

# Army Lodging Wellness Recommendation

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## Aberdeen Proving Ground - Pilot

August 22, 2003

**3D/I**

# Aberdeen Proving Ground

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# Section 1 Wellness Recommendation

## Introduction

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The Army Lodging Wellness Program is conducted under the direction and guidance of Headquarters Army, Lodging Division (CFSC). The goal of the Aberdeen Proving Ground (APG) Lodging Wellness Plan is to provide a comprehensive assessment and planning tool to support long term capitalization of Army Lodging facilities. The Demand Analysis determines installation Lodging requirements, and reviews off-post Lodging availability and cost, arriving at the most economical solution for meeting total transient requirements and providing a final determination of the appropriate number and configuration of on-post Lodging rooms. Individual Lodging facility condition (building and building systems) and functional assessments are included with both recommendations and costs. Facility improvement and renovation versus replacement/new construction recommendations are developed based on the individual facility assessments and cost. A Lodging Master Plan for the installation is developed including renovation, replacement/new construction, and proposed new facility site. A final recommendation defines the method for achieving the final wellness solution for the installation and will assist with project planning.

## Methodology

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### ***Demand***

- Demand for Lodging facilities is analyzed and adjusted for atypical past occurrences and for expected changes in the installation's population, housing, or mission. Two primary methods are used to calculate the optimum number of rooms: the number necessary to meet 80% of official demand and the number projected to be the most efficient from an operating cost perspective.
- The off-post private market is assessed for capacity and representative rates. A determination is made if the private market has the capability to handle overflow requirements of official demand.
- Room mix recommendation is based on the segmentation of the Permanent Change of Station (PCS)/Temporary Duty (TDY) mix and the expected lengths of stay. This produces the final determination of the appropriate number and configuration of rooms for the installation.

### ***Assessment***

- Existing Lodging facilities are assessed based on building and building system conditions followed by an assessment for

conformance to the Army Lodging functional standards. Facilities assessed to be in fair to good condition, and meeting the majority of functional requirements, are considered for renovation. Renovation of Lodging facilities found in poor condition and configured significantly different than current standards will typically exceed 50% of the replacement costs and are recommended for replacement/new construction. This decision is supported by renovation cost comparisons as well as the assessment documentation.

- The age, condition, and existing configuration of the majority of the existing Lodging buildings support a finding of replacement through new construction in lieu of renovation.
- Force protection construction criteria has a significant impact on new construction. This Wellness recommendation, including building assessment, site analysis, and proposed Lodging construction, incorporates these requirements from the UFC 4-010-01, in our analysis and recommendations. Consistent with this guidance, force protection mitigation is not considered in renovation unless the renovation cost exceeds 50% of the replacement cost for a facility.

## Demand Summary

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Based on the demand pattern at APG Lodging and the anticipated future demand growth, we recommend that the number of rooms provided be sized using the “Most Economically Efficient” criterion. The consistent demand for lodging throughout the year makes it more cost effective to lodge personnel on-post than sending them off-post. If the 80% of official demand criterion is used, 48 fewer rooms would be provided for and approximately 20,000 room nights would be sent off-post. The cost of sending these rooms off-post is greater than the operating cost of providing for those room nights on-post.

### ***Room Count and Mix Recommendation***

291 rooms

Proposed room mix:

- 48 standard guest rooms;
- 229 extended-stay rooms offering a kitchenette;
- 14 extended-stay family suites offering a separate bedroom, sitting/living area, and kitchenette.

Because the number of recommended rooms approximates the current number of rooms on-post, the room mix is based upon the market segmentation for personnel currently lodged on-post. Correspondingly, it

is assumed that the composition of the personnel staying at off-post lodging will remain the same.

The demand analysis has determined a need of 291 rooms; however, based on existing and proposed building configurations, the actual number recommended for the Aberdeen Proving Ground Wellness Plan will be 296 rooms.

## Lodging Summary

The following Lodging for Aberdeen is summarized by building, including number of existing rooms and number of proposed rooms determined as part of the installation Wellness recommendation. The table also indicates the number of rooms required for a new Lodging facility based on buildings not proposed for re-use due to poor existing conditions and high renovation costs. The number of rooms for the new proposed Lodging facility reflects the proposed layout and does not match the exact demand numbers, because of building configuration. Proposed additional long term changes during a future phase of the Wellness Plan are also included.

Building Number	Existing Rooms					Wellness Recommendation (FY 08)				Wellness Recommendation (FY 18)			
	Total Rooms	Std Rms 300 sf	Extend. Stay Rms 300 sf	Family Suites 450 sf	Other Rooms	Total Rooms	Std Rms 300 sf	Extend. Stay Rms 300 sf	Family Suites 450 sf	Total Rooms	Std Rms 300 sf	Extend. Stay Rms 300 sf	Family Suites 450 sf
<b>Wellness Recommendation based on Demand Analysis</b>													
						291	48	229	14	291	48	229	14
<b>Existing Lodging Facilities</b>													
30	6				6	0				0			
2207	150		150			150		150		0			
2208	14				14	0				0			
2209	20				20	0				0			
2504	16				16	0				0			
2505	20				20	0				0			
E4650	2				2	0				0			
E4900	32		28	4		0				0			
E4902	32		28	4		0				0			
<b>Totals</b>	<b>292</b>	<b>0</b>	<b>206</b>	<b>8</b>	<b>78</b>	<b>150</b>	<b>0</b>	<b>150</b>	<b>0</b>	<b>146</b>	<b>48</b>	<b>84</b>	<b>14</b>
<b>New Proposed Lodging Facility</b>													
						146	48	84	14	150	0	150	0
<b>Total Lodging Rooms</b>													
						296	48	234	14	296	48	234	14

### Summary of Room Count and Mix based on Configuration

296 rooms

Proposed room mix:

- 48 standard guest rooms;
- 234 extended-stay rooms offering a kitchenette;
- 14 extended-stay family suites offering a separate bedroom, sitting/living area, and kitchenette.

## Cost Summary

### Project Cost

The following table summarizes the Condition Analysis, Renovation, and Replacement Cost by individual Lodging facilities. The Wellness Recommendation indicates cost by building based on recommendation, including the proposed facility cost.

Building Number	Existing Units					Wellness Recommendation (FY 08)			
	Total Rooms	Condition Analysis Cost*	Renovation Cost**	Replacement Cost	% Condition Analysis or Renovation Cost Ratio	Total Rooms	Total Cost	Renovation Cost	New Construction Cost
<b>Existing Lodging Facilities</b>									
30	6	***	\$ 864,925	\$ 1,242,545	69.61%	0			
2207	150	*****	\$ 1,304,340	\$ 13,472,840	9.68%	150		\$ 1,304,340	
2208	14	***	\$ 1,347,105	\$ 1,750,055	76.98%	0			
2209	20	***	\$ 1,990,810	\$ 2,480,780	80.25%	0			
2504	16	***	\$ 1,423,050	\$ 1,883,300	75.56%	0			
2505	20	***	\$ 1,584,935	\$ 1,978,975	80.09%	0			
E4650	2	***	\$ 204,055	\$ 345,925	58.99%	0			
E4900	292	\$ 1,512,610	****	\$ 2,210,305	68.43%	0			
E4902	0	\$ 1,553,625	****	\$ 2,210,305	70.29%	0			
<b>Totals</b>	<b>520</b>					<b>150</b>	<b>\$ 1,304,340</b>	<b>\$ 1,304,340</b>	<b>\$ -</b>
<b>New Proposed Lodging Facility</b>									
						<b>146</b>	<b>\$ 14,516,530</b>		<b>\$ 14,516,530</b>
<b>Total</b>									
						<b>296</b>	<b>\$ 15,820,870</b>	<b>\$ 1,304,340</b>	<b>\$ 14,516,530</b>

\* The Condition Analysis Cost is for making the building well based on Army Lodging Standards without changing how the building functions.

\*\* The Renovation Cost is for making the building well based on Army Lodging Standards including making functional changes.

\*\*\* If the Condition Analysis Cost is under 50% of the Replacement Cost, the Renovation Cost is used.

\*\*\*\* If the Condition Analysis Cost is over 50% of the Replacement Cost, a Renovation Cost is not included.

\*\*\*\*\* Renovation Cost includes Condition Assessment items and Renovation Cost to meet Army Lodging Standards.

### Cost per Room Comparison

The Wellness Recommendation includes review of off-post Lodging costs compared to the proposed renovation and new construction costs on-post. The renovation and new construction costs include operating costs, capital assessment costs, and sustainment capital expenditures. The following table summarizes this comparison per room for FY08.

	<b>Renovation</b>	<b>New Building</b>	<b>Total</b>
Cost per Room at APG	\$ 58.98	\$ 68.08	\$ 63.47
Off Post Cost per Room	\$ 79.29	\$ 79.29	\$ 79.29
Difference between On-Post and Off-Post Lodging per room	\$ 20.31	\$ 11.21	\$ 15.82
% Savings of On-Post to Off-Post Lodging	25.6%	14.1%	20.0%

The Cost Per Room at APG is based on:

Renovation / New Construction Cost w/ inflation to FY 08

Current Operating Cost w/ inflation to FY 08

Cap Ex Cost

Capital Assessment Cost to FY 08

Off Post Cost is based on current room rate average with inflation to FY 08

Due to this cost difference and the savings of 20%, it is our recommendation that the Army construct a new Lodging facility at Aberdeen Proving Ground in lieu of using off-post lodging to support the determined demand requirement. Off-post lodging will continue to be used for demand beyond the on-post room requirement.

## Recommendations / Conclusions

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The Wellness Recommendation for Aberdeen Proving Ground is to continue the use of building 2207 with 150 rooms and to construct a new main Lodging facility on-post to accommodate the public and back-of-the-house spaces and 146 rooms, for a total of 296 rooms on-post, which meets the 291 room requirement. The number of rooms for the new proposed Lodging facility reflects the proposed layout and does not match the exact demand numbers, because of building configuration. A long term recommendation (FY18) is to construct an addition to this new Lodging facility to replace the 150 existing rooms in Building 2207. Existing Lodging facilities that do not meet condition and functional requirements based on cost shall be removed from the Lodging inventory. A synopsis of recommended building actions follows:

- Building 2207 be used for the next 15-20 years and include 150 of the extended stay room requirement. Based on the age of the structure, however, we do not recommend significant renovations to the public spaces and/or back-of-the-house spaces to meet current functional criteria. These spaces are included in the new Lodging facility design. Note: the building has 149 existing rooms; one room which is currently used as administrative space will be converted back to a guest room.

- All other existing on-post Lodging buildings shall be removed from the Lodging inventory due to the condition of existing building systems and/or the cost to renovate to meet Army functional criteria.
- Construct a new Lodging building to include 146 rooms. This building will be planned to include public and back-of-the-house Lodging functions for the total on-post Lodging inventory. The Lodging Master plan indicates a future addition to accommodate units from building 2207 when replacement is required.

**Cost Summary**

The cost for this recommendation will be:

Renovation of building 2207	\$ 1,304,340
New Lodging Facility	\$14,516,530
<b>Total</b>	<b>\$15,820,870</b>

The Cost for the future addition is estimated at \$13,080,620 in FY18, using inflation rates in accordance with the most recent version of the Economic Analysis for MILCON updated 2 December 2002 located at [www.hq.usace.army.mil/](http://www.hq.usace.army.mil/)

**Phasing**

Recommend the following phasing as funding is identified.

- Minimize investment in infrastructure for buildings 30, 2208, 2209, 2504, 2505, E4650, E4900, and E4902.
- Construct new Lodging facility prior to removing existing Lodging facilities from inventory and removing back-of-the-house and public spaces from building 2207.
- Renovate building 2207 to remove back-of-the-house and public spaces.
- Remove buildings 30, 2208, 2209, 2504, 2505, E4650, E4900, and E4902 from Lodging inventory.
- Construct addition/new wing to new Lodging facility to accommodate units from building 2207, when replacement of building 2207 is required (FY 18).

## Installation Summary

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# Section 2 Lodging Master Plan

Aberdeen Proving Ground (APG), the Army's oldest active proving ground, occupies more than 72,500 acres in Harford County, Maryland. As a center for Army materiel testing, laboratory research, and military training, the installation is a key element in the nation's defense. With construction dating back to 1917, this installation is historically significant with respect to facilities and the mission.



The Aberdeen Proving Ground Installation Design Guide, completed in 1996, incorporates specific installation requirements. Land use, future development, and architectural compatibility are integral components of the Guide. Current Lodging room night requirements, Army guidance on Lodging facility design standards, and force protection construction standards required additional analyses and were incorporated into the recommendations of the Lodging Wellness Plan.

The character of Aberdeen Proving Ground has been preserved and enhanced through the use of stone, brick, and stucco. Medium to low sloped tile roofs, light toned natural stone and brick, small window and exterior openings, often shaded by overhangs or balconies, and long, low building masses exemplify the desired architecture of the installation.

## Master Plan Summary

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Lodging facilities at APG were constructed in various phases and are located in several areas of the installation, to include Edgewood Arsenal located some 20 miles from main installation. The primary Lodging area is located in the center of the installation, in close proximity to a majority of the community facilities. This site is recommended for planning future Lodging construction.

The proposed APG Lodging Master Plan reflects 296 Lodging rooms with an initial replacement of almost 90% of the existing Lodging buildings in a new Lodging facility. A thorough condition and functional assessment of the existing buildings noted significant deficiencies. Additionally, renovation of these buildings to the new Lodging standards and building configuration design is not viable within the 50% threshold. The number of rooms for the new proposed Lodging facility reflects the proposed

layout and does not match the exact demand numbers, because of building configuration. This new facility, in conjunction with existing Lodging facility 2207, will combine required rooms, public areas and service functions into a cohesive Lodging physical plant in support of the installation requirements.

Siting of the new 146 room Lodging facility is recommended adjacent to existing building 2207. This plan recommends retaining the rooms in building 2207 for the next 15-20 years, based on current condition and configuration, and limiting renovation work in this building specifically to the removal of back-of-the-house and public spaces no longer required after a new Lodging facility is constructed. The Lodging Master Plan includes a long term addition to the new Lodging facility to replace these Lodging rooms when it is deemed that building is beyond its useful life (FY18).

## Existing Lodging Facilities



### ***Lodging Building 30***

Building 30, constructed in 1936, is a historical structure and is divided into two separate Lodging facilities, each housing 3 family suites. The facility is collocated with the Officer's Club, connected by breezeways on either side of the club facility. Although these facilities were renovated within the last 5 years, they do not meet Lodging standards and cannot be reconfigured without significant reconstruction. To renovate Building 30 to the new standards and configuration will exceed the 50% replacement cost.

Our recommendation is to remove building 30 from the Lodging inventory, allowing the installation to determine an alternate use for the facility. This facility will be removed from the Aberdeen Wellness Solution and Lodging Master Plan.

### ***Lodging Building 2207***

Building 2207, constructed in 1977, received a major renovation in 1999. The building has 149 existing extended stay rooms. The building is in good condition and meets a majority of the Army functional standards from the perspective of the guest room requirements.

The building infrastructure is to be used over the next 15-20 years with normal maintenance. Based on age of the structure, however, we do not recommend significant renovations to the public spaces and/or back-of-



the-house space to meet functional criteria. These existing support spaces will be reconfigured to meet other functional requirements, with one administrative space built as a guest room to be renovated back to a guest room, for a total of 150 rooms. Support spaces are included in the proposed new Lodging facility design in accordance with the criteria for the total 291 rooms.



***Lodging Buildings 2208, 2209, 2504, and 2505.***

These four buildings were built in 1959. Building 2208 has 14 Lodging rooms, building 2209 has 20 Lodging rooms, building 2504 has 16 Lodging rooms, and building 2505 has 20 Lodging rooms. Most rooms are 1-3 bedrooms, with shared kitchens, and some with shared baths. They do not meet current Lodging standards. All four of these buildings are in fair condition, but do not meet Army Lodging standards. The cost to make improvements and bring up to Army Lodging standards will exceed the 50% replacement cost.

Our recommendation is to remove these buildings from the Lodging inventory, allowing the installation to determine an alternate use for the facilities. These facilities will be removed from the Aberdeen Wellness Solution and Lodging Master Plan.



***Lodging Building E4650***

This building, constructed in 1992, has two family rooms as part of another structure. It is located in the Edgewood area, approximately 20 minutes from the Aberdeen Proving Ground main installation. Both rooms are two bedrooms with kitchens.

This building and rooms are in good condition as indicated on the Facility Assessment but do not meet the Lodging size requirements or provide appropriate support spaces. The cost to modify to meet Army Lodging standards will exceed the 50% replacement cost.

Our recommendation is to remove building E4950 from the Lodging inventory, allowing the installation to determine an alternate use for the facility. This facility will be removed from the Aberdeen Wellness Solution and Lodging Master Plan.



### ***Lodging Buildings E4900 and E4902***

These two buildings, constructed in 1969, are located in the Edgewood area, approximately 20 minutes from the Aberdeen Proving Ground main installation. Building E4900 and E4902 each have a total of 32 Lodging rooms, 28 rooms are single rooms with kitchens, 4 rooms are 1 bedroom with kitchens.

Both of these buildings are in poor condition, but do meet the Lodging size requirements. The cost to make condition assessment improvements, however, will exceed the 50% replacement cost.

Our recommendation is to remove buildings E4900 and E4902 from the Lodging inventory, allowing the installation to determine an alternate use for the facilities. These facilities will be removed from the Aberdeen Wellness Solution and Lodging Master Plan.

## **New Lodging Building**

The proposed replacement/new Lodging facility includes 146 rooms for Aberdeen; 14 family suites, 48 standard guest rooms, and 84 extended stay rooms. The number of rooms for the new proposed Lodging facility reflects the proposed layout and does not match the exact demand numbers, because of building configuration. The plan includes a future expansion of the south wing and an addition of a 4-story north wing to replace the 150 rooms in building 2207 in 15-20 years when replacement is required. The lobby and back-of-the-house spaces are sized for the 296 total Lodging rooms on the installation.

The proposed new construction will be sited at the end of the existing main Lodging entrance road, providing a terminus along the river's edge. The lobby will be constructed of glass exterior curtain walls to enhance the approach to the river, while allowing maximum view and circulation. The proposed building construction is steel frame with CMU infill walls, sloped standing seam metal roof, and a brick exterior veneer. The architectural guidance for Aberdeen is very specific and is incorporated into the cost of the new facility.

The mass and scale of the proposed building is critical. Based on the number of required rooms and to limit the length of the wings, the recommendation of this plan is to provide varying roof levels to promote

interest and character, while providing relief from the scale of the facility. The core area would maintain a 4-story height, including the extended room wing. The wing supporting the standard guest room and family suites functions, respectively, would taper from 3-story to 2-story, providing a pedestrian scale and emphasis for the families. The long-term additions would maintain the 4-story height to provide balance and consistency.

### **Areas and Occupancy**

The following chart indicates all spaces and size for the proposed new construction based on program and the proposed conceptual building plan.

ROOM / SPACE	PROGRAMMED FLOOR AREA			PLAN FLOOR AREA
	No. Req'd	Net Area Per Room	Total Net Area	
<b>Total Area including 9% Add On Factor</b> (does not include Outside Areas)*			<b>88,243</b>	<b>91,915</b>
<b>Public Areas</b>			<b>25,872</b>	<b>27,788</b>
Exterior Entrance	N/A	N/A		-
Vestibule	1	1	-	-
Lobby (includes vestibule)	1	800-1,000	800-1,000	1,485
Front Desk	3 stations	150	150	162
Bell Cart Station	4	12	48	52
Breakfast Bar (Seat/Svc) - min.	1	550	550	570
Passenger Elevators	2 elev. @ 4 floors	64	512	544
Stairs	4	230	3,680	3,534
Public Corridors	-	-	17,400	17,401
Public Telephone Area	3	6	18	16
Vending - Full Service	2	70	140	335
Vending - Ice Only	2	30	60	296
Women - Lobby	1	260	260	154
Men - Lobby	1	260	260	154
Multi-Purpose Room - (250 s.f. min.)	1	250	250	274
Study Rooms (1 per 25 ext stay units)	4	250	1,000	1,100
Guest Laundries (2 sets w/d per 75 units)	2	192	384	735
Gear Wash Rooms - (170 s.f. min.)	-	170	-	-
Guest Bulk Storage (1 per 4 family suites)	4	25 ea. 40 w/circ.	160	976
<b>Guest Rooms</b>	<b>146</b>		<b>45,900</b>	<b>45,900</b>
Guest Room - Standard	48	300	14,400	14,400
Guest Room - Ext. Stay	84	300	25,200	25,200
Guest Room - Family Suites	14	450	6,300	6,300

ROOM / SPACE	PROGRAMMED FLOOR AREA			PLAN FLOOR AREA
	No. Req'd	Net Area Per Room	Total Net Area	
<b>Back-of-House Areas</b>			<b>9,185</b>	<b>10,075</b>
Manager's Office	1	180	180	193
Assistant Manager Offices	1	120	120	120
Front Office Manager	1	100	100	99
Admin. Offices	5 staff	500-600	500-600	549
Cash Room	1	100	100	100
Luggage Storage	1	100	100	77
Admin. Conference Room	1	350	350	350
Housekeeping Office	1	120	120	139
Dirty/Clean Linen Storage	-	100	-	-
In-House Laundry - (500 s.f. minimum)	1	500	500	589
Receiving Office	1	75	75	96
Maintenance Area	1	250	250	245
Kitchen Prep Room	1	150	150	169
Break Room	1	280	280	313
Staff Toilet - Men	1	100	100	106
Staff Toilet - Women	1	150	150	106
Access Corridor	-	-	700	707
Receiving -min.	1	150	150	272
Housekeeping Rooms	1 per 15 units	128	1,280	1,751
Service Elevator	1	80	320	81
Data/Commo Room	1	150	150	108
Switch Closets	3	16	48	136
Janitor Closet	1	50	50	73
Mechanical Room	-	-	1,468	1,793
General Storage Room - (500 s.f. min.)	1	600	600	735
Bulk Storage Room - (500 s.f. min.)	1	600	600	518
Electrical Room	4	140	560	568
Elevator Equipment Room	1	84	84	82
<b>Exterior</b>			<b>400</b>	
Playground (Outdoor)	1	-	-	-
Grounds Maintenance	1	400	400	-

\* Add on factor to cover s.f. for partitions and any space not included in numbers above.

### Cost Summary

The New Construction Cost \$14,516,530

- The cost is for the initial building of 146 rooms.
- All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### Cost Analysis

Summary of Project Replacement Cost (based on 91,915 s.f.)

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.52%</b>	<b>\$247,015.11</b>
Parking Lots		\$108,900.40
Site Earthwork		\$138,114.71
<b>03 Concrete</b>	<b>23.37%</b>	<b>\$2,291,117.70</b>
Floor Construction		\$1,720,965.90
Slab on Grade		\$102,256.55
Stair Construction		\$58,873.50
Standard Foundations		\$409,021.75
<b>04 Masonry</b>	<b>4.07%</b>	<b>\$398,769.40</b>
Exterior Walls		\$398,769.40

<b>07 Thermal &amp; Moisture Protection</b>	<b>4.79%</b>	<b>\$469,623.76</b>
Roof Construction		\$218,555.35
Roof Coverings		\$251,068.42
<b>08 Doors &amp; Windows</b>	<b>7.35%</b>	<b>\$720,340.19</b>
Exterior Doors		\$19,126.99
Exterior Windows		\$555,360.00
Interior Doors		\$145,853.20
<b>09 Finishes</b>	<b>16.19%</b>	<b>\$1,587,000.28</b>
Ceiling Finishes		\$422,535.07
Floor Finishes		\$546,324.30
Partitions		\$348,949.63
Wall Finishes		\$269,191.29
<b>10 Specialties</b>	<b>0.03%</b>	<b>\$3,016.66</b>
Fittings		\$3,016.66
<b>11 Equipment</b>	<b>2.81%</b>	<b>\$275,040.71</b>
Commercial Equipment		\$13,461.25
Other Equipment		\$261,579.46
<b>12 Furnishings</b>	<b>0.04%</b>	<b>\$4,049.50</b>
Fixed Furnishings		\$4,049.50
<b>13 Special Construction</b>	<b>5.02%</b>	<b>\$492,462.19</b>
Communications & Security		\$221,689.79
Sprinklers		\$270,772.40
<b>14 Conveying Systems</b>	<b>1.95%</b>	<b>\$191,172.00</b>
Elevators and Lifts		\$191,172.00
<b>15 Mechanical</b>	<b>17.63%</b>	<b>\$1,728,302.75</b>
Cooling Generating Systems		\$955,474.81
Domestic Water Dist		\$156,996.00
Plumbing Fixtures		\$615,831.94
<b>16 Electrical</b>	<b>6.80%</b>	<b>\$667,175.15</b>
Electrical Service & Distribution		\$663,268.05
Site Lighting		\$3,907.10
<b>19 FF&amp;E</b>	<b>7.45%</b>	<b>\$730,000.00</b>
Interior FF&E allowance		\$730,000.00
Total Raw Cost	100.00%	\$9,805,085.38

**Additional Hard Cost (Template: Army Lodging New Construction)**

Parameter Name	Percent	Amount
Spirit	0.50%	\$53,927.97
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$980,508.54
<b>Total Additional Hard Cost</b>		<b>\$1,034,436.51</b>

**Soft Cost (Template: Army Lodging New Construction)**

Parameter Name	Percent	Amount
Contingency	5.00%	\$541,976.09
SIOH Conus	6.50%	\$739,797.37
Design	10.00%	\$1,083,952.19
08 MYr Inflation Fct	9.93%	\$1,311,281.08

<b>Total Soft Cost</b>	<b>\$3,677,006.73</b>
<b>Total Project Cost for Replacement</b>	<b>\$14,516,528.62</b>

**INSERT PROPOSED CAMPUS AREA ANALYSIS DRAWING HERE**

**INSERT LODGING MASTER PLAN DRAWING HERE**

**INSERT PROPOSED LODGING FACILITY (FLRS. 1-4) DRAWINGS HERE**

## Section 3 Demand Analysis

### Overview

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The mission of the installation is three fold; vehicle and equipment testing, chemical warfare research, and chemical warfare training. The training mission of the installation is the primary driver for the utilization of the installation's lodging facilities. Most of the training classes at the installation last more than three months. Thus, most of Aberdeen's lodging demand is from personnel staying more than 14 days. Currently, there are 291 lodging rooms in 9 buildings. Of the 291 rooms, 66 rooms are in buildings located in an area geographically separate from the installation's main cantonment area.

### Demographics

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The population at the installation has generally been consistent over the last five years with some limited growth. The exception to this trend is the downsizing of one troop unit in 2001 and increasing the use of contractors in 2002. Neither of these events seems to have significantly impacted lodging demand. The core customers, students/trainees, were generally stable from 1998 through 2002. During this period, the total population growth approximated 4%. Most of this growth appears to have been in population segments that do not correspond to a sustained increase in lodging demand. Anticipated growth over the next five years appears to mirror historical growth, with a stable student/trainee population and a growing non-student population of approximately 4% through 2007.

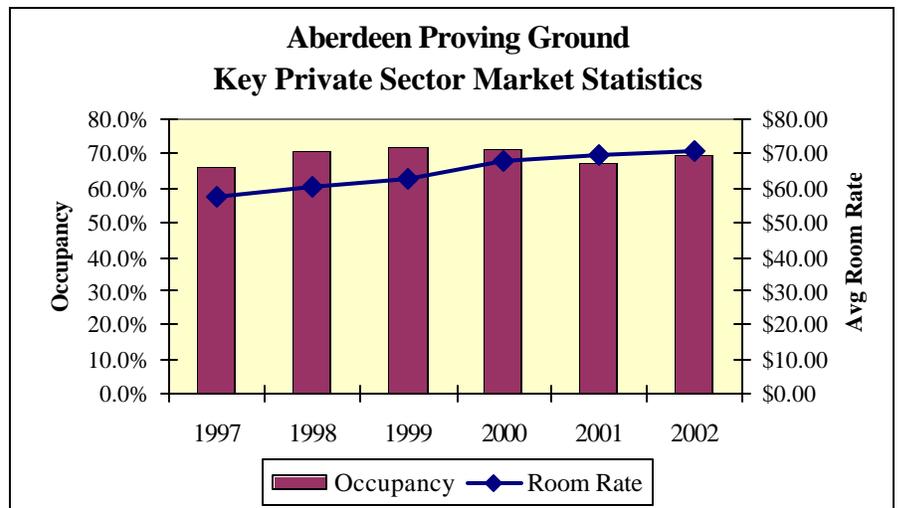
There are 1,065 family housing rooms on Aberdeen Proving Ground, There are currently no plans to either increase or decrease this housing stock in the next several years. Combined with a stable installation population, demand for PCS lodging should not change over the next two to five years.

### Market Assessment

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The commercial lodging market within a 30-minute radius of the installation approximates 2,500 to 3,000 rooms. It is estimated that more than 75% of these rooms are located in properties represented by the major lodging chains. There are no other military lodging operations within a 30-minute radius of the installation. The market is in a state of equilibrium such that the achieved average daily rate and occupancies

are sufficient to justify new construction as additional demand is generated. As can be seen in the graph on the next page, occupancy has been consistent over the last five years. A review of the monthly occupancies of the major hotel chains immediately around Aberdeen Proving Ground does not suggest there are any seasonal peaks of demand that would negatively impact the ability of the installation to lodge personnel off-post at government rates. The average daily rate has increased approximately 36% during that five year period. The 2002 ADR approximates the average government rate charged to military personnel staying off-post, \$72.13 per night. Please note that these rates are substantially below the \$104 per diem rate for Aberdeen Proving Ground. It appears reasonable to assume that the market has sufficient capacity to support any overflow lodging requirements the installation may encounter.

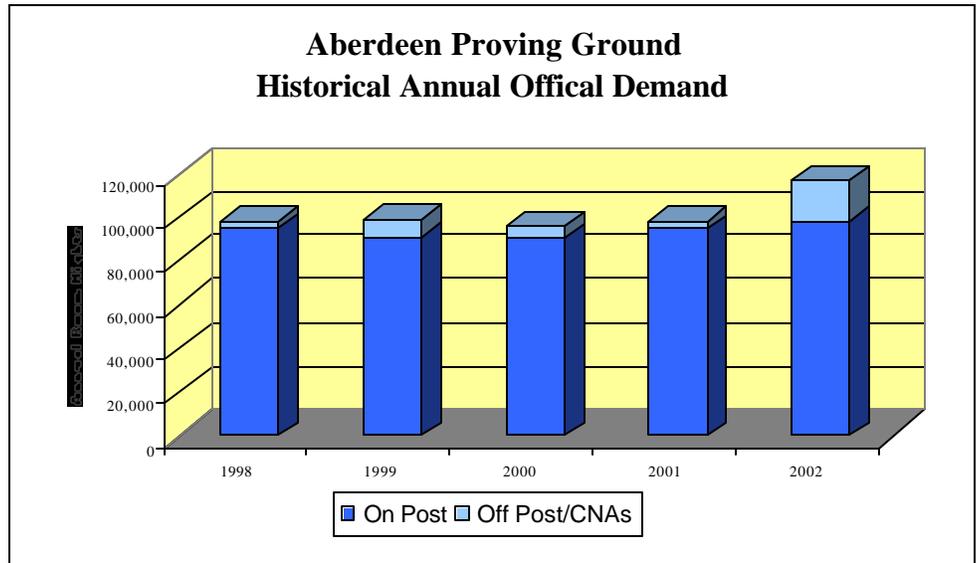


Source: Aberdeen Proving Ground Lodging Administration, compiled by Evans & Chastain, L.L.P.

## Historic Utilization and Occupancy

For the four years prior to 2002, demand, inclusive of CNAs, ranged from 260 to 270 room nights per day. In 2002, this demand increased to approximately 320 room nights per day. This may be a result of two factors. First, a shift in population composition to a more contractor based population as referenced in the discussion of installation demographics. Second, the general increase in the operations tempo that most installations have experienced nationwide in 2002. Virtually all of this increase in demand has been accommodated off-post. CNAs have increased from an average of 8 to 22 room nights per day to 53 room nights per day in 2002. This increased demand does not correlate to changes in the installation population or a mission change. (Please note

that a portion of the increased CNA room nights is attributable to a lower number of rooms available on the installation.) It is estimated that the increase in demand in 2002 will not be sustained.



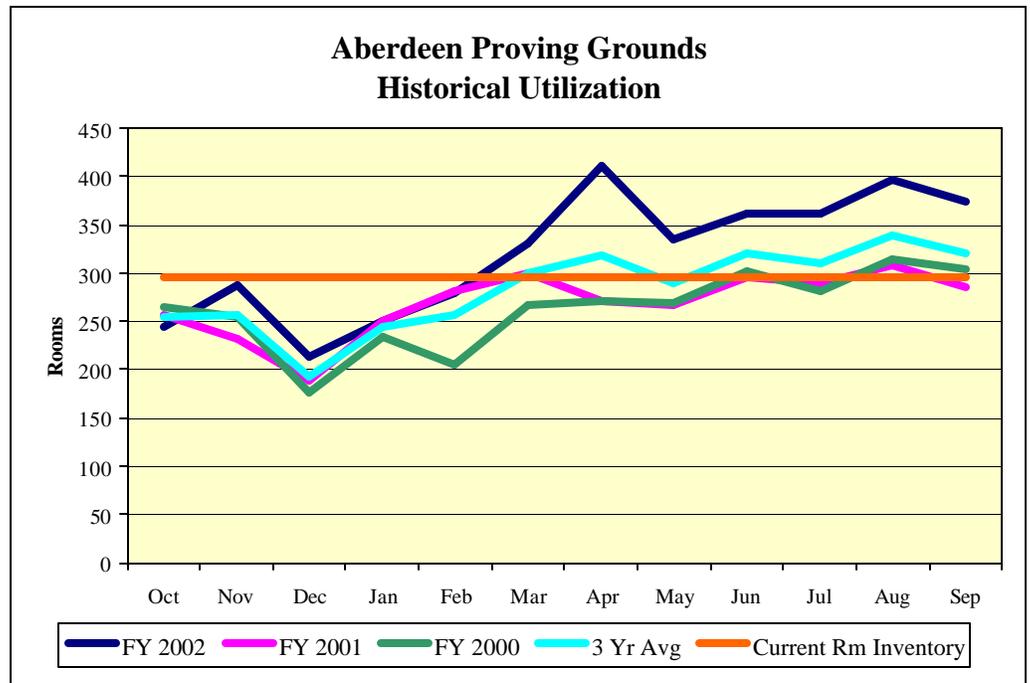
Source: Aberdeen Proving Ground Lodging Administration, compiled by Evans & Chastain, L.L.P.

With the exception of 2002, official demand has been extremely consistent over the last five years. Occupancy percentage has been less consistent, ranging from 75% to 84%. This wide range in occupancy percentage is not due to varying demand, but to a fluctuating number of available rooms. The number of rooms available has ranged from 339 rooms to 296 as the lodging assumed responsibility for the guest house operations, then took those rooms off-line and reconfigured other rooms. If the existing room count is carried back over the last five years, the occupancy percentages range from 87% to 93%, with unofficial travel accounting for less than 4% of the occupancy. Unofficial demand has been excluded from the calculation of the required count and room mix.

The high occupancy, after adjusting for the current room count and a steady demand level, is consistent with the patronage of the lodging facility. Lodging is heavily utilized by students/trainees. Historically, this demand is predictable and consistent year to year. Thus, given the reduced number of rooms available and historical utilization, it appears that on an annualized basis there is minimal risk of vacancy with an occupancy exceeding 85% and typically averaging closer to 90%.

### Seasonality

There is seasonality to the demand cycle for lodging at the installation. As is typical for military installations, the peak demand occurs during June, July, and August, but also includes September with official demand averaging 310 to 339 rooms per night over the last three years. The lower demand months are October through February, with official demand averaging 245 to 257 rooms per night. The exception is December, when an exodus of students occurs and demand falls to 193 rooms per night.



Source: Aberdeen Proving Ground Lodging Administration, compiled by Evans & Chastain, L.L.P.

Over the last three years, the monthly variances between years is minimal with the exception of 2002. (1999 and 1998 were reviewed on an overview basis and found to be consistent with 2001 and 2000.) As discussed earlier, a portion of the increase in 2002 is attributed to a turnover of personnel composition, but is primarily due to the increased operations tempo. With the exception of a significant drop in demand in December and a small increase in the summer, demand is generally very consistent throughout the year. Therefore, there does not appear to be a high degree of seasonality. Consideration needs to be given to excluding the December occupancy in determining the required lodging requirement for the installation. The inclusion of the December exodus will skew the average demand throughout the rest of the year. It will indicate a required number of rooms that will not permit the installation to adequately support the true lodging requirement throughout the year.

### **Market Segmentation**

The demand for lodging at the installation is heavily skewed toward personnel on temporary assignment. Personnel changing stations and unofficial travelers only represent 5% and 3%, respectively, of the demand for lodging occupancy on the installation. Management estimates that over 80% of the demand for lodging is coming from the students/trainees. Most of the schools at the installation are more than three months long, resulting in very long average stays. There are no anticipated changes in the installation's demographics or mission that would suggest any changes in the installation's future market segmentation. The following table summarizes key characteristics of each official demand segment at the installation.

<b>MARKET SEGMENTATION</b>		
	<b>TDY</b>	<b>PCS</b>
% of Total Demand	92%	5%
Market Segmentation:		
Individuals	100%	< 10%
Families	0%	> 90%
Average Length of Stay (Days):		
14 days or less	17% (6.4 days)	33% (6.3 days)
More than 14 days	83% (99.1 days)	67% (128.2 days)
<i>Source: Aberdeen Proving Ground Lodging Administration, compiled by Evans &amp; Chastain, L.L.P.</i>		

## **Aberdeen Proving Ground Demand Requirement Determination**

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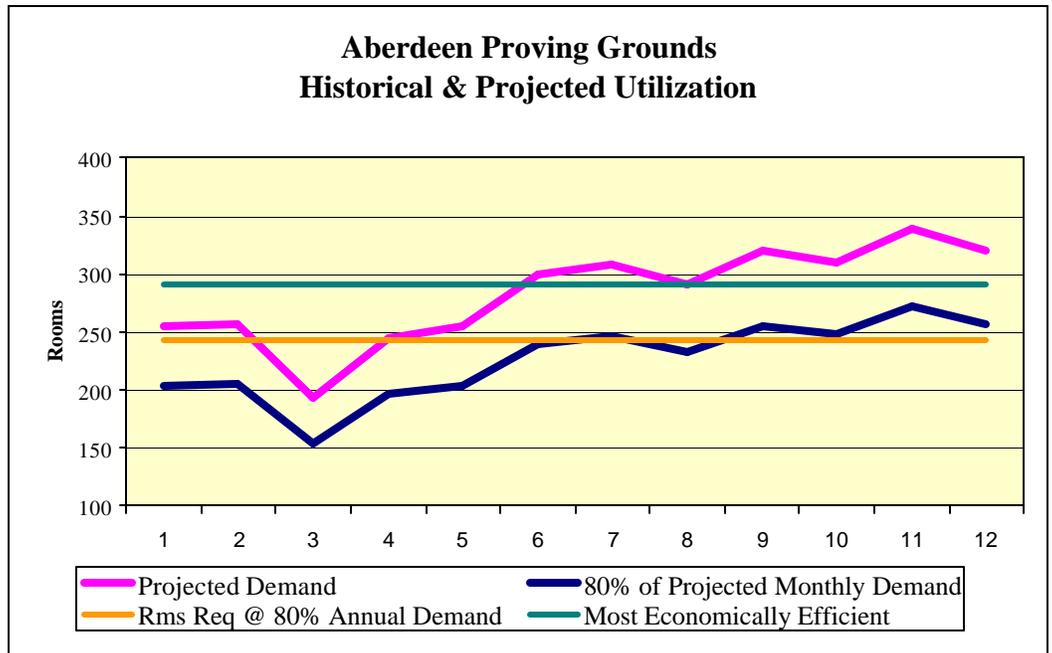
As discussed earlier, the historical demand has been historically very consistent with the exception of 2002. While some of the increased demand will likely be realized, it was determined that most of the increased demand in 2002 is not likely to be sustained long term. Based on these factors, it was determined that the average demand for the last three years would be the best indicator of future demand after being normalized. Normalization of demand is a process that eliminates the monthly demand peaks or valleys where official demand is 120% greater or 120% less than average demand for 2000 through 2002. The reason we selected a 20% factor is that in our experience with respect to military lodging, variances greater or less than 20% of a three-year average are atypical and not likely to consistently reoccur. For Aberdeen Proving Ground, the normalization reduced demand in one month by 10 rooms.

75% to 80% of the demand for lodging on-post.

The Core Lodging Requirement is to provide sufficient lodging to meet 80% of the official demand. Using this criterion, the total number of rooms required on an annualized basis is 243, generating occupancy of 94%.

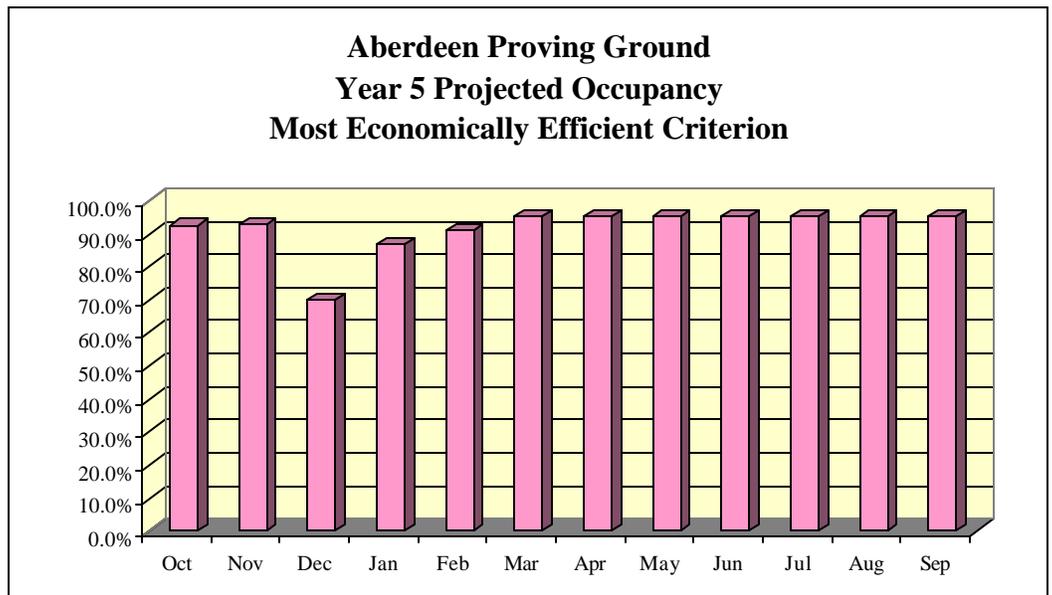
Another factor in determining the number of rooms to be provided at the installation is the determination of the "Most Economically Efficient" number of rooms. This measure compares the cost of having a vacant room to the incremental cost of lodging personnel off-post. When the costs of these scenarios are at equilibrium, the most cost efficient number of rooms will be provided from an operational cost perspective. The number of rooms required to achieve this equilibrium for the installation is 291 rooms. With a room inventory of 291 rooms, the expected occupancy is 91.5% and 93% of the official demand is met with an anticipated average daily rate in FY 2008 of \$58.50. Please note that the average room rate of \$72.13 per night, currently being charged by lodging operations on the referral list, was used in lieu of the per diem rate of \$104 per night. The use of the per diem rate would artificially inflate the cost of lodging personnel off-post.

The graph below compares the two potential alternatives to room inventory to the projected demand and 80% of such demand. Please note the number of existing rooms is 296, slightly more than that suggested by the "Most Economically Efficient" criterion.



Aberdeen Proving Ground Lodging Administration and Evans & Chastain, L.L.P.

Using the "Most Economically Efficient" criterion, the average occupancy is 91.5% and 93% of the official demand is met. On a monthly basis, occupancy ranges from a low of 70% in December to 95% from March through September. The graph on the next page presents the expected occupancy percentage on a monthly basis.



Source: Evans & Chastain, L.L.P.

## Summary and Recommendation

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- The installation has grown approximately 4% over the last five years and is anticipated to grow an additional 4% over the next five years. Most of this growth will be in population segments that generate only 20% to 25% of the lodging demand.
- The local private sector lodging market is strong and has the capacity to house any personnel not housed on-post at reasonable rates.
- Official demand has generally been very consistent over the last five years. The increase in demand in 2002 is not viewed as a sustained increase.
- The significant increase in CNAs in 2002 is a result of an increase in demand and decrease in room inventory. CNAs issued in 2002 equaled 16% of the total official demand.
- Providing a room inventory equal to the “Most Economically Efficient” (291 rooms) will generate an occupancy rate of 91.5%.

Based on the demand pattern at this facility and the anticipated future demand growth, we recommend that the number of rooms provided be sized using the “Most Economically Efficient” criterion. The consistent demand for lodging throughout the year makes it more cost effective to lodge personnel on-post than sending them off-post. If the 80% of official demand criterion is used, 48 fewer rooms would be provided for and approximately 20,000 room nights would be sent off-post. The cost of sending these rooms off-post is greater than the operating cost of providing for those room nights on-post.

Because the number of recommended rooms approximates the current number of rooms on the installation, the room mix is based upon the market segmentation for the personnel currently lodged on-post. Correspondingly, it is assumed that the composition of the personnel staying at off-post lodging will remain the same.

### ***Room Count and Mix Recommendation***

- 291 rooms
- Proposed room mix:
  - 48 standard guest rooms;
  - 229 extended-stay guest rooms offering a kitchenette;
  - 14 extended-stay family suites offering a separate bedroom, sitting/living area, and kitchenette.

# Section 4 Facility Assessment and Plans

Each Lodging facility is detailed in this section of the report. The outline of the detail is described below:

- **Summary of Existing Lodging Facility**
- **Significant Assumptions**, identifies criteria used for renovation / replacement cost models.
- **Cost Analysis**, summarizes recommendation based on cost.
- **Attributes**, describes number of rooms and configuration.
- **Condition Analysis and Recommendations** for each of the major systems of the building.
- **Major Functional Criteria Deficit**, describes any major Functional inadequacy based on Army standards.
- **Condition Assessment / Renovation / Replacement Analysis**
  - **Condition Assessment**, summarizes building system deficiencies grouped by CSI with additional hard cost and soft cost.
  - **Renovation**, summarizes building system costs plus functional renovation costs grouped by CSI with additional hard cost and soft cost.
  - **Replacement**, summarizes replacement cost grouped by CSI with additional hard cost and soft cost.

**Special Note**, if a building is being retained based on the Wellness Recommendation, and has some renovations in order to meet Army Lodging standards, two cost models are used. The Condition Cost is used for wellness items and the Renovation Cost for functional renovations. These two cost need to be added together for the full renovation cost.

On this installation **Building 2207** uses both cost models for the total renovation.



*Building 30 Porter House  
30 Plum Point Loop*

## **Building 030**

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Building 30 was constructed in 1936. The 7,602 square foot facility contains 6 DVQs with a full kitchen. The building is functioning as extended stay and family suites for high ranking visitors.

### **Significant Assumptions**

The replacement and renovation cost models are based on 14 units, 6 extended stay units, and 8 family units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Renovation Cost	\$864,925.00
Replacement Cost	\$1,242,545.00
Renovation to Replacement Cost Ratio	69.61%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 30 is not recommended.

## **Attributes**

01.Number of Units Constructed	6
02.Number of Units Used	6
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	6
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	6
13.Renovated to Standard	0
14.Renovated to Extended Stay	6
15.Renovated to Family Suite	8
16.Delta renovation	8

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in good condition and should be replaced in 2010.
- Recommendation: No corrective action required.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Wood sub floor appears to be in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Stone masonry walls appear to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are painted wood double glazed, low E glass, double hung windows. These were replaced in 1992 and are in good condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Residential grade wood doors with wood frames are used for the front entrance and the front doors of each unit. The doors are in good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope slate shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. The roof system is in good condition.
- Recommendation: No corrective action required.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Hollow core wood doors in wood frames. All the interior doors are in fair condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: There is no elevator in the structure. The central stairs in each building is wood construction and in good condition. The outside stairs on each building is metal and in good condition but not covered.
- Recommendation: No corrective action required except to investigate covering the out side stairs.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and VCT.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is provided by a forced draft unit in each rest room. The plumbing fixtures are in good condition.
- Recommendation: No corrective action required.

#### **Domestic Water Distribution**

- Analysis: Hot water is produced from hot water plant for the Top of the Bay Club. The piping is in good condition.
- Recommendation: No corrective action required.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Cooling is provided to each unit with a split system air condition with no furnace. Heating is a hydronic system with no temperature control except at the main plant for the Top of the Bay Club. Both systems are in good condition.
- Recommendation: No corrective action required.

### **Fire Protection**

#### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

### **Electrical**

#### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from the main service to the Top of the Bay Club. Secondary service is 120/208Y volt 3 phase with a 200 amp sub main disconnect. This distribution panel provides power for lighting and receptacles. The electrical service is in good condition. Lighting is incandescent and is in good condition. Outlets in the units are sufficient and in good condition.
- Recommendation: No corrective action required.

#### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located in the corridors of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.
- Recommendation: No corrective action required.

### **Equipment**

#### **Other Equipment**

- Analysis: There are 6 full kitchens for each living unit in the building. The kitchen appliances are a refrigerator, microwave oven, stove and oven unit. All appliances are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building. This facility contains a small Housekeeping Closet and Luggage Storage.

- **Family Guest Suite**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs.

#### **Room Size**

The room sizes exceed Army Lodging standards. A cost estimate is used to indicate the cost of a renovation of rooms to meet the standard. Based on the standard, 14 guest rooms can be worked into the existing 6. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

<b>CSI</b>	<b>Percent</b>	<b>Amount</b>
<b>09 Finishes</b>	<b>100.00%</b>	<b>\$44,168.26</b>
Carpet: Beyond Useful Life		\$10,945.61
Interior ceilings: Paint Failing		\$2,704.28
VCT: Beyond Useful Life		\$779.70
Vinyl Wall Covering: Beyond expected useful life		\$29,738.67
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$44,168.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$242.92
Force Protection	9.00%	\$4,394.50
General Conditions	10.00%	\$4,416.80
<b>Total Additional Hard Cost</b>		<b>\$9,054.22</b>

#### Soft Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$5,322.22
SIOH Conus	6.50%	\$3,805.39
Design	10.00%	\$5,322.22
08 MYr Inflation Fct	9.93%	\$6,719.83
<b>Total Soft Cost</b>		<b>\$21,169.67</b>
<b>Total Project</b>		<b>\$74,391.89</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>03 Concrete</b>	<b>1.27%</b>	<b>\$6,541.50</b>
Stair Construction		\$6,541.50
<b>07 Thermal &amp; Moisture Protection</b>	<b>1.83%</b>	<b>\$9,397.03</b>
Roof Construction		\$9,397.03
<b>08 Doors &amp; Windows</b>	<b>3.23%</b>	<b>\$16,580.70</b>
Interior Doors		\$16,580.70
<b>09 Finishes</b>	<b>31.32%</b>	<b>\$160,852.36</b>
Ceiling Finishes		\$29,369.47
Floor Finishes		\$41,176.47
Partitions		\$34,211.07
Wall Finishes		\$56,095.35
<b>11 Equipment</b>	<b>4.85%</b>	<b>\$24,920.00</b>
Other Equipment		\$24,920.00
<b>13 Special Construction</b>	<b>7.93%</b>	<b>\$40,719.28</b>
Communications & Security		\$18,330.44
Sprinklers		\$22,388.84
<b>15 Mechanical</b>	<b>25.39%</b>	<b>\$130,401.02</b>
Cooling Generating Systems		\$79,003.52
Domestic Water Dist		\$14,952.00
Plumbing Fixtures		\$36,445.50
<b>16 Electrical</b>	<b>10.54%</b>	<b>\$54,112.00</b>
Electrical Service & Distribution		\$54,112.00
<b>19 FF&amp;E</b>	<b>13.63%</b>	<b>\$70,000.00</b>
Interior FF&E allowance		\$70,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$513,523.89</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,824.38
Force Protection	9.00%	\$51,093.06
General Conditions	10.00%	\$51,352.39
<b>Total Additional Hard Cost</b>		<b>\$105,269.83</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$61,879.37
SIOH Conus	6.50%	\$44,243.75
Design	10.00%	\$61,879.37
08 MYr Inflation Fct	9.93%	\$78,128.86
<b>Total Soft Cost</b>		<b>\$246,131.36</b>
<b>Total Project Cost for Renovation</b>		<b>\$864,925.08</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

<b>CSI</b>	<b>Percent</b>	<b>Amount</b>
<b>02 Site Work</b>	<b>2.91%</b>	<b>\$24,385.22</b>
Site Earthwork		\$24,385.22
<b>03 Concrete</b>	<b>16.88%</b>	<b>\$141,706.73</b>
Floor Construction		\$81,128.88
Slab on Grade		\$18,013.60
Stair Construction		\$6,541.50
Standard Foundations		\$36,022.75
<b>04 Masonry</b>	<b>7.33%</b>	<b>\$61,543.22</b>
Exterior Walls		\$61,543.22
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.74%</b>	<b>\$64,957.11</b>
Roof Construction		\$20,203.86
Roof Coverings		\$44,753.25
<b>08 Doors &amp; Windows</b>	<b>10.26%</b>	<b>\$86,147.55</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$64,080.00
Interior Doors		\$16,580.70
<b>09 Finishes</b>	<b>14.96%</b>	<b>\$125,519.74</b>
Ceiling Finishes		\$21,167.25
Floor Finishes		\$39,803.38
Partitions		\$34,211.07
Wall Finishes		\$30,338.04
<b>11 Equipment</b>	<b>2.97%</b>	<b>\$24,920.00</b>
Other Equipment		\$24,920.00
<b>13 Special Construction</b>	<b>5.17%</b>	<b>\$43,371.39</b>
Communications & Security		\$19,524.33
Sprinklers		\$23,847.06
<b>15 Mechanical</b>	<b>16.15%</b>	<b>\$135,546.64</b>
Cooling Generating Systems		\$84,149.14
Domestic Water Dist		\$14,952.00
Plumbing Fixtures		\$36,445.50
<b>16 Electrical</b>	<b>7.29%</b>	<b>\$61,169.70</b>
Electrical Service & Distribution		\$61,169.70
<b>19 FF&amp;E</b>	<b>8.34%</b>	<b>\$70,000.00</b>
Interior FF&E allowance		\$70,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$839,267.31</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$4,615.97
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$83,926.73
<b>Total Additional Hard Cost</b>		<b>\$88,542.70</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$46,390.50
SIOH Conus	6.50%	\$63,323.03
Design	10.00%	\$92,781.00
08 MYr Inflation Fct	9.93%	\$112,239.24
<b>Total Soft Cost</b>		<b>\$314,733.78</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,242,543.79</b>

**INSERT BUILDING 30 FLOOR PLANS (FLRS. 1 AND 2) HERE**



Swan Creek Inn  
2207 Belair Avenue

## **Building 2207**

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Building 2207 was constructed in 1977 and renovated during the 1990s. The 74,389 square foot facility contains 150 lodging units with a kitchenette. The building is functioning as extended stay suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 150 extended stay suites.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

This building is in good condition for both the Condition Assessment and Function Criteria. In this building the Condition Assessment costs include the wellness items and the Renovation Cost includes functional renovations but not Condition Assessment cost due to the limited nature of the renovation. Therefore in the Cost Analysis the sum of the Condition Assessment and Renovation cost is used for the ratio to the Replacement Cost

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Condition Assessment & Renovation Cost

\$1,304,340.00

Replacement Cost

\$13,472,840.00

Condition Assessment & Renovation Cost to Replacement Cost  
Ratio 9.68%

Because the Sum of the Condition Assessment and Renovation Costs to Replacement Cost Ratio is less than 50%, renovation of Building 2207 could be considered

## **Attributes**

01.Number of Units Constructed	150
02.Number of Units Used	149
03.Back of House Function	Yes
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	150
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	149
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	150
15.Renovated to Family Suite	0
16.Delta renovation	1

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser and tv stand in each bedroom. All are in good condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in good condition and should be replaced in 2010.
- Recommendation: No corrective action required.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Concrete slab on grade appears to be in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction and CMU block with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Brick veneer appears to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows are in use. These were replaced in 1997 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Commercial grade metal doors with steel frames are used for the service doors and automatic sliding glass doors with air lock used for the front. The doors are in good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Roof was replaced in 2002. Gutters are exterior to the roof with the downspouts exposed. The roof system is in good condition.
- Recommendation: No corrective action required

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood and metal studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition.
- Recommendation: No corrective action required.

### **Fittings**

- Analysis: The public area restrooms have metal partitions that are in good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: There is one elevator that was refurbished in 1999 and is in like new condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchenettes vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and VCT.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with raised texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Conveying**

### **Elevators and Lifts**

- Analysis: There is one elevator that was refurbished in 1999 and is in like new condition.

- Recommendation: No corrective action required.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system. The plumbing fixtures are in good condition.

- Recommendation: No corrective action required.

### **Domestic Water Distribution**

- Analysis: Hot water is produced from 2-350 gallon storage tanks and an oil fired hot water boiler located in the mechanical room. The piping is in fair condition.

- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Several systems provide air conditioning. The rooms are served by PTAC heat pumps with no back up heating elements. These are in good condition. The common areas and back of the house areas are served by split DX units with electric heat.

- Recommendation: Replace existing PTAC units with ones that have an electric heating element.

## **Fire Protection**

### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are in stalled in each living unit. The fire protection equipment is new condition.

- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 3000 amp main disconnect. Distribution panels are located an electrical closet to provide power for lighting and receptacles. The electrical service is in good condition. Lighting is incandescent and is in good condition. Outlets in the units are sufficient and in good condition.

- Recommendation: Investigate if main service needs upgrade if PTAC units are replaced. Cost for such study is not included in the Condition Assessment Costs.

### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located in the corridors of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.

- Recommendation: No corrective action required.

## **Equipment**

### **Commercial Equipment**

- Analysis: There are 149 full kitchens for each living unit in the building. The kitchen appliances are a refrigerator, stove and oven unit. All appliances are in good condition.
- Recommendation: No corrective action required.

### **Other Equipment**

- Analysis: There are 150 full kitchens for each living unit in the building. The kitchen appliances are a refrigerator, stove and oven unit. All appliances are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Site Improvements**

### **Parking Lots**

- Analysis: The parking lot is asphalt covering with poured concrete curbs. The surface is in good condition.
- Recommendation: No corrective action required.

## **Site Electrical Utilities**

### **Site Lighting**

- Analysis: Site lighting is provided by pole mounted HPS lights. These are in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

- **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

These back of the house spaces are not included in the renovation plans or costs. Because of the extent of the deficits, we recommend building back-of-the house spaces as part of a new facility.

Breakfast Prep Area / Kitchen

Does not exist.

Renovation Recommendation: Space is not added in this building, is included in the new facility.

Manager's Office

Oversized. Standard is 180 s.f., existing is 300 s.f.

Renovation Recommendation: Space is not used in this building, is included in the new facility.

Administration Office

Oversized. Standard is 500-600 s.f. for number of units, existing is spread over several spaces and is 1,200 s.f.

Renovation Recommendation: Space is not used in this building, is included in the new facility.

Administrative Conference Room

Does not exist.

Renovation Recommendation: Space is not added in this building, is included in the new facility.

Access corridors

Property was not set up with access corridors.

Renovation Recommendation: No corridor added.

Service elevator

Does not exist.

Renovation Recommendation: No elevator added.

Housekeeping Laundry and office

In-house laundry does not exist at this post. It is outsourced, with a storage unit on post, not in close proximity to the buildings.

Renovation Recommendation: Space is not added in this building, is included in the new facility.

- **Extended Stay Guest Room**

These Guest Room criteria is listed, and each noted if it is included or not in the renovation plans or costs.

#### Window Size

Existing does not match standard.

Renovation Recommendation: It is felt this deficit is not critical to the intent of the standard and is not included in the Condition Assessment or Renovation cost.

#### Bathroom tile floor and walls.

Existing is 1" x 1" on floor and 4" x 4" on walls. Standard is 6" x 6" on floor and 4"x 4" on walls neutral scheme.

Renovation Recommendation: Because this was replaced within the last 5 years and in good condition, and the Cap Ex schedule shows this to be replaced every 15 years, it is not included in Condition Assessment cost.

#### Lavatory

Existing is rimmed sink. Standard is an integral sink.

Renovation Recommendation: Even though this was replaced within the last 5 years, because it is schedule to be replaced every 10 years, it is included in the Condition Assessment cost.

#### Kitchen Floor

Existing is vinyl tile, standard is ceramic tile.

Renovation Recommendation: Because it does not meet standard it is included in the Condition Assessment cost.

- **Public Spaces**

These public space deficits are not included in the renovation plans or costs. Because of the extent of the deficits, we recommend building new public spaces as part of a new facility.

#### Lobby

Undersized. Should be 800-1000 s.f.; is only 500 s.f.

Renovation Recommendation: Space is not used in this building, is included in the new facility.

#### Front Desk

Undersized. Should be 150 s.f.; is only 100 s.f.

Renovation Recommendation: Space is not used in this building, is included in the new facility.

#### Bell Cart Storage

Does not exist.

Renovation Recommendation: Space is included in renovation.

#### Public Corridors

Width is only 5' in lieu of 6' standard.

Renovation Recommendation: It is felt this deficit is not critical to the intent of the standard and is not included in the Condition Assessment or Renovation cost.

#### Breakfast Bar / Seating Area

Does not exist. Lobby is being used to serve function.

Renovation Recommendation: Space is not used in this building, is included in the new facility.

#### Study Rooms

Does not exist.

Renovation Recommendation: Space is not added to this building, is included in the new facility.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>09 Finishes</b>	<b>71.80%</b>	<b>\$533,318.44</b>
Carpet: Beyond Useful Life		\$100,730.63
Interior ceilings: Paint Failing		\$30,444.25
VCT: Beyond Useful Life		\$16,877.69
Vinyl Wall Covering: Beyond expected useful life		\$385,265.87
<b>15 Mechanical</b>	<b>21.32%</b>	<b>\$158,360.90</b>
PTAC: Missing or inadequate		\$158,360.90
<b>16 Electrical</b>	<b>6.88%</b>	<b>\$51,071.43</b>
Branch Circuit: Circuit for PTAC inadequate		\$51,071.43
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$742,751.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$4,085.13
Force Protection	9.00%	\$73,900.01
General Conditions	10.00%	\$74,275.10
<b>Total Additional Hard Cost</b>		<b>\$152,260.24</b>

#### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$89,501.12
SIOH Conus	6.50%	\$63,993.30
Design	10.00%	\$89,501.12
08 MYr Inflation Fct	9.93%	\$113,004.07
<b>Total Soft Cost</b>		<b>\$355,999.63</b>
<b>Total Project</b>		<b>\$1,251,010.87</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

<b>CSI</b>	<b>Percent</b>	<b>Amount</b>
<b>03 Concrete</b>	<b>1.89%</b>	<b>\$598.08</b>
Standard Foundations		\$598.08
<b>08 Doors &amp; Windows</b>	<b>13.38%</b>	<b>\$4,236.40</b>
Exterior Doors		\$3,867.94
Interior Doors		\$368.46
<b>09 Finishes</b>	<b>13.10%</b>	<b>\$4,147.40</b>
Partitions		\$4,147.40
<b>10 Specialties</b>	<b>12.72%</b>	<b>\$4,026.36</b>
Fittings		\$4,026.36
<b>11 Equipment</b>	<b>47.88%</b>	<b>\$15,160.71</b>
Commercial Equipment		\$13,461.25
Other Equipment		\$1,699.46
<b>15 Mechanical</b>	<b>11.03%</b>	<b>\$3,493.25</b>
Plumbing Fixtures		\$3,493.25
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$31,662.20</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$174.14
Force Protection	9.00%	\$3,150.23
General Conditions	10.00%	\$3,166.22
<b>Total Additional Hard Cost</b>		<b>\$6,490.59</b>

### Soft Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$3,815.28
SIOH Conus	6.50%	\$2,727.92
Design	10.00%	\$3,815.28
08 MYr Inflation Fct	9.93%	\$4,817.17
<b>Total Soft Cost</b>		<b>\$15,175.65</b>
<b>Total Project Cost for Renovation</b>		<b>\$53,328.44</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>4.02%</b>	<b>\$365,690.99</b>
Parking Lots		\$111,606.00
Site Earthwork		\$254,084.99
<b>03 Concrete</b>	<b>15.59%</b>	<b>\$1,419,063.12</b>
Floor Construction		\$834,960.57
Slab on Grade		\$188,159.35
Stair Construction		\$19,624.50
Standard Foundations		\$376,318.70
<b>04 Masonry</b>	<b>4.63%</b>	<b>\$420,936.84</b>
Exterior Walls		\$420,936.84
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.32%</b>	<b>\$665,975.32</b>
Roof Construction		\$204,532.75
Roof Coverings		\$461,442.57
<b>08 Doors &amp; Windows</b>	<b>7.90%</b>	<b>\$718,485.43</b>
Exterior Doors		\$12,612.19
Exterior Windows		\$569,600.00
Interior Doors		\$136,273.24
<b>09 Finishes</b>	<b>17.09%</b>	<b>\$1,554,831.17</b>
Ceiling Finishes		\$416,263.34
Floor Finishes		\$550,824.74
Partitions		\$333,616.48
Wall Finishes		\$254,126.61
<b>10 Specialties</b>	<b>0.03%</b>	<b>\$3,016.66</b>
Fittings		\$3,016.66
<b>11 Equipment</b>	<b>3.10%</b>	<b>\$282,160.71</b>
Commercial Equipment		\$13,461.25
Other Equipment		\$268,699.46
<b>13 Special Construction</b>	<b>4.98%</b>	<b>\$453,087.71</b>
Communications & Security		\$203,964.74
Sprinklers		\$249,122.98
<b>14 Conveying Systems</b>	<b>2.10%</b>	<b>\$191,172.00</b>
Elevators and Lifts		\$191,172.00
<b>15 Mechanical</b>	<b>18.29%</b>	<b>\$1,664,395.12</b>
Cooling Generating Systems		\$879,080.48
Domestic Water Dist		\$161,268.00
Plumbing Fixtures		\$624,046.64
<b>16 Electrical</b>	<b>6.72%</b>	<b>\$611,316.97</b>
Electrical Service & Distribution		\$607,409.87
Site Lighting		\$3,907.10
<b>19 FF&amp;E</b>	<b>8.24%</b>	<b>\$750,000.00</b>
Interior FF&E allowance		\$750,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$9,100,132.03</b>

**Additional Hard Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$50,050.73
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$910,013.20
<b>Total Additional Hard Cost</b>		<b>\$960,063.93</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$503,009.80
SIOH Conus	6.50%	\$686,608.37
Design	10.00%	\$1,006,019.60
08 MYr Inflation Fct	9.93%	\$1,217,004.29
<b>Total Soft Cost</b>		<b>\$3,412,642.06</b>
<b>Total Project Cost for Replacement</b>		<b>\$13,472,838.02</b>

**INSERT BUILDING 2207 FLOOR PLANS (2 EXISTING AND 2  
RENOVATION) HERE**



*Building 2208  
2208 Frankford Rd*

## **Building 2208**

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Building 2208 was constructed in 1959. The 11,556 square foot facility contains 14 lodging units, 10 multi bedroom units with a full kitchen and 4 one bedroom units with a shared kitchen for every 2 units. The building is functioning as 24 extended stay suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 25 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Renovation Cost	\$1,347,105.00
Replacement Cost	\$1,750,055.00
Renovation to Replacement Cost Ratio	76.98%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 2208 is not recommended.

### **Attributes**

01.Number of Units Constructed	14
02.Number of Units Used	14
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	4
07.Multi Room w/ Full Kitchen	10
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	24
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	25
15.Renovated to Family Suite	0
16.Delta renovation	1

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: The wood framed sub floor and concrete piers are performing as intended. The basement area and walls show no signs of stress. The substructure is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: A combination of brick veneer on the lower level and vinyl siding over redwood on the upper level. Both appear to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 2000 but do not meet the ATFP standards. The windows are in like new condition.

- Recommendation: No corrective action required but if the building were to be remodeled, the windows could be retrofitted to the ATFP standards.

#### **Exterior Doors**

- Analysis: Solid wood commercial grade doors with steel frames and electronic locks. The doors are in poor condition.
- Recommendation: Replace door, frames and sidelight glass.

#### **Roofing**

##### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles and gutters are in poor condition.
- Recommendation: Replace shingles and gutters.

#### **Interior Construction**

##### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

##### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition but the entrance door to each unit is in poor condition.
- Recommendation: Replace entrance door and frame to 1 hour fire rated door.

#### **Stairs**

##### **Stair Construction**

- Analysis: Stairs are wood framed with wood handrails and rubber covered risers. There are four sets of stairs all located in the interior of the building. There are no elevators in the structure. The stairs are in good condition.
- Recommendation: No corrective action required.

#### **Interior Finishes**

##### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

##### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the ceramic tile if the plumbing is replaced.

##### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system but the grill is not located in the rest room. The plumbing fixtures are in good condition.
- Recommendation: Replace entire plumbing system including fixtures.

### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 100 gallon oil fired water heater located in Building 2209. The piping is in poor condition.
- Recommendation: Replace entire plumbing system.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: The mechanical system is a hydronic hot water heating system with one thermostat to control the entire building. The air conditioning is supplied by window units in each living unit. The hot water for heating is supplied by a hot water boiler located in Building 2209. The heating and cooling system is in poor condition.
- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

## **Fire Protection**

### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in the laundry room to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.
- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

## **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: There are full kitchens in 10 of the 14 units. There are 2 full kitchens that are shared by the remaining 4 units. The kitchen appliances are a refrigerator, stove/ oven unit and a microwave. All appliances were in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

- **Extended Stay Guest Room**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs. Room Size. The room sizes do not match Army Lodging standards. A cost estimate is used to indicate a total redo of rooms to meet the standard. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.09%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.02%</b>	<b>\$37,780.44</b>
Asphalt Shingle Roof: Beyond Useful Life		\$27,376.51
Attic insulation: Missing or inadequate		\$4,062.85
Gutters: Damaged or Failing		\$6,341.08
<b>08 Doors &amp; Windows</b>	<b>7.17%</b>	<b>\$38,567.24</b>
Ext Wood door with side lite: Beyond Useful Life		\$11,735.90
Wood Fire Doors: Missing or Inadequate		\$26,831.34
<b>09 Finishes</b>	<b>15.95%</b>	<b>\$85,829.69</b>
Carpet: Beyond Useful Life		\$14,540.98
Floor Tile: Damaged or Failing		\$6,656.64
Interior ceilings: Paint Failing		\$4,150.39
VCT: Beyond Useful Life		\$2,240.58
Vinyl Wall Covering: Beyond expected useful life		\$58,241.10
<b>15 Mechanical</b>	<b>30.56%</b>	<b>\$164,392.39</b>
Bath tub: Replace due to remodel		\$19,745.36
Domestic water system: Beyond expected useful life		\$23,770.75
Hydronic heating system: Beyond expt useful life		\$8,576.09
PTAC: Missing or inadequate		\$59,699.06
Restroom exhaust: Missing or inadequate		\$30,626.68
Sink & vanity: Replace due to remodel		\$9,627.84
Water closet: Replace due to remodel		\$12,346.61
<b>16 Electrical</b>	<b>16.91%</b>	<b>\$90,954.10</b>
Branch Circuits: Beyond Expected Useful Life		\$32,306.80
Fixtures, Incandescent: Missing or inadequate		\$42,720.75
Main service: Missing or inadequate		\$15,499.35
Service entrance cable: Beyond expected useful life		\$427.20
<b>19 FF&amp;E</b>	<b>22.31%</b>	<b>\$120,000.00</b>
Hard and soft goods: Beyond expected useful life		\$120,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$537,983.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,958.91
Force Protection	9.00%	\$53,526.62
General Conditions	10.00%	\$53,798.30
<b>Total Additional Hard Cost</b>		<b>\$110,283.83</b>

#### Soft Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$64,826.68
SIOH Conus	6.50%	\$46,351.08
Design	10.00%	\$64,826.68
08 MYr Inflation Fct	9.93%	\$81,850.14
<b>Total Soft Cost</b>		<b>\$257,854.58</b>
<b>Total Project</b>		<b>\$906,121.41</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>07 Thermal &amp; Moisture Protection</b>	<b>2.96%</b>	<b>\$23,688.94</b>
Roof Construction		\$11,722.37
Roof Coverings		\$11,966.57
<b>08 Doors &amp; Windows</b>	<b>3.40%</b>	<b>\$27,225.99</b>
Exterior Doors		\$5,486.85
Interior Doors		\$21,739.14
<b>09 Finishes</b>	<b>27.92%</b>	<b>\$223,286.41</b>
Ceiling Finishes		\$40,790.93
Floor Finishes		\$67,821.30
Partitions		\$42,676.75
Wall Finishes		\$71,997.44
<b>11 Equipment</b>	<b>5.56%</b>	<b>\$44,500.00</b>
Other Equipment		\$44,500.00
<b>13 Special Construction</b>	<b>7.74%</b>	<b>\$61,914.74</b>
Communications & Security		\$27,871.92
Sprinklers		\$34,042.82
<b>15 Mechanical</b>	<b>26.50%</b>	<b>\$211,908.18</b>
Cooling Generating Systems		\$120,126.93
Domestic Water Dist		\$26,700.00
Plumbing Fixtures		\$65,081.25
<b>16 Electrical</b>	<b>10.29%</b>	<b>\$82,278.72</b>
Electrical Service & Distribution		\$82,278.72
<b>19 FF&amp;E</b>	<b>15.63%</b>	<b>\$125,000.00</b>
Interior FF&E allowance		\$125,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$799,802.98</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$4,398.92
Force Protection	9.00%	\$79,576.40
General Conditions	10.00%	\$79,980.30
<b>Total Additional Hard Cost</b>		<b>\$163,955.61</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$96,375.86
SIOH Conus	6.50%	\$68,908.74
Design	10.00%	\$96,375.86
08 MYr Inflation Fct	9.93%	\$121,684.11
<b>Total Soft Cost</b>		<b>\$383,344.57</b>

<b>Total Project Cost for Renovation</b>	<b>\$1,347,103.16</b>
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## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.70%</b>	<b>\$31,960.68</b>
Site Earthwork		\$31,960.68
<b>03 Concrete</b>	<b>15.49%</b>	<b>\$183,083.71</b>
Floor Construction		\$105,671.51
Slab on Grade		\$23,625.05
Stair Construction		\$6,541.50
Standard Foundations		\$47,245.65
<b>04 Masonry</b>	<b>6.24%</b>	<b>\$73,757.91</b>
Exterior Walls		\$73,757.91
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.14%</b>	<b>\$84,401.57</b>
Roof Construction		\$25,896.06
Roof Coverings		\$58,505.51
<b>08 Doors &amp; Windows</b>	<b>11.04%</b>	<b>\$130,465.99</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$103,240.00
Interior Doors		\$21,739.14
<b>09 Finishes</b>	<b>14.44%</b>	<b>\$170,733.95</b>
Ceiling Finishes		\$27,761.14
Floor Finishes		\$65,821.03
Partitions		\$42,676.75
Wall Finishes		\$34,475.04
<b>11 Equipment</b>	<b>3.76%</b>	<b>\$44,500.00</b>
Other Equipment		\$44,500.00
<b>13 Special Construction</b>	<b>4.81%</b>	<b>\$56,883.76</b>
Communications & Security		\$25,607.14
Sprinklers		\$31,276.62
<b>15 Mechanical</b>	<b>17.10%</b>	<b>\$202,147.09</b>
Cooling Generating Systems		\$110,365.84
Domestic Water Dist		\$26,700.00
Plumbing Fixtures		\$65,081.25
<b>16 Electrical</b>	<b>6.69%</b>	<b>\$79,126.34</b>
Electrical Service & Distribution		\$79,126.34
<b>19 FF&amp;E</b>	<b>10.57%</b>	<b>\$125,000.00</b>
Interior FF&E allowance		\$125,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,182,060.99</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$6,501.34
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$118,206.10
<b>Total Additional Hard Cost</b>		<b>\$124,707.43</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$65,338.42
SIOH Conus	6.50%	\$89,186.95
Design	10.00%	\$130,676.84
08 MYr Inflation Fct	9.93%	\$158,082.68
<b>Total Soft Cost</b>		<b>\$443,284.89</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,750,053.32</b>

**INSERT BUILDING 2208 (FLRS. 1 AND 2) HERE**



*Building 2209  
2209 Frankford St.*

## **Building 2209**

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Building 2209 was constructed in 1959. The 18,085 square foot facility contains 20 lodging units, 16 multi bedroom units with a full kitchen and 4 one bedroom units with a shared kitchen for every 2 units. The building is functioning as 36 extended stay suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 36 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Renovation Cost	\$1,990,810.00
Replacement Cost	\$2,480,780.00
Renovation to Replacement Cost Ratio	80.25%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 2209 is not recommended.

### **Attributes**

01.Number of Units Constructed	20
02.Number of Units Used	20
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	4
07.Multi Room w/ Full Kitchen	16
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	36
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	36
15.Renovated to Family Suite	0
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: The wood framed sub floor and concrete piers are performing as intended. The basement area and walls show no signs of stress. The substructure is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: A combination of brick veneer on the lower level and vinyl siding over redwood on the upper level. Both appear to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 2000 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Solid wood commercial grade doors with steel frames and electronic locks. The doors are in poor condition.
- Recommendation: Replace door, frames and sidelight glass.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles and gutters are in poor condition.
- Recommendation: Replace shingles and gutters.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition but the entrance door to each unit is in poor condition.
- Recommendation: Replace entrance door and frame to 1 hour fire rated door.

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are wood framed with wood handrails and rubber covered risers. There are four sets of stairs all located in the interior of the building. There are no elevators in the structure. The stairs are in good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the ceramic tile if the plumbing is replaced.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system but the grill is not located in the rest room. The plumbing fixtures are in good condition.
- Recommendation: Replace entire plumbing system including fixtures.

### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 100 gallon oil fired water heater located in Building 2209. The piping is in poor condition.
- Recommendation: Replace entire plumbing system including fixtures.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: The mechanical system is a hydronic hot water heating system with one thermostat to control the entire building. The air conditioning is supplied by window units in each living unit. The hot water for heating is supplied by a hot water boiler located in Building 2209. The heating and cooling system is in poor condition.
- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

### **Fire Protection**

#### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

### **Electrical**

#### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in the laundry room to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.
- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

#### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: There are full kitchens in 16 of the 20 units. There are 2 full kitchens that are shared by the remaining 4 units. The kitchen appliances are a refrigerator, stove/ oven unit and a microwave. All appliances were in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

- **Extended Stay Guest Room**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs. Room Size. The room sizes do not match Army Lodging standards. A cost estimate is used to indicate a total redo of rooms to meet the standard. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.07%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>07 Thermal &amp; Moisture Protection</b>	<b>6.78%</b>	<b>\$47,115.18</b>
Asphalt Shingle Roof: Beyond Useful Life		\$38,539.14
Gutters: Damaged or Failing		\$8,576.04
<b>08 Doors &amp; Windows</b>	<b>7.62%</b>	<b>\$53,000.35</b>
Ext Wood door with side lite: Beyond Useful Life		\$14,669.87
Wood Fire Doors: Missing or Inadequate		\$38,330.48
<b>09 Finishes</b>	<b>17.87%</b>	<b>\$124,305.43</b>
Carpet: Beyond Useful Life		\$20,825.09
Floor Tile: Damaged or Failing		\$9,509.47
Interior ceilings: Paint Failing		\$6,145.77
VCT: Beyond Useful Life		\$3,303.01
Vinyl Wall Covering: Beyond expected useful life		\$84,522.09
<b>15 Mechanical</b>	<b>34.19%</b>	<b>\$237,746.49</b>
Bath tub: Replace due to remodel		\$28,207.66
Boiler: Abandoned in place		\$2,020.30
Domestic water system: Beyond expected useful life		\$37,154.15
HWP: Beyond expected useful life		\$2,030.98
Hydronic heating system: Beyond expt useful life		\$13,401.62
PTAC: Missing or inadequate		\$87,977.57
Restroom exhaust: Missing or inadequate		\$25,515.81
Sink & vanity: Replace due to remodel		\$13,754.06
Water closet: Replace due to remodel		\$17,638.02
Water heater: Missing or inadequate		\$10,046.32
<b>16 Electrical</b>	<b>19.10%</b>	<b>\$132,797.87</b>
Branch Circuits: Beyond Expected Useful Life		\$50,499.61
Fixtures, Incandescent: Missing or inadequate		\$66,798.91
Main service: Missing or inadequate		\$15,499.35
<b>19 FF&amp;E</b>	<b>14.38%</b>	<b>\$100,000.00</b>
Hard and soft goods: Beyond expected useful life		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$695,425.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$3,824.84
Force Protection	9.00%	\$69,191.31
General Conditions	10.00%	\$69,542.50
<b>Total Additional Hard Cost</b>		<b>\$142,558.65</b>

**Soft Cost (Template: Army Lodging Renovation)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$83,798.36
SIOH Conus	6.50%	\$59,915.83
Design	10.00%	\$83,798.36
08 MYr Inflation Fct	9.93%	\$105,803.77
<b>Total Soft Cost</b>		<b>\$333,316.33</b>
<b>Total Project</b>		<b>\$1,171,299.98</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>07 Thermal &amp; Moisture Protection</b>	<b>2.98%</b>	<b>\$35,237.26</b>
Roof Construction		\$16,880.21
Roof Coverings		\$18,357.05
<b>08 Doors &amp; Windows</b>	<b>2.99%</b>	<b>\$35,332.11</b>
Exterior Doors		\$5,486.85
Interior Doors		\$29,845.26
<b>09 Finishes</b>	<b>27.20%</b>	<b>\$321,513.26</b>
Ceiling Finishes		\$58,738.93
Floor Finishes		\$97,643.50
Partitions		\$61,454.51
Wall Finishes		\$103,676.31
<b>11 Equipment</b>	<b>5.42%</b>	<b>\$64,080.00</b>
Other Equipment		\$64,080.00
<b>13 Special Construction</b>	<b>8.20%</b>	<b>\$96,895.81</b>
Communications & Security		\$43,619.21
Sprinklers		\$53,276.60
<b>15 Mechanical</b>	<b>27.09%</b>	<b>\$320,162.19</b>
Cooling Generating Systems		\$187,997.19
Domestic Water Dist		\$38,448.00
Plumbing Fixtures		\$93,717.00
<b>16 Electrical</b>	<b>10.89%</b>	<b>\$128,765.20</b>
Electrical Service & Distribution		\$128,765.20
<b>19 FF&amp;E</b>	<b>15.23%</b>	<b>\$180,000.00</b>
Interior FF&E allowance		\$180,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,181,985.84</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$6,500.92
Force Protection	9.00%	\$117,601.68
General Conditions	10.00%	\$118,198.58
<b>Total Additional Hard Cost</b>		<b>\$242,301.19</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$142,428.70
SIOH Conus	6.50%	\$101,836.52
Design	10.00%	\$142,428.70
08 MYr Inflation Fct	9.93%	\$179,830.41
<b>Total Soft Cost</b>		<b>\$566,524.34</b>

<b>Total Project Cost for Renovation</b>	<b>\$1,990,811.36</b>
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## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.74%</b>	<b>\$45,988.19</b>
Site Earthwork		\$45,988.19
<b>03 Concrete</b>	<b>15.52%</b>	<b>\$260,033.37</b>
Floor Construction		\$151,448.92
Slab on Grade		\$34,015.80
Stair Construction		\$6,541.50
Standard Foundations		\$68,027.15
<b>04 Masonry</b>	<b>5.69%</b>	<b>\$95,368.50</b>
Exterior Walls		\$95,368.50
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.23%</b>	<b>\$121,231.38</b>
Roof Construction		\$37,288.35
Roof Coverings		\$83,943.03
<b>08 Doors &amp; Windows</b>	<b>10.61%</b>	<b>\$177,732.11</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$142,400.00
Interior Doors		\$29,845.26
<b>09 Finishes</b>	<b>14.67%</b>	<b>\$245,834.19</b>
Ceiling Finishes		\$39,972.52
Floor Finishes		\$94,763.11
Partitions		\$61,454.51
Wall Finishes		\$49,644.06
<b>11 Equipment</b>	<b>3.82%</b>	<b>\$64,080.00</b>
Other Equipment		\$64,080.00
<b>13 Special Construction</b>	<b>4.89%</b>	<b>\$81,904.69</b>
Communications & Security		\$36,870.72
Sprinklers		\$45,033.97
<b>15 Mechanical</b>	<b>17.37%</b>	<b>\$291,076.42</b>
Cooling Generating Systems		\$158,911.42
Domestic Water Dist		\$38,448.00
Plumbing Fixtures		\$93,717.00
<b>16 Electrical</b>	<b>6.71%</b>	<b>\$112,376.74</b>
Electrical Service & Distribution		\$112,376.74
<b>19 FF&amp;E</b>	<b>10.74%</b>	<b>\$180,000.00</b>
Interior FF&E allowance		\$180,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,675,625.61</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$9,215.94
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$167,562.56
<b>Total Additional Hard Cost</b>		<b>\$176,778.50</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$92,620.21
SIOH Conus	6.50%	\$126,426.58
Design	10.00%	\$185,240.41
08 MYr Inflation Fct	9.93%	\$224,089.45
<b>Total Soft Cost</b>		<b>\$628,376.64</b>
<b>Total Project Cost for Replacement</b>		<b>\$2,480,780.75</b>

**INSERT BUILDING 2209 FLOOR PLANS (FLRS. 1 AND 2) HERE**



*Building 2504  
2504 Frankford St.*

## **Building 2504**

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Building 2504 was constructed in 1959. The 11,720 square foot facility contains 16 lodging units, 8 multi bedroom units with a full kitchen and 8 one bedroom units with a shared kitchen for every 2 units. The building is functioning as 24 extended stay suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 27 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Renovation Cost	\$1,423,050.00
Replacement Cost	\$1,883,300.00
Renovation to Replacement Cost Ratio	75.56%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 2504 is not recommended.

### **Attributes**

01.Number of Units Constructed	16
02.Number of Units Used	16
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	8
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	8
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	24
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	27
15.Renovated to Family Suite	0
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: The wood framed sub floor and concrete piers are performing as intended. The basement area and walls show no signs of stress. The substructure is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: A combination of brick veneer on the lower level and vinyl siding over redwood on the upper level. Both appear to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 2000 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Solid wood commercial grade doors with steel frames and electronic locks. The doors are in poor condition.
- Recommendation: Replace door, frames and sidelight glass.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles and gutters are in poor condition.
- Recommendation: Replace shingles and gutters.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition but the entrance door to each unit is in poor condition.
- Recommendation: Replace entrance door and frame to 1 hour fire rated door.

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are wood framed with wood handrails and rubber covered risers. There are four sets of stairs all located in the interior of the building. There are no elevators in the structure. The stairs are in good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the ceramic tile if the plumbing is replaced.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system but the grill is not located in the rest room. The plumbing fixtures are in good condition.
- Recommendation: Replace entire plumbing system including fixtures.

### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 100 gallon oil fired water heater located in Building 2209. The piping is in poor condition.
- Recommendation: Replace entire plumbing system including fixtures.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: The mechanical system is a hydronic hot water heating system with one thermostat to control the entire building. The air conditioning is supplied by window units in each living unit. The hot water for heating is supplied by a hot water boiler located in Building 2209. The heating and cooling system is in poor condition.
- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

## **Fire Protection**

### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in the laundry room to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.
- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: There are full kitchens in 8 of the 16 units. There are 4 full kitchens that are shared by the remaining 8 units. The kitchen appliances are a refrigerator, stove/ oven unit and a microwave. All appliances were in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

- **Extended Stay Guest Room**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs. Room Size. The room sizes do not match Army Lodging standards. A cost estimate is used to indicate a total redo of rooms to meet the standard. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.09%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.05%</b>	<b>\$35,692.12</b>
Asphalt Shingle Roof: Beyond Useful Life		\$28,974.22
Gutters: Damaged or Failing		\$6,717.90
<b>08 Doors &amp; Windows</b>	<b>8.37%</b>	<b>\$42,400.28</b>
Ext Wood door with side lite: Beyond Useful Life		\$11,735.90
Wood Fire Doors: Missing or Inadequate		\$30,664.38
<b>09 Finishes</b>	<b>18.34%</b>	<b>\$92,896.50</b>
Carpet: Beyond Useful Life		\$15,752.26
Floor Tile: Damaged or Failing		\$7,607.57
Interior ceilings: Paint Failing		\$4,358.33
VCT: Beyond Useful Life		\$2,338.36
Vinyl Wall Covering: Beyond expected useful life		\$62,839.98
<b>15 Mechanical</b>	<b>32.29%</b>	<b>\$163,583.41</b>
Bath tub: Replace due to remodel		\$22,566.13
Domestic water system: Beyond expected useful life		\$24,077.55
Hydronic heating system: Beyond expt useful life		\$8,576.09
PTAC: Missing or inadequate		\$62,841.12
Restroom exhaust: Missing or inadequate		\$20,408.85
Sink & vanity: Replace due to remodel		\$11,003.25
Water closet: Replace due to remodel		\$14,110.42
<b>16 Electrical</b>	<b>18.07%</b>	<b>\$91,513.81</b>
Branch Circuits: Beyond Expected Useful Life		\$32,726.64
Fixtures, Incandescent: Missing or inadequate		\$43,287.82
Main service: Missing or inadequate		\$15,499.35
<b>19 FF&amp;E</b>	<b>15.79%</b>	<b>\$80,000.00</b>
Hard and soft goods: Beyond expected useful life		\$80,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$506,545.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,786.00
Force Protection	9.00%	\$50,398.69
General Conditions	10.00%	\$50,654.50
<b>Total Additional Hard Cost</b>		<b>\$103,839.19</b>

#### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$61,038.42

SIOH Conus	6.50%	\$43,642.47
Design	10.00%	\$61,038.42
08 MYr Inflation Fct	9.93%	\$77,067.08
<b>Total Soft Cost</b>		<b>\$242,786.39</b>
<b>Total Project</b>		<b>\$853,170.58</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>07 Thermal &amp; Moisture Protection</b>	<b>2.93%</b>	<b>\$24,791.98</b>
Roof Construction		\$12,660.16
Roof Coverings		\$12,131.82
<b>08 Doors &amp; Windows</b>	<b>3.40%</b>	<b>\$28,699.83</b>
Exterior Doors		\$5,486.85
Interior Doors		\$23,212.98
<b>09 Finishes</b>	<b>28.54%</b>	<b>\$241,145.84</b>
Ceiling Finishes		\$44,054.20
Floor Finishes		\$73,243.52
Partitions		\$46,090.89
Wall Finishes		\$77,757.24
<b>11 Equipment</b>	<b>5.69%</b>	<b>\$48,060.00</b>
Other Equipment		\$48,060.00
<b>13 Special Construction</b>	<b>7.43%</b>	<b>\$62,793.42</b>
Communications & Security		\$28,267.47
Sprinklers		\$34,525.95
<b>15 Mechanical</b>	<b>26.15%</b>	<b>\$220,955.49</b>
Cooling Generating Systems		\$121,831.74
Domestic Water Dist		\$28,836.00
Plumbing Fixtures		\$70,287.75
<b>16 Electrical</b>	<b>9.88%</b>	<b>\$83,446.40</b>
Electrical Service & Distribution		\$83,446.40
<b>19 FF&amp;E</b>	<b>15.98%</b>	<b>\$135,000.00</b>
Interior FF&E allowance		\$135,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$844,892.96</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$4,646.91
Force Protection	9.00%	\$84,062.62
General Conditions	10.00%	\$84,489.30
<b>Total Additional Hard Cost</b>		<b>\$173,198.83</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$101,809.18
SIOH Conus	6.50%	\$72,793.56
Design	10.00%	\$101,809.18
08 MYr Inflation Fct	9.93%	\$128,544.22
<b>Total Soft Cost</b>		<b>\$404,956.14</b>

<b>Total Project Cost for Renovation</b>	<b>\$1,423,047.92</b>
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## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.71%</b>	<b>\$34,507.86</b>
Site Earthwork		\$34,507.86
<b>03 Concrete</b>	<b>15.53%</b>	<b>\$197,548.27</b>
Floor Construction		\$114,475.67
Slab on Grade		\$25,511.85
Stair Construction		\$6,541.50
Standard Foundations		\$51,019.25
<b>04 Masonry</b>	<b>6.09%</b>	<b>\$77,516.27</b>
Exterior Walls		\$77,516.27
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.16%</b>	<b>\$91,085.96</b>
Roof Construction		\$27,965.93
Roof Coverings		\$63,120.03
<b>08 Doors &amp; Windows</b>	<b>10.93%</b>	<b>\$139,059.83</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$110,360.00
Interior Doors		\$23,212.98
<b>09 Finishes</b>	<b>14.50%</b>	<b>\$184,387.83</b>
Ceiling Finishes		\$29,980.68
Floor Finishes		\$71,083.22
Partitions		\$46,090.89
Wall Finishes		\$37,233.04
<b>11 Equipment</b>	<b>3.78%</b>	<b>\$48,060.00</b>
Other Equipment		\$48,060.00
<b>13 Special Construction</b>	<b>4.83%</b>	<b>\$61,427.18</b>
Communications & Security		\$27,652.43
Sprinklers		\$33,774.74
<b>15 Mechanical</b>	<b>17.16%</b>	<b>\$218,304.72</b>
Cooling Generating Systems		\$119,180.97
Domestic Water Dist		\$28,836.00
Plumbing Fixtures		\$70,287.75
<b>16 Electrical</b>	<b>6.69%</b>	<b>\$85,164.10</b>
Electrical Service & Distribution		\$85,164.10
<b>19 FF&amp;E</b>	<b>10.61%</b>	<b>\$135,000.00</b>
Interior FF&E allowance		\$135,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,272,062.02</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$6,996.34
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$127,206.20
<b>Total Additional Hard Cost</b>		<b>\$134,202.54</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$70,313.23
SIOH Conus	6.50%	\$95,977.56
Design	10.00%	\$140,626.46
08 MYr Inflation Fct	9.93%	\$170,118.95
<b>Total Soft Cost</b>		<b>\$477,036.19</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,883,300.75</b>

**INSERT BUILDING 2504 FLOOR PLAN HERE**



*Building 2505  
2505 Frankford St.*

## **Building 2505**

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Building 2505 was constructed in 1959. The 18,085 square foot facility contains 20 lodging units, 16 multi bedroom units with a full kitchen and 4 one bedroom units with a shared kitchen for every 2 units. The building is functioning as 20 family suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 20 family suite units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Renovation Cost	\$1,584,935.00
Replacement Cost	\$1,978,975.00
Renovation to Replacement Cost Ratio	80.09%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 2505 is not recommended.

### **Attributes**

01.Number of Units Constructed	20
02.Number of Units Used	19
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	4
07.Multi Room w/ Full Kitchen	16
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	19
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	20
16.Delta renovation	1

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: The wood framed sub floor and concrete piers are performing as intended. The basement area and walls show no signs of stress. The substructure is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: A combination of brick veneer on the lower level and vinyl siding over redwood on the upper level. Both appear to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 2000 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Solid wood commercial grade doors with steel frames and electronic locks. The doors are in poor condition.
- Recommendation: Replace door, frames and sidelight glass.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles and gutters are in poor condition.
- Recommendation: Replace shingles and gutters.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition but the entrance door to each unit is in poor condition.
- Recommendation: Replace entrance door and frame to 1 hour fire rated door.

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are wood framed with wood handrails and rubber covered risers. There are four sets of stairs all located in the interior of the building. There are no elevators in the structure. The stairs are in good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the ceramic tile if the plumbing is replaced.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system but the grill is not located in the rest room. The plumbing fixtures are in good condition.

- Recommendation: Replace entire plumbing system including fixtures.

#### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 100 gallon oil fired water heater located in Building 2209. The piping is in poor condition.

- Recommendation: Replace entire plumbing system including fixtures.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: The mechanical system is a hydronic hot water heating system with one thermostat to control the entire building. The air conditioning is supplied by window units in each living unit. The hot water for heating is supplied by a hot water boiler located in Building 2209. The heating and cooling system is in poor condition.

- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

### **Fire Protection**

#### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are in stalled in each living unit. The fire protection equipment is new condition.

- Recommendation: No corrective action required.

### **Electrical**

#### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in the laundry room to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.

- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

#### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition. There are lighted exit signs in the stairwells and are in good condition.

- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: There are full kitchens in 16 of the 20 units. There are 2 full kitchens that are shared by the remaining 4 units. The kitchen appliances are a refrigerator, stove/ oven unit and a microwave. All appliances were in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

- **Family Guest Suite**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs. Room Size. The room sizes do not match Army Lodging standards. A cost estimate is used to indicate a total redo of rooms to meet the standard. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.07%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>07 Thermal &amp; Moisture Protection</b>	<b>6.83%</b>	<b>\$47,115.18</b>
Asphalt Shingle Roof: Beyond Useful Life		\$38,539.14
Gutters: Damaged or Failing		\$8,576.04
<b>08 Doors &amp; Windows</b>	<b>7.69%</b>	<b>\$53,000.35</b>
Ext Wood door with side lite: Beyond Useful Life		\$14,669.87
Wood Fire Doors: Missing or Inadequate		\$38,330.48
<b>09 Finishes</b>	<b>18.03%</b>	<b>\$124,305.43</b>
Carpet: Beyond Useful Life		\$20,825.09
Floor Tile: Damaged or Failing		\$9,509.47
Interior ceilings: Paint Failing		\$6,145.77
VCT: Beyond Useful Life		\$3,303.01
Vinyl Wall Covering: Beyond expected useful life		\$84,522.09
<b>15 Mechanical</b>	<b>34.22%</b>	<b>\$235,929.97</b>
Bath tub: Replace due to remodel		\$28,207.66
Boiler: Abandoned in place		\$2,020.30
Domestic water system: Beyond expected useful life		\$35,819.52
HWP: Beyond expected useful life		\$2,030.98
Hydronic heating system: Beyond expt useful life		\$12,919.73
PTAC: Missing or inadequate		\$87,977.57
Restroom exhaust: Missing or inadequate		\$25,515.81
Sink & vanity: Replace due to remodel		\$13,754.06
Water closet: Replace due to remodel		\$17,638.02
Water heater: Missing or inadequate		\$10,046.32
<b>16 Electrical</b>	<b>18.65%</b>	<b>\$128,572.95</b>
Branch Circuits: Beyond Expected Useful Life		\$48,682.85
Fixtures, Incandescent: Missing or inadequate		\$64,390.75
Main service: Missing or inadequate		\$15,499.35
<b>19 FF&amp;E</b>	<b>14.51%</b>	<b>\$100,000.00</b>
Hard and soft goods: Beyond expected useful life		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$689,383.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$3,791.61
Force Protection	9.00%	\$68,590.16
General Conditions	10.00%	\$68,938.30
<b>Total Additional Hard Cost</b>		<b>\$141,320.07</b>

#### Soft Cost (Template: Army Lodging Renovation)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$83,070.31
SIOH Conus	6.50%	\$59,395.27
Design	10.00%	\$83,070.31
08 MYr Inflation Fct	9.93%	\$104,884.53
<b>Total Soft Cost</b>		<b>\$330,420.41</b>
<b>Total Project</b>		<b>\$1,161,123.48</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>07 Thermal &amp; Moisture Protection</b>	<b>3.63%</b>	<b>\$34,185.22</b>
Roof Construction		\$16,459.16
Roof Coverings		\$17,726.06
<b>08 Doors &amp; Windows</b>	<b>3.28%</b>	<b>\$30,910.59</b>
Exterior Doors		\$5,486.85
Interior Doors		\$25,423.74
<b>09 Finishes</b>	<b>28.49%</b>	<b>\$268,119.83</b>
Ceiling Finishes		\$48,949.11
Floor Finishes		\$62,209.18
Partitions		\$59,921.64
Wall Finishes		\$97,039.90
<b>11 Equipment</b>	<b>3.78%</b>	<b>\$35,600.00</b>
Other Equipment		\$35,600.00
<b>13 Special Construction</b>	<b>9.93%</b>	<b>\$93,407.89</b>
Communications & Security		\$42,049.06
Sprinklers		\$51,358.82
<b>15 Mechanical</b>	<b>27.06%</b>	<b>\$254,654.92</b>
Cooling Generating Systems		\$181,229.92
Domestic Water Dist		\$21,360.00
Plumbing Fixtures		\$52,065.00
<b>16 Electrical</b>	<b>13.19%</b>	<b>\$124,130.08</b>
Electrical Service & Distribution		\$124,130.08
<b>19 FF&amp;E</b>	<b>10.63%</b>	<b>\$100,000.00</b>
Interior FF&E allowance		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$941,008.52</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$5,175.55
Force Protection	9.00%	\$93,625.64
General Conditions	10.00%	\$94,100.85
<b>Total Additional Hard Cost</b>		<b>\$192,902.04</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$113,391.06
SIOH Conus	6.50%	\$81,074.61
Design	10.00%	\$113,391.06
08 MYr Inflation Fct	9.93%	\$143,167.49
<b>Total Soft Cost</b>		<b>\$451,024.21</b>
<b>Total Project Cost for Renovation</b>		<b>\$1,584,934.78</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>3.12%</b>	<b>\$41,719.86</b>
Site Earthwork		\$41,719.86
<b>03 Concrete</b>	<b>17.78%</b>	<b>\$237,621.05</b>
Floor Construction		\$138,524.00
Slab on Grade		\$30,851.85
Stair Construction		\$6,541.50
Standard Foundations		\$61,703.70
<b>04 Masonry</b>	<b>6.64%</b>	<b>\$88,791.36</b>
Exterior Walls		\$88,791.36
<b>07 Thermal &amp; Moisture Protection</b>	<b>8.32%</b>	<b>\$111,173.06</b>
Roof Construction		\$34,970.27
Roof Coverings		\$76,202.79
<b>08 Doors &amp; Windows</b>	<b>8.70%</b>	<b>\$116,350.59</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$85,440.00
Interior Doors		\$25,423.74
<b>09 Finishes</b>	<b>15.81%</b>	<b>\$211,314.33</b>
Ceiling Finishes		\$36,256.01
Floor Finishes		\$59,976.62
Partitions		\$59,921.64
Wall Finishes		\$55,160.06
<b>11 Equipment</b>	<b>2.66%</b>	<b>\$35,600.00</b>
Other Equipment		\$35,600.00
<b>13 Special Construction</b>	<b>5.56%</b>	<b>\$74,291.25</b>
Communications & Security		\$33,443.41
Sprinklers		\$40,847.85
<b>15 Mechanical</b>	<b>16.28%</b>	<b>\$217,564.84</b>
Cooling Generating Systems		\$144,139.84
Domestic Water Dist		\$21,360.00
Plumbing Fixtures		\$52,065.00
<b>16 Electrical</b>	<b>7.65%</b>	<b>\$102,259.22</b>
Electrical Service & Distribution		\$102,259.22
<b>19 FF&amp;E</b>	<b>7.48%</b>	<b>\$100,000.00</b>
Interior FF&E allowance		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,336,685.57</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$7,351.77
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$133,668.56
<b>Total Additional Hard Cost</b>		<b>\$141,020.33</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$73,885.30
SIOH Conus	6.50%	\$100,853.43
Design	10.00%	\$147,770.59
08 MYr Inflation Fct	9.93%	\$178,761.37
<b>Total Soft Cost</b>		<b>\$501,270.68</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,978,976.59</b>

**INSERT BUILDING 2505 FLOOR PLANS (FLRS. 1 AND 2) HERE**



Building E4650  
E4650 Gunpower Loop

## Building E4650

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Building E4650 was constructed in 1992. The 1566 square foot facility contains 2 DVQs, each with a full kitchen. The building is functioning as family suites for high ranking visitors.

### Significant Assumptions

The replacement and renovation cost models are based on 4 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### Cost Analysis

Renovation Cost	\$204,055.00
Replacement Cost	\$345,925.00
Renovation to Replacement Cost Ratio	58.99%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building E4650 is not recommended.

### Attributes

01.Number of Units Constructed	2
02.Number of Units Used	2
03.Back of House Function	No
04.Single Room w/o FullKitchen	0
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	2
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	2
13.Renovated to Standard	0
14.Renovated to Extended Stay	4
15.Renovated to Family Suite	0
16.Delta renovation	2

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition and should be replaced in 2010.
- Recommendation: Replace hard and soft goods.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: The wood framed sub floor and concrete piers are performing as intended. The substructure is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Wood sub floor appears to be in fair condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Stucco finish appears to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are painted wood double glazed, low E glass, double hung windows. These were replaced in 1999 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Residential grade steel doors with wood frames are used for the front doors of each unit. The doors are in good condition.
- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. The roof system is in fair condition.
- Recommendation: No corrective action required.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Hollow core wood doors in wood frames. All the interior doors are in fair condition.
- Recommendation: No corrective action required

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchens vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet.

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with popcorn texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is provided by a forced draft unit in each rest room. The plumbing fixtures are in good condition.
- Recommendation: No corrective action required.

### **Domestic Water Distribution**

- Analysis: Hot water is produced from hot water plant for the Gun Club for which these units are joined. The piping is in good condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Cooling is provided to each unit with a split system heat pump with electric back up heat. These units are in good condition.

- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is in new condition.

- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from the main service to the Gun Club. Secondary service is 120/208Y volt 3 phase with a 100 amp sub main disconnect for each unit. These distribution panels provide power for lighting and receptacles. The electrical service is in good condition.

Lighting is incandescent and is in good condition. Outlets in the units are sufficient and in good condition.

- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is in new condition.

- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: There are 2 full kitchens for each living unit in the building. The kitchen appliances are a refrigerator, microwave oven, stove and oven unit. All appliances are in good condition.

- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in good condition.

- Recommendation: No corrective action required.

## **Major Functional Criteria**

- **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**

Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

- **Family Guest Suite**

The functional criteria deficits are listed, and each noted if it is included or not in the renovation plans or costs.

**Room Size**

The room sizes exceed Army Lodging standards. A cost estimate is used to indicate the cost of a renovation of rooms to meet the standard. A cost estimate is used to indicate a total redo of rooms to meet the standard. This renovation cost will make the building more than 50% of new construction cost.

- **Public Spaces**

Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>09 Finishes</b>	<b>59.22%</b>	<b>\$14,523.67</b>
Carpet: Beyond Useful Life		\$2,950.60
Interior ceilings: Paint Failing		\$822.31
Vinyl Wall Covering: Beyond expected useful life		\$10,750.76
<b>19 FF&amp;E</b>	<b>40.78%</b>	<b>\$10,000.00</b>
Hard and soft goods: Beyond expected useful life		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$24,524.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$134.88
Force Protection	9.00%	\$2,440.02
General Conditions	10.00%	\$2,452.40
<b>Total Additional Hard Cost</b>		<b>\$5,027.30</b>

#### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$2,955.13
SIOH Conus	6.50%	\$2,112.92
Design	10.00%	\$2,955.13
08 MYr Inflation Fct	9.93%	\$3,731.15
<b>Total Soft Cost</b>		<b>\$11,754.32</b>
<b>Total Project</b>		<b>\$41,305.62</b>

## Renovation

The Renovation Cost is based on making changes to the building to meet the Army Lodging Standard Functional Criteria. Unless otherwise stated, this cost also includes all building deficiencies listed under the Condition Assessment Cost.

### Summary of Project Renovation Cost

CSI	Percent	Amount
<b>07 Thermal &amp; Moisture Protection</b>	<b>1.55%</b>	<b>\$1,875.58</b>
Roof Construction		\$1,875.58
<b>08 Doors &amp; Windows</b>	<b>4.87%</b>	<b>\$5,895.36</b>
Interior Doors		\$5,895.36
<b>09 Finishes</b>	<b>29.51%</b>	<b>\$35,757.59</b>
Ceiling Finishes		\$6,526.55
Floor Finishes		\$10,883.17
Partitions		\$6,828.28
Wall Finishes		\$11,519.59
<b>11 Equipment</b>	<b>5.88%</b>	<b>\$7,120.00</b>
Other Equipment		\$7,120.00
<b>13 Special Construction</b>	<b>6.93%</b>	<b>\$8,390.31</b>
Communications & Security		\$3,777.04
Sprinklers		\$4,613.28
<b>15 Mechanical</b>	<b>25.56%</b>	<b>\$30,963.88</b>
Cooling Generating Systems		\$16,278.88
Domestic Water Dist		\$4,272.00
Plumbing Fixtures		\$10,413.00
<b>16 Electrical</b>	<b>9.20%</b>	<b>\$11,149.92</b>
Electrical Service & Distribution		\$11,149.92
<b>19 FF&amp;E</b>	<b>16.51%</b>	<b>\$20,000.00</b>
Interior FF&E allowance		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$121,152.64</b>

### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$666.34
Force Protection	9.00%	\$12,054.08
General Conditions	10.00%	\$12,115.26
<b>Total Additional Hard Cost</b>		<b>\$24,835.69</b>

### Soft Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Contingency	10.00%	\$14,598.83
SIOH Conus	6.50%	\$10,438.17
Design	10.00%	\$14,598.83
08 MYr Inflation Fct	9.93%	\$18,432.48
<b>Total Soft Cost</b>		<b>\$58,068.31</b>
<b>Total Project Cost for Renovation</b>		<b>\$204,056.64</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

<b>CSI</b>	<b>Percent</b>	<b>Amount</b>
<b>02 Site Work</b>	<b>4.40%</b>	<b>\$10,282.62</b>
Site Earthwork		\$10,282.62
<b>03 Concrete</b>	<b>10.28%</b>	<b>\$24,030.00</b>
Floor Construction		\$8,900.00
Slab on Grade		\$7,565.00
Standard Foundations		\$7,565.00
<b>04 Masonry</b>	<b>11.28%</b>	<b>\$26,354.41</b>
Exterior Walls		\$26,354.41
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.98%</b>	<b>\$23,314.93</b>
Roof Construction		\$4,145.08
Roof Coverings		\$19,169.85
<b>08 Doors &amp; Windows</b>	<b>17.06%</b>	<b>\$39,862.21</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$28,480.00
Interior Doors		\$5,895.36
<b>09 Finishes</b>	<b>11.71%</b>	<b>\$27,351.68</b>
Ceiling Finishes		\$4,444.27
Floor Finishes		\$10,563.13
Partitions		\$6,828.28
Wall Finishes		\$5,516.01
<b>11 Equipment</b>	<b>3.05%</b>	<b>\$7,120.00</b>
Other Equipment		\$7,120.00
<b>13 Special Construction</b>	<b>3.90%</b>	<b>\$9,108.26</b>
Communications & Security		\$4,100.23
Sprinklers		\$5,008.03
<b>15 Mechanical</b>	<b>13.85%</b>	<b>\$32,356.84</b>
Cooling Generating Systems		\$17,671.84
Domestic Water Dist		\$4,272.00
Plumbing Fixtures		\$10,413.00
<b>16 Electrical</b>	<b>5.94%</b>	<b>\$13,870.65</b>
Electrical Service & Distribution		\$13,870.65
<b>19 FF&amp;E</b>	<b>8.56%</b>	<b>\$20,000.00</b>
Interior FF&E allowance		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$233,651.60</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,285.08
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$23,365.16
<b>Total Additional Hard Cost</b>		<b>\$24,650.24</b>

### Soft Cost (Template: Army Lodging New Construction)

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$12,915.09
SIOH Conus	6.50%	\$17,629.10
Design	10.00%	\$25,830.18
08 MYr Inflation Fct	9.93%	\$31,247.35
<b>Total Soft Cost</b>		<b>\$87,621.72</b>
<b>Total Project Cost for Replacement</b>		<b>\$345,923.56</b>

**INSERT BUILDING 4650 FLOOR PLAN HERE**



*Building E4900  
E4900 Jessup Ave.*

## **Building E4900**

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Building 4900 was constructed in 1969. The 12,960 square foot facility contains 32 lodging units, 28 extended stay units with a kitchenette and 4 one bedroom units with a kitchenette. The building is functioning as extended stay suites.

### **Significant Assumptions**

The replacement and renovation cost models are based on 32 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### **Cost Analysis**

Condition Assessment Cost	\$1,512,610.00
Replacement Cost	\$2,210,305.00
Condition Assessment to Replacement Cost Ratio	68.43%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building E4900 is not recommended.

### **Attributes**

01.Number of Units Constructed	32
02.Number of Units Used	32
03.Back of House Function	No
04.Single Room w/o FullKitchen	24
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	8
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	32
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	32
15.Renovated to Family Suite	0
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Concrete slab on grade appears to be in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Brick veneer on both levels appears to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 1999 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Solid wood residential grade doors with steel frames and electronic locks. The doors are in poor condition.

- Recommendation: Replace doors and frames.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles, fascia, soffits and gutters are in poor condition.
- Recommendation: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles, fascia, soffits and gutters are in poor condition.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are metal framed with metal handrails and cast composite risers. There are three sets of stairs all located on the exterior of the building. There are no elevators in the structure. Two of the sets of stairs are in poor condition.
- Recommendation: Replace stairs on the ends of the building.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchenettes vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the tile if the plumbing is replaced

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system. The plumbing fixtures are in good condition.
- Recommendation: Replace plumbing fixtures when replacing domestic water distribution system.

#### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 200 gallon storage tank and an oil fired hot water boiler located in Building E4902. The piping is in poor condition.
- Recommendation: Replace domestic water distribution system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: The mechanical system is a 4 pipe system with a wall mounted fan coil unit in each unit. The hot water for heating is supplied by a hot water boiler located in Building E4902. The chilled water is supplied by an air cooled reciprocating chiller also located in Building E4902. The heating and cooling systems are in poor condition.
- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

### **Fire Protection**

#### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

### **Electrical**

#### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in electric closet to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.
- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

#### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition.
- Recommendation: No corrective action required.

### **Equipment**

### **Other Equipment**

- Analysis: There are no full kitchens in the building. Kitchen service is provided by a small kitchenette in each room. The kitchen appliances are a refrigerator, stove and oven unit. The kitchenette units are in poor condition.
- Recommendation: Replace kitchenette units.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in fair condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**  
Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.
- **Public Spaces**  
Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.05%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>05 Metals</b>	<b>4.39%</b>	<b>\$39,453.70</b>
Exterior Stairs: Damaged or Failing		\$18,779.00
Railings - Inadequate or Missing		\$20,674.70
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.77%</b>	<b>\$87,783.72</b>
Asphalt Shingle Roof: Beyond Useful Life		\$73,450.27
Fascia: Damaged or Failing		\$60.52
Gutters: Damaged or Failing		\$4,937.72
Soffit: Damaged or failing		\$9,335.21
<b>08 Doors &amp; Windows</b>	<b>6.04%</b>	<b>\$54,199.94</b>
Exterior Steel Door - Beyond expected useful life		\$54,199.94
<b>09 Finishes</b>	<b>8.21%</b>	<b>\$73,706.55</b>
Carpet: Beyond Useful Life		\$21,301.12
Interior ceilings: Paint Failing		\$5,618.57
VCT: Beyond Useful Life		\$1,495.02
Vinyl Wall Covering: Beyond expected useful life		\$45,291.84
<b>11 Equipment</b>	<b>11.10%</b>	<b>\$99,708.48</b>
Unit Kitchen: Beyond Useful Life		\$99,708.48
<b>15 Mechanical</b>	<b>30.05%</b>	<b>\$269,846.93</b>
Bath tub: Replace due to remodel		\$45,132.26
Domestic water system: Beyond expected useful life		\$26,709.70
Hydronic heating system: Beyond expt useful life		\$8,576.09
Pipe, HVAC: Beyond expected useful life		\$7,252.78
PTAC: Missing or inadequate		\$91,119.62
Restroom exhaust: Missing or inadequate		\$40,829.15
Sink & vanity: Replace due to remodel		\$22,006.50
Water closet: Replace due to remodel		\$28,220.83
<b>16 Electrical</b>	<b>12.57%</b>	<b>\$112,908.52</b>
Branch Circuits: Beyond Expected Useful Life		\$36,300.88
Fixture: Incandescent fixture beyond expected life		\$48,015.50
Main service: Missing or inadequate		\$28,592.14
<b>19 FF&amp;E</b>	<b>17.82%</b>	<b>\$160,000.00</b>
Hard and soft goods: Beyond expected useful life		\$160,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$898,067.00</b>

#### Additional Hard Cost (Template: Army Lodging Renovation)

Parameter Name	Percent	Amount
Spirit	0.50%	\$4,939.37
Force Protection	9.00%	\$89,353.18

General Conditions	10.00%	\$89,806.70
<b>Total Additional Hard Cost</b>		<b>\$184,099.24</b>

**Soft Cost (Template: Army Lodging Renovation)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$108,216.62
SIOH Conus	6.50%	\$77,374.89
Design	10.00%	\$108,216.62
08 MYr Inflation Fct	9.93%	\$136,634.26
<b>Total Soft Cost</b>		<b>\$430,442.39</b>
<b>Total Project</b>		<b>\$1,512,608.64</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.65%</b>	<b>\$39,533.13</b>
Site Earthwork		\$39,533.13
<b>03 Concrete</b>	<b>15.03%</b>	<b>\$224,447.69</b>
Floor Construction		\$130,210.04
Slab on Grade		\$29,232.05
Stair Construction		\$6,541.50
Standard Foundations		\$58,464.10
<b>04 Masonry</b>	<b>5.73%</b>	<b>\$85,502.80</b>
Exterior Walls		\$85,502.80
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.02%</b>	<b>\$104,783.43</b>
Roof Construction		\$32,543.86
Roof Coverings		\$72,239.57
<b>08 Doors &amp; Windows</b>	<b>10.75%</b>	<b>\$160,544.43</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$128,160.00
Interior Doors		\$26,897.58
<b>09 Finishes</b>	<b>14.54%</b>	<b>\$217,019.11</b>
Ceiling Finishes		\$34,026.11
Floor Finishes		\$84,238.71
Partitions		\$54,626.23
Wall Finishes		\$44,128.05
<b>11 Equipment</b>	<b>6.68%</b>	<b>\$99,680.00</b>
Other Equipment		\$99,680.00
<b>13 Special Construction</b>	<b>4.71%</b>	<b>\$70,390.78</b>
Communications & Security		\$31,687.54
Sprinklers		\$38,703.23
<b>15 Mechanical</b>	<b>15.28%</b>	<b>\$228,110.56</b>
Cooling Generating Systems		\$93,542.56
Domestic Water Dist		\$51,264.00
Plumbing Fixtures		\$83,304.00
<b>16 Electrical</b>	<b>6.89%</b>	<b>\$102,922.27</b>
Electrical Service & Distribution		\$102,922.27
<b>19 FF&amp;E</b>	<b>10.72%</b>	<b>\$160,000.00</b>
Interior FF&E allowance		\$160,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,492,934.20</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$8,211.14
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$149,293.42
<b>Total Additional Hard Cost</b>		<b>\$157,504.56</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$82,521.94
SIOH Conus	6.50%	\$112,642.44
Design	10.00%	\$165,043.88
08 MYr Inflation Fct	9.93%	\$199,657.25
<b>Total Soft Cost</b>		<b>\$559,865.51</b>
<b>Total Project Cost for Replacement</b>		<b>\$2,210,304.26</b>

**INSERT BUILDING 4900 FLOOR PLANS (FLRS. 1 AND 2) HERE**



Building E4902  
E4902 Jessup Ave.

## Building E4902

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Building 4902 was constructed in 1969. The 13,460 square foot facility contains 32 lodging units, 28 extended stay units with a kitchenette and 4 one bedroom units with a kitchenette. The building is functioning as extended stay suites.

### Significant Assumptions

The replacement and renovation cost models are based on 32 extended stay units.

The renovation uses the existing foot print, with the plan reworked to meet current lodging size requirements.

The renovation cost includes all condition assessment costs.

The renovation and replacement cost models include any public or back-of-the-house spaces as outlined in the Areas and Occupancies Schedule Template included in the Appendix.

All costs are adjusted by the Area Cost Factor of 89% for Aberdeen Proving Ground.

### Cost Analysis

Condition Assessment Cost	\$1,553,625.00
Replacement Cost	\$2,210,305.00
Condition Assessment to Replacement Cost Ratio	70.29%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building E4902 is not recommended.

### Attributes

01.Number of Units Constructed	32
02.Number of Units Used	31
03.Back of House Function	No
04.Single Room w/o FullKitchen	24
05.Single Room w/ Full Kitchen	0
06.Multi Room wo/ Full Kitchen	8
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	31
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	32
15.Renovated to Family Suite	0
16.Delta renovation	1

## **Condition Analysis/Recommendation**

### **FF&E**

#### **FF&E Allowance**

- Analysis: Guest Rooms: The hard goods consist of a head board, night stand, dresser in each bedroom, a couch, easy chair, coffee table, end table, desk and entertainment shelf unit in the living rooms and a dinette set in the kitchen. All are in fair condition. Soft goods consists of drapes and blinds on the windows, TV, mattress and box springs and bed coverings. All are in fair condition.
- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation is composed of perimeter beam and poured piers on compacted soil. No clear failures can be seen from perimeter. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Concrete slab on grade appears to be in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: The structure is wood frame construction with wood decking for the second floor. The superstructure is in good condition.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof consists of a wood plywood deck attached to sloped wooden rafters. The roof construction is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Brick veneer on both levels appears to be in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Vinyl clad double glazed, low E glass, single hung windows. These were replaced in 1999 and are in like new condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Solid wood residential grade doors with steel frames and electronic locks. The doors are in poor condition.

- Recommendation: Replace doors and frames.

## **Roofing**

### **Roof Coverings**

- Analysis: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles, fascia, soffits and gutters are in poor condition.
- Recommendation: Slope asphalt shingled roof on wood deck. Gutters are exterior to the roof with the downspouts exposed. Shingles, fascia, soffits and gutters are in poor condition.

## **Interior Construction**

### **Partitions**

- Analysis: Drywall on wood studs in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Solid core wood doors in wood frames. All the interior doors are in fair condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are metal framed with metal handrails and cast composite risers. There are three sets of stairs all located on the exterior of the building. There are no elevators in the structure. Two of the sets of stairs are in poor condition.
- Recommendation: Replace stairs on the ends of the building.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Combination of smooth texture drywall and vinyl wall coverings. Both are in fair condition.
- Recommendation: Repaint textured surfaces and recover walls with vinyl wall coverings.

### **Floor Finishes**

- Analysis: The units have carpet, the restrooms ceramic tile and the kitchenettes vinyl tile. The carpet is in fair condition while the vinyl and ceramic tile is in good condition.
- Recommendation: Replace carpet and the tile if the plumbing is replaced

### **Ceiling Finishes**

- Analysis: Ceilings are painted gyp board with smooth texture. The paint is in fair condition.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Each unit has an individual rest room containing a lavatory and vanity, a water closet and a built in place shower. Ventilation is a constant volume induced draft system. The plumbing fixtures are in good condition.
- Recommendation: Replace plumbing fixtures when replacing domestic water distribution system.

#### **Domestic Water Distribution**

- Analysis: Hot water is produced from a 200 gallon storage tank and an oil fired hot water boiler located in Building E4902. The piping is in poor condition.
- Recommendation: Replace domestic water distribution system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: The mechanical system is a 4 pipe system with a wall mounted fan coil unit in each unit. The hot water for heating is supplied by a hot water boiler located in Building E4902. The chilled water is supplied by an air cooled reciprocating chiller also located in Building E4902. The heating and cooling systems are in poor condition.
- Recommendation: Replace existing mechanical system with a system of PTAC units in each living area.

### **Fire Protection**

#### **Sprinklers**

- Analysis: There is a forced water sprinkler system installed throughout the structure. Smoke and heat detectors that are hard wired are installed in each living unit. The fire protection equipment is new condition.
- Recommendation: No corrective action required.

### **Electrical**

#### **Electrical Service/Distribution**

- Analysis: Electric service is supplied to the building from an overhead transformer bank. Secondary service is 120/208Y volt 3 phase with a 400 amp main disconnect. Distribution panels are located in electric closet to provide power for lighting and receptacles. The electrical service is in poor condition. Lighting is incandescent and is in poor condition. Outlets in the units are insufficient and in poor condition.
- Recommendation: Replace main service and panel to handle increased electrical loads. Replace branch circuits, electrical outlets and lighting.

#### **Communications and Security**

- Analysis: The fire alarm system consists of strobes and bells located on the exterior of the building and in the stairwell areas. This system is in like new condition.
- Recommendation: No corrective action required.

### **Equipment**

### **Other Equipment**

- Analysis: There are no full kitchens in the building. Kitchen service is provided by a small kitchenette in each room. The kitchen appliances are a refrigerator, stove and oven unit. The kitchenette units are in poor condition.
- Recommendation: Replace kitchenette units.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: The site consists of grass covered yard areas and shared parking lots with access to main roads. The site is graded properly to allow for drainage. The site is in fair condition.
- Recommendation: No corrective action required.

## **Major Functional Criteria**

### **Major Functional Criteria Analysis**

The following are existing conditions that do not meet the Functional Criteria and are considered major deficits. Listed are the recommendations or solutions for remedying each deficit.

- **Back-of-House Spaces**  
Most back of the house spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.
- **Public Spaces**  
Most public spaces are required at the main lodging building on post. Presently these are located in building 2207, and are not included in this building.

## Condition Assessment/Renovation/Replacement Analysis

### Condition Assessments

The Condition Assessment Cost lists what is required to make the building well as it is currently functioning. The cost includes all deficient items based on our field observation and using the Army Lodging standard Cap Ex replacement schedule.

#### Summary of Project Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>0.05%</b>	<b>\$459.24</b>
Domestic Water Supply: Damaged or Failing		\$459.24
<b>05 Metals</b>	<b>4.28%</b>	<b>\$39,453.70</b>
Exterior Stairs: Damaged or Failing		\$18,779.00
Railings - Inadequate or Missing		\$20,674.70
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.87%</b>	<b>\$91,051.17</b>
Asphalt Shingle Roof: Beyond Useful Life		\$73,450.27
Built-up Roof: Damaged or Failing		\$1,754.45
Fascia: Beyond Useful Life		\$1,513.00
Fascia: Damaged or Failing		\$60.52
Gutters: Damaged or Failing		\$4,937.72
Soffit: Damaged or failing		\$9,335.21
<b>08 Doors &amp; Windows</b>	<b>5.88%</b>	<b>\$54,199.94</b>
Exterior Steel Door - Beyond expected useful life		\$54,199.94
<b>09 Finishes</b>	<b>7.99%</b>	<b>\$73,706.55</b>
Carpet: Beyond Useful Life		\$21,301.12
Interior ceilings: Paint Failing		\$5,618.57
VCT: Beyond Useful Life		\$1,495.02
Vinyl Wall Covering: Beyond expected useful life		\$45,291.84
<b>11 Equipment</b>	<b>10.81%</b>	<b>\$99,708.48</b>
Unit Kitchen: Beyond Useful Life		\$99,708.48
<b>15 Mechanical</b>	<b>31.19%</b>	<b>\$287,686.09</b>
Bath tub: Replace due to remodel		\$45,132.26
Boiler: Abandoned in place		\$4,040.60
CHWP: Beyond expected useful life		\$1,015.49
Domestic water system: Beyond expected useful life		\$26,709.70
HWP: Beyond expected useful life		\$1,015.49
Hydronic heating system: Beyond expt useful life		\$8,576.09
Pipe, HVAC: Beyond expected useful life		\$7,252.78
PTAC: Missing or inadequate		\$91,119.62
Restroom exhaust: Missing or inadequate		\$40,829.15
Sink & vanity: Replace due to remodel		\$22,006.50
Water Chiller: Abandoned in place		\$1,721.26
Water closet: Replace due to remodel		\$28,220.83
Water heater: Missing or inadequate		\$10,046.32
<b>16 Electrical</b>	<b>12.59%</b>	<b>\$116,153.41</b>
Branch Circuits: Beyond Expected Useful Life		\$37,699.02
Fixture: Incandescent fixture beyond expected life		\$49,862.25
Main service: Missing or inadequate		\$28,592.14
<b>19 FF&amp;E</b>	<b>17.35%</b>	<b>\$160,000.00</b>
Hard and soft goods: Beyond expected useful life		\$160,000.00

**Total Raw Cost** 100.00% \$922,419.00

**Additional Hard Cost (Template: Army Lodging Renovation)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$5,073.30
Force Protection	9.00%	\$91,776.08
General Conditions	10.00%	\$92,241.90
<b>Total Additional Hard Cost</b>		<b>\$189,091.28</b>

**Soft Cost (Template: Army Lodging Renovation)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$111,151.03
SIOH Conus	6.50%	\$79,472.99
Design	10.00%	\$111,151.03
08 MYr Inflation Fct	9.93%	\$140,339.23
<b>Total Soft Cost</b>		<b>\$442,114.27</b>
<b>Total Project</b>		<b>\$1,553,624.56</b>

## Replacement

The Replacement Cost is the cost to rebuild the units as part of a new facility including the appropriate back-of-house and public spaces. This cost is based on number and types of units in the renovation model.

### Summary of Project Replacement Cost

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.65%</b>	<b>\$39,533.13</b>
Site Earthwork		\$39,533.13
<b>03 Concrete</b>	<b>15.03%</b>	<b>\$224,447.69</b>
Floor Construction		\$130,210.04
Slab on Grade		\$29,232.05
Stair Construction		\$6,541.50
Standard Foundations		\$58,464.10
<b>04 Masonry</b>	<b>5.73%</b>	<b>\$85,502.80</b>
Exterior Walls		\$85,502.80
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.02%</b>	<b>\$104,783.43</b>
Roof Construction		\$32,543.86
Roof Coverings		\$72,239.57
<b>08 Doors &amp; Windows</b>	<b>10.75%</b>	<b>\$160,544.43</b>
Exterior Doors		\$5,486.85
Exterior Windows		\$128,160.00
Interior Doors		\$26,897.58
<b>09 Finishes</b>	<b>14.54%</b>	<b>\$217,019.11</b>
Ceiling Finishes		\$34,026.11
Floor Finishes		\$84,238.71
Partitions		\$54,626.23
Wall Finishes		\$44,128.05
<b>11 Equipment</b>	<b>6.68%</b>	<b>\$99,680.00</b>
Other Equipment		\$99,680.00
<b>13 Special Construction</b>	<b>4.71%</b>	<b>\$70,390.78</b>
Communications & Security		\$31,687.54
Sprinklers		\$38,703.23
<b>15 Mechanical</b>	<b>15.28%</b>	<b>\$228,110.56</b>
Cooling Generating Systems		\$93,542.56
Domestic Water Dist		\$51,264.00
Plumbing Fixtures		\$83,304.00
<b>16 Electrical</b>	<b>6.89%</b>	<b>\$102,922.27</b>
Electrical Service & Distribution		\$102,922.27
<b>19 FF&amp;E</b>	<b>10.72%</b>	<b>\$160,000.00</b>
Interior FF&E allowance		\$160,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,492,934.20</b>

### Additional Hard Cost (Template: Army Lodging New Construction)

Parameter Name	Percent	Amount
Spirit	0.50%	\$8,211.14
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$149,293.42
<b>Total Additional Hard Cost</b>		<b>\$157,504.56</b>

**Soft Cost (Template: Army Lodging New Construction)**

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$82,521.94
SIOH Conus	6.50%	\$112,642.44
Design	10.00%	\$165,043.88
08 MYr Inflation Fct	9.93%	\$199,657.25
<b>Total Soft Cost</b>		<b>\$559,865.51</b>
<b>Total Project Cost for Replacement</b>		<b>\$2,210,304.26</b>

**INSERT BUILDING 4902 FLOOR PLANS (FLRS. 1 AND 2) HERE**

## Army Lodging Wellness Recommendation

# Appendix

ROOM / SPACE	1-10 Units	11-49 Units	50-149 Units	150-199 Units	200-299 Units	300-399 Units	400-599 Units	600-799 Units	800+	At Main Facility on Post Only	Note
<b>Public Areas</b>											
Exterior Entrance	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Vestibule	100	100	150	150	200	200	200	200	200		In Main Lodging facilities square footage included in Lobby
Lobby (includes vestibule at Main Lodging facilities)	300-500	300-500	500-800	500-800	800-1000	800-1000	1,000-1,200	1,000-1,200	1,200-1,500	X	Includes square footage of vestibule at Main Lodging facilities
Front Desk	2 station / 100 s.f.	2 station / 100 s.f.	2 station / 100 s.f.	3 station / 150 s.f.	3 station / 150 s.f.	3 station / 250 s.f.	3 station / 250 s.f.	4 station / 300 s.f.	4 station / 300 s.f.	X	
Bell Cart Station	2 carts / 24 s.f.	2 carts / 24 s.f.	3 carts / 36 s.f.	3 carts / 36 s.f.	4 carts / 48 s.f.	4 carts / 48 s.f.	6 carts / 72 s.f.	6 carts / 72 s.f.	8 carts / 96 s.f.		Not required at facilities w/out interior corridors if building is retained.
Breakfast Bar (Seat/Svc)	550	550	550	550	550	550	550	750	1,000	X	Needed at secondary facility, if it is a remote location. CFSC requirement min 550
Passenger Elevators			1 @ 64 s.f. 50-99 rooms 2 @ 64 s.f. 100-149 rooms	2 @ 64 s.f. each	2 @ 64 s.f. 400-499 rooms 3 @ 64 s.f. 500-599 rooms	3 @ 64 s.f. each	3 @ 64 s.f. each	If building is over two stories high			
Stairs	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	Numer of stairs based on plan @ 230 s.f. each	
Public Corridors	**	**	**	**	**	**	**	**	**		Minimum 6' wide
Public Telephone Area	2 phones / 12 s.f.	2 phones / 12 s.f.	2 phones / 12 s.f.	2 phones / 12 s.f.	3 phones / 18 s.f.	3 phones / 18 s.f.	4 phones / 24 s.f.	4 phones / 24 s.f.	4 phones / 24 s.f.		House phone in secondary buildings. Pay phones & house phones at Main facility
Vending - Full Service	1 per building / 70 s.f.	1 per building / 70 s.f.	70	70	70-105	105-140	140-210	210-280	280+		1 for every other floor to support up to 200 units / 70 s.f. each
Vending - Ice Only	1 per building / 30 s.f.	1 per building / 30 s.f.	30	30	30-45	45-60	60-90	90-120	120+		1 for every other floor to support up to 200 units / 30 s.f. each
Women - Lobby	100	100	200	200	260	260	315	315	350	X	
Men - Lobby	100	100	200	200	260	260	315	315	350	X	
Multi-Purpose Rm	250	250	250	250	250	250	250	250	250	X	
Study Rooms	See Note	See Note	See Note	See Note	See Note	See Note	See Note	See Note	See Note		1 per 25 extended stay units of 250 s.f. each at posts with schools facilities
Guest Laundries	192	192	192-384	384-576	576-768	768-1152	1152-1536	1536-2112	2112+		CFSC requirement 2w/d for every 75 guest rooms
Gear Wash Rooms	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each	At entrance / 170 s.f. each		Only at facilities with outdoor training
Guest Bulk Storage	See Note	See Note	See Note	See Note	See Note	See Note	See Note	See Note	See Note		1 unit for every 4 family suites of 25 ea. 40 w/circ.
<b>Guest Rooms</b>											
Guest Room - Standard	300	300	300	300	300	300	300	300	300		
Guest Room - Ext. Stay	300	300	300	300	300	300	300	300	300		
Guest Room - Suites	450	450	450	450	450	450	450	450	450		

ROOM / SPACE	1-10 Units	11-49 Units	50-149 Units	150-199 Units	200-299 Units	300-399 Units	400-599 Units	600-799 Units	800+	At Main Facility on Post Only	Note
<b>Back-of-House Areas</b>											
Manager's Office	180	180	180	180	180	180	180	180	180	X	
Assist. Mgr. Off.	-	-	0 50-99 units 120 100-149 units	120	120	120	120	120	120	X	
Front Office Mgr.	100	100	100	100	100	100	100	100	100	X	
Admin. Offices	2 space / 200-250 s.f.	2 space / 200-250 s.f.	2 spaces / 200-250 s.f.	2 spaces / 200-250 s.f.	5 spaces / 500-600 s.f.	5 spaces / 500-600 s.f.	7 spaces / 800-900 s.f.	7 spaces / 800-900 s.f.	10 spaces / 1,100-1,200 s.f.	X	
Cash Room	50	50	75	75	100	100	125	125	150	X	
Luggage Storage	-	-	75	75	100	100	100	100	100	X	
Admin. Conf. Rm.	250	250	250	250	350	350	350	350	350	X	
Housekeeping Off.	120	120	120	120	120	120	120	120	120	X	
Dirty/Clean Linen Stor.	50	50	50	50	100	100	200	200	400	See Note	At all facilities w/out in-house laundry
In-House Laundry	500	500	500	500	500	500	750	750	900	X	CFSC requirement min 500 s.f.
Receiving Office	75	75	75	75	75	75	75	75	75	X	
Maintenance Area	100	100	175	175	250	250	400	400	600	X	
Kitchen Prep Room	150	150	150	150	150	150	150	150	150	X	facility, if it is a remote location.
Break Room		140	210	210	280	280	350	350	420		
Staff Toilet - Men			200	100	100	100	150	150	200		
Staff Toilet - Women		100	100	100	150	150	200	200	250		
Access Corridor	**	**	**	**	**	**	**	**	**		
Receiving	150	150	150	150	150	150	150	150	200	X	
Housekeep. Rms.	128	128-512	512-1280	1280-1792	1792-2560	2560-3456	3456-5120	5120-6912	6912+		128 s.f. for each 15 guest rooms
Service Elevator	80	80	80	80	80	80	80	80	80		
Data/Commo Rm.	100	100	100	100	150	150	150	150	150		
Switch Closets	16 *	16 *	16-48 *	48-64 *	64-96 *	96-128 *	128-144 *	144-256 *	256+ *		1 closet of 16 s.f. for approximately 50 guest rooms
Janitor Closet	50	50	50	50	50	50	50	50	50	X	Only at first floor of Main Lodging facility.
Mechanical Room	*	*	*	*	*	*	*	*	*		
General Stor. Rm.	500	500	500	500	500	500	500	500	500	X	
Bulk Storage Rm.	500	500	500	500	500	500	500	500	500	X	
Electrical Room	140 *	140 *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *	1 per floor @ 140 s.f. each *		One electrical room to serve no more than 100 rooms.
Elevator Equip.Rm.	84	84	84	84	84	84	84	84	84		
<b>EXTERIOR</b>											
Playground (Outdoor)										X	Play ground required at facilities with family stays.
Grounds Maintenance	400	400	400	400	400	400	400	400	400	X	

\* Mechanical/electrical/equipment Spaces to be determined by contractor based on appropriate code and recommended systems.

\*\* Corridors to be determined based on building layout.