

# Army Lodging Wellness Recommendation

---



## Redstone Arsenal - Final Submittal

August 18, 2003

**3D/I**

Table of Contents	<b>Section 1 – Wellness Recommendation</b>	<b>1-1</b>
	Introduction	1-1
	Methodology	1-1
	Demand Summary	1-2
	Lodging Summary	1-3
	Cost Summary	1-4
	Recommendation / Conclusion	1-6
	<b>Section 2 – Lodging Master Plan</b>	<b>2-1</b>
	Installation Summary	2-1
	Master Plan Summary	2-2
	Existing Lodging Summary	2-2
	New Lodging Building	2-4
	<b>Section 3 – Demand Analysis</b>	<b>3-1</b>
	Overview	3-1
	On Post Inventory	3-1
	Demand and Utilization	3-2
	Private Market Capability	3-4
	Demand Requirement Determination	3-5
	Summary and Recommendation	3-8
	<b>Section 4 – Facility Assessment / Plans</b>	<b>4-1</b>
	<b>Appendix</b>	<b>A</b>
Areas and Occupancy Matrix	A-1	

## Introduction

---

# Section 1 Wellness Recommendation

The Army Lodging Wellness Program is conducted under the direction and guidance of Headquarters Army, Lodging Division (CFSC). The goal of the Redstone Arsenal 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 siting. A final recommendation defines the method for achieving the final wellness solution for the installation and will assist with project planning.

## Methodology

---

### ***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

---

Based on the historic and expected demand pattern at this facility, it is our recommendation that the number of rooms be sized using the “Most Economically Efficient” criterion. Using this criterion, we expect an occupancy rate of 84% which meets 74% of the projected official demand.

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

128 rooms

Proposed room mix:

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

The demand analysis has determined a need of 128 rooms; however, based on existing and proposed building configurations, the actual number recommended for the Redstone Arsenal Wellness Plan will be 130 rooms in FY08 and 128 rooms in FY18.

## Lodging Summary

The following Lodging for Redstone Arsenal 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 condition 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>													
						128	57	57	14	128	57	57	14
<b>Existing Lodging Facilities</b>													
55	3				3	0				0			
56	1				1	0				0			
58	1				1	0				0			
60	1				1	0				0			
62	1				1	0				0			
111	4	1		3		0				0			
131	20	8	8	4		20	8	8	4	20	8	8	4
133	20	8	8	4		20	8	8	4	20	8	8	4
135	22	8	8	6		22	8	8	6	22	8	8	6
244	24	20	4			22	18	4		0			
1400	4			4		0				0			
1416	4			4		0				0			
1417	4			4		0				0			
1418	4			4		0				0			
1419	4			4		0				0			
1420	4			4		0				0			
1421	4			4		0				0			
1422	4			4		0				0			
1423	4			4		0				0			
1424	4			4		0				0			
1426	4			4		0				0			
1427	4			4		0				0			
1428	4			4		0				0			
1429	4			4		0				0			
1430	4			4		0				0			
1433	4			4		0				0			
1434	4			4		0				0			
1435	4			4		0				0			
1436	4			4		0				0			
1437	4			4		0				0			
<b>Totals</b>	<b>177</b>	<b>45</b>	<b>28</b>	<b>97</b>	<b>7</b>	<b>84</b>	<b>42</b>	<b>28</b>	<b>14</b>	<b>108</b>	<b>39</b>	<b>55</b>	<b>14</b>
<b>New Proposed Lodging Facility</b>													
						46	15	31		20	18	2	0
<b>Total Lodging Rooms</b>													
						130	57	59	14	128	57	57	14

**Summary of Room Count and Mix based on Configuration FY08**

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

**Summary of Room Count and Mix based on Configuration FY18**

- 128 rooms
  - 57 standard guest rooms;
  - 57 extended-stay guest 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>									
55	3	***	\$ 178,430	\$ 256,465	69.57%	0			
56	1	***	\$ 178,430	\$ 256,465	69.57%	0			
58	1	***	\$ 178,430	\$ 256,465	69.57%	0			
60	1	***	\$ 178,430	\$ 256,465	69.57%	0			
62	1	***	\$ 178,430	\$ 256,465	69.57%	0			
111	4	***	\$ 270,425	\$ 406,040	66.60%	0			
131	20	\$ 325,025		\$ 1,716,245	18.94%	20		\$ 325,025	
133	20	\$ 325,250		\$ 1,716,245	18.95%	20		\$ 325,250	
135	22	\$ 169,245		\$ 1,871,980	9.04%	22		\$ 169,245	
244	24	\$ 418,890	** ** *	\$ 1,945,995	21.53%	22		\$ 418,890	
1400	4	\$ 373,695	****	\$ 643,525	58.07%	0			
1416	4	\$ 350,010	****	\$ 643,525	54.39%	0			
1417	4	\$ 358,420	****	\$ 643,525	55.70%	0			
1418	4	\$ 348,785	****	\$ 643,525	54.20%	0			
1419	4	\$ 348,785	****	\$ 643,525	54.20%	0			
1420	4	\$ 368,380	****	\$ 643,525	57.24%	0			
1421	4	\$ 354,755	****	\$ 643,525	55.13%	0			
1422	4	\$ 359,655	****	\$ 643,525	55.89%	0			
1423	4	\$ 373,455	****	\$ 643,525	58.03%	0			
1424	4	\$ 358,420	****	\$ 643,525	55.70%	0			
1426	4	\$ 369,790	****	\$ 643,525	57.46%	0			
1427	4	\$ 368,550	****	\$ 643,525	57.27%	0			
1428	4	\$ 347,460	****	\$ 643,525	53.99%	0			
1429	4	\$ 353,720	****	\$ 643,525	54.97%	0			
1430	4	\$ 368,565	****	\$ 643,525	57.27%	0			
1433	4	\$ 368,565	****	\$ 643,525	57.27%	0			
1434	4	\$ 368,565	****	\$ 643,525	57.27%	0			
1435	4	\$ 368,565	****	\$ 643,525	57.27%	0			
1436	4	\$ 368,565	****	\$ 643,525	57.27%	0			
1437	4	\$ 368,565	****	\$ 643,525	57.27%	0			
<b>Totals</b>	<b>177</b>					<b>84</b>	<b>\$ 1,238,410</b>	<b>\$ 1,238,410</b>	<b>\$ -</b>
<b>New Proposed Lodging Facility</b>									
						<b>46</b>	<b>\$ 4,671,485</b>		<b>\$ 4,671,485</b>
<b>Total</b>									
						<b>130</b>	<b>\$ 5,909,895</b>	<b>\$ 1,238,410</b>	<b>\$ 4,671,485</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.

\*\* \*\* \* The Renovation Costs have been included in the Condition Assessment cost and are under 50%. No Renovation Cost is used for this building.

### 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.

	Renovation	New Building	Total
Cost per Room at Fort Redstone	\$ 57.16	\$ 66.60	\$ 60.50
Off Post Cost per Room	\$ 69.70	\$ 69.70	\$ 69.70
Difference between On-Post and Off-Post Lodging per room	\$ 12.54	\$ 3.10	\$ 9.20
% Savings of On-Post to Off-Post Lodging	18.0%	4.4%	13.2%

The Cost Per Room at Fort Redstone 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 13.2%, it is our recommendation that CFSC retain four existing Lodging facilities and construct a new Lodging facility to replace the remainder of the existing facilities at Redstone Arsenal 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

---

The Wellness Recommendation for Redstone Arsenal is to construct a new primary Lodging facility to replace a majority of the existing Lodging buildings and consolidate the public and back-of-the house spaces. 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 a Lodging facility in to replace building 244 when replacement is required; this facility will be sited adjacent to the new Lodging facility. 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:

- Construct a new main Lodging facility to include 15 standard rooms and 31 extended stay rooms. This building will be planned to include public and back-of-house Lodging functions for the total on-post Lodging inventory.
- Retain Buildings 131, 133, 135, and 244, based on current condition and configuration.
- Remove existing Lodging buildings 55, 56, 58, 60, 62, 111, 1400, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1426, 1427,

1428, 1429, 1430, 1433, 1434, 1435, 1436 and 1437 from the Lodging inventory due to condition of existing building systems and/or cost to renovate to meet Army functional criteria.

**Cost Summary**

The cost for this recommendation will be:

Renovation to Existing Facilities	\$1,238,410
New Lodging Facility	\$4,671,485
<b>Total</b>	<b>\$5,909,895</b>

The Cost for the future addition is estimated at \$1,875,735 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 55, 56, 58, 60, 62, 111, 1400, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1426, 1427, 1428, 1429, 1430, 1433, 1434, 1435, 1436 and 1437
- Construct new Lodging facility prior to removing existing Lodging facilities from inventory and removing back-of-the-house and public spaces from building 244
- Make condition assessment improvements to buildings 131, 133, and 135.
- Make condition assessment improvements and renovations to building 244.
- Remove buildings 55, 56, 58, 60, 62, 111, 1400, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1426, 1427, 1428, 1429, 1430, 1433, 1434, 1435, 1436 and 1437 from Lodging inventory.

# Section 2 Lodging Master Plan



Redstone Arsenal, located in the northwest portion of Alabama, has served for more than 40 years as the Army's center for missile and rocket programs. In October 1997, the U.S. Army Missile Command at Redstone Arsenal combined with the U.S. Army Aviation and Missile Command at St. Louis, Missouri, to form the U.S. Army Aviation and Missile Command (AMCOM). Today, Redstone Arsenal's aviation and missile experts research, develop, test, purchase, repair, or maintain the high technology weapons that American soldiers rely on to perform their duties.

Redstone Arsenal's 38,248 acres are bordered by Huntsville, Alabama on the north and east, with the Tennessee River forming Redstone's southern boundary. The center was built in World War II as three separate installations for the Chemical Warfare Service: the Huntsville Arsenal, the Redstone Ordnance Plant, and the Gulf Chemical Warfare Depot. Initially known as Redstone Ordnance Plant, the plant was redesignated Redstone Arsenal in February 1943. Administrative buildings, laboratories, 14,000 acres of flight test ranges, and other specialized buildings and equipment at Redstone have a value of about \$1 billion dollars. Together with similar facilities at the Marshall Space Flight Center, which is also housed at Redstone, the government property investment at the installation is about \$2.5 billion.

The Redstone Arsenal Installation Design Guide 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 analysis and were incorporated into the recommendations of this Lodging Wellness Plan.

Redstone Arsenal has been developed over the years without the development of a regional architectural character. Design opportunities do exist, though, to produce an overall continuity of visual identity. This cohesive architectural character is developed by careful design responses to the unique climate, regional influences, and use of a uniform but varied palette of materials, color, forms, and other detailed elements. These elements should be carefully considered in the siting and design of a new Lodging facility.

## Master Plan Summary

---

Facilities at Redstone Arsenal were constructed in various phases and are located in several areas of the installation. The primary lodging area is located in the north side of the installation, in close proximity to a majority of the community facilities. This site is recommended for planning future Lodging growth.

A thorough condition and functional assessment of the existing buildings noted significant deficiencies in many of the existing buildings. Additionally, renovation of these buildings to the new lodging standards and building configuration design is not viable within the 50% threshold. This plan recommends retaining buildings 131, 133 and 135. These buildings have been recently renovated and are in very good condition. Building 244, which currently serves as the primary Lodging office, is also recommended to remain.

The proposed Redstone Arsenal Lodging Master Plan reflects 130 rooms with an initial replacement of approximately 85% of the existing Lodging buildings into a new Lodging facility. 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 facility will combine required rooms, public areas and service functions into a cohesive lodging facility in support of the installation requirements. Siting of the new 46 room Lodging facility is recommended adjacent to the existing Lodging campus.

## Existing Lodging Facilities

---

### ***Lodging Buildings 55, 56, 58, 60 and 62***

Buildings 55, 56, 58, 60, and 62, constructed in 1942, are typical residential construction, and include 3 bedrooms, kitchen, dining and living areas in each building. These facilities are currently used as Distinguished Visitor Quarters (DVQ) with parking directly across the street from the rooms.



These buildings are in good condition as indicated on the Facility Assessment, but do not meet the lodging size requirements. Converting these rooms to Army Lodging standards will exceed the 50% replacement cost.

Our recommendation is to remove buildings 55, 56, 58, 60, and 62 from the Lodging inventory, allowing the installation to determine an alternate use for these facilities. These facilities will be removed from the Redstone Arsenal Wellness Solution and Lodging Master Plan.

***Lodging Building 111***



Building 111, constructed in 1942, is a shared building with the installation, and contains 4 Distinguished Visitor Quarters (DVQ) functioning as one standard stay and three family suites on the third floor. These rooms are accessed by stair but not elevator. This facility is in good condition, but does not meet current Army Lodging standards. Converting these rooms to Army Lodging standards will exceed the 50% replacement cost.

Our recommendation is to remove building 111 from the Lodging inventory, allowing the installation to determine an alternate use for this facility. This facility will be removed from the Redstone Arsenal Wellness Solution and Lodging Master Plan.

***Lodging Buildings 131, 133 and 135***



Buildings 131, 133, and 135, constructed in the 1960's and extensively renovated in 1998 and 1999, are 2-story buildings currently used for Visitor Quarters. Each building contains a mix of two floor plans; a one-bedroom suite with kitchen and living room, and a single room, half with kitchens. The one-bedroom suites, while being slightly oversized, will be reclassified as family suites (14 total). The remaining 48 single room rooms will be split equally between standard room and extended stay rooms. These facilities are in very good condition

Our recommendation is to retain buildings 131, 133, and 135 in the Redstone Arsenal Lodging inventory. These facilities will remain in the Redstone Arsenal Wellness Solution and Lodging Master Plan.

***Lodging Building 244***



Building 244, constructed in 1972 and recently renovated, serves as the primary Lodging office. This facility currently houses 24 rooms, including 20 standard rooms (four being used as offices) and 4 extended stay rooms, which meet current Lodging standards and are in good condition. The public areas and back-of-house areas, though, do not meet standards, and our recommendation is to relocate these functions to the proposed new Lodging facility.

Our recommendation is to retain building 244 in the Redstone Arsenal Lodging inventory. This facility will remain in the Restone Arsenal Wellness Solution and Lodging Master Plan.

***Lodging Buildings 1400, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1426, 1427, 1428, 1429, 1430, 1433, 1434, 1435, 1436 and 1437***



These 20 Lodging buildings, constructed in 1972, are clustered in an area less than one mile from the primary Lodging office, building 244. Consisting of two different 2-story floor plans, each building contains four 2-bedroom apartments with kitchen, bath and living room. Eight of the rooms have exterior stair access to the top floor while the other twelve have interior stair access. Some minor renovations have been made to the exteriors of the buildings over the years, but all still remain in poor condition. One building has been abandoned because of roof truss failure, and all roofs sag noticeably. All of these buildings are in poor condition and do not meet the current Army Lodging standards. The cost to make condition assessment improvements 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 these facilities. These facilities will be removed from the Redstone Wellness Solution and Lodging Master Plan.

## New Lodging Building

The proposed new Lodging facility includes 46 rooms: 15 standard rooms and 31 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 lobby and back-of-the-house spaces will be included with this new facility and are sized for the 130 total Lodging rooms on the installation.

The proposed new construction will be sited in an abandoned housing area, bounded on the north by Lacrosse Drive, on the south by Ausborn Road, on the west by Jupiter Street and on the east by Vincent Drive. This site, just south of Goss Road, is flat, with several large trees and is within close proximity to a majority of the community and recreational facilities including the Commissary, PX, Child Development Center (daycare), Youth Center, pool, and Library. This location is also adjacent to Gates 8 & 9 for ease of access off-post. The site will allow the

placement of the new Lodging facility with required parking, and provide for future expansion at both north and south ends, should the installation lodging requirements increase in the future.

The proposed building construction is steel frame with CMU infill walls, sloped standing seam roof, and a brick exterior veneer. The design of the proposed building should be carefully considered to promote interest and character, while providing a sense of human scale to the facility. This can be achieved with the construction of a two-story building core and a single story covered drop-off area at the entrance.

Proposed construction of a future consolidated Lodging facility in 15-20 years to replace building 244 when replacement is required will be sited adjacent to the new Lodging facility. This new facility, in conjunction with new Lodging facility, will combine required rooms, public areas and service functions into a cohesive Lodging physical plant in support of the installation requirements.

### **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 (does not include Outside Areas)*</b>			<b>32,757</b>	<b>34,282</b>
<b>Public Areas</b>			<b>10,328</b>	<b>10,051</b>
Exterior Entrance	N/A	N/A		-
Vestibule	1	1	-	-
Lobby (includes vestibule)	1	500-800	500-800	1,176
Front Desk	2 station	100	100	143
Bell Cart Station	3	12	36	62
Breakfast Bar (Seat/Svc) - min.	1	550	550	630
Passenger Elevators	1 elev. @ 2 floors	64	128	128
Stairs	6	230	2,760	1,596
Public Corridors	-	-	5,000	5,022
Public Telephone Area	2	6	12	-
Vending - Full Service	1	70	70	314
Vending - Ice Only	1	30	30	90
Women - Lobby	1	200	200	179
Men - Lobby	1	200	200	179
Multi-Purpose Room - (250 s.f. min.)	1	250	250	305
Study Rooms (1 per 25 ext stay units)	-	250	-	-
Guest Laundries (2 sets w/d per 75 units)	1	192	192	227
Gear Wash Rooms -(170 s.f. min.)	-	170	-	-
Guest Bulk Storage (1 per 4 family suites)	-	25 ea. 40 w/circ.	-	-
<b>Guest Rooms</b>	<b>46</b>		<b>13,800</b>	<b>13,800</b>
Guest Room - Standard	15	300	4,500	4,500
Guest Room - Ext. Stay	31	300	9,300	9,300
Guest Room - Family Suites		450	-	-

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>5,924</b>	<b>8,196</b>
Manager's Office	1	180	180	201
Assistant Manager Offices	1	120	120	121
Front Office Manager	1	100	100	100
Admin. Offices	2 staff	200-250	200-250	566
Cash Room	1	75	75	99
Luggage Storage	1	75	75	76
Admin. Conference Room	1	250	250	305
Housekeeping Office	1	120	120	120
Dirty/Clean Linen Storage	-	50	-	-
In-House Laundry - (500 s.f. minimum)	1	500	500	556
Receiving Office	1	75	75	131
Maintenance Area	1	175	175	239
Kitchen Prep Room	1	150	150	159
Break Room	1	210	210	212
Staff Toilet - Men	1	100	100	88
Staff Toilet - Women	1	100	100	88
Access Corridor	-	-	680	680
Receiving -min.	1	150	150	136
Housekeeping Rooms	1 per 15 units	128	512	454
Service Elevator	1	80	160	150
Data/Commo Room	1	100	100	195
Switch Closets	1	16	16	568
Janitor Closet	1	50	50	75
Mechanical Room	-	-	552	747
General Storage Room - (500 s.f. min.)	1	500	500	768
Bulk Storage Room - (500 s.f. min.)	1	500	500	917
Electrical Room	1	140	140	360
Elevator Equipment Room	1	84	84	85
<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 \$4,671,485

- The cost is for the initial building of 46 rooms.
- All costs are adjusted by the Area Cost Factor of 85% for Redstone Arsenal.

### Cost Analysis

Summary of Project Replacement Cost (based on 34,282 s.f.)

CSI	Percent	Amount
<b>02 Site Work</b>	<b>4.17%</b>	<b>\$131,456.75</b>
Parking Lots		\$32,946.00
Site Earthwork		\$98,510.75
<b>03 Concrete</b>	<b>17.41%</b>	<b>\$549,295.87</b>
Floor Construction		\$324,283.87
Slab on Grade		\$72,921.50
Stair Construction		\$6,247.50
Standard Foundations		\$145,843.00
<b>04 Masonry</b>	<b>5.60%</b>	<b>\$176,780.38</b>

Exterior Walls		\$176,780.38
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.98%</b>	<b>\$251,904.60</b>
Roof Construction		\$72,697.89
Roof Coverings		\$179,206.71
<b>08 Doors &amp; Windows</b>	<b>7.59%</b>	<b>\$239,394.85</b>
Exterior Doors		\$12,045.35
Exterior Windows		\$190,400.00
Interior Doors		\$36,949.50
<b>09 Finishes</b>	<b>16.09%</b>	<b>\$507,776.65</b>
Ceiling Finishes		\$149,727.95
Floor Finishes		\$177,708.40
Partitions		\$105,377.85
Wall Finishes		\$74,962.45
<b>10 Specialties</b>	<b>0.04%</b>	<b>\$1,281.80</b>
Fittings		\$1,281.80
<b>11 Equipment</b>	<b>3.38%</b>	<b>\$106,704.33</b>
Commercial Equipment		\$12,856.25
Other Equipment		\$93,848.08
<b>13 Special Construction</b>	<b>5.57%</b>	<b>\$175,594.97</b>
Communications & Security		\$79,046.91
Sprinklers		\$96,548.07
<b>15 Mechanical</b>	<b>16.81%</b>	<b>\$530,270.80</b>
Cooling Generating Systems		\$233,348.80
Domestic Water Dist		\$73,440.00
Plumbing Fixtures		\$223,482.00
<b>16 Electrical</b>	<b>8.08%</b>	<b>\$254,860.60</b>
Electrical Service & Distribution		\$252,994.85
Site Lighting		\$1,865.75
<b>19 FF&amp;E</b>	<b>7.29%</b>	<b>\$230,000.00</b>
Interior FF&E allowance		\$230,000.00
Total Raw Cost	100.00%	\$3,155,321.60

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$17,354.27
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$315,532.16
<b>Total Additional Hard Cost</b>		<b>\$332,886.43</b>

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

Parameter Name	Percent	Amount
Contingency	5.00%	\$174,410.40
SIOH Conus	6.50%	\$238,070.20
Design	10.00%	\$348,820.80
08 MYr Inflation Fct	9.93%	\$421,976.29
<b>Total Soft Cost</b>		<b>\$1,183,277.69</b>
<b>Total Project Cost for Replacement</b>		<b>\$4,671,485.72</b>

**INSERT PROPOSED CAMPUS AREA ANALYSIS DRAWING HERE**

**INSERT LODGING MASTER PLAN DRAWING HERE**

**INSERT PROPOSED LODGING FACILITY DRAWINGS (FLRS. 1-2) HERE**

## Overview

---

### Section 3 Demand Analysis

Redstone Arsenal's mission is to develop new weapons related to rockets, missiles, unmanned vehicles and lasers. Lodging management stated the primary users of the Lodging facilities are personnel connected with research and development activity. While not heavily focused on training, the installation has various schools; classes typically last more than 14 days.

Redstone Arsenal's population grew approximately 3% over the last five years with growth primarily in civilian contractor personnel. Conversely, in the same time period, civilian Department of Defense (DoD) population decreased by 1,300 and military population decreased by 100.

Population projections for the next five years: -200 military, +600 DoD, and no change to number of contractor personnel. This is an expected population increase of approximately 2% over the next five years

The installation's lodging demand is driven by Temporary Duty (TDY) personnel at 79% with Permanent Change of Station (PCS) personnel and unofficial travelers representing 10% and 11%, respectively. Unofficial demand is not used in the calculation of recommended optimal room inventory. The table below describes Redstone Arsenal's official demand population.

<b>Redstone Arsenal Official Market Demand Analysis</b>		
	<b>TDY</b>	<b>PCS</b>
<b>Total Demand:</b>	79%	10%
<b>Market Segmentation:</b>		
Individuals	100%	< 10%
Families	0%	> 90%
<b>Average Length of Stay (Days):</b>		
14 days or less	50% (3 days)	52% (5 days)
More than 14 days	50% (37 days)	48% (37 days)

*Source: Redstone Arsenal Lodging Administration, compiled by Evans & Chastain, L.L.P.*

## On Post Inventory

---

Redstone Arsenal has 177 lodging rooms in 30 buildings geographically dispersed throughout the installation. Many rooms are in former family housing units.

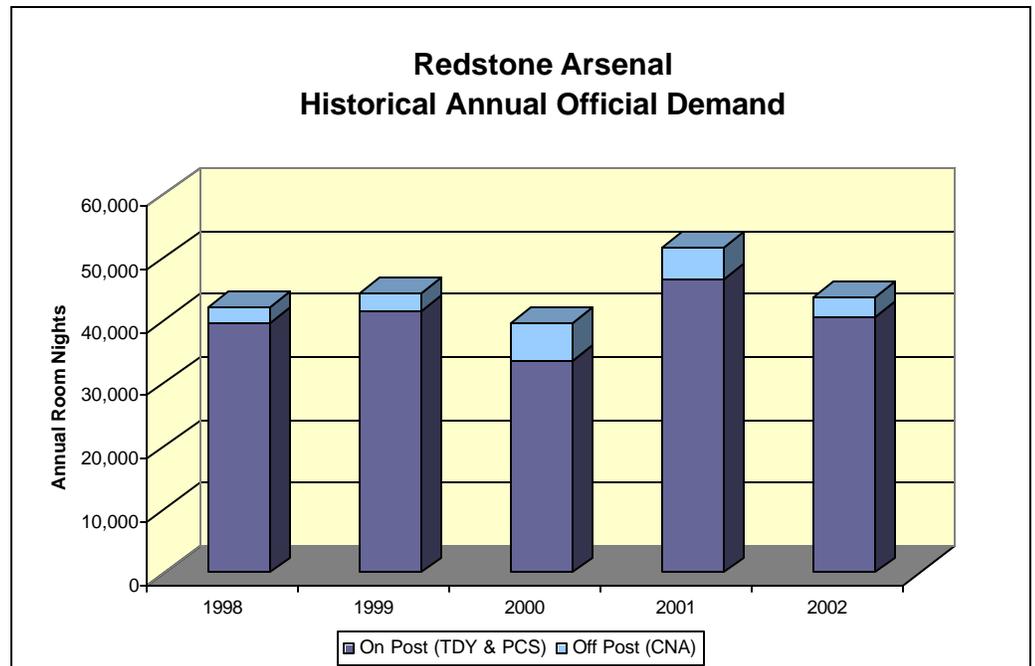
## Demand and Utilization

### Data Summary

For the past five years, excluding 2001, lodging demand inclusive of Certificates of Non-Availability (CNAs) averaged from 109 to 120 room nights per day. In 2001, lodging demand increased to approximately 141 room nights per day. Management could not provide a specific cause for this increase, but it occurred when a number of rooms were being upgraded and the population composition was becoming more contractor-based. This increase appears temporary; the 2002 lodging demand declined to match levels experienced from 1998 through 2000.

Similar to demand, CNAs averaged six to seven per day in 1998 and 1999, rose to average 17 room nights per day in 2000, decreased to an average 13 room nights per day in 2001, and further decreased to 9 room nights per day in 2002. The higher number of CNAs in 2000 and 2001 appears related to the previously mentioned changes in population composition.

The following chart summarizes Redstone Arsenal's historical data; it identifies the annual official demand both on and off post.

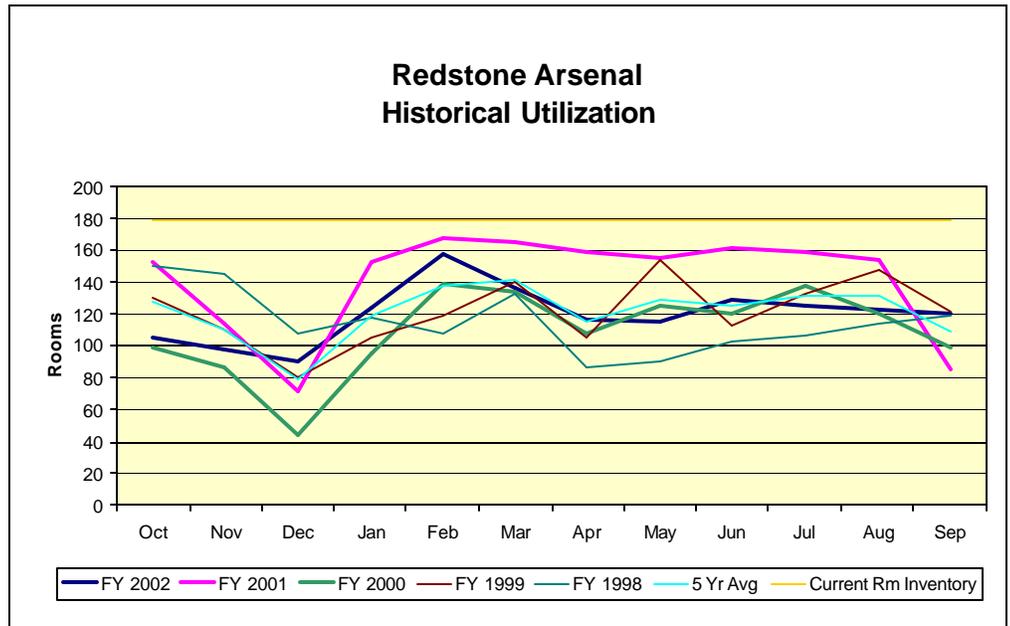


Source: Redstone Arsenal Lodging Administration, compiled by Evans & Chastain, L.L.P.

Occupancy has varied from 68% to 77% in the last five years, exclusive of 2001, depending on the number of rooms available. The number of

rooms available ranged from 165 rooms in 1998 through 2000 to 180 in 2001 and 179 in 2002. In 2001, the year with the greatest demand, occupancy reached 78%.

A summary of historical utilization data by month is presented in the following chart.



Source: Redstone Arsenal Lodging Administration, compiled by Evans & Chastain, L.L.P.

Monthly variances between years were occasionally significant, depending on the timing of classes and number of rooms available.

### **Seasonality**

Historical data shows little lodging demand seasonality at Redstone Arsenal. Except for winter decline, demand was generally consistent throughout the rest of the year. The installation did not experience a significant summer month lodging demand increase.

### **Factors Influencing Demand**

Redstone Arsenal expects no mission or demographic changes which might change the installation's future market segmentation. The installation plans no housing stock increase or decrease in the next several years. Combined with a stable installation population and a limited number of military personnel permanently assigned to the installation, PCS demand should not change significantly over the next five years.

It was reported that a new FBI academy building is being built on the installation, and a new drill sergeant class is to be added. Sufficient details about these activities were not available upon which to reasonably estimate the impact on Lodging. It does not appear the Army Stationing and Installation Plan (ASIP) data account for these activities. Should a significant number of students be generated by their addition, demand for lodging could increase; however, these possible additions were not factored into the current room inventory recommendation.

## Private Market Capability

---

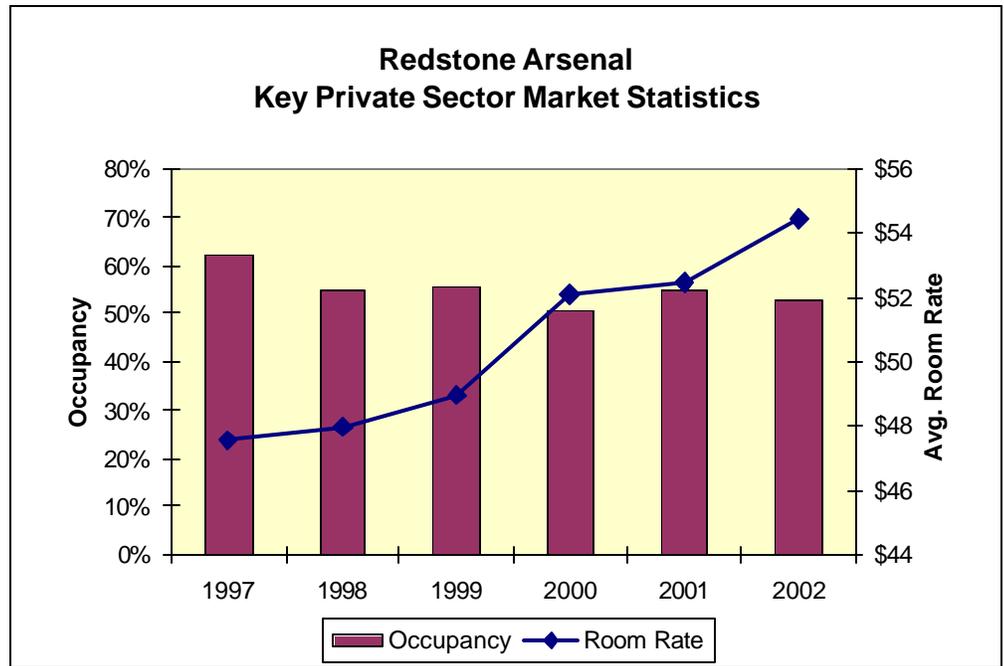
The commercial lodging market within a 30-minute rush-hour driving time radius of the installation approximates 5,500 guest rooms. It is estimated that more than 75% of these rooms are in properties representing the major lodging chains.

There are no other military lodging operations within a 30-minute radius of the installation.

The graph on the next page demonstrates consistent occupancy over the last five years. A review of proximate major hotel chains' monthly occupancies did not suggest any seasonal demand peaks that would negatively impact the ability of the installation to lodge personnel off post at government rates.

The Average Daily Rate (ADR) increased approximately 16% in the last five years. The \$55 2002 ADR is below Redstone Arsenal's \$67 per diem rate and the ADR (\$57 to \$69) of hotels on the installation's referral list. The total market area ADR is lower than the ADR for the hotels on the referral list because a large number of budget and locally-owned hotels are located within 30 minutes of the installation. The installation is not referring business to these hotels. The average government rate paid over the last five years was \$63.40.

The following chart describes key private market statistics.



Source: Smith Travel Research, compiled by Evans & Chastain, L.L.P.

In summary, it is reasonable to assume from the data—although some off post facilities are older, of lesser quality, and offer very few amenities—the private market has sufficient capacity to support the overflow lodging requirements Redstone Arsenal personnel may encounter.

## Demand Requirement Determination

As discussed earlier, historical demand was generally consistent. The 2001 increase, while not sustained, was indicative of a periodic increase in demand and that could recur; it is therefore included as part of the average in future demand projections. Based on these factors, it was determined the average demand for the last five years would be the best indicator of future demand after being normalized.

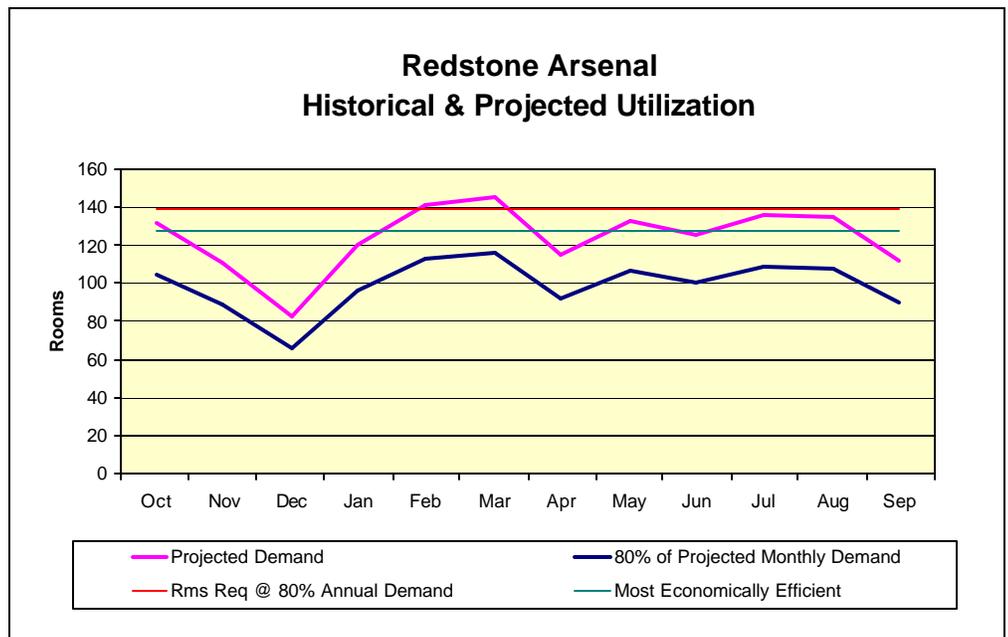
Normalization of demand is a process that eliminates the monthly demand peaks or valleys where official demand is 20% greater or 20% less than average demand for 1998 through 2002. Variances greater or less than 20% of the average are atypical and not likely to recur. Normalization reduced demand an average of 140 room nights annually or .4 room nights per day.

The Core Lodging Requirement objective is to provide sufficient lodging to meet “80% of Official Annual Demand”. Using this criterion, the total

number of rooms required on an annualized basis is 138, generating an occupancy rate of 83.9%. There is some risk to achieving this occupancy rate given the volatility of demand from month to month between years.

Another method in estimating the needed number of rooms at the installation is determination of the “Most Economically Efficient” count. This measure compares the cost of having a vacant room to the incremental cost of lodging personnel off post. When the costs of the scenarios are at equilibrium, the most cost efficient number of rooms will be provided from an operating cost perspective. The number of rooms required to achieve this equilibrium for Redstone Arsenal is 128 rooms. With a room inventory of 128 rooms, the expected occupancy rate is 84.4% and 74% of the official demand is met.

The chart below compares the pertinent potential alternatives to room inventory to the projected demand.



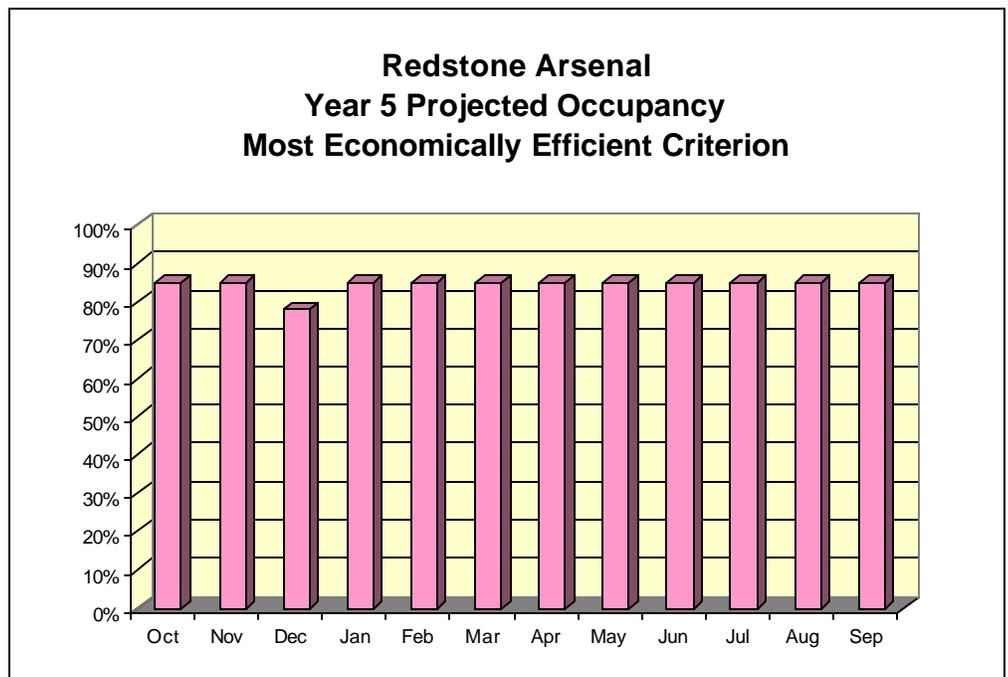
Source: Redstone Arsenal Lodging Administration and Evans & Chastain, L.L.P.

Based on the demand pattern at this installation and the historic occupancy levels, we recommend that the number of rooms provided be sized using the “Most Economically Efficient” criterion. The number of rooms indicated by both the “80% of Official Demand” criterion and the “Most Economically Efficient” criterion are very close. However, given the risk of vacancy and that it is actually less expensive to house the incremental number of potential guests with the room count indicated by the “Most Economically Efficient” criterion and that indicated by the “80%

of Official Demand” criterion off post than on post, the lower of the two numbers is recommended.

Historically, PCS was more consistent on a month-to-month basis than TDY demand. This consistency allows for the reduction of the number of extended-stay suites. Analysis of the monthly PCS demand over the last five years indicates 14 rooms will satisfy PCS personnel needs. Allocation based strictly upon the percentage of demand would indicate 20 suites. The lower number is recommended. The mix of rooms with and without kitchenettes is based upon the market segmentation for TDY personnel currently lodged on post.

The chart below presents expected occupancy percentages on a monthly basis.



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

Using the “Most Economically Efficient” criterion, the average occupancy is 84%, and 74% of the official demand is met. On a monthly basis, occupancy varies from a low of 78% in December to 85% from January through November.

## Summary and Recommendation

---

- Redstone Arsenal's population grew approximately 3% over the last five years and is expected to grow approximately 2% over the next five years
- The private market has sufficient capacity to support the overflow lodging requirements Redstone Arsenal personnel may encounter
- Official demand was generally very consistent over the last five years. The 2001 lodging demand increase is not considered sustainable, but is likely to reoccur on a periodic basis
- 2002 CNAs equaled 9% of the total official demand
- The historical demand pattern indicates a higher risk of vacancy as a result of volatility from month to month between years. This suggests minimizing the number of rooms where possible
- Providing a room inventory equal to the "Most Economically Efficient" will generate an occupancy rate of 84%.

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

- 128 rooms
- Proposed room mix:
  - 57 standard guest rooms
  - 57 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 on-post 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 the following buildings use both cost models for the total renovation.

- Building 131
- Building 133
- Building 135
- Building 244



## Building 0055

---

Building 55 was constructed in 1942. The 1,350 square foot facility contains 3 lodging units with only one having a full kitchen. The building is functioning as 1 family suite and 2 standard stay units.

### Significant Assumptions

The replacement and renovation cost models are based on 2 family suites.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$178,430.00
Replacement Cost	\$256,465.00
Renovation to Replacement Cost Ratio	69.57%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 55 is not recommended.

### Attributes

01.Number of Units Constructed	3
02.Number of Units Used	3
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	2
07.Multi Room w/ Full Kitchen	1
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	2
11.Operating as Extended Stay	0
12.Operating as Family Suite	1
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	2
16.Delta renovation	-1

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: Unit has 3 Bedrooms each containing Queensize Bed with head board, night stand , TV and dresser, balance of the unit has, dining room table with four chairs, living room with sofa, two side chairs, and coffe table and end table . Additionally, there is a sun porch which has a sofa and easy chair each made out of wicker plus a TV.

Since this is a DVQ, it gets limited use. The current condition of the furniture and the soft goods are in fair condition.

- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation appears to be perimeter grade beam with interior piers on spread footings. There are no visible signs of failure and are in good condition.

- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: There is no slab on grade, floor of the unit sits above a crawl space.

- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Floor system is that of wood floor joists that span between the perimeter grade beams and interior piers.

Floor system appears to be sound and in good condition.

- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: The roof structure has a noticeable sag in it along the ridge of the peak. This lead us to believe that work wil need to done on the sub structure.

- Recommendation: Repair failing roof structure.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding in good condition.

- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Double Hung windows are in poor condition.

- Recommendation: Replace all windows with energy efficient units.

### **Exterior Doors**

- Analysis: Wood solid core doors are in generally good condition.
- Recommendation: No corrective action required.

### **Roofing**

#### **Roof Coverings**

- Analysis: Asphalt shingle roofing is beyond expected useful life.
- Recommendation: Replace asphalt shingle roofing.

### **Interior Construction**

#### **Partitions**

- Analysis: Wood stud and gypsum board partitions are in generally good condition.
- Recommendation: No corrective action required.

#### **Interior Doors**

- Analysis: Raised panel wood doors are in generally good condition.
- Recommendation: No corrective action required.

### **Stairs**

#### **Stair Construction**

- Analysis: Wood stairs from entry vestibule are wood, and are in generally good condition.
- Recommendation: No corrective action required.

### **Interior Finishes**

#### **Wall Finishes**

- Analysis: Vinyl wall coverings and painted walls throughout, are in generally good condition.
- Recommendation: No corrective action required.

#### **Floor Finishes**

- Analysis: Carpet is generally beyond expected useful life.
- Recommendation: Replace carpet flooring.

#### **Ceiling Finishes**

- Analysis: Paint finish on ceilings is in need of repainting.
- Recommendation: Repaint ceilings.

### **Plumbing**

#### **Plumbing Fixtures**

- Analysis: Waterclosets appear to be original fixtures.
- Recommendation: Replace watercloset fixtures.

#### **Domestic Water Distribution**

- Analysis: Domestic water system is in fair condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Heating and cooling system is in generally good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Unit is not sprinklered, since it is a one story house.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical panel and service is in generally good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis: Building does not have fire Alarm system nor security system.
- Recommendation: No action required.

## **Equipment**

### **Other Equipment**

- Analysis: Washer and Dryer are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Property well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>06 Wood &amp; Plastics</b>	<b>4.52%</b>	<b>\$1,323.11</b>
Roof Deck: Damaged or Failing		\$484.16
Roof Framing: Damaged or Failing		\$838.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>14.98%</b>	<b>\$4,383.62</b>
Asphalt Shingle Roof: Beyond Useful Life		\$4,383.62
<b>08 Doors &amp; Windows</b>	<b>16.24%</b>	<b>\$4,752.78</b>
Wood Framed windows: Damaged or failing		\$4,752.78
<b>09 Finishes</b>	<b>7.26%</b>	<b>\$2,123.66</b>
Carpet: Beyond Useful Life		\$1,446.62
Interior ceilings: Paint Failing		\$677.04
<b>15 Mechanical</b>	<b>5.76%</b>	<b>\$1,684.53</b>
Water closet: Beyond expected useful life		\$1,684.53
<b>19 FF&amp;E</b>	<b>51.25%</b>	<b>\$15,000.00</b>
Hard and soft goods: Beyond expected useful life		\$15,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$29,268.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$160.97
Force Protection	9.00%	\$2,912.02
General Conditions	10.00%	\$2,926.80
<b>Total Additional Hard Cost</b>		<b>\$5,999.79</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$3,526.78
SIOH Conus	6.50%	\$2,521.65
Design	10.00%	\$3,526.78
08 MYr Inflation Fct	9.93%	\$4,452.91
<b>Total Soft Cost</b>		<b>\$14,028.12</b>
<b>Total Project</b>		<b>\$49,295.91</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>4.45%</b>	<b>\$4,711.91</b>
Roof Construction		\$1,571.94
Roof Coverings		\$3,139.97
<b>08 Doors &amp; Windows</b>	<b>24.24%</b>	<b>\$25,678.50</b>
Exterior Windows		\$20,400.00
Interior Doors		\$5,278.50
<b>09 Finishes</b>	<b>24.21%</b>	<b>\$25,644.40</b>
Ceiling Finishes		\$4,674.92
Floor Finishes		\$5,978.78
Partitions		\$5,722.85
Wall Finishes		\$9,267.86
<b>11 Equipment</b>	<b>3.21%</b>	<b>\$3,400.00</b>
Other Equipment		\$3,400.00
<b>13 Special Construction</b>	<b>6.52%</b>	<b>\$6,907.95</b>
Communications & Security		\$3,109.73
Sprinklers		\$3,798.23
<b>15 Mechanical</b>	<b>19.27%</b>	<b>\$20,415.30</b>
Cooling Generating Systems		\$13,402.80
Domestic Water Dist		\$2,040.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>8.67%</b>	<b>\$9,180.00</b>
Electrical Service & Distribution		\$9,180.00
<b>19 FF&amp;E</b>	<b>9.44%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$105,938.07</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$582.66
Force Protection	9.00%	\$10,540.31
General Conditions	10.00%	\$10,593.81
<b>Total Additional Hard Cost</b>		<b>\$21,716.77</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,765.48
SIOH Conus	6.50%	\$9,127.32
Design	10.00%	\$12,765.48
08 MYr Inflation Fct	9.93%	\$16,117.69
<b>Total Soft Cost</b>		<b>\$50,775.98</b>
<b>Total Project Cost for Renovation</b>		<b>\$178,430.82</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>4.13%</b>	<b>\$7,152.54</b>
Site Earthwork		\$7,152.54
<b>03 Concrete</b>	<b>13.59%</b>	<b>\$23,545.00</b>
Floor Construction		\$6,800.00
Slab on Grade		\$5,248.75
Stair Construction		\$6,247.50
Standard Foundations		\$5,248.75
<b>04 Masonry</b>	<b>12.97%</b>	<b>\$22,473.16</b>
Exterior Walls		\$22,473.16
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.67%</b>	<b>\$16,755.87</b>
Roof Construction		\$3,283.66
Roof Coverings		\$13,472.22
<b>08 Doors &amp; Windows</b>	<b>17.65%</b>	<b>\$30,566.85</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$20,400.00
Interior Doors		\$4,926.60
<b>09 Finishes</b>	<b>12.64%</b>	<b>\$21,894.67</b>
Ceiling Finishes		\$3,453.36
Floor Finishes		\$6,779.91
Partitions		\$6,221.94
Wall Finishes		\$5,439.46
<b>11 Equipment</b>	<b>3.43%</b>	<b>\$5,950.00</b>
Other Equipment		\$5,950.00
<b>13 Special Construction</b>	<b>3.65%</b>	<b>\$6,319.50</b>
Communications & Security		\$2,844.82
Sprinklers		\$3,474.67
<b>15 Mechanical</b>	<b>10.37%</b>	<b>\$17,960.50</b>
Cooling Generating Systems		\$8,398.00
Domestic Water Dist		\$4,590.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>6.12%</b>	<b>\$10,610.13</b>
Electrical Service & Distribution		\$10,610.13
<b>19 FF&amp;E</b>	<b>5.77%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$173,228.21</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$952.76
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$17,322.82
<b>Total Additional Hard Cost</b>		<b>\$18,275.58</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$9,575.19
SIOH Conus	6.50%	\$13,070.13
Design	10.00%	\$19,150.38
08 MYr Inflation Fct	9.93%	\$23,166.64
<b>Total Soft Cost</b>		<b>\$64,962.34</b>
<b>Total Project Cost for Replacement</b>		<b>\$256,466.13</b>

**INSERT BUILDING 55 FLOOR PLANS HERE**



## Building 0056

---

Building 55 was constructed in 1942. The 1,350 square foot facility contains 3 lodging units with only one having a full kitchen. The building is functioning as 1 family suite and 2 standard stay units.

### Significant Assumptions

The replacement and renovation cost models are based on 2 family suites.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$178,430.00
Replacement Cost	\$256,465.00
Renovation to Replacement Cost Ratio	69.57%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 56 is not recommended.

## Attributes

01.Number of Units Constructed	3
02.Number of Units Used	3
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	2
07.Multi Room w/ Full Kitchen	1
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	2
11.Operating as Extended Stay	0
12.Operating as Family Suite	1
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	2
16.Delta renovation	-1

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 3 Beds, 3 Headboards, 6 Night stands, 3 Dressers, 3 Easy chairs, 3 TV, 10 Lamps, 3 Sofa, 1 Desk, 1 Coffee Table, 4 Chairs, 3 End tables, 1 Dining room table with 4 chairs, 10 sets of drapes.

All items are in fair condition.

- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: No failure was observed. Foundation is in generally good condition.

- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Where slab on grade is visible, it appears to be in good condition.

- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Elevated floor construction is wood floor joists.

Considering the age of floor structure, some squeaking exists when walked on.

- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Several sections of the roof deck are wavy, and deck sags.

- Recommendation: Replace several portions of the roof framing and decking.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lap siding is in generally good condition.

- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are single glazed units, original to the building. The windows are in poor condition.

- Recommendation: Replace windows with new energy efficient units.

#### **Exterior Doors**

- Analysis: Wood solid core doors are in generally good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Asphalt shingle roofing is beyond expected useful life.
- Recommendation: Replace asphalt shingle roofing.

## **Interior Construction**

### **Partitions**

- Analysis: Wood stud and gypsum board partitions are in generally good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Raised panel wood doors are in generally good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood stairs from entry vestibule are wood, and are in generally good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Vinyl wall coverings and painted walls throughout, are in generally good condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: Carpet is generally beyond expected useful life.
- Recommendation: Replace carpet flooring.

### **Ceiling Finishes**

- Analysis: Paint finish on ceilings is in need of repainting.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Waterclosets appear to be original fixtures.
- Recommendation: Replace watercloset fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is in fair condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Heating and cooling system is in generally good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Unit is not sprinklered, since it is a one story house.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical panel and service is in generally good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis:
- Recommendation:

## **Equipment**

### **Other Equipment**

- Analysis: Washer and Dryer are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Property well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>06 Wood &amp; Plastics</b>	<b>4.52%</b>	<b>\$1,323.11</b>
Roof Deck: Damaged or Failing		\$484.16
Roof Framing: Damaged or Failing		\$838.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>14.98%</b>	<b>\$4,383.62</b>
Asphalt Shingle Roof: Beyond Useful Life		\$4,383.62
<b>08 Doors &amp; Windows</b>	<b>16.24%</b>	<b>\$4,752.78</b>
Wood Framed windows: Damaged or failing		\$4,752.78
<b>09 Finishes</b>	<b>7.26%</b>	<b>\$2,123.66</b>
Carpet: Beyond Useful Life		\$1,446.62
Interior ceilings: Paint Failing		\$677.04
<b>15 Mechanical</b>	<b>5.76%</b>	<b>\$1,684.53</b>
Water closet: Beyond expected useful life		\$1,684.53
<b>19 FF&amp;E</b>	<b>51.25%</b>	<b>\$15,000.00</b>
Hard and soft goods: Beyond expected useful life		\$15,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$29,268.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$160.97
Force Protection	9.00%	\$2,912.02
General Conditions	10.00%	\$2,926.80
<b>Total Additional Hard Cost</b>		<b>\$5,999.79</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$3,526.78
SIOH Conus	6.50%	\$2,521.65
Design	10.00%	\$3,526.78
08 MYr Inflation Fct	9.93%	\$4,452.91
<b>Total Soft Cost</b>		<b>\$14,028.12</b>
<b>Total Project</b>		<b>\$49,295.91</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>4.45%</b>	<b>\$4,711.91</b>
Roof Construction		\$1,571.94
Roof Coverings		\$3,139.97
<b>08 Doors &amp; Windows</b>	<b>24.24%</b>	<b>\$25,678.50</b>
Exterior Windows		\$20,400.00
Interior Doors		\$5,278.50
<b>09 Finishes</b>	<b>24.21%</b>	<b>\$25,644.40</b>
Ceiling Finishes		\$4,674.92
Floor Finishes		\$5,978.78
Partitions		\$5,722.85
Wall Finishes		\$9,267.86
<b>11 Equipment</b>	<b>3.21%</b>	<b>\$3,400.00</b>
Other Equipment		\$3,400.00
<b>13 Special Construction</b>	<b>6.52%</b>	<b>\$6,907.95</b>
Communications & Security		\$3,109.73
Sprinklers		\$3,798.23
<b>15 Mechanical</b>	<b>19.27%</b>	<b>\$20,415.30</b>
Cooling Generating Systems		\$13,402.80
Domestic Water Dist		\$2,040.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>8.67%</b>	<b>\$9,180.00</b>
Electrical Service & Distribution		\$9,180.00
<b>19 FF&amp;E</b>	<b>9.44%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$105,938.07</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$582.66
Force Protection	9.00%	\$10,540.31
General Conditions	10.00%	\$10,593.81
<b>Total Additional Hard Cost</b>		<b>\$21,716.77</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,765.48
SIOH Conus	6.50%	\$9,127.32
Design	10.00%	\$12,765.48
08 MYr Inflation Fct	9.93%	\$16,117.69
<b>Total Soft Cost</b>		<b>\$50,775.98</b>
<b>Total Project Cost for Renovation</b>		<b>\$178,430.82</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>4.13%</b>	<b>\$7,152.54</b>
Site Earthwork		\$7,152.54
<b>03 Concrete</b>	<b>13.59%</b>	<b>\$23,545.00</b>
Floor Construction		\$6,800.00
Slab on Grade		\$5,248.75
Stair Construction		\$6,247.50
Standard Foundations		\$5,248.75
<b>04 Masonry</b>	<b>12.97%</b>	<b>\$22,473.16</b>
Exterior Walls		\$22,473.16
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.67%</b>	<b>\$16,755.87</b>
Roof Construction		\$3,283.66
Roof Coverings		\$13,472.22
<b>08 Doors &amp; Windows</b>	<b>17.65%</b>	<b>\$30,566.85</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$20,400.00
Interior Doors		\$4,926.60
<b>09 Finishes</b>	<b>12.64%</b>	<b>\$21,894.67</b>
Ceiling Finishes		\$3,453.36
Floor Finishes		\$6,779.91
Partitions		\$6,221.94
Wall Finishes		\$5,439.46
<b>11 Equipment</b>	<b>3.43%</b>	<b>\$5,950.00</b>
Other Equipment		\$5,950.00
<b>13 Special Construction</b>	<b>3.65%</b>	<b>\$6,319.50</b>
Communications & Security		\$2,844.82
Sprinklers		\$3,474.67
<b>15 Mechanical</b>	<b>10.37%</b>	<b>\$17,960.50</b>
Cooling Generating Systems		\$8,398.00
Domestic Water Dist		\$4,590.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>6.12%</b>	<b>\$10,610.13</b>
Electrical Service & Distribution		\$10,610.13
<b>19 FF&amp;E</b>	<b>5.77%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$173,228.21</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$952.76
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$17,322.82
<b>Total Additional Hard Cost</b>		<b>\$18,275.58</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$9,575.19
SIOH Conus	6.50%	\$13,070.13
Design	10.00%	\$19,150.38
08 MYr Inflation Fct	9.93%	\$23,166.64
<b>Total Soft Cost</b>		<b>\$64,962.34</b>
<b>Total Project Cost for Replacement</b>		<b>\$256,466.13</b>

**INSERT BUILDING 56 FLOOR PLANS HERE**



Typical of Bldg #58

## Building 0058

---

Building 58 is approximately 1350 s.f. and was constructed in 1942 . They have had a sunroom added to the back side with in the last five years. It is a three bedroom house that is functioning as a DVQ and also includes a living room and dining room.

### Significant Assumptions

The replacement and renovation cost models are based on 2 family suites.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$178,430.00
Replacement Cost	\$256,465.00
Renovation to Replacement Cost Ratio	69.57%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 58 is not recommended.

## Attributes

01.Number of Units Constructed	3
02.Number of Units Used	3
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	2
09.DVQ w/ Full Kitchen	1
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	2
16.Delta renovation	-1

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 3 Beds, 3 Headboards, 6 Night stands, 3 Dressers, 3 Easy chairs, 3 TV, 10 Lamps, 3 Sofa, 1 Desk, 1 Coffee Table, 4 Chairs, 3 End tables, 1 Dining room table with 4 chairs, 10 sets of drapes.

All items are in fair condition.

- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: No failure was observed. Foundation is in generally good condition.

- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Where slab on grade is visible, it appears to be in good condition.

- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Elevated floor construction is wood floor joists.

Considering the age of floor structure, some squeaking exists when walked on.

- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Several sections of the roof deck are wavy, and deck sags.

- Recommendation: Replace several portions of the roof framing and decking.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lap siding is in generally good condition.

- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are single glazed units, original to the building. The windows are in poor condition.

- Recommendation: Replace windows with new energy efficient units.

#### **Exterior Doors**

- Analysis: Wood solid core doors are in generally good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Asphalt shingle roofing is beyond expected useful life.
- Recommendation: Replace asphalt shingle roofing.

## **Interior Construction**

### **Partitions**

- Analysis: Wood stud and gypsum board partitions are in generally good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Raised panel wood doors are in generally good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood stairs from entry vestibule are wood, and are in generally good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Vinyl wall coverings and painted walls throughout, are in generally good condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: Carpet is generally beyond expected useful life.
- Recommendation: Replace carpet flooring.

### **Ceiling Finishes**

- Analysis: Paint finish on ceilings is in need of repainting.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Waterclosets appear to be original fixtures.
- Recommendation: Replace watercloset fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is in fair condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Heating and cooling system is in generally good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Unit is not sprinklered, since it is a one story house.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical panel and service is in generally good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis:
- Recommendation:

## **Equipment**

### **Other Equipment**

- Analysis: Washer and Dryer are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Property well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>06 Wood &amp; Plastics</b>	<b>4.52%</b>	<b>\$1,323.11</b>
Roof Deck: Damaged or Failing		\$484.16
Roof Framing: Damaged or Failing		\$838.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>14.98%</b>	<b>\$4,383.62</b>
Asphalt Shingle Roof: Beyond Useful Life		\$4,383.62
<b>08 Doors &amp; Windows</b>	<b>16.24%</b>	<b>\$4,752.78</b>
Wood Framed windows: Damaged or failing		\$4,752.78
<b>09 Finishes</b>	<b>7.26%</b>	<b>\$2,123.66</b>
Carpet: Beyond Useful Life		\$1,446.62
Interior ceilings: Paint Failing		\$677.04
<b>15 Mechanical</b>	<b>5.76%</b>	<b>\$1,684.53</b>
Water closet: Beyond expected useful life		\$1,684.53
<b>19 FF&amp;E</b>	<b>51.25%</b>	<b>\$15,000.00</b>
Hard and soft goods: Beyond expected useful life		\$15,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$29,268.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$160.97
Force Protection	9.00%	\$2,912.02
General Conditions	10.00%	\$2,926.80
<b>Total Additional Hard Cost</b>		<b>\$5,999.79</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$3,526.78
SIOH Conus	6.50%	\$2,521.65
Design	10.00%	\$3,526.78
08 MYr Inflation Fct	9.93%	\$4,452.91
<b>Total Soft Cost</b>		<b>\$14,028.12</b>
<b>Total Project</b>		<b>\$49,295.91</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>4.45%</b>	<b>\$4,711.91</b>
Roof Construction		\$1,571.94
Roof Coverings		\$3,139.97
<b>08 Doors &amp; Windows</b>	<b>24.24%</b>	<b>\$25,678.50</b>
Exterior Windows		\$20,400.00
Interior Doors		\$5,278.50
<b>09 Finishes</b>	<b>24.21%</b>	<b>\$25,644.40</b>
Ceiling Finishes		\$4,674.92
Floor Finishes		\$5,978.78
Partitions		\$5,722.85
Wall Finishes		\$9,267.86
<b>11 Equipment</b>	<b>3.21%</b>	<b>\$3,400.00</b>
Other Equipment		\$3,400.00
<b>13 Special Construction</b>	<b>6.52%</b>	<b>\$6,907.95</b>
Communications & Security		\$3,109.73
Sprinklers		\$3,798.23
<b>15 Mechanical</b>	<b>19.27%</b>	<b>\$20,415.30</b>
Cooling Generating Systems		\$13,402.80
Domestic Water Dist		\$2,040.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>8.67%</b>	<b>\$9,180.00</b>
Electrical Service & Distribution		\$9,180.00
<b>19 FF&amp;E</b>	<b>9.44%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$105,938.07</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$582.66
Force Protection	9.00%	\$10,540.31
General Conditions	10.00%	\$10,593.81
<b>Total Additional Hard Cost</b>		<b>\$21,716.77</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,765.48
SIOH Conus	6.50%	\$9,127.32
Design	10.00%	\$12,765.48
08 MYr Inflation Fct	9.93%	\$16,117.69
<b>Total Soft Cost</b>		<b>\$50,775.98</b>
<b>Total Project Cost for Renovation</b>		<b>\$178,430.82</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>4.13%</b>	<b>\$7,152.54</b>
Site Earthwork		\$7,152.54
<b>03 Concrete</b>	<b>13.59%</b>	<b>\$23,545.00</b>
Floor Construction		\$6,800.00
Slab on Grade		\$5,248.75
Stair Construction		\$6,247.50
Standard Foundations		\$5,248.75
<b>04 Masonry</b>	<b>12.97%</b>	<b>\$22,473.16</b>
Exterior Walls		\$22,473.16
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.67%</b>	<b>\$16,755.87</b>
Roof Construction		\$3,283.66
Roof Coverings		\$13,472.22
<b>08 Doors &amp; Windows</b>	<b>17.65%</b>	<b>\$30,566.85</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$20,400.00
Interior Doors		\$4,926.60
<b>09 Finishes</b>	<b>12.64%</b>	<b>\$21,894.67</b>
Ceiling Finishes		\$3,453.36
Floor Finishes		\$6,779.91
Partitions		\$6,221.94
Wall Finishes		\$5,439.46
<b>11 Equipment</b>	<b>3.43%</b>	<b>\$5,950.00</b>
Other Equipment		\$5,950.00
<b>13 Special Construction</b>	<b>3.65%</b>	<b>\$6,319.50</b>
Communications & Security		\$2,844.82
Sprinklers		\$3,474.67
<b>15 Mechanical</b>	<b>10.37%</b>	<b>\$17,960.50</b>
Cooling Generating Systems		\$8,398.00
Domestic Water Dist		\$4,590.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>6.12%</b>	<b>\$10,610.13</b>
Electrical Service & Distribution		\$10,610.13
<b>19 FF&amp;E</b>	<b>5.77%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$173,228.21</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$952.76
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$17,322.82
<b>Total Additional Hard Cost</b>		<b>\$18,275.58</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$9,575.19
SIOH Conus	6.50%	\$13,070.13
Design	10.00%	\$19,150.38
08 MYr Inflation Fct	9.93%	\$23,166.64
<b>Total Soft Cost</b>		<b>\$64,962.34</b>
<b>Total Project Cost for Replacement</b>		<b>\$256,466.13</b>

**INSERT BUILDING 58 FLOOR PLANS HERE**



## Building 0060

---

Building 60 is approximately 1350 s.f. and was constructed in 1942 . They have had a sunroom added to the back side with in the last five years. It is a three bedroom house that is functioning as a DVQ and also includes a living room and dining room.

### Significant Assumptions

The replacement and renovation cost models are based on 2 family suites.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$178,430.00
Replacement Cost	\$256,465.00
Renovation to Replacement Cost Ratio	69.57%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 60 is not recommended.

### Attributes

01.Number of Units Constructed	3
02.Number of Units Used	3
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	2
09.DVQ w/ Full Kitchen	1
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	2
16.Delta renovation	-1

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 3 Beds, 3 Headboards, 6 Night stands, 3 Dressers, 3 Easy chairs, 3 TV, 10 Lamps, 3 Sofa, 1 Desk, 1 Coffee Table, 4 Chairs, 3 End tables, 1 Dining room table with 4 chairs, 10 sets of drapes.

All items are in fair condition.

- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: No failure was observed. Foundation is in generally good condition.

- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Where slab on grade is visible, it appears to be in good condition.

- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Elevated floor construction is wood floor joists.

Considering the age of floor structure, some squeaking exists when walked on.

- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Several sections of the roof deck are wavy, and deck sags.

- Recommendation: Replace several portions of the roof framing and decking.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lap siding is in generally good condition.

- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are single glazed units, original to the building. The windows are in poor condition.

- Recommendation: Replace windows with new energy efficient units.

#### **Exterior Doors**

- Analysis: Wood solid core doors are in generally good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Asphalt shingle roofing is beyond expected useful life.
- Recommendation: Replace asphalt shingle roofing.

## **Interior Construction**

### **Partitions**

- Analysis: Wood stud and gypsum board partitions are in generally good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Raised panel wood doors are in generally good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood stairs from entry vestibule are wood, and are in generally good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Vinyl wall coverings and painted walls throughout, are in generally good condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: Carpet is generally beyond expected useful life.
- Recommendation: Replace carpet flooring.

### **Ceiling Finishes**

- Analysis: Paint finish on ceilings is in need of repainting.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Waterclosets appear to be original fixtures.
- Recommendation: Replace watercloset fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is in fair condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Heating and cooling system is in generally good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Unit is not sprinklered, since it is a one story house.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical panel and service is in generally good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis:
- Recommendation:

## **Equipment**

### **Other Equipment**

- Analysis: Washer and Dryer are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Property well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>06 Wood &amp; Plastics</b>	<b>4.52%</b>	<b>\$1,323.11</b>
Roof Deck: Damaged or Failing		\$484.16
Roof Framing: Damaged or Failing		\$838.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>14.98%</b>	<b>\$4,383.62</b>
Asphalt Shingle Roof: Beyond Useful Life		\$4,383.62
<b>08 Doors &amp; Windows</b>	<b>16.24%</b>	<b>\$4,752.78</b>
Wood Framed windows: Damaged or failing		\$4,752.78
<b>09 Finishes</b>	<b>7.26%</b>	<b>\$2,123.66</b>
Carpet: Beyond Useful Life		\$1,446.62
Interior ceilings: Paint Failing		\$677.04
<b>15 Mechanical</b>	<b>5.76%</b>	<b>\$1,684.53</b>
Water closet: Beyond expected useful life		\$1,684.53
<b>19 FF&amp;E</b>	<b>51.25%</b>	<b>\$15,000.00</b>
Hard and soft goods: Beyond expected useful life		\$15,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$29,268.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$160.97
Force Protection	9.00%	\$2,912.02
General Conditions	10.00%	\$2,926.80
<b>Total Additional Hard Cost</b>		<b>\$5,999.79</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$3,526.78
SIOH Conus	6.50%	\$2,521.65
Design	10.00%	\$3,526.78
08 MYr Inflation Fct	9.93%	\$4,452.91
<b>Total Soft Cost</b>		<b>\$14,028.12</b>
<b>Total Project</b>		<b>\$49,295.91</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>4.45%</b>	<b>\$4,711.91</b>
Roof Construction		\$1,571.94
Roof Coverings		\$3,139.97
<b>08 Doors &amp; Windows</b>	<b>24.24%</b>	<b>\$25,678.50</b>
Exterior Windows		\$20,400.00
Interior Doors		\$5,278.50
<b>09 Finishes</b>	<b>24.21%</b>	<b>\$25,644.40</b>
Ceiling Finishes		\$4,674.92
Floor Finishes		\$5,978.78
Partitions		\$5,722.85
Wall Finishes		\$9,267.86
<b>11 Equipment</b>	<b>3.21%</b>	<b>\$3,400.00</b>
Other Equipment		\$3,400.00
<b>13 Special Construction</b>	<b>6.52%</b>	<b>\$6,907.95</b>
Communications & Security		\$3,109.73
Sprinklers		\$3,798.23
<b>15 Mechanical</b>	<b>19.27%</b>	<b>\$20,415.30</b>
Cooling Generating Systems		\$13,402.80
Domestic Water Dist		\$2,040.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>8.67%</b>	<b>\$9,180.00</b>
Electrical Service & Distribution		\$9,180.00
<b>19 FF&amp;E</b>	<b>9.44%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$105,938.07</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$582.66
Force Protection	9.00%	\$10,540.31
General Conditions	10.00%	\$10,593.81
<b>Total Additional Hard Cost</b>		<b>\$21,716.77</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,765.48
SIOH Conus	6.50%	\$9,127.32
Design	10.00%	\$12,765.48
08 MYr Inflation Fct	9.93%	\$16,117.69
<b>Total Soft Cost</b>		<b>\$50,775.98</b>
<b>Total Project Cost for Renovation</b>		<b>\$178,430.82</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>4.13%</b>	<b>\$7,152.54</b>
Site Earthwork		\$7,152.54
<b>03 Concrete</b>	<b>13.59%</b>	<b>\$23,545.00</b>
Floor Construction		\$6,800.00
Slab on Grade		\$5,248.75
Stair Construction		\$6,247.50
Standard Foundations		\$5,248.75
<b>04 Masonry</b>	<b>12.97%</b>	<b>\$22,473.16</b>
Exterior Walls		\$22,473.16
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.67%</b>	<b>\$16,755.87</b>
Roof Construction		\$3,283.66
Roof Coverings		\$13,472.22
<b>08 Doors &amp; Windows</b>	<b>17.65%</b>	<b>\$30,566.85</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$20,400.00
Interior Doors		\$4,926.60
<b>09 Finishes</b>	<b>12.64%</b>	<b>\$21,894.67</b>
Ceiling Finishes		\$3,453.36
Floor Finishes		\$6,779.91
Partitions		\$6,221.94
Wall Finishes		\$5,439.46
<b>11 Equipment</b>	<b>3.43%</b>	<b>\$5,950.00</b>
Other Equipment		\$5,950.00
<b>13 Special Construction</b>	<b>3.65%</b>	<b>\$6,319.50</b>
Communications & Security		\$2,844.82
Sprinklers		\$3,474.67
<b>15 Mechanical</b>	<b>10.37%</b>	<b>\$17,960.50</b>
Cooling Generating Systems		\$8,398.00
Domestic Water Dist		\$4,590.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>6.12%</b>	<b>\$10,610.13</b>
Electrical Service & Distribution		\$10,610.13
<b>19 FF&amp;E</b>	<b>5.77%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$173,228.21</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$952.76
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$17,322.82
<b>Total Additional Hard Cost</b>		<b>\$18,275.58</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$9,575.19
SIOH Conus	6.50%	\$13,070.13
Design	10.00%	\$19,150.38
08 MYr Inflation Fct	9.93%	\$23,166.64
<b>Total Soft Cost</b>		<b>\$64,962.34</b>
<b>Total Project Cost for Replacement</b>		<b>\$256,466.13</b>

**INSERT BUILDING 60 FLOOR PLANS HERE**



## Building 0062

---

Building 62 is approximately 1350 s.f. and was constructed in 1942 . They have had a sunroom added to the back side with in the last five years. It is a three bedroom house that is functioning as a DVQ and also includes a living room and dining room.

### Significant Assumptions

The replacement and renovation cost models are based on 2 family suites.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$178,430.00
Replacement Cost	\$256,465.00
Renovation to Replacement Cost Ratio	69.57%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 62 is not recommended.

### Attributes

01.Number of Units Constructed	3
02.Number of Units Used	3
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	2
09.DVQ w/ Full Kitchen	1
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	0
15.Renovated to Family Suite	2
16.Delta renovation	-1

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 3 Beds, 3 Headboards, 6 Night stands, 3 Dressers, 3 Easy chairs, 3 TV, 10 Lamps, 3 Sofa, 1 Desk, 1 Coffee Table, 4 Chairs, 3 End tables, 1 Dining room table with 4 chairs, 10 sets of drapes.

All items are in fair condition.

- Recommendation: Replace all hard and soft goods in guest rooms.

### **Foundations**

#### **Standard Foundations**

- Analysis: No failure was observed. Foundation is in generally good condition.

- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Where slab on grade is visible, it appears to be in good condition.

- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Elevated floor construction is wood floor joists. Considering the age of floor structure, some squeaking exists when walked on.

- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Several sections of the roof deck are wavy, and deck sags.

- Recommendation: Replace several portions of the roof framing and decking.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lap siding is in generally good condition.

- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: The windows are single glazed units, original to the building. The windows are in poor condition.

- Recommendation: Replace windows with new energy efficient units.

#### **Exterior Doors**

- Analysis: Wood solid core doors are in generally good condition.

- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Asphalt shingle roofing is beyond expected useful life.
- Recommendation: Replace asphalt shingle roofing.

## **Interior Construction**

### **Partitions**

- Analysis: Wood stud and gypsum board partitions are in generally good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Raised panel wood doors are in generally good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood stairs from entry vestibule are wood, and are in generally good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Vinyl wall coverings and painted walls throughout, are in generally good condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: Carpet is generally beyond expected useful life.
- Recommendation: Replace carpet flooring.

### **Ceiling Finishes**

- Analysis: Paint finish on ceilings is in need of repainting.
- Recommendation: Repaint ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Waterclosets appear to be original fixtures.
- Recommendation: Replace watercloset fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is in fair condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Heating and cooling system is in generally good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Unit is not sprinklered, since it is a one story house.
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical panel and service is in generally good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis:
- Recommendation:

## **Equipment**

### **Other Equipment**

- Analysis: Washer and Dryer are in good condition.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Property well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>06 Wood &amp; Plastics</b>	<b>4.52%</b>	<b>\$1,323.11</b>
Roof Deck: Damaged or Failing		\$484.16
Roof Framing: Damaged or Failing		\$838.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>14.98%</b>	<b>\$4,383.62</b>
Asphalt Shingle Roof: Beyond Useful Life		\$4,383.62
<b>08 Doors &amp; Windows</b>	<b>16.24%</b>	<b>\$4,752.78</b>
Wood Framed windows: Damaged or failing		\$4,752.78
<b>09 Finishes</b>	<b>7.26%</b>	<b>\$2,123.66</b>
Carpet: Beyond Useful Life		\$1,446.62
Interior ceilings: Paint Failing		\$677.04
<b>15 Mechanical</b>	<b>5.76%</b>	<b>\$1,684.53</b>
Water closet: Beyond expected useful life		\$1,684.53
<b>19 FF&amp;E</b>	<b>51.25%</b>	<b>\$15,000.00</b>
Hard and soft goods: Beyond expected useful life		\$15,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$29,268.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$160.97
Force Protection	9.00%	\$2,912.02
General Conditions	10.00%	\$2,926.80
<b>Total Additional Hard Cost</b>		<b>\$5,999.79</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$3,526.78
SIOH Conus	6.50%	\$2,521.65
Design	10.00%	\$3,526.78
08 MYr Inflation Fct	9.93%	\$4,452.91
<b>Total Soft Cost</b>		<b>\$14,028.12</b>
<b>Total Project</b>		<b>\$49,295.91</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>4.45%</b>	<b>\$4,711.91</b>
Roof Construction		\$1,571.94
Roof Coverings		\$3,139.97
<b>08 Doors &amp; Windows</b>	<b>24.24%</b>	<b>\$25,678.50</b>
Exterior Windows		\$20,400.00
Interior Doors		\$5,278.50
<b>09 Finishes</b>	<b>24.21%</b>	<b>\$25,644.40</b>
Ceiling Finishes		\$4,674.92
Floor Finishes		\$5,978.78
Partitions		\$5,722.85
Wall Finishes		\$9,267.86
<b>11 Equipment</b>	<b>3.21%</b>	<b>\$3,400.00</b>
Other Equipment		\$3,400.00
<b>13 Special Construction</b>	<b>6.52%</b>	<b>\$6,907.95</b>
Communications & Security		\$3,109.73
Sprinklers		\$3,798.23
<b>15 Mechanical</b>	<b>19.27%</b>	<b>\$20,415.30</b>
Cooling Generating Systems		\$13,402.80
Domestic Water Dist		\$2,040.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>8.67%</b>	<b>\$9,180.00</b>
Electrical Service & Distribution		\$9,180.00
<b>19 FF&amp;E</b>	<b>9.44%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$105,938.07</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$582.66
Force Protection	9.00%	\$10,540.31
General Conditions	10.00%	\$10,593.81
<b>Total Additional Hard Cost</b>		<b>\$21,716.77</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,765.48
SIOH Conus	6.50%	\$9,127.32
Design	10.00%	\$12,765.48
08 MYr Inflation Fct	9.93%	\$16,117.69
<b>Total Soft Cost</b>		<b>\$50,775.98</b>
<b>Total Project Cost for Renovation</b>		<b>\$178,430.82</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>4.13%</b>	<b>\$7,152.54</b>
Site Earthwork		\$7,152.54
<b>03 Concrete</b>	<b>13.59%</b>	<b>\$23,545.00</b>
Floor Construction		\$6,800.00
Slab on Grade		\$5,248.75
Stair Construction		\$6,247.50
Standard Foundations		\$5,248.75
<b>04 Masonry</b>	<b>12.97%</b>	<b>\$22,473.16</b>
Exterior Walls		\$22,473.16
<b>07 Thermal &amp; Moisture Protection</b>	<b>9.67%</b>	<b>\$16,755.87</b>
Roof Construction		\$3,283.66
Roof Coverings		\$13,472.22
<b>08 Doors &amp; Windows</b>	<b>17.65%</b>	<b>\$30,566.85</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$20,400.00
Interior Doors		\$4,926.60
<b>09 Finishes</b>	<b>12.64%</b>	<b>\$21,894.67</b>
Ceiling Finishes		\$3,453.36
Floor Finishes		\$6,779.91
Partitions		\$6,221.94
Wall Finishes		\$5,439.46
<b>11 Equipment</b>	<b>3.43%</b>	<b>\$5,950.00</b>
Other Equipment		\$5,950.00
<b>13 Special Construction</b>	<b>3.65%</b>	<b>\$6,319.50</b>
Communications & Security		\$2,844.82
Sprinklers		\$3,474.67
<b>15 Mechanical</b>	<b>10.37%</b>	<b>\$17,960.50</b>
Cooling Generating Systems		\$8,398.00
Domestic Water Dist		\$4,590.00
Plumbing Fixtures		\$4,972.50
<b>16 Electrical</b>	<b>6.12%</b>	<b>\$10,610.13</b>
Electrical Service & Distribution		\$10,610.13
<b>19 FF&amp;E</b>	<b>5.77%</b>	<b>\$10,000.00</b>
Interior FF&E allowance		\$10,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$173,228.21</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$952.76
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$17,322.82
<b>Total Additional Hard Cost</b>		<b>\$18,275.58</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$9,575.19
SIOH Conus	6.50%	\$13,070.13
Design	10.00%	\$19,150.38
08 MYr Inflation Fct	9.93%	\$23,166.64
<b>Total Soft Cost</b>		<b>\$64,962.34</b>
<b>Total Project Cost for Replacement</b>		<b>\$256,466.13</b>

**INSERT BUILDING 62 FLOOR PLANS HERE**



Bldg. 111

## Building 0111

---

Building 111 was constructed in 1942 . The part of the the building that is being used by lodging is 2880 square feet and contains 4 lodging units functioning as one standard stay and 3 family suites for high ranking visitors.

### Significant Assumptions

The replacement and renovation cost models are based on 3 family suites and 1 extended stay room.

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 85% for Redstone Arsenal.

### Cost Analysis

Renovation Cost	\$270,425.00
Replacement Cost	\$406,040.00
Renovation to Replacement Cost Ratio	66.60%

Because the Renovation to Replacement Cost Ratio is greater than 50%, renovation of Building 111 is not recommended.

## Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	3
07.Multi Room w/ Full Kitchen	0
08.DVQ wo/ Full Kitchen	1
09.DVQ w/ Full Kitchen	3
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	0
13.Renovated to Standard	0
14.Renovated to Extended Stay	1
15.Renovated to Family Suite	3
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: Each Unit has been decorated by a custome decorator. As such the FF&E contained here in is above average quality. As a minimum there is a Queen size "bed", night stand with lamp, dresser , 27" TV and VCR in an armoire, sofa and coffe table. All are in very good condition.
- Recommendation: No corrective action required however all the FF&E would be replaced if the structure is renovated.

### **Foundations**

#### **Standard Foundations**

- Analysis: This unit is on the third floor of an exiting building that is occupied bu other users. As such it has no connection to the foundation.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Not applicable.
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: Floor construction is poured concrete which appears to be sound and good condition.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction not visible . Unit is in a metal skinned building.
- Recommendation: No corrective action necessary.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior wall are sheet metal skinned and are in good condition.
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Windows are in good condition having bee repalced when the unit was recdently renovated .
- Recommendation: No corrective action necessary.

#### **Exterior Doors**

- Analysis: Unit has one exterior door which is in good condition.
- Recommendation: No corrective action necessary.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof is flat membrane roof which is apparently in good condition. did not observe and visible signs of leakage.
- Recommendation:

## **Interior Construction**

### **Partitions**

- Analysis: Interior partions are drywall and studs and and in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Interior doors are solid core wood. These are in good condition.
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Stirs appear to be concrete pans and are in good condition.
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Wall finishes are Vinyl which is in good condition.
- Recommendation: No corrective action required.

### **Floor Finishes**

- Analysis: Carpet will be beyond it's useful life in five years.
- Recommendation: Repalce carpet in five years.

### **Ceiling Finishes**

- Analysis: Interior ceilings are painted and will need to be apinted in five years.
- Recommendation: Paint ceilings

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: All plumbing fixtures are in good condition .
- Recommendation: To corrective action necessary.

### **Domestic Water Distribution**

- Analysis: The water distribution system is in good condition haveing been installed when the building was renovated.
- Recommendation: No corrective action is necessary.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Cooling is via PTAC units that were installed when the space was renovated. Units are in good condition.

- Recommendation: No correction action necessary.

## **Fire Protection**

### **Sprinklers**

- Analysis: There is no sprinklers installed in this building.
- Recommendation: Install sprinkler system.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical service is adequate and in good condition..
- Recommendation: No corrective action necessary.

### **Communications and Security**

- Analysis: Building has hard wired smoke detectors . Individual rooms do not have electronic locks.
- Recommendation: Install electronic locks on individual rooms.

## **Equipment**

### **Other Equipment**

- Analysis: The other equipment is the Kitchenette which is in good condition due to the recent renovation.
- Recommendation: No corrective action required.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Site has adequate parking adjacent to the building.
- Recommendation:

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: A Renovation Cost estimate is used to indicate a total redo of the building into 2 family suites. This renovation will cost more than 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>08 Doors &amp; Windows</b>	<b>5.82%</b>	<b>\$1,955.00</b>
Interior Door Hardware:Beyond expected useful life		\$1,955.00
<b>09 Finishes</b>	<b>65.29%</b>	<b>\$21,917.12</b>
Carpet: Beyond Useful Life		\$17,804.82
Interior ceilings: Paint Failing		\$4,112.30
<b>13 Special Construction</b>	<b>28.89%</b>	<b>\$9,696.63</b>
Fire Sprinklers: Missing or Inadequate		\$9,696.63
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$33,569.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$184.63
Force Protection	9.00%	\$3,339.95
General Conditions	10.00%	\$3,356.90
<b>Total Additional Hard Cost</b>		<b>\$6,881.48</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$4,045.05
SIOH Conus	6.50%	\$2,892.21
Design	10.00%	\$4,045.05
08 MYr Inflation Fct	9.93%	\$5,107.28
<b>Total Soft Cost</b>		<b>\$16,089.58</b>
<b>Total Project</b>		<b>\$56,540.06</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>1.75%</b>	<b>\$2,805.73</b>
Roof Construction		\$2,805.73
<b>08 Doors &amp; Windows</b>	<b>4.38%</b>	<b>\$7,038.00</b>
Interior Doors		\$7,038.00
<b>09 Finishes</b>	<b>29.26%</b>	<b>\$46,974.79</b>
Ceiling Finishes		\$8,570.68
Floor Finishes		\$11,537.24
Partitions		\$10,214.63
Wall Finishes		\$16,652.25
<b>11 Equipment</b>	<b>4.24%</b>	<b>\$6,800.00</b>
Other Equipment		\$6,800.00
<b>13 Special Construction</b>	<b>9.18%</b>	<b>\$14,736.96</b>
Communications & Security		\$6,634.08
Sprinklers		\$8,102.88
<b>15 Mechanical</b>	<b>26.54%</b>	<b>\$42,617.64</b>
Cooling Generating Systems		\$28,592.64
Domestic Water Dist		\$4,080.00
Plumbing Fixtures		\$9,945.00
<b>16 Electrical</b>	<b>12.20%</b>	<b>\$19,584.00</b>
Electrical Service & Distribution		\$19,584.00
<b>19 FF&amp;E</b>	<b>12.46%</b>	<b>\$20,000.00</b>
Interior FF&E allowance		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$160,557.13</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$883.06
Force Protection	9.00%	\$15,974.63
General Conditions	10.00%	\$16,055.71
<b>Total Additional Hard Cost</b>		<b>\$32,913.41</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$19,347.05
SIOH Conus	6.50%	\$13,833.14
Design	10.00%	\$19,347.05
08 MYr Inflation Fct	9.93%	\$24,427.58
<b>Total Soft Cost</b>		<b>\$76,954.83</b>
<b>Total Project Cost for Renovation</b>		<b>\$270,425.37</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>4.52%</b>	<b>\$12,396.61</b>
Site Earthwork		\$12,396.61
<b>03 Concrete</b>	<b>12.66%</b>	<b>\$34,714.00</b>
Floor Construction		\$10,200.00
Slab on Grade		\$9,133.25
Stair Construction		\$6,247.50
Standard Foundations		\$9,133.25
<b>04 Masonry</b>	<b>10.16%</b>	<b>\$27,866.72</b>
Exterior Walls		\$27,866.72
<b>07 Thermal &amp; Moisture Protection</b>	<b>10.48%</b>	<b>\$28,733.10</b>
Roof Construction		\$5,751.34
Roof Coverings		\$22,981.76
<b>08 Doors &amp; Windows</b>	<b>14.27%</b>	<b>\$39,126.35</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$27,200.00
Interior Doors		\$6,686.10
<b>09 Finishes</b>	<b>13.98%</b>	<b>\$38,337.01</b>
Ceiling Finishes		\$5,704.73
Floor Finishes		\$12,192.81
Partitions		\$10,963.26
Wall Finishes		\$9,476.21
<b>11 Equipment</b>	<b>4.34%</b>	<b>\$11,900.00</b>
Other Equipment		\$11,900.00
<b>13 Special Construction</b>	<b>4.01%</b>	<b>\$10,996.43</b>
Communications & Security		\$4,950.22
Sprinklers		\$6,046.21
<b>15 Mechanical</b>	<b>12.02%</b>	<b>\$32,973.20</b>
Cooling Generating Systems		\$14,613.20
Domestic Water Dist		\$8,415.00
Plumbing Fixtures		\$9,945.00
<b>16 Electrical</b>	<b>6.28%</b>	<b>\$17,213.78</b>
Electrical Service & Distribution		\$17,213.78
<b>19 FF&amp;E</b>	<b>7.29%</b>	<b>\$20,000.00</b>
Interior FF&E allowance		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$274,257.20</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,508.41
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$27,425.72
<b>Total Additional Hard Cost</b>		<b>\$28,934.13</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$15,159.57
SIOH Conus	6.50%	\$20,692.81
Design	10.00%	\$30,319.13
08 MYr Inflation Fct	9.93%	\$36,677.73
<b>Total Soft Cost</b>		<b>\$102,849.24</b>
<b>Total Project Cost for Replacement</b>		<b>\$406,040.58</b>

**INSERT BUILDING 111 FLOOR PLANS HERE**



## Building 0131

---

Building 131 was a Standard Barracks of 25,545 square feet that was completely gutted and renovated in 1998 to a DVQ. It currently has 20 lodging units; 4 family suites, 8 extended stay rooms and 8 standard stay rooms.

### Significant Assumptions

The replacement cost model is based on 8 standard stay 8 extended stay units and 4 family suites.

The renovation plan was not required because existing spaces meet current size requirements and the current building is in good condition to meet lodging requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$325,025.00
Replacement Cost	\$1,716,245.00
Condition Assessment to Replacement Cost Ratio	18.94%

Because the Condition Assessment to Replacement Cost Ratio is less than 50%, repair and continued use of Building 131 is 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	8
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	8
09.DVQ w/ Full Kitchen	12
10.Operating as Standard Room	8
11.Operating as Extended Stay	8
12.Operating as Family Suite	4
13.Renovated to Standard	8
14.Renovated to Extended Stay	8
15.Renovated to Family Suite	4
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 1 Bed, 1 Head board, 2 Night stands, 1 Dressing table, 2 Easy chairs, 1 Sofa, 1 Table with 2 chairs, 1 TV, 1 TV Cabinet, 1 end table, 4 Lamps, are expected to be replaced within the next 5 years.
- Recommendation: Replace furnishings.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation consists of perimeter concrete beam. No failure was observed. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Slab on grade is in generally good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Wood floor joists are in good condition
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Wood framework with plywood decking is in good condition
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lower level Face Brick, with upper level EIFS, in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Existing windows are Thermal pane, and are in good condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Plastic laminated, solid wood core doors, are in good condition.
- Recommendation: No corrective action required.

### **Roofing**

#### **Roof Coverings**

- Analysis: Standing seam metal roofing is in good condition

- Recommendation: No corrective action required.

## **Interior Construction**

### **Partitions**

- Analysis: Stud and gypsum board, in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Plastic laminated, solid wood core doors are in good condition.
- Recommendation: No corrective action required.

### **Fittings**

- Analysis: Door hardware in good condition
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood tread and riser construction is in good condition
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Painted walls in bathrooms need repainting. VWC in balance of unit is beyond expected useful life.
- Recommendation: Repaint walls, and replace VWC throughout the units.

### **Floor Finishes**

- Analysis: Carpet is beyond expected useful life. Rubber stair treads from lower to upper levels need to be replaced.
- Recommendation: Replace Carpet flooring, and rubber stair treads.

### **Ceiling Finishes**

- Analysis: Ceiling surface will need to be repainted.
- Recommendation: Repaint ceiling surfaces.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures are in good condition.
- Recommendation: No corrective action required.

### **Domestic Water Distribution**

- Analysis: Full renovation in 1998 replaced all domestic water distribution system.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Full renovation in 1998 replaced all heating and cooling system components.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Sprinkler system is in good condition
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical distribution system is in good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis: Fire alarm system was replaced in 1996.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: Washing machine is beyond expected useful life.
- Recommendation: Replace washer

## **Site Preparation**

### **Site Earthwork**

- Analysis: Site is in good condition and well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the building was remodeled in 1998..

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>47.63%</b>	<b>\$91,911.72</b>
Carpet: Beyond Useful Life		\$17,085.82
Interior ceilings: Paint Failing		\$4,270.27
Interior walls: Paint failing		\$3,209.60
Replace Rubber stair treads		\$3,096.99
Vinyl Wall Covering: Beyond expected useful life		\$64,249.04
<b>11 Equipment</b>	<b>0.55%</b>	<b>\$1,062.50</b>
Washing Machine: Beyond expected useful life.		\$1,062.50
<b>19 FF&amp;E</b>	<b>51.82%</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>\$192,974.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$1,061.36
Force Protection	9.00%	\$19,199.95
General Conditions	10.00%	\$19,297.40
<b>Total Additional Hard Cost</b>		<b>\$39,558.71</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$23,253.27
SIOH Conus	6.50%	\$16,626.09
Design	10.00%	\$23,253.27
08 MYr Inflation Fct	9.93%	\$29,359.57
<b>Total Soft Cost</b>		<b>\$92,492.20</b>
<b>Total Project</b>		<b>\$325,024.90</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>2.67%</b>	<b>\$30,974.64</b>
Site Earthwork		\$30,974.64
<b>03 Concrete</b>	<b>15.37%</b>	<b>\$178,166.51</b>
Floor Construction		\$103,234.76
Slab on Grade		\$22,894.75
Stair Construction		\$6,247.50
Standard Foundations		\$45,789.50
<b>04 Masonry</b>	<b>6.12%</b>	<b>\$70,891.62</b>
Exterior Walls		\$70,891.62
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.08%</b>	<b>\$82,020.00</b>
Roof Construction		\$25,333.92
Roof Coverings		\$56,686.07
<b>08 Doors &amp; Windows</b>	<b>9.49%</b>	<b>\$110,009.55</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$81,600.00
Interior Doors		\$20,058.30
<b>09 Finishes</b>	<b>13.13%</b>	<b>\$152,212.45</b>
Ceiling Finishes		\$23,022.22
Floor Finishes		\$53,863.36
Partitions		\$42,220.60
Wall Finishes		\$33,106.28
<b>10 Specialties</b>	<b>0.11%</b>	<b>\$1,281.80</b>
Fittings		\$1,281.80
<b>11 Equipment</b>	<b>3.08%</b>	<b>\$35,700.00</b>
Other Equipment		\$35,700.00
<b>13 Special Construction</b>	<b>4.76%</b>	<b>\$55,130.56</b>
Communications & Security		\$24,817.91
Sprinklers		\$30,312.65
<b>15 Mechanical</b>	<b>22.57%</b>	<b>\$261,623.20</b>
Cooling Generating Systems		\$73,263.20
Domestic Water Dist		\$33,660.00
Plumbing Fixtures		\$154,700.00
<b>16 Electrical</b>	<b>7.01%</b>	<b>\$81,216.65</b>
Electrical Service & Distribution		\$81,216.65
<b>19 FF&amp;E</b>	<b>8.63%</b>	<b>\$100,000.00</b>
Interior FF&E allowance		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,159,226.98</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$6,375.75
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$115,922.70

**Total Additional Hard Cost** **\$122,298.45**

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$64,076.27
SIOH Conus	6.50%	\$87,464.11
Design	10.00%	\$128,152.54
08 MYr Inflation Fct	9.93%	\$155,028.98
<b>Total Soft Cost</b>		<b>\$434,721.91</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,716,247.33</b>

**INSERT BUILDING 131 FLOOR PLANS HERE**



## Building 0133

---

Building 133 was a Standard Barracks of 25,545 square feet that was completely gutted and renovated in 1998 to a DVQ. It currently has 20 lodging units; 4 family suites, 8 extended stay rooms and 8 standard stay rooms.

The replacement cost model is based on 8 standard stay 8 extended stay units and 4 family suites.

The renovation plan was not required because existing spaces meet current size requirements and the current building is in good condition to meet lodging requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$325,250.00
Replacement Cost	\$1,716,245.00
Condition Assessment to Replacement Cost Ratio	18.94%

Because the Condition Assessment to Replacement Cost Ratio is less than 50%, repair and continued use of Building 133 is 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	8
05.Single Room w/ Full Kitchen	8
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	4
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	0
10.Operating as Standard Room	8
11.Operating as Extended Stay	8
12.Operating as Family Suite	4
13.Renovated to Standard	8
14.Renovated to Extended Stay	8
15.Renovated to Family Suite	4
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: 1 Bed, 1 Head board, 2 Night stands, 1 Dressing table, 2 Easy chairs, 1 Sofa, 1 Table with 2 chairs, 1 TV, 1 TV Cabinet, 1 end table, 4 Lamps, are expected to be replaced within the next 5 years.
- Recommendation: Replace furnishings.

### **Foundations**

#### **Standard Foundations**

- Analysis: Foundation consists of perimeter concrete beam. No failure was observed. Foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Slab on grade is in generally good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Wood floor joists are in good condition
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Wood framework with plywood decking is in good condition
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Lower level Face Brick, with upper level EIFS, in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Existing windows are Thermal pane, and are in good condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Plastic laminated, solid wood core doors, are in good condition.
- Recommendation: No corrective action required.

### **Roofing**

#### **Roof Coverings**

- Analysis: Standing seam metal roofing is in good condition

- Recommendation: No corrective action required.

## **Interior Construction**

### **Partitions**

- Analysis: Stud and gypsum board, in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Plastic laminated, solid wood core doors are in good condition.
- Recommendation: No corrective action required.

### **Fittings**

- Analysis: Door hardware in good condition
- Recommendation: No corrective action required.

## **Stairs**

### **Stair Construction**

- Analysis: Wood tread and riser construction is in good condition
- Recommendation: No corrective action required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Painted walls in bathrooms need repainting. VWC in balance of unit is beyond expected useful life.
- Recommendation: Repaint walls, and replace VWC throughout the units.

### **Floor Finishes**

- Analysis: Carpet is beyond expected useful life. Rubber stair treads from lower to upper levels need to be replaced.
- Recommendation: Replace Carpet flooring, and rubber stair treads.

### **Ceiling Finishes**

- Analysis: Ceiling surface will need to be repainted.
- Recommendation: Repaint ceiling surfaces.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures are in good condition.
- Recommendation: No corrective action required.

### **Domestic Water Distribution**

- Analysis: Full renovation in 1998 replaced all domestic water distribution system.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Full renovation in 1998 replaced all heating and cooling system components.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Sprinkler system is in good condition
- Recommendation: No corrective action required.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Electrical distribution system is in good condition.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis: Fire alarm system was replaced in 1996.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: Washing machine is beyond expected useful life.
- Recommendation: Replace washer

## **Site Preparation**

### **Site Earthwork**

- Analysis: Site is in good condition and well maintained.
- 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the building was remodeled in 1998..

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>47.67%</b>	<b>\$92,045.63</b>
Carpet: Beyond Useful Life		\$17,085.82
Interior ceilings: Paint Failing		\$4,404.18
Interior walls: Paint failing		\$3,209.60
Replace Rubber stair treads		\$3,096.99
Vinyl Wall Covering: Beyond expected useful life		\$64,249.04
<b>11 Equipment</b>	<b>0.55%</b>	<b>\$1,062.50</b>
Washing Machine: Beyond expected useful life.		\$1,062.50
<b>19 FF&amp;E</b>	<b>51.78%</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>\$193,108.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$1,062.09
Force Protection	9.00%	\$19,213.28
General Conditions	10.00%	\$19,310.80
<b>Total Additional Hard Cost</b>		<b>\$39,586.17</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$23,269.42
SIOH Conus	6.50%	\$16,637.63
Design	10.00%	\$23,269.42
08 MYr Inflation Fct	9.93%	\$29,379.95
<b>Total Soft Cost</b>		<b>\$92,556.42</b>
<b>Total Project</b>		<b>\$325,250.60</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>2.67%</b>	<b>\$30,974.64</b>
Site Earthwork		\$30,974.64
<b>03 Concrete</b>	<b>15.37%</b>	<b>\$178,166.51</b>
Floor Construction		\$103,234.76
Slab on Grade		\$22,894.75
Stair Construction		\$6,247.50
Standard Foundations		\$45,789.50
<b>04 Masonry</b>	<b>6.12%</b>	<b>\$70,891.62</b>
Exterior Walls		\$70,891.62
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.08%</b>	<b>\$82,020.00</b>
Roof Construction		\$25,333.92
Roof Coverings		\$56,686.07
<b>08 Doors &amp; Windows</b>	<b>9.49%</b>	<b>\$110,009.55</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$81,600.00
Interior Doors		\$20,058.30
<b>09 Finishes</b>	<b>13.13%</b>	<b>\$152,212.45</b>
Ceiling Finishes		\$23,022.22
Floor Finishes		\$53,863.36
Partitions		\$42,220.60
Wall Finishes		\$33,106.28
<b>10 Specialties</b>	<b>0.11%</b>	<b>\$1,281.80</b>
Fittings		\$1,281.80
<b>11 Equipment</b>	<b>3.08%</b>	<b>\$35,700.00</b>
Other Equipment		\$35,700.00
<b>13 Special Construction</b>	<b>4.76%</b>	<b>\$55,130.56</b>
Communications & Security		\$24,817.91
Sprinklers		\$30,312.65
<b>15 Mechanical</b>	<b>22.57%</b>	<b>\$261,623.20</b>
Cooling Generating Systems		\$73,263.20
Domestic Water Dist		\$33,660.00
Plumbing Fixtures		\$154,700.00
<b>16 Electrical</b>	<b>7.01%</b>	<b>\$81,216.65</b>
Electrical Service & Distribution		\$81,216.65
<b>19 FF&amp;E</b>	<b>8.63%</b>	<b>\$100,000.00</b>
Interior FF&E allowance		\$100,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,159,226.98</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$6,375.75
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$115,922.70

**Total Additional Hard Cost** **\$122,298.45**

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$64,076.27
SIOH Conus	6.50%	\$87,464.11
Design	10.00%	\$128,152.54
08 MYr Inflation Fct	9.93%	\$155,028.98
<b>Total Soft Cost</b>		<b>\$434,721.91</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,716,247.33</b>

**INSERT BUILDING 133 FLOOR PLANS HERE**



Bldg. 135

## Building 0135

---

Building 135 was completely gutted and renovated in 1999. The building has 26,345 square feet functioning as 8 standard rooms, 8 extended stay rooms, and 6 family suites.

The replacement cost model is based on 8 standard stay 8 extended stay units and 6 family suites.

The renovation plan was not required because existing spaces meet current size requirements and the current building is in good condition to meet lodging requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$169,245.00
Replacement Cost	\$1,871,980.00
Condition Assessment to Replacement Cost Ratio	9.04%

Because the Condition Assessment to Replacement Cost Ratio is less than 50%, repair and continued use of Building 135 is recommended.

### Attributes

01.Number of Units Constructed	22
02.Number of Units Used	22
03.Back of House Function	No
04.Single Room w/o FullKitchen	8
05.Single Room w/ Full Kitchen	8
06.Multi Room wo/ Full Kitchen	0
07.Multi Room w/ Full Kitchen	6
08.DVQ wo/ Full Kitchen	0
09.DVQ w/ Full Kitchen	6
10.Operating as Standard Room	8
11.Operating as Extended Stay	8
12.Operating as Family Suite	6
13.Renovated to Standard	8
14.Renovated to Extended Stay	8
15.Renovated to Family Suite	6
16.Delta renovation	0

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: This Building has all three types of rooms: Standard, Extended, and family suites: As such you have the bed with head board in the standard rooms with night stand and dresser. The extended's add a kitchen. For the family suites, add a full size galley kitchen with refrigerator, Micro-wave, Dishwasher, sink and range. In the suite living room, add a sofa, easy chair, a TV/VCR in an Armoire. All rooms, have TV's in the bedrooms. All items are in good condition. Since this is a DVQ, replace only when wear dictates
- Recommendation: No corrective action at this time.

### **Foundations**

#### **Standard Foundations**

- Analysis: The Building has a basement with foundation wall so there should be footings along wall where pilasters occur. There is no sign of failure ie, foundation is in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Slab on grade is in good condition.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Floor construction is wood floor joist with subfloor which is in good condition due to the recent renovation.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with sheathing. Since the building was completely renovated recently, the sub-structure is in good condition.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are brick and stucco. Both are in very good condition due to the recent renovation.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Exterior windows are thermo-pane insulated glass. The system is in very good condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Exterior doors are in very good condition due to the recent renovation.
- Recommendation: No corrective action required.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is a standing seam, pitched metal roof in like new condition.
- Recommendation: No corrective action required.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. They are in good condition.
- Recommendation: No corrective action required.

### **Interior Doors**

- Analysis: Interior doors are plastic laminate on solid cores. These are in good condition due to the recent renovation.
- Recommendation: No corrective action required.

### **Fittings**

- Analysis: There are no fittings in these units.
- Recommendation: N/a

## **Stairs**

### **Stair Construction**

- Analysis: Stairs are wood with rubber treads. Treads are currently in good condition but will need to be replaced in five years.
- Recommendation: Replace treads in five years.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes will need to be re-done in five years.
- Recommendation: Re-do VWC in five years.

### **Floor Finishes**

- Analysis: Carpet is beginning to show signs of wear, current condition is good to fair.
- Recommendation: Replace carpet in five years.

### **Ceiling Finishes**

- Analysis: Ceilings will need to be repainted in the next five years, current condition is good/fair.
- Recommendation: Repaint ceilings within five years.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Bathroom fixtures are in good condition due to the recent renovation.

- Recommendation: No corrective action required.

#### **Domestic Water Distribution**

- Analysis: Domestic water distribution is in good condition.
- Recommendation: No corrective action required.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Each unit has its own internal split-system unit that is in good condition.
- Recommendation: No corrective action required.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building is fully sprinkled and is in good condition as a result of the renovation.
- Recommendation: No corrective action required.

### **Electrical**

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

- Analysis: Building has a 2000 amp 120/208Y service for all the units. The service is in good condition due to the recent renovation.
- Recommendation: No corrective action required.

#### **Communications and Security**

- Analysis: Building has hard wired smoke detectors and an alarm panel. Further, each unit has cable TV and high speed internet. All systems are in good condition.
- Recommendation: No corrective action required.

### **Equipment**

#### **Other Equipment**

- Analysis: Washing machines/dryers for tenant use are in good condition.
- Recommendation: No corrective action required.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site is well graded and drains properly.
- Recommendation: No corrective action required.

### **Site Improvements**

#### **Parking Lots**

- Analysis: Parking lot size is adequate and well lit at night.
- Recommendation: No corrective action required.

### **Site Electrical Utilities**

#### **Site Lighting**

- Analysis:

- Recommendation:

## 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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the building was remodeled in 1998..

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>98.94%</b>	<b>\$99,420.04</b>
Carpet: Beyond Useful Life		\$17,085.82
Interior ceilings: Paint Failing		\$4,404.18
Interior walls: Paint failing		\$3,209.60
Replace Rubber stair treads		\$4,129.30
Vinyl Wall Covering: Beyond expected useful life		\$70,591.14
<b>11 Equipment</b>	<b>1.06%</b>	<b>\$1,062.50</b>
Washing Machine: Beyond expected useful life.		\$1,062.50
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$100,483.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$552.66
Force Protection	9.00%	\$9,997.56
General Conditions	10.00%	\$10,048.30
<b>Total Additional Hard Cost</b>		<b>\$20,598.51</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$12,108.15
SIOH Conus	6.50%	\$8,657.33
Design	10.00%	\$12,108.15
08 MYr Inflation Fct	9.93%	\$15,287.75
<b>Total Soft Cost</b>		<b>\$48,161.38</b>
<b>Total Project</b>		<b>\$169,242.89</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>3.87%</b>	<b>\$48,926.21</b>
Parking Lots		\$16,150.00
Site Earthwork		\$32,776.21
<b>03 Concrete</b>	<b>14.87%</b>	<b>\$188,020.15</b>
Floor Construction		\$109,084.90
Slab on Grade		\$24,229.25
Stair Construction		\$6,247.50
Standard Foundations		\$48,458.50
<b>04 Masonry</b>	<b>5.86%</b>	<b>\$74,032.39</b>
Exterior Walls		\$74,032.39
<b>07 Thermal &amp; Moisture Protection</b>	<b>6.94%</b>	<b>\$87,732.46</b>
Roof Construction		\$27,769.40
Roof Coverings		\$59,963.06
<b>08 Doors &amp; Windows</b>	<b>9.41%</b>	<b>\$118,920.95</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$88,400.00
Interior Doors		\$22,169.70
<b>09 Finishes</b>	<b>13.64%</b>	<b>\$172,430.65</b>
Ceiling Finishes		\$26,203.62
Floor Finishes		\$59,637.62
Partitions		\$48,172.20
Wall Finishes		\$38,417.21
<b>10 Specialties</b>	<b>0.10%</b>	<b>\$1,281.80</b>
Fittings		\$1,281.80
<b>11 Equipment</b>	<b>3.29%</b>	<b>\$41,650.00</b>
Other Equipment		\$41,650.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$58,344.03</b>
Communications & Security		\$26,264.51
Sprinklers		\$32,079.53
<b>15 Mechanical</b>	<b>21.79%</b>	<b>\$275,456.10</b>
Cooling Generating Systems		\$77,533.60
Domestic Water Dist		\$38,250.00
Plumbing Fixtures		\$159,672.50
<b>16 Electrical</b>	<b>6.93%</b>	<b>\$87,619.70</b>
Electrical Service & Distribution		\$85,753.95
Site Lighting		\$1,865.75
<b>19 FF&amp;E</b>	<b>8.70%</b>	<b>\$110,000.00</b>
Interior FF&E allowance		\$110,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,264,414.45</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$6,954.28

Force Protection	0.00%	\$0.00
General Cond	10.00%	\$126,441.45
<b>Total Additional Hard Cost</b>		<b>\$133,395.72</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$69,890.51
SIOH Conus	6.50%	\$95,400.54
Design	10.00%	\$139,781.02
08 MYr Inflation Fct	9.93%	\$169,096.21
<b>Total Soft Cost</b>		<b>\$474,168.28</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,871,978.46</b>

**INSERT BUILDING 135 FLOOR PLANS HERE**



Bldg. 244

## Building 0244

---

Building 244 was constructed in 1972 and was given a major renovation in 2002. The building has 10,750 square feet and contains 20 lodging units functioning as 16 standard stay rooms and 4 extended stay guest rooms. It should be noted that an additional 4 units in the building are being used as a front office, self service laundry for all post guest rooms and a break room.

The replacement cost model is based on 22 standard stay and 4 extended stay units.

The renovation plan was not required because existing spaces meet current size requirements and the current building is in good condition to meet lodging requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$418,890.00
Replacement Cost	\$1,945,995.00
Condition Assessment to Replacement Cost Ratio	21.53%

Because the Condition Assessment to Replacement Cost Ratio is less than 50%, repair and continued use of Building 244 is recommended.

### Attributes

01.Number of Units Constructed	24
02.Number of Units Used	20
03.Back of House Function	Yes
04.Single Room w/o FullKitchen	16
05.Single Room w/ Full Kitchen	4
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	16
11.Operating as Extended Stay	4
12.Operating as Family Suite	0
13.Renovated to Standard	20
14.Renovated to Extended Stay	4
15.Renovated to Family Suite	0
16.Delta renovation	4

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: Each unit has two bed with head boards, TV/VCR in cabinet, desk with chair, Micro frig/Micro wave, dresser, and two lamps, extended stay units have added table and 2 chairs.
- Recommendation: Current condition is fair/good; this facility gets heavy use and the FF&E will need to be replaced within five years or sooner.

### **Foundations**

#### **Standard Foundations**

- Analysis: The standard foundation for this unit is a slab on grade with thickened slabs at the perimeter and probably where you have any interior columns. Slab appears to be in good condition.
- Recommendation: No corrective action required.

#### **Slab on Grade**

- Analysis: Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action required.

### **Superstructure**

#### **Floor Construction**

- Analysis: Floor is slab on grade.
- Recommendation: No corrective action required.

#### **Roof Construction**

- Analysis: Roof construction is wood trusses which appear to be sound.
- Recommendation: No corrective action required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are brick which are in good condition.
- Recommendation: No corrective action required.

#### **Exterior Windows**

- Analysis: Exterior windows are insulated thermo-pane in good condition.
- Recommendation: No corrective action required.

#### **Exterior Doors**

- Analysis: Exterior doors are painted hollow metal with electronic locks in good condition.
- Recommendation: No corrective action required.

### **Roofing**

### **Roof Coverings**

- Analysis: Roof appears to be reaching the end of its useful life and is in fair condition.
- Recommendation: Replace roof.

### **Interior Construction**

#### **Partitions**

- Analysis: Interior walls are drywall on wood studs in good condition.
- Recommendation: No corrective action required.

#### **Interior Doors**

- Analysis: Interior door is hollow metal in good condition.
- Recommendation: No corrective action required.

#### **Fittings**

- Analysis: The fittings in the public bathroom at the lodging intake office are in good condition.
- Recommendation: No corrective action required.

### **Stairs**

#### **Stair Construction**

- Analysis: There are no stairs in this building.
- Recommendation: No corrective action required.

### **Interior Finishes**

#### **Wall Finishes**

- Analysis: Interior Wall finishes are currently in good/fair condition; however due to the heavy usage of this unit they will need to be replaced within five years.
- Recommendation: Replace interior wall finishes.

#### **Floor Finishes**

- Analysis: Carpet will be reaching the end of its useful life.
- Recommendation: Replace the carpet.

#### **Ceiling Finishes**

- Analysis: Interior ceiling finishes are going to reach the end of their useful life within five years.
- Recommendation: Replace interior ceiling finishes.

### **Plumbing**

#### **Plumbing Fixtures**

- Analysis: Water closet is not the water saver style and is reaching the end of its useful life.
- Recommendation: Replace water closets.

#### **Domestic Water Distribution**

- Analysis: Water distribution system appears to be in good condition.
- Recommendation: No corrective action required.

## **HVAC**

### **Cooling Generating Systems**

- Analysis: Units have PTAC units already which are in good condition.
- Recommendation: No corrective action required.

## **Fire Protection**

### **Sprinklers**

- Analysis: Bldg does not have a sprinkler system as required by the lodging standard.
- Recommendation: Install sprinkler system.

## **Electrical**

### **Electrical Service/Distribution**

- Analysis: Bldg. has 1600 amp main service which appears to be adequate for this bldg.
- Recommendation: No corrective action required.

### **Communications and Security**

- Analysis: Bldg does have hard wired smoke detectors and an annunciator panel . System is in good condition.
- Recommendation: No corrective action required.

## **Equipment**

### **Other Equipment**

- Analysis: Extended stay rooms have galley style kitchen and all the equipment is in good condition. Also, this building houses the self service laundry for the entire post. The current condition of the unit is good but they experience heavy usage.
- Recommendation: Replace washers and dryers in five years as they will be worn out by then.

## **Site Preparation**

### **Site Earthwork**

- Analysis: Parking appears to be adequate and site is flat with adequate lighting. We understand that this bldg. was extensively renovated with in the last two years.
- 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**

Break Room and Staff Toilet

Does not exist

Renovation Recommendation: Will be included as part of renovation to this building. Existing Public toilets will be used as staff toilets.

Office

Exists. Not a standard for a secondary facility

Renovation Recommendation: Will be removed as part of renovation to this building.

- **Public Spaces**

Bell Cart, Phones.

Does not exist

Renovation Recommendation: Will be included as part of renovation to this building.

Lounge

Exists. Not a standard for a secondary facility

Renovation Recommendation: Will be removed as part of renovation to this building.

Public Toilets

Exists. Not a standard for a secondary facility

Renovation Recommendation: Will become staff toilets.

## 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>06 Wood &amp; Plastics</b>	<b>1.36%</b>	<b>\$3,388.74</b>
Base Cabinets: Beyond Useful Life		\$3,388.74
<b>07 Thermal &amp; Moisture Protection</b>	<b>17.41%</b>	<b>\$43,293.22</b>
Asphalt Shingle Roof: Beyond Useful Life		\$38,701.52
Gutters: Damaged or Failing		\$4,591.70
<b>08 Doors &amp; Windows</b>	<b>0.75%</b>	<b>\$1,852.86</b>
Wood Fire Doors: Missing or Inadequate		\$1,852.86
<b>09 Finishes</b>	<b>12.23%</b>	<b>\$30,426.84</b>
Acoustical Ceiling & Grid: Beyond expt useful life		\$907.73
Carpet: Beyond Useful Life		\$13,994.29
Interior ceilings: Paint Failing		\$4,062.15
Interior wall: Missing or inadequate		\$593.42
Interior walls: Paint failing		\$8,906.64
Vinyl Wall Covering: Beyond expected useful life		\$1,962.61
<b>11 Equipment</b>	<b>1.33%</b>	<b>\$3,315.85</b>
Unit kitchen: Missing or inadequate		\$3,315.85
<b>13 Special Construction</b>	<b>14.56%</b>	<b>\$36,212.34</b>
Fire Sprinklers: Missing or Inadequate		\$36,212.34
<b>15 Mechanical</b>	<b>8.13%</b>	<b>\$20,214.36</b>
Water closet: Beyond expected useful life		\$20,214.36
<b>19 FF&amp;E</b>	<b>44.23%</b>	<b>\$110,000.00</b>
Hard and soft goods: Beyond expected useful life		\$110,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$248,704.00</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$1,367.87
Force Protection	9.00%	\$24,744.80
General Conditions	10.00%	\$24,870.40
<b>Total Additional Hard Cost</b>		<b>\$50,983.08</b>

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

Parameter Name	Percent	Amount
Contingency	10.00%	\$29,968.71
SIOH Conus	6.50%	\$21,427.63
Design	10.00%	\$29,968.71
08 MYr Inflation Fct	9.93%	\$37,838.48
<b>Total Soft Cost</b>		<b>\$119,203.52</b>

**Total Project**

**\$418,890.59**

## 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>4.89%</b>	<b>\$64,309.51</b>
Site Earthwork		\$64,309.51
<b>03 Concrete</b>	<b>11.34%</b>	<b>\$149,022.00</b>
Floor Construction		\$47,600.00
Slab on Grade		\$47,587.25
Stair Construction		\$6,247.50
Standard Foundations		\$47,587.25
<b>04 Masonry</b>	<b>6.25%</b>	<b>\$82,101.95</b>
Exterior Walls		\$82,101.95
<b>07 Thermal &amp; Moisture Protection</b>	<b>10.99%</b>	<b>\$144,487.80</b>
Roof Construction		\$27,333.24
Roof Coverings		\$117,154.56
<b>08 Doors &amp; Windows</b>	<b>9.77%</b>	<b>\$128,354.25</b>
Exterior Doors		\$5,240.25
Exterior Windows		\$102,000.00
Interior Doors		\$21,114.00
<b>09 Finishes</b>	<b>13.51%</b>	<b>\$177,533.25</b>
Ceiling Finishes		\$26,642.40
Floor Finishes		\$67,528.98
Partitions		\$47,535.86
Wall Finishes		\$35,826.00
<b>10 Specialties</b>	<b>0.10%</b>	<b>\$1,281.80</b>
Fittings		\$1,281.80
<b>11 Equipment</b>	<b>0.91%</b>	<b>\$11,900.00</b>
Other Equipment		\$11,900.00
<b>13 Special Construction</b>	<b>4.36%</b>	<b>\$57,295.05</b>
Communications & Security		\$25,792.29
Sprinklers		\$31,502.76
<b>15 Mechanical</b>	<b>21.72%</b>	<b>\$285,537.10</b>
Cooling Generating Systems		\$76,139.60
Domestic Water Dist		\$39,780.00
Plumbing Fixtures		\$169,617.50
<b>16 Electrical</b>	<b>6.28%</b>	<b>\$82,585.58</b>
Electrical Service & Distribution		\$82,585.58
<b>19 FF&amp;E</b>	<b>9.89%</b>	<b>\$130,000.00</b>
Interior FF&E allowance		\$130,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$1,314,408.28</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$7,229.25
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$131,440.83

**Total Additional Hard Cost** **\$138,670.07**

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$72,653.92
SIOH Conus	6.50%	\$99,172.60
Design	10.00%	\$145,307.84
08 MYr Inflation Fct	9.93%	\$175,782.12
<b>Total Soft Cost</b>		<b>\$492,916.47</b>
<b>Total Project Cost for Replacement</b>		<b>\$1,945,994.83</b>

**INSERT BUILDING 244 FLOOR PLANS HERE  
(EXISTING AND RENOVATION)**

## Building 1400

---



Bldg. # 1417 typical of 1400 series.

Building 1400 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$373,695.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	58.07%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1400 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" orition at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom , removal of the tub with require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stirs are painted steel . Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Intior wall finsih is painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Flloor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Repalce all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in theses units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond thir useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.77%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.35%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.88%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.71%</b>	<b>\$32,633.98</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$20,525.12
<b>09 Finishes</b>	<b>12.52%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.37%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.01%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.34%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.03%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.01%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$221,871.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,220.29
Force Protection	9.00%	\$22,075.06
General Conditions	10.00%	\$22,187.10
<b>Total Additional Hard Cost</b>		<b>\$45,482.45</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,735.34
SIOH Conus	6.50%	\$19,115.77
Design	10.00%	\$26,735.34
08 MYr Inflation Fct	9.93%	\$33,756.03
<b>Total Soft Cost</b>		<b>\$106,342.49</b>
<b>Total Project</b>		<b>\$373,695.94</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1400 FLOOR PLANS HERE**

## Building 1416

---



Building 1416 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$350,010.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	54.39%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1416 is not recommended.

## Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.83%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.38%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.21%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>9.34%</b>	<b>\$19,403.56</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$7,294.70
<b>09 Finishes</b>	<b>13.34%</b>	<b>\$27,732.04</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,006.00
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,178.43
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.73%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>7.87%</b>	<b>\$16,362.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
<b>15 Mechanical</b>	<b>33.46%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>14.22%</b>	<b>\$29,543.41</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,804.60
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.62%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$207,810.00</b>

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

Parameter Name	Percent	Amount
----------------	---------	--------

Spirit	0.50%	\$1,142.96
Force Protection	9.00%	\$20,676.06
General Conditions	10.00%	\$20,781.00
<b>Total Additional Hard Cost</b>		<b>\$42,600.01</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,041.00
SIOH Conus	6.50%	\$17,904.32
Design	10.00%	\$25,041.00
08 MYr Inflation Fct	9.93%	\$31,616.76
<b>Total Soft Cost</b>		<b>\$99,603.07</b>
<b>Total Project</b>		<b>\$350,013.08</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1416 FLOOR PLANS HERE**

## Building 1417

---



Bldg. 1417

Building 1417 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$358,420.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	55.70%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1417 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.81%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.37%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.09%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>15.27%</b>	<b>\$32,491.18</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$20,382.32
<b>09 Finishes</b>	<b>13.06%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.40%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.35%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>32.68%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.59%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.40%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$212,801.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,170.41
Force Protection	9.00%	\$21,172.64
General Conditions	10.00%	\$21,280.10
<b>Total Additional Hard Cost</b>		<b>\$43,623.14</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,642.41
SIOH Conus	6.50%	\$18,334.33
Design	10.00%	\$25,642.41
08 MYr Inflation Fct	9.93%	\$32,376.10
<b>Total Soft Cost</b>		<b>\$101,995.25</b>
<b>Total Project</b>		<b>\$358,419.39</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1417 FLOOR PLANS HERE**

## Building 1418

---



Typical photo for the 1400 series bldg.

Building 1418 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$348,785.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	54.20%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1418 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.83%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.38%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.23%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>12.93%</b>	<b>\$26,771.02</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Interior Door Hardware: Beyond expected useful life		\$11,730.00
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$2,932.16
<b>09 Finishes</b>	<b>13.42%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.44%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.58%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>33.58%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.96%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.66%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$207,080.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,138.94
Force Protection	9.00%	\$20,603.42
General Conditions	10.00%	\$20,708.00
<b>Total Additional Hard Cost</b>		<b>\$42,450.36</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$24,953.04
SIOH Conus	6.50%	\$17,841.42
Design	10.00%	\$24,953.04
08 MYr Inflation Fct	9.93%	\$31,505.69
<b>Total Soft Cost</b>		<b>\$99,253.19</b>
<b>Total Project</b>		<b>\$348,783.55</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1418 FLOOR PLANS HERE**

## Building 1419

---



Typical Picture for 1400 series Bldg.

Building 1419 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$348,785.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	54.20%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1419 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.83%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.38%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.23%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>12.93%</b>	<b>\$26,771.02</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Interior Door Hardware: Beyond expected useful life		\$11,730.00
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$2,932.16
<b>09 Finishes</b>	<b>13.42%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.44%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.58%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>33.58%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.96%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.66%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$207,080.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,138.94
Force Protection	9.00%	\$20,603.42
General Conditions	10.00%	\$20,708.00
<b>Total Additional Hard Cost</b>		<b>\$42,450.36</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$24,953.04
SIOH Conus	6.50%	\$17,841.42
Design	10.00%	\$24,953.04
08 MYr Inflation Fct	9.93%	\$31,505.69
<b>Total Soft Cost</b>		<b>\$99,253.19</b>
<b>Total Project</b>		<b>\$348,783.55</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1419 FLOOR PLANS HERE**

## Building 1420

---



Typical Picture for 1420

Building 1420 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,380.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.24%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1420 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.86%</b>	<b>\$32,491.18</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$20,382.32
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.13%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.79%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>11.84%</b>	<b>\$25,897.34</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$158.53
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,716.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,202.94
Force Protection	9.00%	\$21,761.15
General Conditions	10.00%	\$21,871.60
<b>Total Additional Hard Cost</b>		<b>\$44,835.69</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,355.17
SIOH Conus	6.50%	\$18,843.95
Design	10.00%	\$26,355.17
08 MYr Inflation Fct	9.93%	\$33,276.02
<b>Total Soft Cost</b>		<b>\$104,830.31</b>
<b>Total Project</b>		<b>\$368,381.99</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1420 FLOOR PLANS HERE**

## Building 1421

---



Typical Picture for Bldg. 1421

Building 1421 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$354,755.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	55.13%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1421 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	0
10.Operating as Standard Room	0
11.Operating as Extended Stay	0
12.Operating as Family Suite	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.81%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.37%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.14%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.39%</b>	<b>\$30,315.87</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$18,207.01
<b>09 Finishes</b>	<b>13.19%</b>	<b>\$27,786.09</b>
Base Tile: Damaged or Failing		\$1,210.94
Carpet: Beyond Useful Life		\$4,451.21
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.41%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.44%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>33.02%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.73%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.50%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$210,625.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,158.44
Force Protection	9.00%	\$20,956.13
General Conditions	10.00%	\$21,062.50
<b>Total Additional Hard Cost</b>		<b>\$43,177.07</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,380.21
SIOH Conus	6.50%	\$18,146.85
Design	10.00%	\$25,380.21
08 MYr Inflation Fct	9.93%	\$32,045.04
<b>Total Soft Cost</b>		<b>\$100,952.30</b>
<b>Total Project</b>		<b>\$354,754.37</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1421 FLOOR PLANS HERE**

## Building 1422

---



Typical Picture for 1400 series Bldg.

Building 1422 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$359,655.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	55.89%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1422 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.80%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.37%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.07%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>15.56%</b>	<b>\$33,224.23</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$21,115.37
<b>09 Finishes</b>	<b>13.01%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.39%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.32%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>32.57%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.54%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.37%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$213,534.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,174.44
Force Protection	9.00%	\$21,245.57
General Conditions	10.00%	\$21,353.40
<b>Total Additional Hard Cost</b>		<b>\$43,773.40</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,730.74
SIOH Conus	6.50%	\$18,397.48
Design	10.00%	\$25,730.74
08 MYr Inflation Fct	9.93%	\$32,487.62
<b>Total Soft Cost</b>		<b>\$102,346.58</b>
<b>Total Project</b>		<b>\$359,653.98</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1422 FLOOR PLANS HERE**

## Building 1423

---



Typical Picture for 1400 series Bldg.

Building 1423 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$373,455.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	58.03%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1423 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.77%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.35%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.88%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.65%</b>	<b>\$32,491.18</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$20,382.32
<b>09 Finishes</b>	<b>12.53%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.37%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.02%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.36%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.04%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.02%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$221,728.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,219.50
Force Protection	9.00%	\$22,060.83
General Conditions	10.00%	\$22,172.80
<b>Total Additional Hard Cost</b>		<b>\$45,453.13</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,718.11
SIOH Conus	6.50%	\$19,103.45
Design	10.00%	\$26,718.11
08 MYr Inflation Fct	9.93%	\$33,734.28
<b>Total Soft Cost</b>		<b>\$106,273.95</b>
<b>Total Project</b>		<b>\$373,455.08</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

CSI	Percent	Amount
<b>02 Site Work</b>	<b>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1423 FLOOR PLANS HERE**

## Building 1424

---



Typical Picture for 1400 series Bldg.

Building 1424 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$358,420.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	55.70%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1424 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.81%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.37%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.09%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>15.27%</b>	<b>\$32,491.18</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$20,382.32
<b>09 Finishes</b>	<b>13.06%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.40%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.35%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>32.68%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.59%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.40%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$212,801.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,170.41
Force Protection	9.00%	\$21,172.64
General Conditions	10.00%	\$21,280.10
<b>Total Additional Hard Cost</b>		<b>\$43,623.14</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,642.41
SIOH Conus	6.50%	\$18,334.33
Design	10.00%	\$25,642.41
08 MYr Inflation Fct	9.93%	\$32,376.10
<b>Total Soft Cost</b>		<b>\$101,995.25</b>
<b>Total Project</b>		<b>\$358,419.39</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1424 FLOOR PLANS HERE**

## Building 1426

---



Typical Picture of 1400 series Bldg.

Building 1426 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$369,790.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.46%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1426 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.93%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.81%</b>	<b>\$30,315.87</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$18,207.01
<b>09 Finishes</b>	<b>12.66%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.42%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.10%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.67%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.17%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.11%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$219,553.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,207.54
Force Protection	9.00%	\$21,844.43
General Conditions	10.00%	\$21,955.30
<b>Total Additional Hard Cost</b>		<b>\$45,007.27</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,456.03
SIOH Conus	6.50%	\$18,916.06
Design	10.00%	\$26,456.03
08 MYr Inflation Fct	9.93%	\$33,403.37
<b>Total Soft Cost</b>		<b>\$105,231.48</b>
<b>Total Project</b>		<b>\$369,791.75</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1426 FLOOR PLANS HERE**

## Building 1427

---



Typical Picture for 1400 series Bldg.

Building 1427 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,550.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1427 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,582.82</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,782.19</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,178.43
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,816.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.49
Force Protection	9.00%	\$21,771.10
General Conditions	10.00%	\$21,881.60
<b>Total Additional Hard Cost</b>		<b>\$44,856.19</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,367.22
SIOH Conus	6.50%	\$18,852.56
Design	10.00%	\$26,367.22
08 MYr Inflation Fct	9.93%	\$33,291.24
<b>Total Soft Cost</b>		<b>\$104,878.24</b>
<b>Total Project</b>		<b>\$368,550.42</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1427 FLOOR PLANS HERE**

## Building 1428

---



Typical picture for 1400 series bldg.

Building 1428 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$347,460.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	53.99%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1428 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis:
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.83%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.38%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.25%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.75%</b>	<b>\$30,434.87</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$18,326.01
<b>09 Finishes</b>	<b>11.31%</b>	<b>\$23,337.04</b>
Carpet: Beyond Useful Life		\$2.16
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.44%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.62%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>33.71%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>14.01%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.69%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$206,295.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,134.62
Force Protection	9.00%	\$20,525.32
General Conditions	10.00%	\$20,629.50
<b>Total Additional Hard Cost</b>		<b>\$42,289.44</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$24,858.44
SIOH Conus	6.50%	\$17,773.79
Design	10.00%	\$24,858.44
08 MYr Inflation Fct	9.93%	\$31,386.26
<b>Total Soft Cost</b>		<b>\$98,876.94</b>
<b>Total Project</b>		<b>\$347,461.38</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1428 FLOOR PLANS HERE**

## Building 1429

---



Typical Picture for 1400 series bldg.

Building 1429 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$353,720.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	54.97%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1429 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis:
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.82%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.37%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>5.15%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>14.14%</b>	<b>\$29,701.82</b>
Al. Windows - Beyond Useful Life		\$8,989.78
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,592.96
<b>09 Finishes</b>	<b>13.23%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>1.42%</b>	<b>\$2,975.85</b>
Unit Kitchen: Beyond Useful Life		\$2,975.85
<b>13 Special Construction</b>	<b>8.46%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>33.11%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.77%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.52%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$210,011.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,155.06
Force Protection	9.00%	\$20,895.04
General Conditions	10.00%	\$21,001.10
<b>Total Additional Hard Cost</b>		<b>\$43,051.20</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$25,306.22
SIOH Conus	6.50%	\$18,093.95
Design	10.00%	\$25,306.22
08 MYr Inflation Fct	9.93%	\$31,951.62
<b>Total Soft Cost</b>		<b>\$100,658.01</b>
<b>Total Project</b>		<b>\$353,720.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1429 FLOOR PLANS HERE**

## Building 1430

---



Typical picture for 1400 series Bldg.

Building 1430 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1430 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1430 FLOOR PLANS HERE**

## Building 1433

---



Typical Picture for 1400 series Bldg.

Building 1433 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1433 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1433 FLOOR PLANS HERE**

## Building 1434

---



Typical Picture for 1400 series Bldg.

Building 1434 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1434 is not recommended.

## Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1434 FLOOR PLANS HERE**

## Building 1435

---



Typical Picture of 1400 series Bldg.

Building 1435 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1435 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

Parameter Name	Percent	Amount
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1435 FLOOR PLANS HERE**

## Building 1436

---



Typical picture for 1400 series Bldg.

Building 1436 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1436 is not recommended.

## Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dinning room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replace on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheeting. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl sideing which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1436 FLOOR PLANS HERE**

## Building 1437

---



Typical Picture for 1400 series Bldg.

Building 1437 was constructed in 1972 as a family housing Quadraplex unit with a total of 4,860 square feet. It is currently operating as four family suites each with full kitchens.

### Significant Assumptions

The replacement cost model is based on 4 family suites and 3 extended stay units.

The renovation plan if required, would use the existing foot print with the plan reworked to meet current lodging size requirements.

The replacement cost model includes 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 85% for Redstone Arsenal.

### Cost Analysis

Condition Assessment Cost	\$368,565.00
Replacement Cost	\$643,525.00
Condition Assessment to Replacement Cost Ratio	57.27%

Because the Condition Assessment to Replacement Cost Ratio is greater than 50%, renovation of Building 1437 is not recommended.

### Attributes

01.Number of Units Constructed	4
02.Number of Units Used	4
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	4
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	4
13.Renovated to Standard	0
14.Renovated to Extended Stay	3
15.Renovated to Family Suite	4
16.Delta renovation	3

## **Condition Analysis/Recommendation**

### **FF&E**

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

- Analysis: FF&E furnishings include: Queen size bed with head board, dresser, chest of drawers, 2 night stands, a sofa , easy chair, desk with chair, coffee table, end table , 4 lamps, TV with cabinet, dining room table with 4 chairs. Soft goods, 4 drapes and vertical blinds at the patio door. All items are in fair condition.
- Recommendation: All items should be replaced on the next regular cycle.

### **Foundations**

#### **Standard Foundations**

- Analysis: Structure is built on a flat slab with thickened edges at the perimeter. Slab is in good condition with no visible signs of failure.
- Recommendation: No corrective action necessary.

#### **Slab on Grade**

- Analysis: Slab is in good condition .
- Recommendation: No corrective action necessary.

### **Superstructure**

#### **Floor Construction**

- Analysis: 2nd floor is wood floor joist with plywood subfloor under the carpet.
- Recommendation: No corrective action necessary.

#### **Roof Construction**

- Analysis: Roof construction is wood rafters with plywood sheathing. Roofs are in questionable condition. One has collapsed.
- Recommendation: Repair structural system as required.

### **Exterior Enclosure**

#### **Exterior Walls**

- Analysis: Exterior walls are vinyl siding which has been installed over the original hard board siding. Vinyl is in good condition, substrate is not visible .
- Recommendation: No corrective action necessary.

#### **Exterior Windows**

- Analysis: Exterior windows are single pane glazing and are beyond their useful life.
- Recommendation: Replace all the windows with thermo-pane insulated units for energy efficiency.

#### **Exterior Doors**

- Analysis: Glass doors on the patios and balconies are in fair condition and beyond their useful life.

- Recommendation: Change out the patio/balcony doors.

## **Roofing**

### **Roof Coverings**

- Analysis: Roof covering is asphalt singles including the "Mansard" portion at the 2nd floor. The shingles are in fair condition.
- Recommendation: Strip off the roof and replace same.

## **Interior Construction**

### **Partitions**

- Analysis: Interior partitions are drywall on studs. The partitions are in fair condition but sound. However with regards to the bathroom, removal of the tub will require the bathroom walls to be re-built.
- Recommendation: Re-build bathroom walls as required.

### **Interior Doors**

- Analysis: Interior wood doors are hollow core in poor condition.
- Recommendation: replace all interior wood doors.

## **Stairs**

### **Stair Construction**

- Analysis: Interior stair construction is wood and exterior stairs are painted steel. Both are in good condition.
- Recommendation: No additional work required.

## **Interior Finishes**

### **Wall Finishes**

- Analysis: Interior wall finishes are painted drywall which is in serious need of paint. They are in fair to poor condition.
- Recommendation: Paint unit through-out.

### **Floor Finishes**

- Analysis: Floor finishes are as follows: 1st Floor : VCT on concrete substrate.  
2nd Floor: Carpet on plywood subfloor.  
Bathroom floors: ceramic tile.

All floors are in fair condition.

- Recommendation: Replace all floor coverings.

### **Ceiling Finishes**

- Analysis: Ceilings in these units are painted drywall. The ceiling paint is in fair condition.
- Recommendation: Paint the ceilings.

## **Plumbing**

### **Plumbing Fixtures**

- Analysis: Plumbing fixtures in both the bathroom and kitchen are beyond their useful life.
- Recommendation: Replace bathroom and kitchen plumbing fixtures.

### **Domestic Water Distribution**

- Analysis: Domestic water system is assumed to be in the same general condition that the rest of the building is in; fair condition:
- Recommendation: Replace domestic water system.

### **HVAC**

#### **Cooling Generating Systems**

- Analysis: Unit has self contained furnace/air-conditioner in each of the units. These are in fair condition.
- Recommendation: Replace the A/C units.

### **Fire Protection**

#### **Sprinklers**

- Analysis: Building does not have a sprinkler system which is a lodging requirement .
- Recommendation: Install sprinkler system.

### **Electrical**

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

- Analysis: It is assumed that the electrical system is in the same general condition as the building: fair
- Recommendation: Replace all branch wiring, circuits, and fixtures.

#### **Communications and Security**

- Analysis: Building does not have fire alarm system.but does have smoke detectors.
- Recommendation: Replace and upgrade smoke detectors.

### **Equipment**

#### **Other Equipment**

- Analysis: Kitchen equipment in in fair condition.
- Recommendation: Replace all kitchen equipment.

### **Site Preparation**

#### **Site Earthwork**

- Analysis: Site parking appears to be adequate and the site drainage is good.
- Recommendation: No corrective action necessary.

## **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 of the back-of-the-house spaces are required at the main lodging building on post. Presently these are located in Building 244, and are not included in this building.

- **Family Guest Suite**

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

Room Size and Configuration: The rooms do not meet size and configuration requirements.

Recommendation: Renovation of the facility is not recommended since the condition assessment cost exceeds 50% of the building's replacement cost.

- **Public Spaces**

Most of the public spaces are required at the main lodging building on post. Presently these are located in Building 244, 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>0.78%</b>	<b>\$1,716.15</b>
Curbs: Bituminous Curbing Damaged or Failing		\$1,716.15
<b>06 Wood &amp; Plastics</b>	<b>0.36%</b>	<b>\$782.78</b>
Wood Platform: Beyond Useful Life		\$782.78
<b>07 Thermal &amp; Moisture Protection</b>	<b>4.95%</b>	<b>\$10,825.60</b>
Asphalt Shingle Roof: Beyond Useful Life		\$10,825.60
<b>08 Doors &amp; Windows</b>	<b>13.52%</b>	<b>\$29,586.56</b>
Al. Windows - Beyond Useful Life		\$8,993.52
Sliding Glass Door: Beyond Useful Life		\$3,119.08
Wood Door - Beyond Useful Life		\$17,473.96
<b>09 Finishes</b>	<b>12.70%</b>	<b>\$27,786.09</b>
Carpet: Beyond Useful Life		\$4,451.21
Floor Tile: Damaged or Failing		\$1,210.94
Interior ceilings: Paint Failing		\$2,056.15
Interior walls: Paint failing		\$6,619.80
VCT: Beyond Useful Life		\$6,182.33
Wall Tile: Damaged or Failing		\$7,265.66
<b>11 Equipment</b>	<b>5.44%</b>	<b>\$11,903.40</b>
Unit Kitchen: Beyond Useful Life		\$11,903.40
<b>13 Special Construction</b>	<b>8.12%</b>	<b>\$17,773.59</b>
Fire Sprinklers: Missing or Inadequate		\$16,362.59
Smoke detector: Damaged or Failing		\$1,411.00
<b>15 Mechanical</b>	<b>31.78%</b>	<b>\$69,540.01</b>
Domestic water system: Beyond expected useful life		\$9,535.80
Pipe, sewer or waste: Damaged or failing		\$4,575.37
Sink & vanity: Replace due to remodel		\$2,627.18
Sink, kitchen: Beyond expected useful life		\$8,234.80
Split system: Beyond expected useful life		\$30,746.88
Tub: Beyond expected useful life		\$5,387.98
Water closet: Beyond expected useful life		\$3,369.06
Water heater: Beyond expected useful life		\$5,062.94
<b>16 Electrical</b>	<b>13.21%</b>	<b>\$28,909.31</b>
Branch Circuits: Beyond Expected Useful Life		\$10,936.06
Fixture: Incandescent fixture beyond expected life		\$3,170.50
Main service: Beyond expected useful life		\$14,802.75
<b>19 FF&amp;E</b>	<b>9.14%</b>	<b>\$20,000.00</b>
Hard and soft goods: Beyond expected useful life		\$20,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$218,823.00</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$1,203.53
Force Protection	9.00%	\$21,771.79
General Conditions	10.00%	\$21,882.30
<b>Total Additional Hard Cost</b>		<b>\$44,857.62</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	10.00%	\$26,368.06
SIOH Conus	6.50%	\$18,853.16
Design	10.00%	\$26,368.06
08 MYr Inflation Fct	9.93%	\$33,292.30
<b>Total Soft Cost</b>		<b>\$104,881.59</b>
<b>Total Project</b>		<b>\$368,562.21</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>2.60%</b>	<b>\$11,295.01</b>
Site Earthwork		\$11,295.01
<b>03 Concrete</b>	<b>15.78%</b>	<b>\$68,569.72</b>
Floor Construction		\$37,370.47
Slab on Grade		\$8,317.25
Stair Construction		\$6,247.50
Standard Foundations		\$16,634.50
<b>04 Masonry</b>	<b>9.29%</b>	<b>\$40,381.31</b>
Exterior Walls		\$40,381.31
<b>07 Thermal &amp; Moisture Protection</b>	<b>7.07%</b>	<b>\$30,745.61</b>
Roof Construction		\$9,751.87
Roof Coverings		\$20,993.73
<b>08 Doors &amp; Windows</b>	<b>13.04%</b>	<b>\$56,660.15</b>
Exterior Doors		\$8,351.25
Exterior Windows		\$37,400.00
Interior Doors		\$10,908.90
<b>09 Finishes</b>	<b>14.20%</b>	<b>\$61,717.83</b>
Ceiling Finishes		\$9,392.21
Floor Finishes		\$20,160.72
Partitions		\$17,334.92
Wall Finishes		\$14,829.98
<b>11 Equipment</b>	<b>4.79%</b>	<b>\$20,825.00</b>
Other Equipment		\$20,825.00
<b>13 Special Construction</b>	<b>4.61%</b>	<b>\$20,027.94</b>
Communications & Security		\$9,015.90
Sprinklers		\$11,012.04
<b>15 Mechanical</b>	<b>13.30%</b>	<b>\$57,788.95</b>
Cooling Generating Systems		\$26,615.20
Domestic Water Dist		\$13,770.00
Plumbing Fixtures		\$17,403.75
<b>16 Electrical</b>	<b>7.28%</b>	<b>\$31,653.15</b>
Electrical Service & Distribution		\$31,653.15
<b>19 FF&amp;E</b>	<b>8.05%</b>	<b>\$35,000.00</b>
Interior FF&E allowance		\$35,000.00
<b>Total Raw Cost</b>	<b>100.00%</b>	<b>\$434,664.66</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Spirit	0.50%	\$2,390.66
Force Protection	0.00%	\$0.00
General Cond	10.00%	\$43,466.47
<b>Total Additional Hard Cost</b>		<b>\$45,857.12</b>

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

<b>Parameter Name</b>	<b>Percent</b>	<b>Amount</b>
Contingency	5.00%	\$24,026.09
SIOH Conus	6.50%	\$32,795.61
Design	10.00%	\$48,052.18
08 MYr Inflation Fct	9.93%	\$58,129.79
<b>Total Soft Cost</b>		<b>\$163,003.67</b>
<b>Total Project Cost for Replacement</b>		<b>\$643,525.46</b>

**INSERT BUILDING 1437 FLOOR PLANS 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.