



**Environmental Assessment  
Construction of Firing Range and  
Security Forces Squadron Headquarters Building  
Projects ZQEL 10 – 9001 and ZQEL 98-9001**

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Youngstown Air Reserve Station

Youngstown – Warren Regional Airport  
Vienna, Ohio 44473

Submitted to:

**Youngstown Air Reserve Station**

**910TH Airlift Wing**

**910 MSG/CEV**

**Contract No. FA8903-08-D-8784**

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# **FINDING OF NO SIGNIFICANT IMPACT (FONSI)**

## **Environmental Assessment**

### **Construct Firing Range and Security Forces Squadron Facility Projects ZQEL 10-9001 and ZQEL 98-9001 Youngstown Air Reserve Station (YARS), Ohio**

#### **Introduction:**

An environmental assessment (EA) was prepared to evaluate the potential environmental impacts associated with construction of a new firing range and Security Forces Squadron (SFS) facility at Youngstown Air Reserve Station. The proposed action would provide facilities for small arms and munitions training, administration, maintenance and storage requirements; and would collocate the small arms range, the SFS building, and the associated munitions facilities. The existing firing range was not designed to the current standards and requirements of Air Force Handbook (AFH) 32-1084, Facility Requirements, nor Engineering Technical Letter (ETL) 06-11, Small Arms Range Design and Construction. The Security Forces Squadron facility, Building 400, is undersized for its current mission as specified by current standards in Air Force Reserve Command Handbook (AFRCH) 32-1001, Standard Facility Requirements. The two projects are proposed to be located in the same general area in the northeast corner of YARS. No existing facilities are available on base to meet these requirements.

#### **Proposed Action and Alternatives:**

##### Proposed Action:

The Proposed Action would include construction of an approximate 39,100 square foot (SF) firing range, and demolition of the existing firing range, construction of an approximate 13,500 SF Security Forces Squadron facility with an approximate 41,000 SF parking lot and access roadway. The proposed new firing range would be a fully contained, full distance and full impact range that would meet current design requirements. The new range would consist of a reinforced concrete foundation, waterproof concrete floor slab with floor drains, and a structural steel frame with masonry walls. The new range would be built adjacent to the existing range that will be subsequently demolished, utilizing some of the current range support buildings and access/parking roadways. The total finished developed area would be approximately 58,500 SF.

The proposed Security Forces Squadron facility would be built just to the southwest of the new firing range. The new facility would be a masonry structure with a brick exterior, a standing seam metal roof, fire protection sprinklers and pre-wired communications. The total developed area would be approximately two acres.



## **Alternatives:**

In addition to the Proposed Action and the No Action Alternative, two alternate locations on YARS were evaluated as reasonable potential locations for the proposed firing range and/or Security Forces Squadron facilities, and eliminated from further study due to potential impact and/or lack of feasibility. These locations, Alternative A, an upland, wooded location and Alternative B, an open field are both along Perimeter Road at varying distances from the existing munitions complex (approximately 1,000 to 1,400 feet). Both of these alternative locations would disperse munitions-related activities and would result in less efficient operations. The remote location of Alternative A and separation from the highly secured existing munitions facilities could represent a security concern. No site designs have been done for the alternate locations which represent general areas within which one or both of the proposed facilities could be constructed. No other significant actions or location alternatives were deemed as reasonable. Under the No Action Alternative, current operations would continue. No new construction would occur.

## **Environmental Consequences:**

### Biological Resources:

No biological resources of any significance exist at the Alternative B location. No impacts to biological resources would occur at this location.

The Proposed Action and Alternative A would result in minor, long-term impacts to vegetation and wildlife. Approximately two to three acres of woodland, depending on site design and construction requirements, would be cleared with the resulting loss of woodland, disturbance to wildlife and loss of habitat. The loss of this vegetation would not impact the diversity of the plant life or habitat in the greater vicinity. Impacts would be minor because this loss represents only a small percentage of the approximate 30 acre woodland at YARS and because the woodland type and habitat are common throughout the region.

### Threatened and Endangered Species:

No threatened or endangered species are known to exist anywhere near the Project Study Area. Coordination with the U.S. Fish & Wildlife Service (USF&WS) had identified the potential for Indiana bat summer brood or nesting trees in the woodland area of the Alternative A location. A survey for these trees was completed and all of these trees were removed as a mitigation measure prior to the April 15 to September 15 nesting season. No adverse impacts are expected.

### Wetlands:

Jurisdictional wetlands abut both the Proposed Action and the Alternative A locations. With careful site design and construction practices, the wetlands would not be impacted by construction of the new facilities at either location. Stringent mitigation measures including physical boundaries such as temporary fencing to prevent encroachment and erosion and sedimentation controls will be implemented as project requirements to prevent even indirect impacts. More potential for indirect impact due to utility connections exist at the Alternative A location than at the Proposed Action sites.

### Water Resources:

No surface streams or floodplains exist in the Project Study Area, although some drainage ditches do occur. Alternative A would potentially result in minimal groundwater impacts due to disruption of perched water tables that are related to the adjacent wetlands. Best Management Practices (BMPs) would be implemented to minimize the disruption and to control erosion and runoff. An NPDES permit for construction activities as required by OEPA General Permit No. 000003, Authorization for Storm Water Discharge Associated with Construction Activity would be obtained prior to construction and would include storm water and pollution prevention controls. No impact to surface water is expected from the Proposed Action, Alternative A or Alternative B.

### Installation Restoration Program Sites (IRP):

One No Further Action IRP site is located to the west of the Alternative B location. No impact to the IRP site or to Alternative B is expected.

### Soils:

Potential short-term, negative soil erosion and sedimentation impacts at the Proposed Action, Alternative A and Alternative B locations would be controlled by the Storm Water Pollution Prevention Plan that would be developed and implemented for the project as part of the OEPA General Permit No. 000003. Trumbull County SWCD (Soil & Water Conservation District) must approve the Erosion and Sedimentation Control Plan under the permit prior to construction and perform regular inspections on the project. No long-term, adverse impacts are anticipated.

### Land Use:

Construction of the Security Forces Squadron facility at the proposed location would alter the existing land use from open space to administrative, which is consistent with the future YARS land use plan. Construction of the new Firing Range adjacent to the existing range would be consistent with the existing munitions-oriented, industrial land use of the existing munitions complex. Alternative A would alter the existing and planned land use from natural feature open space to administrative and/or industrial use. This would represent a change of less than 10% of the natural feature open space land use category and represent a long-term, but minor impact. The open space at the Alternative B location has been slated for future industrial development. A new mission-required EOD (explosive ordnance detachment) facility has been planned for construction at this location, which would leave little suitable area for the firing range and/or the Security Forces Squadron facility. A running track has been constructed along Perimeter Road at the Alternative B location which could interfere with access/parking/roadways of the firing range and/or Security Forces Squadron facility.

Construction of the new firing range at either Alternative A or B locations would physically separate related munitions facilities and functions and would result in operationally less efficient and fragmented operations.

### Cultural/Historic Resource:



No cultural resources have been identified in or adjacent to the Project Study Area and the Ohio State Historic Preservation Office has concurred with the assessment. No impacts to cultural/historic resources would be expected.

#### Air Quality:

Minor short-term impacts to air quality would be expected from construction and demolition activities including fugitive dust and exhaust emissions from vehicles and equipment with any of the project construction alternatives.

Construction and operation of the new firing range would result in a new stationary air pollution source at YARS. Operation of the range would result in a potential source of lead and particulate emissions. Estimates of potential maximum emissions indicate that even uncontrolled emissions should not exceed de minimus thresholds. The proposed new range is expected to be exempt from permitting requirements including OEPA Permit to Install and Operate permits.

#### Noise:

Short-term, negligible impacts to ambient noise levels would occur with the Proposed Action and Alternative B from construction activities. Short-term, minor noise impacts would potentially affect off-base residences immediately east of the Alternative A location. Construction and operation of the new fully contained firing range would greatly reduce the ambient noise associated with operation of the current range. This would represent a beneficial impact.

#### Health and Safety:

No impacts would be anticipated from construction of the Proposed Action with implementation of proper health and safety procedures and regulations. Operation of the new firing range could result in potential health and safety issues for range users and staff. Issues include weapons and ammunition handling and use as well as noise and toxic compound exposures. Compliance with personal protection and environmental control provisions of AFI 36-2226 and ETL 06-11 would mitigate potential health and safety risks, including meeting OSHA requirements in 29 CFR 1910.1025. The No Action Alternative would continue to have a minor negative impact on health and safety due to the current safety, non compliant SDZ (safety distance zone) and use restrictions at the current range.

#### Socioeconomics:

Short-term, nominal benefits would result from construction of the Proposed Action through employment and generated income. The Proposed Action would have long-term beneficial impact from the improved and enhanced munitions and security mission capabilities of the 910<sup>th</sup> Airlift Wing.

#### Transportation/Traffic:

Construction of the Proposed Action at the preferred sites would result in long-term improvements for parking and truck deliveries associated with the Firing Range and Security Forces Squadron operations. Alternatives A and B are separated from the existing munitions facilities which could result in functional inefficiencies, including transport operations.

Alternative A would require expansion and/or relocation of Perimeter Road to allow adequate turning for tractor trailer semi-truck access to the location.

Utilities:

Construction of the Proposed Action would require some extension of necessary utility systems to the facility site. These connections would be relatively direct and of minor to moderate length. Alternatives A and B would require varying extensions and upgrades of utilities. Depending on the ultimate facility location, utility extensions at the Alternative A and B locations may extend to 100 feet or more with associated potential for negative impacts from construction activities.

**Finding of No Significant Impact:**

The Proposed Action involves the construction of a new firing range and Security Forces Squadron facility at Youngstown Air Reserve Station. The Environmental Assessment concluded that the Proposed Action, Alternative A, and Alternative B do not constitute a major Federal action and, either by themselves or considering cumulative impacts, would not have a significant impact on the quality of the human or natural environment. This constitutes a Finding of No Significant Impact (FONSI) in accordance with the requirements of the National Environmental Policy Act, the Council on Environmental Quality (CEQ) regulations, and 32 CFR 989.



UDO K. McGREGOR, Colonel, USAFR  
Commander

1 APR 2010  
DATE

**Environmental Assessment  
Construction of Firing Range and  
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Projects ZQEL 10 – 9001 and  
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**November 2009**



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## **1.0 Purpose and Need for Action**

---

### **1.1 Introduction**

This section includes four subsections: an introduction to the proposed action, a brief description of the undertaking, a discussion of objectives, and a summary of pertinent environmental regulatory requirements.

This environmental assessment (EA) discusses the proposed action of constructing a fully contained firing range and a Security Forces Squadron (SFS) Headquarters (HQ) combat arms building adjacent to wetlands at Youngstown Air Reserve Station (YARS), Ohio. The Air Force designations for the proposed projects comprising the undertaking are Projects ZQEL 10-9001 and ZQEL 98-9001. This EA has been performed in accordance with the National Environmental Policy Act (NEPA) of 1969, 40 Code of Federal Regulations (CFR), Part 1500, the Council on Environmental Quality (CEQ) regulations implementing NEPA, and the U. S. Air Force (USAF) Environmental Impact Analysis Process (EIAP) 32 CFR 989 which is detailed in Air Force Instruction (AFI) 32-7061.

The mission of the 910<sup>TH</sup> Airlift Wing stationed at YARS includes requirements for training that involve all aspects of arms and munitions training, administration, maintenance, and storage. Base operations also require responsive and adequate security functions. The purpose of the Proposed Action is to provide suitable facilities and to collocate the small arms range, the SFS building, and the associated munitions facilities in a safe and cost-effective manner.

Existing facilities do not meet the current requirements of pertinent and mandatory Air Force Instruction, Air Force Reserve Command and Air Force Handbook and Engineering Technical Letter requirements. Construction of the proposed facilities will result in fully meeting these requirements.

### **1.2 Project Description**

YARS is located in the northeast section of Ohio, approximately 12 miles north of the City of Youngstown. The 230 acre base is adjacent to the Youngstown – Warren Regional Airport in Vienna Township, Trumbull County (Figure 1). The base is the home of the 910<sup>TH</sup> Airlift Wing of the U.S. Air Force Reserve which supports national objectives by providing mission-ready C-130 airlift forces, including a state-of-the-art aerial spray capability. This capability represents the only full-time, fixed-wing aerial spray mission in the Department of Defense. The base is also home to U.S. Navy Reserves and Marine Corps Reserves tenants.

The current firing range and munitions-related facilities at YARS are clustered in the less developed northeast sector of the base (Figure 2). These include Buildings 539, 537 and 533 as well as the current outdoor small arms range,



Figure A

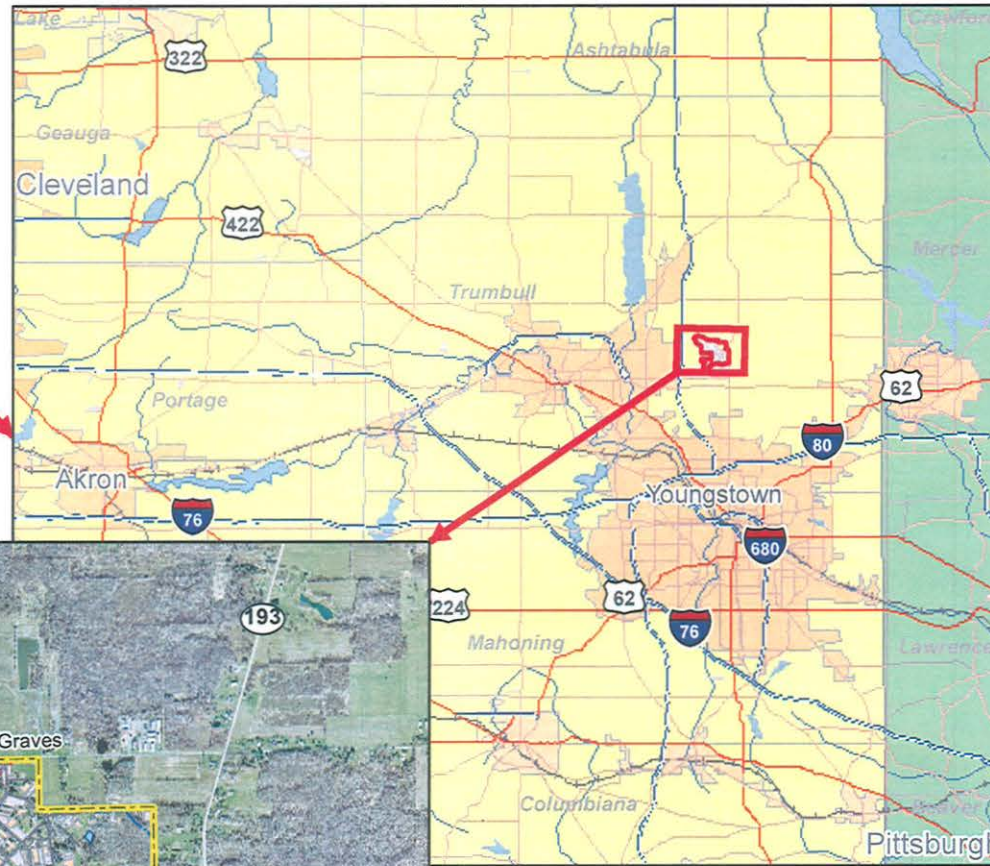


Figure B

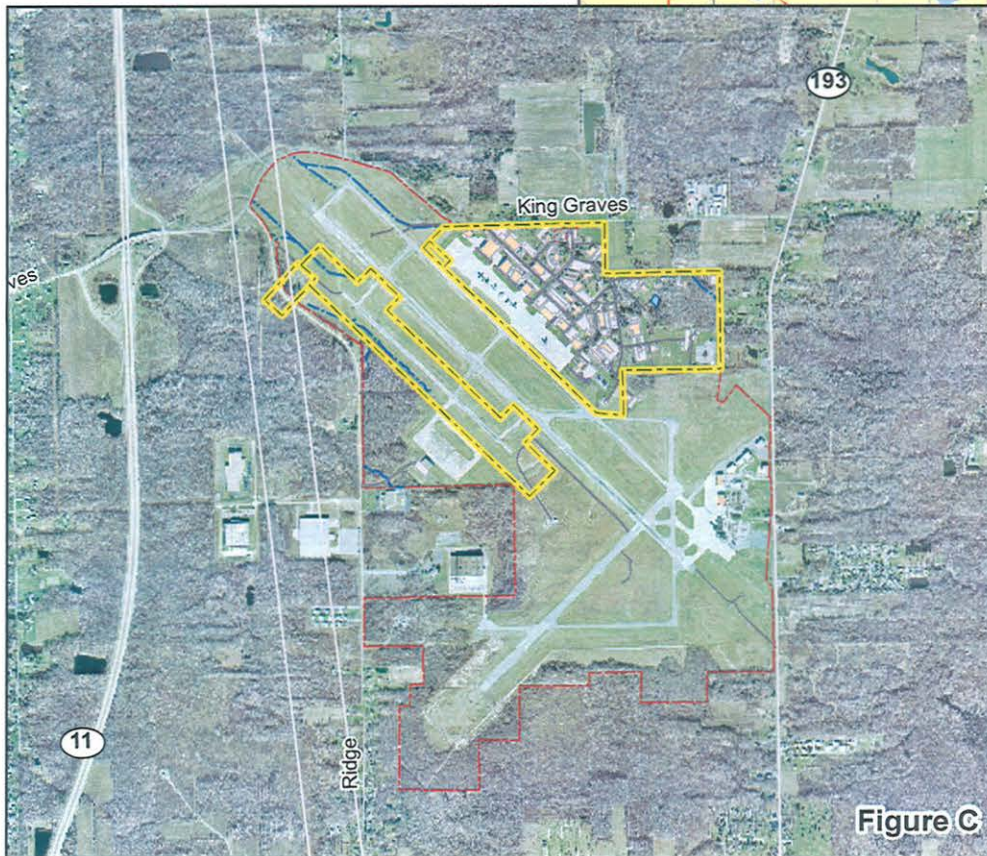
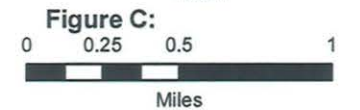
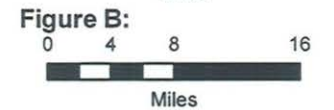
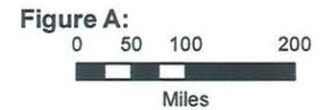


Figure C



Figure 1  
Regional Location

Basemap Data Source:  
ESRI USA Base Map 2008



Vicinity Location  
Youngstown Air Reserve Station General Plan





**Figure 2  
Project Study Area**

- ▬▬▬ Project Study Area
- Proposed Action Location (Radar Area)
- Proposed Action Location (Range)
- Proposed Action Location (SFS)
- Alternative A Location
- Alternative B Location
- Installation Area

0 125 250 500 Feet

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Building 9028, and related facilities in Buildings 530 and 531. These facilities are primarily bordered by approximately 27 acres of woodland which comprise the largest block of undeveloped land at the base. The woodland also contains an interconnected area of jurisdictional wetlands.

The current firing range at YARS was not designed to accommodate current mission training requirements. The range is open-aired and surrounded by concrete block walls. Thus, it is limited to frangible ammunition, and does not meet current minimum SDZ (surface danger zone) distance requirements.

The range does not provide for the efficient and safe training of all weapons utilized by the Air Force Security Forces. The range was not designed for current standards and requirements of Air Force Handbook (AFH) 32-1084, Facility Requirements, nor Engineering Technical Letter (ETL) 06-11, Small Arms Range Design and Construction, which establishes minimum range distances.

Training at the current firing range is further hampered by weather conditions at YARS including extreme temperatures and precipitation events, especially significant snowfall. The proposed fully contained small arms Firing Range (FCSAR) would meet current facility design requirements, eliminate SDZ problems, and allow uninterrupted training for all mission required weapons. The new range would also meet current DoD criteria for antiterrorism/force protection requirements.

The current Security Forces Squadron facility, Building 400, is not adequately sized for its current mission. The building cannot house all squadron activities. Therefore, Security Forces functions are widely scattered around the base.

There is no central facility at YARS to consolidate security operations. These include law enforcement, investigation, confinement, training, armory, command and control, physical security, and secured storage. Current security operations are dispersed across YARS, principally in two separate facilities, Buildings 400 and 128. The dispersal of personnel between the two facilities has an adverse impact on command and control functions as well as response times for emergencies and security incidents.

The current Security Forces Squadron, Building 400, is undersized for its current mission. It is 3,600 square feet short of current standards specified in Air Force Reserve Command Handbook (AFRCH) 32-1001, Standard Facility Requirements. Additionally, the floor plan is not designed for the safe handling of weapons.

The proposed new Security Squadron facility would meet all current space and functional requirements of AFH 32-1084 and AFRCH 32-1001. It would also be in compliance with the base master plan and meet all anti-terrorism/force protection requirements.

The two projects described above are interrelated spatially – they are located in the same general area in the northeast corner of YARS (Figure 2). Furthermore, the proposed footprints of each project are roughly contiguous with each other. Additionally, the two construction projects are functionally associated with the munitions facilities at YARS, all of which are located in the same general area of the base. The proposed new range and security facilities should be located in close proximity to the current munitions facilities to ensure orderly and efficient munitions and arms operations and training.

No existing facilities are currently available at YARS that could be made available for the needed proposed projects. Without the proposed projects, base operations and mission requirements could continue to be adversely affected and/or non compliant with mandatory standards.

### **1.3 Objective**

The objective of this EA is to support the interrelated decisions concerning the construction and operation of the new firing range and Security Forces Squadron building, to provide the decision maker and the public with information required to understand the short-term and long-term environmental consequences of the proposed action, alternative actions, and of no action as an alternative and to determine the significance of those actions. As appropriate, measures to mitigate any adverse effects are recommended and the determination of whether a Finding of No Significant Impact (FONSI) will be made if the potential impacts are not considered significant.

### **1.4 Regulatory Requirements**

The USAFR must comply with numerous statutes, regulations, and policy/instruction directives including the Code of Federal Regulations and Executive Orders. These are addressed, in part, through the EIAP and NEPA evaluation processes. Coverage under Ohio EPA (OEPA) National Pollutant Discharge Elimination System (NPDES) General No. OHC000003 Permit for storm water discharges associated with construction activity involving disturbance of more than one acre is required for Projects ZQEL 10-9001 Construction of Firing Range and ZQEL 98-9001 Construction of Security Forces Squadron building. The Trumbull County Soil and Water Conservation District (SWCD) must approve an Erosion and Soil (E&S) Control Plan for each project with coverage under OEPA General Permit No. OHC000003 prior to construction, and perform regular inspections on these projects. Significant impact to jurisdictional wetlands would require compliance with Executive Order 11990 and a Section 401 Water Quality Certification from the OEPA and a Section 404 Wetlands Permit from the USACE. Mitigation requirements may be triggered by permits or procedural compliance. Appropriate project specifications may include these regulatory and/or mitigation requirements.



## **2.0 The Proposed Action and Alternatives**

---

### **2.1 Introduction**

This section details the Proposed Action and the process used to formulate alternatives. Two reasonable alternatives to the Proposed Action, in addition to the No Action Alternative, have been identified.

### **2.2 Process Used to Formulate Alternatives**

The NEPA process requires consideration of a full range of reasonable alternatives to the proposed action, including a no action alternative. The intention is to select an alternative that meets the underlying purpose, mission, or need of the proposed project, but which minimizes potential adverse environmental impacts and/or other negative consequences. Reasonable alternatives are those actions that may meet the purpose and mission for the project and deserve further analysis before choosing a course of action.

Potential alternatives were formulated based on the space and functional operational needs described in Section 1.2, as well as available facilities and building sites on base. This evaluation considered a range of potential options from remodeling and expansion of existing facilities to new construction elsewhere on base.

The criteria utilized in the alternatives evaluation focused on land use and the functional efficiency and safety requirements associated with munitions and arms related operations. The current munitions related facilities are located in the relatively remote northeast section of the base, away from most other buildings and traffic/operational areas. This location is ideal with respect to the explosive safety quantity distance criteria (ESQDs), building separation requirements (IL or intra-line distances), and surface danger zone (SDZ) distances as established by AFI 21-201, AFM 91-201, and AFH 32-1084, respectively. The proposed new facilities are related functionally to the munitions operations and both are directly related through the training mission. As such, functional efficiency and land use compatibility would require locating the new facilities in close proximity to the existing munitions complex. The major woodlot adjoining the munitions complex abuts the proposed locations for the new facilities and also contains jurisdictional wetlands which constitute a siting constraint.

No other suitable sites or locations to meet these requirements exist on base outside the designated Project Study Area in the northeast section of the base as shown in Figure 2. This study area was designated for alternatives analyses. No other suitable facilities exist on base that could be remodeled to accommodate the need. Expansion and remodeling of the existing firing range or other facilities to meet the need is not feasible due to the standards and requirements of Air Force Handbook (AFH) 32-1084, Facility Requirements and Engineering

Technical Letter (ETL) 06-11, Small Arms Range Design and Construction, as previously cited.

Expansion of Building 400 was also deemed impracticable due to site limitations and limited reuse potential of the existing building for the function. Building 400 is scheduled for another tenant following relocation of the SFS function. Thus, facility alternatives other than new construction and no action were not considered further.

The Proposed Action has been formulated on new construction adjacent to the existing munitions facilities and operations buildings. Although vacant land at YARS is very limited, two other potential locations within the Project Study Area were identified and field checked as suitable for further evaluation as alternate sites for the proposed firing range and/or SFS building. These locations, Alternative A and Alternative B, were identified along Perimeter Road at varying distances from the existing munitions complex (Figure 2). They are described as locations because no detailed study of actual project layout or site design has been done at these locations and, consequently, no project site boundaries exist as such. Rather, the alternative locations represent general areas within which one or both of the proposed facilities could be constructed. Conversely, the Proposed Action's locations for the facilities consist of the approximately 2 acre parcel for the new Firing Range located adjacent to the existing range, Facility 9028; and the approximately 1.5 acre parcel for the SFS building located southwest of Facility 9028, as shown in Figure 3.

Lastly, the No Action Alternative was considered. Under the No Action Alternative, no new construction or significant alteration would occur. The No Action Alternative also serves as a baseline for comparative evaluation of potential environmental consequences.

### ***2.3 Alternatives Eliminated from Further Consideration***

The Proposed Action, Alternative A, and Alternative B were designated as the only reasonable alternatives for evaluation. Numerous design considerations, including site planning variations, have been, and continue to be evaluated. However, no other significant action or site location alternatives were deemed as reasonable for evaluation in this EA. As required by NEPA, the No Action Alternative was also designated for evaluation.

### ***2.4 Description of Alternatives Considered***

#### ***2.4.1 Proposed Action: Construction of Firing Range and Security Forces Squadron Building***

The Proposed Action would include construction of an approximate 39,100 SF firing range, and demolition of the existing range, construction of an approximate

13,500 SF SFS building with an approximate 41,000 SF parking lot and access roadway, and all necessary site clearing and improvements. The locational relationship of these distinct, but related, projects is shown in Figure 3. Each is described in detail below.

#### **2.4.1.1 Construction of Firing Range**

The proposed new Firing Range (FCSAR) would be a fully contained, properly configured, full distance and full impact range that would meet current training, safety, and design requirements per the military requirements cited previously. The 39,100 SF facility would be built adjacent to the existing range, thereby utilizing some of the current range site facilities including Buildings 528, 530, and 532 as well as the access drive from Perimeter Road and some of the current parking lot. The existing range and adjoining target storage facility, Buildings 9028 and 531 respectively, would be demolished after the new construction.

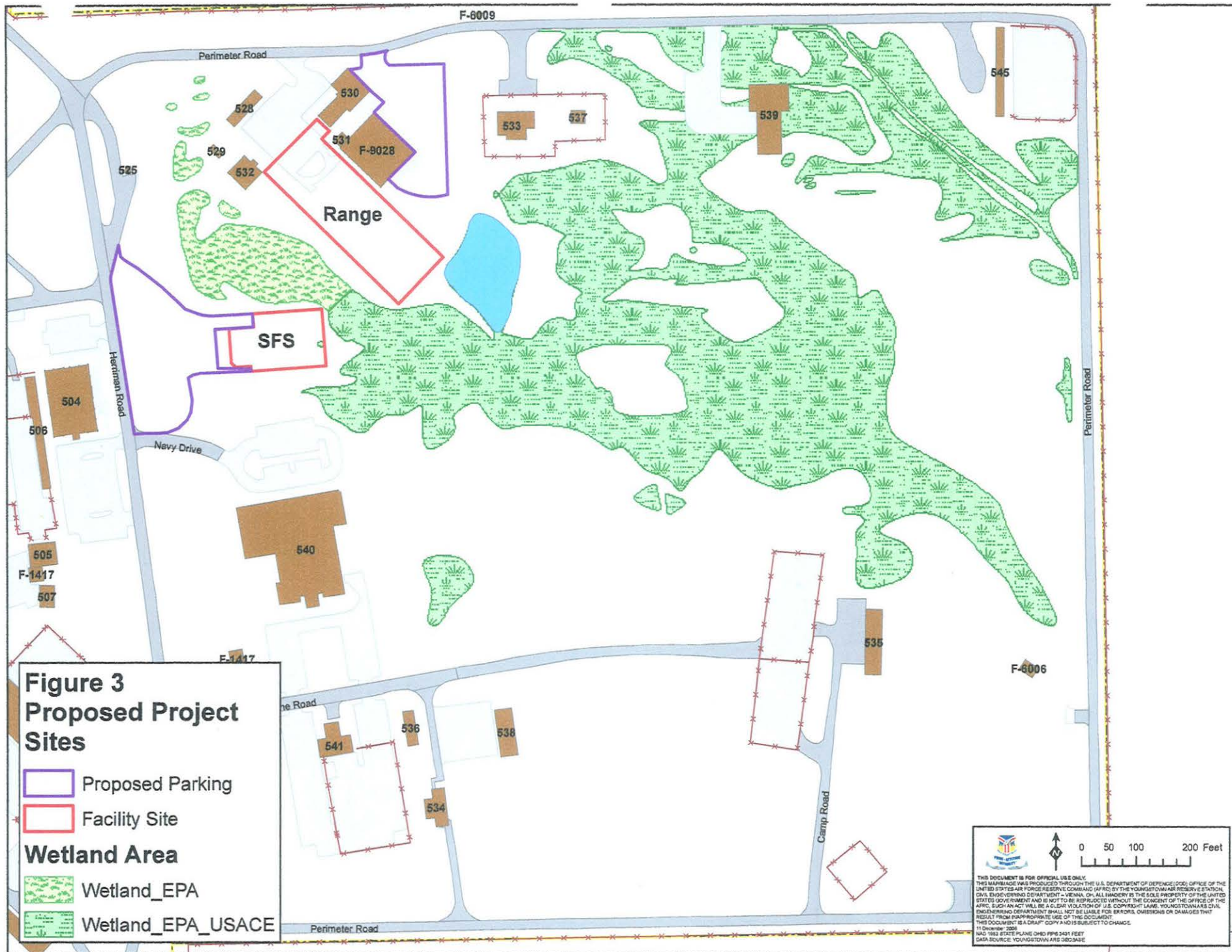
The new range would consist of a reinforced concrete foundation, water proof concrete floor slab with floor drains, and a structural steel frame with masonry walls. The range would include 21 firing line positions, steel deflector plates, a bullet trap, overhead baffles, and a sound reflection reduction system. All utilities are on site and the new HVAC system would include an emissions exhausting unit. The range design would meet antiterrorism/force protection requirements.

The anticipated total developed area associated with the new range is approximately 68,000 SF. This would include the range and additional new parking to the east (Figure 3). This footprint is offset to some extent by the proposed demolition of the existing 9028 and 531 facilities (approximately 9,500 SF) with a partial return of the area to grass. The site layout for the range is largely fixed, as shown in Figure 3, by various constraints including size, natural features, and stand-off distances associated with the existing munitions facilities.

#### **2.4.1.2 Construction of Security Forces Squadron Building**

The proposed consolidated building for the Security Forces Squadron would consist of an approximate 13,500SF two-story structure along with an access drive and parking lot. The total developed area would approximate two acres. The site is just to the southwest of the proposed firing range, separated by a wetland area as shown in Figure 3.

The new facility would be a masonry structure with brick exterior, a standing seam metal roof, fire protection sprinklers and pre-wired communications. Utilities would be extended to the building from nearby trunk lines. The facility would have handicap access, antiterrorism security features, and be designed to achieve a LEED (Leadership in Energy and Environmental Design) Silver rating.



**Figure 3  
Proposed Project Sites**

- Proposed Parking
- Facility Site

- Wetland Area**
- Wetland\_EPA
  - Wetland\_EPA\_USACE

0 50 100 200 Feet

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The first floor of the facility would include classroom, security function rooms (interview, evidence, weapons vault and cleaning rooms, armory, etc.), administrative, training, storage, and mechanical rooms. The second floor would include offices, communications, a break room, and locker rooms.

#### **2.4.2 Alternative A – Perimeter Road Site A**

Under Alternative A, the proposed Firing Range and/or SFS building would be constructed as described under the Proposed Action, but at a location along Perimeter Road (Figures 2 and 3). This location is approximately 900 to 1,000 feet south and east of the existing range facilities, but still within the northeastern margin of the base. The location is about 1,000 to 1,100 feet east of the center of the proposed SFS site. The physical and natural features of this location are characterized by the existing woodland tract, but with a more upland environment and no jurisdictional wetlands. This contiguous upland area near Perimeter Road is comprised of four to five acres.

Residential properties lie immediately east of the location, across Perimeter Road and the installation boundary. A water main enters the base near this location and an electrical line parallels the road. A natural gas line has been installed parallel to Perimeter Road and a sanitary line parallel to the road is under construction. Base facilities, including related munitions facilities, are remote from the location.

#### **2.4.3 Alternative B – Perimeter Road Site B**

Under Alternative B, the proposed FCSAR and/or SFS building would be constructed as described under the Proposed Action, but at a location off of Perimeter Road in the area currently being used for Civil Engineering training and exercises (Figures 2 and 3). This location has recently been proposed as the site for a new 11,000 square foot EOD (explosive ordnance disposal) facility (YARS, 2006, 3). This site location is about one-quarter mile southeast of the existing range facilities and a similar distance from the proposed security facility site. The location is near the southern margin of the base, adjacent to the Youngstown – Warren Regional Airport and the airport flightline. The site location is characterized by an open field which abuts the base fire training area to the east, a storm water retention and the woodland/wetland area to the north, and various base facilities to the west. Water, sewer, natural gas, and electricity are proximate to the location.

#### **2.4.4 No Action Alternative**

Under the No Action Alternative, no construction would occur. Existing conditions would remain and operations would continue under current conditions and limitations. The Air Force Reserves training mission requirements could continue to be negatively affected. The existing firing range would continue not to meet

the standards and requirements of AFH 32-1084 and ETL 06-11. This alternative also serves as a baseline against which the Proposed Action and other alternatives will be evaluated and compared.

## **2.5 Summary Comparison of Alternatives**

Section 3 of this EA describes environmental features pertinent to the Project Area and alternatives analysis. Section 4 details the anticipated potential impacts of the Proposed Action and each alternative. This section presents a brief comparison of those impacts. Resource areas with no potential impact are not included in this comparison.

Potential environmental impacts are classified and described by numerous terms referring to the outcome (beneficial/adverse or negative), duration (short-term/long-term) mode (direct/indirect), and magnitude and/or severity of the action being analyzed. Magnitude and severity of impacts are generally described as significant, major, minor, minimal or nominal, and negligible. Significant impacts generally result from substantial effects to resources, or values associated with important, critical, protected, and or controversial concerns. Minor impacts are serious, relevant, and measurable, but with mitigation, do not reach the level of major or significant. Minimal or nominal impacts are measurable and relevant, but limited in area, effect, and/or duration. Negligible impacts are inconsequential with conditions remaining essentially unchanged.

### **2.5.1 Proposed Action**

The Proposed Action would result in the permanent loss of approximately 2-3 acres of natural area, mostly low value, brush and woodland. Minor impacts would also occur to vegetation, wildlife, and land use. Long term operational impacts to health and safety, air quality, and noise would be negligible with mitigation. Short term nominal to minor impacts would affect surface waters, air quality, and noise. Implementation of Best Management Practices and other mitigation measures would reduce potential impacts and prevent minor to potentially major impacts from becoming more adverse.

The Proposed Action would meet the Air Force Reserves mission requirements, collocate similar and functionally related land uses, eliminate potential health and safety impacts, and result in a long-term, indirect socioeconomic benefit.

### **2.5.2 Alternative A**

The potential impacts for Alternative A are approximately the same as for the Proposed Action. The extent of vegetation, wildlife, and land use impacts would be potentially greater due to the resulting further fragmentation of the natural area/woodland land use with administrative and/or industrial uses. Truck

transport to the site would be hampered by the existing road configuration as tractor trailer semi-trucks are currently unable to navigate the 90 degree turns leading to the location. Perimeter Road would need expansion and/or rerouting to accommodate such access (YARS, 2005, 4). This alternative would also result in greater noise impacts to adjoining properties.

Alternative A would meet the Air Force Reserves mission requirements for new space, but in an area that would be isolated. It would disperse munitions-related activities and would result in less efficient operations. Its remote location and separation from the highly secured existing munitions facilities would present a security concern.

### **2.5.3 *Alternative B***

As an existing open field available for industrial land use, Alternative B would not impact wetlands or land use. Vegetation and wildlife impacts would be negligible. Slightly greater soil erosion and storm water runoff impacts would be possible. Other impacts are the same as for the Proposed Action.

Mission and operational impacts would be the same as for Alternative A, except that the Alternative B location is currently being used as a training and unit exercise area by the Civil Engineering Squadron. Construction at this location would preclude these uses. Furthermore, the location has recently been proposed as the site for a new mission-required EOD (explosive ordnance disposal) facility. The facility, comprising approximately 11,000 square feet with additional space requirements for security and explosives standoff distances, would occupy most of the location currently available for training and industrial development.

### **2.5.4 *No Action Alternative***

The No Action Alternative would not allow the 910<sup>th</sup> AW to meet the Air Force Reserves training missions or current Air Force standard facility requirements. On-going safety risks and inefficient operations would continue. A potential long-term socioeconomic loss to the region could result due to the lack of mission capability at YARS.

### **2.5.5 *Preferred Alternative***

The Proposed Action best meets the objectives of functionally collocating the firing range and the SFS building with their associated munitions functions in a safe and cost-effective manner. The Proposed Action would result in only minor impact after mitigation. Consequentially, the Proposed Action is the Preferred Alternative.

## **3.0 Affected Environment**

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### **3.1 Introduction**

This section describes the environment of the Project Study Area and specific associated geographic area, such as the base or region, that would be potentially affected by the Proposed Action and alternatives. This section also provides background information and a basis for the analysis of environmental impact in Section 4.0. The primary Project Study Area is outlined in Figure 2.

### **3.2 Biological Resources**

#### **3.2.1 Vegetation**

Vegetation in the Project Study Area consists of approximately 27 acres of contiguous, mixed northern hardwoods and additional, relatively open areas characterized by individual or small clumps of trees, shrubs, forbs, and grasses. The woodland, which covers part of the Proposed Action location and the entire Alternative A location, is characterized by a relatively young, even-aged stand of red maple (*Acer rubrum*) (U.S. Air Force Reserve Command, Integrated Natural Resources Management Plan, 2003). This woodland type, including age and species, reflects both the prior land disturbance and poor drainage of the location (e2M, 2002).

Larger specimen trees to 30 inch dbh are scattered throughout the woodland. These include sugar maple (*Acer saccharum*) American beech (*Fagus grandifolia*), and red oak (*Quercus rubra*) on more upland areas and red maple, green ash (*Fraxinus pennsylvanica*), and tulip tree (*Liriodendron tulipifera*), and poplars/cottonwood (*Populus* spp.) in wetter areas. Scattered white pine (*Pinus strobus*) are found near the margins of the woodland, particularly around the small pond at the northwest margin of the woodland and at the proposed security facility site. Scattered shrubs including dogwood (*Cornus* spp.) and spicebush (*Lindera benzoin*) and northern arrowwood (*Viburnum recognitum*) characterize the understory.

The Alternative B location is an open field characterized primarily by common grasses and forbs. The site location has been heavily and regularly disturbed due to training activities including heavy equipment use.

Photographs depicting the general characteristics of each location are included in Appendix A.

#### **3.2.2 Wildlife**

The fauna found in the Project Study Area include species commonly found in similar habitats in this part of Ohio. Mammals could include deer, fox, raccoon,



opossum, skunks, rabbits, groundhogs, squirrels, and chipmunks. Amphibians include toads, frogs, and salamanders. A wide range of birds from Canada geese to common song birds are found within and near the Project Study Area. According to the U.S. Fish & Wildlife Service (USF&WS, 1995), the woodlot itself is too small to support neotropical forest nesting birds, but it may be of value to other species including migratory birds. Similarly, the habitat is too restricted to support hunting or trapping. Base fencing typically restricts deer from entry.

The woodlot and surrounding area provide moderate habitat for song birds, limited habitat for amphibians, and the small pond supports warm water fish including bass and bluegill (e2M, 2002). Habitat enhancement that might attract birds is discouraged by the installation BASH program which seeks to eliminate the potential for bird activity near the active flightline (Harland Bartholomew & Associates, 2005).

### **3.2.3 Threatened and Endangered Species**

Compliance with Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, and AFI 32-7064, *Integrated Natural Resource Management Plan* (INRMP), requires all Air Force properties to protect species classified as endangered or threatened under the Endangered Species Act of 1973 (ESA) and to comply with State of Ohio Law 1531.25 and its implementing regulations for species listed by the state as threatened and endangered (T&E). To comply with these requirements, YARS conducted a Threatened and Endangered Species Survey in 1996 (Parsons Engineering, 1996). No T&E species were identified on the installation and none are known to occur in the vicinity.

YARS is located within the range of several T&E or special status species including the Indiana bat (*Myotis sodalis*), bald eagle (*Haliaeetus leucocephalus*), eastern massasauga rattlesnake (*Sistrurus c. catenatus*), and clubshell (*Pleurobema clava*, a mussel). The eastern massasauga rattlesnake is a federal candidate species usually found in wet areas including wet prairies, marshes, and low lying areas. No suitable habitat exists in the specific Project Study Area according to U.S. Fish & Wildlife Service (op. cit., 1995). Similarly, no habitat exists in the vicinity for the bald eagle or clubshell.

Copies of correspondence with the Ohio Department of Natural Resources (ODNR) and the USF&WS regarding the potential occurrences of threatened and endangered species and other natural features in the Project Study Area are provided in Appendix A. The ODNR indicated that it had no records of rare or endangered species, no natural preserves, no unique ecological sites, or any breeding animal concentrations within one-half mile of the Project Study Area.

The USF&WS has recently indicated that the Project Study Area woodlot, including part of the Proposed Action and Alternative A locations, may contain trees that provide summer habitat for the Indiana bat and requested further

coordination before cutting of trees on the site. The concern is for specific trees that may serve as maternity brood or roost trees for the bat. These are typically trees with exfoliating bark or snags with peeling bark and cavities. The USF&WS requested a field survey for such trees and implementation of mitigation as appropriate.

Weston conducted a field survey of the Project Area woodlands on 12 June, 2006 to identify any potential Indiana bat brood or roost trees. Eight potential habitat trees were identified and marked with spray paint. Two of the trees were in the Alternative A location. The remainder were in the adjoining woodland. Only one of the trees, a 40 inch diameter maple in the Alternative A location, was characterized by favorable bat habitat conditions. The other seven trees were smaller with only marginal exfoliating bark. These trees were removed prior to April 15, 2009 as a mitigation measure to ensure no impact to potential habitat trees during the bat nesting season.

### **3.2.4 Wetlands**

A comprehensive wetlands survey of YARS was conducted in 2001 and 2002 (e2M, 2002). The survey, utilizing the official 1987 U.S. Army Corps of Engineers (ACE) methodology, identified 12.46 acres of ACE jurisdictional wetlands and 0.89 acres of isolated wetlands regulated by OEPA. Nearly all of these wetlands are located in the Project Study Area. Approximately 0.5 acres of the ACE wetlands were recently filled due to construction of Building 539, the new munitions maintenance facility (Figure 3).

The wetlands were field delineated and categorized for functional and ecological value according to OEPA's Ohio Rapid Assessment Method (ORAM). This method facilitates protection of wetlands by comparative assessment of potential impact according to the value class of the wetlands. The most valuable wetlands are Category 3 with Category 2 and Category 1 wetlands possessing lesser wetland function and ecological values, respectively.

The entire wetland complex is located in the northeast section of the base, primarily within the Project Study Area (Figures 2 and 3). The wooded wetlands occupy most of the central portion of the approximate 27 acre contiguous woodland. The wetlands are characterized primarily by the red maple overstory and other vegetation as described in Section 3.2.1.

Primary functions of the wetlands include moderate storm water storage and song bird habitat, along with limited amphibian reproductive habitat. None of the wetlands have unique or unusual features. All of the jurisdictional wetlands are Category 1 or Category 2 wetlands according to ORAM scoring. The Category 2 wetlands have moderate ecological values. These wetlands have no threatened or endangered species, no significant habitat or wildlife use, and relatively low species diversity. Category 1 wetlands have minimal ecological values. Some

characteristics of the wetlands are depicted in the photographs of the Project Study Area in Appendix A.

The Proposed Action consist of the approximately 1.5 to 2 acre existing range site and the approximately 2 acre SFS building site, both in the north east corner of the Project Study Area. Although jurisdictional wetlands abut both sites, in fact separating the two, current site boundaries do not infringe on any of the wetlands. Drawings and specifications for the new facilities will incorporate plans for physical boundaries such as temporary fencing to prevent encroachment into the jurisdictional wetlands.

The Alternative A location is primarily upland, but depending on project design and site configuration, some minor areas of jurisdictional wetland could potentially be impacted. This would be particularly true for extension of utilities to the site. No wetlands exist at the Alternative B location.

As wetlands are regulated under various statutes including Section 404 of the Clean Water Act, OAC 3745-1-54, Wetlands Anti Degradation and OAC 3745-32, Section 401 Water Quality Certification, and Executive Order 11990, Protection of Wetlands, YARS must comply with the regulatory requirements before implementing any actions which may impact the wetlands. Under Secretary of the Air Force Order 780.1, issued in April, 1991 and embodied in AFI 32-7064, a Finding of No Practical Alternative (FONPA) must be approved by a properly designated official before any action is undertaken in the Federal wetlands.

### **3.3 *Water Resources***

#### **3.3.1 *Groundwater***

Groundwater at YARS is closely related to the underlying geology. Located within the glaciated Allegheny Plateau, groundwater is found in both the glacial gravels, till, and sand deposits as well as the bedrock formations. The glacial substrate is irregularly distributed across the base, ranging from very shallow deposits to depths of over 100 feet. Accordingly, no significant groundwater aquifers are associated with these glacial deposits. Groundwater is seasonally near the surface over much of the Project Study Area, in part due to numerous perched water tables which contribute to the hydric soil and wetland conditions.

Principal groundwater resources are associated with Pennsylvanian age sandstones of the Pottsville Formation at depths of less than 100 feet to over 300 feet. The aquifer is confined and average yields are about 10 gpm. Mississippian age shales and sandstones of the Cuyahoga Group also provide groundwater at less than 200 feet bgs with yields of 10gpm (U.S. Department of Agriculture, 1992).

No sole source aquifers under XX USC 1424(e) of the Safe Drinking Water Act are found on or near YARS.

### **3.3.2 Surface Water**

YARS is located near several drainage divides, but within the Ohio River Basin. Most installation storm water drains westerly to intermittent streams flowing to Spring Run which discharges to Mosquito Creek and, ultimately, the Mahoning River. A northeast section of YARS drains to the southeast through intermittent streams, ultimately reaching the South Branch of Yankee Run, which drains to the Shenango River in Pennsylvania. The small pond in the Project Study Area outlets to this drainage.

Other than the small pond (less than one acre), there are no significant surface water features on base. Storm water flows overland, through culverts, and drainage ditches to five outfalls. Three of the outfalls are piped, while two are overland flow and/or intermittent channels.

The installation is covered by a State of Ohio General Storm Water Permit for Industrial Activity. As required by the permit, the installation Storm Water Pollution Prevention Plan (SWP3) includes Best Management Practices (BMPs) to prevent pollution, principally from aircraft deicing and snow/ice control. The installation Sustainability Action Plan calls for management to encourage groundwater recharge and the INRMP includes provisions to prevent erosion and sedimentation to the wetlands.

Storm water runoff from construction activities can impact water quality by contributing sediment and other pollutants exposed at construction sites. The National Pollutant Discharge Elimination System (NPDES) Storm Water Program, Phase II rules, address construction activities that disturb one acre or more of land. YARS applies for coverage under OEPA General Permit No. OHC000003 Authorization for Storm Water Discharges Associated with Construction Activity for disturbances that exceed one acre. Trumbull County SWCD must approve an E&S Control Plan for each project with coverage under the OEPA permit prior to construction, and perform regular inspections for these projects.

### **3.3.3 Floodplains**

As there are no significant streams on or adjacent to YARS, there are no officially designated floodplains in the vicinity. The various intermittent channels and drainage ditches on the installation are managed as part of the storm water system.



### **3.4 Installation Restoration Program (IRP)**

There are five IRP sites at YARS (HBA, 2005). The five IRP sites include former drum storage and transformer storage areas, a waste oil/solvent corral, a POL/lead sludge disposal area, and a fuel line leak area. All of these sites have been studied under the IRP and all are now closed with No Further Action (NFA) determination status (YARS, 5). Only one site, the former drum storage area (SS-01), is near the Project Study Area, being just west of the Alternative B location.

Although not part of the original IRP, a soil investigation was conducted of the existing firing range in 1998-1999 (Burgess & Niple, 1999) as an outdoor sand pit/bullet stop was utilized prior to installation of an Action Target "Self Containment" type bullet trap. The contaminated soils containing lead were identified and a clean-up was conducted by Clean Harbors in 2000-2001 (YARS, 6). As the current range has been restricted to the use of frangible ammunition, subsequent lead contamination should not have occurred. Testing will be performed when the current range is demolished as part of the Proposed Action and, if appropriate, treated in accordance with OEPA hazardous waste procedures.

### **3.5 Soils**

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) soil survey of Trumbull County (USDA, 1992) has identified six soil series at YARS. Most of the installation is characterized by Udorthent soils – those that have been cut or filled with a wide range of soil properties. This reflects the highly developed nature of the base.

The Project Study Area, however, is dominated by two soil series, the Rawson and the Haskins, with minor areas of Wadsworth and Mitiwanga. The characteristics of these soils are important because of their relationship to the wetlands and vegetation of the area. Rawson soils, formed on loamy sediments and glacial till, are moderately well drained with moderately slow to very slow permeability. An intermittent perched water table occurs between 2 to 3.5 feet depth. This soil is non-hydric, but has hydric components.

The Haskins soils are deep, poorly drained soils formed on glacial till with a seasonal perched water table at 0.5 to 1.5 feet depth. Permeability varies from moderate in the upper loamy lenses to very slow in the deeper clayey lenses. This soil is non-hydric, but has hydric components.

The other two soil series were also formed primarily on till and are somewhat poorly drained. The Wadsworth soil has a fragipan (nearly impervious lens) at 18

to 30 inches depth with slow to very slow permeability. The Mitiwanga soil has a seasonal high water table at 6 to 12 inch depth.

### **3.6 Land Use**

YARS encompasses approximately 230 acres, most of which consists of improved land committed to military activity and airport support operations. An additional 91 acres of land are leased from the Youngstown-Warren Regional Airport Authority for assault runway use.

The developed areas of YARS include buildings and structures committed to administrative, aircraft and airfield operations, maintenance, civil engineering, and personnel and mission support activities. A network of roads, parking areas, and walkways, as well as aircraft aprons, connects the various structures. Undeveloped or open space areas are primarily limited to the far eastern section of the base. Land uses abutting the base include the airport to the southeast, south, and southwest; some rural residential properties to the east; and primarily agricultural or woodland areas to the north and northwest.

A comprehensive General Plan for YARS was issued in 2005 (HBA, 2005). The plan provides a detailed assessment of current and future land uses, and issues associated with both. The plan also provides a vision for development of the base including supplying mission-critical facilities, meeting "Force Protection" standards, creating a pedestrian-friendly place to train, and for achieving sustainability goals. A framework for future development and mission expansion improvements is detailed over an approximate seven-year horizon.

The plan categorizes installation Open Space as either developable or as natural resource preservation. Current land use at the Proposed Action location and the Alternative A and B locations is Open Space. The Proposed Action and Alternative A locations are both located in natural resource preservation Open Space, which reflects the existing woodland/wetland land cover. The Open Space at the Alternative B location is classified as developable, with most of the location identified for industrial expansion potential including possible relocation of the POL tank farm. The future land use plan continues the industrial expansion and POL tank farm potential at the Alternative B location. The General Plan also identifies the development of a new Security Forces Squadron facility at the Proposed Action location. Industrial Operations continue at the munitions complex which includes the site of the new range.

An explosive safety zone or quantity/distance restriction (ESQD) is associated with Buildings 533, 537, and 543 within the existing munitions complex. These 100-foot arc constraint zones extend partly into the Proposed Action location, which presents an IL site issue for this part of the base. Neither Alternative A nor Alternative B locations have any current ESQD restriction zones; however, this may change should the proposed new EOD facility be constructed at the

Alternative B location. The entire Project Study Area lies beyond the 65 dB (decibel) noise contour surrounding airfield operations.

### **3.7 Cultural Resources**

According to the YARS Cultural Resources Contingency Plan (U.S. Air Force Reserve Command, 2001), four different surveys have been conducted on the installation over the years to identify either historic or prehistoric resources. The most significant of these surveys are the 1995 basewide Phase I historic building survey and the 1995 Phase I archaeological survey by Resource Applications Inc. (RAI, 1995). In 1989, archaeological maps at the Ohio Historical Society were reviewed by Mr. James Murphy, a state certified archaeologist. No known archaeological sites were found on or near the base.

An update to the 1995 historic building survey was recently completed (Historic Preservation Associates, 2009). This more recent survey evaluated all of the installation buildings and significant structures with a particular focus on their "Cold War" status. Only the installation water tower was determined to be potentially eligible for listing in the National Register of Historic Places.

Based on these studies, no historic or prehistoric resources other than the water tower are known to exist at YARS. Coordination applicable to the Proposed Action and alternative locations and any potential cultural resource implications was completed with the State Historic Preservation Office (SHPO) as part of the EA prepared for the construction of the Munitions Maintenance Facility, Building 539. The munitions area is remote from the installation water tower. Coordination response indicating general concurrence with the lack of cultural resources was received in April, 2006. The correspondence is included in the Appendix.

### **3.8 Air Quality**

The Clean Air Act Amendments of 1990 (CAAA) tasked the USEPA with generating a revised set of rules governing the establishment of air quality standards and rules governing emissions of pollutants. The National Ambient Air Quality Standards (NAAQS) set concentration levels for the following pollutants, often referred to as "criteria air pollutants": carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), lead, ozone (O<sub>3</sub>; note: emissions of volatile organic compounds or VOCs are regarded as precursors of ozone), and particulate matter equal to or less than 2.5 microns in diameter (PM<sub>2.5</sub>). Lead is also regulated as a hazardous air pollutant (HAP). Air quality issues associated with the Proposed Action are primarily related to the potential generation of pollutants during construction activities and fugitive emissions from vehicles.

Air quality is typically good in the vicinity of YARS, and is generally affected only locally by military and civilian vehicle emissions, particulate pollution from vehicle

traffic, industrial sources, and construction activities. Mobile sources such as vehicle and aircraft emissions are generally not regulated and are not covered under existing permitting requirements. Specific emissions sources at YARS include natural gas boilers, fuel cell maintenance, engine test stands, paint spray booths, refueling operations, and emergency power generators.

YARS is located in Trumbull County in the Youngstown-Warren Metropolitan Statistical Area (MSA) which is currently designated as maintenance for the 8-hour ozone standard. The county is in attainment for the other criteria pollutants.

The designation results in a requirement for an air quality conformity applicability analysis for Federal actions to determine whether or not Conformity Rules apply. Applicability hinges on emission increases from the action or exceedence of de-minimus emissions of criteria pollutants.

YARS prepares an annual base-wide Air Emissions Inventory Report that covers all operations for the previous calendar year. This activity includes an emissions inventory of all potential installation emission sources and an analysis of the applicability of governing regulations. The status of each source type was assessed.

YARS is exempt from Title V of the CAA Amendments of 1990 since potential emissions are below major source thresholds. Most of the installation sources are de minimus. There are five sources currently on OEPA registration status. Emergency generators and emergency fire pumps with internal combustion engines greater than 50 HP fall under permit-by-rule exemptions which require record keeping. Fugitive emissions from the current range include smoke, but use of frangible ammunition has eliminated lead as a hazardous air pollutant.

### **3.9 Noise**

Noise levels associated with YARS operations can create conflicts related to activities both on and off the base. Flight activities at YARS that contribute to the noise environment include the 910<sup>th</sup> Airlift Wing and the aircraft operations of the Youngstown-Warren regional Airport. Flight operations of the 910<sup>th</sup> Airlift Wing include the missions of the 12 assigned C-130 aircraft as well as transient aircraft such as C-130s utilizing the installation's engine repair facility. No commercial airline service is currently available at the airport, but chartered and general/corporate aircraft utilize the facility.

Noise levels can be considered in terms of levels ranging from those in a typical home at 40dB, to levels at which noise begins to harm hearing when exposed for a long period (8 hours) at 90dB. Typical noise sources in and around the Project Location include aircraft, active use of the firing range, and traffic. Military aircraft operations and vehicle traffic are the existing primary sources of noise in the Project Study Area.



A Federal Aviation Administration Part 150 Study established the 65dB LDN (day-night average sound level) noise contour around the airfield in 1993. Virtually all of YARS, including the Project Study Area, lies outside this noise threshold boundary. This noise level represents existing conditions to which potential noise levels from construction and demolition can be compared.

### **3.10 Health and Safety**

General health and safety issues associated with the Proposed Action include worker safety and public safety during construction as well as recognition of the ESQDs associated with the existing munitions complex. Occupational and public safety issues are addressed with respect to site clearing, excavation, and tree cutting activities.

Short-term health and safety issues for the Proposed Action include hazards associated with construction of the buildings and supporting infrastructure as well as demolition of most of the existing range. Such hazards include physical hazards (including heavy and light on-site equipment usage), hazardous materials, and underground/overhead utility work. Site clearing activities would include hazards associated with tree cutting activities.

Two ESQDs are associated with Buildings 533 and 537 respectively, which adjoin the Proposed Action location. These zones could affect site construction activities including materials storage locations and handling as well as work practices.

Operation of the current and new firing ranges would include safety hazards associated with munitions and weapons handling as well as noise hazards to range personnel. Chemical hazards could also potentially exist associated with lead ammunition, particularly due to airborne dust and ventilation problems in the existing range.

### **3.11 Socioeconomics**

YARS is located within the Youngstown-Warren MSA, which includes Mahoning and Trumbull Counties in Ohio and Mercer County in Pennsylvania. The region grew steadily with population peaking in the 1970s at over 600,000 inhabitants (U.S Census Bureau, 2000). The population of Youngstown, the region's largest city, actually peaked in 1960 at 167,000.

With the decline of the steel industry, an economic mainstay of the region into the 1970s, and more recently, manufacturing in general, the region has endured declines in numerous socioeconomic indicators. Population of the MSA in 2000 was 602,964, a decline from 613,623 in 1990. The population is projected to fall to 571,000 by 2020 (Ohio Department of Development, 2005).

Trumbull County, which includes the City of Warren and YARS, has followed a similar population trend reaching a peak of 241,863 in 1980, decreasing to 225,116 in 2000, and projected to decline to 211,000 by 2020 (Ohio Department of Development, 2005).

The regional population declines over the last several decades, as well as the projected future declines, are principally related to the loss of manufacturing jobs in the region. Nationally, employment in the iron and steel industry alone dropped from 399,000 in 1980 to 169,000 only nine years later (U.S. Statistical Abstract). More than 3 million U.S. manufacturing jobs were lost between 1998 and 2003 (Economic Policy Institute, 2005) and this trend has continued statewide.

In the context of regional decline, the importance of YARS as both a major and relatively steady employer is evident. The base was listed as one of only five employers in the Youngstown-Warren area with more than 2,000 employees in 2005 (Youngstown-Warren Regional Chamber of Commerce, 2005). Of the other four, two were hospitals/health care providers and two were associated with the automotive industry – Delphi Packard Electric Systems and General Motors Lordstown Assembly. Delphi has recently begun to emerge from its bankruptcy reorganization and its Warren-area plants remain operational, although at reduced employment levels. Some production jobs are in the process of being transferred from a closed Delphi plant in Mississippi to Warren ([www.cleveland.com/business](http://www.cleveland.com/business), 2009).

Similarly, General Motors has recently emerged from bankruptcy reorganization with the Lordstown plant remaining open, but with variable levels of employment. Nine other employers were listed by the Chamber of Commerce in 2005 as having from 1,000 to 2,000 employees; all but two of these are governmental or educational institutions. Another 19 non-governmental employers were listed with 500 to 1,000 employees including seven manufacturing operations.

As of September, 2004, YARS had 2,239 authorized personnel positions including over 1,100 USAF Reservists (YARS Fact Sheet). These base jobs generate a payroll of over \$50 million. When combined with local base expenditures of over \$28 million and a more than \$17 million payroll from indirect job creation, the economic impact of the base is more than \$95 million annually. Clearly, the ongoing mission and operations of YARS is of vital socioeconomic importance to the region.

### **3.12 Transportation/Traffic**

YARS is served by a network of highways that allow ready access to the base. These include Ohio State Routes 11 and 193. From these routes the base is accessed by King Graves Road, a county road. The General Plan has recommended changes to the YARS road alignment and gate access configurations in order to improve force protection and to reduce potential traffic

congestion. On base, circulation is hampered by the lack of a clear hierarchy for the roads, lack of pedestrian connections, and an inefficient location of parking. Force protection issues are common.

The primary transportation/traffic issues associated with the Proposed Action involve the current difficult access for larger trucks to the munitions complex and lack of adequate parking. Larger trucks cannot utilize the length of Perimeter Road accessing the alternative locations because of turning restrictions. Tractor trailer semi-trucks are currently unable to navigate the 90 degree turns in the roadway. This problem isolates the Alternative A location. Perimeter Road would have to be expanded or rerouted to allow better access. The limited parking and apron area at Building 533 does not accommodate the current parking or delivery needs and does not meet the ESQD or potential force protection setback requirements.

### **3.13 Utilities**

YARS is currently served by all major utilities including potable water, sanitary and storm sewers, electricity, natural gas, and communications. All of the systems have been rated as adequate, with most of the infrastructure in very good condition (HBA, 2005). The lone exception is the storm water drainage system which has inadequate drainage in some locations.

Potable water is supplied to YARS by Trumbull County's Southeast Water District and sanitary is provided by the County's Mosquito Creek Sewer District. Both systems have adequate capacities. YARS also has an industrial wastewater collection system and an industrial pre-treatment facility in Building 309 that discharges into the sanitary system.

Electricity is provided by Ohio Edison which also has responsibility for the on-base distribution system. Natural gas is supplied by Dominion Gas to a tap at the base perimeter. Most of the base buildings have independent gas heat sources. Both the electricity and gas systems are in need of force protection upgrades according to the General Plan.

All utilities extend to one part or another of the buildings currently comprising the munitions complex. The utilities are, therefore, near the Proposed Action location. Potable water and electricity are near the Alternative A location. A natural gas line has been installed along Perimeter Road parallel to the road. A sanitary line is in the process of being installed also along Perimeter Road. Water, sewer, natural gas and electricity are available to the Alternative B location.

The base fire department is integrated with the local emergency and HAZMAT response system. Solid waste services at YARS are contracted out with disposal at a licensed landfill.

## **4.0 Environmental Consequences**

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### **4.1 Introduction**

The purpose of this section is to provide an evaluation of the potential impact associated with the Proposed Action, construction of new Firing Range and construction of a new Security Forces Squadron building at the proposed sites. With implementation of Alternative A, construction of the facilities at Perimeter Road site A is evaluated; with Alternative B, construction of the facilities at Perimeter Road site B is evaluated; and the No Action Alternative as presented in Section 2.0 is also evaluated. The Proposed and Alternate site locations are depicted in Figure 2. The consequences of implementing the alternatives will be compared to those of the Proposed Action. The No Action Alternative represents the baseline conditions to which the Proposed Action and Alternatives A and B are compared.

### **4.2 Biological Resources**

#### **4.2.1 Vegetation**

##### **4.2.1.1 Proposed Action**

Much of the Proposed Action location, consisting of approximately 4 acres, is wooded and bordered by the approximately 27 acre wooded tract which is characterized by wooded wetlands. The vegetation at the proposed construction sites includes trees up to about 12 inches in diameter along with understory shrubs, forbs, and wild flowers. Some grass, shrubs, and brush areas also characterize portions of the sites. The construction footprint of the proposed range facility is approximately 2 acres including demolition of the old range. The construction footprint of the proposed SFS facility is approximately 1.5 acres. Figure 4 depicts the proposed site layouts of both facilities as well as land use and vegetative cover. Since utilities and road access are present at both sites, any additional area subject to construction disturbance would be minimal.

Detailed site planning could mitigate the potential loss of vegetation at the construction sites. Most of the proposed Firing Range site is covered by grass or impermeable surfaces and little vegetation would be impacted. The proposed Security Squadron facility would result in clearing of about one acre of a mixed woodlot containing immature trees including maple, poplar, pine and apple. The clearing would also affect a grove of large white pine along Herriman Road, most of which would be cleared. This loss of vegetation would result in only minimal impact within the overall base and local area context.

#### **4.2.1.2 Alternative A**

Construction of the new facilities at the Alternative A location would result in similar, but greater vegetation impact as with the Proposed Action since the site is totally covered by the woodlot. All of these trees would be cleared. As this location is mostly an upland area, the species mix of vegetation would be somewhat different and little to no wetland areas would potentially be impacted as long as detailed avoidance site planning was accomplished. The Indiana bat habitat trees identified during the tree survey were removed prior to the 2009 bat nesting season (April 15 to September 15) as a mitigation measure to ensure no impact on bat nesting.

#### **4.2.1.3 Alternative B**

Construction of the proposed new facilities at the Alternative B location would result in the loss of approximately 3.5 acres of open space vegetated by grasses and forbs. Currently, this area is often disturbed by base activities and vegetation is minimal. The potential impact to vegetation would be negligible.

#### **4.2.1.4 No Action Alternative**

No vegetation would be affected by the No Action Alternative.

### **4.2.2 Wildlife**

#### **4.2.2.1 Proposed Action**

The Proposed Action would result in the permanent loss of approximately three to three and one-half acres of wildlife habitat that would be covered by the new facilities. Additional wildlife habitat, including some wetland habitat, could be lost depending on site construction activities and facility setback requirements. Any potential wetland habitat impact, however, will be prevented by careful project design and protection measures. Coordination with the ODNR and the USF&WS indicated the lack of any critical habitat or sites of significant ecological value in the study area, however, further coordination and a tree survey was required to assess potential summer nesting habitat for the Indiana bat (see Threatened and Endangered Species).

Potential impacts to wildlife include the loss or modification of habitat. Some bird habitat would be lost; however, more mobile wildlife, including the common mammals and birds, would be expected to move from the disturbed areas to adjoining undisturbed areas. The impacts to wildlife are expected to be minor. Short-term, temporary impacts to wildlife would also result from construction activities. No long-term impact to any specific wildlife species is expected.



#### **4.2.2.2 *Alternative A***

The potential impacts to wildlife at this location are similar to those of the Proposed Action. As a more wooded upland area, however, more arboreal and forest species would be affected than at the proposed facility locations. Some wetland related habitat areas could potentially be affected by construction or utility extension impacts, but any potential wetland habitat impact will be prevented by careful project design and protection measures. The same mitigation requirements would apply, resulting in potential minor impacts to wildlife.

#### **4.2.2.3 *Alternative B***

No impact to any wildlife is anticipated from construction of the facilities at this location. The location has only minimal habitat for foraging birds and small mammals which would continue to use remaining adjoining areas.

#### **4.2.2.4 *No Action Alternative***

Wildlife in the Project Study Area would not be impacted by this alternative.

### **4.2.3 *Threatened and Endangered Species***

#### **4.2.3.1 *Proposed Action***

No threatened or endangered species nor their habitats are known to exist in the vicinity of the Proposed Action construction sites or anywhere on the installation. As discussed in Section 3.2.3, no such species nor their habitats have been identified. Correspondence with ODNR also indicated the lack of any records of such species in the area surrounding the installation. Correspondence with the USF&WS, however, indicated that the Project Study Area lies within the range of several special status species. Project Study Area habitat for these species, however, is limited to summer brood or nesting trees for the Indiana bat. The USF&WS requested further coordination before any woodland clearing to ensure that such trees are avoided or possible impacts are otherwise mitigated. A survey for the presence of such trees was discussed with USF&WS (2006) and was conducted on 12 June, 2006. As described in Section 3.2.3, several candidate habitat trees were field identified and marked. All of these trees were removed prior to the 2009 bat nesting season as a mitigation measure. With this mitigation, specifically applying to the Alternative A location, no impacts to threatened or endangered species would be expected.

#### **4.2.3.2 *Alternative A***

Prospective impacts to threatened or endangered species are the same as for the Proposed Action.

#### **4.2.3.3 Alternative B**

Threatened or endangered species would not be impacted under Alternative B. There are no threatened and endangered species or habitats in the Alternative B location.

#### **4.2.3.4 No Action Alternative**

Threatened or endangered species would not be impacted under the No Action Alternative.

### **4.2.4 Wetlands**

#### **4.2.4.1 Proposed Action**

Implementation of the Proposed Action would not result in the loss of any jurisdictional wetlands. Construction disturbance, however, including grading, erosion, runoff and sedimentation, as well as equipment vehicle tracks and compaction could occur and represent a potential impact to adjoining wetlands (Figure 4). With careful site design and construction, wetlands should not be impacted by construction of the new facilities. The project drawings and specifications shall incorporate requirements to establish physical boundaries such as temporary fencing to prevent encroachment into the jurisdictional wetlands. The drawings and specifications shall also state that grading and/or fill placement cannot occur in the jurisdictional wetlands. Rotting and/or displacement of soils by equipment in the wetlands must also be avoided. Loss or modification of vernal pools or other wetland areas are prohibited without regulatory permitting (Section 1.4). Compliance with the mitigation measures would result, then, in no impact to the wetland resources of the Project Study Area.

#### **4.2.4.2 Alternative A**

Construction of the Firing Range or Security Squadron facility at this location would avoid any consequential impact to the jurisdictional wetlands of the Project Study Area. The location includes an upland area of four acres or more between "fingers" of jurisdictional wetlands (Figures 2 & 3). The footprint of the proposed facilities could potentially be constructed in this area, however, necessary utility connections could result in some wetland disturbance. Additionally, adjoining wetland areas could be indirectly impacted from various construction activities such as erosion and runoff. This potential impact to adjoining wetland areas would be mitigated by erosion and sediment controls including silt fences as required by OEPA General Permit No. OHC000003 Authorization for Storm Water Discharge Associated with Construction Activity.

#### **4.2.4.3 Alternative B**

No wetlands exist in the immediate vicinity of this location. Consequently, no wetland impacts would be expected from facility construction at this location.

#### **4.2.4.4 No Action Alternative**

No wetland impacts would result from the No Action Alternative.

### **4.3 Water Resources**

#### **4.3.1 Groundwater**

##### **4.3.1.1 Proposed Action**

Construction activities for the new Firing Range and Security Forces Squadron facilities would require relatively shallow subsurface excavation and grading. The deepest excavation would likely be in conjunction with subsurface utility extensions and connections. Construction activities would have no effect on the groundwater aquifers which exist at depths well below potential construction. Various perched water tables, which are seasonal and relatively near the surface throughout the Project Study Area and especially in the wetland zones, may be impacted by construction including heavy equipment use. The subsurface hydrogeology may be altered over a limited area. This potential impact is expected to be minimal with implementation of mitigation measures. Because of the sensitivity of the adjoining wetland areas next to the facility sites, spill prevention and Best Management Practices (BMPs) would be implemented as project specifications to avoid potential indirect impact to the adjoining wetlands (see Section 4.2.4.2).

##### **4.3.1.2 Alternative A**

Potential groundwater impacts at this location are similar to those anticipated at the proposed facility locations. These impacts are somewhat less likely, however, because of the more upland characteristics of the location.

##### **4.3.1.3 Alternative B**

Disturbance of groundwater at this location is less likely than at the Proposed Action and Alternative A locations since perched water tables are less common in this area. No impact is anticipated. Nonetheless, project specifications should include the spill prevention and BMPs in case groundwater were encountered.

#### **4.3.1.4 No Action Alternative**

The No Action Alternative would have no impact on groundwater.

#### **4.3.2 Surface Water**

##### **4.3.2.1 Proposed Action**

Construction activities at the Proposed Action locations would involve land surface disturbance of more than one acre at both sites. In addition to the buildings and related driveways, parking, etc., there would be a need to extend various utilities to the facilities. A permit for storm water discharge associated with disturbance of one acre or more of land would be required under the NPDES permit for construction activities from the Ohio EPA. The Trumbull County SWCD must approve an E&S Control Plan for each project with coverage under the OEPA General Permit and perform regular inspections of the projects.

As the land surface at the facility locations is relatively level, erosion control measures would inhibit erosion during heavy rain events that could potentially affect overland flow, specifically to the adjoining wetlands and the pond which is immediately south of the existing range (Figure 3). Facility construction activities would not significantly alter the surface water hydrology and would not create a potential source of surface water contamination as long as spill prevention and BMPs are enforced. Therefore, the construction activities are not expected to impact surface water resources.

##### **4.3.2.2 Alternative A**

Potential surface water impacts from construction of the facility at the Alternative A location are the same as for the Proposed Action. A drainage channel that could be affected by site runoff exists to the north and west of the location.

##### **4.3.2.3 Alternative B**

Potential surface water impacts at the Alternative B location are similar to those at the other locations. This site is more sloping, however, and therefore presents a greater risk of erosion and runoff impact to the adjoining drainage channels. Additional on site retention or detention may need to be incorporated into facility site design as this location is a major runoff contributor to Outfall 005 along the southeast perimeter of the base. Storm water mitigation and project specifications as described for the Proposed Action would prevent or limit potential impact to minimal effects.

#### **4.3.2.4 No Action Alternative**

The No Action Alternative would have no effect on surface water resources.

### **4.3.3 Floodplain**

#### **4.3.3.1 Proposed Action**

There are no surface streams nor any defined floodplains in the Project Study Area. Consequently, there are no floodplain effects associated with the project.

#### **4.3.3.2 Alternative A**

Alternative A would have no impact on any floodplains.

#### **4.3.3.3 Alternative B**

Alternative B would have no impact on any floodplains.

#### **4.3.3.4 No Action Alternative**

This alternative would have no effect on any floodplains.

### **4.4 Installation Restoration Program Sites**

#### **4.4.1 Proposed Action**

No IRP sites are located near the Proposed Action location. The project would have no effect on any IRP sites nor be affected by any IRP sites. The contaminated soils at the site of the current range were removed and the site cleaned in 2000/2001 (YARS 7).

#### **4.4.2 Alternative A**

Alternative A would have no impact on any IRP site nor be affected by any IRP sites.

#### **4.4.3 Alternative B**

The Alternative B location is immediately east and south of IRP site SS-01, a former drum storage area which is a No Further Action status site. Construction at this location would not affect the IRP site nor would any effects from the site be expected.



#### **4.4.4 No Action Alternative**

The No Action Alternative would have no impact on any IRP sites.

### **4.5 Soils**

#### **4.5.1 Proposed Action**

Construction of the proposed facilities at their respective sites would have the potential for soil erosion and potential sedimentation of adjoining wetlands. Erosion would be short-term, but sedimentation could result in adverse impacts to wetlands. Erosion and dust control measures, as mitigation, will be addressed in the Storm Water Pollution Prevention Plan (SWP3) for the project. YARS applies for coverage under OEPA General Permit OHC000003 Authorization for Storm Water Discharges Associated with Construction Activity for disturbances that exceed one acre. Trumbull County SWCD must approve an E&S Control Plan for each project under the OEPA General Permit prior to construction and perform regular inspections on these projects. Due to the relatively flat topography of the project area and the required mitigation measures, excessive erosion and sedimentation are not anticipated and no long-term impacts to soils, surface waters, or adjoining wetlands are expected from construction of the range and security squadron facilities.

#### **4.5.2 Alternative A**

The potential soil impacts associated with construction of the project at this location are the same as for the Proposed Action.

#### **4.5.3 Alternative B**

The Alternative B location is more sloping than the other locations and, therefore, soil erosion poses more of a risk. The same permitting and mitigation requirements would apply as for the Proposed Action. Drainage at the location, however, is generally away from the wetland areas resulting in less risk of impact to these resources. No long-term impacts would be expected.

#### **4.5.4 No Action Alternative**

Soils would not be impacted under the No Action Alternative.

### **4.6 Land Use**

#### **4.6.1 Proposed Action**

Construction of the SFS facility at the preferred location would alter the existing land use from open space to administrative, which is consistent with the future

Land Use Plan. There would be no land use change for the Firing Range site as it would continue its current industrial designation.

The alteration of the existing and planned future land use at the Proposed Action location would change less than 10 percent of the open space/natural area land use type on YARS. The Proposed Action land use would represent a change within the existing industrial area and an adjoining expansion of administrative land uses. The Proposed Action would, therefore, result in a long-term, but minor impact to current installation land use.

#### **4.6.2 Alternative A**

The potential impacts to land use from construction of the project at the Alternative A location are similar to those of the Proposed Action. The impact, however, would be greater due to the isolated open space/natural area character of the site. Development here would not represent a spatial expansion of existing administrative or industrial use, but rather a new, fragmented non-conforming use in an otherwise natural land use area. The currently spatially-related industrial munitions activities would become separated in different areas of the base. Development at this location also presents more of a physical security concern due to its remote and isolated location which would not be consistent with the administrative purpose of the new security squadron facility.

#### **4.6.3 Alternative B**

The Alternative B location is currently classified by the General Plan (GP) as open space that is developable. Industrial land uses currently exist east and west of the location. The future land use of the location is programmed by the GP for industrial redevelopment opportunities. The location is currently used for Civil Engineering Squadron training exercises and has also been recently identified as the prospective site for a new mission-required EOD facility. Construction of the Proposed Action at this location would, therefore, not impact the industrial land use categorical planning, but it would introduce administrative functions into an industrial area. It would also spatially separate the currently related industrial munitions activities and compete with current and/or future land use activities at the Alternative B location.

#### **4.6.4 No Action Alternative**

Under the No Action Alternative, land use would not change at the Proposed Action and Alternative A locations. Other industrial development, however, may occur at the Alternative B location.

## **4.7 Cultural Resources**

### **4.7.1 Proposed Action**

No cultural resources have been identified anywhere in or adjacent to the entire Project Study Area. There are no potentially historic buildings nearby and the probability of any archaeological resources in the area is very low. The recently completed installation historic building survey concluded that there were no buildings at YARS that were potentially historic. The YARS water tower, however, was determined to be potentially eligible for listing on the National Register of Historic Places. The water tower is remote from the Proposed Action locations (1,000 or more feet) and the locations are not within the water tower view shed. No impacts are anticipated.

Coordination with the SHPO was completed for prior EA studies in the same Project Study Area (YARS, 2006). Documentation is provided by correspondence in the Appendix. The SHPO concurred with the assessment of limited probability for archaeological deposits and no effect to any historic properties. Should any unidentified, potential resources be discovered during project construction, precautionary measures as set forth in the base Cultural Resources Contingency Plan, which is embodied in YARS construction specifications, would be followed.

### **4.7.2 Alternative A**

Potential cultural resource impacts at this location are the same as for the Proposed Action. No impacts are anticipated.

### **4.7.3 Alternative B**

Potential cultural resource impacts at this location are the same as for the Proposed Action. No impacts are anticipated.

### **4.7.4 No Action Alternative**

No impacts to cultural resources would result from the No Action Alternative.

## **4.8 Air Quality**

### **4.8.1 Proposed Action**

Minor, short-term impacts to air quality are expected from construction of the project and demolition of the existing range including fugitive dust and airborne materials from various sources including excavation and grading as well as exhaust emissions from construction vehicles and equipment. Construction

BMPs, including dust suppression and equipments controls, would minimize particulate and emission materials. These impacts would be minor and short term.

Construction and operation of the new fully contained Firing Range would result in a new stationary source of air pollution at YARS. Operation of the range would result in a potential source of lead (lead dust as particulate) and particulate emissions. These are regulated as “Criteria Pollutants” under the National Ambient Air Quality Standards (NAAQS). Lead is also regulated as a hazardous air pollutant (HAP).

No data exist on any emissions associated with the current range as they are considered fugitive (irregular emissions from non-point sources), although an Action Target bullet trap and dust collection system is in place (Burgess & Niple, 1996b). No detailed design has yet been done for the new firing range; however, it would meet requirements of Engineering Technical Letter 06-11 which establishes criteria for the design and construction of Air Force small arms ranges.

Studies for a recently built fully contained small arms range (FCSAR) at Wright-Patterson Air Force Base that is virtually identical to the one proposed at YARS documented potential air emissions (IT Corporation, 2002). Estimates were based on maximum annual throughput utilizing all 21 firing positions as well as the two machine gun positions. Calculations based on worst case conditions including lead-jacketed bullets proved that even uncontrolled emissions, including HAPs, would not exceed de minimus thresholds. The proposed new range would thus be exempt from permitting requirements including OEPA Permit-to-Install and Operate permits.

Nonetheless, there would be PM and lead emissions and the range design should include a ventilation and dust control system that exceeds 90% filter efficiency for removal of small diameter particulate lead. This is particularly important to prevent lead downwash to the adjacent small pond where water soluble lead could build up in the sediment. Design specification guidelines in ETL 06-11 address environmental hazards including prohibition of floor drains downrange of the firing line and exhaust filtration requirements. HEPA filters by definition would effect 99.97% control efficiency. With these controls as mitigation, only negligible long-term air quality impact would be expected.

Prior air conformity analyses at YARS have shown potential emissions to be well below conformity thresholds (YARS, 2005). The emissions from the proposed projects would be expected to be far below de minimus levels for conformity applicability. The potential emissions are also not regionally significant under 40 CFR 93.153(i) and are, therefore, in conformance with the State Implementation Plan.

No conformity nor further air quality analyses are required.

#### **4.8.2 Alternative A**

Potential air quality impacts at the Alternative A location are the same as for the Proposed Action. No impact to the pond, however, would be expected.

#### **4.8.3 Alternative B**

Potential air quality impacts at the Alternative B location are the same as for the Proposed Action. No impact to the pond, however, would be expected.

#### **4.8.4 No Action Alternative**

Because no construction would take place, no increase in emissions would be expected. There would be no change to current air quality and no impact.

### **4.9 Noise**

#### **4.9.1 Proposed Action**

Short-term negligible impacts from construction activities associated with the Proposed Action, particularly from truck, heavy equipment and chain saw operations, would be expected to increase ambient noise levels. At 50 feet, noise levels generated by standard construction equipment range from 72 to 94 dB. While noticeable and potentially annoying to vicinity visitors such as walkers or joggers along Perimeter or Harriman Roads, the noise will be intermittent and temporary. Although there are no sensitive receptors near the Proposed Action location, minor noise impact would be expected to the residents east of Perimeter Road. Construction crews would be subject to more noise; however, adherence to OSHA health and safety regulations would minimize any adverse effects.

Construction of the new fully contained small arms range, FCSAR, would greatly reduce the ambient noise associated with operation of the current open range. This would be a beneficial impact for the surrounding area.

Operation of the new FCSAR, however, can result in hazardous levels of impulse types of noise within the facility. Noise levels can range from 143 dB to 166 dB peak sound pressure levels from 12 gauge shotguns to 45 caliber weapons firing, respectively (NIOSH 76-130, 1975.) Noise impact can also occur from other shooters, which although less intense, would be more frequent. Noise would also result from reflected sound waves and the range ventilation system. Ventilation system noise would be noticeable outside of the building as well.

AFI 36-2226, Combat Arms Program, mandates hearing protection at ranges to meet OSHA standards in 29 CFR 1910.95. ETL 06-11 also addresses design



and construction specifications to minimize potential noise. Experience with and studies of currently operating similar ranges suggest that exterior noise exposure is minimal (IT, 2002).

With proper design and operating procedures per applicable guidelines as mitigation measures, no significant noise impact would be expected to range users, personnel, or to any potential exterior receptors.

#### **4.9.2 Alternative A**

Potential noise impacts from project construction at this location would be the same as for the Proposed Action with the exception that a number of off-base residences are located immediately east of the location, just beyond the perimeter fence. These residents may experience temporary, short-term disturbance from the construction activity noise, particularly during any backyard activities. Limiting construction to normal work-day schedules would help to mitigate more adverse effects from any disruptive noise.

#### **4.9.3 Alternative B**

Potential noise impacts at this location would be the same as for the Proposed Action.

#### **4.9.4 No Action Alternative**

The No Action Alternative would have no effect on ambient noise levels except that exterior noise from current range operations would continue.

### **4.10 Health and Safety**

#### **4.10.1 Proposed Action**

Because project construction workers would be responsible for complying with standard operating procedures and applicable health and safety plans and regulations, no impacts to health and safety would be expected from the Proposed Action. "Digging permits" would be obtained from Base Civil Engineering prior to excavation and demolition activities.

The Proposed Action would result in a long-term positive impact by providing adequate facilities to eliminate the current operational safety issues associated with use of the current range as well as area activity restrictions when range firing is underway. The current range building safety issues include non compliant surface danger zone (SDZ) distances per USAF requirements and inadequate ventilation. The current SFS building does not have an adequate floor plan or space to allow for the safe handling of weapons per USAF standards and requirements.

Operation of the new FCSAR could result in potential health and safety issues for range users and staff. These include direct safety issues associated with weapons, ammunition, and their use as well as noise and other environmental hazards, particularly related to lead and other toxic compound exposures. Compliance with the personal protection and environmental control provisions of AFI 36-2226 and ETL 06-11 would mitigate potential health and safety risks. ETL 06-11 mandates ventilation systems to control exposure to lead and other toxics per OSHA requirements in 29 CFR 1910.1025.

#### ***4.10.2 Alternative A***

The potential health and safety impacts associated with project construction at this location would be the same as for the Proposed Action.

#### ***4.10.3 Alternative B***

Potential health and safety impacts associated with construction of the project at this location would be the same as for the Proposed Action.

#### ***4.10.4 No Action Alternative***

With the No Action Alternative, the current safety, non compliant SDZ, and use restrictions would continue at the current range.

### ***4.11 Socioeconomics***

#### ***4.11.1 Proposed Action***

Nominal, beneficial, short-term socioeconomic impacts would occur as a result of constructing the proposed facilities. The nominal beneficial impact to the local economy would result from employment and income generated through contracts and services associated with the construction project.

The Proposed Action would have a long-term, nominal, beneficial socioeconomic impact for the region. The benefit is related to the improved and enhanced mission capabilities of the 910<sup>TH</sup> Airlift Wing. Preserving and enhancing operations at the base would support the long-term status of YARS as a major regional employment center.

#### ***4.11.2 Alternative A***

Construction of the project at this location would result in the same socioeconomic benefits as for the Proposed Action.

### **4.11.3 Alternative B**

Construction of the project at this location would have the same socioeconomic benefits as for the Proposed Action.

### **4.11.4 No Action Alternative**

The No Action Alternative would have no immediate effect on socioeconomics. In the long-term, however, the potential loss of mission capability for the 910<sup>Th</sup> Airlift Wing could result in further inefficiencies and jeopardize the future potential operations and growth of YARS. This could represent an economic loss for the region.

## **4.12 Transportation/Traffic**

### **4.12.1 Proposed Action**

Project facility construction at the preferred sites would result in long-term improvements for parking and truck deliveries associated with the Firing Range and Security Forces Squadron operations. No adverse effects to traffic or transportation are anticipated.

### **4.12.2 Alternative A**

Construction of the project at this location would have the same beneficial parking and delivery space impacts as for the Proposed Action. However, the location is disjunct from the existing munitions facilities and would separate related munitions operations and personnel resulting in functional inefficiency, including transport operations. This is a problem that the Proposed Action is designed to alleviate. Additionally, some truck deliveries to this site, both for construction and long-term facility operations, may be difficult, if not impossible, due to existing tight, 90 degree turns at both ends of Perimeter Road that tractor trailer semi-trucks are currently unable to navigate. Reconstruction, including expansion and/or relocation of one or both of the turns would be required to accommodate the larger truck vehicles.

### **4.12.3 Alternative B**

Construction of the project at this location would have the same consequences as at the Alternative A location except that deliveries to the site would be more direct and would not be restricted by the 90 degree Perimeter Road turns. Locating the Security Forces Squadron facility at this location would be somewhat closer to base operations than at the Alternative A location.

#### **4.12.4 No Action Alternative**

The No Action Alternative would not eliminate the adverse impacts to munitions maintenance operations from the lack of adequate parking and truck delivery options, particularly with respect to security setbacks and ESQD zones.

#### **4.13 Utilities**

##### **4.13.1 Proposed Action**

Construction of the Proposed Action would require some extension of all utility systems to the adjoining site and facility. These extensions would be relatively direct and of minor to moderate length. The extensions would range from a few feet to over 100 feet, depending on the individual utility system and the ultimate facility location. Adequate capacities exist for all of the utilities and no impacts are anticipated.

##### **4.13.2 Alternative A**

Natural gas is now proximate to this location and sanitary service is in the process of being provided. The base water supply line is near the location. The electric line which runs along Perimeter Road is adequate only for street lighting and would need to be upgraded to accommodate the Proposed Action. Depending on facility siting, utility extensions may extend to 100 feet or more with more potential for impact; however, the jurisdictional wetlands could be avoided. Utility capacity is adequate except for electrical service.

##### **4.13.3 Alternative B**

Water, sewer, natural gas and electricity are all accessible at this site. Construction of the project at this site would require fewer and less distant extensions of utilities than at the Alternative A location, but more so than for the Proposed Action. No sensitive areas would be affected. Utility capacity is adequate.

##### **4.13.4 No Action Alternative**

No impact would occur to YARS or area utilities under the No Action Alternative.

#### **4.14 Cumulative Impacts**

Cumulative effects are those which may result from the incremental impact of the federal action (construction of the project) when added to other past, present, and reasonable foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions (40 CFR 1508.7).

No other significant actions are known to be occurring or planned which would result in any incremental adverse impact. Some programs are in place to improve infrastructure, and/or contribute to long-term YARS plans. These include replacement of selective components of various utility systems and implementation of anti - terrorism/force protection measures. Cumulative impacts would not be expected from these projects.

#### ***4.15 Unavoidable Adverse Effects***

There would be several short-term and long-term unavoidable adverse impacts associated with the Proposed Action as discussed in the sections above. However, with implementation of the mitigation measures described in the respective impact areas, no significant unavoidable adverse environmental effects would result from implementation of the Proposed Action. Similarly, no significant adverse impacts would result from implementation of Alternative A or Alternative B. The No Action Alternative would continue the current operational shortcomings and could, potentially, jeopardize the 910<sup>Th</sup> Airlift Wing mission purpose.

#### ***4.16 Relationship of Short-Term Uses and Long-Term Productivity***

Neither the Proposed Action, Alternative A, nor Alternative B would affect the long-term productivity of the environment. Implementation of the Proposed Action would enhance the long-term productivity of the base, while under the No Action Alternative, operational inefficiencies would continue. No significant environmental consequences nor depletion of natural resources have been identified through this EA.

#### ***4.17 Irreversible and Irretrievable Commitments of Resources***

CEQ regulations in 40 CFR 1502.16 require that an agency identify any irreversible or irretrievable commitments of resources that would be involved in the proposed action, should it be implemented. Capital, energy, materials, and labor would be required for the action. These resources are not retrievable.



## 5.0 List of Preparers

---

John Koerner, Program Manager, Senior Scientist/Planner, Weston Solutions

B.A. Geography/Botany, University of Michigan

M.A. Physical Geography, University of Colorado

Ph.D. Candidacy, Geography/Geology, University of Michigan

38 years experience

## 6.0 List of Agencies and Persons Consulted

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The following persons and agencies have been consulted during the preparation of this EA.

<u>Name</u>	<u>Affiliation</u>	<u>Subject</u>
Ron Bokan	910MSG	Project Need/Details
Mary Knapp, PhD	USF&WS	T & E Species
Major Oren Leff	910 AWA/JA	Document Review
Renee Noel	910SFS/SFOA	Project Design/Security
John Tarantine	910MSG/CEV	Overall Project
Max Shifflet	910MSG/CEV	Project Data
Megan Symor	USFWS	Indiana Bat
Debbie Woischke	ODNR	Natural Resources
Robert Woods	910MSG/CE	Project Design
Nathan Young	SHPO	Cultural Resources

## 7.0 References

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Youngstown Air Reserve Station, 2006, Environmental Assessment, Construct Munitions Maintenance Facility

Youngstown Air Reserve Station, 2008, Capital Improvement Plan, Exhibit M-1, General Plan.

Youngstown Air Reserve Station 1, Personal Communication with John Tarantine (YARS) and John Koerner (Weston), December, 2005

Youngstown Air Reserve Station 2, Personal Communication with Max Shifflet (YARS) and John Koerner (Weston), April, 2006

Youngstown Air Reserve Station 3, Personal Communication with John Tarantine and Max Shifflet (YARS) and John Koerner (Weston), April 2006

Youngstown Air Reserve Station 4, Personal Communication with John Tarantine and Max Shifflet (YARS) and John Koerner (Weston), October, 2005

Youngstown Air Reserve Station 5, Personal Communication with Max Shifflet (YARS) and John Koerner (Weston), December, 2005 and April, 2006

Youngstown Air Reserve Station 6, Personal Communication with John Tarantine and Max Shifflet (YARS) and John Koerner (Weston), April, 2006

Youngstown Air Reserve Station 7, Personal Communication with John Tarantine and Max Shifflet (YARS) and John Koerner (Weston), October, 2008.

## **Appendix**

### **Correspondence/Photographs**

*The correspondence in Appendix A was initiated in 2005 in support of environmental documentation for Project ZQEL 05-0007 Construct Munitions Maintenance Facility. The Project Study Area for that environmental documentation was the same as that evaluated in this EA and, therefore, the data, evaluations, and conclusions associated with the correspondence are valid and applicable to this EA.*





April 4, 2006

John M. Koerner  
Weston Solutions, Inc.  
2566 Kohnle Drive  
Miamisburg, Ohio 45342-3669

Dear Mr. Koerner:

**Re: Munitions Maintenance Building, Building 543, Youngstown Air Reserve Station, Vienna, Trumbull County, Ohio.**

This is in response to your additional correspondence, received on February 8, 2006, regarding the proposed construction of a new munitions maintenance building at the Youngstown Air Reserve Station in Trumbull County, Ohio. My comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

Based on the information included in your submission, the project footprint does not appear to have a high probability for archaeological deposits. I am unable to determine whether any properties in the area of potential effect (APE) are eligible for the National Register of Historic Places. However, Based on the limited information provided, I can concur that the proposed project will not affect historic properties.

No further coordination with this office is necessary unless there is a change in the project. If new or additional historic properties are discovered during implementation of this project, or if the project changes, this office should be notified as required by 36 CFR Section 800.13.

If you have any questions regarding this matter, please call me, at (614) 298-2000 or at nyoung@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Nathan J. Young, Project Reviews Manager  
Resource Protection and Review

1004390

**OHIO HISTORICAL SOCIETY**

*Ohio Historic Preservation Office*

567 East Hudson Street, Columbus, Ohio 43211-1035 ph: 614.298.2000 fx: 614.298.2057  
www.ohiohistory.org



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2566 Kohrle Drive  
Mammoth, Ohio 45342-3669  
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www.westonsolutions.com

2 February 2006

Mr. Nathan J. Young  
Project Reviews Manager, Resource Protection & Review  
Ohio Historic Preservation Office  
567 East Hudson Street  
Columbus, Ohio 43211-1030

Subject: Munitions Maintenance Facility, Building 543, Youngstown Air Reserve  
Station, Vienna, Trumbull County, Ohio

Dear Mr. Young,

In response to your letter of 24 January, 2006 requesting additional information regarding the subject project, I have enclosed the following documentation:

1) A section of the USGS 7.5 minute Cortland quad with the project location highlighted. This project location is entirely within the Youngstown Air Reserve Base and includes the Proposed Site as well as Alternative Sites 1 and 2. I have placed the letters A, B, and C on the quad section to locate each of these sites, respectively. These sites were also indicated on the location base map sent to your office with our original letter of 5 December, 2005. The locations of the sites are approximate as detailed design of the project has not yet occurred.

2) Photographs from each of the sites taken in the four cardinal directions as indicated on each photograph. The approximate locations of the photography and the general direction of the views have been highlighted on the attached base map showing the Project Site & Location. This is the base map referenced in #1 above. The photography locations are approximately coincident with the Proposed Site and Alternative Sites, respectively. I have also included two additional photographs – one of the view west along Perimeter Road at the northern edge of the base adjacent to the Proposed Site, and the second indicating the view east along Perimeter Road at the southern margin of the base adjacent to Alternate Site 2. The photographs are on the included CD.

As can be seen from the photographs, most of the project location is wooded although the Alternative 2 location is an open field. The only buildings even close to the sites are the existing, relatively new munitions buildings (537 and 533) as shown in the photograph (View west from the Proposed Site). Several other structures can be seen in the photographs (View north and View west) at Alternate Site 2. These structures include a Civil Engineering storage building less than 50 years old (535-View north), Base Vehicle

*an employee-owned company*





Wash facility and two new Flight Readiness buildings (536 and 538) some distance to the west. The readiness buildings include office and training facilities. All of these buildings are shown on the Project Site and Location base drawing.

No offsite structures are proximate to any of the sites, the closest being several residences to the east of Alternative Site 1 beyond Perimeter Road. No buildings on base over 50 years old are near any of the sites and none of these buildings would be affected by the project.

We would appreciate your prompt review, and comments or concurrence with our assessment at your earliest convenience. Should your office have any questions or require further information, please don't hesitate to contact me at 937-384-4232 or by email at [John.Koerner@westonsolutions.com](mailto:John.Koerner@westonsolutions.com).

Sincerely,

A handwritten signature in black ink, appearing to read "John M. Koerner".

John M. Koerner  
Program Manager  
Weston Solutions

Copy: Mr. John Tarantine  
910 MSG/CEV Youngstown Air Reserve Station

Attachments:

1. Figures
2. CD



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
6950 Americana Parkway, Suite H  
Reynoldsburg, Ohio 43068-4127

(614) 469-6923  
Fax: (614) 469-6919

December 19, 2005

Mr. John Koerner  
Weston Solutions, Inc.  
2566 Kohnle Dr.  
Miamisburg, OH 45342-3669

Dear Mr. Koerner:

This is in response to your December 2, 2005 letter requesting information we may have regarding the occurrence or possible occurrence of Federally-listed threatened or endangered species within the vicinity of the proposed site. The project involves the construction of a proposed 4,680 square-foot munitions maintenance facility, and installation of utility lines, sewers, access drive, parking area, and pavement at the Youngstown Air Reserve Station, Vienna, Trumbull County, Ohio (Project # ZQEL 05-007). Currently, the area proposed for construction is composed of 3.5 acres of upland and wetland woods, approximately 50 years in age, and dominated by red maple.

There are no Federal wilderness areas, wildlife refuges, or designated Critical Habitat within the vicinity of the proposed project.

The Service recommends that impacts to streams and wetlands be avoided, and buffers surrounding these systems be preserved. Streams and wetlands provide valuable habitat for fish and wildlife resources, and the filtering capacity of wetlands helps to improve water quality. Naturally vegetated buffers surrounding these systems are also important in preserving their wildlife-habitat and water quality-enhancement properties. The proposed activities do not constitute a water-dependent activity, as described in the Section 404(b)(1) guidelines, 40 CFR 230.10. Therefore, practicable alternatives that do not impact the special aquatic site (i.e., wetlands) are presumed to be available, unless clearly demonstrated otherwise. Therefore, before applying for a Section 404 permit, the client should closely evaluate all project alternatives that do not affect wetlands, and if possible, select an alternative that avoids impacts to the aquatic resource.

**ENDANGERED SPECIES COMMENTS:** The proposed project lies within the range of the **Indiana bat** (*Myotis sodalis*), a Federally-listed endangered species. Since first listed as endangered in 1967, their population has declined by nearly 60%. Several factors have contributed to the decline of the Indiana bat, including the loss and degradation of suitable hibernacula, human disturbance during hibernation, pesticides, and the loss and degradation of forested habitat, particularly stands of large, mature trees. Fragmentation of forest habitat may also contribute to declines. Summer habitat requirements for the species are not well defined but the following are considered important:

1. Dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas.
2. Live trees (such as shagbark hickory and oaks) which have exfoliating bark.
3. Stream corridors, riparian areas, and upland woodlots which provide forage sites.

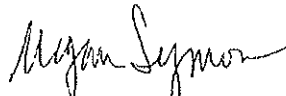
Should the proposed site contain trees or associated habitats exhibiting any of the characteristics listed above, we recommend that the habitat and surrounding trees be saved wherever possible. If the trees must be cut, further coordination with this office is requested to determine if surveys are warranted. Any survey should be designed and conducted in coordination with the Endangered Species Coordinator for this office.

The project lies within the range of the clubshell mussel, bald eagle, and eastern massasauga, federal endangered, threatened, and candidate species, respectively. Due to the project type, location, and onsite habitat, these species would not be expected within the project area, and no impacts to these species are anticipated. Relative to these species, this precludes the need for further action on this project as required by the 1973 Endangered Species Act, as amended. If project plans change or if portions of the proposed project were not evaluated, it is our recommendation that you contact our office for further review.

This technical assistance letter is submitted in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C.661 et seq.), the Endangered Species Act of 1973, as amended, and is consistent with the intent of the National Environmental Policy Act of 1969, and the U.S. Fish and Wildlife Service's Mitigation Policy.

If you have questions, or if we may be of further assistance in this matter, please contact Megan Seymour at extension 16 in this office.

Sincerely,

  
for Mary Knapp, Ph.D.  
Supervisor

cc: ODNR, DOW, SCEA Unit, Columbus, OH



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2566 Kohnle Drive  
Miamisburg, Ohio 45342-3669  
937-384-4200 • Fax 937-384-4201  
www.westonsolutions.com

2 December 2005

Dr. Mary Knapp, Supervisor  
U.S. Fish and Wildlife Service  
Ecological Services  
6950 Americana Parkway, Suite H  
Reynoldsburg, Ohio 43068-4115

Subject: Environmental Assessment, Construct Munitions Maintenance Facility, Building 543, Youngstown Air Reserve Station, Vienna, Ohio

Dear Dr. Knapp,

The Youngstown Air Reserve Station (YARS), U. S. Air Force Reserve is seeking informal consultation with the U.S. Fish and Wildlife Service in compliance with Section 7 of the Endangered Species Act for construction of a new munitions maintenance facility at the base, Project ZQEL 05-007. YARS has initiated an Environmental Assessment (EA) for the subject project in accordance with the requirements of NEPA and U.S. Air Force procedures applicable to the project.

The geographic location of the proposed project is Trumbull County, T.4 N, R. 2 W, Vienna Township. This location is depicted on the attached map (Figure 1) from the USGS Cortland 7.5 minute quadrangle. The project site is located in an undeveloped, wooded section of the base (Figure 2). The proposed site consists of about 3.5 acres which includes approximately 2.3 acres of U.S. Army Corps of Engineers (USACE) jurisdictional wetlands. Your office previously assisted YARS in categorizing undeveloped areas of the base for fish and wildlife management (see attached 1995 letter). No unique or special fish, wildlife or habitats were identified at that time.

The proposed project includes construction of an approximate 4,680 square foot munitions maintenance facility, including two anticipated future additions, with extension and connection of utilities: water, electricity, gas, communications, and storm/sanitary sewers. A new access drive, parking, and pavement area would total about 21,800 square feet and bring the total development footprint to just over one-half acre. Project design is at the conceptual stage. The new facility is needed to accommodate the munitions maintenance mission of the military units stationed at YARS. Current space is inadequate and operations are in violation of U.S. Air Force instructions and safety standards.

In addition to the Proposed Action, two other site alternatives are being evaluated. The first site is in the more upland wooded area along Perimeter Road and the other is in the training area near the flight line (Figure 2). Both sites are remote from current munitions facilities and both sites would result in additional area subject to explosive hazard. A No Action alternative will also be evaluated.

*an employee-owned company*







A wetland study and delineation of YARS was conducted in 2002 (Wetland Identification and Delineation Report, Youngstown Air reserve Station, Ohio, e2M, 2002). The survey identified approximately 12.46 acres of USACE jurisdictional wetlands and 0.89 acres of isolated wetlands regulated by the OEPA. The 12 plus acres of wetlands consist of a relatively contiguous tract within the approximate 30 acre woodland identified in the referenced 1995 letter. Most of this area was formerly drained and disturbed agricultural land according to the 2002 study, but has been relatively undisturbed for the past 50 years.

The wooded wetlands are dominated by a young red maple overstory and are largely characterized by a sparsely vegetated understory. According to the OEPA's Ohio Rapid Assessment Method (ORAM) scoring system, all of the wetlands are Category 1 or 2; there are no Category 3 wetlands on base. No threatened or endangered species are known to exist in the area according to a natural resources survey done in 1996 (Natural Resources Survey, Youngstown Air Reserve Station, Vienna, Ohio, Parsons Engineering-Science, 1996).

I am requesting comment from your agency regarding the presence or absence of Federal and State-listed species that may be located within 0.5 miles of the proposed project location. In addition, please comment on the presence or absence of areas of ecological concern including wetlands, national wild and scenic rivers, wildlife areas/refuges, or wildlife management areas that may be located within any areas that may be disturbed by the project. We have also contacted the ODNR's Division of Natural Areas and Preserves for a search of their Natural Heritage Database.

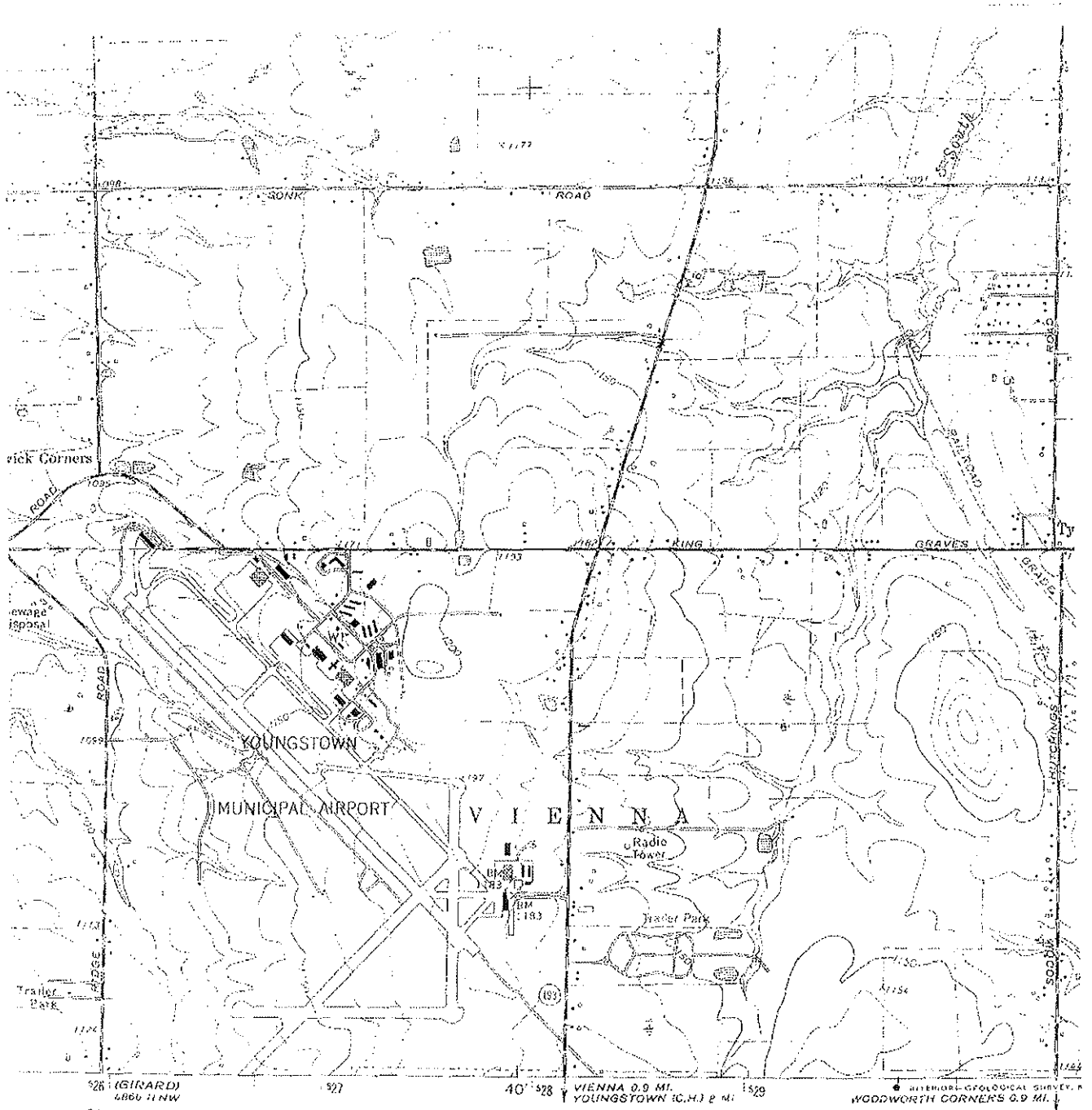
Please send your comments to me at the address listed on the letterhead. If you have any questions, please call me at 937-384-4218 or contact me by email at [John.Koerner@westonsolutions.com](mailto:John.Koerner@westonsolutions.com). Thank you for your assistance.

Sincerely,

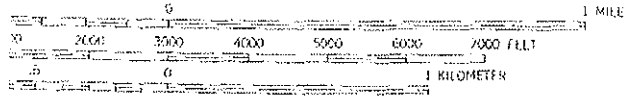
John M. Koerner  
Senior Environmental Scientist  
Weston Solutions

Copy  
Mr. John Tarantine  
910 MSG/CEV Youngstown Air Reserve Station

Attachments



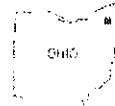
SCALE 1:24 000



CONTOUR INTERVAL 10 FEET  
 NATIONAL GEODETIC VERTICAL DATUM OF 1929

CONFORMS WITH NATIONAL MAP ACCURACY STANDARDS  
 U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092  
 A LIST OF TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Figure 1



QUADRANGLE LOCATIONS

Revisions shown in purple compiled in cooperation with State of Ohio agencies from aerial photographs taken 1977 and other source data. This information not field checked. Map, edited 1979

Purple dots indicate extension of urban areas

Boundary lines shown in purple compiled from latest available data available from the U.S. Geological Survey

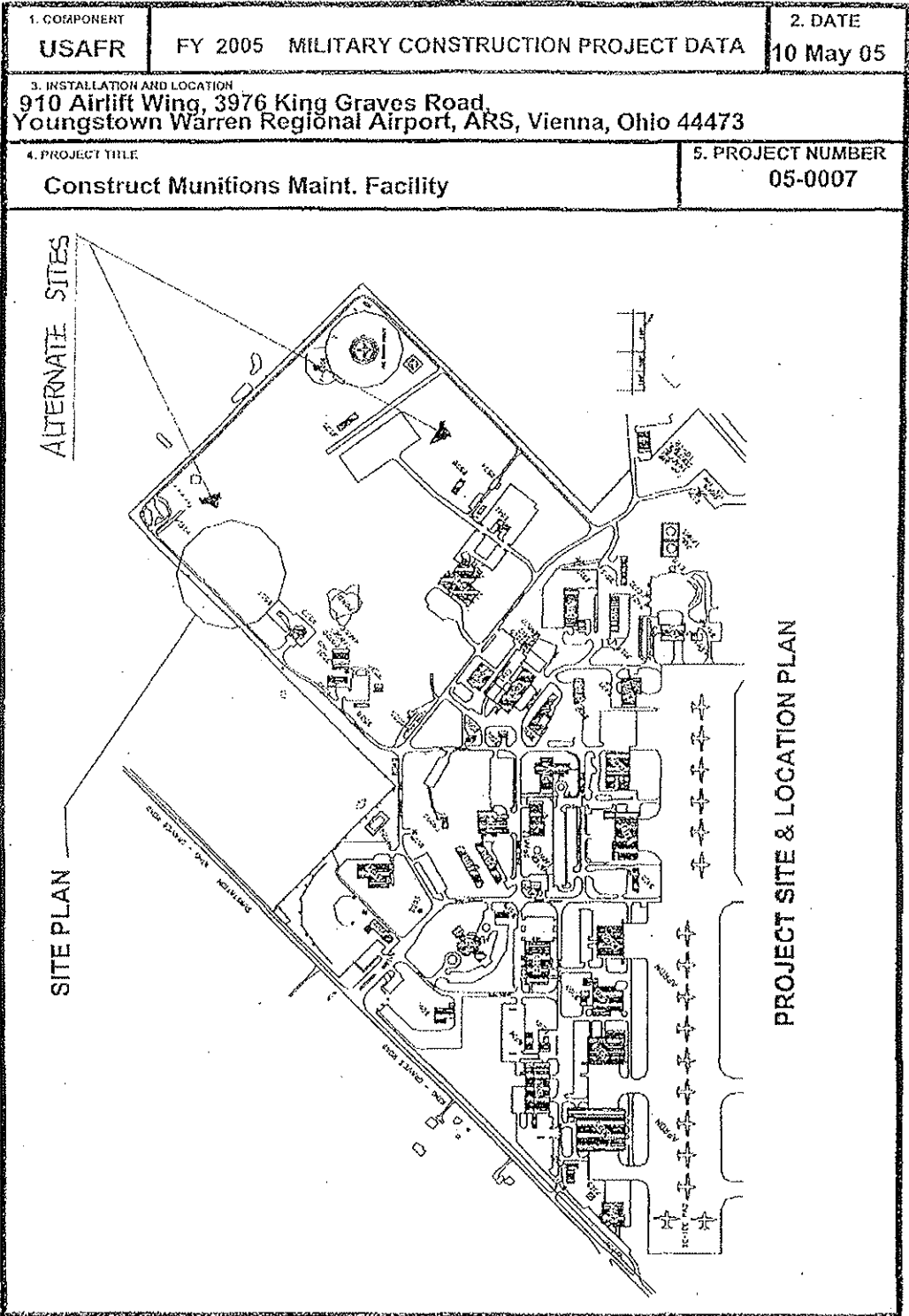
ROAD CLASSIFICATION

- Heavy duty ———— L1
- Medium duty ———— U
- State Route ———— State R

CO

N4

FH  
 AMS 4



PAGE NO.

Figure 2

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UNTIL EXHAUSTED \*U.S.G.P.O. 1951-1281-437-85216

DD Form 1391, DEC 76 (EF)

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1. COMPONENT <b>USAFR</b>	FY 2005 MILITARY CONSTRUCTION PROJECT DATA	2. DATE <b>10May05</b>
3. INSTALLATION AND LOCATION <b>910 Airlift Wing, 3976 King Graves Road, Youngstown Warren Regional Airport, ARS, Vienna, Ohio 44473</b>		
4. PROJECT TITLE <b>Construct Munitions Maint. Facility</b>		5. PROJECT NUMBER <b>05-0007</b>

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UNLESS EXHAUSTED \*U.S.G.F.O.:1991-1281-437:85216

DD Form 1391, DEC 76 (EF)



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
6950-H Americana Parkway  
Reynoldsburg, Ohio 43068

IN REPLY REFER TO:

COMM: 614/469-6923 FAX: 614/469-6919  
August 16, 1995

Mr. Larry D. Lemar  
910 Airlift Wing/CE  
3976 King Graves Road  
Youngstown-Warren Rgl. Appt.  
ARS Vienna, Ohio 44473-0910

Dear Mr. Lemar:

This responds to your request for assistance in categorizing certain lands on the Youngstown Air Reserve Base as to their suitability for fish and wildlife management. Mr. Bill Kurey of this office visited the areas in question with Mr. Greg Wykle of your staff on August 14. We have also reviewed the installation classification rules and would like to submit to you the following observations and recommendations.

1. The 36 acres of unimproved land are unsuitable for any but the most restrictive hunting and trapping programs because of the limited size of the parcel. Safety considerations might make hunting inadvisable and there was not enough habitat for fur bearers to make trapping feasible.
2. Fishing opportunities are also limited, but the pond does have some recreational fishing potential. Large numbers of small bluegills were observed in the pond.
3. The estimated 30 acres of woodland is too small an area to interest many of the neotropical forest nesting birds. Contiguous tracts of about 200 acres seem to be the low end of what these birds like. However, this is not to say that many other species of migratory birds don't use the area. The area might have some potential for bird watching and nature walks.
4. RECOMMENDATION: From our admittedly limited understanding of the installation classification system, we recommend that the land parcel in question be assigned to Category II. We suggest that the area be used informally for fishing, bird watching, nature walks, and other activities that are compatible with its present ability to support fish and wildlife. Category II would appear to be the proper category based on "resource limitations."

If you have questions or we may be of further assistance in this matter please contact Mr. Bill Kurey of this office at 614-469-6923.

Sincerely,

  
Kent E. Kroonmeyer  
Supervisor

cc: C. Suprenant, FWS Fish. Res., Cartersville, IL



## Ohio Department of Natural Resources

BOB TAIT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

**Division of Natural Areas and Preserves**  
*Tom Linkous, Chief*  
2045 Morse Rd., Bldg. F-1  
Columbus, OH 43229-6693  
Phone: (614) 265-6453; Fax: (614) 267-3096

November 16, 2005

John Koerner  
Weston Solutions, Inc.  
2566 Kohnle Dr.  
Miamisburg, OH 45342

Dear Mr. Koerner:

After reviewing our Natural Heritage maps and files, I find the Division of Natural Areas and Preserves has no records of rare or endangered species in the Youngstown Air Reserve Station EA project area, including a half mile radius, in Vienna Township, Trumbull County, and on the Cortland Quad.

There are no existing or proposed state nature preserves or scenic rivers at the project site. We are also unaware of any unique ecological sites, geologic features, breeding or non-breeding animal concentrations or state parks, forests or wildlife areas within a half mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Please note that although we inventory all types of plant communities, we only maintain records on the highest quality areas. Also, we do not have data for all Ohio wetlands. For National Wetlands Inventory maps, please contact Madge Fitak in the Division of Geological Survey at 614-265-6576.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

A handwritten signature in cursive script that reads "Debbie Woischke".

Debbie Woischke, Ecological Analyst  
Natural Heritage Program





Weston Solutions, Inc.  
 2566 Kohnle Drive  
 Miamisburg, OH 45342  
 937-384-4200  
 937-384-4201 (Fax)  
[www.westonsolutions.com](http://www.westonsolutions.com)

**FACSIMILE TRANSMITTAL**

To: ODNR Div of Nat Areas Recipient's Facsimile # 614 -267-3096  
Ms Debbie Woischke Recipient's Telephone # 614-265-6453  
 From: John Koerner Originator's Telephone # 937-384-4218  
 Total Pages: 4 (Incl. cover sheet)  
 Date: November 14, 2005 W.O. #: Youngstown EA

**Comments:**

Weston Solutions formally requests a search of the Heritage Database for the environmental features and resources checked on the attached request form. This information is being requested to comply with all of the pertinent coordination and other requirements associated with the USAF Environmental Impact Analysis Process and NEPA. The project site has been identified on a portion of the Cortland, Trumbull County quad that is attached. The project involves construction of a new munitions facility at the Youngstown Air Reserve Station.

Sincerely,

John M. Koerner

**WESTON...Restoring Resource Efficiency**

*Our services encompass environmental remediation, redevelopment, and management and compliance.*

*Our emphasis on restoring resource efficiency to our clients' operations—including land, air, water, facilities, and staff—ensures that clients derive maximum value from their resources.*

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WESTON SOLUTIONS, INC.  
 MIAMISBURG, OH

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DATA REQUEST

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF NATURAL AREAS AND PRESERVES
NATURAL HERITAGE DATA SERVICES
1889 FOUNTAIN SQUARE COURT, BUILDING F-1
COLUMBUS, OHIO 43224
PHONE: 614-265-6453; FAX: 614-267-3096

INSTRUCTIONS:

Fill out both pages of the form; sign it and return it to the address or fax number listed above along with: (1) a letter formally requesting data and describing your project, and (2) a map detailing the boundaries of your study area. A photocopy from the pertinent portion of a USGS 7.5 minute topographic map is preferred but other maps are acceptable. Our turnaround time is two weeks, although we can often respond more quickly.

FEES:

Fees are determined by the amount of time it takes to complete your project. The charge is \$25.00 per 1/2 hour with a 1/2 hour minimum. We can perform a data search manually or by computer. The Heritage Data Services staff will determine the most cost-efficient method of doing your search. A cost estimate can be provided upon request. Unless otherwise specified, an invoice will accompany the data services response.

\*\*\*\*\*

This request is being submitted by: [X] fax [ ] mail [ ] both

Date: 14 November 2005

Your Agency/Organization: Western Solutions, Inc

Your Name/Title: John M Koerner, Senior Scientist

Address: 2566 Kohrle Drive

City/State/Zip: Dayton, OH 45342

Phone/Fax: 937-384-4218 fax: 937-384-4201

Project Name/Number: Youngstown Air Reserve Station EA

Project is located on the following USGS 7.5 minute topographic map(s):

Cortland, OH

If there is a program or contracting agency requiring this information, please give the name and phone number of a contact person:

The Natural Heritage Data Base contains records for the categories of species and features listed below. Check the appropriate boxes to indicate your selection.

- PLANTS:  Federal Status Only  
 State Legal Status Only  
 Rare (non-legal status)  
 All of the above

- ANIMALS:  Federal Status Only  
 State Legal Status Only  
 Rare (non-legal status)  
 All of the above

- PLANT COMMUNITIES:  All  
 Wetlands Only  
 Other \_\_\_\_\_

- OTHER FEATURES:  Geologic Features  
 Breeding/Non-breeding Animal Concentrations  
 Champion Trees  
 State Nature Preserves and Natural Areas  
 State Wild, Scenic and Recreational Rivers  
 State Parks, Forests, Wildlife Areas  
 All of the above  
 Other \_\_\_\_\_

Besides name, location and status, specify any additional information you need:

None

- The area you want searched:  study area as outlined on the map  
 study area plus 1/2 mile radius  
 study area plus 1 mile radius  
 other \_\_\_\_\_

How will the information be used:

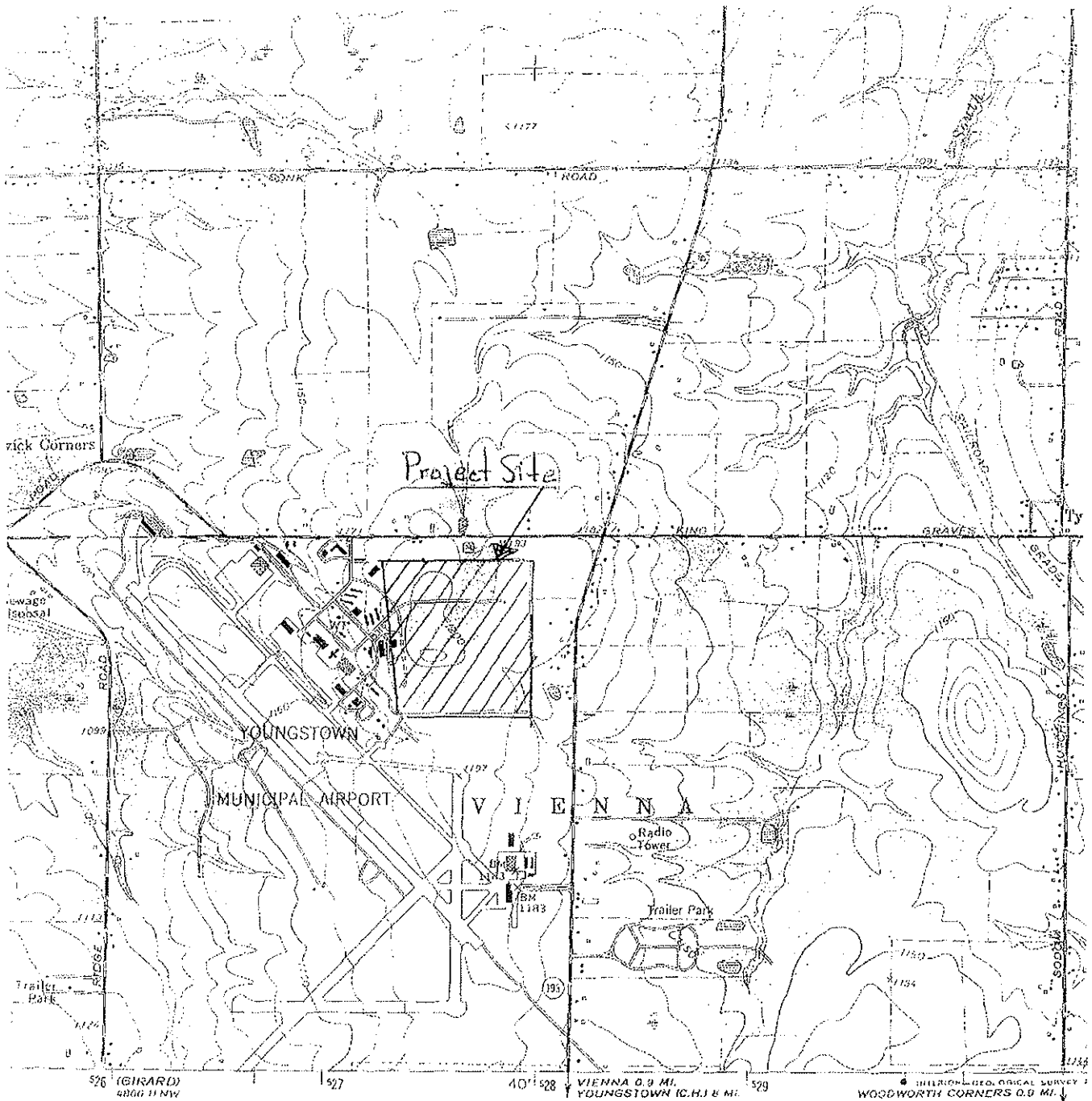
Data for NEPA Environmental  
Assessment

The information supplied above is complete and accurate. Any material supplied by the Natural Heritage Data Base will not be published without prior written permission and without crediting the Division of Natural Areas and Preserves as the source of the material.

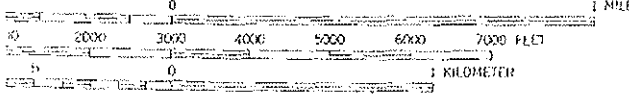
Your Signature

John M. Koenig

DNR 5203  
Rev. 9/97

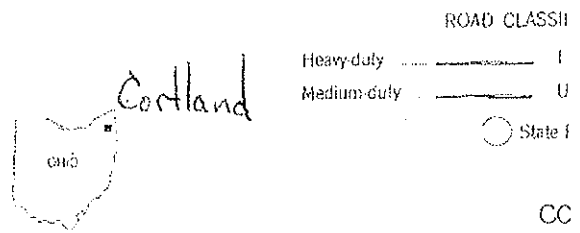


SCALE 1:24,000



CONTOUR INTERVAL 10 FEET  
 ORIGINAL GEODETIC VERTICAL DATUM OF 1929

COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
 U.S. GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092  
 TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION  
 Revisions shown in purple compiled in cooperation with State of Ohio  
 agencies from aerial photographs taken 1977 and other source data  
 This information not field checked. Map edited 1975.  
 Purple tint indicates extension of urban areas  
 Boundary lines shown in purple compiled from latest



Photo 1: Proposed location – east view



Photo 2: Proposed location – south view



Photo 3: Proposed location – west view.



Photo 4: Proposed location – north view





Photo 5: Alternate "A" location – east view



Photo 6: Alternate "A" location – south view



Photo 7: Alternate "A" location – west view.



Photo 8: Alternate "A" location – north view





Photo 9: Alternate "B" location – east view



Photo 10: Alternate "B" location – south view



Photo 11: Alternate "B" location – west view.



Photo 12: Alternate "B" location – north view