yes
Deborah Robinson	6739 Ga Hwy 355 Box Spring Ga 31801		yes
Linda Wilkins	85 Pond Rd Buena Vista GA 31803	wilkins@gnat.net	yes
Gaye Martin	266 Ga Hwy 137 W Buena 31803		"
Velma Bentley	7101 GA HWY 355 Box Spring Ga 31801		yes

Name	Address	Add to Newsletter (Y/N)
Joanna Nobles	5771 Ga Hwy 355 / Box Springs Ga 31801	Yes
William McCarter	273 Country Trail Box Springs Ga 31801	Yes
Jeanette Forsyth	Route 2 Box 33-D Ellaville Ga 31806	yes
Bobby Swint	1141 Ga Hwy 41N Buena Vista, GA	yes
Ginger Swint	1141 Ga Hwy 41N Buena Vista	yes
Martha Hall	1215 Ga Hwy 41N Buena Vista	yes
Faron Gosnell	261 J P Hudson rd Box springs	yes
Sandra D. Brown	58 George Cannon Rd Box Springs 31801	yes
Timothy J. Brown	58 George Cannon Rd. Box Springs. 31801	yes
[illegible]	[illegible]	[illegible]

Please Print

DMPRC Scoping Meeting
20 ~~18~~ February, 2003

Name	Address	Email	Mailing List? (Y/N)
Harry Winters	43 Smoke St Mauk, GA 31058	hwinc@sowga.net	Y
Vernon River	611 Hilgard Rd		Y
Sherrill Prui	611 Hilgard Rd. Buena Vista Ga 31803		Y
[illegible] *	270 [illegible] RD Buena Vista, Ga 31803		Y
Steve Robinson	2941 Pineknot Rd.		Yes
Mark Murray	333 Doe Dr	m-wray@hotmail.com	Yes
Benny Ramsey	434 Sunnyside Dr Box Springs GA		yes
Chris Thomas	30 Pond RD Buena Vista GA		X
Joanne Watson	703 Mack RD Mauk, GA 31058		yes
Mr & Mrs JR Harman	514 Dodge Bottom Rd Buena Vista Ga 31803		No
Beth Cotton	533 Howard Hickss Rd BV		YES
Walter Cotton	533 Howard Hickss Rd BV		No
[illegible]	327 Olivier St, B.V. Ga		yes
Mary Thomas	156 George Cannon Rd Box Springs		✓
Crystal Thomas	156 George Cannon Rd Box Spring		✓
Bert & Frances Veal	56 George Cannon Rd Box Springs GA 31801		✓
Sandy Goodroe	4444 GA Highway 355	bsgoodroe@hotmail.com	✓
Brad Goodroe	" "	" "	
Whit Parker	4105 GA Hwy 355	Buena Vista, GA. 31803	✓
Myra Parker	"	"	✓

* signed petition pg →

Name	Address	Email	Mailing List
Vickie Schweinfurth	410 GA Hwy 355		P.O. Box 69 Buena Vista GA 3180
Ralph Forsyth	6642 GA Hwy 355		Box Springs G 31801
Frank Lee	551 Jim Allen Rd		Box Springs G 31801
Annie MacPherson & Charles C.	119 Gordy Mill Pond Rd. Cusseta, Ga. 31805		yes
Janie Lujan	120 Miller Rd. Cusseta, Ga 31805		yes.
John [illegible]	363 JP Hudson Rd Box Springs Ga 31801	Johny @ [illegible]	
Marion Jackson	3615 JP Hudson Rd 31801		yes
W J Lajoie	316 JP Hudson Rd	WSP31479 @ [illegible]	yes

Please Print

DMPRC Scoping Meeting
20 ~~18~~ February, 2003

Name	Address	Email	Mailing List? (Y/N)
R.S. MATTSON	3466 Ga Hwy 26 W.		✓
Patricia Roth	2921 GA Hwy. 355 Buena Vista, GA 31803	plroth@sowega.net	✓
IRENE THOMAS	53 Pond Rd Buena Vista Ga 31803		✓
Earlene [illegible]	5522 Highway 355 Box Springs 31801		✓
Lewis Fakes	RR 8 Box 8 Buena Vista Ga 31803		✓
Robert Kurtz	528 Howard Ackiss Rd 31803		N.
Joyce Kurtz	528 Howard Ackiss Rd 31803		N.
Sam T. Rider	320 Oliver St	stree@sowega.net	✓
Carol Rider	320 Oliver St		N
Mary Weed	6001 Hwy 355 Box Springs Ga 31801		Y
Drew Weed	— — —	—	Y
WERNER SCHUR	26 SCHURR LN BUENA VISTA		✓
D.S. HUDSON	92 Spike Place Box Springs Buena Vista	3180 Shudson@internet.com	Y
Amy Price	4265 Ga Hwy 355	acgprice@hotmail.com	Y
Robert Price	"		
Catherine Goodroe	4100 Hwy 355		Y
Stan Goodroe	4100 " Buena Vista	Sgoodroe@hotmail.com	
Frank Hardwick	27 Parkers Mill Rd. B.V.		✓
Charles Jeffers	3306 Brownlow Rd		
Catherine Preston	1449 Hwy 355		✓

Name	Address	Email	Mailing List
Earl & Margie Turner	236 George Cannon Rd Box Springs GA. 31801		Yes
Tracey & Matthew McKenzie	420 Dr. Brooks Rd Box Springs GA 31801		yes
LARRY HARPER	3300 HIGHWAY 355 BV 31804		yes
Carol Murray	214 Crawford St. BV 31803		yes
Horace Cotter	3752 Hy 26 East B.V. 31807		yes
PAUL BOURFF	408 Z CANNON RD JUNIPER GA 31807	limousin@SOWEGA.NET	yes
Kenneth HARMON	263 Young Rd Box Springs 31801	need News Letter	YES
	(—send both newsletters to him)		
Dennis & Margaret	4N61 Ga Hwy 41N, BV 31803		yes
Joseph Nash	185 Broad St	BV	Yes
Marion Matthews	922 Pineknot Farms Rd Boxs Springs Ga 31801		yes
Tom Tidd	909 Brighton Rd 31906		
DRUID N. PRESTON	5784 KENTUCKY DOWNS DR. MACON GA.		YES
Jacqueline Costine	265 Eawa Drive Box Springs, Ga 31801		YES
Debra Herrin	101 Michelle Lane		yes

Name	Address	Email	Mailing List Y/N
Verna Rumph	171 Red Oak Dr. Box Springs, Ga. 31801		✓
Edward Rumph	171 Red OAK DRIVE BOX SPRINGS, GA. 31801		✓
Kevin Brown	P.O. Box 138, Buena Vista, GA 31803	brownk@sowega.net	✓
Steve Golden	900 Country Trail Box Springs 31801	golden51313@Hotmail.com	✓
Luther A. North	185 Pineknot Loop Buena Vista 31803		yes ✓
Mickey L Averett	5744 GA Hwy 355 Box Springs GA 31801	mla55@earthlink.net	yes
[illegible]	[illegible]		[illegible]
Dan [illegible]	1306 Hwy 355 Buena Vista GA 31803		✓
Gennie Gartland	267 Pineknot Loop, Buena Vista, GA 31803		yes
DAVID FIELDER	138 POND Rd BUENA VISTA GA 31803		✓
Darrell Robinson	3229 Pineknot Rd. Juniper, GA. 31801		✓
Ken Kahler	273 Hickory Nut Hollow Box Springs 31801		✓
JoAnn Schmidt	2460 GA. HWY 355, Buena Vista, GA 31803		yes
Marcus Turner	60 George Cannon Rd. Box Springs Ga 31801		yes
Jackie Thomaston	62 George Cannon Rd Box Springs GA 31801		yes

Name	Address	Email	Mailing List Y/N
Lena Ramsey	Rt-2 Box 38-Ellaville, GA 31806		
Jimmie Thomas	53 pond Rd Buena Vista GA		
Donna Scott	145 South Broad St. Buena Vista, GA. 31803		yes
Steve Cartrett	816 Country Trail Box Spring 31801		
Sammie L. Hall	Buena Vista Police Dept P.O. Box 384 Buena Vista, GA. 31803		
Earl Harbuck	4749 Ga. Hwy 352 Box Springs 31801		
Bobby Shay	4749 GA HWY 352 Box Springs 31801		yes
Betty J. Robinson	6571 GA Hwy 355 Box Springs, GA 318.1		yes

Esson, John A - Contractor

From: Damron, John E (Contractor) [jack.damron@monroe.army.mil]
Sent: Monday, November 25, 2002 1:40 PM
To: Esson, John A - Contractor
Subject: RE: addresses for newsletter

Damron and Anderson at:

HQ TRADOC
DCSPIL
ATTN: ATBO-GE
5A North Gate Rd.
Fort Monroe, VA 23651

Boswell at:

U.S Army
Northeast Region Office
ATTN: SFIM-NE-ER
5A North Gate Rd.
Fort Monroe, VA 23651

David at:

HQ TRADOC
DCSPIL
ATTN: ATBO-GI
5E North Gate Rd.
Fort Monroe, VA 23651

Bobrick at:

U.S Army
HQ TRADOC
ATTN: ATJA
11 Bernard Rd.
Fort Monroe, VA 23651

-----Original Message-----
From: Esson, John A - Contractor [mailto:John.Eson@Benning.Army.Mil]
Sent: Monday, November 25, 2002 9:16 AM
To: damronj@monroe.army.mil
Cc: anderso7@monroe.army.mil
Subject: addresses for newsletter

Jack

Would you please provide the mailing addreses for:

Dr. Jack Damron
Mr. Malcom Boswell
Bob Anderson
Douglas David
MAJ Michael Bobrick

We'll get everyone on the DMPRC EIS newsletter mailing list.

Thanks

John Esson

ECW Environmental Group, LLC
serving Fort Benning DFEL Env. Mgt. Div.
706-545-4766 (Fort Benning cube)
757-727-7897 (ECW office)

COMMENT FORM
FORT BENNING DIGITAL MULTI-PURPOSE RANGE COMPLEX

Public Scoping Meetings
18 and 20 February 2003

Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC). The DPMRC would provide a state-of-the-art range facility to meet the Army's training needs for Soldiers to conduct advanced gunnery courses in a realistic training environment using digital technology. The current facilities (ranges) do not meet modern gunnery standards and are inadequate to support full advanced gunnery qualification, requiring either training to modified standards or transporting units from Fort Benning to Fort Stewart for the required training. The project would include establishing three training lanes with associated targetry, construction of support facilities, upgrading of associated existing roadways, and construction of utilities to support the site. Training on other Fort Benning ranges would continue but would be redistributed to incorporate the DMPRC. The proposed DMPRC would ensure Soldiers are fully combat ready.

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(Please print legibly)

I currently reside on Hwy 355 ~ 1 mile from the reservation boundary. I would support Alternative 3. My concern is the purchase of additional land. I am afraid that my family's property will be taken and I would like to know specifics of what is going on. I feel that we are only being given part of the proposal.

Name: Amy Price

Address: 4265 Ga Hwy 355
Buena Vista, Ga 31803

Date: Feb 26, 2003

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(Please print legibly)

As a resident on Hwy. 355, I personally think that Alternative 3 would be a better choice.
I was disappointed in the meeting place and no where to sit and ask questions + take notes!

Name: Catherine Goodroe

Address: 4100 Ga. Hwy. 355
Buena Vista, Ga. 31803

Date: 2-20-03

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(Please print legibly)

I have concerns about whether the impact will affect our water - my pond. How much difference in the amount of noise and rattling windows.

Name: Patricia Roth

Address: P.O. Box 1106
Buena Vista, GA 31803

Date: 2-20-03

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(Please print legibly)

I do support the Military Effort in Training
Noise abatement is Necessary for the
Neighboring Residences. Suggested Limiting Hours
of Firing Not later Than 10:00pm for Night
Maneuvers And Limited Firing on Weekends
To ensure peace And quiet during church
Services And Family Recreations

Name: LoAnne WATSON

Address: 703 Mauk Rd
Mauk, GA 31058

Date: 2-20-03

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(Please print legibly)

Noise level to high — Shakes house/window from now. Time limit for training needed.

Name: Donna Scott

Address: 145 South Broad St.
Buena Vista, GA. 31803

Date: 2/20/03

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(Please print legibly)

Please Stop the Firing Exercise.
Also we would like it to go somewhere else.
it would be in our back yard almost

Name: Robert + Joyce Kurtz

Address: 528 Howard Ackiss Rd
Buena Vista, GA 31803

Date: 2/20/03

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(Please print legibly)

After looking over the proposals, Proposal # 3 looks best to me. My big concern is to keep the noise level at a minimum.

Name: Benny L. Ramsey Jr. Lt Col Retired (USAF)

Address: 434 Sunnyside Drive
Box Springs GA 31801

Date: 20 Feb 2003

Kendrick, Melissa B-Contractor

From: Brent, John J
Sent: Monday, March 03, 2003 8:57 AM
To: Veenstra, Linda; Kendrick, Melissa B-Contractor
Subject: FW: Mary Thomas

Follow Up Flag: For Your Information
Flag Status: Completed

FYI - John

-----Original Message-----
From: Brent, John J
Sent: Monday, March 03, 2003 7:49 AM
To: Taylor, Craig
Cc: Larimore, Robert K; Strumpler, Ken
Subject: FW: Mary Thomas

Craig, you may want to check this out before it becomes a problem. I met the women at the public hearing for the DMPRC. Her phone no. is 229 649-6708. John

-----Original Message-----
From: Greenlee, Jack M
Sent: Friday, February 28, 2003 3:29 PM
To: Brent, John J
Cc: Larimore, Robert K
Subject: Mary Thomas

John,

I met with Mary this afternoon. Her and her brother's (Jackie Thomaston) property extends north across Turrentine Road about 10' and 300' in length. This is according to the new survey that is marked with orange stakes at each corner. She said the army had surveyors surveying the line the other day, but they didn't speak to her. She would like to know the outcome of this survey for her records. If her and her brother decide to fence in their property Turrentine Road will have to be re-located. Turrentine Road is the main road on the boundary going to Hastings Range. It is not a firebreak. Roads and Pavements or Range Maintenance maintains this road. Mary has your phone number but would like you to call her with the outcome of the survey. She would like a POC because she seemed to be annoyed that the surveyors didn't talk to her about the survey.

Jack

Rec'd 4 May 03

To: whom it may Concern

We examine the facts and not sure that this would be a step in our best interest. We have been living next to Ft. Benning for 38 yrs We have cracked walls, windows and our fireplace from the impact of what is now taking place. We have to deal with fire, smoke and tanks which at times get off course. The potential Environmental impacts of loud noises and the impact on our earth ground in which its near us. Our foundation of our homes has been fair. This is Sandy land? what would this do to our water also our sewer? God has created only a certain amount of land and this is ours. Training can be taught in class room. Consider our homes families and children would this be a safe place for them. Please consider the other location. Thanks for listen.

A. Drew & Mary Reed

FORT BENNING Digital Multi-Purpose Range Complex

VOLUME 1 OCTOBER 2002

Need For a New Range

Fort Benning is the Home of the Infantry. Its missions are: to provide the nation with the world's best infantry soldiers and trained units; to provide the nation with a power projection platform capable of deploying soldiers and units anywhere in the world on short notice; and to provide the nation with the Army's premiere installation and home for soldiers, families, civilian employees, and military retirees.

In order to meet the mission, Fort Benning provides training facilities for several go-to-war units. To remain combat ready, these elite units require up-to-date ranges that allow the latest weapons technology to be employed. Today's Army includes mechanized infantry units with both Bradley fighting vehicles and Abram tanks. Soldiers must be capable of deployment world-wide to support a wide range of operations. To maintain deployment readiness and training efficiency, the units must train on ranges that challenge their skills and abilities.

The existing ranges do not provide the challenges required. Because of advances in weapons technologies and training requirements, the current ranges are out-of-date and the units must train at a modified level. Fort Benning needs an updated range with new technology that is realistic to today's fighting. Fort Benning proposes to construct, operate, and maintain a digital multi-purpose range complex (DMPRC), which will provide a state-of-the-art range facility. The DMPRC will meet the Installation's training needs for conducting effective gunnery training in support of your current and future Army.

Hastings Range is the primary facility used to support the gunnery requirements on Fort Benning. Currently, however, Hastings Range can only support a modified version of gunnery qualification training because of the short length of the range. In addition, Hastings Range is not digitized. The digital component of the proposed Fort Benning DMPRC will enhance training by providing real time monitoring to increase safety and to provide feedback for After Action Reviews. Hastings Range will continue to be used as a "feeder" range for the proposed DMPRC.

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(Please print legibly)

Name: A. DREW + MARY WEED

Address: 6001 HWY 355
BOX SPRINGS, GA. 31801

Date: 2/21/03

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(Please print legibly) We are against this project. Due to the training that is already taking place at Hastings Range, we already experience windows rattling. When we moved out here, we had no idea that it would effect us ~~that~~ this bad. If the noise or vibrations gets worse, we are afraid that our brick and foundation will crack (others houses have already)
* If this does happen, will the government pay to have everything repaired.

Name: Jeff + Tara Wilks

Address: 4414 Ga Hwy 352
Box Springs, Ga 31801

Date: March 5, 2003

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(Please print legibly)

I Live within 1/2 mile from Hastings Range.
My house has took alot of abuse due to firing.
The doors do not shut properly, the siding is falling
off (Just had new siding installed) Now I need to
re level my home because the foundation is unlevel.
My children are disturbed due to odd hours of firing
as well as myself + my wife.
I also concerned about when the control burns come within
feets from my home. My home can not withstand any more abuse.

Name: William McCarter

Address: 273 Country Trail
Box Springs Ga. 31801

Date: 3/3/03

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(Please print legibly)

My property ajoins Fort Benning Reservation and I am at 1/2 mile from Hastings Range. My house rattles and shakes now with the firing that is done at Hastings Range. If you build another firing range this will increase the damage to [redacted] my home. It shakes my pipes + damages my drain line. I constantly have to repair these.

Name: Windell & Sara Timms

Address: 323 Country Trail
Box Springs, GA 31801

Date: 3-5-03

FEB 2 6 REC'D

February 25, 2003

Mickey L Avirett
5744 GA Hwy. 355
Box Springs, GA 31801

Ms. Linda M Veenstra
Meloy Hall (Bldg. 6), Room 309
Fort Benning, GA 31905-5122

Dear Ms. Veenstra,

I am writing to express my comments for the construction of the Digital Multi-Purpose Range Complex. I attended your meeting in Buena Vista the 18th. of February. I did not know anything about this meeting until the morning of the 18th. on a local news broadcast. Some residents I understand received mail notices of the meeting the same day of the meeting. These mailings were post marked the 17th. the day before. Is it just me or do you not think folks would have appreciated a little more notice of the meeting. I did not receive any notice. Therefore, I am requesting that you add my name to your future mailings.

Now my, comments on the new range. Being a veteran of the Army, (infantry 11C) 1983-1987, I understand and appreciate the need for the best possible training available to the men and women of our armed forces. However, I do not want and will not tolerate any additional noise created by changing the range's on your post. If you increase the amount of tank firing on Hastings Range, I will take ever action in my power to stop you. If you want to be a good neighbor and decrease noise for all residents, I don't think there is anyone in the community that will not agree to that.

I am very concern about Hastings Range and the impact on my peace and enjoyment, the peace and enjoyment of the natural wildlife and the value or loss of value due to your possible decisions to increase noise on Hastings range.

Please, keep me informed.

Sincerely

Mickey L. Avirett

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(Please print legibly)

Name: Mickey L Averett

Address: 5744 GA Hwy 355
Box Springs GA 31801

Date: 2/25/2003

Mickey Averitt
5744 GA Hwy 355
Box Springs GA 31801

COLUMBUS, GA 319
PM
25 FEB
2003

27 USA

Ms. Linda M. Veenstra
DMPRC Environmental Mgt.
Melloy Hall Bldg. 6 Room 309
Ft. Benning GA 31905-5122

FEB 21 REC'D

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(Please print legibly) I oppose the proposed tank range for these reasons: ① Cost of constructing range; ② Increased Noise level ③ Destruction of wild life habitat; ④ Erosion of sandy soils in area; ⑤ Increased air pollutants ⑥ Decreased Values of surrounding property; ⑦ Possibility of misaimed shells hitting off post; ⑧ Destruction of Indian artifacts in the area; ⑨ Surface pollutants entering ground water system that local residents off post depend on for their drinking water. Move range to Ft. Stewart !!

Name: Robert A. Ferrell Jr.

Address: 3504 Vernon Dr.
Columbus Ga 31909

Date: 2-19-03 706 561 5483

Marion County property owner close to Post.

FEB 24 RECD

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(Please print legibly)

We are Marion County residents and are concerned about the volume of noise that would be generated by the new facility. If it is state-of-the-art, we are concerned that other units would travel to Benning to use it and there would be frequent noise problems.

Name: Rick and Rani Garner

Address: 514 Oochee Bottom Rd.
Buena Vista GA 31803

Date: 2/20/03

FEB 24 RECD

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(Please print legibly) Please respond with a written reply to the following:

(1) What is the exact grid number of the impact area where the tank shells will land when fired from the new tank range? (2) Will the new range impact area on Ft. Ben. be used to replace the Vieques Island bombing range that the Puerto Rico people have forced the U.S. Military to leave? Yes the fighter jets fly in from east, make a "bom bom!", veer upward, circle around and fly back east. I can hear bombs explode as the jets veer upward! They fly right over my property. Move it to Ft. Stewart!!

Name: Robert A Ferrell Jr.

Address: 3504 Vernon Dr. Columbus Ga 31909

706-561-5485

Date: 2-22-03

APPENDIX F

NOTICE OF INTENT
TO PREPARE AN
EIS AND ASSOCIATED DOCUMENTS

This determination is published pursuant to sections 705(d) and 777(i) of the Act.

Dated: January 24, 2003.

Faryar Shirzad,

Assistant Secretaryfor Import Administration.

Appendix I - Issues and Decision Memorandum

Methodology and Background Information

Analysis of Programs

I. Use of Facts Available
II. Programs Determined to Confer Subsidies
A. Provision of Fertilizer and Machinery
B. Provision of Water and Irrigation equipment
C. Provision of Credit
D. Technical Support from the GOI
E. Duty Refunds on Imported Raw or Intermediate Materials Used in the Production of Exported Goods
F. Program to Improve Quality of Exports of Dried Fruit
III. Program Determined to Be Not Countervailable
A. Price Supports and/or Guaranteed Purchase of All Production
IV. Programs Determined to Be Not Used
A. Export Certificate Voucher Program
B. Tax Exemptions
V. Total Ad Valorem Rate
VI. Analysis of Comments
Comment 1: Discovery of Additional Farm Does Not Render Nima Ineligible for a New Shipper Review
Comment 2: Nima's Sale of Subject Merchandise to the United States Is Bona Fide
Comment 3: Application of Adverse Facts Available to Grower-Related Subsidies
Comment 4: Undisclosed Benefits Relating to Maghsoudi Farms' Land Title
Comment 5: Application of Adverse Facts Available to the Price Supports and/or Guaranteed Purchase of Production Program
Comment 6: Application of Adverse Facts Available to the Provision of GOI Credit Program
Comment 7: Application of Adverse Facts Available to the Provision of Fertilizer and Machinery Program
Comment 8: Application of Adverse Facts Available to the Tax Exemption Program
Comment 9: Application of Adverse Facts Available to the Water and Irrigation Program
Comment 10: Application of Adverse Facts Available to the Technical Assistance Program
Comment 11: Application of Adverse Facts Available to the Program for Imported Raw or Intermediate Materials Used in the Production of Exported Goods
Comment 12: Application of Adverse Facts Available to the Program to Improve Quality of Exports of Dried Fruit
Comment 13: Application of Adverse Facts Available to the Export Certificate Voucher Program
Comment 14: Application of a Combination Rate Limited to Production Exported by Nima from the Single Farm Disclosed by Maghsoudi
Comment 15: Completeness and Accuracy of Data Reported by Nima
Comment 16: Reliability of Sales Information Submitted by Fallah Pistachios

[FR Doc. 03–2330 Filed 1–30–03; 8:45 am]

BILLING CODE 3510–DS–S

DEPARTMENT OF DEFENSE

Department of the Army

Intent To Prepare an Environmental Impact Statement for the Digital Multi-Purpose Range Complex at Fort Benning, GA

AGENCY: Department of the Army, DoD.

ACTION: Notice of intent.

SUMMARY: Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC). The DMPRC would provide a state-of-the-art range facility to meet the Army's training needs for soldiers to conduct gunnery courses in a realistic training environment by expanding the installation's training capacity. The current facilities (ranges) on Fort Benning do not meet modern gunnery standards and are inadequate to support full gunnery training and qualifications, requiring either training to modified standards or transporting units from Fort Benning to Fort Stewart, a distance of approximately 200 miles, for the required training. The project would include construction of the firing and target area, installation of fiber optics, construction of support facilities, upgrading of associated existing roadways, and construction of utilities to support the site. The proposed DMPRC would ensure soldiers are fully combat ready. The DMPRC would provide a suitable training range to fully support future needs of Army Transformation. Incorporating modern technology and range design into the DMPRC will allow Intermediate Brigade Combat Teams at Fort Benning to train more realistically and efficiently.

DATES: To be considered in the Draft EIS, comments and suggestion should be received not later than March 3, 2003.

ADDRESSES: Please direct written comments concerning the scope of the Digital Multi-Purpose Range Complex to Mr. Archibald Caldwell, Assistant Range Officer, Directorate of Training, U.S. Army Infantry Center, Attn: ATZB–OTR, Fort Benning, GA, 31905–5122 or e-mail to *Caldwella@benning.army.mil.*

FOR FURTHER INFORMATION CONTACT: Mr. Archibald Caldwell by telephone at (706) 545–3446 or by e-mail to *Caldwella@benning.army.mil.*

SUPPLEMENTARY INFORMATION: Fort Benning is the ''Home of the Infantry'' and conducts Program of Instruction training for Mechanized Infantry Students and sustainment training for elements of Mechanized Infantry Division units. Today's Army includes Mechanized Infantry units with both M2 Bradley Fighting Vehicles (BFVs) and M1A1 and M1A2 Abrams tanks. Although the Army is undergoing a transformation, Abrams tanks and BFVs will play vital roles in Army operations for a significant period of time (20–30 years). In addition to Infantry School training, Fort Benning is the home of several Forces Command deployable units and approximately 44 tank crews and 84 BFV crews. These assigned units are stationed at Fort Benning and must maintain their proficiency through required gunnery training. Consequently, Fort Benning needs a range that will accommodate all weapon systems that are relevant to ground warfare.

BFV crews and Abrams tank crews train for combat readiness by practicing and qualifying at different skill levels, known as gunnery Tables I through XII. Existing facilities on Fort Benning do not meet full training standards for BFV or Abrams tank training due to inadequate firing distance to the targets and width between the firing lanes. Currently Hastings Range (the existing facility) can only support a modified version of Table XII gunnery qualification training for the BFV and Abrams tank in a non-digitized environment. The digital component of the proposed DMPRC will enhance training by providing real time monitoring to increase safety and by providing feedback for after action reviews.

The proposed DMPRC would support Army Transformation by providing a quality range that would meet the training requirements of the current operational assets (Legacy Forces) as

well as support the additional training requirements of the Intermediate Armored Vehicles to be used by the Intermediate Brigade Combat Teams.

Alternatives to be considered include:

1. No Action—Continue to conduct some modified gunnery training at Fort Benning and conduct remainder of gunnery training at existing ranges at Fort Stewart.

2. Transport to Fort Stewart (transport troops from Fort Benning to existing ranges at Fort Stewart to conduct all Table XII gunnery and related training).

3. Proposed Action—Conduct and operate DMPRC in Fort Benning Training Compartment D–13.

4. Construct DMPRC in Training Compartment K–21 on Fort Benning.

Scoping: A mailing list has been prepared for public scoping and review throughout the process of preparation of a draft Environmental Impact Statement (EIS). This list includes local, state, and Federal officials having jurisdictional expertise or other interests in the project; concerned citizens; conservation groups; and local news media. Comments received as a result of this notice will be used to assist the Army in identifying additional significant resources to be evaluated, as well as potential impacts to the quality of the human and natural environments. Individuals or organizations may participate in the scoping process by submitting written comments or attending a public scoping meeting. The time and location of the scoping meeting will be announced in the Columbus Ledger Enquirer, on the Fort Benning Web site (*http://www.benning.army.mil/EMD/index.htm*), and by public notice sent to parties on the mailing list. Comments concerning the scope of the EIS may also be submitted to the address listed above.

Robert L. Hope,

Chief of Staff, Installation Management Agency, Southeast Region.

[FR Doc. 03–2317 Filed 1–30–03; 8:45 am]

BILLING CODE 3710–08–M

DEPARTMENT OF DEFENSE

Department of the Army

Availability for Non-Exclusive, Exclusive, or Partially Exclusive Licensing of U.S. Patent Application Concerning Chemosensitizing Agents Against Chloroquine Resistant P. Falciparum and Methods of Making and Using Thereof

AGENCY: Department of the Army, DoD.

ACTION: Notice.

SUMMARY: In accordance with 37 CFR 404.6 and 404.7, announcement is made of the availability for licensing of U.S. Patent Application No. 09/849,400 entitled ''Chemosensitizing Agents Against Chloroquine Resistant P. Falciparum and Methods of Making and Using Thereof,'' filed May 7, 2001. Foreign rights are also available (PCT/US01/14574). The United States Government, as represented by the Secretary of the Army, has rights in this invention.

ADDRESSES: Commander, U.S. Army Medical Research and Materiel Command, ATTN: Command Judge Advocate, MCMR–JA, 504 Scott Street, Fort Detrick, Frederick, MD 21702–5012.

FOR FURTHER INFORMATION CONTACT: For patent issues, Ms. Elizabeth Arwine, Patent Attorney, (301) 619–7808. For licensing issues, Dr. Paul Mele, Office of Research & Technology Assessment, (301) 619–6664, both at telefax (301) 619–5034.

BILLING CODE 2316–08–M

COLUMBUS

Ledger-Enquirer

AFFIDAVIT

State of Georgia
County of Muscogee

To Whom It May Concern:

This is to certify that the legal advertisement attached hereto has been published in The Columbus Ledger-Enquirer, legal organ for Muscogee and Chattahoochee Counties, on the following dates:

February 2, 5, 8, 2003

Sworn to and subscribed before me this

13th day of February 2003

CATHY SHIVER
MY COMM. EXPIRES
JUNE 21, 2004
MUSCOGEE CO., GA.
NOTARY PUBLIC

Cathy Shiver

Notary Public Muscogee County, Georgia
(My Commission Expires June 21, 2004)

DEPARTMENT OF DEFENSE
Department of the Army

Intent to Prepare an Environmental Impact Statement for the Digital Multi-Purpose Range Complex at Fort Benning, GA

AGENCY: Department of the Army, DOD.
ACTION: Notice of Intent.
SUMMARY: Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC). The DMPRC would provide a state-of-the-art range facility to meet the Army's training needs for soldiers to conduct gunnery courses in a realistic training environment by expanding the installation's training capacity. The current facilities (ranges) on Fort Benning do not meet modern gunnery standards and are [illegible] training and [illegible] environment. The digital component of the proposed DMPRC will enhance training by providing real time monitoring to increase safety and by providing feedback for after action reviews.
The proposed DMPRC would support Army Transformation by providing a quality range that would meet the training requirements of the current operational units (Legacy Forces) as well as support the additional training requirements of the Intermediate Armored Vehicles to be used by the Intermediate Brigade Combat Teams.
Alternatives to be considered include:
1. No Action - Continue to conduct some modified gunnery training at Fort Benning and conduct remainder of gunnery training at existing ranges at Fort Stewart.
2. Transport to Fort Stewart - (transport troops from Fort Benning to existing ranges at Fort Stewart to conduct all Table XII gunnery and related training).
3. Proposed Action - Construct and operate DMPRC in Fort Benning Training Compartment O-11.
4. Construct DMPRC in Training Compartment K-21 at Fort Benning.
Scoping: A mailing list has been prepared for public scoping and review throughout the process of preparing the draft Environmental Impact Statement (EIS). This list includes local, state, and Federal officials having jurisdictional expertise or other interests in the project; concerned citizens; conservation groups; and local news media. Comments received as a result of this notice will be used to assist the Army in identifying additional significant resources to be evaluated, as well as potential impacts to the quality of the human and natural environments. Individuals or organizations may participate in the scoping process by submitting written comments or attending a public scoping meeting. The time and location of the scoping meetings will

AFFIDAVIT OF PUBLICATION
SAVANNAH MORNING NEWS

STATE OF GEORGIA
COUNTY OF CHATHAM

Personally appeared before me, ELIZABETH MC LAUGHLIN, to me known, who being sworn, deposes and says:

That she is the CLASSIFIED INSIDE SALES MANAGER of Southeastern Newspaper Corporation, a Georgia corporation, doing business in Chatham County, Ga., under the trade name of Savannah Morning News, a daily newspaper published in said county;

That she/he is authorized to make affidavits of publication on behalf of said published corporation;

That said newspaper is of general circulation in said county and in the area adjacent thereto;

That she/he has reviewed the regular editions of the Savannah Morning News, published on:

February 2, 2003 February 5, 2003,

February 8, 2003, _____, 2003,

and finds that the following advertisement, to-wit:

Appeared in each of said editions.
Sworn to and subscribed before me

This 7th day of March 2003

Elizabeth McLaughlin
(Deponent)

Eugene J. Cronk
Notary Public, Chatham County, Ga.

EUGENE J. CRONK
Notary Public, Chatham County, GA
My Commission Expires February 5, 2006

LEGAL NOTICE

Department of Defense
Department of the Army

intent to Prepare an Environmental Impact Statement for the Digital Multi-Purpose Range Complex at Fort Benning, GA

AGENCY: Department of the Army, DOD.

ACTION: Notice of intent.

SUMMARY: Fort Benning proposes to construct and operate a digital multi-purpose range complex (DMPRC). The DMPRC would provide a state-of-the-art range facility to meet the Army's training needs for soldiers to conduct gunnery courses in a realistic training environment by expanding the installation's training capacity. The current facilities (ranges) on Fort Benning do not meet modern gunnery standards and are inadequate to support full gunnery training and qualifications, requiring either training to modified standards or transporting units from Fort Benning to Fort Stewart a distance of approximately 200 miles for the required training. The project would include construction of the firing and target area, installation of fiber optics, construction of support facilities, upgrading of associated existing roadways, and construction of utilities to support the site. The proposed DMPRC would ensure soldiers are fully combat ready. The DMPRC would provide a suitable training range to fully support future needs of Army Transformation. Incorporating modern technology and range design into the DMPRC will allow Intermediate Brigade Combat Teams at Fort Benning to train more realistically and efficiently.

DATES: To be considered in the Draft EIS, comments and suggestions should be received not later than March 7, 2003.

ADDRESSES: Please direct written comments concerning the scope of the Digital Multi-Purpose Range Complex to Mr. Archibald Caldwell, Assistant Range Officer, Directorate of Training, U.S. Army Infantry Center, ATTN: ATZB-OTR, Fort Benning, GA, 31905-5122 or email to Caldwella@benning.army.mil.

FOR FURTHER INFORMATION CONTACT: Mr. Archibald Caldwell by telephone at (706) 545-3446 or by email to Caldwella@benning.army.mil.

SUPPLEMENTARY INFORMATION: Fort Benning is the "Home of the Infantry" and conducts Program of Instruction training for Mechanized Infantry Students and sustainment training for elements of Mechanized Infantry Division units.

Today's Army includes Mechanized Infantry units with both M2 Bradley Fighting Vehicles (BFVs) and M1A1 and M1A2 Abrams tanks. Although the Army is undergoing a transformation, Abrams tanks and BFVs will play vital roles in Army operations for a significant period of time (20-30 years). In addition to Infantry School training, Fort Benning is the home of several Forces Command deployable units and approximately 44 tank crews and 84 BFV crews. These assigned units are stationed at Fort Benning and must maintain their proficiency through required gunnery training. Consequently, Fort Benning needs a range that will accommodate all weapon systems that are relevant to ground warfare.

BFV crews and Abrams tank crews train for combat readiness by practicing and qualifying at different skill levels, known as gunnery Tables I through XII. Existing facilities on Fort Benning do not meet full training standards for BFV or Abrams tank training due to inadequate firing distance to the targets and width between the firing lanes. Currently, [illegible] range (the existing [illegible]) only supports a modified version of Table XII gunnery qualification training for the BFV and Abrams tank in a non-digitized environment. The digital component of the proposed DMPRC will enhance training by providing real time monitoring to increase safety and by providing feedback for after action reviews.

The proposed DMPRC would support Army Transformation by providing a quality range that would meet the training requirements of the current operational assets (Legacy Forces) as well as support the additional training requirements of the Intermediate Armored Vehicles to be used by the Intermediate Brigade Combat Teams.

Alternatives to be considered include:

1. No Action - Continue to conduct some modified gunnery training at Fort Benning and conduct remainder of gunnery training at existing ranges at Fort Stewart.

2. Transport to Fort Stewart - (transport troops from Fort Benning to existing ranges at Fort Stewart to conduct all Table XII gunnery and related training).

3. Proposed Action - Construct and operate DMPRC in Fort Benning Training Compartment D-13.

4. Construct DMPRC in Training Compartment K-21 on Fort Benning.

Scoping: A mailing list has been p pared for public scoping and revi throughout the process of preparat of a draft Environmental Impact Sta ment (EIS). This list includes local, st and Federal officials having jurisdictio expertise or other interests in the proj concerned citizens; conservat groups; and local news media. Co ments received as a result of this no will be used to assist the Army in ide fying additional significant resource be evaluated, as well as potential pacts to the quality of the human natural environments. Individuals organizations may participate in scoping process by submitting wri comments or attending a public scop meeting. The time and location of scoping meeting will be announce the Columbus Ledger Enquirer, on Fort Benning website (http://w benning.army.mil/EMD/index.htm), by public notice sent to parties on mailing list. Comments concerning scope of the EIS may also be submi to the addresses listed above.

ROBERT L. HK
Chief of S
Installation Management Age
Southeast Re

Fort Benning invites your particip in a public scoping meeting regar the proposed DMPRC as follows:

February 18, 2003, from 6:00 through 8:00 p.m.: Founders Hall, E beth Bradley Turner Center, Colum State University, Columbus, GA.

February 20, 2003, from 6:00 through 8:00 p.m.: Marion Co Courthouse, Buena Vista, GA.

Information about the propo DMPRC is also posted on the Benning website http://w

DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT AGENCY
SOUTHEAST REGION
1593 HARDEE AVENUE SW
FORT MCPHERSON, GEORGIA 30330-1057

REPLY TO
ATTENTION OF:

Director
Office of the Federal Register
National Archives and Records Service
1100 L Street, N.W.
Washington, D.C. 20408

Dear Sir:

The enclosed Notice of Intent for the Fort Benning Range Complex is submitted for publication in the Notice section of the Federal Register.

Please publish this Notice of Intent in the earliest edition of the Federal Register. This notice is required for the Department of the Army to perform its military mission and comply with the National Environmental Policy Act (NEPA), the Army Regulation 200-2, and the President's Council on Environmental Quality (CEQ) Regulations.

Please bill this to charge code 3710-08-M.

Sincerely,

ROBERT L. HOPE
Chief of Staff

Enclosure

Cc: TRADOC Commander
FORSCOM Commander
HQDA DCS G-3
Ft. Benning Directorate of Facilities Engineering & Logistics
Ft. Benning ATZB-JAA

BILLING CODE:3710-08-M

DEPARTMENT OF DEFENSE

Department of the Army

Intent to Prepare an Environmental Impact Statement for the Digital Multi-Purpose Range Complex at Fort Benning, GA

AGENCY: Department of the Army, DOD.

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will allow Intermediate Brigade Combat Teams at Fort Benning to train more realistically and efficiently.

DATES: To be considered in the Draft EIS, comments and suggestion should be received not later than **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Please direct written comments concerning the scope of the Digital Multi-Purpose Range Complex to Mr. Archibald Caldwell, Assistant Range Officer, Directorate of Training, U.S. Army Infantry Center, ATTN: ATZB-OTR, Fort Benning, GA, 31905-5122 or email to Caldwella@benning.army.mil.

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ROBERT L. HOPE
Chief of Staff
Installation Management Agency
Southeast Region

APPENDIX G

DMPRC REGULATORY COORDINATION

Georgia Department of Natural Resources

2 Martin Luther King, Jr. Drive, S.E., Suite 1152 East Tower, Atlanta, Georgia 30334-9000
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director
Environmental Protection Division
404/656-4713

July 15, 2003

Mr. James I. Palmer, Jr.
Regional Administrator
U.S. EPA, Region I61 Forsyth Street, SW
Atlanta, Georgia 30303-3104

Dear Mr. Palmer:

The United States Environmental Protection Agency (EPA) has promulgated a new 8-hour ozone National Ambient Air Quality Standard. Section 107(d)(1) of the Clean Air Act requires each State to submit to the EPA its recommended designation of each area of the State as attainment/unclassifiable or nonattainment under the standard. The Georgia Environmental Protection Division has developed recommended designations in accordance with EPA's memorandum dated March 28, 2000, "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standard," as well as other, more recent guidance.

The attached table provides the Georgia EPD's recommendations for the designation status of each county in Georgia. It is recommended that 20 counties in metropolitan Atlanta and three counties outside metropolitan Atlanta be designated as nonattainment.

Modeling conducted by the EPA and Georgia Tech indicates that the Augusta and Macon areas should attain the 8-hour ozone standard after implementation of the regional nitrogen oxide emission reductions and new federal vehicle and fuel standards, without the need for additional local control measures. In light of this modeling we are recommending that only the counties in those areas having ozone monitors showing violations of the standard (Richmond and Bibb Counties) be designated nonattainment. In addition, a monitor located within a federal Class I area in Murray County has shown violation of the standard. In accordance with recent EPA proposed guidance regarding rural transport of ozone, we are recommending only that portion of Murray County comprising the Class I area be designated nonattainment.

Please contact Ron Methier at (404) 363-7016 should you have any questions regarding this matter.

Sincerely,

Harold F. Reheis
Director

HFR:dks

Attachment

cc: Ron Methier, Chief
Air Protection Branch

RECOMMENDED DESIGNATION STATUS FOR GEORGIA COUNTIES

County Name	Designation
Appling	Attainment
Atkinson	Attainment
Bacon	Attainment
Baker	Attainment
Baldwin	Attainment
Banks	Attainment
Barrow	Nonattainment
Bartow	Nonattainment
Ben Hill	Attainment
Berrien	Attainment
Bibb	Nonattainment
Bleckley	Attainment
Brantley	Attainment
Brooks	Attainment
Bryan	Attainment
Bulloch	Attainment
Burke	Attainment
Butts	Attainment
Calhoun	Attainment
Camden	Attainment
Candler	Attainment
Carroll	Nonattainment
Catoosa	Attainment
Charlton	Attainment
Chatham	Attainment
Chattahoochee	Attainment
Chattooga	Attainment
Cherokee	Nonattainment
Clarke	Attainment
Clay	Attainment
Clayton	Nonattainment
Clinch	Attainment
Cobb	Nonattainment
Coffee	Attainment
Colquitt	Attainment
Columbia	Attainment
Cook	Attainment
Coweta	Nonattainment
Crawford	Attainment
Crisp	Attainment
Dade	Attainment
Dawson	Attainment

RECOMMENDED DESIGNATION STATUS FOR GEORGIA COUNTIES

County Name	Designation
Decatur	Attainment
DeKalb	Nonattainment
Dodge	Attainment
Dooly	Attainment
Doughtery	Attainment
Douglas	Nonattainment
Early	Attainment
Echols	Attainment
Effingham	Attainment
Elbert	Attainment
Emanuel	Attainment
Evans	Attainment
Fannin	Attainment
Fayette	Nonattainment
Floyd	Attainment
Forsyth	Nonattainment
Franklin	Attainment
Fulton	Nonattainment
Gilmer	Attainment
Glascock	Attainment
Glynn	Attainment
Gordon	Attainment
Grady	Attainment
Greene	Attainment
Gwinnett	Nonattainment
Habersham	Attainment
Hall	Nonattainment
Hancock	Attainment
Haralson	Attainment
Harris	Attainment
Hart	Attainment
Heard	Attainment
Henry	Nonattainment
Houston	Attainment
Irwin	Attainment
Jackson	Attainment
Jasper	Attainment
Jeff Davis	Attainment
Jefferson	Attainment
Jenkins	Attainment
Johnson	Attainment
Jones	Attainment

RECOMMENDED DESIGNATION STATUS FOR GEORGIA COUNTIES

County Name	Designation
Lamar	Attainment
Lanier	Attainment
Laurens	Attainment
Lee	Attainment
Liberty	Attainment
Lincoln	Attainment
Long	Attainment
Lowndes	Attainment
Lumpkin	Attainment
McDuffie	Attainment
McIntosh	Attainment
Macon	Attainment
Madison	Attainment
Marion	Attainment
Meriwether	Attainment
Miller	Attainment
Mitchell	Attainment
Monroe	Attainment
Montgomery	Attainment
Morgan	Attainment
Murray	Attainment, except for that portion in the Class I area
Muscogee	Attainment
Newton	Nonattainment
Oconee	Attainment
Oglethorpe	Attainment
Paulding	Nonattainment
Peach	Attainment
Pickens	Attainment
Pierce	Attainment
Pike	Attainment
Polk	Attainment
Pulaski	Attainment
Putnam	Attainment
Quitman	Attainment
Rabun	Attainment
Randolph	Attainment
Richmond	Nonattainment
Rockdale	Nonattainment
Schley	Attainment
Screven	Attainment
Seminole	Attainment
Spalding	Nonattainment

RECOMMENDED DESIGNATION STATUS FOR GEORGIA COUNTIES

County Name	Designation
Stephens	Attainment
Stewart	Attainment
Sumter	Attainment
Talbot	Attainment
Taliaferro	Attainment
Tattnall	Attainment
Taylor	Attainment
Telfair	Attainment
Terrell	Attainment
Thomas	Attainment
Tift	Attainment
Toombs	Attainment
Towns	Attainment
Treutlen	Attainment
Troup	Attainment
Turner	Attainment
Twiggs	Attainment
Union	Attainment
Upson	Attainment
Walker	Attainment
Walton	Nonattainment
Ware	Attainment
Warren	Attainment
Washington	Attainment
Wayne	Attainment
Webster	Attainment
Wheeler	Attainment
White	Attainment
Whitfield	Attainment
Wilcox	Attainment
Wilkes	Attainment
Wilkinson	Attainment
Worth	Attainment

Georgia Department of Natural Resources
Environmental Protection Division, Air Protection Branch
4244 International Parkway, Suite 120, Atlanta, Georgia 30354
Phone: 404/363-7000; Fax: 404/363-7100
Lonice C. Barrett, Commissioner
David M. Word, Assistant Director

July 17, 2003

Ms. Kay Prince
Chief, Air Planning Branch
Air, Pesticides & Toxics Management Division
U.S. EPA, Region IV
61 Forsyth Street, SW
Atlanta, GA 30303-8909

Re: Recommendations for Nonattainment Designations Under the 8-Hour Ozone NAAQS

Dear Ms. Prince:

Our July 15, 2003, submittal contains Georgia EPD's recommendations for the designation status of each county in Georgia under the 8-hour ozone standard. As indicated in that letter, we have recommended the following 8-hour ozone nonattainment areas:

- Atlanta area to include Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding and Walton Counties;
- Macon area to include Bibb County;
- Augusta area to include Richmond County; and
- Fort Mountain area to include that portion of Murray County, which contains the federal Class 1 Cohutta Wilderness Area.

With this letter we are supplying additional information regarding the selection methodology used to arrive at the aforementioned recommendations. These recommendations were developed in accordance with the boundary guidance provided by the U.S. EPA. The attached memo, dated July 15, 2003, provides the background information on the nonattainment designation process, including the Georgia counties that were evaluated for nonattainment designation, the selection criteria used to evaluate those counties, and the application of those criteria in making the final nonattainment designations. The memo explains how each of the selection criteria used address one or more of the recommended eleven selection criteria contained in EPA's nonattainment designation guidance. It is our hope that this information will aid EPA in reviewing and approving EPD's recommendations for the designations.

If you have any questions or need more information, please contact me at (404) 363-7016.

Sincerely,

Ron Methier
Chief, Air Protection Branch

Attachment

Georgia Department of Natural Resources
Environmental Protection Division, Air Protection Branch
4244 International Parkway, Suite 120, Atlanta, Georgia 30354
Phone: 404/363-7000; Fax: 404/363-7100
Lonice C. Barrett, Commissioner
Harold F. Reheis, Director

July 15, 2003

MEMORANDUM

TO: Harold Reheis

FROM: Ron Methier

SUBJECT: Nonattainment Area Designations under the 8-hour Ozone Standard

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Background

As required under section 107(d)(1)(A) of the Clean Air Act (CAA), the Governor must submit to the U.S. Environmental Protection Agency (EPA) by July 15, 2003, a list initially designating each area of the State as nonattainment, attainment or unclassifiable with respect to the new 8-hour National Ambient Air Quality Standard for ozone. By no later than April 15, 2004, the EPA Administrator will promulgate the designation of each area of the State by Final Rule and notice in the Federal Register. As provided under section 107(d)(1)(B) of the CAA, the Administrator may modify, as he deems necessary, the initial area designations and/or area boundaries submitted by the Governor.

The Air Protection Branch has reviewed guidance provided by the EPA as well as pertinent, available data to develop criteria for assigning area designations and boundaries. The EPA's March 28, 2000, memorandum "Boundary Guidance on Air Quality Designations for the 8-Hour Ozone National Ambient Air Quality Standard (NAAQS)" enunciates the EPA's position that any monitored violation of the standard within a Metropolitan Statistical Area (MSA) should, as an initial presumption, cause that entire MSA to be considered for designation as nonattainment:

"The EPA believes that any county with an ozone monitor showing a violation of the NAAQS and any nearby contributing area needs to be designated as nonattainment. In reducing ozone concentrations above the NAAQS, EPA believes it is best to consider controls on sources over a larger area due to the pervasive nature of ground level ozone and transport of ozone and its precursors. Thus, EPA recommends that the Metropolitan Statistical Area or the Consolidated Metropolitan Statistical Area (C/MSA) serve as the presumptive boundary for 8-hour NAAQS nonattainment areas. We believe this approach will best ensure public health protection from the adverse effects of ozone pollution caused by population density, traffic and commuting patterns, commercial development, and area growth."

As a result, the starting point for evaluation of nonattainment area boundaries should be the entire C/MSA if any monitor located within a C/MSA shows a violation of the 8-hour ozone NAAQS. In Georgia, monitors showing violations of the 8-hour ozone NAAQS are located in 10 counties within the Atlanta C/MSA (Cobb, Coweta, DeKalb, Douglas, Fayette, Fulton, Gwinnett, Henry, Paulding and Rockdale), in Richmond County within the Augusta-Aiken C/MSA and in Bibb County within the Macon C/MSA. Accordingly, the entire Atlanta, Augusta-Aiken and Macon C/MSAs comprise three potential nonattainment area boundaries. The counties included in these three C/MSAs are shown on the map "Consolidated Metropolitan Statistical Areas for Atlanta, Augusta and Macon" (Attachment A). In the case of Atlanta, controls have been placed in the existing 13-county 1-hour ozone nonattainment area as well as the surrounding 32-counties to attain the old 1-hour ozone standard. Hence, the starting point for Atlanta includes

these 45-counties, shown on the map "Atlanta's Area of Influence under the 1-hour Ozone Standard" (Attachment B).

The March 28 memorandum lists the following factors that should be addressed if a State seeks to propose nonattainment area boundaries larger or smaller than the Consolidated Metropolitan Statistical Areas (C/MSAs):

a. Emissions and air quality in adjacent areas
b. Population density and degree of urbanization
c. Monitoring data representing ozone concentrations in local areas and larger areas
d. Location of emission sources
e. Traffic and commuting patterns
f. Expected growth
g. Meteorology
h. Geography/topography
i. Jurisdictional boundaries
j. Level of control of emission sources
k. Regional emission reductions

In order to address these factors we have obtained and reviewed the following data:

- Quality assured ozone monitoring data from each of the sites operated by our Ambient Monitoring Program.
- County by county NO_x and VOC emissions during CY 1999, compiled using the best available data from Georgia's 1999 Emissions Inventory, Georgia Tech's 1999 modeling inventories for Atlanta, Augusta and Macon, and EPA's 1999 National Emissions Inventory.
- Projected county-by-county NO_x and VOC emissions for CY 2007 based on application of EPA's EGAS projection model to the 1999 county-by-county NO_x and VOC emissions compiled as described above.
- 1990 & 2000 census data, and Consolidated Metropolitan Statistical Area boundaries from the U.S. Census Bureau.
- Projected CY 2005 and CY 2010 population data from the Georgia Department of Labor as published in Georgia State University's "The Georgia County Guide."
- CY 2001 summer daily vehicle miles traveled (VMT) data (without interstates) from the Georgia Department of Transportation.

Development of Criteria

The above data were reviewed in light of the EPA's guidance factors and input received from other State agencies. This process resulted in development of a set of criteria for use in screening counties in and around the Atlanta, Augusta and Macon C/MSAs for inclusion within the proposed nonattainment area boundaries. Attachment C, "Determination of 8-hour Ozone Nonattainment Areas" contains data on various criteria for the counties under consideration. In addition to the screening criteria, there are two factors that mandate inclusion of a county in the nonattainment area:

1) If the data from a monitor in a county show a violation of the standard, that is an absolute indicator of nonattainment and the county must be designated nonattainment. The spreadsheet "Determination of 8-hour Ozone Nonattainment Areas in Georgia" indicates

those counties in which ozone monitors are located, and whether a monitor has documented a violation of the standard.

2) If a county is currently designated nonattainment under the 1-hour standard, it will be included in the 8-hour nonattainment area. As a result, all 13 counties in the existing Atlanta 1-hour ozone nonattainment area will be included in the new Atlanta 8-hour ozone nonattainment area.

The two factors listed above incorporate the air quality considerations of the EPA's guidance factors "a" and "c" related to air quality and monitoring data, as well as local and regional emission controls already in place (for the 1-hour standard) which relate to guidance factors "j" and "k".

The screening criteria and rationale for their application are presented below.

Criterion 1: Projected 2007 population density exceeding the minimum value that corresponds to a monitored violation within a C/MSA. This criterion addresses guidance factors "b" and "f". To the extent that ozone precursor emissions are a function of human activity, population density of a county may serve as a reasonable indicator that activities within the county contribute to overall nonattainment within the C/MSA. The threshold value for this criterion has been selected as the population density below which no monitored violation of the 8-hour standard has occurred (an exception is Murray County, which is discussed below). The 2007 projected population of each county was interpolated using values for four years: U.S. Census Bureau data for years 1990 and 2000, and projected 2005 and 2010 data from the Georgia Department of Labor as published in Georgia State University's "The Georgia County Guide." As indicated in the spreadsheet "Determination of 8-hour Ozone Nonattainment Areas in Georgia," the county with the lowest measured population density, which has a violating monitor, is Coweta County, with a (2000 census) population density of 204 persons per square mile. Accordingly, a county with a projected 2007 population density equal to or greater than 204 persons per square mile would satisfy this criterion for inclusion in its C/MSAs nonattainment area.

Criterion 2: Projected 2007 NO_x <u>or</u> VOC emissions density exceeding the minimum value that corresponds to a known monitored violation within a C/MSA. As NO_x and VOC are precursors to ozone formation, the more NO_x or VOC emitted in a county the greater the contribution to the nonattainment problem. This criterion reflects the normalized (by land area) level of precursor emissions (per guidance factors "a", "d", "f," "h" and "i") as well as those emission controls and emission reductions already in place (per guidance factors j and k). Correlation of county-by-county 1999 emissions data to monitored violations of the 8-hour standard reveals that Paulding County has had the lowest NO_x emissions density (8 tons per year per square mile) and Coweta County has had the lowest VOC emissions density (10 tons per year per square mile) of any counties having a violating monitor (excluding Murray County, which is discussed below). Any county having <u>either</u> a NO_x emissions density equal to or greater than 8 tons per year per square mile <u>or</u> a VOC emissions density equal to or greater than 10 tons per year per square mile would meet this criterion for nonattainment designation.

Criterion 3: Daily commuting trips (year 2000 basis) from a county into the nonattainment area exceeding the minimum number of daily in-commutes for an existing nonattainment county. This criterion addresses the commuting pattern aspect of guidance factor "e." For the Atlanta C/MSA, an "in-commute" represents a trip into one of the five nonattainment "core

counties" (Clayton, Cobb, DeKalb, Fulton and Gwinnett). For the Macon C/MSA, an in-commute is a trip into Bibb County. For the Augusta C/MSA, an in-commute is a trip into either Richmond County (Georgia) or Aiken County (South Carolina). Based on year 2000 data from the U.S. Census Bureau, the minimum number of daily in-commutes from a county currently designated nonattainment is 14,388 (from Rockdale County into the five Atlanta core counties). Any county with year 2000 daily in-commutes of 14,388 or greater would meet this criterion for nonattainment.

Criterion 4: Summer daily non-interstate vehicle miles traveled (VMT) exceeding the minimum summer daily non-interstate VMT for an existing nonattainment county (year 2001 basis). This criterion addresses the overall magnitude of a county's traffic per guidance factor "e." In order to minimize the effects of non-resident traffic, only non-interstate VMT are considered. Based on data from the Georgia Department of Transportation for the year 2001, Rockdale County had the minimum summer daily non-interstate VMT of any existing nonattainment county – 1,736,566 miles per day. Any county with summer daily non-interstate VMT of 1,736,556 miles per day would meet this criterion for nonattainment.

Application of Criteria

Any county within a nonattainment C/MSA (or, for Atlanta, within the 45 county "area of influence") would be included in the nonattainment area if it meets any two of the four screening criteria, unless there were compelling factors to override that determination. As indicated previously, the 13 Atlanta area counties (Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Paulding and Rockdale) currently designated nonattainment under the 1-hour standard will be designated nonattainment for the 8-hour standard. In addition to the existing Atlanta area nonattainment counties, Bibb, Richmond and Murray Counties have monitors, which violate the 8-hour standard and must be designated nonattainment. As indicated on the attached spreadsheet "Determination of 8-hour Ozone Nonattainment Areas in Georgia," the following additional counties meet two or more screening criteria:

In the Atlanta C/MSA or 45-county area of influence – Barrow, Bartow, Carroll, Newton, Spalding, Walton, Hall, Clarke and Floyd.

In the Macon C/MSA – Houston.

In the Augusta-Aiken (SC) C/MSA – Columbia.

In the Chattanooga (TN) C/MSA – Catoosa and Whitfield.

(For the Columbus C/MSA, Muscogee County meets two criteria but there have been no monitored violations of the 8-hour standard in the C/MSA and therefore the area is in attainment.)

Additional Considerations

The U.S. EPA and Georgia Tech have performed ozone air quality modeling under the Fall-line Air Quality Study (FAQS) which indicates that Macon and Augusta should attain (and Columbus will continue to attain) the 8-hour ozone standard by 2007, after implementation of the NOx SIP Call and federal fuel and vehicle standards, with no additional local control measures required.

The EPA and Systems Application International (SAI) have also performed such modeling under the Arkansas–Tennessee–Mississippi Ozone study (ATMOS) for the Chattanooga, Tennessee area, with similar results. In addition, local governments in both the Chattanooga and Augusta areas have entered into Early Action Compacts with the EPA, committing to achieve attainment by no later than December 31, 2007. Because modeling indicates that the Chattanooga, Augusta and Macon areas will achieve attainment of the 8-hour ozone standard without the need for any new control measures, the Air Protection Branch concludes that designation of Catoosa, Whitfield, Houston and Columbia Counties as nonattainment is not warranted.

The monitor in Murray County is located at Fort Mountain in the federal Class I Cohutta Wilderness Area at a high elevation. Nonattainment found at this monitor undoubtedly results from regional ozone transport, as the county has no significant emission sources and meets none of the screening criteria. EPA's proposed rulemaking for implementation of the 8-hour standard acknowledges that rural nonattainment areas such as Cohutta are completely dependent upon control measures implemented at upwind emission sources for future attainment. As a result, the Air Protection Branch concludes that only the federal Class I Cohutta Wilderness Area within Murray County should be designated as nonattainment.

As indicated previously, Clarke County meets at least two of the screening criteria for nonattainment and is within Atlanta's 45-county area of influence. However, Clarke County has an ozone monitor which has not collected the required three years' data to indicate either attainment or nonattainment. Because Clarke County is the hub of a separate C/MSA and nonattainment has not been documented, the Air Protection Branch concludes that Clarke County should not be designated nonattainment at this time.

Floyd County meets two of the screening criteria and is within Atlanta's 45-county area of influence. As is the case with Clarke County, Floyd County is the hub of a separate C/MSA and nonattainment has not been documented. The Air Protection Branch concludes that Floyd County should not be designated nonattainment at this time.

Recommendation

The Air Protection Branch recommends the following areas be designated nonattainment for the 8-hour ozone standard:

Atlanta Nonattainment Area: Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding and Walton Counties.

Augusta Nonattainment Area: Richmond County

Macon Nonattainment Area: Bibb County

Fort Mountain Nonattainment Area: That portion of Murray County within the Cohutta Wilderness Class 1 Area

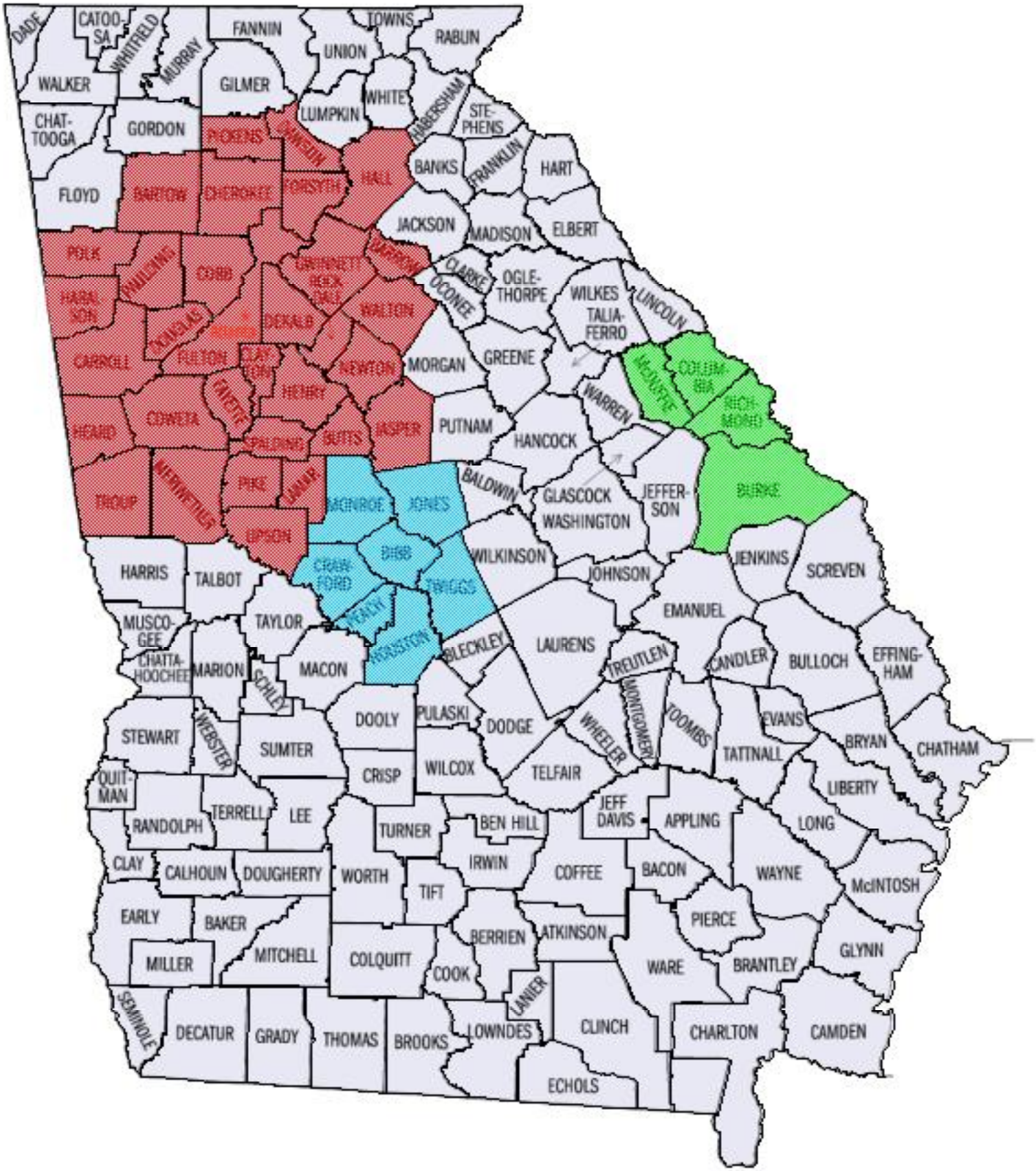
RCM:dks

Attachments

ATTACHMENT A

Consolidated Metropolitan Statistical Areas (C/MSAs) for Atlanta, Augusta and Macon

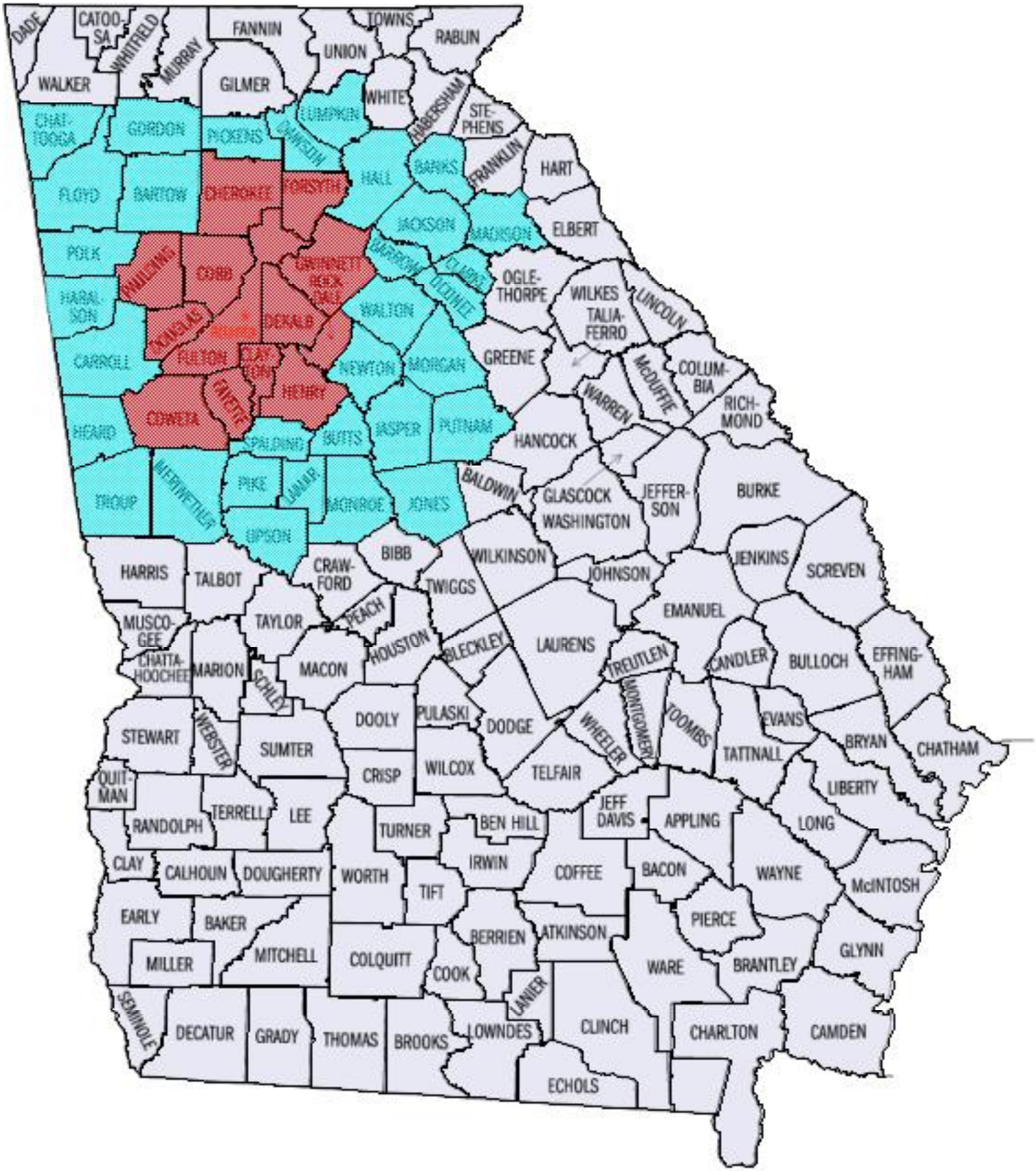
Source: U.S. Census Bureau's 2000 data on metropolitan, micropolitan, and combined statistical areas (CSAs) in Georgia.



ATTACHMENT B

Atlanta's Area of Influence under the 1-hour Ozone Standard

(13-County Nonattainment area + 32 Surrounding Counties)



ATTACHMENT C

Version date: July 15, 2003

Determination of 8-Hour Ozone Nonattainment Areas in Georgia

County Name	Monitor violates the 8-hour standard?	Criterion 1	Criterion 2		Criterion 3		Criterion 4	No. of Criteria Met
		Population Density	Emissions Density		2000 In-Commutes (worker flows) to		2001 Summer Daily Vehicle Miles Traveled (VMT)	
		2007	2007 NOx	2007 VOC	Core counties	Monitored counties	w/o interstates	
	(yes/no)	(persons/sq mile)	(tpy/sq mile)	(tpy/sq mile)	(persons)	(persons)	(miles/day)	
ATLANTA								
Cherokee		440	11	11	41,597	41,766	3,277,346.40	4
Clayton		1,979	84	49	99,057	66,152	4,239,523.26	4
Cobb	Yes	2,150	68	49	301,751	305,446	11,641,231.72	4
Coweta	Yes	266	34	7	14,499	38,078	2,335,876.15	4
DeKalb	Yes	2,726	64	68	325,679	325,606	11,109,850.91	4
Douglas	Yes	549	19	16	25,857	42,689	2,419,880.63	4
Fayette	Yes	574	14	13	23,962	37,328	2,460,373.91	4
Forsyth		668	16	20	25,844	25,967	3,376,456.27	4
Fulton	Yes	1,738	71	52	363,026	358,732	18,437,558.09	4
Gwinnett	Yes	1,785	43	39	288,779	289,889	13,181,926.59	4
Henry	Yes	539	21	14	36,191	43,728	2,817,964.83	4
Paulding	Yes	374	7	8	24,665	37,382	1,851,557.55	3
Rockdale	Yes	616	19	19	14,338	28,629	1,736,565.83	4
Barrow		368	16	18	10,565	10,707	1,561,901.72	2
Bartow		205	30	8	10,062	10,317	2,656,851.02	3
Butts		128	9	7	1,740	2,718	527,038.15	1
Carroll		206	11	11	7,042	12,259	2,625,927.60	3
Dawson	No	104	4	6	2,143	2,148	581,438.14	0
Haralson		102	6	10	1,733	2,651	828,711.34	1
Heard		43	15	4	454	1,488	386,263.09	1
Jasper		38	2	3	717	1,442	470,308.97	0
Lamar		98	5	5	851	1,237	548,854.73	0
Meriwether		45	4	5	859	2,753	782,719.78	0
Newton		298	13	12	8,177	14,696	1,603,222.49	2
Pickens		134	6	8	2,183	2,225	891,478.77	0
Pike		77	3	4	1,067	1,286	491,746.29	0
Spalding		307	15	15	5,071	7,321	1,511,748.59	2
Walton		247	8	10	12,218	13,659	1,934,266.90	3
Hall		444	17	18	11,604	11,590	4,014,380.43	3
Polk		134	7	8	1,406	1,940	1,256,843.37	0
Troup		148	11	15	855	1,740	1,680,467.48	1
Upson		88	5	5	310	340	790,243.48	0
Banks		76	4	4	376	391	492,231.44	0
Chattooga		89	6	4	89	99	826,245.25	0
Clarke	No	908	31	35	2,190	2,383	2,872,706.73	3
Floyd		189	22	11	1,526	1,650	3,036,301.95	2
Gilmer		73	3	3	846	859	976,323.60	0
Gordon		145	11	9	689	709	1,417,958.18	1
Jackson		152	11	7	3,230	3,213	1,545,272.14	1
Lumpkin		92	4	4	1,073	1,083	818,513.61	0
Madison		102	4	4	266	288	896,625.57	0
Morgan		51	6	7	486	679	685,480.82	0
Oconee		176	11	11	740	768	1,362,355.06	1
Putnam		64	59	4	420	479	844,238.14	1
Talbot		17	2	2	69	93	411,567.01	0

ATTACHMENT C

Version date: July 15, 2003

Determination of 8-Hour Ozone Nonattainment Areas in Georgia

County Name	Monitor violates the 8-hour standard?	Criterion 1	Criterion 2		Criterion 3		Criterion 4	No. of Criteria Met
		Population Density	Emissions Density		2000 In-Commutes (worker flows) to		2001 Summer Daily Vehicle Miles Traveled (VMT)	
		2007	2007 NOx	2007 VOC	Core counties	Monitored counties	w/o interstates	
	(yes/no)	(persons/sq mile)	(tpy/sq mile)	(tpy/sq mile)	(persons)	(persons)	(miles/day)	
AUGUSTA								
Burke		29	2	2	2,147	2,147	1,009,887.89	0
Columbia		363	12	14	26,207	22,363	1,641,509.10	2
McDuffie		84	6	6	892	1,332	737,166.53	0
Richmond	Yes	608	25	25	72,696	67,645	4,363,836.99	4
Emanuel		33	2	2	33	33	942,466.58	0
Jefferson		32	2	3	544	544	863,869.69	0
Jenkins		25	2	2	93	93	414,792.46	0
Lincoln		42	3	6	522	522	278,616.08	0
Screven		25	2	2	151	151	651,121.97	0
Warren		23	4	2	232	232	304,374.02	0
Wilkes		23	1	2	69	69	542,270.41	0
MACON								
Bibb	Yes	620	40	36	57,828	54,125	3,372,884.80	4
Crawford		45	2	2	3,002	2,360	394,743.30	0
Jones		66	5	4	6,345	5,988	921,533.85	0
Monroe		63	90	6	3,398	3,262	683,756.19	1
Twiggs		31	4	2	2,179	1,929	439,435.88	0
Houston		336	21	14	48,524	8,570	2,510,757.84	3
Peach		172	13	12	4,308	2,361	699,517.16	1
Baldwin		184	6	9	985	900	1,268,651.45	0
Bleckley		58	3	3	1,028	432	428,672.99	0
Dooly		32	6	4	295	75	468,144.54	0
Laurens		59	4	4	595	501	1,748,505.20	1
Macon		37	7	3	590	270	507,988.87	0
Pulaski		42	2	2	695	161	349,733.29	0
Taylor		25	3	2	298	184	470,280.42	0
Wilkinson		23	3	2	599	538	567,109.69	0
CHATTANOOGA								
Catoosa		384	16	18	14,257	12,320	1,219,090.43	2
Dade		98	9	6	3,838	3,091	446,251.54	1
Walker		143	3	7	20,342	9,098	1,705,784.84	0
Murray	Yes	129	7	5	410	349	1,402,542.48	0
Whitfield		320	23	21	947	807	2,693,984.11	3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

DEC - 3 2003

4APT-APB

Carol A. Couch, Ph.D., Director,
Georgia Environmental Protection Division
2 Martin Luther King, Jr. Drive, S.E.
Suite 1152 East Tower
Atlanta, GA 30334-9000

Dear Ms. Couch:

Thank you for your State's recommendations on 8-hour ozone air quality designations. This recommendation is an important step in providing citizens of Georgia with information on air pollution levels where they live and work. Levels of ground-level ozone have improved significantly since the Clean Air Act (CAA) was amended in 1990, at which time 135 areas were designated as not attaining the 1-hour ozone standard. Since that time nearly half those areas (67) have cleaned up their air to meet the 1-hour ozone standard and have been redesignated as attaining that standard. However, many areas have still not met the less stringent 1-hour ozone standard and in 1997, the U.S. Environmental Protection Agency (EPA) promulgated a more stringent 8-hour ozone national ambient air quality standard. Thus, much work remains to be done. Under the CAA, EPA is required to promulgate designations for new or revised standards, such as the 8-hour ozone standard. Earlier this year, after several public interest groups filed a lawsuit claiming EPA had not met the statutory deadline for designating areas for the 8-hour ozone standard, we entered into a consent decree that requires us to promulgate designations by April 15, 2004.

The CAA defines a nonattainment area as any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. EPA guidance indicates that Georgia should use the larger of the Consolidated Metropolitan Statistical Area (CMSA), Metropolitan Statistical Area (CMSA), or the 1-hour ozone nonattainment area as the presumptive boundary for 8-hour ozone nonattainment areas. The guidance provides 11 factors that Georgia should consider in determining whether to modify the presumptive boundaries. We have reviewed the letter from Mr. Harold Reheis, dated July 15, 2003, submitting Georgia's recommendations on air quality designations for the 8-hour ozone standard. We have also reviewed the extensive justification information you have submitted to support your recommendations for areas that differed from the presumptive nonattainment area. We appreciate the effort the State has made to develop this supporting information.

Consistent with section 107(d)(1) of the CAA, this letter is to inform you that, based upon the information contained in your submittal, EPA intends to make modifications to Georgia's recommended designations and boundaries. Additionally, the EPA Headquarters' Office of Air

and Radiation believes that all MSA counties that are part of an Early Action Compact (EAC) area that contains a violating ozone monitor should be included as part of one area that would be designated as nonattainment. EPA is issuing a proposed rule to defer the effective date for these areas for so long as they continues to meet the milestones required for EAC areas. In Georgia, we intend to modify the State's recommendation to include: Walker County in the Chattanooga area. EPA will work with the State over the next few months to determine whether any information the State submits by February 6, 2004, justify drawing different boundaries for the nonattainment area.

EPA has been tracking preliminary 2003 ozone monitoring data and its impact on areas' 2001-2003 design values. We received a letter from Mr. David Word, dated November 14, 2003, informing us that the ozone monitoring data for 2003 has completed the full quality assurance and quality control process and has been fully uploaded into the Air Quality System (AQS). According to this data, the Augusta-Aiken area is now meeting the 8-hour ozone standard, and, because of this, Mr. Word revised your official recommendation for Richmond County, Georgia, to attainment. In addition to the data you have submitted into AQS, please submit the 8-hour and 1-hour ozone design values and the average expected 1-hour exceedance rate to Beverly Banister, Director, Air Pesticides and Toxics Management Division, by December 17, 2003, so that air quality designations and classifications for the 8-hour standard will accurately reflect the State's air quality.

The enclosures to this letter provides tables in which EPA identifies the counties that should be included in each nonattainment area. Enclosure 1 contains a description of areas where EPA intends to modify Georgia's recommendation, and the basis for such modification. Enclosure 2 provides information on those areas/counties which do not require modification, but which differ from EPA's presumptive nonattainment area.

We look forward to a continued dialogue with Georgia as we work to finalize the designations for the 8-hour ozone standard. We appreciate your efforts and will review any future supporting information that Georgia wishes to submit on these recommendations. If you have any questions, please do not hesitate to contact Beverly Banister, Director, Air Pesticides and Toxics Management Division, at (404)562-9326 or Kay Prince, Chief, Air Planning Branch, at (404)-562-9026.

Sincerely,

J. I. Palmer, Jr.
Regional Administrator

Enclosure

cc: Ron Methier, Chief, Air Protection Branch, Georgia EPD

Lewis Shaw, Deputy Commissioner, SCDHEC
James A. Joy, III, P.E., Chief, Bureau of Air Quality Control, SC DHEC
Betsy L. Child, Commissioner, TDEC
Barry R. Stephens, P.E., Director, Division of Air Pollution Control, TDEC

Enclosure 1

The following table identifies the individual areas and counties comprising those areas within Georgia that EPA intends to designate as nonattainment. Following the table is a description of areas where EPA intends to modify Georgia's recommendation, and the basis for such modification. Where EPA intends to include only part of a county in a nonattainment area, we have indicated the boundaries of the portion of the county that will be included. EPA intends to designate as attainment/unclassifiable all counties (or parts thereof) not identified in the table below.

Nonattainment Areas		
Area	**Georgia Recommended Nonattainment Counties**	**EPA Recommended Nonattainment Counties**
Atlanta	Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding and Walton	Barrow, Bartow, Carroll, Cherokee, Clayton, Cobb, Coweta, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Hall, Henry, Newton, Paulding, Rockdale, Spalding and Walton
Chattanooga TN-GA*	None	Catoosa and Walker
Macon	Bibb	Bibb, Houston and Monroe
Murray County	Murray County - all mountain peaks within the Chattahoochee National Forest area of Murray County that have an elevation greater than or equal to 2400 feet and that are enclosed by contour lines that close on themselves.	Murray County - all mountain peaks within the Chattahoochee National Forest area of Murray County that have an elevation greater than or equal to 2400 feet and that are enclosed by contour lines that close on themselves.

**This is an interstate area. A letter addressing the Tennessee portion of this area was sent to the Environmental Commissioner of Tennessee.*

Background

Georgia's submittal included a description of the specific methodology the State used to exclude, or include, counties in the presumptive nonattainment area, i.e., the CMSA. Georgia's methodology used to arrive at their recommendations was based on a set of criteria based on EPA's 11 factors and input received from other State agencies. This methodology set specific cut points for the factors described below. The process is explained in Georgia's July 15, 2003, recommendation. The screening criteria were: (1) projected 2007 population density exceeding the minimum value that corresponds to a monitored violation within a CMSA; (2) Projected 2007 nitrogen oxides (NOx) or volatile organic compounds (VOC) emissions density exceeding the minimum value that corresponds to a know monitored violation within a CMSA; (3) Daily commuting trips (year 2000) basis from a county into the nonattainment area exceeding the minimum number of daily in-commutes for an existing nonattainment county; and (4) Summer daily non-interstate vehicle miles traveled (VMT) exceeding the minimum summer daily non-interstate VMT for an existing nonattainment county (year 2001 basis).

Modifications to Georgia's Recommendations

Macon, Georgia

Houston County:

The State recommended Bibb County, which is one of the five CMSA counties in the Macon area. EPA intends to modify the State's recommendation to include Houston County in the Macon nonattainment area. EPA is recommending the inclusion of Houston County in the Macon nonattainment area because of its similarities to Bibb County, which is the county with the violating monitor. Houston County is a CMSA county with a population of 110,765 in the year 2000, and a projected population growth rate of 17 percent (18,300 people) from 2000 to 2010. Additionally, in the analysis conducted by the State of Georgia based on the 11 factors, Houston County exceeded three of the criteria for inclusion in a nonattainment area as set forth by the State. Houston County exceeded the State's criteria of population density (336 people per square mile) in 2007, density of nitrogen oxides (NOx) (21 ton per year/square mile) in 2007, volatile organic compound (VOC) density (14 tons per year/square mile) in 2007, and 2001 Summer Daily vehicle miles traveled (VMT) (2,510,758 miles per day). These values indicated a high probability that Houston County is contributing to the violations measured in Bibb County. The State did not provide a compelling argument based on the 11 factors to exclude Houston County from the nonattainment area.

Monroe County:

EPA also intends to modify the State's recommendation to include Monroe County to the Macon nonattainment area. While this county is outside of the presumptive boundary, EPA is recommending the inclusion of Monroe County in the Macon nonattainment area because it is adjacent to the core CMSA county of Bibb and has a large source of NOx emissions (46,479 tons

per year), Georgia Power Company's Plant Scherer, which does not have state of the art NOx controls and adversely impacts the air quality in Bibb County. The State did not provide a compelling argument based on the 11 factors to exclude Monroe County from the nonattainment area.

Chattanooga, GA-TN

Catoosa County:

Georgia recommended all of the three Georgia counties within the Chattanooga CMSA as attainment. EPA is modifying the State's recommendations to include Catoosa County in the Chattanooga nonattainment area because Catoosa County is a CMSA county with a relatively high population (53,282) in the year 2000 and is experiencing a high population growth rate (13,408 people or 25 percent) from 2000 to 2010. Catoosa County also has a high percentage (80 percent) of commuters traveling into the core CMSA counties. Additionally, in the analysis conducted by the State of Georgia, Catoosa County exceeded two of the criteria for inclusion in a nonattainment area as set forth by the State. Catoosa County exceeded the State's criteria of population density (384 people per square mile) in 2007, NOx density (16 tons per year/square mile) in 2007, and VOC density (18 tons per year/square mile) in 2007. The State did not provide a compelling argument based on the 11 factors to exclude Catoosa County from the nonattainment area.

Walker County:

EPA is modifying the State's recommendation to include Walker County in the Chattanooga TN-GA nonattainment area because it is within the Chattanooga MSA, which has a violating monitor and this county is a participant in the Chattanooga Early Action Compact (EAC). Walker County, as well as other Chattanooga MSA counties in the EAC, will be designated nonattainment with a deferred effective date so long as the Chattanooga EAC meets all of the required milestones.

Enclosure 2

This table identifies counties which would otherwise be included in a nonattainment area's presumptive boundary, in accordance with EPA's March 28, 2000, Boundary Guidance Memorandum, but which have been omitted from the State's recommendations for nonattainment areas, and for which EPA is not modifying. Following this table is a discussion of the justification for omitting each county from the nonattainment area.

Justification for Less than Presumptive Boundaries	
Area	**"Presumptive" Counties Excluded from Nonattainment Area**
Atlanta	Pickens
Chattanooga TN-GA	Dade
Macon	Twiggs Peach Jones

Background

Georgia's methodology used to arrive at their recommendations was based on a set of criteria developed from EPA's guidance factors and input received from other State agencies. The process is explained in Georgia's July 15, 2003, recommendation. The screening criteria were: (1) projected 2007 population density exceeding the minimum value that corresponds to a known monitored violation within a CMSA; (2) Projected 2007 NOx or VOC emissions density exceeding the minimum value that corresponds to a known monitored violation within a CMSA; (3) Daily commuting trips (year 2000) basis from a county into the nonattainment area exceeding the minimum number of daily in-commutes for an existing nonattainment county; and (4) Summer daily non-interstate vehicle miles traveled (VMT) exceeding the minimum summer daily non-interstate VMT for an existing nonattainment county (year 2001 basis).

Atlanta

Pickens County:

EPA concurs with the State of Georgia's decision to recommend Pickens County as attainment. Pickens County is within the CMSA, but has very low population (22,983) as compared to one of the larger CMSA county such as Fulton County (816,006) and is much less that one percent of the over 4 million people in the Atlanta CMSA. It has low NOx emissions (1,060 tons per year - less than one percent of the CMSA emissions), and low VOC emissions (1,774 tons per year - approximately one percent of the CMSA emissions). Additionally, Pickens

County did not exceed any of the State's criteria for inclusion into a nonattainment area.

Chattanooga, TN-GA

Dade County:

EPA concurs with the State of Georgia's decision to recommend Dade County as attainment. Dade County is an CMSA county, but has very low population (15,154) as compared to the core CMSA county of Hamilton County, TN (307,896); or the entire CMSA population of over 450,000. The population growth is 17 percent, but the increase in the number of people, at 2,553, is a very small increase in actual people, compared to the population of the entire CMSA. The County has low NOx emissions (2,419 tons per year) compared to the Hamilton County (20,062 tons per year), or the overall CMSA (30,891 tons per year), and low VOC emissions (1,572 tons per year) compared to Hamilton County (27,103 tons per year), or the overall CMSA (36,324 tons per year). Dade County did not exceed any of the State's criteria for inclusion into a nonattainment area.

Macon

Twiggs County:

EPA concurs with the State of Georgia's decision to recommend Twiggs County as attainment. Twiggs County is an CMSA county, but has very low population (10,590) as compared to Bibb County's population (153,887), or the overall CMSA population (322,549), no expected population growth (0 percent), low NOx (2,257 tons/year), and VOC emissions (1,187 tons/year). Twiggs County did not exceed any of the State's criteria for inclusion into a nonattainment area, as discussed above.

Peach County:

EPA concurs with the State of Georgia's decision to recommend Peach County as attainment. Peach County is an CMSA county, has a population growth (16 percent) but has very low population (23,668) as compared to Bibb County's population (153,887), or the overall CMSA population (322,549), and low NOx emissions (2,029 tons per year - 9 percent of the CMSA emissions), and VOC emissions (2,220 tons per year - 11 percent of the CMSA emissions). Peach County did not exceed any of the State's criteria for inclusion into a nonattainment area, as discussed above.

Jones County:

EPA concurs with the State of Georgia's decision to recommend Jones County as attainment. Jones County is a CMSA county, has a population growth of 17 percent, but a very low population (23,639) as compared to Bibb County's (153,887), or the overall CMSA population (322,549), low NOx emissions (1,471 tons per year - 6 percent of the CMSA

emissions), and low VOC emissions (1,510 tons per year - 7 percent of the CMSA emissions) . Jones County did not exceed any of the State's criteria for inclusion into a nonattainment area, as discussed above.

Georgia Department of Natural Resources

Lonice C. Barrett, Commissioner

Historic Preservation Division

W. Ray Luce, Division Director and Deputy State Historic Preservation Officer
156 Trinity Avenue, S.W., Suite 101, Atlanta, Georgia 30303-3600
Telephone (404) 656-2840 Fax (404) 657-1040 http://www.gashpo.org

May 19, 2003

John J. Brent
Chief, Environmental Management Division
(Attention: Chris Hamilton)
Department of the Army
Headquarters United States Army Infantry Center
Fort Benning, Georgia 31905-5000

RE: **Fort Benning: DMPRC Phase II Investigations (March 2003)**
(Contract # DABT10-00-D-0017)
Muscogee County, Georgia
FP030402-001

Dear Mr. Brent:

The Historic Preservation Division (HPD) has reviewed the information submitted concerning the above-referenced undertaking within the Fort Benning Military Reservation, Muscogee County, Georgia. Our comments are offered to assist the Department of the Army in complying with the provisions of Sections 110 and 106 of the National Historic Preservation Act.

Based on the information provided, HPD concurs with the determination that sites 9CE433 and 9CE1521 should be considered eligible for listing in the National Register of Historic Places (NRHP). We also concur that site 9CE1735 should be considered eligible for the NRHP and that protective measures should be taken at these sites to prevent further disturbances. If such measures cannot be taken, we recommend Phase III mitigation for these sites. We further agree that the other seventeen sites (005-1a, 9CE228, 9CE273, 9CE287, 9CE616, 9CE1520, 9CE1522, 9CE1698, 9CE1896, 9CE1897, 9CE1899, 9CE1900, 9CE1901, 9CE1902/3/4, 9CE1911, 9CE1912, and 9CE1915) should be considered not eligible for listing in the NRHP.

Furthermore, please submit one additional copy of the report to our office for our files. Please refer to project number FP030402-001 in any future correspondence regarding this undertaking. If we may be of further assistance, please contact Joseph Charles, Review Archaeologist, at (404) 651-6433 or Serena G. Bellew, Environmental Review Coordinator, at (404) 651-6624.

Sincerely,

W. Ray Luce

W. Ray Luce
Division Director,
Deputy State Historic Preservation Officer

WRL:sfc

cc: Kristen Reed, Panamerican Consultants, Inc.

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY INFANTRY CENTER
FORT BENNING, GEORGIA 31905-5000

REPLY TO
ATTENTION OF

August 26, 2003

Mr. Steve Parris
Supervisory Fish and Wildlife Biologist
U. S. Fish & Wildlife Service
Georgia Ecological Service
West Georgia Sub Office
P.O. Box 52560
Ft. Benning, GA 31995

Dear Mr. Parris:

Fort Benning is in the process of preparing a BA (Biological Assessment) for the development of a DMPRC (Digital Multi Purpose Range Complex) on the Northeastern portion of the installation. There are presently five federally listed species known to occur on the installation, of these five, only two are expected to be impacted or possibly impacted by the DMPRC. The RCW (red-cockaded woodpecker, *Picoides borealis*) will be impacted and some clusters may be taken and significant amounts of foraging habitat will be lost. In addition to RCWs, relict trillium (*Trillium reliquum*) populations may be present within the action area of the DMPRC. Surveys will be performed in the spring of 2004 to look for unknown populations of relict trilliums. The other 3 known federally listed species on Fort Benning are the wood stork, (*Mycteria americana*) a summer resident, Bald eagle, (*Haliaeetus leucocephalus*) which arrives early winter to nest until spring, and the American alligator, (*Alligator mississippiensis*) a year round resident. None of these species are known to occur in the DMPRC action area due to a lack of suitable habitat.

To help in our efforts to complete the BA we request a list of the federally listed species that occur in Muscogee and Chattahoochee Counties. If you have any questions please contact Mark Thornton at 706-544-7079. Thank you for your cooperation in this matter and I look forward to working with you on this and other projects in the future.

Sincerely,

Peter K. Swiderek
Chief, Conservation Branch

United States Department of the Interior

Fish and Wildlife Service
247 South Milledge Avenue
Athens, Georgia 30605

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4270 Norwich Street
Brunswick, Georgia 31520

SEP 2 2003

Mr. Pete Swiderek
Chief, Conservation Branch
Dept. of the Army
Headquarters U. S. Army Infantry Center
Fort Benning, GA 31905

Re: FWS Log No. 03-0584 (DMPRC)
Protected species list request for Chattahoochee and Muscogee Counties

Dear Mr. Swiderek:

As per your request, we have enclosed the U.S. Fish and Wildlife Service's (Service) Listed Species for Chattahoochee and Muscogee Counties, Georgia and the Georgia Department of Natural Resources Natural Heritage Program Locations of Special Concern Animals, Plants and Natural Communities for the same counties.

Your interest in ensuring the protection of endangered species and our natural resources is appreciated. We appreciate the opportunity to work with you during the planning stages of the proposed Digital Multi Purpose Range Complex (DMPRC). If you have further questions or require additional information, please contact Nancy Jordan, staff biologist, at the Fort Benning address listed above or at (706) 544-6428.

Sincerely,

Stephen D. Parris
for Sandra S. Tucker
Field Supervisor

Cc: file, FWS West GA, Athens

DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
1104 North Westover BLVD, Unit 9
ALBANY, GEORGIA 31707

REPLY TO
ATTENTION OF:

April 25, 2003

Regulatory Branch
200305800

Dial Cordy & Associates
Attention: Kendall Cochran
490 Osceola Avenue
Jacksonville Beach, Florida 32250

Dear Mr. Cochran:

I refer to your request of April, 2003, concerning a Verification of the wetland jurisdictional determination for the Digital Multi-purpose Range Complex (DMPRC), on Fort Benning, Chattahoochee County, Georgia. This project has been assigned number 200305800 and it is important that you refer to this number in all communication concerning this matter.

As stipulated in the January 9, 2001, United States Supreme Court decision on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, the US Army Corps of Engineers cannot assert Clean Water Act jurisdiction over isolated, non-navigable, intrastate waters based solely on their use as habitat for migratory birds. In light of this decision, you provided the opinion that several wetlands located on the subject tract are non-jurisdictional.

We have reviewed the information under criteria contained in the 1987 "Corps of Engineers Wetland Delineation Manual." The survey entitled "DMPRC Wetland Delineation", dated April 2003, is an accurate depiction of the wetland boundary. We have determined that Wetland Areas C, D, and F, are isolated. These isolated wetlands are non-jurisdictional, and Department of the Army authorization, pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344), is not required for dredge and/or fill activities in these areas.

All non-isolated wetland and other waters of the United States shown on the above referenced survey are subject to our jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). The placement of dredged or fill material into any waterways and/or their adjacent wetlands or mechanized land clearing of those wetlands would require prior Department of the Army authorization pursuant to section 404.

This communication does not convey any property rights, either in real estate or material, or any exclusive privileges. It does not authorize any injury to property, invasion of rights, or any infringement of federal, state or local laws, or regulations. It does not obviate your requirement to obtain state or local assent required by law for the development of this property. If the information you have submitted, and on which the US Army Corps of Engineers has based its determination is later found to be in error, this decision may be revoked.

We have enclosed a form, which explains your client's right to appeal this decision in accordance with Title 33, Code of Federal Regulations, Part 331, published in the March 28, 2000, Federal Register, Vol. 65, No. 60, Pages 16486-16503. We have also enclosed a document titled, "Basis For Jurisdictional Determination."

Should you have any questions concerning this matter, you may call me at (229) 430-8566.

Sincerely,

Thomas C. Fischer

Thomas C. Fischer
Albany Field Office

Enclosure

BASIS FOR JURISDICTIONAL DETERMINATION

We reviewed the information provided by the applicant's consultant and all other information available regarding the site and determined that the wetlands were delineated in accordance with 1987 " Corps of Engineers Delineation Manual." Wetland Areas A, B, and E, would be subject to our jurisdiction pursuant to Section 404 of the Clean Water Act since they are adjacent to and/or have a surface connection to a tributary to The Chattahoochee River. Impacts to the wetlands on the site would have the potential to affect interstate or foreign commerce since these waters eventually flow into a navigable water of the US.

Based on this review, as well as a review of aerial photographs, soils maps, etc, we determined that the wetland area identified as Wetland Areas C, D, and F, on the plat map are isolated and have no surface connection to any other water of the United States. We then reviewed the isolated areas in accordance with 33 CFR 328.3 to determine if the site is subject to our jurisdiction under Section 404 of the Clean Water Act. Based on this review, we determined that the isolated wetlands are non-jurisdictional since impacts to the site would not affect interstate or foreign commerce.

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Fort Benning	File Number: 200305800	Date: 4/25/03
Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION

If you have questions regarding this decision and/or the appeal process you may contact: Thomas C. Fischer U.S. Army Corps of Engineers Albany Field Office 1104 N. Westover Blvd, Unit 9 Albany, Georgia 31707	If you only have questions regarding the appeal process you may also contact: Mr. Arthur Middleton, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490

APPENDIX H

DMPRC MEDIA COVERAGE

Not really part of article, but somewhat related

Word from the homefront

LAURA RAUCH Associated Press

Three members of the Fort Benning-based 317th Engineer Battalion — from left, 1st Lt. Alexander Yu of Syracuse, N.Y.; Alpha Co. commander Capt. Rafael Lopez and 1st Lt. John Yoo of Silver Spring, Md. — take time out from their desert training last week to read letters from home. The combat engineering battalion has been in the Persian Gulf since early January. Lopez is the only one of the three to have family in this area — his wife and three children live on post.

Benning target for firing range

By S. Thorne Harper
Staff Writer

Pending an Environmental Impact Statement and funding, the Army said it wants to build a $30 million computerized firing range complex at Fort Benning. The Army also hinted that if those plans fall through that it could result in the shift of Fort Benning troops to Fort Stewart.

The range would be built at the eastern end of the 285-square-mile post, a Fort Benning spokesman said.

Fort Benning is home to the 3rd Brigade, 3rd Infantry Division (Mechanized) and conducts training for other infantry units that include 44 tank crews and 84 Bradley Fighting Vehicle crews. In a statement released Tuesday afternoon, the Army said it needed a "state-of-the art" firing range to accommodate armored training.

"Right now we can't train them at the standards they need to be at to go to war," Fort Benning spokesman Rich McDowell said.

McDowell declined to comment on what effect the range would play in the upcoming round of Base

See RANGE, Page C3

RANGE | Noise, safety are concerns

From C1

Realignment and Closure in 2005.

However, the Army statement said Fort Benning must either "modify standards" there or face the prospect of "transporting units from Fort Benning to Fort Stewart for the required training."

McDowell said he did not know if that meant the temporary transport of troops to Fort Stewart or whether Fort Benning would permanently lose troops to the east Georgia post if Fort Benning failed to construct the so-called "Digital Multi-Purpose Range Complex."

The 3rd Brigade, 3rd Infantry Division is a tenant unit at Fort Benning. The headquarters of the 3rd Infantry Division, along with its other two brigades, is located at Fort Stewart. In recent years some Army officials have suggested that the 4,000-soldier 3rd Brigade be moved there.

The proposed range, with computerized targets, is tentatively scheduled for construction in summer 2004. It would measure about 15 football fields wide and 45 football fields long.

Some of the concerns involved with the range involve noise, ammunition-generated dust blowing into residential areas, effects on Native American archeological sites and endangered species — like the red-cockaded woodpecker and the gopher tortoise — and the impact on wetland areas and soil erosion.

WHAT'S NEXT

The Army will host two public meetings regarding its proposed firing range at Fort Benning.

6-8 p.m. Feb. 18 — The Elizabeth Bradley Turner Center at Columbus State University, East Lindsey Drive.

6-8 p.m. Feb. 20 — The Marion County Court House, 100 N. Broad St., Buena Vista, Ga.

Unable to attend a meeting? Mail comments to Richard McDowell, Public Affairs Office, U.S. Army Infantry Center and Fort Benning, ATTN: ATZB-PO, Building 4 (Infantry Hall), Fort Benning, GA 31905-5122.

Fort Benning proposes building new range complex

Public invited to voice concerns

Pfc. Brian Trapp
Bayonet staff

Fort Benning wants to build a new range complex.

The range would give soldiers a state-of-the-art facility to conduct gunnery courses, said Fred Weekley, installation range manager.

Fort Benning is well behind on modernization of ranges, he said.

The last range modernized was about 12 years ago.

An intent to construct a digital, multipurpose range complex, was released Jan. 31 to inform the community about the project.

"We want to get the public involved early, to know what kind of concerns they want us to study," said Linda Veenstra, environmental project manager.

The preferred construction site is at the eastern end of Fort Benning, but other locations are being considered. Officials will assess the potential environmental impacts of the range construction sites.

"We look at potential negative impacts through surveys and other collected information to see the impacts on wetlands, endangered species and historical or cultural sites," Veenstra said. "We have to look at any negative impacts to see how to minimize them."

The initial construction cost is estimated at $30 million, the digitization and instrumentation is estimated at $20 million and the range is projected to last 20 to 30 years, Weekley said.

"We can train people to be soldiers and send them to war, but without investing in training, we may not be able to bring them back," Weekley said.

"In Desert Storm, we didn't lose any tanks to Iraq. If we can go through another war without losing another tank or person, it's worth the money."

> "We can train people to be soldiers and send them to war, but without investing in training, we may not be able to bring them back."
>
> **Fred Weekley**
> Installation range manager

The range instrumentation will have the ability to give video feedback, infrared or night vision, from the system, which will improve safety on the range, Weekley said.

"The video can be used to show the soldiers what they did, not what they thought they did," he said.

Construction of the new range is slated to start in summer 2004 with two years of construction time, and building the new range will give the post a chance to take antiquated ranges and update them for new purposes, Weekley said.

Hastings Range, the current gunnery testing range, is well past its expected life span. It was originally built for 12 to 15 years of use but has been in use for 25 years.

There will be two public scoping meetings in connection with the Environmental Impact Statement.

The first will be from 6 to 8 p.m. Feb. 18 at the Elizabeth Bradley Turner Center at Columbus State University on East Lindsey Drive.

The second will be from 6 to 8 p.m. Feb. 20 at the Marion County Court House, 100 North Broad Street, Buena Vista.

NOTICE

Fort Benning will be hosting meetings regarding a proposed Digital Multipurpose Range Complex (DMPRC).

DMPRC PUBLIC SCOPING MEETINGS
Tuesday, February 18, 2003, from 6-8 p.m., at Columbus State University's Elizabeth Bradley Turner Center in Columbus, GA and Thursday, February 20, 2003, from 6-8 p.m., at the Buena Vista Courthouse in Buena Vista, GA

All are welcomed to come and learn of the benefits that a new range will provide soldiers training at Ft. Benning. There will be Army representatives on hand to discuss plans and potential environmental impacts, as well as address your questions and concerns and hear your thoughts on the proposed project. Both meetings are opened to the general public.

Contact: Rich McDowell, Public Affairs Office, Fort Benning, GA • (706) 545-2211

Melissa, Copy FY Rounds Judy

Ledger Enquirer 28 Feb 03

TIM CHITWOOD

Gauging a range of noise

To hear nearby residents describe it, it sounds like the lumbering approach of Tyrannosaurus Rex in the movie "Jurassic Park" — a deep reverberation that shakes the ground, rattles windows and ripples ponds.

But it's not some movie-dinosaur stomp that staggers Fort Benning's neighbors. It's gunnery training on the Hastings range.

Hastings rests on one corner of the Fort Benning post. It's the firing range for tanks and Bradley infantry vehicles, and it is inadequate, the Army says. It lacks the width and depth needed for advanced gunnery training, and its targets are not digitized, so they lack a high-tech component that would provide a more precise and immediate measure of marksmanship.

So Fort Benning wants to build a new range for this advanced training. It would prefer to put that range deep in the post's interior, away from the borders civilians live near. The 25-year-old Hastings range still would be used, for beginner and intermediate training, but not as often.

Benning officials swear building this new range on their preferred site would not lead to any change in the type of weapons they use or the frequency. The training is essentially the same. They'll still be using tanks and Bradleys. They won't use bigger, louder guns.

The only changes are the location and the sophistication of the target system, they say. And moving most of that training away from the boundary might even lessen the noise

But then again, it might not.

And that's really the question, as far as the neighbors are concerned: If Fort Benning builds its new range on its preferred site, will there be more noise, less noise or about that same noise?

No one knows yet.

So when post officials recently held public hearings about the new range, that issue wasn't settled. They told folks that because of the variables that affect sound travel — humidity, the contour of the land and the direction of firing — they weren't sure what effect the range would have.

"We're really just started looking at the potential environmental impacts, and one of the things that we're going to do is noise modeling," said Linda Veenstra, an environmental attorney. That analysis will take about a year.

Some neighbors wanted to know if the new range would be redundant. An advanced gunnery range has been built at Fort Hood. Another's being built at Fort Knox. Georgia's Fort Stewart, over by Savannah, is going to upgrade its range, too.

Would Fort Benning's range just duplicate Fort Stewart's?

"Not truly, because Fort Stewart can barely handle its training load now," said Fred Weekley, Fort Benning's range manager. Stewart has two full brigades and must support reserve units, too, "so their schedule is fairly full," he said.

If Benning's new range is approved, construction would start in the summer of '04 and take about 18 months to finish, so it would be late 2005 or early 2006 before it released the dinosaur.

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3RD INFANTRY DIVISION

Army's future lighter, leaner

Schoomaker says 3rd is first; unclear how plans will affect Fort Benning

By S. Thorne Harper
Staff Writer

The 3rd Infantry Division will be the Army's first to undergo major reorganization, one seeking to nearly double its firepower while keeping troop levels the same.

Army Chief of Staff Gen. Peter Schoomaker announced the initiative during a speech in Washington, D.C., last week.

Schoomaker

"We are going to move from the current force to the future force . . . now," Schoomaker said in the speech.

It's unclear what effect the plans to overhaul the Army's 3rd Infantry Division will have on the division's Fort Benning-based 3rd Brigade, as it prepares for possible redeployment to Iraq.

A spokesman for the 3rd Infantry Division said division staff is studying how to follow Schoomaker's directive, which

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would divide the division's three brigades into five smaller units. The goal is smaller, faster, more mobile combat units.

The spokesman, Lt. Col. Cliff Kent, said it was not yet clear how those plans would affect the division's 3rd Brigade.

"That is also being studied," Kent said.

Fort Benning spokeswoman Elsie Jackson said it is not known whether the number of 3rd Brigade troops on post — about 4,000 of them — would be reduced, increased or remain the same as result of the reorganization.

"We just don't know," Jackson said.

The 3rd Brigade, which led the charge into Iraq during the spring offensive, is preparing for a January training deployment to Southern California's Mojave Desert. Third Brigade officials have said that the one-month training mission to the Army's National Training Center at Fort Irwin is readying the brigade for a possible return to Iraq. The Army has not said when or where the 3rd Brigade will go. Before and after the war, the National Training Center has been a training ground for units headed for Iraq.

Kent, who said he "has not seen a timeline" associated with Schoomaker's plan, said he did not know whether those plans would be implemented before the 3rd Brigade arrives at Fort Irwin.

"It is highly likely that units that go to NTC probably would like to have been reorganized before they went to NTC," he said. "But that may not be true for the 3rd Brigade."

The reorganization effort is part of a bigger plan to transform the Army into a lighter, more lethal force, ultimately capable of deploying anywhere in the world in 96 hours. However, other than breaking the division down into five smaller brigades, the Army has not yet indicated how Schoomaker's directive will affect the heavy mechanized division.

Schoomaker has not indicated whether the division would have to rid itself of its heavy M1A1 Abrams tanks, Bradley Fighting Vehicles and Paladin howitzers — the core of its armament — to meet the directive's requirements. The Army recently activated its first "Stryker Brigade," designed around the new Stryker vehicle, a wheeled, armored troop transport that the Army has touted as a symbol of transformation.

APPENDIX I

DRAFT TIMBER HARVEST PLAN FOR THE DMPRC

APPENDIX I
Draft DMPRC Timber Harvest Plan

I. Harvest of marketable timber.

1. Boundaries of timber harvest area will be located and marked by Land Management Branch (LMB) personnel. All timber harvest boundaries will be marked with red paint. In clearcut areas all trees 5-inches diameter at breast height (dbh) and 30 feet tall or larger will be removed within the red painted boundary. Any trees that are to be left within a clearcut area will be marked with orange paint. LMB will identify timber harvest boundaries and timber will be marked with blue paint for singletree harvest of the taller trees affecting the line of sight on the DMPRC. Only trees directly affecting the line of sight will be removed from wetlands and streamside management zones (SMZ's). All smaller trees in the wetlands and SMZ's not directly interfering with the line of sight will remain. LMB personnel and COE timber personnel will ensure that the timber is properly marked for timber harvest. Stream crossings, firing positions and target positions that lie in wetlands will be clearcut. All trees to be harvested will be cut as low as possible and not higher than an 8-inch stump except when the measurements are impractical in the judgment of the COE timber personnel.

2. Timber will have to be cruised for volume estimations in order to make it available for sale.

3. The Conservation Branch (CB) personnel will conduct an RCW survey and foraging analysis prior to any timber harvesting in areas that may impact RCW clusters or habitat. CB will provide that information to USFWS and coordinate with them as needed. All requirements and provisions of the consultation between Fort Benning and the USFWS as documented in the biological assessment (BA) and biological opinion (BO) must be followed.

4. The CB will also conduct an appropriate resurvey for other Federal and state protected species that may be impacted by the range to include timber removal and/or slash removal. Timber harvesting within RCW clusters D14-04 and D13-02 will occur outside of the breeding season and will be coordinated with the CB. The CB will coordinate the capture, testing for upper respiratory tract disease and relocation of any gopher tortoises found in timber removal/construction areas. A written report of all gopher tortoise capture, relocation and impact mitigation measures will be prepared by the contractor doing the work and submitted to the NEPA coordinator (or Fort Benning DMPRC mitigation monitoring POC). The CB will conduct a survey for relict trillium in the spring of 2004. If any relict trilliums are located, the CB will develop a removal and relocation plan. Any other protected species locations will be documented and plans to mitigate impacts of timber and/or slash removal and future range construction will be coordinated by the CB.

5. Soil disturbance must be minimized in wetlands (except in construction areas) and eligible historic property areas. Cut-to-length (CTL) will be the only authorized process used for timber harvest from eligible historic property sites and other sensitive areas that may be identified later.

6. The COE rep will monitor the timber harvest and prepare a written report each week to document compliance with all applicable mitigation requirements and/or restrictions, any deviations from the same and any corrective action that was taken. The report will be provided to the NEPA Coordinator (or Fort Benning DMPRC mitigation monitoring POC) that will be designated. Any deviations from the requirements and/or other violations will be immediately reported to the Contracting Officer or their representative and EMD Chief.

II. Removal of logging slash and vegetation

1. The DMPRC construction contractor will address the remaining non-marketable timber and other vegetation in clearcut areas indicated by the design. The contractor will submit a written plan for the disposal of the logging slash and vegetation. All remaining slash and vegetation in the line of sight will be lopped to within 2-feet of the ground, a herbicide will be applied for woody vegetation, the area will be over seeded with annuals, and erosion control netting will be used in eroded areas. To provide the most flexibility to the construction contractor, several options are listed for use to dispose of the resultant slash and remaining vegetation greater than 2-feet above ground level. The contractor will indicate in the written plan which method(s) will be used in which general areas of the DMPRC. The slash/vegetation removal plan will be submitted to the contracting officer and EMD at least 30 days prior to any construction or slash removal.

2. The slash/vegetation removal areas will be clearly marked with red paint by the LMB personnel.

3. Grubbing or removal of stumps must be done with care to minimize impacts to the environment. There are no direct restrictions for grubbing or stump removal except for eligible historical properties that are protected and to minimize soil disturbance around highly erodible areas. No vehicular traffic or soil disturbance can occur in eligible historic properties and/or sensitive areas.

a. Slash used for on-site barriers: Slash would be piled to construct barriers for the range. The barriers will be highly susceptible to fire and will most likely burn by a wildfire. Therefore slash should only be used in accordance with the soil erosion control plan and only in areas where permanent barriers are not required.

b. Chipping debris for fuelwood: Chipping of debris and moving off range for use as fuelwood. This would require cooperation with local paper mills to determine whether or not they are taking chips as fuelwood. If mills are accepting fuelwood, the slash can be chipped and hauled to the mill. The chips would be removed immediately from the DMPRC site and not stored on the site. The estimated time for chipping the slash would be 2 – 3 months depending upon the area to be cleared. The contractor will be responsible to coordinate will local mills about taking the chips.

c. Chipping debris into mulch: The chips from the slash can also be

disposed of and used as mulch for landscaping. Chips can be scattered on site excluding construction areas. If chips are dispersed on-site they cannot exceed a depth of 3-inches. Again, this would be the contractor's responsibility to coordinate disposal of the chips by acceptable means.

d. Haul off to a non-Government site or landfill. The contractor would be responsible for proper disposal on non-Government land, attaining proper permits, and paying fees.

e. Grind Debris in Place: The construction contractor would probably engage sub-contractor(s) that provide this service. Generally this process results in grinding of approximately 1 to 2 acres per day per machine. The machine is a modified dozer with a drum chipping head attached. It will grind all debris and stumps in place leaving mulch scattered across the ground. Stumps would be ground to the surface of the ground (not removed). May not be feasible as the only method in construction areas due to the stumps remaining at or below ground level. This process will most likely not create large amounts of mulch. Mulching of debris generally causes no problems to wetlands or streams if properly spread away from those areas. This is a very lengthy process dependent upon the amount of chipping machines that can be used on the site. There are a limited number of contractors that provide this service.

f. Pile debris in trenches and burn: This would require digging trenches and placing all of the slash into the trenches and setting it on fire. This will be a very high temperature burn using a blowtorch or other acceptable equipment. Most of the slash would be incinerated and the remaining slash and residue would be buried once the trenches were filled in. This process would require monitoring by the EMD Air Program Manager, and would need to meet any Title V permit or other applicable Federal, state, and local air permits or requirements. The contractor would be responsible for record keeping that would involve but not be limited to weather conditions, amount of slash burned, locations of trenches, etc.

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APPENDIX J

DRAFT MITIGATION AND MONITORING PLAN

APPENDIX J
Draft Mitigation and Monitoring Plan for the DMPRC

1. Introduction

a. Definitions of Mitigation

The President's Council on Environmental Quality (CEQ) describes mitigation as:

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Avoidance: Avoid the impact by changing the plan. Do not take certain actions that would cause the environmental effect.

Minimization: Minimize impacts by changing the intensity, timing, or duration of the action and its implementation.

Rectifying: Fix, repair, or restore damage that may be caused by implementing the proposed action.

Reducing: Reduce or eliminate the impact over time.

Compensation: Compensate for the impact by replacing the damage by improving the environment elsewhere or by providing other substitute resources such as funds to pay for the environmental impact.

b. Mitigation Planning Process

Fort Benning proposes to use a variety of measures that would mitigate potential environmental impacts. Implementation of proposed mitigation measures is dependent upon regulatory requirements, public and agency comments on the EIS, and funding availability. The funding of mitigation is uncertain until after public and agency review of both the draft EIS and final EIS are completed. For proposed mitigation measures identified in this EIS, Fort Benning is requesting funds from the Army Installation Management Agency and the Army military construction program.

Many mitigation measures would be mandatory in order for either Alternative II or III (preferred) to proceed. Timing of the mitigation measures is often very important; prior to any timber harvest, for example, some mitigation will have to occur. The mitigation proposed in the DEIS is subject to further public review, in addition to coordination and consultation with stakeholders. Other environmental planning processes will result in identification of mitigation

that will be incorporated into this plan. For example, the U.S. Fish & Wildlife Service may require reasonable and prudent measures and terms and conditions as part of their Biological Opinion. Also, the Army Corps of Engineers may require conditions to any Section 404 Clean Water Act wetlands permit.

After the Army considers public comments received on the final EIS, then we will make a decision on which DMPRC alternative to select and what mitigation actions will be implemented. The final mitigation and monitoring plan will be detailed in the EIS Record of Decision which will be available to the public.

There are reasonable mitigation measures that were considered but rejected; these are discussed in Chapter 4 of the DEIS.

As discussed in the Section 2.3 of the EIS, mitigation by avoidance has already occurred during the initial DMPRC site screening phase. An interdisciplinary team of environmental, engineering, regulatory, military operations, and planning professionals used GIS data and existing information to validate and eliminate potential DMPRC sites. The process helped mitigate potential environmental impacts through avoiding further consideration of sites with potentially more significant environmental impacts, and focusing design on sites that would support the mission and cost requirements while reducing environmental impacts.

If either Alternative II or III (preferred) is selected, then mitigation would be implemented both during the construction, operation, and maintenance phases of the proposed DMPRC. The following sections describe mitigation planning during construction,operation, and maintenance phases of the proposed DMPRC. This plan will focus on all of the Alternative III mitigation; however, because Alternative II mitigation is similar, the mitigation discussed in this plan is also applicable to Alternative II. If Alternative II is selected, then a detailed plan for this alternative will be developed. The DEIS concluded that no additional mitigation is required beyond current actions for socioeconomics, environmental justice, migratory birds, and human health and safety.

2. Mitigation Phases

a. Construction Phase Mitigation:

Some of the potential impacts that would have occurred during the construction phase were mitigated through the design process. After the interdisciplinary DMPRC team received

community input during public scoping meetings held in 2003, the DMPRC design was initiated. The DMPRC current design phase includes detailed construction contract specifications. Many requirements that would mitigate potential environmental impacts have already been addressed in the design drawings and construction specifications.

The current construction specifications (Polyengineering, 2003) require the construction contractor to:

- Designate Environmental Engineer with at least three years experience to provide contractor quality control including mitigation implementation
- Comply with all applicable Federal, State, and local environmental protection laws and regulations
- Submit a pre-construction Environmental Protection Plan (EPP) to the Contracting Officer for review and approval. The EPP would include:
    - Soil and sediment control plan including monitoring and reporting requirements
    - Recycling and waste minimization plan
    - Air pollution control plan
    - Contaminant prevention plan
    - Waste water management plan
    - Cultural and natural resources plan
    - Pesticide treatment plan
    -

The public and agency comments received during draft EIS and final EIS public review periods will help ensure that the DMPRC alternative selected will help sustain military training mission and the environment. Comments received will help Army planners consider any changes to construction specifications and construction contractor's Environmental Protection Plan, if either Alternative II or III is selected. Additional mitigation measures for the construction phase are discussed in further sections for each media.

b. Training and Maintenance Phase Mitigation:

The operational phase would begin after construction is complete soldiers begin training on the new facility. Fort Benning DFEL Environmental Division and the Directorate of Operations and Training would continue to work closely to ensure all mitigation requirements are implemented as planned. Additional mitigation measures for the operational phase are discussed in further sections for each media.

3. Mitigation Monitoring Strategy

Probably the most important key to success in mitigation of potential project impacts is the continuous monitoring of mitigation implementation and effectiveness and informing the public and decision makers of monitoring results. For that reason we first describe how Fort Benning would monitor mitigation and adjust plans and operations as needed to help ensure actual environmental impacts are not significantly different than predicted in this EIS.

Fort Benning plans to monitor implementation and effectiveness of any mitigation selected to implement the proposed DMPRC. The Installation would use a combination of more staff (e.g. hiring two RCW Biologists), using existing systems such as the Environmental Performance Assessment System (EPAS) to track mitigation compliance. Each media has its own method listed in this plan for monitoring. The Army has directed each Installation to develop and implement an Environmental Management System (EMS), such as ISO 14001, to improve environmental management, compliance, and stewardship. Fort Benning's EMS is currently under development and mitigation specified in this plan may be worked into that EMS as appropriate.

For information on EMS and ISO 14001 EMS, see the Appendix or the following website: https://www.denix.osd.mil/denix/Public/Library/EMS/ems.html.

4. Proposed Mitigation and Monitoring Measures

This section identifies proposed mitigation measures, by media, for the DMPRC. It is applicable for both the construction and operational phases of the proposed action.

a. **Soils and Vegetation**

Construction of the DMPRC and its associated support facilities would require the construction contractor to prepare and obtain a NPDES permit, which includes submission of a Soil Erosion Control Plan (SEC Plan) to the Georgia EPD, with a copy furnished to Chief of EMD or designee. The design firm is preparing a SEC Plan, which includes a project description, soil information, changes to existing contours, existing drainage patterns, best management practices and locations, detailed drawings, and a construction schedule. Best management practices (BMPs) likely to be included in the SEC Plan would be silt fencing, rock check dams, brush barriers, planting of disturbed areas, and erosion control blankets. These, and other, BMPs would help ensure that the adverse effects of this alternative would be temporary in nature. Monitoring of these mitigation measures will also be required, to further ensure the success of this mitigation. The construction contractor will prepare a Comprehensive Monitoring Plan (as part of the application for the NPDES permit) for submittal to the GA EPD, with a copy furnished to Chief of EMD or designee.

The construction contractor must adhere to the SEC Plan and Comprehensive Monitoring Plan (of the NPDES Permit). The construction contractor will provide the Chief of EMD or designee a copy of all monitoring reports (such as turbidity monitoring, etc.) at the same time they are submitted to the GA Environmental Protection Division (EPD).

Additional mitigation proposed in the DEIS for construction would be limiting the cutting of trees and shrubs during construction of the DMPRC. Trees and shrubs that fall below the line-of-sight would not be disturbed. Some “topping” of trees may occur, but roughly 300 acres of trees and vegetation would be conserved below the LOS. Selective cutting in the wetland areas within the LOS is also required.

Additional mitigation measures that are under consideration for construction include leaving more trees in the support area. Site disturbance, including earthwork and vegetation clearing, would be to 40 feet beyond the perimeter of support buildings; five feet beyond roadways, walkways, and main utility branch trenches; and 25 feet beyond parking areas that require a staging area. (SPiRiT, 1 credit: 1.C5)

Fort Benning DOT Range Division personnel would monitor the DMPRC to determine any needs for erosion control and/or revegetation to maintain realistic training areas and sustain

the range. Monitoring reports will be submitted to the Chief of the Range Division and the EMD, and appropriate action will be taken.

b. Water Quality

Adherence to applicable Federal and state laws and regulations and Installation policies and guidelines is required and would minimize impacts. All tree clearing and construction activities greater than one acre in size and/or as part of a common development area, such as this proposed action, require a NPDES Permit for Storm Water Discharges under the ESCA. A Notice of Intent (NOI) will be submitted to the GA Environmental Protection Division (EPD) to meet these requirements. The preparation and implementation of a SPCC Plan and/or its requirements during construction activities will prevent and/or minimize spill/release from hazardous materials into waterways. Erosion control BMPs, as discussed in Section 4.1, would be utilized to minimize the deposition of sediments into adjacent surface waters at the site of disturbance. During the design process, Fort Benning decided to use low water crossings rather than standard road crossings, such as culverts, to minimize impacts to water flow and quality. The construction contract specifications require an erosion and sediment control plan that sets a goal of removing 80% of total suspended solids. A variety methods would be used for erosion and sediment controls such as mulching, silt fences, rock check dams, straw bales, drainage swales, etc.

Through adherence to regulatory requirements and the implementation of erosion control BMPs, stream habitats and water quality would improve over time after construction is completed..

Range Division would visually monitor surface water quality at least quarterly. Monitoring reports will be submitted to the Chief of the Range Division and the EMD, and appropriate action will be taken. The construction contract specifications require all water areas affected by construction activities to be monitored by the construction contractor. This is to ensure that the contractor’s erosion and sediment control plan is working as planned. The construction contractor would submit monitoring results to the Contracting Officer who would coordinate with the Chief of EMD or designee.

Fort Benning is concluding phase one of ecosystems research under the Defense Department's Strategic Environmental Research and Development Program (SERDP). This

SERDP Ecosystem Management Project (SEMP) had more than 20 researchers from 12 universities and four government laboratories taking the post's environmental pulse from some 800 monitoring sites on Fort Benning. Fort Benning and SEMP researchers would evaluate how SEMP monitoring would be useful for pre-construction and post-construction monitoring. The Ecosystem Characterization and Monitoring Initiative (ECMI) is next phase of SEMP and would be incorporated into the Installation's ecological monitoring plan. Fort Benning would seek adjustments to the ECRI research plan to help ensure some monitoring occurs on, and downstream from, the DMPRC site. SEMP researchers would submit any monitoring results related to DMPRC to the Chief of EMD or designee.

c. Wetlands and Streambanks

Mitigation for impacts to wetlands and streambanks by avoidance was incorporated into the design process by reducing stream crossings and placing trails, roads, and targets, where possible, out of wetland areas. Wetland mitigation and stream bank mitigation measures would be implemented as a part of the mitigation for the proposed DMPRC and would be in accordance with the Section 404 permit for the project. Streambank mitigation can include mechanically sloping the stream bank and stabilizing the bank with grasses and other erosion control measures. The Spill Prevention, Control and Countermeasure (SPCC) Plan and erosion control BMPs would also be implemented to avoid impacts to desirable habitat during construction. In addition, SPCC requirements would be implemented during training exercises to avoid/minimize impacts to desirable habitat. Streambank buffer zones would be marked and some tall species of trees selectively thinned depending on the line of sight required. To reduce potential sources of sedimentation, logging decks and defined skid trails would be located outside the buffer zones. Erosion control measures would be utilized along the edge of the wetlands, which would be outside the buffer zones to reduce the chances of sediment getting into the streams. Areas within the buffer zone would be cleared for construction of low water crossings, however erosion control measures would be put in place to minimize sedimentation in the streams. As described under Alternative II, restoration of wetlands and streambanks at another location on Post is proposed to further reduce impacts. Mitigation site development normally involves restoring the wetland hydrology by excavating sediment from a degraded wetland area and planting native trees and shrubs. Fort Benning prefers to use on-Post restoration sites; however, if there are not

enough wetland and/or streambank restoration sites/credits available on Post, then additional mitigation may be via purchase of off-Post credits, if available in the appropriate watershed. Operation and maintenance on the newly constructed DMPRC at this alternative would also be similar to those described under Alternative II, as would the proposed mitigation measures, although to a lesser degree. Overall, this alternative would result in related adverse impacts to fewer wetlands and streambanks than predicted under Alternative II, but would still result in potential minor adverse effects to wetlands without further mitigation.

d. Unique Ecological Areas (UEA)

Mitigation for UEAs would consist of adhering to requirements in the NPDES permit, Section 404 permit, and ESC Plan for this project. Trees not removed during the timber harvest for LOS would be felled so the stem is parallel with the run of the stream and therefore reducing the obstruction effect. Installation management polices for UEAs would be utilized to the fullest extent possible to reduce the amount of erosion that would occur. Upland areas would be stabilized with erosion control "blankets," vegetation, and/or mulch. Operations and maintenance would be mitigated as discussed under Section 4.3.3, "Wetlands and Streambanks."

e. Federally Protected Species

Fort Benning proposes reclaiming RCW clusters and habitat in the A20 ordnance impact area to minimize the potential adverse effects, if feasible. Access to the previously inaccessible active clusters (i.e., those clusters that are on the borders of the A20 ordnance impact area that are not currently counted as part of Fort Benning's population and towards Fort Benning's recovery goal for the RCW) would be required. The number of clusters that Fort Benning proposes to reclaim in the A20 ordnance impact area is currently estimated at ten clusters and the appropriate habitat to manage them. Further consultation with USFWS is required to concur with this proposal. UXO clearance of portions of the A20 ordnance impact area would also be required. Access to the RCW clusters and habitat remaining in the Alternative III area would also be required. This mitigation option would also require that agreements be created between Range Division and EMD personnel to ensure that management opportunities/days are established. Protecting lands off the Installation that could sustain RCWs is an option that was

considered; however, it was deemed infeasible due to the lack of existing lands proximate to the Installation that would provide the needed quality habitat.

Additional mitigation for the impacts on RCW would include staffing two (2) new positions for RCW monitoring/management (with at least 7-year terms), to include management of the newly-available clusters in the A20 ordnance impact area and monitoring the clusters within the construction area and, when completed, the area surrounding the newly constructed DMPRC during its routine operations and maintenance. Two staff members dedicated to concentrated management and monitoring for the RCW clusters in A20 and the clusters surrounding the Alternative III footprint, as well as contributing to management and monitoring at the population level, could be instrumental in ensuring that Fort Benning continues to move towards its recovery goal for the RCW. Obtaining supplemental funding to accelerate and support projects associated with population growth strategies, including funding for longleaf pine underplanting and restoration, forest plan modeling, landscape scale fertilization plan, etc., would also be important for achieving this goal.

Gaining access to ten active, known RCW clusters in the A20 ordnance impact area would also be a significant means of mitigating the adverse effects of this alternative. These are RCW clusters previously not under management due to UXO and range activities. Mitigation should also include augmenting the ten clusters in the A20 area with cavity inserts or drilled cavities if signs of cluster abandonment begins, which would be detected via monitoring. Internal (Fort Benning) translocation efforts for the ten clusters in the A20 area may also be conducted if cluster demographics indicate decline or abandonment. These actions may also be needed for the clusters in the vicinity of the range footprint.

Strategic placement of berms will be attempted to reduce rounds from impacting RCW clusters and/or habitat may further reduce potential effects. Fort Benning will apply, in the Biological Assessment to the U.S. Fish and Wildlife Service (USFWS), for incidental take of RCW clusters and/or trees.

Mitigation for operations and maintenance on the proposed DMPRC will include the construction of protective berms, if feasible, around targets and ahead of selected targets to prevent rounds from impacting clusters within the remaining forested areas behind those targets. Other mitigative measures include supplementing adversely impacted active RCW clusters with

cavity inserts or drilled cavities and the translocation of birds if detrimental trends are observed. Fort Benning personnel will develop an alternate strategy to respond to wildfires.

Another mitigation option for consideration is the initiation of research on the potential effects and area of effects on RCW and their habitat due to range operations. For example, research on the impacts related to RCW clusters and habitat in the SDZ would be beneficial.

f. State-Protected Species

Adherence to existing Installation management practices, as described in the Gopher Tortoise ESMP, would help to minimize the potential adverse effects; however, some additional mitigation would be required. Addition mitigation would include Fort Benning personnel relocating potentially affected gopher tortoises within the range and target firing area to another location on Fort Benning prior to tree clearing or construction. The relocation process can be broken into five steps. The first step is to survey the construction area and establish where and how many tortoise burrows (containing tortoises) will need to be removed. Once the number of tortoises proposed for removal has been estimated (about 40% of the burrows) a relocation site or sites must be selected. Relocation sites will be selected based on habit quality and the presence or absence of resident gopher tortoises. The preferred relocation sites will be those with suitable habitat and no resident gopher tortoises. Relocation of the tortoises would occur during mid-April to mid-May. Tortoises can then be removed by the use of a backhoe and hand excavation. Tortoises that are excavated will then need to have blood samples taken and checked for the presence of respiratory disease. Tortoises will need to be held in a suitable containment pen until the results of the blood tests are received (usually about one week). If the results of the tests are negative, the tortoises can then be released into the relocation site. Tortoises that test positive for respiratory disease will not be relocated into areas with tortoises that tested negative for the disease. Tortoises that are released will need to be provided with a start-burrow (dug by hand approximately 3 feet long) or an abandoned burrow to prevent the tortoise from being exposed to predation and the elements until they can excavate a new burrow.

Strategically targeted lands off the Installation could also be used for environmental mitigation via the establishment of conservation easements for gopher tortoise preserves. This site could then be used as a relocation site for displaced tortoises in this and future projects. Once

constructed, operations and maintenance on the new DMPRC would further restrict species management due to restricted access to the area for surveys and other management issues.

g. Land Use

Mitigation for the potential adverse effects from encroachment could be via the initiation of a Joint Land Use Study (JLUS).

The sustainable design criteria are mitigation measures by design. Sustainable design would be used to help develop a sustainable range land use. The Corps of Engineers and Fort Benning would incorporate the sustainable design specifications into construction and acquisition contracts if either Alternative II or III is selected.

The Sustainable Project Rating Tool (SPiRiT) v. 1.4.1 was used to evaluate the proposed Digital Multi Purpose Range Complex (DMPRC) at Fort Benning. This evaluation was conducted to assess the sustainable elements that would be incorporated into the project.

There are seven categories of evaluation under SPiRiT and each category is discussed for Alternatives 2 and 3:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Facility Delivery Process
- Mission

This Sustainable Design Evaluation (SDE) found that the proposed project would receive 35 SPiRiT points if the construction contractor implements the SPiRiT criteria. That would the proposed DMPRC support facilities eligible for a Silver SPiRiT rating , exceeding the Army goal of Bronze SPiRiT level of sustainable design. This level of sustainable design represents a positive long-term environmental effect and would represent a positive precedent for future construction at Fort Benning and, perhaps, in the Columbus area. See the Appendix for a summary of the SPiRiT evaluation based on the current design.

h. Cultural Resources

The proposed mitigation measures for the historically eligible site consists of avoiding direct effects to the resource by prohibiting ground disturbing activities at the site during construction of the DMPRC. Indirect effects will be avoided through the construction of a berm, or large mounded earthen screen, between the firing points for the heavy combat vehicles and the site. Construction specifications and site plans would identify areas off limits to ground disturbance and placement of berm or earthen screen. The contractor's Environmental Protection Plan includes a cultural and natural resources plan. That plan would be reviewed and approved by the Chief of EMD or designee before construction would begin.

During the design process, the helipad was relocated to avoid construction impacts on two sites with prehistoric Indian components that are potentially eligible for the NRHP. The additional required mitigation measures for the historically eligible and potentially eligible sites consist of avoiding direct effects to the resource by prohibiting ground disturbing activities at the site during construction of the DMPRC. This includes using cut-to-length method of timber harvest in the boundaries of the eligible and potentially eligible sites. The indirect effects of rounds landing on the sites will be avoided through the construction of five protective berms between the applicable targets and the sites. These berms must be maintained in a manner to ensure continued protection of the sites. The proposed mitigation measures will eliminate adverse effects to the historic property, thereby resulting in a determination of no adverse effects to cultural resources sites for Alternative III. Should unknown cultural resources sites be discovered during either the construction, operation or maintenance at this site, Fort Benning will make an eligibility determination with consulting parties, and eligible sites will require either (1) avoidance of impacts to the site's integrity through purposeful design of the DMPRC via movement of targets/construction of berms; (2) excavation to acquire the scientific and historic information inherent within its archeological and historical context; or (3) other mitigation as determined through consultation.

i. Noise

Fort Benning is preparing the Installation Environmental Noise Management Plan, and beginning to monitor noise near the Installation boundary. The ENMP will be available for public review. As part of the ENMP, the Installation is considering a Joint Land Use Study that

would provide some funds to assist local communities in their land use planning to help ensure compatible land uses are located near military training and weapons firing areas. Noise monitoring data would be used to validate noise models and verify noise levels when citizens file a noise complaint. The noise data would also be used to more effectively schedule, locate, and adjust military training exercises to help reduce noise impacts.

No new mitigation is planned because noise from this implementing this alternative is reduced from current noise conditions. Whenever possible, PAO provides advance public notification through the local news media. Fort Benning is planning to update the Installation Environmental Noise Management Plan (ENMP), and will coordinate the plan with the surrounding communities to help ensure there are no new land uses along Installation boundaries that are incompatible to noise generating land uses by the Installation.

This alternative location was proposed in part to reduce noise impacts. No new mitigation is planned because this implementing would reduce noise impacts off Post more than any of the other alternatives considered in detail.

j. Air Quality

During construction of the DMPRC, disturbed soils would be sprayed with water when necessary to control fugitive dust and/or PM emissions. This mitigation measure would also be effective for unpaved roads in the area. This same measure would also be effective following training events on the newly constructed DMPRC, as well as ensuring that, when feasible, tank trails and access roads have either a graveled or paved surface, to further reduce fugitive dust and PM emissions. Covering truck beds carrying materials with the potential to become airborne dust will also help reduce adverse effects on air quality. Prior to the initiation or construction on the site, a construction permit will have to be obtained from the GA EPD Air Protection Division, which will stipulate other mitigation measures and/or BMPs, as needed for the project. These specific requirements will be added to the Mitigation, Monitoring and Enforcement Plan when they are available.

Adherence to existing requirements to minimize effects to air quality include spraying disturbed soils with water to control fugitive dust and/or PM emissions. This measure would also be effective for unpaved roads in the area. Covering truck beds carrying materials with the

potential to become airborne dust will also help reduce adverse effects on air quality. Prior to the initiation or construction on the site, a construction permit will have to be obtained from the GA EPD Air Protection Division, which will stipulate other mitigation measures and/or BMPs, as needed for the project.

k. Utilities

Fort Benning proposed routes for gas/electric utilities that would minimize or avoid disturbance of sensitive environmental resources. Fort Benning would consider using innovative methods to reduce utility infrastructure requirements to comply with Army Bronze sustainable design goals. No other mitigation is required for would consider using innovative methods to reduce utility infrastructure requirements to comply with Army sustainable design goals. The construction contractor would submit a SPiRiT Compliance Plan that addresses how energy efficiency and/or renewable energy are used in construction of DMPRC support buildings.

Additional mitigation under consideration includes innovative energy efficiency solutions that provide the greatest potential for achieving the highest sustainable design values. Each 2.5% reduction in design energy usage provides one SPiRiT point (up to 20 points maximum). The Installation would also consider use of on-site renewable energy (SPiRiT 3.C2) and/or purchase of off-site green power (SPiRiT 3.C6).

l. Hazardous Materials

Support facilities where hazardous materials would be stored or used must be designed to meet Spill Prevention, Control and Countermeasure (SPCC) Plan requirements to prevent or minimize soil contamination. Efforts were made during the design process to avoid the use of hazardous materials if substitute materials are available. Specifically, the use of concrete rather than creosote treated wood for use in berm construction was considered but discarded due to cost and maintenance concerns.

5. Enforcement

The Contracting Officer is responsible for monitoring contractor compliance with all construction mitigation requirements. He/she would inform Chief of EMD and Installation OSJA of any noncompliance with mitigation commitments. The Contracting Officer would use

all contractual mechanisms to ensure that the construction contractor conducts mitigation and monitoring as required. During operational and maintenance phases of the proposed DMPRC, any noncompliance with mitigation requirements would be coordinated with Chief of EMD and elevated to the Chief of Range Division for resolution. Actions to resolve noncompliance will be taken in a timely manner and may include: supplemental NEPA analysis, adjustment to range operations, notice to regulators, investigation, administrative or disciplinary actions if military or civil service personnel are involved, civil or criminal actions, and other actions as appropriate to the situation.

Environmental Monitoring Report

Fort Benning will prepare an environmental monitoring report in accordance with 32 CFR 651.15(l) to help determine the accuracy of impact predictions and make any necessary adjustments in the mitigation measures and/or military operations as practicable. The Installation may integrate this DMPRC environmental monitoring report with any EMS monitoring report if feasible and useful. Otherwise, Fort Benning DFEL EMD would prepare a separate monitoring report at least annually for as long as mitigation is required. This environmental monitoring report will be provided to DOT and also available upon request to the public and stakeholders to provide status.

Sustainable Design Evaluation

The Sustainable Project Rating Tool (SPiRiT) v. 1.4.1 was used to evaluate the proposed Digital Multi Purpose Range Complex (DMPRC) at Fort Benning. This evaluation was conducted to assess the sustainable elements that would be incorporated into the project.

There are seven categories of evaluation under SPiRiT and each category is discussed for Alternatives 2 and 3:

- Sustainable Sites
- Water Efficiency
- Energy and Atmosphere
- Materials and Resources
- Indoor Environmental Quality
- Facility Delivery Process

- Mission

The Sustainable Design Evaluation (SDE) found that the proposed project would receive 35 SPiRiT points if the construction contractor implements the SPiRiT criteria. That would the proposed DMPRC support facilities eligible for a Silver SPiRiT rating , exceeding the Army goal of Bronze SPiRiT level of sustainable design. This level of sustainable design represents a positive long-term environmental effect and would represent a positive precedent for future construction at Fort Benning and, perhaps, in the Columbus area. Below is a summary of the SPiRiT evaluation based on the current design.

Sustainable Sites—4 points out of 20

The proposed project qualifies for very few sustainable site points because SPiRiT criteria are based on construction of vertical buildings and not on large land-consuming range projects. There still is an opportunity to earn points for reducing heat islands by including shade trees over the impervious surfaces (roofs, parking lots, walkways) and another point for developing a site environmental and mitigation plan as proposed in the current design specifications. A light colored roofing material that meets Energy Star standards is another way to achieve a point within budget.

Water Efficiency—3 points out of 5

This project would achieve points by eliminating the use of potable water for landscape irrigation. Low flow plumbing fixtures would achieve water use reduction goals.

Energy and Atmosphere—0 points out of 28

A commissioning authority must be hired by the Army in order to fulfill the requirement for this section. This project has a great potential to earn points in this section by optimizing energy performance. One point (up to 20) would be awarded for every reduction in design energy usage of 2.5%. Engaging in a two-year contract with the current utility provider for green power is one method of achieving a credit. Use of renewable energy, additional commissioning, and ongoing measurement and verification

of energy performance are also strategies to achieve additional points towards a sustainable development.

Materials and Resources—6 points out of 13

This project would achieve points, with proper contracts with contractors, for recycling construction, demolition, and land clearing waste. Using recycled content materials (e.g., steel) from local and regional sources would gain additional points for this project. There is additional potential for points by using rapidly renewable materials (e.g., cork and linoleum) and certified wood.

Indoor Environmental Quality—11 points out of 17

With proper contracting with subcontractors, this project would achieve indoor air quality points for utilizing low-emitting materials including adhesives, paints, coagulants, and carpets. No added urea-formaldehyde resin would be used in order to achieve an additional point. Use of daylighting would help to maximize available points and additional benefits can be expected including user satisfaction, lower energy usage, lower absenteeism and increased productivity.

Facility Delivery Process —4 points out of 7

The design team is multi-disciplinary and tradeoffs are being considered and documented as they relate to sustainability, first costs, life cycle costs and mission requirements through a collaborative process. A training point would only be achieved if the entire team is trained in the sustainable design delivery process (i.e., SPiRiT). A contractor has been tasked with providing the required SPiRiT training to the design team.

Current Mission –4 points out of 6

Points would be achieved by providing a healthy, safe and functional work environment and for providing surfaces, furnishings and equipment that are selected according to a life-cycle cost analysis.

The detailed Sustainable Design Evaluation (SDE) is a continuous review of the design and construction specifications. The current detailed SDE is a working spreadsheet and is available from EMD upon request.