

**9-14-09
Hearing:
Military Base
Housing
Contracts at
Fort Wainwright
and Eielson Air
Force Base**

<target><bill></bill><subject>9-14-09 Hearing Military Base
Housing Contracts at Fort Wainwright and Eielson Air Force
Base</subject><comm>JASC26</comm></target>

**ALASKA STATE LEGISLATURE
JOINT ARMED SERVICES COMMITTEE**

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**CO-CHAIRS
REPRESENTATIVE NANCY DAHLSTROM
SENATOR BILL WIELECHOWSKI**

Memorandum

TO: Kirsten Waid, Senate Secretary
Suzi Lowell, House Chief Clerk

FROM: Representative Nancy Dahlstrom, Co-Chair
Joint Armed Services Committee

DATE: August 31, 2009

RE: Committee Announcement for Publication

The **Joint Armed Service Committee** is scheduling the following meeting:

Date: September 14, 2009
Time: 1:00 pm - 2:30 pm
Location: Fairbanks LIO Conference Room 307

Hearing to gather information and testimony regarding the Military Base Housing Contracts at Fort Wainwright and Eielson Air Force Base.

Testimony by Invitation Only

+ Teleconferenced

EXHIBIT L

**ACTUS LEND LEASE LLC
DESIGN BUILD CONTRACTOR**

SUBCONTRACTING PROGRAM

North Haven Communities LLC

Solicitation No. W912DR-06-R-0069

Fort Wainwright and Fort Greely Alaska

SUBCONTRACTING PROGRAM

FOR

FORT WAINWRIGHT AND FORT GREELY ALASKA

CONTRACTOR NAME: ACTUS LEND LEASE LLC

ADMINISTRATOR: THOM ANTONOVICH, SENIOR CONSTRUCTION MANAGER

TELEPHONE NUMBER: TBD

- Actus Lend Lease LLC's Subcontracting Program establishes the procedures for award of subcontracts on this project. Subcontracting of all aspects of the Guaranteed Scope of Work, except those specific materials purchased through a strategic supply agreement(s), shall follow the procedures set forth herein. To the greatest extent possible as it is economically feasible to the overall success of the project, Actus Lend Lease LLC will endeavor to award, expressed in percentages of total dollars available for award set forth below, subcontracts to qualified best value large business, small business, veteran-owned small business, HUBZone small business, small disadvantaged business, woman-owned small business and local business concerns throughout Alaska.

| | Percentage |
|---|-------------------|
| Total Subcontracts to be awarded | 100% |
| Total Large Business Award | 25% |
| Total Small & Local Business Awards (SB) | 75% |
| Sub-Categories of Small Local Business Awards | |
| Small Business (SB) and Local Business | 79% |
| Veteran-Owned Small Business Totals of all Small Business Awards (VOSB) | 5% |
| HUBZone Small Business Totals of all Small Business Awards (HUBZSB) | 3% |
| Small Disadvantaged Business Totals of all Small Business Awards (SDB) | 5% |
| Woman-Owned Small Business Totals of all Small Business Awards (WOSB) | 8 % |

Note: Actus Lend Lease, LLC anticipates entering into binding strategic agreement(s) with major material supplier(s) and as such, the value of these purchased materials will be deducted from the total dollars available for award.

1. A description of the principal types of supplies and services to be subcontracted/purchased for award to large business, small business, veteran-owned small business, HUBZone small business, small disadvantaged business woman-owned small business and/or local business concerns throughout Alaska are as follows:

| | |
|---------------------------------|-----------------------------|
| Hazardous Material Abatement | Metal Doors |
| Demolition | Wood Doors |
| Grading | Finish Hardware |
| Engineered Staking | Garage Overhead Doors |
| Paving | Gypsum Drywall System |
| Site Concrete | Covered Soffit and Fascia |
| Play Equipment | Gutters and Downspouts |
| Fences | Floor Covering |
| Soils Testing | Tub Surrounds |
| Site Furnishings | Painting |
| Landscaping | Louvers, Vents and Shutters |
| Building Concrete | Signs |
| Rough Carpentry Material | Toilet and Bath Accessories |
| Rough Carpentry Labor | Residential Appliances |
| Finish Carpentry Material | Kitchen and Bath Cabinets |
| Finish Carpentry Labor | Laminated Countertops |
| Building Trusses | Window Treatments |
| Siding | Plumbing |
| Roofing | Heating |
| Insulation | House Electrical |
| Windows and Sliding Glass Doors | Final Cleaning |

Note: All areas noted above, except materials which may be included in a strategic supply agreement, will be available for subcontract/purchase award. Actus Lend Lease LLC will not disqualify or preclude in any way the participation of a qualified, best value Small Business, Veteran-Owned Small Business, HUBZone Small Business, Small Disadvantaged Business, Woman-Owned Small Business and/or Local Business Concern throughout Alaska in the award process for any product and/or service available under this plan.

2. The following are procedures we will utilize and/or have utilized for award of subcontracts or purchase orders in our endeavor to obtain percentages for small business concerns, veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, woman-owned small business concerns and local business concern's throughout Alaska participation in the project.

Actus Lend Lease maintains a database of small businesses, veteran-owned small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses and local businesses throughout Alaska which includes those who have participated on previous solicitations and projects. This database was utilized to develop the initial master bidders list during the CDMP verification stage and has been constantly updated with information obtained through a variety of sources, including summits, conferences, symposiums and forums.

Throughout the duration of the Initial Development Period, we will conduct additional summits, conferences, symposiums or forums to meet directly with local small businesses throughout Alaska to discuss and answer questions about the project. The names we obtain through these efforts will be added to our database, and those firms will be contacted for participation in the bidding/award process.

Each bidder will be requested to verify their business status as a large business concern, small business concern, small disadvantaged business concern, woman-owned small business concern, veteran-owned small business concern, HUBZone small business or local business concerns within Alaska when submitting their bid. This information will be evaluated along with qualifications and best value in our endeavor to achieve the subcontracting percentages for the total project.

Business concerns that express interest and do not submit a bid on the relevant components will be contacted to determine why no bid was submitted. This contact and information received will be documented and a file retained at the project office. Those business concerns, through the contact, who advised us they no longer have an interest in submitting bids will be deleted from the master bid list for the remaining components of the project. Business concerns, through the contact, who advise they were only interested in bidding a particular component, will be added only to such component's master bid list.

3. A description of the method we utilized to identify potential sources for solicitation purposes to assure small, veteran-owned small, HUBZone small, small disadvantaged, woman-owned small business and local business throughout Alaska participation (e.g., existing company source lists, the Procurement Marketing and Access Network (PRO-Net) of the Small Business Administration (SBA), the list of certified small disadvantaged business concerns of the SBA, the National Minority Purchasing Council Vendor Information Service, the Research and Information Division of the Minority Business Development Agency in the Department of Commerce, or small, veteran-owned small, HUBZone small, small disadvantaged, and woman-owned small business trade associations).

Small Business, Small Disadvantaged Business, Woman-Owned Small Business, Veteran-Owned Small Business, HUBZone Small Business and Local Business Concerns throughout Alaska will be actively recruited through:

- (a) Contact with the U.S. Small Business Administration for updated mailing of qualified Small, Small Disadvantaged, Woman-Owned Small Business, Veteran-Owned Small Business, or HUBZone Small Business Concerns in project vicinity.
- (b) Solicitations in local and construction specialty newspapers with specific reference of interest in qualified Small Business, Small Disadvantaged Business, Woman-Owned Small Business, Veteran-Owned Small Business, HUBZone Small Business and Local Business Concerns throughout Alaska.
- (c) Written solicitation to Small Business, Small Disadvantaged Business, Woman-Owned Small Business, Veteran-Owned Small Business, HUBZone Small Business Local Business Concerns throughout Alaska requesting letters of interest of possible project participation.

- (d) Contacts with Small Business, Small Disadvantaged, Woman-Owned Small Business, Veteran-Owned Small Business, HUBZone Small Business and Local Business Concerns' throughout Alaska applicable trade associations.
 - (e) Small business conferences/symposiums.
 - (f) Contact and forums with the Chamber of Commerce, Small Business Council, Building Industry Association and others to identify key labor and training concerns.
4. Indirect costs, including design and engineering cost, are included in the subcontracting percentages in this plan.
5. The name of the individual who will monitor our achievements of our subcontracting percentages is

Name: Thom Antonovich

Title: Senior Construction Manager

Telephone No.: TDB

Address: TDB

City, State, Zip TDB

The Senior Construction Manager will monitor performance relative to achievement of the subcontracting percentages contained herein by:

- (a) Maintaining master bidders lists of Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns, Veteran-Owned Small Business, HUBZone Small Business Local Business Concerns throughout Alaska.
- (b) Including requests for Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns, Veteran-Owned Small Business, HUBZone Small Business and Local Business Concerns throughout Alaska in solicitations for products or services they can provide and ensuring that all solicitations are structured to permit their maximum participation.
- (c) Assuring inclusion of Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns, Veteran-Owned Small Business, HUBZone Small Business Local Business Concerns throughout Alaska in all solicitations for products or services, which they are capable of providing.
- (d) Reviewing solicitations to remove statements, clauses, etc., which may tend to restrict or prohibit participation by Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns,

Veteran-Owned Small Business, HUBZone Small Business Local Business Concerns throughout Alaska.

- (e) Establishing and maintaining records of all solicitations and subcontract awards to ensure that the firm's members who review bidders' proposals record their reasons for selecting or not selecting a bid submitted by a Small Business, Small Disadvantaged Business, Woman-Owned Small Business, Veteran-Owned Small Business, HUBZone Small Business or Local Business Concerns throughout Alaska.
- (f) Ensuring the establishment and maintenance of records of solicitations and subcontract award activity.
- (g) Attending or arranging for attendance of company counselors at Business Opportunity Workshops, Minority Business Enterprise Seminars, Trade Fairs, etc.
- (h) Monitoring performance achievement of proposed percentages.
- (i) Preparing and submitting achievement semi-annual reports.
- (j) Coordinating the conduct of contractor's activities involving its bidding and awarding process.

6. The following records will be maintained at the project office:

- (a) Source lists (i.g., PRO-Net), guides, and other data that identify small business, veteran-owned small business, HUBZone small business, small disadvantaged business, woman-owned small business and local business concerns throughout Alaska.
- (b) Organizations contacted in an attempt to locate sources that are small businesses, veteran-owned small businesses, HUBZone small businesses, small disadvantaged businesses, woman-owned small businesses and local businesses throughout Alaska.
- (c) A bidder's list for each component will be maintained and annotated to indicate which business concerns submitted bids and reasons why business concerns did not submit a bid.
- (d) Records of any outreach efforts to contact (A) trade associations, (B) business development organizations, and (C) conferences and trade fairs to locate Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns, Veteran-Owned Small Business, HUBZone Small Business Local Business Concerns throughout Alaska.
- (e) Records of internal guidance and encouragement provided to buyers through (A) workshops, seminars, training, etc., and (B) monitoring performance to evaluate compliance with the programs' requirements.

7. Actus Lend Lease is committed to providing the maximum practical opportunity to Small Business Concerns, Small Disadvantaged Business Concerns, Woman-Owned Small Business Concerns, Veteran-Owned Small Business, HUBZone Small Business and Local Business Concerns throughout Alaska.

ATTACHMENT 4b

INCENTIVE PLAN

ARMY ALASKA FAMILY HOUSING LLC

D/B CONTRACTOR INCENTIVE PERFORMANCE MANAGEMENT CRITERIA

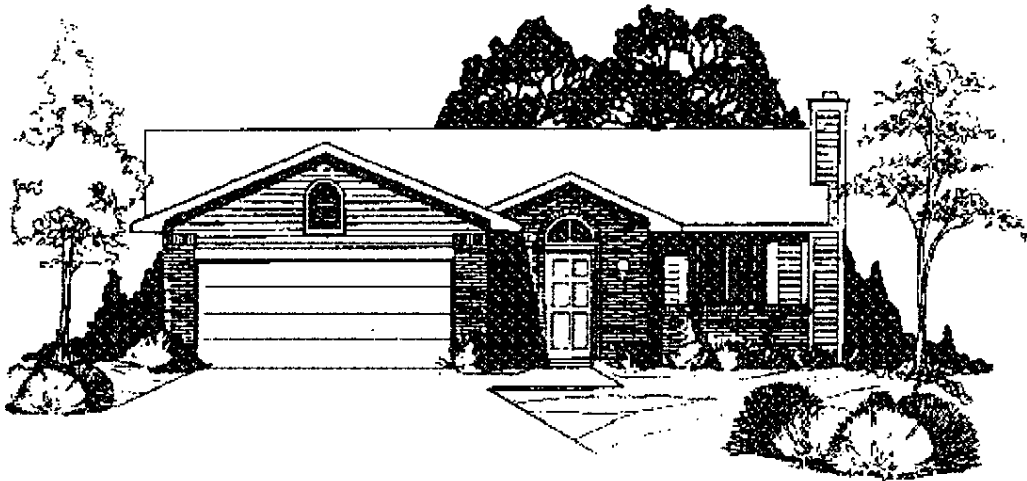
E. Subcontracting Goals Achievement – 15 points / 10 points:

The subcontracting goal is to award 85% of the possible 75% trade values to small businesses as defined within the small & local business contracting goals Criteria. The Incentive Fee for these subcontracting goals shall be awarded based on the following sliding scale:

| Small Business Contract Percentage Attained (Overall Small Business Contract Goal is 75% of all Contracts) | 15-Point Scale (Criteria A) | 10-Point Scale (Criteria B) |
|---|--|--|
| 85% or greater of available 75% awarded to small businesses | 15 | 10 |
| 75 - 84.99% of available 75% awarded to small businesses | 12 | 8 |
| 65 – 74.99% of available 75% awarded to small businesses | 9 | 6 |
| 55 – 64.99% of available 75% awarded to small businesses | 6 | 4 |
| 45 – 54.99% of available 75% awarded to small businesses | 3 | 2 |
| <45% of available 75% awarded to small businesses | 0 | 0 |
| Total Score – Subcontracting Goal Achievement | 15 | 10 |

2005 HOUSING REQUIREMENTS ANALYSIS UPDATE

3 JANUARY 2006



**FORT WAINWRIGHT
ALASKA**

**Headquarters, Department of the Army
Assistant Chief of Staff for Installation Management**

Prepared by ROBERT D. NIEHAUS, INC.

REQUIREMENTS SUMMARY – FORT WAINWRIGHT

BACKGROUND

This analysis updates the 2005 Housing Market Analysis (HMA) for Fort Wainwright (Robert D. Niehaus, Inc., 2005). This analysis uses current and projected total permanent-party military personnel from ASIP documents for Fort Wainwright (SAMAS of 29 June 2005) adjusted to reflect proposed changes due to realignment of units within the Army as of 17 August 2005 (Headquarters, Department of the Army, 2005). This report is based on criteria and methods approved by Headquarters, Department of the Army (2005), and reflects current guidance by the Office of the Secretary of Defense (OSD) regarding requirements analyses for military housing.

KEY ASSUMPTIONS AND RESULTS

Table 1 summarizes this study's key assumptions and results.

Table 1. Government-Provided Military Housing Required and Key Assumptions, Fort Wainwright, 2010

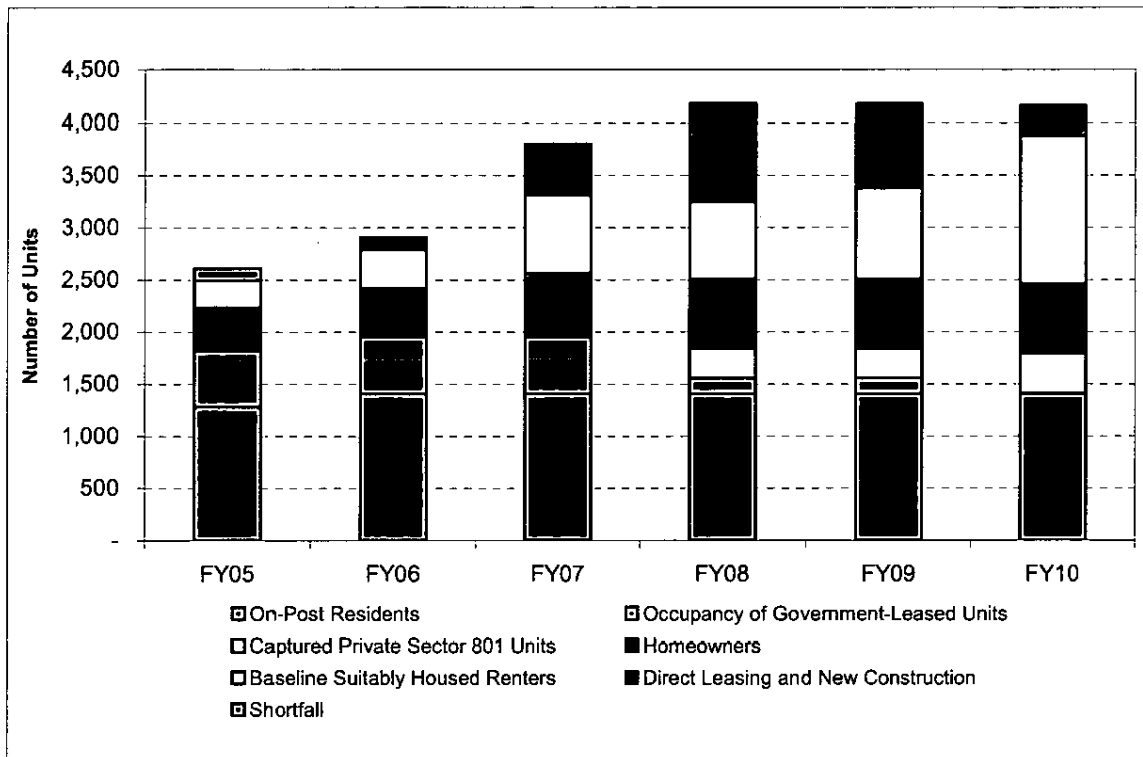
| | Accompanied | Unaccompanied |
|---|--------------------|----------------------|
| 1. Methodology Consistent with OSD Guidance for All Services | | |
| 2. Personnel Based on 29 June 05 SAMAS Adjusted for Proposed Realignment of Units as of 17 Aug 05 | | |
| 3. Market Area is Based on a Safe 30-Minute Commute | | |
| 4. Rental Mobile Homes are Inadequate for Military Members | | |
| 5. 2005 Basic Allowance for Housing (BAH) and Community Rental Costs | | |
| 6. One Bedroom Per Family Member for Accompanied, BAH Standard for Unaccompanied | | |
| 7. Unaccompanied E1-E5 Housed On Post | | |
| 8. Military Homeowners Estimated from 1997 VHA Survey and Adjusted for Recent Trends in Affordability | | |
| 9. No Adjustments Made for Arctic Space Requirement for Off-Post Housing | | |
| 10. Current 801 Units are Assumed to be 70 Percent Occupied by Military Personnel in 2010 | | |
| 11. Total Permanent-Party Military Personnel Number 4,696 in 2005 and 7,358 in 2010 | | |
| Total Effective Housing Requirement | 4,156 | 2,974 |
| Floor Requirement | | |
| On-Post Military Community (see note) | - | n.a. |
| Key and Essential Personnel | 20 | n.a. |
| Historic Housing | 1 | n.a. |
| Quality of Life | 13 | n.a. |
| Total Floor Requirement (see note) | 33 | 2,826 |
| Community Housing Shortfall | 1,656 | 18 |
| Initial Housing Requirement | 1,689 | 2,844 |
| On-Post Military Community Adjustment (see note) | - | n.a. |
| Government-Provided Housing Requirement | | |
| Total Military Housing Requirement | 1,689 | 2,844 |
| Percent of Total Effective Housing Requirement | 41% | 96% |
| Projected RCI End-State Inventory | 1,409 | TBD |
| Deficit/(Surplus) | 280 | TBD |

Note: The on-post military community component of the accompanied floor requirement was initially assumed to be zero. The floor requirement for accompanied personnel reflects the greatest requirement among the other three categories on an individual grade basis. The on-post military community adjustment reflects any necessary increases when the initial housing requirement is less than 10 percent of the effective families on a grade by grade basis (see text). The floor requirement for unaccompanied personnel comprises all unaccompanied E1-E5 personnel.

Source: Headquarters, Department of the Army, 2005; and estimates prepared for this study.

Figure 1 displays the distribution of suitable current and projected housing units in the Fort Wainwright market area. The graph includes the number of on-post residents, occupancy of government-leased (section 801) units, the number of 801 units assumed to be captured by military families if these units became private-sector rentals, homeowners, those renters who can be suitably housed in the community, and the direct leasing and/or new construction to be provided by the post in order to meet the housing needs of Fort Wainwright families from 2006 to 2010.

Figure 1. Suitable Housing Units, Fort Wainwright, 2005-2010



Source: Estimates prepared for this study

The following points compare the results of this study to those of the 2005 HMA:

- The projected 2010 requirement is 1,689 family housing units, 432 less than the projected 2010 requirement of 2,121 units in the 2005 HMA.
- The projected number of military families in 2010 is 4,156, or 1,112 more than the projected 2010 count of 3,044 families in the 2005 HMA. This increase is due to an increase in projected personnel of 1,943 military members, from the 5,415 military personnel reported in the 2005 HMA to 7,358 military personnel in this Update.
- This Update does not make any adjustments based on an arctic space requirement for off-post housing. This difference in criteria is the primary reason the projected requirement is less in this Update than in the 2005 HMA, despite the increased number of families. Rental units were categorized based on the number of bedrooms alone and no adjustment was made regarding the size (square footage) of the rental units. In the 2005 HMA, rental units were distributed into

bedroom categories based on the number of bedrooms as well as on the size of the unit. Due to the adjustment in the 2005 HMA, some units having two, three, and four bedrooms were designated as having one, two, and three bedrooms because they did not meet minimum size standards. As a result, there were some two-bedroom units that were in the one-bedroom distribution, some three-bedroom units that were in the two-bedroom distribution, and some four-plus-bedroom units that were considered three-bedroom units. In general, the greater the number of bedrooms, the greater the rent. Therefore, by including in the one-bedroom category those two-bedrooms that did not have enough square feet to meet the arctic space requirement, the price of one-bedroom units increased. By taking out the arctic space adjustment, the median price of one-bedroom, two-bedroom, three-bedroom, and four-plus-bedroom units has decreased relative to the rents presented in the 2005 HMA. At the same time, the number of two-bedroom, three-bedroom, and four-plus-bedroom units increased in this Update compared to the 2005 HMA.

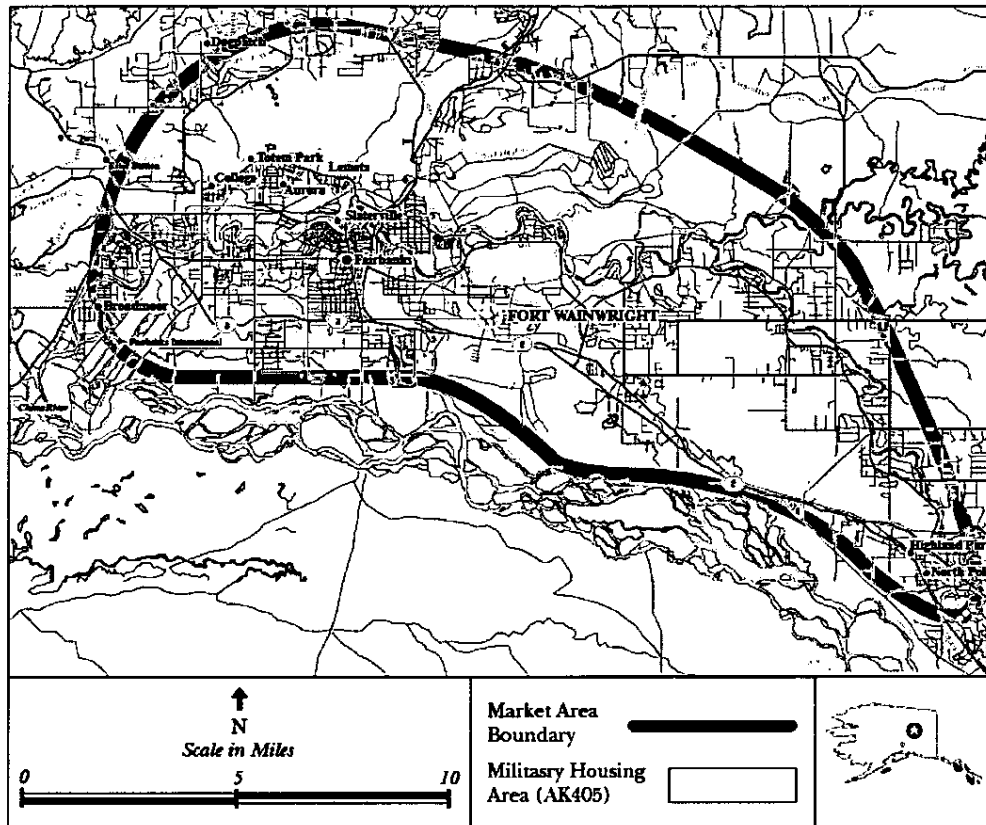
- Currently, Fort Wainwright has 550 leased (section 801) units, comprising 150 units located off post (Walden Estates) and 400 on-post units (the Birchwood complex). Leases for these units are assumed to expire by 2010, as scheduled, at which time these units would convert to market-rate community housing. Because these leased units historically have been occupied by military members, upon conversion from government-controlled units to market-rate units it is expected the capture rate, or the military's market share, for these units would be greater than what would normally occur in the community. This Update assumes the military would capture 70 percent of the units in these complexes, or 385 suitable units in 2010. By comparison, the 2005 HMA projected that the military would capture about 150 suitable units in these complexes.

These results are based on the OSD-approved methodology for conducting housing requirements and market analyses. A principal assumption of the methodology is that military members obtain their proportionate share of rental housing within a market area. This proportionate share, or capture rate, is based on the percentage that military rental housing demand is of total rental housing demand within a market area. The capture rate, however, can be influenced by proactive off-post housing referral programs undertaken by the installation's housing office. These programs could effectively increase market shares in select housing segments, particularly in the two-bedroom apartment market segment in which units are most readily available and affordable to military personnel. Assuming these programs result in increased military market shares in the two-bedroom market segment, the requirement for on-post two-bedroom rental units would be reduced. This would result in a lower total requirement for on-post family housing.

HOUSING MARKET TRENDS

The housing market area for Fort Wainwright includes those communities within a safe 30-minute commute of the installation's principal work areas. Figure 2 shows the housing market area for Fort Wainwright. The market area includes most of Fairbanks proper to the west of the post and the unincorporated areas east of the post. This market area is identical to that reported in the Final 2005 HMA.

Figure 2. Housing Market Area, Fort Wainwright



Key indicators of local housing demand (total population, household population, average household size, and owner- and renter-occupied housing units) are displayed in Table 2. The projections to 2010 are identified as “baseline” projections, and assume on-post housing is used at its recent actual rate. The current total population of the housing market area is estimated to be 51,046 persons, while the household population is estimated to total 49,755 persons. Population grew at an annual average rate of 0.6 percent between 2000 and 2005, and is projected to grow 0.8 percent per year through 2010 (Alaska Department of Labor and Workforce Development, 2004; and Fairbanks North Star Borough Community Research Center, 2004). Average household size has been decreasing since 1990, and this trend is expected to continue through 2010. The occupied housing stock is currently estimated to total 19,601 units, of which 11,044 units (56.3 percent) are estimated to be owner-occupied and 8,557 units (43.7 percent) are estimated to be renter-occupied.

Table 2. Recent Trends and Baseline Projections of Housing Demand, 1990, 2000, 2005, and 2010

| Housing Market Indicator | 1990 | 2000 | 2005 | 2010 |
|---------------------------|--------|--------|--------|--------|
| Total Population | 46,971 | 49,445 | 51,046 | 53,136 |
| Average Annual Change (%) | N.A. | 0.5% | 0.6% | 0.8% |
| Household Population | 45,569 | 48,195 | 49,755 | 51,793 |
| Average Annual Change (%) | N.A. | 0.6% | 0.6% | 0.8% |
| Average Household Size | 2.61 | 2.56 | 2.54 | 2.51 |
| Occupied Housing Units | 17,460 | 18,836 | 19,601 | 20,607 |
| Average Annual Change (%) | N.A. | 0.8% | 0.8% | 1.0% |
| Owner-Occupied Units | 8,721 | 10,365 | 11,044 | 11,939 |
| Percent of Baseline Total | 49.9% | 55.0% | 56.3% | 57.9% |
| Renter-Occupied Units | 8,739 | 8,472 | 8,557 | 8,668 |
| Percent of Baseline Total | 50.1% | 45.0% | 43.7% | 42.1% |

Source: U.S. Bureau of the Census, 1991, 2002, and 2005; Alaska Department of Labor and Workforce Development, 2004; Fairbanks North Star Borough, Community Research Center, 2004; and estimates prepared for this study.

Market area housing supply indicators (total housing units, single-family units, multiple-family units, and manufactured homes) are displayed in Table 3. The current housing stock is estimated to total 21,657 units, having increased by an average of 166 units (0.8 percent) annually since 2000. Single-family units represent 55.2 percent of the total, while multi-family units constitute 39.7 percent, and manufactured homes 5.1 percent, of the total.

Table 3. Recent Trends and Baseline Projections of Housing Supply, 1990, 2000, 2005, and 2010

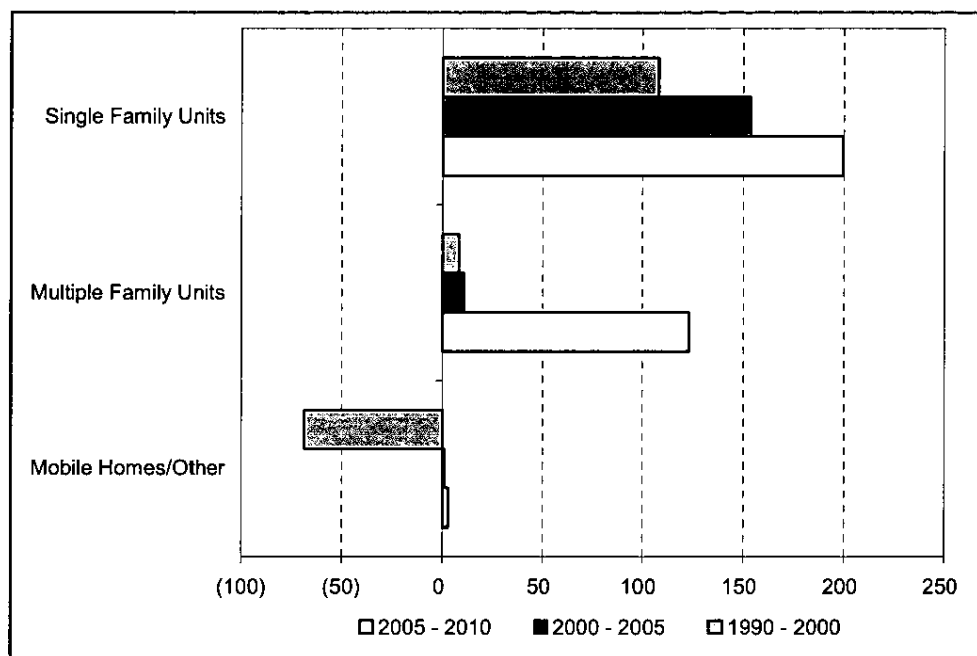
| Housing Market Indicator | 1990 | 2000 | 2005 | 2010 |
|-----------------------------|--------|--------|--------|--------|
| Total Housing Units | 20,348 | 20,827 | 21,657 | 23,289 |
| Average Annual Change (#) | N.A. | 48 | 166 | 326 |
| Average Annual Change (%) | N.A. | 0.2% | 0.8% | 1.5% |
| Share of Total Housing (%) | 100.0% | 100.0% | 100.0% | 100.0% |
| Single Family Units | 10,098 | 11,180 | 11,949 | 12,947 |
| Average Annual Change (#) | N.A. | 108 | 154 | 200 |
| Share of Total Housing (%) | 49.6% | 53.7% | 55.2% | 55.6% |
| Multiple Family Units | 8,457 | 8,540 | 8,594 | 9,211 |
| Average Annual Change (#) | N.A. | 8 | 11 | 123 |
| Share of Total Housing (%) | 41.6% | 41.0% | 39.7% | 39.6% |
| Manufactured/Trailers/Other | 1,793 | 1,108 | 1,114 | 1,131 |
| Average Annual Change (#) | N.A. | (68) | 1 | 3 |
| Share of Total Housing (%) | 8.8% | 5.3% | 5.1% | 4.9% |

Source: U.S. Bureau of the Census, 2002; and estimates prepared for this study.

Currently, Fort Wainwright leases 550 section 801 housing units, 400 on post (the Birchwood complex) and 150 off post (Walden Estates), for the exclusive use of military families. For the purposes of this study all leases are assumed to expire by 2010, as scheduled, at which time these leased units would convert from military housing to market-rate community housing. These units are included in the private-sector rental housing stock in 2010.

Housing units are forecast to continue increasing through 2010 at a rate of 1.5 percent per year, including the addition of the 550 units that are currently leased. Figure 3 plots the recent actual and future projected changes in the market area housing stock by type of structure.

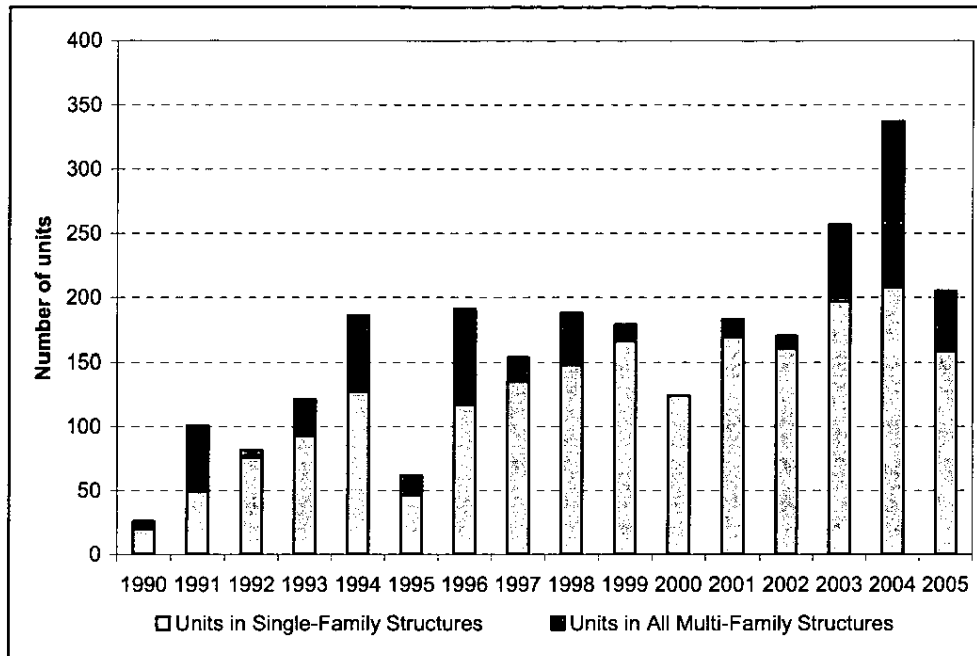
Figure 3. Recent Trends and Baseline Projections of Changes in Housing Supply, 1990, 2000, 2005, and 2010



Source: Estimates prepared for this study.

Figure 4 plots the trend in building permits for the Fairbanks North Star Borough by type of unit from 1990 to 2005. The total number of units permitted increased substantially in 2003 and peaked in 2004.

Figure 4. Annual Residential Building Permits, Fairbanks North Star Borough, 1990-2005



Note: Building permit data for 2005 are estimated based on data through October.
 Source: U.S. Bureau of the Census, 2005.

Housing demand and housing supply together determine vacancy rates in the market area. Vacancy rates for key segments of the housing market are presented in Table 4. The total vacancy rate is currently estimated at 9.5 percent. Units for sale are estimated to have a current vacancy rate of 3.8 percent. The current rental vacancy rate is estimated to be 9.0 percent based on data provided by local property managers. The market area rental vacancy rate is lower than it was in 2000. Rental vacancy rates in the Fort Wainwright market area are also lower than the current U.S. average rental vacancy rate of 9.9 percent (U.S. Bureau of the Census, 2005). The vacancy rate for all other vacant units (units rented or sold but not yet occupied; held for seasonal, recreational, or other uses; reserved for migrant workers, or other vacant units) is currently estimated to be 3.6 percent.

Without the simulated military transition from government-provided housing into private-sector units, rental vacancy rates would increase to 13.9 percent in 2010. This increase reflects the addition of the 550 leased units to the market area rental housing stock. The data displayed in the tables are baseline projections which reflect conditions in the absence of the simulated transition of military families into private sector housing. The simulated transition of military families into the community is projected to reduce the 2010 rental vacancy rate to 9.0 percent, which is the estimated market-equilibrium vacancy rate.

Table 4. Recent Trends and Baseline Projections of Housing Vacancies, 1990, 2000, 2005, and 2010

| Housing Market Indicator | 1990 | 2000 | 2005 | 2010 |
|--------------------------|-------|-------|-------|-------|
| Total Vacant Units | 2,888 | 1,991 | 2,056 | 2,682 |
| Total Vacancy Rate | 14.2% | 9.6% | 9.5% | 11.5% |
| Vacant Units for Sale | 520 | 177 | 432 | 461 |
| For Sale Vacancy Rate | 5.6% | 1.7% | 3.8% | 3.7% |
| Vacant Units for Rent | 1,046 | 1,183 | 846 | 1,396 |
| Rental Vacancy Rate | 10.7% | 12.3% | 9.0% | 13.9% |
| Other Vacant Units | 1,323 | 631 | 778 | 825 |
| Vacancy Rate | 6.5% | 3.0% | 3.6% | 3.5% |

Note: Other vacant units include units rented or sold but not yet occupied; boarded-up units; units held for seasonal or recreational use; units held for migrant workers; and other units.

Source: U.S. Bureau of the Census, 2002; and estimates prepared for this study.

HOUSING ALLOWANCES AND MAXIMUM ACCEPTABLE HOUSING COSTS

By OSD standards, to be suitably housed military members must pay no more than the Maximum Acceptable Housing Cost (MAHC) for a rental unit. This MAHC amount varies by pay grade and is equal, as of 2005, to the Basic Allowance for Housing (BAH) that military personnel residing in community housing receive in addition to basic pay. Table 5 displays the 2005 BAH (MAHC) amounts by grade and accompaniment status.

Table 5. Basic Allowance for Housing (BAH)/Maximum Acceptable Housing Cost (MAHC), With and Without Dependents, 2005

| Pay Grade | With Dependents BAH/MAHC | Without Dependents BAH/MAHC |
|------------|-----------------------------|--------------------------------|
| O7 & Above | \$1,951 | \$1,629 |
| O6 | \$1,929 | \$1,613 |
| O5 | \$1,913 | \$1,545 |
| O4 | \$1,788 | \$1,500 |
| O3 | \$1,611 | \$1,328 |
| O2 | \$1,489 | \$1,117 |
| O1 | \$1,433 | \$947 |
| W5 | \$1,756 | \$1,510 |
| W4 | \$1,679 | \$1,443 |
| W3 | \$1,613 | \$1,300 |
| W2 | \$1,555 | \$1,206 |
| W1 | \$1,491 | \$1,011 |
| E9 | \$1,661 | \$1,292 |
| E8 | \$1,583 | \$1,207 |
| E7 | \$1,535 | \$1,057 |
| E6 | \$1,491 | \$961 |
| E5 | \$1,426 | \$881 |
| E4 | \$1,153 | \$747 |
| E3 | \$1,153 | \$747 |
| E2 | \$1,153 | \$747 |
| E1 | \$1,153 | \$747 |

Source: U.S. Department of Defense, 2005.

DISTRIBUTION OF MARKET AREA RENTAL UNITS

Table 6 and Table 7 present the distribution of the current and projected total rental housing supply (occupied and vacant-for-rent units) by monthly rental costs and number of bedrooms. The cost bands were established based on minimum, maximum, and median rental costs in the market area and the upper and lower bounds of BAH (MAHC). The allocation of the market area rental units among the rental cost bands is based on classified listings of apartments and houses for rent from the *Fairbanks Daily News-Miner*, rental lists from area real estate agents and property managers, and the Fort Wainwright housing referral list. Utility costs were estimated from interviews with area property managers and data provided by the Interior Regional Housing Authority of Fairbanks (2004). Renter's insurance costs were estimated from quotes obtained from an area insurance provider, and are the same as those presented in the 2005 HMA.

Table 6. Total Rental Housing Supply (Occupied and Vacant for Rent), 2005

| Rental Cost | Number of Bedrooms | | | | | Total |
|-----------------|--------------------|--------------|--------------|--------------|------------|--------------|
| | Studios | One | Two | Three | Four+ | |
| Above\$1800 | - | - | 15 | 43 | 164 | 222 |
| \$1701 - \$1800 | - | - | 10 | 70 | 46 | 126 |
| \$1601 - \$1700 | - | - | 2 | 87 | 25 | 114 |
| \$1501 - \$1600 | - | - | 62 | 86 | 10 | 158 |
| \$1401 - \$1500 | - | - | 149 | 160 | 52 | 361 |
| \$1301 - \$1400 | - | - | 335 | 135 | 52 | 522 |
| \$1201 - \$1300 | 8 | 21 | 597 | 312 | 23 | 961 |
| \$1101 - \$1200 | 33 | 87 | 976 | 160 | 3 | 1,259 |
| \$1001 - \$1100 | 163 | 421 | 553 | 147 | 7 | 1,291 |
| \$901 - \$1000 | 314 | 821 | 572 | 16 | 1 | 1,724 |
| \$900 & Below | 655 | 1,709 | 290 | 11 | - | 2,665 |
| Total | 1,173 | 3,059 | 3,561 | 1,227 | 383 | 9,403 |

Source: Estimates prepared for this study.

Table 7. Total Rental Housing Supply (Occupied and Vacant for Rent), With Military Transition, 2010

| Rental Cost | Number of Bedrooms | | | | | Total |
|-----------------|--------------------|--------------|--------------|--------------|------------|---------------|
| | Studios | One | Two | Three | Four+ | |
| Above\$1800 | - | - | 16 | 49 | 163 | 228 |
| \$1701 - \$1800 | - | - | 10 | 81 | 50 | 140 |
| \$1601 - \$1700 | - | - | 4 | 106 | 32 | 142 |
| \$1501 - \$1600 | - | - | 98 | 173 | 55 | 326 |
| \$1401 - \$1500 | - | - | 243 | 292 | 148 | 683 |
| \$1301 - \$1400 | - | - | 476 | 299 | 152 | 927 |
| \$1201 - \$1300 | 8 | 21 | 696 | 390 | 60 | 1,174 |
| \$1101 - \$1200 | 34 | 89 | 1,106 | 189 | 17 | 1,436 |
| \$1001 - \$1100 | 167 | 436 | 764 | 203 | 34 | 1,604 |
| \$901 - \$1000 | 325 | 847 | 637 | 26 | 7 | 1,842 |
| \$900 & Below | 676 | 1,763 | 306 | 11 | - | 2,756 |
| Total | 1,210 | 3,156 | 4,357 | 1,817 | 718 | 11,258 |

Source: Estimates prepared for this study.

The market area has a wide range of rental opportunities, which can be summarized as follows:

- Based on a sample of 1,203 rental units, with rents ranging from \$265 to \$1,200 per month, the estimated median rent for one-bedroom units is \$776 per month. Utility costs are estimated to average \$73 per month. Renter's insurance costs are estimated to be \$19 per month. Median rent plus utilities plus renter's insurance is thus estimated to be \$868 per month for a one-bedroom rental. In the 2005 HMA, median rent plus utilities plus renter's insurance for one-bedroom units was estimated at \$992 based on a sample of 1,204 one bedroom units that met the size requirement as well as two bedroom units that were not large enough to meet the size requirement for two bedroom units as per the arctic space requirement (Robert D. Niehaus, Inc., 2005).
- Based on a sample of 1,322 rental units, with rents ranging from \$425 to \$1,800 per month, the estimated median rent for two-bedroom units is \$922 per month. Utility costs are estimated at

\$181 per month. Renter's insurance costs are estimated to be \$21 per month. Median rent plus utilities plus renter's insurance is thus estimated to be \$1,124 per month for a two-bedroom rental. In the 2005 HMA, median rent plus utilities plus renter's insurance for two-bedroom units was estimated at \$1,226 based on a sample of 453 units that met the arctic space requirement (Robert D. Niehaus, Inc., 2005)

- Based on a sample of 394 rental units, with rents ranging from \$590 to \$2,250 per month, the estimated median rent for three-bedroom units is \$1,045 per month. Utility costs are estimated to average \$197 per month. Renter's insurance costs are estimated to be \$22 per month. Median rent plus utilities plus renter's insurance consequently is estimated to be \$1,264 per month for a three-bedroom rental. In the 2005 HMA, median rent plus utilities plus renter's insurance for three-bedroom units was estimated at \$1,670 based on a sample of 89 units that met the arctic space requirement (Robert D. Niehaus, Inc., 2005)
- Based on a sample of 55 rental units, with rents ranging from \$950 to \$1,950 per month, the estimated median rent for units with four or more bedrooms is \$1,425 per month. Utility costs are estimated to average \$393 per month. Renter's insurance costs were estimated to be \$26 per month, so median rent plus utilities plus renter's insurance is estimated to be \$1,844 per month for a rental unit with at least four bedrooms. In the 2005 HMA, median rent plus utilities plus renter's insurance for units with four or more bedrooms was estimated at \$1,914 based on a sample of 36 units that met the arctic space requirement (Robert D. Niehaus, Inc., 2005)

This analysis uses an estimate of 19.2 percent of the rental inventory as unsuitable by DoD criteria, reflecting an average of the available published and interview data for market area communities compiled for the 2005 HMA (Robert D. Niehaus, Inc., 2005). This percentage was scaled across all market-area units such that the largest shares of poor-quality units were in the lowest cost ranges. Table 8 presents the percentage distribution of unsuitable units across bedroom types and cost band segments for market area rental units.

Table 8. Percentage of Rental Housing Unsuitable, by Rental Cost and Bedrooms, 2005

| Rental Cost | Number of Bedrooms | | | | |
|-----------------|--------------------|-------|-------|-------|--------|
| | Studios | One | Two | Three | Four+ |
| Above\$1800 | 100.0% | 0.0% | 0.0% | 1.0% | 4.0% |
| \$1701 - \$1800 | 100.0% | 0.0% | 1.0% | 2.0% | 9.0% |
| \$1601 - \$1700 | 100.0% | 0.0% | 3.0% | 5.0% | 13.0% |
| \$1501 - \$1600 | 100.0% | 0.0% | 5.0% | 7.0% | 20.0% |
| \$1401 - \$1500 | 100.0% | 0.0% | 7.0% | 11.0% | 25.0% |
| \$1301 - \$1400 | 100.0% | 0.0% | 9.0% | 15.0% | 35.0% |
| \$1201 - \$1300 | 100.0% | 10.0% | 11.0% | 20.0% | 55.0% |
| \$1101 - \$1200 | 100.0% | 13.0% | 16.0% | 28.0% | 80.0% |
| \$1001 - \$1100 | 100.0% | 16.0% | 22.0% | 41.0% | 90.0% |
| \$901 - \$1000 | 100.0% | 18.0% | 31.0% | 55.0% | 100.0% |
| \$900 & Below | 100.0% | 21.0% | 41.0% | 80.0% | 100.0% |

Source: Estimates prepared for this study.

The suitable rental housing supply is the total rental supply (occupied and vacant units for rent) less the unsuitable rental housing supply less the suitable natural vacant units. Under current guidance for preparing housing studies for military installations, vacant units for rent are only included in the suitable

rental housing supply to the extent the number of vacant units exceeds a natural, equilibrium, or "market-clearing" level of vacancies. There is a natural vacancy rate below which there is upward pressure on rental prices at a rate greater than the general rate of price inflation. Natural vacancies are not considered part of the available supply for market area households. In the Fort Wainwright market area, the current actual rental vacancy rate of 9.0 percent is at the equilibrium level.

In 2010, after the 550 units are added to the housing stock, but without the simulated transition of military families into private-sector units, the vacancy rate in the rental housing market is projected to be 13.9 percent. As military families transition, the rental vacancy rate is assumed to fall to the equilibrium level of 9.0 percent.

The distribution of the suitable rental housing supply in the Fort Wainwright market area by cost band and bedrooms is presented in Table 9 for 2005 and in Table 10 for 2010.

Table 9. Suitable Rental Housing Supply, Fort Wainwright Housing Market Area, 2005

| Rental Cost | Number of Bedrooms | | | | | Total |
|-----------------|--------------------|--------------|--------------|------------|------------|--------------|
| | Studios | One | Two | Three | Four+ | |
| Above\$1800 | - | - | 14 | 39 | 136 | 189 |
| \$1701 - \$1800 | - | - | 9 | 62 | 36 | 107 |
| \$1601 - \$1700 | - | - | 2 | 75 | 19 | 96 |
| \$1501 - \$1600 | - | - | 53 | 73 | 8 | 134 |
| \$1401 - \$1500 | - | - | 129 | 131 | 37 | 297 |
| \$1301 - \$1400 | - | - | 281 | 105 | 33 | 419 |
| \$1201 - \$1300 | - | 17 | 483 | 226 | 10 | 736 |
| \$1101 - \$1200 | - | 69 | 742 | 104 | 1 | 916 |
| \$1001 - \$1100 | - | 323 | 393 | 79 | 1 | 796 |
| \$901 - \$1000 | - | 613 | 358 | 7 | - | 978 |
| \$900 & Below | - | 1,228 | 155 | 2 | - | 1,385 |
| Total | - | 2,250 | 2,619 | 903 | 281 | 6,053 |

Source: Estimates prepared for this study.

Table 10. Suitable Rental Housing Supply, Fort Wainwright Housing Market Area, 2010

| Rental Cost | Number of Bedrooms | | | | | Total |
|-----------------|--------------------|--------------|--------------|--------------|------------|--------------|
| | Studios | One | Two | Three | Four+ | |
| Above\$1800 | - | - | 15 | 46 | 149 | 210 |
| \$1701 - \$1800 | - | - | 9 | 76 | 45 | 129 |
| \$1601 - \$1700 | - | - | 4 | 96 | 28 | 128 |
| \$1501 - \$1600 | - | - | 88 | 156 | 50 | 294 |
| \$1401 - \$1500 | - | - | 218 | 243 | 125 | 586 |
| \$1301 - \$1400 | - | - | 414 | 238 | 115 | 767 |
| \$1201 - \$1300 | - | 18 | 582 | 291 | 35 | 925 |
| \$1101 - \$1200 | - | 73 | 867 | 130 | 7 | 1,077 |
| \$1001 - \$1100 | - | 341 | 558 | 115 | 7 | 1,021 |
| \$901 - \$1000 | - | 654 | 404 | 11 | - | 1,069 |
| \$900 & Below | - | 1,296 | 165 | 2 | - | 1,464 |
| Total | - | 2,382 | 3,325 | 1,402 | 561 | 7,670 |

Source: Estimates prepared for this study.

MILITARY PERSONNEL AND THEIR HOUSING REQUIREMENTS

Tables 11 and 12 display the military personnel data used in this analysis for 2005 and 2010 respectively. These data were derived from ASIP and G3 personnel reports provided by Headquarters, Department of the Army. The data from the ASIP reports (SAMAS as of 29 June 2005) for Fort Wainwright were adjusted for BRAC changes using data from the 17 August 2005 G3 Force File (Headquarters, Department of the Army, 2005). The G3 data added a net total of 949 soldiers to the personnel totals derived from the ASIP reports for the projected year (2010). Personnel counted for this study include those assigned to Fort Wainwright (station code 02955), and Fort Wainwright USARC (station code 0295C).

Table 11. Military Personnel by Accompaniment Status and Bedroom Entitlements, Fort Wainwright, 2005

| Pay Grade | Number of Bedrooms | | | Military Families | Military Couples | Voluntary Separations | Bachelors | Permanent Party Personnel |
|-----------------|--------------------|------------|------------|-------------------|------------------|-----------------------|--------------|---------------------------|
| | Two | Three | Four+ | | | | | |
| O7 & Above | - | - | - | - | - | - | - | - |
| O6 | - | - | 5 | 5 | 1 | - | 2 | 8 |
| O5 | - | 13 | 8 | 21 | - | - | 1 | 22 |
| O4 | - | 39 | 22 | 61 | - | - | 4 | 65 |
| O3 | 79 | 54 | 42 | 175 | - | 3 | - | 178 |
| O2 | 43 | 8 | 14 | 65 | 3 | - | 68 | 136 |
| O1 | 14 | 2 | 3 | 19 | - | - | 7 | 26 |
| Officers | 136 | 116 | 94 | 346 | 4 | 3 | 82 | 435 |
| W5 | - | - | - | - | - | - | - | - |
| W4 | - | 6 | 3 | 9 | - | - | - | 9 |
| W3 | 13 | 10 | 11 | 34 | - | - | - | 34 |
| W2 | 12 | 33 | 19 | 64 | - | - | - | 64 |
| W1 | 7 | 2 | 2 | 11 | - | - | - | 11 |
| Warrants | 32 | 51 | 35 | 118 | - | - | - | 118 |
| E9 | - | 7 | 7 | 14 | - | - | - | 14 |
| E8 | - | 48 | 9 | 57 | - | 3 | - | 60 |
| E7 | - | 141 | 74 | 215 | 7 | 4 | 1 | 227 |
| E6 | 163 | 230 | 185 | 578 | 9 | 15 | 18 | 620 |
| E5 | 256 | 220 | 166 | 642 | 7 | 28 | 203 | 880 |
| E4 | 239 | 103 | 63 | 405 | 14 | 36 | 673 | 1,128 |
| E3 | 164 | 32 | 11 | 207 | 5 | 9 | 782 | 1,003 |
| E2 | 15 | 5 | - | 20 | - | 1 | 126 | 147 |
| E1 | 7 | 1 | 1 | 9 | - | 3 | 52 | 64 |
| Enlisted | 844 | 787 | 516 | 2,147 | 42 | 99 | 1,855 | 4,143 |
| Total | 1,012 | 954 | 645 | 2,611 | 46 | 102 | 1,937 | 4,696 |

Source: Estimates prepared for this study using data from Fort Wainwright Housing Office, 2005; and Headquarters, Department of the Army, 2005.

Table 12. Military Personnel by Accompaniment Status and Bedroom Entitlements, Fort Wainwright, 2010

| Pay Grade | Number of Bedrooms | | | Military Families | Military Couples | Voluntary Separations | Bachelors | Permanent Party Personnel |
|-----------------|--------------------|--------------|--------------|-------------------|------------------|-----------------------|--------------|---------------------------|
| | Two | Three | Four+ | | | | | |
| O7 & Above | - | - | - | - | - | - | - | - |
| O6 | - | - | 7 | 7 | 1 | - | 3 | 11 |
| O5 | - | 19 | 11 | 30 | - | - | 1 | 31 |
| O4 | - | 56 | 31 | 87 | - | - | 6 | 93 |
| O3 | 115 | 78 | 61 | 254 | - | 4 | - | 258 |
| O2 | 62 | 12 | 20 | 94 | 4 | - | 98 | 196 |
| O1 | 20 | 3 | 4 | 27 | - | - | 10 | 37 |
| Officers | 197 | 168 | 134 | 499 | 5 | 4 | 118 | 626 |
| W5 | - | - | - | - | - | - | - | - |
| W4 | - | 17 | 9 | 26 | - | - | - | 26 |
| W3 | 40 | 31 | 34 | 105 | - | - | - | 105 |
| W2 | 37 | 101 | 57 | 195 | - | - | - | 195 |
| W1 | 20 | 6 | 6 | 32 | - | - | - | 32 |
| Warrants | 97 | 155 | 106 | 358 | - | - | - | 358 |
| E9 | - | 11 | 11 | 22 | - | - | - | 22 |
| E8 | - | 73 | 14 | 87 | - | 5 | - | 92 |
| E7 | - | 216 | 114 | 330 | 11 | 6 | 2 | 349 |
| E6 | 250 | 353 | 285 | 888 | 14 | 23 | 28 | 953 |
| E5 | 394 | 339 | 255 | 988 | 11 | 43 | 312 | 1,354 |
| E4 | 368 | 158 | 97 | 623 | 22 | 55 | 1,036 | 1,736 |
| E3 | 252 | 49 | 17 | 318 | 8 | 14 | 1,203 | 1,543 |
| E2 | 22 | 8 | - | 30 | - | 2 | 195 | 227 |
| E1 | 10 | 1 | 2 | 13 | - | 5 | 80 | 98 |
| Enlisted | 1,296 | 1,208 | 795 | 3,299 | 66 | 153 | 2,856 | 6,374 |
| Total | 1,590 | 1,531 | 1,035 | 4,156 | 71 | 157 | 2,974 | 7,358 |

Source: Estimates prepared for this study using data from the Fort Wainwright Housing Office, 2005; and Headquarters, Department of the Army, 2005.

FLOOR REQUIREMENTS, ACCOMPANIED PERSONNEL

For accompanied personnel, current OSD guidance allows a projected minimum on-post housing requirement, or the floor requirement, as the greatest of four criteria for each pay grade:

- **Military On-Post Community** – Ten percent of the effective accompanied housing requirement, for each grade, with a minimum of one on-post housing unit for any pay grade for which there is an effective accompanied housing requirement of at least one unit. The floor requirement is initially calculated assuming there is no military community component (a zero percent factor rather than 10 percent). If the total requirement for on-post military family housing for any individual pay grade is less than 10 percent of the effective number of families in that grade, the total requirement in that grade is then increased so the total requirement is 10 percent of the effective number of families.
- **Key and Essential Personnel** – All key and essential, or Priority 1, personnel.
- **Historic Housing** – On-post family housing listed on or eligible for listing on the National Register of Historic Places under the National Historic Preservation Act.

- **Quality of Life** – Members whose Regular Military Compensation (RMC) falls below 50 percent of the median family income in the market area. Annual median family income as published by the U.S. Department of Housing and Urban Development (2005) for the Fairbanks North Star Borough is \$69,700 in 2005. One-half of this amount is \$34,850. Annual RMC by grade and the factors used to calculate RMC are presented in Table 13. The RMC for E1 personnel is below 50 percent of the estimated median family income in the housing market area and thus E1 families are included in the quality of life requirement.

Table 13. Regular Military Compensation, Fort Wainwright, 2005

| Pay Grade | Annual Basic Pay | Annual Local BAH | Annual BAS | Annual Allowances | National Avg. Ann Allow | National Avg. Tax Adv. | National Avg. Tax Adv. % | Local Tax Adv | Annual RMC |
|------------|------------------|------------------|------------|-------------------|-------------------------|------------------------|--------------------------|---------------|------------|
| O7 & Above | \$117,150 | \$23,412 | \$2,208 | \$25,620 | \$29,041 | \$10,312 | 35.5% | \$9,097 | \$151,867 |
| O6 | \$99,076 | \$23,148 | \$2,208 | \$25,356 | \$25,859 | \$8,619 | 33.3% | \$8,451 | \$132,883 |
| O5 | \$80,304 | \$22,956 | \$2,208 | \$25,164 | \$24,444 | \$7,752 | 31.7% | \$7,981 | \$113,449 |
| O4 | \$68,394 | \$21,456 | \$2,208 | \$23,664 | \$21,945 | \$5,576 | 25.4% | \$6,013 | \$98,071 |
| O3 | \$52,610 | \$19,332 | \$2,208 | \$21,540 | \$18,963 | \$3,438 | 18.1% | \$3,906 | \$78,055 |
| O2 | \$40,258 | \$17,868 | \$2,208 | \$20,076 | \$16,664 | \$2,916 | 17.5% | \$3,513 | \$63,847 |
| O1 | \$29,414 | \$17,196 | \$2,208 | \$19,404 | \$14,785 | \$2,321 | 15.7% | \$3,046 | \$51,863 |
| W5 | \$72,766 | \$21,072 | \$2,208 | \$23,280 | \$20,345 | \$5,879 | 28.9% | \$6,727 | \$102,773 |
| W4 | \$64,249 | \$20,148 | \$2,208 | \$22,356 | \$19,080 | \$4,150 | 21.8% | \$4,863 | \$91,467 |
| W3 | \$52,962 | \$19,356 | \$2,208 | \$21,564 | \$18,643 | \$3,304 | 17.7% | \$3,822 | \$78,347 |
| W2 | \$43,719 | \$18,660 | \$2,208 | \$20,868 | \$17,518 | \$3,077 | 17.6% | \$3,666 | \$68,253 |
| W1 | \$36,793 | \$17,892 | \$2,208 | \$20,100 | \$15,250 | \$2,582 | 16.9% | \$3,404 | \$60,296 |
| E9 | \$59,037 | \$19,932 | \$3,206 | \$23,138 | \$20,744 | \$4,112 | 19.8% | \$4,587 | \$86,762 |
| E8 | \$47,797 | \$18,996 | \$3,206 | \$22,202 | \$19,356 | \$3,416 | 17.6% | \$3,918 | \$73,918 |
| E7 | \$40,601 | \$18,420 | \$3,206 | \$21,626 | \$18,456 | \$3,229 | 17.5% | \$3,783 | \$66,010 |
| E6 | \$33,300 | \$17,892 | \$3,206 | \$21,098 | \$17,839 | \$2,931 | 16.4% | \$3,466 | \$57,864 |
| E5 | \$26,661 | \$17,112 | \$3,206 | \$20,318 | \$15,899 | \$2,305 | 14.5% | \$2,946 | \$49,925 |
| E4 | \$21,426 | \$13,836 | \$3,206 | \$17,042 | \$14,703 | \$1,878 | 12.8% | \$2,177 | \$40,645 |
| E3 | \$17,945 | \$13,836 | \$3,206 | \$17,042 | \$15,199 | \$1,765 | 11.6% | \$1,979 | \$36,966 |
| E2 | \$16,614 | \$13,836 | \$3,206 | \$17,042 | \$14,854 | \$1,647 | 11.1% | \$1,889 | \$35,545 |
| E1 | \$14,821 | \$13,836 | \$3,206 | \$17,042 | \$14,929 | \$1,375 | 9.2% | \$1,569 | \$33,433 |

Source: U.S Department of Defense, 2005.

Table 14 displays the floor requirement for accompanied personnel by criterion.

Table 14. Floor Requirements by Criterion, Accompanied Personnel, 2010

| Pay Grade | Military Families | Military Community | Key and Essential | Historic Units | Quality of Life | Floor Requirement |
|--------------|-------------------|--------------------|-------------------|----------------|-----------------|-------------------|
| O7 & Above | - | - | - | - | - | - |
| O6 | 7 | - | 6 | 1 | - | 6 |
| O5 | 30 | - | 7 | - | - | 7 |
| O4 | 87 | - | 1 | - | - | 1 |
| O3 | 254 | - | - | - | - | - |
| O2 | 94 | - | - | - | - | - |
| O1 | 27 | - | - | - | - | - |
| Officers | 499 | - | 14 | 1 | - | 14 |
| W5 | - | - | - | - | - | - |
| W4 | 26 | - | - | - | - | - |
| W3 | 105 | - | - | - | - | - |
| W2 | 195 | - | - | - | - | - |
| W1 | 32 | - | - | - | - | - |
| Warrants | 358 | - | - | - | - | - |
| E9 | 22 | - | 6 | - | - | 6 |
| E8 | 87 | - | - | - | - | - |
| E7 | 330 | - | - | - | - | - |
| E6 | 888 | - | - | - | - | - |
| E5 | 988 | - | - | - | - | - |
| E4 | 623 | - | - | - | - | - |
| E3 | 318 | - | - | - | - | - |
| E2 | 30 | - | - | - | - | - |
| E1 | 13 | - | - | - | 13 | 13 |
| Enlisted | 3,299 | - | 6 | - | 13 | 19 |
| Total | 4,156 | - | 20 | 1 | 13 | 33 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Table 15 presents the floor requirement by number of bedrooms.

Table 15. Floor Requirements by Bedrooms, Accompanied Personnel, 2010

| Pay Grade | Number of Bedrooms | | | Total |
|--------------|--------------------|----------|-----------|-----------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 6 | 6 |
| O5 | - | - | 7 | 7 |
| O4 | - | 1 | - | 1 |
| O3 | - | - | - | - |
| O2 | - | - | - | - |
| O1 | - | - | - | - |
| Officers | - | 1 | 13 | 14 |
| W5 | - | - | - | - |
| W4 | - | - | - | - |
| W3 | - | - | - | - |
| W2 | - | - | - | - |
| W1 | - | - | - | - |
| Warrants | - | - | - | - |
| E9 | - | - | 6 | 6 |
| E8 | - | - | - | - |
| E7 | - | - | - | - |
| E6 | - | - | - | - |
| E5 | - | - | - | - |
| E4 | - | - | - | - |
| E3 | - | - | - | - |
| E2 | - | - | - | - |
| E1 | 10 | 1 | 2 | 13 |
| Enlisted | 10 | 1 | 8 | 19 |
| Total | 10 | 2 | 21 | 33 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

COMMUNITY HOUSING REQUIREMENTS

Total potential community housing demand is defined for 2005 as those families in excess of the current occupants of government-controlled housing, and for 2010 as those families in excess of the projected floor requirement. An estimated 1,819 military families currently live in government-controlled housing. For 2010, only the 33 families comprising the floor requirement are assumed to reside on post. All families in excess of these on-post occupants are considered to be requirements for community housing (U.S. Department of Defense, 2003). Families seeking housing in the community are estimated to total 792 in 2005 and 4,123 in 2010 (Table 16 and Table 17).

**Table 16. Community-First Accompanied
Housing Requirements, 2005**

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | 2 | 2 | 4 |
| O4 | - | 22 | 12 | 34 |
| O3 | 31 | 4 | 10 | 45 |
| O2 | 26 | 4 | 9 | 39 |
| O1 | 1 | - | - | 1 |
| Officers | 58 | 32 | 33 | 123 |
| W5 | - | - | - | - |
| W4 | - | 2 | 2 | 4 |
| W3 | 8 | 6 | 7 | 21 |
| W2 | 4 | 9 | 6 | 19 |
| W1 | 5 | 2 | 2 | 9 |
| Warrants | 17 | 19 | 17 | 53 |
| E9 | - | - | - | - |
| E8 | - | 16 | - | 16 |
| E7 | - | 29 | 12 | 41 |
| E6 | 115 | 90 | 97 | 302 |
| E5 | 118 | 18 | 64 | 200 |
| E4 | 14 | 18 | 12 | 44 |
| E3 | 8 | 2 | 1 | 11 |
| E2 | 1 | 1 | - | 2 |
| E1 | - | - | - | - |
| Enlisted | 256 | 174 | 186 | 616 |
| Total | 331 | 225 | 236 | 792 |

Source: Estimates prepared for this study.

**Table 17. Community-First Accompanied
Housing Requirements, 2010**

| 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|--------------|--------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 1 | 1 |
| O5 | - | 19 | 4 | 23 |
| O4 | - | 55 | 31 | 86 |
| O3 | 115 | 78 | 61 | 254 |
| O2 | 62 | 12 | 20 | 94 |
| O1 | 20 | 3 | 4 | 27 |
| Officers | 197 | 167 | 121 | 485 |
| W5 | - | - | - | - |
| W4 | - | 17 | 9 | 26 |
| W3 | 40 | 31 | 34 | 105 |
| W2 | 37 | 101 | 57 | 195 |
| W1 | 20 | 6 | 6 | 32 |
| Warrants | 97 | 155 | 106 | 358 |
| E9 | - | 11 | 5 | 16 |
| E8 | - | 73 | 14 | 87 |
| E7 | - | 216 | 114 | 330 |
| E6 | 250 | 353 | 285 | 888 |
| E5 | 394 | 339 | 255 | 988 |
| E4 | 368 | 158 | 97 | 623 |
| E3 | 252 | 49 | 17 | 318 |
| E2 | 22 | 8 | - | 30 |
| E1 | - | - | - | - |
| Enlisted | 1,286 | 1,207 | 787 | 3,280 |
| Total | 1,580 | 1,529 | 1,014 | 4,123 |

Source: Estimates prepared for this study.

The number of homeowners was estimated using data from the 1997 Variable Housing Allowance (VHA) Survey for the area adjusted for changes in housing affordability. Numerous factors determine the extent of homeownership at a military installation. Simple comparisons of housing allowances to home prices are not sufficient to explain changes in homeownership. A more precise measurement of affordability is needed. Table 18 presents a method for calculating changes in affordability of home ownership for Fort Wainwright personnel between 1997 (the data of the most recent VHA survey) and the present time. This method can then be used to adjust the survey data relationships to the present time. If all other factors – availability of jobs for spouses, attractiveness of the area for retirement or multiple tours of duty, expected home price appreciation, extent of favorable tax treatment of homeownership – remained the same between 1997 and the present, the adjustment for the change in affordability could potentially provide an accurate measure of current homeownership.

This adjustment has two components. First, it is necessary to determine how much the affordability of home ownership for military personnel has changed between 1997 and the present. This requires comparison of homeownership costs to housing allowances. Second, it is necessary to estimate how sensitive military homeowners are to any given change in affordability.

Table 18. Military Homeownership Affordability Analysis, Fort Wainwright

| Indicator | Comment/description | 1997 | 2005 | 2010 |
|------------------------|---|------------|------------|------------|
| Purchase Price | Average sales price of single-family home, projection to 2010 assumes 4%/year increase | \$ 119,798 | \$ 197,500 | \$ 240,289 |
| Down Payment | Assumed to be 10% of Purchase Price; varies with use of VHA financing, other factors | \$ 11,980 | \$ 19,750 | \$ 24,029 |
| Loan Amount | Purchase Price less Down Payment | \$ 107,818 | \$ 177,750 | \$ 216,260 |
| Interest Rate | Annual average yield on new home mortgages as compiled by Federal Reserve Board; 2010 projection assumes moderate increase in rates | 7.71% | 6.01% | 7.30% |
| Monthly Payment | Assumes 30-year fixed rate loan | \$ 769 | \$ 1,067 | \$ 1,483 |
| Property Taxes | Annual amount assumed to be 1.5% of purchase price; shown as \$/month | \$ 150 | \$ 247 | \$ 300 |
| Insurance | Annual amount assumed to be 0.75% of purchase price; shown as \$/month | \$ 75 | \$ 123 | \$ 150 |
| Utility Costs | 2005 cost is for a 3-BR unit as estimated for this analysis; 1997 is indexed from CPI; 2010 projection assumes 2.6%/year increases | \$ 146 | \$ 197 | \$ 224 |
| Monthly Cost | Loan payment plus property taxes plus insurance plus utilities | \$ 1,140 | \$ 1,634 | \$ 2,157 |
| Military Allowances | Weighted average housing allowance for military personnel, \$/month | \$ 889 | \$ 1,421 | \$ 1,838 |
| Affordability Gap (\$) | Monthly Cost minus military allowance equals cost to be borne from base pay or other income (spouse, second job, etc.) | \$ 252 | \$ 213 | \$ 320 |
| Affordability Gap (%) | Monthly Cost as a percent of military allowance | 128.31% | 115.00% | 117.39% |
| Adjustment Factor | Relative Change in Affordability Gap (%) | 100.00% | 89.63% | 91.49% |

Note: Total settlement/escrow costs are not shown.

Sources: U.S. Bureau of Labor Statistics, 2005; Alaska Housing Finance Corporation, 2004; Greater Fairbanks Board of Realtors, 2005; Council of Economic Advisors, 2005; and estimates prepared for this study.

The pro forma analysis starts with an estimate of the annual change in home prices between 1997 and the present. The calculations shown in Table 18 use the median price of a single-family home in Fairbanks as reported by the Greater Fairbanks Board of Realtors (2005). Home prices have increased at an average rate of 6.4 percent per year from 1997 through 2005. Assuming a 10 percent down payment, it is possible to calculate the amount of the mortgage carried by the purchaser. The trend in home mortgage rates is determined using the annual average yield on new home mortgages as compiled by the Federal Reserve Board (note the reduction of 170 basis points between 1997 and the 2005). This

reduction in borrowing costs makes it possible to afford a larger mortgage with any given budget in 2005 compared to 1997.

Assuming a 30-year fixed rate loan, it is possible to calculate monthly costs of principal and interest on the loan. Allowances are then made for property taxes, insurance, and utility costs to determine the total monthly cost of homeownership. Comparing this cost to the weighted average housing allowance in 1997 and 2005 for personnel with dependents allows calculation of an Affordability Gap in dollar terms. As shown in Table 18, this gap decreased from \$252 in 1997 to \$213 in 2005.

The Affordability Gap measured as a percent of the weighted average housing allowance is also shown. In 1997 Fort Wainwright personnel had to pay, on average, about 128 percent of the average housing allowance to cover the cost of owning a home. Since then, the weighted average housing allowance has risen faster than the cost of owning a home. As a result, the cost of owning a home in 2005 was about 115 percent of the average housing allowance. This is a decrease of 13 percentage points. The relative change in the Affordability Gap is a 10.4 percent decrease in this gap between 1997 and 2005 (see the Adjustment Factor shown as the last row in Table 18).

These factors are all forecast five years in advance to permit their use in the HMA. This requires assumptions about future interest rates, home prices, utility costs, and housing allowance escalation. Interest rates are assumed to increase moderately to 7.3 percent by 2010 following the interest rate trend forecast by the Congressional Budget Office (2005). Home prices are assumed to increase 4.0 percent per year, consistent with the projected rise in interest rates. Utility costs are assumed to increase 2.6 percent per year, consistent with the recent trend in the household utility component of the Consumer Price Index (CPI) for the Anchorage MSA (U.S Bureau of Labor Statistics, 2005). Weighted average housing allowances for Fort Wainwright military families increased 6.0 percent over the 1997 to 2005 period and are projected to increase at a rate of 5.3 percent over the forecast period.

Note that at Fort Wainwright the Affordability Gap as a percent of the military housing allowance increases by 2 percentage points over the period 2005 to 2010 (from about 115 percent of allowances in 2005 to about 117 percent of allowances in 2010). In other words, military homeownership is projected to be slightly less affordable in relative terms in 2010 than in 2005, due primarily to the projected increase in housing prices and mortgage rates from 2005 to 2010.

The purpose of the analysis shown in Table 18 is to calculate and forecast changes in affordability between 1997, the present, and the projection year. In addition, it is necessary to estimate how sensitive military home purchases are to these changes in cost. There is very little information available on which to base such an analysis. Therefore a formulaic estimate must be used until adequate data can be obtained. It is possible to calculate the change in homeownership propensities for each grade using the relative change in the affordability gap. Specifically, the share of off-post families that are not homeowners (that is, are renters) can be assumed to decline (or increase) proportionately with the relative affordability gap. Symbolically, this can be expressed as:

$$\text{Current homeownership share} = \frac{1 - (1 - \text{homeownership share in 1997}) \times \text{Relative affordability gap in the current year}}{\text{Relative affordability gap in the current year}}$$

This adjustment factor can then be applied to each grade's homeownership propensity as calculated from the 1997 VHA survey to estimate current homeowners. Applying the adjustment factor to 2010 data provides a projection of future homeowners given the assumed trends in home prices, housing

allowances, and interest rates. Use of this formula is necessarily judgmental, and should be considered a preliminary measure subject to revision based on availability of better data (preferably a local survey of military personnel).

Military homeowners were estimated for Fort Wainwright using this formula. The adjustment factor based on the relative gain in the affordability of homes, applied to the 1997 VHA survey, increases the number of homeowners at Fort Wainwright in 2005. Using the pro forma analysis, in the current year 15.9 percent of all families are estimated to own a home (416 homeowners; Table 19). In contrast, using the unadjusted 1997 VHA survey data to estimate current year (2005) homeowners, there would be 377 homeowners (reflecting 14.4 percent of all families). Using E7 personnel as an example, in the 1997 VHA survey for Fort Wainwright, 60.6 percent of off-post accompanied E7 personnel were homeowners. The adjustment process results in a 2005 homeownership rate for off-post E7 families of 64.7 percent ($1 - (1 - 60.6\%) * 89.63\% = 64.7\%$).

At Fort Wainwright the monthly cost of owning a home is projected to increase at a rate only slightly faster than housing allowances over the 2005 to 2010 period, yielding virtually unchanged military homeownership rates between 2005 and 2010 as a result. In 2010, using the pro forma analysis it is projected that 16.0 percent of all families will be homeowners (666 homeowners; Table 20). In 2010, using the 1997 VHA survey without any adjustments it is projected that 14.9 percent of all families would be homeowners.

Military homeowners projected for 2010 are not affected by the definition of the floor requirement. All military members living on the installation in 2005 are considered renters. Therefore those personnel simulated to be part of the transition from on-post housing into community housing between 2005 and 2010 are treated as renters – they are transitioning from “renting” on-post housing to renting community housing.

Tables 19 and 20 present military family homeowners for 2005 and 2010. All homeowners are considered to be acceptably housed, regardless of the characteristics of the residence.

Table 19. Accompanied Homeowners, 2005

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | 2 | 2 | 4 |
| O4 | - | 19 | 10 | 29 |
| O3 | 23 | 3 | 7 | 33 |
| O2 | 13 | 2 | 4 | 19 |
| O1 | - | - | - | - |
| Officers | 36 | 26 | 23 | 85 |
| W5 | - | - | - | - |
| W4 | - | 2 | 2 | 4 |
| W3 | 6 | 4 | 5 | 15 |
| W2 | 2 | 4 | 3 | 9 |
| W1 | 2 | 1 | 1 | 4 |
| Warrants | 10 | 11 | 11 | 32 |
| E9 | - | - | - | - |
| E8 | - | 12 | - | 12 |
| E7 | - | 19 | 8 | 27 |
| E6 | 67 | 52 | 56 | 175 |
| E5 | 44 | 7 | 24 | 75 |
| E4 | 3 | 4 | 2 | 9 |
| E3 | 1 | - | - | 1 |
| E2 | - | - | - | - |
| E1 | - | - | - | - |
| Enlisted | 115 | 94 | 90 | 299 |
| Total | 161 | 131 | 124 | 416 |

Source: Estimates prepared for this study.

Table 20. Accompanied Homeowners, 2010

| 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | 3 | 3 | 6 |
| O4 | - | 27 | 14 | 41 |
| O3 | 33 | 4 | 10 | 47 |
| O2 | 18 | 3 | 6 | 27 |
| O1 | - | - | - | - |
| Officers | 51 | 37 | 33 | 121 |
| W5 | - | - | - | - |
| W4 | - | 6 | 6 | 12 |
| W3 | 18 | 12 | 15 | 45 |
| W2 | 6 | 12 | 9 | 27 |
| W1 | 6 | 3 | 3 | 12 |
| Warrants | 30 | 33 | 33 | 96 |
| E9 | - | - | - | - |
| E8 | - | 18 | - | 18 |
| E7 | - | 29 | 12 | 41 |
| E6 | 101 | 79 | 85 | 265 |
| E5 | 65 | 10 | 36 | 111 |
| E4 | 4 | 6 | 3 | 13 |
| E3 | 1 | - | - | 1 |
| E2 | - | - | - | - |
| E1 | - | - | - | - |
| Enlisted | 171 | 142 | 136 | 449 |
| Total | 252 | 212 | 202 | 666 |

Source: Estimates prepared for this study.

Tables 21 and 22 display military family renters for 2005 and 2010. These were computed as total families less those residing on the installation (in 2010, the floor requirement) less homeowners.

Table 21. Accompanied Renters, 2005

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|-----------|------------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | - | - | - |
| O4 | - | 3 | 2 | 5 |
| O3 | 8 | 1 | 3 | 12 |
| O2 | 13 | 2 | 5 | 20 |
| O1 | 1 | - | - | 1 |
| Officers | 22 | 6 | 10 | 38 |
| W5 | - | - | - | - |
| W4 | - | - | - | - |
| W3 | 2 | 2 | 2 | 6 |
| W2 | 2 | 5 | 3 | 10 |
| W1 | 3 | 1 | 1 | 5 |
| Warrants | 7 | 8 | 6 | 21 |
| E9 | - | - | - | - |
| E8 | - | 4 | - | 4 |
| E7 | - | 10 | 4 | 14 |
| E6 | 48 | 38 | 41 | 127 |
| E5 | 74 | 11 | 40 | 125 |
| E4 | 11 | 14 | 10 | 35 |
| E3 | 7 | 2 | 1 | 10 |
| E2 | 1 | 1 | - | 2 |
| E1 | - | - | - | - |
| Enlisted | 141 | 80 | 96 | 317 |
| Total | 170 | 94 | 112 | 376 |

Source: Estimates prepared for this study.

Table 22. Accompanied Renters, 2010

| 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|--------------|------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 1 | 1 |
| O5 | - | 16 | 1 | 17 |
| O4 | - | 28 | 17 | 45 |
| O3 | 82 | 74 | 51 | 207 |
| O2 | 44 | 9 | 14 | 67 |
| O1 | 20 | 3 | 4 | 27 |
| Officers | 146 | 130 | 88 | 364 |
| W5 | - | - | - | - |
| W4 | - | 11 | 3 | 14 |
| W3 | 22 | 19 | 19 | 60 |
| W2 | 31 | 89 | 48 | 168 |
| W1 | 14 | 3 | 3 | 20 |
| Warrants | 67 | 122 | 73 | 262 |
| E9 | - | 11 | 5 | 16 |
| E8 | - | 55 | 14 | 69 |
| E7 | - | 187 | 102 | 289 |
| E6 | 149 | 274 | 200 | 623 |
| E5 | 329 | 329 | 219 | 877 |
| E4 | 364 | 152 | 94 | 610 |
| E3 | 251 | 49 | 17 | 317 |
| E2 | 22 | 8 | - | 30 |
| E1 | - | - | - | - |
| Enlisted | 1,115 | 1,065 | 651 | 2,831 |
| Total | 1,328 | 1,317 | 812 | 3,457 |

Source: Estimates prepared for this study.

COMMUNITY HOUSING SHORTFALL

Military renters compete with civilian households for adequate rentals in the community. The military community housing shortfall is determined as the difference between the military's share of adequate quality rental housing in the private sector and the military rental requirement. One of the key factors in the capture of adequate units is the share of poor quality housing in the community rental inventory. As stated previously, an estimated 19.2 percent of the rental stock is unacceptable in quality by Army standards. When there is insufficient private sector rental housing of adequate quality in a cost band/bedroom category, a community shortfall exists in that cost band/bedroom category.

The analysis simulates the ability of the communities near the installation to absorb the potential transition of military families into private-sector housing over the five year study period. For purposes of this analysis it is assumed that the development community would partially respond to the potential increase in off-post renters by building additional units each year over the projected pace of residential

construction. Thus, the annual addition to the local community housing supply is assumed to expand by about 53 units per year over projected baseline growth in response to the transitioning families. Although this expansion creates additional units to absorb some of the families potentially transitioning into the private-sector, not all families are expected to find "suitable" units, since not all units in the market area are acceptable in quality by Army standards.

Another principal assumption of the methodology is that military members obtain their proportionate share of rental housing within a market area. This proportionate share, or capture rate, is based on the percentage that military rental housing demand is of total rental housing demand within a market area. By 2010, the 550 leased (801) units in the market area are assumed to become part of the private rental housing stock. For purposes of this analysis, since military families already occupy these units, it is assumed that 70 percent of the units would be occupied by military renters as soon as the units become part of the private rental housing stock.

Tables 23 and 24 display expected suitable rentals in 2005 and 2010.

Table 23. Expected Suitable Rentals for Accompanied Military Personnel, 2005

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|-----------|-----------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | - | - | - |
| O4 | - | 3 | 2 | 5 |
| O3 | 8 | 1 | 3 | 12 |
| O2 | 12 | 2 | 1 | 15 |
| O1 | 1 | - | - | 1 |
| Officers | 21 | 6 | 6 | 33 |
| W5 | - | - | - | - |
| W4 | - | - | - | - |
| W3 | 2 | 2 | 2 | 6 |
| W2 | 2 | 5 | 2 | 9 |
| W1 | 3 | 1 | - | 4 |
| Warrants | 7 | 8 | 4 | 19 |
| E9 | - | - | - | - |
| E8 | - | 3 | - | 3 |
| E7 | - | 8 | 1 | 9 |
| E6 | 43 | 33 | 17 | 93 |
| E5 | 67 | 9 | 7 | 83 |
| E4 | 8 | 8 | - | 16 |
| E3 | 5 | 2 | - | 7 |
| E2 | 1 | 1 | - | 2 |
| E1 | - | - | - | - |
| Enlisted | 124 | 64 | 25 | 213 |
| Total | 152 | 78 | 35 | 265 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Table 24. Expected Suitable Rentals for Accompanied Military Personnel, 2010

| 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 1 | 1 |
| O5 | - | 13 | 1 | 14 |
| O4 | - | 21 | 9 | 30 |
| O3 | 56 | 51 | 13 | 120 |
| O2 | 29 | 6 | 4 | 39 |
| O1 | 14 | 2 | 1 | 17 |
| Officers | 99 | 93 | 29 | 221 |
| W5 | - | - | - | - |
| W4 | - | 7 | 1 | 8 |
| W3 | 15 | 13 | 4 | 32 |
| W2 | 20 | 60 | 14 | 94 |
| W1 | 10 | 3 | 1 | 14 |
| Warrants | 45 | 83 | 20 | 148 |
| E9 | - | 7 | - | 7 |
| E8 | - | 36 | 4 | 40 |
| E7 | - | 125 | 31 | 156 |
| E6 | 98 | 182 | 70 | 350 |
| E5 | 217 | 218 | 85 | 520 |
| E4 | 161 | 57 | - | 218 |
| E3 | 112 | 17 | - | 129 |
| E2 | 9 | 3 | - | 12 |
| E1 | - | - | - | - |
| Enlisted | 597 | 645 | 190 | 1,432 |
| Total | 741 | 821 | 239 | 1,801 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Tables 25 and 26 display the shortfall of community housing for military family renters in 2005 and 2010. These are the renters who would not be successful in finding housing that meets all Army standards for affordability, location, quality, and number of bedrooms. The projected community housing shortfall is a critical component of the projected requirement for housing at the installation.

Table 25. Community Housing Shortfall, Accompanied Personnel, 2005

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|-----------|-----------|------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | - | - | - |
| O4 | - | - | - | - |
| O3 | - | - | - | - |
| O2 | 1 | - | 4 | 5 |
| O1 | - | - | - | - |
| Officers | 1 | - | 4 | 5 |
| W5 | - | - | - | - |
| W4 | - | - | - | - |
| W3 | - | - | - | - |
| W2 | - | - | 1 | 1 |
| W1 | - | - | 1 | 1 |
| Warrants | - | - | 2 | 2 |
| E9 | - | - | - | - |
| E8 | - | 1 | - | 1 |
| E7 | - | 2 | 3 | 5 |
| E6 | 5 | 5 | 24 | 34 |
| E5 | 7 | 2 | 33 | 42 |
| E4 | 3 | 6 | 10 | 19 |
| E3 | 2 | - | 1 | 3 |
| E2 | - | - | - | - |
| E1 | - | - | - | - |
| Enlisted | 17 | 16 | 71 | 104 |
| Total | 18 | 16 | 77 | 111 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Table 26. Community Housing Shortfall, Accompanied Personnel, 2010

| 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | - | - |
| O5 | - | 3 | - | 3 |
| O4 | - | 7 | 8 | 15 |
| O3 | 26 | 23 | 38 | 87 |
| O2 | 15 | 3 | 10 | 28 |
| O1 | 6 | 1 | 3 | 10 |
| Officers | 47 | 37 | 59 | 143 |
| W5 | - | - | - | - |
| W4 | - | 4 | 2 | 6 |
| W3 | 7 | 6 | 15 | 28 |
| W2 | 11 | 29 | 34 | 74 |
| W1 | 4 | - | 2 | 6 |
| Warrants | 22 | 39 | 53 | 114 |
| E9 | - | 4 | 5 | 9 |
| E8 | - | 19 | 10 | 29 |
| E7 | - | 62 | 71 | 133 |
| E6 | 51 | 92 | 130 | 273 |
| E5 | 112 | 111 | 134 | 357 |
| E4 | 203 | 95 | 94 | 392 |
| E3 | 139 | 32 | 17 | 188 |
| E2 | 13 | 5 | - | 18 |
| E1 | - | - | - | - |
| Enlisted | 518 | 420 | 461 | 1,399 |
| Total | 587 | 496 | 573 | 1,656 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

TOTAL GOVERNMENT-PROVIDED HOUSING REQUIREMENTS

Tables 27 and 28 display the requirement for government-provided housing in 2005 and 2010, respectively. The projected requirement is calculated as the sum of the floor requirement, the community housing shortfall, and the 10-percent military community factor adjustment (zero in this case).

Table 27. Total Requirement for Government-Provided Housing, Accompanied Personnel, 2005

| 2005 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|------------|------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 5 | 5 |
| O5 | - | 11 | 6 | 17 |
| O4 | - | 17 | 10 | 27 |
| O3 | 48 | 50 | 32 | 130 |
| O2 | 18 | 4 | 9 | 31 |
| O1 | 13 | 2 | 3 | 18 |
| Officers | 79 | 84 | 65 | 228 |
| W5 | - | - | - | - |
| W4 | - | 4 | 1 | 5 |
| W3 | 5 | 4 | 4 | 13 |
| W2 | 8 | 24 | 14 | 46 |
| W1 | 2 | - | 1 | 3 |
| Warrants | 15 | 32 | 20 | 67 |
| E9 | - | 7 | 7 | 14 |
| E8 | - | 33 | 9 | 42 |
| E7 | - | 114 | 65 | 179 |
| E6 | 53 | 145 | 112 | 310 |
| E5 | 145 | 204 | 135 | 484 |
| E4 | 228 | 91 | 61 | 380 |
| E3 | 158 | 30 | 11 | 199 |
| E2 | 14 | 4 | - | 18 |
| E1 | 7 | 1 | 1 | 9 |
| Enlisted | 605 | 629 | 401 | 1,635 |
| Total | 699 | 745 | 486 | 1,930 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Table 28. Total Requirement for Government-Provided Housing, Accompanied Personnel, 2010

| Pay Grade | Number of Bedrooms | | | Total |
|-----------------|--------------------|------------|------------|--------------|
| | Two | Three | Four+ | |
| O7 & Above | - | - | - | - |
| O6 | - | - | 6 | 6 |
| O5 | - | 3 | 7 | 10 |
| O4 | - | 8 | 8 | 16 |
| O3 | 26 | 23 | 38 | 87 |
| O2 | 15 | 3 | 10 | 28 |
| O1 | 6 | 1 | 3 | 10 |
| Officers | 47 | 38 | 72 | 157 |
| W5 | - | - | - | - |
| W4 | - | 4 | 2 | 6 |
| W3 | 7 | 6 | 15 | 28 |
| W2 | 11 | 29 | 34 | 74 |
| W1 | 4 | - | 2 | 6 |
| Warrants | 22 | 39 | 53 | 114 |
| E9 | - | 4 | 11 | 15 |
| E8 | - | 19 | 10 | 29 |
| E7 | - | 62 | 71 | 133 |
| E6 | 51 | 92 | 130 | 273 |
| E5 | 112 | 111 | 134 | 357 |
| E4 | 203 | 95 | 94 | 392 |
| E3 | 139 | 32 | 17 | 188 |
| E2 | 13 | 5 | - | 18 |
| E1 | 10 | 1 | 2 | 13 |
| Enlisted | 528 | 421 | 469 | 1,418 |
| Total | 597 | 498 | 594 | 1,689 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

Table 29 displays the projected requirement for on-post family housing by criterion. The sum of the floor requirement (33 units) and the private-sector shortfall (1,656 units) yields an initial housing requirement of 1,689 units. This initial requirement was then compared to the 10-percent on-post military community factor on a grade by grade basis. The initial requirement was higher than the 10-percent on-post military community factor for all grades, thus no adjustment was necessary. Based on these calculations, the total military family housing requirement in 2010 is projected to be 1,689 units.

Table 29. Total On-Post Military Family Housing Required, Fort Wainwright, 2010

| Pay Grade | Military Families | Military Community | Key and Essential | Historic Units | Quality of Life | Floor Requirement | Private Sector Shortfall | Initial Housing Requirement | 10 Percent Military Community | Total Military Housing Requirement |
|--------------|-------------------|--------------------|-------------------|----------------|-----------------|-------------------|--------------------------|-----------------------------|-------------------------------|------------------------------------|
| O7 & Above | - | - | - | - | - | - | - | - | - | - |
| O6 | 7 | - | 6 | 1 | - | 6 | - | 6 | 1 | 6 |
| O5 | 30 | - | 7 | - | - | 7 | 3 | 10 | 3 | 10 |
| O4 | 87 | - | 1 | - | - | 1 | 15 | 16 | 9 | 16 |
| O3 | 254 | - | - | - | - | - | 87 | 87 | 25 | 87 |
| O2 | 94 | - | - | - | - | - | 28 | 28 | 9 | 28 |
| O1 | 27 | - | - | - | - | - | 10 | 10 | 3 | 10 |
| Officers | 499 | - | 14 | 1 | - | 14 | 143 | 157 | 50 | 157 |
| W5 | - | - | - | - | - | - | - | - | - | - |
| W4 | 26 | - | - | - | - | - | 6 | 6 | 3 | 6 |
| W3 | 105 | - | - | - | - | - | 28 | 28 | 11 | 28 |
| W2 | 195 | - | - | - | - | - | 74 | 74 | 20 | 74 |
| W1 | 32 | - | - | - | - | - | 6 | 6 | 3 | 6 |
| Warrants | 358 | - | - | - | - | - | 114 | 114 | 37 | 114 |
| E9 | 22 | - | 6 | - | - | 6 | 9 | 15 | 2 | 15 |
| E8 | 87 | - | - | - | - | - | 29 | 29 | 9 | 29 |
| E7 | 330 | - | - | - | - | - | 133 | 133 | 33 | 133 |
| E6 | 888 | - | - | - | - | - | 273 | 273 | 89 | 273 |
| E5 | 988 | - | - | - | - | - | 357 | 357 | 99 | 357 |
| E4 | 623 | - | - | - | - | - | 392 | 392 | 62 | 392 |
| E3 | 318 | - | - | - | - | - | 188 | 188 | 32 | 188 |
| E2 | 30 | - | - | - | - | - | 18 | 18 | 3 | 18 |
| E1 | 13 | - | - | - | 13 | 13 | - | 13 | 1 | 13 |
| Enlisted | 3,299 | - | 6 | - | 13 | 19 | 1,399 | 1,418 | 330 | 1,418 |
| Total | 4,156 | - | 20 | 1 | 13 | 33 | 1,656 | 1,689 | 417 | 1,689 |

Note: The total military housing requirement is the greater of the initial housing requirement and the 10 percent community factor for each grade.

Source: Estimates prepared for this study.

UNACCOMPANIED PERSONNEL HOUSING REQUIREMENTS

The analysis of the unaccompanied personnel housing requirement follows the same procedures as identified above for accompanied personnel. The total requirement is the sum of the floor requirement (defined for unaccompanied personnel as all E1-E5 personnel) and the community housing shortfall. Table 30 presents the total requirement for government-provided housing for unaccompanied personnel in 2005 and 2010, respectively.

Table 30. Total Requirement for Government-Provided Housing, Unaccompanied Personnel, 2005 and 2010

| 2005 Pay Grade | Number of Bedrooms | | | Total | 2010 Pay Grade | Number of Bedrooms | | | Total |
|-------------------|--------------------|-----------|----------|--------------|-------------------|--------------------|-----------|----------|--------------|
| | One | Two | Three | | | One | Two | Three | |
| O7 & Above | - | - | - | - | O7 & Above | - | - | - | - |
| O6 | - | - | - | - | O6 | - | - | - | - |
| O5 | - | - | - | - | O5 | - | - | - | - |
| O4 | - | - | - | - | O4 | - | - | - | - |
| O3 | - | - | - | - | O3 | - | - | - | - |
| O2 | - | 11 | - | 11 | O2 | - | 11 | - | 11 |
| O1 | - | 3 | - | 3 | O1 | - | 3 | - | 3 |
| Officers | - | 14 | - | 14 | Officers | - | 14 | - | 14 |
| W5 | - | - | - | - | W5 | - | - | - | - |
| W4 | - | - | - | - | W4 | - | - | - | - |
| W3 | - | - | - | - | W3 | - | - | - | - |
| W2 | - | - | - | - | W2 | - | - | - | - |
| W1 | - | - | - | - | W1 | - | - | - | - |
| Warrants | - | - | - | - | Warrants | - | - | - | - |
| E9 | - | - | - | - | E9 | - | - | - | - |
| E8 | - | - | - | - | E8 | - | - | - | - |
| E7 | - | - | - | - | E7 | - | - | - | - |
| E6 | - | 5 | - | 5 | E6 | - | 4 | - | 4 |
| E5 | 203 | - | - | 203 | E5 | 312 | - | - | 312 |
| E4 | 673 | - | - | 673 | E4 | 1,036 | - | - | 1,036 |
| E3 | 782 | - | - | 782 | E3 | 1,203 | - | - | 1,203 |
| E2 | 126 | - | - | 126 | E2 | 195 | - | - | 195 |
| E1 | 52 | - | - | 52 | E1 | 80 | - | - | 80 |
| Enlisted | 1,836 | 5 | - | 1,841 | Enlisted | 2,826 | 4 | - | 2,830 |
| Total | 1,836 | 19 | - | 1,855 | Total | 2,826 | 18 | - | 2,844 |

Source: Estimates prepared for this study using data from Robert D. Niehaus, Inc., 2005.

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