

ENVIRONMENTAL ASSESSMENT

WILCOX GATE

AREA DEVELOPMENT PLAN

Fort Huachuca, Arizona



MAY 2004

ENVIRONMENTAL ASSESSMENT**Wilcox Gate Area Development Plan
Fort Huachuca, Arizona
MAY 2004**

LEAD AGENCY: Department of the Army, US Army Garrison, Fort Huachuca, AZ

TITLE OF THE PROPOSED ACTION: Wilcox Gate Area Development Plan

AFFECTED JURISDICTION: Cochise County, Arizona

PREPARED BY: Directorate of Installation Support, US Army Garrison

REVIEWED BY: Directors: Installation Support; Morale, Welfare, and Recreation, US Army Garrison

APPROVED BY: Commander, U.S. Army Garrison, Fort Huachuca, AZ

ABSTRACT: Heightened levels of force protection at Fort Huachuca have periodically cut off access to DMWR facilities. The Proposed Action is designed to increase access by constructing a Welcome Center/Community Club (WC/CC) and a Bowling and Family Entertainment Center (BFEC) at the Wilcox gate. The WC/CC would be adjacent to the Mountain Valley Golf Course and replace the existing clubhouse. The proposed facility consists of 35,000 to 40,000 square feet and includes a Welcome Center; the DMWR Box Office; an Army Theme Restaurant or Sports Bar with a common kitchen serving restaurant and catering functions; a Media Center with indoor and outdoor areas to accommodate the telecommunication needs of the print and broadcast media; a ballroom/conference exhibition hall capable of seating 1200 to 1500 people, with movable partitions; and a new locker room, restroom, and pro shop for the golf course. A 50-acre special events area would be adjacent to the facilities. Both the WC/CC and the BFEC would be open to the public. The alternatives analyzed include an action alternative and the No Action. The action alternative consists of implementing the PA and any or all of three optional projects: 1) a high school; 2) a hotel; and 3) a concert band shell. The Environmental Assessment addresses the possible direct, indirect, and cumulative impacts associated with the Proposed Action and Alternatives on aesthetics and visual resources, noise, geology and soils, water resources, biological resources, human health and safety, socioeconomics, environmental justice, and infrastructure. It concludes that implementing the proposed action would not constitute a major federal action with significant impact on the human environment.

REVIEW COMMENT DEADLINE: Public comments must be received within 30 days from the publishing date of this document. Public comments may be provided to: Commander, USAIC&FH, ATTN: ATZS-ISB (WILCOX GATE EA), Fort Huachuca, Arizona 85613-6000. Comments may also be faxed to (520) 522-3043.

ENVIRONMENTAL ASSESSMENT

WILCOX GATE AREA DEVELOPMENT PLAN FORT HUACHUCA, ARIZONA

Prepared by:

Environmental and Natural Resources Division
Directorate of Installation Support
U.S. Army Garrison, Fort Huachuca

JOHN A. RUBLE
Director, Installation Support

Reviewed by:

Directorate of Morale Welfare and Recreation
U.S. Army Garrison, Fort Huachuca

DANIEL C. VALLE
Director, Morale, Welfare and Recreation

Approved by:

JONATHAN B. HUNTER
Colonel, Military Intelligence
Commander, U.S. Army Garrison

MAY 2004

HOW THIS ENVIRONMENTAL ASSESSMENT IS ORGANIZED

The FINDING OF NO SIGNIFICANT IMPACT briefly describes the Proposed Action and alternatives. Direct and indirect impacts are summarized and compared, and cumulative impacts are briefly described. The conclusions from the analysis are also stated

The ABSTRACT page provides pertinent information and a brief synopsis of the action, as well as contact information for public comment.

- SECTION 1** INTRODUCTION discusses the purpose and need for the Proposed Action, the regulatory background surrounding this project, and the scope of this Environmental Assessment.
- SECTION 2** DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES discusses the Proposed Action and alternatives addressed in this Environmental Assessment.
- SECTION 3** AFFECTED ENVIRONMENT AND CONSEQUENCES describes the existing environment within the Region of Influence and provides a comparison of environmental consequences associated with the different alternatives. Cumulative impacts analyses are in this section.
- SECTION 4** CONCLUSIONS provides a summary of the findings of the EA.
- SECTION 5** REFERENCES provides bibliographical information for sources cited in the text of this Environmental Assessment.
- SECTION 6** LIST OF PREPARERS AND CONTACTS provides a list of persons and/or agencies that provided analysis or information in the preparation of the document.
- SECTION 7** ACRONYMS

This document contains no appendices

DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNSI)
Willcox Gate Area Development Plan
Fort Huachuca, Arizona
June 2004

Title of the Proposed Action: Willcox Gate Area Development Plan, Fort Huachuca, Arizona.

Introduction: An Environmental Assessment (EA), dated May 2004, has been prepared to support the decision-making process of the US Army Garrison on the implementation of the proposed Willcox Gate Area Development Plan to provide for updated Morale, Welfare and Recreation facilities that would be accessible during periods of heightened force protection. This EA was prepared in compliance with the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 U.S.C. 4321-4347, as amended), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508), and AR 200-2, Environmental Effects of Army Actions (32 CFR 651, March 2002). The EA is incorporated by reference into this FNSI.

Description of the Proposed Action (PA): Under the PA, the Directorate of Moral Welfare and Recreation would enter into public private partnerships, or otherwise gain funding for two buildings and a special events park in the area between Buffalo Soldier Trail and the Mountain View Golf Course to be accessible by the Wilcox Road extension onto Fort Huachuca. The new facilities would upgrade the existing MVGC facilities and provide a conference center, family entertainment and will provide improved facilities for bowling and dancing. No new personnel are anticipated to move to Sierra Vista as a result of this Proposed Action.

Alternatives Considered: The alternatives to the proposed action consist of a series of optional additions to the PA, or the No Action alternative. The action alternative, Alternative A, to the PA would consist of the PA and one or more of the following optional items: (1) a High School that would increase activity in this area during the school year and require approximately 20 to 30 acres; (2) a Hotel/Lodging facility that would provide lodging for conference and convention attendees traveling from out of the area for events at the proposed conference center; and/or (3) a Concert Venue to replace Libby Army Airfield as the site for outdoor concerts. If more than one option is implemented, different options may be implemented at different times. Some options may require additional analysis and public comment prior to implementation. Under the Alternative B - No Action, the DMWR facilities will remain at their current location throughout the installation. No new facilities or upgrades to existing facilities would occur.

Anticipated Environmental Effects: The EA documents that no significant, unmitigated impacts associated with the PA are anticipated. Only minor or mitigated adverse impacts to visual resources, noise, soils, water resources, cultural resources, and human health and safety would occur as a result of the PA.

Impacts to visual resources are primarily associated with potential obstructions to the viewshed for residents along Garden Avenue. The PA is not expected to cause obstructions but in the Alternative, the high school and hotel/lodging could impact the viewshed depending on the final location and configuration of these facilities.

Potential noise impacts from the PA and most options within the Alternative can be mitigated. The impacts from the special events venue in the PA and the concert bandshell alternative may be more difficult to mitigate without impacting visual resources. Noise measurements and modeling may be required to fully characterize the potential impacts and to evaluate potential mitigations for use of the bandshell option for amplified outdoor concerts.

Vegetation management associated with the PA and several of the Alternative's options would change ground cover and could increase soil erosion. These potential impacts to soil will be mitigated through

1 implementation of standard construction and post construction best management practices for storm
2 water pollution prevention.

3 The PA and Alternatives are anticipated to slightly increase consumptive water use at the Fort,
4 impacting water resources. These potential increases will be zero-balanced by the DWMR as part of
5 the PA and Alternative options by implementing water conservation measures at other facilities on the
6 Post, or contributing to other water conservation projects through the Fort Huachuca Environmental and
7 Natural Resources Division.

8 The cultural resources survey identified remnants of an old airfield underlying an existing road, a
9 portion of the current golf course, and a portion of the project area for the PA and Alternatives. Based
10 on the limited remains of the airfield and the current high level of disturbance, the PA and Alternatives
11 do not represent a significant impact on the Fort's cultural resources inventory. Prior to any additional
12 disturbance, the site will be inventoried and documented.

13 The PA and Alternatives propose to collocate multiple DMWR and other civilian facilities near the
14 Wilcox Gate. The access and egress to this area are less controlled than to the main fort. To ensure
15 security for the project while increasing accessibility to recreation, Fort Huachuca will configure the
16 planned facilities to allow closure in the event of a specific threat.

17 Potentially impacts to visual resources and noise levels would be the main cumulative impacts of the
18 project, primarily for the residences along Garden Avenue in Sierra Vista. U.S. census data indicate
19 that this area has a higher percentage of minority populations and low-income households when
20 compared to the City of Sierra Vista, Cochise County, and the state of Arizona. To the extent that the
21 Fort is able to effectively mitigate these impacts, environmental justice concerns will be addressed.

22
23 **(Draft) Findings:** Based on the findings of the EA, it is the conclusion of this analysis that
24 implementation of the PA does not constitute a major federal action with significant impact on the human
25 environment, and a Finding of No Significant Impact for the PA should be issued to complete the
26 documentation. Therefore, an Environmental Impact Statement will not be prepared.

27
28 **Public Comments:** The Army invites interested or affected parties to review and comment on the FNSI
29 within 30 days of publication by writing to Commander, U.S. Army Garrison, ATTN: ATZS-ISB (Kent),
30 Fort Huachuca, Arizona 85613-6000 or fax to (520) 533-3043. The EA is available for review at the Sierra
31 Vista City Library on Tacoma Street, or at the Main Library on post on Smith Street. To obtain a copy of
32 the EA, contact (520) 533-3120 and leave a name and address, or write to: U.S. Army Garrison, ATTN:
33 ATZS-ISB (Wilcox Gate NEPA), Fort Huachuca, Arizona 85613-6000. A copy of the EA may also be
34 reviewed on line at:

35 <http://huachuca-www.army.mil/USAG/DIS/DISHOME.HTM#ENRD>

36 **Approval authority:**

37 Jonathan B. Hunter
38 Colonel, U.S. Army
39 Commander, U.S. Army Garrison

1.0 INTRODUCTION

Since the September 11, 2001 attack on the World Trade Center and the Pentagon by international terrorists, force protection and physical security have been a primary focus throughout the continental United States. At Fort Huachuca, heightened levels of force protection have periodically cut off access to Morale, Welfare, and Recreation facilities for some categories of personnel. The Directorate of Morale, Welfare, and Recreation (DMWR) has proposed two new facilities to address this issue. This Proposed Action constitutes a federal action under the National Environmental Policy Act (NEPA). To comply with the requirements of NEPA, this Environmental Assessment (EA) has been prepared to evaluate the potential environmental impacts of the Proposed Action and alternatives.

1.1 Purpose and Need for the Proposed Action

The repercussions of 11 September 2001 have negatively impacted the ability of the DMWR to provide services and manage its business operations. Some categories of personnel cannot access DMWR facilities on Post during heightened states of force protection despite their eligibility to use DMWR facilities. This restricts services available to off-Post families of active personnel, retired military personnel, and the local community. Furthermore, the uncertainty of facility access has caused organizations, both on- and off-Post, to move meetings such as luncheon meetings or annual conferences, from DMWR facilities to off-Post locations. To better serve the community, achieve the financial consistency, and ensure customer service, the DMWR proposes to construct a DMWR complex in the Wilcox Gate area near Mountain View Golf Course (MVGC) (Figure 1). This location allows for greater patron accessibility during heightened states of force protection on the Post. The new facilities would replace the existing Lakeside Activities Center and Desert Lanes Bowling Center with a new Welcome Center/Community Club (WC/CC) and Bowling and Family Entertainment Center (BFEC), respectively.

The Lakeside Center and Desert Lanes Bowling Center are old on-Post structures that are no longer large enough to meet the needs of the active duty, dependent, or retired military communities. The banquet, dance, and conference facilities of the WC/CC and the BFEC will be state-of-the-art with a larger capacity to address the growing needs of Fort Huachuca and the surrounding community of eligible patrons. The current small conference areas would be replaced by large central meeting rooms with numerous smaller break-away rooms to better serve large, regional or national events utilizing videoconferencing and other new telecommunication technologies. The need to upgrade family entertainment facilities is also driven by new technologies and community growth. The location, adjacent to the MVGC, would make the new facilities available to both the on- and off-Post patrons during times of heightened force protection. This location is also closer to off-Post lodging for personnel on temporary duty and without transportation than are the current facilities.

The WC/CC would replace current functions served by the Lakeside Activities Center. The Lakeside Activity Center would then become additional Army Lodging offices. By moving these administrative offices and services to the Lakeside Center, an additional 20 rooms of Army lodging currently used as office space would become available for personnel with longer temporary stays at Fort Huachuca.

The Welcome Center will provide orientation and in-processing for incoming military and civilian personnel. Fort Huachuca does not currently have such a facility due to space limitations.

1.2 Public Involvement

In keeping with Army guidance, this EA and resulting draft decision document of either a Finding of No Significant Impact (FNSI) or a Notice of Intent (NOI) to complete an Environmental Impact Statement (EIS) will be made available to agencies and the general public for review and comment. The Fort ran notice of the Proposed Action in a commercial advertisement and public notice in the Sierra Vista Herald. The 14 public responses (11 e-mails and 3 letters) were mostly supportive of the action, but did include comments about potential noise, viewshed and traffic impacts. These concerns are addressed in this EA.

For further information or to submit comments, please send your name, address, and the title of this document in writing to U.S.A.I.C & F.H., ATTN: ATZS-ISB (WILCOX GATE EA), Fort Huachuca, Arizona 85613-6000 or by fax to (520) 522-3043.

1.3 Scope

This EA is prepared in accordance with the following regulations and directives:

- National Environmental Policy Act (NEPA) (42 USC 4321 et seq.)
- Council for Environmental Quality (CEQ) Regulations (40 CFR 1500-1508)
- U.S. Army Regulation 200-2, Environmental Effects of Army Actions (32 CFR 651)

This EA is intended to be a concise public document providing sufficient evidence and analysis to determine whether to prepare an EIS or a FNSI. NEPA requires that agencies of the federal government implement an environmental impact analysis program in order to evaluate "...major federal actions significantly affecting the quality of the human environment."

A federal action may include projects financed, assisted, conducted, regulated, or approved by a federal agency that have the potential to significantly affect the human environment. This EA was also prepared to meet the requirements of an effective and coordinated environmental planning process.

The following documents include extensive references to historical studies and existing conditions at Fort Huachuca and surrounding regions. These documents are incorporated by reference into this EA and are available for review, with prior notice, at the Environmental and Natural Resources Division, Fort Huachuca, Arizona 85650. Call (520) 533-3120 to arrange a time for review.

U.S. Fish and Wildlife Service (USFWS) 2002. Biological Opinion AESO/SE 2-21-02-F-229 Fort Huachuca Ongoing and Programmed Future Military Operations and Activities. Phoenix, Arizona: U.S. Fish and Wildlife Service. August.

U.S. Army Garrison (USAG) Fort Huachuca. 2002. Programmatic Biological Assessment for Ongoing and Programmed Future Military Operations and Activities at Fort Huachuca, Arizona. Fort Huachuca, Arizona: Environmental and Natural Resource Division. July.

USAG Fort Huachuca, Arizona. 2002. Water Resources Management Plan Phase 2. Fort Huachuca, Arizona: Environmental and Natural Resources Division. July.

USAG Fort Huachuca. 2002. Programmatic Environmental Assessment for Implementation of Integrated Cultural Resources Management Plan at Fort Huachuca, Arizona. Fort Huachuca, Arizona: Environmental and Natural Resource Division. July.

USAG Fort Huachuca. 2000. Environmental Assessment for Artificial Aquifer Recharge and Treated Effluent Reuse at Fort Huachuca, Arizona. Fort Huachuca, Arizona:

Upon completion of the preliminary environmental screening for this EA, the Army determined that this EA would evaluate the potential impacts on the human environment by focusing on the following environmental resources:

Aesthetics and Visual Resources (Section 3.2)	Cultural Resources (Section 3.7)
Noise (Section 3.3)	Human Health and Safety (Section 3.8)
Geology and Soils (Section 3.4)	Socioeconomics (Section 3.9)
Water Resources (Section 3.5)	Environmental Justice (Section 3.10)
Biological Resources (Section 3.6)	Infrastructure (Section 3.11)

In addition to the evaluation for potential direct and indirect impacts on the above resources, the proposed activities were also evaluated for cumulative impacts on the environment (Section 3.12). Section 3.13 describes design considerations used to mitigate effects of the Proposed Action on the natural environment and to reduce natural resource consumption.

2.0 PROPOSED ACTION AND ALTERNATIVES

This section presents the Proposed Action, possible additions to the Proposed Action, the No Action Alternative, and additional alternatives considered but rejected for further analysis.

2.1 Proposed Action

The Proposed Action is the construction of two new DMWR facilities, located adjacent to the MVGC and accessed via Wilcox Road, to replace the Lakeside Activity Center, the Desert Bowling Center and the current golf course clubhouse (Figure 2). The proposed location is outside the Post's Wilcox gate to allow access during heightened force protection conditions on the main installation.

The general concept includes reorientation of the current driving range, construction and operation of two new facilities, additional parking areas, designation of an unpaved special events area, and demolition of the current MVGC clubhouse, including the 19th Hole bar/restaurant and the pro shop. The two proposed new facilities are described in the remainder of Section 2.1.

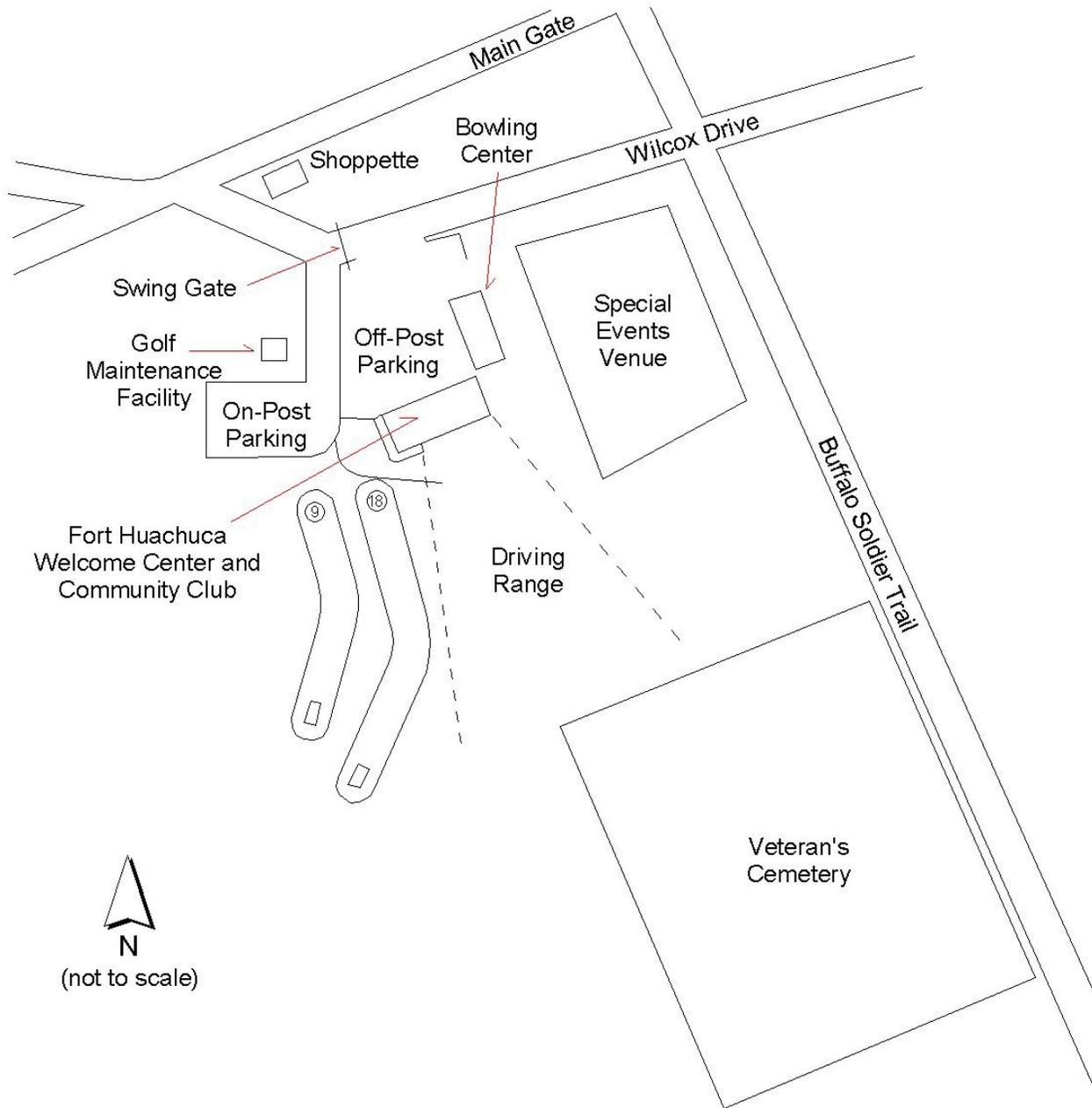
2.1.1 Welcome Center/ Community Club

The proposed Fort Huachuca WC/CC would be adjacent to the MVGC and replace the existing clubhouse. The proposed facility is approximately 35,000 to 40,000 square feet (sq ft) including:

- 4,500 to 5,000 sq ft for the Welcome Center and the DMWR Box Office
- 5,000 sq ft for an Army Theme Restaurant or Sports Bar with a common kitchen serving restaurant and catering functions
- a Media Center with indoor and outdoor areas to accommodate the telecommunication needs of the print and broadcast media
- a ballroom/conference exhibition hall capable of seating 1200 to 1500 people banquet style with partitions for different size meeting and conference room configurations as well
- a new locker room, restroom, and pro shop for the golf course
- an elevated deck around the southwest corner of the building

The 50-acre special events area will consist of an unpaved area between the Community Club and the Veterans' Cemetery west of Wilcox Drive that will be mowed and managed to suppress woody plants. The area will be designed to accommodate up to 8,000 people attending activities, such as the Family Fun Fest and the circus, previously held at the Anderson Special Events facility. This facility will likely be used up to eight times per year.

The current building housing the golf pro shop, locker rooms and 19th Hole would be demolished. The new restaurant/sports bar would absorb the functions of the 19th Hole bar/restaurant.



1

2

Figure 2: Proposed Wilcox Gate complex

1 The current MVGC putting green would be extended to the WC/CC on the west side of the
2 building. The existing driving range would be relocated to the south side of the new building.
3 The Media Center would provide an area off-Post for Fort Huachuca to address members of
4 the media during times of heightened force protection. The facility would contain two rooms:
5 one with audio/visual equipment hook-ups for press conferences and a second with
6 telecommunication ports (internet and telephone) for the use of reporters and news crews. The
7 Media Center would also require an expanded parking/staging area for news vehicles. The area
8 would serve the same function as a small recreational vehicle-park, allowing large vans access
9 to power, water, and wastewater hook-ups, as well as allowing enough space for deployment of
10 satellite antennae.

11 *2.1.2 Bowling and Family Entertainment Center*

12 The existing Desert Lanes Bowling Center would be replaced by a new state-of-the-art BFEC. In addition to 36
13 to 48 bowling lanes, the new center would contain a childcare facility, video arcade and a disco/nightclub with
14 casual restaurant. Fort Huachuca DMWR would work with the Head Quarters Department of the Army (HQDA)
15 Community and Family Support Center's (CFSC) Public/Private Venture (PPV) office to contract with a national-
16 level bowling company to build and operate the new entertainment center, with the Installation Morale, Welfare,
17 and Recreation Fund (IMWRF) receiving a percentage of revenues. This new entertainment center will share
18 parking with the WC/CC and the MVGS. The total acreage of the new parking area will be 10 acres.

19 This complex would likely be constructed through a public-private partnership. Non-federal partners would help
20 fund this project for the Welcome Center as a partnership effort. Any potential additional water use from the
21 Proposed Action will be zero-balanced by reduced water use elsewhere on the Post. The WC/CC and BFEC
22 would be open to the public, as is the MVGC.

23 **2.2 Alternatives to the Proposed Action**

24 The alternatives to the Proposed Action would consist of the Proposed Action and one or more
25 of the following optional items described in this section. If more than one option is
26 implemented, different options may be implemented at different times. Some options may
27 require additional analysis and public comment prior to implementation.

28 *2.2.1 High School*

29 There is currently no on-Post high school for the resident families of active military personnel.
30 A high school would complement the current schools and reduce access issues for staff during
31 periods of heightened force protection. This facility would increase activity in this area during
32 the school year and require approximately 20 to 30 acres. Additional archeological and traffic
33 studies would be required prior to implementation of this option.

34 *2.2.2 Hotel/Lodging*

35 A hotel would provide lodging for conference and convention attendees traveling from out of
36 the area for events at the proposed WC/CC. It would be open to the public, vendors, and
37 subcontractors to help ensure consistent revenue. This option would require additional acreage
38 and increase activity in the vicinity. Additional archeological, economic, and traffic studies
39 would be required prior to implementation of this option.

40 *2.2.3 Concert Venue*

41 The Fort's current outdoor concert venue at Libby Army Airfield is experiencing difficulty attracting and
42 scheduling events due to access concerns. To address this problem the outdoor concert venue would be relocated

1 to an area adjacent to the proposed WC/CC and BFEC. The venue stage would have a band shell near the
2 WC/CC with a large open seating area between the WC/CC and the Veterans Cemetery west of the Wilcox Drive.
3 Mowing and suppression of woody plants in the seating area will enhance the grassland view from the WC/CC
4 balcony and create a cooler location for outdoor music events than the current hardtop venue area. This facility
5 would likely be used up to four times per year. It would use the same land area as the special events area with the
6 addition of the band shell. Additional noise studies would be required prior to implementation of this option.

7 **2.3 No Action Alternative**

8 The No Action alternative is maintenance of the status quo. No construction of new facilities would occur. The
9 current MVGC clubhouse, Lakeside Activities Center, Desert Lanes Bowling Center, and outdoor concert venue
10 at Libby Army Air Field would remain in use.

11 **2.4 Alternatives Considered But Rejected**

12 For the reasons stated below, the following alternatives were considered but rejected.

13 *2.4.1 Renovate Existing Facilities:*

14 Renovation of the MVGC pro shop and 19th Hole bar/restaurant, the Lakeside Activities Center and the bowling
15 alley is an option. This alternative will not meet the requirement for access during times of heightened force
16 protection conditions for the Lakeside Activities Center and the bowling alley and does not fulfill the need for the
17 action.

18 *2.4.2 Use Existing Facilities in the Adjacent Civilian Community:*

19 Existing facilities in the civilian community include the Vista Lanes bowling alley and various restaurants and
20 clubs. These facilities do not meet the goals of the DMWR soldier and family support mission. Profits would not
21 be returned to the military community, and facilities are too far away to compliment existing facilities that would
22 remain, such as the golf course.

23 *2.4.3 Build the New Facilities at Another Location:*

24 Originally, three other locations were considered for new DMWR facilities. After September 11, 2001, the two
25 sites located in the interior of the Post were eliminated due to access concerns. The third location, near the Thrift
26 Shop and Widow Support Center on Fry Boulevard, is near the Main Gate. This location is on Post property and
27 could provide access during times of heightened force protection, however, the area is far enough from the golf
28 course to eliminate many of the efficiencies gained by collocation. Parking could not be shared and the clubhouse
29 facilities to be incorporated in the new facility would be too far from the golf course. Building the proposed
30 complex near the main gate and modernizing the existing MVGC facilities would greatly increase the over all cost
31 of the project, while reducing the attractiveness to customers achieved by collocating multiple facilities.

3.0 AFFECTED ENVIRONMENTS AND CONSEQUENCES

This section describes the current condition of environmental resources and the possible impacts to these resources from the Proposed Action and Proposed Actions with additional alternatives. The descriptions represent the baseline conditions for comparison of changes caused by implementation of the Proposed Action and alternatives. Potential changes or impacts to the resources are described in each section as environmental consequences. Cumulative impacts, or impacts attributable to the Proposed Action combined with other past, present or reasonably foreseeable future impacts, regardless of the source, are also presented in this section.

This section describes conditions of, and possible impacts to, environmental resources potentially affected by the Proposed Action and alternatives. The descriptions of existing conditions provide a baseline understanding of the resources from which any environmental changes that may be brought about by the implementation of an alternative can be identified and evaluated. Following the existing conditions, potential changes or impacts to the resources are described as environmental consequences. As stated in CEQ Guidelines, 40 CFR 1508.14, the human environment potentially affected is interpreted comprehensively to include the natural and physical resources and the relationship of people with those resources. The term "environment" as used in this report encompasses all aspects of the physical, biological, social, and cultural surroundings. In compliance with guidelines contained in NEPA and CEQ regulations, the description of the affected environment focuses only on those aspects potentially subject to impacts (Table 3-1). Cumulative impacts defined in the CEQ regulations (40 CFR 1500-1508) as those impacts attributable to the Proposed Action combined with other past, present, or reasonably foreseeable future impacts regardless of the source are also evaluated (Section 3.10).

Impacts to resources will be evaluated within the Region of Influence (ROI) for that resource. The ROI is the area within which a Proposed Action or alternative may directly or indirectly cause changes in the character of that resource.

3.1 Preliminary Impact Scoping

Only those resources that could potentially be affected by the Proposed Action or are of public concern are included in the Affected Environment and analyzed under Environmental Consequences. Table 3-1 presents the results of the preliminary impact scoping and the explanation of why certain environmental resources were excluded from detailed discussion.

1
2

**TABLE 3-1
PRELIMINARY IMPACT SCOPING RESULTS**

<i>Resource</i>	<i>Potential for Impact</i>	<i>Retain?</i>
Land Use	The Proposed Action and alternatives occur on U.S Army property. The current land use for some of the areas included in the Proposed Action and/or alternatives will be changed from training to recreation. Previously less developed land will be built-up and under some of the alternatives, development will move closer to residential properties in Sierra Vista. None of these changes will significantly impact overall land use. Other associated impacts, such as noise and viewshed, are evaluated under other categories.	No
Aesthetics and Visual Resources	The Proposed Action and additional alternatives could partially obscure or result in abrupt changes to the complexity of the landscape and skyline when viewed from points readily accessible to the public. However, change to the character of the area would not occur as a result of the Proposed Action or alternatives.	Yes
Air Quality	Air quality impacts would be limited to temporary, localized effects associated with heavy equipment used during construction and occasional events at the special events venue. No permanent, long-term air quality impacts are anticipated.	No
Noise	Noise impacts would be limited to short-term effects from heavy equipment used during construction during daytime hours only. Possible longer-term noise impacts could occur with the establishment of a special events/concert venue. This increase would remain occasional rather than continuous at the increased event noise level.	Yes
Geology and Soils	Vegetation control measures included in the alternatives and ground disturbance during construction could cause increased erosion.	Yes
Water Resources	Construction personnel will cause minimal temporary increases in water usage. Vegetation control measures included in the alternatives could cause increased erosion that could impact surface water quality if BMP's are not employed. Additional square footage of buildings with associated activities would increase water use. Mitigation of additional water use is necessary.	Yes
Biological Resources	The proposed facilities and associated vegetation control measures included in the alternatives could impact plants and wildlife.	Yes
Cultural Resources	Survey indicates former airfield in the project area (Desert Archeology, 2004).	Yes
Human Health and Safety	The Proposed Action and alternatives are designed primarily to improve human health, but the newly developed areas may be less secure than the rest of the Fort.	Yes
Socio-Economics	The Proposed Action is designed primarily to provide better service to existing populations and is not expected to alter the population distribution or growth rates. As such they will not affect the housing market or create a need for new or increased fire or police protection or medical services.	Yes
Hazardous and Toxic Materials/Wastes	There are no known hazardous or toxic materials/wastes in the area. Short-term use of any hazardous or toxic materials during construction activities will be covered by Fort Huachuca's Spill Contingency Plan that describes the procedures to be implemented in the event of hazardous materials spill, on- or off-Post. The Proposed Action does not include activities that use or generate hazardous materials or waste.	No
Environmental Justice	Analyses of racial make-up and income distribution indicate the area in the immediate vicinity of the Proposed Action and alternatives may have higher than average percentages of minority and low-income populations.	Yes
Protection of Children	None of the alternatives are expected to have any impact on child health or safety other than increasing safety of children in a childcare center within the new facilities.	No
Infrastructure	Traffic concerns were mentioned during the public scoping process. The Proposed Action could have a potentially negative or adverse impact on traffic at the intersection of Wilcox Drive and Buffalo Soldier Trail.	Yes
Trans-Boundary	The Huachuca Mountains and 17 miles separate the proposed facility from the border with Mexico. No activities are expected to affect or require traveling across the border. Potential soil, water resource and biological impacts are limited to the MVGC area.	No

3

3.2 Aesthetics and Visual resources

3.2.1 Criteria for Significance

A proposed action or alternative could significantly affect visual resources if it would obscure or result in abrupt changes to the complexity of the landscape and skyline (in terms of vegetation, topography, or structures) when viewed from points readily accessible to the public.

3.2.2 Baseline Environment

The location of the Proposed Action on the boundary of the Post means that it is easily viewed from many points readily accessible to the public, especially along Buffalo Soldier Trail. The following properties are located on a 5/8-mile stretch of Garden Avenue that runs parallel to Buffalo Soldier Trail from Fry Boulevard south to Golf Links Road. There is a tree-lined median between Garden Avenue and Buffalo Soldier Trail.

- One Hour Martenizing Dry Cleaners
- Cho Hair Salon
- vacant storefront
- The Real Taco Restaurant
- Snow White Laundromat
- Jim's Glass and Mirror

(Veterans Drive)

- Gateway Motel
- Masonic Lodge

(Wilcox Drive)

- The Stanley Apartment complex
- Hair by Darlene
- Single family homes along Brown, Berridge, and Busby Drives

Along the half-mile stretch of Buffalo Soldier Trail from the south end of Garden Avenue to Golf Links Road (the entrance to the Veterans Cemetery) are mobile homes, single-family homes and a two-story apartment complex. Along Garden Avenue, views of the Huachuca Mountains to the west-southwest are partially obstructed by the trees in the median. Many of the homes south of the end of Garden Avenue have a 6- to 7-foot tall block wall on their western property boundary that limits views to the west. These walls would likely obscure any one or two story buildings in the Wilcox Gate area from the one-story single family residential views.

3.2.3 Potential Consequences:

Proposed Action The buildings planned as part of the Proposed Action will be no more than two stories high, located in the vicinity of the current golf course clubhouse, and are therefore not expected to impact the current viewshed. The driving range structure is the largest structure planned and could impact views when it is reoriented; however, the driving range will not be moved significantly closer to the residences and businesses along Buffalo Soldier Trail and no significant impact is expected.

Alternatives The potential impact of the high school, hotel/lodging, and band shell will depend on the final design and location. Locating the facilities away from Buffalo Soldier Trail and limiting most structures to one or two stories in height will minimize impacts.

No Action Alternative No changes to the area would occur under the No Action alternative and there would be no impacts to aesthetics or visual resources.

3.3 Noise

No noise measurements or modeling were conducted as part of this EA. The analysis presented here is qualitative and uses typical noise levels from the literature.

3.3.1 Criteria for Significance

An alternative could have significant noise effect if it would generate new sources of substantial noise, increase the intensity or duration of noise levels to sensitive receptors, or result in exposure of more people to levels of noise that are incompatible with the associated land use. These levels of noise would include sustained levels above 65 decibels for 8 hours or more during the day, sustained levels of noise greater than 55 decibels between 10:00 pm and 7:00 am, or repeated impulse (short-duration) noise greater than 87 decibels as experienced in nearby residential areas. These categories of noise levels, as experienced in the nearby commercial or non-residential land uses, may each be 10 decibels higher before being considered incompatible. (AR 200-1)

3.3.2 Baseline Environment

The most significant current source of noise to the commercial and residential areas along Buffalo Soldier Trail and Garden Avenue is the traffic on Buffalo Soldier Trail. Buffalo Soldier Trail is a four-lane road in the area around Wilcox Road and Fry Boulevard. South of the intersection with Garden Avenue, Buffalo Soldier Trail is two lanes. Traffic noise level from this road is expected to range from 50 to 70 A-scale weighted decibels (dBA) at a distance of 50 feet. The current facility at MVGC has no significant source of noise and is approximately 3,500 feet from the commercial and residential areas along Buffalo Soldier Trail and Garden Avenue.

3.3.3 Potential Consequences

Proposed Action *The facilities planned as part of the Proposed Action will not create significant new sources of noise. The proposed disco/nightclub will be designed with extensive soundproofing to minimize exterior noise. Some increased noise due to increased traffic may occur, but is not anticipated to significantly affect nearby residences.*

There may be noise associated with use of the special events venue up to eight times a year for events such as the Family Fun Fest and circus. These events typically run all day and into the evening for several days at a time and could increase the noise levels experienced by both commercial and residential properties in the area. There is no information available in the literature on noise levels associated with circuses and Family Fun Fest-type carnivals with rides and a game arcade. It is reasonable to expect that noise levels will exceed the current levels. The League for the Hard of Hearing's Noise Center suggests noise levels of 100 dBA for a school dance and 110 dBA for a busy video arcade (League for the Hard of Hearing Noise Center, 2004). The distance from the eastern boundary of the area to the residences and businesses east of Buffalo Soldier Trail is 200 feet. Assuming a noise level of 100 dBA at 50 feet with an attenuation of 6 dBA for every doubling of the distance from the source, the noise level would be reduced by approximately 12 dBA to 88 dBA. The Sierra Vista noise ordinance requires noise levels no greater than 5 dBA above background or 55 dBA between 6:00 am and 8:00 pm and 50 dBA between 8:00 pm and 6:00 am. The special events area has the potential to impact day and nighttime noise levels along Buffalo Soldier Trail if not properly mitigated. Furthermore, daytime noise levels from such events could also impact other parts of the proposed facility, such as restaurant diners on the patio, golfers, and people using the driving range. Noise measurements and modeling would provide a more definitive analysis of the potential impacts and aid in the design of effective mitigation measures. However, if the venue can be designed to meet current noise ordinances for Sierra Vista, the impacts should not be significant.

Alternatives The proposed high school and hotel/lodging would not generate significant new sources of noise other than the potential noise associated with increased traffic in the area. The potential noise impacts from this traffic depend to a large extent on the size and final configuration for the entry and egress to these facilities.

The band shell planned as part of the entertainment venue could be a significant new source of noise when used for live music events. The current plan is to locate the band shell to the northwest of the project area, near the other planned structures, to avoid the need to extend

1 utilities to the west or south. In this configuration, the band shell would project sound towards
2 the businesses and homes east of Buffalo Soldier Trail and the Veterans Cemetery to the south.
3 Although current plans assume the facility would be used four times a year, a new venue with
4 no access issues could attract more shows. A loud rock concert can reach noise levels of 120
5 dBA at a distance of 200 feet (Australian Capital Territory Government, 2001). With an
6 attenuation of 6 dBA for every doubling of the distance from the source and a distance of 3,500
7 feet to Buffalo Soldier Trail, the noise level would be reduced by approximately 25 dBA to 95
8 dBA. The Sierra Vista noise ordinance requires noise levels no greater than 5 dBA above
9 background or 55 dBA between 6:00 am and 8:00 pm and 50 dBA between 8:00 pm and 6:00
10 am. Under the worst-case scenario of a loud rock concert, the band shell entertainment venue
11 would cause significant noise impacts if not properly oriented and mitigated. Noise
12 measurements and modeling should be conducted to confirm this analysis prior to
13 consideration of adding this function to the special events area.
14

15 **No Action Alternative** *No new sources of noise would be generated by the No Action alternative*
16 *and no impacts to noise are anticipated.*

17 18 **3.4 Geology and Soils**

19 20 *3.4.1 Criteria for Significance*

21 Alternatives resulting in an increased geologic hazard or a change in the availability of a
22 geologic resource could have a significant impact. Such hazards include but are not limited to
23 slope instability, land subsidence, or increased soil erosion. Increased erosion is of special
24 concern because soils entrained in runoff can impair surface-water quality and lead to both
25 upstream and downstream erosion, as well as downstream sedimentation.

26 *3.4.2 Baseline Environment*

27 Current baseline information regarding regional and local geology and soils can be found in the Programmatic
28 Biological Assessment for Ongoing and Programmed Future Operations and Activities (USAG Fort Huachuca,
29 2002a), incorporated by reference. Site-specific detail and relevant data not previously documented are provided.
30 Project area soils are mapped as Gardencan-Lanque complex (NRCS undated). These fine to coarse sandy loams
31 are deep, well-drained and form in alluvium from granite and gneiss on alluvial fans, fan terraces, and stream
32 terraces where annual rainfall is about 18 inches. These soils are characterized by slow runoff and moderately
33 slow to moderately rapid permeability with low to moderate erodability.
34

35 *3.4.3 Potential Consequences*

36 The geologic affects of the Proposed Action, alternatives, and No Action alternative are limited to the ground
37 surface and near ground surface – no impacts to subsurface geologic resources are anticipated.
38

39 *Proposed Action* Construction activities may cause increased soil erosion in areas disturbed by the project.
40 Provisions of the Arizona Pollutant Discharge Elimination System or AZPDES (Arizona Administrative Code
41 [AAC] Title 8 Chapter 9 and United State Code [USC] 1251 *et seq.*) require construction projects disturbing more
42 than one acre to have a Storm Water Pollution Prevention Plan including Best Management Practices (BMPs)
43 designed to minimize soil erosion and protect surface water quality. By statute, the BMPs must include erosion
44 and sediment controls, interim and permanent stabilization practices, velocity dissipation devices in discharge
45 locations and outfall channels, and a description of post-construction storm water management measures.
46 Mowing and suppression of woody plants in the special events area could potentially increase soil erosion, but
47 since the vegetation will remain and the area will not be bladed to ground surface, the incremental increase in soil
48 erosion is unlikely to be significant. Burning would increase erosion in the short term but regrowth of vegetation,

1 especially forbs and grasses would reduce erosion within a short period of time. Grading to remove vegetation is
2 not recommended, since it has substantially more potential to increase erosion and adversely impact air quality
3 through dust generation.

4 These measures, as well as measures addressing the timing of construction activities, can be used to address short-
5 term construction impacts and some long-term impacts.

6
7 Alternatives Potential impacts for the high school, the hotel/lodging, and the band shell would be the same short-
8 term effects associated primarily with construction activities as those for the Proposed Action. Mowing and
9 suppression of woody plants in the seating area for the concert venue could potentially increase soil erosion, but
10 since the vegetation will remain and the area will not be bladed to ground surface, the incremental increase in soil
11 erosion is unlikely to be significant. Seeding with native grasses or other ground cover should be considered if
12 vegetation control measures create areas with no vegetation.

13
14 No Action Under the No Action alternative, there would be no change in soil erosion rates.

15 **3.5 Water Resources**

16 *3.5.1 Criteria for Significance*

17 An alternative that results in lowering the availability or quality of water resources for future uses could have a
18 significant effect. An alternative could also have a significant effect if it would adversely affect a significant
19 water body. A determination of significant impact to surface water could result if activities interrupt drainage
20 facilities or if storm water and/or runoff significantly degrade downstream surface water quality. Changes in
21 percolation rates because of the amount of impervious cover can lead to significant changes in the rate of surface
22 water runoff. A determination of significant impact to groundwater could also result if an action causes a usable
23 groundwater aquifer for municipal, private, or agricultural purposes to be adversely affected by large depletion or
24 contamination; an increase in soil settlement or ground swelling that damages structures, utilities, or other
25 facilities caused by inundation and/or changes in the groundwater level; or an unmitigated net increase in annual
26 water use is created at the Fort.

27 28 *3.5.2 Baseline Environment*

29 Current baseline information regarding water resources can be found in the Programmatic
30 Biological Assessment for Ongoing and Programmed Future Operations and Activities (USAG
31 Fort Huachuca, 2002) and the Fort Huachuca Water Resources Management Plan (USAG Fort
32 Huachuca, 2002b), incorporated by reference.

33 The project site currently drains to the northeast and ultimately to the Babocomari River, approximately 11 miles
34 away, through a series of ephemeral streams. No floodplains, wetlands or other surface water resources are within
35 the project area. Of the current estimated 90 acres of ROI for the Proposed Action and alternatives,
36 approximately 11 acres is covered by buildings or parking lots and impervious to rainwater. Total current
37 estimated annual water use for the Lakeside Activity Center, Desert Lanes Bowling Center, and golf course
38 clubhouse is 9.5 acre feet (Table 3-2).

39 40 *3.5.3 Potential Consequences*

41 Concerns about increased erosion associated with the Proposed Action, alternatives, and the No Action alternative
42 are discussed in Section 3.4. Based on the subsurface geology and the soils in the ROI, no increases in soil
43 settlement or ground swelling are anticipated for any of the alternatives. As discussed in Section 3.5.2, the project
44 area is not on or near floodplains, wetlands, or surface water bodies that could be adversely affected by the
45 Proposed Action, alternatives, or No Action alternative. The potential impacts discussed below are primarily
46 associated with changes in infiltration rates due to increases in impervious cover and potential increases in water
47 use.

48
49 Proposed Action As planned, the new WC/CC, BFEC, with parking for 200 cars would increase the impervious
50 cover by 2 to 2.5 acres. This is less than 3 percent of the project area. Standard engineering practices can be used
51 to direct runoff from buildings and parking lots and control storm water flow. No significant impacts from these
52 changes are anticipated. Estimated water use is presented in Table 3-2. These estimates are based on typical
53 usage rates from the literature with an efficiency factor applied to reflect water savings to be gained from

- 1 conservation efforts. Fort Huachuca is committed to water conservation and all new construction incorporates
- 2 efficient plumbing fixtures and other water conservation features.

**TABLE 3-2
WATER USE COMPARISON**

Facility	Units	Water Use Rate (gallons per unit per day)	Number of Units	Days in Use per Year	Annual Water Use (acre-feet)	Efficiencies Achieved ^a	Annual Water Use w/ Efficiencies (acre-feet)	Source/Notes
CURRENT WATER USE								
Lakeside Activity Center	--	--	--	--	2.2	0	2.2	Total from Fort Huachuca, 2002
Desert Lanes Bowling	alley	133	24	365	3.6	0	3.6	Rate from AWWA, 2000
Clubhouse	person	22	150	365	3.7	0	3.7	Includes 19th Hole, does not include irrigation, Rate from AWWA, 2000
TOTAL =							9.5	
PROPOSED ACTION								
<i>Welcome Center/ Community Club</i>								
Restaurant/bar	square feet	0.3	5000	365	1.7	27%	1.2	Rate from AWWA, 2000
Conference Center	seat	3	1200	84	0.9	25%	0.70	Rate for assembly hall from FEMP website
Visitor Center	visitors	5	50	313	0.2	25%	0.18	Rate from FEMP website
Offices	employee	15	3	365	0.05	30%	0.04	Rate from FEMP website
Clubhouse	person	19	150	365	3.2	25%	2.4	Rate for golf/swim club from AWWA, 2000 minus 15% for no 18th Hole
<i>Bowling and Family Entertainment Center</i>								
Bowling Alley	alley	113	36	365	4.6	25%	3.4	Rate from AWWA, 2000 minus 15% for no restaurant
Childcare Center		Same as current	--	--	4.4	39%	2.7	Total from Fort Huachuca, 2002
Video Arcade	NA	--	--	--	Negligible	--		Laboratory use counted in other parts of this facility
Disco/Restaurant	square feet	0.3	5000	365	1.7	27%	1.2	Rate from AWWA, 2000
<i>Lakeside and Desert Lanes after Proposed Action</i>								
Lakeside	employee	15	25	365	0.42	0%	0.42	Used as offices, Rate from FEMP website
Desert Lanes	square feet	0	27,000	365	0.0	0%	0.0	Assumes facility is closed
TOTAL =							12.3	Maximum increase 2.5 acre-feet
ALTERNATIVES								
High School ^b	student	25	250	180	3.5	39%	2.1	Rate from FEMP website
Hotel/Lodging ^b	person	50	100	365	5.6	30%	3.9	Rate from FEMP website
Concert Venue ^b	person	3	250	4	0.0092	25%	0.0069	Rate for fair ground from FEMP website
TOTAL =							6.0	

NOTES: ^a Efficiencies for restaurant, office, child care center, high school, and hotel/lodging are from Pacific Institute for Studies in Development, Environment and Security, 2003. For all other uses, 25% is used as a conservative estimate based on average efficiencies.

^b The number of units for these items are estimates used to illustrate potential impacts

1
2

For facilities where actual metered water use is available, Fort Huachuca water use is 30 to 60 percent less than what would be expected using typical values from the literature (USAG Fort Huachuca, 2002b). However, incorporating these efficiencies, overall consumptive water is likely to increase an estimated 30 percent from 9.5 acre-feet per year to 12.3 acre-feet per year. The increase is largely due to the larger convention/banquet facilities, larger restaurant, larger bowling alley, new disco and childcare center. Furthermore, the new facility is likely to serve a greater number of people attracted by easier access to the proposed location and the new, state-of-the-art facilities. The 2.8 acre-feet increase will be zero-balanced by the DWMR as part of the Proposed Action by implementing additional water conservation measures at other facilities on the Post.

Alternatives Potential increases in the amount of impervious cover associated with the Alternatives cannot be evaluated until the size and configuration of the high school, hotel/lodging and concert venue are decided.

Estimated water usage rates from the alternatives are provided in Table 3-2. The concert venue, if used as planned four times a year, would have a negligible impact on water use, less than 0.01 acre-feet. The impacts from a high school or hotel, with potential increases of 2.1 acre-feet and 3.9 acre-feet respectively, based on assumptions about the number of students and lodgers, are potentially significant. Additional water use analysis should be conducted when the final size of the planned facilities is determined. In general, increased water demands can be zero-balanced by the DMWR as part of the Proposed Action by implementing additional conservation measures at other facilities on the Post.

No Action Alternative No change in existing hydrology or water resource conditions would occur. No impact on water resources is anticipated.

3.6 Biological resources

3.6.1 Criteria for Significance

Impacts on biological resources could occur from fence construction and vegetation maintenance. A determination of significant impact on biological resources (including vegetation, wildlife and sensitive species) could result if any of the following conditions are anticipated to occur.

- jeopardy to populations of federal status species
- adverse modification of federally-designated critical habitat
- loss of a critical, yet limited, resource of significant importance to a federal threatened, endangered, proposed listed, or candidate species
- substantial disturbance of generally pristine or sensitive vegetation resources in the project area from vehicular or human activity
- substantial interference with, or complete disruption of, a heavy-use wildlife movement corridor

The ROI for biological resources includes the currently undeveloped areas of the Proposed Action.

3.6.2 Baseline Environment

Current baseline information regarding biological resources at Fort Huachuca and in the region can be found in USAG Programmatic Biological Assessment for Fort Huachuca (USAG Fort Huachuca, 2002) and is hereby incorporated by reference. Site-specific detail and relevant data not previously documented are provided.

Vegetation The ROI is located within semidesert grassland (Brown, 1994). Vegetation within the developed and previously disturbed areas includes both native and non-native grasses as well as native shrubs, forbs and trees. The vegetation surrounding the developed areas and to the west of the project area is typical of the mesquite-grass savanna habitats that cover approximately 7,100 acres on Fort Huachuca (USAG Fort Huachuca, 2002).

Wildlife The project area is located adjacent to the City of Sierra Vista and is all previously disturbed land. Because of the nature of the area and the limited likelihood of any special status species in the area, no biological survey was conducted. Burrowing owls were determined to be the only likely special status species in the area. According to Jim Hessil, a biologist at Fort Huachuca, there are no burrowing owls in the project area and no survey was necessary (Hessil, 2003).

3.6.3 Potential Consequences

Given the absence of any special status species and the previously disturbed nature of the project area, there are no potential significant impacts associated with the Proposed Action, alternatives, or No Action alternative.

3.7 Cultural Resources

3.8.1 Criteria for Significance

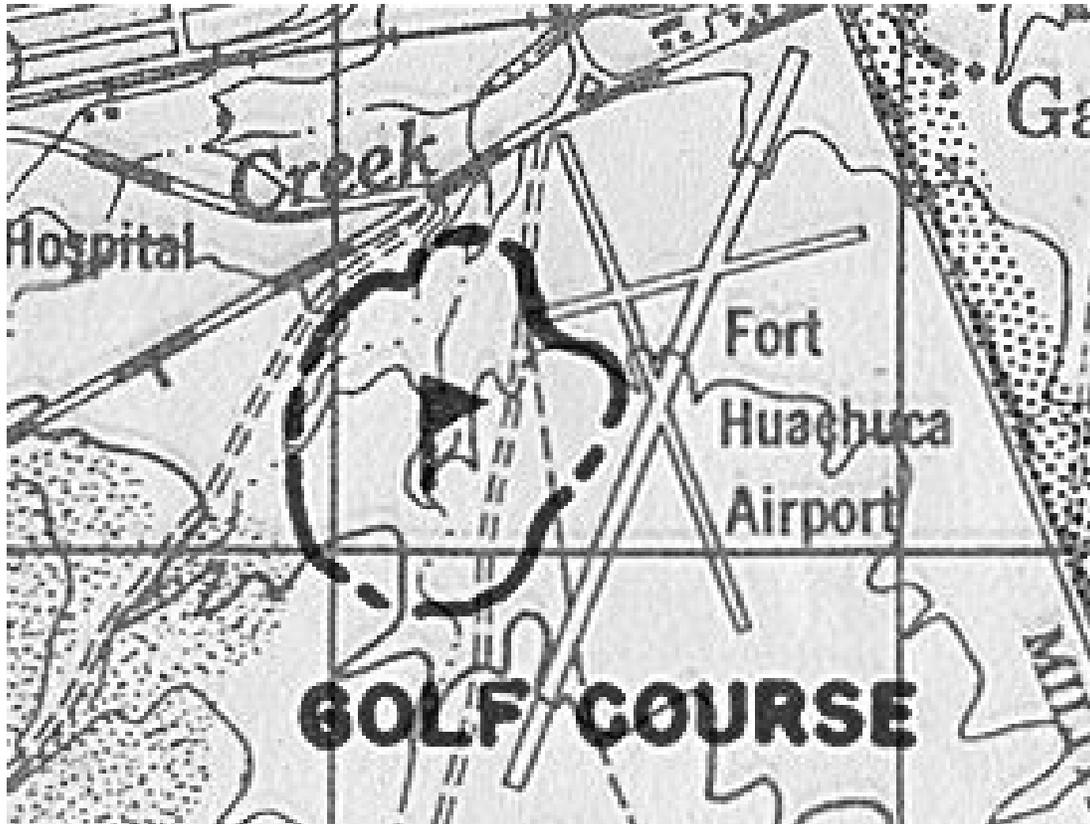
An alternative could have significant impact if it would destroy historical and cultural resources.

3.8.2 Baseline Environment

Desert Archeology (2004) during the cultural resource study noted that a 1954 map showed that the airfield that preceded Libby Field was near the Wilcox Gate. The airfield has been given the Arizona State Museum site number AZ EE:7:330. Research indicates the airfield was established in 1936 and was used until early 1953. Parts of the Mountain View Golf Course were built over portions of the runway in the late 1960's. A pedestrian survey of the ROI indicated that one section of the former main runway (adjacent to the golf course) a portion of the leg of the NW-SE runway are now covered by a road. Other portions of the former airfield are covered by the golf course. A preliminary evaluation indicates that the site fails to meet eligibility requirements for inclusion on the National Register of Historic Places because of the lack of integrity. Consultation with the affiliated Native People and the State Historic Preservation Office were ongoing during the final drafting of this document.

3.8.3 Potential Consequences

The limited remains of the airfield and the current state of disturbance indicate that development of the Proposed Action and alternatives does not represent a significant impact to Fort Huachuca's cultural resources inventory. Further investigation will be required to define the extent of artifacts from the areas of development. Prior to further disturbance useable information from the site will be inventoried and any artifacts will be salvaged. The work is being conducted in parallel with this NEPA evaluation.



Above: Excerpt from 1954 Fort Huachuca Map with the airfield location
Below: A 1938 photograph of signal aircraft on the Fort Huachuca Airfield



Airfield at Fort Huachuca's main gate in 1938. A U.S. Army O-46 Douglas Observation plane is parked. U.S. Army photo. @1938.13.00.017

3.8 Human Health and Safety

3.8.1 *Criteria for Significance*

An alternative could have a significant impact if it would increase or decrease the exposure or risk of exposure of personnel or the public to environmental or other hazards. At Fort Huachuca, force protection is one of the concerns for human health and safety. The facilities in the Proposed Action and alternatives could have potential force protection risks. Mitigations will include force protection measures for each facility and for the potential entries to the main installation.

3.8.2 *Baseline Environment*

Currently, DMWR facilities at Fort Huachuca are at relatively low force protection risk. The golf course clubhouse, Lakeside Activity Center, and Desert Lanes are in three separate areas on the Post. The Lakeside Activity Center and Desert Lanes are within the area of the Post that is closed during periods of heightened force protection.

3.8.3 *Potential Consequences*

Proposed Action Under the Proposed Action, multiple DMWR facilities, including the golf course clubhouse, restaurant, conference facility, welcome center, bowling alley, childcare center, and disco/nightclub, will all be collocated. The collocation of these recreational facilities used by civilians and military personnel could increase force protection risk. The planned complex would be more vulnerable than existing DMWR facilities due to its location near the boundary of the Post. Furthermore, the stated intention of the Proposed Action, to ensure access to DMWR facilities during periods of heightened force protection, means the complex will remain vulnerable during periods of increased potential threat. The action can have a potentially negative or adverse impact on mitigating force protection risk.

Alternatives The proposed addition of a high school, hotel/lodging, and concert venue could also contribute to the increased force protection risk of the planned complex.

No Action Alternative *There would be no increase or decrease in the exposure or risk of exposure of personnel or the public to environmental or other hazards under the No Action alternative.*

3.9 Socioeconomics

3.9.1 *Criteria for Significance*

A significant socioeconomic impact would be one that substantially alters the location and distribution of the population within the geographic region of influence; cause the population to exceed historical growth rates; substantially affect the local housing market and vacancy rates; disproportionately affect minority or low-income populations, or create a need for new or increased community services beyond the current capability of the local community.

3.9.2 *Baseline Environment*

The golf course clubhouse, Lakeside Activity Center, and Desert Lanes are in three separate areas on the Post. The Lakeside Activity Center and Desert Lanes are within the area of the Post that is closed during periods of heightened force protection, minimizing access to work for civilian employees.

3.9.3 *Potential Consequences*

Proposed Action The Proposed Action is designed primarily to provide better service to existing populations and is not expected to alter the population distribution or growth rates. As such the facilities will not affect the housing market or create a need for new or increased fire or police protection or medical services. Individual businesses could be affected; but the net number of jobs will remain constant or increase. Off-Post residents may benefit from the Proposed Action through additional employment opportunities. The new facilities will be larger than the facilities they are replacing, requiring additional staff. During periods of heightened force protection, off-Post personnel will have access to jobs that they might not have otherwise, providing a net positive effect of the Proposed Action.

Traffic may increase at the location, especially during special event venues. According to Mr. Manny Lopez, Streets Maintenance Supervisor for the City of Sierra Vista Public Works Department, the existing traffic signal at Buffalo Soldier Trail and Wilcox Road should be sufficient to handle increased traffic in the area caused by the Proposed Action (Lopez, 2003). Mr. Lopez did not have any concerns about impacts to rush hour commuting times caused by the Proposed Action. The City of Sierra Vista Engineering Department does not consider the intersection to be a problem area and there are no plans for improvements in the near future. The special events area could impact traffic during the eight times a year such events are held. Such large events commonly require the services of temporary traffic police to manage the additional traffic and flow to and from parking areas. Costs of such control are generally borne by the sponsor of event.

Alternatives Potential benefits from increased employment associated with these alternatives are difficult to quantify without more detailed information on the size of the proposed high school and hotel lodging. A number of new, unskilled positions would be expected from the hotel. Many of the new positions created by a new high school would require specialized training and/or college degrees. Utility extensions may be needed, but the costs are most likely not significant, as discussed in Section 3.11, Infrastructure.

No Action Alternative The No Action alternative will have no impacts requiring consideration of socioeconomic issues, other than access to facilities may be denied during periods of heightened force protection.

3.10 Environmental Justice

3.10.1 *Criteria for Significance*

The concept of environmental justice is based on the premise that no segment of the population should bear a disproportionate share of adverse human health or environmental effects. Historically low-income and minority communities have, in some cases, been disproportionately affected by negative environmental effects while receiving few of the benefits such as economic growth and development.

3.10.2 *Baseline Environment*

The ROI used for this analysis was the 2000 census tract numbered 04003001500. This tract is bounded by Garden Avenue to the west and south, State Road 90 to the north and 7th Street to the east. According to 2000 census data, this area is not a minority neighborhood but it has a slightly lower percentage of non-hispanic whites, 58 percent (Arizona Department of Economic Security [ADES], 2004), in comparison to Sierra Vista as a whole (65 percent [ADES, 2004b]), Cochise County (60 percent [ADES, 2004a]), or the state of Arizona (64 percent [U.S Census Bureau, 2004]).

Also according to the 2000 census, this ROI has a median and per capita income of \$25,446 and \$13,982 (ADES, 2004). These statistics are lower than the same figures for Sierra Vista (\$38,472 and \$18,436

[ADES, 2004b]), Cochise County (\$32,105 and \$15,988 [ADES, 2004a]) and Arizona (\$40,558 and \$20,275 [U.S Census Bureau, 2004]).

3.10.3 Potential Consequences

Proposed Action The resource categories most likely to affect the ROI are aesthetics and visual resources and noise. As discussed in Section 3.2.3, the WC/CC and BFEC will be located in the vicinity of the current golf course clubhouse and are not anticipated to significantly impact the residential viewshed. Similarly, soundproofing and other building design features can effectively mitigate any potential noise impacts from the WC/CC and BFEC. Noise associated with special events held up to eight times per year in the special events venue may be more problematic. However, if the venue can be designed to meet current noise ordinances for Sierra Vista, the impacts should not be significant.

Furthermore, resident of the ROI may benefit from the Proposed Action through additional employment opportunities. The new facilities will be larger than the facilities they are replacing, requiring additional staff. The exact numbers cannot be predicted without more detailed information on the size of the proposed new restaurant and disco, but local residents should be well-positioned to take advantage of the potential new jobs produced by the Proposed Action.

Alternatives As stated in the section on visual resources and noise, the potential impacts from the high school, hotel/lodging, and concert venue depend on the final configurations and locations of these facilities. There is significant potential for impacts to the current viewshed for residences along Garden Avenue from these proposed alternatives if any of these facilities are located close to Buffalo Soldier Trail. Although the buildings can be soundproofed to eliminate interior noises from impacting nearby residences, the associated traffic noise would be more difficult to mitigate. Finally, the band shell entertainment venue could cause significant noise impacts to the ROI if not properly oriented and mitigated. Noise measurements and modeling should be conducted to confirm this analysis.

Potential benefits from increased employment associated with these alternatives are difficult to quantify without more detailed information on the size of the proposed high school and hotel lodging. A number of new, unskilled positions would be expected from the hotel. Many of the new positions created by a new high school would require specialized training and/or college degrees.

No Action Alternative The No Action alternative will have no impacts requiring consideration of environmental justice issues.

3.11 Infrastructure

3.11.1 Criteria for Significance

An alternative could have a significant effect on infrastructure if it would increase demand over capacity, requiring substantial system expansion, or if it would result in substantial system deterioration over the current conditions. Infrastructure is generally understood to include utilities such as natural gas, electricity, water, and sewer, as well as roads and traffic. Water supply issues are discussed under Section 3.5. Several members of the public raised concerns during the public comment period about impacts to traffic along Buffalo Soldier Trail in the vicinity of Wilcox Road and Fry Boulevard.

3.11.2 Baseline Environment

The golf course clubhouse is currently supplied with natural gas, electricity, water, and sewer service. The clubhouse obtains natural gas from lines within the Fort boundaries. The electrical distribution system

servicing the golf course clubhouse, originating from the west on the Post, is relatively old. Water is supplied by a 6-inch diameter transmission main.

Sewer service is provided by the Post. Feeder sewers join a 6-inch-diameter gravity sewer in the golf course maintenance area. That sewer feeds an 8-inch-diameter gravity line to a pump station, which lifts the flow to another 8-inch-diameter sewer, which flows to the wastewater treatment plant. The pump station and 8-inch-diameter lines were recently upgraded to serve the new shoppette at Wilcox Gate, other facilities in that area that are now served by septic systems, and projected new growth.

Wilcox Gate is the main entrance to Fort Huachuca. A signal light at the intersection currently controls traffic flow from Buffalo Soldier Trail through Wilcox Gate.

3.11.3 Potential Consequences

Proposed Action *The planned WC/CC and BFEC will be in the area of the existing golf course clubhouse, which will be demolished to make room for the new facilities. The regional electricity supply is not overtaxed and is not expected to be an issue; however, the electrical distribution system is old and may need to be upgraded to provide the reliable supply necessary for the Proposed Action. Natural gas from the Fort is available to supply these facilities.*

The existing 6-inch-diameter water line and the upgraded sewer lift station and 8-inch-diameter sewers are sufficient to meet the increased demand of the WC/CC and BFEC (Campbell, 2004).

According to Manny Lopez, Streets Maintenance Supervisor for the City of Sierra Vista Public Works Department, the existing traffic signal at Buffalo Soldier Trail and Wilcox Road should be sufficient to handle increased traffic in the area caused by the Proposed Action (Lopez, 2003). Mr. Lopez did not have any concerns about impacts to rush hour commuting times caused by the Proposed Action. The City of Sierra Vista Engineering Department does not consider the intersection to be a problem area and there are no plans for improvements in the near future. The special events area could impact traffic during the eight times a year such events are held. Such large events commonly require the services of temporary traffic police to manage the additional traffic and flow to and from parking areas.

In summary, regional utility supplies are adequate to meet the increased needs from the Proposed Action; however, the need for additional service supply lines may add to the cost. The Proposed Action will not have a significant impact on infrastructure.

Alternatives Potential impacts to the utility infrastructure from the high school, hotel/lodging, or concert venue depend on the final locations of these facilities. If the high school, hotel/lodging, or concert venue is located east or south of the golf course clubhouse, the current electrical distribution system will need to be extended to the east or south. Such extensions, along with the required upgrades to ensure reliability, may add to the cost of the alternatives. According to Tom Campbell, mechanical engineer at the Post, an additional lift station may be required to pump sewage from the new facilities to the gravity feed system at the golf course clubhouse, depending on the final location of the high school and/or hotel/lodging (Campbell, 2004). The water supply system should be sufficient to meet demand although additional lines will need to be extended to the facilities.

The cost of extending the natural gas supply from the golf course clubhouse to the high school and/or hotel lodging could also add significantly to the cost of the projects. According to Mr. Campbell, a Southwest Gas Corporation natural gas line is located along Buffalo Soldier Trail. Tapping this line directly with a pressure reduced line to supply the proposed facilities could be more cost effective than extending lines from within the Post.

Traffic impacts also depend on location and configuration. The high school, in particular, could increase traffic in the project area, especially at the beginning and end of the school day when parents, students and employees are entering or leaving school grounds and adding to the current fort commuter traffic. This impact cannot be fully evaluated until the final location of the school and configuration of the entrance is decided.

In summary, regional utility supplies are adequate to meet the increased needs from the alternatives; however, the need for additional service supply lines may add to the cost. The alternatives will not have a significant impact on utility infrastructure. Impacts to traffic cannot be evaluated without additional design details.

No Action Alternative *The No Action alternative would have no impact on the current utility infrastructure or traffic.*

3.12 Cumulative Impacts

Cumulative impacts are generally defined in CEQ regulations (40 CFR 1500-1508) as those impacts attributable to the Proposed Action combined with other past, present, or reasonably foreseeable future impacts, regardless of the source. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. However, in order to be considered a cumulative impact, the effects must occur in a common locale or region, contribute to the effects of other actions, impact a particular resource in a similar manner, and be long term. Short-term impacts do not generally contribute significantly to cumulative impacts.

This section addresses the resource areas where the impacts of the Proposed Action and alternatives warrant further consideration, in connection with related past, present, and reasonably foreseeable future actions. Analysis of cumulative impacts requires the evaluation of a broad range of information that may have a relationship to the Proposed Action and alternatives. A good understanding of the politics, socioeconomics, and environment of the region is part of this analysis, as is an accurate evaluation of factors that contribute to cumulative impacts.

Resource areas were examined for regional conditions to determine the potential of the Proposed Action and alternatives to contribute to regional trends or environmental conditions. The site consists of an area of previously disturbed grassland, modified by activities at Fort Huachuca in the past, that is adjacent to the developed area of Sierra Vista. The vegetation that repopulated the area post-disturbance consists primarily of Lehmann's lovegrass, desert broom and mesquite, all invasive species to the semi-desert grassland. Change of land use will have no significant impact, as the project will disturb poor quality habitat.

The most common environmental concern voiced during previous public scoping activities was increase in water demand from new projects. These impacts are discussed in Section 3.5 and mitigations are identified in Section 3.13.4.

Other local environmental concerns voiced during public involvement for this action concerned viewshed (Section 3.2), potential noise (Section 3.3) and traffic impacts (Section 3.11). The impacts to these media areas will primarily be intermittent, and confined to a small portion of the region, and will not contribute to cumulative regional impacts. Other infrastructure concerns were also identified in Section 3.11. Mitigation measures are identified in the corresponding subsections of Section 3.13. Socioeconomic impacts are anticipated to be small, as many of the potential employment positions will be restructured from existing activities on the post. A positive impact is that these positions may be more accessible to low income residents near the proposed facilities, as transportation will be less of an issue. Other potential environmental concerns do not

contribute to regional and local cumulative impacts; thus they are not discussed in this section.

Proposed Action and Alternatives The use of water-use reducing fixtures in a new facility is consistent with regional water resource conservation planning at Fort Huachuca, and the 2.8 acre-feet increase in water use will be zero-balanced by the DWMR as part of the Proposed Action by implementing additional water conservation measures at other facilities on the Post. Implementation of any of the options within the alternative will increase water use at this location, but will be required to zero-balance overall water use in other regional locations.

Aesthetics, visual resources and noise considerations will be mitigated during design of any new facilities. Traffic increase considerations in Sierra Vista are addressed in Section 3.11.3. Other infrastructure construction, such as increased electricity, natural gas, and sewer, are not significant because new demand will either be offset by decreased use in other areas, or will replace older, less efficient facilities, such as sewer connections replacing old septic tanks.

No Action Alternative Selection of the No Action alternative would mean that existing environmental conditions would continue. Changes to those conditions would occur over time, and consist primarily of gradually increasing impacts from aging infrastructure, including septic tanks, old plumbing, and old heating and air conditioning(or evaporative cooling) systems. The No Action alternative would contribute minimally to additional cumulative impacts on local or regional resources by increasing water consumption and using higher amounts of energy per square foot of buildings versus the proposed action.

3.13 Environmental Design Considerations

The DMWR is committed to the incorporation of all reasonably feasible design considerations to lessen any impact that the Proposed Action could have on the natural environment and to reduce natural resource consumption. Impact analyses summarized in Sections 3.2 through 3.11 identify potentially significant impacts to aesthetics and visual resources, noise, soil erosion and storm water drainage, water supply, human health and safety, and need for additional infrastructure. This section presents mitigations designed to address those potential impacts.

3.13.1 Aesthetics and Visual Resources Mitigation Measures

The Proposed Action and alternatives could impact the view from the commercial and residential properties on the east side of Buffalo Soldier Trail and Garden Avenue. To mitigate these potential impacts, facilities will be located as far to the east within the project area as possible and restricted to one to two stories in height. Facilities will be constructed of non-reflective materials to minimize impacts to the viewshed. To the extent buildings and structures are located as far as possible from Buffalo Soldier Trail, significant impacts can be avoided.

3.13.2 Noise Mitigation Measures

As discussed in Section 3.3, potential noise impacts from the WC/CC and BFEC can be effectively mitigated by the incorporation of soundproofing construction materials and methods. The potential noise impacts from the special events venue are more problematic and may require noise measurements and modeling to determine significance. Walls are the most common noise mitigation but care must be taken to ensure that such walls do not obstruct the viewshed of residents on Garden Avenue. Addition of a band

shell for concerts at the special events venue would add to the potential noise impacts. Noise measurements and modeling should be conducted to determine the potential noise impacts and to evaluate different mitigation measures. The high school and hotel/lodging proposed as alternatives may also have noise impacts; however, additional design details are required to complete the evaluation of the noise impacts and to identify potentially effective mitigation measures.

3.13.3 Soil Erosion and Storm Water Drainage Mitigation Measures

As discussed in Section 3.4, provisions of the AZPDES (AAC Title 8 Chapter 9 and USC 1251 *et seq.*) require construction projects disturbing more than one acre to have a Storm Water Management Plan including BMPs designed to minimize soil erosion and to protect surface-water quality by manage storm water runoff. By statute, the BMPs must include erosion and sediment controls, interim and permanent stabilization practices, velocity dissipation devices in discharge locations and outfall channels, and post-construction storm water management measures. Construction activities may be scheduled so that disturbed areas subject to increased erosion are minimized during July and August, when southeastern Arizona is subject to severe seasonal thunderstorms.

Permanent, post-construction storm water management measures may include cutoff walls and energy dissipaters in stream channels to prevent erosion and downcutting; sedimentation basins to prevent sedimentation in washes; soil stabilizers and concrete headers along the perimeter road to prevent erosion; and geotextile fabrics to control sheet flow on cleared, inclined surfaces. The final decision on management measures to be implemented depends on the final configuration of the planned complex. These measures are expected to reduce potential impacts from the Proposed Action on soil erosion rates to less than a significant level.

3.13.4 Water Supply Mitigation Measures

As discussed in Section 3.5, the Proposed Action could increase consumptive water use at the Post by 7.5 acre-feet per year based on standard industrial water usage rates. Applying a conservative efficiency factor reflecting the success Fort Huachuca has had in conserving water at other facilities, the total impact is reduced to 2.8 acre-feet per year. Aggressive use of water-conserving plumbing fixtures, boilers, and other conservation measures and practices is likely to increase efficiency to 60 or 70 percent, levels observed at other facilities (Fort Huachuca, 2002b). Additional mitigation depends on the final use of the existing facilities that the Proposed Action is designed to replace. If these facilities are closed or renovated for water conservation, the total impacts to water resources could be further reduced.

3.13.5 Cultural Resources Mitigation Measures

Findings from the cultural resources survey found during the preliminary survey will be documented and provided to SHPO during the finalization of this document. As needed, the site will be inventoried and any material that needs to be salvaged will be removed prior to additional disturbance of the area.

3.14.5 Human Health and Safety Mitigation Measures

The Proposed Action could increase the potential risk to human health by creating a facility that has a higher force protection risk than current DMWR facilities. Completely mitigating this potential risk by addition of the same access controls currently in place for DMWR facilities would defeat the purpose of the Proposed Action: to allow access to recreational facilities during periods of heightened force protection. To partially mitigate the impact to human health while preserving the goal of increasing access, Fort Huachuca will configure the planned facilities to allow the WC/CC and BFEC to be closed in the event of a specific threat to these facilities. This scenario will be protective of human health while maximizing access to DMWR facilities.

4.0 CONCLUSIONS

It is the conclusion of this analysis that the Proposed Action does not constitute a major federal action with significant adverse impact on the human environment, an EIS is not required, and a Finding of No Significant Impact (FNSI) for the Proposed Action should be issued to complete the documentation. Additional planning is required before completing analysis of the potential impacts of the alternatives. Table 4-1 summarizes the anticipated impacts resulting from each of the three alternatives.

**TABLE 4-1
COMPARISON OF ANTICIPATED IMPACTS**

<i>Resource</i>	<i>Proposed Action</i>	<i>Alternatives</i>	<i>No Action Alternative</i>
Land Use	No significant impact	No significant impact	No impact
Aesthetics and Visual Resources	No significant impact	Additional analysis required after final design	No impact
Air Quality	No impact	No impact	No impact
Noise	Impacts can be mitigated - not significant	Additional information required for final analysis	No impact
Geology and Soils	Impacts will be mitigated - not significant	Impacts can be mitigated - not significant	No impact
Water Resources	Impacts will be mitigated - not significant	Additional information required for final analysis	No impact
Biological Resources	No impact	No impact	No impact
Cultural Resources	Impacts can be mitigated - not significant	Impacts can be mitigated - not significant	No impact
Human Health and Safety	Impacts can be mitigated - not significant	Impacts can be mitigated - not significant	No impact
Socio-Economics	No impact	Additional information required for final analysis	No impact
Hazardous and Toxic Materials/ Wastes	No impact	No impact	No impact
Environmental Justice	Adverse impacts can be mitigated and beneficial impacts to employment	Additional information required for final analysis	No impact
Protection of Children	No impact	No impact	No impact
Infrastructure	No significant impacts but requirements for additional service may increase cost	Additional information required for final analysis	No impact
Trans-Boundary	No impact	No impact	No impact

5.0 REFERENCES

- American Water Works Association Research Foundation. 2000. *Commercial and Institutional End Users of Water*. 263 pp.
- Arizona Department of Economic Security (ADES). 2004. U.S. Census data for State of Arizona. <http://www.de.state.az.us/links/economic/webpage/popweb/04004.pdf>.
- ADES. 2004a. U.S. Census data for Cochise County. <http://www.de.state.az.us/links/economic/webpage/popweb/05004003.pdf>.
- ADES. 2004b. U.S. Census data for City of Sierra Vista. <http://www.de.state.az.us/links/economic/webpage/popweb/05004003.pdf>.
- Australian Capital Territory Government. 2001. *Outdoor Concert Noise Environmental Protection Policy*. February 2001.
- Brown, David E. 1994. *Biotic Communities of the Southwestern United States and Northwestern Mexico*. University of Utah Press. 342pp.
- Campbell, Tom. 2004. Fort Huachuca Mechanical Engineer. Personal communication.
- Desert Archeology. 2004. *Letter Report on the Wilcox Gate Survey, Fort Huachuca Military Reservation, Cochise County, Arizona*. By Patricia Cook, PhD. Dated February 2, 2004.
- Dixon-Maher, Angela. 2003. Senior Civil Engineer, City of Sierra Vista. Personal communication.
- Federal Energy Management Program (FEMP) website. 2004. <http://www.eere.energy.gov/femp/aboutfemp/indices.html>
- League for the Hard of Hearing Noise Center. 2004. *Noise Levels in our Environment Fact Sheet*. <http://www.lhh.org/noise/decibel.htm>.
- Lopez, Manny. 2003. Street Maintenance Supervisor. City of Sierra Vista. Personal communication.
- Natural Resources Conservation Service. Undated. *Interim Soil Survey of San Pedro Valley, Arizona*. United States Department of Agriculture.
- Pacific Institute for Studies in Development, Environment, and Security. 2003. *Waste Not, Want Not: The Potential for Urban Water Conservation in California*. November 2003.
- U.S. Army Garrison (USAG) Fort Huachuca. 2000. *Environmental Assessment for Artificial Aquifer Recharge and Treated Effluent Reuse at Fort Huachuca, Arizona*. Fort Huachuca, Arizona:
- USAG Fort Huachuca. 2002. *Programmatic Biological Assessment for Ongoing and Programmed Future Military Operations and Activities at Fort Huachuca, Arizona*. Fort Huachuca, Arizona: Environmental and Natural Resource Division. July.
- USAG Fort Huachuca. 2002a. *Programmatic Environmental Assessment for Implementation of Integrated Cultural Resources Management Plan at Fort Huachuca, Arizona*. Fort Huachuca, Arizona: Environmental and Natural Resource Division. July.
- USAG Fort Huachuca, Arizona. 2002b. *Water Resources Management Plan Phase 2*. Fort Huachuca, Arizona: Environmental and Natural Resources Division.
- U.S. Census Bureau. 2004. Population tract data for Sections of Sierra Vista http://www2.census.gov/census_2000/datasets/Summary_File_3/Arizona/

6.0 LIST OF PREPARERS AND CONTACTS

Patricia Cook Research Archaeologist, Ph.D., University of Arizona; M.A., University of Arizona; B.A. Douglass College, Rutgers University

Rick Koehler. Water Quality Specialist, Ph.D. (candidate), School of Renewable Natural Resources, M.S., Watershed Management, B.S. Watershed Management, University of Arizona.

Eric Matranga. GIS Specialist, Postgraduate Studies, Geography (Environmental), Arizona State University, M.A. Geography (Economic) Arizona State University, B.A. Art, Boise State University.

Lisa Spahr. Geologist and NEPA specialist, M.A. Geology and M.S. Environmental Science, Indiana University, B.A. Oberlin College.

Agencies and Individuals Consulted:

Tom Campbell, Mechanical Engineer, Directorate of Installation Support, Fort Huachuca, AZ

Angela Dixon-Maher; Senior Civil Engineer; City of Sierra Vista; Sierra Vista AZ

Sharon Flissor; Civil Engineer 1; City of Sierra Vista; Sierra Vista AZ

Gretchen Kent; NEPA Coordinator/ Physical Scientist; Environmental and Natural Resource Division; Fort Huachuca, AZ

Manny Lopez; Street Maintenance Supervisor; City of Sierra Vista, Sierra Vista AZ

7.0 ACRONYMS

AAC	Arizona Administrative Code
AR	Army Regulation
AZPDES	Arizona Pollutant Discharge Elimination System
BFEC	Bowling and Family Entertainment Center
BMP	Best Management Practice
BRAC	Base Realignment and Closure
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulation
CFSC	Community and Family Support Center
dBA	A-weighted decibels
DWWR	Directorate of Morale, Welfare, and Recreation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEMP	Federal Energy Management Plan
FNSI	Finding of No Significant Impact
HQDA	Headquarters Department of the Army
IMWRF	Installation Morale, Welfare, and Recreation Fund
MVGC	Mountain View Golf Course
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NRCS	Natural Resource Conservation Services
PPV	Public Private Venture
ROI	Region of Influence
US	United States
USC	United States Code
USAG	United States Army Garrison
USFWS	United States Fish and Wildlife Service
WC/CC	Welcome Center/ Community Club