

Final
Environmental Assessment
for the Construction of an Armed Forces
Reserve Center and Implementation of 2005
BRAC Actions at the Fort Custer Training
Center, Michigan



Prepared for:
U.S. Army Reserve
88th Regional Support Command

Prepared By:
United States Army Corps of Engineers
Mobile District

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**FINAL
FINDING OF NO SIGNIFICANT IMPACT (FNSI)
For the Implementation of 2005 Base Realignment and Closure Actions at
Fort Custer Reserve Training Center, Michigan**

Pursuant to the Council on Environmental Quality (CEQ) regulations for implementing the procedural provisions of the National Environmental Policy Act (NEPA) (40 Code of Federal Regulations [CFR] 1500-1517) and the U.S. Department of Army Regulation 32 CFR 651 (Environmental Analysis of Army Actions; Final Rule), the U.S. Army Corps of Engineers, Mobile District, has prepared an Environmental Assessment (EA) of potential environmental effects associated with implementation of BRAC actions at Fort Custer Training Center (FCTC), Michigan.

PURPOSE AND NEED

On September 8, 2005, the Defense Base Closure and Realignment Commission ("BRAC Commission") recommended that certain realignment actions occur to units supported by the U.S. Army Reserve 88th Regional Support Command (RSC) on the site of the U.S. Army Reserve Center (USARC) Stanford C. Parisian in Lansing, Michigan (MI), and the Army Reserve Area Maintenance Support Activity (AMSA) #135 in Battle Creek, MI. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission's recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission made the following recommendations concerning FCTC: "Close the US Army Reserve Center Stanford C. Parisian in Lansing, MI, and the Army Reserve Area Maintenance Support Activity #135 in Battle Creek, MI and relocate units to a new Armed Forces Reserve Center on Fort Custer Reserve Training Center, MI."

To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure. In addition to the BRAC action at Fort Custer, the 401st Transportation Company (TC) is also proposed to be relocated to the new facilities at Fort Custer. The Battle Creek ARC currently houses the 401st TC and AMSA #135. As discussed above, AMSA #135 is being relocated under BRAC. Legal Counsel to the BRAC Commission has determined that the 401st TC is not a BRAC unit and was therefore not part of the relocation and closure of the AMSA #135. Relocation of the 401st TC to the new facilities at Fort Custer is proposed under separate funding authority (non-BRAC), but is included as part of the proposed action in this EA.

DESCRIPTION OF THE PROPOSED ACTION

To support the BRAC recommendations, the proposed action includes construction of a new 200-member AFRC, AMSA, organizational maintenance shop (OMS), unheated storage building, and organizational parking at a new site at Fort Custer, MI. The new AFRC (33,694 square foot (SF)) would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units. The maintenance shop (12,348 SF) would provide work bays and maintenance administrative support. The proposed action would also provide for unit storage (5,119 SF) and adequate parking space for all military and privately-owned vehicles. Additionally, the 401st TC would become users of the new facilities. The addition of this unit would result in additional space needed for military equipment parking (MEP) (20,870 square yard (SY)). The 401st TC would share use of the facilities by alternating weekends for training.

ALTERNATIVES CONSIDERED

Preferred Alternative. The Preferred Alternative site is on the Fort Custer Reserve Training Center installation and is located directly south of the Michigan Army National Guard (MIARNG) Maintenance Activity. The site consists of approximately 26 acres, of which approximately 10 acres would be used for the site development. The topography on the site is relatively level, and the site is heavily treed. The site is outside the 100-year floodplain, and there are two wetland areas (approximately 3.57 acres total) within the 26-acre site.

No-Action Alternative. The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment. For realignment actions directed by the BRAC Commission, it is noted that the No Action Alternative is not feasible.

ENVIRONMENTAL IMPACTS SUMMARY

Twelve environmental and socioeconomic resource areas were characterized and evaluated for potential impacts from the Preferred Alternative and the No Action Alternative. No potential impacts were classified as significant. Implementation of the proposed action at the Preferred Alternative site would result in minor, short-term impacts to aesthetics, noise, and socioeconomics. Implementation of the proposed action at the Preferred Alternative site would result in minor, short-term and long-term impacts to land use, air quality, geology and soils, water resources, biological resources, transportation, utilities, and hazardous and toxic materials. The site layout was designed to avoid the wetlands on-site; in addition a 100-foot buffer would be maintained around all wetland areas on the site. No impacts to cultural resources are anticipated. The proposed action, when combined with other past, present, and reasonably foreseeable future projects in the general vicinity, would not result in significant cumulative impacts.

CONCLUSION

Direct, indirect, and cumulative impacts of the Preferred Alternative and the No Action Alternative have been considered. No significant adverse impacts were identified. Therefore, the issuance of a FNSI is warranted, and preparation of an environmental impact statement is not required.

PUBLIC COMMENT

Public comment was invited for a period of 30 days after publication of the notice of availability in the following newspapers: Battle Creek Enquirer, Kalamazoo Gazette, Lansing State Journal. A copy of the EA and draft final FNSI was made available for public review at the Willard Library in Battle Creek, MI; the Capital Area District Library in Lansing, MI; and, the Kalamazoo Public Library in Kalamazoo, MI. The documents were also located at: http://www.hqda.army.mil/acsim/brac/env_ea_review.htm. No comments were received.

Signature:

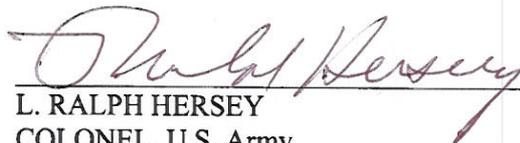
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**ENVIRONMENTAL ASSESSMENT
ARMED FORCES RESERVE CENTER
FORT CUSTER, MICHIGAN**

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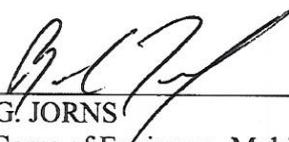
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1 **EXECUTIVE SUMMARY**

2 **ES.1 Introduction**

3 This Environmental Assessment (EA) analyzes and documents environmental effects
4 associated with the Base Realignment and Closure Commission (“BRAC Commission”)
5 recommendation that certain realignment actions occur to units supported by the U.S.
6 Army Reserve 88th Regional Support Command (RSC). The BRAC Commission has
7 recommended closure of the United States Army Reserve Center (USARC) Stanford C.
8 Parisian in Lansing, MI and closure of the AMSA #135 in Battle Creek, MI, and
9 relocation of units to a new Armed Forces Reserve Center (AFRC) on Fort Custer
10 Training Center (FCTC), MI. To enable implementation of these recommendations, the
11 Army proposes to provide necessary facilities to support the changes in force structure.

12 This EA has been developed in accordance with the National Environmental Policy Act
13 (NEPA) of 1969 and implementing regulations issued by the President’s Council on
14 Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR) Parts 1500-1508)
15 and Army Regulation 32 CFR Part 651 [Army Regulation 200-2].

16 **ES.2 Background and Setting**

17 The Fort Custer AFRC property is located approximately ½-mile southeast of the
18 intersection of Denso Road and Armstrong Road within the FCTC in Battle Creek,
19 Calhoun County, Michigan. FCTC is located less than 2 miles west of downtown Battle
20 Creek and is located in portions of Calhoun and Kalamazoo Counties. It is located
21 between the Kalamazoo River to the north and Interstate-94 to the south and occupies
22 approximately 7,570 acres of land. The proposed AFRC property is a 26-acre parcel
23 located on the northeastern side of the FCTC.

24 **ES.3 Proposed Action**

25 To support the BRAC recommendations, the Proposed Action includes construction of a
26 new 200-member AFRC, AMSA, organizational maintenance shop (OMS), unheated
27 storage building, and organizational parking at a new site at Fort Custer, MI. The new
28 AFRC would provide administrative, educational, assembly, library, learning center,
29 vault, weapons simulator, and physical fitness areas for eight Army Reserve units. The
30 maintenance shop would provide work bays and maintenance administrative support. The
31 Proposed Action would also provide for unit storage and adequate parking space for all
32 military and privately-owned vehicles. Additionally, the 401st Transportation Company
33 (TC) would become users of the new facilities. The addition of this unit would result in
34 additional space needed for military equipment parking (MEP). The 401st TC would
35 share use of the facilities by alternating weekends for training. The Army estimates that
36 construction would be awarded in November 2009, and would be completed March 2011.

37 The AFRC complex would consist of the following (CH2M HILL 2008):

- 38 • 33,694 square foot (SF) AFRC
- 39 • 12,348 SF OMS/AMSA
- 40 • 5,119 SF unheated storage building
- 41 • 20,870 square yard (SY) MEP

42 Personnel to use the facilities consist of 25 full time users (including 6 from 401st TC),
43 and up to 231 reservists for a drill weekend (170 Reservists from 401st TC could use the
44 facilities on a drill weekend, but these weekends would be alternated with other
45 Reservists). Adequate parking spaces for privately-owned vehicles (POVs) would be
46 provided. Military equipment associated with the relocation to FCTC includes wheeled
47 vehicles (including palletized load system (PLS) trucks), trailers, and one tracked vehicle.

48 **ES.4 Alternatives**

49 Potential sites for the new AFRC were screened for inclusion in this EA. Screening
50 criteria consists of operational constraints, safety constraints, geographic constraints,
51 environmental and topographic constraints, existing facility and mission constraints, and
52 operational constraints. One action alternative (Preferred Alternative) and the No Action
53 Alternative were carried forward for evaluation in this EA.

54 Two additional alternatives on post at FCTC were considered but eliminated from further
55 consideration. These alternatives were eliminated due to environmental constraints (Site
56 1), and due to safety, topographic, and operational constraints (Site 3).

57 The No Action Alternative is included as required by the CEQ regulations to identify the
58 existing baseline conditions against which potential impacts are evaluated. The No
59 Action Alternative must be described because it is the baseline condition or the current
60 status of the environment. For realignment actions directed by the BRAC Commission, it
61 is noted that the No Action Alternative is not feasible.

62 **ES.5 Environmental Consequences**

63 Twelve environmental and socioeconomic resource areas were characterized and
64 evaluated for potential impacts from the Preferred Alternative and the No Action
65 Alternative. Significance criteria were developed for the affected resource categories, and
66 for many resource categories, are necessarily qualitative in nature. No potential impacts
67 were classified as significant. Potential impacts of the Proposed Action identified for
68 each resource area are summarized below.

69 **Land Use.** Potential impacts to land use from the Preferred Alternative would not be
70 significant. The Preferred Alternative would not present conflicts or nonconformance
71 with current FCTC Installation land use or zoning designations. There would be no
72 conflict with adjacent land uses from the preferred alternative since the project would not
73 divide any communities, require any changes to land use or zoning maps, and would not
74 interfere with the existing surrounding agricultural and light industrial land uses.

75 **Aesthetics and Visual Resources.** The Preferred Alternative would cause short-term
76 visual impacts on the Fort Custer AFRC property resulting from ground disturbance
77 associated with construction of the proposed facilities. However, the reclamation of
78 disturbed areas would remove these visual impacts. A 40 –foot forested buffer will be
79 retained around the perimeter of the project site and a 100-foot buffer will be retained
80 around all wetland areas. Operations at the AFRC would result in minor adverse
81 aesthetic impacts, including increased traffic and nighttime light, resulting from increased
82 use during weekends when the facilities are in use by tenant organizations.

83 The addition of the proposed AFRC facility would have negligible effects on the area
84 viewshed, because the facilities would be consistent with the existing military functions
85 (i.e. the Unit Training and Equipment Site (UTES) is adjacent to the north) and the
86 overall context of the site. Therefore, the preferred alternative of the Proposed Action
87 would have no significant adverse impacts on the visual resources of the area.

88 **Air Quality.** Overall, potential impacts to air quality from the Preferred Alternative
89 would not be significant. Short-term air quality impacts from the Preferred Alternative
90 would occur from construction and demolition activities associated with the movement of
91 heavy equipment. Construction activities would be temporary and would occur in a
92 localized area. Contaminants generated from construction would include particulate
93 matter, vehicle emissions, and increased wind-borne dust (i.e. fugitive dust).

94 Long-term impacts associated with operation of the proposed AFRC are not likely to
95 occur. No fueling facilities, underground storage tanks (USTs), or paint booths would be
96 required for the AFRC. The vehicles associated with the use of these facilities by
97 reservists would not be expected to result in significant impacts to air quality because
98 there would be no net gain of personnel in the airshed, the proposed users would be
99 relocating from facilities within the same airshed.

100 **Noise.** Noise associated with the Preferred Alternative would be generated by standard
101 construction equipment. Only a minor increase in ambient noise levels is expected to
102 occur. Noise would also be generated by increased construction traffic on area roadways,
103 but would be limited to certain times of the day.

104 After construction, the day-to-day operations of the new AFRC and associated facilities
105 are not expected to increase significantly. The new AFRC would provide predominantly
106 administrative, educational, assembly, and physical fitness areas for the eight Army
107 Reserve units. The weapons simulator at the new facility will not cause a significant
108 increase in noise and will not cause a change in the noise contours in the area. Noise
109 generated by vehicles utilizing the MEP, including palletized load system (PLS) trucks
110 trailers, and one tracked vehicle will be negligible compared to existing noise in the
111 surrounding area. Similar activities presently take place at the UTES, which is located
112 just north of the proposed project area, therefore, negligible long-term or cumulative
113 noise impacts are anticipated.

114 **Geology and Soils.** Overall, potential impacts to geology and soils from the Preferred
115 Alternative would not be significant. The proposed facilities would reduce water
116 infiltration by capping the subsoil with impervious surfaces. The Preferred Alternative
117 would result in the long-term addition of approximately 3.5 acres of impervious surfaces
118 to the property, a site-wide increase in impervious surfaces of approximately 14 percent
119 on the +/-26 acre site. The additional 9,000 square yard MEP area for the 401st TC will
120 be gravel to allow for infiltration of water therefore reducing potential runoff and soil
121 erosion. Construction of a new AFRC and parking facilities would disturb existing
122 ground cover and increase the potential for soil erosion during the site preparation and
123 construction phases. BMPs for erosion control, topsoil management, and revegetation
124 would be required and stated in the construction contract, and would minimize the
125 potential effects.

126 **Water Resources.** Potential impacts to water resources from the Preferred Alternative
127 would not be significant. There would be no measurable reduction in surface water
128 quality or availability. By capping the subsoil with impervious surfaces, the Preferred
129 Alternative would reduce groundwater recharge locally over the long term by reducing
130 the infiltration of precipitation (see Section 4.6.2.1). The additional 9,000 square yard
131 MEP for the 401st TC will not be paved and will consist of gravel. The proposed training
132 facility and OMS would result in the addition of approximately 1 acre of impervious
133 surfaces. This reduction of groundwater recharge would not have a significant impact on
134 regional groundwater supplies.

135 Potential nonpoint source storm water impacts would not be significant with
136 implementation of BMPs, and as should be described in a Storm Water Pollution
137 Prevention Plan (SWPPP). The SWPPP would be modified, as needed, to address site
138 specific requirements and monitoring. Point discharges of wastewater are prohibited by
139 existing National Pollutant Discharge Elimination System (NPDES) requirements under
140 the Clean Water Act (CWA). Any spills would be mitigated using procedures identified
141 in the Spill Prevention Control and Countermeasures (SPCC) plan to reduce potential
142 impacts to surface water or groundwater. The proposed site would be permitted for
143 stormwater regulations, possibly in conjunction with the existing UTES site permit.

144 Because there are no floodplains on the site, there would be no impacts to floodplains
145 from the Proposed Action, and there are no impacts to Proposed Action structures caused
146 by building in a floodplain.

147 **Biological Resources.** Impacts to common flora and fauna would result from
148 construction activities. Indirect impacts would be associated with loss of habitat. The
149 project would disturb approximately 5.5 acres of forested land, with these areas being
150 converted to buildings, pavement, gravel, and associated landscaped areas. During site
151 preparation, all plants would be eliminated from the construction area and limited
152 incidental animal injury or mortality could occur.

153 No federally protected species occur in the project area. The federally listed endangered
154 Indiana bat has not been located in the project vicinity; however the timber harvest will
155 be scheduled during the dormant period for this species. Construction activity may have a

156 temporary impact on Eastern box turtle (State listed species of special concern)
157 movements but will pose no long-term threat to the population. No other known
158 occurrences of sensitive species are present within the project area.

159 The site layout was designed to avoid the wetland areas. Construction activities will be
160 well outside of the wetland areas. BMPs during construction activities will be designed to
161 protect the wetland areas. A minimum 100-foot buffer will be retained surrounding the
162 wetland areas. Also, the additional MEP will be constructed with gravel rather than
163 pavement, resulting in less runoff potential.

164 **Cultural Resources.** No significant negative impacts to architectural resources would be
165 likely as a result of implementation of the Proposed Action. No buildings listed, eligible
166 for listing, or potentially eligible for listing on the National Register of Historic Places
167 (NRHP) occur in the project area.

168 No significant negative impacts to archaeological resources would be likely as a result of
169 implementation of the Proposed Action. FCTC has been completely surveyed for cultural
170 resources (ICRMP 2001). No resources were found on the project site that were
171 potentially eligible for the National Register. Therefore, no impacts to cultural resources
172 are expected from implementation of the Proposed Action.

173 **Socioeconomics.** No significant negative impacts to socioeconomics would be likely as a
174 result of implementation of the Proposed Action. In the short term, expenditures in the
175 local economy for goods and services and direct employment associated with
176 construction would increase sales volume, employment, and income in the Region of
177 Influence (ROI). The economic benefits would be temporary, lasting only for the duration
178 of the construction period. There would be no measureable change in long-term
179 employment, population, housing, or community services because the Proposed Action
180 involves the relocation of existing personnel within the ROI.

181 *Environmental Justice*

182 Construction and operation of the proposed AFRC would not result in adverse impacts
183 associated with air quality, noise, groundwater, surface water, or hazardous materials and
184 wastes. Safety measures to protect pedestrians, including children, would be implemented
185 during construction. For these reasons, the proposed action would have no effect on
186 environmental justice or protection of children.

187 **Transportation.** Potential transportation impacts from the Preferred Alternative would
188 not be significant, and would have little to no long-term impacts. During the construction
189 phases of the Proposed Action, a temporary increase in vehicular traffic into and out of
190 the Fort Custer AFRC site is expected, including the use of heavy equipment. With the
191 construction of new POV parking areas, it is projected that the existing infrastructure at
192 FCTC and the surrounding area would be able to accommodate the increase of 25 full-
193 time employees during the week. As a reserve facility, training personnel reporting for
194 reserve duty primarily access the site on drill weekends once a month. However, not all
195 personnel report for duty on the same weekend; rather drill weekends are spread over an
196 entire month. Up to 231 additional reservists will be reporting to the new AFRC for

197 weekend duty under the Proposed Action and these reservists will not all be reporting on
198 a given weekend. It is projected that with the construction of the proposed POV parking
199 areas, the impact on the existing infrastructure would be negligible. Current roads are
200 adequate to accommodate these minor increases in use without modification.

201 **Utilities.** Overall, potential impacts to utilities from the Preferred Alternative would not
202 be significant. For potable water supply, a 10-inch main will be constructed to create a
203 loop by connecting to the Denso Road main and the Range Road main. The total
204 estimated length of the 10-inch Water Supply loop is approximately 2,200 feet. An 8-inch
205 service from that new main will supply a 6-inch fire suppression water service and a 2-
206 inch domestic water service to the facility. These lines will support the domestic water
207 and fire suppression requirements as outlined in UFC 4-171-05 and UFC 3-600-01.

208 The closest sewer to the new training center is a municipal Trunk Line on Denso Road
209 immediately north of the site. This system is owned by the City of Battle Creek
210 Wastewater Division. Due to the elevation of the new site being lower than this point an
211 explosion-proof pump station and 4-inch pressure sewer force main will be required. The
212 length of this line will be approximately 1,400 feet. Pressure sewer cleanouts will be
213 constructed approximately every 500 feet to allow future pressure cleaning of this line.
214 All facilities on the site will be served then by a gravity connection system ending in the
215 wet well of the sewer pump station. An oil / water separator (OWS) unit will be required
216 for this facility per UFC 4- 171-05.

217 **Hazardous and Toxic Substances.** The proposed AFRC would consist primarily of
218 training and office space as well as administrative service areas. There would be minimal
219 use of hazardous materials, such as janitorial products and printing supplies. Any
220 hazardous materials will be handled and stored in accordance with applicable regulations
221 and label precautions. The addition of privately owned and military vehicles would
222 increase the chance of leaks and spills. These impacts can be avoided through routine
223 and proper maintenance of vehicles and equipment. Also, drip pans would be used for
224 vehicles when stored. Small quantities of hazardous waste may be generated from
225 vehicle maintenance activities such as parts degreasing. The activities at the proposed
226 OMS are similar to activities currently ongoing at FCTC. Long-term impacts are
227 expected to be negligible, and limited to very small quantities of vehicle fluids. The
228 possibility for even these very small amounts of materials to migrate offsite or impact
229 area natural resources would be reduced to virtually none by the use of drip trays, mats,
230 regular removal of fluids during longer vehicle storage periods, and the application of
231 standard BMPs and additional pretreatment BMPs such as oil/water separators.

232 **Cumulative Impacts.** Cumulative impacts were evaluated by considering the impacts of
233 the proposed action in conjunction with other past, present, and reasonably foreseeable
234 actions. Reasonably foreseeable future projects in the vicinity of the AFRC site include a
235 new loading ramp and wash rack near the UTES, potential reconfiguration of the front
236 gate in 2019, and potential light industrial business coming into the Industrial Park. The
237 12 environmental and socioeconomic resources were evaluated for potential cumulative
238 impacts. No significant cumulative impacts are anticipated to occur.

239 **ES.6 Mitigation Responsibility**

240 No mitigation measures are required for the Preferred Alternative discussed in this EA
241 because resulting impacts are not significant.

242 **ES.7 Findings and Conclusions**

243 Direct, indirect, and cumulative impacts of Alternative 1 (the Preferred Alternative) and
244 the No Action Alternative have been considered. Alternative 1 is the 88th RSC's
245 Preferred Alternative because it best allows the Army to efficiently provide safe training
246 facilities for its reservists that would use the facilities. No significant adverse impacts
247 were identified. Therefore, the issuance of a Finding of No Significant Impact (FNSI) is
248 warranted, and preparation of an environmental impact statement is not required.

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1.0 PURPOSE, NEED, AND SCOPE

1.1 Introduction

On September 8, 2005, the Defense Base Closure and Realignment Commission (“BRAC Commission”) recommended that certain realignment actions occur to units supported by the U.S. Army Reserve 88th Regional Support Command (RSC) on the site of the U.S. Army Reserve Center (USARC) Stanford C. Parisian in Lansing, Michigan (MI), and the Army Reserve Area Maintenance Support Activity (AMSA) #135 in Battle Creek, MI. These recommendations were approved by the President on September 23, 2005, and forwarded to Congress. The Congress did not alter any of the BRAC Commission’s recommendations, and on November 9, 2005, the recommendations became law. The BRAC Commission recommendations must now be implemented as provided for in the Defense Base Closure and Realignment Act of 1990 (Public Law 101-510), as amended.

The BRAC Commission has recommended closure of the USARC Stanford C. Parisian in Lansing, MI and closure of the AMSA #135 in Battle Creek, MI, and relocation of units to a new Armed Forces Reserve Center (AFRC) on Fort Custer Training Center (FCTC), MI. To enable implementation of these recommendations, the Army proposes to provide necessary facilities to support the changes in force structure.

In addition to the BRAC action at FCTC, the 401st Transportation Company (TC) is also proposed to be relocated to the new facilities at FCTC. The Battle Creek ARC currently houses the 401st TC and AMSA #135. As discussed above, AMSA #135 is being relocated under BRAC. Legal Counsel to the BRAC Commission has determined that the 401st TC is not a BRAC unit and was therefore not part of the relocation and closure of the AMSA #135. Relocation of the 401st TC to the new facilities at FCTC is proposed under separate funding authority (non-BRAC), but will be included as part of the Proposed Action in this document.

This environmental assessment (EA) analyzes and documents environmental effects associated with the Army’s Proposed Action at FCTC, MI. Figure 1-1 shows the location of the FCTC in which the site of the Preferred Alternative is located.

1.2 Purpose and Need

The purpose of the Proposed Action is to implement the BRAC Commission’s recommendations pertaining to Fort Custer, MI.

The need for the Proposed Action is to improve the ability of the Nation to respond rapidly to challenges of the 21st century. The Army is legally bound to defend the United States and its territories, support national policies and objectives, and defeat nations responsible for aggression that endangers the peace and security of the United States. To carry out these tasks, the Army must adapt to changing world conditions and must improve its capabilities to respond to a variety of circumstances across the full spectrum of military operations. The following discusses three major initiatives that contribute to the Army’s need for the Proposed Action.

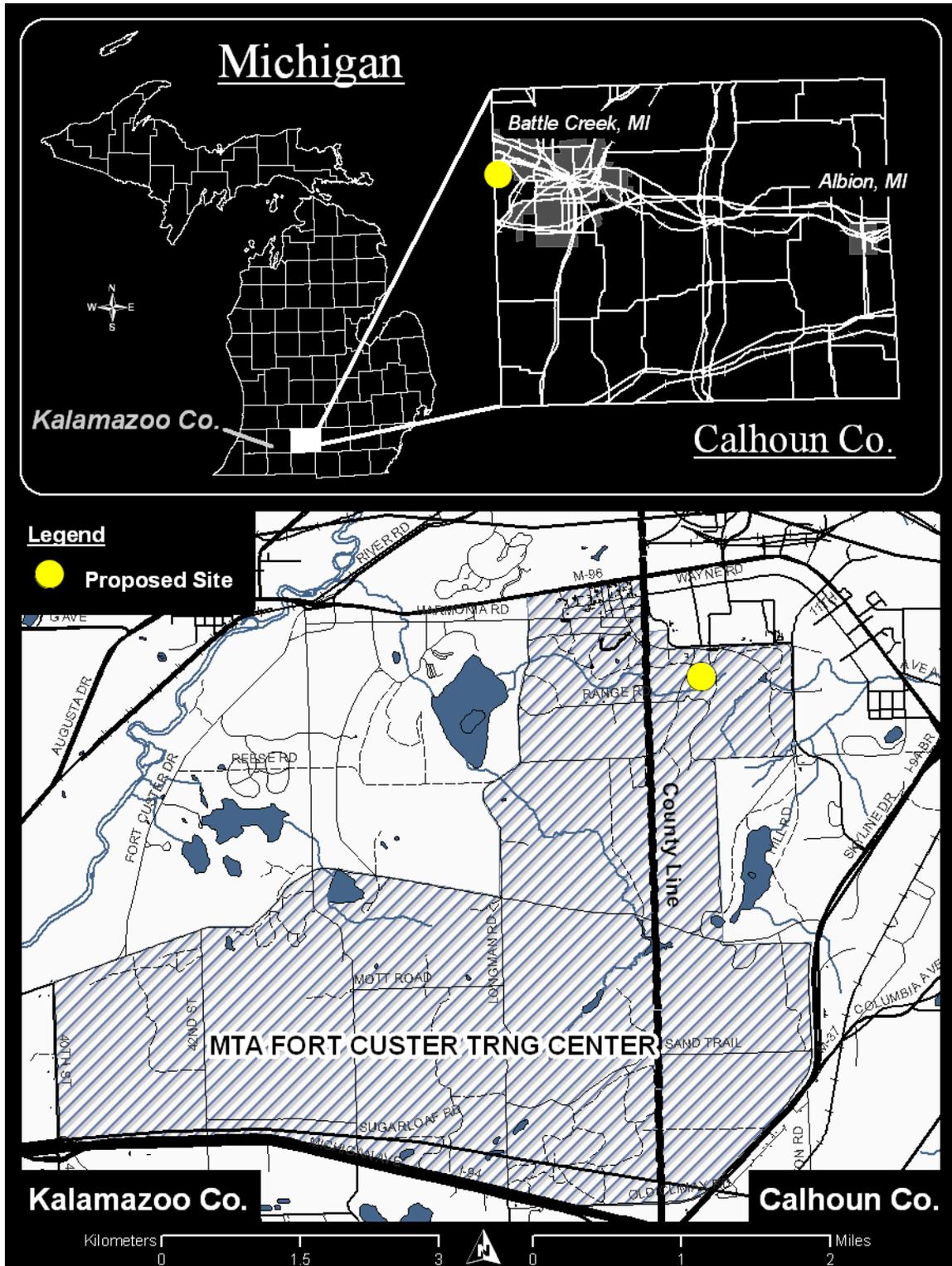


Figure 1-1. Regional Location Map, FCTC, MI

Base Realignment and Closure. In previous rounds of BRAC, the explicit goal was to save money and downsize the military in order to reap a “peace dividend.” In the 2005 BRAC round, the Department of Defense (DoD) sought to reorganize its installation infrastructure to most efficiently support its forces, increase operational readiness and facilitate new ways of doing business. Thus, BRAC represents more than cost savings. It supports advancing the goals of transformation, improving military capabilities, and enhancing military value. The Army needs to carry out the BRAC recommendations at FCTC, MI in order to achieve the objectives for which Congress established the BRAC process.

Army Transformation and the Army Modular Force. On October 12, 1999, the Secretary of the Army and the Chief of Staff articulated a vision about people, readiness, and transformation of the Army to meet challenges emerging in the 21st century and the need to be able to respond more rapidly to different types of operations requiring military action. The strategic significance of land forces continues to lie in their ability to fight and win the Nation’s wars and in their providing options to shape the global environment to the benefit of the United States and its allies. Transformation responds to the Army’s need to become more strategically responsive and dominant at every point on the spectrum of operations. In March 2002, the Army published its *Programmatic Environmental Impact Statement for Army Transformation* for its proposal to conduct a multiyear, phased, and synchronized program of transformation. Over a 30-year period, the Army would conduct a series of transformation activities affecting virtually all aspects of Army doctrine, training, leader development, organizations, installations, materiel, and Soldiers. On April 11, 2002, the Army issued a Record of Decision reflecting its intent to transform the Army. This EA evaluates a Proposed Action that comports with the transformation process, which is designed to provide the Nation with combat forces that are more responsive, deployable, agile, versatile, lethal, survivable, and sustainable.

Installation Sustainability. On October 1, 2004, the Secretary of the Army and the Chief of Staff issued *The Army Strategy for the Environment*. The strategy focuses on the interrelationships of mission, environment, and community. A sustainable installation simultaneously meets current and future mission requirements, safeguards human health, improves quality of life, and enhances the natural environment. A sustained natural environment is necessary to allow the Army to train and maintain military readiness.

1.3 Scope

This EA has been developed in accordance with the National Environmental Policy Act (NEPA) of 1969 and implementing regulations issued by the President’s Council on Environmental Quality (CEQ) (40 Code of Federal Regulations (CFR) Parts 1500-1508) and Army Regulation 32 CFR Part 651. Its purpose is to inform decision makers and the public of the likely environmental consequences of the Proposed Action and Alternatives.

This EA identifies, documents, and evaluates environmental effects of realignments at FCTC, MI. An interdisciplinary team of environmental scientists, biologists, planners, economists, engineers, archaeologists, historians, and military technicians has analyzed

the Proposed Action and alternatives in light of existing conditions and has identified relevant beneficial and adverse effects associated with the action. The Proposed Action is described in Section 2.0, and alternatives, including the No-Action Alternative, are described in Section 3.0. Conditions existing as of 2005, considered to be the baseline conditions, are described in Section 4.0, Affected Environment and Environmental Consequences. The expected effects of the Proposed Action, also described in Section 4.0, are presented immediately following the description of baseline conditions for each environmental resource addressed in the EA. Section 4.0 also addresses the potential for cumulative effects, and mitigation measures are identified where appropriate.

The Defense Base Closure and Realignment Act of 1990 specifies that NEPA does not apply to actions of the President, the BRAC Commission, or the DoD, except “(i) during the process of property disposal, and (ii) during the process of relocating functions from a military installation being closed or realigned to another military installation after the receiving installation has been selected but before the functions are relocated (Sec. 2905(c)(2)(A), Public Law 101-510, as amended).” The law further specifies that in applying the provisions of NEPA to the process, the Secretary of Defense and the secretaries of the military departments concerned do not have to consider “(i) the need for closing or realigning the military installation which has been recommended for closure or realignment by the Commission, (ii) the need for transferring functions to any military installation which has been selected as the receiving installation, or (iii) military installations alternative to those recommended or selected (Sec. 2905(c)(2)(B)).” The Commission’s deliberation and decision, as well as the need for closing or realigning a military installation, are exempt from NEPA. Accordingly, this EA does not address the need for realignment.

1.4 Public Involvement

The Army invites public participation in the NEPA process. Consideration of the views and information of all interested persons promotes open communication and enables better decision making. All agencies, organizations, and members of the public having a potential interest in the Proposed Action, including minority, low-income, disadvantaged, and Native American groups, are urged to participate in the decision-making process.

Public participation opportunities with respect to this EA and decision-making on the Proposed Action are guided by 32 CFR Part 651. The EA is made available to the public for 30 days, along with a draft Finding of No Significant Impact (FNSI), if appropriate. At the end of the 30-day public review period, the Army considers all comments submitted by individuals, agencies, or organizations on the Proposed Action, the EA, and draft FNSI. As appropriate, the Army then executes the FNSI and proceeds with implementation of the Proposed Action. If it is determined prior to issuance of a final FNSI that implementation of the Proposed Action would result in significant impacts, the Army publishes in the *Federal Register* a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS), or commits to mitigation actions sufficient to reduce impacts below significance levels.

A Notice of Availability (NOA) is published in the *Battle Creek Enquirer*, the *Kalamazoo Gazette* and the *Lansing State Journal*, which announces the beginning of the 30-day public review period. The EA and Draft FNSI are available during the public comment period on the internet at

http://www.hqda.army.mil/acsim/brac/env_ea_review.htm, and are also available for review during the public comment period at the Willard Library in Battle Creek, the Kalamazoo Public Library in Kalamazoo, and the Capital Area District Library in Lansing, MI. Comments received via email must contain the name and address of the person submitting the comments.

Reviewers will be invited to submit comments on the EA and Draft FNSI during the 30-day public comment period via mail, fax, or e-mail to the following:

Ms. Lisa R. Gulbranson
88th Regional Support Command
ATTN: ARRC-CMN-EN (Gulbranson)
506 Roeder Circle
Ft. Snelling, MN 55111-4009
Fax: (612) 713-3516
lisa.gulbranson@us.army.mil

1.5 Regulatory Framework

In addressing environmental considerations, the 88th RSC is guided by relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include the Clean Air Act, Clean Water Act, Noise Control Act, Endangered Species Act, National Historic Preservation Act, Archaeological Resources Protection Act, Native American Graves Protection and Repatriation Act, American Indian Religious Freedom Act, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, and Toxic Substance Control Act. EOs bearing on the Proposed Action include EO 11988 (*Floodplain Management*), EO 11990 (*Protection of Wetlands*), EO 12088 (*Federal Compliance with Pollution Control Standards*), EO 12580 (*Superfund Implementation*), EO 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), EO 13175 (*Consultation and Coordination with Indian Tribal Governments*), EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*), and EO 13423 (*Strengthening Federal Environmental, Energy, and Transportation Management*). These authorities are addressed in various sections throughout this EA when relevant to particular environmental resources and conditions. The full text of the laws, regulations, and EOs is available on the Defense Environmental Network & Information Exchange web site at <https://www.denix.osd.mil>.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This section describes the Army's preferred alternative for carrying out the BRAC Commission's recommendations. The BRAC Commission made the following recommendation concerning FCTC, MI:

“Close the US Army Reserve Center Stanford C. Parisian in Lansing, MI, and the Army Reserve Area Maintenance Support Activity #135 in Battle Creek, MI and relocate units to a new Armed Forces Reserve Center on Fort Custer Reserve Training Center, MI.”

In addition to the BRAC action at FCTC, the 401st TC is also proposed to be relocated to the new facilities at FCTC. Relocation of the 401st TC to the new facilities at FCTC is proposed under separate funding authority (non-BRAC), but is promulgated by the BRAC action of closing the AMSA #135, and is included as part of the Proposed Action in this document.

2.2 Proposed Action

To support the BRAC recommendations, the Proposed Action includes construction of a new 200-member AFRC, AMSA, organizational maintenance shop (OMS), unheated storage building, and organizational parking at a new site at FCTC, MI. The new AFRC would provide administrative, educational, assembly, library, learning center, vault, weapons simulator, and physical fitness areas for eight Army Reserve units. The maintenance shop would provide work bays and maintenance administrative support. The Proposed Action would also provide for unit storage and adequate parking space for all military and privately-owned vehicles. Additionally, the 401st TC would become users of the new facilities. The addition of this unit would result in additional space needed for military equipment parking (MEP). The 401st TC would share use of the facilities by alternating weekends for training. The Army estimates that construction would be awarded in November 2009, and would be completed March 2011.

The proposed AFRC would consist of permanent construction with heating, ventilation, and air conditioning (HVAC) systems, plumbing, mechanical systems, security systems, and electrical systems. The unheated storage building would also be of permanent construction. A Conceptual floor plan for the proposed facilities is included in Appendix A.

The AFRC complex would consist of the following (CH2M HILL 2008):

- 33,694 square foot (SF) AFRC
- 12,348 SF OMS/AMSA
- 5,119 SF unheated storage building
- 20,870 square yard (SY) MEP

Supporting actions would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Accessibility for the disabled would be provided. Anti-terrorism/Force protection (AT/FP) measures would be incorporated into the design including maximum standoff distance from roads, parking areas, and vehicle unloading areas. Berms, heavy landscaping, and bollards would be used to prevent access when standoff distances cannot be maintained. Sustainable Design and Development (SDD) and Energy Policy Act of 2005 (EPAct05) features would be provided.

Personnel to use the facilities consist of 25 full time users (including 6 from 401st TC), and up to 231 reservists for a drill weekend (170 Reservists from 401st TC could use the facilities on a drill weekend, but these weekends would be alternated with other Reservists). Adequate parking spaces for privately-owned vehicles (POVs) would be provided. Military equipment associated with the relocation to FCTC includes wheeled vehicles (including palletized load system (PLS) trucks), trailers, and one tracked vehicle. The Army Reserve will utilize the existing Michigan Army National Guard (MIARNG) wash rack and loading ramps (therefore these would not be constructed as part of the BRAC project).

3.0 ALTERNATIVES

3.1 Introduction

To support and sustain its current and future mission, the 88th RSC has programmed the construction of new facilities, including structures, roads, and parking lots. Details for screening criteria used for preliminary assessment of each potential site are described below in Section 3.2. Section 3.3 discusses the alternatives carried forward in this EA and Section 3.4 discusses the other alternatives considered, but eliminated from further discussion in the EA.

3.2 Screening Criteria

Potential sites for the new AFRC were evaluated in the Site Survey Report (88th RSC 2008) and screened for inclusion in this EA. Screening criteria consists of operational constraints, safety constraints, geographic constraints, environmental and topographic constraints, existing facility and mission constraints, and operational constraints. Reuse of existing facilities was not carried forward, because there are no existing facilities available that could adequately house or support the mission of the proposed AFRC. The following describes the constraints considered in the evaluation process.

Safety Constraints – include engineering and operational safety constraints, such as explosive arcs and Anti-terrorism/Force Protection (AT/FP) guidance.

Geographic Constraints – include availability of sufficient land area (+/- 10 acres); access and security availability; proximity to utilities and/or operationally related facilities.

Environmental and Topographic Constraints – include clean, uncontaminated site (no underground storage tanks); flat to gently rolling, no landfills, cliffs, extensive drainage ditches, wetlands, or ravines.

Existing Facility and Mission Constraints – include interference with existing missions and training, infrastructure demand, or incompatibility with language in BRAC legislation.

Operational Constraints – include the cost of relocating existing facilities and construction of new infrastructure.

A total of four alternatives, including the No Action Alternative, were screened for evaluation in this EA, as described below.

3.3 Alternatives Evaluated in the EA

One action alternative (Preferred Alternative) and the No Action Alternative are carried forward for evaluation in this EA.

3.3.1 Preferred Alternative

The Preferred Alternative Site was identified as Site 2 in the Site Survey Report (88th RSC 2008). The site is on the installation and is located directly south of the MIARNG Maintenance Activity (see Figure 3-1). The site consists of approximately 26 acres, of which approximately 10 acres would be used for the site development. The topography on the site is relatively level, and the site is heavily treed. The site is outside the 100-year floodplain, and there are two wetland areas (approximately 3.6 acres total) within the 26-acre site. All utilities are located along and adjacent to the front of the MIARNG Maintenance Activity. The proposed site layout is included in Appendix B. Representative photographs of the site are included in Appendix C.

3.3.2 No Action Alternative

The No Action Alternative is included as required by the CEQ regulations to identify the existing baseline conditions against which potential impacts are evaluated. The No Action Alternative must be described because it is the baseline condition or the current status of the environment.

Under the No Action Alternative, the proposed facilities would not be constructed to accommodate the BRAC actions as described in Section 2.0. The relocation of Army Reserve units and the 401st TC would not be implemented. Under the No Action Alternative, the units would continue to operate and train in outdated facilities (constructed prior to 1960) that are not properly configured to allow the most effective training to complete mission requirements and that do not offer enough acreage for expansion or to meet anti-terrorism/force protection guidelines.

3.4 Alternatives Considered and Not Carried Forward

Two additional alternatives were considered for this action and analyzed with the screening criteria described in Section 3.2. These alternatives were eliminated from further consideration and are summarized below:

Site 1: Northeast Corner of FCTC. Site 1 is a 42-acre site located in the northeast corner of the installation. Access to this site would need to be from off the installation to maintain security on the installation. This site is eliminated from further consideration due to environmental constraints, including the presence of the state threatened pale fumewort (*Corydalis flavula*) (See Figure 4-5), topography challenges, and wetlands on the site.

Site 3: Southeast corner of FCTC. Site 3 is located in the southeast corner of FCTC (outside the cantonment area), and contains 550 acres to select a building site on. Extensive site preparation would be required. Additionally, physical security would be lessened by selection of a building site at this location and the cost to extend utilities may be excessive. This site is eliminated from further consideration due to safety, topographic, and operational constraints (88th RSC 2008).



Figure 3-1. Preferred Alternative Location Map

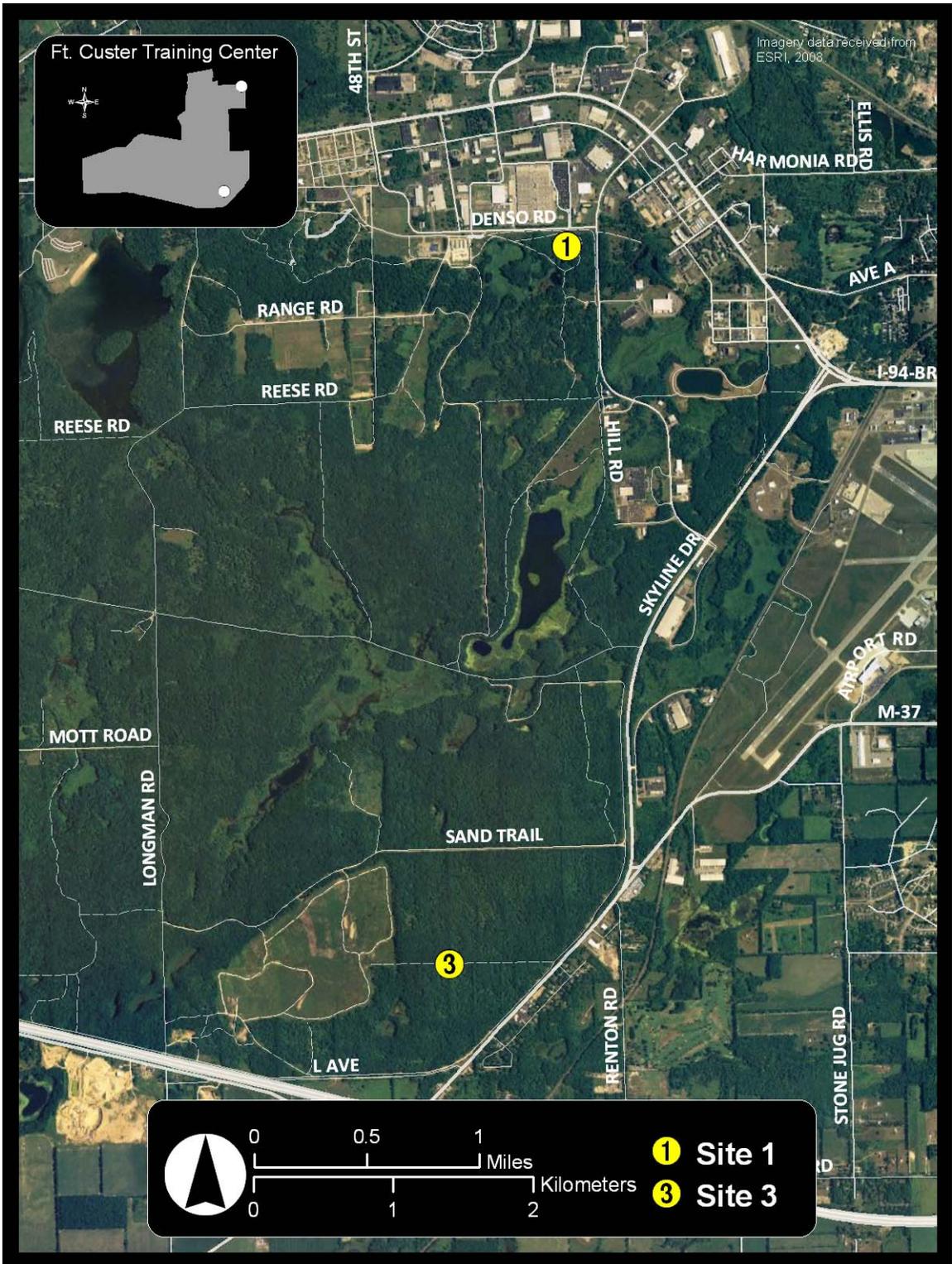


Figure 3-2. Alternatives Not Carried through the EA

4.0 AFFECTED ENVIRONMENT AND CONSEQUENCES

4.1 Introduction

This chapter describes the existing environmental and human resources that could potentially be affected by the Proposed Action and alternatives. The environment described in this chapter is the baseline for the consequences that are presented for each resource and each alternative. The region of influence (ROI) or area of potential effect (APE) for each resource category is the proposed Fort Custer AFRC site and its surroundings, unless stated otherwise in the individual resource category discussion.

This chapter also describes potential impacts for each environmental and human resource. An impact is defined as a consequence from modification to the existing environment due to a proposed action or alternative. Impacts can be beneficial or adverse, can be a primary result of an action (direct) or a secondary result (indirect), and can be permanent or long lasting (long term) or temporary and of short duration (short term). Impacts can vary in degree from a slightly noticeable change to a total change in the environment.

For this EA, short-term impacts are defined as those impacts resulting from construction, renovation, or clearing activities (e.g., those that are of temporary duration), whereas long term impacts are those resulting from the presence of new facilities and operation of the proposed new facilities once they are constructed and commissioned for operation.

Under NEPA, a review of significant irreversible and irretrievable effects that result from development of the Proposed Action is required (40 CFR 1502.16). Irreversible commitments of resources are those resulting from impacts to resources so they cannot be completely restored to their original condition. Irretrievable commitments of resources are those that occur when a resource is removed or consumed and will therefore never be available to future generations for their use. For resources or subjects where irreversible or irretrievable effects would result, such effects are discussed with short and long-term impacts.

Significance criteria were developed for the affected resource categories, and for many resource categories, are necessarily qualitative in nature. Quantitative criteria can be established when there are specific numerical limits established by regulation or industry standard. These criteria are based on existing regulatory standards, scientific and environmental documentation, and/or professional judgment. Impacts are classified as significant or not significant based on the significance criteria. Impacts do not necessarily mean negative changes, and any detectable change is not, in and of itself, considered to be negative. In the following discussions, to highlight adverse impacts for the decision maker, the impacts are considered adverse unless identified as beneficial.

The affected environment and baseline conditions are described for each resource in general terms for the proposed Fort Custer AFRC site or the resource-specific ROI. The affected environment description for each resource is followed by the potential impacts to the resource from Alternative 1 (the Preferred Alternative) and the No Action Alternative.

4.2 Land Use

4.2.1 Affected Environment

This section describes existing land use conditions on and surrounding the proposed Fort Custer AFRC site. It considers natural land uses and land uses that reflect human modification. Natural land use classifications include wildlife areas, forests, and other open or undeveloped areas. Human land uses include residential, commercial, industrial, utilities, agricultural, recreational, and other developed uses. Management plans, policies, ordinances, and regulations determine the types of uses that are allowable, or protect specially designated or environmentally sensitive uses.

The following sections discuss the regional geographic setting and location, installation land use, and current and future development. The ROI for land use is the land within and adjacent to the Proposed Action project area.

4.2.1.1 Regional Geographic Setting and Location

The Fort Custer AFRC property is located approximately ½-mile southeast of the intersection of Denso Road and Armstrong Road within the FCTC Army National Guard Post in Battle Creek, Calhoun County, Michigan. FCTC is located less than 2 miles west of downtown Battle Creek and is located in portions of Calhoun and Kalamazoo Counties. It is located between the Kalamazoo River to the north and Interstate-94 to the south and occupies approximately 7,570 acres of land. More than 90 percent of FCTC consists of mostly forested, undeveloped natural communities. The remaining portion of the installation is developed for training and cantonment areas and is located on the northern portion of the post. General training activities that occur on FCTC land includes bivouacking, land navigation, vehicle maneuver, and field training exercises. The proposed AFRC property is located on the northeastern side of FCTC.

4.2.1.2 Project Site Land Use

The proposed Fort Custer AFRC property is currently undeveloped and forested. There is a stream on the southern portion of the site with adjacent wetlands that are jurisdictional. The site is bounded to the north, south and east by a 20-foot wide gravel road and to the west by an unnamed paved road. The proposed site is in an area that is zoned heavy industrial. A land use cover map is included as Figure 4-1.

4.2.1.3 Current and Future Development in the Region of Influence

There is a small arms firing range just south of the Fort Custer AFRC site. A Unit Training and Equipment Site (UTES) associated with the FCTC is located to the north. Areas immediately adjacent to the east and west of the site are undeveloped. The Fort Custer Training Site Command operates the

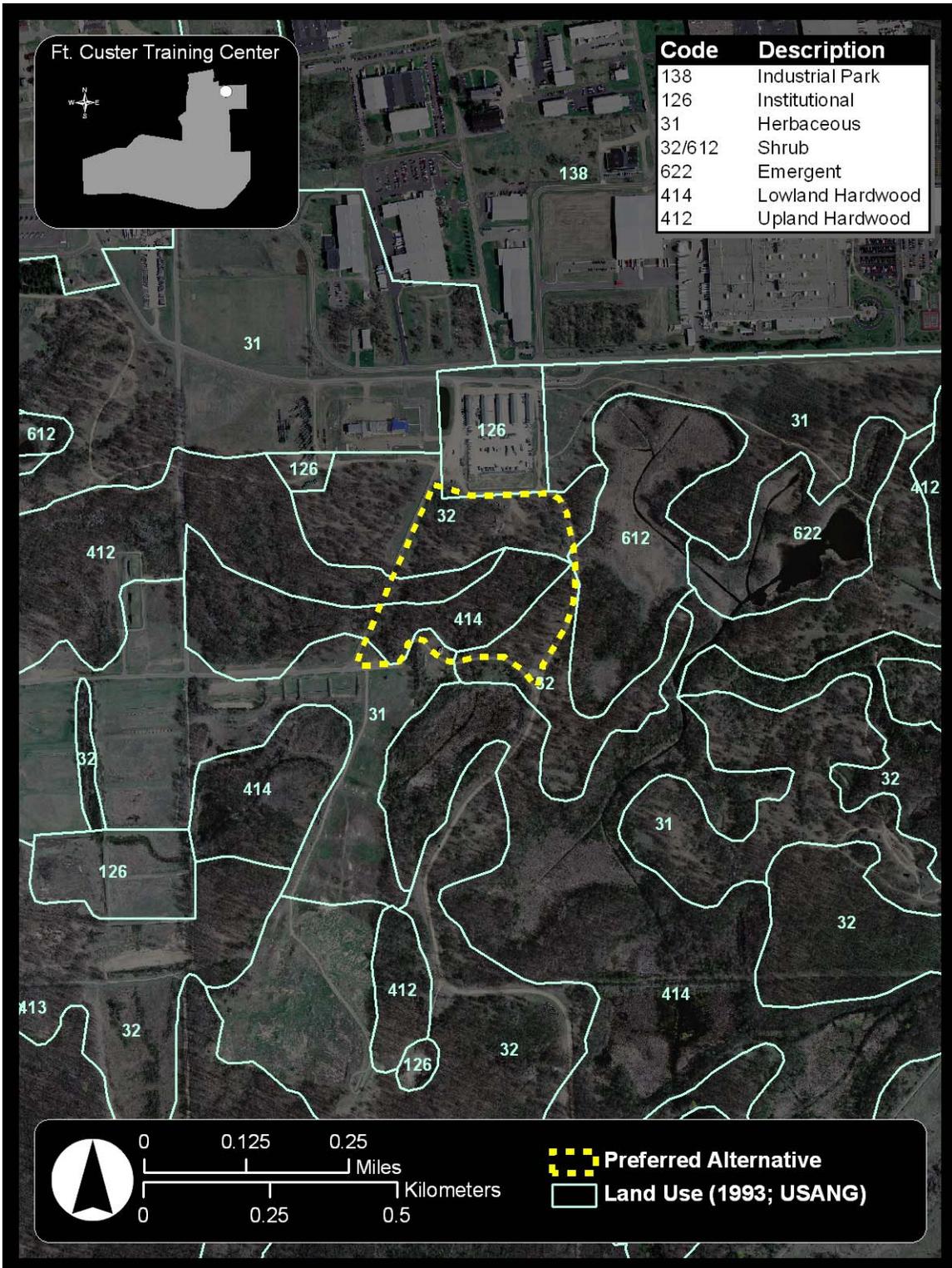


Figure 4-1. Land Use Map

FCTC installation and supports tenant organizations. The FCTC supports a wide variety of military and non-military services. There are a variety of high quality natural areas within the undeveloped southern portion of FCTC.

The property to the northeast of the FCTC boundary is the 2,340-acre Fort Custer Industrial Park. This Industrial Park supports light industry. The area further to the north includes the Veterans Affairs (VA) Hospital and the Fort Custer National Cemetery. The adjacent area to the east of the FCTC boundary is a mixture of undeveloped land and light industrial property. The land to the southwest of the Fort Custer AFRC site is the remainder of the FCTC installation that is primarily undeveloped and is used for training purposes. The Fort Custer Recreation Area, the Kalamazoo Nature Center, and a few properties owned by the Nature Conservancy are located to the north of the western portion of the FCTC and south of the Kalamazoo River. There is a 570-acre air transportation park approximately ½-mile to the east that supports the W.K. Kellogg Regional Airport, the Michigan Air National Guard Battle Creek Facility as well as Western Michigan University's College of Aviation. The area to the southeast of the FCTC boundary is mostly agricultural with a small residential area, several sand and gravel quarries, and additional light industry. There are currently no land use conflicts in the ROI. Other than the facilities proposed under the Proposed Action, no other development of the Fort Custer AFRC property has been planned. The only nearby projects that will occur in the near future are a loading ramp and a new wash rack near the UTES. Other projects that may occur on Post include a truck driver simulator building on the other side of the installation and a potential reconfiguration of the front gate in 2019 that will facilitate AT/FP measures. According to Cheryl Beard of Battle Creek Unlimited (serving as the business arm of the City of Battle Creek), there is a potential that some light industrial businesses will move into the area in the future, but there are no other developments planned at this time.

4.2.2 Consequences

Considerations for impacts to land use include the land on and adjacent to the Proposed Action project area, the physical features that influence current or proposed uses, pertinent land use plans and regulations, and land availability. Conformity with existing land use is of utmost importance.

Potential impacts to land use are considered significant if the Proposed Action would:

- Conflict with applicable ordinances and/or permit requirements;
- Cause nonconformance with the current general plans and land use plans, or preclude adjacent or nearby properties from being used for existing activities; or
- Conflict with established uses of an area requiring mitigation.

4.2.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to land use from the Preferred Alternative would not be significant. The Preferred Alternative would not present conflicts or nonconformance with current FCTC Installation land use or zoning designations. There would be no conflict with adjacent land uses from the preferred alternative since the project would not

divide any communities, require any changes to land use or zoning maps, and would not interfere with the existing surrounding agricultural and light industrial land uses.

4.2.2.2 No Action Alternative

Under the No Action Alternative, there would be no changes in land use at the proposed Fort Custer AFRC site.

4.3 Aesthetics and Visual Resources

4.3.1 Affected Environment

This section describes the aesthetic and visual resource conditions at the site of the proposed Fort Custer AFRC. The visual resources of the Fort Custer AFRC include natural and manmade physical features that provide the landscape its character and value as an environmental resource. Landscape features that form a viewer's overall impression about an area include landform, vegetation, water, color, adjacent scenery, scarcity, and constructed modifications to the natural setting. The ROI for aesthetics includes the areas visible from the Proposed Action construction locations and areas from which the Proposed Action construction locations are visible.

The Fort Custer AFRC site and the surrounding area are characterized by the moderate topography of the Hilly Moraines. The AFRC property is mostly forested with several open patches of grass. Trees within the area included mixed oaks, red maple, and black cherry among others. The site is relatively flat on the north side and slopes moderately toward the stream that runs through the southern portion of the site. There is an existing UTES to the north and small arms firing range to the south.

4.3.2 Consequences

Potential impacts to aesthetic and visual resources are considered significant if the Proposed Action would substantially degrade the natural or constructed physical features at the Fort Custer AFRC site that provide the property its character and value as an environmental resource. The magnitude of any impact would be primarily determined by the number of viewers affected, viewer sensitivity to changes, distance of viewing, and compatibility with existing land use.

4.3.2.1 Alternative 1 – Preferred Alternative

The Preferred Alternative would cause short-term visual impacts on the Fort Custer AFRC property resulting from ground disturbance associated with construction of the proposed facilities. However, the reclamation of disturbed areas would remove these visual impacts. A 40-foot forested buffer will be retained around the perimeter of the project site and a 100-foot buffer will be retained around all wetland areas.

Operations at the AFRC would result in minor adverse aesthetic impacts, including increased traffic and nighttime light, resulting from increased use during weekends when the facilities are in use by tenant organizations.

The addition of the proposed AFRC facility would have negligible effects on the area viewshed, because the facilities would be consistent with the existing military functions (i.e. the UTES is adjacent to the north) and the overall context of the site. Therefore, the preferred alternative of the Proposed Action would have no significant adverse impacts on the visual resources of the area.

4.3.2.2 No Action Alternative

Under the No Action Alternative, there would be no effects on the viewshed or on the aesthetic values of the region.

4.4 Air Quality

4.4.1 Affected Environment

This section describes the existing air quality conditions at and surrounding the proposed Fort Custer AFRC. For analysis purposes, the ROI for air quality is defined as Calhoun County and Kalamazoo County, Michigan where the proposed project site is located. The western half of FCTC is located in Kalamazoo County, and the eastern half, where the study site is located in Calhoun County. The proposed site is located in the EPA Region 5, and is in an attainment area. Ambient air quality conditions are discussed first, followed by air pollution emissions at the installation and regional air pollution emissions.

4.4.1.1 Ambient Air Quality Conditions

The ambient air quality in an area can be characterized in terms of whether it complies with the primary and secondary National Ambient Air Quality Standards (NAAQS). The Clean Air Act (42 U.S.C. 7401 et seq.) requires the U.S. Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. NAAQS have been established for seven criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO₂); ozone (O₃); particulate matter with an aerodynamic size less than or equal to 10 microns (PM₁₀); particulate matter with an aerodynamic size less than or equal to 2.5 microns (PM_{2.5}); and sulfur dioxide (SO₂). These pollutants are believed to be detrimental to public health and the environment, and are known to cause property damage. Table 4-1 lists the NAAQS values for each criteria pollutant. The Michigan Department of Environmental Quality (MDEQ) is responsible for ensuring that the air quality within Michigan meets or is better than the levels required by Federal and State standards. MDEQ air quality network consists of 129 air monitoring instruments at 47 sites throughout the State that monitor the air for O₃ (27), NO₂ (1), CO (2), SO₂ (1), PM_{2.5} tapered element oscillating microbalance (TEOM) (14), PM Speciation (7), PM₁₀ (5), and PM_{2.5} (29), Metals (TSP), INC (6), VOCs (2), Carbonyls (3), and Meteorological parameters (32).

Michigan is one of 28 states under the Clean Air Interstate Rule (CAIR), a program to permanently cap emissions of SO₂ and NO_x. CAIR will help MI meet and maintain NAAQS for ground-level ozone and fine particle pollution.

Table 4-1. National Ambient Air Quality Standards.

Pollutant	Standard Value
Carbon Monoxide (CO)	
8-hour average	9 ppm
1-hour average	35 ppm
Lead (Pb)	
Rolling 3-month average	0.15 µg/m ³
Quarterly average	1.5 µg/m ³
Nitrogen Dioxide (NO₂)	
Annual (arithmetic mean)	0.053 ppm
Ozone (O₃)	
8-hour average	0.075 ppm
1-hour average	0.12 ppm
Particulate matter less than 10 microns (PM₁₀)	
Annual mean	50 µg/m ³
24-hour average	150 µg/m ³
Particulate matter less than 2.5 microns (PM_{2.5})	
Annual (arithmetic mean)	15.0 µg/m ³
24-hour average	35 µg/m ³
Sulfur dioxide (SO₂)	
Annual (arithmetic mean)	0.03 ppm
24-hour average	0.14 ppm
3-hour average*	0.50 ppm

Source: www.epa.gov/air/criteria.html#7, updated October 20th, 2008.

*Secondary standard

µg/m³ micrograms per cubic meter

ppm parts per million

4.4.1.2 Air Emission Sources at FCTC Site

There are no permits for stationary air emission generators at FCTC. Emissions generated at FCTC are from vehicular/mobile sources. FCTC is in an attainment area.

4.4.1.3 Regional Air Pollution Emissions Summary

Air emissions for criteria pollutants for Calhoun County are reported in Table 4-2, and for Kalamazoo County are reported in Table 4-3. While most of the emissions (for the same criteria pollutant) are similar (e.g., same order of magnitude) between the two counties, there are a few instances where one county's emissions are substantially higher than the other:

- SO₂ point source for Kalamazoo County: 98% of total emissions (1358 tons per year (tpy) out of 1391 tpy) are attributed to source category "Fuel Combustion – Industrial". 74% of this source category (1012 tpy out of 1358 tpy) is attributed to Pharmacia and Upjohn Company (Industry type 2834 – Pharmaceutical Preparations).

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- VOC area source (non-point source plus mobile source) for Kalamazoo County: 38% of total emissions are attributed to “Solvent Utilization”, and 33% are attributed to “Highway Vehicles”.
- NH₃ point source for Calhoun County: 95% of total emissions (64.3 tpy out of 68.0 tpy) are attributed to Guardian Fiberglass (Industry type 3296 – Mineral Wool).

Table 4-2. Air Emissions Reported for Calhoun County, Michigan for Calendar Year 2002.

Pollutant	2002 Emissions (tpy)		
	Area Source ^a	Point Source ^b	Total
Particulate matter less than 2.5 microns (PM _{2.5})	1,155	192	1,347
Particulate matter less than 10 microns (PM ₁₀)	6,664	267	6,931
Carbon monoxide (CO)	60,906	738	61,644
Nitrogen oxides (NO _x)	7,748	817	8,565
Sulfur oxides (SO ₂)	1,095	40.4	1135.4
Volatile organic compounds (VOCs)	7,990	580	8,570
Ammonia (NH ₃)	1,149	68.0	1,217

Source: EPA website 2008 emissions by category report:

<http://www.epa.gov/air/data/emcatrep.html?co~26025~Calhoun%20Co%2C%20Michigan>

tpy: tons per year

- any source of air pollution that is released over a relatively small area but cannot be classified as a point source, and which may include vehicles and other small engines, small businesses, and household activities that release hydrocarbons.
- A stationary location or fixed facility from which pollutants are discharged, such as a factory smokestack.

Table 4-3. Air Emissions Reported for Kalamazoo County, Michigan for Calendar Year 2002.

Pollutant	2002 Emissions (tpy)		
	Area Source ^a	Point Source ^b	Total
Particulate matter less than 2.5 microns (PM _{2.5})	1,413	112	1,525
Particulate matter less than 10 microns (PM ₁₀)	9,050	377	9,427
Carbon monoxide (CO)	91,344	465	91,809
Nitrogen oxides (NO _x)	11,458	816	12,274
Sulfur oxides (SO ₂)	1,593	1,391	2,984
Volatile organic compounds (VOCs)	16,819	470	17,289
Ammonia (NH ₃)	1,093	8.6	1,101.6

Source: EPA website 2008 emissions by category report:

<http://www.epa.gov/air/data/emcatrep.html?co~26077~Kalamazoo%20Co%2C%20Michigan>

tpy: tons per year

- any source of air pollution that is released over a relatively small area but cannot be classified as a point source, and which may include vehicles and other small engines, small businesses, and household activities that release hydrocarbons.
- A stationary location or fixed facility from which pollutants are discharged, such as a factory smokestack.

4.4.2 Consequences

Potential impacts to air quality are considered significant if the Proposed Action would:

- Increase ambient air pollution above any NAAQS;
- Contribute to an existing violation of any NAAQS;
- Interfere with or delay timely attainment of NAAQS; or
- Impair visibility within any federally mandated Prevention of Significant Deterioration (PSD) Class I area.

4.4.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to air quality from the Preferred Alternative would not be significant. Short-term air quality impacts from the Preferred Alternative would occur from construction and demolition activities associated with the movement of heavy equipment. Construction activities would be temporary and would occur in a localized area. Contaminants generated from construction would include particulate matter, vehicle emissions, and increased wind-borne dust (i.e. fugitive dust). However, erosion control measures (ECMs) would be implemented to prevent generation of fugitive dust. Within the construction sites, appropriate ECMs would be identified that would provide optimum soil suppression. ECMs typically utilize (but are not limited to) either wind speed reduction or water suppression strategies (or both) during demolition, construction, and renovation by fencing or wetting areas of soil disturbance and debris. In addition to identifying the type of surface treatment, an alternative ECM would be identified in case the original is found to be ineffective.

Vehicular and construction equipment exhaust would be a source of pollutant emissions, but would have a negligible impact on air quality. The emissions from construction equipment and personal vehicle exhaust would be minor compared to the total existing vehicular emissions in the area from the operations presently carried out at Fort Custer AFRC and at the industrial park.

The Michigan Army National Guard is comprised of five Major Commands and six Senior Commands. Due to the mission of this Site Command, there are already shooting ranges, fire arms training facilities and helicopter landing zones. Non-military use of FCTC presently includes the Lansing College truck driving school, rifle clubs and deer hunters. Civil law enforcement agencies regularly lease facilities for small arms training.

Long-term impacts associated with operation of the proposed AFRC are not likely to occur. No fueling facilities, underground storage tanks (USTs), or paint booths would be required for the AFRC. The vehicles associated with the use of these facilities by reservists would not be expected to result in significant impacts to air quality because there would be no net gain of personnel in the airshed; the proposed users would be relocating from facilities within the same airshed.

A permit application for emissions from the new facility would be completed if necessary, and all applicable rules and regulations would be followed. In the unlikely

event that emissions from the proposed facility would exceed *de minimis* levels, the 88th RSC would perform a conformity analysis in accordance with 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans. A Record of Non-Applicability (RONA) is included as Appendix G.

4.4.2.2 No Action Alternative

Implementation of the No Action Alternative would not change current conditions and therefore would not affect the current air quality conditions in the region.

4.5 Noise

Noise is generally defined as unwanted sound. Sound is all around us; it becomes noise when it interferes with normal activities such as speech, concentration, or sleep. Noise associated with military installations is a factor in land use planning both on- and off-post. Noise emanates from vehicular traffic associated with new facilities and from project sites during construction. Ambient noise (the existing background noise environment) can be generated by a number of noise sources, including mobile sources, such as automobiles and trucks, and stationary sources such as construction sites, machinery, or industrial operations. In addition, there is an existing and variable level of natural ambient noise from sources such as wind, streams and rivers, wildlife and other sources.

Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted sound level measurements (dBA) are used to characterize sound levels that can be sensed by the human ear. The typical measurement for quieter sounds, such as rustling leaves or a quiet room, is from 20 to 30 dBA. Conversational speech is commonly 60 dBA, and a home lawn mower measures approximately 98 dBA. All sound levels discussed in this EA are A-weighted.

4.5.1 Affected Environment

FCTC lies adjacent to Fort Custer Recreation Area on the west and Fort Custer National Cemetery to the north. Sources of noise at the proposed AFRC site are negligible, and are largely limited to minor traffic noise from personnel entering and exiting the area, and routine installation and maintenance activities. Off-site sources of noise are dominated by weapons training operations, activities at the National Guard Reserve Training Center and UTES to the north, operation of facilities within the Fort Custer Industrial Park, across the road to the east and the Kellogg Airport. The W.K.Kellogg Airport is located east of the Industrial Park and serves the local community of Battle Creek, as well as housing the Western Michigan University College of Aviation and the Michigan Air National Guard 110th Fighter Wing which flies A-10 and O/A-10 aircraft.

The Environmental Noise Consultation (Number 52-34-3364-95) for the FCTC (Dept. of the Army 1995) determined that all noise generated by FCTC was associated with the small arms ranges (noise level zones I and II). There is a small arms firing range that is used on a regular basis located immediately south of the project site. Noise contours were developed around all of the ranges on the installation and it was determined that

there are no apparent conflicts between noises generated from FCTC and the present land uses off-post.

4.5.2 Consequences

Potential noise impacts resulting from the Proposed Action are evaluated with respect to the potential for:

- Annoyance – noise can impact the performance of various every day activities such as communication and watching television in residential areas.
- Hearing loss – the EPA recommends limiting daily equivalent energy to 70 dBA, approximately 75 dBA day-night average sound level, to protect against hearing impairment over a period of 40 years (day-night average sound level is an average sound level generated by all operations during an average or busy 24-hour period, with sound levels of nighttime noise events emphasized by adding a 10-dB weighting).
- Sleep interference, which is of great concern in residential areas.

The standard threshold for determining at what point noise impacts become a nuisance is 65 dBA day-night average sound level.

4.5.2.1 Alternative 1 – Preferred Alternative

Fort Custer AFRC is located in a relatively undeveloped area. Negligible adverse, but temporary and short-duration noise impacts would occur under the Preferred Alternative during construction activities. These impacts could be mitigated by confining construction activities to normal working hours and employing noise-controlled construction equipment to the extent possible. Additionally, the arrival and staging of heavy equipment and materials would be scheduled to occur during normal work hours to the greatest extent possible to avoid disturbing personnel in the surrounding communities.

After construction, the day-to-day operations of the new AFRC and associated facilities are not expected to increase significantly. The new AFRC would provide predominantly administrative, educational, assembly, and physical fitness areas for the eight Army Reserve units. The weapons simulator at the new facility will not cause a significant increase in noise and will not cause a change in the noise contours in the area. Noise generated by vehicles utilizing the MEP, including PLS trucks trailers, and one tracked vehicle will be negligible compared to existing noise in the surrounding area. Similar activities presently take place at the UTES, which is located just north of the proposed project area, therefore, negligible long-term or cumulative noise impacts are anticipated.

Upon completion of construction, noise levels would be expected to return to normal, ambient levels for the area. Noise levels would not be significant compared to the daily operations of the Fort Custer Industrial Park, National Guard Reserve Training Center and small arms firing range to the south. The additional POVs travelling in and out of the installation would contribute to the existing noise levels in the area, however, most of this would occur during weekends when the industrial park would be closed and noise levels would be lower than normal. The maximum number of individuals reporting on any

given weekend is expected to be up to 231 reservists on a drill weekend and would contribute negligible amounts of noise to the current environment (170 reservists from 401st TC on alternate weekends). The estimated 25 full time personnel commuting to the site daily would also only contribute negligible amounts of noise to the current environment.

4.5.2.2 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to noise levels on or surrounding the proposed Fort Custer AFRC property.

4.6 Geology and Soils

4.6.1 Affected Environment

This section describes the geology and soil conditions at the proposed Fort Custer AFRC site. Geologic and topographic conditions are discussed first, followed by soils, and prime farmland. The ROI for geology and soils is the land within the Proposed Action project area.

4.6.1.1 Geologic and Topographic Conditions

The following geologic descriptions were extracted from the Integrated Natural Resources Management Plan (INRMP) (DLZ, 2007). FCTC is located within the Hilly Moraines region that dominates much of the interior part of the lower half of Michigan's Lower Peninsula. This region is largely made up of a series of looping end moraines from 10 to 25 miles apart. The moraines are low ridges, and the area between them is often much flatter and is generally composed of outwash plains or ground moraine (Sommers 1984). Subsection VI.2.1 (Battle Creek Outwash Plain), which includes FCTC, is more than half covered by outwash deposits of sand and gravel. More than 80 percent of the outwash in the subsection is in the 0 to 6 percent slope class. Scattered throughout the outwash plain are small areas of end and ground moraine. The moraine slopes are usually in the 0 to 6 percent or 6 to 12 percent slope classes (Albert 1995).

Lakes are common on the outwash plain. The lakes are formed in abandoned channels or ice-block kettles. There are many small streams in the sub-section and two large streams, the St. Joseph River and Kalamazoo River. Many of the small streams originate within wetlands on the outwash plain.

The bedrock geology of the area consists entirely of Mississippian age shale, overlain by glacial drift of widely varying depths (Albert 1995). FCTC lies in the southwestern outwash plain, which formed between the three major glacial lobes that occupied Lake Michigan, Lake Erie and the Saginaw Bay basins. This plain encompasses numerous small lakes, wetlands, and small ridges of ground moraine. Slope classifications range from a rather flat 0 to 6 percent, to a very steep 18 to 40 percent slope on the steeper portions of the Tekonska moraine, which comprises most of the FCTC's uplands (U.S. Department of Agriculture 1993; Legge et al. 1995). The installation covers a 250-foot

elevation difference, ranging from 810 feet near Eagle Lake to 1,060 feet above mean sea level on the eastern portion of the installation (Burgeson and Hadley, 1990) (Figure 4-2).

4.6.1.2 Soils

The gently sloping land occupied by the proposed AFRC is covered by soils represented by two mapping units (Figure 4-3). The soils mapped on the project area include Oshtemo sandy loam (16C) and Boyer sandy loam (17B). Oshtemo series soils consist of very deep, well drained soils formed in stratified loamy and sandy deposits on outwash plains, valley trains, moraines, and beach ridges. Permeability is moderately rapid in the upper loamy materials and very rapid in the lower sandy materials. Boyer series soils are very deep, well drained soils formed in sandy and loamy glacial drift underlain by sand or gravelly sand outwash at depths of 20 to 40 inches. The soils are on outwash plains, valley train, kames, beach ridges, river terraces, lake terraces, deltas and moraines. Permeability is moderately rapid in the loamy horizons and very rapid in the sandy horizons (USDA 2005).

4.6.1.3 Prime Farmland

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. Prime farmland is protected by the Farmland Protection Policy Act (FPPA); however, urban lands are exempt [7 CFR 658.3(b)] from the provisions of the FPPA (7 CFR Parts 657 and 658). Boyer sandy loam soils are considered Prime Farmland soils. Oshtemo sandy loam soils are rated as “Farmland of local importance”.

4.6.2 Consequences

Potential impacts to geology or soils are considered significant if the Proposed Action would:

- Expose people or structures to major geologic hazards;
- Cause substantial erosion or siltation;
- Cause substantial land sliding; or
- Cause substantial damage to project structures/facilities.

4.6.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to geology and soils from the Preferred Alternative would not be significant. The proposed facilities would reduce water infiltration by capping the subsoil with impervious surfaces. The Preferred Alternative would result in the long-term addition of approximately 3.5 acres of impervious surfaces to the property, a site-wide increase in impervious surfaces of approximately 14 percent on the +/-26 acre site. The additional 9,000 square yard MEP area for the 401st TC will be covered with gravel to allow for infiltration of water which will reduce the potential for runoff and soil erosion.

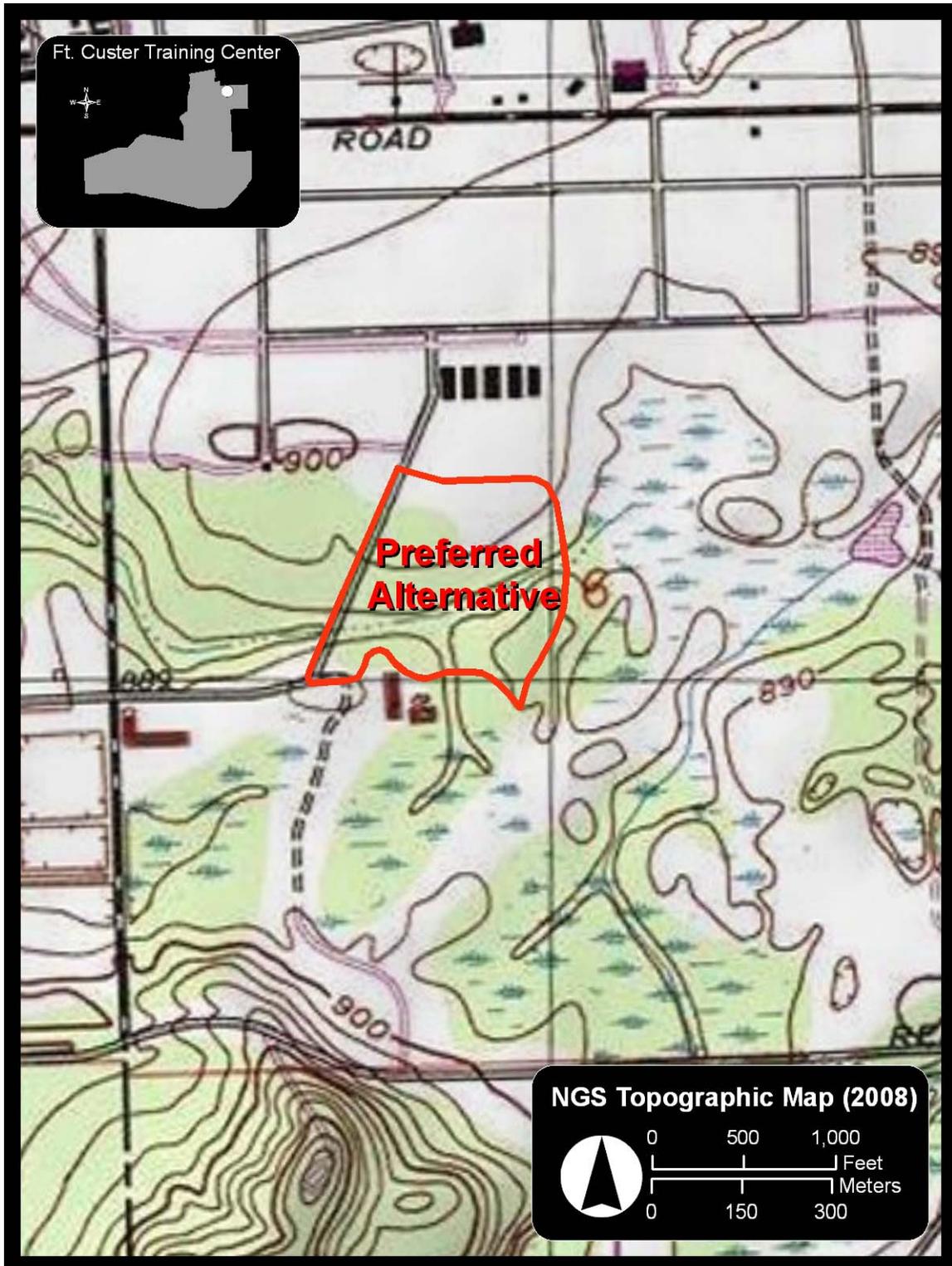


Figure 4-2. National Geodetic Survey Topographic Map (2008)

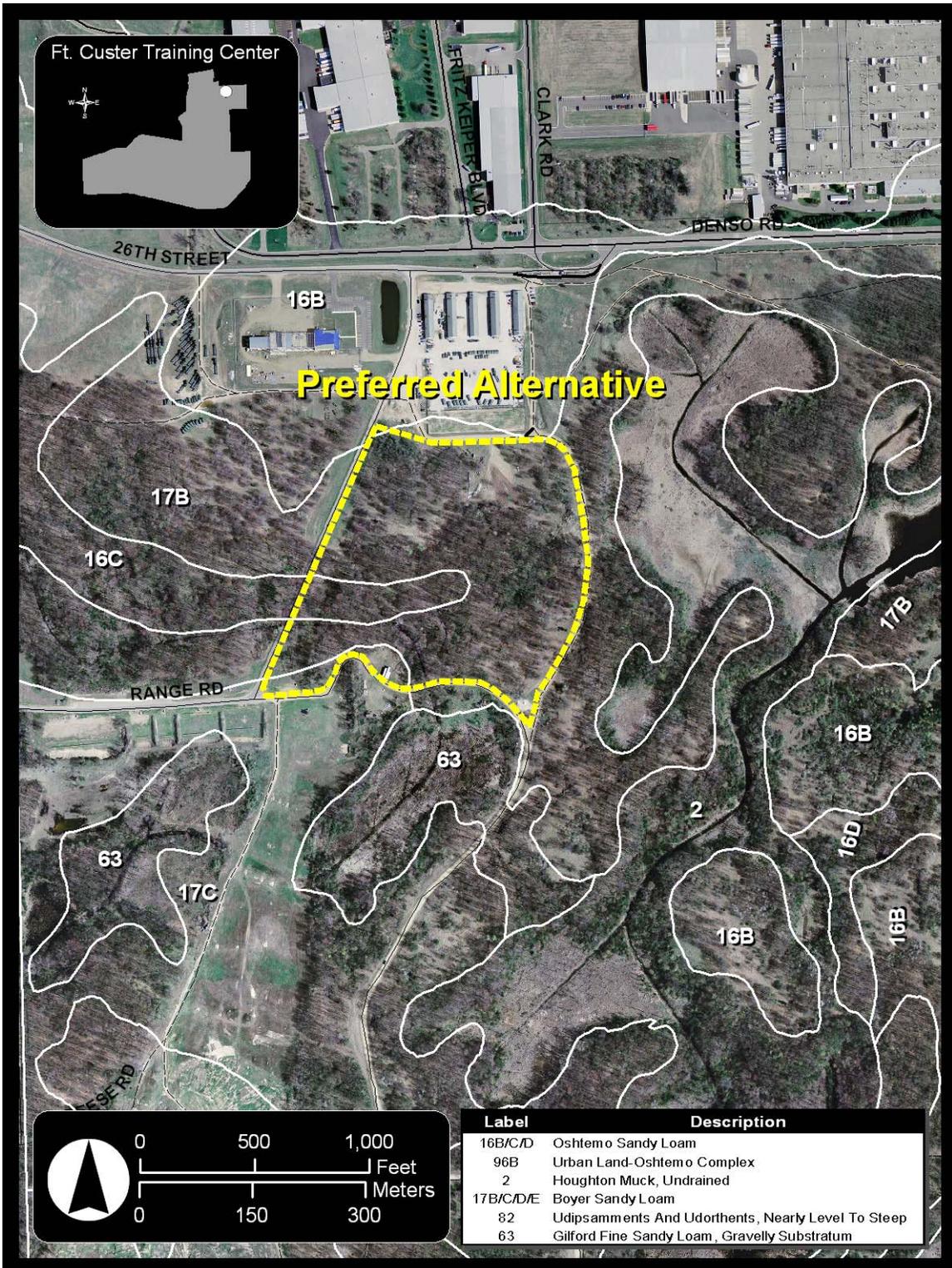


Figure 4-3. Soil Survey Map

Construction of a new AFRC and parking facilities would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. Irreversible commitments of resources would include a minimal amount of soil loss through either wind or water erosion during construction activities. Best Management Practices (BMPs) for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and would minimize the potential effects. Erosion control measures during construction activities will consist of sediment fencing, straw wattles, temporary gravel ingress and egress points, and temporary grassing or plastic sheet covering of exposed soils to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall. Also, sediment basins, temporary swales, and culvert/inlet protection will be provided to ensure minimum soil exposure. A minimum 100-foot buffer will be retained between the wetland and the construction area. Also, a 40-foot buffer will be retained around a portion of the project site. Once the facilities are operational and new vegetation is in place, additional erosion of topsoil would be minimal and would be limited or mitigated through adherence to a storm water management plan.

The FPPA is not applicable because the land is zoned heavy industrial and is therefore committed to urban development.

4.6.2.2 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to geologic or soil resources.

4.7 Water Resources

4.7.1 Affected Environment

This section describes water resources on the proposed Fort Custer AFRC site, including surface and groundwater resources. Surface water includes lakes, rivers, and streams and is important for a variety of reasons, including economic, ecological, recreational, and human health. Groundwater comprises the subsurface hydrogeologic resources of the property's physical environment. This section also discusses floodplains. Wetlands are discussed in Section 4.8.1.4. The ROI for water resources is the Fort Custer AFRC site and areas downstream from the Proposed Action project area.

4.7.1.1 Surface Water

The Fort Custer AFRC site is in the Kalamazoo watershed (HUC 04050003) (EPA, 2008). There is an unnamed tributary (and adjacent wetlands) to Eagle Lake that flows east to west across the southern portion of the site. This tributary flows into the Kalamazoo River and eventually into Lake Michigan at Saugatuck.

4.7.1.2 Hydrogeology/Groundwater

Glacial outwash and bedrock aquifers characterize the regional hydrogeology in the area. Deposits of unconsolidated glacial drift constitute the location of the principal aquifer in the region. The aquifer is composed of unsorted silty, bouldery gravels, as well as beds and lenses of poorly sorted stratified gravel, sand, and silt (DLZ, 2007). Assuming that groundwater flow typically follows surface water flow patterns, groundwater flows generally to the north towards the Kalamazoo River.

The sources of the municipal water used at the Fort Custer AFRC site will tie into water mains owned by the City of Battle Creek. The City of Battle Creek uses groundwater from the Marshall Sandstone Aquifer at the Verona Well Field located in the northeast section of the city as its sole source of drinking water (Annual Water Quality Report, City of Battle Creek, 2007). According to the Annual Water Quality Report (City of Battle Creek, 2007), drinking water quality meets all state and federal drinking water standards.

4.7.1.3 Floodplains

The Federal Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to establish actuarial rates for structures, based upon the risk of flooding. The proposed AFRC site is located outside of the 100-year floodplain. (Figure 4-4).

4.7.2 Consequences

Potential impacts to water resources, including surface water and groundwater are considered significant if the Proposed Action would:

- Irreversibly diminish water resource availability, quality, and beneficial uses;
- Reduce water availability or interfere with a potable supply or water habitat;
- Create or contribute to overdraft of groundwater or exceed a safe annual yield of water supply sources;
- Result in an adverse effect on water quality or an endangerment to public health by creating or worsening adverse health hazard conditions;
- Result in a threat or damage to unique hydrological characteristics; or
- Violate an established law or regulation that has been adopted to protect or manage water resources of an area.

Potential impacts that would be considered significant related to floodplain management include:

- Potential damage to structures located in the floodplain; and
- Changes to the extent, elevation, or other features of the floodplain as a result of flood protection measures or other structures being silted in or removed from the floodplain.

4.7.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to water resources from the Preferred Alternative would not be significant. There would be no measurable reduction in surface water quality or

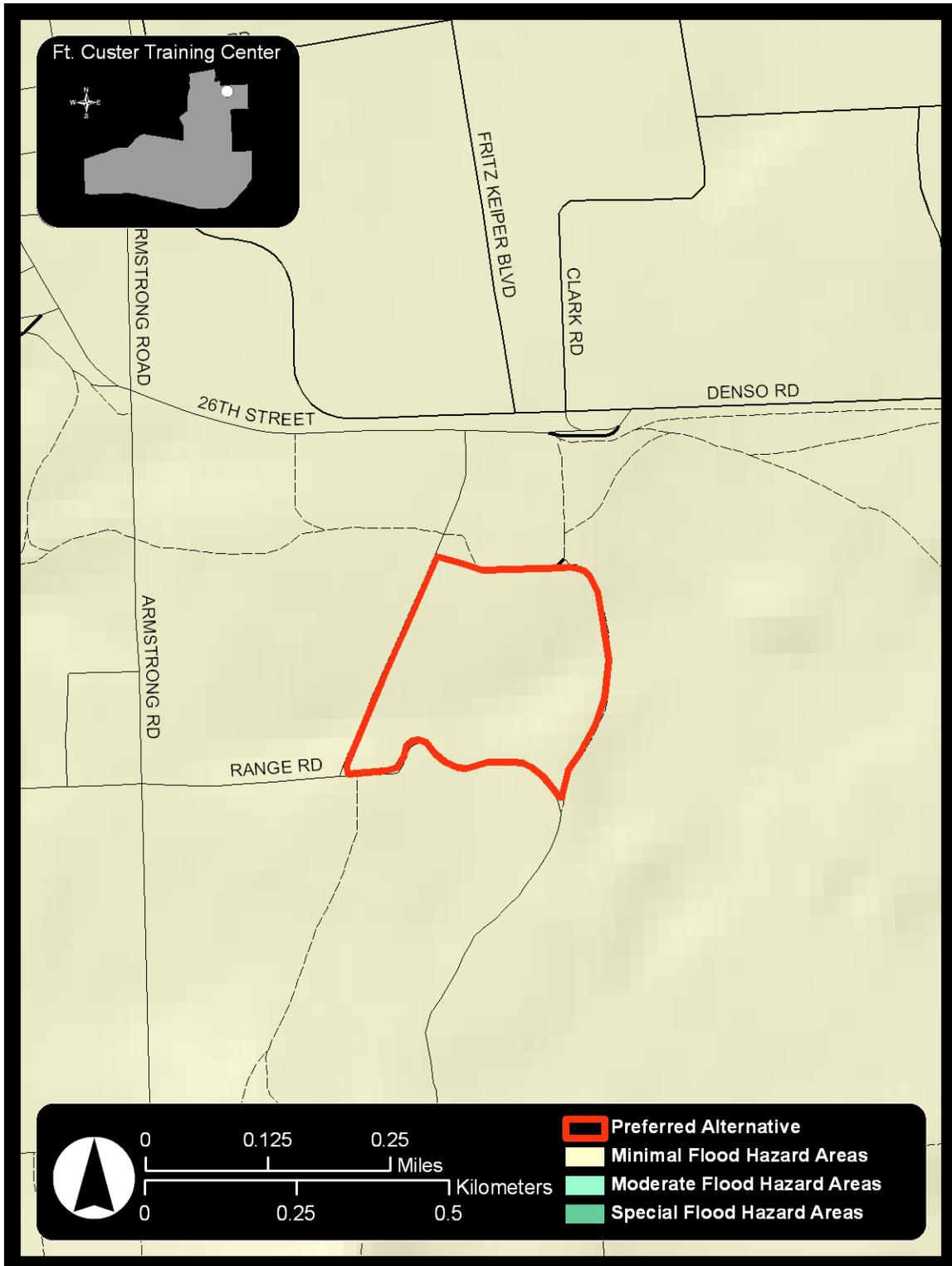


Figure 4-4. FEMA Floodplain Designation

availability. By capping the subsoil with impervious surfaces, the Preferred Alternative would reduce groundwater recharge locally over the long term by reducing the infiltration of precipitation (see Section 4.6.2.1). The additional 9,000 square yard MEP for the 401st TC will not be paved and will consist of gravel. The footprint of the proposed training facility and OMS would result in the addition of approximately 1 acre of impervious surfaces. This reduction of groundwater recharge would not have a significant impact on regional groundwater supplies.

Construction of the proposed new AFRC would disturb existing ground cover and increase the potential for soil erosion during the site preparation and construction phases. BMPs for erosion control, topsoil management, and revegetation would be required and stated in the construction contract, and therefore potential effects would not be significant. Erosion control during construction activities would be undertaken with the use of hay bales and silt fencing, as appropriate, to prevent the movement of soils into the stream channel and adjacent wetlands, and could also include scheduling construction activities for periods of lowest rainfall. Additional pretreatment devices such as an oil/water separator, will be utilized within areas of greater concern (CH2M Hill, 2008). There will also be a minimum 100-foot buffer left in its natural forested state adjacent to the wetland areas in order to facilitate protection of water quality.

Potential nonpoint source storm water impacts would not be significant with implementation of BMPs, and as should be described in a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would be modified, as needed, to address site specific requirements and monitoring. Point discharges of wastewater are prohibited by existing National Pollutant Discharge Elimination System (NPDES) requirements under the Clean Water Act (CWA). Any spills would be mitigated using procedures identified in the Spill Prevention Control and Countermeasures (SPCC) plan to reduce potential impacts to surface water or groundwater. The proposed site would be permitted for stormwater regulations, possibly in conjunction with the existing UTES site permit.

Because the Proposed Action does not entail construction within the 100-year floodplain, there would be no impacts to floodplains from the Proposed Action, and there are no impacts to Proposed Action structures caused by building in a floodplain.

4.7.2.2 No Action Alternative

Under the No Action Alternative, no changes or impacts would occur to water resources.

4.8 Biological Resources

4.8.1 Affected Environment

This section describes biological resources at the proposed Fort Custer AFRC site. It focuses on plant and animal species or habitat types that are typical or are an important element of the ecosystem, are of special category importance (of special interest due to societal concerns), or are protected under state or federal law or statute regulatory requirement. Vegetation is discussed first, followed by wildlife, sensitive species,

migratory birds, and wetlands. The ROI for biological resources is the entire installation and the land within the Proposed Action project area. The following information was extracted from the INRMP (DLZ, 2007).

4.8.1.1 Vegetation

FCTC is part of the historic “Prairie Peninsula”, tallgrass prairies that graded into oak savannahs and oak-hickory dominated forests. The ecological unit that encompasses FCTC is the Battle Creek Outwash Plain. FCTC consists of 15 natural community types and is 75 percent forested. The most common forest type is the dry-mesic southern forest that is dominated by northern red oak (*Quercus rubra*) and white oak (*Quercus alba*) along with black cherry (*Prunus serotina*), black oak (*Quercus velutina*), and sassafras (*Sassafras albidum*). All forests are oak-dominated, except on the more mesic slopes where mesophytes such as beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), white ash (*Fraxinus americana*), and tulip poplar (*Liriodendron tulipifera*) are able to establish as dominants. Other forest types include dry southern, dry-mesic southern, and southern swamp. The region also includes grasslands and old successional fields dominated by Eurasian grasses and weedy forbs that are fairly degraded and comprise approximately 1,600 acres. In addition to these communities, there are seven high quality natural areas that include a prairie remnant (32 acres), several fens (266 acres), dry/mesic southern forests (255 acres) and a southern swamp (25 acres). 815 species of plants have been documented in the communities on post (Michigan Natural Features Inventory (MNFI)).

The majority of the project area is densely forested with a mixture of oaks, maple, hickory, black cherry, and other sub-dominant species. There are a few grassed and gravel open areas, particularly on the northern portion of the site. A timber harvest is currently scheduled for this winter during the months when the Indiana Bat is restricted to underground hibernacula. A 100-foot buffer will be retained around all wetland areas and a 40-foot vegetated buffer will be retained on the north, west, and east of the project site.

Prescribed burning is used on FCTC to manage vegetation. Objectives of prescribed fire include restoring ecological processes, controlling invasive and exotic plants, reduction of fuel loading, and site preparation.

Active management of invasive exotic plants and other pests is a primary concern on the installation. In areas that are to be landscaped, the use of native plants (genotypes native to southwest Michigan) is encouraged whenever possible.

4.8.1.2 Wildlife

A total of 32 species of mammals have been recorded and/or documented on FCTC. These mammalian species are typical of those that are known to occur in the region. Whitetailed deer (*Odocoileus virginianus*) are the largest wild animals typically seen in the area. Other common species include red (*Vulpes vulpes*) or gray foxes (*Urocyon cinereoargenteus*), opossums (*Didelphis virginiana*), raccoons (*Procyon lotor*), Eastern cottontail rabbits (*Sylvilagus floridanus*), and squirrels (*Sciurus* spp.).

A total of 146 avian species have been found during breeding bird surveys in the area. FCTC participates in several bird conservation plans, including Upper Mississippi River and Great Lakes Region Joint Venture, Partners in Flight, and the North American Waterbird Conservation Plan. In addition to these, FCTC has ongoing monitoring of bird populations through a biannual point count survey, and an annual nest success survey for four birds of special concern: Cerulean warbler, hooded warbler, Acadian flycatcher, and wood thrush.

There are 15 reptile species (7 species of snakes and 8 turtles) that are known to occur on FCTC. No lizards have been found during surveys at FCTC. Previous surveys have identified 14 amphibian species. All but one of these species (Blanchard's Cricket Frog, *Acris crepitans blanchardi*) are widely distributed in Michigan.

Fourteen species of fish were collected during a two-year inventory by MNFI, with the dominant fish being minnows and sunfish. One state-listed species of special concern, the pugnose shiner (*Notropis anogenus*), was found in a small lake in the northern impact area. This lake is not connected to the stream that runs through the southern portion of the project area.

A total of 226 species of insects were discovered at FCTC during surveys designed to target rare species. Although 27 rare insects were considered to potentially occur on the installation, only one individual was found, Sprague's pygarcia (*Pygarctia spraguei*). Other insect surveys are discussed in the next section.

4.8.1.3 Sensitive Species

Under Section 7 of the Endangered Species Act (ESA), the Army must ensure that any Army action authorized, funded, or carried out is not likely to jeopardize the continued existence of any threatened or endangered species or result in the destruction or adverse modification of critical habitats on the FCTC site. Coordination has been completed with the U.S. Fish and Wildlife Service (USFWS), and a copy of their concurrence letter is provided in Appendix D. Neither the U.S. Fish and Wildlife Service nor the Army is aware of any resident threatened or endangered species or species proposed for listing as threatened or endangered on the site of the proposed AFRC.

An Endangered Species Assessment Report conducted by the Michigan Department of Natural Resources (MDNR) was composed on November 13, 2008. The report identifies records of federal-listed (endangered) species or critical habitats near the project site, records of unlisted species/habitats of conservation concern near the site, and recommendations related to this project site. Other than possibly passing through the site, no records of threatened or endangered species or their habitat were found on the site. This Endangered Species Assessment Report is included in Appendix D.

The USFWS lists 4 federally threatened and endangered species for Calhoun and Kalamazoo Counties, Michigan (Appendix E). Currently no federal candidate, proposed, threatened, or endangered species, nor any designated critical habitat is known to exist at FCTC. However, surveys have been conducted for the Mitchell's Satyr butterfly (*Neonympha mitchellii mitchellii*), the Karner blue butterfly (*Lycaeides melissa*

samuelis), and the Eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) based on USFWS recommendations regarding potential habitat for these species. No individuals were observed during these surveys. Habitat protection measures were also developed for the potentially occurring Indiana Bat (*Myotis sodalis*) although this species is not known to occur on FCTC. The American burying beetle (*Nicrophorus americanus*) is another federally listed species that was historically recorded in the area, however this species' occurrence at FCTC was deemed improbable because of negative results of black light surveys in 1994 by MNFI and the fact that the last sighting occurred in 1957 at Kellogg Biological Station.

The State of Michigan has identified 30 state-listed threatened and endangered species that may occur on FCTC (Appendix E). Of these, one animal is state-listed as endangered, and eight plants and one animal are state-listed as threatened. The remaining five plants and ten animals are considered state-listed species of special concern. One state species of special concern mollusk, the watercress snail (*Fontigens nickliniana*), was located at four sites within FCTC, none of which are located at the proposed project site. The Eastern box turtle, a state species of special concern has been documented on Post.

The only two species documented on FCTC that have formal management plans written are the state-listed endangered prairie vole (*Microtis ochrogaster*) and the threatened plant, pale fumewort (*Corydalis flavula*). FCTC monitors these species populations and habitats on a regular basis. The reason that the remaining 28 state-listed species do not have comprehensive management plans is because it was determined that adverse effects associated with training and land use practices were viewed as unlikely to occur due to remoteness of populations (or because the habitats are located in wetlands which are unsuitable for training) and because the necessary research to develop these management plans would probably cause detrimental effects to these habitats. The Michigan Department of Military and Veterans Affairs (MDMVA) proposes to conduct monitoring of all state listed plants and animals on a regular basis. Details of this monitoring and implementation plans are discussed in the INRMP (DLZ, 2007). Known occurrences of sensitive species (specifically the pale fumewort, *Corydalis flavula*) in the project vicinity are shown on Figure 4-5. There are no known occurrences of these species within or immediately adjacent to the project area.

4.8.1.4 Migratory Birds

DoD installations are required to comply with the Migratory Bird Treaty Act (MBTA). The 2003 Defense Authorization Act required the USFWS to reduce restrictions to military readiness training caused by migratory birds. DoD has agreed to work to conserve bird species of conservation concern (BCC species) on installations. The BCC species list was developed by the North American Bird Conservation Initiative (NABCI), with species that occur on FCTC. A listing of these migratory birds is included as Appendix D in the INRMP (DLZ, 2007).

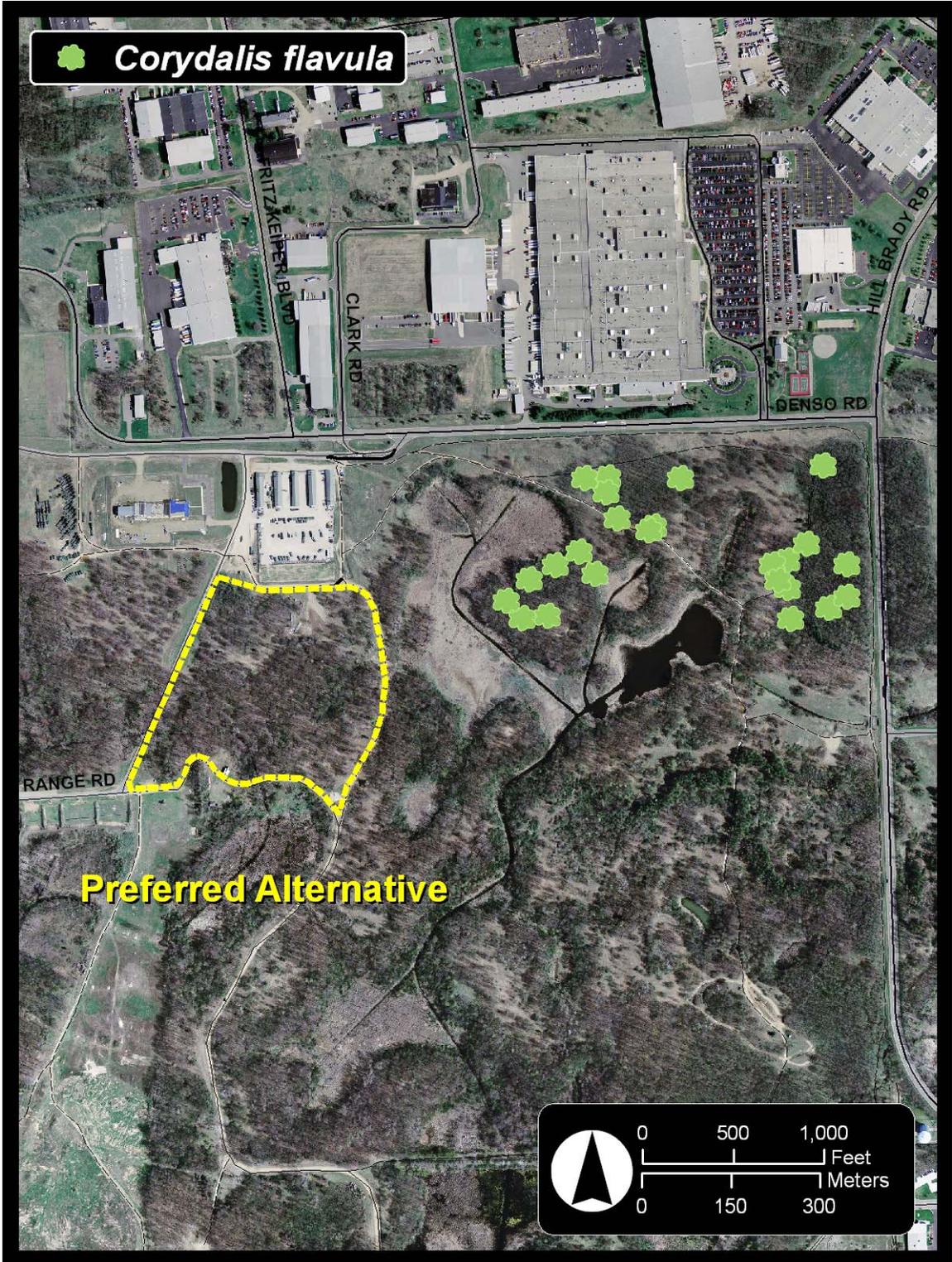


Figure 4-5. Known Occurrences of the Pale Fumewort near the Project Site

4.8.1.5 Wetlands

Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the EPA based on the presence of wetland vegetation, wetland hydrology, and hydric soils with certain land area considerations. Wetlands and other surface water features, which may include intermittent and perennial streams, are generally considered “waters of the United States” by the USACE, and under their definition of “jurisdictional waters/features,” are protected under Section 404 of the CWA.

A formal delineation of wetlands has been performed on the proposed site and there are jurisdictional wetlands on the property recorded in the National Wetlands Inventory (USFWS 1995) (Figure 4-6). The wetland classes depicted on Figure 4-6 are freshwater forested and emergent (Cowardin et al, USFWS 1979):

- Emergent wetlands are dominated by herbaceous hydrophytes.
- Forested wetlands are characterized by woody vegetation that is 6 m or taller.

There are approximately 662 acres of wetlands recorded on FCTC, 243 of which are emergent wetlands and 419 are forested/shrub wetlands. The proposed AFRC site contains 3.39 acres of forested wetlands and 0.18 acre of emergent wetlands.

4.8.2 Consequences

Potential impacts to biological resources are considered significant if the Proposed Action would:

- Affect a threatened or endangered species;
- Substantially diminish habitat for a plant or animal species;
- Substantially diminish a regionally or locally important plant or animal species;
- Interfere substantially with wildlife movement or reproductive behavior;
- Result in a substantial infusion of exotic plant or animal species; or
- Destroy, lose, or degrade jurisdictional wetlands (as defined by Section 404 of the CWA).

EO 11990, *Protection of Wetlands*, requires federal agencies to avoid actions, to the extent practicable, which would result in the location of facilities in wetlands.

4.8.2.1 Alternative 1-Preferred Alternative

Impacts to common flora and fauna would result from construction activities. Indirect impacts would be associated with loss of habitat. The project would disturb approximately 5.5 acres of forested land, with these areas being converted to buildings, pavement, gravel, and associated landscaped areas. During site preparation, all plants would be eliminated from the construction area and limited incidental animal injury or mortality could occur. This potential habitat would be permanently lost. It is expected that most animals would avoid areas adjacent to construction zones while construction was occurring and animals could return after construction is complete.

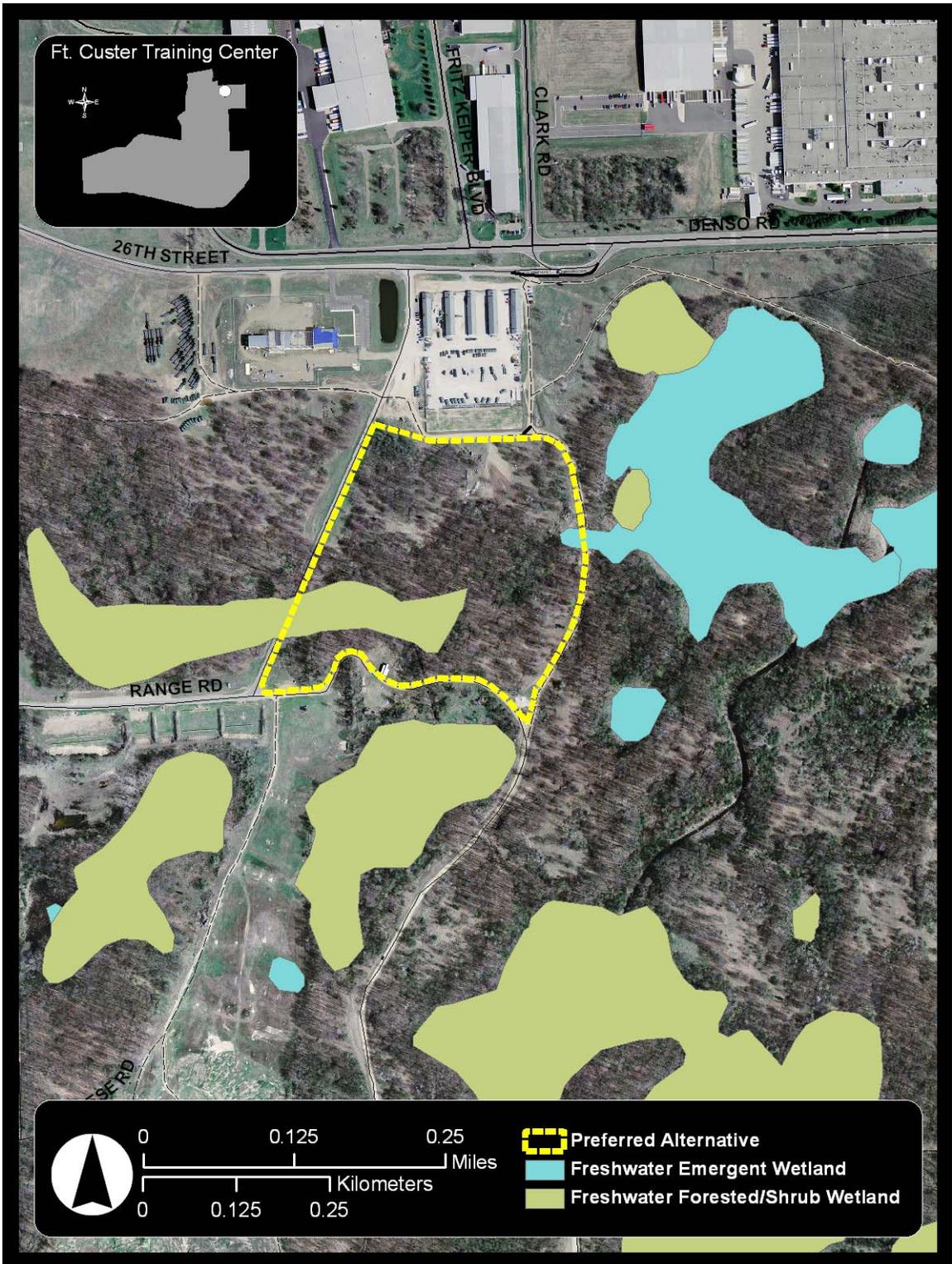


Figure 4-6. NWI Map of the Proposed Alternative

Lost habitat would be a permanent loss but would be less than significant considering the large amount of available wildlife and plant habitat on FCTC. No wildlife and plant habitat would be lost outside the boundaries of FCTC. Any incidental losses of animals during construction would not seriously affect regional animal population levels.

No federally protected species occur in the project area. The Indiana bat has not been located in the project vicinity, however the timber harvest will be scheduled during the dormant period for this species. During initial review, potential suitable roost trees were located within the riparian buffer and will not be cut. All protective measures developed in order to avoid any foreseeable impacts to the Indiana bat will be adhered to. These measures are outlined in Section 6.3.2 of the INRMP. Construction activity may have a temporary impact on Eastern box turtle movements but will pose no long-term threat to the population. No other known occurrences of sensitive species are present within the project area.

Implementation of the Proposed Action would result in minimal impacts to habitat for BCC species. The loss of a very small area of the available habitat on FCTC would be a less than significant impact on BCC species. Site preparation will take place during the winter and thus avoid bird breeding season.

The site layout was designed to avoid the wetland areas. Construction activities will be well outside of the wetland areas. BMPs during construction activities will be designed to protect the wetland areas and will consist of sediment fencing, straw wattles, temporary gravel ingress and egress points, and temporary grassing or plastic sheet covering of exposed soils to prevent the movement of soils into drainage ditches or low-lying areas, and could also include scheduling construction activities for periods of lowest rainfall. Also, sediment basins, temporary swales, and culvert/inlet protection will be provided to ensure minimum soil exposure. A minimum 100 foot buffer will be retained surrounding the wetland areas. Also, the additional MEP will be constructed with gravel rather than pavement, resulting in less runoff potential. The proposed site may utilize a permit to discharge to wetlands in conjunction with the existing UTES site permit.

4.8.2.2 No Action Alternative

Under the No Action Alternative, existing conditions would not change. Therefore, no impacts to biological resources would result from implementation of the No Action Alternative.

4.9 Cultural Resources

4.9.1 Affected Environment

Federal and military regulations, policies, and laws can apply to this property, including Sections 106 and 110 of the National Historic Preservation Act (NHPA), the Native American Graves Protection and Repatriation Act (NAGPRA) and the American Indian Religious Freedom Act (AIRFA).

This section describes the cultural resource conditions on the FCTC installation and the project area. The prehistoric and historic background of the area is summarized first, followed by the status of cultural resource inventories and Section 106 consultations, and Native American resources.

4.9.1.1 Prehistoric and Historic Background

The following information is from the 2001 Integrated Cultural Resources Management Plan (MDMVA, 2001) and the INRMP (DLZ, 2007). No significant information regarding the prehistoric use of the site has been located, and there are no known archaeological sites located on the project site. Fort Custer, originally known as “Camp Custer”, was constructed in 1917 as an active training camp and staging facility for World War I combat troops. The camp initially consisted of approximately 8,000 acres with an additional 8,560 acres requested for artillery range. Within a few months of construction, 1,800 buildings were constructed for the arrival of approximately 36,000 men. During the World War I Era, the camp was home to the 85th Division which was comprised of the two infantry brigades. Each of these brigades was made up of two infantry regiments and one machine gun battalion. As many as 60,000 men trained at Camp Custer during this time period. After World War I, the camp served as a summer training camp for the Citizen’s Military Training Camps (a program designed to recruit trainees to the National Guard and the Reserves) and the Reserve Officers’ Training Corps (ROTC) of the 6th Corps Area as well as several companies of the 2nd Infantry from Fort Wayne, Fort Brady and Fort Sheridan. Camp Custer was also the headquarters for the Lower Peninsula Michigan Civilian Conservation Corps (CCC), which was organized in 1933.

The camp was renamed Fort Custer in 1940 and the acreage expanded to 14,400. During this time, new buildings replaced the deteriorating World War I buildings and the post was chosen as the home of the 5th Infantry Division, which trained for World War II. The installation was officially de-activated in 1953. A portion of the 14,400 acres were transferred to various entities leaving 8,030 acres that is currently under ownership of the DOD. Of this acreage, 7,570 acres is dedicated for training purposes with the other acreage dedicated to other DOD functions. There is a 2.5 acre parcel, the Lawler Cemetery, which is owned and maintained by Charleston Township of Kalamazoo County that is within the boundaries of the FCTC installation.

4.9.1.2 Archaeological Investigations and Historic Architectural Studies

A review of archaeological investigations and historic architectural and landscape studies was conducted for the FCTC installation. The following has been excerpted from the Integrated Cultural Resource Management Plan (ICRMP) (MDMVA, 2001).

Archaeological Investigations – All of FCTC has received archaeological survey. 11 archaeological sites (eight prehistoric and three historic) have been identified. The ICRMP states that three of the archaeological sites may be eligible for the National Register of Historic Places (NRHP) however, to date none of these sites have been confirmed on the list. None of these sites are located on the project area. An additional survey was conducted in 2003. Four previously identified historic archaeological sites

were found during the more recent survey, however these sites are all on the southern portion of the installation, south of Territorial Road (The Louis Berger Group, 2003).

Historic Architectural Studies – All buildings on the FCTC installation that were constructed prior to 1946 were evaluated in an historic architectural study and all were considered ineligible for the NRHP by the State Historic Preservation Office (SHPO). There are no buildings on the proposed project site.

Historic Landscapes- An historic landscape assessment was conducted along Territorial Road, an early nineteenth century road that extends five miles across FCTC. This road was found to be the 1830's route across Michigan from Detroit in the east to St. Joseph in the west. The USACE recommended that the portion of Territorial Road that crosses FCTC is eligible to be included on the NRHP. The SHPO concurred with their recommendations. The proposed project site is approximately 1.85 miles away with a number of landscape features, including dense forested areas that obstruct the view to this area.

4.9.1.3 Status of Cultural Resource Inventories and NHPA Section 106 Consultations

In accordance with Section 106 of the NHPA the SHPO was contacted via letter seeking confirmation that the Proposed Action would not significantly impact any cultural resources. In a response dated January 13, 2009, the SHPO concluded that the project will have “no adverse effect”. A letter was also sent to SHPO for coordination on the timber harvest, and SHPO concurred with the assessment that “no historic properties are affected” These two letters are included in Appendix D.

4.9.1.4 Native American Resources

The Fort Custer area may have been occupied by a variety of Native American populations including the Potawatomi, Chippewa, Mascouten, Miami, Ottawa, Sac, Fox. Consultation letters were sent to the various tribes that may have an interest in Calhoun or Kalamazoo Counties. Responses are pending (Appendix D).

4.9.2 Environmental Consequences

Potential impacts to historic properties and/or archaeological resources are considered significant if the Proposed Action would:

- Physically destroy, damage, or alter all or part of the property;
- Physically destroy, damage, alter or remove items from archaeological contexts without a proper mitigation plan;
- Isolate the property from or alter the character of the property's setting when that character contributes to the property's qualification for the NRHP;
- Introduce visual, audible, or atmospheric elements that are out of character with the property or alter its setting;
- Neglect a property resulting in its deterioration or destruction; or

- Transfer, lease, or sell the property (36 CFR 800.9[b]) without a proper preservation plan.

4.9.2.1 Alternative 1-Preferred Alternative

No significant negative impacts to architectural resources would be likely as a result of implementation of the Proposed Action. No buildings listed, eligible for listing, or potentially eligible for listing on the NRHP occur in the project area. No significant negative impacts to archaeological resources would be likely as a result of implementation of the Proposed Action. FCTC has been completely surveyed for cultural resources (ICRMP 2001). No resources were found on the project site that were potentially eligible for the National Register. Therefore, no impacts to cultural resources are expected from implementation of the Proposed Action.

If, during construction, any potential historic or archaeological resource is uncovered or inadvertent discoveries are made of Native American human remains and associated funerary objects, sacred objects, or objects of cultural patrimony, the Cultural Resources Manager for the 88th RSC would be contacted, in accordance with Standard Operating Procedure (SOP) #7 for “Inadvertent Discoveries of Archaeological Sites” or other SOP that may apply (ICRMP, 2001).

If any of the tribes contacted in connection with this undertaking respond and raise concerns regarding issues of importance to the respective tribes, the 88th RSC will address these concerns as soon as practical.

4.9.2.2 No Action Alternative

There would be no impact to cultural resources under the No Action Alternative.

4.10 Socioeconomics

4.10.1 Affected Environment

The region of influence (ROI) is the geographic area within which the majority of potential impacts to socioeconomic resources would be concentrated. The ROI for the Proposed Action is a two-county area in the State of Michigan (Calhoun and Kalamazoo). Together, these counties comprise the Battle Creek, MI, Metropolitan Statistical Area (MSA). The Proposed Action includes the relocation of Army Reserve Area Maintenance Support Activity #135 and the U.S. ARC Stanford C. Parisian units from their current locations to FCTC. All of the facilities from which the units would be relocated are within the ROI. As a result, the Proposed Action would not change the number of persons in the ROI.

4.10.1.1 Economic Development

Employment

Earnings of persons employed in Battle Creek increased from \$7,354,254 in 2005 to \$7,539,850 in 2006, an increase of 2.7 percent. The 2005-2006 national change was 5.7

percent. The average annual growth rate from the 1996 estimate of \$5,555,088 to the 2006 estimate was 3.1 percent. The average annual growth rate for the nation was 5.5 percent.

Total full- and part-time employment in the two-county, MSA ROI increased between 1980 and 2000 by almost 580,000 jobs (Bureau of Economic Analysis [BEA], 2008). Among the industrial sectors, the greatest numeric and percent increase in employment took place in the services sector where the share of total non-farm employment in the region increased from 23 percent in 1980 to 29 percent in 1990, 32 percent in 2000, and 42 percent in 2005. Substantial increases in employment and share also occurred in the retail trade sector.

Employment in state and local government increased numerically over the period from over 71,000 jobs in 1980 to over 113,000 in 2005. However, its share of total non-farm employment remained relatively stable at between 8.7 percent and 10.0 percent. The economy of Battle Creek MSA is not separable from that of surrounding urban areas, nor is it uniform throughout.

The economies of the rural parts of the county and the cities lying outside the urban area have traditionally been based on forestry and agriculture. However, residents in these more rural areas are increasingly commuting to jobs in the Battle Creek urban area (Calhoun County, 2008). The major employers (with more than 1,200 employees) in the Battle Creek, MI metropolitan region are presented in Table 4-4.

Table 4-4. Major Employers In The Fort Custer Region

Employer	Number of Employees
U.S. Dept. of Defense	1561
Kellogg Company	1780
Kraft General Foods Corporation	1200
Battle Creek Health Systems	1800
Denso Manufacturing	2100
VA Medical Hospital	1300
Battle Creek Public Schools	1330

Source: BEA, 2008.

Regional Income and Earnings

Personal income in the MSA ROI in 2007 totaled over \$4.2 billion. The majority of this income (over 71 percent) was derived from earnings, with an additional 12 percent attributable to transfer payments (such as income maintenance, unemployment insurance, and retirement). The remaining contribution was derived from dividends, interest, and rents. Per capita income stood at \$31,013 for the metropolitan area. Percent of change of personal income from 2005-2006 increased by 4.0 percent. (BEA, 2008).

Unemployment

Over the period 1990 through 2006, unemployment rates for the MSA comprising the ROI have mirrored that of the state of Michigan and the nation (Bureau of Labor Statistics (BLS), 2008). From a high level in 1992, rates declined through 1994 and then remained relatively constant (at between 4 and 6 percent) through 2000.

4.10.1.2 Population

During the 1980s, the MSA in the ROI experienced population losses (U.S. Census Bureau, 2001). The decade of the 1990s saw a significant reversal of this trend with increases of 81 percent in the MSA. The population of the ROI is projected to increase by over 34,000 persons between 2010 and 2020 (a 15 percent increase) and by over 43,000 persons between 2020 and 2030 (a 13 percent increase). The greatest numeric and percent population increase is forecast for Kalamazoo County, MI (State of Michigan, Office of Economic Analysis and State of Michigan, Office of Financial Management, 2008). The on-post population of FCTC includes military personnel assigned to the post and civilian personnel employed at the post.

4.10.1.3 Housing

Government-Sponsored Housing

The only government-sponsored housing associated with FCTC are barracks which house visiting trainees.

Private Sector Housing

The total number of housing units in the MSA ROI that was reported in the 2000 Census was 23,525 (U.S. Census Bureau, 2008). Of this total, 5.7 percent were vacant and of the occupied units, 75 percent were owner-occupied, with the remaining 19.3 percent renter-occupied. Of the occupied housing units in the ROI, fewer than 63 percent are single family detached structures and just over 5 percent are mobile homes (U.S. Census Bureau, 2008).

4.10.1.4 Environmental Justice

Environmental justice is the fair treatment for people of all races, cultures, and incomes, regarding the development and implementation (or lack thereof) of environmental laws, regulations, and policies. EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*, directs federal agencies to identify and address disproportionately high and adverse human health and environmental effects on minority and low-income populations.

Based on the 2000 Census, the MSA ROI has a minority population comprising 24.5 percent of the total population and a low-income population comprising greater than 20 percent of the total population. There is considerable variation in these demographics at the county level within the ROI.

4.10.1.5 Protection of Children

On April 21, 1997, President Clinton issued EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. The EO directs that Federal agencies “(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” The EO recognizes children as a potentially vulnerable population, due to smaller size and weight, different behaviors, and the inability to protect themselves in all situations. These factors may make children at greater risk of adverse effects due to Federal agency actions. The EO is designed to ensure that applicable Federal actions do not disproportionately affect children. Children are not present at FCTC.

4.10.2 Consequences

Potential socioeconomic impacts are considered significant if the Proposed Action would cause:

- Substantial gains or losses in population and/or employment; or
- Disequilibrium in the housing market, such as severe housing shortages or surpluses, resulting in substantial property value changes.

Potential environmental justice impacts are considered significant if the Proposed Action would cause disproportionate effects on low-income and/or minority populations.

4.10.2.1 Alternative 1-Preferred Alternative

The Economic Impact Forecast System (EIFS) model was used to estimate the economic effects of the Proposed Action, and the results are compared to rational threshold values (RTVs) as a means of evaluating the significance of these effects in relation to the regional economy. RTVs are positive and negative percent changes in sales volume, income, employment, and population that represent an acceptable range around the maximum historic fluctuations that have occurred within the ROI over the period 1969 through 2000. The EIFS model report, which contains the model inputs, outputs, and significance measures, is provided as Appendix F.

Economic Development

Construction Phase

In terms of personnel, the Proposed Action involves the relocation of approximately 25 full time users and up to 231 reservists for a drill weekend, to FCTC from other existing facilities in the ROI. Construction of the AFRC under the Proposed Action is expected to last approximately 16 months (November 2009 to March 2011). In the short term, expenditures in the local economy for goods and services and direct employment associated with construction would increase sales volume, employment, and income in the ROI. The economic benefits would be temporary, lasting only for the duration of the construction period. It is assumed that capital expenditures of \$10.2 Million (DEPARTMENT OF THE ARMY DoD BASE REALIGNMENT AND CLOSURE,

2005 COMMISSION, Fiscal Year (FY) 2008/2009 Budget Estimates, RC Transformation in Michigan, Page 524-528; Commission Recommendation #26) for construction of the proposed AFRC Complex would be spread annually over the 16 month construction period in proportion to the respective duration in each calendar year.

The forecast employment and income effects associated with the proposed construction activity for each year are minimal. The greatest effect would occur in 2010 when total employment in the ROI would increase by 138 jobs throughout the year. These jobs would be comprised of 38 direct construction jobs and 100 secondary jobs associated with (a) the procurements of good, materials, and services and (b) spending (personal consumption expenditures) by the construction workers. Effects in the prior and subsequent years of construction would be less.

This employment effect in 2010 corresponds to a small fraction of less than one percent of regional baseline employment. Suppliers in the ROI would experience a short-term increase in the sale of construction-related materials and provision of services. It is anticipated that the construction workers required by the Proposed Action would be available in the regional workforce. As of 2005, the ROI contained almost 10,000 full- and part-time jobs in the construction sector of the economy.

Estimates of both the direct and secondary effects of construction activities and the induced effects in related industrial sectors that would be affected by construction expenditures and employment in 2010 when effects would be most evident are minimal. The percentage increase in sales volume, income, and employment are relatively minor and fall within the range of historical fluctuations in those economic parameters, as represented by the RTVs for the region. Short-term minor beneficial effects to the regional economy can be expected from the construction activities required to implement the Proposed Action.

Operations Phase

There would be no measureable change in long-term employment because the Proposed Action involves the relocation of existing personnel within the ROI. The facilities from which the units would be relocated would experience decreases in maintenance and repair expenditures. It is anticipated that maintenance and repair expenditures for the proposed AFRC would not exceed those for the existing facilities and negligible long-term impacts are anticipated.

Population and Housing

The workforce required during the construction phase of the Proposed Action would be available within the region and no in-migration of construction workers would occur. Thus, no increase in population is anticipated and potential impacts to housing and other community resources would not occur.

Environmental Justice and Protection of Children

The Proposed Action would be confined to FCTC. Construction and operation of the proposed AFRC would not result in adverse impacts associated with air quality, noise, groundwater, surface water, or hazardous materials and wastes. Safety measures to

protect pedestrians, including children, would be implemented during construction. As a result, minorities, low-income residents, and children living in proximity to FCTC would not be disproportionately impacted by the Proposed Action. This analysis is considered valid regardless of the total number or percentage of minorities, low-income residents, or children that live in proximity to the area, or the distance of their residences from the area. For these reasons, the proposed action would have no effect on environmental justice or protection of children.

4.10.2.2 No Action Alternative

Under the no action alternative, FCTC would not take any action to comply with the BRAC Commission's recommendations pertaining to the post. Therefore, the no action alternative would have no effect on socioeconomic resources.

4.11 Transportation

4.11.1 Affected Environment

This section describes the general traffic conditions within the ROI in terms of access and circulation. The ROI for transportation is defined as the Fort Custer AFRC and the immediate vicinity.

4.11.1.1 General Transportation

The proposed Fort Custer AFRC site is located approximately 4 miles north of the intersection of I-94 and Columbia Avenue. The main entrance to FCTC is from Denso Road, a four-lane road that runs east to west to the north of the property. A grid type roadway system services the cantonment area and provides access to the installation. There are many unimproved roads throughout the installation.

Air transportation is handled through the W.K. Kellogg Airport which lies between the City of Battle Creek and FCTC. The airport is the base of operations for approximately 55 private individuals as well as Western Michigan University College of Aviation Sciences, the Battle Creek Air National Guard (federally designated the 110th Tactical Air Support Group), Duncan Aviation, WACO Classic Aircraft and Centennial Aircraft Services. In 2007, Kellogg Airport was the third busiest airport in Michigan.

4.11.1.2 Public Transportation

There is no direct transit service to the proposed site. "Tele-transit", provided by the City of Battle Creek, is available for disabled persons, senior citizens, and people going to their jobs.

4.11.2 Consequences

Potential impacts to transportation are considered significant if the Proposed Action would:

- Disrupt or improve current transportation patterns and systems;

- Deteriorate or improve existing levels of service;
- Change existing levels of safety; and
- Disrupt and deteriorate current installation activities.

4.11.2.1 Alternative 1 – Preferred Alternative

Overall, potential transportation impacts from the Preferred Alternative would not be significant, and would have little to no long-term impacts.

During the construction phases of the Proposed Action, a temporary increase in vehicular traffic into and out of the Fort Custer AFRC site is expected, including the use of heavy equipment. With the construction of new POV parking areas, it is projected that the existing infrastructure at FCTC and the surrounding area would be able to accommodate the increase of 25 full-time employees during the week. As a reserve facility, training personnel reporting for reserve duty primarily access the site on drill weekends once a month. However, not all personnel report for duty on the same weekend; rather, drill weekends are spread over an entire month. Up to 231 additional reservists will be reporting to the new AFRC for weekend duty under the Proposed Action and these reservists will not all be reporting on a given weekend. It is projected that with the construction of the proposed POV parking areas, the impact on the existing infrastructure would be negligible. Current roads are adequate to accommodate these minor increases in use without modification.

4.11.2.2 No Action Alternative

Under the No Action Alternative, there would be no changes to the existing transportation infrastructure at the site or in surrounding areas.

4.12 Utilities

4.12.1 Affected Environment

This section describes existing utilities at the Fort Custer AFRC site. In general, the utility systems are classified as distribution and collection systems, including water, wastewater system, and energy sources. Communication systems and solid waste disposal are also discussed in this section. The ROI for utilities is defined as utility services at Fort Custer AFRC and the associated public utility service providers. Local municipal and commercial utility entities provide all major utilities (water, sewer, natural gas, electricity, and communications) at the proposed Fort Custer AFRC. The information within this section was gleaned from the “Corrected Charrette Submittal”, October 20, 2008 (CH2M Hill).

4.12.1.1 Potable Water Supply

Potable water can be defined as water fit for drinking, being free from contamination and not containing a sufficient quantity of saline material to be regarded as a mineral water. There are no drinking water or irrigation supply wells located on the property. All water is provided by the City of Battle Creek. The City of Battle Creek uses groundwater from the Marshall Sandstone Aquifer at the Verona Well Field located in the northeast section

of the city as its sole source of drinking water (Annual Water Quality Report, City of Battle Creek, 2007). According to the Annual Water Quality Report (City of Battle Creek, 2007), drinking water quality meets all state and federal drinking water standards.

An existing 10-inch municipal water main line is located north of the site along Denso Road in a public (e.g. off post) right of way. A second municipal water main line is located south of the site along Range Road. These mains are owned by the City of Battle Creek Water Division.

4.12.1.2 Wastewater System

The closest sewer to the new training center is a municipal Trunk Line on Denso Road immediately north of the site. This system is owned by the City of Battle Creek Wastewater Division.

4.12.1.3 Storm Water System

FCTC has a current stormwater discharge permit for the UTES which is located immediately north of the proposed site. The requirements for storm water management and design are in the second edition of the Storm Water Management Rules of the Kalamazoo County Drain Commission. A SWPPP will be prepared to meet MDEQ requirements. The proposed site would be permitted for stormwater regulations, possibly in conjunction with the existing UTES site permit.

4.12.1.4 Energy Sources

There is an existing natural gas line located on Denso Road approximately 900 feet north of the site. This system is supplied by Consumers Energy Systems of Battle Creek Michigan. (CH2M Hill, 2008)

4.12.1.5 Communication

The AFRC will utilize a communication service maintained by Cyber, Inc.

4.12.1.6 Solid Waste

Solid waste disposal is accomplished by contract with Allied Waste Service.

4.12.2 Consequences

Effects on infrastructure are considered in terms of increases in demands on systems and the ability of existing systems to meet those demands. Potential effects to the environment could occur if the existing systems are insufficient to handle the increased demands requiring construction and operation of a new system that may affect the environment. Utility demands include both construction and operations usage. Utility demands during the operations of the Proposed Action are based on the facility square footage and personnel requirements.

4.12.2.1 Alternative 1 – Preferred Alternative

Overall, potential impacts to utilities from the Preferred Alternative would not be significant.

The Preferred Alternative entails the clearing of land, and construction of a new training center, storage building and paving, fencing, general site improvements, and extension of utilities to serve the project. The size of the new AFRC complex would be approximately 51,161 square feet, as discussed in Section 2.2. Under the Preferred Alternative, irretrievable commitments of resources would occur from the consumptive use of energy and fuel during the construction and operations phases.

Potable Water Supply

The following sections are extracted from the Corrected Charette Submittal (CH2M Hill, 2008). An existing 10-inch municipal water main line is located north of the site along Denso Road in a public (e.g. off post) right of way. A second municipal water main line is located south of the site along Range Road. These mains are owned by the City of Battle Creek Water Division. A 10-inch main will be constructed to create a loop by a connecting to the Denso Road main and the Range Road main. The total estimated length of the 10-inch Water Supply loop is approximately 2,200 feet. An 8-inch service from that new main will supply a 6-inch fire suppression water service and a 2-inch domestic water service to the facility. These lines will support the domestic water and fire suppression requirements as outlined in UFC 4-171-05 and UFC 3-600-01. Isolation valves will be located at the connections to these mains.

Two new fire hydrants will be located around the training center and OMS to provide fire protection, one of which will be located within 150 feet of the building fire department connection per UFC 3-600-01 requirements.

Potable water metering is required by the City of Battle Creek. Based on discussions with the City public works department, the potable water meter can be installed within the facility. The City has the capability of reading the meter without entering Ft. Custer.

In accordance with MDEQ PART 13 ‘Construction Plans and Specifications and Permits’ section R 325.11301, Rule 1301 water plans will be submitted, reviewed and approved by the City of Battle Creek, and after approval by the City, they will be submitted as required to the State of MDEQ for approval.

Anticipated Usage from Proposed Facility

- Average daily volume for water=8,500 gallons per day (during a drill weekend day based on a full day at average flow rate)
- Average day flow rate in use period (e.g. 8 hour period of use)=17.65 gallons per minute + industrial flow of 15 gallons per minute (during drill weekend and based on 8 hour period of high use)
- Extreme peak flow rate (using Unified Facilities Code (UFC) design criteria)=112 gallons per minute and includes industrial flow (extreme peak flow rate is a “design check in the UFC” but is not expected to occur)

Wastewater System

The following information was extracted from the Corrected Charrette Submittal (CH2M Hill, 2008). The closest sewer to the new training center is a municipal Trunk Line on Denso Road immediately north of the site. This system is owned by the City of Battle Creek Wastewater Division. Due to the elevation of the new site being lower than this point, an explosion-proof pump station and 4-inch pressure sewer force main will be required. The length of this line will be approximately 1,400 feet. Pressure sewer cleanouts will be constructed approximately every 500 feet to allow future pressure cleaning of this line. All facilities on the site will be served then by a gravity connection system ending in the wet well of the sewer pump station. An oil / water separator (OWS) unit will be required for this facility per UFC 4- 171-05. The OWS will discharge to the sanitary sewer gravity system. The Army Reserve will utilize the Michigan Army National Guard's vehicle washing station immediately north of the proposed site therefore this flow will not be accounted for as part of the OWS.

Anticipated Usage from Proposed Facility

- Design daily average sewer volume = 26,800 gallons per day (estimated water usage of 8,500 gallons per day + inflow and infiltration contribution of 12.7 gallons per minute/system)
- Average day flow rate + industrial = 33.6 gallons per minute
- Peak Diurnal period flow rate = 66 gallons per minute + inflow and infiltration contribution of 12.7 gallons per minute = 78.7 gallons per minute
- Extreme peak period flow rate = 112 gallons per minute (from water) + inflow and infiltration contribution of 12.7 = 125 gallons per minute

The on-site lift station would have a pumping rate of 125 gallons per minute.

4.12.2.2 No Action Alternative

Under the No Action Alternative, no changes to utilities would occur at the site.

4.13 Hazardous and Toxic Substances

4.13.1 Affected Environment

This section describes the existing conditions of hazardous and toxic substances at the Fort Custer AFRC. Management of hazardous materials and hazardous wastes are discussed as well as site clean-up. The ROI is defined as the Fort Custer AFRC.

For purposes of this EA, hazardous materials are those regulated under federal, state, DoD, and Army regulations. Hazardous materials are required to be handled, managed, treated, or stored properly by trained personnel under the following regulations: Occupational Safety and Health Administration (OSHA) Hazardous Communication, 29 CFR 1900.1200 and 29 CFR 1926.59; and Department of Transportation Hazardous Materials, 49 CFR 172.101; EPA, 40 CFR 260 et seq. (OSHA 2006).

The most common threat of hazardous materials on FCTC is the release of petroleum-based products to the environment due to spills or leaks from vehicles or generators. Releases are associated with the UTES, the Regional Training Site for Maintenance, and other training exercises in more remote areas on post. The nearest groundwater monitoring wells are located to the southwest at a lower elevation than the project site.

FCTC implements an Installation Spill Prevention Control and Counter Measure Plan (SPCC) that provides guidance concerning the containment and cleanup of spills (for all types of hazardous materials) identified in the Installation Spill Contingency Plan (ISCP).

Surface and groundwater from the small arms ranges were sampled in 1999. Elevated levels of lead were found in Training Area 2 in association with a storm drain at the UTES. Remediation has occurred and there is an on-going monitoring program in place. Regular monitoring of surface and groundwater from 30 wells within the installation is ongoing.

A Draft Environmental Condition of Property (ECP) Report revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the proposed site (Terraine-Ensafe 8(a) Joint Venture 2009).

4.13.2 Consequences

Potential impacts to hazardous materials and hazardous waste management are considered significant if the Proposed Action would:

- Result in noncompliance with applicable federal and state regulations; or
- Increase the amounts of generated or procured hazardous materials beyond current permitted capacities or management capabilities.

4.13.2.1 Alternative 1 – Preferred Alternative

The proposed AFRC would consist primarily of training and office space, as well as administrative service areas. There would be minimal use of hazardous materials, such as janitorial products and printing supplies. Any hazardous materials will be handled and stored in accordance with applicable regulations and label precautions. The addition of privately owned and military vehicles would increase the chance of leaks and spills. These impacts can be avoided through routine and proper maintenance of vehicles and equipment. Also, drip pans would be used for vehicles when stored. Small quantities of hazardous waste may be generated from vehicle maintenance activities, such as parts degreasing. The activities at the proposed OMS are similar to activities currently ongoing at FCTC. Long-term impacts are expected to be negligible, and limited to very small quantities of vehicle fluids. The possibility for even these very small amounts of materials to migrate offsite or impact area natural resources would be reduced to virtually none by the use of drip trays, mats, regular removal of fluids during longer vehicle storage periods, and the application of standard BMPs and additional pretreatment BMPs such as oil/water separators.

4.13.2.2 No Action Alternative

Under the No Action Alternative, no changes to hazardous and toxic substances management would occur.

4.14 Cumulative Effects Summary

Cumulative effects are those environmental impacts that result from the incremental effects of other past, present, or reasonably foreseeable future actions when combined with the Proposed Action. CEQ regulations stipulate that the cumulative effects analysis within an EA consider the potential environmental impacts resulting from the “incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions” (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively substantial, actions undertaken over a period of time by various agencies (federal, state, and local) or individuals.

The scope of the cumulative effect analysis involves evaluating impacts to environmental resources by geographic extent of the effects and the time frame in which the effects are expected to occur. Past, present, and reasonably foreseeable actions are identified first, followed by the cumulative effects that could result from these actions when combined with the Proposed Action.

4.14.1 Past, Present, And Reasonably Foreseeable Actions

The geographic area analyzed for cumulative impacts includes both the proposed Fort Custer AFRC property and approximately 1 mile surrounding the site. No past, present, or reasonably foreseeable future projects were identified on the Fort Custer AFRC property other than the Proposed Action. The only reasonably foreseeable actions identified within a 1-mile radius are a new loading ramp and wash rack near the UTES, potential reconfiguration of the front gate in 2019, and potential light industrial business coming into the Industrial Park.

4.14.2 Cumulative Effects

Environmental effects for all resources potentially affected by the Proposed Action when combined with the identified reasonably foreseeable projects are discussed below.

4.14.2.1 Land Use

The Proposed Action would not cause any incremental impacts to land use when combined with the future projects in the vicinity of the Fort Custer AFRC property, because both the Proposed Action and future projects would be compatible with the overall land use of a military installation.

4.14.2.2 Aesthetics and Visual Resources

Construction of the AFRC under the Proposed Action would cause incremental impacts to aesthetics and visual resources when combined with the future construction of any

surrounding development projects if construction were to occur simultaneously. These impacts would be temporary and would not be significant.

4.14.2.3 Air Quality

If the construction periods overlapped, the Proposed Action would cause short-term incremental impacts to air quality when combined with the construction, demolition, or renovation aspects of the future projects listed in Section 4.14.1. Construction, renovation, or demolition may cause increased short-term external combustion in air emissions from heavy equipment usage. These would be temporary impacts and would not be significant.

4.14.2.4 Noise

The Proposed Action would cause short-term incremental impacts to noise when combined with the construction aspects of the future projects listed in Section 4.14.1 if construction were to occur simultaneously. These impacts would be temporary, and cumulative effects to noise would not be significant.

4.14.2.5 Geology and Soils

The Proposed Action would cause long-term incremental impacts to geology and soils when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Fort Custer AFRC. Incremental impacts would result in the reduction of infiltration of precipitation into the soil; however, the cumulative effects to geology and soils would not be significant.

4.14.2.6 Water Resources

The Proposed Action would cause long-term incremental impacts to water resources when combined with the future projects listed in Section 4.14.1 through the addition of impervious surfaces to the general vicinity of the Fort Custer AFRC. Incremental impacts would result in the reduction of groundwater recharge via soil infiltration. Because much of the surrounding land is not covered by impervious surfaces, this is not expected to be a significant cumulative impact.

4.14.2.7 Biological Resources

The Proposed Action would cause long-term incremental impacts to biological resources when combined with the future projects listed in Section 4.14.1 by removing vegetation and causing the direct loss of plant and wildlife habitats in the general vicinity of the Fort Custer AFRC. However, the projects mentioned above would occur on very small areas and together would not substantially diminish the quality or quantity of habitat for plants or animals, nor would they substantially diminish regional or local populations of plant or animal species. Cumulative effects to biological resources would therefore not be significant.

4.14.2.8 Cultural Resources

The Proposed Action may cause long-term incremental impacts to cultural resources when combined with the future projects listed in Section 4.14.1. Although there are no

identified cultural resources in the general vicinity of the Fort Custer AFRC, ground disturbance due to the Proposed Action and the future projects would involve the potential for discovery of or impact to previously unrecorded cultural artifacts. Strict adherence to a standard SOP regarding the inadvertent discovery of archaeological resources would minimize the possibility of adverse impacts. Cumulative effects to cultural resources would therefore not be significant.

4.14.2.9 Socioeconomics

The Proposed Action may cause short-term incremental impacts to socioeconomics when combined with the future projects listed in Section 4.14.1. Beneficial short-term impacts would result from construction activities from an increase in employment and economic development.

Under the Proposed Action, there would be no substantial changes in personnel or to socioeconomic factors. Therefore, the Proposed Action when combined with projects listed in Section 4.14.1 would not result in long-term cumulative impacts to socioeconomics.

4.14.2.10 Transportation

The Proposed Action may cause incremental impacts to transportation when combined with the future projects listed in Section 4.14.1. Short term incremental impacts would result from increases in vehicular traffic from construction activities. Long term increase in vehicular traffic would be caused by use of the proposed facility. Based on limited information known about future projects (discussed in Section 4.14.1), cumulative impacts to transportation would not be significant.

4.14.2.11 Utilities

The Proposed Action may cause short-term and long-term incremental impacts to utilities when combined with the future projects listed in Section 4.14.1. Incremental short-term impacts would result from construction solid waste. Solid waste produced by these projects would be shipped to a municipal landfill and would not be expected to cause adverse impacts to the landfill. Long-term incremental impacts would result from use of additional capacity of water and wastewater systems. Based on limited information known about future projects (discussed in Section 4.14.1), cumulative impacts to utilities are not considered significant.

4.14.2.12 Hazardous and Toxic Substances

The Proposed Action may cause short-term incremental impacts from the use of hazardous and toxic substances during construction when combined with the future projects listed in Section 4.14.1. Incremental impacts would also result from increased waste from heavy construction equipment (i.e. hydraulic fluid) and/or cleaners or solvents as well as the addition of privately owned and military vehicles. However, overall cumulative impacts from hazardous and toxic substances would not be significant.

4.15 Mitigation Summary

Mitigation measures are measures that are integral to an alternative to reduce impacts. No mitigation measures are required for the Preferred Alternative discussed in this EA because resulting impacts are not significant.

5.0 FINDINGS AND CONCLUSIONS

Direct, indirect, and cumulative impacts of Alternative 1 and the No Action Alternative have been considered. Alternative 1 is the 88th RSC's Preferred Alternative because it best allows the Army to efficiently provide safe training facilities for its reservists that would use the facilities. No significant adverse impacts were identified.

Therefore, the issuance of a FNSI is warranted, and preparation of an environmental impact statement is not required. Implementation of the No Action Alternative is not feasible because the BRAC actions are required by law to be implemented.

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Furman, Brad	GIS Analyst	3
Smith, Nancy	Economist	22
Theodosiou, Susan	Author	20

7.0 DISTRIBUTION LIST

The following agencies were notified that the Final EA is available for public review:

USFWS, East Lansing Ecological Field Office, East Lansing, Michigan

SHPO, Lansing, Michigan

MDNR, Lansing, Michigan

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88TH Regional Readiness Command. January 24, 2008. Site Survey Report, Fort Custer, Michigan.

9.0 PERSON'S CONSULTED

The following people were consulted during development of the EA:

- Cheryl Beard, Battle Creek Unlimited, Battle Creek, Michigan
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- Lisa R. Gulbranson, BRAC Environmental Coordinator, 88th RSC
- LTC Peter Hill, Installation Engineer, Fort Custer Training Center
- Nathan Krupp, Installation Cultural Resources Manager
- John S. Mitchell, Installation Environmental Manager, Fort Custer Training Center
- Tracy Spielman, CH2M Hill Project Manager

10.0 ACRONYM LIST

µg/m ³	micrograms per cubic meter
AFRC	Armed Forces Reserve Center
AIRFA	American Indian Religious Freedom Act
AMSA	Area Maintenance Support Activity
APE	Area of Potential Effects
AT/FP	Anti-terrorism/Force Protection
BCC	Bird of Conservation Concern
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor Statistics
BMP	best management practice
BRAC	Base Realignment and Closure
CAIR	Clear Air Interstate Rule
CCC	Civilian Conservation Corps
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
dB	decibel
dba	A-weighted decibel
DoD	U.S. Department of Defense
EA	Environmental Assessment
ECM	Erosion Control Measure
ECP	Environmental Condition of Property
EIFS	Economic Impact Forecast System
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FCTC	Fort Custer Training Center
FEMA	Federal Emergency Management Agency
FNSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
HUC	Hydrologic Unit Code
HVAC	heating, ventilation, and air conditioning
ICRMP	Integrated Cultural Resource Management Plan
INRMP	Integrated Natural Resources Management Plan
ISCP	Installation Spill Contingency Plan
MBTA	Migratory Bird Treaty Act
MDEQ	Michigan Department of Environmental Quality
MDNR	Michigan Department of Natural Resources
MDMVA	Michigan Department of Military and Veterans Affairs
MEP	Military Equipment Parking

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MIARNG	Michigan Army National Guard
MNFI	Michigan Natural Features Inventory
MSA	Metropolitan Statistical Area
NAAQS	National Ambient Air Quality Standards
NABCI	North American Bird Conservation Initiative
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O ₃	ozone
OMS	Organizational Maintenance Shop
OSHA	Occupational Safety and Health Administration
OWS	Oil/Water Separator
Pb	lead
PLS	Palletized Load System
PM _{2.5}	particulate matter with an aerodynamic size less than or equal to 2.5 microns
PM ₁₀	particulate matter with an aerodynamic size less than or equal to 10 microns
POV	Personal Occupancy Vehicle
ppm	parts per million
PSD	Prevention of Significant Deterioration
REC	Recognized Environmental Conditions
ROI	region of influence
RONA	Record of Non-Applicability
ROTC	Reserve Officers Training Corps
RSC	Regional Support Command
RTV	rational threshold value
SDD	Sustainable Design and Development
SF	Square Feet
SHPO	State Historic Preservation Office
SO ₂	sulfur dioxide
SOP	standard operating procedure
SO _x	sulfur oxides
SPCC	Spill Prevention, Control, and Countermeasures
SVOC	semi-volatile organic compound
SWPPP	Storm Water Pollution Prevention Plan
SY	Square Yards
TC	Transportation Company

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TEOM	Tapered Element Oscillating Microbalance
Tpy	tons per year
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USARC	United States Army Reserve Center
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
UST	underground storage tank
UTES	Unit Training and Equipment Site
VA	Veterans Affairs
VOC	volatile organic compound

APPENDICES

**Appendix A
Conceptual Floor Plan**

**Appendix B
Proposed Site Layout**

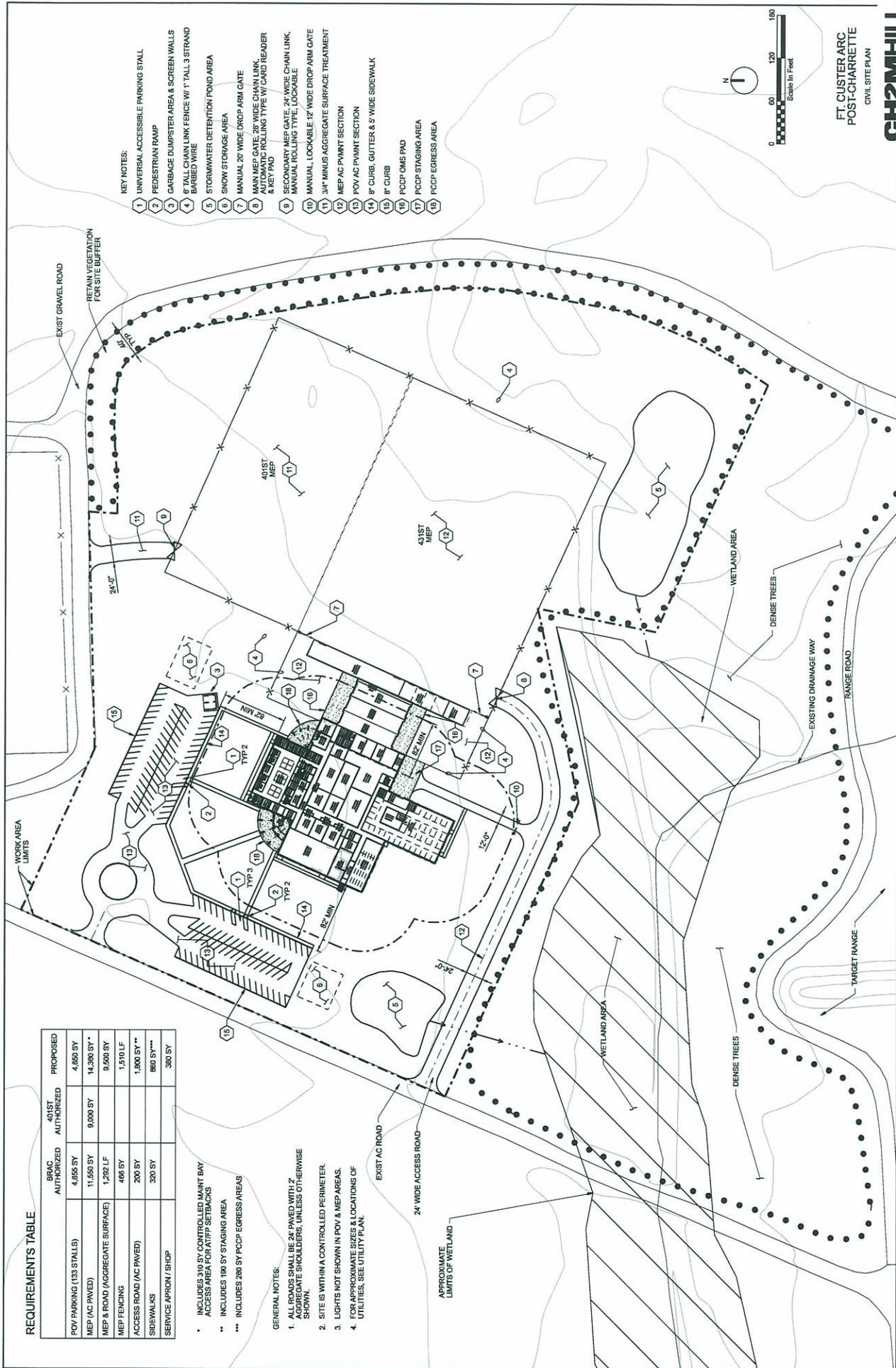
REQUIREMENTS TABLE

	BRAC AUTHORIZED	401ST AUTHORIZED	PROPOSED
POV PARKING (133 STALLS)	4,655 SY	9,000 SY	4,650 SY
MEP (AC PAVED)	11,560 SY	9,000 SY	14,390 SY**
MEP & ROAD (AGGREGATE SURFACE)	1,292 LF	9,400 SY	9,400 SY
MEP FENCING	468 SY	1,510 LF	1,510 LF
ACCESS ROAD (AC PAVED)	200 SY	1,300 SY**	1,300 SY**
SIDEWALKS	320 SY	860 SY***	860 SY***
SERVICE APRON / SHOP			380 SY

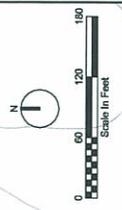
- * INCLUDES 310 SY CONTROLLED MANT BAY ACCESS AREA FOR AVTTP SETBACKS
- ** INCLUDES 100 SY STAGING AREA
- *** INCLUDES 200 SY PCPCP EGRESS AREAS

GENERAL NOTES:

1. ALL ROADS SHALL BE 24' PAVED WITH 2" AGGREGATE SHOULDERS, UNLESS OTHERWISE SHOWN.
2. SITE IS WITHIN A CONTROLLED PERIMETER.
3. LIGHTS NOT SHOWN IN POV & MEP AREAS.
4. FOR APPROXIMATE SIZES & LOCATIONS OF UTILITIES, SEE UTILITY PLAN.



- KEY NOTES:**
- 1 UNIVERSAL ACCESSIBLE PARKING STALL
 - 2 PEDESTRIAN RAMP
 - 3 GARBAGE DUMPSTER AREA & SCREEN WALLS
 - 4 6" TALL CHAIN LINK FENCE W/ 1" TALL 3 STRAND BARBED WIRE
 - 5 STORMWATER DETENTION POND AREA
 - 6 SNOW STORAGE AREA
 - 7 MANUAL 20' WIDE DROP ARM GATE
 - 8 MAIN MEP GATE, 28' WIDE CHAIN LINK, AUTOMATIC ROLLING TYPE W/ CARD READER & MET PAD
 - 9 SECONDARY MEP GATE, 24' WIDE CHAIN LINK, MANUAL ROLLING TYPE, LOCKABLE
 - 10 MANUAL, LOCKABLE 12' WIDE DROP ARM GATE
 - 11 3/4" MINUS AGGREGATE SURFACE TREATMENT
 - 12 MEP AC PAVIMENT SECTION
 - 13 POV AC PAVIMENT SECTION
 - 14 8" CURB, GUTTER & 5' WIDE SIDEWALK
 - 15 8" CURB
 - 16 PCPCP OMS PAD
 - 17 PCPCP STAGING AREA
 - 18 PCPCP EGRESS AREA



**FT. CUSTER ARC
POST-CHARRETTE
CIVIL SITE PLAN**

CH2MHILL

**Appendix C
Photographs**



Photo 1. Looking north from northern portion of the preferred site toward the UTES.



Photo 2. Typical vegetation within forested area on the preferred site.



Photo 3. Looking east along unnamed tributary and adjacent wetlands from the road on the southwest portion of the preferred site



Photo 4. Gravel road on northwest perimeter of the preferred site.

**Appendix D
Agency Coordination**

Out of State Federal Tribes Responding

Chair/Chief and Address

White Earth Band of Chippewa Indians
Doyle Turner (?), Chairperson
41044 Ice Cracking Rd.
Ponsford, MN 56575
218-573-3007

Lac Courte Oreilles Band of Lake Superior Indians
Louis Taylor, Chairperson
13394 W. Trepania Rd.
Hayward, WI 54843
715-634-8934

Sac and Fox of the Mississippi in Iowa
Talbert Davenport, Tribal Chairperson
349 Meskwaki Rd.
Tama, IA 52339-9629
515-484-4678

Turtle Mountain Band of Chippewa Indians
Richard LaFromboise, Chairperson
P.O. Box 570
Belcourt, ND 58316
701-477-6481

Sokaogon Chippewa Community of the Mole L. Band
Sandra Rachal, Chairwoman
3086 State Highway 55
Crandon, WI 54520
715-478-7500

Forest County Potawatomi Community
Harold Frank, Chairperson
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Crandon, WI 54520
715-478-2903

Cultural Resources POC

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Wil Gilmore, THPO & Tribal Archaeologist

Jonathan Buffalo

Bruce Nadeau, Deputy THPO

Clarice Richie, Researcher & WITCR Rep.

Chair/Chief and Address**Fed. Recognized in MI**

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Jeffery D. Parker, President
12140 W. Lakeshore Dr.
Brimley, MI 49715
906-248-3241, www.baymills.org

Grand Traverse Band of Ottawa and Chippewa Indians
of MI
Robert Kewaygoshkum, Chairperson
2605 NW Bayshore Dr.
Peshawbetown, MI 49682
231-271-3538

Hannahville Potawatomi Indian Community of MI
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Wilson, MI 49896-9728
906-466-2934

Keweenaw Bay Indian Community of MI (Ojibwa)
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Lac Vieux Desert Band of L. Superior Chippewa of MI
James Williams, Jr., Chairperson
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Little River Band of Ottawa Indians
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Chair/Chief and Address

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Laura Spurr, Chairperson
2221 1 1/2 Mile Rd.
Fulton, MI 49052
269-381-13535151
lukewarmwater@voyager.net

Pokagon Band of Potawatomi Indians of MI
John A. Miller, Chairperson
P.O. Box 180
Dowagiac, MI 49047
269-782-6323

Saginaw Chippewa Indian Tribe of MI
Fred Cantu, Jr., Tribal Chief
7070 East Broadway
Mt. Pleasant, MI 48858
989-775-4000
www.sagchip.org/government

Sault Saint Marie Tribe of Chippewa Indians of MI
Aaron Payment, Chairperson
523 Ashmun St.
Sault Saint Marie, MI 49783
906-635-6050
www.sootribe.org

Cultural Resources POC

R. John Bush, NAGPRA
685 128th Ave., Shelbyville, MI 49344
616-792-6508

David B. Jones, Env. Director
269-729-5151
Djones@nhbpi.com

Mark Parrish, THPO
888-330-1234
269-782-9602
mark.parrish@pokagon.com

Bonnie Ekdahl, Director
Ziibiwing Cultural Society
6650 East Broadway
Mt. Pleasant, MI 48858
989-775-4752
Bekdahl@sagchip.org

Cecil Pavlat, Cultural Resource Manager
906-632-7480
cpavlat@saulttribe.net



MICHIGAN ARMY NATIONAL GUARD
FORT CUSTER TRAINING SITE COMMAND
2501 26th Street
Augusta, Michigan 49012-9205

MIAR-FC-CDR

January 7, 2009

Ms. giiwegiizhigookway Martin, THPO & NAGPRA
Lac Vieux Desert Band of L. Sup. Chippewa of MI
P.O. Box 249
Watersmeet, MI 49969

RE: Environmental Assessment - Early Coordination Notification
U.S. Army Reserve - Proposed Military Construction Project
Fort Custer, Michigan

Dear Mr./Ms. Ms. giiwegiizhigookway Martin,

The Assistant Chief of Staff Installation Management, Operations Directorate Reserve Division and the U.S. Army Reserve, Environmental Branch, are preparing an Environmental Assessment (EA) located in Fort Custer, Michigan as part of the restructuring of military bases as required by the Defense Base Closure and Realignment Act (BRAC). The BRAC recommendation is to close the US Army Reserve Center (ARC) Stanford C. Parisian in Lansing, MI, and the Army Reserve Area Maintenance Support Activity #135 (AMSA) in Battle Creek, MI and relocate units to a new Armed Forces Reserve Center on Fort Custer Reserve Training Center, MI. In addition to the BRAC action, the 401st Transportation Company will be relocated to this facility.

The proposed action includes the construction of an ARC, which includes a new 200-member ARC, AMSA, organizational maintenance shop (OMS), unheated storage building, and organizational parking at Fort Custer, MI. A regional location map and an aerial photograph of the proposed project are depicted as Figures 1 and 2.

During the course of the EA, detailed investigations will be undertaken to identify potential Social, Economic, and Environmental (SEE) impacts related to the improvements being considered. These SEE impacts will be documented in the EA as required by the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other relevant environmental regulations (Section 7 of the Threatened and Endangered Species Act, Section 106 of the National Historic Preservation Act, etc.) will be accomplished during the EA.

As part of the early coordination and NEPA scoping process, we are identifying key issues that will need to be addressed as part of this study. Please provide your comments relative to the following three topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction.

- Available technical information regarding these issues.
- Mitigation or permitting requirements that may be necessary for project implementation.

In order to sufficiently address key project issues while maintaining the project schedule, we are requesting that you provide a written response to this letter within 30 days of receipt.

Please send your responses to:

Mr. John Mitchell
2501 26th Street
Augusta, MI 49012-9205

Please feel free to contact me at 269-731-6570 should you have any questions or concerns or would like additional information:

We look forward to working cooperatively with you to make this important project successful for all parties involved.



John S. Mitchell
Environmental Manager

Enclosures

The Lac Vieux Desert Band of Lake Superior
Chippewa Indians have no interest in

Project #: Fort Custer Military

Martin THPO
giwegiizhigookway Martin/THPO/NAGPRA

Date

1-22-2009



MICHIGAN ARMY NATIONAL GUARD
FORT CUSTER TRAINING SITE COMMAND
2501 26th Street
Augusta, Michigan 49012-9205

MIAR-FC-CDR

Mr. Craig Czarnecki
U.S. Fish and Wildlife Service
East Lansing Ecological Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823

RE: Environmental Assessment - Early Coordination Notification
U.S. Army Reserve - Proposed Military Construction Project
Fort Custer, Michigan

Dear Mr. Czarnecki,

11-14-08

The Assistant Chief of Staff Installation Management, Operations Directorate Reserve Division and the U.S. Army Reserve, Environmental Branch, are preparing an Environmental Assessment (EA) located in Fort Custer, Michigan as part of the restructuring of military bases as required by the Defense Base Closure and Realignment Act (BRAC). The BRAC recommendation is to close the US Army Reserve Center (ARC) Stanford C. Parisian in Lansing, MI, and the Army Reserve Area Maintenance Support Activity #135 (AMSA) in Battle Creek, MI and relocate units to a new Armed Forces Reserve Center on Fort Custer Reserve Training Center, MI. In addition to the BRAC action, the 401st Transportation Company will be relocated to this facility.

The proposed action includes the construction of an ARC, which includes a new 200-member ARC, AMSA, organizational maintenance shop (OMS), unheated storage building, and organizational parking at Fort Custer, MI. A regional location map and an aerial photograph of the proposed project are depicted as Figures 1 and 2.

During the course of the EA, detailed investigations will be undertaken to identify potential Social, Economic, and Environmental (SEE) impacts related to the improvements being considered. These SEE impacts will be documented in the EA as required by the National Environmental Policy Act (NEPA). In addition to meeting the requirements of NEPA, compliance with other relevant environmental regulations (Section 7 of the Threatened and Endangered Species Act, Section 106 of the National Historic Preservation Act, etc.) will be accomplished during the EA.

As part of the early coordination and NEPA scoping process, we are identifying key issues that will need to be addressed as part of this study. Please provide your comments relative to the following three topics:

- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction.

- Available technical information regarding these issues.
- Mitigation or permitting requirements that may be necessary for project implementation.

In order to sufficiently address key project issues while maintaining the project schedule, we are requesting that you provide a written response to this letter within 30 days of receipt.

Please send your responses to:

Mr. John Mitchell
2501 26th Street
Augusta, MI 49012-9205

Please feel free to contact me at 269-731-6570 should you have any questions or concerns or would like additional information:

We look forward to working cooperatively with you to make this important project successful for all parties involved.

A handwritten signature in black ink that reads "John S. Mitchell". The signature is written in a cursive style with a large, prominent "J" and "M".

John S. Mitchell
Environmental Manager

Enclosures



STATE OF MICHIGAN

JENNIFER M. GRANHOLM
GOVERNOR

DEPARTMENT OF NATURAL RESOURCES
LANSING

REBECCA A. HUMPHRIES
DIRECTOR

November 13, 2008

Mrs Amy R Dalton
PBS&J Inc.
7406 Fullerton Street, Suite 350
jacksonville FL 32256

RE: Fort Custer BRAC EA

Dear Mrs Amy R Dalton:

Thank you for using the Michigan DNR Endangered Species Assessment website. Based on the information you have provided, project activities may proceed. It has been determined that federal and state endangered, threatened, special concern species, exemplary natural plant communities, or unique natural features are **not known to occur** at or near the location specified:

Calhoun County, T03S R08W Section 07.

The location of the request was checked against known localities for rare species and unique natural features, which are recorded in a statewide database. This continuously updated database is a comprehensive source of information on Michigan's endangered, threatened and special concern species, exemplary natural communities and other unique natural features. Records in the database indicate that a qualified observer has documented the presence of special natural features at a site. The absence of records may mean that a site has not been surveyed. Records may not always be up-to-date. In some cases, the only way to obtain a definitive statement on the presence of rare species is to have a competent biologist perform a field survey.

Michigan's endangered and threatened species are protected under Part 365 of the Natural Resources and Environmental Protection Act, Act 451 of the Michigan Public Acts of 1994. Federally listed species are protected under the United States Endangered Species Act of 1973. Special concern species, exemplary natural communities and other unique natural features are not legally protected by state or federal endangered species legislation, but they are considered to be rare and should be protected to prevent future listing.

Thank you for your advance coordination in addressing the protection of Michigan's natural resource heritage. Responses and correspondence can be sent to: Endangered Species Review, Michigan Department of Natural Resources, Wildlife Division - Natural Heritage Program, PO Box 30180, Lansing, MI 48909. If you have further questions, please call 517-373-1263 or e-mail DNR-EndangeredSpecies@michigan.gov.

NATURAL RESOURCES COMMISSION

Keith J. Charters-Chair * Mary Brown * Bob Garner * Gerald Hall * John Madigan * Frank Wheatlake

STEVENS T. MASON BUILDING * P.O. BOX 30028 * LANSING, MICHIGAN 48909-7528

www.michigan.gov * (517)373-2329



JENNIFER GRANHOLM
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF HISTORY, ARTS AND LIBRARIES
LANSING

MARK HOFFMAN
ACTING DIRECTOR

January 13, 2009

NATHAN KRUPP
DEPT OF MILITARY AND VETERAN AFFAIRS
RESERVE FORCES SUPPORT CENTER
ENVIRONMENTAL DIVISION RM 322
3423 N MARTIN LUTHER KING BLVD
LANSING, MI 48906-2934

RE: ER-1853 Fort Custer Armed Forces Reserve Training Center Construction, Section 6, T2S, R8W,
Springfield Township, Calhoun County (ARMY National Guard)

Dear Mr. Krupp:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that the effects of the proposed undertaking do not meet the criteria of adverse effect [36 CFR § 800.5(a)(1)]. Therefore, the project will have **no adverse effect** [36 CFR § 800.5(b)] on Fort Custer, which appears to meet the criteria for listing in the National Register of Historic Places.

The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. **In all cases**, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c).

This letter evidences the Army National Guard's compliance with 36 CFR § 800.4 "Identification of historic properties" and 36 CFR § 800.5 "Assessment of adverse effects", and the fulfillment of the Army National Guard's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.5(c) "Consulting party review".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Martha MacFarlane Faes, Environmental Review Coordinator, at (517) 335-2721 or by email at ER@michigan.gov. **Please reference our project number in all communication with this office regarding this undertaking.** Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,

Brian D. Conway
State Historic Preservation Officer

BDC:JRH:BGG



United States Department of the Interior

FISH AND WILDLIFE SERVICE

East Lansing Field Office (ES)
2651 Coolidge Road, Suite 101
East Lansing, Michigan 48823-6316

IN REPLY REFER TO:

COPY

March 16, 2009

John S. Mitchell, Environmental Manager
2501 26th Street
Augusta, MI 49012-9205

Re: Early coordination notification of a proposed military construction project at Fort Custer, Augusta, Michigan

Dear Mr. Mitchell:

We received your letter regarding early coordination on the proposed construction of an Army Reserve Center, organizational maintenance shop, storage building, and organizational parking at Fort Custer.

Our records do not indicate the presence of any species federally listed as endangered or threatened, species proposed for listing, candidate species, designated critical habitat, or areas proposed as critical habitat in the immediate project area. This precludes the need for further action on this project as required under section 7 of the Endangered Species Act of 1973, as amended. If more than six months passes, project plans change or new information becomes available that indicates listed species, proposed species or critical habitat may be affected, you should reinstate consultation with our office.

We have no additional comments at this time. Should future environmental impacts occur or become apparent relative to the proposed work, we request an opportunity to make a thorough analysis of the application(s). If you have any questions, please contact Chris Mensing of this office at (517) 351-8316.

Sincerely,

Craig A. Czarnecki
Field Supervisor

Cc: Chris Hoving, MDNR, Wildlife Division, Lansing, MI



STATE OF MICHIGAN
DEPARTMENT OF HISTORY, ARTS AND LIBRARIES
LANSING

JENNIFER GRANHOLM
GOVERNOR

DR. WILLIAM ANDERSON
DIRECTOR

September 9, 2008

NATHAN KRUPP
DEPT OF MILITARY AND VETERAN AFFAIRS
RESERVE FORCES SUPPORT CENTER
ENVIRONMENTAL DIVISION RM 322
3423 N MARTIN LUTHER KING BLVD
LANSING, MI 48906-2934

RE: ER-1853 Fort Custer Timber Harvest 3-569, Section: SE1/4 Sec 16, N1/2 Section 21,
T2S, R9W, Charleston Township, Kalamazoo County (DMVA)

Dear Mr. Krupp:

Under the authority of Section 106 of the National Historic Preservation Act of 1966, as amended, we have reviewed the above-cited undertaking at the location noted above. Based on the information provided for our review, it is the opinion of the State Historic Preservation Officer (SHPO) that no historic properties are affected within the area of potential effects of this undertaking.

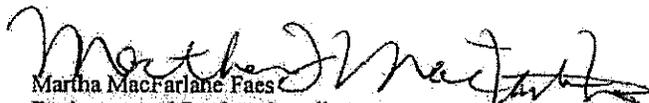
The views of the public are essential to informed decision making in the Section 106 process. Federal Agency Officials or their delegated authorities must plan to involve the public in a manner that reflects the nature and complexity of the undertaking, its effects on historic properties and other provisions per 36 CFR § 800.2(d). We remind you that Federal Agency Officials or their delegated authorities are required to consult with the appropriate Indian tribe and/or Tribal Historic Preservation Officer (THPO) when the undertaking may occur on or affect any historic properties on tribal lands. In all cases, whether the project occurs on tribal lands or not, Federal Agency Officials or their delegated authorities are also required to make a reasonable and good faith effort to identify any Indian tribes or Native Hawaiian organizations that might attach religious and cultural significance to historic properties in the area of potential effects and invite them to be consulting parties per 36 CFR § 800.2(c-f).

This letter evidences the DMVA's compliance with 36 CFR § 800.4 "Identification of historic properties", and the fulfillment of the DMVA's responsibility to notify the SHPO, as a consulting party in the Section 106 process, under 36 CFR § 800.4(d)(1) "No historic properties affected".

The State Historic Preservation Office is not the office of record for this undertaking. You are therefore asked to maintain a copy of this letter with your environmental review record for this undertaking. If the scope of work changes in any way, or if artifacts or bones are discovered, please notify this office immediately.

If you have any questions, please contact Brian Grennell, Environmental Review Specialist, at (517) 335-2721 or by email at ER@michigan.gov. Please reference our project number in all communication with this office regarding this undertaking. Thank you for this opportunity to review and comment, and for your cooperation.

Sincerely,


Martha MacFarlane Faes
Environmental Review Coordinator

for Brian D. Conway
State Historic Preservation Officer

MMF: DLA: BGG: kam



Nottawaseppi Huron Band of the Potawatomi

2221 1-1/2 Mile Road Fulton, MI 49052

Phone: (269) 729-5151 Fax: (269) 729-5920

January 14, 2009

John S. Mitchell, Environmental Manager
Fort Custer Training Site, Michigan Army National Guard
2501 29th Street
Augusta MI 49012-9205

RE: Environmental Assessment and Personnel Update

Dear John,

Thanks for the EA – Early Coordination Notification for the unit re-alignment and construction of a new buildings and parking lot in the NE portion of the training center grounds. As the location map presents an area for woodland forest, appropriate habitat evaluation and protection will be conducted I am sure. With multiple buildings being listed, what is the size of the project footprint? With the long history of the Fort Custer grounds I expect the history of native peoples use of these grounds is available.

Please note for your contact records that David Jones has departed the Environmental Depart of our tribe, as of December 31, 2008. The Interim Director of the Environmental Department is John Rodwan; phone still 260-729-5151 ext 238 and email of jrodwan@nhbpi.com. Please update you files accordingly.

Thank you,

Stephen W. Allen
Habitat Specialist
stevea@prairiesmoke.com



MICHIGAN ARMY NATIONAL GUARD
FORT CUSTER TRAINING SITE COMMAND
2501 26th Street
Augusta, Michigan 49012-9205

MIAR-FC-CDR

January 7, 2009

Tom McCauley, Tribal Archaeologist
White Earth Band of Chippewa Indians
41044 Ice Cracking Rd.
Ponsford, MN 56575

RE: Environmental Assessment - Early Coordination Notification
U.S. Army Reserve - Proposed Military Construction Project
Fort Custer, Michigan

Dear Mr./Ms. Tom McCauley,

The Assistant Chief of Staff Installation Management, Operations Directorate Reserve Division and the U.S. Army Reserve, Environmental Branch, are preparing an Environmental Assessment (EA) located in Fort Custer, Michigan as part of the restructuring of military bases as required by the Defense Base Closure and Realignment Act (BRAC). The BRAC recommendation is to close the US Army Reserve Center (ARC) Stanford C. Parisian in Lansing, MI, and the Army Reserve Area Maintenance Support Activity #135 (AMSA) in Battle Creek, MI and relocate units to a new Armed Forces Reserve Center on Fort Custer Reserve Training Center, MI. In addition to the BRAC action, the 401st Transportation Company will be relocated to this facility.

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- Specific issues or geographic areas of concern, based on your expertise or regulatory jurisdiction.

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- Mitigation or permitting requirements that may be necessary for project implementation.

In order to sufficiently address key project issues while maintaining the project schedule, we are requesting that you provide a written response to this letter within 30 days of receipt.

Please send your responses to:

Mr. John Mitchell
2501 26th Street
Augusta, MI 49012-9205

Please feel free to contact me at 269-731-6570 should you have any questions or concerns or would like additional information:

We look forward to working cooperatively with you to make this important project successful for all parties involved.



John S. Mitchell
Environmental Manager

Enclosures



Figure 1. Regional Location Map, Ft. Custer, Michigan

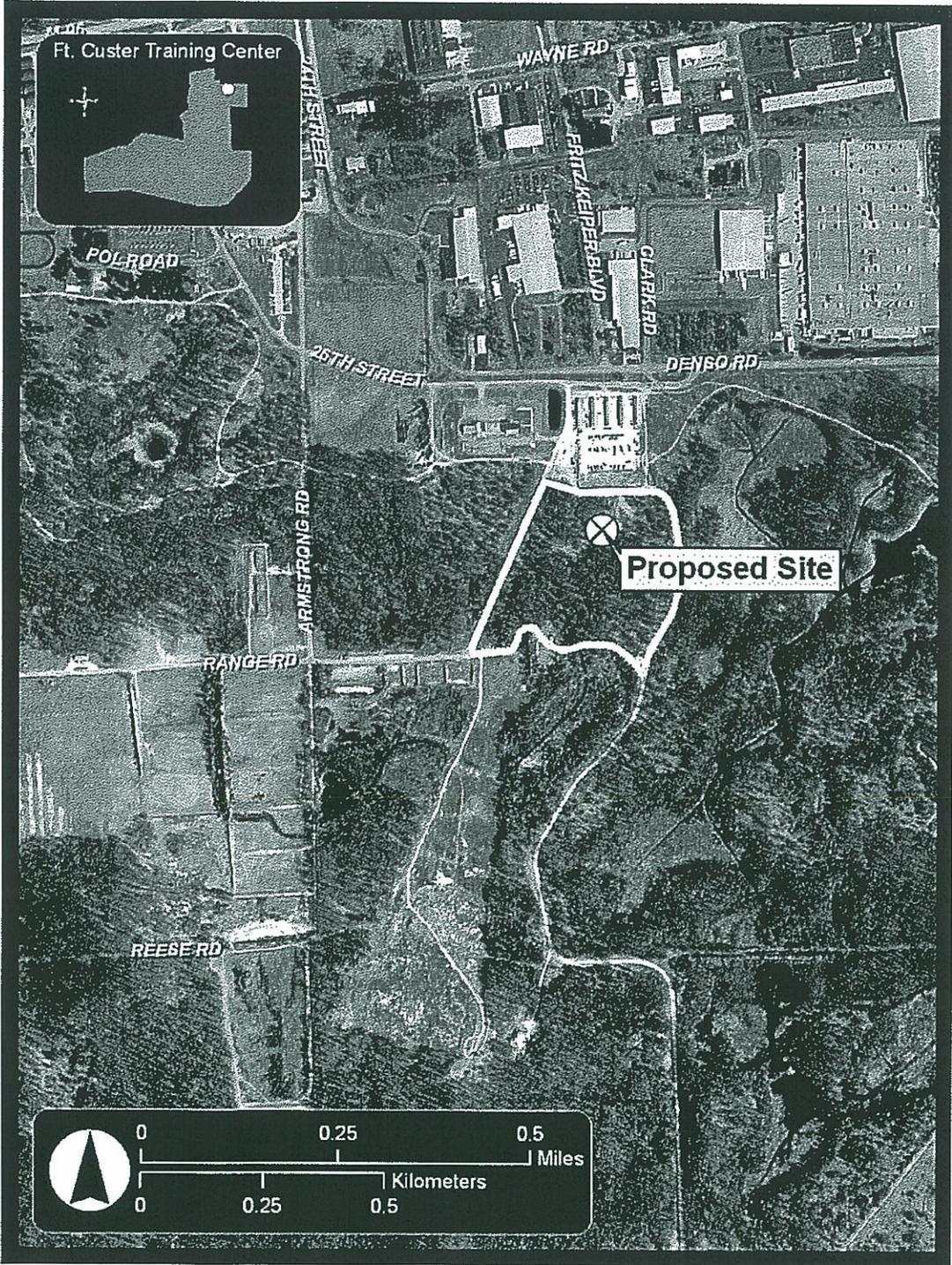


Figure 2. Preferred Alternative Location Map

**Appendix E
Species Lists**

State Listed Plants Found At FCTC and Associated Natural Communities.

SPECIES <i>Common Name (Latin Name)</i>	STATUS		NATURAL COMMUNITY ASSOCIATION
	Fed.	State*	
Cut-leaf water parsnip <i>Berula erecta</i>	--	T	Non-forested calcareous wetlands
Ginseng <i>Panax quinquefolius</i>	--	T	Rich, dry-mesic southern forest to southern swamp forest
Goldenseal <i>Hydrastis canadensis</i>	--	T	Mesic southern forest to southern swamp forest
Oval ladies' tresses <i>Spiranthes ovalis</i>	--	T	Dry-mesic to mesic southern forests
Yellow fumewort <i>Corydalis flavula</i>	--	T	Dry-mesic southern forest
Prairie dropseed <i>Sporobolus heterolepis</i>	--	SC	Non-forested calcareous wetlands
Queen-of-the-prairie <i>Filipendula rubra</i>	--	T	Non-forested calcareous wetlands
Stiff gentian <i>Gentianella quinquefolia</i>	--	T	Non-forested calcareous wetlands and disturbed mesic uplands
Beaked agrimony <i>Agrimonia rostellata</i>	--	SC	Dry-mesic southern forest
Purple twayblade <i>Liparis lilifolia</i>	--	SC	Dry-mesic southern forest
Lead plant <i>Amorpha canescens</i>	--	SC	Oak openings/prairie/savannas
Showy orchid <i>Galeraris spectabilis</i>	--	T	Dry-mesic southern forest
Yellow ladies' tresses <i>Spiranthes ochroleuca</i>	--	SC	Dry-mesic southern forest

(Source: Legge et al. 1995; MNFI 2000)

* State status includes: **"E" = Endangered** -- any species of fish, plant life, or wildlife that is in danger of extinction throughout all or a significant part of its range, other than insects that are determined by the MDNR, or the Secretary of the USDOJ to constitute a pest whose protection under this part would present an overwhelming and overriding risk to humans. **"T" = Threatened** -- any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. **"SC" = Special Concern** -- any species which is of concern because of declining or relict populations in the state. Should the species continue to decline, it would be recommended for Threatened or Endangered status. The Michigan Endangered Species Act does not protect special concern species.

State Listed Animals Found at FCTC and Associated Natural Communities.

SPECIES <i>Common Name (Latin Name)</i>	STATUS		NATURAL COMMUNITY ASSOCIATION
	Fed.	State*	
Prairie vole <i>Microtus ochrogaster</i>	--	E	Oak openings and prairies
Trumpeter swam <i>Cygnus buccinator</i>	--	T	Openwater wetlands
Henslow's sparrow <i>Ammodramus henslowii</i>	--	T	Grasslands, pastures, and prairies
Blanchard's cricket frog <i>Acris crepitans blanchardi</i>	--	SC	Muddy ponds and wetland edges
Blanding's turtle <i>Emydoidea blandingii</i>	--	SC	Shrub wetlands
Cerulean warbler <i>Dendroica cerulea</i>	--	SC	Mature interior forests
Hooded warbler <i>Wilsonia citrina</i>	--	SC	Mature interior forests with mid-story vegetation
Grasshopper sparrow <i>Ammodramus savannarum</i>	--	SC	Open grasslands, pastures, dry weedy fields
Cooper's hawk <i>Accipiter cooperii</i>	--	SC	All mature forest types. Prefers minimal disturbance, tolerates forest fragmentation
Eastern box turtle <i>Terrapene carolina carolina</i>	--	SC	Various habitats - wetlands, prairies, woods
Pugnose shiner <i>Notropis anogenus</i>	--	SC	Vegetated lakes and ponds
Sprague's pygarcia <i>Pygarctia spraguei</i>	--	SC	Oak openings w/flowering spurge
Watercress snail <i>Fontigens nickliniana</i>	--	SC	Wetlands and alkaline seeps w/watercress
Dickcissel <i>Spiza Americana</i>	--	SC	Prairie
Eastern pipistrelle <i>Pipistrellus subflavus</i>	--	SC	Summer roasts in tree cavities and rock crevices; forage along forest edges and ponds

SPECIES <i>Common Name (Latin Name)</i>	STATUS		NATURAL COMMUNITY ASSOCIATION
	Fed.	State*	
Leafhopper <i>Flexamia delongi</i>	--	SC	Prairie
Leafhopper <i>Flexamia reflexus</i>	--	SC	Grasslands, savanna, pasture and fen

(Source: Legge et al. 1995; Powless 1998; MNFI 2000, Kurta and Foster 2005)

* State status includes: **“E” = Endangered** -- any species of fish, plant life, or wildlife that is in danger of extinction throughout all or a significant part of its range, other than insects that are determined by the MDNR, or the Secretary of the USDOl to constitute a pest whose protection under this part would present an overwhelming and overriding risk to humans. **“T” = Threatened** -- any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. **“SC” = Special Concern** -- any species which is of concern because of declining or relict populations in the state. Should the species continue to decline, it would be recommended for Threatened or Endangered status. The Michigan Endangered Species Act does not protect special concern species.

Source: Integrated Natural Resources Management Plan (INRMP, DLZ 2007)

Migratory Bird List for FCTC (from INRMP, DLZ 2007)

Species Name

American Tree Sparrow
Blackburnian Warbler
Black-throated Blue Warbler
Bufflehead
Canada Warbler
Cape May Warbler
Common Goldeneye
Common Merganser
Dark-eyed Junco
Fox Sparrow
Golden-crowned Kinglet
Golden-winged Warbler
Hermit Thrush
Lark Sparrow
Magnolia Warbler
Merlin
Nashville Warbler
Northern Parula
Northern Waterthrush
Palm Warbler
Ring-billed Gull
Rock Pigeon
Ruby-crowned Kinglet
Sharp-shinned Hawk
Spotted Sandpiper
Swainson's Thrush
Tennessee Warbler
White-crowned Sparrow
White-throated Sparrow
Wilson's Warbler
Winter Wren
Yellow-bellied Flycatcher
Yellow-bellied Sapsucker
Yellow-rumped (Myrtle) Warbler

Scientific Name

Spizella arborea
Dendroica fusca
Dendroica caerulescens
Bucephala albeola
Wilsonia canadensis
Dendroica tigrina
Bucephala clangula
Mergus merganser
Junco hyemalis
Passerella iliaca
Regulus satrapa
Vermivora chrysoptera
Catharus guttatus
Chondestes grammacus
Dendroica magnolia
Falco columbarius
Vermivora ruficapilla
Parula americana
Seiurus noveboracensis
Dendroica palmarum
Larus delawarensis
Columba livia
Regulus calendula
Accipiter striatus
Actitis macularius
Catharus ustulatus
Vermivora peregrina
Zonotrichia leucophrys
Zonotrichia albicollis
Wilsonia pusilla
Troglodytes troglodytes
Empidonax flaviventris
Sphyrapicus varius
Dendroica coronata

**Appendix F
EIFS Model**

Economic Impact Forecast System

US Army Corps of Engineers
Mobile District

EIFS REPORT

PROJECT NAME

Fort Custer, MI (2 counties)

STUDY AREA

26025 Calhoun, MI
26077 Kalamazoo, MI

FORECAST INPUT

Change In Local Expenditures	\$10,200,000
Change In Civilian Employment	0
Average Income of Affected Civilian	\$0
Percent Expected to Relocate	0
Change In Military Employment	0
Average Income of Affected Military	\$0
Percent of Militart Living On-post	0

FORECAST OUTPUT

Employment Multiplier	3.64
Income Multiplier	3.64
Sales Volume - Direct	\$7,397,802
Sales Volume - Induced	\$19,530,200
Sales Volume - Total	\$26,928,000 0.18%
Income - Direct	\$1,513,646
Income - Induced)	\$3,996,026
Income - Total(place of work)	\$5,509,672 0.06%
Employment - Direct	38
Employment - Induced	100
Employment - Total	138 0.06%
Local Population	0
Local Off-base Population	0 0%

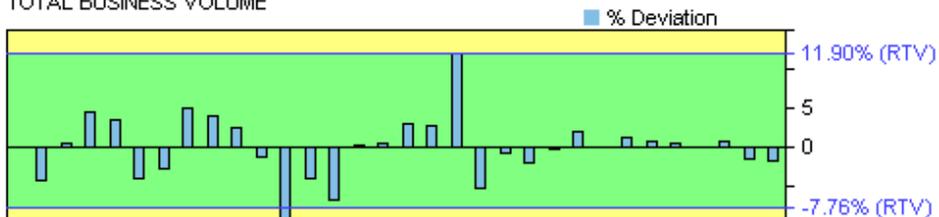
RTV SUMMARY

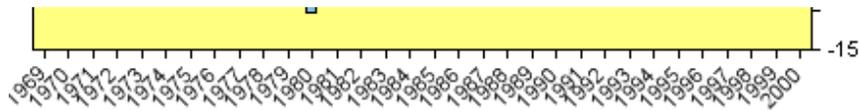
	Sales Volume	Income	Employment	Population
Positive RTV	11.9 %	10.92 %	3.46 %	1.15 %
Negative RTV	-7.76 %	-5.23 %	-3.1 %	-0.64 %

RTV DETAILED

SALES VOLUME

TOTAL BUSINESS VOLUME



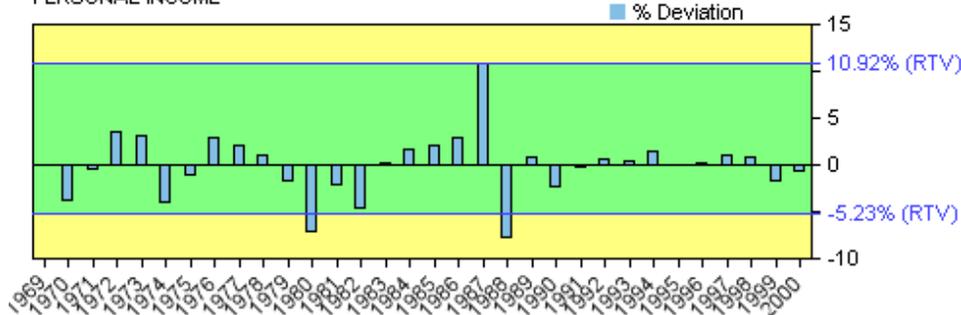


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Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1152438	5036154	0	0	0
1970	1185784	4897288	-138866	-207071	-4.23
1971	1260191	4990356	93068	24863	0.5
1972	1382287	5294159	303803	235598	4.45
1973	1539945	5559201	265042	196837	3.54
1974	1665048	5411406	-147795	-216000	-3.99
1975	1789432	5332507	-78899	-147104	-2.76
1976	2017179	5688445	355937	287732	5.06
1977	2270175	5993262	304818	236613	3.95
1978	2524547	6210386	217123	148918	2.4
1979	2806564	6202507	-7879	-76084	-1.23
1980	2929029	5682316	-520190	-588395	-10.35
1981	3139509	5525536	-156781	-224986	-4.07
1982	3156026	5239003	-286533	-354738	-6.77
1983	3301033	5314663	75660	7455	0.14
1984	3516027	5414681	100018	31813	0.59
1985	3794164	5653304	238623	170418	3.01
1986	4025666	5877473	224168	155963	2.65
1987	4354217	6749036	871564	803359	11.9
1988	4758823	6471999	-277037	-345242	-5.33
1989	5028282	6486484	14484	-53721	-0.83
1990	5230470	6433478	-53005	-121210	-1.88
1991	5495247	6484391	50913	-17292	-0.27
1992	5860592	6681075	196684	128479	1.92
1993	6081234	6750170	69095	890	0.01
1994	6386689	6897624	147455	79250	1.15
1995	6690195	7024704	127080	58875	0.84
1996	6981502	7121132	96427	28222	0.4
1997	7196667	7196667	75535	7330	0.1
1998	7466787	7317451	120784	52579	0.72
1999	7572136	7269250	-48201	-116406	-1.6
2000	7762046	7218703	-50548	-118753	-1.65

INCOME

PERSONAL INCOME

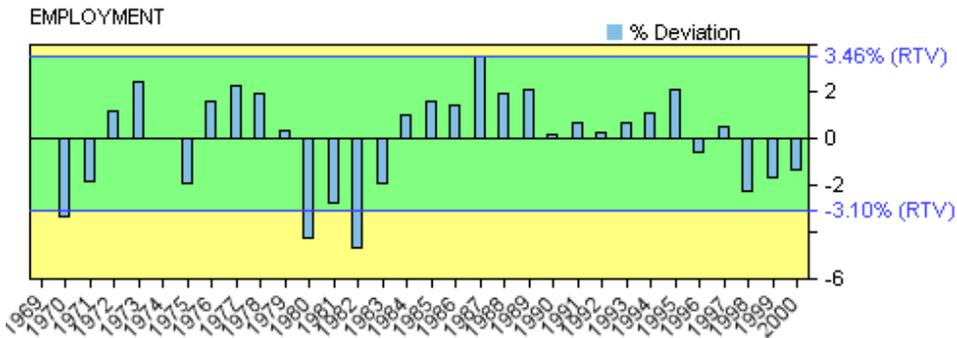


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Year	Value	Adj_Value	Change	Deviation	%Deviation
1969	1345197	5878511	0	0	0
1970	1306718	5768445	110055	221040	3.85

1970	1590710	5700445	-110005	-221949	-3.05
1971	1480222	5861679	93234	-18650	-0.32
1972	1616466	6191065	329385	217501	3.51
1973	1801370	6502946	311881	199997	3.08
1974	1959294	6367706	-135240	-247124	-3.88
1975	2151537	6411580	43875	-68009	-1.06
1976	2382048	6717375	305795	193911	2.89
1977	2641367	6973209	255834	143950	2.06
1978	2913294	7166703	193494	81610	1.14
1979	3236758	7153235	-13468	-125352	-1.75
1980	3498821	6787713	-365522	-477406	-7.03
1981	3844002	6765443	-22269	-134153	-1.98
1982	3963322	6579114	-186329	-298213	-4.53
1983	4168405	6711132	132018	20134	0.3
1984	4506950	6940703	229571	117687	1.7
1985	4836280	7206057	265354	153470	2.13
1986	5168453	7545942	339884	228000	3.02
1987	5545917	8596171	1050230	938346	10.92
1988	5938978	8077010	-519161	-631045	-7.81
1989	6405208	8262718	185708	73824	0.89
1990	6653008	8183200	-79518	-191402	-2.34
1991	7011660	8273758	90558	-21326	-0.26
1992	7397621	8433288	159529	47645	0.56
1993	7733587	8584282	150994	39110	0.46
1994	8174726	8828704	244423	132539	1.5
1995	8517806	8943696	114991	3107	0.03
1996	8889438	9067227	123531	11647	0.13
1997	9267579	9267579	200352	88468	0.95
1998	9654241	9461156	193577	81693	0.86
1999	9802760	9410649	-50507	-162391	-1.73
2000	10170756	9458803	48154	-63730	-0.67

EMPLOYMENT

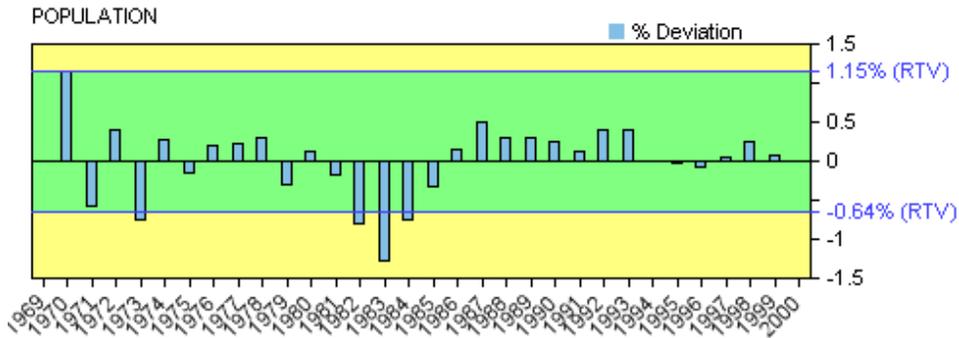


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Year	Value	Change	Deviation	%Deviation
1969	153660	0	0	0
1970	150916	-2744	-5051	-3.35
1971	150449	-467	-2774	-1.84
1972	154599	4150	1843	1.19
1973	160738	6139	3832	2.38
1974	163089	2351	44	0.03
1975	162278	-811	-3118	-1.92
1976	167197	4919	2612	1.56

1977	173371	6174	3867	2.23
1978	179136	5765	3458	1.93
1979	182087	2951	644	0.35
1980	176819	-5268	-7575	-4.28
1981	174290	-2529	-4836	-2.77
1982	168783	-5507	-7814	-4.63
1983	167836	-947	-3254	-1.94
1984	171921	4085	1778	1.03
1985	177101	5180	2873	1.62
1986	181977	4876	2569	1.41
1987	190897	8920	6613	3.46
1988	197035	6138	3831	1.94
1989	203591	6556	4249	2.09
1990	206285	2694	387	0.19
1991	209949	3664	1357	0.65
1992	212696	2747	440	0.21
1993	216409	3713	1406	0.65
1994	221033	4624	2317	1.05
1995	228150	7117	4810	2.11
1996	229165	1015	-1292	-0.56
1997	232605	3440	1133	0.49
1998	229761	-2844	-5151	-2.24
1999	228203	-1558	-3865	-1.69
2000	227472	-731	-3038	-1.34

POPULATION



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Year	Value	Change	Deviation	%Deviation
1969	337808	0	0	0
1970	342976	5168	3949	1.15
1971	342220	-756	-1975	-0.58
1972	344837	2617	1398	0.41
1973	343474	-1363	-2582	-0.75
1974	345637	2163	944	0.27
1975	346347	710	-509	-0.15
1976	348284	1937	718	0.21
1977	350262	1978	759	0.22
1978	352506	2244	1025	0.29
1979	352633	127	-1092	-0.31
1980	354307	1674	455	0.13
1981	354935	628	-591	-0.17
1982	353320	-1615	-2834	-0.8
1983	350069	-3251	-4470	-1.28

1984	348677	-1392	-2611	-0.75
1985	348770	93	-1126	-0.32
1986	350536	1766	547	0.16
1987	353536	3000	1781	0.5
1988	355853	2317	1098	0.31
1989	358103	2250	1031	0.29
1990	360177	2074	855	0.24
1991	361829	1652	433	0.12
1992	364536	2707	1488	0.41
1993	367264	2728	1509	0.41
1994	368466	1202	-17	0
1995	369577	1111	-108	-0.03
1996	370553	976	-243	-0.07
1997	371924	1371	152	0.04
1998	374095	2171	952	0.25
1999	375602	1507	288	0.08
2000	376802	1200	-19	-0.01

***** End of Report *****

**Appendix G
RONA**

RECORD OF NON-APPLICABILITY
In Accordance with the Clean Air Act-General Conformity Rule for the
Proposed Construction and Operation
of an Armed Forces Reserve Center in Fort Custer, Michigan

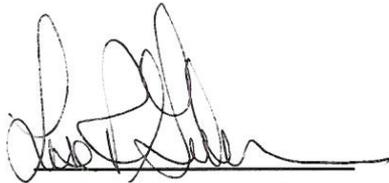
The Army proposes to construct and operate an Armed Forces Reserve Center (AFRC) in Fort Custer, Michigan . Primary facilities would include an AFRC building, maintenance shop, and organizational unit storage building. Buildings would be of permanent construction with heating, ventilation, air conditioning; plumbing; mechanical; security; and electrical systems. Supporting facilities would include land clearing, paving, fencing, general site improvements, and extension of utilities to serve the project. Force-protection (physical security) measures would be incorporated into the facility's design, to include consideration of stand-off distance from roads, parking areas, and vehicle unloading areas. The proposed AFRC would provide training to the Army National Guard, Army Reserve, and Army Active Component Soldiers to attain military education and proficiency.

General Conformity under the Clean Air Act, section 176 has been evaluated according to the requirements of Title 40 of the *Code of Federal Regulations* Part 93, Subpart B. The requirements of this rule are not applicable to the proposed action or the alternatives because

All activities associated with the proposed action and alternatives are in an area designated by the U.S. Environmental Protection Agency to be in attainment for all criteria pollutants.

Supported documentation and emission estimates:

- Are Attached
- Appear in the NEPA Documentation
- Other (Not Necessary)



Lisa R. Gulbranson
Sr. Environmental Planner
BRAC Environmental Coordinator
88th Regional Readiness Command

16-MARCH-2009

Date

