

**UNACCOMPANIED PERSONNEL HOUSING (UPH)
DURING THE COLD WAR
(1946-1989)**

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13. SUPPLEMENTARY NOTES

14. ABSTRACT
This historic context discusses Army Unaccompanied Personnel Housing (UPH) during the Cold War (1946-1989). The report documents the Army housing shortage after World War II, the evolution of the UPH during the Cold War, and how that evolution reflected the Army's concern for the quality of life for military personnel. Six site visits are included in the context.

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TABLE OF CONTENTS

LIST OF FIGURES	ix
LIST OF TABLES	xxix
1.0 EXECUTIVE SUMMARY	1-1
2.0 INTRODUCTION AND METHODS	2-1
2.1 PROJECT DESCRIPTION AND BACKGROUND	2-1
2.1.1 Project Objectives	2-1
2.1.2 Historic Context Approach	2-2
2.2 METHODS	2-2
2.2.1 Archival Research	2-2
2.2.2 Field Investigation	2-4
2.3 DATA SYNTHESIS AND REPORT ORGANIZATION	2-5
3.0 HISTORICAL OVERVIEW OF UNACOMPANIED PERSONNEL HOUSING (UPH)	3-1
3.1 EARLY ARMY HOUSING: 1776-1945	3-1
3.1.1 Permanent Army Barracks	3-1
3.1.2 Associated Support Buildings	3-11
3.1.2.1 Detached Lavatories/Bathhouses	3-11
3.1.2.2 Mess Halls	3-11
3.1.3 Bachelor Officers Quarters (BOQs)	3-14
3.1.4 Temporary and Mobilization Barracks	3-14
3.1.5 Twentieth-Century Concurrent Training Camps	3-19
3.2 UPH DURING THE COLD WAR ERA: 1946-1989	3-19
3.2.1 Size of the Army	3-20
3.2.2 Army Weapons and Doctrine Development related to Army Strength	3-22
3.2.3 Construction of Unaccompanied Personnel Housing	3-23
3.2.4 Design Process	3-24
3.2.5 Permanent Army Barracks	3-25
3.2.5.1 Hammerhead Barracks	3-26
3.2.5.2 H-style Barracks	3-28
3.2.5.3 Rolling Pin Barracks	3-30
3.2.5.4 All-Volunteer Army Impacts UPH	3-32
3.2.5.5 Lyle, Bisset, Carlisle, & Wolfe Barracks and Benham-Blair & Associates Barracks	3-32
3.2.5.6 Starship Barracks	3-35
3.2.5.7 Bachelor Housing in the 1980s	3-37
3.2.6 Semi-Permanent and Mobilization Barracks	3-38
3.2.7 Bachelor Officers Quarters	3-40
3.2.7.1 Hammerhead Bachelor Officer Quarters	3-40
3.2.7.2 Apartment-Style Bachelor Officers Quarters	3-42
3.2.7.3 Motel-Type Bachelor Officers Quarters	3-42
3.2.7.4 High-Rise Bachelor Officer Quarters	3-44

- 3.2.7.5 1970s Apartment-Type Bachelor Officers Quarters 3-44
- 3.2.8 Semi-Permanent and Mobilization Bachelor Officers Quarters 3-46
- 3.2.9 Transient Housing..... 3-46
- 3.3 SUMMARY 3-51

4.0 REAL PROPERTY ASSOCIATED WITH ARMY UNACCOMPANIED PERSONNEL HOUSING 4-1

- 4.0.1 INTRODUCTION 4-1
- 4.1 BARRACKS..... 4-2
 - 4.1.1 Hammerhead Barracks 1951-1957 4-2
 - 4.1.1.1 Description..... 4-2
 - 4.1.1.2 Evolution..... 4-4
 - 4.1.1.3 Association 4-5
 - 4.1.1.4 Integrity..... 4-6
 - 4.1.2 H-Style Barracks 1955-1958 4-39
 - 4.1.2.1 Description..... 4-39
 - 4.1.2.2 Evolution..... 4-30
 - 4.1.2.3 Association 4-30
 - 4.1.2.4 Integrity..... 4-41
 - 4.1.3 Rolling Pin Barracks 1960-1971..... 4-59
 - 4.1.3.1 Description..... 4-59
 - 4.1.3.2 Evolution..... 4-60
 - 4.1.3.3 Association 4-60
 - 4.1.3.4 Integrity..... 4-61
 - 4.1.4 A-Style Barracks 1972-1974 4-77
 - 4.1.4.1 Description..... 4-77
 - 4.1.4.2 Evolution..... 4-77
 - 4.1.4.3 Association 4-77
 - 4.1.4.4 Integrity..... 4-77
 - 4.1.5 Lyle, Bisset, Carlisle, & Wolfe Barracks 1974-1982 4-78
 - 4.1.5.1 Description..... 4-78
 - 4.1.5.2 Evolution..... 4-86
 - 4.1.5.3 Association 4-86
 - 4.1.5.4 Integrity..... 4-88
 - 4.1.6 Army Reserve Annual Training Barracks 1979..... 4-106
 - 4.1.6.1 Description..... 4-106
 - 4.1.6.2 Evolution..... 4-106
 - 4.1.6.3 Association 4-106
 - 4.1.6.4 Integrity..... 4-107
 - 4.1.7 Starship Barracks 1975-present 4-116
 - 4.1.7.1 Description..... 4-116
 - 4.1.7.2 Evolution..... 4-116
 - 4.1.7.3 Association 4-117
 - 4.1.7.4 Integrity..... 4-117
 - 4.1.8 Quadrangle Barracks 1985-present..... 4-132
 - 4.1.8.1 Description..... 4-132
 - 4.1.8.2 Evolution..... 4-133
 - 4.1.8.3 Association 4-133
 - 4.1.8.4 Integrity..... 4-133
 - 4.1.9 Miscellaneous Barracks – Receptee Barracks 1985 4-148
 - 4.1.9.1 Description..... 4-184

	4.1.9.2 Evolution.....	4-148
	4.1.9.3 Association.....	4-148
	4.1.9.4 Integrity.....	4-148
4.1.10	Miscellaneous Barracks – MEDDAC Barracks 1988	4-153
	4.1.10.1Description.....	4-153
	4.1.10.2Evolution.....	4-153
	4.1.10.3Association.....	4-153
	4.1.10.4Integrity.....	4-153
4.1.11	Semi-Permanent U-shaped Barracks 1967.....	4-157
	4.1.11.1Description.....	4-157
	4.1.11.2Evolution.....	4-157
	4.1.11.3Association.....	4-157
	4.1.11.4Integrity.....	4-157
4.1.12	Semi-Permanent H-shaped Barracks 1959-1967	4-165
	4.1.12.1Description.....	4-165
	4.1.12.2Evolution.....	4-165
	4.1.12.3Association.....	4-165
	4.1.12.4Integrity.....	4-166
4.1.13	Semi-Permanent Hutment 1987	4-177
	4.1.13.1Description.....	4-177
	4.1.13.2Evolution.....	4-177
	4.1.13.3Association.....	4-177
	4.1.13.4Integrity.....	4-177
4.1.14	Mobilization Barracks – Quonset Huts 1958, 1959	4-179
	4.1.14.1Description.....	4-179
	4.1.14.2Evolution.....	4-179
	4.1.14.3Association.....	4-179
	4.1.14.4Integrity.....	4-180
4.1.15	Mobilization Barracks – C-huts 1966	4-187
	4.1.15.1Description.....	4-187
	4.1.15.2Evolution.....	4-187
	4.1.15.3Association.....	4-188
	4.1.15.4Integrity.....	4-188
4.1.16	Tent Pads.....	4-200
	4.1.16.1Description.....	4-200
	4.1.16.2Evolution.....	4-200
	4.1.16.3Association.....	4-200
	4.1.16.4Integrity.....	4-200
4.2	BACHELOR OFFICERS QUARTERS	4-203
4.2.1	Hammerhead Bachelor Officers Quarters 1953-1957.....	4-203
	4.2.1.1 Description.....	4-203
	4.2.1.2 Evolution.....	4-203
	4.2.1.3 Association.....	4-204
	4.2.1.4 Integrity.....	4-204
4.2.2	Apartment-Style Bachelor Officers Quarters 1956-1962	4-220
	4.2.2.1 Description.....	4-220
	4.2.2.2 Evolution.....	4-220
	4.2.2.3 Association.....	4-220
	4.2.2.4 Integrity.....	4-220
4.2.3	Motel-Type Bachelor Officers Quarters 1968-1973	4-227
	4.2.3.1 Description.....	4-227

- 4.2.3.2 Evolution.....4-227
- 4.2.3.3 Association4-227
- 4.2.3.4 Integrity.....4-227
- 4.2.4 1970s Apartment-Type Bachelor Officers Quarters 19744-234
 - 4.2.4.1 Description.....4-234
 - 4.2.4.2 Evolution.....4-234
 - 4.2.4.3 Association4-234
 - 4.2.4.4 Integrity.....4-234
- 4.2.5 Army Reserve Annual Training Bachelor Officer Quarters 19794-240
 - 4.2.5.1 Description.....4-240
 - 4.2.5.2 Evolution.....4-240
 - 4.2.5.3 Association4-240
 - 4.2.5.4 Integrity.....4-240
- 4.2.6 High-Rise Bachelor Officers Quarters 1958-19794-244
 - 4.2.6.1 Description.....4-244
 - 4.2.6.2 Evolution.....4-245
 - 4.2.6.3 Association4-245
 - 4.2.6.4 Integrity.....4-246
- 4.2.7 Semi-Permanent U-shaped Bachelor Officers Quarters 19594-265
 - 4.2.7.1 Description.....4-265
 - 4.2.7.2 Evolution.....4-265
 - 4.2.7.3 Association4-265
 - 4.2.7.4 Integrity.....4-266
- 4.2.8 Semi-Permanent 16-man Bachelor Officers Quarters 19614-268
 - 4.2.8.1 Description.....4-268
 - 4.2.8.2 Evolution.....4-268
 - 4.2.8.3 Association4-268
 - 4.2.8.4 Integrity.....4-268
- 4.2.9 Mobilization Bachelor Officer Quarters 19834-271
 - 4.2.9.1 Description.....4-271
 - 4.2.9.2 Evolution.....4-271
 - 4.2.9.3 Association4-271
 - 4.2.9.4 Integrity.....4-273
- 4.3 TRANSIENT QUARTERS4-273
 - 4.3.1 NCO Motel 19674-273
 - 4.3.1.1 Description.....4-273
 - 4.3.1.2 Evolution.....4-273
 - 4.3.1.3 Association4-273
 - 4.3.1.4 Integrity.....4-273
 - 4.3.2 Guest Houses 1970 – present.....4-276
 - 4.3.2.1 Evolution.....4-276
 - 4.3.2.2 Association4-276
 - 4.3.2.3 Integrity.....4-277
 - 4.3.3 Inns 19894-284
 - 4.3.3.1 Description.....4-284
 - 4.3.3.2 Evolution.....4-284
 - 4.3.3.3 Association4-284
 - 4.3.3.4 Integrity.....4-284
- 4.4 SUMMARY4-288

5.0 APPLICATION OF THE HISTORIC CONTEXT IN THE IDENTIFICATION AND EVALUATION OF HISTORIC RESOURCES.....5-1

5.1 INTRODUCTION5-1

5.2 PROPERTY TYPES ASSOCIATED WITH ARMY UPH FACILITIES.....5-1

5.3 REGULATORY OVERVIEW5-1

5.3.1 Resource Identification5-2

5.3.1.1 Objectives5-2

5.3.1.2 Methodology5-3

5.4 RESOURCE EVALUATION.....5-3

5.4.1 National Register Criteria for Evaluation5-4

5.4.2 Criterion Consideration G: Properties that have Achieve Significance Within the Last Fifty Years.....5-5

5.4.3 National Register Categories of Historic Properties5-6

5.4.4 Evaluating Properties Within the Army Unaccompanied Personnel Housing Historic Context.....5-6

5.4.4.1 Issues Related to Evaluating Properties Using the Army Unaccompanied Personnel Housing Historic Context.....5-7

5.4.5 Applying the National Register Criteria for Evaluation5-8

5.4.5.1 Introduction.....5-8

5.4.5.2 Criterion A: Association with Events5-9

5.4.5.3 Criterion B: Association with People.....5-9

5.4.5.4 Criterion C: Design/Construction5-9

5.4.5.5 Criterion D: Information Potential5-10

5.4.6 Integrity.....5-11

5.5 RESOURCE TREATMENT.....5-12

6.0 REFERENCES.....6-1

7.0 ACKNOWLEDGEMENTS.....7-1

APPENDIX A – ARMY INSTALLATIONS WITH UPH FACILITIES

APPENDIX B – RESULTS OF THE INSTALLATION SITE VISITS

APPENDIX C – RESUMES OF KEY PROJECT PERSONNEL

LIST OF FIGURES

3.1	Proposed one-story barracks (War Department. <i>Regulations Concerning Barracks and Quarters for the Army of the United States</i> , 1860. Washington, D.C.: George W. Bowman, 1861.).....	3-3
3.2	Proposed 1972 Quartermaster plan for barracks (From War Department. <i>Annual Report of the Quartermaster-General</i> . Washington, D.C.: Government Printing Office, 1872).....	3-4
3.3	1883 wood-frame barracks (Building 22208, Ft. Huachuca, Arizona), <i>above</i> . 1893 multi-company barracks (Building 111, Ft. Bliss, Texas), <i>middle</i> . 1891 barracks with simplified Queen Anne and Stick style detailing (Building 58, Ft. McPherson, Georgia), <i>below</i>	3-5
3.4	1910 Calvary barracks, Quartermaster standardized plan no. 75-M (Building 236, F.E. Warren AFB [Formerly Ft. D.A. Russel], Wyoming), <i>above</i> . 1911 barracks designed in the Spanish Colonial Revival style (Building 1607, Ft. Sill, Oklahoma), <i>below</i>	3-7
3.5	Typical World War I mobilization barracks complex (Aberdeen Proving Ground, Maryland), <i>above</i> . Interior of World War I mobilization barracks (Aberdeen Proving Ground, Maryland), <i>below</i>	3-8
3.6	1931 Georgian Colonial Revival barracks (Building 40, Scott AFB, Illinois), <i>above</i> . 1931 Spanish Colonial Revival barracks (Building 835, Maxwell AFB, Alabama), <i>below</i>	3-10
3.7	1889 latrine (Building 225, Ft. Riley, Kansas), <i>above</i> . 1903 detached lavatory (Building 22322, Ft. Huachuca, Arizona), <i>below</i>	3-12
3.8	1893 consolidated mess (Building 21, Ft. Bliss, Texas), <i>above</i> . 1931 cadet mess (Building 905, Randolph AFB, Texas), <i>below</i>	3-13
3.9	1894 Bachelor Officers Quarters (Building 13, Offutt AFB [formerly Ft. Crook], Nebraska), <i>above</i> . Typical Bachelor Officers Quarters constructed during first decade of twentieth century (Building 40, constructed 1904, Ft. McPherson, Georgia), <i>below</i>	3-15
3.10	1935 Bachelor Officers Quarters, original front façade (Building 1117, Ft. Knox, Kentucky), <i>above</i> . 1931 Bachelor Officers Quarters (Building 120, Randolph AFB, Texas), <i>below</i>	3-16
3.11	600 Series Mobilization Construction Plans used in World War I (From John S. Garner, <i>World War II Temporary Military Buildings</i> . Champaign, Illinois: U.S. Army Construction Engineering Research Laboratory, 1993).....	3-18
3.12	105-man hammerhead barracks, elevations (1980).....	3-27

3.13 H-style, two-company barracks, barracks wing, first floor plan (1955, revised 1957)..... 3-29

3.14 Rolling pin, two-company barracks, first floor plan, Ft. Bragg (ca. 1959, revised 1967)..... 3-31

3.15 LBC&W barracks living module, Ft. Hood (1972, revised 1975)..... 3-34

3.16 Starship barracks, third floor plan (ca. 1974, revised 1985)..... 3-36

3.17 Quadrangle barracks, Bldg. M-4020 (1985), Ft. Bragg, view NE..... 3-38

3.18 Semi-permanent 72-man “U” barracks, floor plan, Ft. Benning (1964, as built 1967)..... 3-39

3.19 C-hut, North Ft. Hood, view W 3-40

3.20 Two-story, hammerhead BOQ converted to offices, Bldg. 1-2732 (1953), Ft. Bragg, view SW 3-42

3.21 Two-story, apartment-type BOQ, Bldg. 2446 (1962), Ft. Knox, view NE..... 3-43

3.22 120-man motel-type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view SE 3-44

3.23 High-rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view N 3-45

3.24 Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view NW 3-45

3.25 Semi-permanent “U” BOQ, floor plan, Bldg. 9517, Ft. Bliss (ca. 1957) 3-47

3.26 Semi-permanent 16-man BOQ, floor plan and elevations, Oro Grande Range, Ft. Bliss (ca. 1960) 3-48

3.27 Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view S 3-49

3.28 Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view E..... 3-49

3.29 Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE..... 3-50

3.30 Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NW 3-50

3.31 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE..... 3-51

4.1 BARRACKS

Hammerhead Barracks

4.1.1 Map of hammerhead barracks in the 1000 area, Ft. Bliss..... 4-7

4.1.2 Map of hammerhead barracks in the 2400 area, Ft. Bliss..... 4-8

4.1.3	Map of hammerhead barracks in the 10000 area, Ft. Hood	4-9
4.1.4	Map of hammerhead barracks in the 9400 area, Ft. Hood	4-10
4.1.5	Map of hammerhead barracks in the 6500 area, Ft. Knox	4-11
4.1.6	Map of hammerhead barracks in the C-area, Ft. Bragg	4-12
4.1.7	Hammerhead barracks, landscape plan, Ft. Benning (1956, revised 1958)	4-13
4.1.8	225-man hammerhead barracks, elevations (ca. 1951, revised 1954).....	4-14
4.1.9	225-man hammerhead barracks, floor plan, barracks wing, basement and 1 st floor ca. 1951, revised 1967)	4-15
4.1.10	225-man hammerhead barracks, floor plan, barracks wing, 2 nd and 3 rd floors (ca. 1951, revised 1968).....	4-16
4.1.11	225-man hammerhead barracks, floor plan, kitchen and mess hall wing (ca. 1951)	4-17
4.1.12	225-man hammerhead barracks, Bldg. 2838 (1954), Ft. Benning, view N.....	4-18
4.1.13	225-man hammerhead barracks, Bldg. 2839 (1954), Ft. Benning, view W.....	4-18
4.1.14	225-man hammerhead barracks, Bldg. 1001 (1956), Ft. Bliss, view NE.....	4-19
4.1.15	225-man hammerhead barracks, Bldg. 1001 (1956), Ft. Bliss, view SW	4-19
4.1.16	165-man hammerhead barracks, elevations (1980).....	4-20
4.1.17	165-man hammerhead barracks, floor plan, barracks wing, basement and 1 st floor (1980).....	4-21
4.1.18	165-man hammerhead barracks, floor plan, barracks wing, 2 nd and 3 rd floors (1980).....	4-22
4.1.19	105-man hammerhead barracks, elevations (1980).....	4-23
4.1.20	105-man hammerhead barracks, floor plan, barracks wing, basement and 1 st floor (1980).....	4-24
4.1.21	105-man hammerhead barracks, floor plan, barracks wing, 2 nd and 3 rd floors (1980).....	4-25
4.1.22	105-man hammerhead barracks, Bldg. 296 (1954), Ft. Knox, view S.....	4-26
4.1.23	105-man hammerhead barracks, Bldg. 2381 (1953), Ft. Knox, view SE	4-26
4.1.24	Double hammerhead barracks, elevations (ca. 1952)	4-27
4.1.25	Double hammerhead barracks, floor plans, barracks wing (1952, revised 1954)	4-28

4.1.26	Double hammerhead barracks, floor plan, kitchen and mess hall wing (1952, revised 1954).....	4-29
4.1.27	Double hammerhead barracks, Bldg. 2753 A&B (1954), Ft. Benning, view NE.....	4-30
4.1.28	Double hammerhead barracks, Bldg. 2753 A (1954), Ft. Benning, view NE.....	4-30
4.1.29	Renovated hammerhead barracks, basement and first floor plans, barracks wing (1972, revised 1974)	4-31
4.1.30	Renovated hammerhead barracks, second and third floor plans, barracks wing (1972, revised 1974)	4-32
4.1.31	Small alterations to hammerhead barracks include infill of window openings, Bldg. C4120 (1955), Ft. Bragg, view N.....	4-33
4.1.32	Alterations to hammerhead barracks include window replacements and new exterior materials, Bldg. C5322 (1955), Ft. Bragg, view SE.....	4-33
4.1.33	Extensive renovations to hammerhead barracks include new windows, window treatments, exterior materials, and exterior stairs, Bldg. 1003 (1956), Ft. Bliss, view NE	4-34
4.1.34	Detail of exterior renovation to hammerhead barracks, Bldg. 1003 (1956), Ft. Bliss, view NE	4-34
4.1.35	Alterations to 105-man hammerhead barracks include new windows and exterior materials, Bldg 2414 (1953), Ft. Bliss, view NW	4-35
4.1.36	Extensive renovation to hammerhead barracks include new windows, window treatments, and exterior materials, Bldg. 2420 (1953), Ft. Bliss, view NW	4-35
4.1.37	Rebuilt hammerhead barracks includes balconies and new exterior materials, Bldg. 10020 (1953), Ft. Hood, view NW.....	4-36
4.1.38	Rebuilt hammerhead barracks includes balconies and new exterior materials, Bldg. 9421 (1956), Ft. Hood, view N	4-36
4.1.39	Totally renovated hammerhead barracks, Bldg. 1482 (1953), Ft. Knox, view SW.....	4-37
4.1.40	Totally renovated hammerhead barracks, Bldg. 1483 (1953), Ft. Knox, view E	4-37
4.1.41	Totally renovated hammerhead barracks, Bldg. 1484 (1953), Ft. Knox, view N.....	4-38
4.1.42	Totally renovated hammerhead barracks, Bldg. 1484 (1953), Ft. Knox, view NW	4-38

H-style Barracks

4.1.43	Map showing H-style, two-company barracks complex, Bldg. C-8750 through C-9354, Ft. Bragg	4-41
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4.1.44	H-style, two-company barracks complex, landscape plan, Ft. Benning (1956, revised 1958).....	4-42
4.1.45	H-style, two-company barracks, elevations (ca. 1955, revised 1958).....	4-43
4.1.46	H-style, two-company barracks, elevations (ca. 1955, revised 1958).....	4-44
4.1.47	H-style, two-company barracks, consolidated mess, elevations and sections (ca. 1955, revised 1958).....	4-45
4.1.48	H-style, two-company barracks, barracks wing, foundation plan (ca. 1955, revised 1958).....	4-46
4.1.49	H-style, two-company barracks, barracks wing, first floor plan (1955, revised 1957)	4-47
4.1.50	H-style, two-company barracks, barracks wing, second floor plan (ca. 1955, revised 1958).....	4-48
4.1.51	H-style, two-company barracks, barracks wing, third floor plan (ca. 1955, revised 1958)	4-49
4.1.52	H-style, two-company barracks, mess wing, basement and first floor plans (1955, revised 1957).....	4-50
4.1.53	H-style, two-company barracks, mess wing, second floor and roof plan (1953, revised 1955).....	4-51
4.1.54	H-style, two-company barracks, Bldg. 9021 (1958), Kelley Hill, Ft. Benning, view NW	4-52
4.1.55	Detail of mess wing, H-style, two-company barracks, Bldg. 9021 (1958), Kelley Hill, Ft. Benning, view W	4-52
4.1.56	Renovated H-style, two-company barracks, barracks wing, first floor plan, Ft. Bragg (1972, revised 1974).....	4-53
4.1.57	Renovated H- style, two-company barracks, barracks wing, second floor plan, Ft. Bragg (1972, revised 1974).....	4-54
4.1.58	Renovated H- style, two-company barracks, barracks wing, third floor plan, Ft. Bragg (1972, revised 1974).....	4-55
4.1.59	Alterations to H-style, two-company barracks include new windows and exterior materials, Bldg. C-9349 (1958), Ft. Bragg, view SE	4-56
4.1.60	Alterations to H-style, two-company barracks include new windows and exterior materials, Bldg. C-9349 (1958), Ft. Bragg, view NW	4-56
4.1.61	Renovating H-style, two-company barracks, Bldg. 9211 (1958), Ft. Hood, view SE.....	4-57

- 4.1.62 Renovating H-style, two-company barracks, Bldg. 9211 (1958), Ft. Hood, view S 4-57
- 4.1.63 Renovated H-style, two-company barracks, Bldg. 14023 (1958), Ft. Hood, view SE..... 4-58
- 4.1.64 Renovated H-style, two-company barracks, Bldg. 9210 (1958), Ft. Hood, view NE 4-58

Rolling Pin Barracks

- 4.1.65 Map showing Rolling Pin barracks complex in the 16000 and 12000 areas, Ft. Hood..... 4-62
- 4.1.66 Map showing Rolling Pin barracks complex the D-area, Ft. Bragg 4-63
- 4.1.67 Map of Disney Barracks, consisting of Rolling Pin barracks, Ft. Knox 4-64
- 4.1.68 Rolling Pin, two-company barracks, foundation plan, Ft. Bragg (ca. 1959, revised 1966) 4-65
- 4.1.69 Rolling Pin, two-company barracks, first floor plan, Ft. Bragg (ca. 1959, revised 1967) 4-66
- 4.1.70 Rolling Pin, two-company barracks, second floor plan, Ft. Bragg (ca. 1959, revised 1967)..... 4-67
- 4.1.71 Rolling Pin, two-company barracks, third floor plan, Ft. Bragg (ca. 1959, revised 1967) 4-68
- 4.1.72 Rolling Pin, two-company barracks, Bldg. 5936 (1967), Ft. Knox, view NW 4-69
- 4.1.73 Rolling Pin, two-company barracks, Bldg. 5916 (1969), Ft. Knox, view SW..... 4-69
- 4.1.74 Rolling Pin, two-company barracks, Bldg. D-3151 (1971), Ft. Bragg, view SW 4-70
- 4.1.75 Rolling Pin, two-company barracks, Bldg. 36001 (1968), Ft. Hood, view SE..... 4-70
- 4.1.76 Rolling Pin dining facility, elevations, Ft. Hood (ca. 1960, revised 1967)..... 4-71
- 4.1.77 Rolling Pin dining facility, floor plan, Ft. Bragg (1960, revised 1967) 4-72
- 4.1.78 Rolling Pin dining facility, Bldg. 41007 (1969), Ft. Hood, view SE..... 4-73
- 4.1.79 Rolling Pin dining facility, Bldg. D-3148 (1971), Ft. Bragg, view SE..... 4-73
- 4.1.80 Rolling Pin dining facility, Bldg. 5942 (1967), Ft. Knox, view SW 4-74
- 4.1.81 Rolling Pin dining facility, Bldg. 5917 (1969), Ft. Knox, view S 4-74
- 4.1.82 Renovated Rolling Pin, two-company barracks, Bldg. 41009 (1969), Ft. Hood, view SE 4-75

4.1.83 Renovated Rolling Pin, two-company barracks, Bldg. 37006 (1968), Ft. Hood, view N	4-75
4.1.84 Renovated Rolling Pin, two-company barracks, Bldg. D-3545 (1971), Ft. Bragg, view NW	4-76
4.1.85 Renovated Rolling Pin, two-company barracks, Bldg. D-3142 (19710), Ft. Bragg, view SE	4-76

A-style Barracks

4.1.86 Map showing A-style barracks in the 31000 and 34000 areas, Ft. Hood.....	4-78
4.1.87 A-style barracks, Bldg. 31007 floor plans, wing 1 (ca. 1971, revised 1997).....	4-79
4.1.88 A-style barracks, Bldg. 31007 floor plans, wing 2 (ca. 1971, revised 1997).....	4-80
4.1.89 A-style barracks, Bldg. 31007 floor plans, wing 3 (ca. 1971, revised 1997).....	4-81
4.1.90 A-style barracks, Bldg. 31007 floor plans, wing 4 (ca. 1971, revised 1997).....	4-82
4.1.91 A-style barracks, Bldg. 34006 (1974), Ft. Hood, view E.....	4-83
4.1.92 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW	4-83
4.1.93 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW	4-84
4.1.94 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW	4-84

Lyle, Bisset, Carlisle & Wolfe Barracks

4.1.95 Map showing the LCB&W barracks complex in the H-area, Ft. Bragg	4-89
4.1.96 Map showing the LBC&W barracks complex in the 1000 through 1300 areas, Ft. Polk	4-90
4.1.97 Map showing the LBC&W barracks complexes in the 29000 and 39000 areas, Ft. Hood.....	4-91
4.1.98 Four-building LBC&W barracks, first floor plan, Ft. Bragg (ca. 1972, revised 1981)	4-92
4.1.99 Three-building LBC&W barracks, first floor plan, Ft. Bragg (ca. 1972, revised 1981)	4-93
4.1.100 Three-building LBC&W barracks, third floor plan and typical cross section, Ft. Hood (1975, revised 1976).....	4-94
4.1.101 Two-building LBC&W barracks, first floor plan, Ft. Bragg (1981, revised 1982)	4-95
4.1.102 LBC&W barracks living module, Ft. Hood (1972, revised 1975).....	4-96

4.1.103 LBC&W barracks, Bldg. 39012 (1977), Ft. Hood, view SE 4-97

4.1.104 LBC&W barracks, Bldg. 39039 (1978), Ft. Hood, view S..... 4-97

4.1.105 LBC&W barracks, Bldg. H-4817 (1980), Ft. Bragg, view NE..... 4-98

4.1.106 LBC&W barracks, Bldg. H-4812 (1980), Ft. Bragg, view N..... 4-98

4.1.107 LBC&W barracks, Bldg. 1054 (1979), Ft. Polk, view NW 4-99

4.1.108 LBC&W barracks, Bldg. 1150 (1979), Ft. Polk, view NE 4-99

Lyle, Bisset, Carlisle & Wolfe Dining Facility

4.1.109 LBC&W dining facility, floor plan and elevations, Ft. Polk (1973, revised 1976) 4-100

4.1.110 Double LBC&W dining facility, elevations, Ft. Hood (1972, revised 1975) 4-101

4.1.111 Double LBC&W dining facility, floor plan, Ft. Hood (1972, revised 1975)..... 4-102

4.1.112 LBC&W dining facility, Ft. Polk, view E..... 4-103

4.1.113 LBC&W dining facility, Ft. Polk, view SE 4-103

4.1.114 LBC&W company administration and supply, four-company floor plan, Ft. Bragg (1974)..... 4-104

4.1.115 LBC&W company administration and supply, five-company floor plan, Ft. Bragg (ca. 1972, revised 1975)..... 4-105

Army Reserve Annual Training Barracks

4.1.116 Map showing the Army Reserve Annual Training barracks complex, North Ft. Hood..... 4-108

4.1.117 One-story, Army Reserve Annual Training barracks, elevations, North Ft. Hood (1977, revised 1979) 4-108

4.1.118 One-story, Army Reserve Annual Training barracks, floor and roof framing plan, North Ft. Hood (1977, revised 1979)..... 4-110

4.1.119 One-story, Army Reserve Annual Training barracks, Bldg. 56437 (1979), North Ft. Hood, view W 4-111

4.1.120 One-story, Army Reserve Annual Training barracks, Bldg. 56437, 56435, 56433 (1979), North Ft. Hood, view W 4-111

4.1.121 Two-story, Army Reserve Annual Training barracks, elevations, North Ft. Hood (1977, revised 1979) 4-112

4.1.122 Two-story, Army Reserve Annual Training barracks, floor plans, North Ft. Hood (1977, revised 1979)	4-113
4.1.123 Two-story, Army Annual Reserve Training barracks, Bldg. 56436 (1979), North Ft. Hood, view N.....	4-114
4.1.124 Two-story, Army Annual Reserve Training barracks, Bldg. 56440 (1979), North Ft. Hood, view E	4-114
4.1.125 Army Reserve Annual Training dining facility, Bldg. 56447 (1979), North Ft. Hood, view NE.....	4-115
4.1.126 Army Reserve Annual Training dining facility, Bldg. 56440 (1979), North Ft. Hood, view S.....	4-115

Starship Barracks

4.1.127 Map showing Starship barracks, Sand Hill area, Ft. Benning.....	4-118
4.1.128 Starship barracks, landscaping plan (1985, revised 1986).....	4-119
4.1.129 Starship barracks, first floor plan (ca. 1974, revised 1984)	4-120
4.1.130 Starship barracks, second floor plan (ca. 1974, revised 1985).....	4-121
4.1.131 Starship barracks, third floor plan (ca. 1974, revised 1985)	4-122
4.1.132 Starship barracks, roof plan (ca. 1974, revised 1985).....	4-123
4.1.133 Starship barracks, elevations (ca. 1974, revised 1986)	4-124
4.1.134 Starship barracks, elevations and cross sections (ca. 1974, revised 1986)	4-125
4.1.135 Starship barracks, elevations and cross sections (ca. 1974, revised 1986)	4-126
4.1.136 Starship barracks, elevations and cross sections (ca. 1977, revised 1986)	4-127
4.1.137 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view E.....	4-128
4.1.138 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SE	4-128
4.1.139 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SW	4-129
4.1.140 Starship barracks, Bldg. 3105 (1988), cadre area, Ft. Benning, view SE	4-129
4.1.141 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SE	4-130
4.1.142 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view S.....	4-130
4.1.143 Starship barracks, Bldg. 3105 (1988), dining facility, Ft. Benning, view NW	4-131

4.1.144 Starship barracks, Bldg. 3105 (1988), dining facility, Ft. Benning, view NW 4-131

Quadrangle Barracks

4.1.145 Single Quadrangle barracks, elevations and sections, Ft. Stewart (1983, revised 1985) 4-134

4.1.146 Single Quadrangle barracks, floor plans, Ft. Stewart (1983, revised 1984) 4-135

4.1.147 Map showing double quadrangle barracks, E-4728, E4824, Ft. Bragg 4-136

4.1.148 Double Quadrangle barracks, first floor plan, Ft. Bragg (1986, revised 1990) 4-137

4.1.149 Double Quadrangle barracks, second floor plan, Ft. Bragg (1986, revised 1990)..... 4-138

4.1.150 Double Quadrangle barracks, third floor plan, Ft. Bragg (1986, revised 1990) 4-139

4.1.151 Double Quadrangle barracks, Bldg. E-4824 (1988), Ft. Bragg, view N 4-140

4.1.152 Double Quadrangle barracks, Bldg. E-4824 (1988), Ft. Bragg, view NW 4-140

4.1.153 Map of quadrangle barracks complex in M area, Ft. Bragg 4-141

4.1.154 Quadrangle barracks, elevations and partial floor plans, Ft. Bragg (1985, revised 1987) 4-142

4.1.155 Quadrangle barracks, partial floor plans, first and second floors, Ft. Bragg (1985, revised 1987)..... 4-143

4.1.156 Quadrangle barracks, third floor plan and details, Ft. Bragg (1985, revised 1987)..... 4-144

4.1.157 Quadrangle barracks, Bldg. M-4020 (1985), Ft. Bragg, view NE 4-145

4.1.158 Quadrangle barracks, Bldg. M-3213 (1987), Ft. Bragg, view NE 4-145

4.1.159 Quadrangle barracks, Bldg. M-3519 (1987), Ft. Bragg, view NE 4-146

4.1.160 Quadrangle barracks, Bldg. M-3519 (1987), Ft. Bragg, view SE..... 4-146

Quadrangle dining facility

4.1.161 Quadrangle dining facility, Bldg. M-4746, Ft. Bragg, view SW 4-147

4.1.162 Quadrangle dining facility, Bldg. M-3234, Ft. Bragg, view SE 4-147

Receptee Barracks

4.1.163 Receptee barracks, landscaping plan (1985, revised 1987) 4-149

4.1.164 Receptee barracks, ground floor (1985, revised 1987) 4-150

4.1.165	Receptee barracks, first and second floors (1985, revised 1987).....	4-151
4.1.166	Receptee barracks, third floor and roof plan (1985, revised 1987).....	4-152

MEDDAC Barracks

4.1.167	MEDDAC barracks, floor plans, Ft. Polk (ca. 1986).....	4-154
4.1.168	MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view SW	4-155
4.1.169	MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view SE	4-155
4.1.170	MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view NE.....	4-156

Semi-permanent – U-shaped Barracks

4.1.171	Map of Semi-permanent barracks complex, Harmony Church area, Ft. Benning	4-158
4.1.172	Semi-permanent 72-man “U” barracks, elevations, Ft. Benning (1964, as built 1967)	4-159
4.1.173	Semi-permanent 72-man “U” barracks, floor plan, Ft. Benning (1964, as built 1967)	4-160
4.1.174	Semi-permanent 72-man “U” barracks, overview, 4700 area (1967), Ft. Benning, view E	4-161
4.1.175	Semi-permanent 72-man “U” barracks, Bldg. 4707 (1967), Ft. Benning, view E.....	4-161
4.1.176	Semi-permanent dining facility, Bldg. 4702 (1967), Ft. Benning, view N.....	4-162
4.1.177	Semi-permanent dining facility, Bldg. 4702 (1967), Ft. Benning, view W	4-162
4.1.178	Semi-permanent dayroom, Bldg. 4703 (1967), Ft. Benning, view W	4-163
4.1.179	Semi-permanent dayroom, Bldg. 4703 (1967), Ft. Benning, view E.....	4-163
4.1.180	Semi-permanent administration and supply office, Bldg. 4713 (1967) Ft. Benning, view W.....	4-164
4.1.181	Semi-permanent administration and supply office, Bldg. 4713 (1967) Ft. Benning, view E.....	4-164

Semi-Permanent – H-shaped Barracks

4.1.182	Map of Semi-permanent barracks complex, 9400 area, McGregor Range, Ft. Bliss.....	4-167
4.1.183	Map of Semi-permanent barracks complex, 9500 area, McGregor Range, Ft. Bliss.....	4-168

4.1.184 Semi-permanent 80-man “H” barracks, elevations, Ft. Bliss (1974, revised 1976)	4-169
4.1.185 Semi-permanent 80-man “H” barracks, floor plan, Ft. Bliss (1974, revised 1976)	4-170
4.1.186 Semi-permanent 80-man “H” barracks, Bldg. 8682 (1961), Oro Grande Range, Ft. Bliss, view S	4-171
4.1.187 Door detail, Semi-permanent 80-man “H” barracks, Bldg. 8682 (1961), Oro Grande Range, Ft. Bliss, view SW	4-171
4.1.188 Semi-permanent 80-man “H” barracks, Bldg. 9404 (1959), McGregor Range, Ft. Bliss, view SW	4-172
4.1.189 Squad room, Semi-permanent 80-man “H” barracks, Bldg. 9404 (1959), McGregor Range, Ft. Bliss, view SE	4-172
4.1.190 Modernization of “H” barracks, Bldg. 9405, 9417, McGregor Range, Ft. Bliss (1979, revised 1995)	4-173
4.1.191 Renovated Semi-permanent 80-man “H” barracks, Bldg. 9405 (1959), McGregor Range, Ft. Bliss, view NE	4-174
4.1.192 Entrance detail, renovated Semi-permanent 80-man “H” barracks, Bldg. 9405 (1959), McGregor Range, Ft. Bliss, view E	4-174
4.1.193 Semi-permanent dining facility, floor plan, Bldg. 9510, McGregor Range, Ft. Bliss (ca. 1956)	4-175
4.1.194 Semi-permanent dining facility, Bldg. 9510 (1957), McGregor Range, Ft. Bliss, view SE	4-176
4.1.195 Semi-permanent dining facility, Bldg. 9510 (1957), McGregor Range, Ft. Bliss, view SW	4-176

Hutments

4.1.196 Hutment, Bldg. 9170 (1987), Ft. Knox, view NE	4-178
4.1.197 Hutment, Bldg. 9169 (1987), Ft. Knox, view SW	4-178

Mobilization Barracks – Quonset Huts

4.1.198 Map of Mobilization barracks complex, Oro Grande Range, Ft. Bliss	4-181
4.1.199 Quonset hut, Bldg. 8647 (1958), Oro Grande Range, Ft. Bliss, view W	4-182
4.1.200 Quonset hut, Bldg. 8650 (1958), Oro Grande Range, Ft. Bliss, view NW	4-182
4.1.201 Overview of mobilization barracks, Oro Grande Range, Ft. Bliss, view N	4-183
4.1.202 Mobilization barracks, Bldg. 8637 (1959), Oro Grande Range, Ft. Bliss, view E	4-183

4.1.203 Interior of Bldg. 8637 (1959), Oro Grande Range, Ft. Bliss, view SE	4-184
4.1.204 Mobilization latrine, Bldg. 8627 (1959), Oro Grande Range, Ft. Bliss, view E	4-184
4.1.205 Interior of Bldg. 8627 (1959), Oro Grande Range, Ft. Bliss, view E	4-185
4.1.206 Mobilization dining facility, Bldg. 8679 (1958), Oro Grande Range, Ft. Bliss, view E	4-185
4.1.207 Interior of Bldg. 8679 (1958), Oro Grande Range, Ft. Bliss, view S.....	4-186
4.1.208 Mobilization dining facilities, Bldg. 8615, 8614, Oro Grande Range, Ft. Bliss, view E	4-186

Mobilization Barracks – C-huts

4.1.209 Map of the C-huts, North Ft. Hood	4-188
4.1.210 Overview of C-huts, North Ft. Hood, view E	4-189
4.1.211 C-hut, North Ft. Hood, view W.....	4-189
4.1.212 C-hut dining facility, Bldg. 56534 (1951), North Ft. Hood, view W.....	4-190
4.1.213 C-hut dining facility, Bldg. 56532 (1951), North Ft. Hood, view N.....	4-190
4.1.214 C-hut dining facility, Bldg. 56618 (1951), North Ft. Hood, view E	4-191
4.1.215 C-hut dining facility, Bldg. 56523 (1951), North Ft. Hood, view E	4-191
4.1.216 Map of mobilization barracks complex, Dona Ana Range, Ft. Bliss.....	4-192
4.1.217 C-hut, floor plan and elevations, Ft. Bliss (1966, revised 1967).....	4-193
4.1.218 Overview of C-huts, Dona Ana Range, Ft. Bliss, view NW	4-194
4.1.219 C-hut, Bldg. 8215 (1966), Dona Ana Range, Ft. Bliss, view NW	4-194
4.1.220 C-hut, Bldg. 8130 (1966), Dona Ana Range, Ft. Bliss, view NW	4-195
4.1.221 C-hut, Bldg. 8130 (1966), Dona Ana Range, Ft. Bliss, view W	4-195
4.1.222 Mobilization dining facility, elevations and floor plan, Dona Ana Range, Ft. Bliss (1966, revised 1967)	4-196
4.1.223 Mobilization dining facility, Bldg. 8160 (1966), Dona Ana Range, Ft. Bliss, view E	4-197
4.1.224 Mobilization dining facility, Bldg. 8160 (1966), Dona Ana Range, Ft. Bliss, view SW.....	4-197

4.1.225 Mobilization latrine, elevations and floor plan, Dona Ana Range, Ft. Bliss (1966, revised 1967).....	4-198
4.1.226 Mobilization latrine, Bldg. 8128 (1966), Dona Ana Range, Ft. Bliss, view E	4-199
4.1.227 Showers in mobilization latrine, Bldg. 8128 (1966), Dona Ana Range, Ft. Bliss, view NE	4-199

Tent Pad

4.1.228 Tent Pad, Ft. Knox, view NE.....	4-200
4.1.229 Tent Pad, Ft. Knox, view N	4-201
4.1.230 Tent Pad with wood tent frame, Ft. Knox, view NE.....	4-201
4.1.231 Metal tent frame, Ft. Knox, view NE.....	4-202

4.2 BOQs

4.2.1 Map showing two-story, hammerhead BOQ complex, Bldg. 1-2334 through 1-2739, Ft. Bragg	4-205
4.2.2 Map showing two-story, hammerhead BOQs, Bldg. 972-974, 976, Ft. Benning	4-205
4.2.3 Two-story, hammerhead BOQ, elevations, Ft. Benning (1954, revised 1957).....	4-206
4.2.4 Two-story, hammerhead BOQ, basement and first floor plans, Ft. Benning (1952, revised 1953).....	4-207
4.2.5 Two-story, hammerhead BOQ, second floor plan and typical room layout, Ft. Benning (1952, revised 1953).....	4-208
4.2.6 Map of three-story, hammerhead barracks, Bldg. 5786-5792, Ft. Hood	4-209
4.2.7 Three-story, hammerhead BOQ, elevations, Ft. Benning (1955)	4-210
4.2.8 Three-story, hammerhead BOQ, basement and first floor plan, Ft. Benning (1955).....	4-211
4.2.9 Three-story, hammerhead BOQ, second, third, and roof plans, Ft. Benning (1955).....	4-212
4.2.10 Two-story, hammerhead BOQ converted to offices, Bldg. 1-2732 (1953), Ft. Bragg, view SW	4-213
4.2.11 Two-story, hammerhead BOQ, Bldg. 1394 (1954), Ft. Knox, view NE	4-213
4.2.12 Two-story, hammerhead BOQ, Bldg. 1392 (1954), Ft. Knox, view W.....	4-214
4.2.13 Two-story, hammerhead BOQ, Bldg. 1392 (1954), Ft. Knox, view S	4-214

4.2.14	Three-story, hammerhead BOQ, Bldg. 5786 (1956), Ft. Hood, view SE	4-215
4.2.15	Renovated two-story, hammerhead BOQ, Bldg. 1-2334 (1953), Ft. Bragg, view NW	4-215
4.2.16	Renovated two-story, hammerhead BOQ, Bldg. 1-2334 (1953), Ft. Bragg, view S.....	4-216
4.2.17	Renovated three-story, hammerhead BOQ, Bldg. 1-1938 (1955), Ft. Bragg, view NE	4-216
4.2.18	Renovated three-story, hammerhead BOQ, Bldg. 1-1938 (1955), Ft. Bragg, view SW.....	4-217
4.2.19	Renovated two-story, hammerhead UOQ, Bldg. 973 (1953), Ft. Benning, view NW	4-217
4.2.20	Renovated two-story, hammerhead UOQ, Bldg. 974 (1953), Ft. Benning, view NW	4-218
4.2.21	Renovated three-story, hammerhead UOQ, Bldg. 975 (1956), Ft. Benning, view S	4-218
4.2.22	Renovated three-story, hammerhead UOQ, Bldg. 975 (1956), Ft. Benning, view SE.....	4-219
4.2.23	Map of two-story, apartment type women’s BOQs, Bldg. 855-857, Ft. Knox	4-221
4.2.24	Map of two-story, apartment type BOQs, Bldg. 2441-2449, Ft. Knox.....	4-221
4.2.25	Map of two-story, apartment type BOQs, 5000 area, Ft. Bliss	4-222
4.2.26	Two-story, apartment type women’s BOQ, Bldg. 855 (1959), Ft. Knox, view W	4-223
4.2.27	Two-story, apartment type women’s BOQ, Bldg. 857 (1959), Ft. Knox, view N.....	4-223
4.2.28	Two-story, apartment type women’s BOQ, Bldg. 856 (1959), Ft. Knox, view N.....	4-224
4.2.29	Two-story, apartment type BOQ, Bldg. 2446 (1962), Ft. Knox, view NE	4-224
4.2.30	Two-story, apartment type BOQ, Bldg. 2446 (1962), Ft. Knox, view NW	4-225
4.2.31	Two-story, apartment type BOQ, Bldg. 5039 (1958), Ft. Bliss, view NE	4-225
4.2.32	Two-story, apartment type BOQ, Bldg. 5042 (1962), Ft. Bliss, view SW	4-226
4.2.33	Two-story, apartment type BOQ, Bldg. 5045 (1962), Ft. Bliss, view NW.....	4-226
4.2.34	120-man motel type BOQ, floor plan, Ft. Bragg (1967, revised 1969)	4-228
4.2.35	120-man motel type BOQ, typical unit and interior elevations, Ft. Bragg (1967, revised 1969).....	4-229

4.2.36	120-man motel type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view SE.....	4-230
4.2.37	120-man motel-type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view NW	4-230
4.2.38	Motel-type BOQ, Bldg. 332, floor plans, Ft. Polk (ca. 1972).....	4-231
4.2.39	Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view W	4-232
4.2.40	Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view SW	4-232
4.2.41	Motel-type BOQ, Bldg. 331 (1973), Ft. Polk, view NE	4-233
4.2.42	Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view SE.....	4-233
4.2.43	Map showing apartment-type BOQ complex, 2600 area, Ft. Knox.....	4-235
4.2.44	Apartment-type BOQ, Bldg. 2601 (1974), Ft. Knox, view NW	4-236
4.2.45	Apartment-type BOQ, Bldg. 2601 (1974), Ft. Knox, view SE.....	4-236
4.2.46	Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view SW.....	4-237
4.2.47	Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view NW	4-237
4.2.48	Apartment-type BOQ, Bldg. 2606 (1974), Ft. Knox, view NE	4-238
4.2.49	Apartment-type BOQ, Bldg. 2606 (1974), Ft. Knox, view NW	4-238
4.2.50	Apartment-type BOQ, Bldg. 2602 (1974), Ft. Knox, view W	4-239
4.2.51	Community center converted to administration and supply, Bldg. 2608 (1974), Knox, view SW	4-239
4.2.52	Map showing the Army Reserve Annual Training UOQ complex.....	4-241
4.2.53	Army Reserve Annual Training UOQ, Bldg. 56354, 56352, 56350 (1979), Ft. Hood, view E	4-242
4.2.54	Army Reserve Annual Training UOQ, Bldg. 56342 (1979), Ft. Hood, view NW	4-242
4.2.55	Army Reserve Annual Training UOQ, Bldg. 56343 (1979), Ft. Hood, view NW	4-243
4.2.56	Army Reserve Annual Training UOQ hallway, Bldg. 56343 (1979), Ft. Hood, view N.....	4-243
4.2.57	High Rise BOQ, sketch plan (ca. 1958).....	4-247
4.2.58	High Rise BOQ, New Garden Apartments, Bldg. 4770 (1958), Ft. Knox, view E	4-248
4.2.59	High Rise BOQ, New Garden Apartments, Bldg. 4770 (1958), Ft. Knox, view SE	4-248

4.2.60	High Rise BOQ, Keith Ware Hall, elevations A & C, Ft. Hood (ca. 1967).....	4-249
4.2.61	High Rise BOQ, Keith Ware Hall, elevations D, B, F, & E, Ft. Hood (ca. 1967).....	4-250
4.2.62	High Rise BOQ, Keith Ware Hall, elevations G, K, & I, Ft. Hood (ca. 1967, revised 1967).....	4-251
4.2.63	High Rise BOQ, Keith Ware Hall, elevations J & H, Ft. Hood (ca. 1967, revised 1967).....	4-252
4.2.64	High Rise BOQ, Keith Ware Hall, first floor plan-core, Ft. Hood (ca. 1967, revised 1970).....	4-253
4.2.65	High Rise BOQ, Keith Ware Hall, first floor plan-wings, Ft. Hood (ca. 1967, revised 1970).....	4-254
4.2.66	High Rise BOQ, Keith Ware Hall, second floor plan-core, Ft. Hood (ca. 1967, revised 1970).....	4-255
4.2.67	High Rise BOQ, Keith Ware Hall, second floor plan-wings, Ft. Hood (ca, 1967, revised 1970).....	4-256
4.2.68	High Rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view N.....	4-257
4.2.69	High Rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view SE.....	4-257
4.2.70	High Rise BOQ, Moon Hall, Bldg. C-3601 (1966), Ft. Bragg, view SE.....	4-258
4.2.71	High Rise BOQ, Hardy Hall, Bldg. C-3703 (1966), Ft. Bragg, view NW.....	4-258
4.2.72	High Rise BOQ, Woodfill Hall, elevations, Ft. Polk (1977, revised 1977).....	4-259
4.2.73	High Rise BOQ, Woodfill Hall, elevations, Ft. Polk (1977, revised 1977).....	4-260
4.2.74	High Rise BOQ, Woodfill Hall, first floor plan, Ft. Polk (1977, revised 1977).....	4-261
4.2.75	High Rise BOQ, Woodfill Hall, second to fifth floor plan, Ft. Polk (1977, revised 1978).....	4-262
4.2.76	High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view E.....	4-263
4.2.77	High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view NE.....	4-263
4.2.78	High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view SE.....	4-264
4.2.79	High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view NW.....	4-264
<u>Semi-permanent BOQ</u>		
4.2.80	Semi-permanent “U” BOQ, floor plan, Bldg. 9517, Ft. Bliss (ca. 1957).....	4-266

4.2.81	Semi-permanent “U” BOQ dayroom, Bldg. 9517 (1959), McGregor Range, Ft. Bliss, view SE	4-267
4.2.82	Semi-permanent “U” BOQ hallway, Bldg. 9517 (1959), McGregor Range, Ft. Bliss, view E	4-267
4.2.83	Semi-permanent 16-man BOQ, floor plan and elevations, Oro Grande Range, Ft. Bliss (ca. 1960)	4-269
4.2.84	Semi-permanent 16-man BOQ, Bldg. S-8609, S-8610 (1961), Oro Grande Range, Ft. Bliss, view SE.....	4-270
4.2.85	Semi-permanent 16-man BOQ, Bldg. S-8610 (1961), Oro Grande Range, Ft. Bliss, view NE	4-270

Mobilization BOQ

4.2.86	Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view SW	4-272
4.2.87	Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view S	4-272

4.3 Transient

4.3.1	Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE.....	4-274
4.3.2	Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE.....	4-274
4.3.3	Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE.....	4-275
4.3.4	Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SW	4-275
4.3.5	Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view E.....	4-277
4.3.6	Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view NE	4-278
4.3.7	Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view S	4-278
4.3.8	Transient quarter, Bldg. D-4218, second floor plan, Ft. Bragg (1972).....	4-279
4.3.9	Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE.....	4-280
4.3.10	Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE.....	4-280
4.3.11	Transient quarter, Bldg. D-4218 (1971), Ft. Bragg, view SW	4-281
4.3.12	Transient quarter, Guest House, Bldg. 522, floor plan, Ft. Polk (ca. 1987)	4-282
4.3.13	Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NW	4-283
4.3.14	Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NE.....	4-283

4.3.15 Transient quarter, The Inn at Ft. Bliss, floor plans (1989).....4-285

4.3.16 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NW4-286

4.3.17 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE4-286

4.3.18 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view SE.....4-287

4.3.19 Transient quarter addition, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE4-287

Appendix B

B.1.1 Map of Main Post, Fort Benning..... B-7

B.1.2 Map of Harmony Church Area, Fort Benning B-8

B.1.3 Map of Sand Hill area, Fort Benning B-9

B.2.1 Map of Main Post, Fort Bliss B-21

B.2.2 Map of Fort Bliss B-22

B.3.1 Map of Fort Bragg..... B-26

B.4.1 Map of Main Cantonment, Fort Hood..... B-39

B.4.2 Map of North Fort Hood B-40

B.6.1 Map of Fort Polk B-53

LIST OF TABLES

Table 1.	Size of the Army Over Time.....	3-20
Table 2.	Size of the Army During the Cold War	3-20
Table 3.	Number of Barracks versus Number of BOQs	3-41

1.0 EXECUTIVE SUMMARY

This project was undertaken to support the U.S. Army Environmental Center (USAEC) in developing a nationwide historic context for the U.S. Army's Unaccompanied Personnel Housing (UPH) for the Cold War period (1946-1989). R. Christopher Goodwin & Associates, Inc. completed this investigation on behalf of the U.S. Army Medical Research Acquisition Activity (USAMRAA) for USAEC.

The objective of the historic context is to provide a framework for the evaluation and treatment of the U.S. Army's Unaccompanied Personnel Housing applying the National Register Criteria for Evaluation (36 CFR 60 [a-d]). It is anticipated that the historic context will support cultural resource managers in the identification, evaluation, and treatment of historic properties pursuant to Sections 106 and 110 of the National Historic Preservation Act of 1966 (NHPA), as amended, and in accordance with Army Regulation 200-4.

The U.S. Army faced an unprecedented bachelor housing shortage in the years following World War II. This housing shortage strained Army morale and impacted personnel retention rates. The Army sought to solve its housing shortage through the construction of standardized buildings. These buildings were developed within congressional cost restrictions and in accordance with Department of Defense housing standards.

The U.S. Army Integrated Facilities System Database identifies examples of Cold War era Unaccompanied Personnel Housing at 145 Army installations. Unaccompanied Personnel Housing includes three principal property types: enlisted barracks, Bachelor Officers Quarters, and transient quarters. Enlisted barracks and Bachelor Officers Quarters represent property types associated with the Army since colonial times. Three types of construction represent these categories of housing: permanent, semi-permanent, and temporary. The oldest Cold War era examples were constructed in the early 1950s as part of the military expansion related to the Korean War. These facilities also provided housing to support the large peacetime Army necessitated by the Cold War era. Transient quarters were a new permanent property type introduced in 1970.

This report documents the evolution of Unaccompanied Personnel Housing with particular emphasis on the Cold War era. Archival research and field investigation were combined to identify the architectural designs developed for this class of housing as well as to document the pattern of change to these designs. The designs for enlisted barracks and Bachelor Officers Quarters evolved during the Cold War era to reflect the Army's concern for the quality of life for military personnel. During this time, the designs for enlisted barracks underwent the most dramatic change. In these barracks, the large, open squad rooms used as historically dormitories gradually were eliminated and replaced by residential suites affording greater individual privacy. The design of Bachelor Officers Quarters (BOQs) also were modified to enhance personnel quality of life. Kitchenettes were introduced into BOQ designs during the Cold War period. The majority of transient quarters are constructed as Bachelor Officers Quarters. Buildings specifically designed to serve as transient quarters include guest houses and inns. Both building types are similar to contemporary motel design.

The project objective was accomplished through a program of archival research, site research, and data analysis. The results of the investigation are presented in the following technical report, which is designed as a reference tool for cultural resources managers. The report contains the following:

- € Chapter 2, Introduction and Methods, details the project objectives and methods.
- € Chapter 3, Historical Overview, identifies the significant events and trends in the Army's UPH.
- € Chapter 4, Property Types, identifies, defines, and illustrates UPH related to three major classifications: Barracks, Bachelor Officers Quarters (BOQs), and Transient Quarters. Dining facilities are discussed with their related property type.
- € Chapter 5, Application of the Historic Context, presents an approach to identification, evaluation, and treatment of UPH resources.
- € The technical report is supported by the following appendices:
 - € Appendix A, List of Army installations containing enlisted barracks;
 - € Appendix B, Results of the installation site visits; and,
 - € Appendix C, Resumes of project personnel.

2.0 INTRODUCTION AND METHODS

2.1 PROJECT DESCRIPTION AND BACKGROUND

This study was undertaken to support the U.S. Army Environmental Center (USAEC) in the development of a nationwide historic context for the U.S. Army's Unaccompanied Personnel Housing (UPH) for the Cold War period (1946-1989). It is anticipated that the results of this investigation will assist in the identification, evaluation, and treatment of historic resources associated with UPH pursuant to the National Historic Preservation Act of 1966 (NHPA), as amended, and in accordance with Army Regulation 200-4. R. Christopher Goodwin & Associates, Inc. (RCG&A), completed this investigation for the U.S. Army Medical Research Acquisition Activity (USAMRAA) under Contract Number DAMD17-01-2-0016 Task Order 06, on behalf of USAEC.

The U.S. Army Integrated Facilities System (IFS) Database identifies UPH facilities at 145 installations located throughout the continental United States (Appendix A). The majority of these installations are located near the Atlantic, Gulf, and Pacific coasts; the largest concentration of UPH facilities is found in the southeastern states.

The inventory of U.S. Army UPH facilities include buildings and structures that support two principal uses: housing and food services. The oldest Cold War era examples of UPH buildings were constructed in the early 1950s as part of the military expansion related to the Korean War. These facilities also provided housing to support the large peacetime Army necessitated by the Cold War era.

2.1.1 Project Objectives

Several objectives were identified for the current investigation. These are:

- € To develop a comprehensive historic context that provides background data on the organizational history, doctrines, and policies that influenced the development and evolution of U.S. Army UPH;
- € To synthesize and analyze data on the history and evolution of U.S. Army UPH-related facilities between 1946 and 1989 to extrapolate property types associated with the historic context;
- € To develop a standardized methodology for the identification and evaluation of the U.S. Army UPH developed between 1946 and 1989; and,
- € To develop approaches useful to cultural resources managers for the identification, evaluation, registration, and treatment of properties associated with U.S. Army Unaccompanied Personnel Housing-related facilities under their stewardship.

2.1.2 Historic Context Approach

USAEC identified the need for the holistic study and analysis of real property related to U.S. Army UPH to support the identification and evaluation historic properties applying the National Register Criteria for Evaluation (36 CFR 60 [a-d]). A nationwide historic context for this class of resource was developed to meet USAEC objectives.

The concept of a historic context was refined for use in cultural resource management by the National Register of Historic Places. A historic context is an organizational framework that groups information about related properties based on theme(s), geographic area, and chronological period(s). The historic context provides the framework for decisions about the comparative significance of resources applying the Criteria for Evaluation of the National Register of Historic Places (36 CFR 60 [a-d]). The elements of the historic context for U.S. Army UPH are as follows:

Geographic Area:	Continental United States
Theme:	Military Housing
Sub-themes:	Enlisted Housing Bachelor Officer Housing Transient Housing
Time Period:	1946-1989

The historical themes related to U.S. Army UPH were explored for earlier time periods in the *Nationwide Historic Context for Department of Defense Installations: 1790-1940* (Cannan et al. 1995). The nationwide installations historic context established a framework for examining the complex historical and architectural relationships among Department of Defense construction on a nationwide basis. Housing is one property type developed under the nationwide installations historic context, along with such resource types as Administration Buildings; Educational Facilities; and Medical Facilities (Cannan et al. 1995).

The geographic limit of the current study on Army UPH is the continental United States. The design and construction of U.S. Army bachelor housing-related facilities were generally undertaken on a nationwide basis. It also is anticipated that similar Army facilities are located on current or former U.S. Army installations located outside the continental United States.

2.2 METHODS

The project objectives were accomplished through a program of archival research, site investigation at six U.S. Army installations, and data analysis. All work was completed in accordance with the project scope of work, the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation*, and guidance developed by the National Register program. All senior level project staff meet or exceed the Secretary of Interior's qualifications in the disciplines of history, architectural history, and/or historic preservation (36 CFR Part 61). Junior staff personnel worked under the direct supervision of senior project personnel.

2.2.1 Archival Research

In-depth archival research of primary and secondary sources was undertaken on the organizational history, doctrines, and policies that influenced the design and development of U.S. Army

UPH during the Cold War era (1946-1989). Data were collected to identify significant events and policies that influenced site plans, building design, and spatial arrangement of U.S. Army UPH facilities. Archival research also was directed to compile data on the evolution and modification of these property types over time. Research data was analyzed to identify property types and their character-defining features. These features are important in assessing resource integrity when applying the Criteria for Evaluation of the National Register of Historic Places.

Archival research was undertaken at the following repositories:

- € National Archives and Records Administration, Washington, D.C.;
- € Library of Congress, Washington, D.C.;
- € U.S. Army Corps of Engineers Library, Fort Belvoir, Virginia;
- € U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania; and,
- € U.S. Army War College Library, Carlisle Barracks, Pennsylvania.

In addition, the collections at the National Register of Historic Places and the Historic American Buildings Survey/Historic American Engineering Record were reviewed for data on Army UPH-related facilities.

Surviving records related to U.S. Army UPH during the Cold War period are decentralized and unindexed. Documents, including architectural plans, contracts, and completion reports frequently were not retained under the current Army records retention schedules. The largest collections of public records open to researchers are housed at the National Archives and Records Administration, the Library of Congress, the U.S. Army Center of Military History in Washington D.C. and the U.S. Army Military Institute at Carlisle Barracks, Pennsylvania (Raines 1996:315). All of these repositories had a dearth of materials related to military construction of Unaccompanied Personnel Housing. Source material may survive in the collection of the Pentagon Library; this archive is closed to researchers.

Numerous record groups were searched in the National Archives: RG 330 (Secretary of Defense), RG 335 (Secretary of the Army), RG 319 (Army Headquarters Staff), and RG 77 (Army Corps of Engineers). The quantity, quality, and time period of the records varies within each record group. Army policies and records generally dating prior to 1965 are contained in RG 77, RG 319, and RG 335; data prior to 1955 is found in RG 330. Selected references to Army UPH construction were found in RG 77. These records were limited to copies of Military Construction Program Item Justification Books, which were prepared by the Army for Congressional Appropriation Committees. Justification books survive for fiscal years 1953-1955, 1960-1965, 1968, and 1971-1972. The books included the number of buildings authorized at each installation and very brief descriptions of the buildings.

Information found in the Military Construction Program Item Justification Books was included in the printed summaries of the Military Construction Appropriation hearings after 1982. The numbers of each property type authorized are recorded; no data are included on building types. Copies of these hearings are available at the Library of Congress. Occasional discussions and reports inserted into the proceedings provided the best source for insights on the development of new UPH designs.

The Library of Congress has an extensive collection of engineering, military, and architectural journals. Numerous articles on barracks built by the Navy, Air Force, and Coast Guard appear in these periodicals; few articles on Army barracks were published. Journals, such as *The Quartermaster Review* and *The Military Engineer*, historically published articles on Army housing. Articles on topics related to Army UPH cease after World War II. Articles found within the *Air Force Times* and the *Army Navy Air Force Journal* for the period provided insights into UPH policy.

Data searches in the U.S. Army Housing Division's offices at the Humphrey's Engineering Center in Alexandria, Virginia; the Military Family Institute, Marywood University, Pennsylvania; and the U.S. Army Corps of Engineers, Directorate of Military Programs, Programs Management Division did not uncover substantial source material on Army UPH. The files of the National Register and the Historic American Buildings Survey/Historic American Engineering Record currently do not contain documentation related to U.S. Army UPH facilities from the Cold War era. Limited archival data was identified at major repositories for some property and building types. Real property records maintained at the installations selected for site investigations were reviewed thoroughly for data related to Army UPH. This data included architectural drawings and related construction documents.

2.2.2 Field Investigation

Site visits to six U.S. Army installations containing UPH facilities were completed during August, September, and October 2002. The purpose of these visits was to collect data to augment and ground-truth archival research. In addition, installations were examined to identify and to illustrate UPH-related property types based on extant real property in the U.S. Army inventory. Summary reports for the six installations selected as case studies appear in Appendix B to this report. These case studies include a summary installation history, interview data from cultural resource managers, and a review of extant real property related to UPH. The six case studies, which were selected in coordination with USAEC, were:

- € Ft. Benning, Georgia (TRADOC);
- € Ft. Bliss, Texas (TRADOC);
- € Ft. Bragg, North Carolina (FORSCOM);
- € Ft. Hood, Texas (FORSCOM);
- € Ft. Knox, Kentucky (TRADOC); and,
- € Ft. Polk, Louisiana (FORSCOM).

Installations were selected following preliminary review of installation maps and real property databases of UPH property types constructed from 1946-1989. The installations were selected for the number and type of extant UPH facilities in the current real property inventories. Examples of barracks, dining facilities, Bachelor Officers Quarters, and transient quarters were included in these property types. Geographically disparate installations were selected to provide data on regional differences. Mr. David Phillips, Avila Government Services, also was consulted for his insights on representative installations gained through the ongoing Barracks Upgrade Program. As part of the program, Mr. Phillips visited a majority of the U.S. Army's installations inspecting barracks. He suggested installations with the widest range of UPH facilities. The site visits focused on FORSCOM and TRADOC installations since these installations have the largest number and variety of UPH facilities. In particular, Fort Bliss was selected for the number of mobilization UPH facilities and Fort Polk was selected for its concentration of 1970s and 1980s related UPH facilities. The other installations were selected to represent a large variety of resources and to document regional variations. A detailed architectural analysis of the design, materials, construction, and modification of over 700 examples of Army UPH was completed by architectural historians to offset the modicum of surviving records associated with this topic of the recent past.

The following information was collected at each of the six installations:

- € summary history of the installation;
- € documentation of the construction dates, original uses, and subsequent alterations to UPH property types;
- € photographs illustrating extant UPH-related property types; and,
- € status of cultural resources investigations and evaluations of UPH facilities.

Research was undertaken at installation real property offices, engineering offices, cultural resources management offices, installation libraries, and museums. Previous cultural resources survey and evaluation studies were also reviewed.

2.3 DATA SYNTHESIS AND REPORT ORGANIZATION

Archival research and site data were correlated, analyzed, and synthesized into this report. The historical record was augmented with data extrapolated from an examination of extant examples of UPH property types. Both data sets were scrutinized to identify the qualities of integrity necessary for UPH for National Register consideration.

The results of the investigation are presented in the following technical report, which is designed as a reference tool for cultural resources managers. The report is organized into the following chapters: Executive Summary, Introduction and Methods, Historical Overview, Property Types, and Application of the Historic Context to Historic Resources. Appendix A contains a list of Army installations that contain enlisted barracks. Summary reports for the six installations selected for site visits are contained in Appendix B. The resumes of key project personnel are contained in Appendix C.

3.0 HISTORICAL OVERVIEW OF UNACCOMPANIED PERSONNEL HOUSING (UPH)

The following discussion presents a historical overview of Army Unaccompanied Personnel Housing (UPH) organized by major periods of development. These periods are Early Army Housing: 1776-1945 and UPH During the Cold War Era: 1946-1989. Each section addresses the following:

- € Events and general trends important to the development of UPH; and,
- € Factors that influenced UPH site selection, design, and construction.

The narrative on Early Army Housing provides a brief overview of the development of UPH from 1776 through World War II. The Cold War era discussion summarizes the events that effected the development of the Army in the post World War II period through 1989. The section further focuses on the policies and development of UPH during the Cold War period.

3.1 EARLY ARMY HOUSING: 1776-1945

The military historically constructed barracks to house unmarried enlisted personnel. Barracks are found on all installations with resident enlisted personnel. The type of barracks varied depending on the post designation as a permanent or temporary facility, the numbers of enlisted men requiring housing, and the time period.

3.1.1 Permanent Army Barracks

Prior to the Civil War, the Army constructed few permanent barracks due to the small size of the Army. Barracks were constructed only at permanent installations and generally were small in size due to the few numbers of soldiers housed at each installation. In general, barracks were constructed at selected coastal fortifications, at the United States Military Academy at West Point, and at a few interior permanent installations, such as Carlisle Barracks, Pennsylvania; Jefferson Barracks, Missouri; and Fort Leavenworth, Kansas. The troops stationed at the masonry coastal forts were housed in the damp, stone casemates of the fortifications, thus eliminating the need for separate barracks buildings. Pre-Civil War barracks buildings were generally narrow, rectangular, two-story, unornamented masonry buildings with verandas along the front elevations. Often, similar buildings were constructed to house unmarried officers and officers unaccompanied by their families.

Construction duties historically were divided between two departments. Traditionally, the U.S. Army Corps of Engineers undertook all construction at coastal fortifications, including buildings associated with permanent masonry forts. The Quartermaster Corps was charged with procuring Army supplies. Quartermaster duties evolved to include securing tents for field armies and to the construction of quarters at temporary interior posts. As the posts became permanent installations during the nineteenth century, the Quartermaster Corps continued to provide construction services, including the preparation of plans and contracts, and overseeing post construction. The Quartermaster Corps oversaw all Army construction until that responsibility was transferred to the U.S. Army Corps of Engineers in December 1941 (Fine and Remington 1989).

Most early-nineteenth century Army posts were temporary frontier garrisons. In temporary garrisons, barracks were constructed by troop labor using the materials at hand. These buildings were designed to provide protection to troops from weather conditions. The Army's mid nineteenth-century

policy of establishing and abandoning western posts as needed limited the construction of permanent barracks. In 1860, a force of less than 13,000 men were assigned to 183 companies scattered among 79 frontier posts and to 15 companies that manned coastal fortifications, arsenals, and posts along the Canadian border (Ganoë 1964). The overall size of these early garrisons rarely rose above two companies (Platoff 1939). The typical permanent barracks housed one company of 125 men and contained sleeping quarters, a kitchen, and a mess room. It usually was a one-story, narrow, rectangular building with a porch.

In 1860, a barracks design was published in unofficial Army regulations (Figure 3.1). The design was entitled “Soldier’s Quarters for One Company” and depicted a one-story, wood-frame building that adopted an L-shaped footprint. The front section of the building housed two sleeping areas, an office, and a storeroom. The rear wing contained a washing room, lavatory, and kitchen. The overall design of the building was low-scale with a veranda along the front elevation. Five doorways also punctuated the front elevation; the veranda served as a corridor (War Department 1861). The 1860 barracks design was unornamented and represented a functional building that was easily constructed and could be adapted for other uses, such as an administration buildings or guardhouses.

During the late nineteenth century, the U.S. Army had the reputation for being the best fed, but worst housed Army in the world (War Department, Surgeon General’s Office 1870). Although personnel levels in 1866 were authorized at 54,302 troops, the effective personnel levels during the mid-1870s were below 20,000 (Ganoë 1964). Efforts to improve living accommodations began after the Civil War, but were limited by budgetary constraints. In 1872, Quartermaster General Montgomery C. Meigs issued standardized plans for all the buildings typically required on an Army installation. Meigs’ proposed barracks design housed one company (Figure 3.2) (War Department Annual Report 1872). The plan depicted a two-story building: the first floor contained a day room, a library, a laundry, a kitchen, a mess room, and offices. The second floor contained sleeping quarters. The Meigs’ barracks design featured a two-story veranda. Two doors occupied the center gable bay and provided access to major rooms. The design included ornamental bargeboard along the eave line. Meigs’ barracks plan offered improved troop accommodations, as the Army tried to make quarters, reading rooms, and mess rooms more attractive to soldiers (Risch 1962).

Traditionally, sleeping quarters in barracks were open rooms. Before 1870, men slept in “military cribs,” a large wooden bunk that held two men on each level (Brown 1984). In 1870, single iron beds became standard issue in barracks buildings. During the last three decades of the nineteenth century, standard furnishings in barracks also included stoves, chairs, lockers, and lighting equipment (Clary 1982, 1983; Brown 1984).

In 1883, the Army maintained 187 posts throughout the United States (War Department Annual Report 1883). During the 1880s and 1890s, the Army moved to consolidate troops at larger, permanent posts. The locations of the posts generally were influenced by the location of rail lines. By 1898, Army personnel strength reached 27,822, comprising 25,706 enlisted men and 2,116 officers (Ganoë 1964).

The Army constructed new posts with greater attention to planning and to architectural design. Barracks traditionally were located along one edge of the central parade ground, facing the officers’ quarters, which were located along the opposite side of the parade ground. This location allowed easy access to training activities held on the parade ground and to duty stations. Because of their prominent location, barracks were important elements in the installation plan and often were impressive buildings that defined the architectural character of the installation as a whole (Figure 3.3). During this era, the Army built larger, two-company barracks. Barracks typically featured a central block flanked by wings with two-tiered porches. Porches served as corridors and provided ventilation. A second type of two-

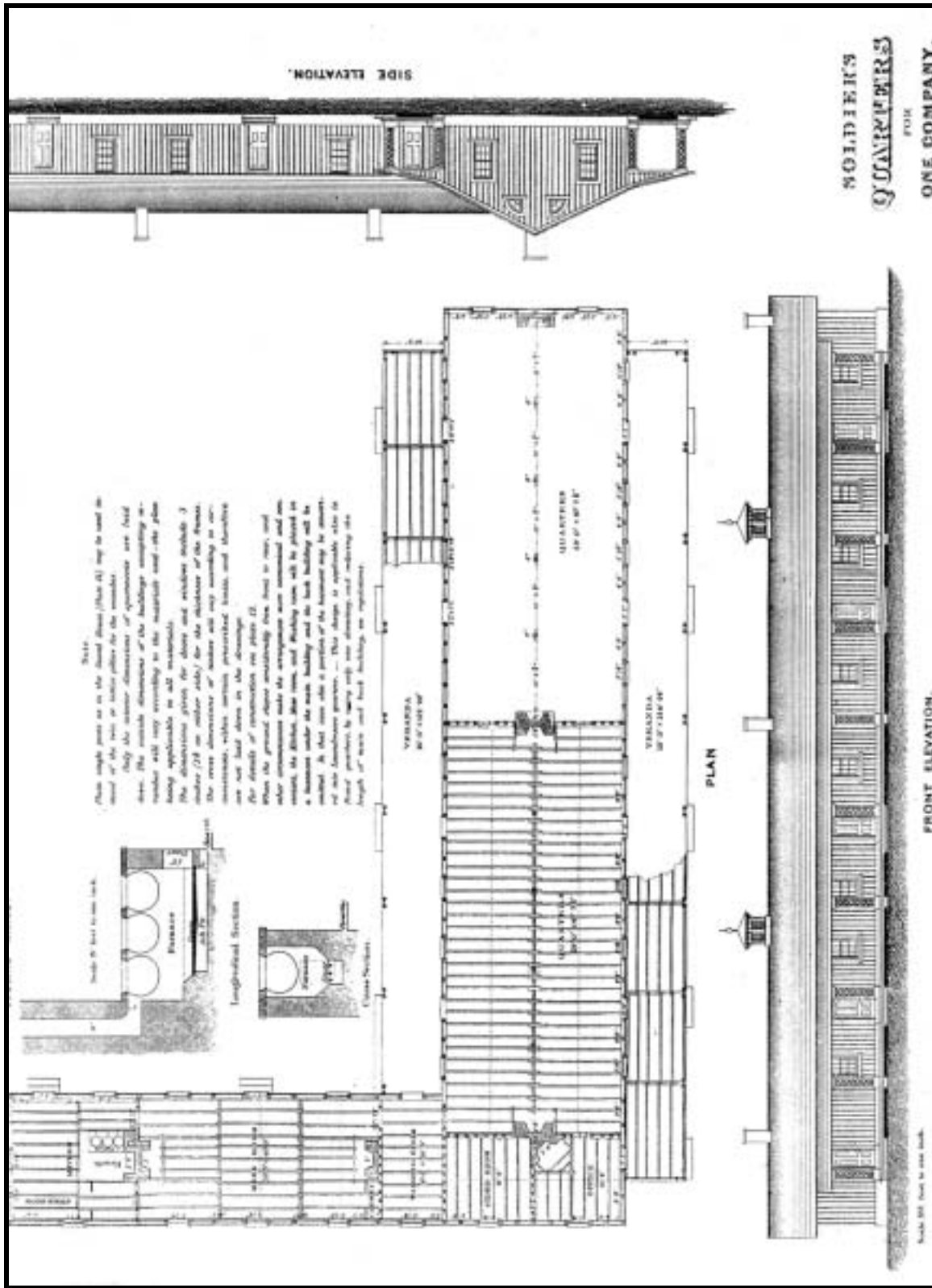


Figure 3.1 Proposed one-story barracks (War Department. *Regulations Concerning Barracks and Quarters for the Army of the United States*, 1860. Washington, D.C.: George W. Bowman, 1861.)

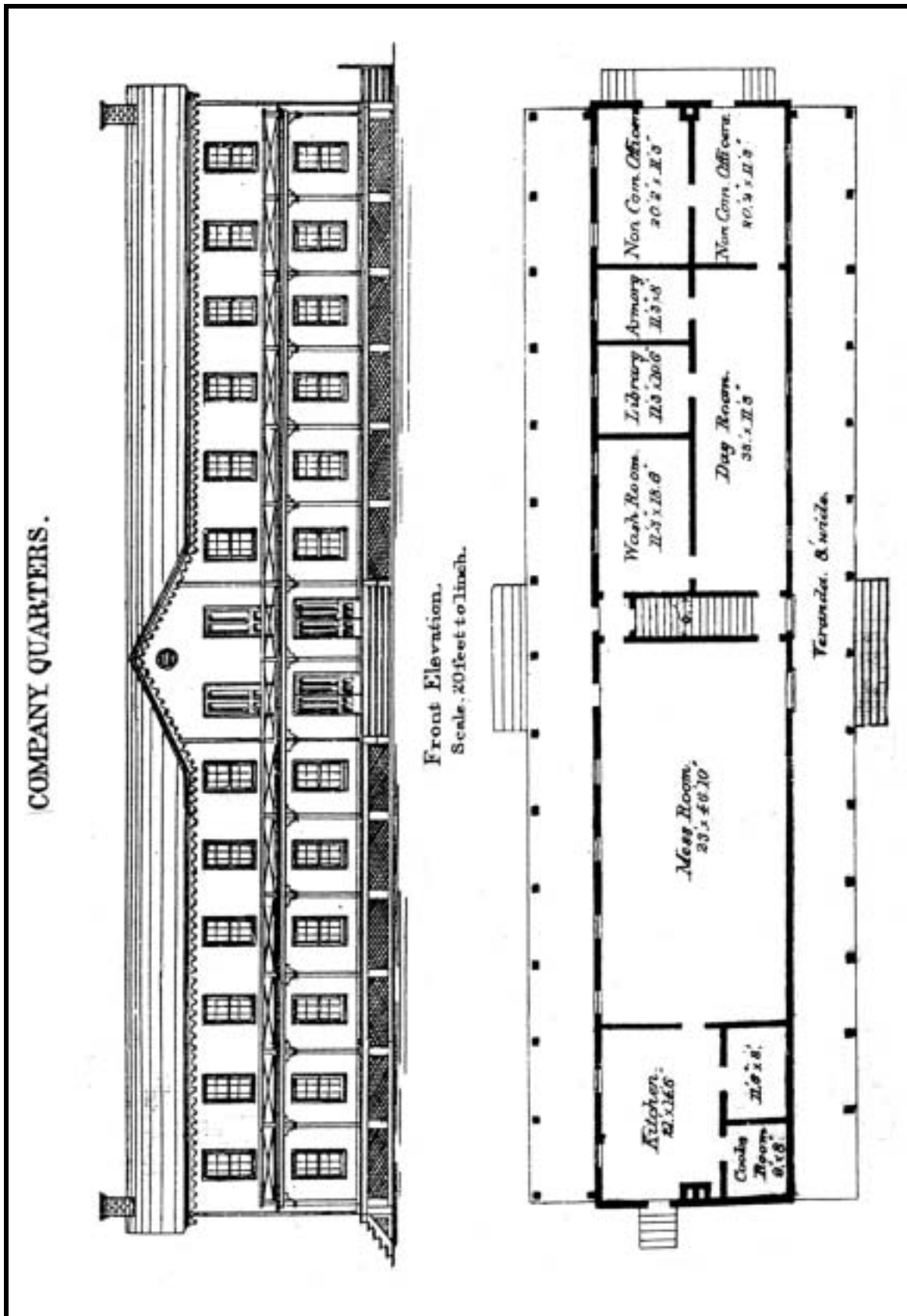


Figure 3.2 Proposed 1972 Quartermaster plan for barracks (From War Department. *Annual Report of the Quartermaster-General*. Washington, D.C.: Government Printing Office, 1872).



Figure 3.3 1883 wood-frame barracks (Building 22208, Ft. Huachuca, Arizona), *above*. 1893 multi-company barracks (Building 111, Ft. Bliss, Texas), *middle*. 1891 barracks with simplified Queen Anne and Stick style detailing (Building 58, Ft. McPherson, Georgia), *below*. (RCG&A)

company barracks was created by connecting two T-shaped, one-company barracks to form an H-shaped building.

Installations occupied by more than one branch of the Army often maintained their own barracks buildings; separate barracks were designated for use by the cavalry, the artillery, or the infantry. However, the design of all barracks was uniform.

Smaller barracks buildings also were constructed for specific purposes. During the late nineteenth century, regimental posts often supported bands. A separate band barracks often was constructed. The band barracks housed fewer numbers of men and included music practice rooms and special storage rooms for musical instruments (Cannon et al. 1995).

During the late nineteenth and early twentieth centuries, the two-company barracks became the typical barracks design. In a few instances, the Army experimented with larger barracks. Often the Constructing Quartermaster developed the plan for larger barracks by incorporating the several one-company barracks plans under one roof, with partitions separating the company quarters. For example, the Army constructed multiple-company barracks at Ft. Crook, Nebraska, and at Ft. Sam Houston, Texas. Ft. Monroe, Virginia, also had a barracks, since demolished, with a central block and long wings that were divided into company units by interior partitions.

The Army applied architectural ornamentation to the basic barracks design, depending on the style popular in the era. During the 1880s and 1890s, barracks incorporated simplified versions of ornamentation derived from contemporary architectural styles, such as the Romanesque Revival and the Queen Anne styles. Between 1900 and 1917, the Quartermaster Corps issued standardized plans for barracks that incorporated Colonial Revival architectural motifs in basic barracks designs of the previous century. In 1911, the Quartermaster Corps issued barracks plans using Spanish Colonial Revival motifs. These were built at the Presidio of San Francisco, California; Ft. Sill, Oklahoma; and Ft. Missoula, Montana (Figure 3.4).

After World War I, military spending slowed dramatically. Thousands of troops continued to live in temporary World War I mobilization barracks (Figure 3.5), which were deteriorating rapidly. The National Defense Act of 1920 redefined the organization of the U.S. Army. This organization comprised the permanent Army, National Guard, Officers Reserve Corps, and Enlisted Reserve Corps. The law established the geographic limits for nine Army corps within the continental United States. Each corps area was to contain one active Army division, plus one Reserve and two National Guard divisions. The Act further defined the combatant arms of the Army as the Corps of Infantry, Cavalry, Field Artillery, Coast Artillery; the Air Service; the Corps of Engineers; and the U.S. Army Signal Corps. During peacetime, the personnel numbers for the standing Army was raised from 175,000 to 280,000 enlisted men and raised from 11,673 to 17,717 officers (Ganoe 1964:479; War Department Annual Report 1920).

The increased numbers of enlisted personnel led to a housing crisis during the early 1920s. The Secretary of War repeatedly requested funds to address inadequate living conditions for officers and enlisted men (War Department Annual Report 1926). In 1926, Public Law 45 authorized the War Department to sell excess property and to use the proceeds to improve military posts. Public Law 45 was enacted primarily to improve living and medical conditions for enlisted personnel. The War Department identified the construction of barracks as a priority.

The Construction Service of the Quartermaster Corps initiated comprehensive installation planning under this act. Master plans and base architectural plans were prepared as part of this



Figure 3.4 1910 Calvary barracks, Quartermaster standardized plan no. 75-M (Building 236, F.E. Warren AFB [Formerly Ft. D.A. Russel], Wyoming), *above*. 1911 barracks designed in the Spanish Colonial Revival style (Building 1607, Ft. Sill, Oklahoma), *below* (RCG&A).



Figure 3.5 Typical World War I mobilization barracks complex (Aberdeen Proving Ground, Maryland), *above*. Interior of World War I mobilization barracks (Aberdeen Proving Ground, Maryland), *below* (RCG&A).

initiative. Barracks were a major component within the master plans and were located in distinct enlisted housing areas.

The Army began construction of new barracks in 1927. By 1931, new permanent barracks, providing housing for 19,800 enlisted men, were added to the Army inventory. In 1932, barracks to house 2,000 enlisted men were planned (The Quartermaster Review 1931). Although authorized Army personnel was established at 280,000 enlisted men, the actual number of commissioned, warrant officers, and enlisted personnel was 130,910 in 1930 (War Department Annual Report 1930). Funding to construct new barracks continued throughout the 1930s under the Works Progress Administration (WPA) and Public Works Administration (PWA). Construction authorized under the WPA for 1938 included funding for barracks to house 19,974 men (Thomas 1940). An estimated that 1,500 barracks were constructed between 1880 and 1940 (Philips 2002).

Barracks generally followed Quartermaster Corps updated standardized plans, except in cases where barracks size necessitated special designs for particular installations. Barracks built during the 1930s reflected two popular architectural styles: the Georgian Colonial Revival and the Spanish or Mission Colonial Revival styles (Figure 3.6). At selected installations, barracks also were designed to reflect regional architectural styles, such as the French Colonial used at Barksdale AFB, Louisiana. The standard barracks design remained a two- or three-story, rectangular building with rear wings. Concrete frame construction infilled with masonry was the primary structural system used in the construction of the barracks. Front porches were eliminated from the barracks during this period. Architectural ornamentation such as stone surrounds around doorways, corner quoins, and cornice moldings added architectural interest to the facades of the buildings. Porches were incorporated onto the rear of the buildings.

Large barracks were built during the late 1920s through 1940. Between 1928 and 1930, the Army constructed its first regimental barracks, designed by the prominent architectural firm of McKim, Mead, and White, at Governors Island, New York. This regimental barracks housed 375 enlisted personnel. At Fort Benning, Georgia, five large barracks buildings were completed during 1934-1935 to house 4,420 enlisted men (Robinson Fisher Associates 1987). These massive barracks at Fort Benning were designed around a courtyard that currently serves as a parking lot.

By 1939, the Army designed barracks to house at least 250 men; although barracks accommodating a battalion, or 500 men, were preferred. Smaller barracks continued to be constructed for specific units, such as regimental bands or medical detachments. During 1938-1939, construction costs for barracks decreased in indirect proportion to the number of occupants. A barracks housing 2,000 to 3,000 men cost approximately \$800 per man, while a barracks housing one company of 125 men cost \$1,500 per occupant. Construction costs reflected the greater efficiency in the use of space in larger barracks. Areas of cost and space saving in large barracks were the dining facilities and service areas. Smaller barracks contained a separate kitchen serving a smaller number of residents; the large barracks incorporated dining space for large numbers in a cafeteria plan. The highly efficient and hygienic kitchens installed in the 1930s barracks were a great improvement over the messes found in older barracks. Service areas included company offices, barber and tailor shops, company storage areas, and utilities. Combining these areas in large barracks also saved space and maximized construction dollars (Platoff 1939).

The Army designed barracks to support specialized Army detachments. The Quartermaster Department often was assigned a separate barracks to house personnel in the vicinity of the Quartermaster warehouse area. Barracks for medical corps personnel often were located near hospitals. Separate barracks were constructed to house participants in specialized training schools. The Army also constructed barracks-type housing for civilian employees. The Army provided civilian housing on



Figure 3.6 1931 Georgian Colonial Revival barracks (Building 40, Scott AFB, Illinois), *above*. 1931 Spanish Colonial Revival barracks (Building 835, Maxwell AFB, Alabama), *below* (RCG&A).

isolated posts without local accommodations. Specialized barracks generally were constructed at large posts, and typically were smaller than standard troop barracks. The building often followed the standardized designs in use on the installation.

3.1.2 Associated Support Buildings

Historically, permanent barracks were supplemented by support buildings, specifically latrine/bathhouses and mess halls.

3.1.2.1 Detached Lavatories/Bathhouses

Detached lavatories and bathhouses generally were located near the main barracks. During the nineteenth and early twentieth centuries, detached lavatories, outhouses, and bathhouses were common property types. Indoor plumbing eliminated the need for these buildings. Few examples of these functional residential support buildings survive.

Army regulations issued in 1821 set minimum standards of personal cleanliness for the troops. Personnel were required to maintain clean uniforms and to wash their faces and hands daily (Clary 1982). Despite these regulations, the Army did not fund the construction of latrines or bathhouses. The Secretary of War routinely rejected plans for such facilities; troops were expected to provide for their personal cleanliness (Risch 1962). After 1891, barracks were introduced with indoor bathrooms and toilets.

Communal detached latrines and bathhouses became prevalent for barracks, particularly in the West at such installations as Forts Huachuca, Bliss, and Riley, during the late nineteenth and early twentieth centuries (Figure 3.7). These buildings contained indoor plumbing for toilets and bathing facilities. Support buildings were located behind the barracks, and often served the residents of two barracks. On some western posts, permanent detached lavatories were not constructed until World War I. By the 1930s, indoor bathrooms and toilets were included in all barracks designs.

3.1.2.2 Mess Halls

Mess halls housed kitchens and dining facilities for military personnel. Mess halls included a dining room, kitchen, cook's room, dish pantry, and storerooms. Historically, the mess halls and kitchens for enlisted men were contained in the barracks. In one-story barracks, the mess hall was located in a rear wing. In two-story barracks, the mess hall was located on the first floor. Food was distributed by company and each company ate together. On occasion, mess halls were built near barracks complexes and often followed the standardized design used for the adjacent barracks.

As the Army consolidated troops onto larger, permanent posts during the 1880s and 1890s, the Quartermaster Department experimented with plans for a single mess for all enlisted personnel. The Army constructed its first consolidated mess at the recruiting depot at David's Island, New York, in 1888 (Risch 1962). Common mess halls were adopted at a number of larger posts by 1893, including: Ft. Bliss, Ft. Brady, Davids Island, Jefferson Barracks, Ft. McPherson, Plattsburgh Barracks, Ft. Riley, Ft. Sam Houston, Ft. Sheridan, and Ft. Thomas (Figure 3.8). In addition, consolidated messes were established at Ft. Myer, Key West Barracks, Ft. Schuyler, Ft. Warren, and Willets Point (War Department Annual Report 1893).



Figure 3.7 1889 latrine (Building 225, Ft. Riley, Kansas), *above*. 1903 detached lavatory (Building 22322, Ft. Huachuca, Arizona), *below* (RCG&A).



Figure 3.8 1893 consolidated mess (Building 21, Ft. Bliss, Texas), *above*. 1931 cadet mess (Building 905, Randolph AFB, Texas), *below* (RCG&A).

The Army generally abandoned consolidated messes after 1896 and returned to the practice of incorporating kitchens and mess rooms for each company within barracks (Clary 1983). Consolidated messes did not regain popularity during the 1930s era of Army construction. In general, permanent barracks constructed during the 1930s contained their own kitchens and mess rooms.

3.1.3 Bachelor Officers Quarters (BOQs)

One building type classified as Unaccompanied Personnel Housing is the Bachelor Officers Quarters (BOQs). The strict military hierarchy required separate quarters for officers and enlisted men. During the early nineteenth century, many officers were either unmarried or lived without their families on posts, due to harsh post conditions. Freestanding family housing was provided for the commander, but not for most of the other officers. The early BOQs resembled small barracks, but contained private quarters for each officer. Examples of this type of housing survive at Carlisle Barracks, Pennsylvania, and Ft. Monroe, Virginia. The Carlisle Barracks BOQ, built during the 1830s and rebuilt after the Civil War, is a two-story stone building with a two-story veranda that served as an exterior corridor with entries into each room. At Ft. Monroe, two sets of quarters known as the "Tuilleries," built in 1823, originally housed eight officers; each officer was allotted a bedroom and sitting room (Cannan et al. 1995).

Bachelor Officers Quarters evolved as a distinct building type on Army posts as the Army constructed more duplex and single-family officers quarters. When the Army consolidated its troops into larger, permanent posts during the 1880s and 1890s, the Army usually built one BOQ and rows of officers' family housing at each permanent post (Figure 3.9). In 1891, the Quartermaster Department issued a standardized plan for a BOQ. The typical BOQ contained sleeping rooms, sitting rooms, a dining room, a reading room, a kitchen, and rooms for recreation including billiards and cards. Quartermaster plans depict the standard plan ornamented with Victorian decoration (National Archives and Records Administration [NARA], RG 77). During the first decade of the twentieth century, the Quartermaster adapted the Colonial Revival style to BOQs, as it did with other building types. Bachelor Officers Quarters constructed during the 1930s reflected the popular architectural styles used by the Quartermaster Corps: the Georgian Colonial Revival and the Spanish/Mission Colonial Revival styles (Figure 3.10). At selected installations, BOQs were designed to reflect regional architectural styles, such as the French Colonial styles at Barksdale AFB, Louisiana; Maxwell AFB, Alabama; and, Fort Benning, Georgia.

3.1.4 Temporary and Mobilization Barracks

The Army constructed many temporary barracks prior to, during, and after the Civil War. Historically, troops that served in the field during wartime bivouacked in the open air, in tents, or other temporary barracks. These buildings were constructed by troop labor from materials found in the surrounding locality. The size of a particular shelter depended on the number of troops assigned to the area. The quality of these temporary barracks depended the length of time that troops were to remain at a location and varied with the season and climatic conditions.

Mobilization barracks were constructed to house troops during the mobilization and training of large numbers of personnel prior to assignment in the field. During the Spanish-American War, the Army established encampments across the country to house troops waiting for transport to Cuba. The hastily constructed tent camps lacked adequate sanitation facilities and fostered the spread of disease



Figure 3.9 1894 Bachelor Officers Quarters (Building 13, Offutt AFB [formerly Ft. Crook], Nebraska), *above*. Typical Bachelor Officers Quarters constructed during first decade of twentieth century (Building 40, constructed 1904, Ft. McPherson, Georgia), *below* (RCG&A).



Figure 3.10 1935 Bachelor Officers Quarters, original front façade (Building 1117, Ft. Knox, Kentucky), *above*. 1931 Bachelor Officers Quarters (Building 120, Randolph AFB, Texas), *below* (RCG&A).

among the troops (Cannan et al. 1995). During the Mexican campaign in the second decade of the twentieth century, troops were sheltered in small, flimsy buildings (Kinney 1938).

The Army applied the experience gained in earlier mobilization efforts to develop standardized plans for mobilization camps. In 1914, the Construction Division of the Quartermaster Corps produced a set of drawings for mobilization camp buildings, usually called the 600 Series of drawings (Figure 3.11). The plans depicted one-story, rectangular, lightweight, wood-frame barracks based on 20-foot by 7-foot modules. The vast number of troops mobilized during World War I overwhelmed the existing supply of Army housing, and the Construction Division put the 600 Series drawings to use in the construction of large training camps. The 600 Series contained designs for one-story, wood-frame buildings that were clad with board-and-batten siding.

The United States entered into World War I in 1917. In 1916, the Army's total strength stood at 108,399 personnel; by the war's conclusion in 1918, that figure had jumped to 2,395,742 personnel (Weigley 1984:599). This exponential expansion of Army forces required a concomitant expansion in housing and training facilities for inductees, and created a formidable challenge for the War Department. The War Department's solution was the establishment of new, temporary training cantonments.

Thirty-two temporary training cantonments were established during World War I to shelter newly created Army divisions. Two styles were developed to house two different types of Army units: National Guard units comprising existing, activated guard units, and regular Army units comprising drafted soldiers. Instead of the tents provided for the National Guard cantonments, regular Army soldiers lived in temporary wooden barracks. Wood-frame buildings were selected because the camps were intended for use throughout the war (Kinney 1938). Both types of installations contained road networks, electrical power, water supplies, and other required utilities (Risch 1962).

The cantonments accommodated a division containing approximately 36,000 men. The buildings were temporary and intended to last no longer than five years. The cantonment buildings were utilitarian, wood-frame buildings clad with horizontal wood siding. Instead of the one-story barracks, the Quartermaster Corps redesigned the barracks as two-story buildings to save materials and to increase efficiency. Each barracks was designed to contain one 150-man company and its mess facilities (Kinney 1938).

The cantonment layout reflected the organizational structure of the Army, with units and organizations sited according to their relationship within the division (Kinney 1938). The buildings were organized on a grid. The barracks lined the sides of the grid, while administration, dayrooms, latrines, and mess halls were sited to accommodate multiple barracks.

The same mobilization process was implemented during the buildup for World War II. The 600 Series mobilization plans were updated and became the standard 700 Series in 1940. The 800 series of mobilization drawings were issued by early fall 1941. During World War II, cantonment planning was based on blocks that housed 125-man companies. A single company required two 63-man barracks, one mess hall, one recreation building, and one supply building. This unit provided the basis for developing overall camp layouts to accommodate ever increasing numbers of personnel and larger troop organizational units (Wasch et al. 1992). By 1945, the Army contained more than 8 million men, millions of whom received training at the mobilization camps.

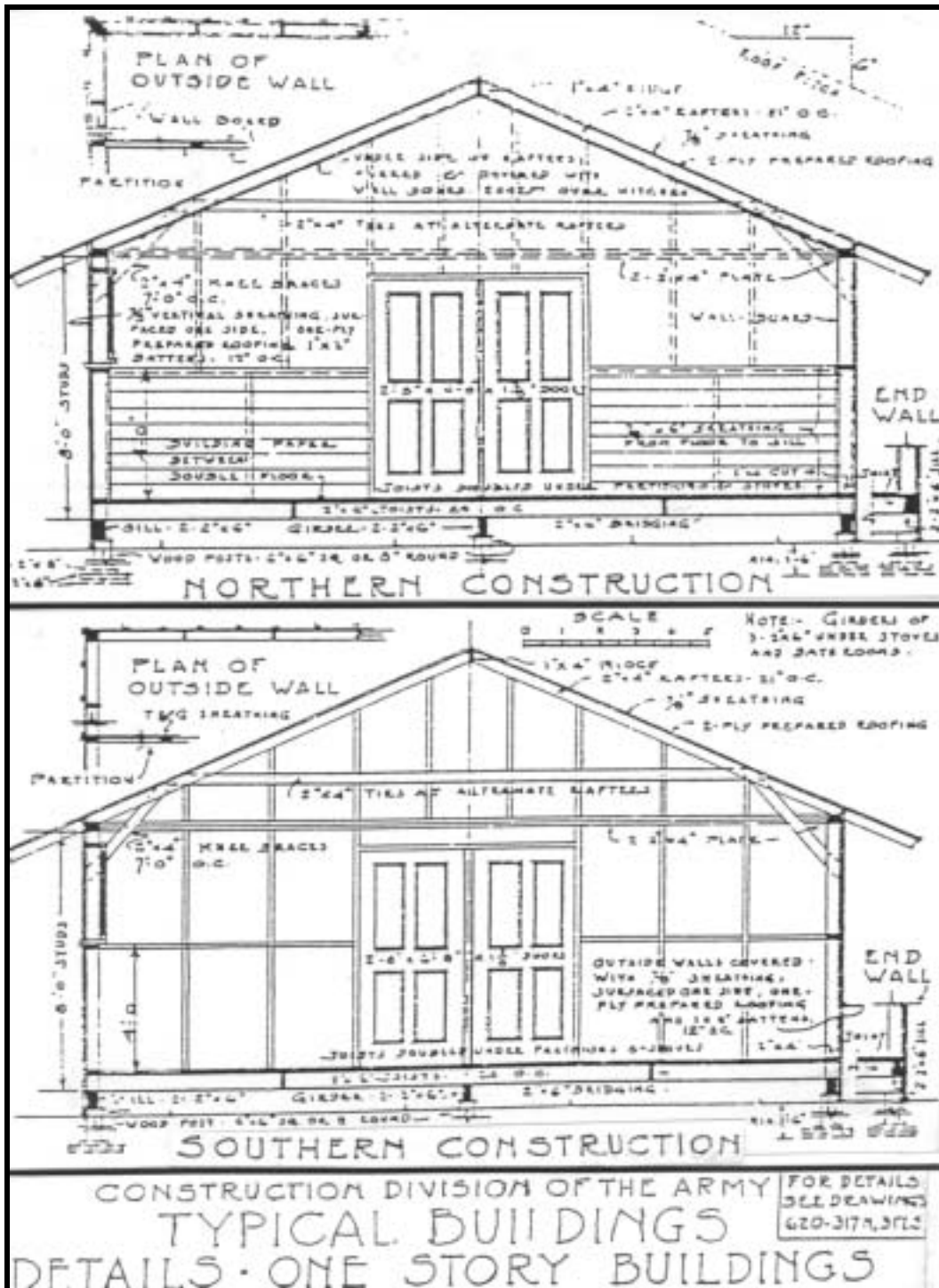


Figure 3.11 600 Series Mobilization Construction Plans used in World War I (From John S. Garner, *World War II Temporary Military Buildings*. Champaign, Illinois: U.S. Army Construction Engineering Research Laboratory, 1993).

3.1.5 Twentieth-Century Concurrent Training Camps

Between World Wars I and II, the Army invested in Concurrent Training Camps. These camps were established following the passage of the National Defense Act of 1920. This act was intended to avoid the huge induction and training effort required during the World War I mobilization. The National Defense Act of 1920 emphasized the role of the regular Army in training and supporting what were termed the Army's "civilian components." The law emphasized military preparedness by encouraging civilians to undergo military training so they could be temporarily activated when needed. Although the National Guard was the most conspicuous of these civilian programs, also included were the Officer Reserve Corps, the Reserve Officers' Training Corps (ROTC), and the Citizens Military Training Camp (CMTC). The Reserve Officers' Training Corps provided military education to college students seeking reserve commissions. The Citizens Military Training Camp was volunteer training program for young men. Between 1921 and 1945, summer training programs were instituted at approximately 63 installations (McAloon et al. 1994).

Initially, trainees were housed in World War I mobilization buildings. By the mid-1920s, however, this building stock was deteriorated. Summer training camps then utilized tents set on wooden tent platforms that later were replaced by concrete tent pads. Between 1930 and 1936, the Army began a nationwide program to construct more permanent facilities at 61 civilian training camps located at permanent Army installations. The Office of the Quartermaster General devised standardized plans for summer training camps that utilized durable construction for service buildings (Lamb 1938). The service buildings included mess halls, detached latrines, storehouses, posts exchanges, telephone buildings, and administration buildings. The designs called for simple, one-story, unornamented, utilitarian buildings constructed generally of structural clay tile or brick on concrete pads. In some cases, the exteriors of the building were left unfinished, as was the case at Fort George G. Meade in Maryland, or were stuccoed as at Fort Sill, Oklahoma. The layout of the summer camp was similar to a mobilization cantonment and was based on a strict rectangular grid. Barracks were located along the long sides of the rectangle while mess halls and shared latrines occupied the short ends of the rectangle (Grandine and Giglio 1996).

3.2 UPH DURING THE COLD WAR ERA: 1946-1989

The threat of communist expansion was a critical concern in American foreign policy between 1946 and the fall of the Berlin Wall in 1989. This era was marked by a tense, hostile relationship between the Warsaw Pact countries led by the U.S.S.R. and the North Atlantic Treaty Organization (NATO) countries led by the United States. Cold War military priorities were reflected in the mission and the size of the Army. Larger numbers of unaccompanied personnel resulted in a shortage of Army Unaccompanied Personnel Housing.

The need for Unaccompanied Personnel Housing historically has fluctuated with the size of the Army. The larger troop strength of the Army following World War II in comparison to previous peacetime levels created a demand for the construction of Unaccompanied Personnel Housing. Construction limits and military policy to raise standards of living for military personnel affected UPH design.

3.2.1 Size of the Army

Historically, the regular Army fluctuated in size in response to military threats (Table 1). In 1866, the actual strength of the Army was estimated at 38,540 (Ganoë 1964:309). At the beginning of 1898, the strength of the Army was 27,822 men (Ganoë 1964:37). By 1907, the Army had 62,398 personnel, of which, 2,695 officers and 31,637 enlisted men served in the United States (Ganoë 1964:430). The 1916 National Defense Act raised the authorized levels for the regular Army to 287,846 men. Rarely did actual personnel levels equal authorized levels during peacetime. The actual strength of the Army in 1923 was 135,000 (Ganoë 1964:486). The regular Army had 118,750 enlisted men in 1934 before growing exponentially during World War II (Ganoë 1964: 505). After World War II, the Army was reduced in size from 8,267,958 in 1945 to 685,458 in 1947 (U.S. Army Human Resources Directorate 1998). Table 1 summarizes the size of the Army between 1866 and 1945.

Table 1. Size of the Army over Time

Year	Actual Size
1866	38,540
1898	27,822
1907	34,262
1916	287,846
1923	135,000
1934	118,750
1945	8,267,958

*(Source: Ganoë 1964;
Department of the Army 1956)*

The Cold War years were a unique period in the Army’s history, because the size of the regular Army remained consistently high compared to previous peacetime levels (Table 2). The size of the Army leveled off around 900,000 in the late 1950s, which represented an Army personnel strength eight times greater than 1934 levels. While the Army was smaller in size in comparison to its peak wartime strength, the number of personnel residing on Army installations strained existing housing capabilities. The Army recognized that, to retain personnel, housing “must be made available and attainment of this objective is a key Army program” (Department of the Army 1956).

Table 2. Size of the Army during the Cold War

Year	Actual Size	Enlisted Men	Officers
1946	1,435,496	1,248,764	185,411
1947	685,458	594,078	89,759
1948	554,030	484,061	68,178
1949	660,473	581,422	77,272
1950	593,167	518,921	72,566
1951	1,531,774	1,399,362	130,540
1952	1,596,419	1,446,266	148,427
1953	1,533,815	1,386,500	145,633
1954	1,404,598	1,274,803	128,208
1955	1,109,296	985,659	121,947
1956	1,025,778	905,711	118,364
1957	997,994	885,056	111,187
1958	898,925	792,508	104,716
1959	861,964	758,458	101,690
1960	873,078	770,112	101,236
1961	858,622	756,932	99,921
1962	1,066,404	948,597	116,050
1963	975,916	865,768	108,302

1964	973,238	860,514	110,870
1965	969,066	854,929	112,120
1966	1,199,784	1,079,682	117,786
1967	1,442,498	1,296,603	143,517
1968	1,570,343	1,401,727	166,173
1969	1,512,169	1,337,047	172,590
1970	1,322,548	1,153,013	166,721
1971	1,123,810	971,872	148,950
1972	810,960	686,695	121,290
1973	800,973	681,972	116,205
1974	783,330	674,466	105,998
1975	784,333	678,324	102,992
1976	779,417	677,725	98,647
1977	782,246	680,062	97,738
1978	771,624	669,515	97,785
1979	758,852	657,184	97,381
1980	777,036	673,944	98,717
1981	781,419	675,087	101,850
1982	780,391	672,699	103,109
1983	779,643	669,364	105,674
1984	780,180	667,711	107,883
1985	780,787	666,557	109,687
1986	780,980	666,668	109,757
1987	780,815	668,410	107,964
1988	771,847	660,445	106,963
1989	769,741	658,321	106,877

(Source: U.S. Army Human Resources Directorate 1998)

During the Korean War, the Army increased in size from 593,167 in 1950 to 1,533,815 in June 1953 (U.S. Army Human Resources Directorate 1998). Troop strength remained higher than previous peacetime levels due to the heightened tensions raised by the Cold War. The resultant decline in the number of troops after the Korean Conflict was less dramatic than previous conflicts. Troop strength declined from 1,025,778 in June 1956, to 997,994 in June 1957, a reduction of 27,784 troops. In contrast, after World War I, Army personnel levels dropped from 2,394,742 in 1918 to 204,292 in 1920 (U.S. Army Human Resources Directorate 1998). After World War II, Army strength dropped from over 8 million to 685,458 in 1947 (U.S. Army Human Resources Directorate 1998). In 1961, the Army size increased from 858,622 to 1,066,404 with the activation of the National Guard during the Berlin Crisis (U.S. Army Human Resources Directorate 1998).

In August 1964, the destroyers USS *Maddox* and *C. Turner Joy* were attacked by North Vietnamese forces in the Gulf of Tonkin. A naval strike was ordered in retaliation and Congress voted to empower the President with the ability to “take all necessary measures to repel any armed attack against the forces of the United States and to prevent further aggression.” This directive, known as the Tonkin Gulf Resolution, resulted in the deployment of 184,000 American soldiers to Vietnam by the end of 1965 (Tindall and Shi 1992: 1358-1359).

In the election of 1968, presidential candidate Richard M. Nixon promised to withdraw U.S. troops from Vietnam with “peace and honor.” In June 1969, President Nixon announced the withdrawal of 25,000 troops. By May 1972, the regular Army had been reduced to 850,000 troops from its wartime peak of 1.5 million. By 1974, the Army was reduced further to 783,000, a level that the Army maintained for the remainder of the Cold War era (Tindall and Shi 1992: 1387).

The Army's personnel housing problem was complicated by the fluctuating size of the Army and budget constraints. Personnel levels related directly to the mission of an installation and, subsequently, to the requirements for Unaccompanied Personnel Housing.

3.2.2 Army Weapons and Doctrine Development Related to Army Strength

Following World War II, President Truman maintained that a unified Defense Department and military services of equal importance insured the security of the United States. Under the 1947 National Security Act, the Army, Navy, and newly independent Air Force became equal arms of the Department of Defense.

The threat of nuclear retaliation was widely held as an effective military deterrent during the period. A large conventional military force, therefore, was thought to be unnecessary. The Air Force successfully argued for increased Federal appropriations as the only service with the capacity to deliver nuclear weapons, to the detriment of the Navy and Army budgets (USAEC 1997:19). As a result, the Army focused its attention on developing military technologies with congressional support in an effort to maintain funding levels. The Army achieved significant technological advances, particularly in the areas of nuclear weapons, missiles, and helicopters. By emphasizing military technology, the Army maintained higher personnel levels to support its programs and received authorization to build support facilities, including housing.

The experience of the Korean War in the early 1950s revealed logistical problems with weapons and combat doctrines. To address these issues, the Army created a program to "employ modern scientific operations research techniques developed since World War II," to develop modern weaponry, and to update combat doctrines (Hewes 1975).

Installations tasked with testing, training, and developing nuclear weapons experienced increased activity. Expanded missions had a direct impact on housing needs as additional personnel were assigned to fulfill the new missions. Fort Sill, Oklahoma, and Aberdeen Proving Ground, Maryland, were test sites for the 280-mm cannon, which fired nuclear shells. The Field Artillery School at Fort Sill became a center for education in nuclear munitions, as well as a center for the development of Army atomic weapons doctrine.

White Sands Proving Ground, New Mexico, was an important center for rocket testing and surface-to-air and surface-to-surface missiles. This technology was a result of the Army's efforts to apply modern technology to Cold War requirements (USAEC 1997:26). Similarly, Redstone Arsenal, Alabama, became an important missile and rocket research facility. In addition, Fort Bliss trained soldiers in the deployment of missiles (USAEC 1997:26-28).

During the Cold War, the Army improved its aviation capabilities by improving the helicopter. Most fixed-wing aircraft was transferred to the Air Force when it became an independent service from the Army in 1947. The Army completed experiments with air mobile units and armed helicopters to support ground troops. Fort Rucker, Alabama, became an important facility for training pilots with the creation of an aviation school in 1954 (USAEC 1997:29).

In addition to expansion of installations associated with research and development, the Army's installations that supported troop training and readiness also were expanded. The largest installations, including Fort Bragg and Fort Hood, comprised garrisons of deployable units (USAEC 1997:29).

3.2.3 Construction of Unaccompanied Personnel Housing

Under the Department of Defense (DOD), Army, Navy, and Air Force budgets were consolidated into a single military budget controlled by the Secretary of Defense. A process for prioritizing defense allocations for all the services was required. Appointed in 1949, the Carpenter Committee, headed by Donald F. Carpenter, former Chairman of the Munitions Board, was charged with prioritizing the construction needs for each service. In this committee, the Army Director of Logistics was responsible for reviewing housing needs within the continental United States for all three services. The Assistant Naval Chief of Logistics was responsible for integrating all operational construction requests in the military budget. These requests included the construction of hangars, piers, runways, etc. The Air Force Chief of Material reviewed all overseas defense construction needs. The joint review process resulted in a request for \$630 million in construction funds for all the military services in 1950 (U.S. Congress, Senate 1949:12). The inter-service process produced a common approach to planning and design among the three services.

As a result of the military build up associated with the Korean War in June 1950, the Army intensively reviewed its construction needs. Two levels of review were undertaken. The first was within the Army and the second was within the Department of Defense. The Army review panel included R.E. Dougherty, past President of the American Society of Civil Engineers; presidents of the Great Northern Railroad, the Sears Roebuck Company, and the Southern Natural Gas Company; and the vice president of Columbia Steel Corporation. Army generals, including several representing the Corps of Engineers, also served on the Army review board. The Department of Defense review panel was smaller. In addition to the Secretary of Defense, the panel included John F. Hennessy, Army General James K. Herbert, and M.J. Madigan, builder of the Triborough Bridge and the United Nations Building in New York (U.S. Congress, House 1951a:933f).

From 1945 to 1950 Congress approved two minor appropriation measures for military construction. As a result of the Army and Department of Defense review of construction requirements, an overall cost for the total military construction program for the next five years was projected at \$12 billion. For the Army, this massive program authorized the construction of 83,000 new permanent barracks spaces. In 1950, the Army successfully argued that additional spaces were needed to augment the existing 69,000 permanent barracks spaces despite the large inventory of temporary mobilization buildings constructed during World War II (U.S. Congress, House 1951b:668).

In support for this massive construction program, the Army presented evidence to Congress that the World War II temporary barracks were deteriorating and constituted a health and fire hazard. As a U.S. Army general testified:

There is the necessity gradually to replace buildings built on Army stations in World War Two which are intended to last for five years and which have lasted for ten; they are in a pretty sad state of repair, and eventually must be replaced. So rather than build the mobilization-type building, which will rapidly deteriorate, we feel it is more economical in the long run to put up a more permanent type of construction (U.S. Congress, House 1951b:685).

The Army requested funding to undertake construction for a full range of buildings at all installations. Civilian experts advising the Army also argued for long-range planning. As the Secretary of Defense, Frank Pace, stated:

It was a somewhat painful process because very frequently the need for the facility was apparent, but we had to determine whether it was needed at this moment or

whether half of it was needed now and the other half could be deferred to another year so as to spread the load of financing over a longer period of time. We sought to apply ordinary business principles. And these outside experts startled me by saying that we could save a considerable amount of money if we did design and engineering work further back in the process – and that a little money spent earlier on that phase would be saved a good many times over (U.S. Congress, House 1951a:939).

As part of efficient long-range planning, the Army designed standardized housing for unaccompanied personnel, including both barracks and Bachelor Officer Quarters (BOQs), which were appropriate for all installations as opposed to commissioning individual building designs. Beginning in the early 1950s, a series of standard designs were prepared to reduce design time and building costs.

3.2.4 Design Process

The Department of the Army issued construction directives to the Office of the Chief of Engineers, who, in turn issued directives to the District Engineer. The construction directives to the District Engineer typically outlined the type of building needed, overall design characteristics, specifications, and budget. The District Engineer coordinated with the Army installation to ensure that the construction requirements were adequately described. A lump-sum design contract was awarded to an architect-engineer. Preliminary plans were developed and reviewed by the District Engineer before final drawings were completed. In the case of standard structures, such as houses, barracks, and warehouses, the architect-engineer was paid for a single prototype design, which became property of the government. The architect-engineer provided drawings and technical specifications for construction (U.S. Congress, House 1952c:4; Raymond 1972:166-167; Bregman and Yager 1979:15-17). The process was described by U.S. Army Brig. Gen. J. R. Hardin, Assistant Chief of Engineers for Military Construction as:

Design of construction projects is usually performed by architect-engineer firms under negotiated contracts. Only a small portion of the present design load is performed by Government forces and this portion is generally made up of small items for which contract operations would be uneconomical. In making a design contract there is no competition involved; the professional services required are obtained by negotiating with a firm believed to be competent, and until this effort fails no other firm is contacted. All other considerations being equal, preference is given to architect-engineers located in the immediate vicinity of the proposed work.

The Chief of Engineers, with the full support and encouragement of the rest of the Army, has adopted standard plans and specifications for all types of structures, which occur with sufficient frequency to warrant adoption of a standard. The use of standardized plans saves in design costs, saves time in initiation of work, and provides uniformity throughout the Army. Where such plans are used the only additional design work necessary at a specific site is to adopt the structure to the local terrain and existing utilities systems (U.S. Congress, House 1952a:3966).

The first standards for Unaccompanied Personnel Housing during the Cold War era were issued under Directive No. 4270.4. This directive specified the standards of construction for permanent barracks for all three armed services. An important requirement was found in Item IV and addressed the arrangement of living space:

Except as herein authorized, sleeping facilities will be provided in squad rooms. Partial partitions may be utilized together with lockers to provide cubicles for greater privacy within the squad rooms. Toilet facilities (outlined in Sec. VI), including lavatories, will be grouped for optimum economy. Dormitory-type rooms may be provided under the following conditions:

- A. For top four grades of enlisted personnel.
- B. At service schools where advanced training requires substantial out-of-classroom study.
- C. Where the designated primary mission as determined by the Secretary of the Service in question, necessitates shift-type, or around-the-clock, operations (Mickel 1954:38,310).

The directive also stated that the gross barracks floor area per enlisted male should not exceed an average of 125 sq. ft. (Mickel 1954:310).

The centralization of Army planning within the Department of Defense encouraged standardization in UPH designs and eliminated installation-specific designs. Competition for military construction appropriations demanded that the Army establish construction priorities and adopt long-range planning. These factors also influenced the development of utilitarian comprehensive plans for Army installations. The following Army description for this process was given:

In March of 1954 the Department of the Army received from the Department of Defense basic guidance concerning the type of projects to be included [in the budget]. In addition, the Department of Defense established a general order of precedence for the various types of projects. Using these criteria, the Army began putting together its construction program.

At the installation level, projects were carefully developed in accordance with a master plan established to insure maximum efficiency in our construction program over a period of years. This master plan closely conforms to currently accepted industrial site planning practices, adapted to the Army's particular need.

In each case we asked ourselves, "Does this project fulfill an absolute need in the most efficient way?" The answer was either "Yes," or the project was eliminated or drastically revised. Furthermore, the whole program was later reviewed in the Office of the Secretary of Defense and in the Bureau of the Budget to insure that it was fully in line with the programs of the other services (U.S. Congress, House 1955:3607).

3.2.5 Permanent Army Barracks

During the Cold War period, several series of standard barracks designs were prepared for the Army and issued to Engineer Field Offices for repetitive use in the continental United States (CONUS). The Army constructed seven principal types of permanent barracks: hammerhead barracks; H-style barracks; rolling pin barracks; Lyle, Bisset, Carlisle & Wolfe barracks; Benham-Blair & Associates barracks; starship barracks; and quadrangle barracks. In the 1950s, accommodating all company functions in a single building was the prime consideration in the design of barracks. Two designs were developed that consolidated troop housing, dining facilities, and

administration facilities together in one building. These were hammerhead barracks and H-style barracks.

A large number of hammerhead barracks were built between 1951 and 1957 with the largest number constructed between 1952 and 1956 principally at U.S. Army Forces Command (FORSCOM), U.S. Army Training and Doctrine Command (TRADOC), and Pacific installations. As a cost saving measure, designs for H-style barracks were developed and provided space for two companies. These facilities were first introduced in 1955, although most were built in 1957 and 1958. H-style barracks were built at a small number of FORSCOM and TRADOC installations.

Rolling pin barracks dominated barracks construction in the 1960s and were widely distributed among Army posts. Rolling pin barracks separated troop housing, dining facilities, and administration facilities into separate buildings. As a result, regimental complexes were developed consisting of ten rolling pin barracks, two consolidated mess halls, two administration buildings, chapel, post exchange, gymnasium, and dispensary (U.S. Congress, House 1964:606,663).

With the suspension of the Selective Service Act in 1973, the Army recognized the need to attract and retain soldiers in a volunteer Army. Quality of life issues for military personnel were identified as important to troop morale and retention rates. The limited privacy associated with the open dormitory design commonly used in barracks was identified as an undesirable feature of UPH design.

The Army held a design competition of barracks and selected two designs that enhanced individual privacy. Both the Lyle, Bisset, Carlisle, and Wolfe design and the Benham-Blair & Affiliates design replaced open bay squad rooms and central latrines with three occupant rooms with a shared bath. Both designs featured small clusters of buildings that could be linked in a variety of configurations to house varying numbers of men. The designs were employed into the early 1980s.

The Army completed its first starship barracks in 1975. These enormous buildings house over 1,110 trainees and were used principally at TRADOC bases. In contrast to new designs, which enhanced privacy, the starship barracks used an open barracks design to house personnel. This practical design has been utilized for over twenty years.

FORSCOM bases began construction of large quadrangle barracks in 1983 and continued into the 1990s. These barracks were typically grouped around a large regimental quadrangle. The buildings often incorporated the administration and supply functions in end wings, an approach historically used in earlier military barracks designs.

3.2.5.1 Hammerhead Barracks

With the FY 1950 Military Construction program, Congress established a construction ceiling of \$1,700 per person for barracks construction. At that time, company unity was an Army priority in troop housing. The typical architectural program for permanent barracks included a barracks building containing quarters, mess facilities, administration facilities, and company storage. To meet these requirements three different sizes of single-company hammerhead barracks were developed to house 105, 165, or 225 men, respectively. These buildings varied in size from 24,482 sq. ft. to 33,454 sq. ft. to 39,309 sq. ft., respectively (Marshall 1974:343-44). These barracks are commonly known as hammerhead barracks due to their unique footprint (Figure 3.12). The building included a rectangular, three-story barracks, which contained thirty-five-man squad rooms, two-man NCO bedrooms, and

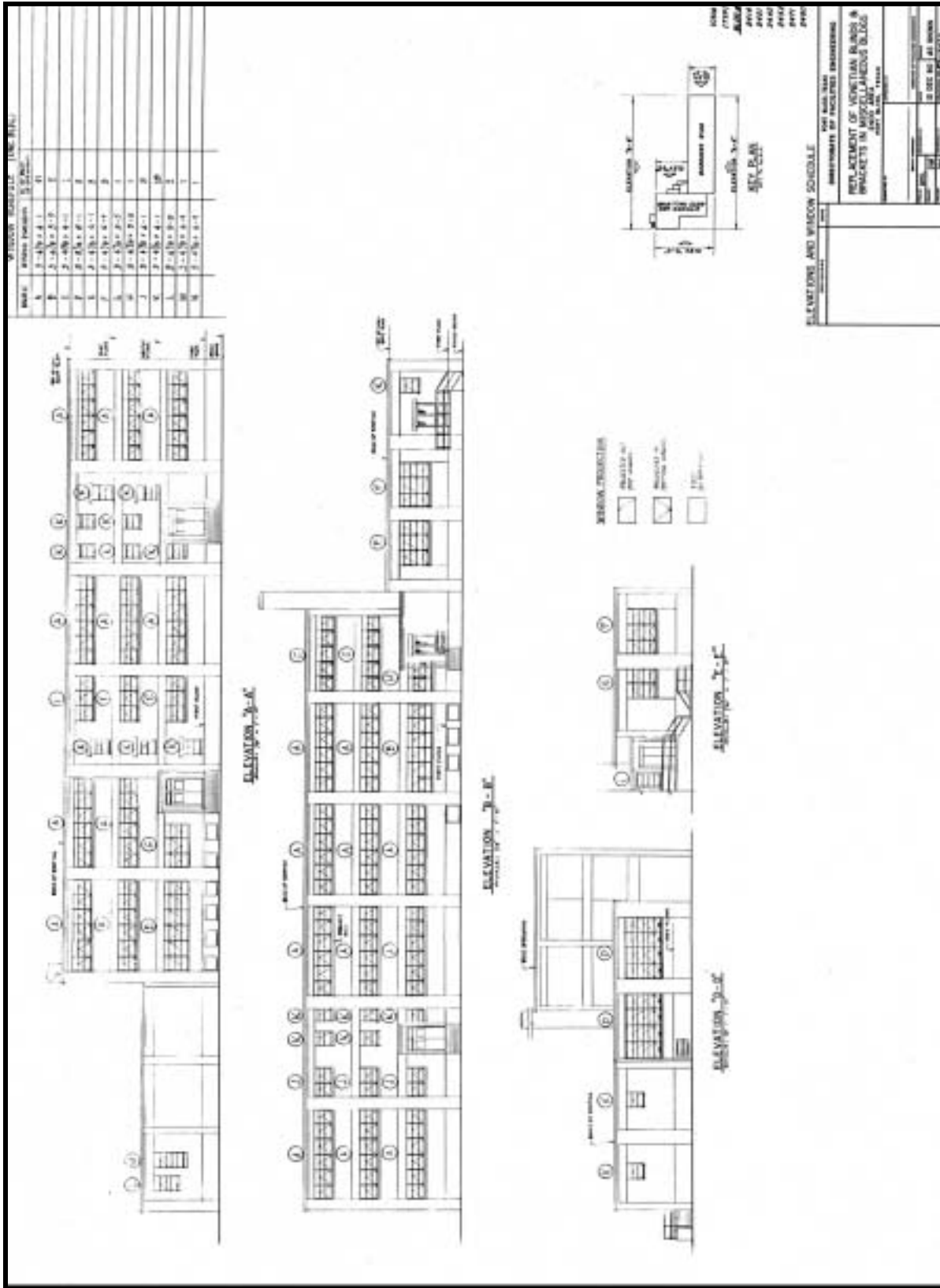


Figure 3.12 105-man hammerhead barracks, elevations (1980)(Engineering, Ft. Bliss).

central latrines. A one-story, L-shaped, addition appended to an end elevation housed the company's mess facility, administration space, and storage area (U.S. House 1973:611).

Brigadier General Hardin described the barracks:

“as a very simple, modernistic type of building, consisting of a reinforced-concrete frame and the walls, both interior and exterior, are made up of concrete block or cinder block. It might be termed a “warehouse structure.” It is devoid completely of embellishments. It is a very durable structure. We think that it is very satisfactory” (U.S. Congress, House 1952a:3957).

The U.S. Army Integrated Facilities System (IFS) database documents that, the first hammerhead barracks was completed at Fort Bliss in 1951. The design then was authorized and funded by Congress in the fiscal year 1952-1954 programs (U.S. Congress, House 1973:611).

Site planning for new barracks changed in the 1950s. In contrast to historic Army planning, new barracks were no longer oriented towards the parade ground. Technology was cited for the change:

“With the advent of mechanized military units, the “Parade Ground,” despite the considerable area allotted to it on the typical layout diagrams, no longer meets the requirements for any complete “review” of troops plus their motorized equipment” (U.S. Department of Defense 1951:15).

In addition, new barracks were designed without elaborate landscape plans and were located away from officers' housing.

The new hammerhead plans reflected elements common to historic Army designs in subtle ways. Unit cohesiveness was maintained. Each company occupied its own building and four buildings housed a battalion. Ten buildings represented a regiment. Regiment specialization sometimes was reflected in the number and in the size of the buildings within a regimental compound. For example, barracks complexes for trainees featured eleven barracks. The eleventh barracks housed the cadre, which trained the regiment. Standardization and uniformity in design were character-defining elements of the hammerhead barracks type.

3.2.5.2 H-style barracks

By 1954, rising construction costs made the design and erection of a single-company barracks within the \$1,700 per-person limit difficult. As a result, a new, economical, two-company barracks design was developed within established budget limitations. The two-company barracks housed a total of 326 men and was served by a single mess hall (Figure 3.13). H-style barracks offered the same features as the hammerhead design. The lower grades of enlisted men were housed in 32-man squad rooms with central latrines (U.S. Congress, House 1973:611). Company unity was maintained by housing each company in opposing ends of the building. Five of the large buildings provided housing for a regiment. These three-story barracks resembled a giant “H”; a two-story kitchen and mess hall wing was attached to the crosspiece of the “H”. This design was employed in the FY 1955 through FY 1958 programs (Marshall 1974:344; U.S. Congress, House 1973:611).

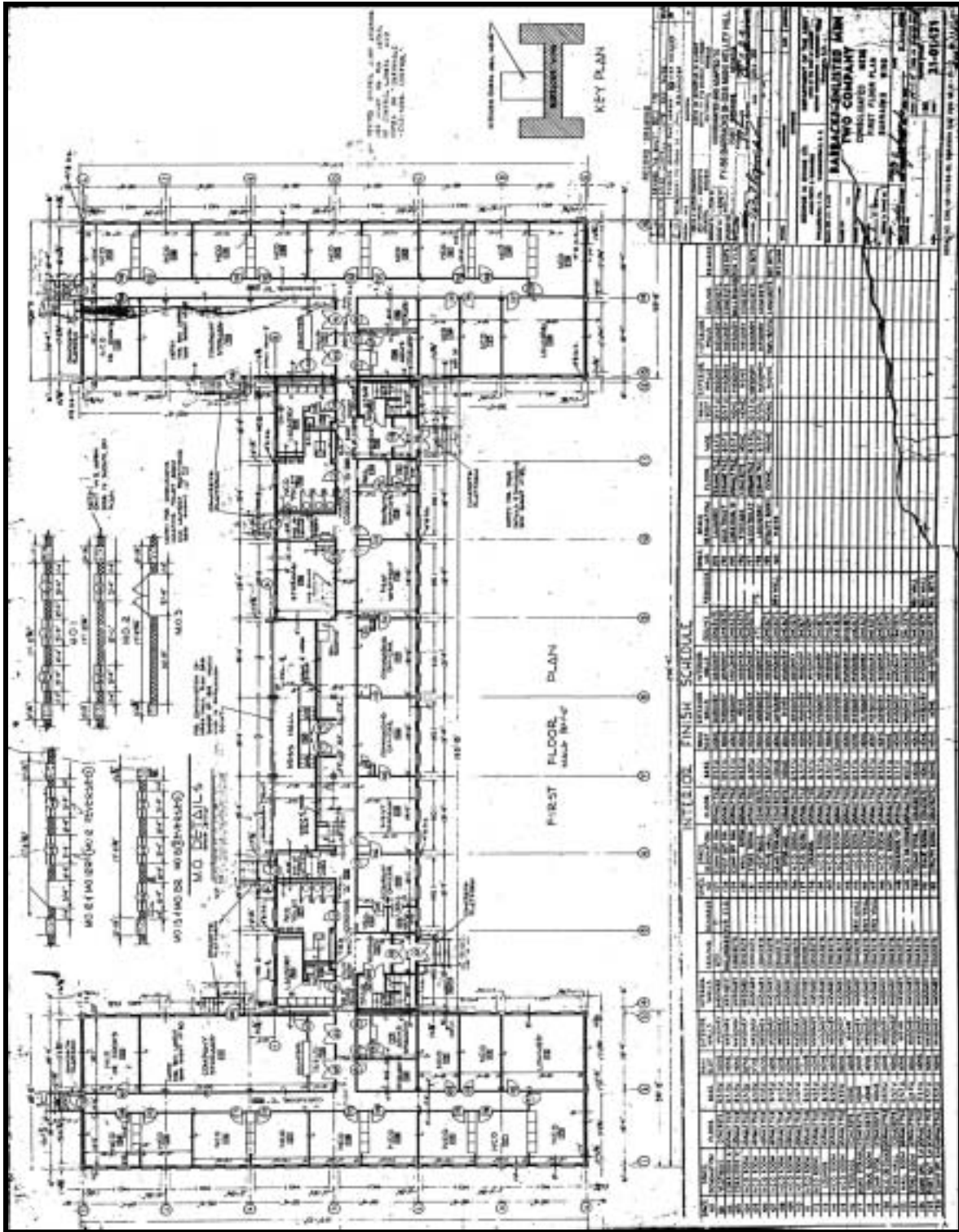


Figure 3.13 H-style, two-company barracks, barracks wing, first floor plan (1955, revised 1957) (Engineering, Ft. Benning).

3.2.5.3 Rolling Pin Barracks

During the 1960s, housing programs for bachelor enlisted personnel in the armed services were similar to those in the years preceding, during, and immediately following World War II. Two- and three-story barracks offered little privacy due to the open bay squad rooms and central latrines.

By the mid-1950s, quality of life factors were introduced in housing enlisted personnel to maintain viable and effective armed forces. Enlisted men voiced dissatisfaction over existing housing standards. Commanders became concerned over lower than expected re-enlistment rates attributed, in part, to housing conditions. In 1955 and 1956, Army commanders, concerned with the austere housing achievable under the Congressional price ceilings, agreed to eliminate the priority of company integrity in barracks design in favor of features considered essential to improve morale. The features that the Army identified for inclusion in barracks designs were brick exteriors, canopies over windows, squad rooms for eight men, built-in closets, suspended ceilings in the corridors and toilets, acoustical tile ceilings in the dayrooms and lounges, plaster walls, aluminum windows, mechanical ventilation, vinyl-tile flooring, and terrazzo-tile flooring in the lobby (U.S. Congress, House 1957:64).

The Army achieved these design priorities by applying the per person statutory limits for barracks construction exclusively to troop housing. Mess halls, administration, and supply areas were removed from barracks architectural programs. Initially, this division was accomplished by physically separating non-housing elements from the barracks. In FY 1957, new standard designs were developed in response to the refined criteria (Marshall 1974:343; U.S. Congress, House 1973:612).

The new barracks designs were called “rolling pin” barracks because of their footprint (Figure 3.14). In these barracks, lower grade enlisted men were housed in eight-man squad rooms with central latrines. Each man was allotted a personal area of 65 sq. ft., which included a sleeping area and wardrobe. Non-commissioned officers occupied separate two-man rooms with separate latrines located in the wings of the building. Non-commissioned officers’ lounges were located on the first floor. These designs first were introduced in the fiscal year 1959 Army construction program and, with few exceptions, were employed for all permanent troop housing through the fiscal year 1968 Army construction program (U.S. Congress, House 1973:612).

The new complexes built in the 1960s included barracks buildings as well as all the support buildings, such as chapels, dispensaries, and NCO clubs. The architectural program for the barracks sought to make the regimental complex independent from the main post. Services accessible to pedestrians and limited parking facilities were features of these complexes.

A standard site layout for barracks evolved to a 3,260-man regimental area of ten 326-man, rolling pin barracks and support facilities. At training centers, an eleventh barracks was constructed to house the cadre, or officers and enlisted men, who handled training (U.S. Congress, House 1964:606). The site plan enabled men living in the farthest barracks to walk no more than one-half mile round trip to the support facilities. Vehicular parking at these facilities, with the exclusion of the chapel, was provided only for administrative personnel (U.S. Congress, House 1963:8029).

The construction of Unaccompanied Personnel Housing complexes had significant budgetary implications. Once the construction of a barracks was authorized, Congress generally authorized the construction of the support buildings. This authorization normally occurred at the same time as the barracks.

The Chairman of the House Armed Services Committee commented on the regimental barracks complex plan:

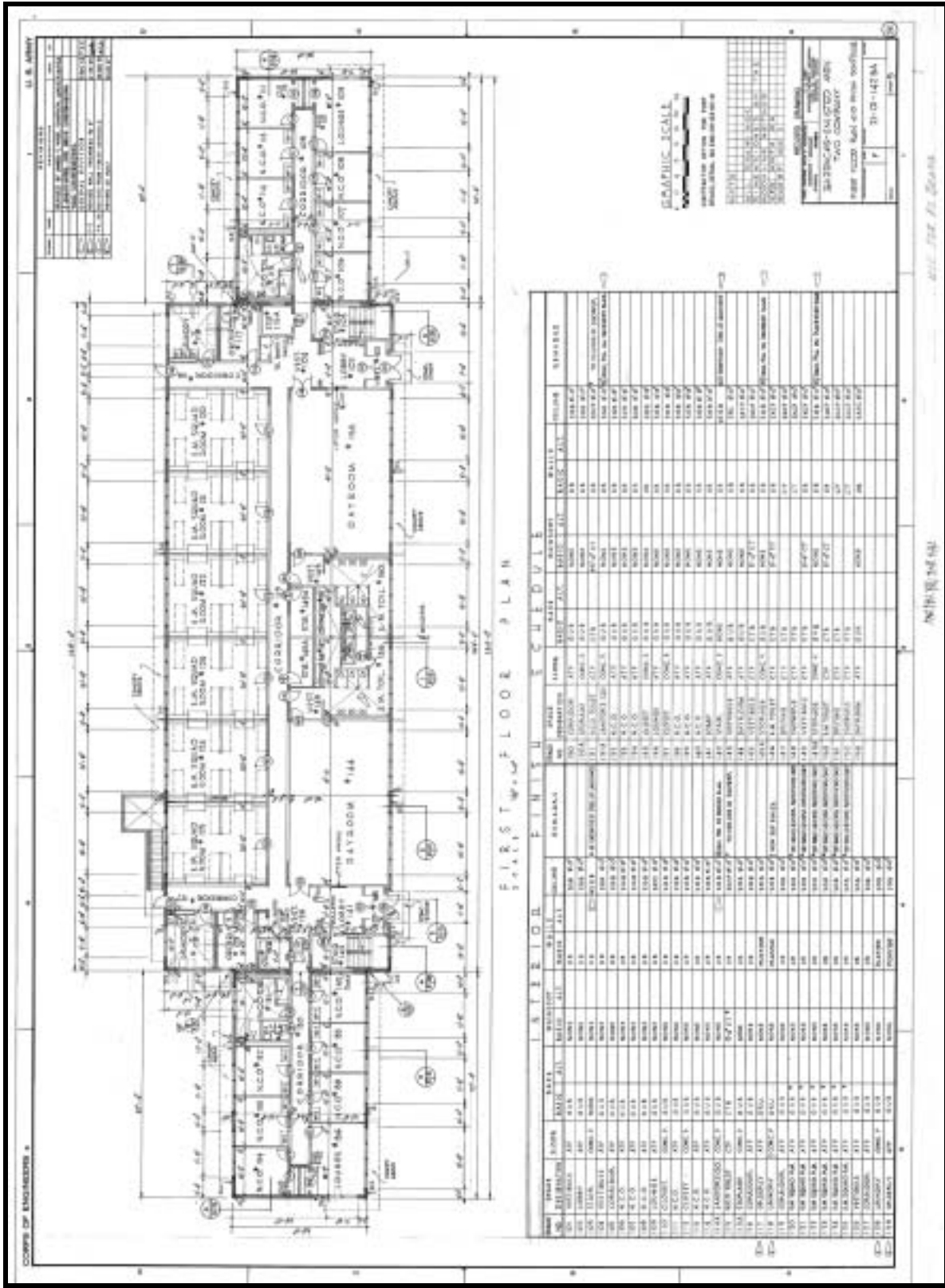


Figure 3.14 Rolling pin, two-company barracks, first floor plan, Ft. Bragg (ca. 1959, revised 1967) (Engineering, Ft. Bragg).

I want to compliment the approach of the Army and how well it reports this whole thing, of chapels, hospitals, post exchanges, gymnasiums. These people have to live there from 2 to 6 years. And it has an effect on re-enlistments or on reducing those leaving the services, and builds up re-enlistments (U.S. Congress, House 1963:8031).

Congress increased the dollar to personnel ratio for barracks construction to \$2,300 per enlisted man in 1968. This limit was raised again in 1971 to \$3,200 per person (Marshall 1974:344). This increase took into account inflation, but did not enable the Department of Defense to fully implement all of the quality of life enhancements envisioned for unaccompanied personnel.

3.2.5.4 All-Volunteer Army Impacts UPH

The Military Selective Service Act of 1967 was suspended in 1973 and the Army returned to an all-volunteer force for the first time since 1940. The Army sought ways to promote re-enlistment and to make military careers more attractive to young men. This initiative included increased pay, improved barracks and mess halls, improved food service, better hospitals, and the addition of dental care (U.S. Congress, House 1971:20). The Army began a nationwide construction program emphasizing the objectives of personnel satisfaction, effectiveness, and retention in the All-Volunteer Army (VOLAR). This program established architectural solutions that would increase privacy, afford more comfortable living conditions, and improve security for personal possessions (Gribble 1974:2).

Construction under this program ranged from the addition of “quick fix” partitions in barracks at selected installations to full barracks modernization. Barracks improvements included the installation of air conditioning systems, latrine improvements, fire alarms, electrical outlets, new lighting systems, additional circuits for convenience outlets, heating systems; painting, and new furnishings. In addition, internal circulation patterns were improved within the buildings (Gribble 1974:2; U.S. Congress, House 1971:296-302).

Modernization of existing barracks often included the removal of room dividers and partitions in squad rooms. Exterior walls were refurbished, and squad rooms were divided by framing into two- to four-person rooms. From 1971, the new room dimensions were based on 90 sq. ft. per man allotments, except for trainees where the space allocation remained at 72 sq. ft. per man. The number and size of new rooms depended on the available ventilation, windows, and the plan of the original squad room (U.S. Congress, House 1971:90-91). Fluorescent lights were centered in each room, and damaged floor tiles were replaced (Howard 1973:314).

3.2.5.5 Lyle, Bisset, Carlisle, & Wolfe Barracks and Benham-Blair & Associates Barracks

As part of the effort to make the military a more attractive career choice, the Army resolved to design improved bachelor housing for enlisted personnel. New barracks plans were developed to enhance individual privacy. An indication of the Army’s resolve was reflected in the development of a questionnaire to solicit the opinion of enlisted personnel on quality of life issues. The Assistant Secretary of Defense told Congress that the building designs were:

... coordinated with Surgeon General, for example, with the desires, as we know them, through questionnaires, and through surveillance and evaluation of reports, that the occupants do, indeed, prefer some privacy, naturally. I guess the ultimate would

be one man per room, but that is unlikely. We just couldn't afford it. So the design that is popular now within the three services is a design that permits three men per room with a shared bath (U.S. Congress, House 1971:98).

The square footage calculations were reviewed in barracks design. The maximum floor area allocated per man was increased. As early as 1953, Army regulations established a maximum spatial requirement of 125 sq. ft. per man, which included mess facilities, bathrooms, dayrooms, etc. This figure, with few exceptions, was in use through the fiscal year 1970 program. The net sleeping area was smaller. Each enlisted man was 65 sq. ft. in rolling pin barracks (U.S. Congress, House 1973:612). In fiscal year 1970, regulations allowed enlisted personnel in grades E-2 through E-4 to be housed in four-man rooms averaging 72 sq. ft. per man, in addition to a bathroom. Grades E-5 and above could be housed in three-man rooms with 90 sq. ft. allotment per man (Marshall 1974:344).

In 1971, the maximum net area requirement was increased to 90 sq. ft. per man for grades E-2 through E-4, with a 145 sq. ft. maximum for higher grades. As a result of these increases, the U.S. Army Corps of Engineers held a national architectural competition for barracks design for the fiscal year 1973 program. The design objectives were:

- € To develop a new, attractive living arrangement for enlisted men in the Army,
- € To contain costs within the authorized limit,
- € To design three-man rooms containing 270 sq. ft. of net area per man with attached three-fixture bathrooms that were suitable for NCOs,
- € To provide for maximum privacy,
- € To cluster rooms around a small lounge serving no less than four, nor more than eight, three-man rooms,
- € To provide support spaces, including: storage, a control office or desk, a lobby, and company dayrooms,
- € To design buildings that did not exceed three stories (U.S. Congress, House 1973:612).

The competition resulted in the development of two basic barracks schemes by the winning architectural firms of Lyle, Bisset, Carlisle & Wolfe (LBC&W) of Columbia, South Carolina; and Benham-Blair & Affiliates, Inc. (BB&A) of Oklahoma City, Oklahoma (Marshall 1974:344).

In exterior design and plan the new barracks had little in common with barracks constructed during the 1950s and 1960s. The winning designs were similar to civilian apartment designs. The most striking departure from the previous Army barracks was the irregular massing of the units. The open bay squad rooms were a feature of the past; now several bedrooms were clustered around a lounge (Figure 3.15). Applying the Department of the Defense's space limitations, the Army designs provided rooms that could be occupied by three persons in pay grades E2 to E4, two people in pay grades E5 or E6, or one individual in pay grades E7 to E9 (Air Force Times [AF Times] 27 March 1978:10). In addition, bathtubs replaced showers in facilities designed for women (U.S. Congress, House 1973:614).

The BB&A design was the first design approved and developed in the 1973 fiscal year. In the design, privacy was created by wardrobes arranged to form cubicles. Each occupant was provided with a window, desk with chair, bed, and wardrobe. The plan consisted of eight three-man bedrooms clustered about a common lounge. Interior corridors were accessed by entrances located in stairwells found at the ends of the building. The first barracks completed were located at Fort Carson, Colorado (U.S. Congress, House 1973:613).

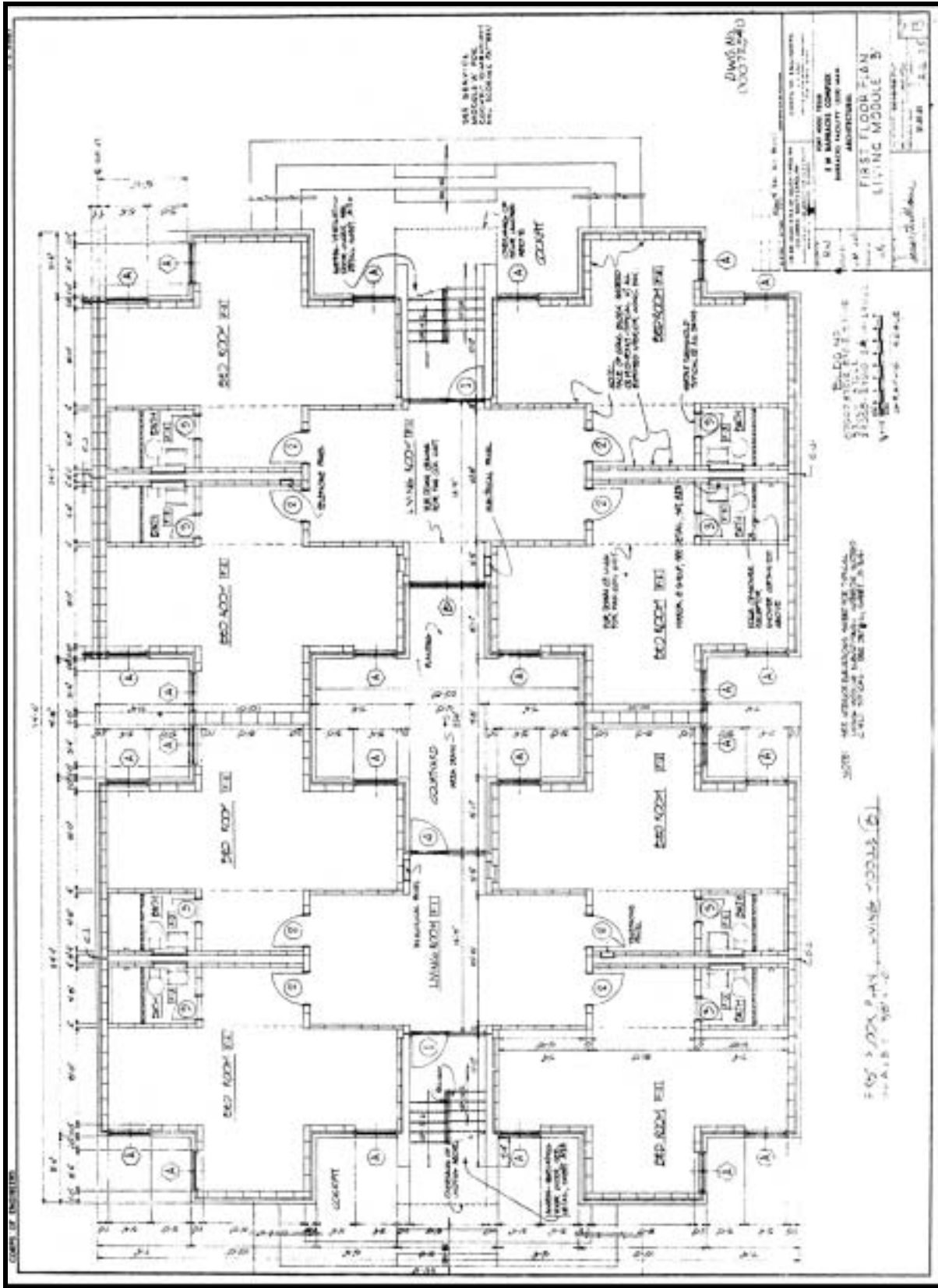


Figure 3.15 LBC&W barracks living module, Ft. Hood (1972, revised 1975) (Engineering, Ft. Hood).

In the LBC&W design, four, three-man rooms were grouped around a small, central lounge. Access to each cluster was by way of an exterior stair. A central court provided light and air. Each occupant was provided with a separate cubicle containing a window, a desk with chair, a wardrobe, and a bed. The cubicles could be screened by accordion partitions. A full-scale model of a living module comprising a lounge and four three-man bedrooms was built in Columbia, South Carolina (U.S. Congress, House 1973:613-614; 616).

New barracks plans maintained a separation between the barracks/residential areas and the administration and support area. Central dining facilities divided “military” use of the complex and the “residential” use. Unlike earlier barracks, the new designs included personnel parking in recognition that enlisted men owned automobiles. Pedestrian areas, which included open space and recreational areas, linked the parking areas and various buildings. The design was a deliberate attempt to provide a “civilian” like setting for the enlisted men.

The two barracks designs were interchangeable, although the Army assessed the BB&A design as better suited for cold climates due to its interior corridors. In contrast, the LBC&W design employed an exterior stair circulation system, which was viewed as better suited to warmer climatic areas. Climate was not the only factor in selecting between the two barracks designs. The BB&A design featured a large lounge for twenty-four people with a kitchenette, while the LCB&W design contained two smaller lounges. The BB&A design was preferred by the Women’s Army Corps (WACs) due to the kitchen facilities associated with the lounges (U.S. Congress, House 1973:620).

3.2.5.6 Starship Barracks

During the 1950s and 1960s, the Army relied on hammerhead, H-style, and rolling pin barracks to house personnel undergoing training. In the early 1970s, the Army reevaluated its training needs and developed the one station training (OST) concept. Under OST, troops received both basic combat training (BCT) and advanced individual training (AIT) at one installation. This approach offered several advantages including the elimination of transfers, associated processing, and transit time. The integration of BST and AIT made branch training possible. Training was designed specifically for infantrymen, artillerymen, etc., thus saving the Army both time and money (U.S. Congress, House 1975:323, 327).

In its evaluation of training needs, the Army determined that open bay barracks were best suited for training purposes. The Army argued that the open bay barracks allowed the cadre to observe the trainees as a group. In addition, the open bay design helped to introduce new recruits to the regimentation and discipline expected in the military and to foster teamwork (U.S. Congress, House 1975:292-293, 350). New designs for training barracks incorporating open dormitories were developed.

The Army completed its first starship barracks in 1975 at Fort Jackson, South Carolina, and adopted this utilitarian design at training centers for over twenty years. From the air the building resembled a starship or a giant beetle. The building featured a one-story core, which housed the battalion administration and classrooms in the front and the battalion mess facility in the rear. This core was surrounded by five, three-story, U-shaped, 220-man, company barracks (Figure 3.16). The ends of the “U”s created the legs of the beetle.

In 1977, President Ford froze major military construction budgets, which suspended most construction of Unaccompanied Personnel Housing until a long range needs assessment of defense installations was completed (AFT 31 January 1977:4). In 1978, a General Accounting Office (GAO)

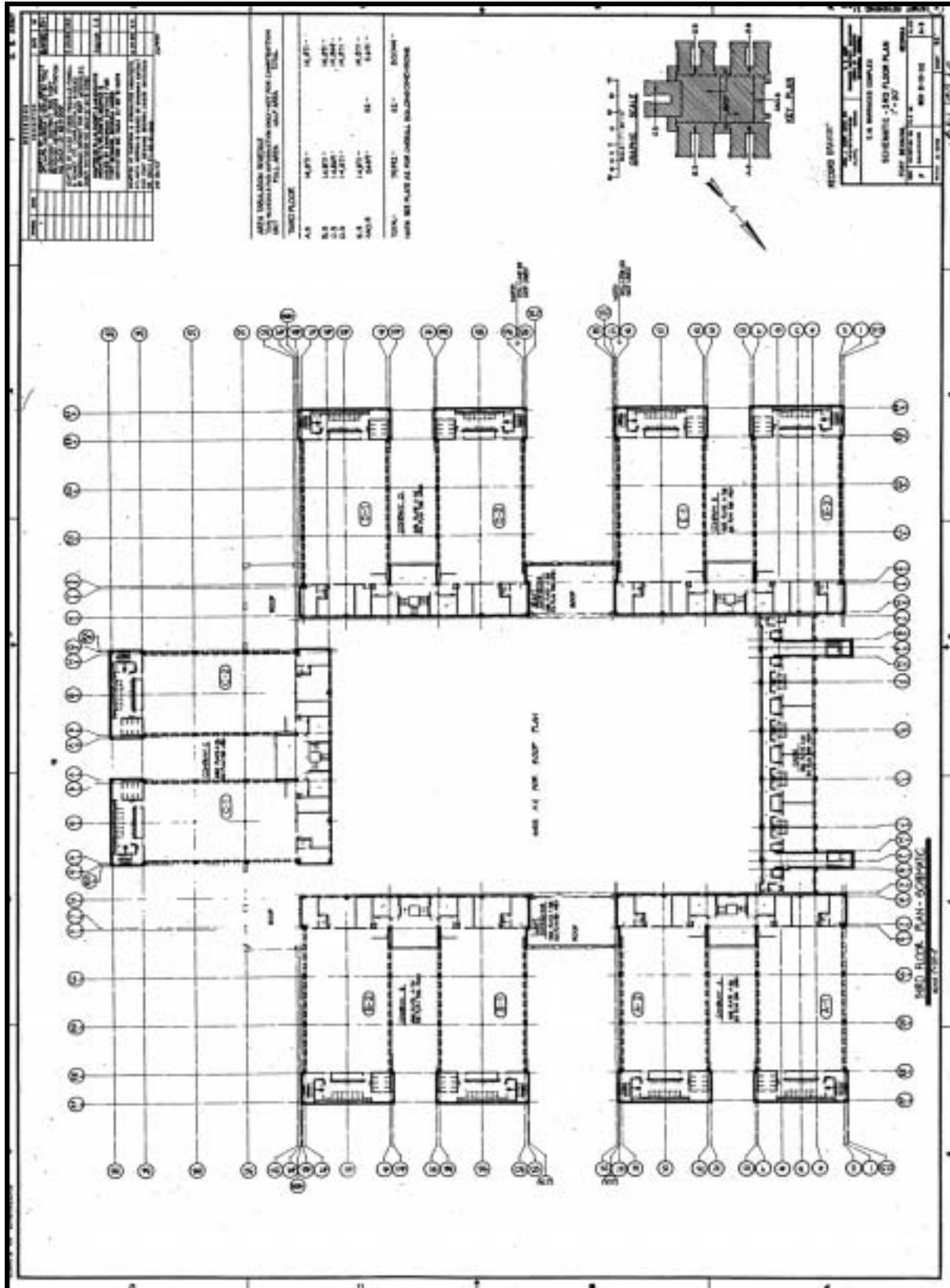


Figure 3.16 Starship barracks, third floor plan (ca. 1974, revised 1985) (Engineering, Ft. Benning).

report estimated that the armed services could save approximately \$1 million in future construction costs for enlisted barracks by adopting standardized plans for all of the armed services.

The Department of Defense responded to the GAO report, noting that barracks were designed to serve specialized functions for each service and therefore flexibility in design was desirable (AF Times 27 March 1978:10). The Army favored barracks designs that housed companies in the same barracks. This approach maintained unit integrity and promoted esprit de corps. The GAO countered that its review revealed that only 38 percent of a typical Army unit were assigned to Unaccompanied Personnel Housing by unit affiliation. The remaining personnel – officers, married people in all grades, female enlisted personnel, and senior noncommissioned officers – lived in separate quarters or off post (AF Times 27 March 1978:10).

The GAO's recommendations had little immediate effect. The Department of Defense issued a directive to avoid construction of excess UPH. The directive required that on-base construction not exceed 90 percent of an installation's enlisted housing requirements. The military services had constructed two-thirds of the 90 percent ceiling by 1978 (AF Times 27 March 1978:10).

3.2.5.7 Bachelor Housing in the 1980s

In 1980, the House Appropriations Committee criticized the existing UPH program. The committee found "there needs to be a more carefully controlled central process for assuring that unaccompanied personnel are housed in modern housing that meets both health and safety standards." The committee directed the Department of Defense to submit a multi-year plan for the improvement of UPH (AF Times 14 July 1980:18).

In 1981, the Army Housing Committee was directed to study barracks buildings. The committee identified the need to control access to barracks, to locate company administration and supply in close proximity to the barracks, to provide four-person rooms, and to simplify barracks design (McCormick 1986:498). In 1982, Congress directed the armed services to develop a new standard barracks design in fiscal year 1983 and to implement that design in barracks constructed in fiscal year 1984. The new standard design was to apply to all barracks built thereafter (AF Times 18 October 1982:3).

In 1983, the Secretary of Defense, under Congressional direction, issued new barracks standards to the military services. The directive prescribed "2+2" rooms for enlisted personnel, which afforded greater privacy to soldiers. These standards required that barracks contain suites of two, two-person living/sleeping rooms with closets and shared baths. The Army took a new approach to standardization, which allowed for design discretion for the operational needs of specific units and site conditions. The approach focused on design guides containing narrative and graphic data to describe functional layouts, space allocations, and special features of each type of facility. The guides included sample drawings to delineate individual space requirements, alternative layouts, and elevations. The resulting Army standard barracks guidelines included two adjoining, two-person rooms sharing a bathroom. The design was highly adaptable to different battalion and company sizes (McCormick 1986:498).

Quadrangle barracks were designed to meet the "2+2" standards issued in the 1983. The flexibility allowed by this approach was apparent in the resulting buildings. Quadrangle barracks are two- or three-story, brick barracks featuring an overlapping gable roof. Troops are housed in principal blocks defined by central corridors with four-person rooms or suites along both sides. Each

room/suite features living/sleeping units, individual closets, and a bath. Barracks were built singly, combined with another barracks to create an L-shaped building, or combined with perpendicular wings containing administration and supply facilities to create C-shaped buildings (Figure 3.17).



Figure 3.17 Quadrangle barracks, Bldg. M-4020 (1985), Ft. Bragg, view NE (RCG&A).

3.2.6 Semi-Permanent and Mobilization Barracks

Semi-permanent barracks have been employed by the Army to provide inexpensive, durable housing principally in times of rapid mobilization. They typically are located near training areas and, consequently, are most likely to be classified as training barracks. Semi-permanent barracks are one-story, concrete block structures built on a concrete slab. They typically feature two, open bay squad rooms with two non-commissioned officers' rooms per squad room. The squad rooms are connected by a lavatory wing to create a U- or H-shaped building (Figure 3.18). Hutments are the simplest forms of semi-permanent housing. The small, concrete block structures have single room and are accessed by one or two doors.

Few mobilization barracks remain in the Army inventory; the vast majorities are located at Fort Bliss. Three types of mobilization barracks were constructed: Quonset huts, straight-sided Quonset huts, and C-huts. All three were constructed of metal. Quonset huts, built during World War II, were identified by their semi-circular roof. Straight-sided Quonset huts were developed during the Korean War and featured straight walls and an arched roof. Straight-sided designs were more space efficient than the earlier Quonset huts. C-huts were designed to simplify construction. These simple rectangular buildings featured a shed roof (Figure 3.19). Tent pads were the simplest forms of temporary housing. Tent pads generally were concrete slabs upon which tents were erected.

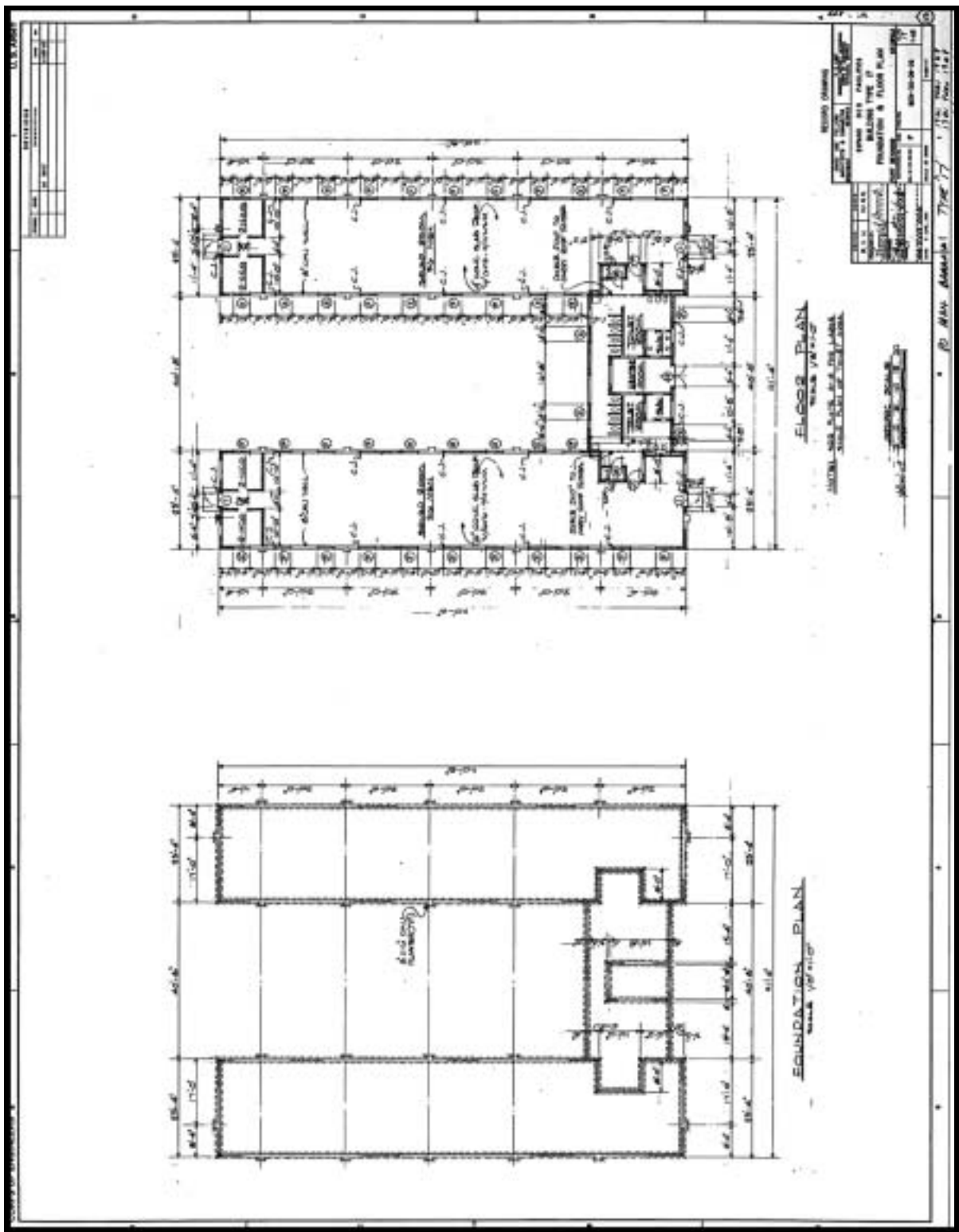


Figure 3.18 Semi-permanent 72-man "U" barracks, floor plan, Ft. Benning (1964, as built 1967) (Engineering, Ft. Benning).



Figure 3.19 C-hut, North Ft. Hood, view W (RCG&A).

3.2.7 Bachelor Officers Quarters (BOQs)

The number of bachelor officers housed in Bachelor Officers Quarters (BOQs) historically has been modest in comparison to the number of enlisted men housed in barracks (Table 3). This phenomenon was reflected in the numbers of facilities requested by the Army in construction appropriations. In 1957, the Army requested funds to construct permanent barracks to house 14,808 enlisted men and funds to construct permanent BOQs to accommodate 360 officers (*Army Navy Air Force Journal* [ANAFJ] 1957:29). During the Cold War period, the Army constructed five principal types of permanent Bachelor Officers Quarters: hammerhead BOQs; two types of apartment-style BOQs; motel-type BOQs; and high-rise BOQs.

3.2.7.1 Hammerhead Bachelor Officer Quarters

The designs of BOQs built in the early 1950s were derived from hammerhead barracks plans. Depending on the needs of the base, the buildings were either two or three stories tall. General Hardin's description of the hammerhead barracks also applied to the design for hammerhead BOQs. The buildings were utilitarian, constructed of reinforced concrete, devoid of ornamentation, and very durable (Figure 3.20). The entrances to these rectangular buildings were located at the end elevations of the buildings. The BOQs differed from hammerhead barracks in two important respects. First, hammerhead BOQs did not include a kitchen and mess hall wing. Second, officers were housed in suites with living/bedroom areas, closets, and a shared bathroom. Character-defining features consist

Table 3. Number of Barracks versus Number of BOQs

Year	Barracks	BOQ	Annual Training Officer Quarters
1946	1		2
1947			
1948	2		
1949	6		
1950	3	2	
1951	67	1	2
1952	83	42 (39 White Sands)*	
1953	110	6	1
1954	174	13	
1955	46	2	
1956	91	2	
1957	28	2	
1958	53	17 (7 White Sands, 6 Savanna)*	
1959	43	37 (34 Dugway PG)*	1
1960	26	3	
1961	28	2	
1962	20	8 (5 Ft. Bliss)*	
1963	111	3	
1964	76	1	2 Ft. Stewart
1965	39	4	
1966	73	14	
1967	135		
1968	26	1	
1969	56	3	
1970	35	22	
1971	24	2	
1972	27	1	
1973	6	1	
1974	24	2	
1975	52		
1976	49		
1977	162	1	13 Ft. Stewart
1978	79	1	
1979	95	12 (10 Ft. Hood)*	9 Ft. AP Hill
1980	40	9 (7 Camp Atter)*	
1981	6		
1982	22	6 (5 Camp Atter)*	
1983	25	2	
1984	22	2	
1985	32	8 (6 NTC and Ft. Irwin)*	1
1986	28		
1987	14	18 (16 Dugway PG)*	
1988	53		
1989	57		

(U.S. Army Integrated Facilities System Database 2002)

*indicates concentration on installation



Figure 3.20 Two-story, hammerhead BOQ converted to offices, Bldg. 1-2732 (1953), Ft. Bragg, view SW (RCG&A).

of the building's exposed reinforced concrete frame, exposed concrete block walls, window placement, and interior plan.

3.2.7.2 Apartment-Style Bachelor Officer Quarters

In 1956, Congress raised the construction cost ceiling for BOQs to \$7,000 per officer (Shoemaker 1966:5). The Army developed plans for apartment-style BOQs within the increased ceiling. These buildings were two-story structures with three or four primary entrances. Each entrance generally provided access to four apartments, two on the first floor and two on the second. A variety of exterior materials were used. At Fort Knox, the BOQs were constructed of brick on the first floor, and wood or wood and stucco on the second floor (Figure 3.21). At Fort Bliss, the BOQs were constructed with exposed concrete block walls. Character-defining features included the buildings' layout and window and door placement.

3.2.7.3 Motel-Type Bachelor Officers Quarters

Normal Paul, Assistant Secretary of Defense for Manpower, was concerned over housing conditions for bachelor officers and requested Pentagon construction officials to improve BOQs. Assistant Secretary Paul noted:



Figure 3.21 Two-story, apartment-type BOQ, Bldg. 2446 (1962), Ft. Knox, view NE (RCG&A).

We are mindful of the detrimental morale and adverse psychological effect (inadequate) dwellings ... have, particularly on younger officers. We are for a steady and comprehensive program of new and desirable construction within intelligent limits of our resources, but not losing sight of the fact that we are really saving very little when we lose highly qualified and expensively trained personnel through failure to spend adequately on suitable housing for their use (AFT 30 October 1963:3).

Paul sought the construction of new BOQs that included a bath with each bedroom, and when budgets permitted, a kitchen (AFT 30 October 1963:3). Despite a 35 percent rise in construction costs between 1956 and 1963, the cost limitation on bachelor housing was not raised to \$10,000 per officer until 1966. A raise in the construction ceiling to \$11,000 in 1970 accounted for the cost of inflation, rather than improved quarters (Shoemaker 1966:5; Horowitz 1970:1).

The Army began constructing motel-type BOQs by 1968. Character-defining features of these two-story, brick buildings included the exterior entrances, wide eaves, and wrap around balconies (Figure 3.22). Fort Bragg's building 1-1939 featured several plans. Some rooms were arranged with a living room, bedroom, bathroom, and a kitchen, while other units had a combined living room/bedroom and bathroom. Some of these latter rooms also included kitchenettes. The BOQs at Fort Polk had two-person suites. Each suite included living room/bedrooms, private bathrooms, and a common kitchen.



Figure 3.22 120-man motel-type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view SE (RCG&A).

3.2.7.4 High-Rise Bachelor Officer Quarters

During the late 1960s, the Army constructed Y-shaped, high-rise BOQs at installations with large numbers of bachelor officers. The high-rise BOQs at Fort Bragg (1966) and Fort Hood (1969) were six-stories tall and constructed of brick. Their character-defining features were the Y-shape, six-story height, the central elevator tower, and the exterior staircases located at the ends of the wings (Figure 3.23). As Maj. Gen. W. R. Shuler stated in congressional testimony, this was “a standard design. This is a Department of Defense design for putting up 300 people in a high-rise single building” (U.S. Congress, House 1964:587, 629).

3.2.7.5 1970s Apartment-Style Bachelor Officer Quarters

The campus environment created by the Lyle, Bisset, Carlisle, and Wolfe barracks was carried over into BOQs. In 1974, the Army constructed an apartment campus for bachelor officers at Fort Knox, Kentucky. The campus included seven buildings for bachelor officers and a community center. The most striking feature of the campus was the variety in scale, mass, and proportion of the individual buildings. The two- to three-story buildings were constructed of pre-cast concrete and featured exterior stairs, balconies, and flat roofs (Figure 3.24). Each room had its own private balcony accessed by a sliding glass door.

In 1977, the minimum standards for officers in the O-3 grade was increased to 400 sq. ft. of gross living area with a living room, bedroom, private bath, and access to a kitchen or an officers’



Figure 3.23 High-rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view N (RCG&A).



Figure 3.24 Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view NW (RCG&A).

mess. Officers in pay grades O-1 and O-2 and all warrant officers were provided 250 sq. ft. of gross living area consisting of a sleeping-living room and a private bath (Shoemaker 1977:2).

3.2.8 Semi-Permanent and Mobilization BOQs

Semi-permanent BOQs, like semi-permanent barracks, have been employed by the Army to provide inexpensive, durable housing principally in times of military mobilization. They typically are located near training areas and, consequently, are most likely to be classified as training barracks. Semi-permanent barracks are one-story, concrete block structures built on a concrete slab. Two styles are located at on the anti-aircraft ranges at Fort Bliss. The first style dates from 1959. The U-shaped BOQs feature a lavatory wing connecting two wings with officers' rooms (Figure 3.25). The second style dates to 1961. This 16-man rectangular BOQ features two-person suites with exterior entrances. Each officer is allocated a bedroom and closet and shares a bathroom (Figure 3.26).

There are few mobilization BOQs in the Army inventory. Two examples are located Fort Bliss on the Dona Ana Range at Fort Bliss. Each is a 24-foot by 24-foot metal prefab building on skids. Each building has two bedrooms and a shared living room (Figure 3.27).

3.2.9 Transient Housing

Most of the transient quarters in the Army inventory are renovated former BOQs including: hammerhead BOQs, apartment-style BOQs, motel-type BOQs, high-rise BOQs, and 1970s apartment-style BOQs. The first building designed as transient housing was completed at Ft. Knox in June 1970 (AF Times 3 June 1970:20). This two-story, brick motel featured a center block that was slightly higher in elevation than the flanking wings. A concrete canopy sheltered the central lobby entrance. Central hallways provided access to the rooms. The rooms provided bedroom and bathroom facilities for four family members (Figure 3.28).

Army officials disagreed over the construction of guest housing or transient quarters, arguing that they took business from local hotels. These arguments were countered by those in favor of low-cost, temporary housing for families and individuals at installations (Association of the United States Army [AUSA] 1985:5,9).

Transient quarters built during the period were designed with 27 or 33 rooms depending on the size of the post (AF Times 3 June 1970:20). They operated much like commercial motels or hotels with daily maid service, laundry facilities, and vending machines. Designs for larger transient quarters were quickly developed. Fort Bragg constructed an 88-unit guest house in 1971. The two-story reinforced concrete design featured exterior stairs and balconies along the sides of the building that were protected by overhanging eaves. Fort Hood utilized the design in 1973 (Figure 3.29).

Support for construction of new transient quarters emerged in the late 1980s. This support was likely a result of the military build-up during the Reagan administration. Extant examples of transient housing included the guest house at Fort Polk and the Inn at Fort Bliss, and were reminiscent of the design of modern commercial motels built in the surrounding communities. Fort Polk's two-story guest house was similar to 88-unit guest houses dating from the 1970s with its exterior stairs, balcony, and covered walkways, but was updated through the addition of a one-story, guest services wing (Figure 3.30). The wing featured a lobby, laundry facility, concession area, and offices. The three-story Inn at Fort Bliss was unique (Figure 3.31). Its footprint was similar to the rolling pin

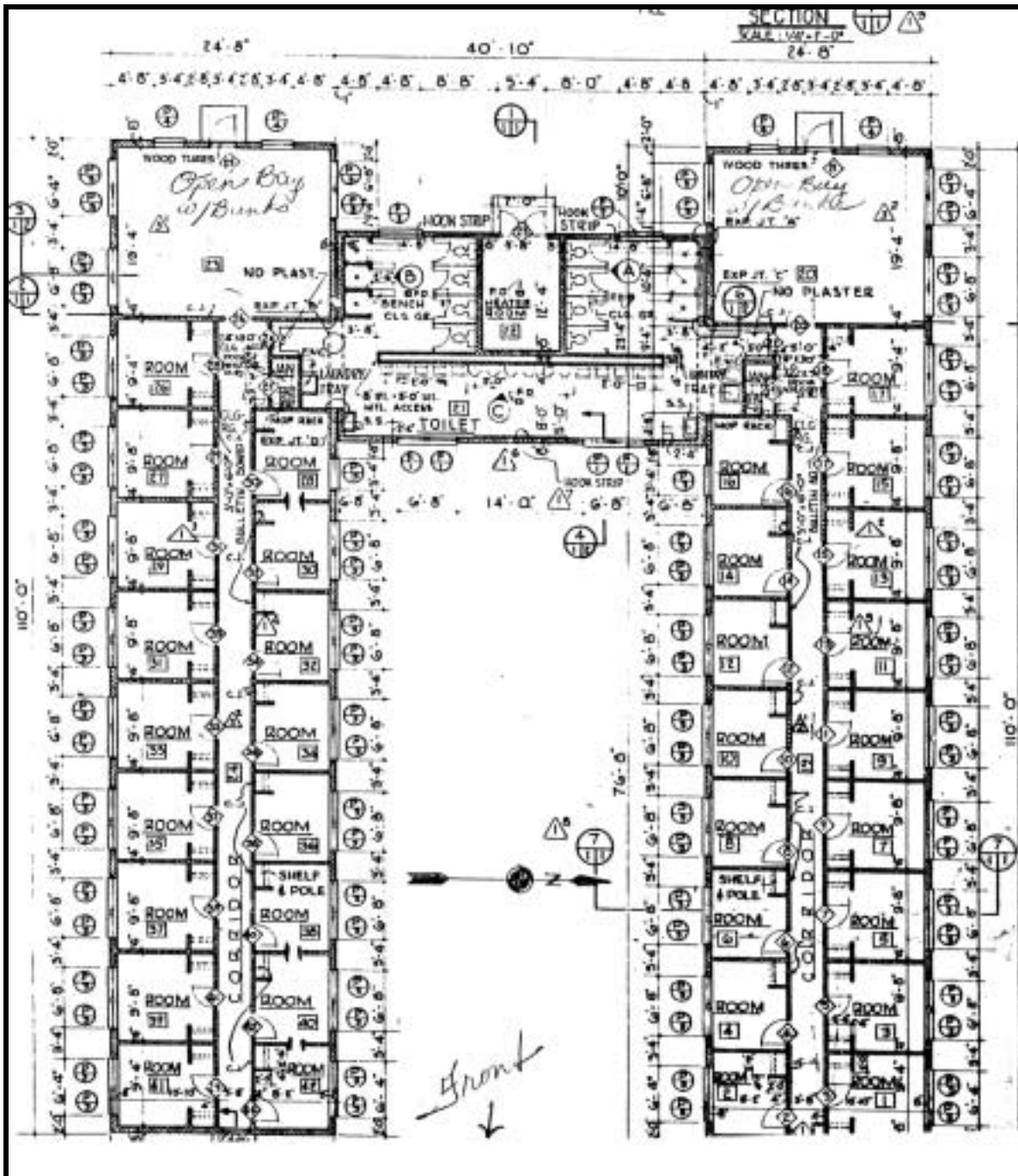


Figure 3.25 Semi-permanent "U" BOQ, floor plan, Bldg. 9517, Ft. Bliss (ca. 1957) (Engineering, Ft. Bliss).

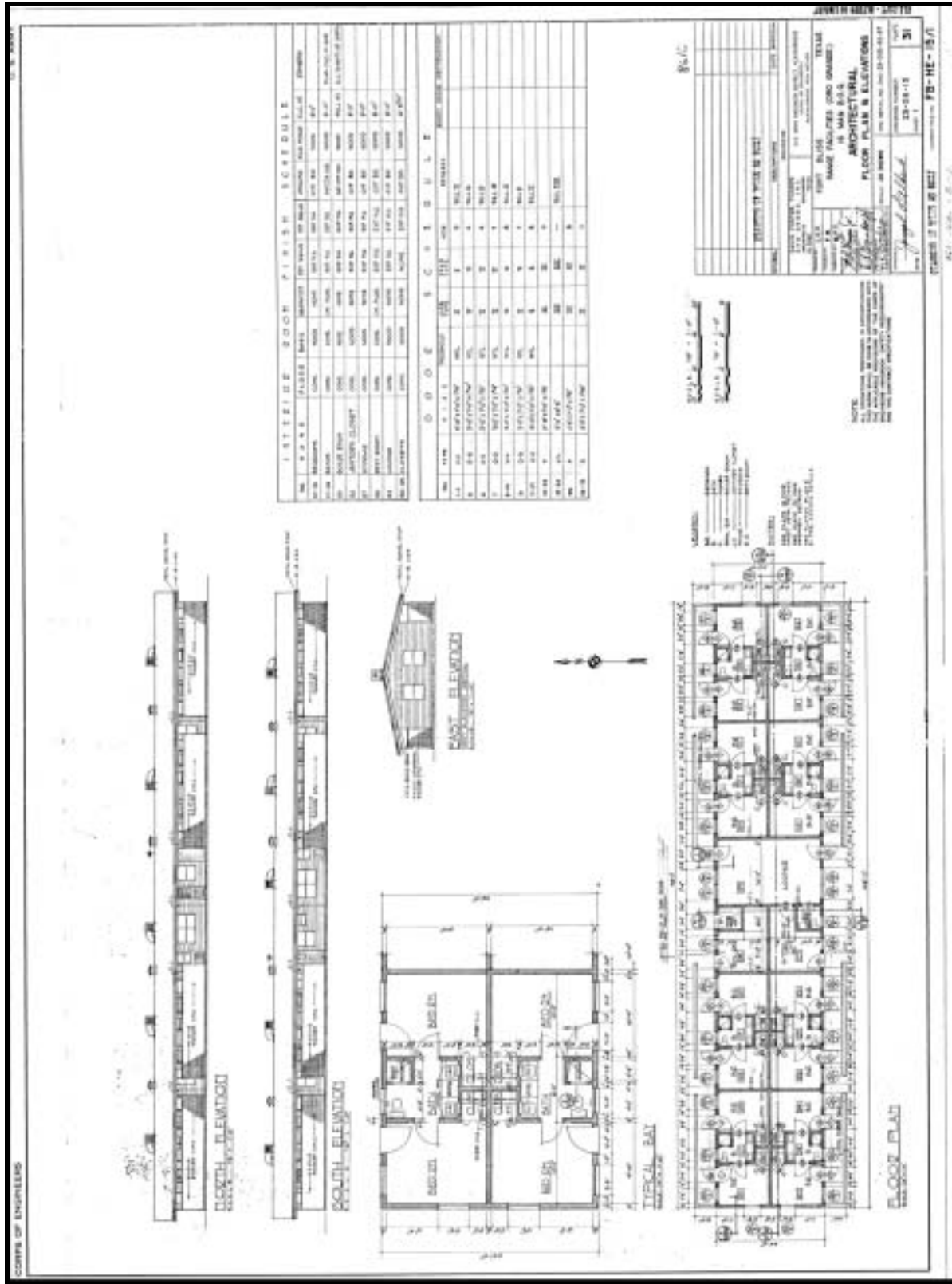


Figure 3.26 Semi-permanent 16-man BOQ, floor plan and elevations, Oro Grande Range, Ft. Bliss (ca. 1960) (Engineering, Ft. Bliss).



Figure 3.27 Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view S (RCG&A).



Figure 3.28 Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view E (RCG&A).



Figure 3.29 Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE (RCG&A).



Figure 3.30 Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NW (RCG&A).



Figure 3.31 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE (RCG&A).

barracks with a wide center block and narrower end wings. This design was interesting since no rolling pin barracks were constructed at Fort Bliss. The inn featured interior hallways and a central lobby. Larger rooms with kitchenettes were located in the center block and smaller rooms without kitchenettes were located in the end wings. Since its construction in 1989, a large one-story addition has been added to the rear of the building. The addition featured an inner courtyard with a swimming pool. The principal entrance and lobby were moved into the addition.

3.3 SUMMARY

Archival research indicates that Unaccompanied Personnel Housing in the Army underwent a number of changes during the Cold War era due to the increased size of the Army, the budget limitations imposed by Congress, and the Army's desire to improve standards of living for personnel. The postwar Army was eight times larger than before World War II and by 1950, the temporary World War II housing was reaching the end of its useful life. The Army developed standardized barracks plans to meet the needs of its unaccompanied enlisted men. In the 1950s, the Army was concerned with consolidating company functions, including troop housing, administration facilities, and mess facilities in a single building. Hammerhead barracks and H-style barracks accomplished this objective.

Concerned with the austere housing available under the Congressional price ceilings, the Army applied the per person statutory limits exclusively to troop housing in late 1950s. The resulting

design, the rolling pin barracks, was used throughout the 1960s. The design physically separated the barracks from support services.

The Army sought ways to make the military an attractive career choice when the Selective Service Act was suspended in 1973. Privacy was a major personnel concern based on the opinions solicited from enlisted personnel. The Army subsequently developed two new barracks plans to enhance individual privacy: the Lyle, Bisset, Carlisle, & Wolfe barracks and the Benham-Blair & Affiliates barracks. Both designs broke with traditional Army open barracks design by eliminating squad rooms. Plans were developed for barracks comprising three-person rooms clustered around a lounge. These designs were widely used, especially at FORSCOM installations, through 1982.

Starship barracks were first constructed in 1975 and continue to be built through 2002. These large trainee barracks have been built principally at TRADOC installations. The buildings house whole battalions in five U-shaped, company barracks located around cores of administrative offices, classrooms, and mess facilities.

Quadrangle barracks were developed to meet the "2+2" enlisted personnel room standards issued in 1983. The barracks resulted from adaptable design guides that allowed for the construction of barracks tailored to the needs of different battalions and companies. This type of design was used in the 1990s.

Semi-permanent and mobilization barracks were typically built in times of rapid military mobilization to provide inexpensive housing. Semi-permanent featured two squad rooms connected by a lavatory, which formed a U- or H-shaped building. Mobilization barracks featured squad rooms with lavatory facilities located in separate buildings. Both types of barracks were typically located near the training areas.

Since the number of Bachelor Officers Quarters was small in comparison to the number of barracks, the designs for BOQs received less architectural attention than barracks. The various plans developed for BOQs featured individual rooms for officers. As budgets allowed, the Army provided shared or individual bathrooms and, later, shared or individual kitchenettes.

Barracks and Bachelor Officers Quarters have been building types found on Army installations since the founding of the United States and are associated with the basic requirement for personnel housing. With the exception of the hammerhead barracks and hammerhead BOQs, all of the Cold War era Unaccompanied Personnel Housing facilities are under 50 years old. The designs have slowly evolved to meet rising standards of living and to increase individual privacy. Barracks design has focused on maximizing individual space and privacy for enlisted men. BOQ designs evolved to provide officers with added amenities of individual bathrooms and kitchenettes.

Transient quarters were developed in the last 35 years. They were constructed to provide low cost, temporary housing for Army personnel and their families. The few examples constructed are reflective of contemporary motel design.

4.0 REAL PROPERTY ASSOCIATED WITH ARMY UNACCOMPANIED PERSONNEL HOUSING

4.0.1 INTRODUCTION

Army Unaccompanied Personnel Housing (UPH) consists of real property that can be categorized into three general property types: enlisted barracks, Bachelor Officers Quarters, and transient quarters. The order of these property types reflects the prevalence of each type of housing in the Army's inventory of real property. Dining facilities historically were designed and constructed in association with specific barracks programs and are classified under that category.

The general property types can be further divided by the method of construction: permanent, semi-permanent, and temporary. Permanent construction generally included masonry buildings with a life expectancy of 25 years or more years. Semi-permanent construction generally included masonry block buildings designed for a 10-year life expectancy. Temporary construction generally included wooden buildings with a five-year life expectancy.

Enlisted barracks are the most common type of UPH facility. Barracks are living quarters for enlisted men, traditionally the largest percentage of the military population. Barracks were designed and constructed to house a large number of enlisted troops and typically accommodated between one and five companies within a single building. Permanent construction typically was used at the main cantonment area, while ranges feature semi-permanent or temporary construction. In the Cold War era, the Army constructed seven types of permanent barracks, three types of semi-permanent barracks, and three types of temporary barracks, which relied on standardized plans. The designs for permanent barracks during the period included: hammerhead barracks; H-style barracks; rolling pin barracks; A-style barracks; Lyle, Bisset, Carlisle, & Wolfe barracks; Army Reserve training barracks; starship barracks; quadrangle barracks; and miscellaneous barracks. Miscellaneous barracks include receptee barracks and Medical Department Activity (MEDDAC) barracks and they did not rely on standardized plans. Semi-permanent barracks included U-shaped barracks, H-shaped barracks, and hutments. Temporary barracks included Quonset huts, C-huts, and tent pads.

Bachelor Officers Quarters (BOQs) provided individual rooms for officers living on a military post. Bachelor officers were housed in five types of permanent quarters, two types of semi-permanent quarters, and one type of mobilization BOQs. Permanent BOQs include hammerhead BOQs, apartment BOQs, motel BOQs, Army Reserve annual training BOQs, and high-rise BOQs. Semi-permanent construction was utilized for U-shaped BOQs and 16-man BOQs. The mobilization BOQ featured temporary construction.

Transient quarters provide short-term accommodations for military and civilian visitors, and military personnel and their families assigned to temporary duty or awaiting a permanent change of station. Buildings built specifically for transient quarters feature permanent construction and include guest houses and inns, which were located in the main cantonment areas.

Archival research and data compiled during the visits to six Army installations with UPH inventories were analyzed in the development of this chapter. The purpose of the visits was to collect data to augment and field verify the archival data. In addition, installations were examined to identify and to illustrate examples of UPH based on extant real property in the U.S. Army inventory.

Six active Army installations were selected for site investigation in consultation with USAEC. Site visits were conducted at Fort Benning, Georgia; Fort Bliss, Texas; Fort Bragg, North Carolina;

Fort Hood, Texas; Fort Knox, Kentucky; and Fort Polk, Louisiana. The installations were selected following preliminary review of the installation maps and real property databases of unaccompanied personnel building types constructed between 1946 and 1989. The facilities were selected for the number and type of extant UPH facilities contained in the current Integrated Facilities System Database and their ability to represent a full range of buildings associated with Unaccompanied Personnel Housing. Geographically disparate installations were selected to provide data on regional differences. Mr. David Phillips, Avila Government Services, was consulted for his insights on representative installations gained through the ongoing Barracks Upgrade Program. The site visits focused on FORSCOM and TRADOC installations since these installations maintain the largest number and greatest variety of UPH facilities. In addition, Fort Bliss was selected for its collection of mobilization UPH facilities and Fort Polk was selected for its concentration of late Cold War era UPH facilities. The remaining installations were selected to cover the widest variety of resources and to document regional design differences.

Data collected at the six installations included summary histories of the installations, documentation related to the construction use, and alteration to UPH property types, and cultural resource data on UPH facilities. Examples of the housing types were examined to identify character defining features, as well as patterns of modification over time. Photographs were taken and drawings were collected to illustrate extant UPH-related types.

Archival research and site data were correlated, analyzed, and synthesized. Building types were identified and classified by function and design. Construction dates of individual buildings were identified through the Integrated Facilities System Database and real property cards to establish date ranges for building types. Archival data was used to verify date ranges. Real property records were consulted to verify dates of alterations. Similar building types at various installations were compared to identify regional differences. The results of the data analysis are included under the appropriate property and building type.

Each property type is discussed in this chapter. Data includes a description of the general characteristics of each building design within the property type and an explanation of its evolution. The building types are illustrated with photographs and/or drawings of current examples.

4.1 BARRACKS

4.1.1 Hammerhead Barracks 1951-1957 (Benning, Bliss, Bragg, Hood, Knox)

4.1.1.1 Description

Hammerhead barracks were the first major class of barracks built by the Army after World War II. Louis and Henry, architects of Louisville, Kentucky, designed the barracks at the request of Lt. Col. Clarence Bidgood, District Engineer with the U.S. Army Louisville, Kentucky District Corps of Engineers. The barracks were designed for use on military installations throughout the United States. The design was developed with an anticipated “life expectancy” of 25 years as compared to 10-year expectancy of the barracks erected during World War II (Engineering News Record [ENR] 17 July 1952:26).

The Army’s prime priorities in developing troop housing were company unity and consolidated basic company functions. A typical hammerhead barracks contained quarters, mess facilities, administration facilities, and sufficient storage to support a company. Three different sizes

of single-company hammerhead barracks were developed to house 105, 165, or 225 men, and varied in size from 24,482 sq. ft, 33,454 sq. ft, and 39,309 sq. ft, respectively (Marshall 1974:343-44). The most common size of barracks, and the barracks most likely to remain in active use, was the 225-man barracks, which were large enough to support a full-strength infantry company.

Hammerhead barracks were most commonly clustered in groups of four and ten. Each four-building group housed a battalion (typically four companies) and each ten-building group accommodated a regiment. Fort Bliss utilized both battalion- and regimental-sized complexes. Figure 4.1.1 illustrates a regimental complex located next to a battalion size complex. Two regimental complexes are shown in Figure 4.1.2. Training complexes often had an eleventh barracks in the regimental complex, which housed the cadre who trained the regimental. Minor variations in the number of buildings in a complex and the size of the buildings were noted, which likely reflected differences in the composition of the regiments. Figure 4.1.3 illustrates an eleven-building regimental complex next to a five-building battalion complex. Fort Hood had an eight barracks complex, which likely represents an incomplete regimental complex (Figure 4.1.4). Figures 4.1.5 and 4.1.6 show large groupings of hammerhead barracks at Fort Knox and Fort Bragg, respectively.

Landscaping around the hammerhead barracks generally was sparse and concentrated at the entrances. Trees tend to be few in number and moderate in size (Figure 4.1.7).

Initially called “regimental-type barracks,” hammerhead barracks derived their common name from the shape of the buildings’ footprint, which resembles a hammer (ENR 17 July 1952:26). The handle consisted of a rectangular, three-story, barracks wing and the head consisted of an L-shaped, one-story, kitchen and mess hall wing.

The buildings were reinforced concrete frame structures with an exterior curtain wall of concrete block, painted with waterproof paint (ENR 17 July 1952:26). The barracks type was supported by a reinforced concrete foundation. The reinforced concrete frames consisted of exposed, reinforced concrete columns and exposed, reinforced concrete slab floors and roofs. The interior walls also were masonry block. The roofs appeared flat, but were slightly sloped for perimeter drainage and were sheathed with a five-ply built-up roof covered with gravel. The buildings were built with ribbons of metal sash windows (Figure 4.1.8).

As noted previously, hammerhead barracks were built in three sizes: 225-man, 165-man, and 105-man. In all cases, the entrances were architecturally undistinguished. The entrances featured double metal doors with single-light windows.

The barracks wing included a small basement comprising an arms room, a company supply room, and an issue room (Figure 4.1.9). Each floor of the barracks was divided into three sections. On the first floor, the section closest to the kitchen and mess hall wing housed a day room. The second section contained the mailroom; offices for the commanding officer, company officers, the first sergeant, and the NCO; a lounge; and a lavatory (Figure 4.1.9). Squad rooms were located at both ends of the second and third floors. A lounge, NCO rooms, and two lavatories separated the squad rooms (Figure 4.1.10).

The squad rooms in the hammerhead barracks were large open, rectangular bays with windows on two sides to provide ventilation and natural light. The NCO rooms were two-man rooms with floor, wall, and ceiling finishes identical to those in the sleeping bays. Lavatory toilets were shielded with privacy screens and doors. The showers were located in a large shower room.

The kitchen and mess hall were located in a one-story wing (Figure 4.1.11). The kitchen occupied the small leg of the “L” and the mess hall was located in the long leg of the “L”. Often, a boiler room was located under this wing. Some hammerhead barracks included company storage, issue, and arms rooms in the basements of the kitchen wings.

Figure 4.1.12 illustrates a 225-man hammerhead barracks at Fort Benning, Georgia. The minimal landscaping of hammerhead barrack is shown in Figure 4.1.13. In contrast, the landscaping is stark in the arid southwest at Fort Bliss (Figure 4.1.14). The mess wing is illustrated in Figure 4.1.15.

As noted previously, hammerhead barracks were built in three sizes: 225-man, 165-man, and 105-man. The 225-man and 165-man barracks were virtually indistinguishable from each other from the exterior. While the 225-man barracks was eleven bays long, the 165-man barracks was only nine bays long (Figure 4.1.16). The first floor of the 165-man barracks featured a smaller dayroom, a smaller squad room, and fewer NCO rooms than the 225-man barracks (Figure 4.1.17). Similarly, the second and third floor squad rooms were small and contained fewer NCO rooms (Figure 4.1.18).

The 105-man barracks was only six bays long and featured only one entrance (Figure 4.1.19). In all hammerhead barracks, the entrances were architecturally undistinguished. The entrances featured double metal doors with single-light windows.

The footprint of the 105-man barracks had a smaller kitchen wing (Figure 4.1.20). The 105-man barracks only contained one lavatory and small squad room on the second and third floors (Figure 4.1.21). Figures 4.1.22 and 4.1.23 illustrate 105-man hammerhead barracks.

Fort Benning, Georgia, featured some double hammerhead barracks (Figure 4.1.24). In the double hammerhead barracks, the floor plans are the same as a 225-man hammerhead barracks. Figure 4.1.25 shows the second floor plan after the building was rehabbed in the 1970s under the VOLAR program. The kitchen wall between the buildings has been removed from the kitchen and mess wing (Figure 4.1.26). Figures 4.1.27 and 4.1.28 illustrates a double hammerhead.

4.1.1.2 Evolution

With the introduction of the Volunteer Army (VOLAR) program in the early 1970s, the hammerhead barracks underwent a number of changes. The principal modification was the division of the squad room into three-person enlisted man rooms. The simplest technique for this common modification was the addition of partitions (Figures 4.1.29 and 4.1.30). Day rooms often were divided into smaller rooms by paneled partitions. The rooms divided from day rooms were used for as billiards rooms, game rooms, trophy rooms, vending rooms, and/or TV rooms (Brauer 1975:238). In addition, the first floor lounges generally were converted to administration spaces. Window modifications varied from the infill of windows with metal panels to the replacement of the original ribbon windows with smaller double metal sash units (Figures 4.1.31 and 4.1.32). Over time, many of the kitchen and dining operations were consolidated, thus freeing former mess halls for conversion into administration or recreation rooms.

In the early 1990s, many hammerhead barracks were modernized to meet the new 2+2 standards, which required that barracks contain suites of two person rooms. In such cases, the buildings were gutted to the reinforced concrete frame and the interiors were rebuilt with modern materials including metal stud walls, new windows, and modern exteriors (Figure 4.1.33). A small number of the barracks also received exterior staircases, which freed interior room (Figure 4.1.34).

Figure 4.1.35 illustrates a 105-man barracks with new window treatments, while Figure 4.1.36 shows a similar exterior treatment on a larger example. In a small number of rebuilt hammerhead barracks, the interior hallways were removed and replaced with exterior balconies and doorways (Figures 4.1.37 and 4.1.38). Figure 4.1.39 illustrates a hammerhead complex at Fort Knox, Kentucky, which was the most extensively rebuilt barracks examined during the site visits. The kitchen and mess hall wing had a new plan and extensive exterior modifications (Figure 4.1.40). The barracks wing featured a hipped roof, wrap around balconies, exterior stairs, and an enlarged parking lot (Figures 4.1.41 and 4.1.42).

4.1.1.3 Association

Hammerhead barracks were constructed as part of the first large-scale program to build troop housing following World War II. The barracks historically are associated with the expanded military of the Cold War era, during which time troop strength was increased eight-fold over the peacetime Army of 1934. The architectural firm of Louis and Henry, of Louisville, Kentucky designed the hammerhead barracks. Frederick Rickards Louis and A. Read Henry were principals in this firm.

Frederick Rickards Louis was born in Hamilton, Ohio on 9 June 1910. He attended Oberlin College in 1929 and 1930 and received a Bachelor of Science degree in architecture from University of Cincinnati in 1934. He was a partner with Louis & Henry from 1939 to 1953, with Hartstern, Louis & Henry from 1953 to 1963, with Louis & Henry, Architects & Associates from 1963 to 1970, and with Louis & Henry, Architects and Planners beginning in 1970. His principal works included the University of Louisville Student Union Building, 1958; Dosker Manor North Building High Rise Apartment for the Elderly, Louisville, 1967; Phase I of University of Kentucky Jefferson Community College, Louisville, 1968; and Louisville Free Public Library, 1969. He received a Merit Award for Dosker Manor North Building from the Southeastern Regional Council of the National Association of Housing and Redevelopment Officials (Gane and Koyl 1970).

A. Read Henry was born in Spring Lake, Michigan on 8 September 1911. He attended the University of Illinois in 1930 and 1931 and received a Bachelor of Fine Arts in architecture from the Yale School of Architecture in 1936. He was a draftsman for Wischmeyer, Arrasmith & Elswick from 1936 to 1941 and an associate engineer with U.S. Army Corps of Engineers from 1941 to 1943. He was a partner with Louis & Henry from 1941 to 1953, with Hartstern, Louis & Henry from 1953 to 1963, with Louis & Henry, Architects & Associates from 1963 to 1970, and a partner with Louis & Henry, Architects and Planners beginning in 1970. His principal works included twenty schools for the Jefferson County Board of Education, 1953 to 1955; nurses Bachelor Officers Quarters, Fort Knox, 1957; First National Bank-Preston Street, Louisville, 1958; WAVE radio and television station, Louisville, 1959; Standard Gravure, Louisville, 1960; Central State Hospital, Lakeland, 1963; and WHAS radio and television station, Louisville, associate architect with Watkins & Burrows and T.J. Nolan & Sons, 1969. His principal works can be divided into ten categories: commercial, industrial, religious, educational, recreational, health facilities, penal institutions, public buildings, military structures, and communications (Koyl 1955, 1962; Gane and Koyl 1970).

The firm's work also includes the Rauch Memorial Planetarium at the University of Louisville, 1962 (University of Louisville 2002). The Kentucky Chapter of the American Institute of Architects awarded the firm its Distinguished Firm Award in 1985 for consistent leadership, vision, and ability citing Louis and Henry's distinguished body of work over the previous decade in the design and implementation of works of architecture that enhanced the quality of the environment (AIA Kentucky 2002).

4.1.1.4 Integrity

Hammerhead barracks are utilitarian, functional buildings whose design reflects their use and construction materials. Their character-defining features include three-story scale, mass, distinctive ground plan, exposed reinforced concrete building frames, exposed concrete block walls, and ribbons of windows. Over the years, modifications and redesigns have altered the integrity of the original designs to varying degrees. Few examples of the building type survive unaltered.

The barracks least changed from their original designs generally are in use as short-term training housing. These barracks generally have undergone minor modifications, including the addition of partitions or concrete block walls to divide the squad rooms into enlisted men rooms. Additional modifications include the installation of air conditioning. These changes generally were a result of improvements to housing associated with the Volunteer Army Program. More extensive changes included the removal or replacement of windows and new exterior cladding.

In the 1990s, a number of hammerhead barracks were renovated to meet the 2+2 standards and, later, the 1+1 standards, which required suites with one-person rooms. The renovation of these barracks often included stripping the building interiors to the reinforced concrete frame, adding balconies, constructing walls in modern materials, and the addition of gable roofs.

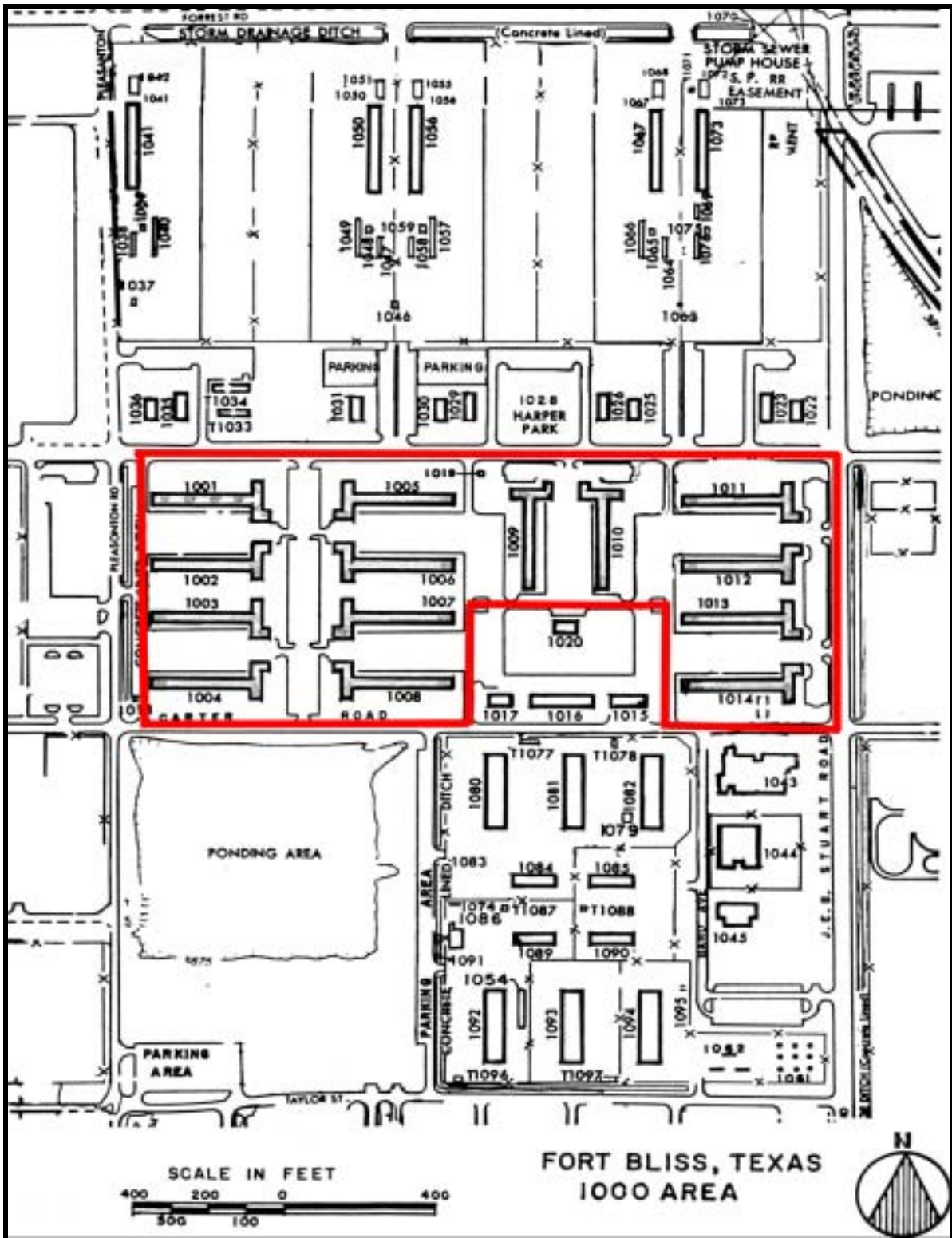


Figure 4.1.1 Map of hammerhead barracks in the 1000 area, Ft. Bliss.

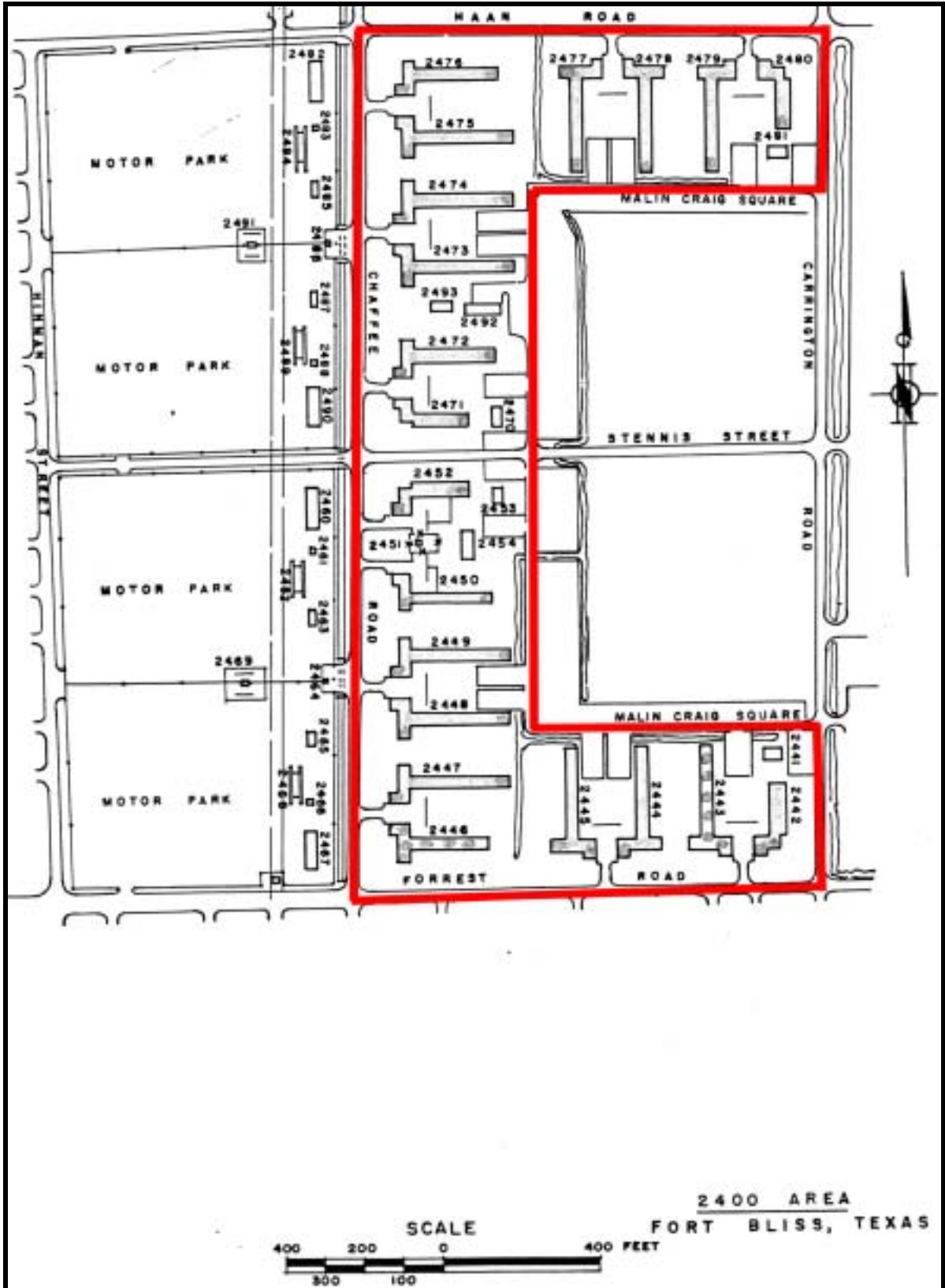


Figure 4.1.2 Map of hammerhead barracks in the 2400 area, Ft. Bliss.

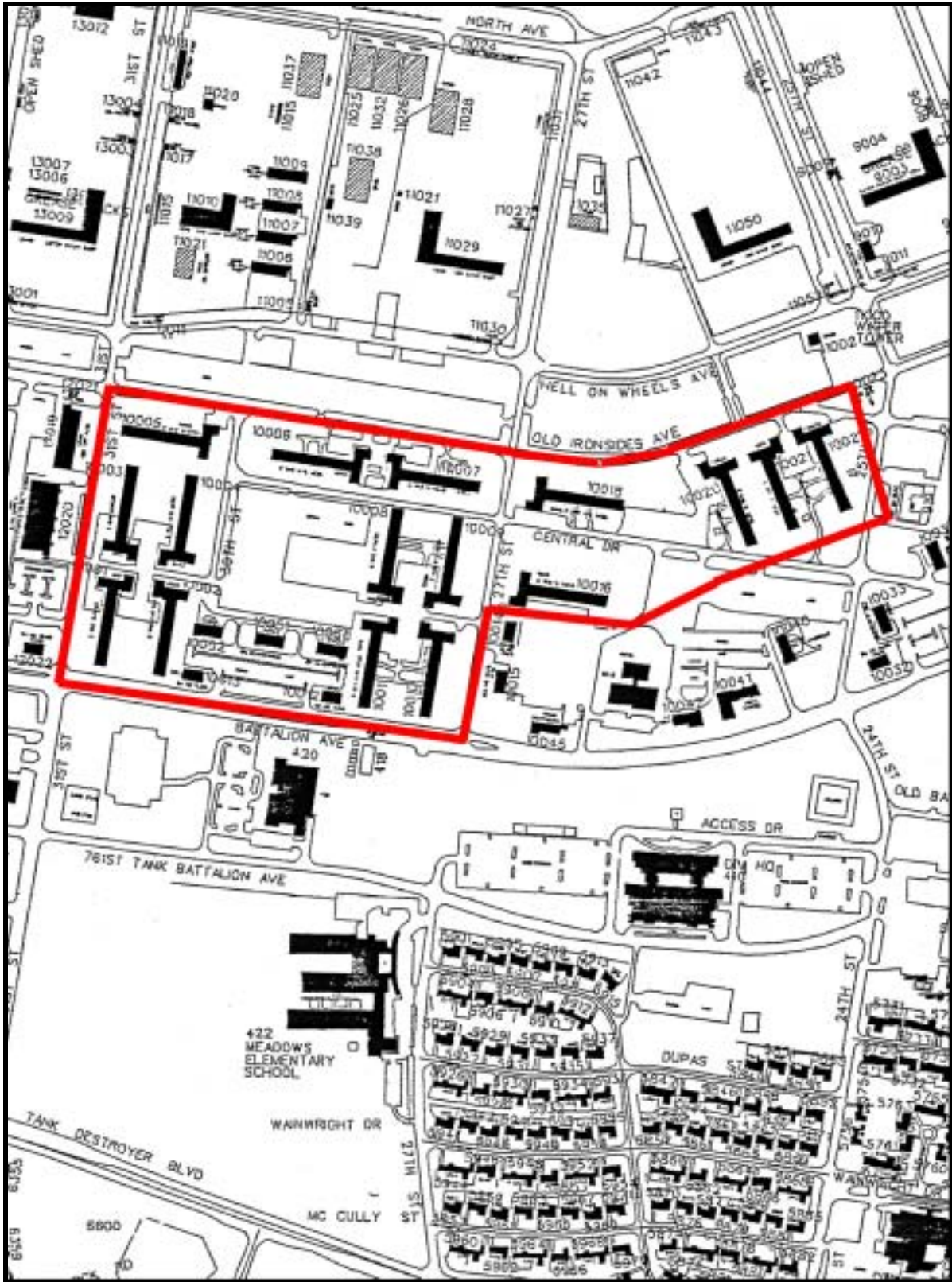


Figure 4.1.3 Map of hammerhead barracks in the 10000 area, Ft. Hood.

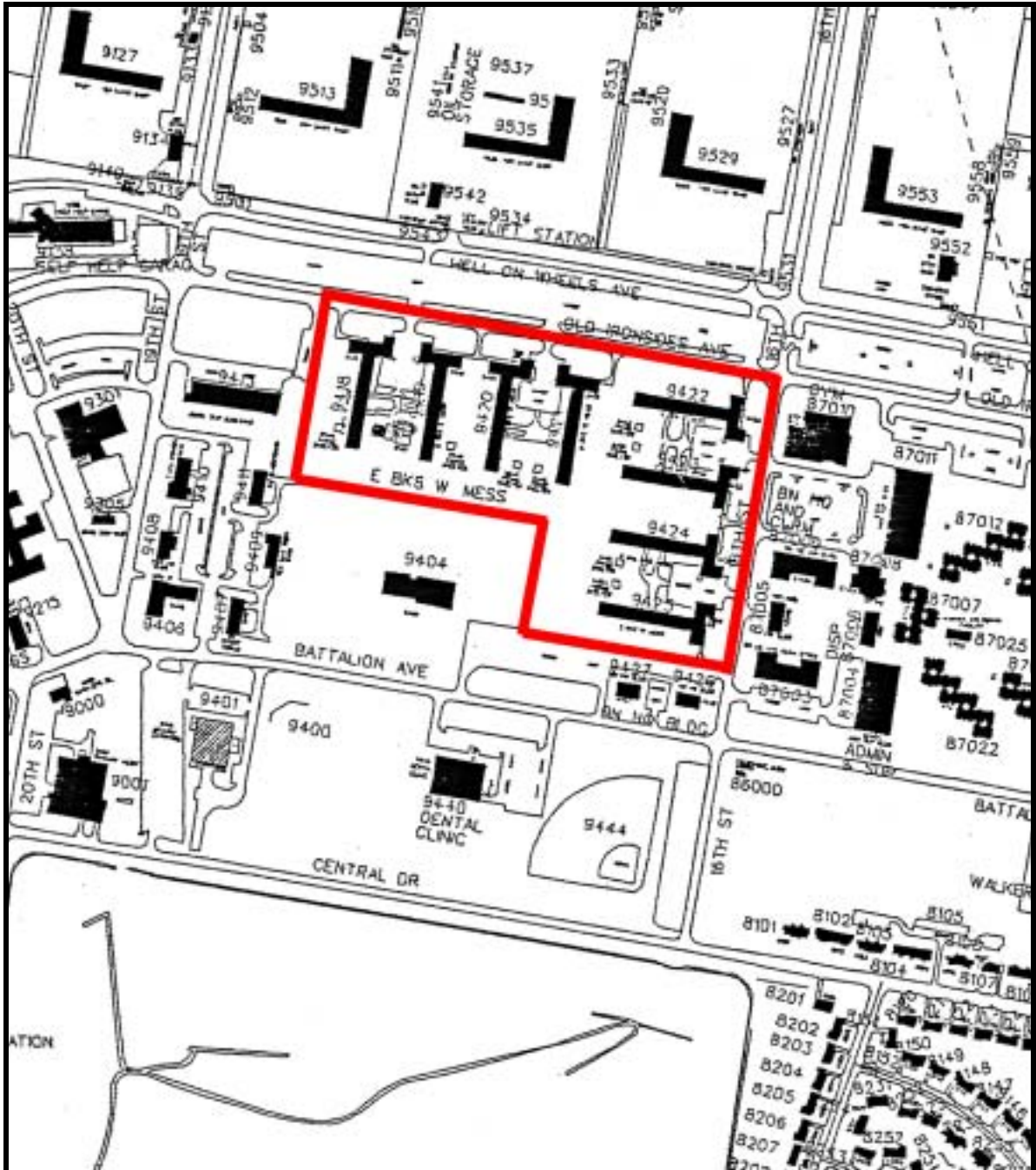


Figure 4.1.4 Map of hammerhead barracks in the 9400 area, Ft. Hood.

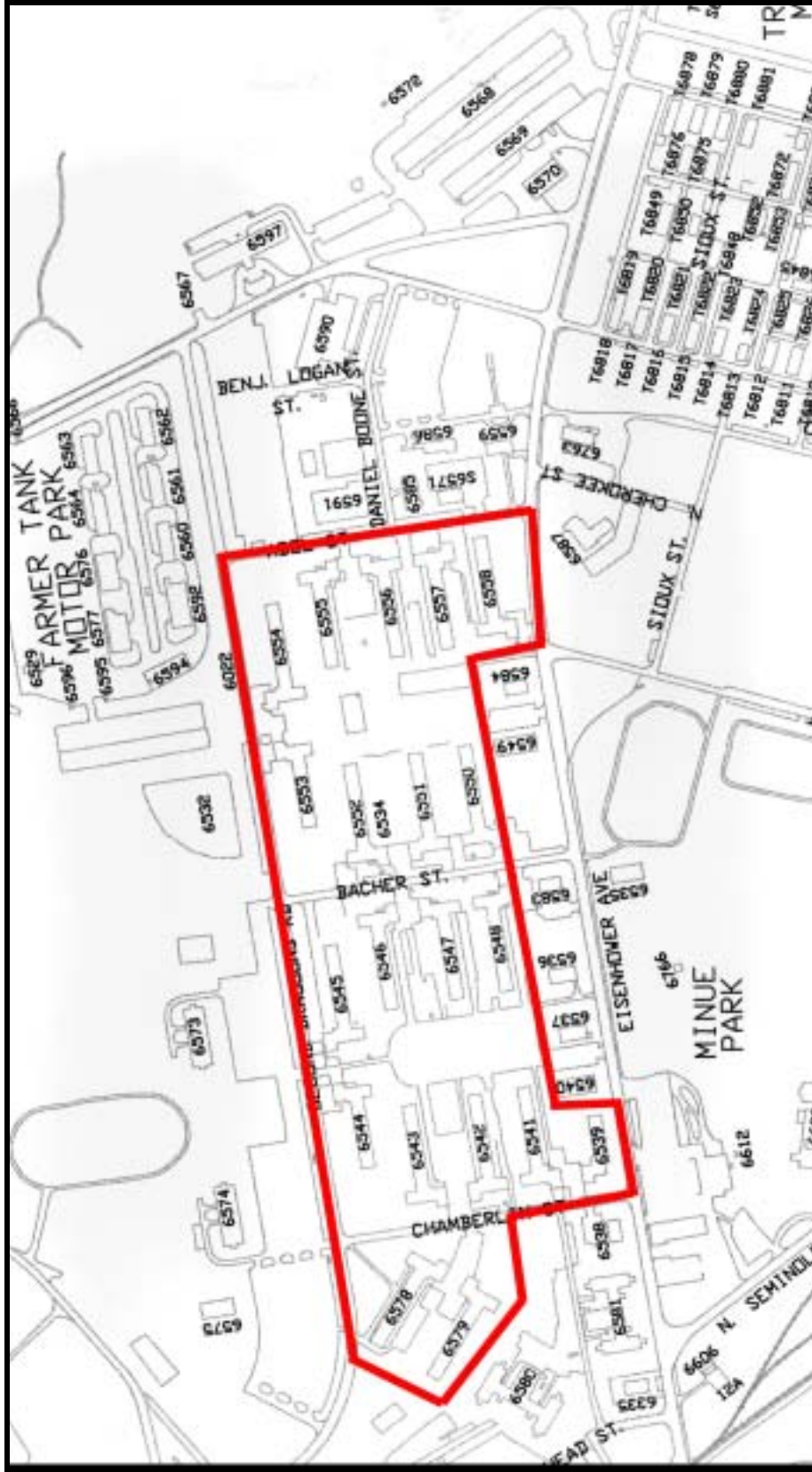


Figure 4.1.5 Map of hammerhead barracks in the 6500 area, Ft. Knox.

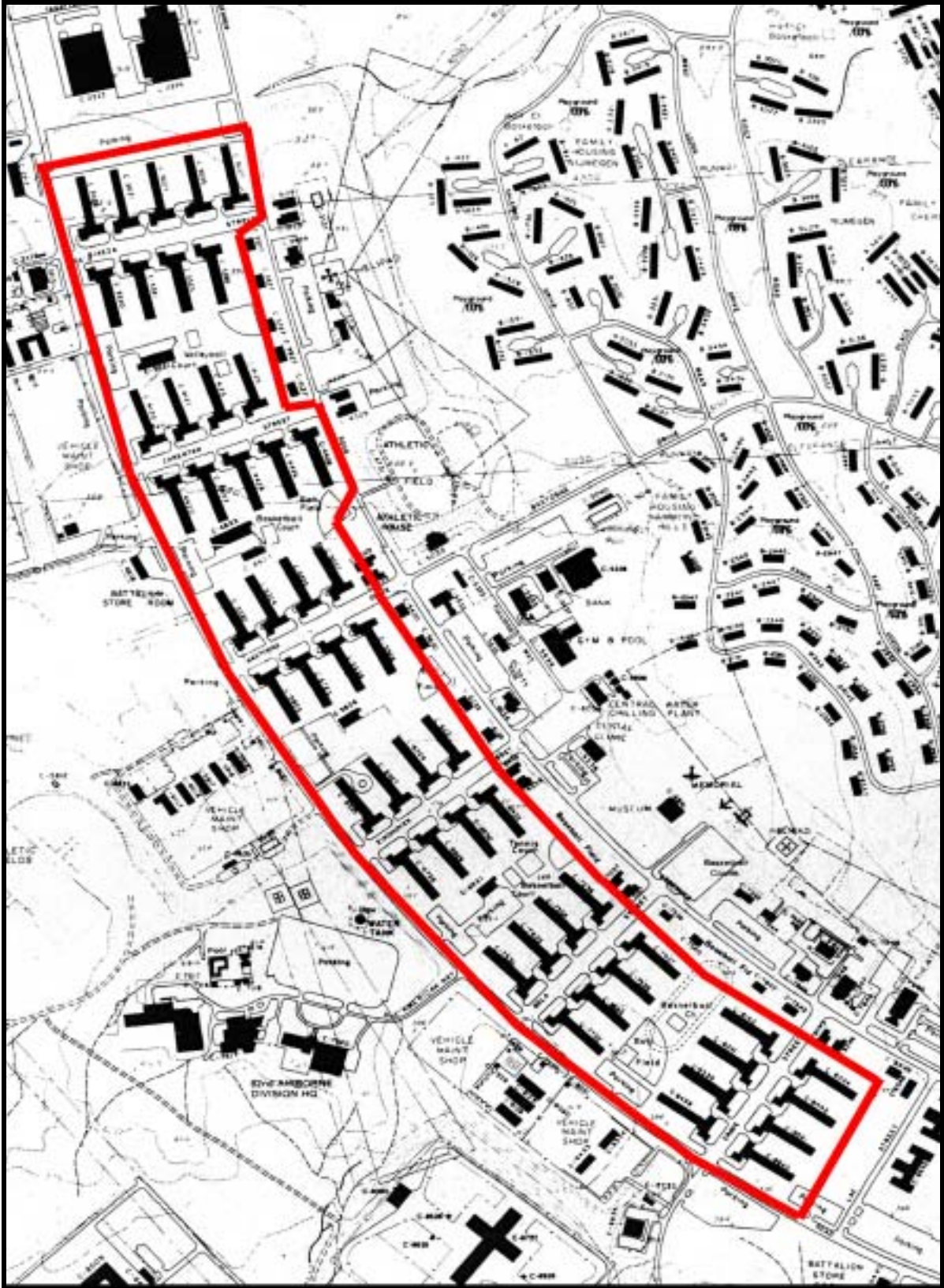


Figure 4.1.6 Map of hammerhead barracks in the C-area, Ft. Bragg.

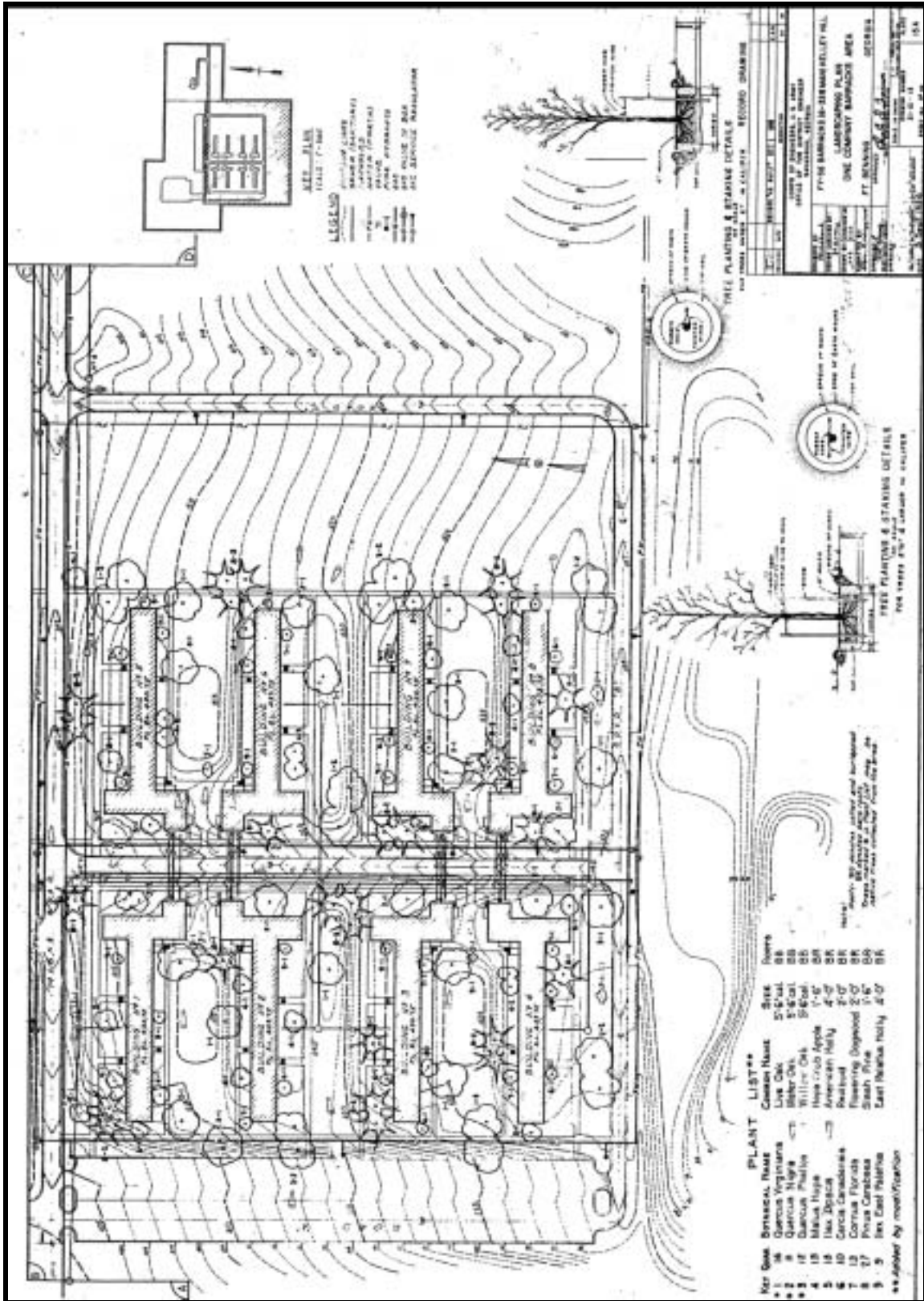


Figure 4.1.7 Hammerhead barracks, landscape plan, Ft. Benning (1956, revised 1958) (Engineering, Ft. Benning).

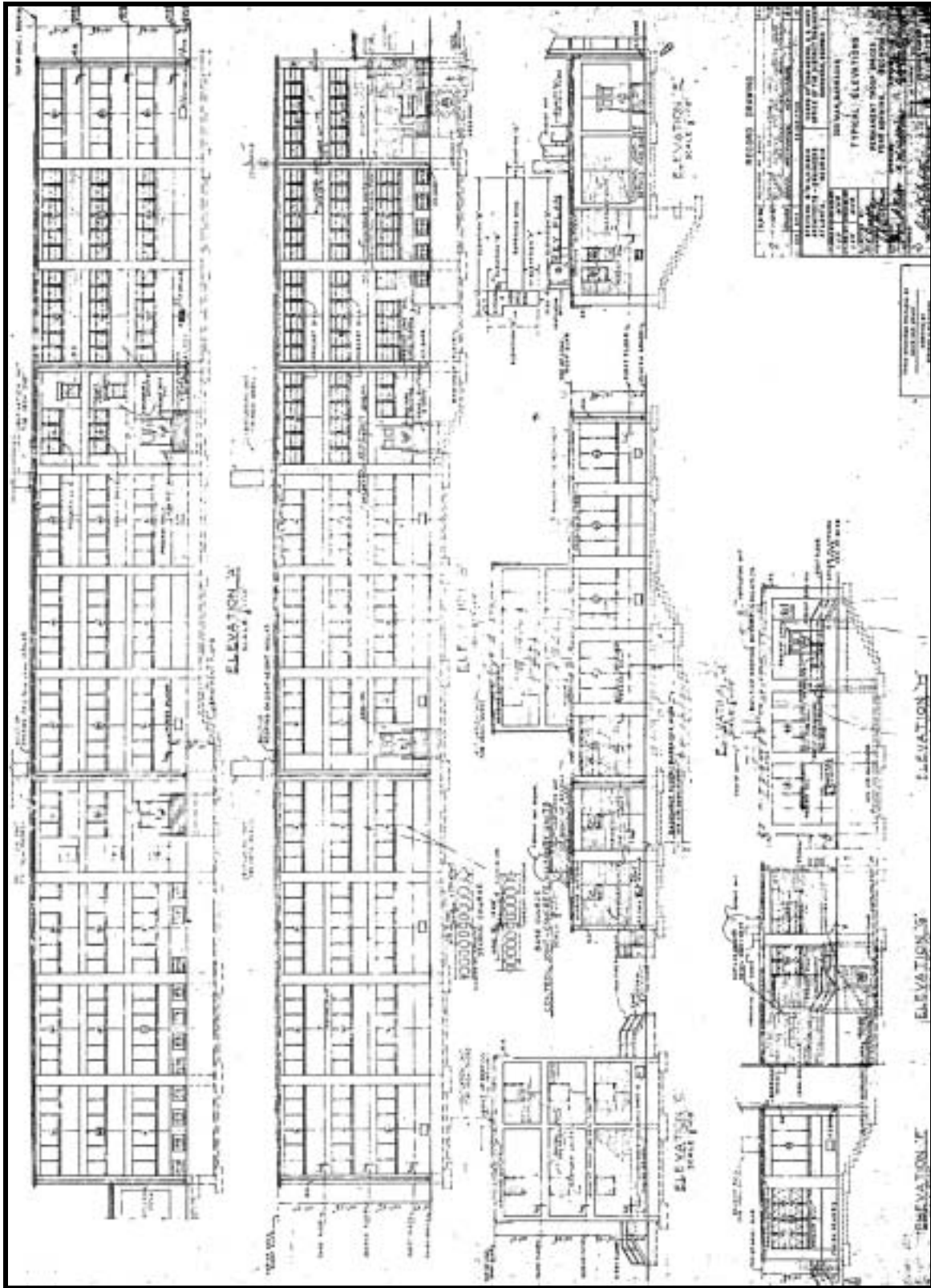


Figure 4.1.8 225-man hammerhead barracks, elevations (ca. 1951, revised 1954) (Engineering, Ft. Benning).

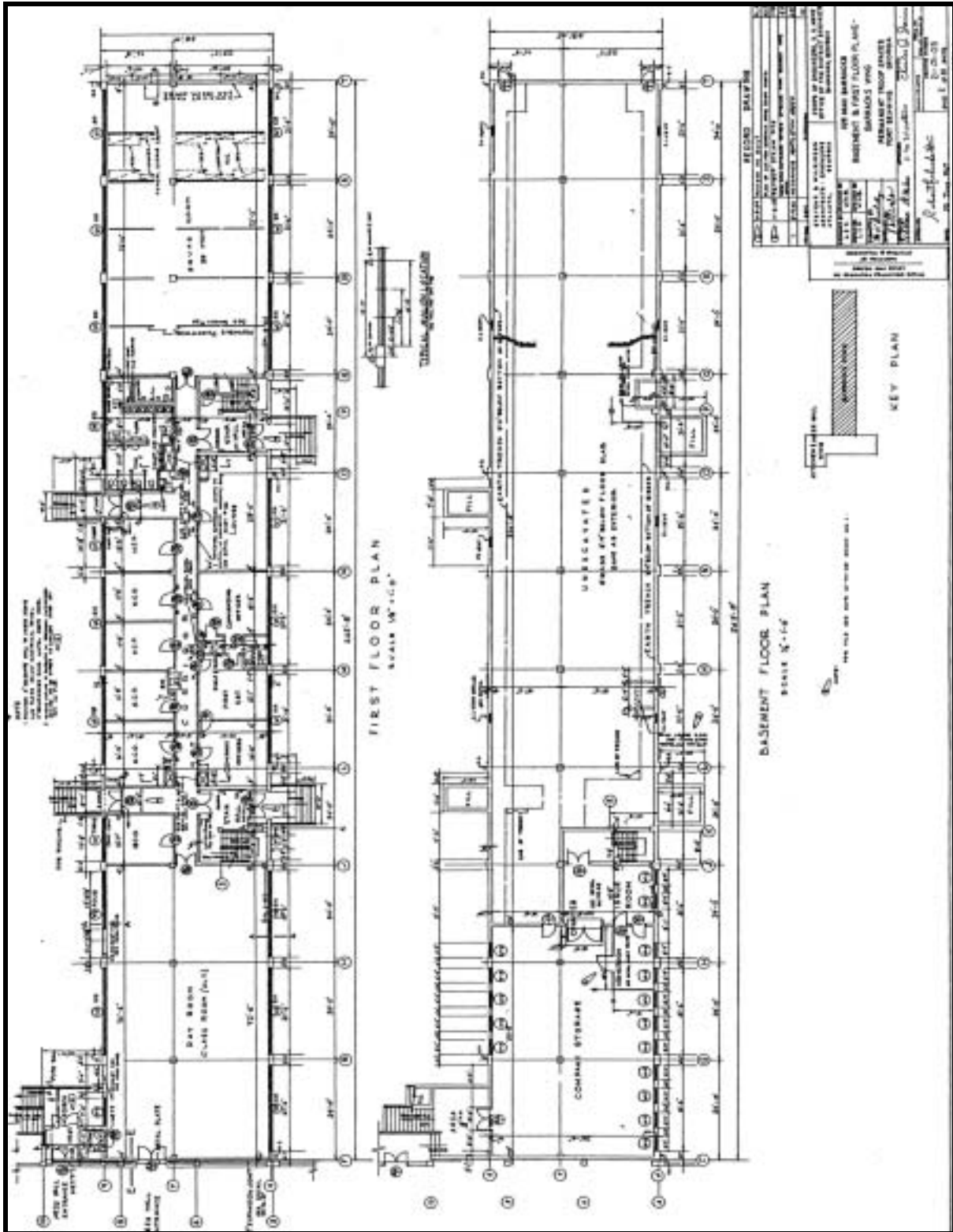


Figure 4.1.9 225-man hammerhead barracks, floor plan, barracks wing, basement and 1st floor (ca. 1951, revised 1967) (Engineering, Ft. Benning).

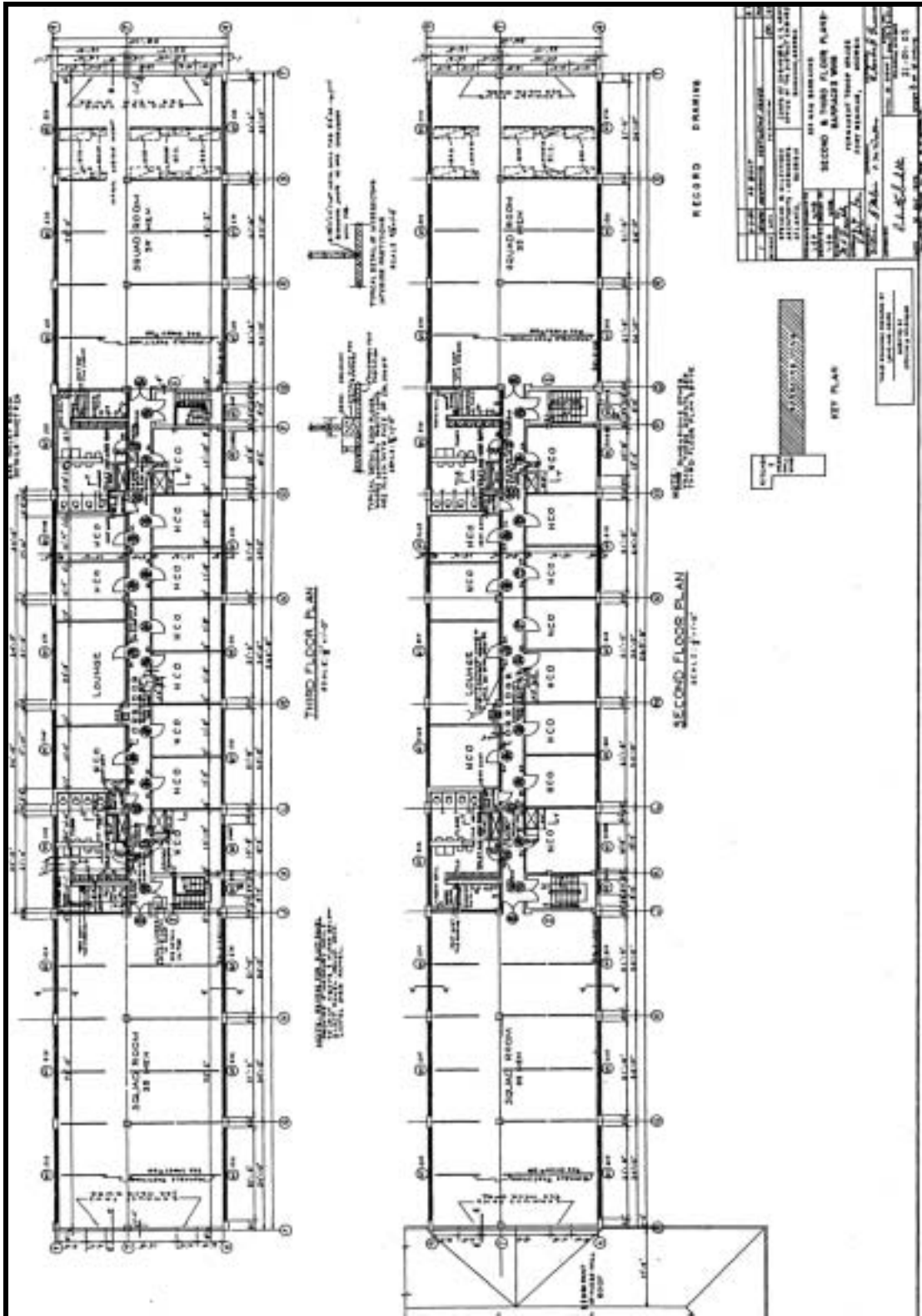


Figure 4.1.10 225-man hammerhead barracks, floor plan, barracks wing, 2nd and 3rd floors (ca. 1951, revised 1968) (Engineering, Ft. Benning).

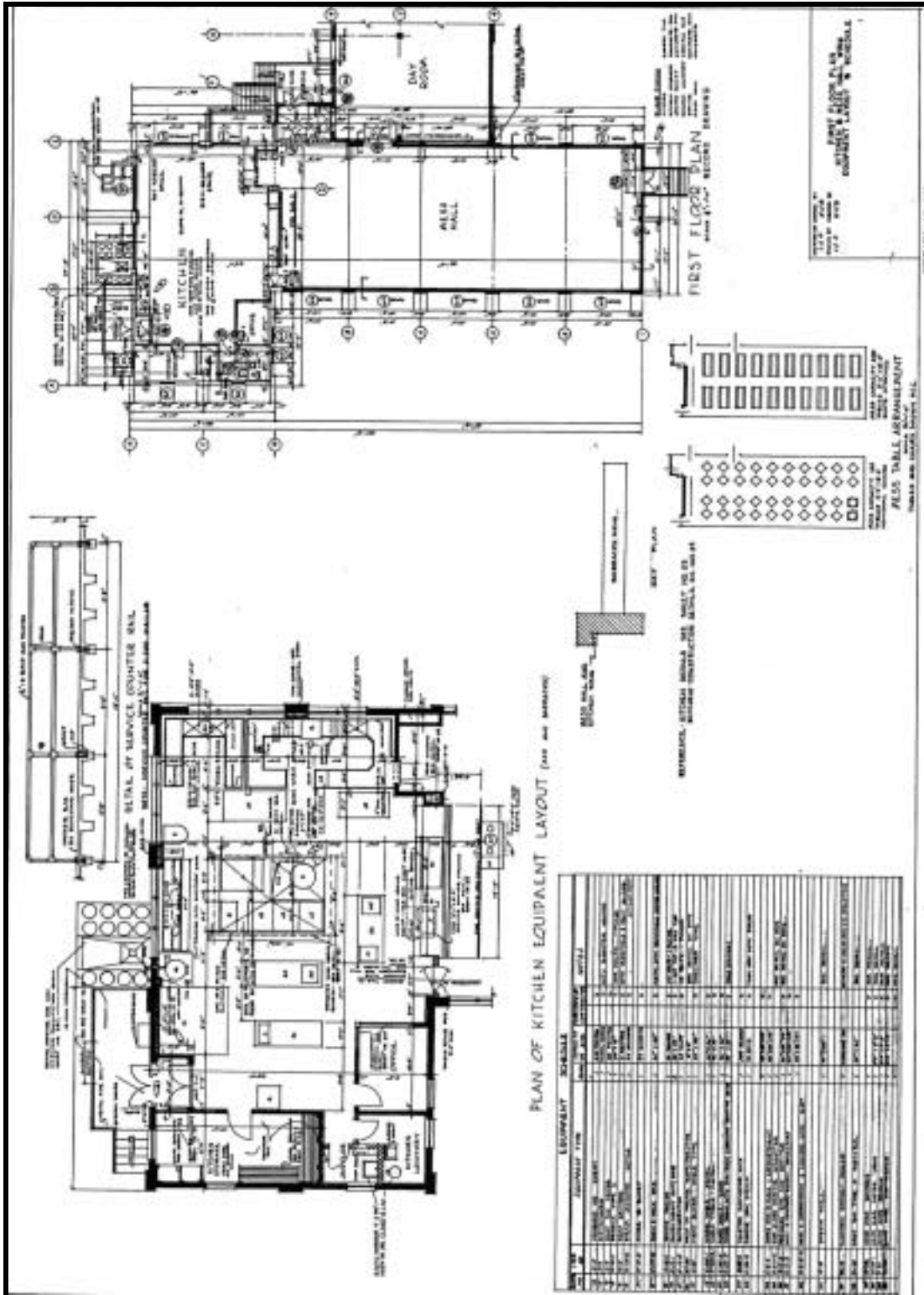


Figure 4.1.11 225-man hammerhead barracks, floor plan, kitchen and mess hall wing (ca. 1951) (Engineering, Ft. Benning).



Figure 4.1.12 225-man hammerhead barracks, Bldg. 2838 (1954), Ft. Benning, view N (RCG&A).



Figure 4.1.13 225-man hammerhead barracks, Bldg. 2839 (1954), Ft. Benning, view W (RCG&A).



Figure 4.1.14 225-man hammerhead barracks, Bldg. 1001 (1956), Ft. Bliss, view NE (RCG&A).



Figure 4.1.15 225-man hammerhead barracks, Bldg. 1001 (1956), Ft. Bliss, view SW (RCG&A).

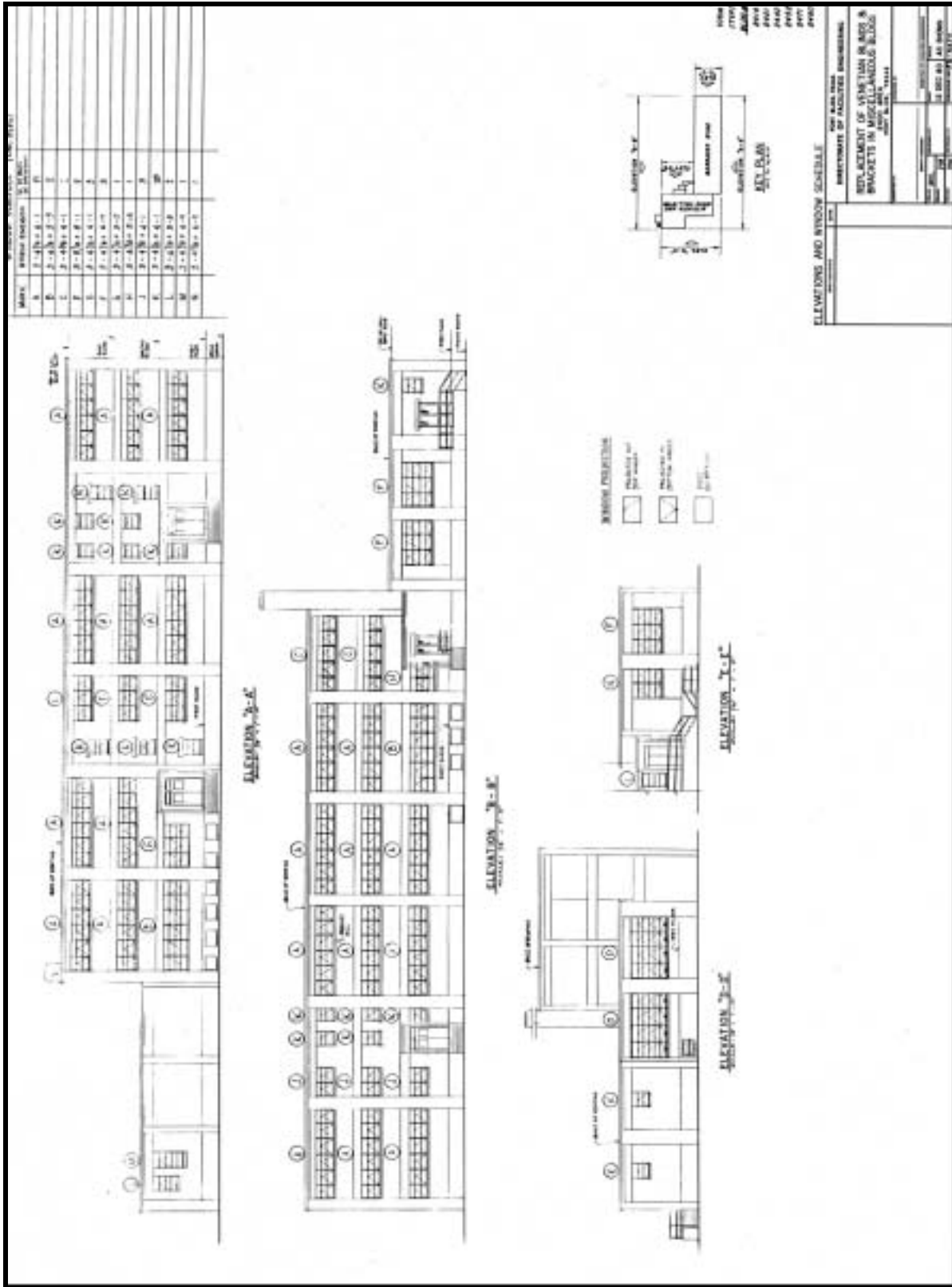


Figure 4.1.16 165-man hammerhead barracks, elevations (1980) (Engineering, Ft. Bliss).

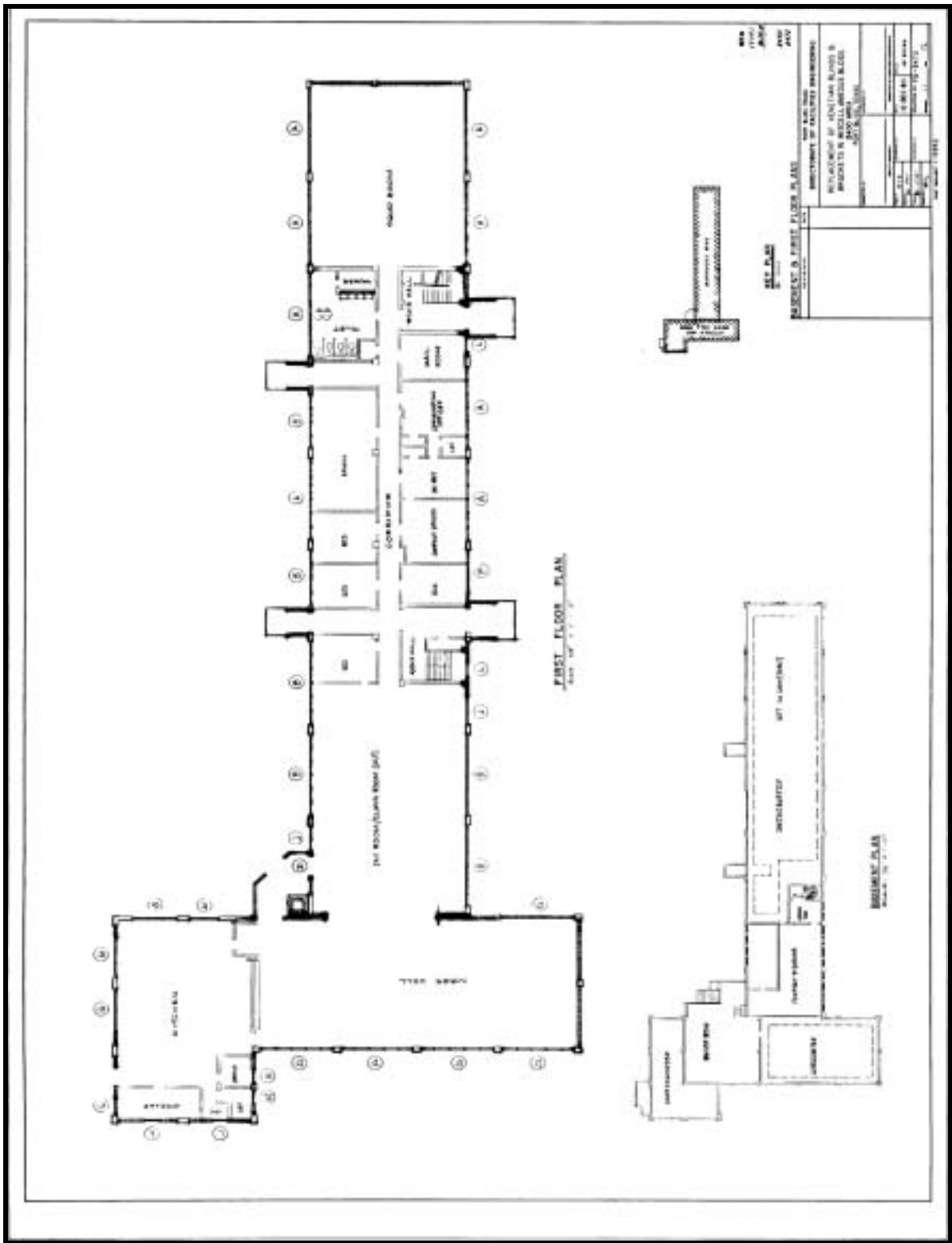


Figure 4.1.17 165-man hammerhead barracks, floor plan, barracks wing, basement and 1st floor (1980) (Engineering, Ft. Bliss).

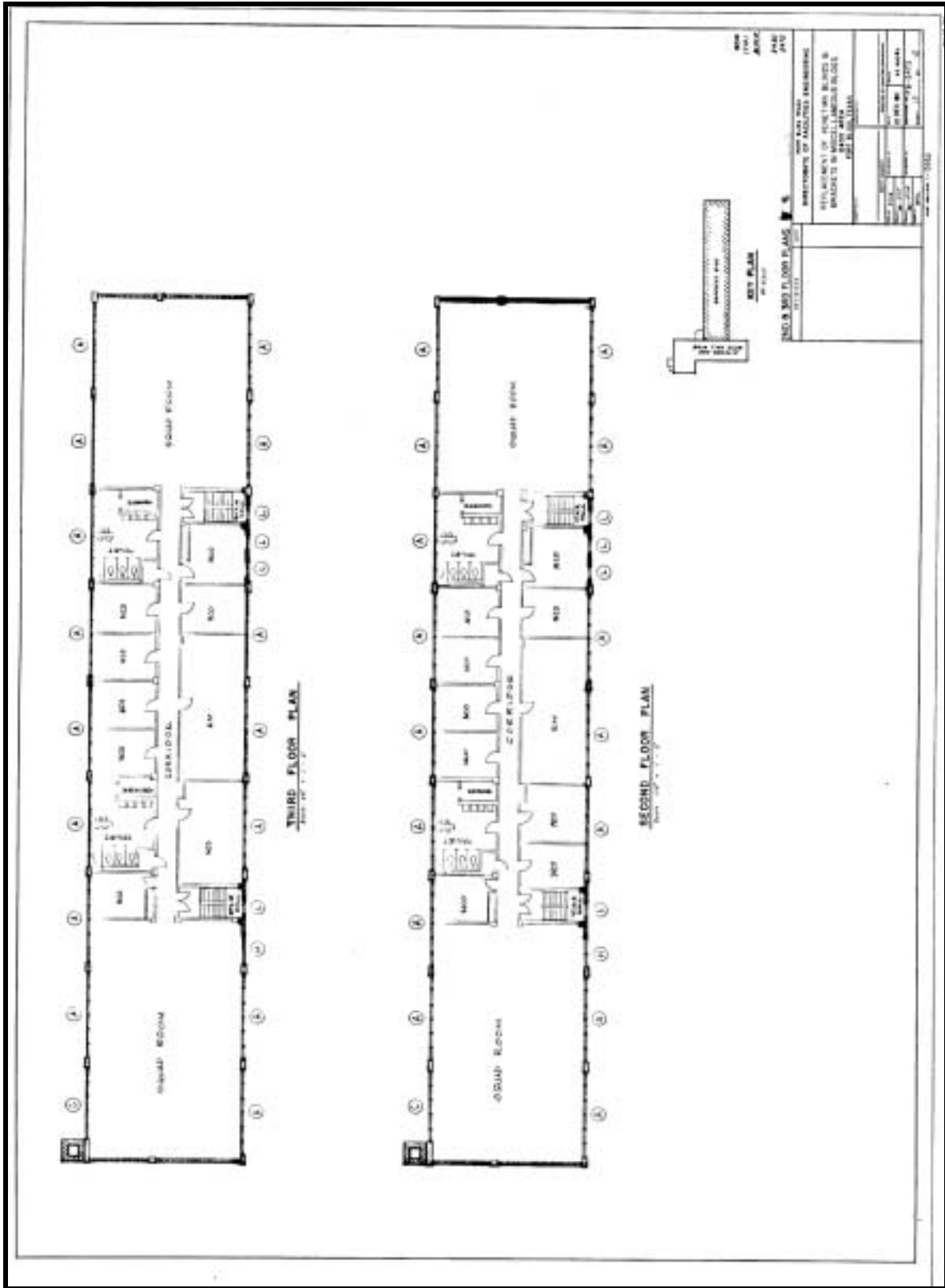


Figure 4.1.18 165-man hammerhead barracks, floor plan, barracks wing, 2nd and 3rd floors (1980) (Engineering, Ft. Bliss).

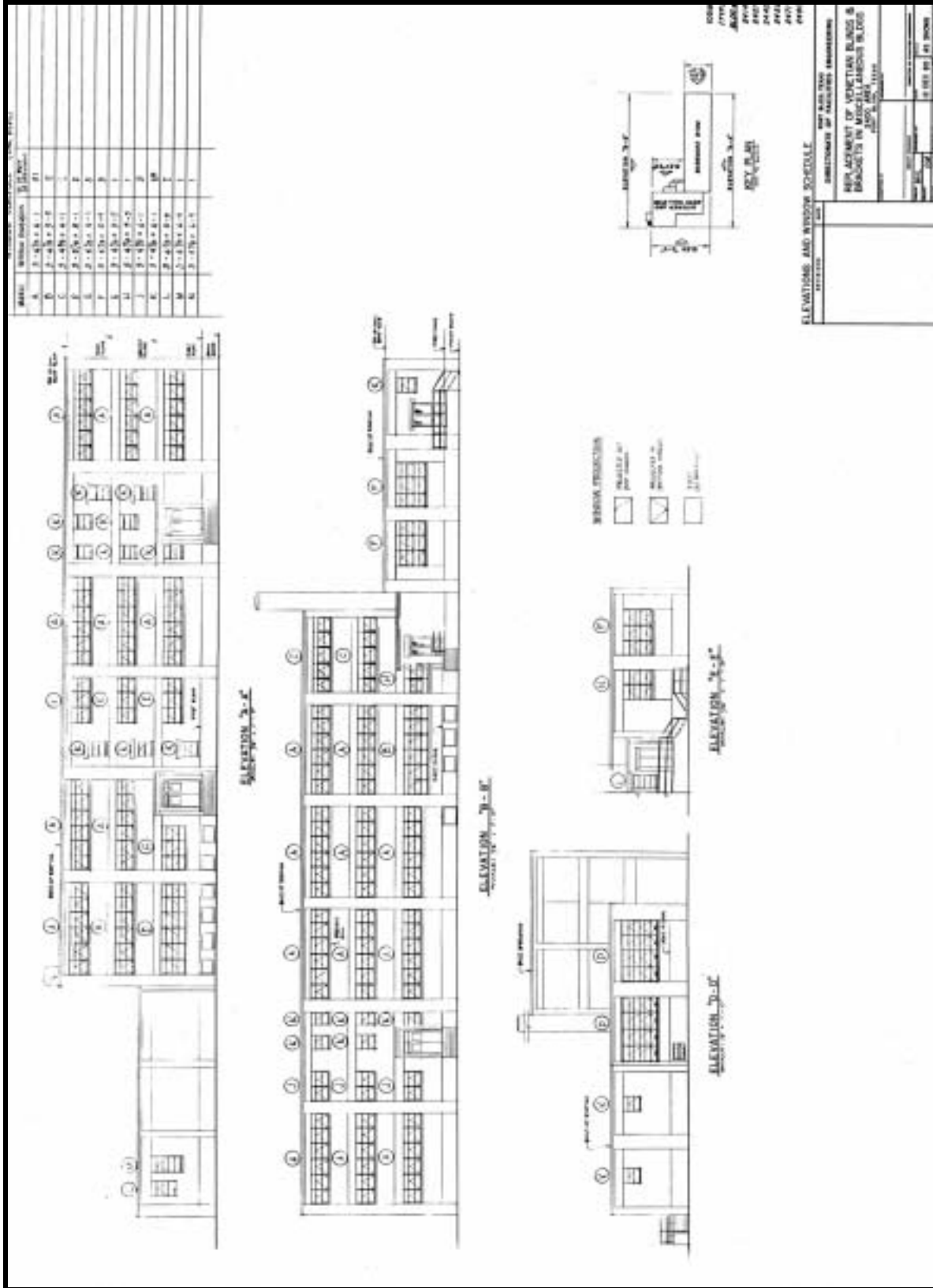


Figure 4.1.19 105-man hammerhead barracks, elevations (1980) (Engineering, Ft. Bliss).

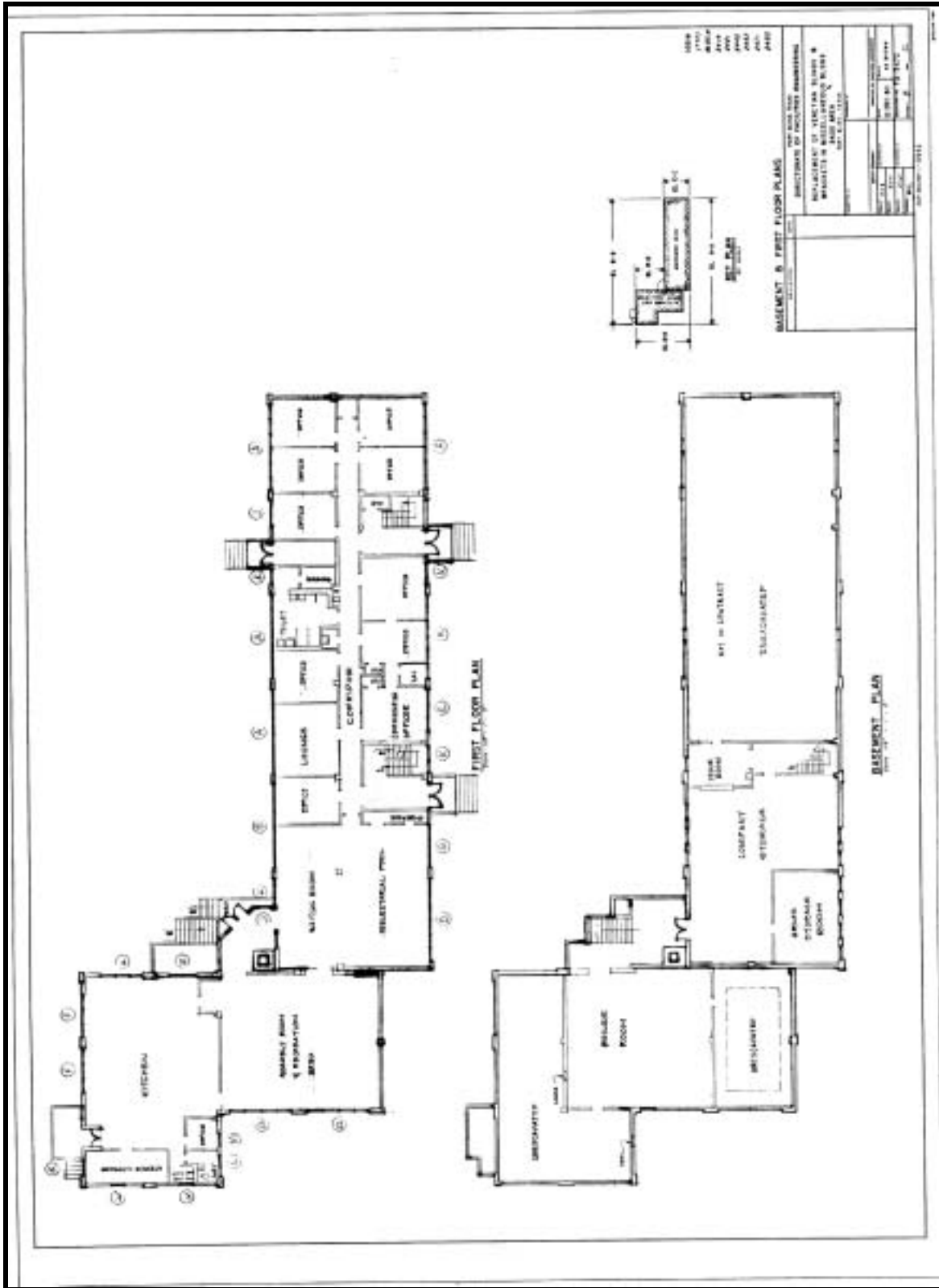


Figure 4.1.20 105-man hammerhead barracks, floor plan, barracks wing, basement and 1st floor (1980) (Engineering, Ft. Bliss).

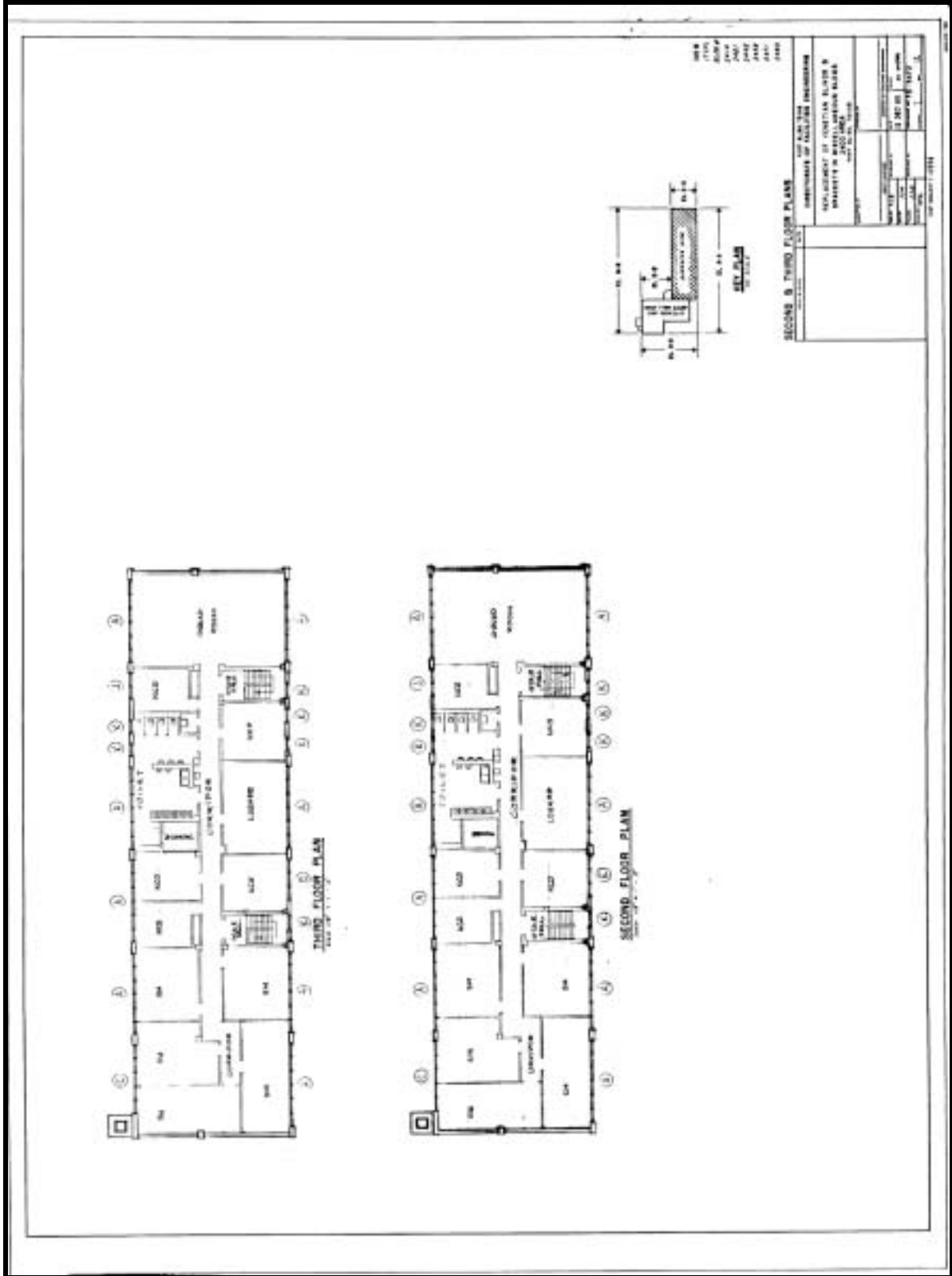


Figure 4.1.21 105-man hammerhead barracks, floor plan, barracks wing, 2nd and 3rd floors (1980) (Engineering, Ft. Bliss).



Figure 4.1.22 105-man hammerhead barracks, Bldg. 296 (1954), Ft. Knox, view S (RCG&A).



Figure 4.1.23 105-man hammerhead barracks, Bldg. 2381 (1953), Ft. Knox, view SE (RCG&A).

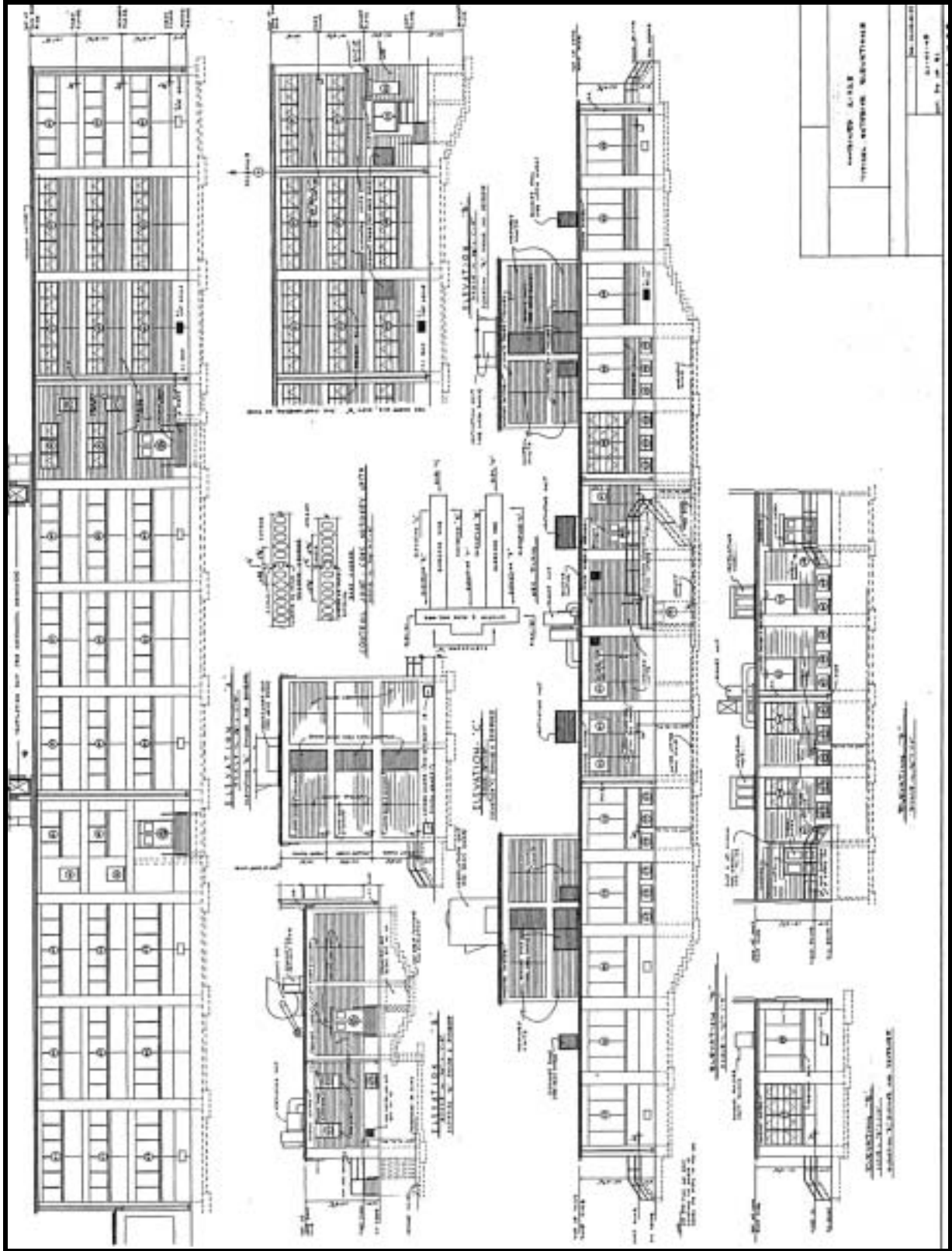


Figure 4.1.24 Double hammerhead barracks, elevations (ca. 1952) (Engineering, Ft. Benning).

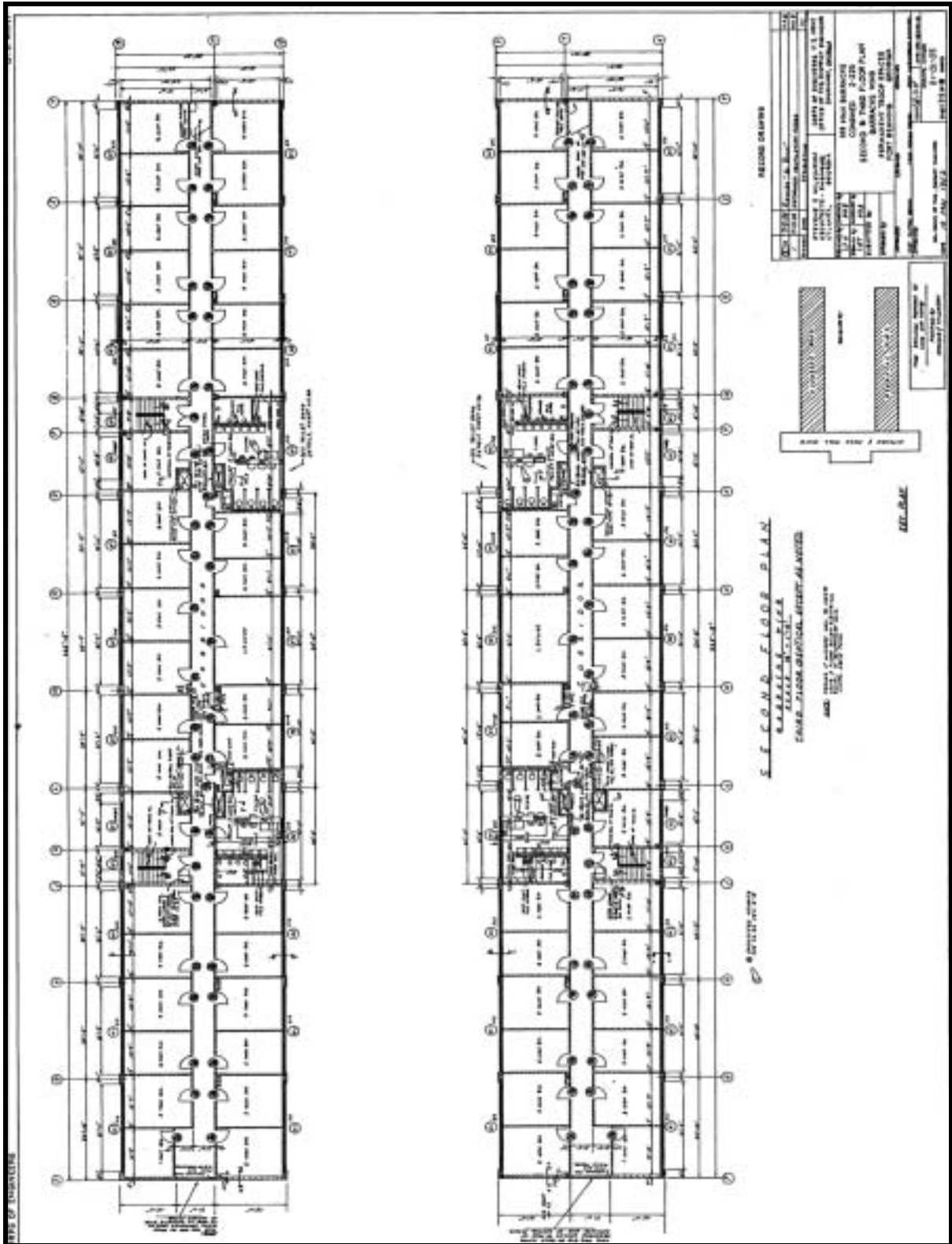


Figure 4.1.25 Double hammerhead barracks, floor plans, barracks wing (1952, revised 1954) Engineering, Ft. Benning).

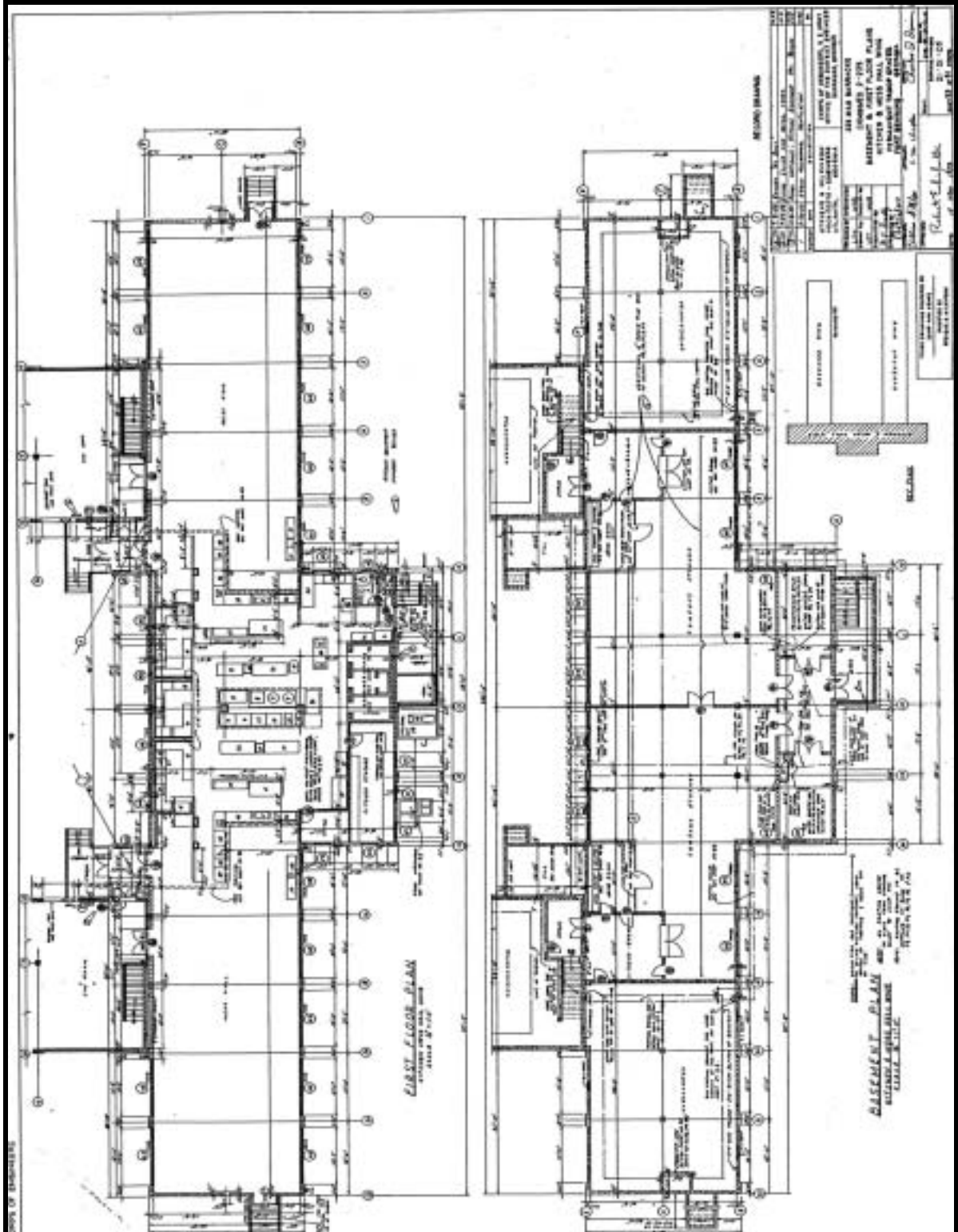


Figure 4.1.26 Double hammerhead barracks, floor plan, kitchen and mess hall wing (1952, revised 1954) (Engineering, Ft. Benning).



Figure 4.1.27 Double hammerhead barracks, Bldg. 2753 A&B (1954), Ft. Benning, view NE (RCG&A).



Figure 4.1.28 Double hammerhead barracks, Bldg. 2753 A (1954), Ft. Benning, view NE (RCG&A).

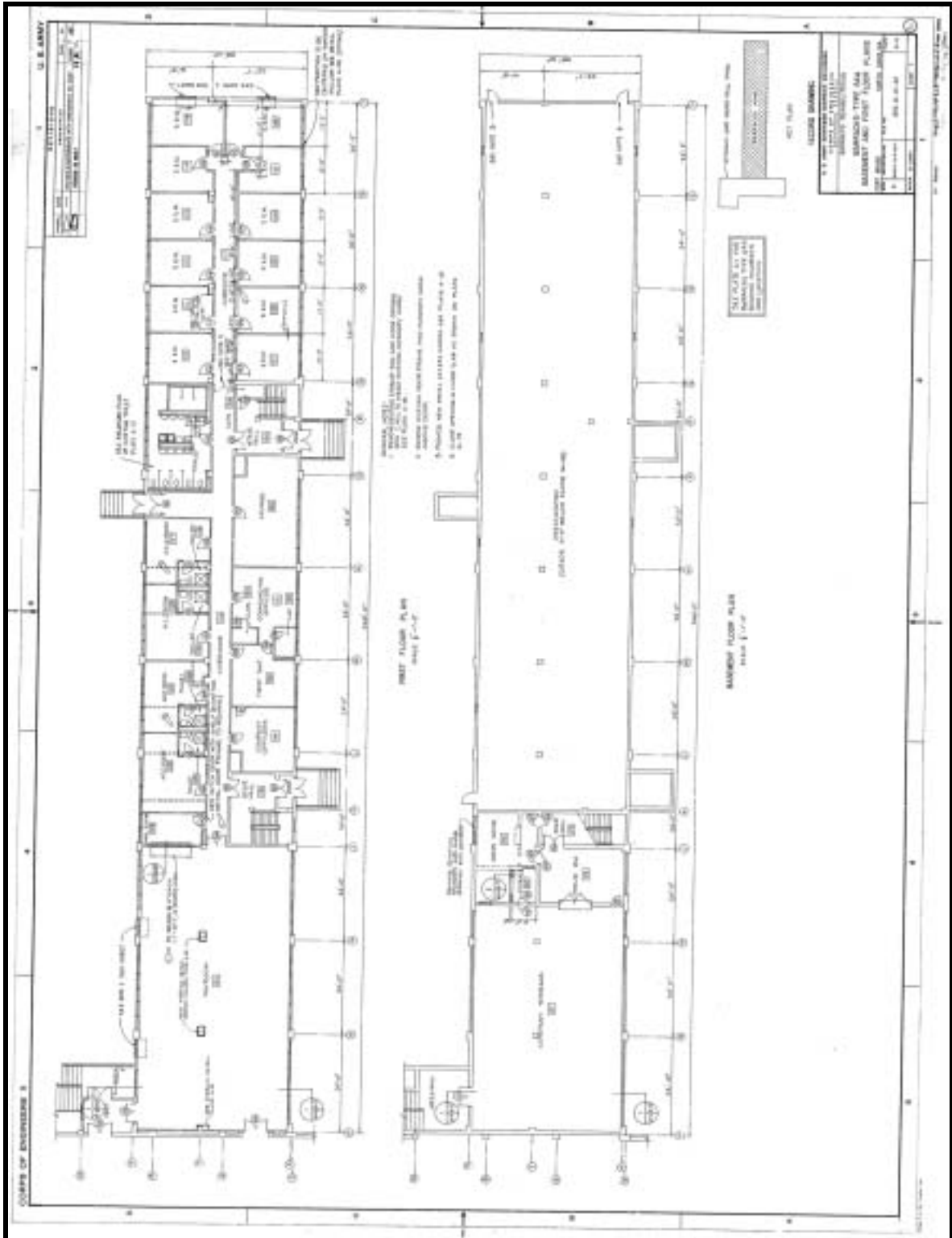


Figure 4.1.29 Renovated hammerhead barracks, basement and first floor plans, barracks wing (1972, revised 1974) (Engineering, Ft. Bragg).

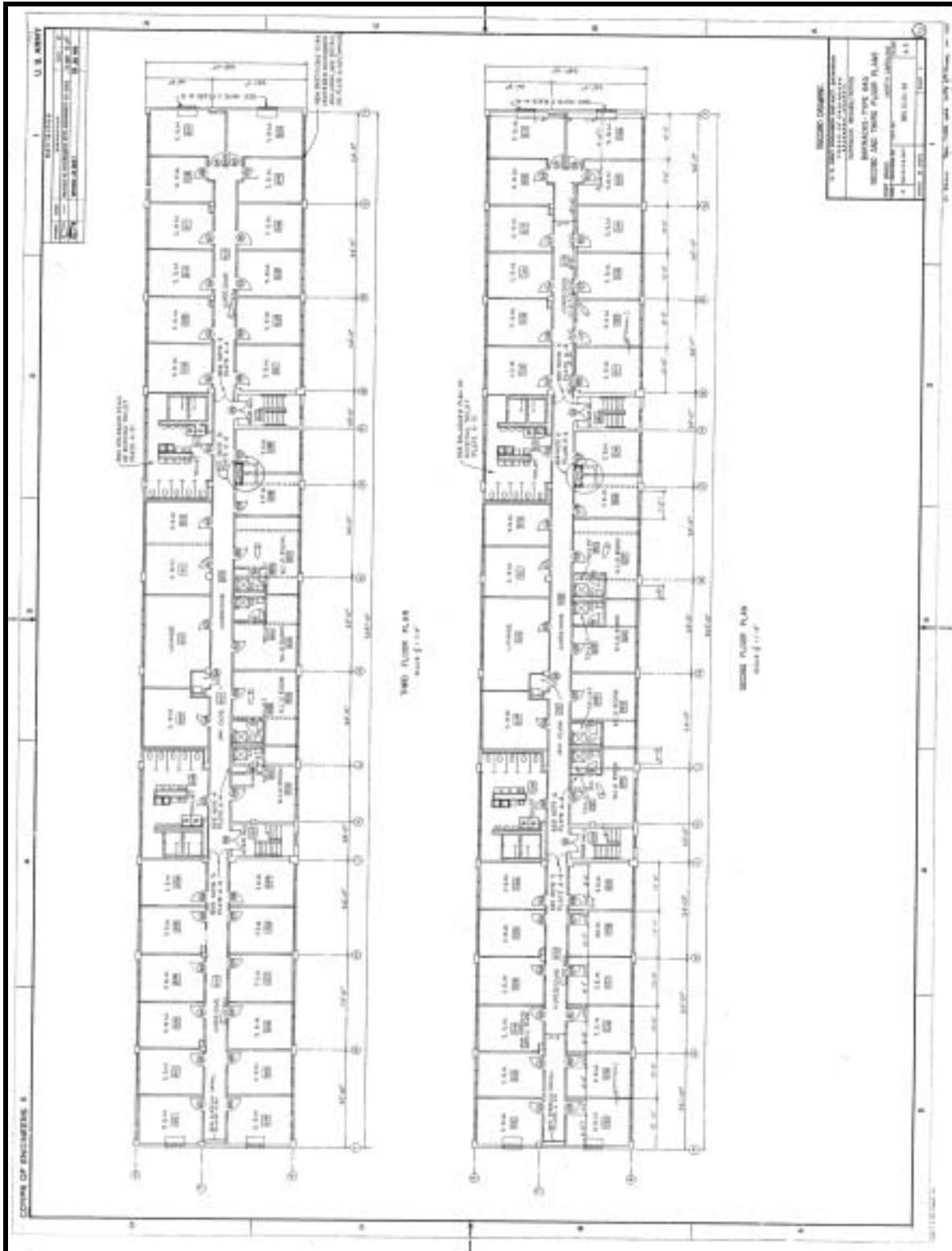


Figure 4.1.30 Renovated hammerhead barracks, second and third floor plans, barracks wing (1972, revised 1974) (Engineering, Ft. Bragg).



Figure 4.1.31 Small alterations to hammerhead barracks include infill of window openings, Bldg. C4120 (1955), Ft. Bragg, view N (RCG&A).



Figure 4.1.32 Alterations to hammerhead barracks include window replacements and new exterior materials, Bldg. C5322 (1955), Ft. Bragg, view SE (RCG&A).



Figure 4.1.33 Extensive renovations to hammerhead barracks include new windows, window treatments, exterior materials, and exterior stairs, Bldg. 1003 (1956), Ft. Bliss, view NE (RCG&A).



Figure 4.1.34 Detail of exterior renovation to hammerhead barracks, Bldg. 1003 (1956), Ft. Bliss, view NE, (RCG&A).



Figure 4.1.35 Alterations to 105-man hammerhead barracks include new windows and exterior materials, Bldg 2414 (1953), Ft. Bliss, view NW (RCG&A).



Figure 4.1.36 Extensive renovation to hammerhead barracks include new windows, window treatments, and exterior materials, Bldg. 2420 (1953), Ft. Bliss, view NW (RCG&A).



Figure 4.1.37 Rebuilt hammerhead barracks includes balconies and new exterior materials, Bldg. 10020 (1953), Ft. Hood, view NW (RCG&A).



Figure 4.1.38 Rebuilt hammerhead barracks includes balconies and new exterior materials, Bldg. 9421 (1956), Ft. Hood, view N (RCG&A).



Figure 3.1.39 Totally renovated hammerhead barracks, Bldg. 1482 (1953), Ft. Knox, view SW (RCG&A).



Figure 4.1.40 Totally renovated hammerhead barracks, Bldg. 1483 (1953), Ft. Knox, view E (RCG&A).



Figure 4.1.41 Totally renovated hammerhead barracks, Bldg. 1484 (1953), Ft. Knox, view N (RCG&A).



Figure 4.1.42 Totally renovated hammerhead barracks, Bldg. 1484 (1953), Ft. Knox, view NW (RCG&A).

4.1.2 H-style Barracks 1955-1958 (Benning, Bragg, Hood)

4.1.2.1 Description

By 1954, increased construction costs made it difficult to build hammerhead barracks within the congressionally mandated cost ceiling of \$1,700 per person. Therefore, the Army sought to develop designs for more cost-effective barracks at reduced construction costs. These efforts coincided with the issuance of the 1954 Defense Department Directive No. 4270.4, a directive that outlined procedures for the construction of permanent barracks. The directive included specifications for interior plans and required that sleeping facilities continue to be contained within squad rooms. Partial partitions used in conjunction with lockers were allowed, creating cubicles for greater privacy within squad rooms. Toilet facilities, including lavatories, were to be grouped for optimum economy. The gross barracks area per enlisted man was not to exceed an average of 125 square feet per man on a planned-peace-time-capacity basis. The standards applied to the construction of all new permanent barracks as well as to existing buildings proposed for rehabilitation or conversion to permanent barracks (Mickel 1954:38,310).

In September 1954, the Army approved a new two-company barracks design, the H-style barracks. The H-style met both the Army's requirements for construction economy and the Department of Defense Directive. The George M. Ewing Co., Architects-Engineers, of Philadelphia and Washington D.C., designed the H-style barracks. The barracks plan replaced the existing one-company, hammerhead barracks, and were built at installations requiring quarters for more than 300 men (Military Review August 1954:65).

H-style barracks generally were sited in groups of five to house a regiment (Figure 4.1.43). Landscaping around the H-style barracks was minimal and primarily consisted of a single row of trees surrounding the building (Figure 4.1.44).

H-style barracks, like hammerhead barracks, were utilitarian and spartan in appearance. Both building types employed exposed reinforced concrete frames with masonry infill block walls (Figures 4.1.45 and 4.1.46). The roof appeared flat, but was slightly sloped for perimeter drainage. The roof was protected with a five-ply built-up roofing material covered with gravel (Figure 4.1.47). The H-style barracks featured three one-over-one metal sash windows in each bay. Entrances were located on the cross member of the H-plan and on the rear elevations of the uprights. The front entrances featured double metal doors and the rear entrances featured single metal doors. In all cases, the entrances were architecturally austere.

H-style barracks were named for their shape. The ground plan of the three-story barracks formed a large "H" (Figure 4.1.48). The new barracks type included asphalt tile floors in place of the concrete floors used in earlier building plans, and tile wainscoting in place of painted concrete. Company integrity was maintained; two companies occupied opposing sides of the building. The commanding officers, company officers, first sergeants, and laundry rooms were located in the cross member on the first floor. A supply room, storage facility, two-man noncommissioned officers' quarters, lounge, and bath facilities were located on the first floor in the uprights of the "H" (Figure 4.1.49).

Additional noncommissioned officers' quarters were located in the cross member on the second and third floors. Enlisted men occupied the second and third floors in 32-man squad rooms in the uprights of the "H" (Figures 4.1.50 and 4.1.51). The squad rooms were large, open bays that were rectangular in plan, with windows on two sides for ventilation and natural light. The squad rooms could be partitioned to provide 4-man roomettes that were enclosed on three sides. Lavatories were located on

each floor in the cross member. Adjacent second floor day rooms and third floor lounges were located in the center of the “H.”

A two-story mess wing was attached to the center of the cross member of the “H” on the rear elevation. The mess wing contained two adjoining dining rooms and kitchens (Figure 4.1.52). The day rooms were located above the mess hall and featured small sunrooms (Figure 4.1.53). The dayrooms were separated by drywall partitions that could be removed to create larger rooms. The third floor lounges, likewise, were separated by folding partitions.

A small variation in the exterior of h-style barracks was found. While most barracks had no sunshades, the buildings in the 9400 area at Ft. Benning, Georgia, featured a brise soliel, a projecting concrete sunshade over the windows (Figures 4.1.54 and 4.1.55). The brise soliel shielded the windows from sun and rain, helping ventilation in inclement weather.

4.1.2.2 Evolution

H-style barracks were modified with the introduction of the Volunteer Army (VOLAR) program in the 1970s. The most common change under the VOLAR program was the division of the squad rooms into two- and four-person enlisted man rooms (Figures 4.1.56-4.1.58). Additional modifications included the introduction of new exterior materials (Figures 4.1.59-4.1.60).

Extensive barracks renovations have been recently undertaken or are underway to H-style barracks at Fort Bliss, Texas. Figures 4.1.61 and 4.1.62 illustrate a barracks, which is just starting to be renovated. Renovations included gutting the barracks to the reinforced concrete frame. The renovated barracks had new plans, walls, entrances, windows, roofs, etc., (Figures 4.1.63-4.1.64).

4.1.2.3 Association

H-style barracks were developed in the mid-1950s in an effort to contain construction costs. The designs were economical to construct and met the Army priority of maintaining company integrity. The firm George M. Ewing Co., Architects-Engineers, of Philadelphia and Washington D.C., was responsible for designing the H-style barracks. The partners of the George M. Ewing Co. included George M. Ewing, Sr., George M. Ewing, Jr., and Alexander Ewing (Koyl 1962).

George M. Ewing, Sr., was born in Philadelphia on 4 August 1888. He received a degree from Drexel Institute of Technology in 1912. He was an associate with Karcher & Smith from 1915 to 1938, operated a private practice as George M. Ewing, Architect and founded George M. Ewing Co. Partnership in 1943. His principal works included the Philadelphia Textile Institute, 1948; Lebanon Steel Foundry Office Building, Lebanon, 1954; Fidelity-Philadelphia Trust Co., Marcus Hook, 1954; Frankford Arsenal Ballistics Building, Philadelphia, 1954; American Meter Co., Philadelphia, associate architect with D.R. Warren Co. and Husband, Robertson & Wallace, 1954 and 1955; and rehabilitation and expansion of buildings, U.S. Naval Academy, Annapolis, 1966. His work also included the Philadelphia Multipurpose Stadium; St. Agnes Hospital; Annapolis Academy Complex; and Chester High School, Pennsylvania (Koyl 1955, 1962; Gane and Koyl 1970). The firm’s major work included the Korman Center library at Drexel University, 1957 (Drexel University 2002).

4.1.2.4 Integrity

The character-defining features of H-style barracks are distinctive ground plan, exposed reinforced concrete frame, exposed concrete block walls, and one-over-one-light, metal-sash windows. Overall, these barracks are utilitarian buildings distinguished by their mass and scale. Over the years, a number of changes have impacted the integrity of the buildings.

Minor changes, including the addition of partitions or concrete block walls to divide squad rooms into enlisted men rooms and the addition of air conditioning, were generally undertaken in response to the VOLAR program. More extensive modifications included the replacement of windows and new exterior materials (Figures 4.1.59-4.1.60).

From the 1990s to the present, a number of H-style barracks have undergone complete renovation. The renovation of these barracks has included stripping the buildings to the reinforced concrete frames and adding balconies, gable roofs, and new walls utilizing modern materials. H-style barracks that have undergone extensive renovation generally do not retain their original integrity of design, materials, workmanship, or feeling (Figures 4.1.61-4.1.64).

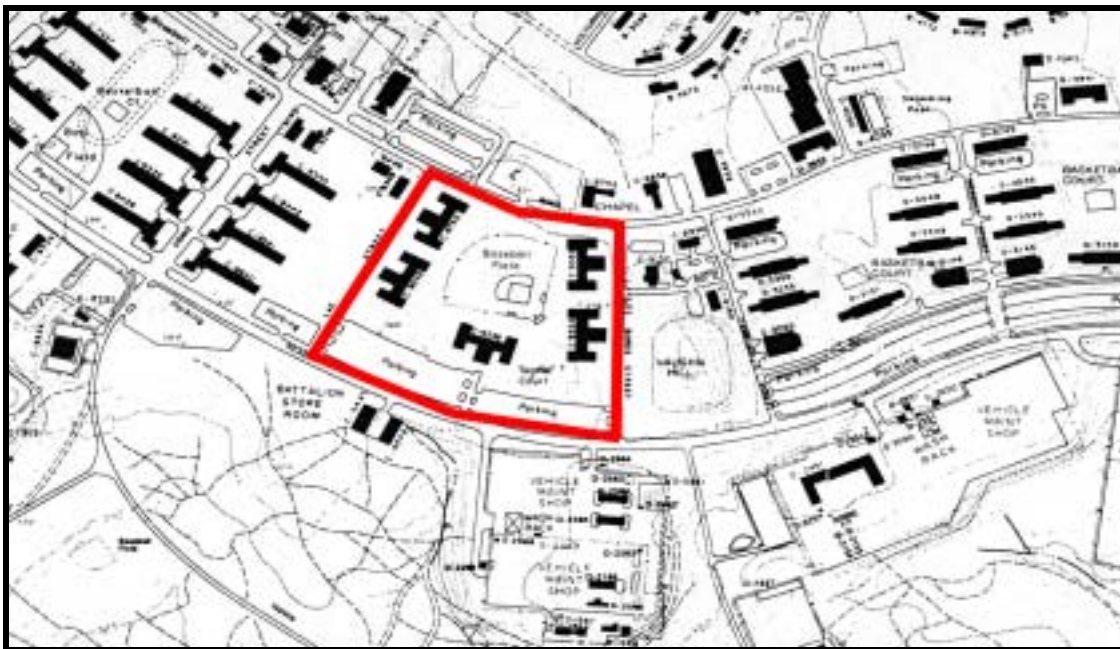


Figure 4.1.43 Map showing H-style, two-company barracks complex, Bldg. C-8750 through C-9354, Ft. Bragg.

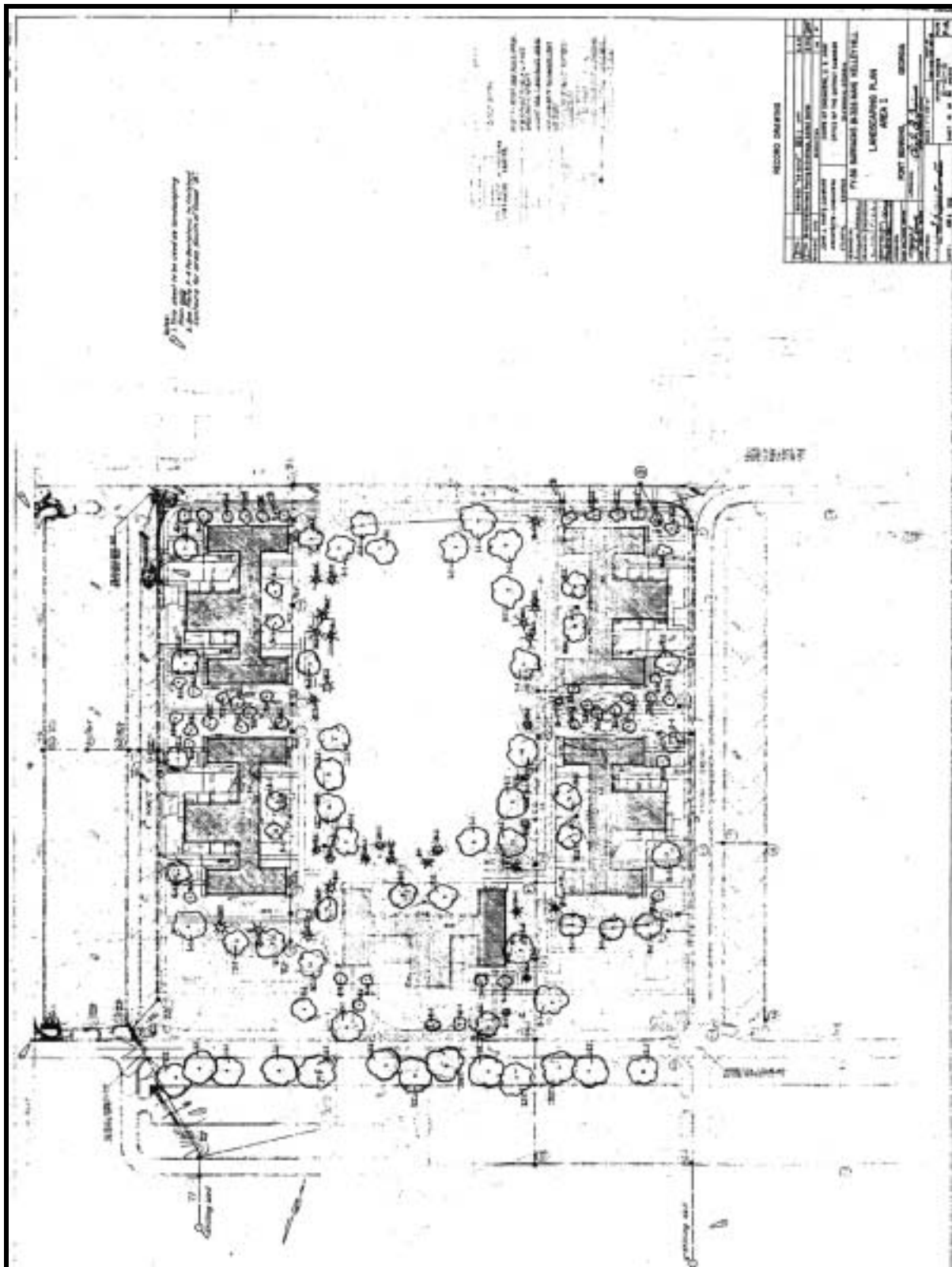


Figure 4.144 H-style, two-company barracks complex, landscape plan, Ft. Benning (1956, revised 1958) (Engineering, Ft. Benning).

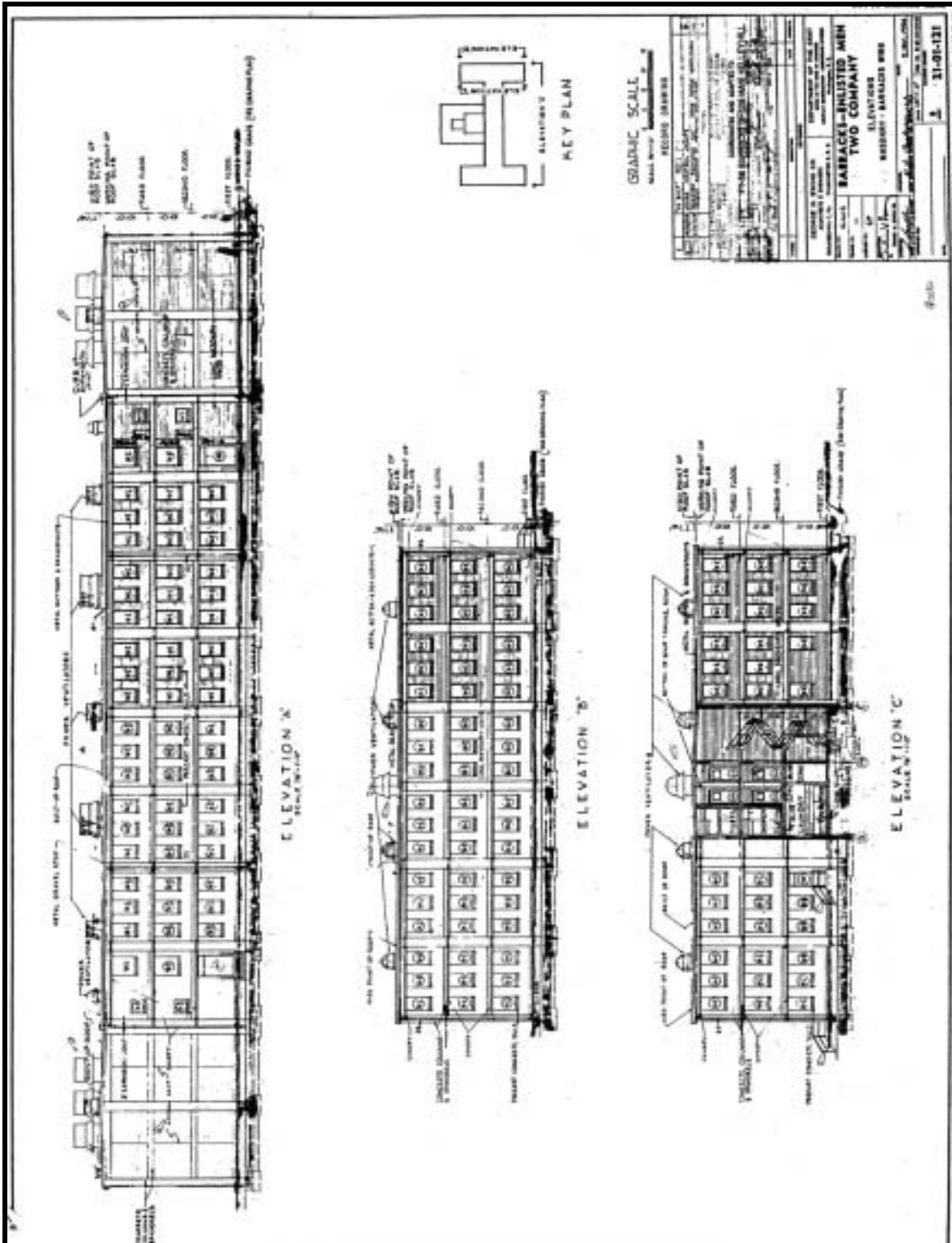


Figure 4.1.45 H-style, two-company barracks, elevations (ca. 1955, revised 1958) (Engineering, Ft. Benning).

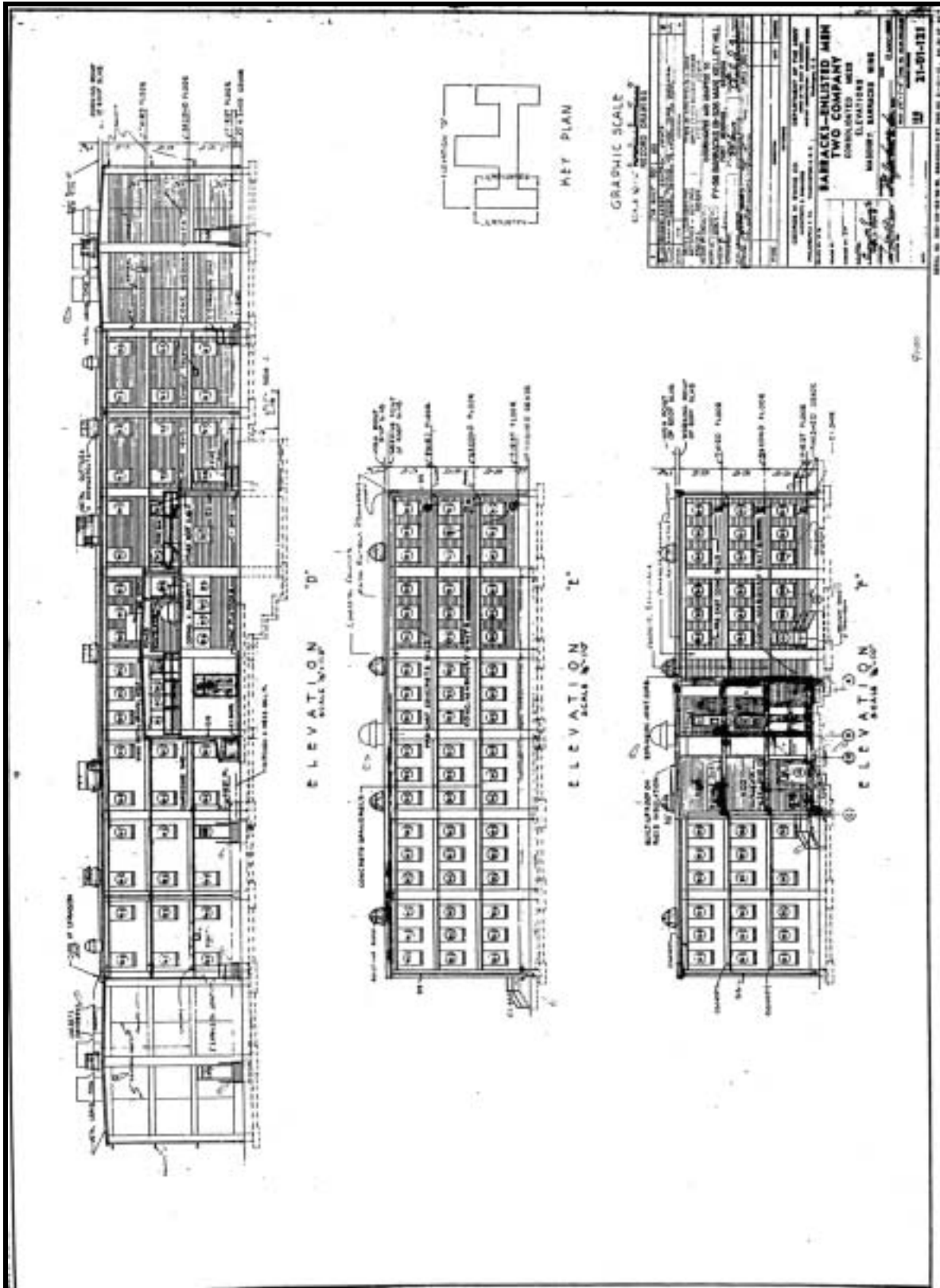


Figure 4.1.46 H-style, two-company barracks, elevations (ca. 1955, revised 1958) (Engineering, Ft. Benning).

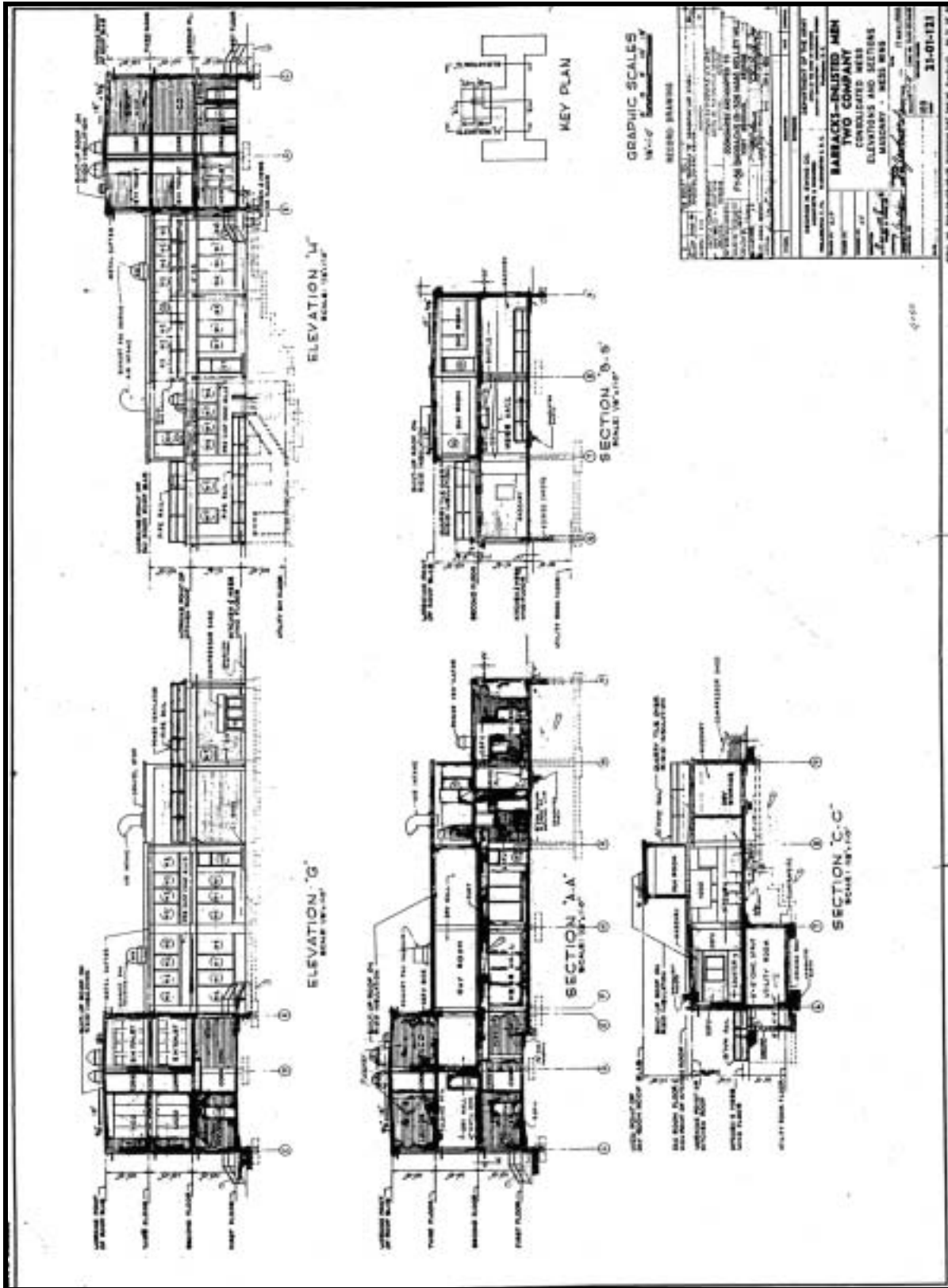


Figure 4.1.47 H-style, two-company barracks, consolidated mess, elevations and sections (ca. 1955, revised 1958) (Engineering, Ft. Benning).

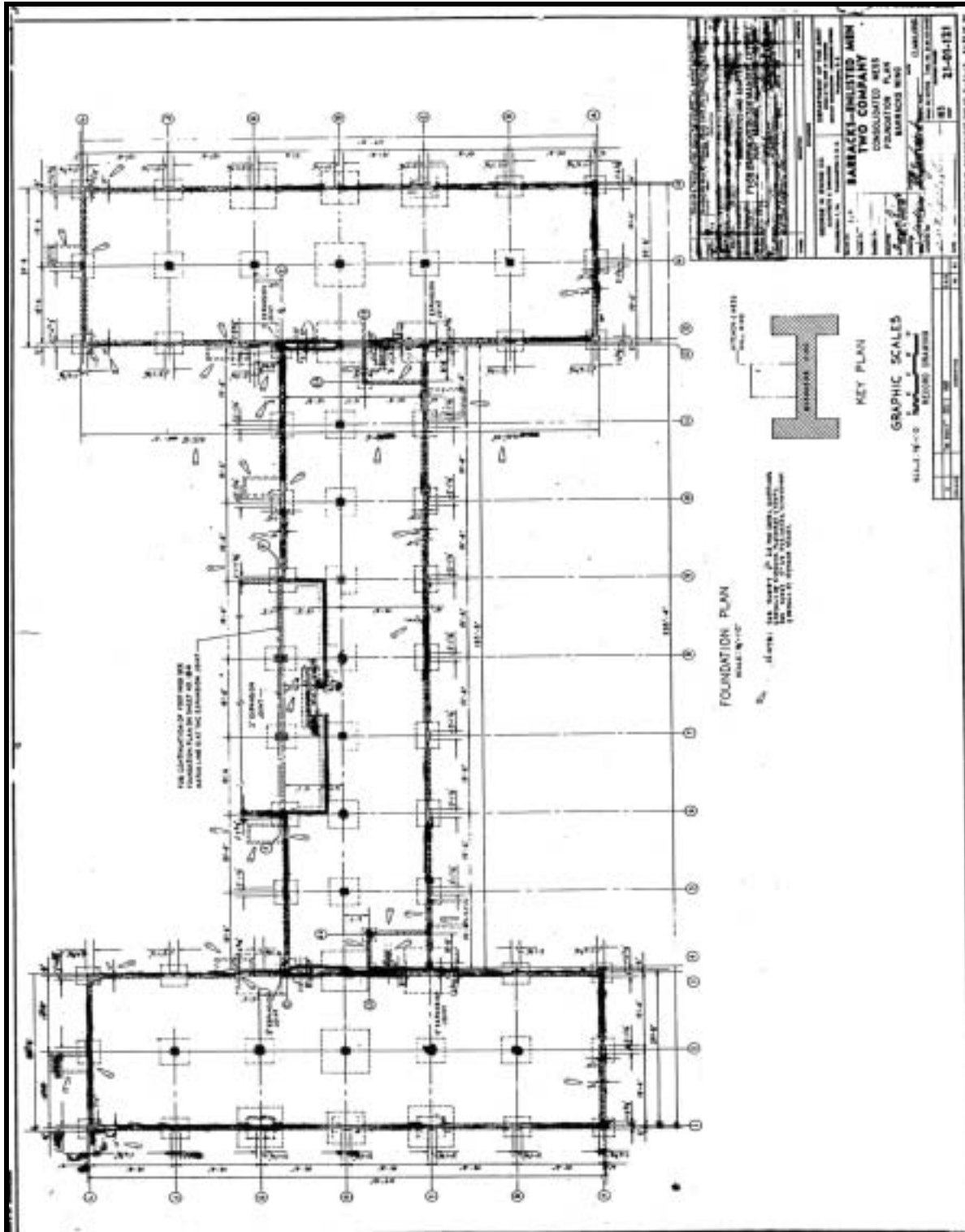


Figure 4.1.48 H-style, two-company barracks, barracks wing, foundation plan (ca. 1955, revised 1958) (Engineering, Ft. Benning).

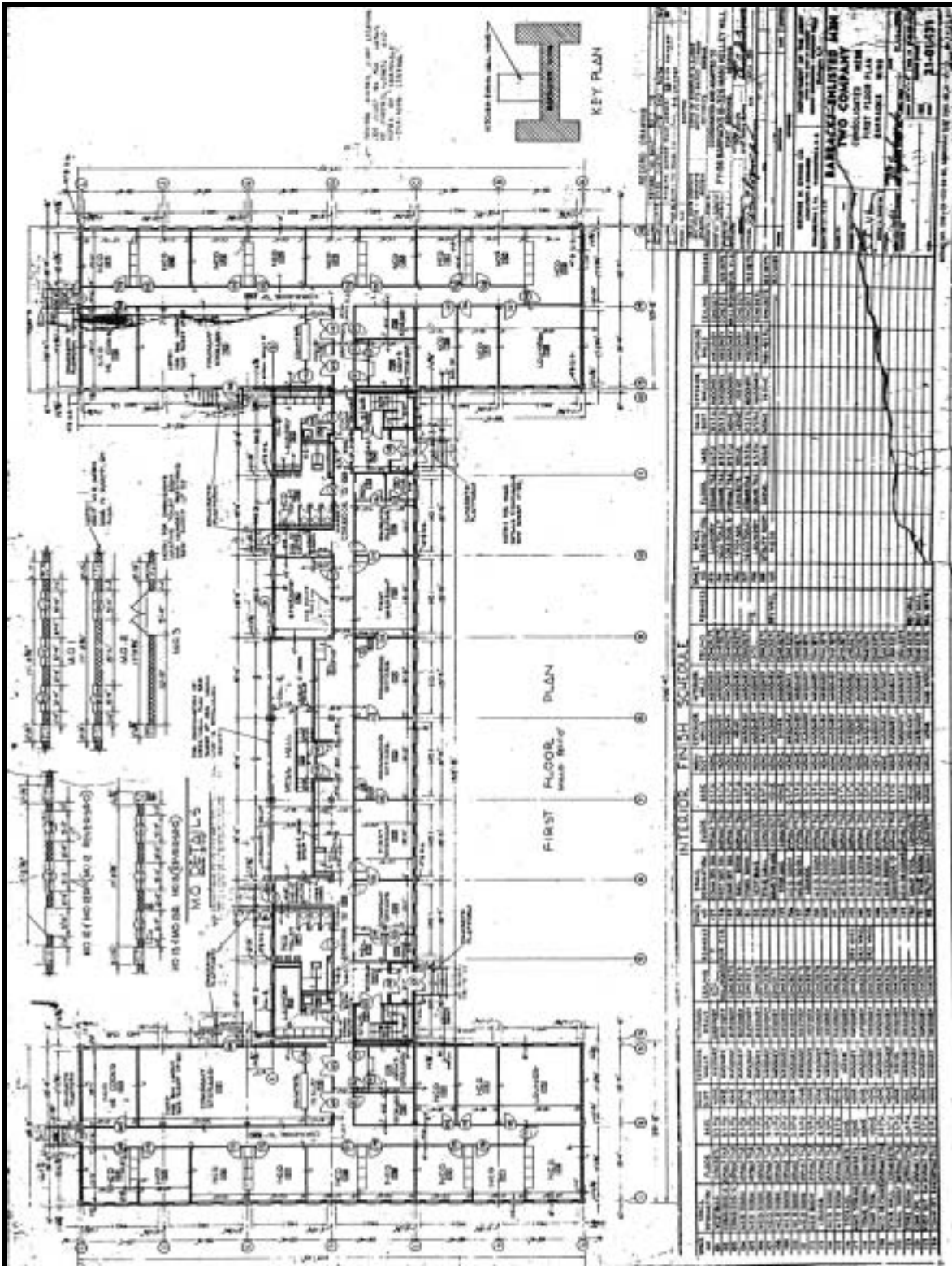


Figure 4.1.49 H-style, two-company barracks, barracks wing, first floor plan (1955, revised 1957) (Engineering, Ft. Benning).

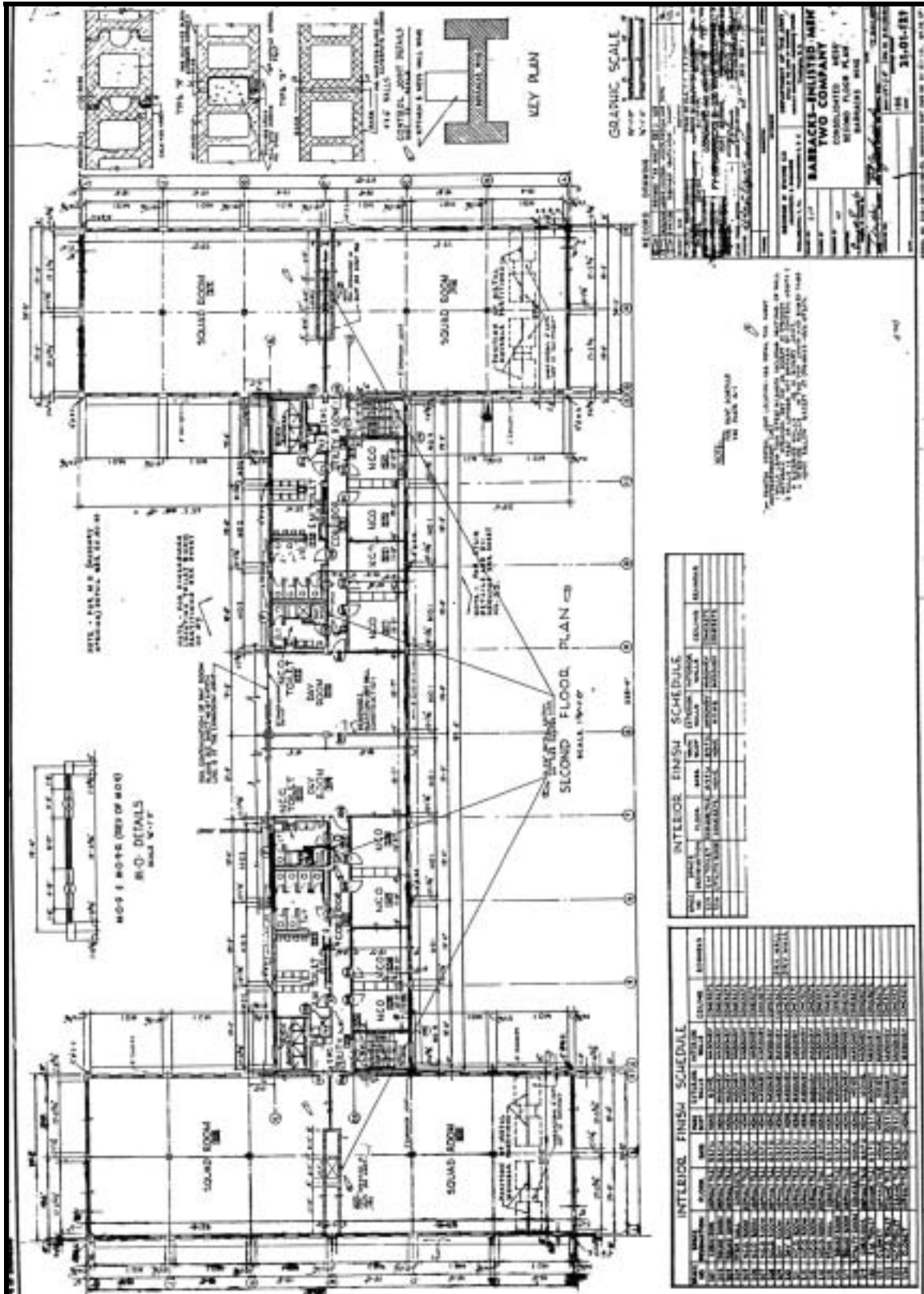


Figure 4.1.50 H-style, two-company barracks, barracks wing, second floor plan (ca. 1955, revised 1958) (Engineering, Ft. Benning).

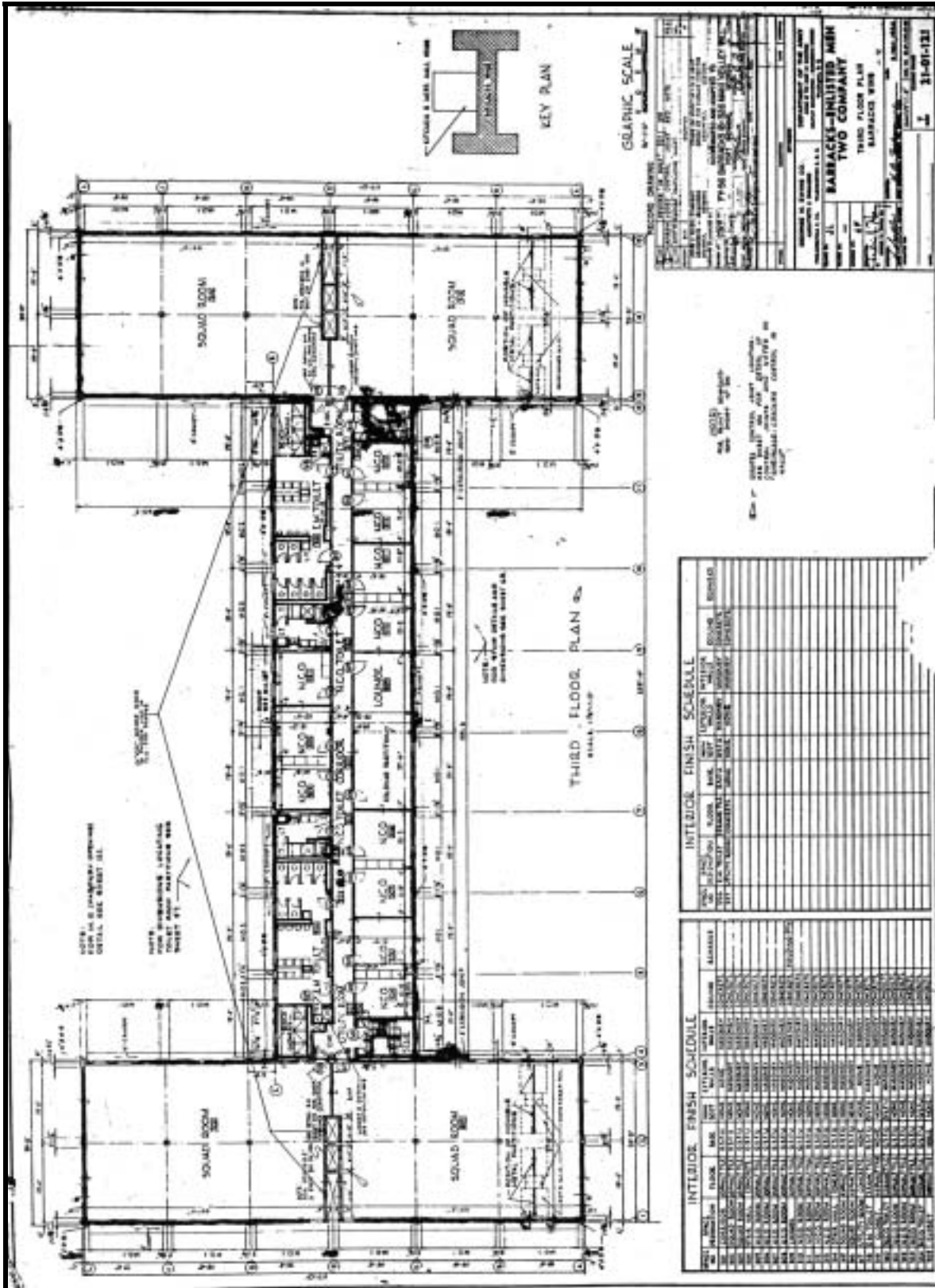


Figure 4.1.51 H-style, two-company barracks, barracks wing, third floor plan (ca. 1955, revised 1958) (Engineering, Ft. Benning).

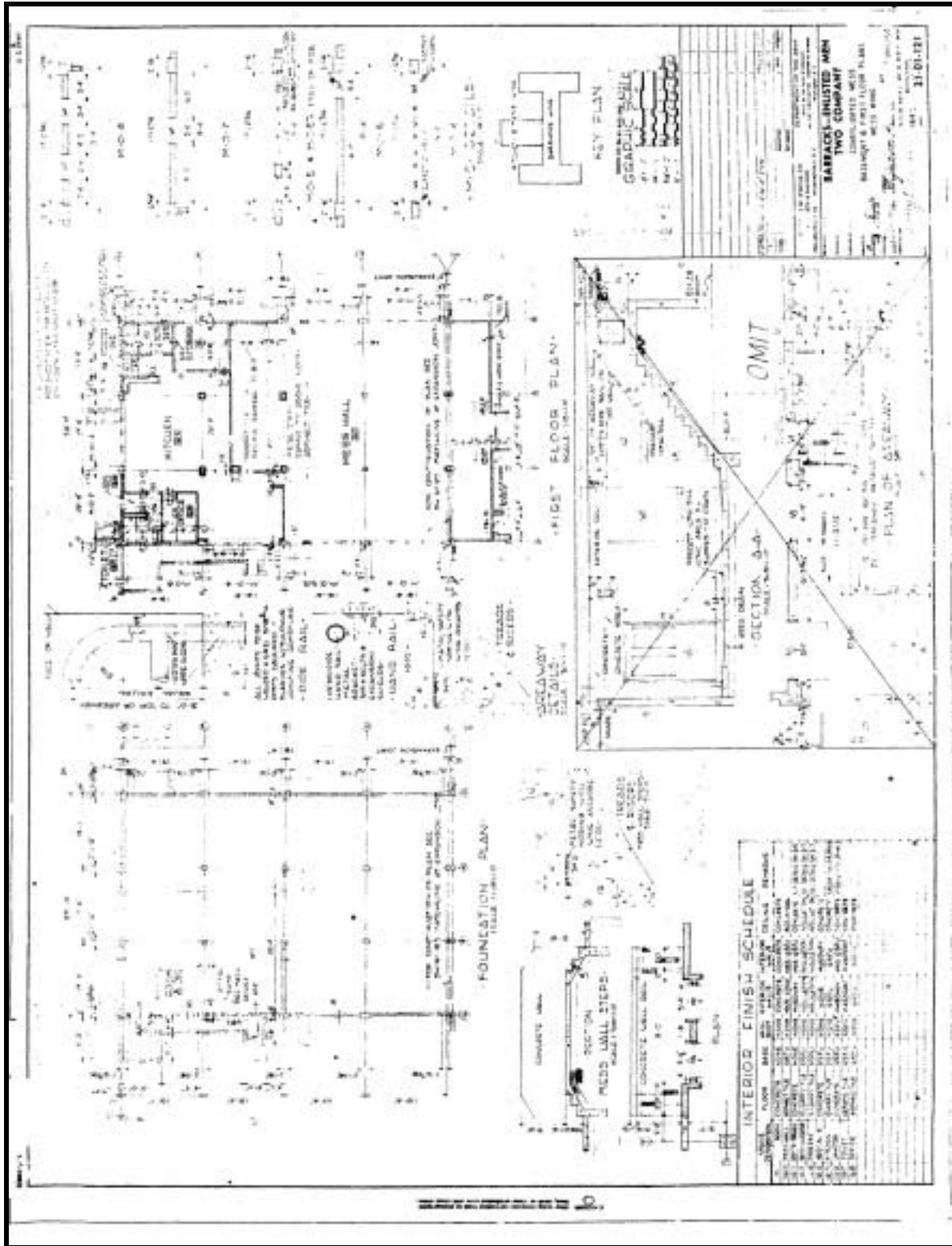


Figure 4.1.52 H-style, two-company barracks, mess wing, basement and first floor plans (1955, revised 1957) (Engineering, Ft. Hood).

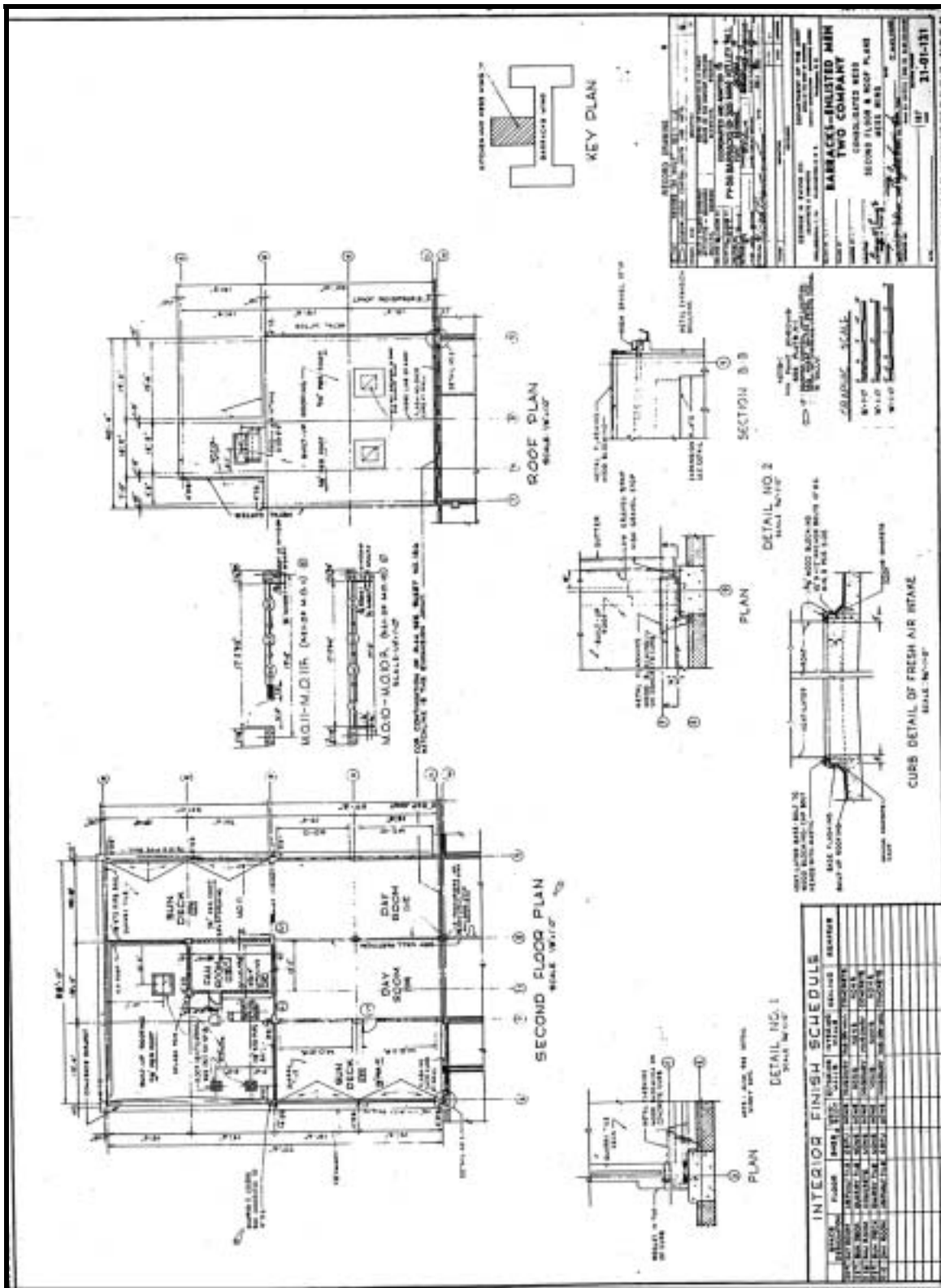


Figure 4.1.53 H-style, two-company barracks, mess wing, second floor and roof plan (1953, revised 1955) (Engineering, Ft. Benning).



Figure 4.1.54 H-style, two-company barracks, Bldg. 9021 (1958), Kelley Hill, Ft. Benning, view NW (RCG&A)



Figure 4.1.55 Detail of mess wing, H-style, two-company barracks, Bldg. 9021 (1958), Kelley Hill, Ft. Benning, view W (RCG&A).

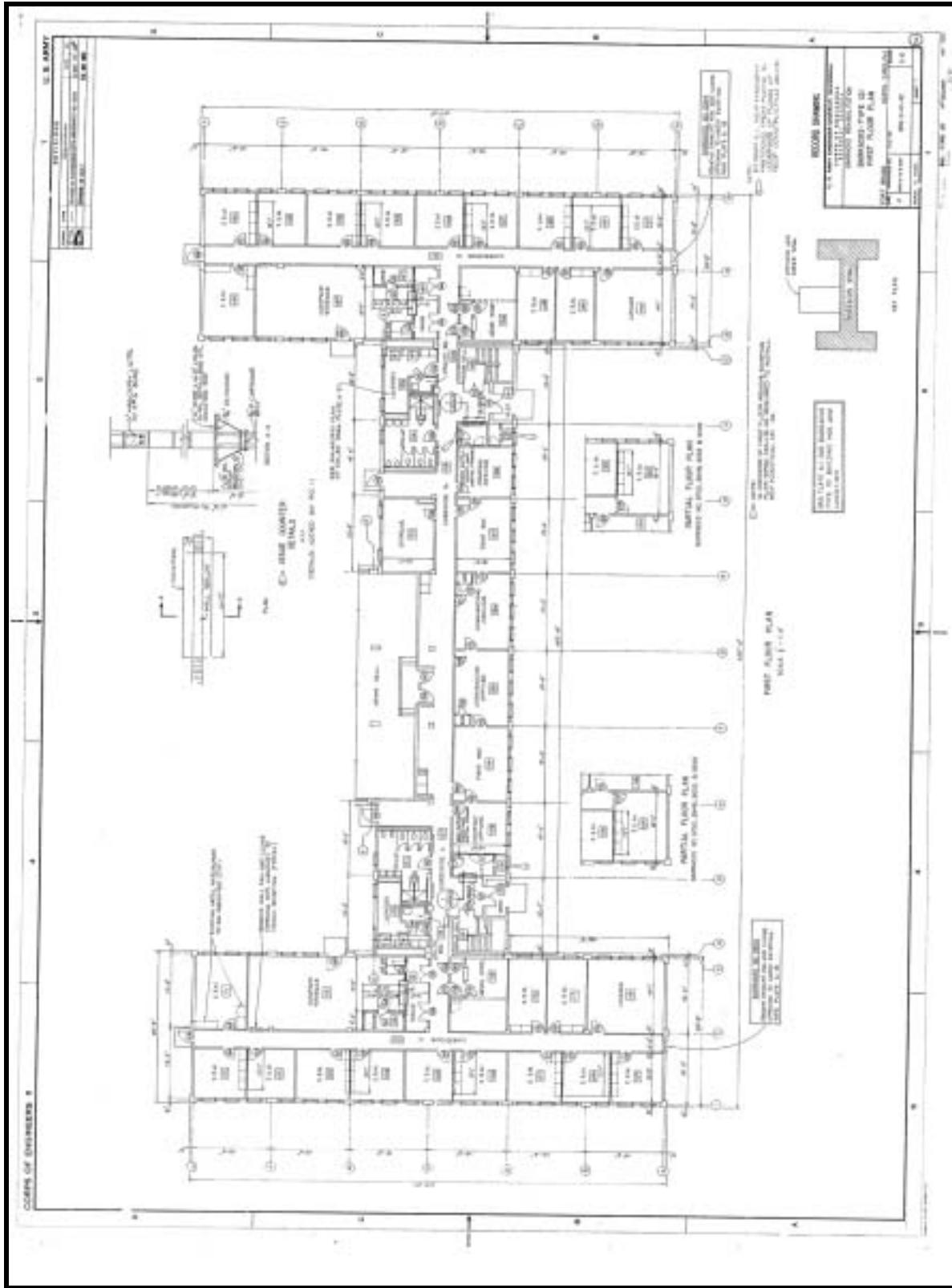


Figure 4.1.56 Renovated H-style, two-company barracks, barracks wing, first floor plan, Ft. Bragg (1972, revised 1974) (Engineering, Ft. Bragg).

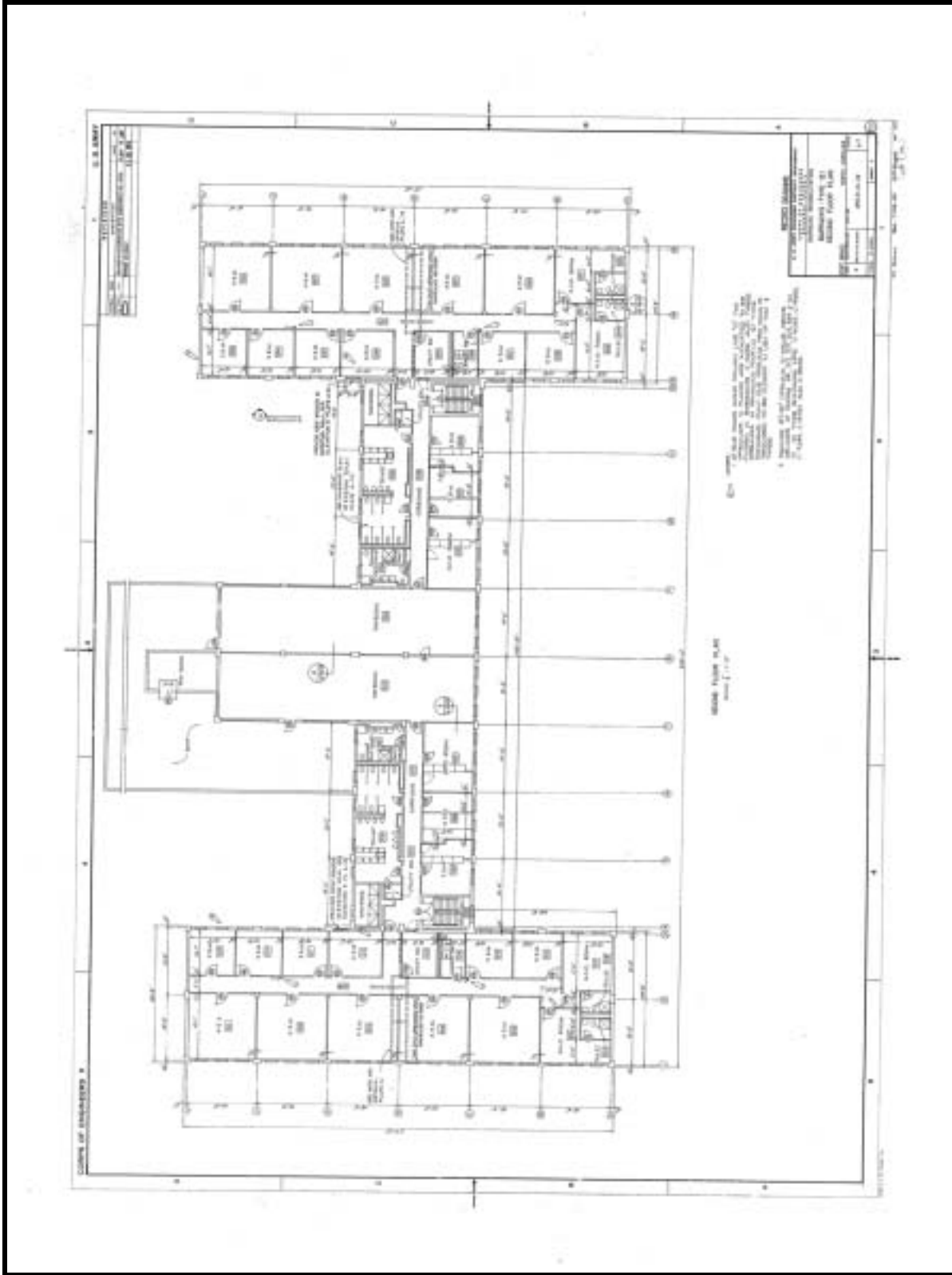


Figure 4.1.57 Renovated H- style, two-company barracks, barracks wing, second floor plan, Ft. Bragg (1972, revised 1974) (Engineering, Ft. Bragg).

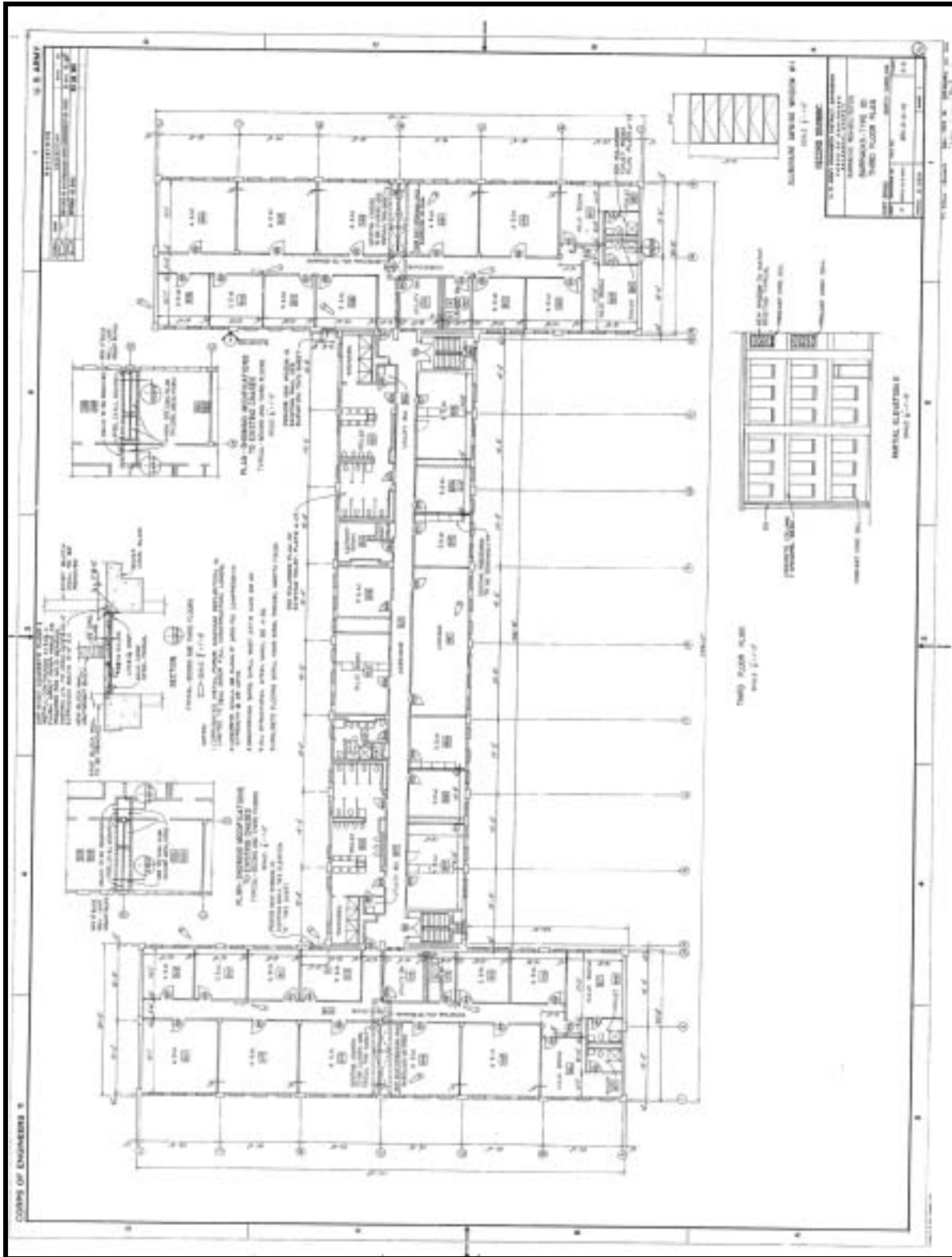


Figure 4.1.58 Renovated H- style, two-company barracks, barracks wing, third floor plan, Ft. Bragg (1972, revised 1974) (Engineering, Ft. Bragg).



Figure 4.1.59 Alterations to H-style, two-company barracks include new windows and exterior materials, Bldg. C-9349 (1958), Ft. Bragg, view SE (RCG&A).



Figure 4.1.60 Alterations to H-style, two-company barracks include new windows and exterior materials, Bldg. C-9349 (1958), Ft. Bragg, view NW (RCG&A).



Figure 4.1.61 Renovating H-style, two-company barracks, Bldg. 9211 (1958), Ft. Hood, view SE (RCG&A).



Figure 4.1.62 Renovating H-style, two-company barracks, Bldg. 9211 (1958), Ft. Hood, view S (RCG&A).



Figure 4.1.63 Renovated H-style, two-company barracks, Bldg. 14023 (1958), Ft. Hood, view SE (RCG&A).



Figure 4.1.64 Renovated H-style, two-company barracks, Bldg. 9210 (1958), Ft. Hood, view NE (RCG&A).

4.1.3 Rolling Pin Barracks 1960-1971 (Bragg, Knox, Hood)

4.1.3.1 Description

Rolling pin barracks were developed in response to the concerns of Army commanders that poor housing conditions were contributing to declining re-enlistment rates. The Army reexamined the congressional guidelines regarding funding allocations for barracks construction. The cost limits imposed by Congress for barracks applied only to troop housing, rather than mess, administration, and supply facilities. The Army revisited the architectural program for barracks to segregate housing and support services. Rolling pin barracks were the first Cold War era barracks that separated support functions in barracks design. The rolling pin barracks were designed by Wise, Simpson, Aiken & Associates, Architects-Engineers, from Atlanta, Georgia (Ft. Bragg drawing 21-01-142 [see Figures 4.1.68-4.1.71]). Each two-company barracks housed 326-men.

Rolling pin barracks generally were constructed in groups of five buildings. Two mess halls, two administration buildings, and two supply buildings were built to support each cluster (Figure 4.1.65). A regiment area was composed of ten rolling pin barracks or two clusters (Figures 4.1.66 and 4.1.67). The new complexes also contained additional support buildings including chapels, dispensaries, and NCO clubs. The housing areas were intended to be self-contained and as independent from the Main Post as possible.

Landscaping around the rolling pin barracks complex was sparse. Shade trees were planted at wide intervals with greater concentrations surrounding the end elevations of the barracks. Low ornamental plants occasionally were located near the entrances.

The new barracks were named for their ground plans, which resemble giant rolling pins. The three-story, brick barracks were supported on concrete footings (Figure 4.1.68).

Lower grade enlisted men were housed in the principal blocks of the buildings in eight-man squad rooms with central gang latrines. Each company was assigned a dayroom and laundry facility on the first floor. Noncommissioned officers occupied two-man rooms in the wings with separate latrines and lounges on the first floors (Figures 4.1.69). The floor plans were repeated on the second and third floors except that squad rooms and NCO rooms replaced the dayrooms and lobbies, respectively (Figures 4.1.70 and 4.1.71).

The barracks roofs appeared flat, but were slightly sloped for perimeter drainage and were sheathed with five-ply built-up tar or asphalt roofing materials. The buildings featured one-over-one-light, metal-sash windows (Figure 4.1.72). The buildings contained entrances located near the corners of the principal blocks of the buildings. In all cases, the entrances were simple and unadorned (Figures 4.1.73). On occasion, barracks featured a brise soliel, a projecting concrete sunshade over the windows (Figures 4.1.74 and 4.1.75).

Consolidated Five-Company Mess Halls. Consolidated five-company mess halls were important components of the regimental complexes associated with rolling pin barracks. These mess halls were the first to be built as independent buildings separate from the barracks in the Cold War era. J.N. Pease and Company, Architects-Engineers, of Charlotte, North Carolina designed the mess hall plan.

The mess halls were one-and-one-half-story brick buildings with a one-story, flat roof, entrance-and-cloakroom extensions on the front elevations, and loading docks on the rear elevations (Figure 4.1.76). The brick walls terminated in very shallow front gable roofs sheathed with a built up tar or

asphalt roofing material (Figure 4.1.77). Metal exhaust fans for kitchen equipment were located towards the rear of the buildings. The buildings featured ribbons of windows along the front and side elevations (Figures 4.1.78 and 4.1.79). Metal louvers were found over the windows on the side elevations (Figure 4.1.80). The architecturally austere entrances were located on the side elevations of the entrance extensions and featured double metal doors with single-light windows. The loading dock on the rear elevation also had double metal doors with single-light windows (Figure 4.1.81)

The dining facilities were organized with single kitchens at the rear of the buildings serving two serving lines. Quarry tile walkways directed traffic to serving areas located along the perimeter of the dining rooms (Figure 4.1.77).

4.1.3.2 Evolution

The first rolling pin barracks underwent significant modifications in the 1990s. One group of rolling pin barracks has been renovated at Fort Hood. The renovations are similar to renovations undertaken to the hammerhead barracks and H-style barracks. Most notably, balconies and gable roofs have been added. In addition, walls were removed and rebuilt, and floor plans altered (Figures 4.1.82 and 4.1.83). This pattern of modification also was found in examples of the barracks type located at Fort Bragg. Changes include the addition of balconies and exterior stairs on the end wings, new exterior materials, and the addition of prominent cross gable roofs with faux chimneys on the cross gable-ends (Figures 4.1.84 and 4.1.85).

No exterior alterations to the consolidated mess halls were noted, however, a number were converted to other uses. The most common reuses were classrooms and administration facilities.

4.1.3.3 Association

Rolling pin barracks were the primary barracks design employed throughout the 1960s. It was the first Army barracks design during the Cold War era that separated troop housing from mess, supply, and administrative support facilities. The barracks were designed by Wise, Simpson, Aiken & Associates, Architect-Engineers, of Atlanta, Georgia. J.N. Pease and Company, Architects-Engineers, of Charlotte, North Carolina designed the consolidated five-company mess halls.

The principal partners at Wise, Simpson, Aiken & Associates, were James C. Wise, William M. Simpson, and Hobert W. Aiken. William M. Simpson was born in Winston-Salem, North Carolina, on 12 January 1920. He received a Bachelor of Science degree from Georgia School of Technology in 1942 (later known as Georgia Institute of Technology or Georgia Tech). In 1946 he joined James C. Wise in architectural practice. Simpson began his career as a draftsman in 1946. He was promoted to architect in 1949, associate architect in 1952, and later rose to a participating associate. Projects completed by James C. Wise consisted of six types of design: residential, commercial, industrial, recreational, health facility, and transportation. Wise served as treasurer and a vice president for Wise, Simpson, Aiken & Associates. His work included six types of design: residential, commercial, industrial, recreational, health facility, and transportation (Koyl 1955, 1962; Gane and Koyl 1970).

Hobert W. Aiken was born in Asheville, N.C., on 9 December 1919. He attended Biltmore College from 1937 to 1939 and received a Bachelor of Science degree in architecture in 1941 and an advanced architecture degree in 1947, both from Georgia Tech. He worked in the Office of the Quartermaster General of the Army in 1941. He served in the Air Force from 1942 to 1946. He was an

instructor at Georgia Tech in 1947 and 1948, and taught sophomore architecture. His first design job was as a draftsman for Lindsey M. Gudger from 1937 to 1939, followed by Anthony Lord from 1939 to 1946, and James C. Wise in 1947. The 1955 American Institute of Architects directory credits Aiken with specialization in residential, industrial, commercial, religious, recreational, health, and transportation design. His work can be divided into ten categories: commercial, industrial, educational, penal, public buildings, public structures, military, transportation, scientific, and restoration (Koyle 1955, 1962; Gane and Koyle 1970).

The J.N. Pease & Co., was an architectural firm with seven principal partners: J. Norman Pease, P.E., George S. Rawlins, P.E., J.A. Stenhouse, J. Norman Pease Jr., R.A. Botsford, Fred C. Hobson, P.E., and John V. Ward. J. Norman Pease Jr. was born in Charlotte, N.C., on 29 August 1921. He attended North Carolina State College and received a Bachelor's degree in architecture from Alabama Polytechnic Institute in 1955. He joined J.N. Pease & Co. in 1949. His principal works (all in Charlotte unless otherwise specified) included Republic Steel Corp. Office Building, 1956; Home Finance Co. Office Building, 1957; Southern Bell Telephone Co., Goldsboro, N.C., 1958; Harris Hall Dormitory at Queens College, 1959, First Citizens Bank & Trust Co., 1960; Eastern Air Lines Computer Building, 1961 and 1966; Central Piedmont Community College Classroom Building, 1968; First Citizens Bank & Trust Co., Gastonia, N.C., 1969; Eastern Airlines Regional Reservations Center, Woodbridge, N.J., 1969; and Presbyterian Home for the Elderly, 1969. He received several awards from the American Institute of Architects (Koyle 1955, 1962; Gane and Koyle 1970).

4.1.3.4 Integrity

The character-defining features of rolling pin barracks are their three-story scale, mass, distinctive ground plan, brick exterior, and one-over-one-light, metal-sash windows. Overall, the rolling pin barracks and their associated facilities retain a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association. A few examples have undergone substantial modification similar to those described above at Fort Bragg and Fort Hood. These latter examples no longer retain their original integrity of design, materials, workmanship, and feeling.

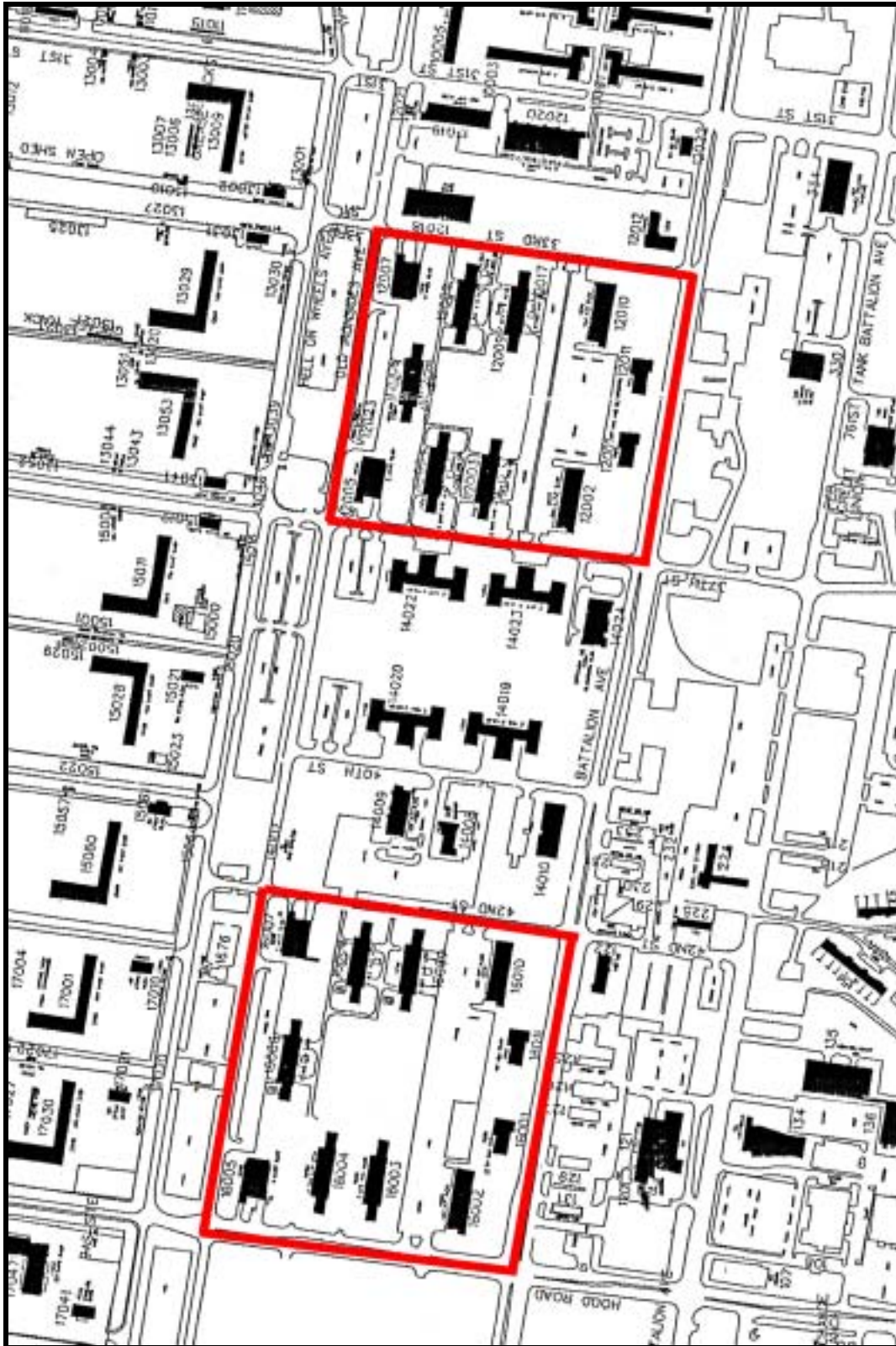


Figure 4.1.65 Map showing Rolling Pin barracks complex in the 16000 and 12000 areas, Ft. Hood.

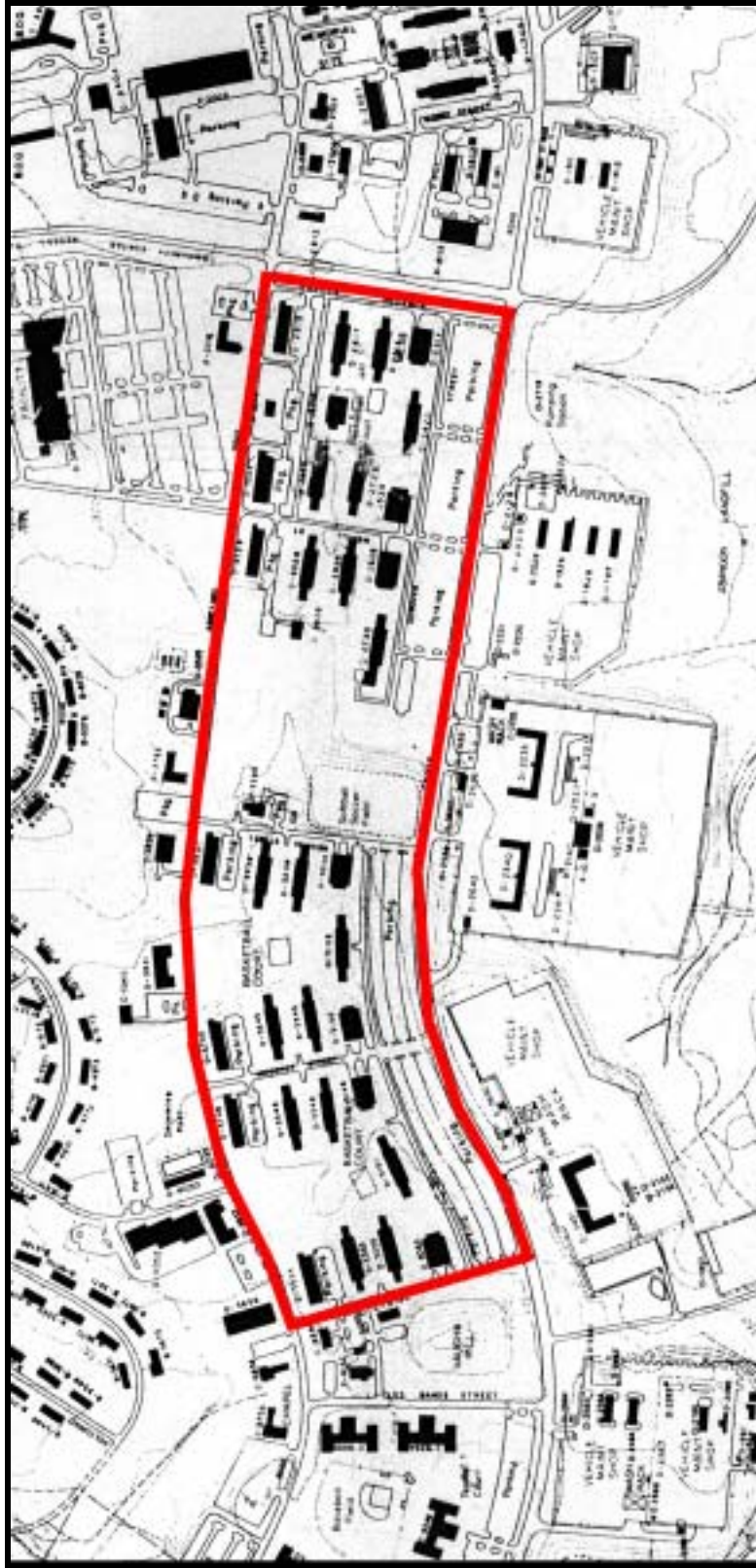


Figure 4.1.66 Map showing Rolling Pin barracks complex the D-area, Ft. Bragg.

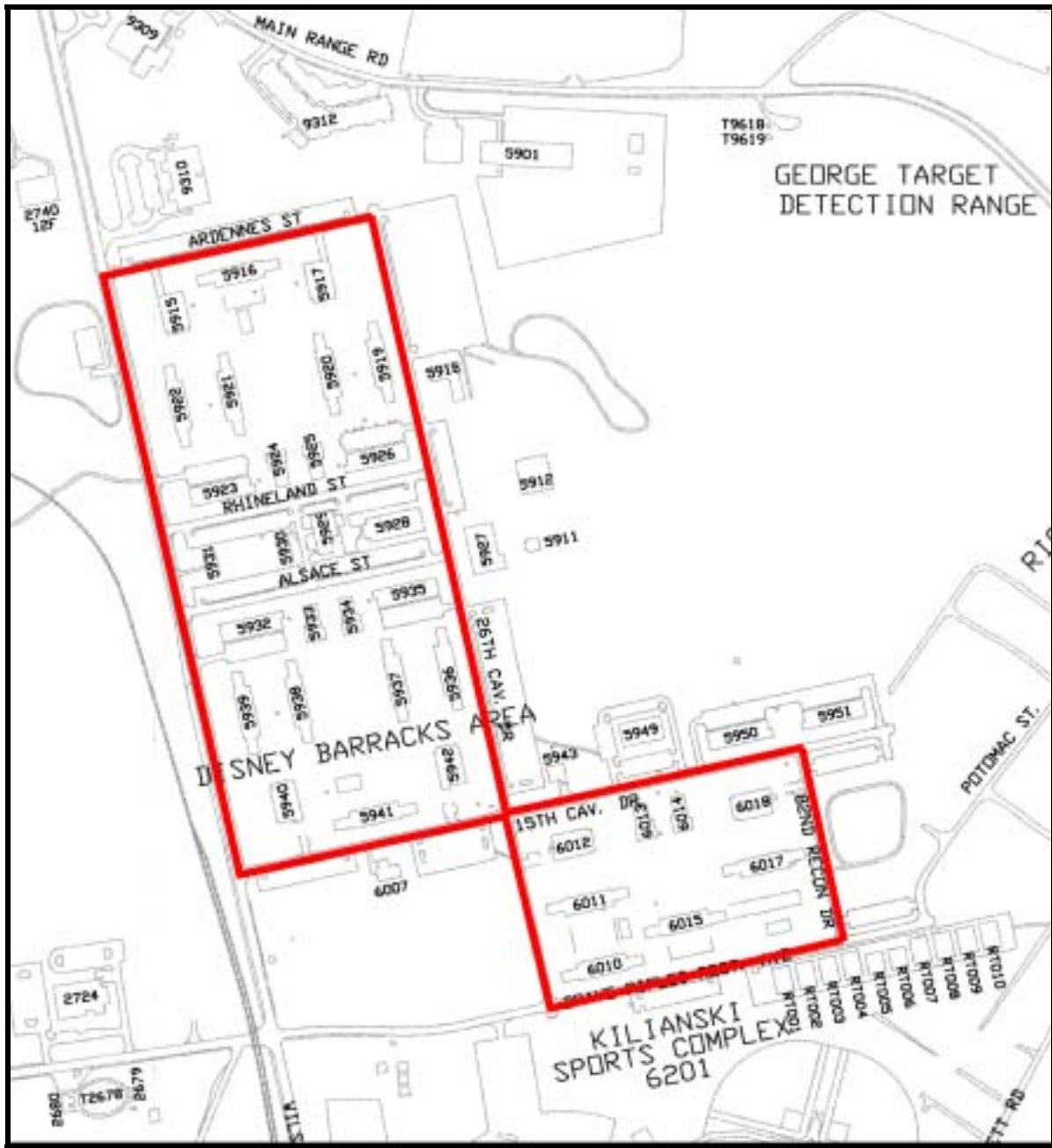


Figure 4.1.67 Map of Disney Barracks, consisting of Rolling Pin barracks, Ft. Knox.

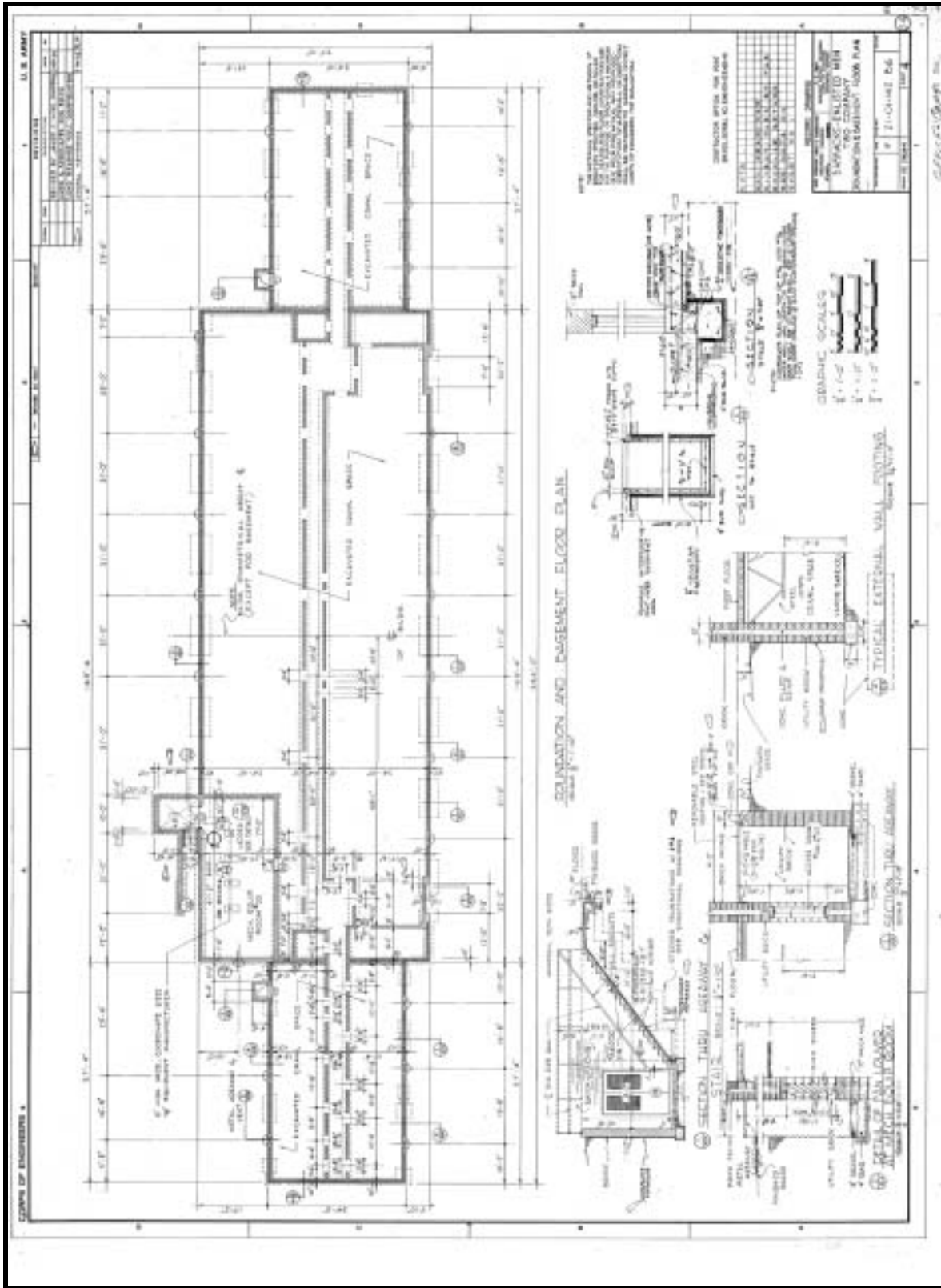


Figure 4.1.68 Rolling Pin, two-company barracks, foundation plan, Ft. Bragg (ca. 1959, revised 1966) (Engineering, Ft. Bragg).

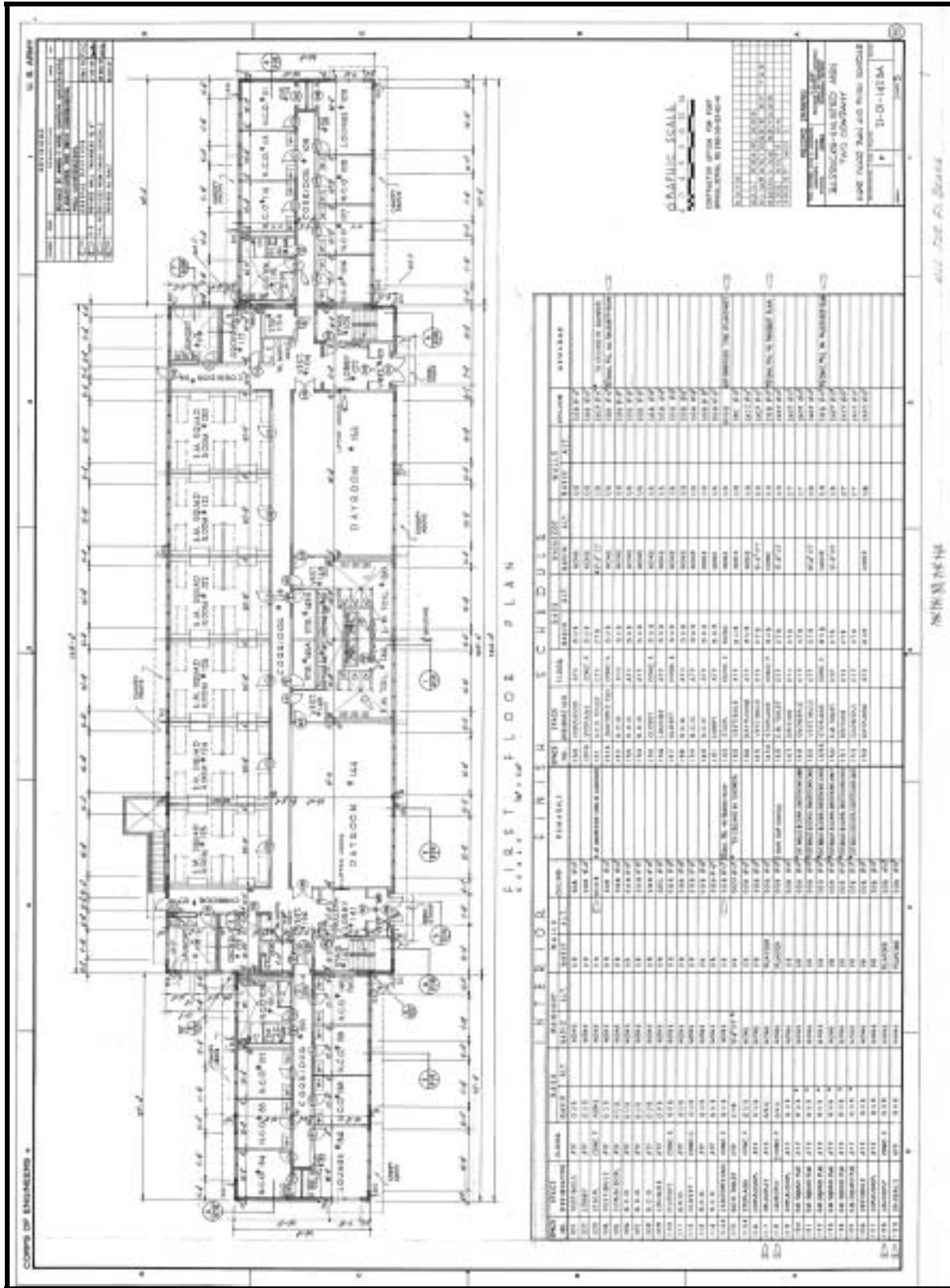


Figure 4.1.69 Rolling Pin, two-company barracks, first floor plan, Ft. Bragg (ca. 1959, revised 1967) (Engineering, Ft. Bragg).

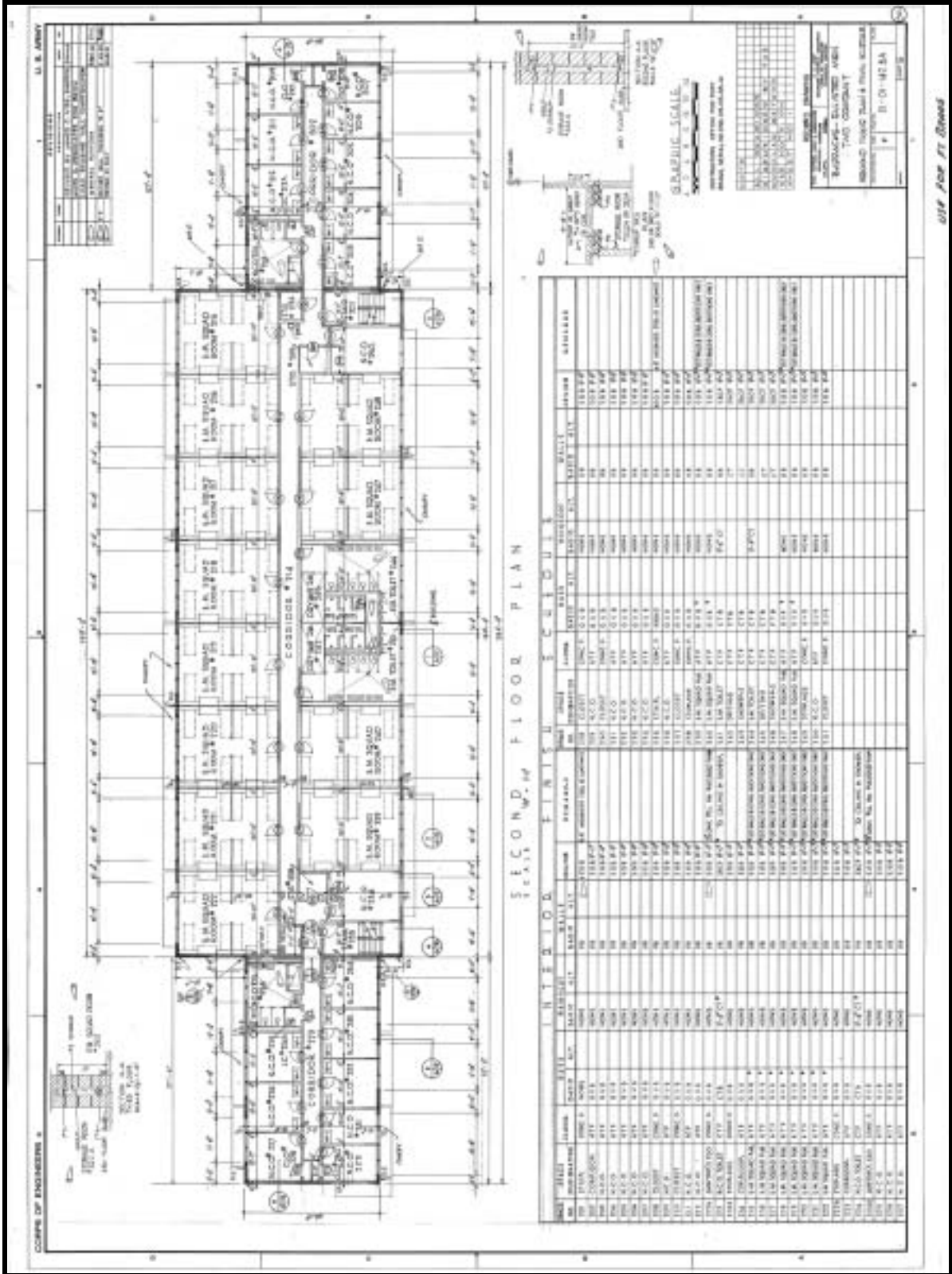


Figure 4.1.70 Rolling Pin, two-company barracks, second floor plan, Ft. Bragg (ca. 1959, revised 1967) (Engineering, Ft. Bragg).

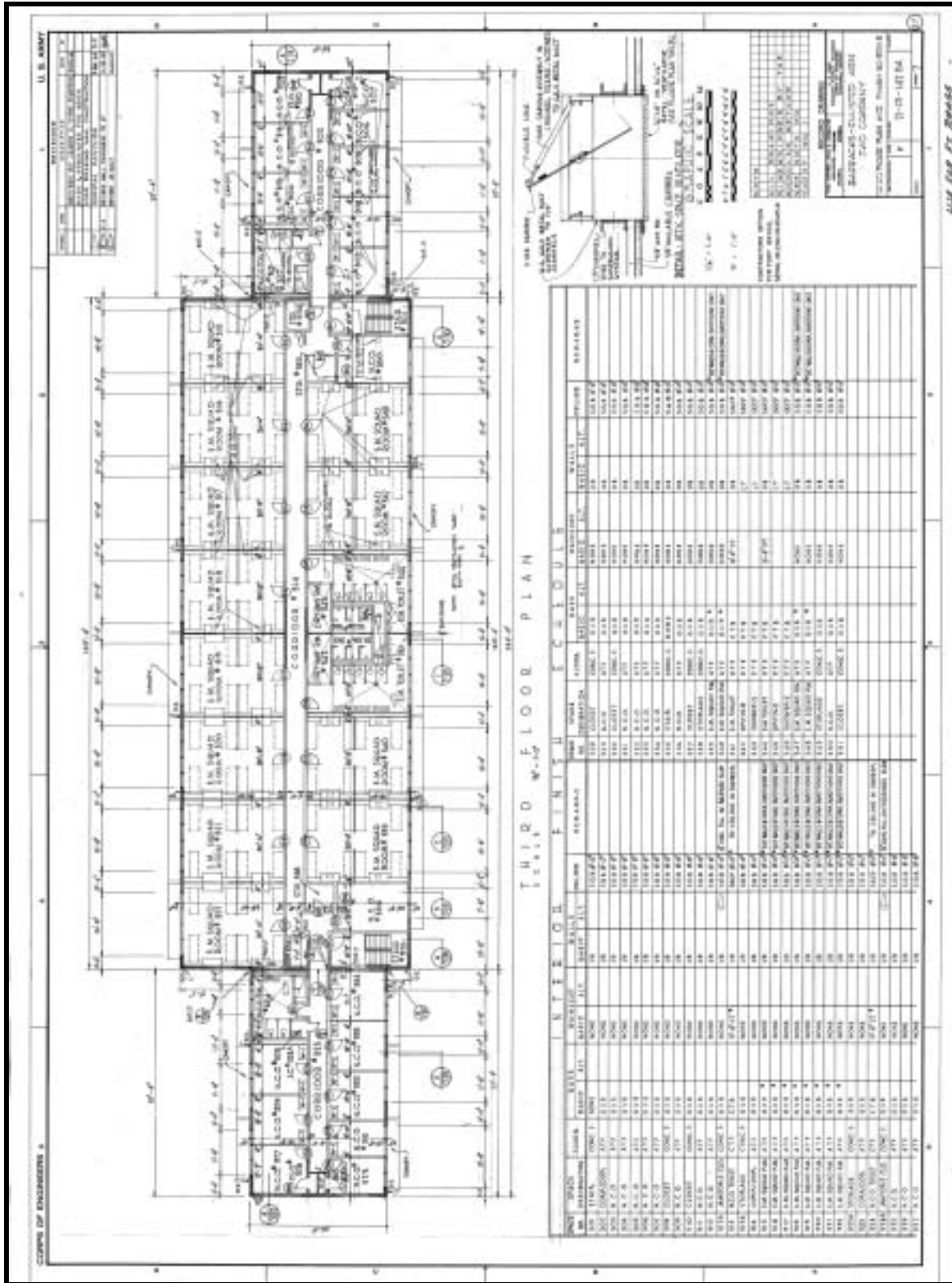


Figure 4.1.71 Rolling Pin, two-company barracks, third floor plan, Ft. Bragg (ca. 1959, revised 1967) (Engineering, Ft. Bragg).



Figure 4.1.72 Rolling Pin, two-company barracks, Bldg. 5936 (1967), Ft. Knox, view NW (RCG&A).



Figure 4.1.73 Rolling Pin, two-company barracks, Bldg. 5916 (1969), Ft. Knox, view SW (RCG&A).



Figure 4.1.74 Rolling Pin, two-company barracks, Bldg. D-3151 (1971), Ft. Bragg, view SW (RCG&A).



Figure 4.1.75 Rolling Pin, two-company barracks, Bldg. 36001 (1968), Ft. Hood, view SE (RCG&A).

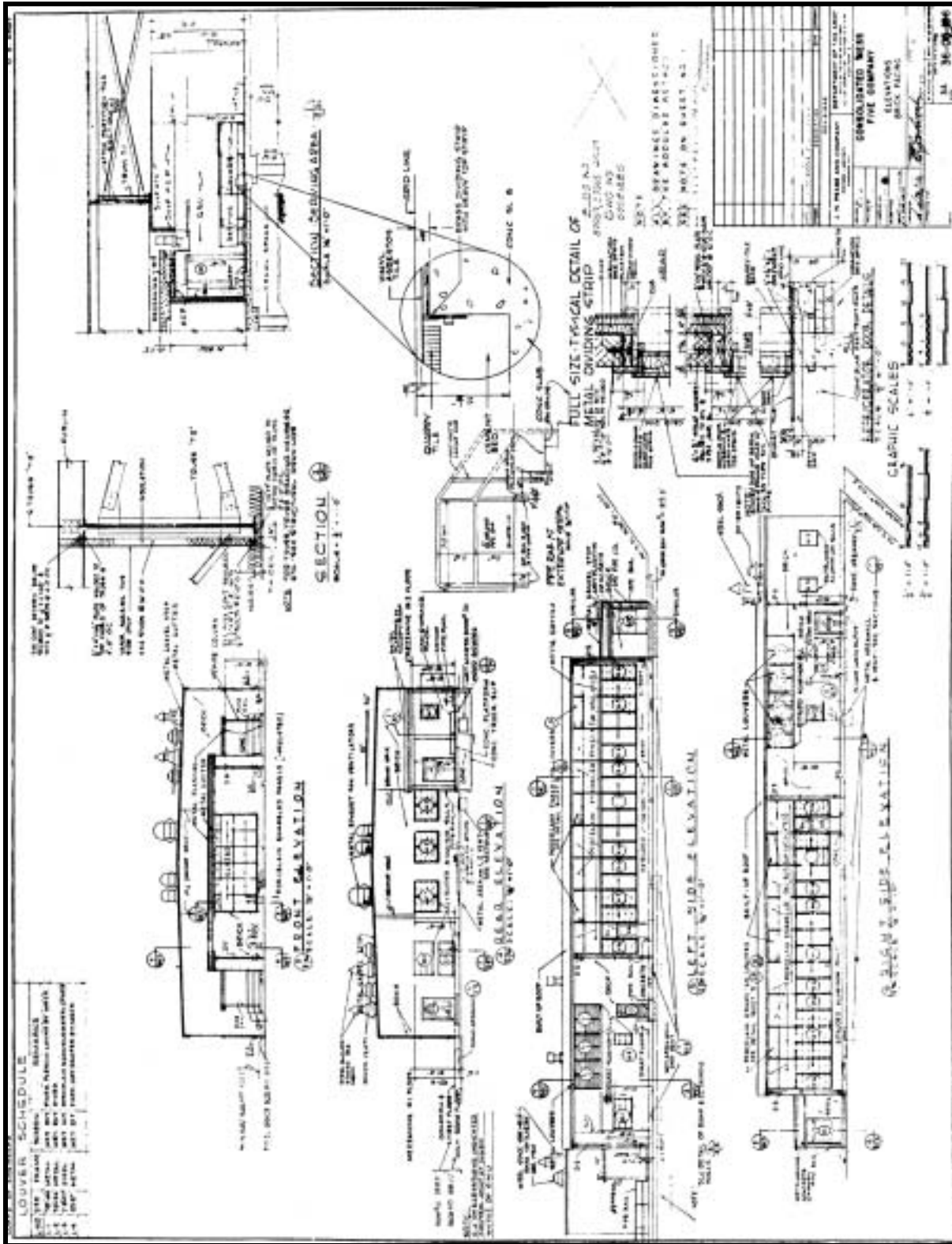


Figure 4.1.76 Rolling Pin dining facility, elevations, Ft. Hood (ca. 1960, revised 1967) (Engineering, Ft. Hood).

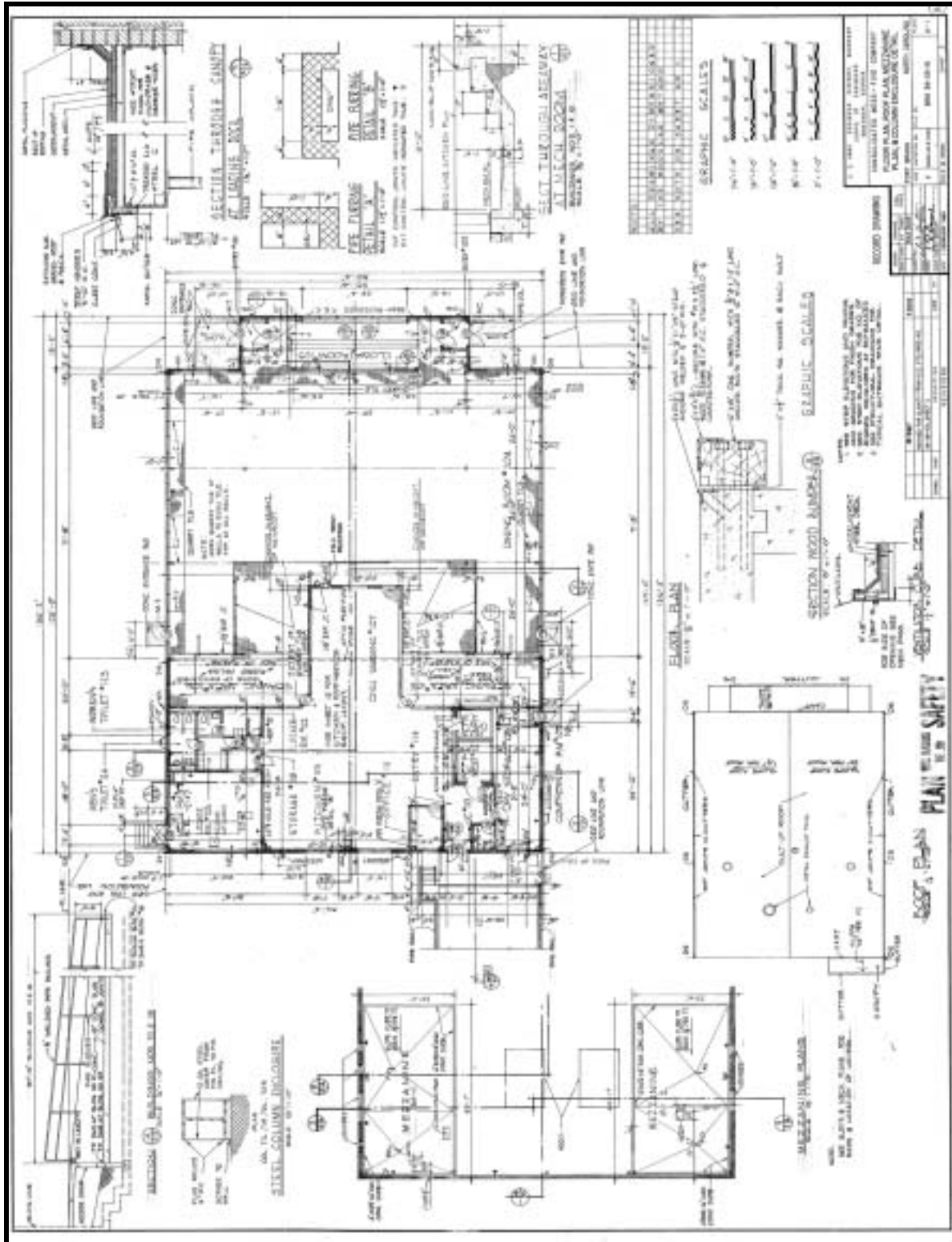


Figure 4.1.77 Rolling Pin dining facility, floor plan, Ft. Bragg (1960, revised 1967) (Engineering, Ft. Bragg).



Figure 4.1.78 Rolling Pin dining facility, Bldg. 41007 (1969), Ft. Hood, view SE (RCG&A).



Figure 4.1.79 Rolling Pin dining facility, Bldg. D-3148 (1971), Ft. Bragg, view SE (RCG&A).



Figure 4.1.80 Rolling Pin dining facility, Bldg. 5942 (1967), Ft. Knox, view SW (RCG&A).



Figure 4.1.81 Rolling Pin dining facility, Bldg. 5917 (1969), Ft. Knox, view S (RCG&A).



Figure 4.1.82 Renovated Rolling Pin, two-company barracks, Bldg. 41009 (1969), Ft. Hood, view SE (RCG&A).



Figure 4.1.83 Renovated Rolling Pin, two-company barracks, Bldg. 37006 (1968), Ft. Hood, view N (RCG&A).



Figure 4.1.84 Renovated Rolling Pin, two-company barracks, Bldg. D-3545 (1971), Ft. Bragg, view NW (RCG&A).



Figure 4.1.85 Renovated Rolling Pin, two-company barracks, Bldg. D-3142 (1971), Ft. Bragg, view SE (RCG&A).

4.1.4 A-style Barracks 1972-1974 (Hood)

4.1.4.1 Description

A-style barracks were constructed on a limited basis in the early 1970s. Fort Hood, Texas retains a number of A-style barracks. The primary advantage of the A-style barracks was its large size. A-style barracks occupied a smaller footprint than the rolling pin barracks complex, housed the same number of personnel, and afforded more area for parking. Each A-style barracks housed five companies. Two A-style barracks generally were located in close proximity to one another to form a regimental complex. The A-style barracks were joined by a two-story, brick consolidated mess hall (Figure 4.1.86).

Each of the three-story brick barracks comprised four wings, which formed an “A”. Stairs were located at each end of the wings. Wing 1, at the top of the “A”, housed first floor administration and unit supply rooms for five companies. The second and third floor contained enlisted man rooms. Five rooms shared one bathroom. Each bathroom was equipped with two urinals, two toilets, two showers, and four sinks (Figure 4.1.87). Wing 2 comprised the left upright of the “A” and contained a central laundry room and a dayroom with enlisted man rooms at the ends on all three floors (Figure 4.1.88). Wing 3 was the cross member of the “A”. An open area was provided on the first floor, with enlisted man rooms filling the remainder of the space (Figure 4.1.89). Wing 4 was the right upright of the “A”. A first floor laundry room and a lounge were located near the center of the wing and lounges were located on the second and third floors (Figure 4.1.90).

4.1.4.2 Evolution

No modifications to the original design of the A-style barracks were noted during the field investigations (Figures 4.1.91 and 4.1.92). All examples survived intact and retained their original architectural design and materials (Figures 4.1.93 and 4.1.94).

4.1.4.3 Association

The A-style barracks appear to be an isolated example of a regimental barracks exclusive to Fort Hood.

4.1.4.4 Integrity

The character-defining features of A-style barracks are distinctive floor plan, brick walls, mass, and scale. At the time of the site visit, the A-style barracks at Fort Hood retained integrity of location, design, setting, materials, workmanship, feeling, and association. The integrity was high since the barracks were only 30 years old and had not been modified.



Figure 4.1.86 Map showing A-style barracks in the 31000 and 34000 areas, Ft. Hood.

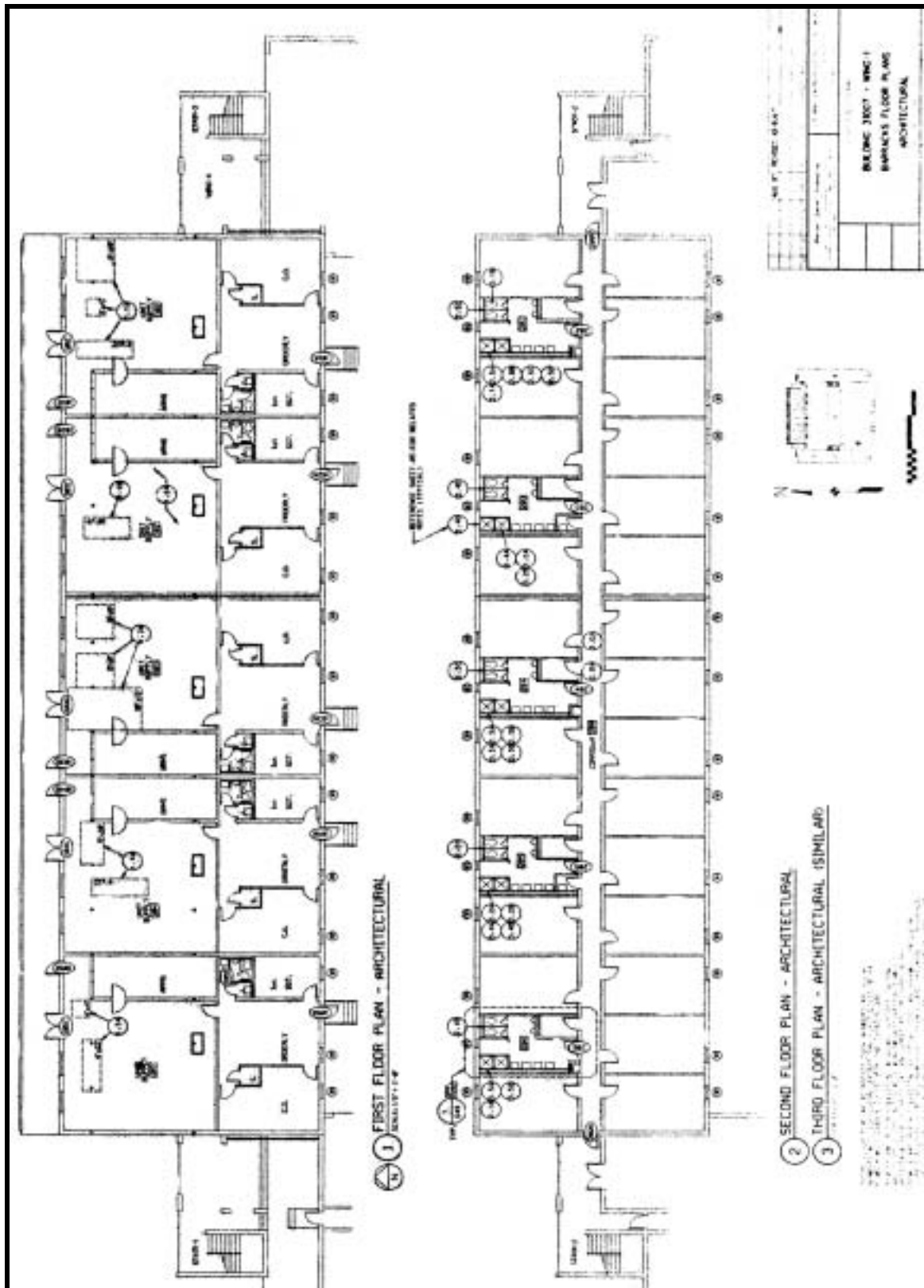


Figure 4.1.87 A-style barracks, Bldg. 31007 floor plans, wing 1 (ca. 1971, revised 1997) (Engineering, Ft. Hood).

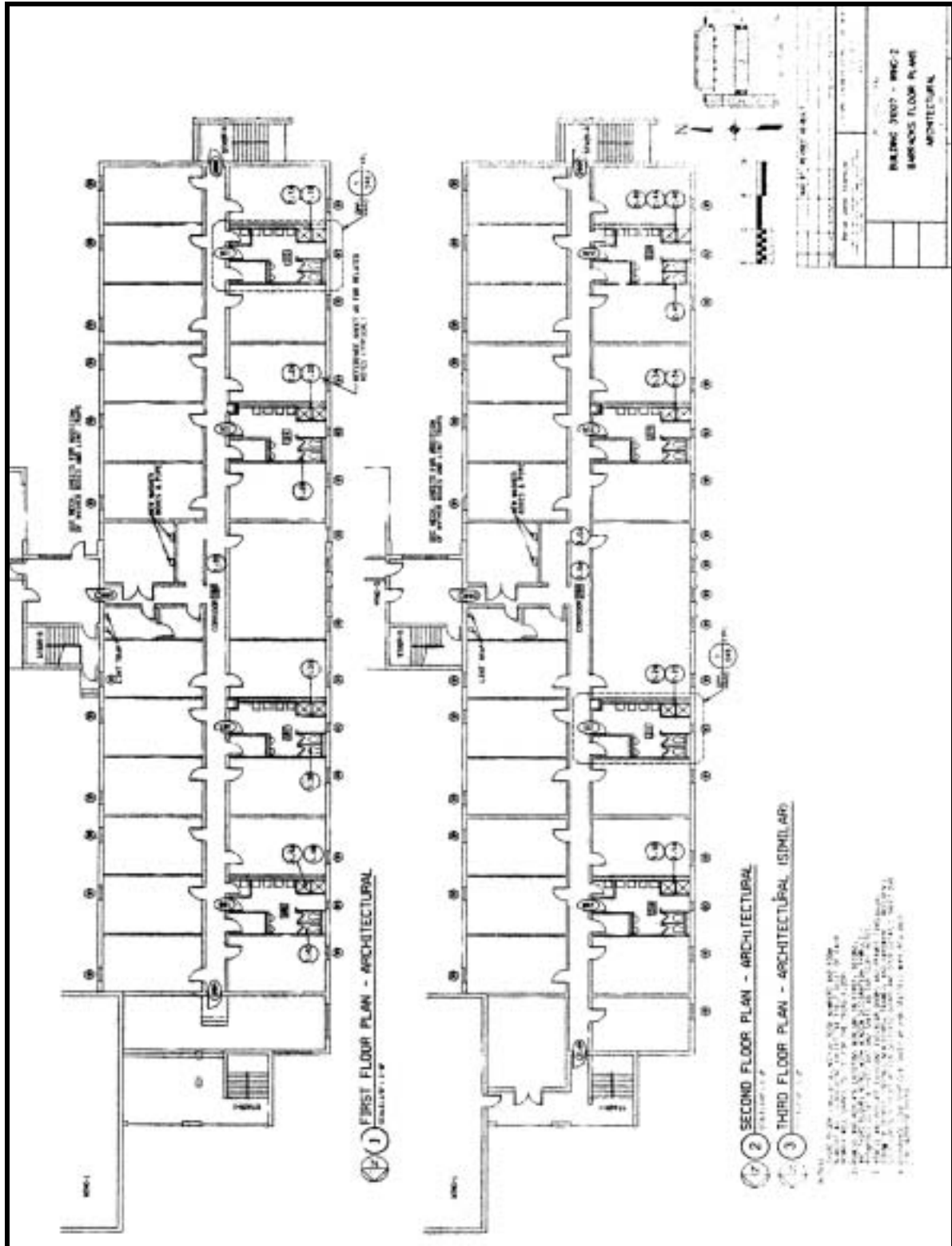


Figure 4.1.88 A-style barracks, Bldg. 31007 floor plans, wing 2 (ca. 1971, revised 1997) (Engineering, Ft. Hood).

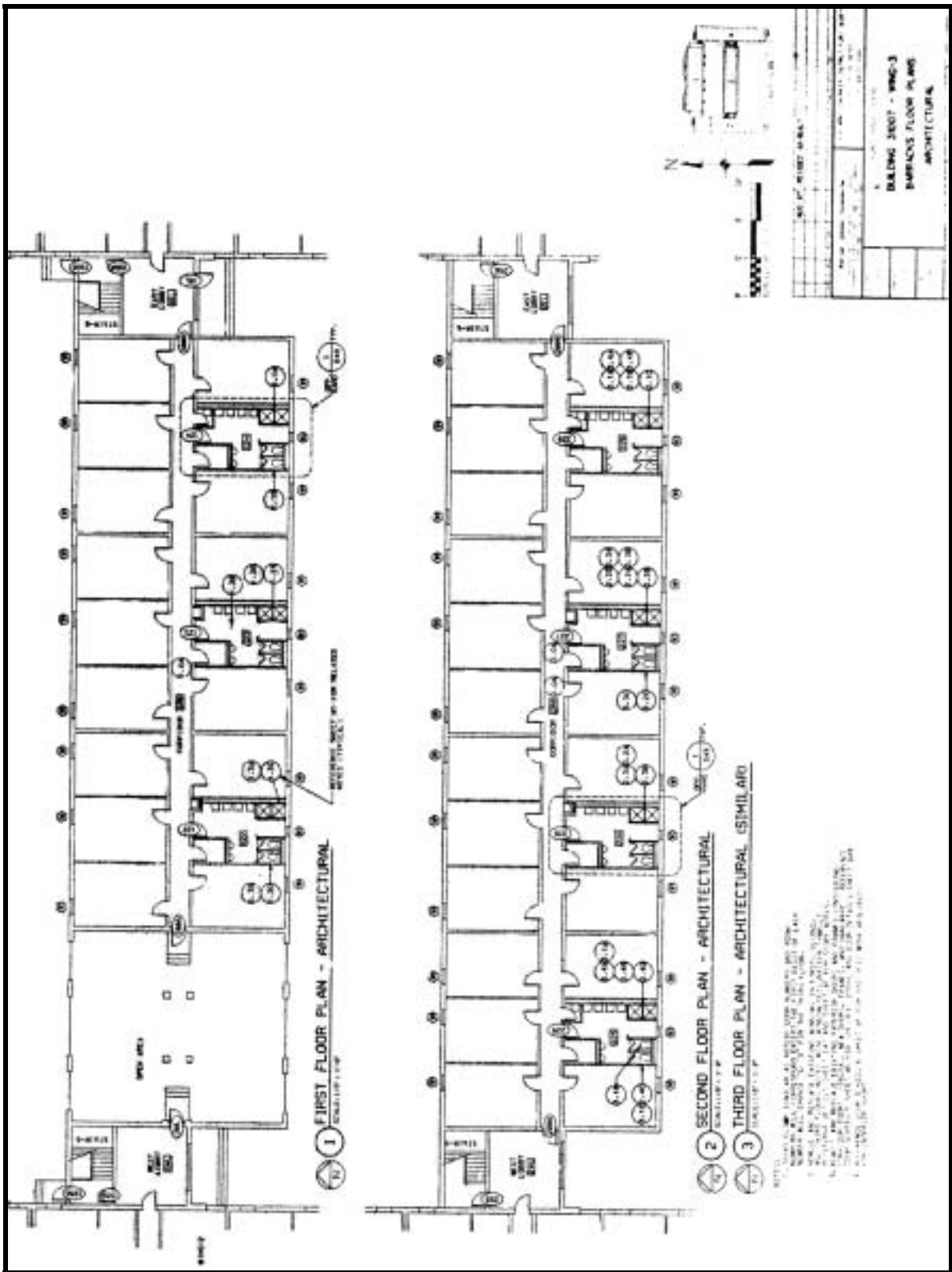


Figure 4.1.89 A-style barracks, Bldg. 31007 floor plans, wing 3 (ca. 1971, revised 1997) (Engineering, Ft. Hood).

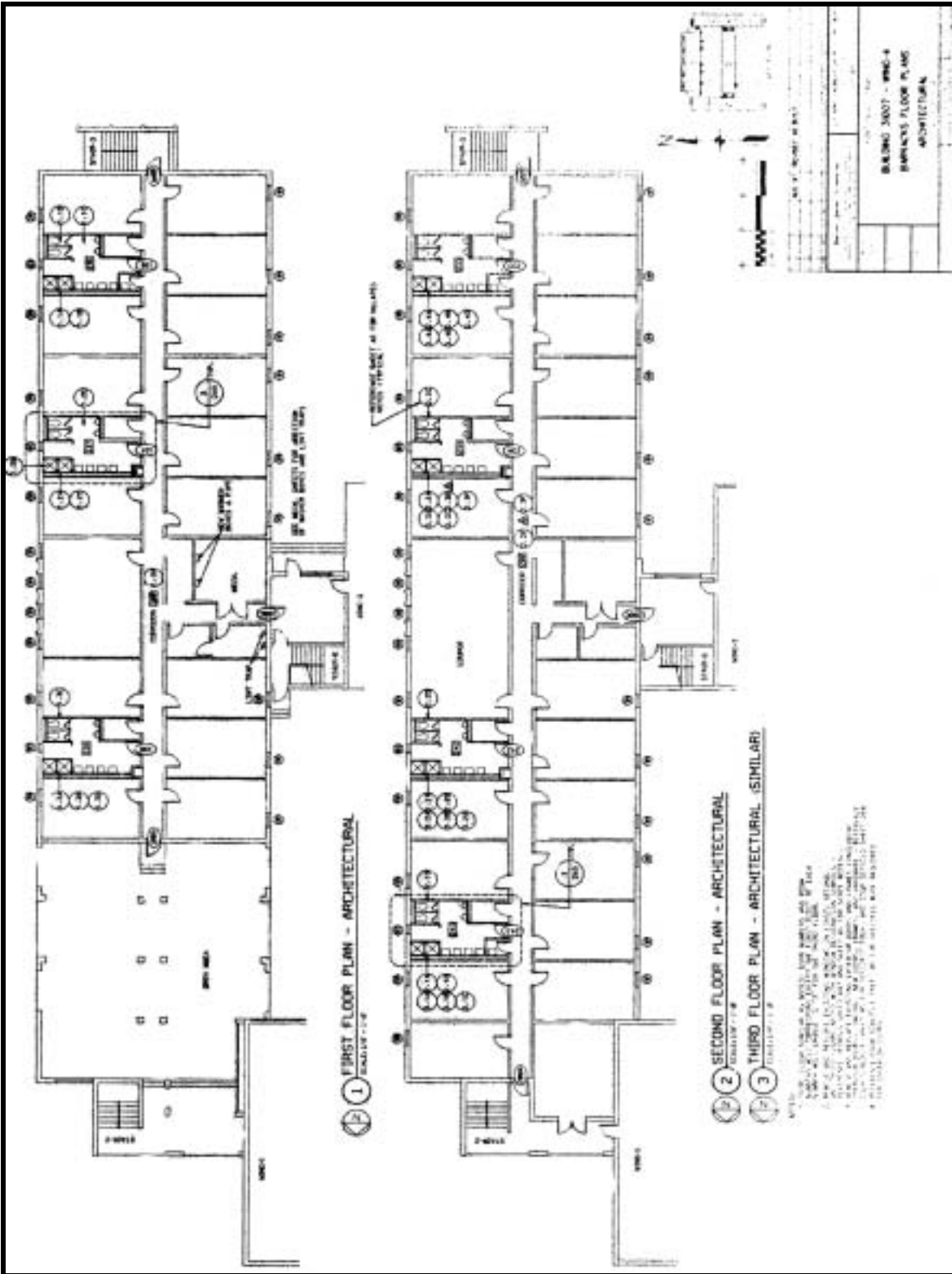


Figure 4.1.90 A-style barracks, Bldg. 31007 floor plans, wing 4 (ca. 1971, revised 1997) (Engineering, Ft. Hood).



Figure 4.1.91 A-style barracks, Bldg. 34006 (1974), Ft. Hood, view E (RCG&A).



Figure 4.1.92 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW (RCG&A).



Figure 4.1.93 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW (RCG&A).



Figure 4.1.94 A-style barracks, Bldg. 41002 (1972), Ft. Hood, view SW (RCG&A).

4.1.5 Lyle, Bisset, Carlisle, & Wolfe Barracks 1974-1982 (Bragg, Hood, Polk)

4.1.5.1 Description

Lyle, Bisset, Carlisle, & Wolfe Barrack. Lyle, Bisset, Carlisle, & Wolfe Associates (LBC&W) of Columbia, South Carolina, developed plans for the first barracks designed to enhance soldier privacy in the All-Volunteer Army (VOLAR). The barracks were generally built in complexes designed to house a 3,300-man group or brigade layout (Figure 4.1.95). Centrally located support facilities included mess halls, headquarters, branch exchange, chapel, and dispensary (Figure 4.1.96). A gymnasium occasionally was located near playing fields. Company administration and storage buildings were located at the corners of the complex for convenient access to barracks and parking (U.S. Congress, House 1973:616). Sometimes, as at Fort Hood, the support facilities were located to the side of the housing complex (Figure 4.1.97). The open floor spaces, rows of bunks, and community baths characteristic of earlier barracks were eliminated in the building design. Personnel of the Modern Volunteer Army were housed in three-person, air-conditioned suites. Each living space contained a desk, window, storage space, and sleeping area (Marshall 1974:344).

The most striking change in the LCB&W barracks design from previous Army designs was in plan. Two, three, or four, seventy-two-man clusters were linked to form irregularly shaped units. The largest building was the four, seventy-two-man cluster (Figure 4.1.98). Three, seventy-two-man clusters were also common (Figure 4.1.99 and 4.1.100). The least common configuration was the two, seventy-two-man cluster (Figure 4.1.101). These groupings of seventy-two-man clusters were repeated several times to provide living areas for Army units of various troop strength. The barracks buildings enclosed large lawns and training areas within a pedestrian environment; vehicles were restricted to the periphery of the complex (Figures 4.1.95-4.1.97).

Each seventy-two-man cluster was contained in a three-story brick building. The basic unit of design was a twelve-man, four-bedroom module. The twelve-man module was stacked in three-story structures, which housed thirty-six people. Two of the thirty-six man units created a seventy-two-man cluster. Figure 4.1.102 illustrates a single floor from a seventy-two-man cluster.

Each bedroom suite had a private bath. A central lounge-living area served four sleeping units. The design eliminated the need for interior corridors since the living room was entered from the stair platform and provided access to the bedrooms. The design also was adaptable to one- or two-man occupancy (Marshall 1974:344-45).

Figures 4.1.103 and 4.1.104 illustrate typical LBC&W barracks. LBC&W barracks have undergone some improvements. Examples at Fort Bragg have been fitted with a cross gable roof (Figures 4.1.105 and 4.1.106). At Fort Polk, the barracks underwent similar changes, but the roofs are done in a darker color scheme (Figures 4.1.107 and 4.1.108).

LBC&W Dining Facility. LBC&W of South Carolina also designed the dining facilities for the barracks (Figure 4.1.109). These facilities were one-story brick buildings with rectangular footprints. The buildings terminated in flat roofs. Glass-glazed porches protected the double-door entrances, which were located on each of the side elevations. Loading docks were located on the rear elevations. Large, fixed windows were located on the front and side elevations (Figure 4.1.110).

The floor plans were consistent with earlier consolidated dining facilities. The kitchens were located at the rear of the buildings (Figure 4.1.111). The entrances provided direct access to the two

serving areas. Large open dining rooms occupied the front of the buildings (Figures 4.1.112 and 4.1.113).

The barracks design continued to segregate residential areas, dining facilities, and administration and supply facilities. In the LBC&W design, the dining facilities served as a buffer between the barracks area and the administration and supply facilities. As in previous designs, the administration and supply facilities of five companies were grouped within a single building (Figures 4.1.114 and 4.1.115).

4.1.5.2 Evolution

The LBC&W barracks have undergone few changes. The most common modifications included the addition of cross gable roofs on the barracks and the replacement of original windows with energy-efficient units. The gable roofs concealed new heating and air conditioning equipment (Figures 4.1.105-4.1.108). A number of LBC&W dining facilities also included new cross gable roofs (Figure 4.1.112, 4.1.113).

4.1.5.3 Association

The design of LBC&W barracks complexes were the result of a national architectural competition sponsored by the U.S. Army Corps of Engineers. LBC&W of Columbia, South Carolina and Alexandria, Virginia developed the winning design. The firm's partners included: W.G. Lyles, T.J. Bissett, W.A. Carlisle, Louis M. Wolfe, Fred G. Franklin, and Jesse P. Williams (Gane and Koyl 1970).

William G. Lyles was born in Whitmire, South Carolina on 23 October 1913. He received a Bachelor of Science degree in architecture from Clemson College in 1934. He served as a draftsman for Heyward S. Singley in 1934 and a draftsman and designer for Wessinger & Stork from 1935 to 1938. He was a partner in the firm Stork & Lyles from 1938 to 1941, and from 1945 to 1948. He became a partner in the firm Lyles, Bissett, Carlisle & Wolfe when it was formed in 1948. His principal works included Clemson House, 1950; Sgt. Jasper Apartments, Charleston, 1951; Textron Mill, Honea Path, South Carolina, 1951; Darlington Apartments, San Juan, Puerto Rico, 1953; A.L. Corbett School, Wagener, South Carolina, 1954; dormitories, Clemson, 1955; Russell House, University of South Carolina, 1955; Associates Building, Charleston, 1957; Undergraduate Library, University of South Carolina, Charleston, associate architect with Edward D. Stone, 1958; South Carolina National Bank, Charleston, 1959; University of South Carolina Coliseum, 1969; Wofford College Library, Spartanburg, 1969; Winthrop College Library, Rock Hill, 1969; University of South Carolina Humanities Complex, Columbia, 1969; and South Carolina Habilitation Center, Summerville, 1969 (Koyl 1955, 1962; Gane and Koyl 1970).

Thomas J. Bissett was born in Tampa, Florida on 30 December 1909. He received a Bachelor of Science degree in architecture from Clemson College in 1934. He was a draftsman for Frank Frimmer from 1934 to 1935, chief draftsman for Avery & Haley from 1935 to 1937, and a junior partner with the firm from 1937 to 1941. He worked for Stork & Lyles and Bissett, Carlisle & Wolfe. The firm became Lyles, Bissett, Carlisle & Wolfe in 1948. His principal work included Clemson House, 1950; Sgt. Jasper Apartments, Charleston, 1951; Textron Mill, Honea Path, South Carolina, 1951; Darlington Apartments, San Juan, Puerto Rico, 1953; A.L. Corbett School, Wagener, South Carolina, 1954; dormitories, Clemson, 1955; Russell House, University of South Carolina, 1955; Associates Building, Charleston, 1957; Undergraduate Library, University of South Carolina,

Charleston, associate architect with Edward D. Stone, 1958; National Bank, Columbia, 1959; Capehart Military Family Housing, Myrtle Beach, South Carolina, 1959; Clemson University Library, 1966; University of South Carolina dormitory, Columbia, 1966; public housing, Columbia, 1967; South Carolina Retarded Children's Habilitation Center, Ladson, 1968; and Winthrop College Library, Rock Hill, 1969. His principal works encompassed fourteen categories of design: residential, commercial, industrial, religious, educational, recreational, health facilities, public buildings, public structures, military structures, transportation, communications, scientific structures, and interior design. His awards included a Merit Award for Excellence in Architecture, The Bell System, an award for Russett House, University of South Carolina; an American Institute of Architects chapter award for Langley-Bath-Clearwater High School; a design citation for the South Atlantic region of the American Institute of Architects; a bronze plaque for A.L. Corbett School, an American Institute of Architects chapter award for the Undergraduate Library at University of South Carolina; a Merit Award from the Marble Institute of America and the American Institute of Architects for Rutledge State Office Building, and an Honor Award from the American Library Association and the American Institute of Architects for Clemson University Library (Koyl 1955, 1962; Gane and Koyl 1970).

William A. Carlisle was born in West Point, Georgia on 11 July 1918. He received a Bachelor of Science degree in architecture from Clemson College in 1939. His principal works included Clemson House, Clemson, 1950; Sgt. Jasper Apartments, Charleston, 1951; Textron Mill, Honea Path, South Carolina, 1951; Darlington Apartments, San Juan, Puerto Rico, 1953; A.L. Corbett School, Wagener, South Carolina, 1954; dormitories, Clemson, 1955; New Langston High School, Danville, Virginia, 1958; Associates Building, Charleston, 1957; Undergraduate Library, University of South Carolina, Charleston, associate architect with Edward D. Stone, 1958; Lutheran Theological Southern Seminary, Charleston, 1959; Northern Virginia Community College, Fairfax County, 1969; East Carolina University Development Center, Greenville, North Carolina, 1969; Wofford College Library, Spartanburg, 1969; and University of South Carolina Humanities Complex, Columbia, 1969. His principal work encompassed sixteen categories of design: residential, commercial, industrial, religious, educational, recreational, health facilities, public buildings, public structures, military structures, transportation, communications, scientific structures, city planning, landscape design, and interior design. He received the following awards: a Design Merit Award for Langley-Bath-Clearwater High School and a bronze plaque for A.L. Corbett School (Koyl 1955, 1962; Gane and Koyl 1970).

Louis M. Wolfe was born in Allendale, South Carolina on 25 December 1910. He received a Bachelor of Science degree in architecture from Clemson College in 1931 and a Bachelor's degree in architecture from University of Pennsylvania in 1933. He was a draftsman in the Engineering Department for the City of Flint from 1933 to 1934; an architect for the National Park Service from 1934 to 1936; and a draftsman for Buckler & Fenhagen from 1936 to 1940. He worked for Stork & Lyles and was a partner with Bissett, Carlisle & Wolfe. His principal works included Clemson House, Clemson, 1950; Sgt. Jasper Apartments, Charleston, 1951; Textron Mill, Honea Path, South Carolina, 1951; Darlington Apartments, San Juan, Puerto Rico, 1953; A.L. Corbett School, Wagener, South Carolina, 1954; dormitories, Clemson, 1955; Russell House, University of South Carolina, Columbia, 1955; Associates Building, Charleston, 1957; Undergraduate Library, University of South Carolina, Charleston, associate architect with Edward D. Stone, 1958; South Carolina National Bank, Charleston, 1959; Talon Division of Textron, Lake City, South Carolina, 1966; Shaw Field Air Force Base Hospital, South Carolina, 1967; Oak-Read Apartments for the Elderly, Columbia, South Carolina, 1968; Northern Virginia Community College, Annandale, 1969; and Carolina Coliseum, Columbia, 1969. His principal works encompassed seventeen categories of design: residential, commercial, industrial, religious, educational, recreational, health facilities, penal institutions, public buildings, public structures, military structures, transportation, communications, city planning, landscape design, interior design, and restorations. His awards included a Design Merit Award, and a Design Citation from the local chapter and the overall American Institute of Architects for Langley-

Bath-Clearwater High School; a bronze plaque for A.L. Corbett School; an American Institute of Architects chapter award for the Russell House; a Special Chapter Award for the Associates Building; and a citation from the American Institute of Architects South Atlantic district for the Undergraduate Library at University of South Carolina (Koyl 1955, 1962; Gane and Koyl 1970).

Jesse P. Williams was born in Callison, South Carolina on 23 January 1922. He received a Bachelor of Science degree from Clemson College in 1943. He worked for the U.S. Army Corps of Engineers from 1943 to 1946, was a draftsman for Stork & Lyles in 1947 and 1948, and was an associate with Lyles, Bissett, Carlisle, & Wolfe from 1949 to 1955. He joined the firm as a junior partner in 1955. His principal works encompassed nine categories of design: residential, commercial, religious, educational, health facilities, public buildings, military structures, transportation, and communications (Koyl 1955, 1962; Gane and Koyl 1970).

4.1.5.4 Integrity

The character-defining features of the Lyle, Bisset, Carlisle, & Wolfe barracks are the distinctive ground plan of the twelve-man four-bedroom modules, the three-story scale, and the brick materials. A number of LBC&W barracks have been upgraded through the installation of new cross gable roofs and energy efficient windows. The barracks and associated support buildings generally retain their overall architectural integrity.



Figure 4.1.95 Map showing the LCB&W barracks complex in the H-area, Ft. Bragg.

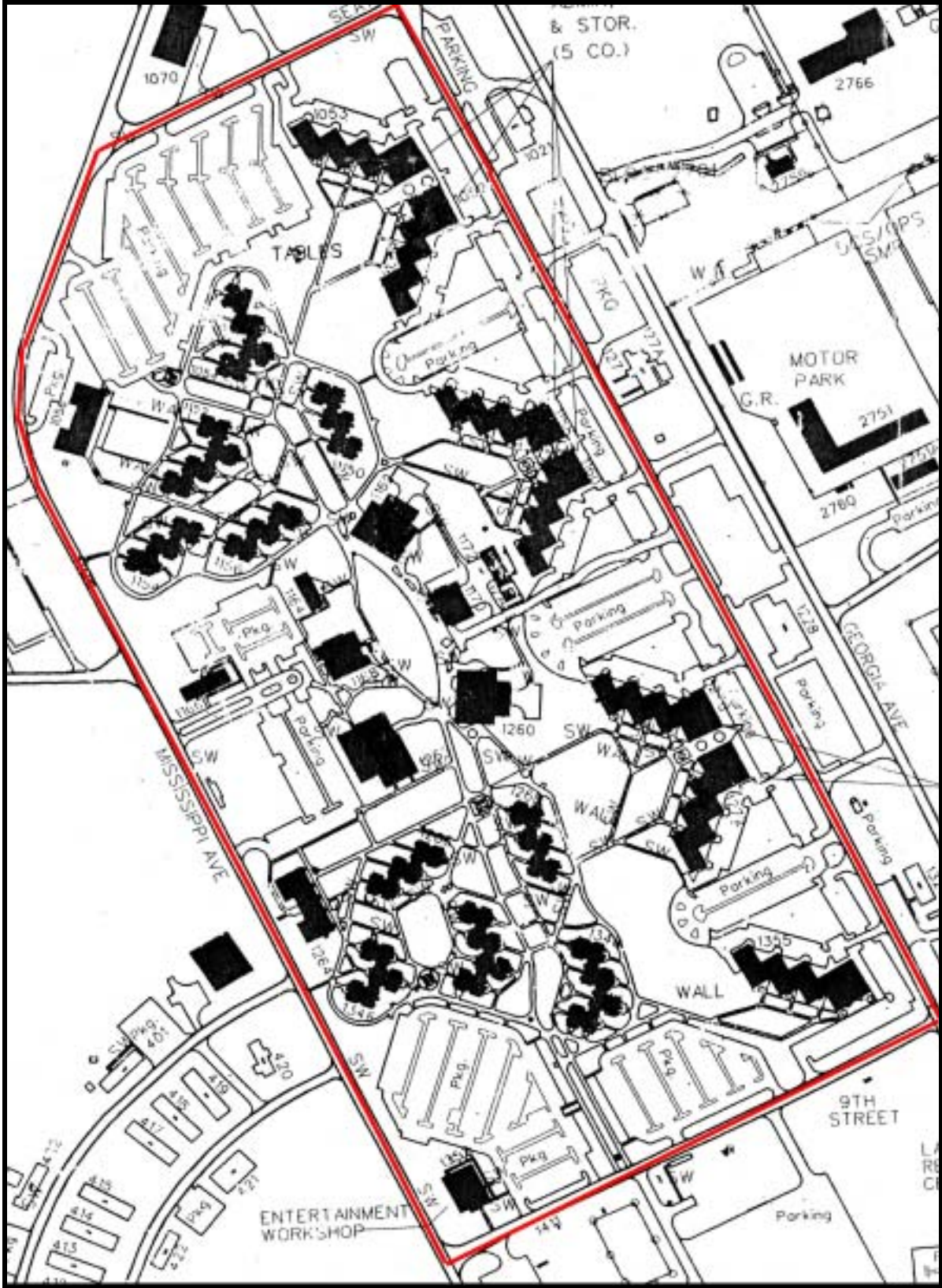


Figure 4.1.96 Map showing the LBC&W barracks complex in the 1000 through 1300 areas, Ft. Polk.



Figure 4.1.97 Map showing the LBC&W barracks complexes in the 29000 and 39000 areas, Ft. Hood.

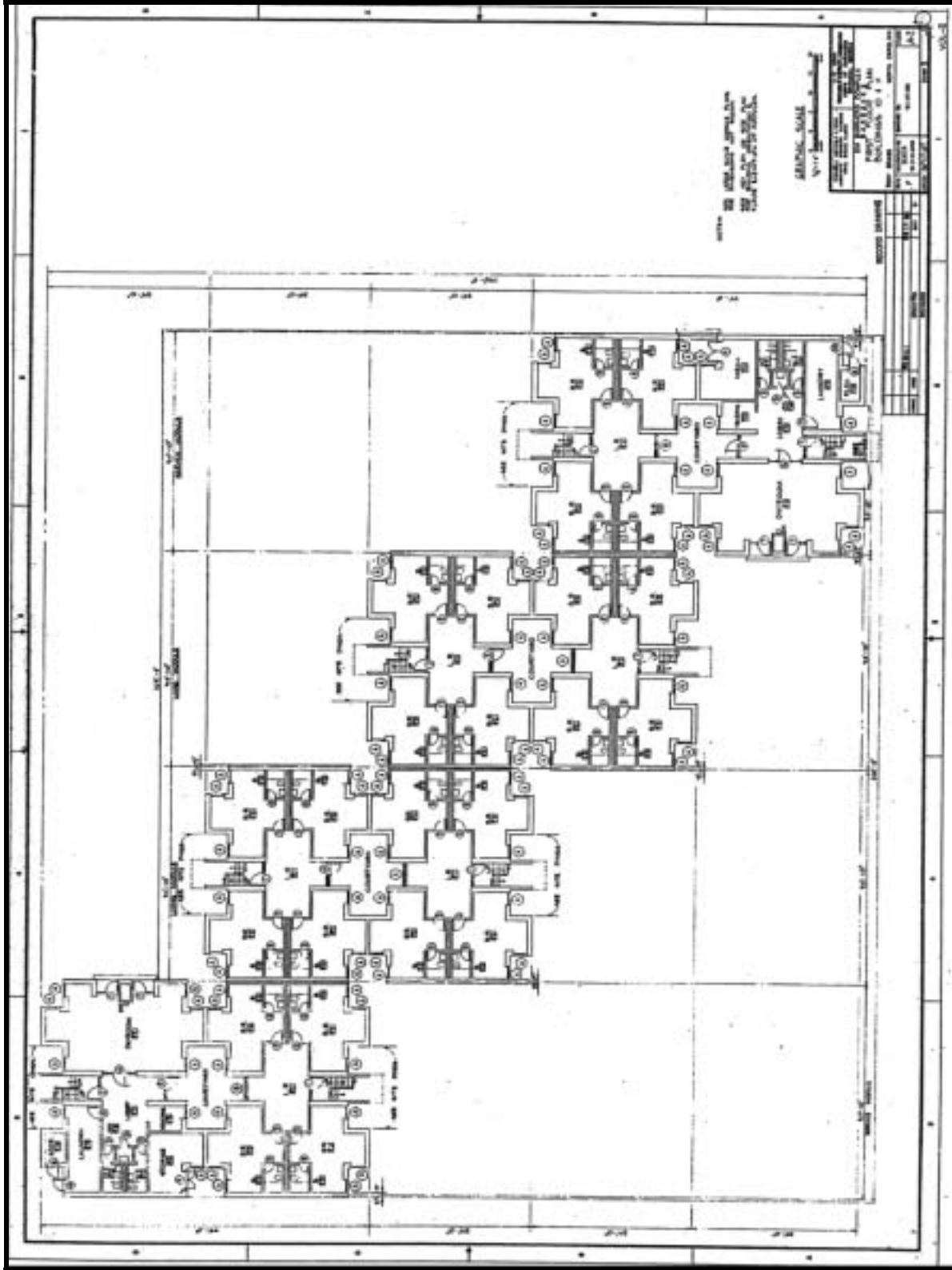


Figure 4.1 98 Four-building LBC&W barracks, first floor plan, Ft. Bragg (ca. 1972, revised 1981) (Engineering, Ft. Bragg).

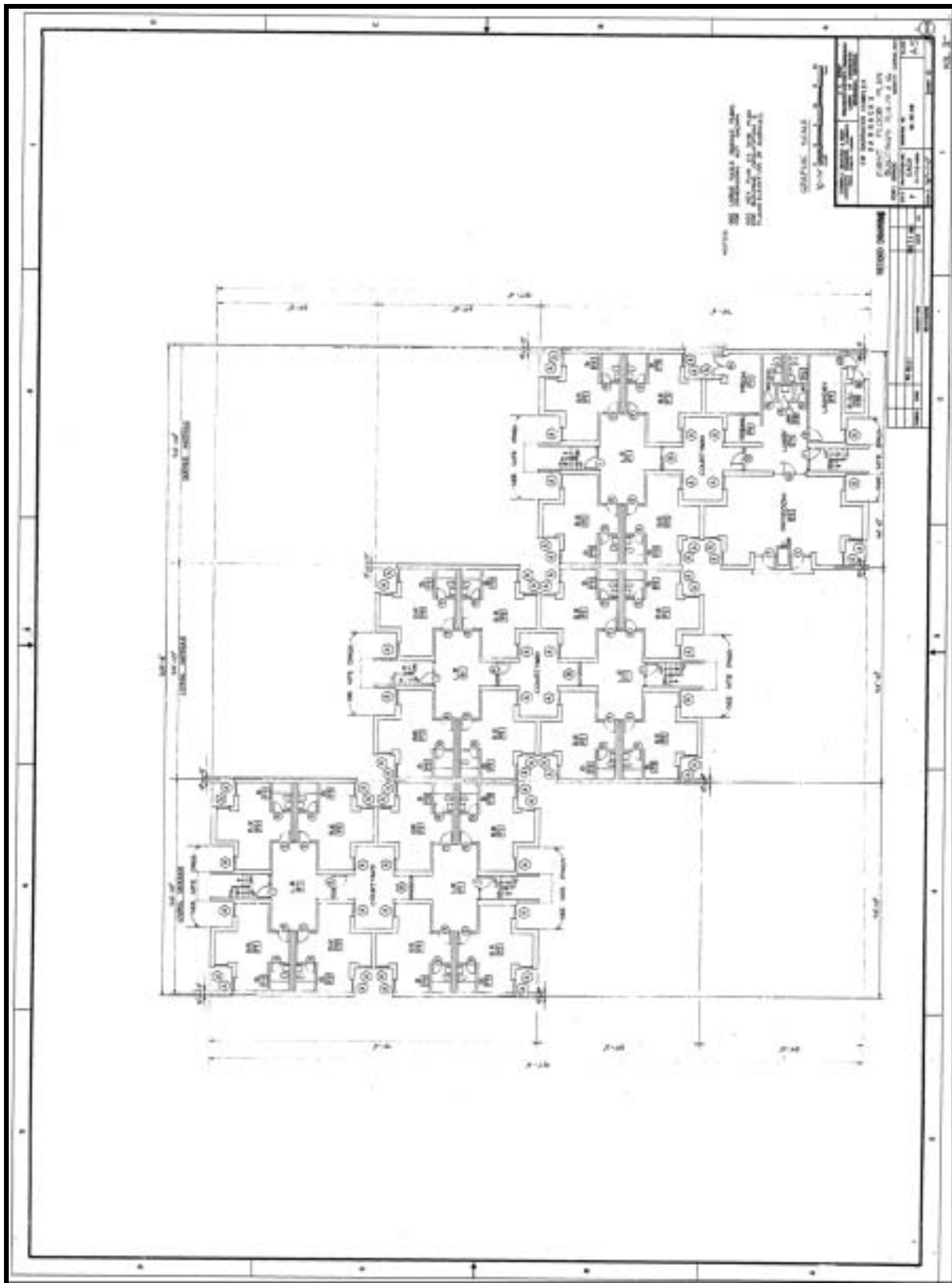


Figure 4.1.99 Three-building LBC&W barracks, first floor plan, Ft. Bragg (ca. 1972, revised 1981) (Engineering, Ft. Bragg).

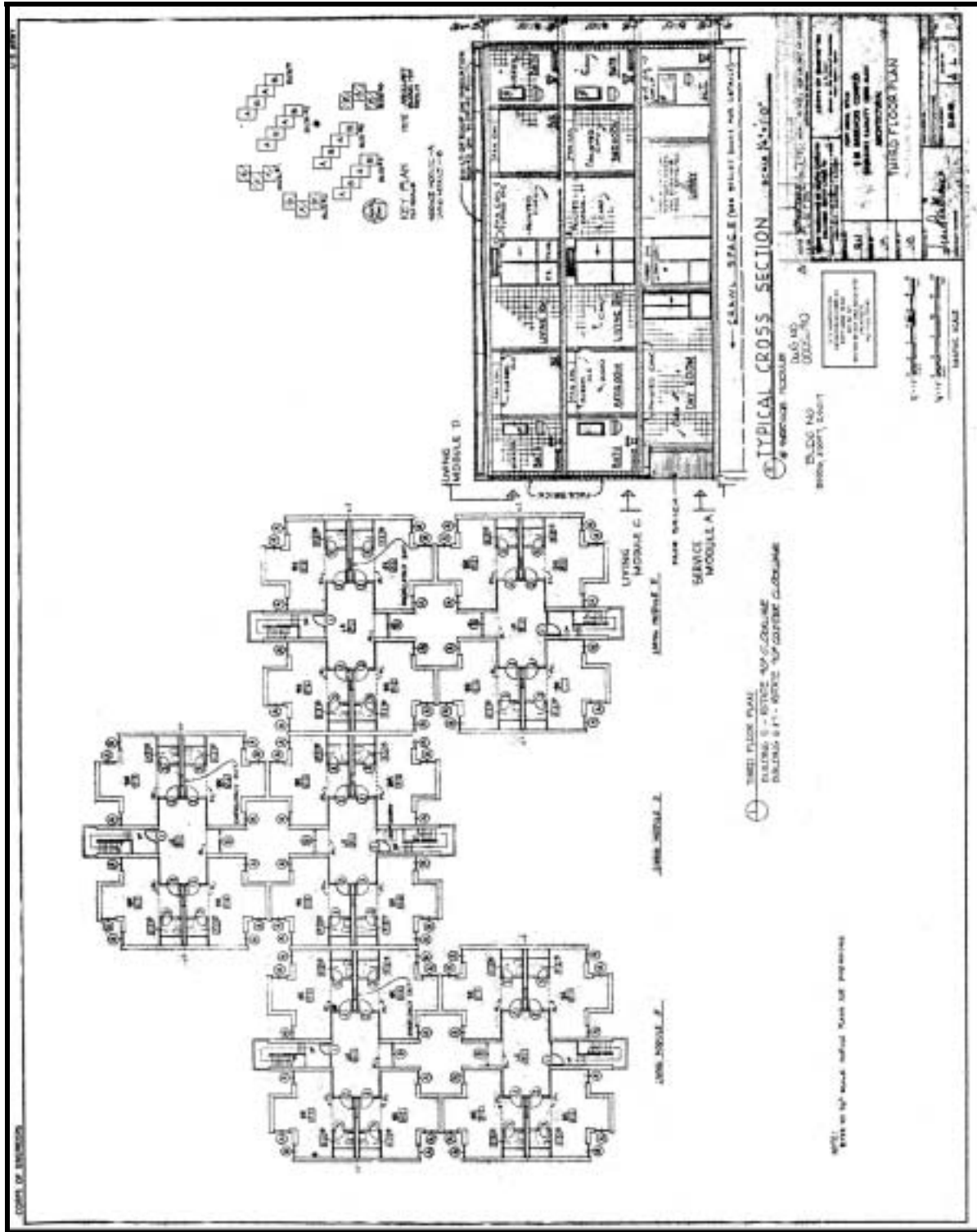


Figure 4.1.100 Three-building LBC&W barracks, third floor plan and typical cross section, Ft. Hood (1975, revised 1976) (Engineering, Ft. Hood).

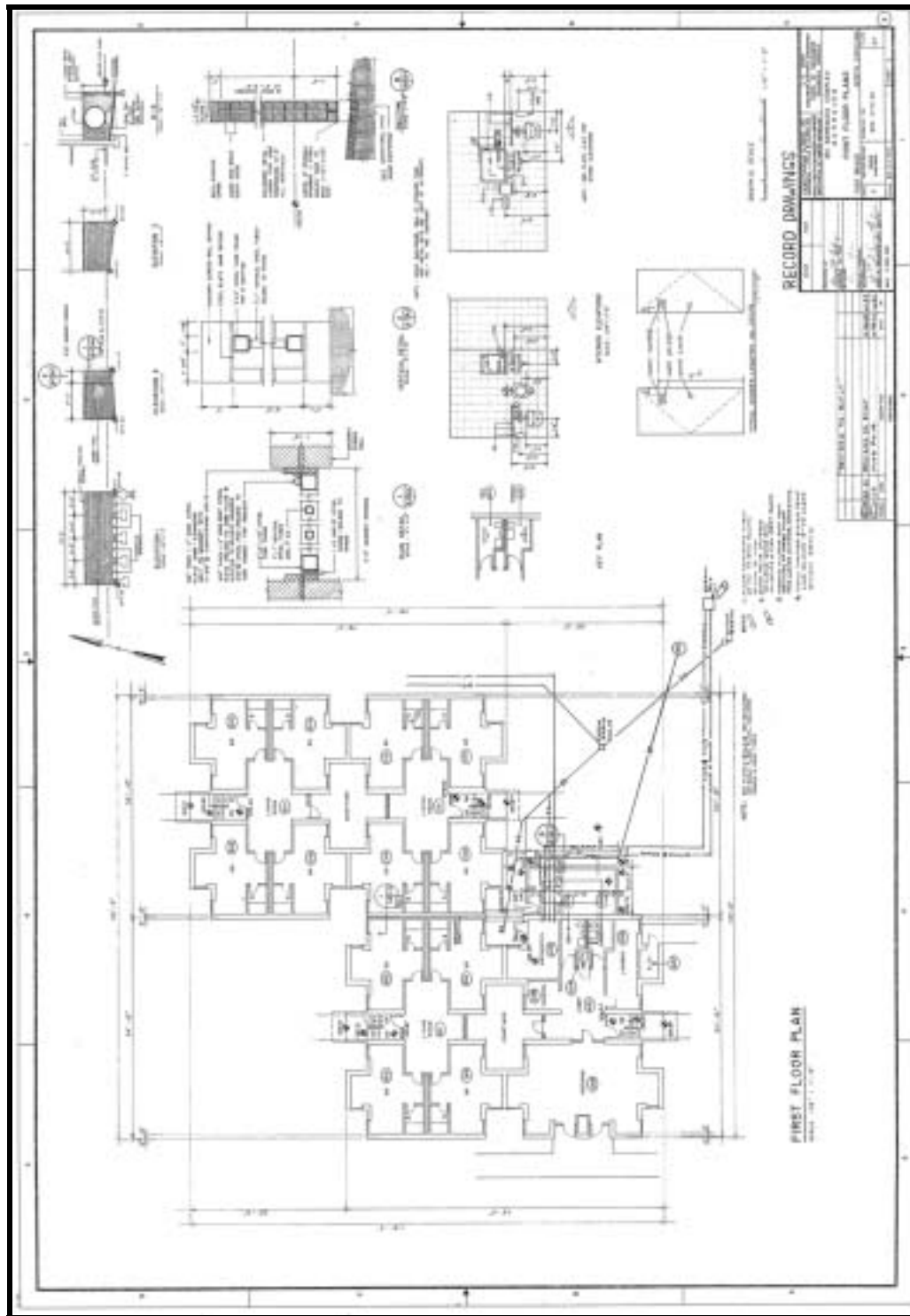


Figure 4.1.101 Two-building LBC&W barracks, first floor plan, Ft. Bragg (1981, revised 1982) (Engineering, Ft. Bragg).

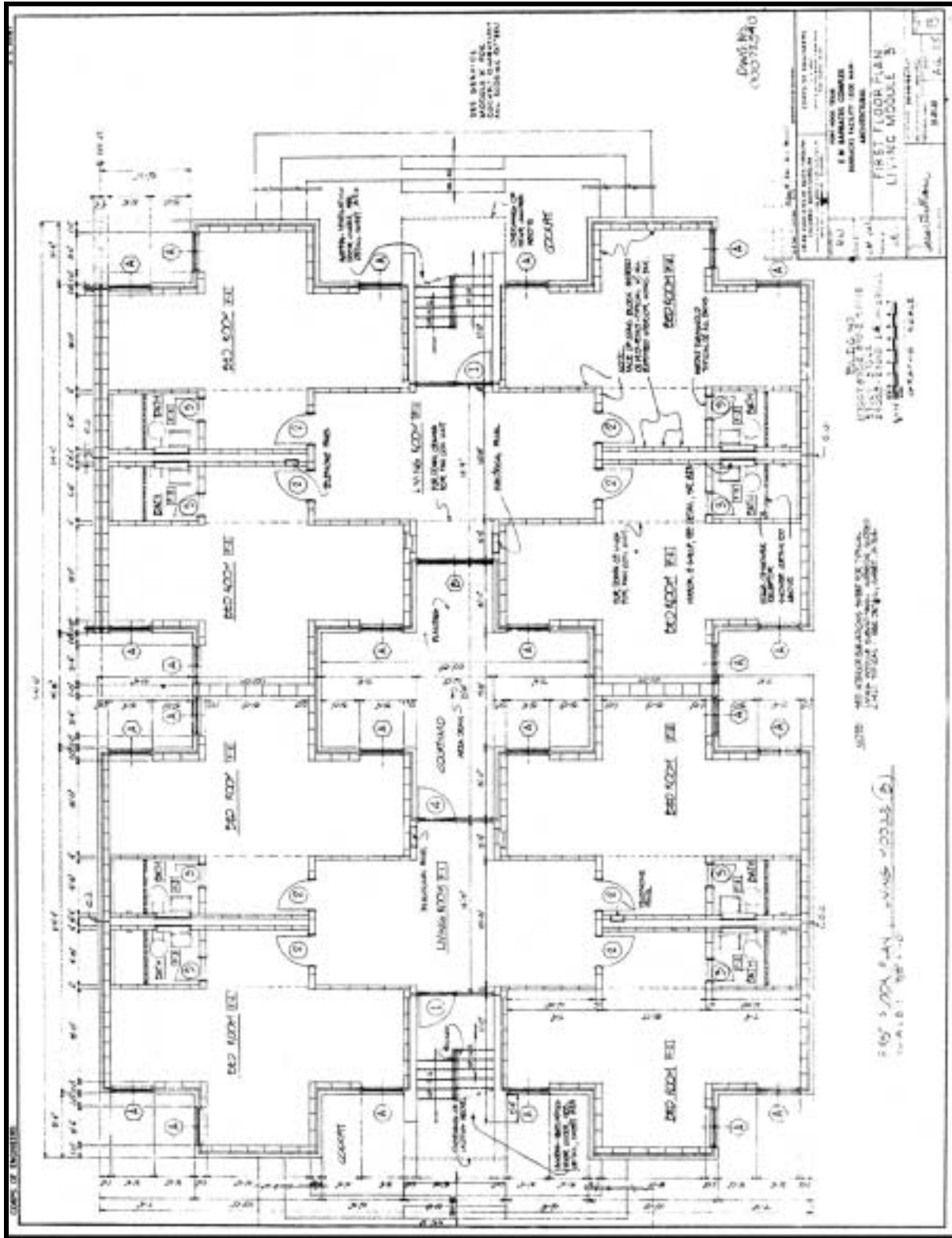


Figure 4.1.102 LBC&W barracks living module, Ft. Hood (1972, revised 1975) (Engineering, Ft. Hood).



Figure 4.1.103 LBC&W barracks, Bldg. 39012 (1977), Ft. Hood, view SE (RCG&A).



Figure 4.1.104 LBC&W barracks, Bldg. 39039 (1978), Ft. Hood, view S (RCG&A).



Figure 4.1.105 LBC&W barracks, Bldg. H-4817 (1980), Ft. Bragg, view NE (RCG&A).



Figure 4.1.106 LBC&W barracks, Bldg. H-4812 (1980), Ft. Bragg, view N (RCG&A).



Figure 4.107 LBC&W barracks, Bldg. 1054 (1979), Ft. Polk, view NW (RCG&A).



Figure 4.1.108 LBC&W barracks, Bldg. 1150 (1979), Ft. Polk, view NE (RCG&A).

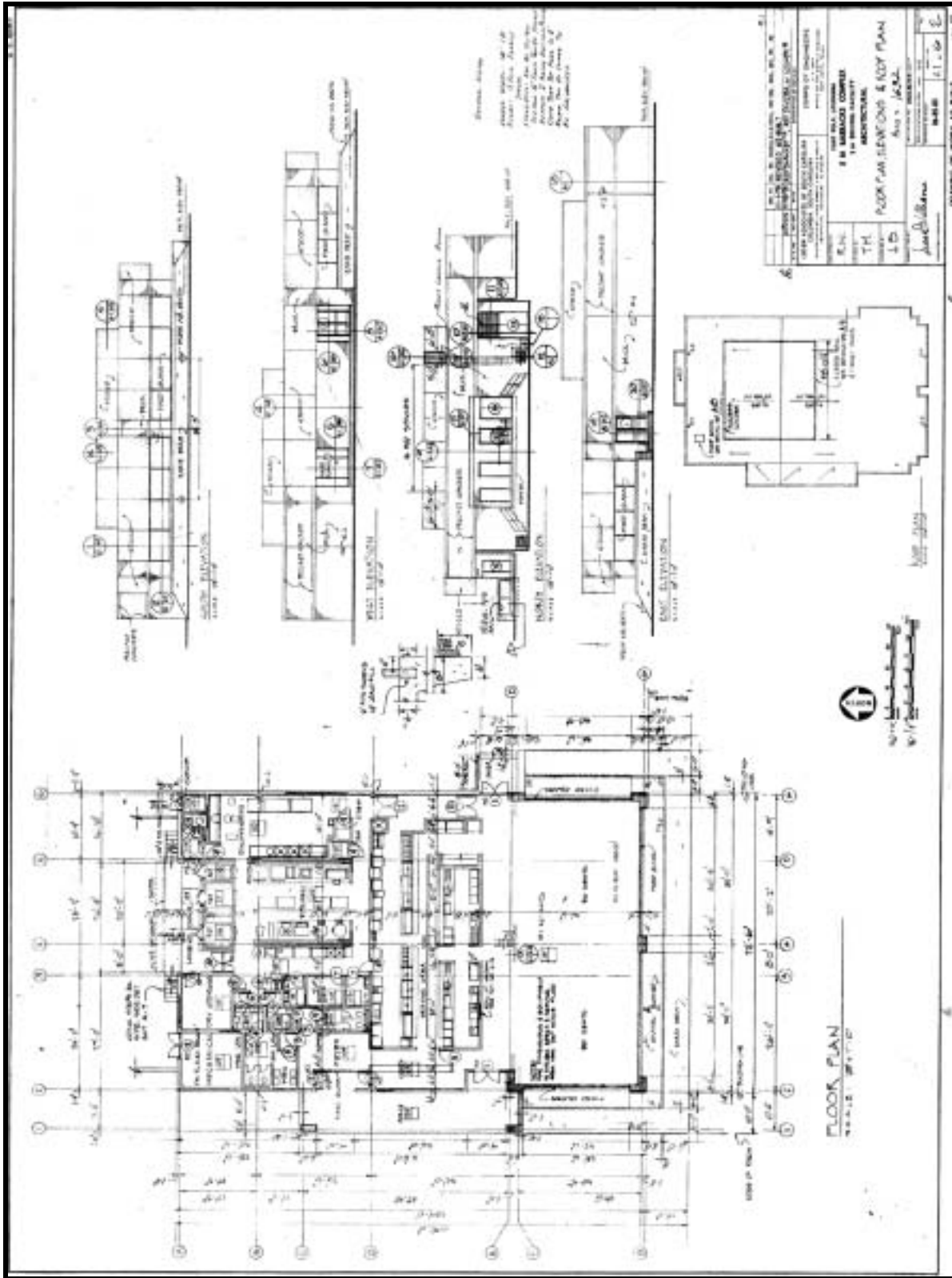


Figure 4.1.109 LBC&W dining facility, floor plan and elevations, Ft. Polk (1973, revised 1976) (Engineering, Ft. Polk).

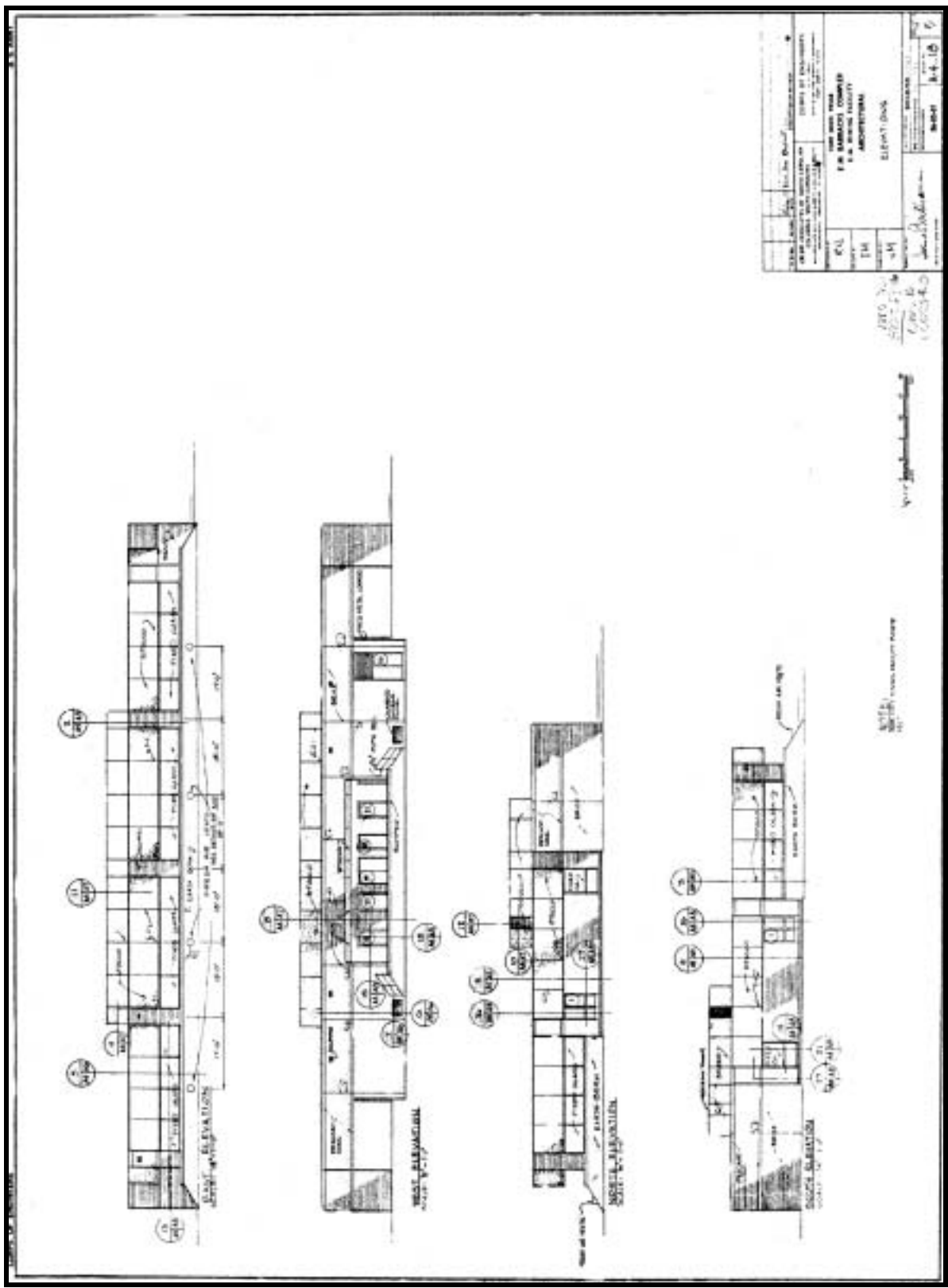


Figure 4.1.10 Double LBC&W dining facility, elevations, Ft. Hood (1972, revised 1975) (Engineering, Ft. Hood).

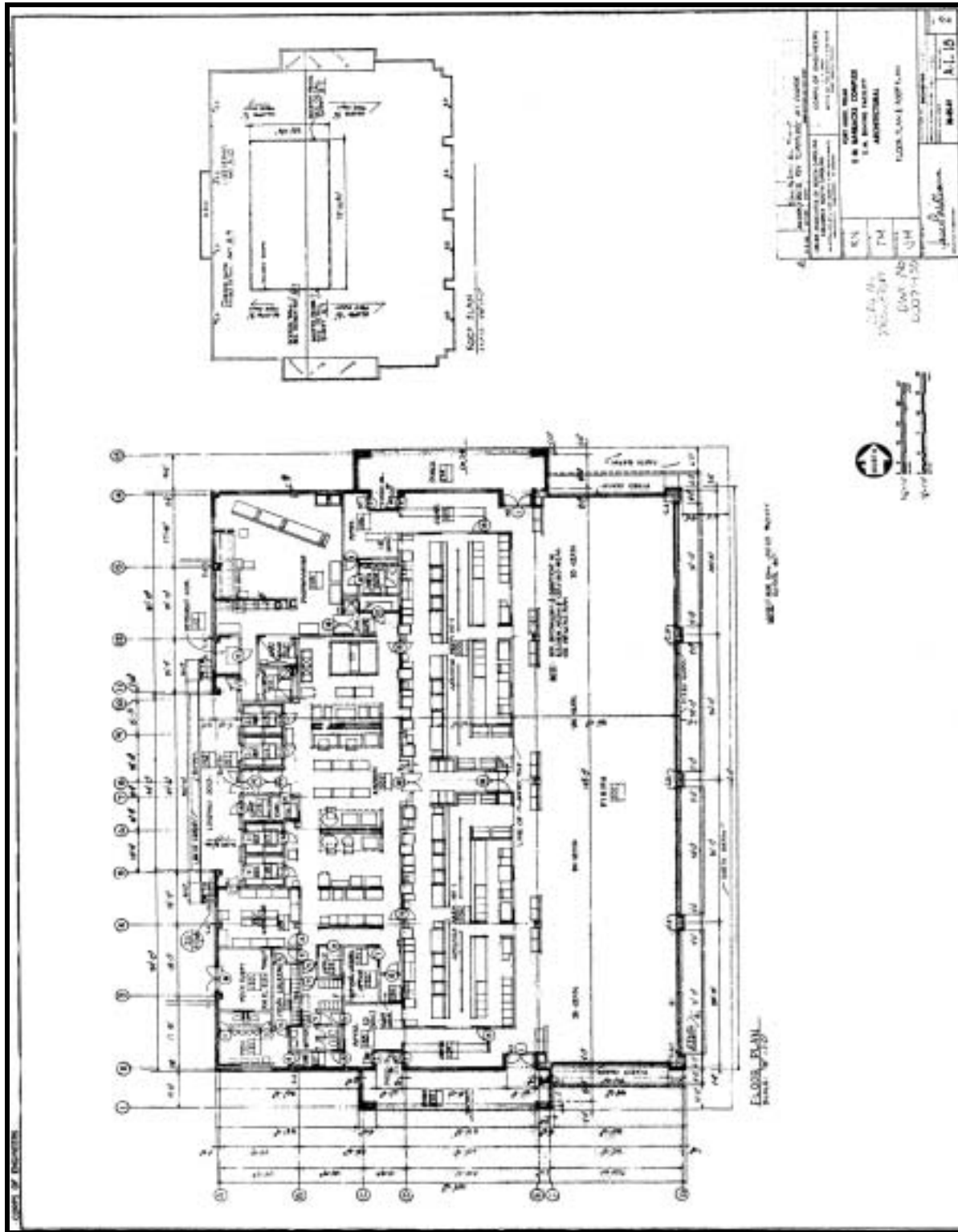


Figure 4.1.111 Double LBC&W dining facility, floor plan, Ft. Hood (1972, revised 1975) (Engineering, Ft. Hood).



Figure 4.1.112 LBC&W dining facility, Ft. Polk, view E (RCG&A).



Figure 4.1.113 LBC&W dining facility, Ft. Polk, view SE (RCG&A).

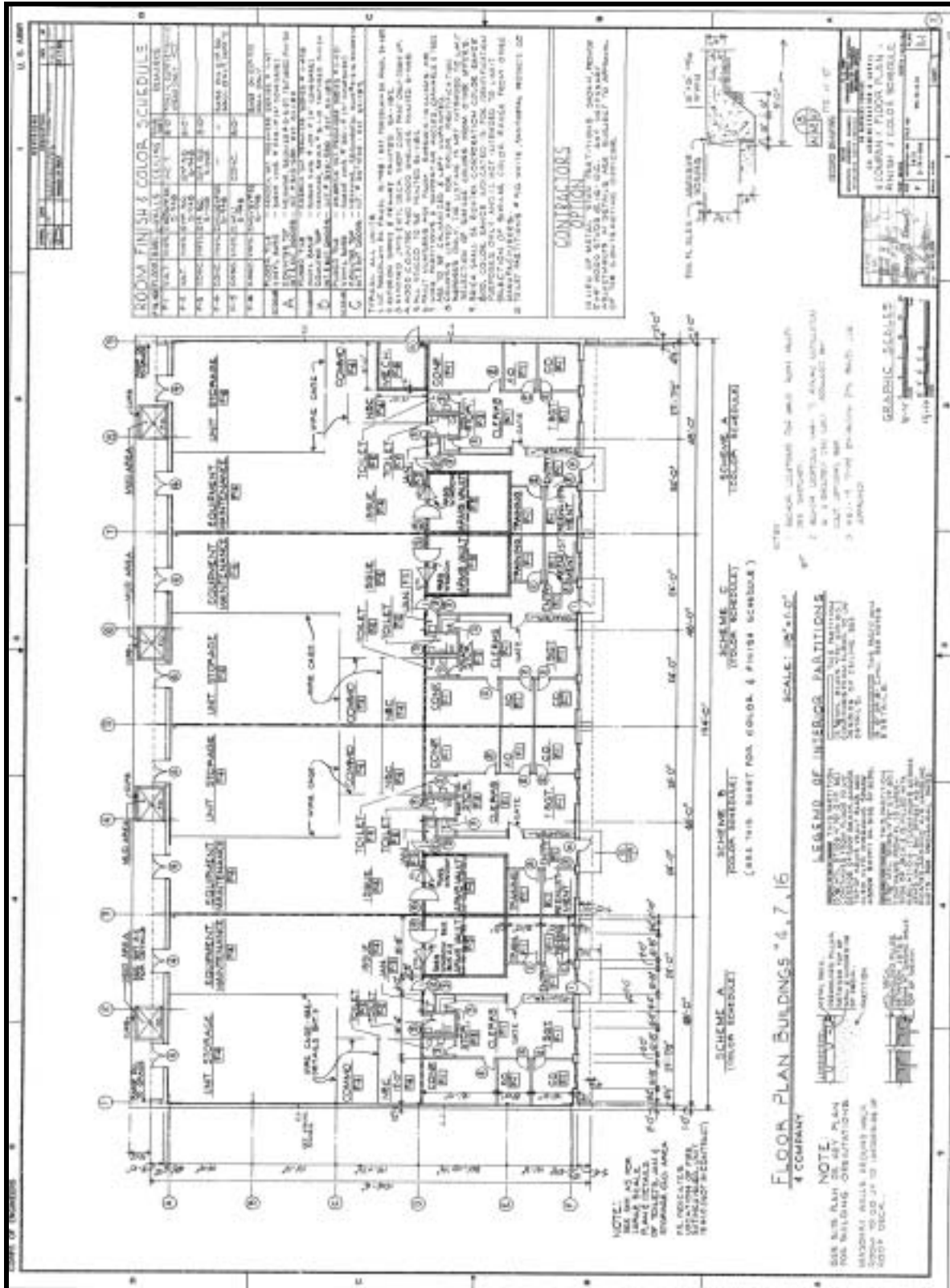


Figure 4.1.114 LBC&W company administration and supply, four-company floor plan, Ft. Bragg (1974) (Engineering, Ft. Bragg).

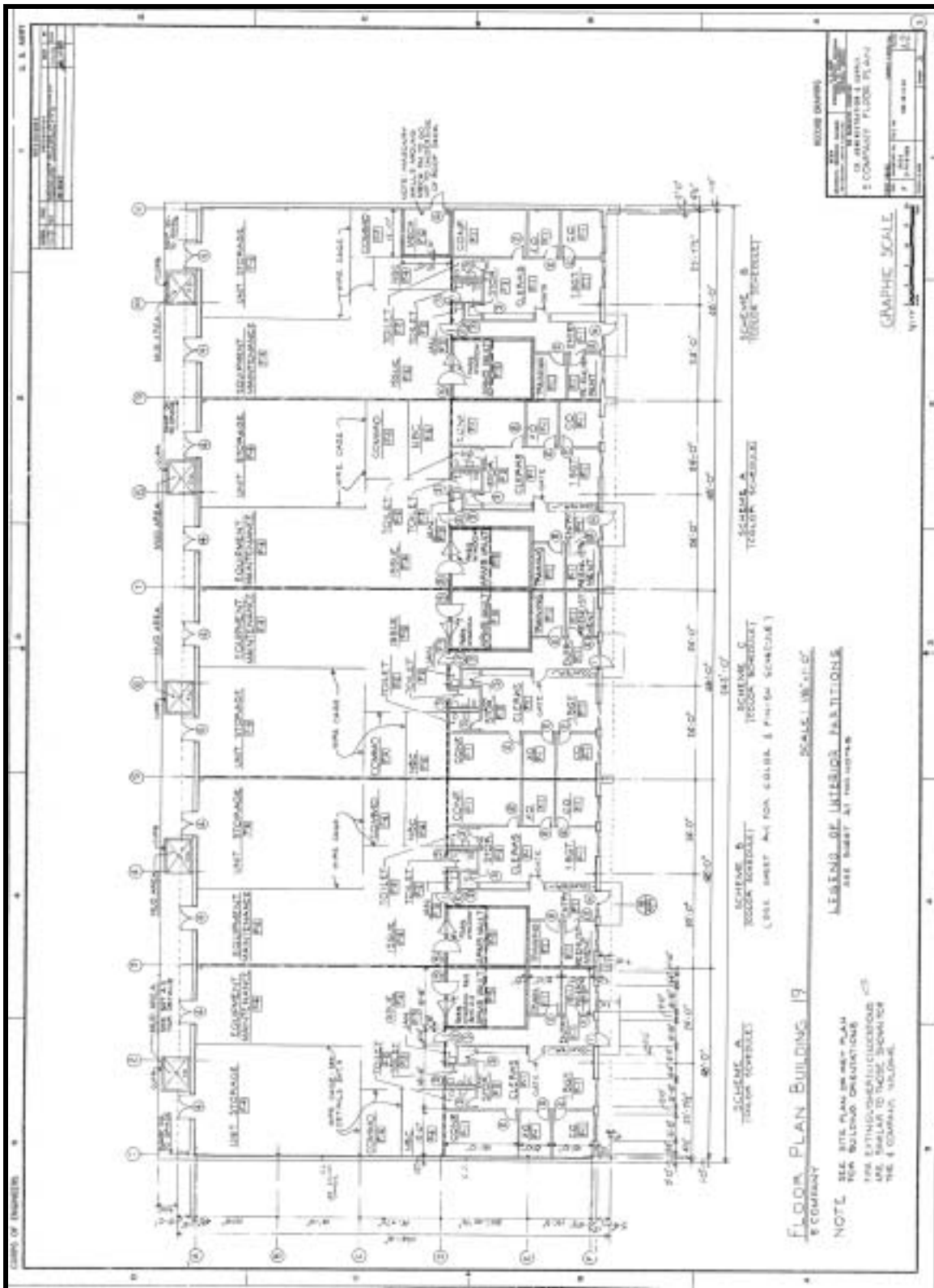


Figure 4.1.115 LBC&W company administration and supply, five-company floor plan, Ft. Bragg (ca. 1972, revised 1975) (Engineering, Ft. Bragg).

4.1.6 Army Reserve Annual Training Barracks 1979 (Hood)

4.1.6.1 Description

Barrack. Examples of Army Reserve annual training barracks were identified at North Fort Hood. This barracks type was designed by Saunders, Cheng & Appleton, Architects-Engineers-Planners, of Alexandria, Virginia (Ft. Hood drawings [see Figures 4.1.117-4.1.118 and 4.1.121-4.1.122]). The barracks complex was organized in rows of one-story and two-story barracks (Figure 4.1.116). Each complex featured a consolidated dining facility and three storage buildings.

The Army Reserve annual training barracks were similar in overall design to earlier designs for semi-permanent and mobilization barracks. The type differs in materials. Two sub-styles of these simple Army Reserve annual training structures were developed: a one-story and a two-story design. Both versions were long, rectangular concrete-block buildings that terminate in front gable roofs sheathed in composition shingles. The gable-ends were clad with vertical siding. The entrances featured single-light metal doors and were located at the ends of the building. The buildings featured one-over-one-light, metal sash windows (Figures 4.1.117, 4.1.121). The two-story designs featured exterior stairs at the both ends of the buildings (Figures 4.1.121, 4.1.122). Both designs included open squad rooms located at the ends of the building and central latrines (Figures 4.1.118, 4.1.122). Photographs of the one-story version show the simple ornamentation (Figures 4.1.119 and 4.1.120). The design of the two-story version incorporated stairs on the gable ends (Figures 4.1.123 and 4.1.124).

Dining Facilities. The dining facilities incorporated into the complex were large, nearly square concrete-block buildings that terminated in front gable roofs sheathed with composition shingles. The gable-ends were clad with vertical siding. The front entrances were housed beneath shed roof porches (Figure 4.1.125). Loading entrances were located on the rear elevations. The buildings featured one-over-one-light, metal-sash windows on the front and side elevations (Figure 4.1.126). The kitchen facilities were located in the rear of the buildings. Large open dining rooms occupied the front of the buildings.

4.1.6.2 Evolution

No modifications to the original design of the Army Reserve annual training barracks were documented in the examples examined or in records related to the building type.

4.1.6.3 Association

The Army Reserve annual training barracks can be seen as a building that evolved from the semi-permanent and mobilization barracks historically constructed by the Army for troop training. The training barracks at North Fort Hood were designed by Saunders, Cheng & Appleton, of Alexandria, Virginia. The firm's partners include J.H. Saunders Jr., Tung Chao Cheng, and C. James Appleton III.

Tun Chao Cheng was born in Chao-an, Kwangtung, China on 17 June 1931. He received a Bachelor of Science degree in architecture at Taiwan College of Engineering in 1953, attended the Chinese Army Engineering College in 1954, and received a Master of Science degree in architecture from Virginia Polytechnic Institute in 1954. His principal work included the Jefferson Building,

Alexandria, 1964; the National Education Association Building, Stage 5, Washington D.C., 1966; Fountains Apartments, Alexandria, 1967; Homewood School, Fairfax, Virginia, 1967; and the Seminary Plaza Building, Alexandria, 1969. Mr. Chang's professional awards included first prize in new architecture building design competition, Taiwan College of Engineering, 1952; and City of Kaoshiung, China second prize for the President Hall Competition, 1953 (Gane and Koyl 1970).

C. James Appleton III was born in Philadelphia on 30 August 1932. He received a Bachelor's degree from University of Pennsylvania. He joined Saunders, Pearson & Partners in 1970 (Gane and Koyl 1970).

4.1.6.4 Integrity

The Army Reserve annual training barracks is a recently developed design adopted by the Army for housing reserve units. The recent introduction of the building type in 1979 and the pattern of periodic use accounts for the minimal changes documented in the barracks. The character-defining features of the Army Reserve annual training barracks are the rectangular footprint, exposed concrete block walls, the front gable roofs, the gable-ends were clad with vertical siding, and the one-over-one-light, metal sash windows. The North Fort Hood examples retain their integrity of location, design, setting, materials, workmanship, feeling, and association from the period of their construction.

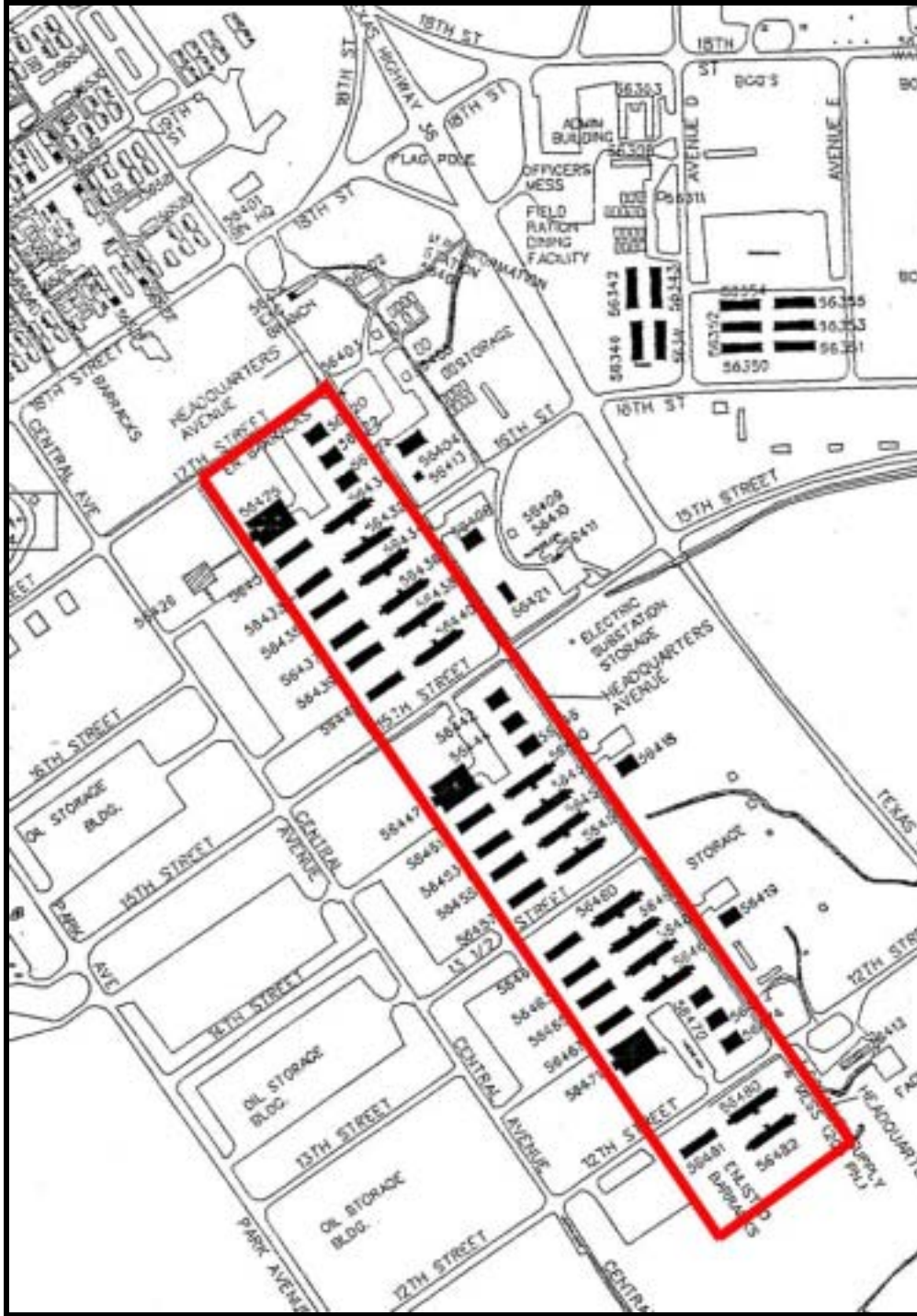


Figure 4.1.116 Map showing the Army Reserve Annual Training barracks complex, North Ft. Hood.

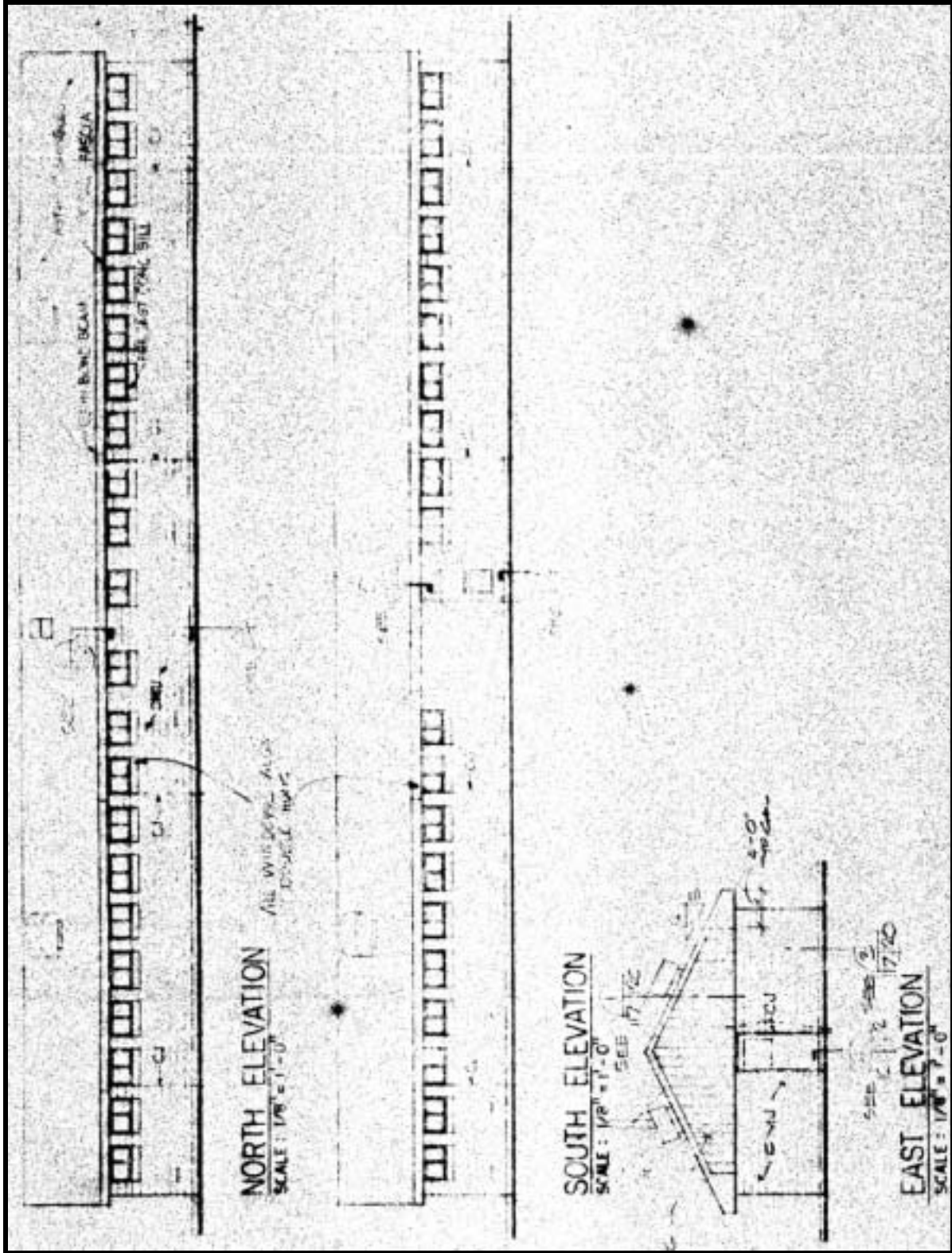


Figure 4.1.117 One-story, Army Reserve Annual Training barracks, elevations, North Ft. Hood (1977, revised 1979) (Engineering, Ft. Hood).

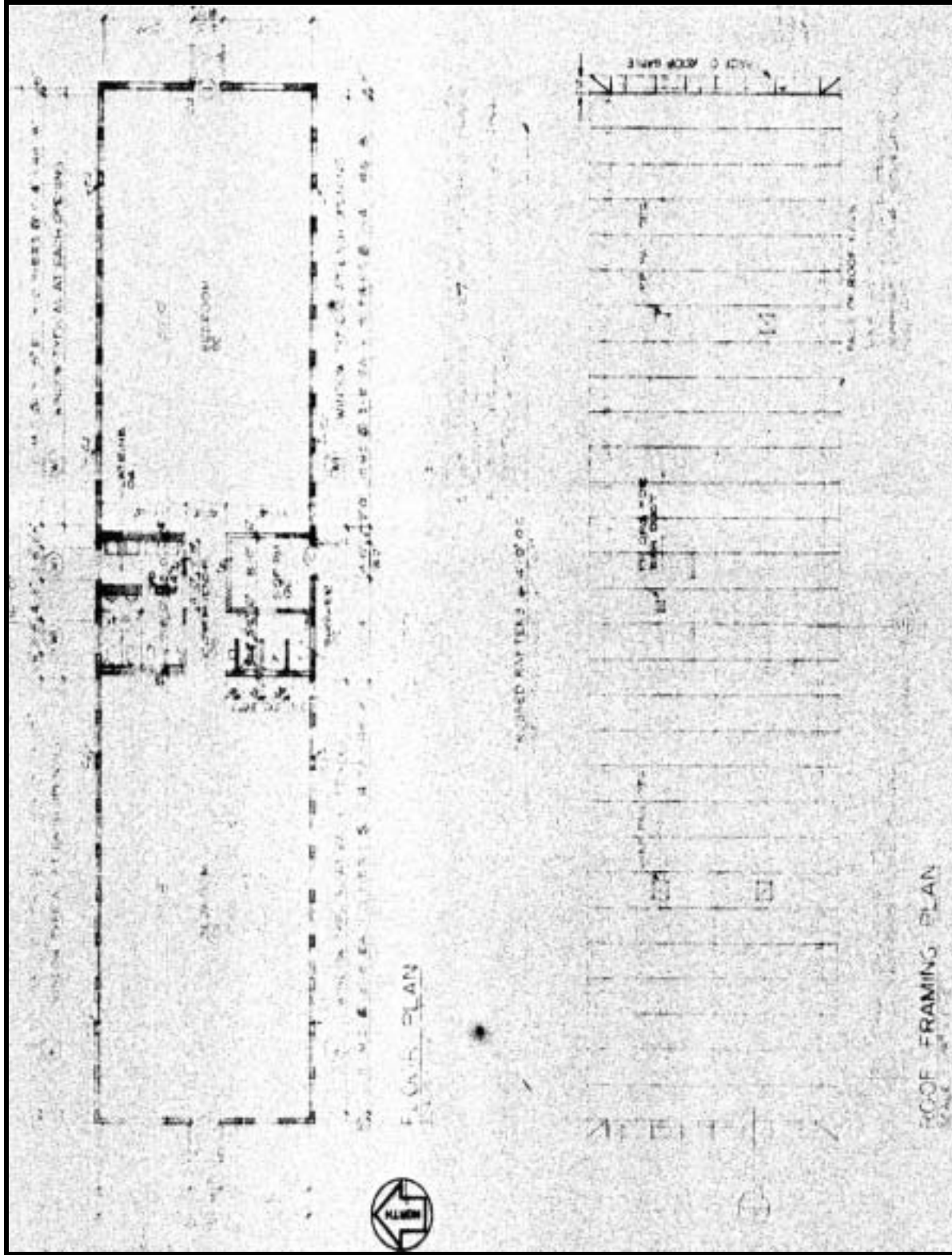


Figure 4.1.118 One-story, Army Reserve Annual Training barracks, floor and roof framing plan, North Ft. Hood (1977, revised 1979) (Engineering, Ft. Hood).



Figure 4.1.119 One-story, Army Reserve Annual Training barracks, Bldg. 56437 (1979), North Ft. Hood, view W (RCG&A).



Figure 4.1.120 One-story, Army Reserve Annual Training barracks, Bldg. 56437, 56435, 56433 (1979), North Ft. Hood, view W (RCG&A).

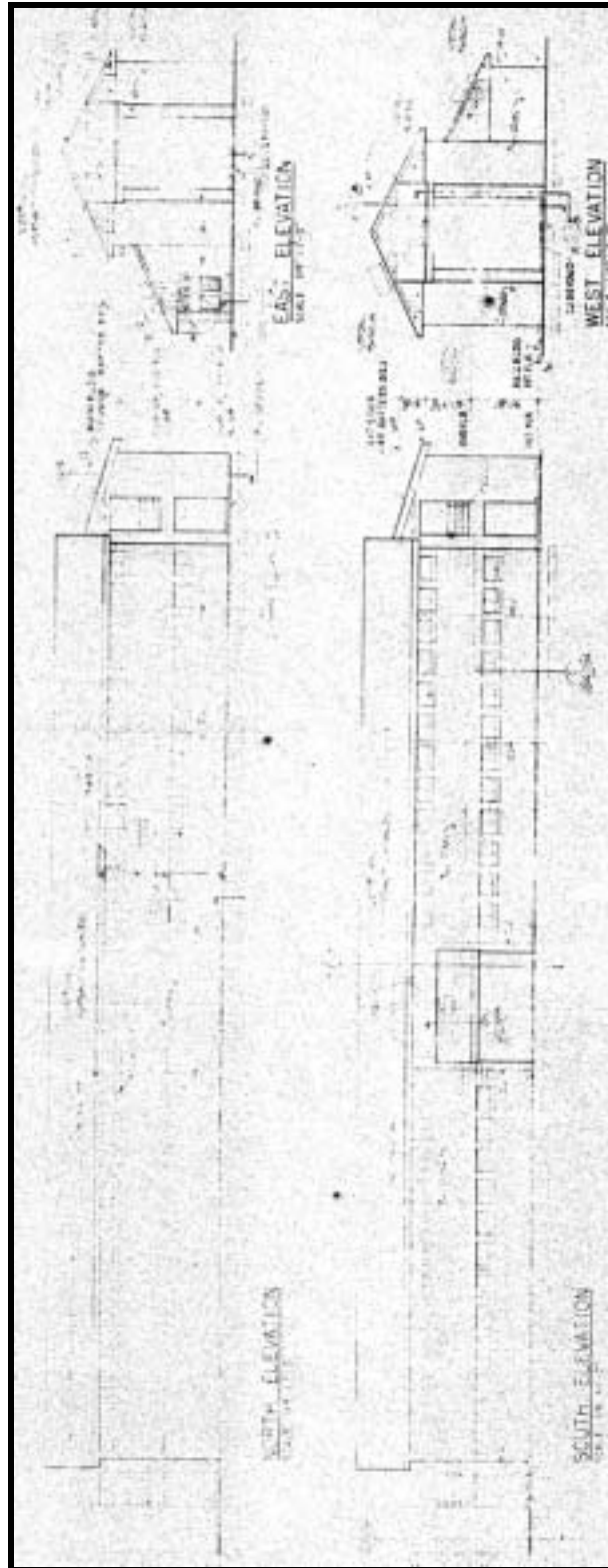


Figure 4.1.121 Two-story, Army Reserve Annual Training barracks, elevations, North Ft. Hood (1977, revised 1979) (Engineering, Ft. Hood).

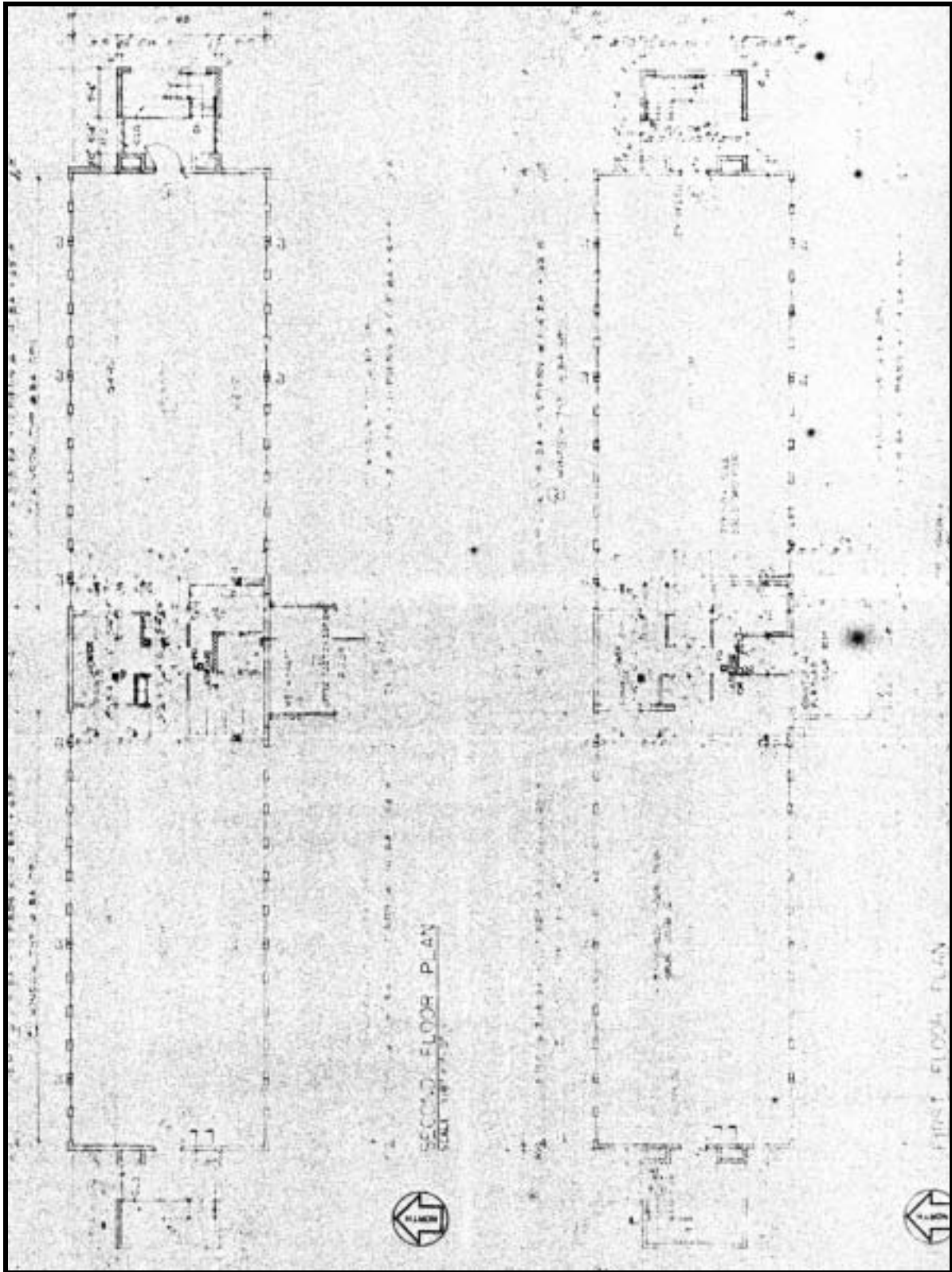


Figure 4.1.122 Two-story, Army Reserve Annual Training barracks, floor plans, North Ft. Hood (1977, revised 1979) (Engineering, Ft. Hood).



Figure 4.1.123 Two-story, Army Annual Reserve Training barracks, Bldg. 56436 (1979), North Ft. Hood, view N (RCG&A).



Figure 4.1.124 Two-story, Army Annual Reserve Training barracks, Bldg. 56440 (1979), North Ft. Hood, view E (RCG&A).



Figure 4.1.125 Army Reserve Annual Training dining facility, Bldg. 56447 (1979), North Ft. Hood, view NE (RCG&A).



Figure 4.1.126 Army Reserve Annual Training dining facility, Bldg. 56440 (1979), North Ft. Hood, view S (RCG&A).

4.1.7 Starship Barracks 1975-present (Benning)

4.1.7.1 Description

Starship barracks are battalion-sized trainee barracks that were constructed principally at U.S. Army Training and Doctrine Command (TRADOC) installations. Each barracks housed 1,120 trainees or five companies and fifty cadre spaces (U.S. Congress, House 1975:358). John J. Harte Associates, Inc. Architects-Engineers, of Atlanta, Georgia, designed the barracks (Ft. Benning drawings SAV17940 [see Figures 4.1.129-4.1.136]).

At Fort Benning, several starship barracks are located in the Sand Hill are (Figure 4.1.127). Landscaping around the starship barracks was simple, but featured a variety of plant species. Foundation plantings, including ornamental trees and bushes, were planted along the front elevations of the buildings, and larger trees lined the side and rear elevations (Figure 4.1.128). Parking around the starship barracks was limited.

The starship barracks employed a unique design. From the air, the building resembled a starship or a giant beetle. The buildings featured one-story cores, which housed the battalion administration offices and classrooms in front and the battalion mess facilities in the rear (Figure 4.1.129). The mess facilities serviced 250 to 260 soldiers at a time. These service cores were surrounded by five, three-story, U-shaped, 220-man, company barracks. The ends of the “U” faced outward. Each company barracks was open on the first floor and featured open bay squad rooms on the second and third floors (Figures 4.1.130 and 4.1.131). Non-commissioned officers’ rooms were located on the second and third floors along the fronts of the buildings. Each room housed two soldiers with a shared bath.

The building exteriors were faced with a mix of brick and a pebble finish concrete and featured one-over-one-light, metal-sash windows. Although the metal deck roofs appear flat, the roofs above the three-story company barracks were sloped towards interior drains and the roofs over the one-story cores were sloped outward with perimeter drainage (Figure 4.1.132).

The elevations featured windows along the length of the each company barracks (Figure 4.1.133). The first set of cross sections reveal that solar collectors originally in the design were not constructed (Figure 4.1.134). Figure 4.1.135 shows a section through a U-shaped company barracks with the open training area located on the first floor. The section in Figure 4.1.136 illustrates the dining rooms at the center of the core.

The front elevation is best shown in the Figures 4.1.137 and 4.1.38. Figures 4.1.139 and 4.1.140 shows a U-shaped barracks with the sheltered covered training area on the first level. The slight slope of the roof over the classroom and dining facility is shown in Figure 4.1.141. Few windows overlook the central core area (Figure 4.1.142). Figures 4.1.143 and 4.1.144 show a typical starship barracks dining room and serving line.

4.1.7.2 Evolution

No modifications to the original design and construction of the starship barracks type were identified in the archival record or through site inspection of representative examples.

4.1.7.3 Association

The starship barracks were associated with the training mission at Fort Sam Houston, Texas and on TRADOC installations. The starship barracks were designed by John J. Harte Associates Inc., Atlanta, Georgia. The partners in the firm include E.E. Blankenship, A.H. Dasantos, L.L. Kraschner, A.J. Mangione, and, R.L. Smelley (Gane and Koyl 1970).

Andrew J. Mangione was born in Stamford, Connecticut on 16 April 1927. He received a Bachelor of Science degree from Georgia Institute of Technology in 1950 and a Bachelor's degree in architecture in 1951. He joined John J. Harte Associates in 1962. Mr. Mangione's principal works included the Lambda Chi Alpha fraternity house, Atlanta, 1967; Rabun County Courthouse, Clayton, Georgia, 1967; Clayton County Library in Jonesboro, Forest Park, and Riverdale, Georgia, 1968; Rivertown Road Elementary School, Fulton County, Georgia, 1969; and C&S Bank of Tucker, Georgia, 1969 (Gane and Koyl 1970).

4.1.7.4 Integrity

The character-defining features of the starship barracks are the three-story scale, mass, distinctive ground plan, the brick and a pebble finish concrete exterior and one-over-one-light, metal-sash windows. Starship barracks are a recently developed housing type introduced in 1975. No modifications were documented in the archival record or through site inspections of representative examples. The majority of the barracks in service are likely to retain their design integrity.

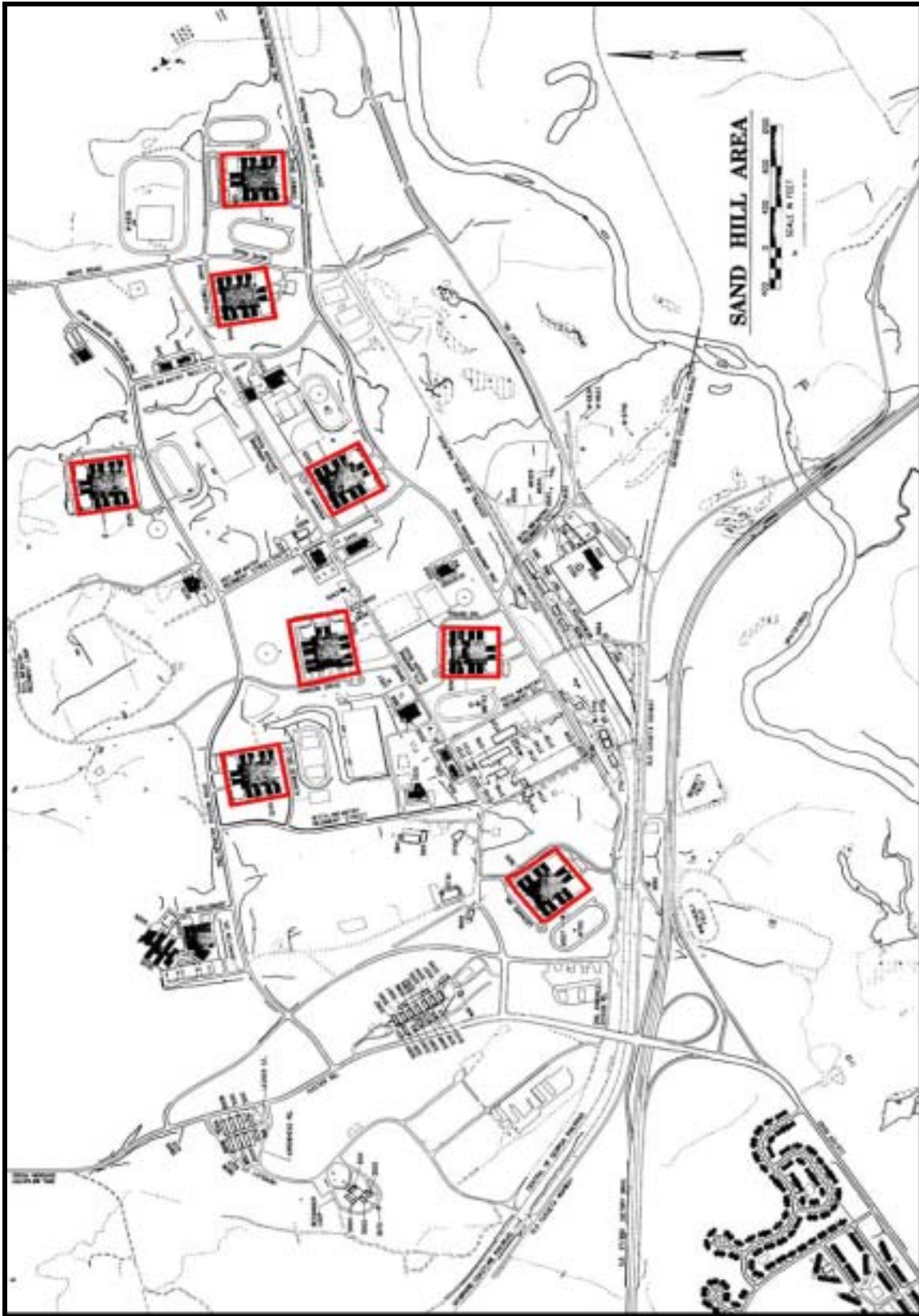


Figure 4.1.127 Map showing Starship barracks, Sand Hill area, Ft. Benning.

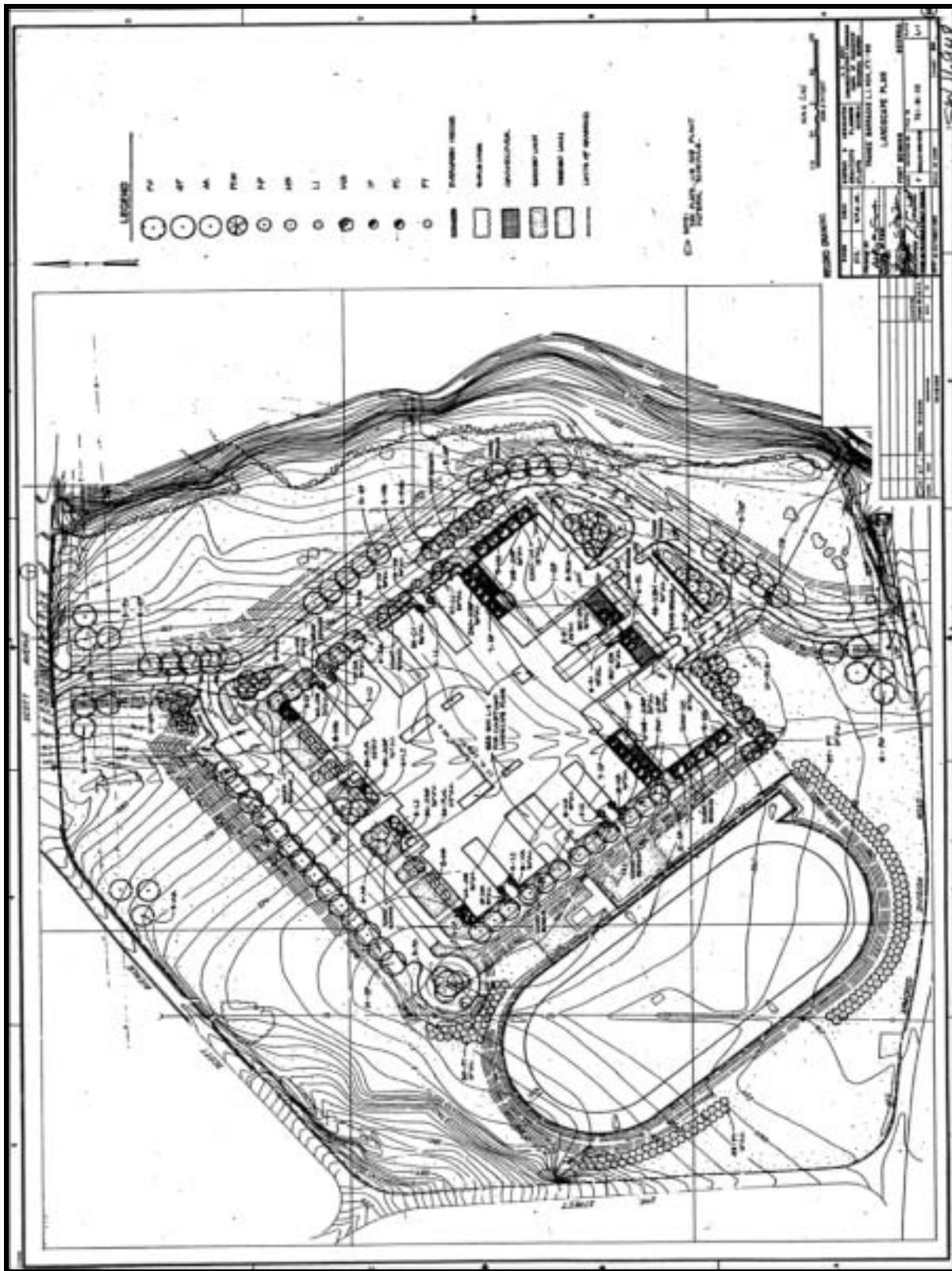


Figure 4.1.28 Starship barracks, landscaping plan (1985, revised 1986) (Engineering, Ft. Benning).

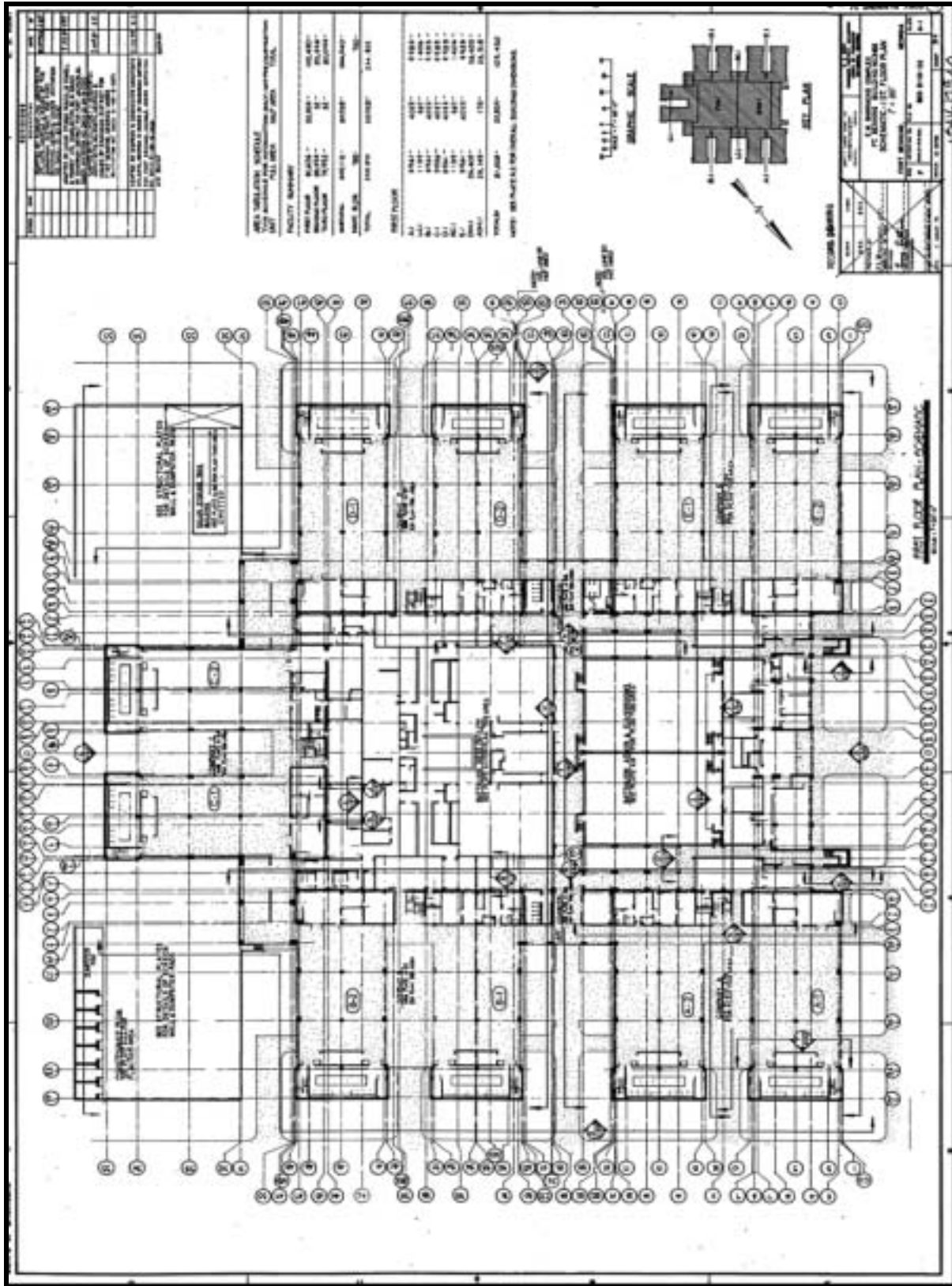


Figure 4.1.129 Starship barracks, first floor plan (ca. 1974, revised 1984) (Engineering, Ft. Benning).

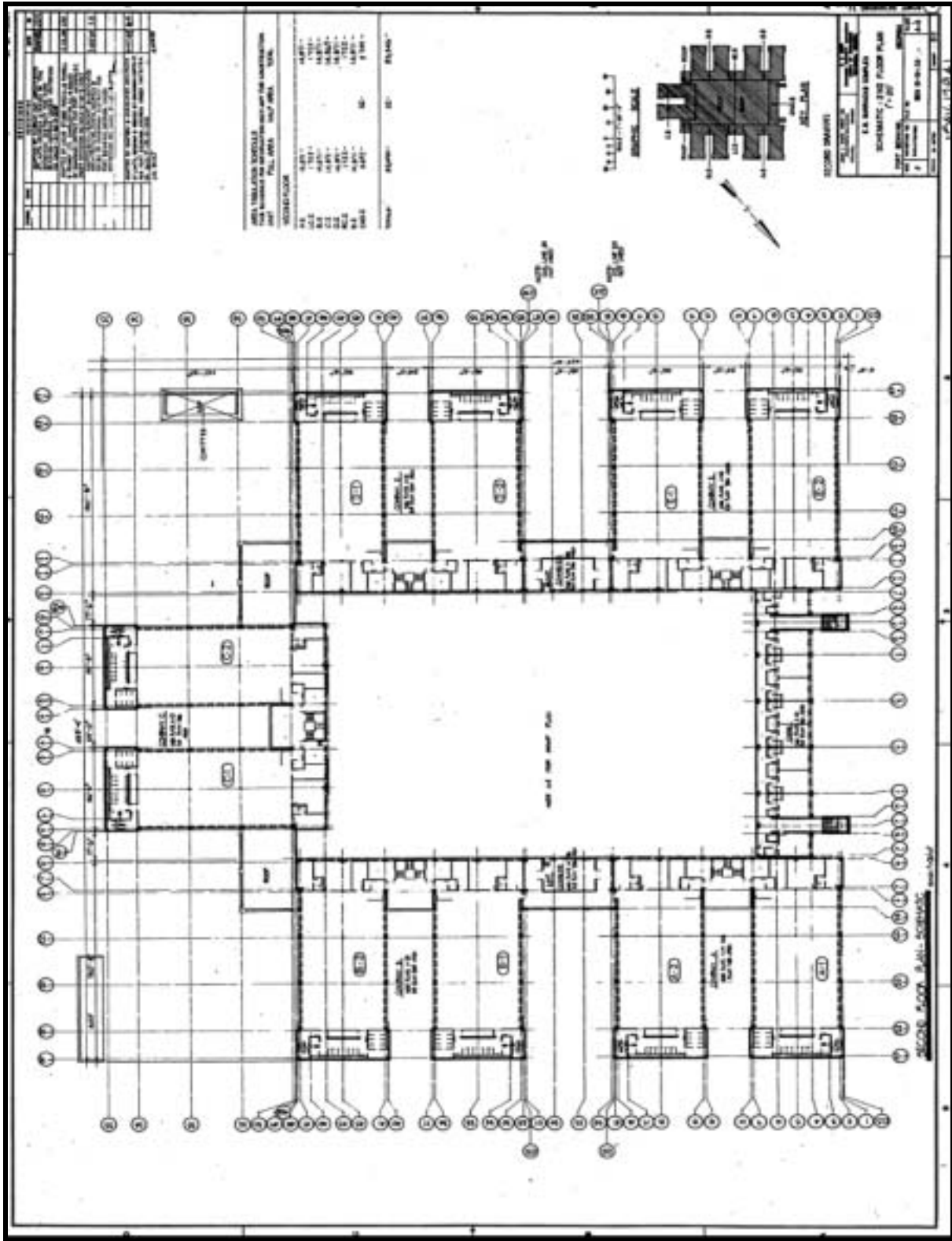


Figure 4.1.130 Starship barracks, second floor plan (ca. 1974, revised 1985) (Engineering, Ft. Benning)

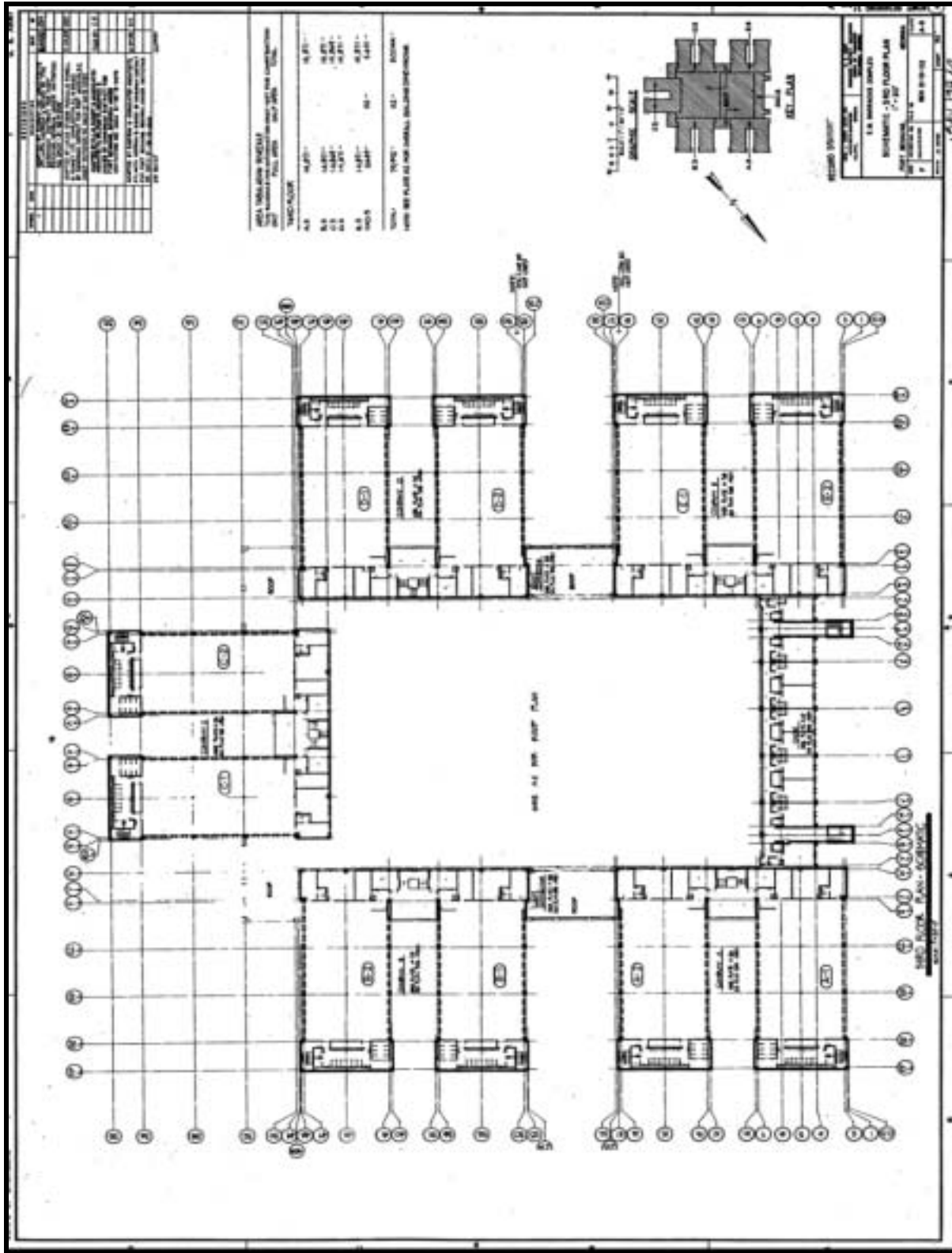


Figure 4.1.131 Starship barracks, third floor plan (ca. 1974, revised 1985) (Engineering, Ft. Benning).

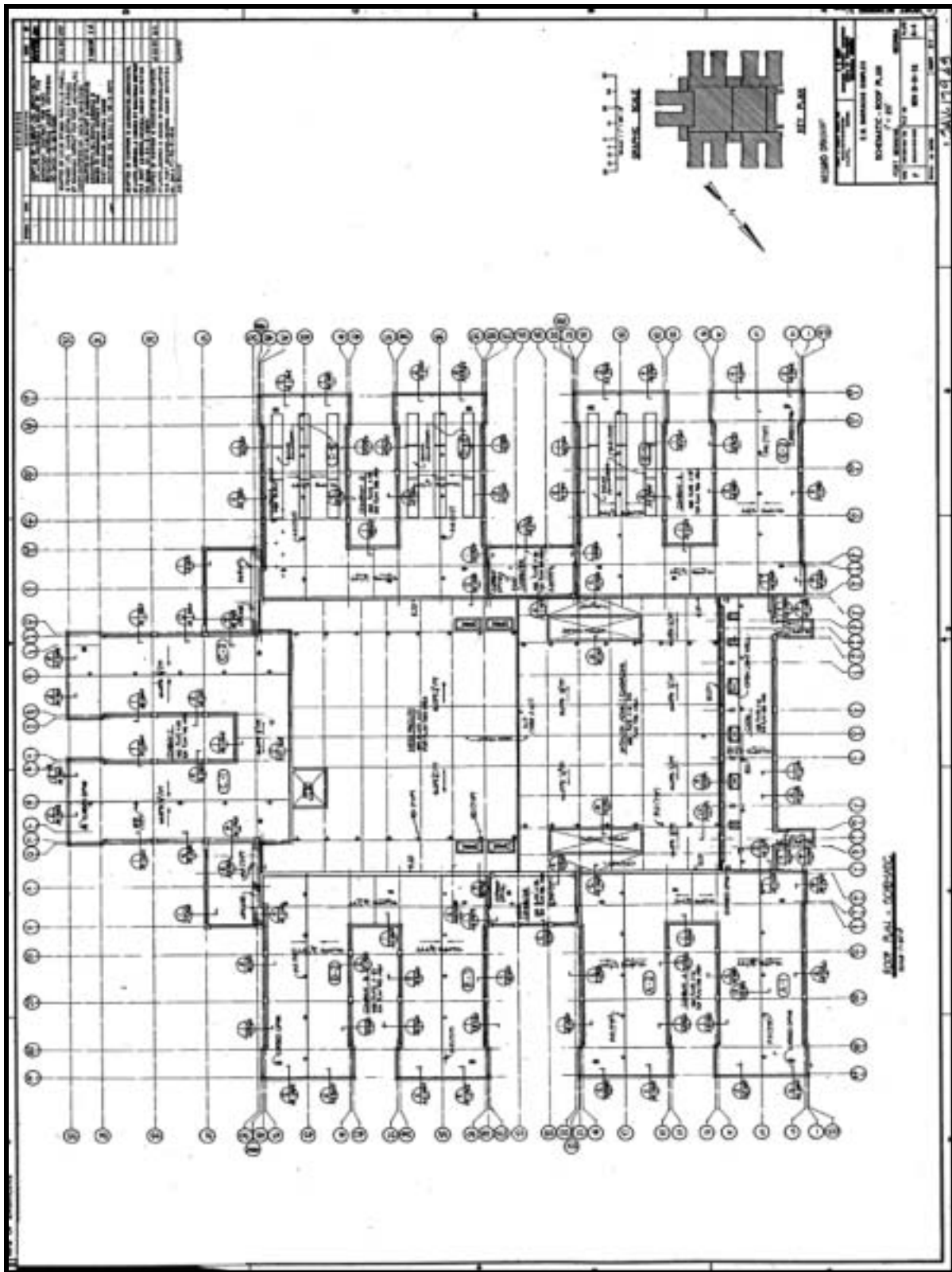


Figure 4.1.132 Starship barracks, roof plan (ca. 1974, revised 1985) (Engineering, Ft. Benning).

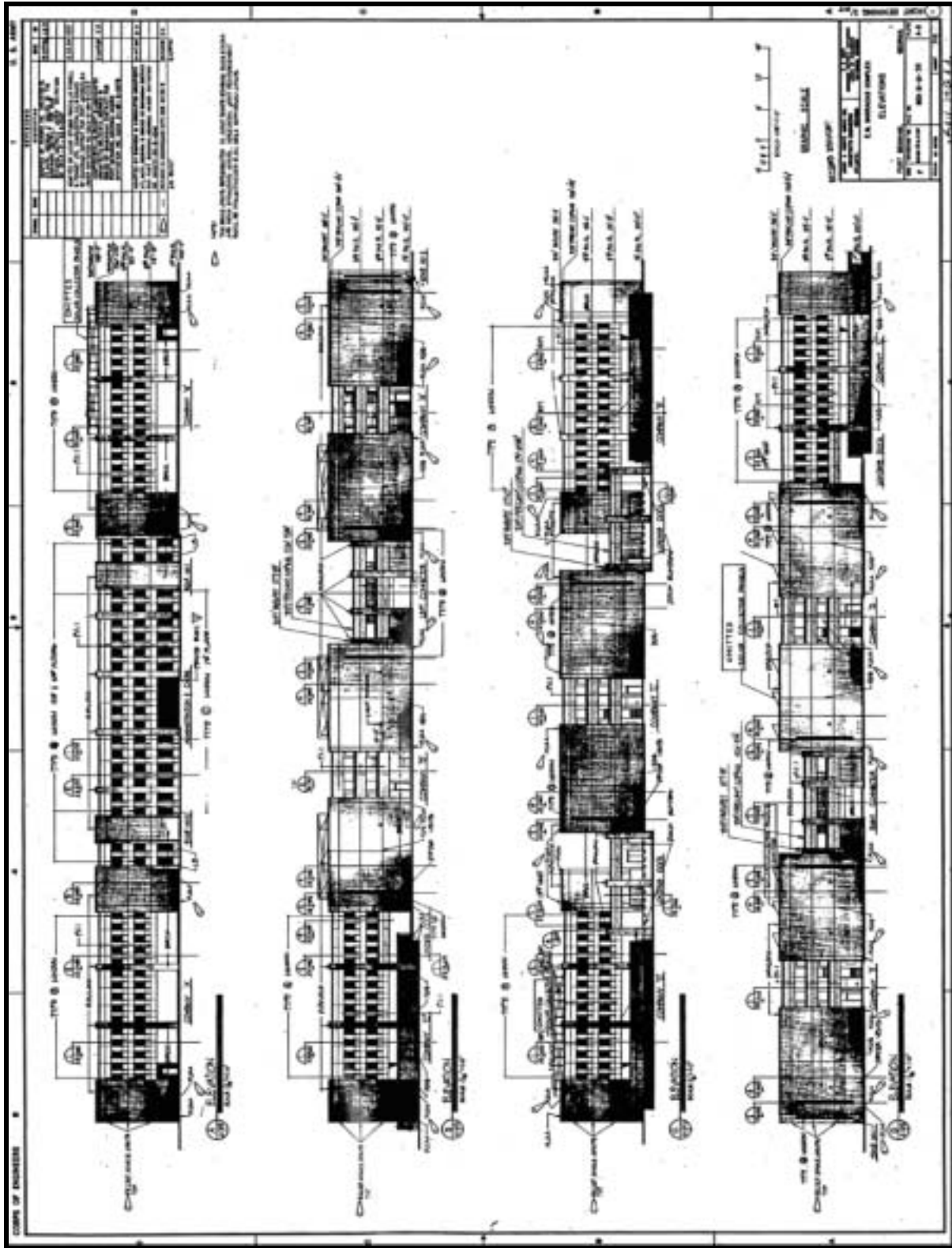


Figure 4.1.133 Starship barracks, elevations (ca. 1974, revised 1986) (Engineering, Ft. Benning).

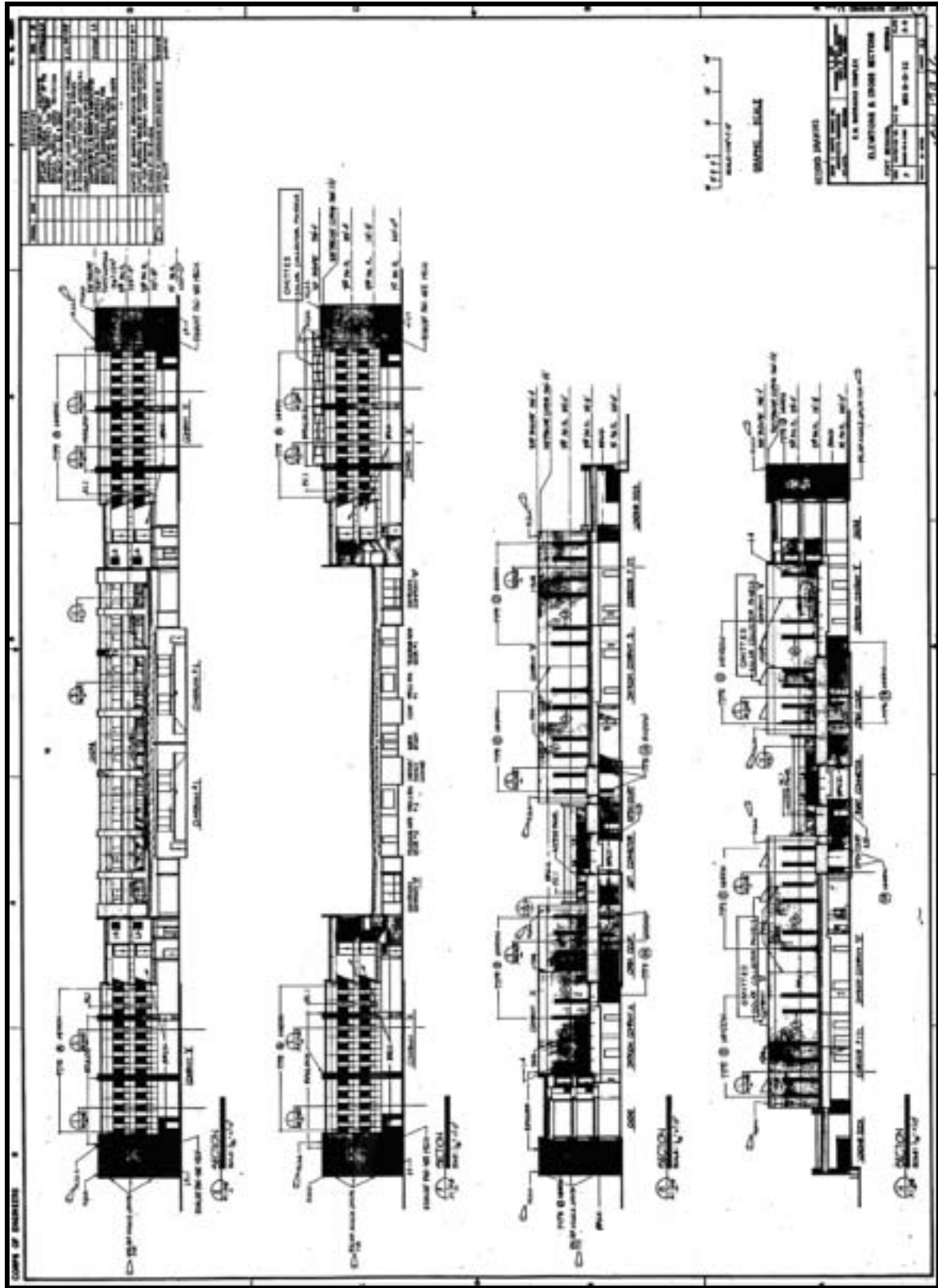


Figure 4.1.134 Starship barracks, elevations and cross sections (ca. 1974, revised 1986) (Engineering, Ft. Benning).

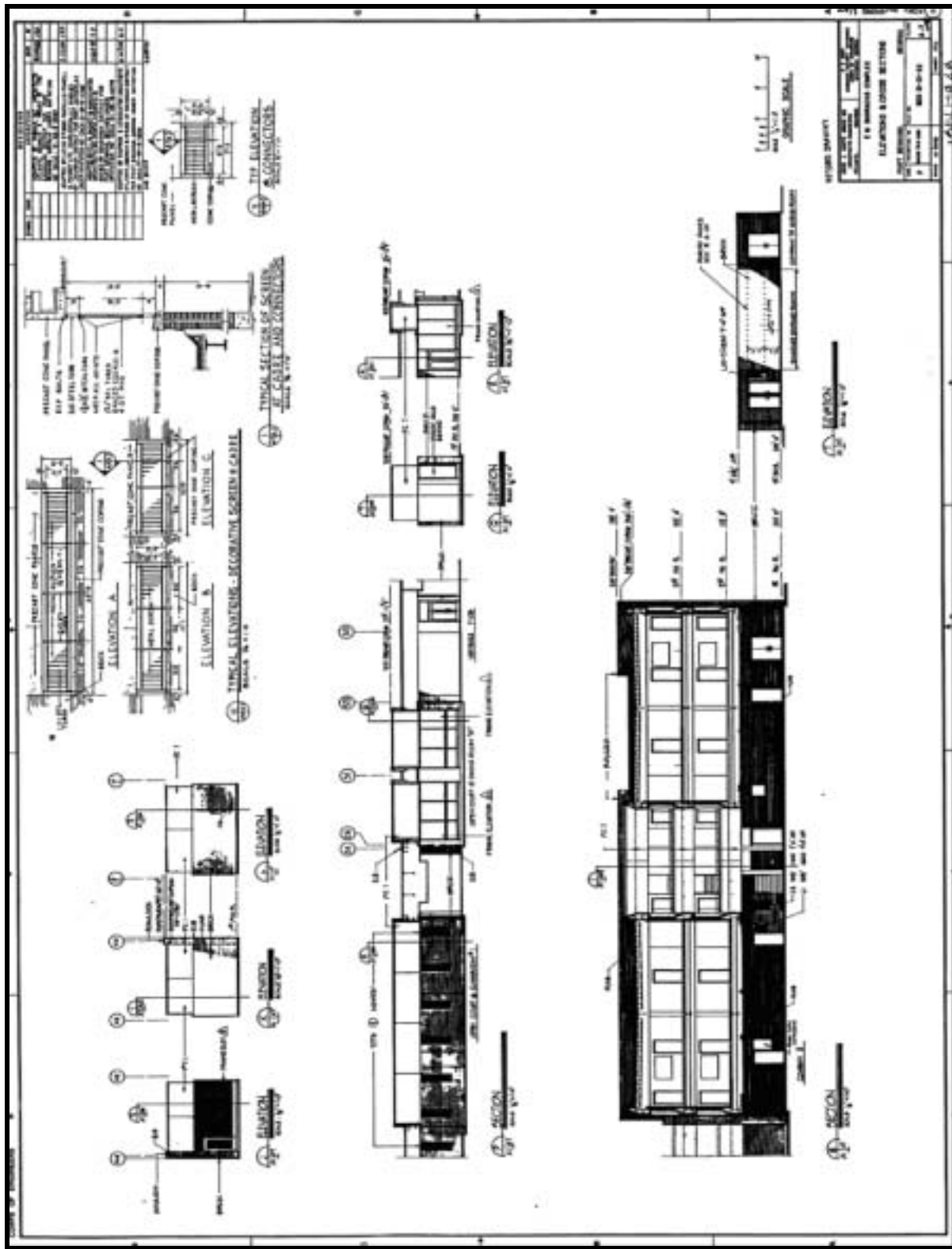


Figure 4.1.135 Starship barracks, elevations and cross sections (ca. 1974, revised 1986) (Engineering, Ft. Benning).

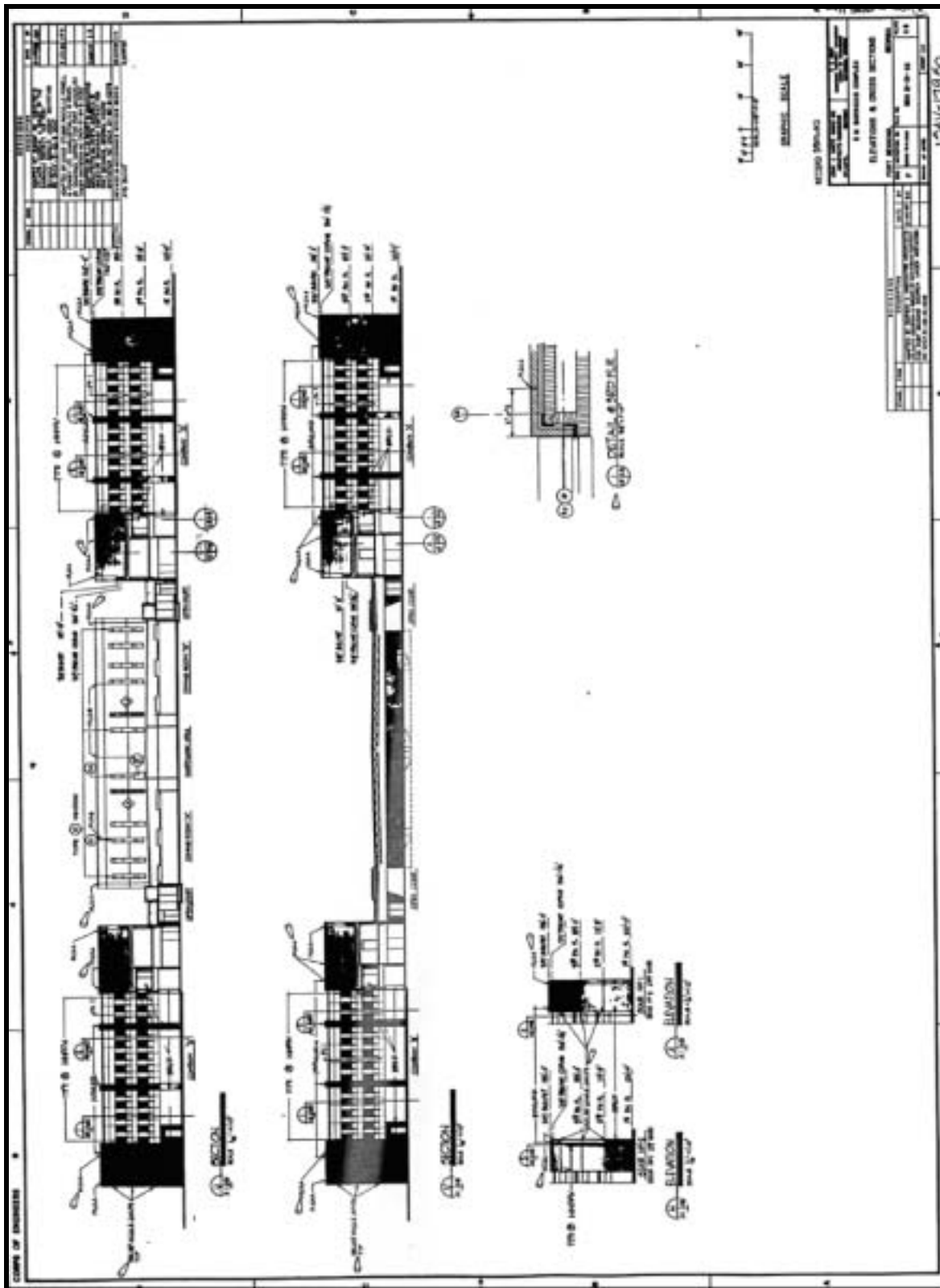


Figure 4.1.136 Starship barracks, elevations and cross sections (ca. 1977, revised 1986) (Engineering, Ft. Benning).



Figure 4.1.137 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view E (RCG&A).



Figure 4.1.138 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SE (RCG&A).



Figure 4.1.139 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SW (RCG&A).



Figure 4.1.140 Starship barracks, Bldg. 3105 (1988), cadre area, Ft. Benning, view SE (RCG&A).



Figure 4.1.141 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view SE (RCG&A).



Figure 4.1.142 Starship barracks, Bldg. 3105 (1988), Ft. Benning, view S (RCG&A).



Figure 4.1.143 Starship barracks, Bldg. 3105 (1988), dining facility, Ft. Benning, view NW (RCG&A).



Figure 4.1.144 Starship barracks, Bldg. 3105 (1988), dining facility, Ft. Benning, view NW (RCG&A).

4.1.8 Quadrangle Barracks 1985-present (Bragg)

4.1.8.1 Description

Quadrangle barracks were designed to meet the “2+2” standards issued in the 1983. These standards required barracks to include suites of two living/sleeping rooms with closets and a bath. The design was developed applying a new approach to standardization based on narrative design guides rather than standardized plans. The flexibility of this approach was illustrated in the resulting buildings. The single barracks constructed at Fort Stewart, and the L-shaped barracks, and the C-shaped barracks with company administration and supply space found at Fort Bragg all meet the “2+2” standards. A character-defining feature of all of these designs is the overlapping gable roof.

John J. Harte Associates of Atlanta, Georgia, designed the Fort Stewart barracks (Figure 4.1.145). The building is two-story, brick barracks with an overlapping gable roof. Each bay of the principal block features three, one-over-one-light, metal-sash windows on both floors. One-story, gable-roofed entrances were located at the end elevations.

A central, double-loaded corridor lined with four-person rooms defines the principal block. Each room features a living/sleeping unit, closets, and lavatory. The first floor includes two storage rooms and a mechanical room. A small lobby, a day room, laundry room, and a staircase are located within each of the entrance additions (Figure 4.1.146).

Leslie N. Boney Architects, Inc., of Wilmington, North Carolina, developed plans for two similar quadrangle designs at Fort Bragg, L- and C-shaped configurations. Both designs were based on a three-story, brick barracks with an overlapping gable roof. The principal block featured paired one-over-one-light, metal-sash windows on all floors. The principal blocks featured a central, double loaded corridor with four-person suites along both sides. Each suite consisted of two living/sleeping units, closets, and a common lavatory. Adjoining storage, electrical, and mechanical rooms were found on the first floor.

The L-shaped design consisted of two principal blocks sited perpendicular to one another and joined by a connector building (Figure 4.1.147). The three-story connector building featured a lobby, two day rooms, and a laundry room on each floor. Stairs were located in the connector building and at the outer ends of the principal blocks (Figure 4.1.148). The same floor plan was utilized on the second and third floors (Figures 4.1.149 and 4.1.150). Landscaping around the quadrangle barracks was sparse with small bushes along the elevations and trees near the entrance (Figure 4.1.151). Figure 4.1.152 clearly shows the overlapping gable roof on the L-shaped barrack.

The C-shaped design was built in groups of three or four (Figure 4.1.153). This layout helped to create a sense of unit identity within each complex. The C-shaped design featured a single principal block with perpendicular wings that housed administration and supply facilities (Figure 4.1.154). The connector building contained stairs accessible from the ends of the principal block. The connector building also housed a laundry room, a day room, and a mailroom (Figure 4.1.155). The second and third floor plans were the same (Figures 4.1.155 and 4.1.156)

The character-defining features of the principal block were also found in the administration and supply wings. The wings featured brick construction, an overlapping gable roof, and grouped one-over-one-light, metal-sash windows. The administration offices were clustered near the principal block and unit storage was located at the ends of the “C”. The photographs in Figures 4.1.157 and

4.1.158 show the quadrangle barracks complex, while the Figures 4.1.159 and 4.1.160 are from the interior of the complex.

Large consolidated mess halls were constructed to support complexes of C-shaped barracks. The one-story brick mess halls featured a split gable roof and ribbons of fixed windows along the side elevations (Figures 4.1.161 and 4.1.162). Aisles along the perimeters of the dining rooms directed soldiers to the serving areas located in the front of the buildings. The kitchens occupied the rear of the buildings.

4.1.8.2 Evolution

No modifications to the original design and construction of the quadrangle barracks were identified in the archival record or through site inspection.

4.1.8.3 Association

The quadrangle designs were the last phase in the evolution of barracks design in of the Cold War era. The design also was commonly constructed into the post-Cold War period.

4.1.8.4 Integrity

The character-defining features of the quadrangle barracks are brick construction, overlapping gable roof, and one-over-one-light, metal-sash windows. No modifications to the buildings were documented due to their recent construction. The quadrangle barracks are anticipated to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

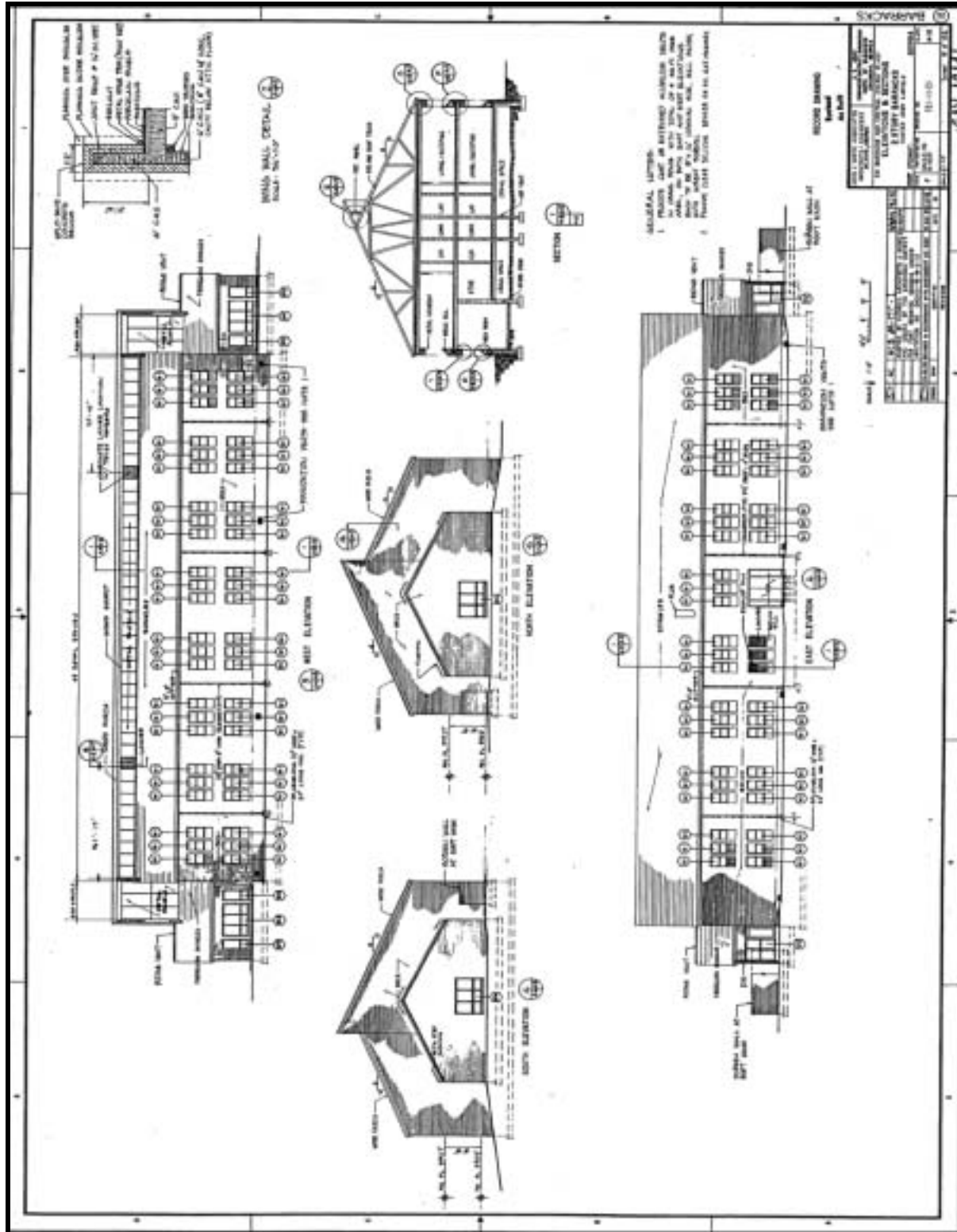


Figure 4.1.145 Single Quadrangle barracks, elevations and sections, Ft. Stewart (1983, revised 1985) (Engineering, Ft. Benning).

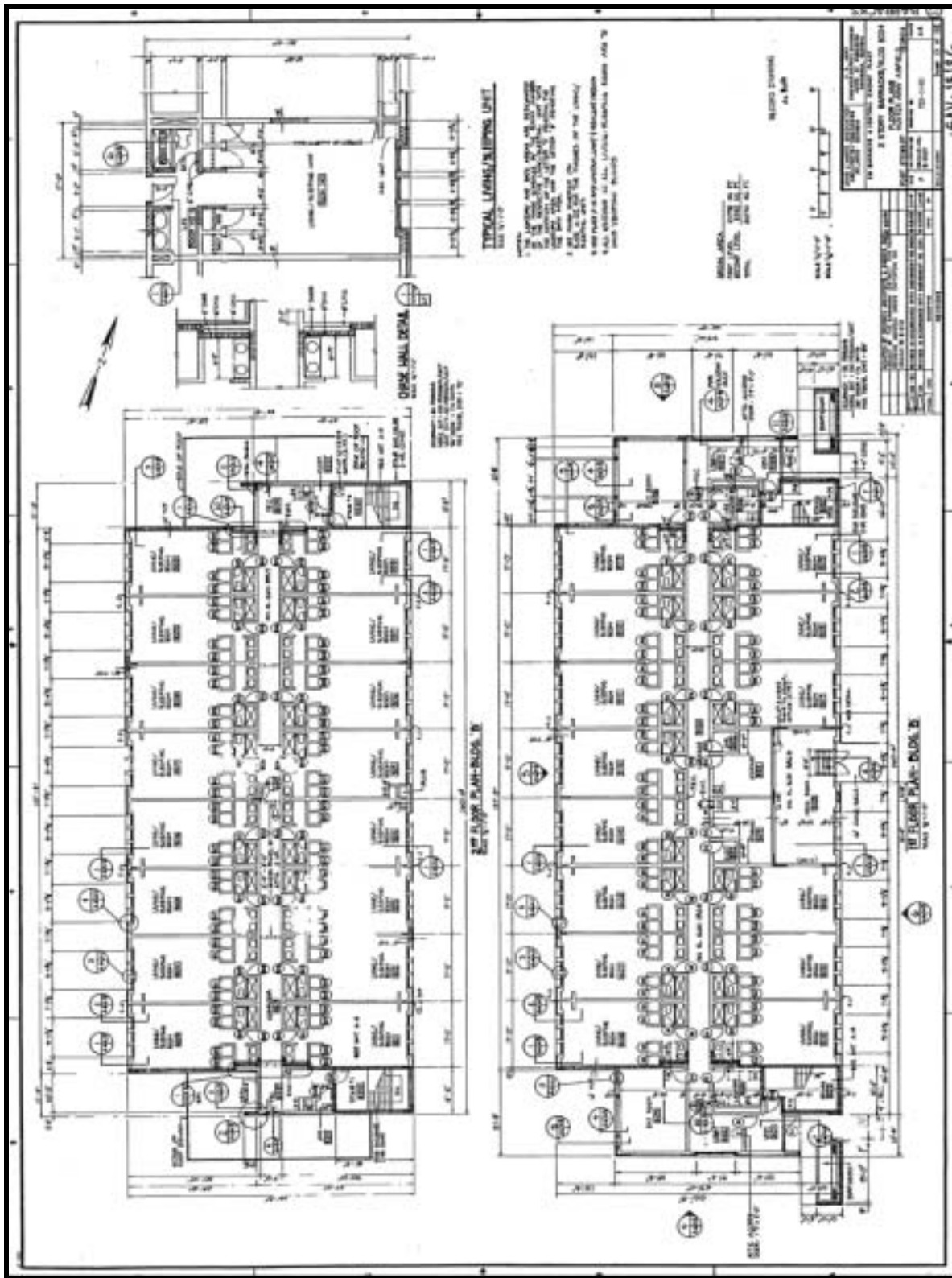


Figure 4.1.146 Single Quadrangle barracks, floor plans, Ft. Stewart (1983, revised 1984) (Engineering, Ft. Benning).

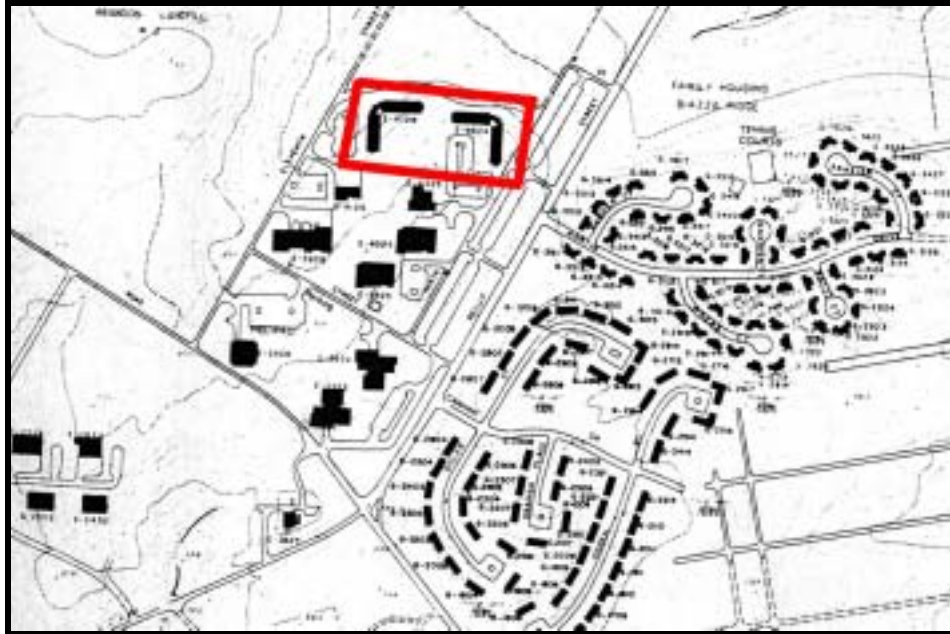


Figure 4.1.147 Map showing double quadrangle barracks, E-4728, E4824, Ft. Bragg.

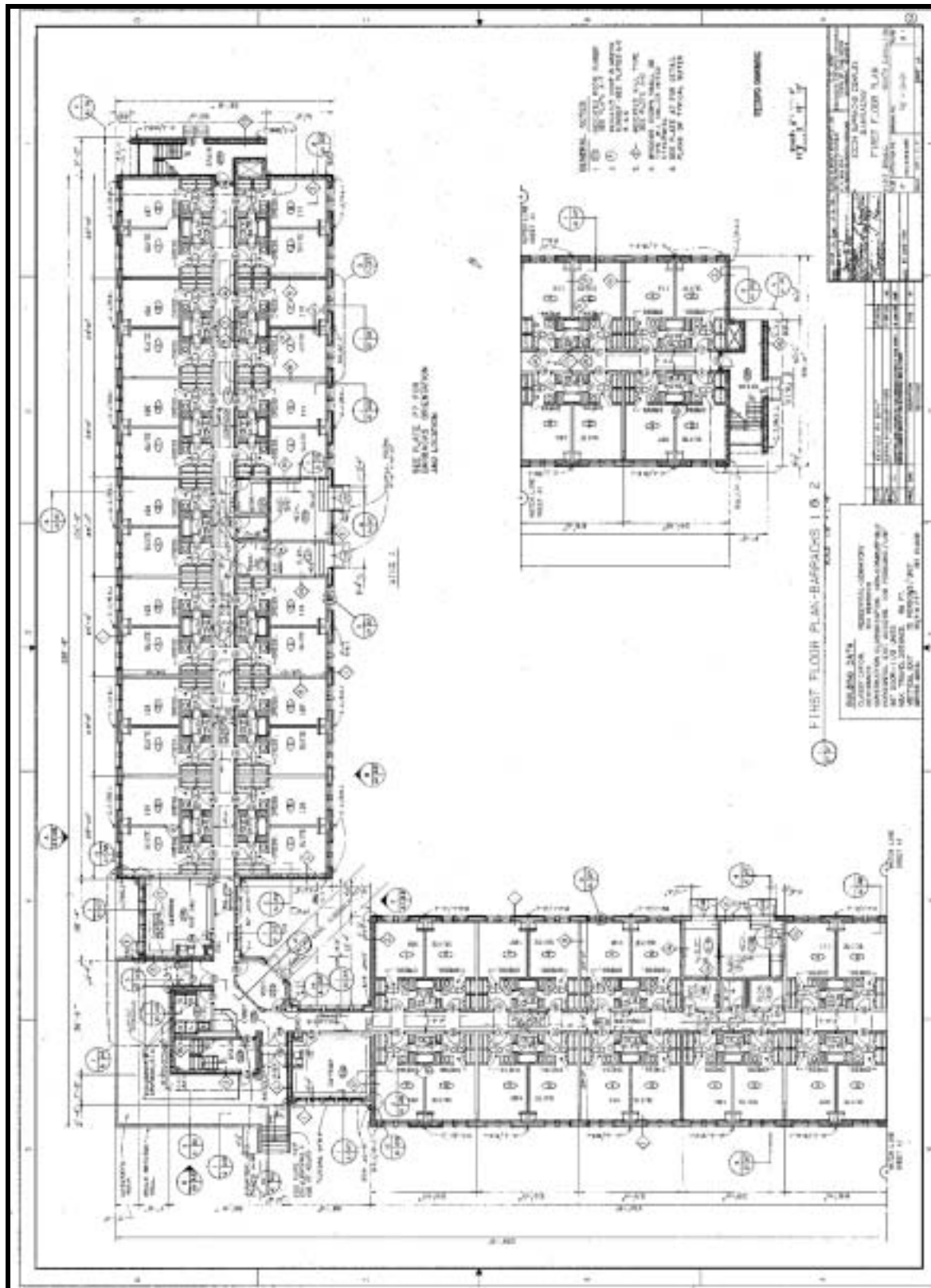


Figure 4.1.148 Double Quadrangle barracks, first floor plan, Ft. Bragg (1986, revised 1990) (Engineering, Ft. Bragg).

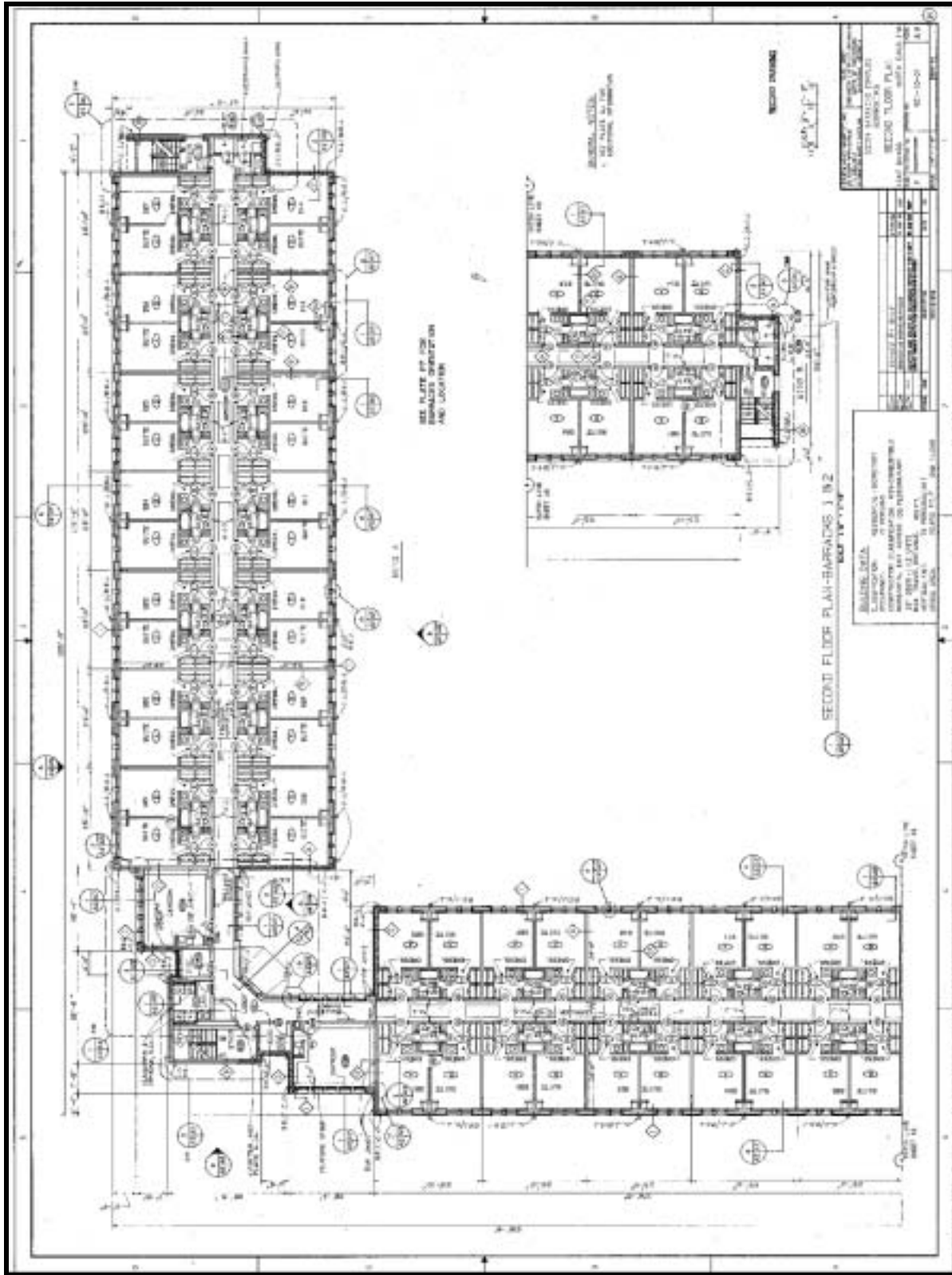


Figure 4.1.149 Double Quadrangle barracks, second floor plan, Ft. Bragg (1986, revised 1990) (Engineering, Ft. Bragg).

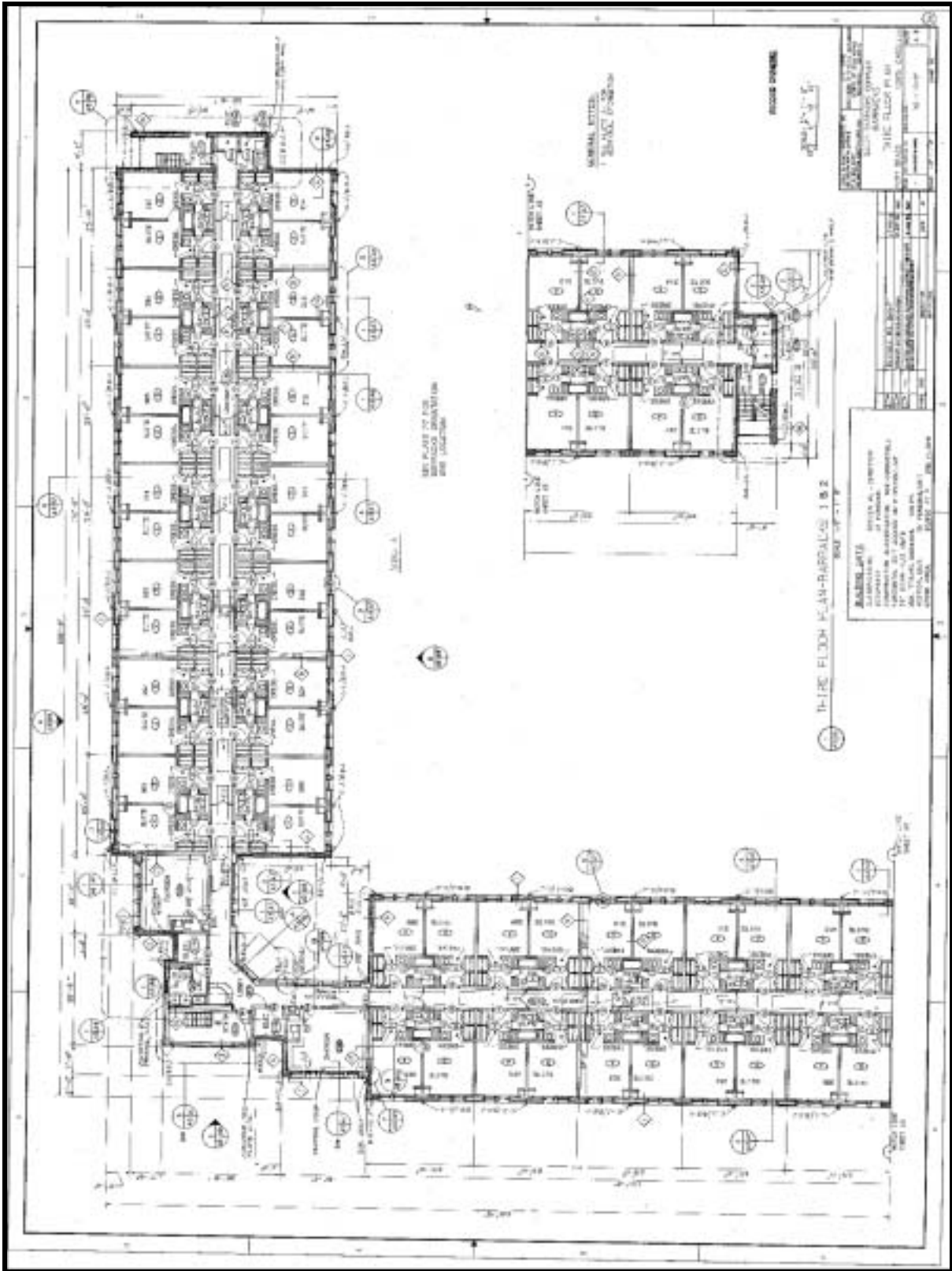


Figure 4.1.150 Double Quadrangle barracks, third floor plan, Ft. Bragg (1986, revised 1990) (Engineering, Ft. Bragg).



Figure 4.1.151 Double Quadrangle barracks, Bldg. E-4824 (1988), Ft. Bragg, view N (RCG&A).



Figure 4.1.152 Double Quadrangle barracks, Bldg. E-4824 (1988), Ft. Bragg, view NW (RCG&A).

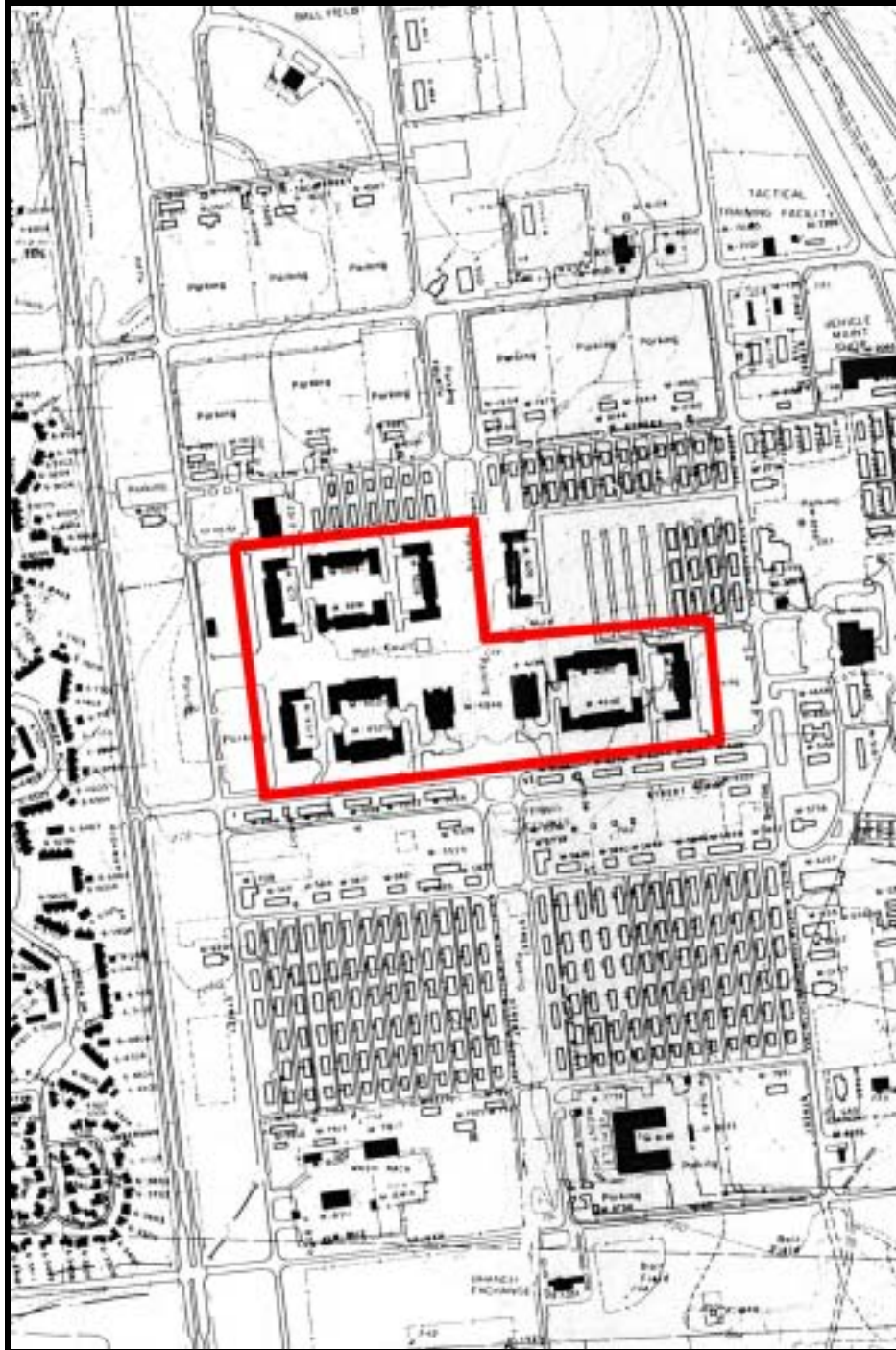


Figure 4.1.153 Map of quadrangle barracks complex in M area, Ft. Bragg.

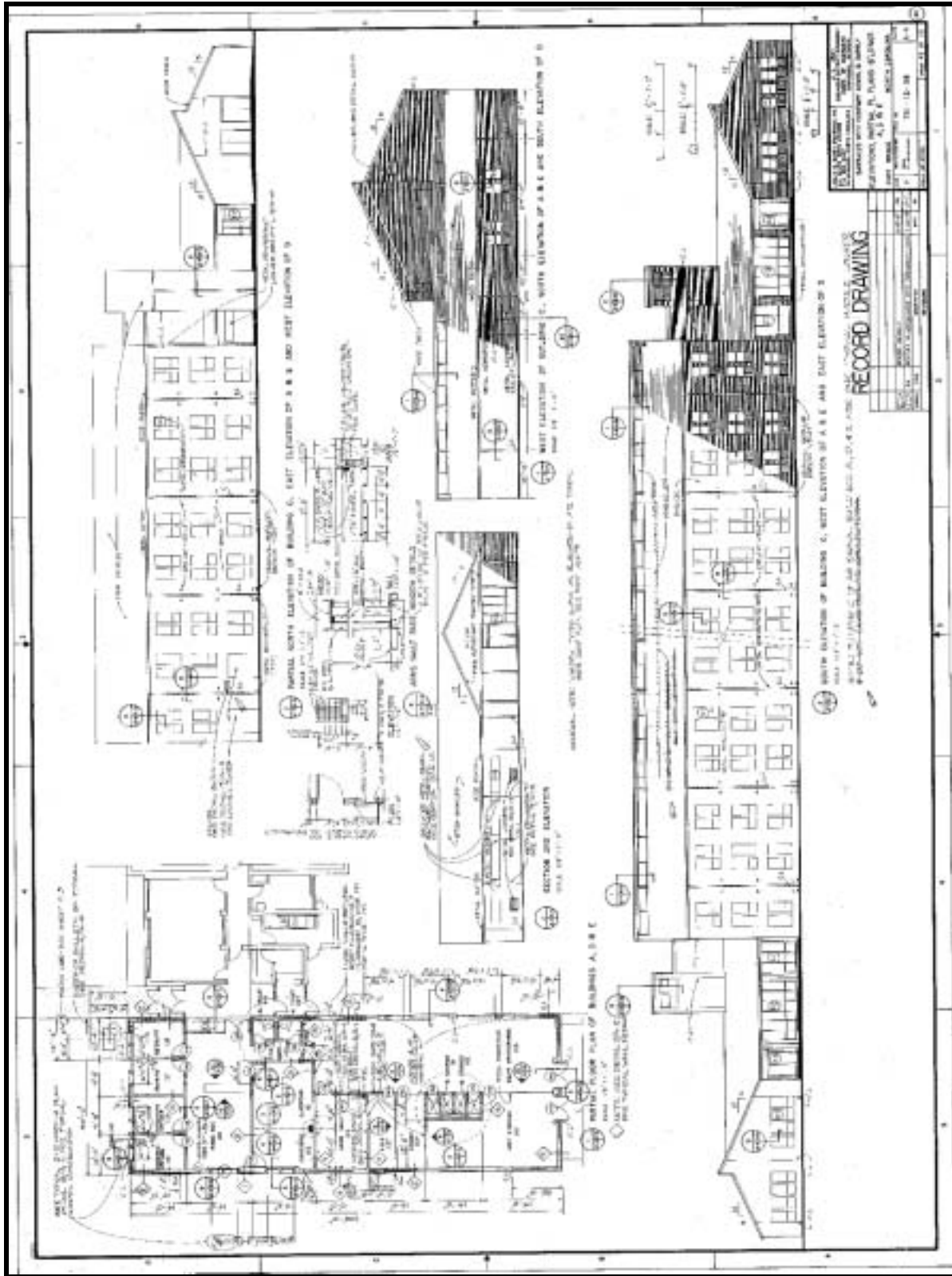


Figure 4.1.154 Quadrangle barracks, elevations and partial floor plans, Ft. Bragg (1985, revised 1987) (Engineering, Ft. Bragg).

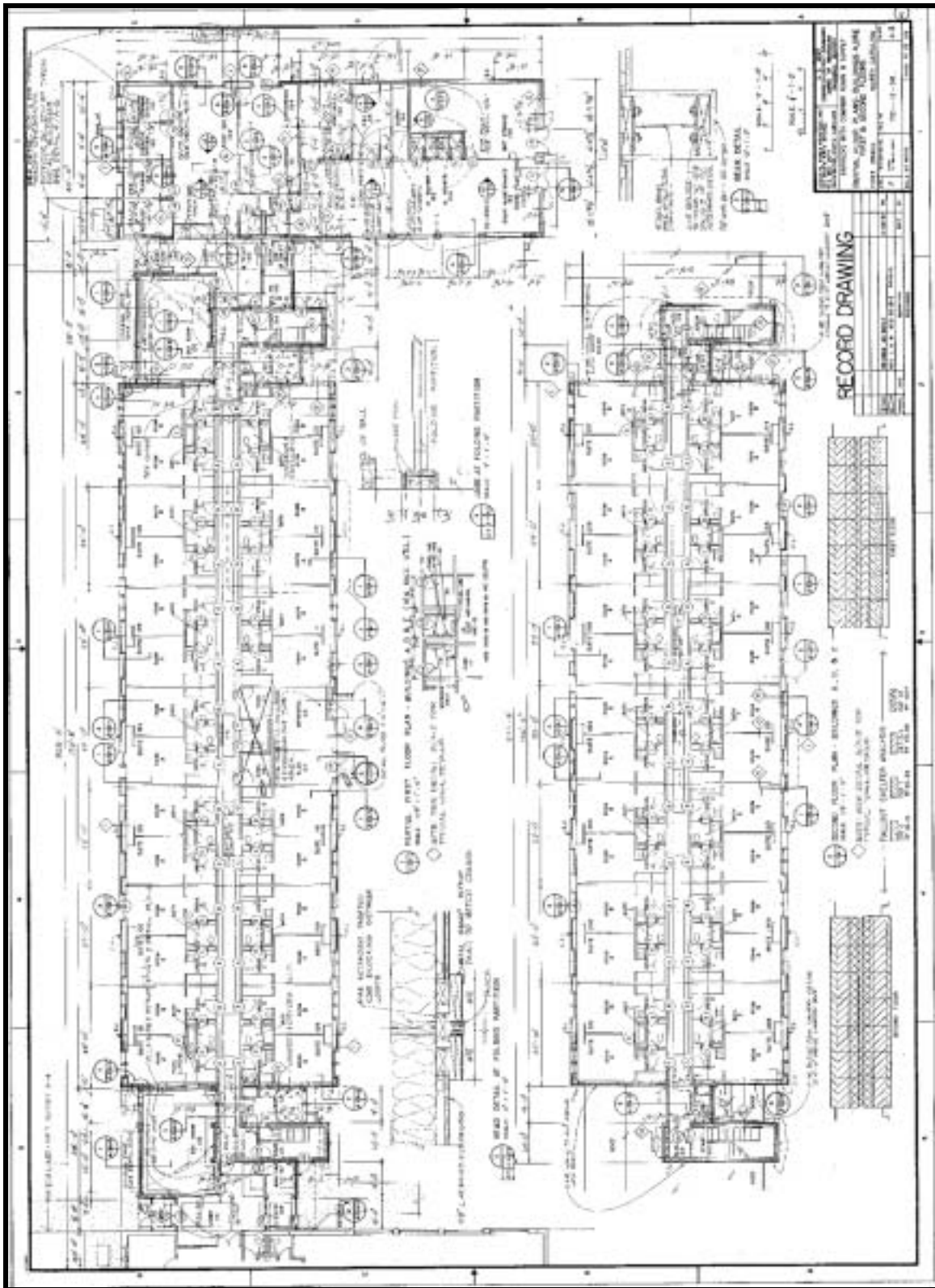


Figure 4.1.155 Quadrangle barracks, partial floor plans, first and second floors, Ft. Bragg (1985, revised 1987) (Engineering, Ft. Bragg).

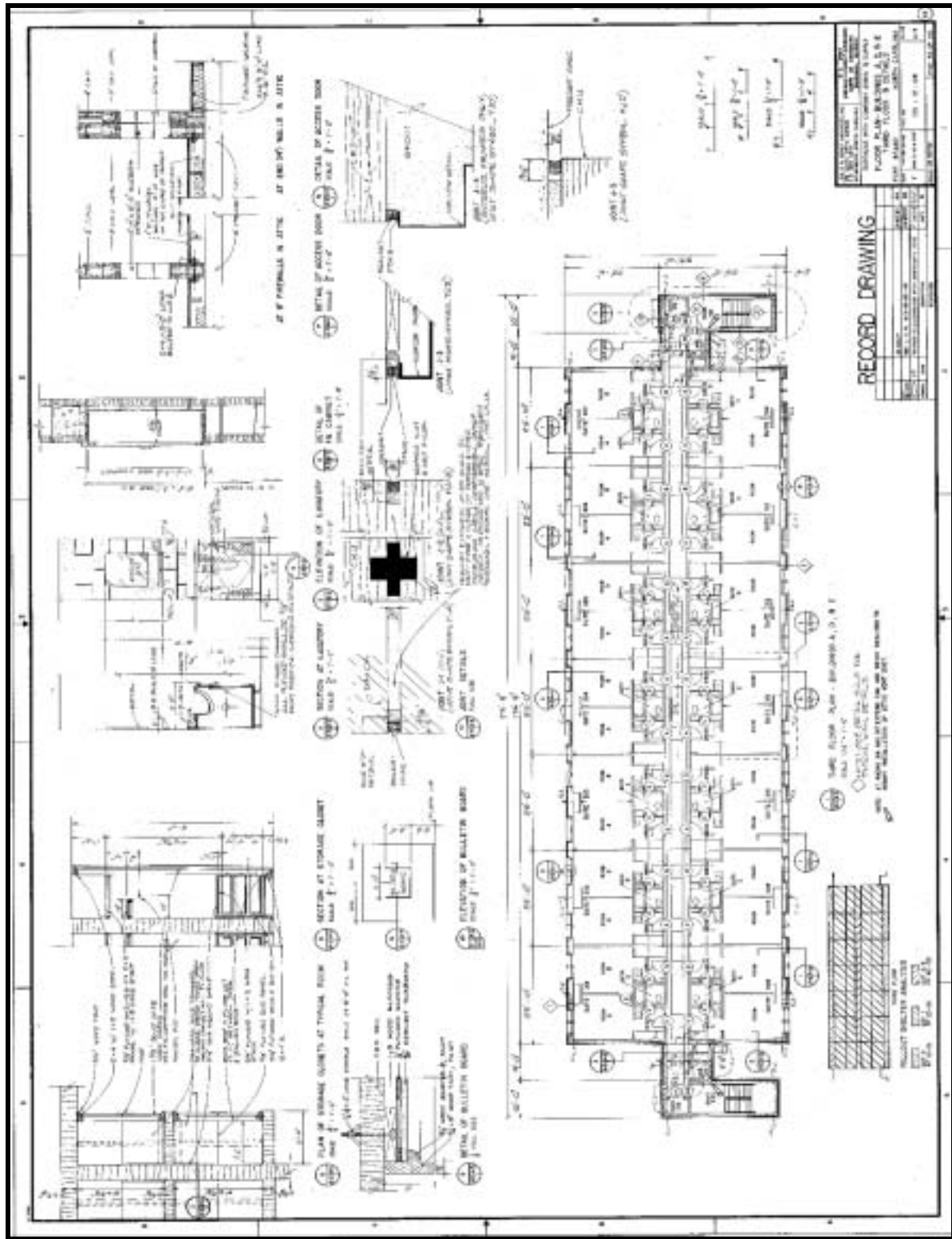


Figure 4.1.156 Quadrangle barracks, third floor plan and details, Ft. Bragg (1985, revised 1987) (Engineering, Ft. Bragg).



Figure 4.1.157 Quadrangle barracks, Bldg. M-4020 (1985), Ft. Bragg, view NE (RCG&A).



Figure 4.1.158 Quadrangle barracks, Bldg. M-3213 (1987), Ft. Bragg, view NE (RCG&A).



Figure 4.1.59 Quadrangle barracks, Bldg. M-3519 (1987), Ft. Bragg, view NE (RCG&A).



Figure 4.1.160 Quadrangle barracks, Bldg. M-3519 (1987), Ft. Bragg, view SE (RCG&A).



Figure 4.1.161 Quadrangle dining facility, Bldg. M-4746, Ft. Bragg, view SW (RCG&A).



Figure 4.1.162 Quadrangle dining facility, Bldg. M-3234, Ft. Bragg, view SE (RCG&A).

4.1.9 Miscellaneous Barracks - Receptee Barracks 1985 (Benning)

4.1.9.1 Description

An example of receptee barracks was identified at Fort Benning, Georgia. Lucas, Stubbs, Pascullis, Powell, & Penney, Ltd., of Charleston, South Carolina designed the barracks. The barracks were designed as an extension of an existing receptee station. The barracks were built into a hillside and consisted of four floors (Figure 4.1.163). The ground floor housed a small dining facility with a supply room and holdover bay (Figure 4.1.164). Stairs led from the dining facility into the first-floor concourse, which served as a formation area. Open bay squad rooms were located along both sides of the corridor. Bachelor enlisted quarters and administration facilities were located at the end of the corridor. The second and third floors generally repeated the plan of the first level; no bachelor enlisted quarters or administration facilities were located on the third floor (Figures 4.1.165 and 4.1.166).

4.1.9.2 Evolution

No modifications to the original design and construction of the receptee barracks were identified in the archival record or through site inspection.

4.1.9.3 Association

The receptee barracks house soldiers reporting for training at Fort Benning. Lucas, Stubbs, Pascullis, Powell, & Penney, Ltd., of Charleston, South Carolina designed the barracks. The firm's partners include Frank Edward Lucas, Sidney Wilbur Stubbs Jr., V.R. Pascullis, Powell, and Penney. The firm was founded in 1963 as Lucas and Stubbs Associates. Its first major commission was the Charleston Municipal Auditorium, completed in 1968. The firm received a design award from the American Institute of Architects. The firm was renamed Lucas, Stubbs, Pascullis, Powell, & Penney Ltd. in 1982 with the addition of three partners. The firm's work includes the Forest Science Laboratory, Westvaco Corp., Summerville, South Carolina, 1984; and the Public Works Office Building, Charleston, South Carolina, 1986 (LS3P Associates Ltd 2002).

Frank Edward Lucas was born in Charleston, South Carolina on 31 October 1934. He received a Bachelor's degree in architecture from Clemson University in 1959. He maintained private practice from 1963 to 1964 and co-founded Lucas, Stubbs & Associates in 1964. Mr. Lucas's principal works include Goer Manufacturing Co., Charleston, 1967; Climatic Corp., Columbia, 1967; Charleston Municipal Auditorium, 1968; Community Health Center, Charleston, 1968; and Enlisted Mens Club, Charleston Naval Yard, 1969 (Gane and Koyl 1970).

Sidney Wilbur Stubbs Jr. was born in Sumter, South Carolina on 24 September 1935. He received a Bachelor's degree in architecture from Clemson University in 1959 and a Master's degree in architecture from the Massachusetts Institute of Technology in 1961 (Gane and Koyl 1970).

4.1.9.4 Integrity

The character-defining features of the receptee barracks are the distinctive floor plan, scale, and mass. No modifications had been made to the building due to its recent construction. The receptee barracks appear to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

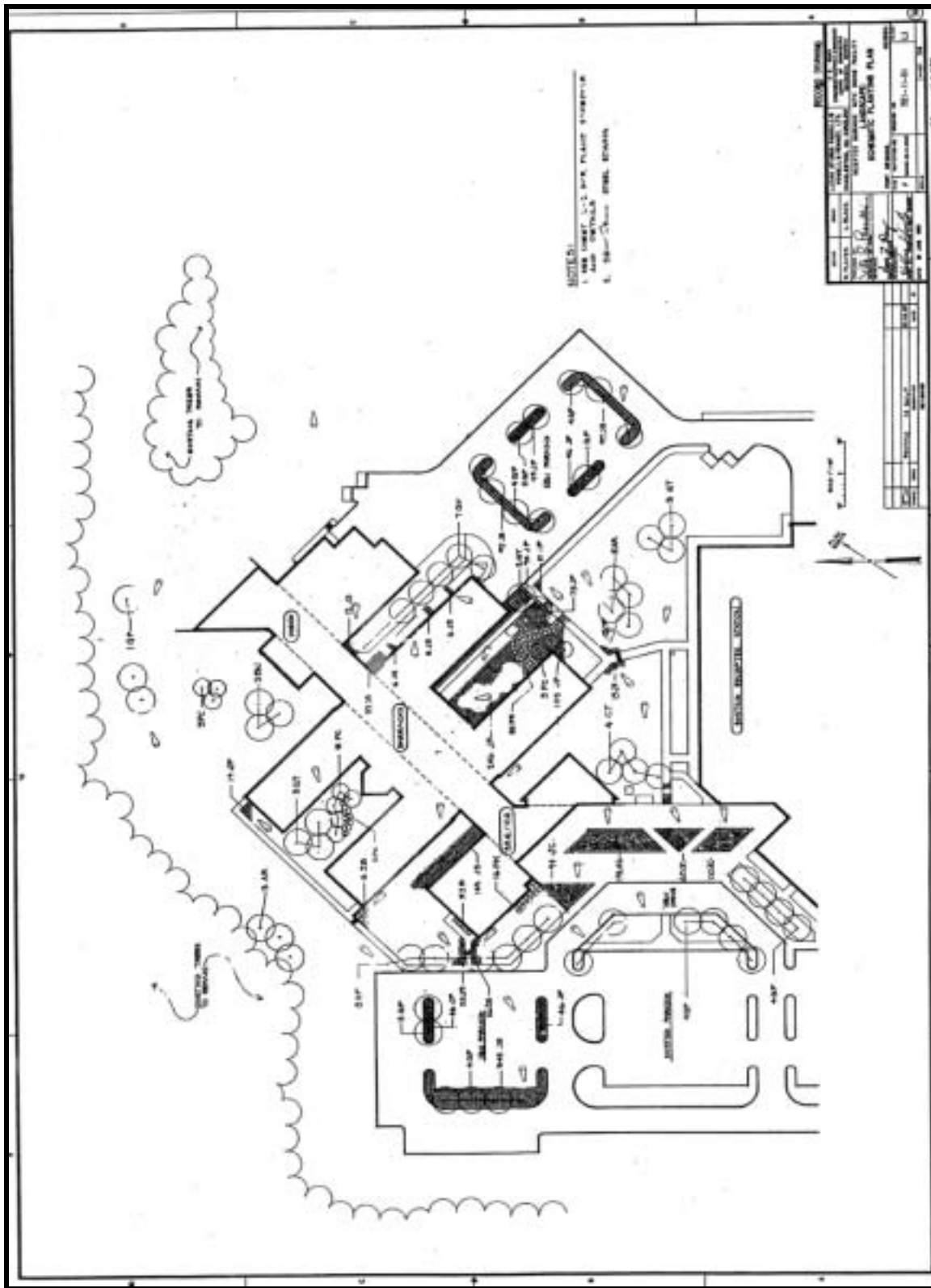


Figure 4.1.163 Receptee barracks, landscaping plan (1985, revised 1987) (Engineering, Ft. Benning).

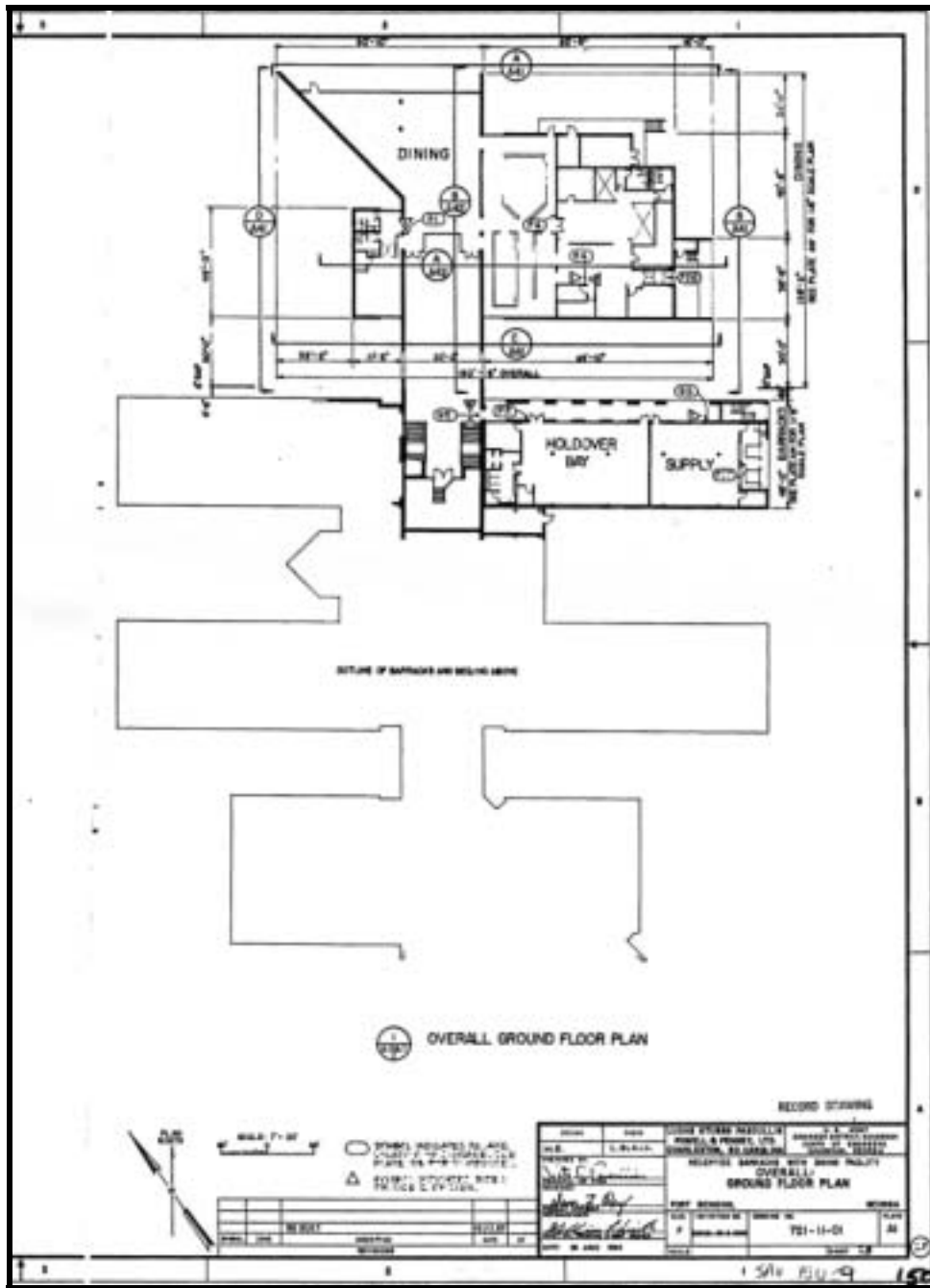


Figure 4.1.164 Receptee barracks, ground floor (1985, revised 1987) (Engineering, Ft. Benning).

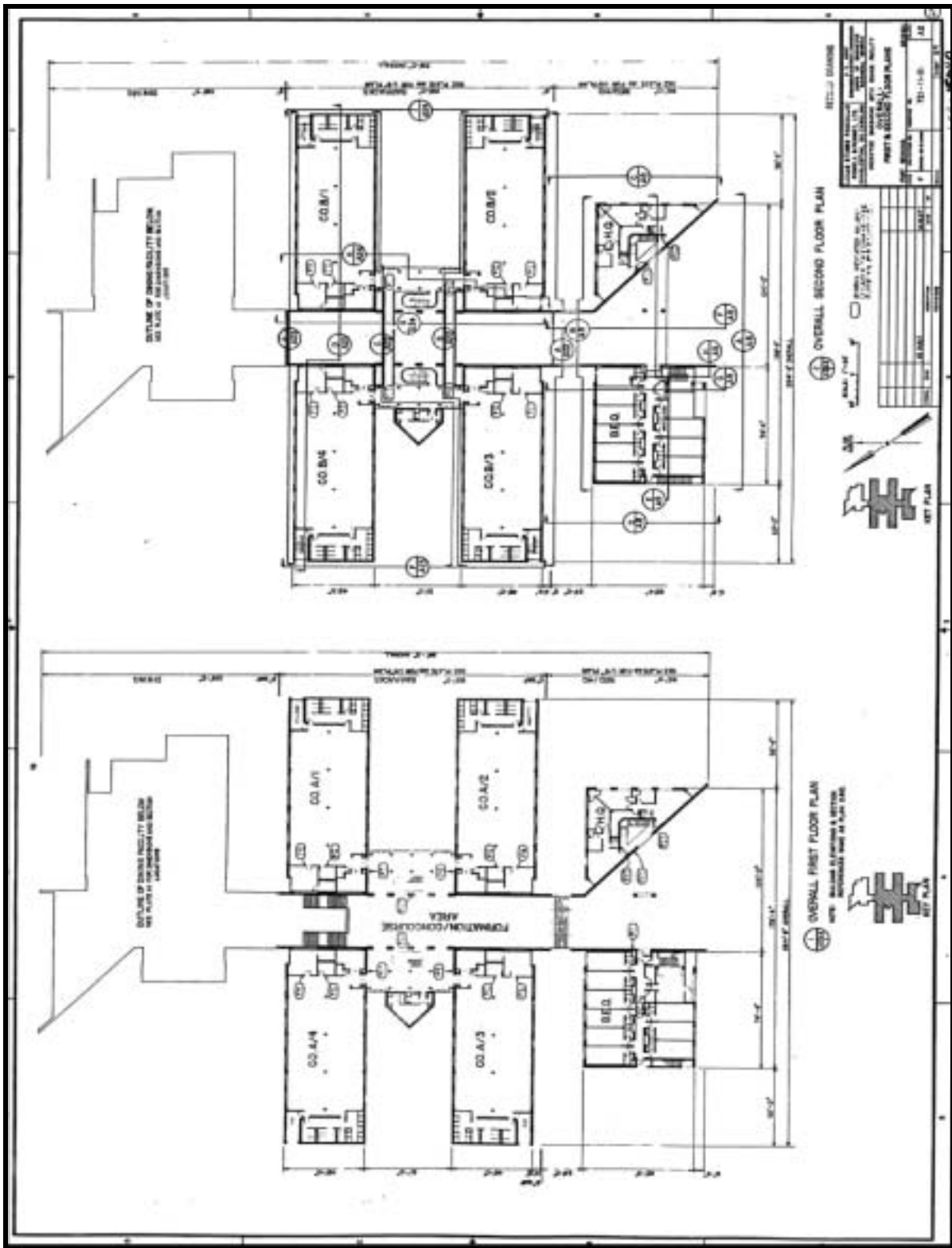


Figure 4.1.165 Receptee barracks, first and second floors (1985, revised 1987) (Engineering, Ft. Benning).

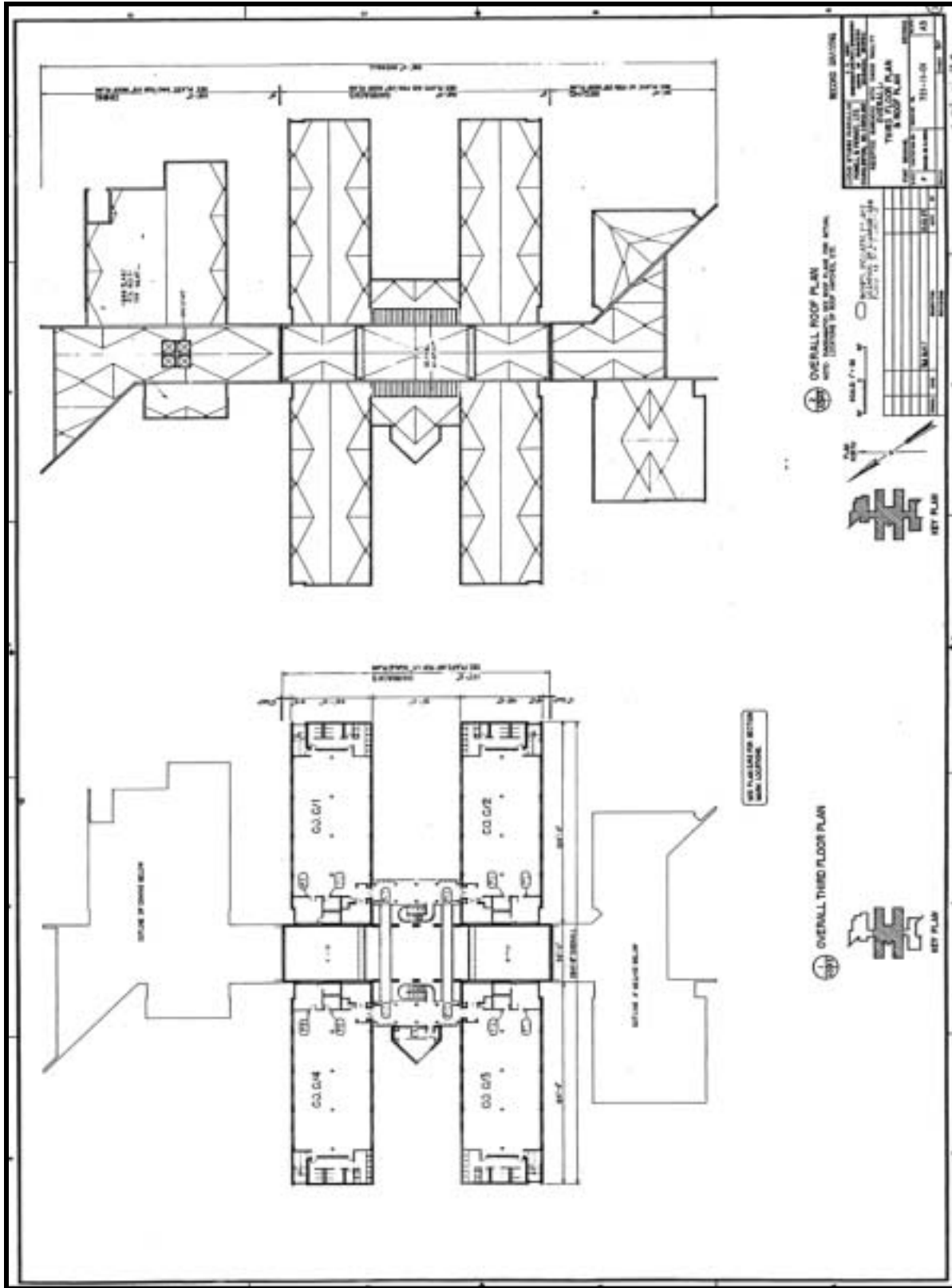


Figure 4.1.166 Receptee barracks, third floor and roof plan (1985, revised 1987) (Engineering, Ft. Benning).

4.1.10 Miscellaneous Barracks - MEDDAC Barracks 1988 (Polk)

4.1.10.1 Description

Medical Department Activity (MEDDAC) barracks typically adapted similar designs to those used for enlisted man barracks. In the 1960s a number of rolling pin barracks were used as MEDDAC barracks. A distinctive MEDDAC barracks type was identified at Fort Polk, Louisiana, in the vicinity of the Bayne-Jones Army Community Hospital (Figure 4.1.167). Landscaping around the barracks consisted of a small number of shrubs and trees located close to the building. The MEDDAC barracks was a three-story brick building that terminated in a side gable roof (Figures 4.1.168 and 4.1.169). Exterior staircases were located at both ends of the building (Figure 4.1.170). A central double-loaded corridor with four-person suites along both sides defined the principal block. Each suite featured two-living/sleeping units and common lavatory and service area. A one-story clinic was located on the north end of the building (Figure 4.1.167).

4.1.10.2 Evolution

No modifications to the original design and construction of the MEDDAC barracks were identified in the archival record or through site inspection of the representative example.

4.1.10.3 Association

The MEDDAC barracks is associated with Bayne-Jones Army Community Hospital (BJACH). The BJACH is part of the Great Plains Regional Medical Command located at Fort Sam Houston in San Antonio, Texas. The BJACH is recognized as one of the outstanding hospitals in the nation.

4.1.10.4 Integrity

The character-defining features of the MEDDAC barracks were the floor plan, scale, mass, and associated one-story clinic. At the time of the site inspection, the building was 14 years old and had not been modified. The MEDDAC barracks retained its integrity of location, design, setting, materials, workmanship, feeling, and association.

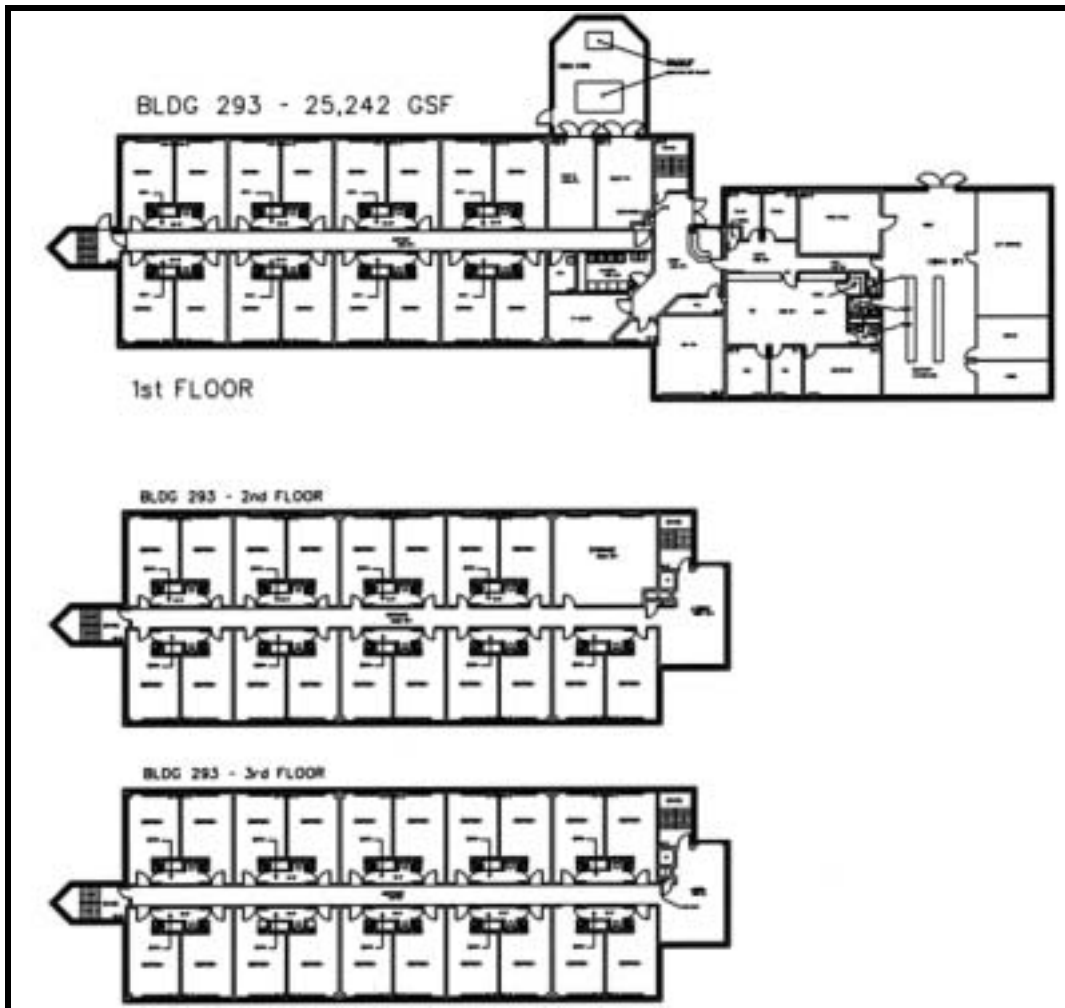


Figure 4.1.167 MEDDAC barracks, floor plans, Ft. Polk (ca. 1986) (Engineering, Ft. Polk).



Figure 4.1.168 MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view SW (RCG&A).



Figure 4.1.169 MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view SE (RCG&A).



Figure 4.1.170 MEDDAC barracks, Bldg. 293 (1988), Ft. Polk, view NE (RCG&A).

4.1.11 Semi-Permanent U-shaped Barracks 1967 (Benning)

4.1.11.1 Description

Semi-permanent U-shaped barracks were identified in the Harmony Church area of Fort Benning, Georgia. The barracks complex consisted of eight U-shaped barracks, a dining hall, a lounge, and administration and storage buildings (Figure 4.1.171). Jones and Fellers, Architects-Engineers, of Savannah, Georgia, designed the U-shaped semi-permanent barracks (Figure 4.1.172). The 80-man barracks were constructed of painted concrete block and terminated in gable roofs sheathed in composition shingles. Entrances were located at the outer ends of the “U” and featured a single-light metal door. The buildings featured one-over-one-light, metal-sash windows with concrete sills (Figure 4.1.172).

The floors were four-inch reinforced concrete slabs. Each upright of the “U” design housed two, two-man, non-commissioned officers’ rooms, which were located at either side of the entrances, and a thirty-six-man, open bay, squad room. Lavatory facilities were located in the bottom of the “U” (Figure 4.1.173).

Eight barracks were arranged in two rows with the open ends of the “U” oriented towards the center (Figures 4.1.171, 4.1.174, and 4.1.175). Rectangular, one-story, concrete block buildings, which lined one side of the compound, contained the mess hall and lounge facilities. The dining hall also was built of concrete block (Figures 4.1.176 and 4.1.177). The lounge or dayroom was nearly the same size as the mess facility and featured the same construction techniques (Figures 4.1.178 and 4.1.179). An administration and supply facility was located at the end of the compound (Figures 4.1.180 and 4.1.181).

4.1.11.2 Evolution

No modifications to the original design and construction of the semi-permanent U-shaped barracks were identified in the archival record or through site inspection of representative examples.

4.1.11.3 Association

The facilities were associated with infantry training at Fort Benning. Jones and Fellers of Savannah, Georgia, designed the barracks complex. Partners in the firm included Jones and Fellers (Gane and Koyl 1970).

Robert H. Fellers was born 10 September 1925 in Prosperity, South Carolina. He received a Bachelor of Science degree from Clemson College in 1950. The same year he became chief designer at Kuhlke & Wade (Koyl 1955, 1962).

4.1.11.4 Integrity

The character-defining features of the U-shaped barracks are the distinctive ground plan, the exposed concrete block walls, gable roofs, and one-over-one-light, metal-sash windows with concrete sills. Minimal modifications were identified in the archival record or through site inspections of representative examples. The barracks complex appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

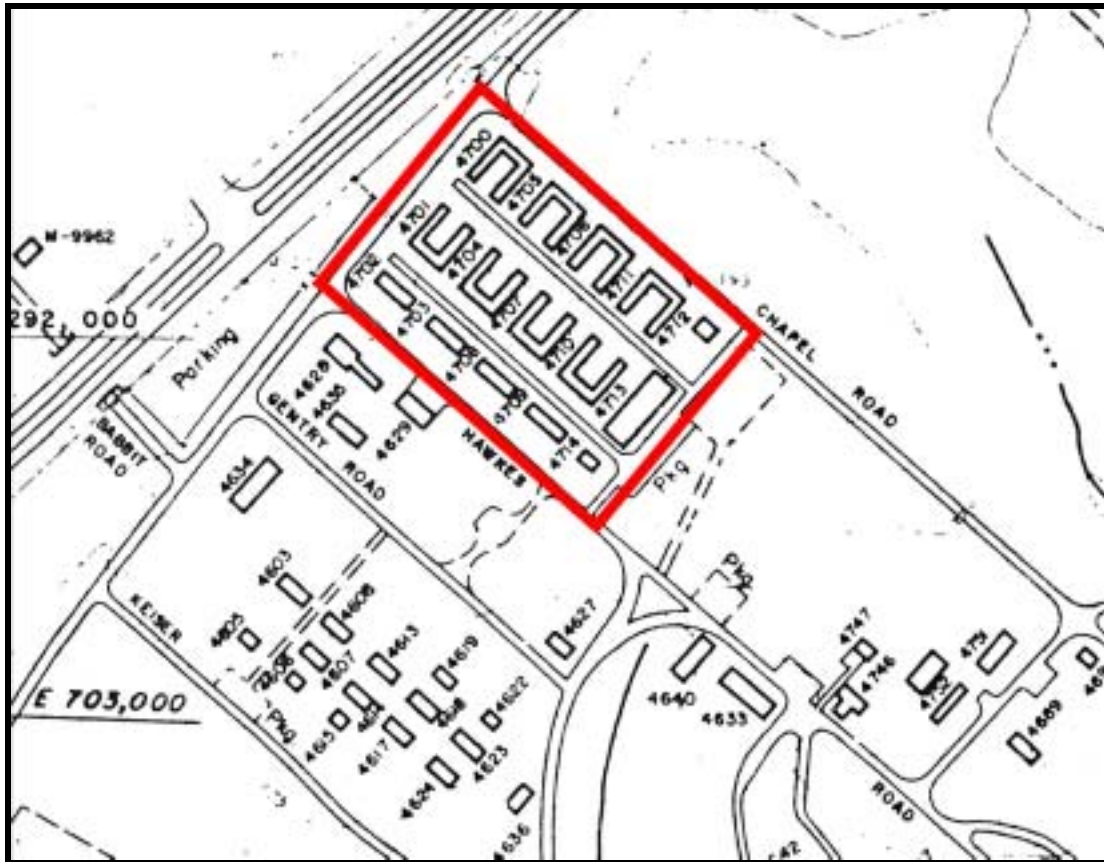


Figure 4.1.171 Map of Semi-permanent barracks complex, Harmony Church area, Ft. Benning.

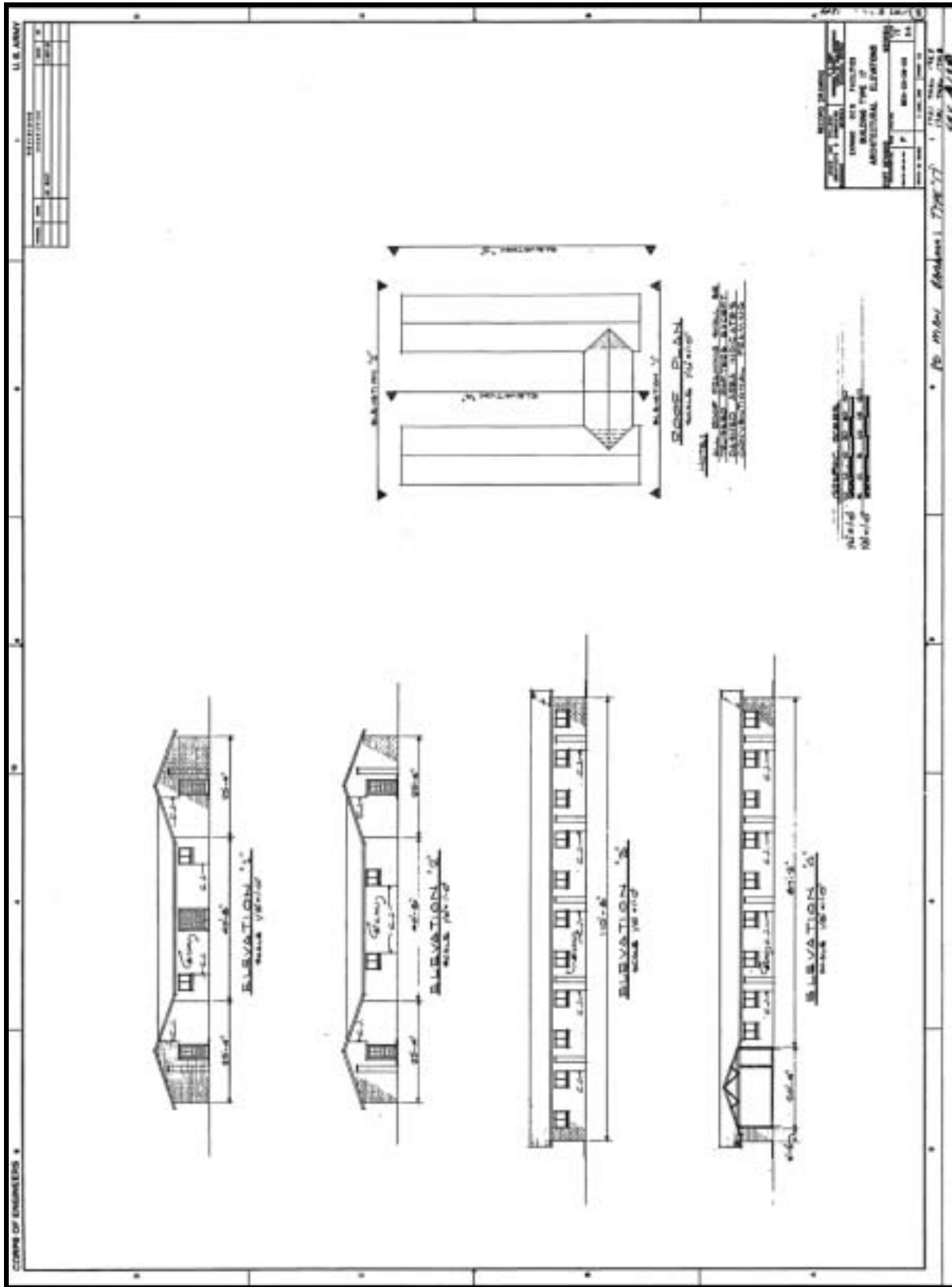


Figure 4.1.172 Semi-permanent 72-man "U" barracks, elevations, Ft. Benning (1964, as built 1967) (Engineering, Ft. Benning).

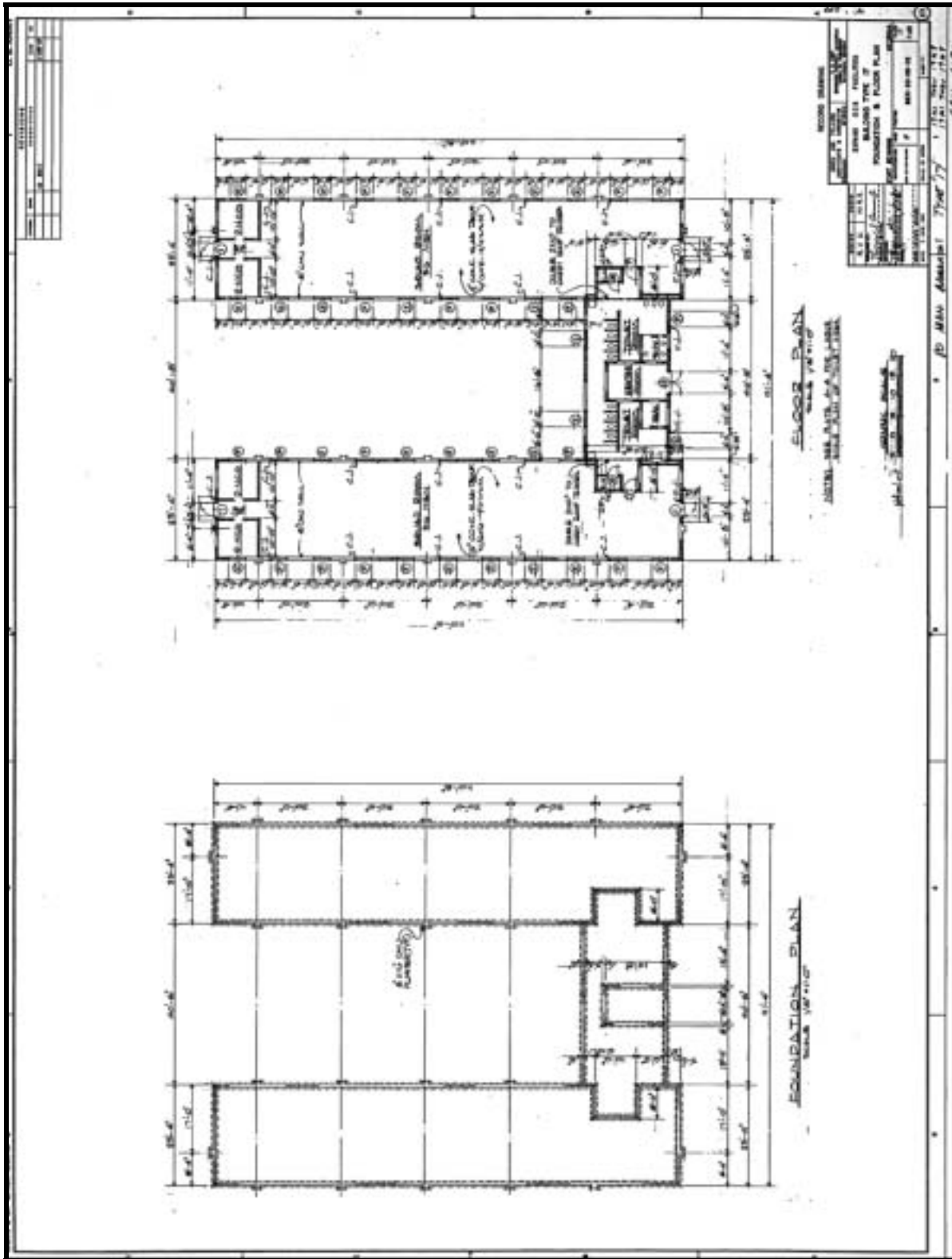


Figure 4.1.173 Semi-permanent 72-man “U” barracks, floor plan, Ft. Benning (1964, as built 1967) (Engineering, Ft. Benning).



Figure 4.1.174 Semi-permanent 72-man “U” barracks, overview, 4700 area (1967), Ft. Benning, view E (RCG&A).



Figure 4.1.175 Semi-permanent 72-man “U” barracks, Bldg. 4707 (1967), Ft. Benning, view E (RCG&A).



Figure 4.1.176 Semi-permanent dining facility, Bldg. 4702 (1967), Ft. Benning, view N (RCG&A).



Figure 4.1.177 Semi-permanent dining facility, Bldg. 4702 (1967), Ft. Benning, view W (RCG&A).



Figure 4.1.178 Semi-permanent dayroom, Bldg. 4703 (1967), Ft. Benning, view W (RCG&A).



Figure 4.1.179 Semi-permanent dayroom, Bldg. 4703 (1967), Ft. Benning, view E (RCG&A).



Figure 4.1.180 Semi-permanent administration and supply office, Bldg. 4713 (1967) Ft. Benning, view W (RCG&A).



Figure 4.1.181 Semi-permanent administration and supply office, Bldg. 4713 (1967) Ft. Benning, view E (RCG&A).

4.1.12 Semi-Permanent H-shaped Barracks 1959-1967 (Bliss)

4.1.12.1 Description

Examples of the 80-man semi-permanent H-shaped barracks were identified at Fort Bliss, Texas. The majority were located on McGregor Range (Figures 4.1.182 and 4.1.183). These buildings were constructed of painted concrete block and terminated in either a shed or gable roof sheathed in composition shingles. Entrances were located at the ends of the “H” and each featured either a two-light wood door or a single-light metal door. The buildings included four-light, metal-sash windows with concrete sills (Figure 4.1.184).

The floors were reinforced concrete slabs. Two-man, non-commissioned officers’ rooms were located at either side of the buildings’ entrances. The remainder of the buildings comprised thirty-six-man, open bay, squad rooms. Lavatory facilities were located in the cross member of the “H” (Figure 4.1.185).

H barracks with shed roofs were identified at the Oro Grande Range, Fort Bliss (Figure 4.1.186). Built in 1961, these barracks featured a simple entry vestibule to provide protection from the wind (Figure 4.1.187). Gable roof examples were found at McGregor Range (Figure 4.1.188). A small number of the barracks on McGregor Range retain the open squad bays typical of the 1959 design (Figure 4.1.189). A majority of the barracks were modernized in the late 1970s. Interior changes included the redesign into one and two-person rooms, hallways, and new bathrooms for the upper ranking enlisted men (Figure 4.1.190). Exterior change included new entrances necessitated by the insertion of the hallway (Figures 4.1.191 and 4.1.192).

The barracks complex also contained mess, administration, supply, and recreation buildings including a 12,396 sq. ft. mess facility. The rectangular, concrete block support buildings featured concrete foundations and floors. The mess facility included a front dining area and rear kitchen areas (Figure 4.1.193). Small groupings of windows provided light to the dining areas while the rear featured a small loading area (Figures 4.1.194 and 4.1.195). The building terminated in a flat roof sheathed with built-up composition roofing.

4.1.12.2 Evolution

Common modifications to the H-shaped barracks included the addition of partition walls within the squad rooms to create individual rooms. The rooms vary in size; lavatories were added to rooms assigned to enlisted men in grades E5 and above (Figure 4.1.190). In addition, the entrances were offset to the inside of the uprights of the “H” (Figure 4.1.190).

4.1.12.3 Association

The semi-permanent “H” barracks and associated facilities were built to meet the short-term housing needs of the Army at Fort Bliss. Most of the barracks are located in the vicinity of training ranges and were primarily used to support training activities. The barracks were designed by Davis, Foster, Thorpe and Associates, Inc., of El Paso, Texas. The firm’s partners include Ralph V. Davis, John P. Foster, P.E., and William F. Thorpe, Jr. (Koyl 1955, 1962; Gane and Koyl 1970).

William F. Thorpe, Jr. was born in Charleston, S.C., on 31 January 1925. He received a Bachelor's degree in architecture with a construction option in 1950. He began his career as a draftsman with Davis & Foster in 1951, and was chief draftsman with the firm from 1954 to 1956. He joined Davis, Foster, Thorpe & Associates when the firm was founded in 1959. His principal works included two buildings for the Texas Highway Department, 1960; a complex in El Paso and the Information Building in Anthony; Trinity Presbyterian Church in El Paso, 1961; 1,000 Capehart houses at Fort Bliss, 1961; Ector Shopping Center in Odessa, 1961; and a business office remodeling for Mountain States Telephone and Telegraph in El Paso, 1961. His work can be grouped into eleven categories of design: commercial, religious, educational, recreational, health, public buildings, military, transportation, communications, scientific, and mortuary structures (Koyl 1955, 1962; Gane and Koyl 1970).

4.1.12.4 Integrity

The character-defining features of the semi-permanent H-shaped barracks are the distinctive ground plan, exposed concrete block walls, and four-light, metal-sash windows with concrete sills. Overall, the semi-permanent H-shaped barracks and their associated facilities retained a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association. Selected examples have undergone varying degrees of modification. Modifications included the addition of partition walls in the squad rooms and the alteration of entrances. These latter examples no longer retain their original integrity of design, materials, and workmanship.



Figure 4.1.182 Map of Semi-permanent barracks complex, 9400 area, McGregor Range, Ft. Bliss.

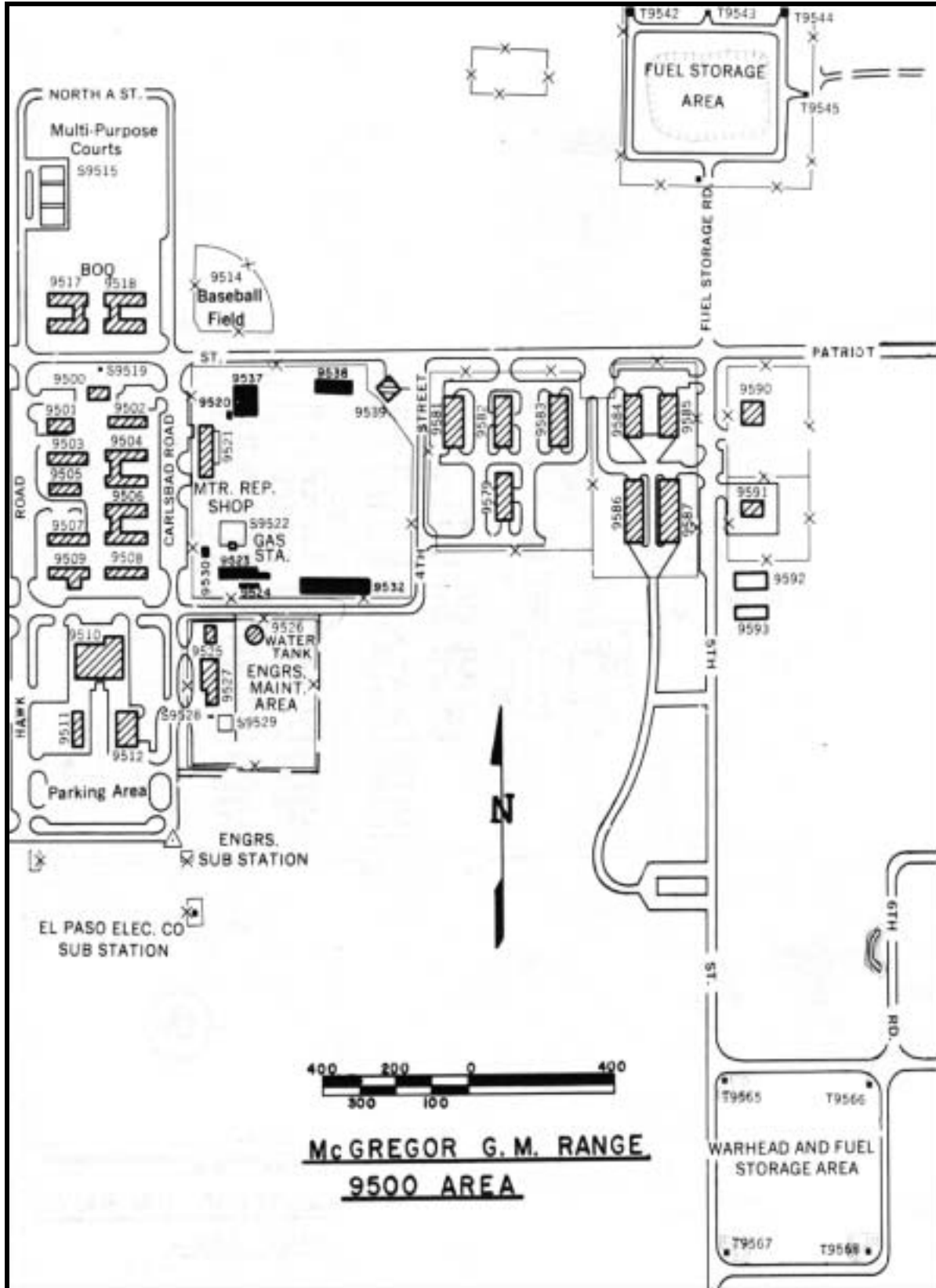


Figure 4.1.183 Map of Semi-permanent barracks complex, 9500 area, McGregor Range, Ft. Bliss.

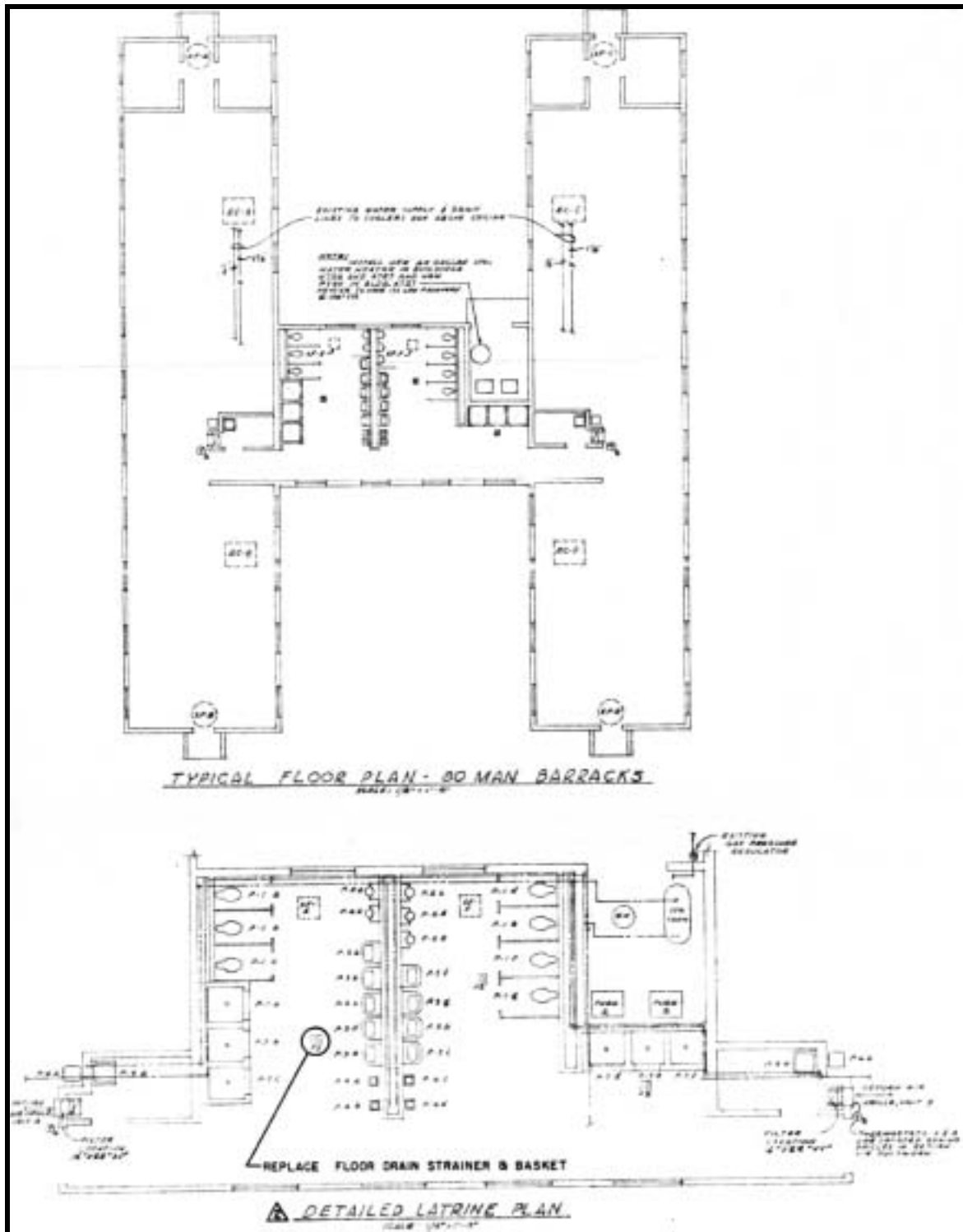


Figure 4.1.185 Semi-permanent 80-man “H” barracks, floor plan, Ft. Bliss (1974, revised 1976) (Engineering, Ft. Bliss).



Figure 4.1.186 Semi-permanent 80-man “H” barracks, Bldg. 8682 (1961), Oro Grande Range, Ft. Bliss, view S (RCG&A).



Figure 4.1.187 Door detail, Semi-permanent 80-man “H” barracks, Bldg. 8682 (1961), Oro Grande Range, Ft. Bliss, view SW (RCG&A).



Figure 4.1.188 Semi-permanent 80-man “H” barracks, Bldg. 9404 (1959), McGregor Range, Ft. Bliss, view SW (RCG&A).



Figure 4.1.189 Squad room, Semi-permanent 80-man “H” barracks, Bldg. 9404 (1959), McGregor Range, Ft. Bliss, view SE (RCG&A).

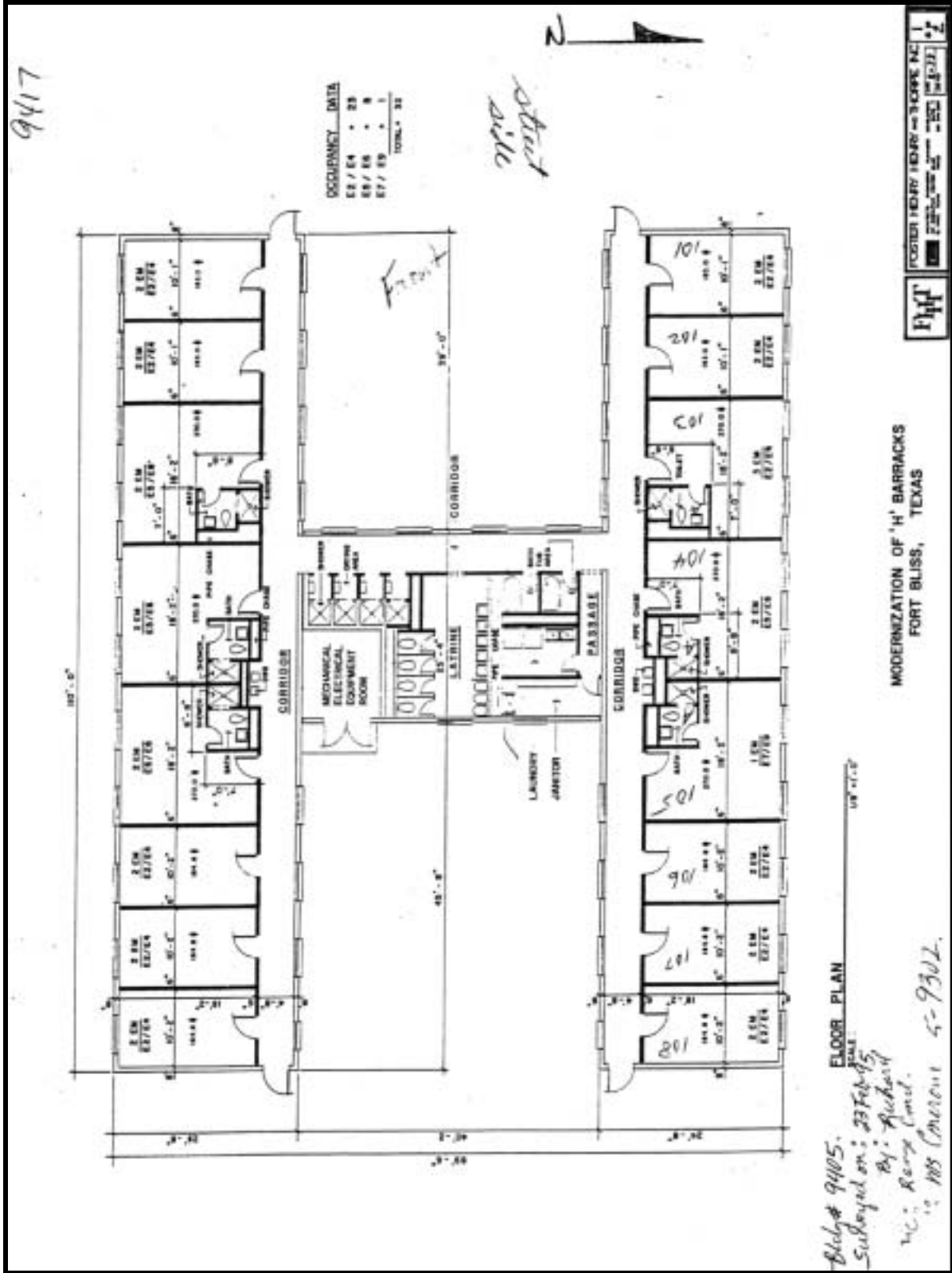


Figure 4.1.190 Modernization of “H” barracks, Bldg. 9405, 9417, McGregor Range, Ft. Bliss (1979, revised 1995) (Real Property, Ft. Bliss).



Figure 4.1.191 Renovated Semi-permanent 80-man “H” barracks, Bldg. 9405 (1959), cGregor Range, Ft. Bliss, view NE (RCG&A).



Figure 4.1.192 Entrance detail, renovated Semi-permanent 80-man “H” barracks, Bldg. 9405 (1959), McGregor Range, Ft. Bliss, view E (RCG&A).

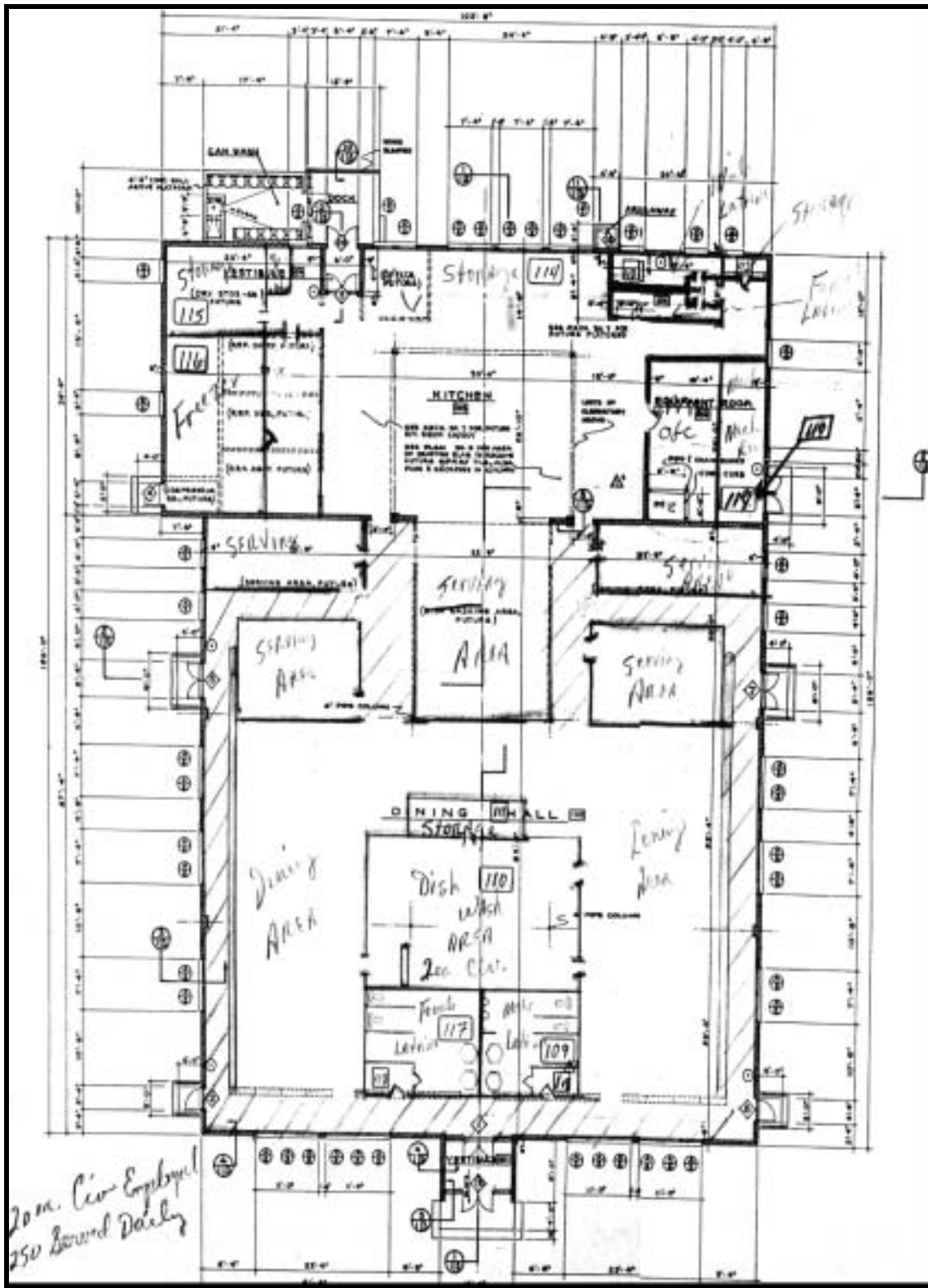


Figure 4.1.193 Semi-permanent dining facility, floor plan, Bldg. 9510, McGregor Range, Ft. Bliss (ca. 1956) (Real Property, Ft. Bliss).



Figure 4.1.194 Semi-permanent dining facility, Bldg. 9510 (1957), McGregor Range, Ft. Bliss, view SE (RCG&A).



Figure 4.1.195 Semi-permanent dining facility, Bldg. 9510 (1957), McGregor Range, Ft. Bliss, view SW (RCG&A).

4.1.13 Semi-Permanent Hutment 1987 (Knox)

4.1.13.1 Description

Examples of one-story hutments were identified at Fort Knox. These rectangular, concrete block buildings were supported on concrete slabs and terminated in gable roofs sheathed with composition shingles (Figure 4.1.196). The hutments featured metal doors and sliding windows (Figure 4.1.197). A wood stove provided heat.

4.1.13.2 Evolution

The design of hutments was derived from designs used for tents in the tropics. Wood floors and frames were erected on the 16- by 32-foot tent module. Canvas walls were replaced with screening and corrugated metal was installed for roofs. Hinged thatch “eyebrows” were added to protect from driving rain (Waters 1963:154). Hutments were known for their simple and economic construction. The Fort Knox examples applied the design to concrete block construction.

No modifications to the original design and construction of the concrete block hutments were identified in the archival record or through site inspection of representative examples.

4.1.13.3 Association

Hutments were simple, economical, and expedient to construct. They most commonly were associated with the Army in tropical areas where speed of construction and economy of design were priorities. These simple structures provided a more versatile structure than the tent.

4.1.13.4 Integrity

The character-defining features of hutments are their small scale, simple construction, and gable roofs. No modifications were identified in the archival record or through site inspections of representative examples. The hutment complex retained integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 4.1.196 Hutment, Bldg. 9170 (1987), Ft. Knox, view NE (RCG&A).



Figure 4.1.197 Hutment, Bldg. 9169 (1987), Ft. Knox, view SW (RCG&A).

4.1.14 Mobilization Barracks – Quonset Huts 1958, 1959 (Bliss)

4.1.14.1 Description

Quonset huts are characterized by their unique design that includes a semi-cylindrical roof of galvanized corrugated sheet metal supported by steel ribs. Quonset huts are generally sited in a grid plan (Figure 4.1.198). The semi-circular ends of the building are simple symmetrical designs with a central door flanked by two-over-two-light windows (Figures 4.1.199 and 4.1.200).

During the Korean War, the Army developed a straight-sided version of the Quonset hut to maximize interior space. These were also sited in a grid plan (Figure 4.1.201). Straight-sided Quonset huts featured the characteristic roof form, but included straight walls. The ends of the building housed a central door. Ribbon windows were located along the sides of the building (Figure 4.1.202). The interiors were open squad rooms with the beds lined along the walls (Figure 4.1.203). Latrines were separate from the barracks and utilized the same construction (Figure 4.1.204). The building was separated by function – showers, toilets, and sinks (Figure 4.1.205).

Dining facilities also were housed within Quonset huts. The first dining facility built at the Oro Grande Range was a large Quonset hut (Figure 4.1.206). The interior was modified with the addition of a drop ceiling (Figure 4.1.207). When the straight-sided Quonset huts were developed, dining facilities also were designed. Dining facilities were similar in appearance to the barracks (Figure 4.1.208).

4.1.14.2 Evolution

The Quonset hut was adapted for the Army Air Signal Corps during World War I from plans developed by the British for Nissen Bow Huts. The buildings were prefabricated structures intended for use on the airfields of France. Early huts, which measured 16 feet in width, were used for squadron offices, guardhouses, field stores, and hospitals. During World War II, a larger version of the Nissen hut came to be known as Quonsets, due to the large number of huts used by the Navy and Marines at posts such as the Naval Air Station at Quonset Point, Rhode Island (U.S. Army Construction Engineering Research Laboratory [USACERL] 1990:39-40).

The straight-sided Quonset hut was developed during the Korean War. The design permitted greater utilization of interior space than the arched World War II design. During the Korean War, the straight-sided Quonset hut was used for personnel shelters, administration buildings, mess halls, and post exchanges (Bartelmes 1957:96).

No modifications to the original design and construction of the Quonset hut were identified in the archival record or through site inspection of representative examples.

4.1.14.3 Association

Various Quonset hut designs were associated with the armed forces throughout World War II and the Korean War. The Quonset huts at Fort Bliss were moved to the installation in 1958 and 1959 and were most likely used in Korea. At Fort Bliss, Quonset huts were used in training exercises and for mess halls, barracks, latrines, and administration facilities.

4.1.14.4 Integrity

The character defining features of Quonset huts are their semi-cylindrical metal roofs and the central metal door flanked by two-over-two-light windows. The character defining features of straight-sided Quonset huts are the arched metal roof, metal straight walls, and central metal door. Minimal modifications were identified in the archival record or through site inspections of representative examples. The complex of Quonset huts appeared to retain their integrity of location, design, setting, materials, workmanship, feeling, and association.

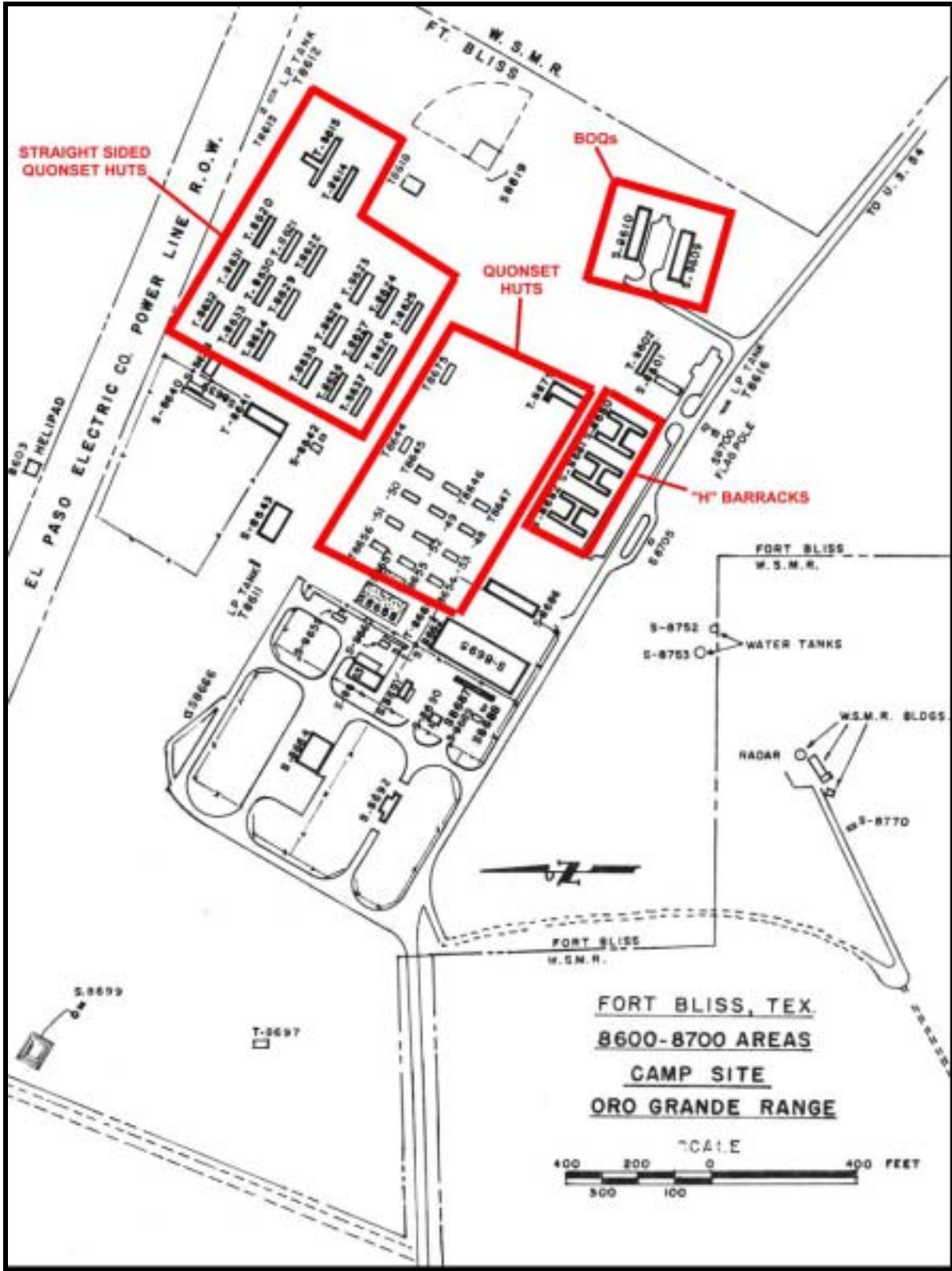


Figure 4.1.198 Map of Mobilization barracks complex, Oro Grande Range, Ft. Bliss.



Figure 4.1.199 Quonset hut, Bldg. 8647 (1958), Oro Grande Range, Ft. Bliss, view W (RCG&A).



Figure 4.1.200 Quonset hut, Bldg. 8650 (1958), Oro Grande Range, Ft. Bliss, view NW (RCG&A).



Figure 4.1.201 Overview of mobilization barracks, Oro Grande Range, Ft. Bliss, view N (RCG&A).



Figure 4.1.202 Mobilization barracks, Bldg. 8637 (1959), Oro Grande Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.203 Interior of Bldg. 8637 (1959), Oro Grande Range, Ft. Bliss, view SE (RCG&A).



Figure 4.1.204 Mobilization latrine, Bldg. 8627 (1959), Oro Grande Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.205 Interior of Bldg. 8627 (1959), Oro Grande Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.206 Mobilization dining facility, Bldg. 8679 (1958), Oro Grande Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.207 Interior of Bldg. 8679 (1958), Oro Grange Range, Ft. Bliss, view S (RCG&A).



Figure 4.1.208 Mobilization dining facilities, Bldg. 8615, 8614, Oro Grande Range, Ft. Bliss, view E (RCG&A).

4.1.15 Mobilization Barracks – C-huts 1966 (Bliss, Hood)

4.1.15.1 Description

The U.S. Army's Engineer Research and Development Laboratory designed the C-hut (Bartelmes 1957:96). The prefabricated metal barracks were 20 feet wide with 8 feet high walls. The barracks could be erected in irregular L, T, and U shapes. The barracks were generally sited in a grid plan (Figure 4.1.209). The basic barracks unit was a rectangular structure with a shed roof (Figure 4.1.210). The buildings had a metal door at each end and featured two-over-two-light, metal-sash windows (Figures 4.1.211). The buildings were built in four stages of construction. Step 1 consisted of the erection of the frame and roof. Step 2 included the installation of exterior walls, doors, and windows. Step 3 was the installation of a metal frame floor. Insulation and liners were added in Phase 4. Depending on the building's use, construction could be stopped after any of the four steps (Bartelmes 1957:98).

Meals for soldiers stationed in the C-huts at North Fort Hood were supplied from centrally located, semi-permanent, rectangular, concrete block kitchens (Figures 4.1.212 and 4.1.213). The buildings terminated in a side gable roof sheathed with composition shingles. A double metal door provided access. Windows on the front and rear elevations were likely used for serving (Figures 4.1.214 and 4.1.215).

While the C-huts at North Fort Hood are not listed in the Army IFS database, the C-huts at Fort Bliss' Dona Ana Range were (Figure 4.1.216). The same building plan was used for barracks and BOQ construction (Figure 4.1.217). Its use differed by the number of men it housed. The C-huts were sited in rows (Figure 4.1.218). The C-huts at Fort Bliss differed from those at North Fort Hood. The Fort Bliss examples include a single light door and air conditioning (Figures 4.1.219-4.1.221).

Soldiers at the Dona Ana Range at Fort Bliss were served meals in a mobilization dining facility (Figure 4.1.222). The one-story, metal frame building had metal clad walls and terminated in a metal sheathed, low-pitched, side gable roof. Single and double metal doors provided access to the dining room on the front, side, and rear elevations. The building featured three-light, metal-sash windows (Figure 4.1.223). An entry vestibule and double metal kitchen doors were added (Figure 4.1.224).

A similar rectangular, metal building was used as a central bathhouse and latrine. The structure featured two lavatory facilities divided by a central heating room (Figure 4.1.225). The building utilized the same metal construction as the dining facility (Figure 4.1.226). The interior was spartan and featured gang latrines (Figure 4.1.227).

4.1.15.2 Evolution

World War II construction reports identified structures of variable lengths and widths. The C-hut was developed as part of a prefabricated building system based on a standardized module. The system was used to construct theater-of-operations steel buildings suitable for barracks, shops, and warehouses. By utilizing interchangeable parts, materials and labor were held to a minimum. Barracks could be expanded in width to 20 feet and could be extended in length indefinitely in increments of 10 feet (Bartelmes 1957:96).

4.1.15.3 Association

C-huts were constructed during the Cold War era to meet the Army's need for rapidly deployable buildings. It is believed that the C-huts at North Fort Hood originally were used in Korea and now houses Army National Guard units during training.

4.1.15.4 Integrity

The character defining features of C-huts are the simple modular construction, basic rectangular structure, shed roof, metal door, and two-over-two-light, metal-sash windows. Minimal modifications identified included the replacement of doors with single light windows and the addition of air conditioning. The C-huts retain their integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 4.1.209 Map of the C-huts, North Ft. Hood.



Figure 4.1.210 Overview of C-huts, North Ft. Hood, view E (RCG&A).



Figure 4.1.211 C-hut, North Ft. Hood, view W (RCG&A).



Figure 4.1.212 C-hut dining facility, Bldg. 56534 (1951), North Ft. Hood, view W (RCG&A).



Figure 4.1.213 C-hut dining facility, Bldg. 56532 (1951), North Ft. Hood, view N (RCG&A).



Figure 4.1.214 C-hut dining facility, Bldg. 56618 (1951), North Ft. Hood, view E (RCG&A).



Figure 4.1.215 C-hut dining facility, Bldg. 56523 (1951), North Ft. Hood, view E (RCG&A).

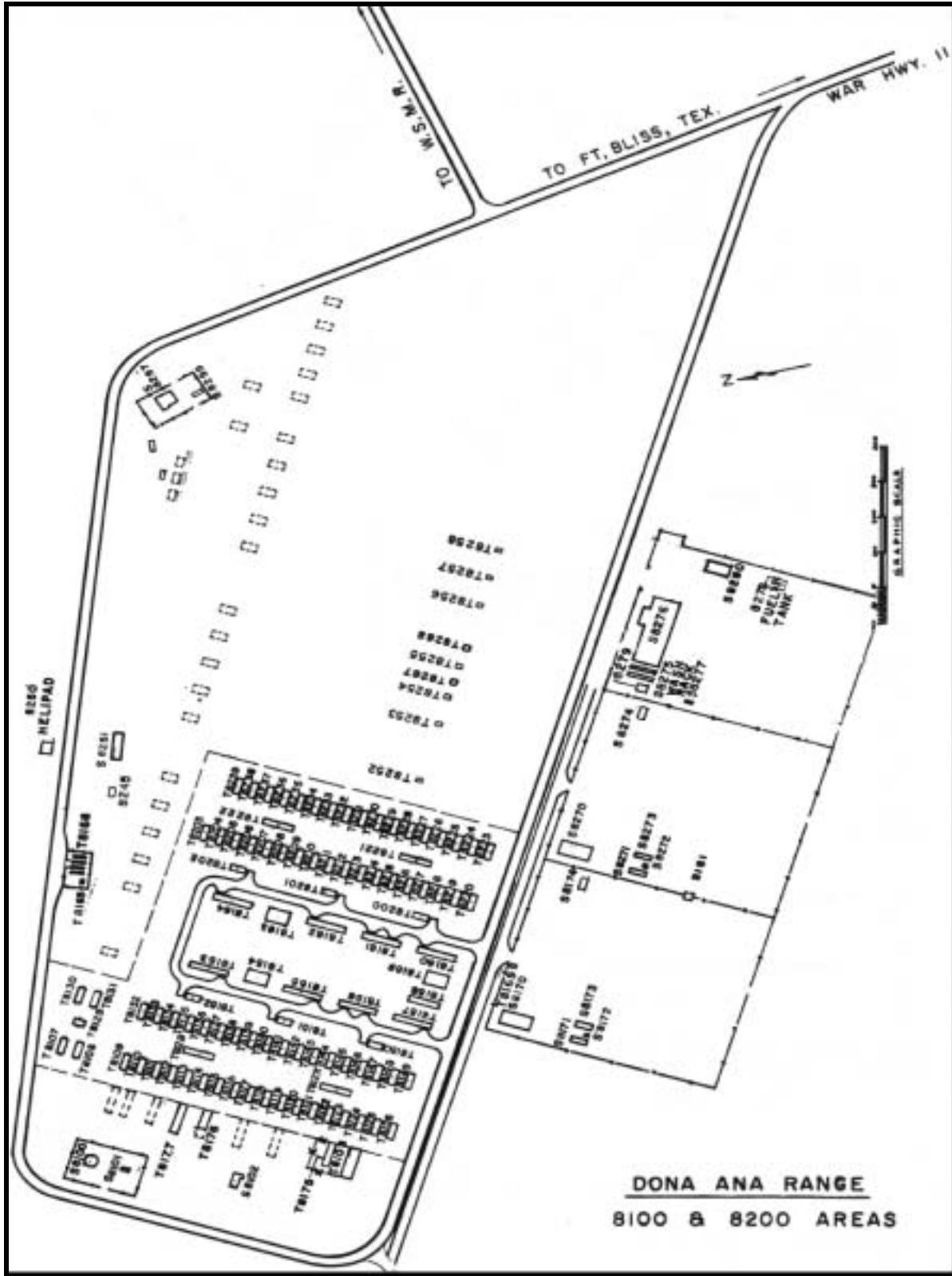


Figure 4.1.216 Map of mobilization barracks complex, Dona Ana Range, Ft. Bliss.

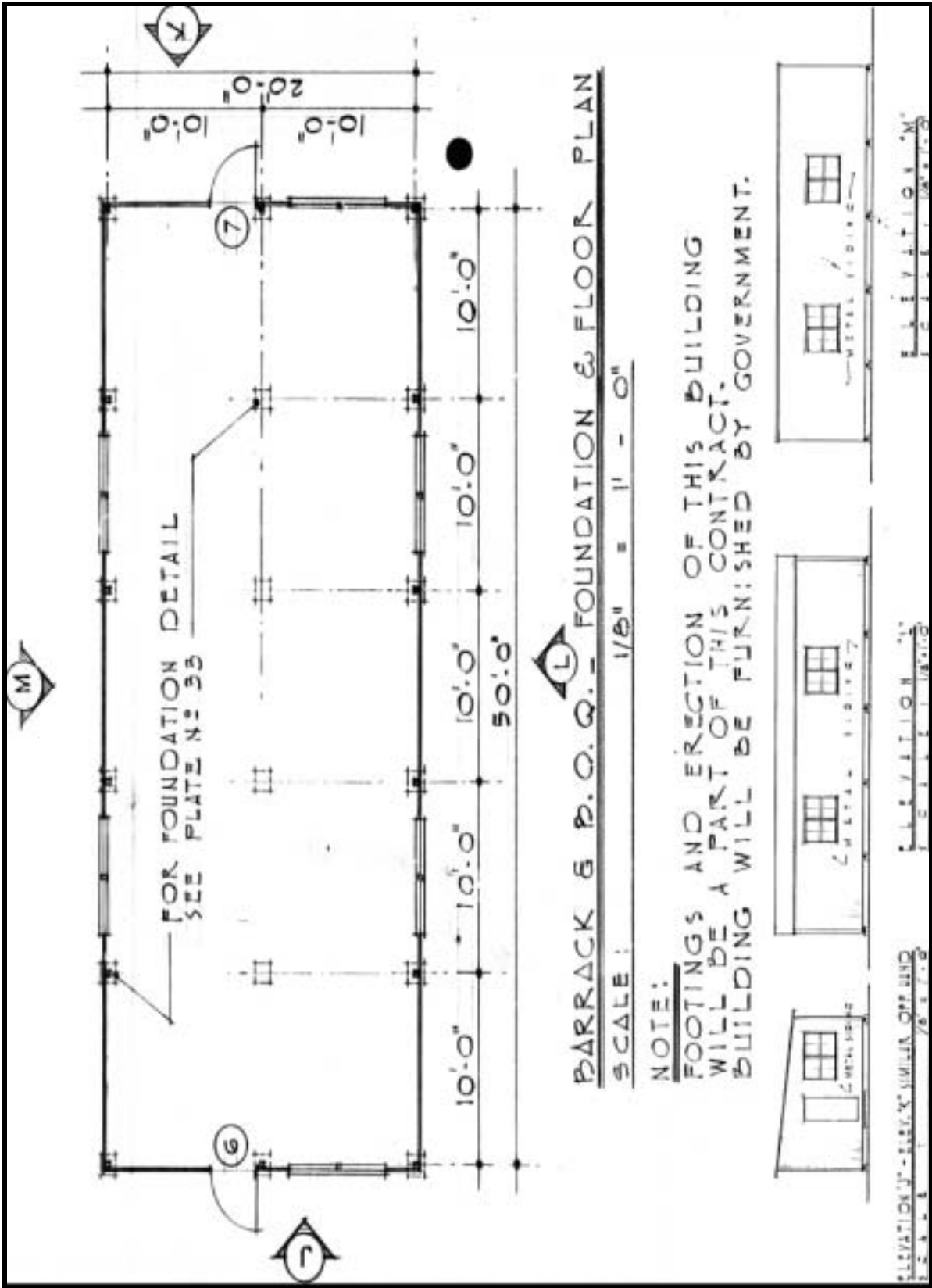


Figure 4.1.217 C-hut, floor plan and elevations, Ft. Bliss (1966, revised 1967) (Engineering, Ft. Bliss).



Figure 4.1.218 Overview of C-huts, Dona Ana Range, Ft. Bliss, view NW (RCG&A).



Figure 4.1.219 C-hut, Bldg. 8215 (1966), Dona Ana Range, Ft. Bliss, view NW (RCG&A).



Figure 4.1.220 C-hut, Bldg. 8130 (1966), Dona Ana Range, Ft. Bliss, view NW (RCG&A).



Figure 4.1.221 C-hut, Bldg. 8130 (1966), Dona Ana Range, Ft. Bliss, view W (RCG&A).

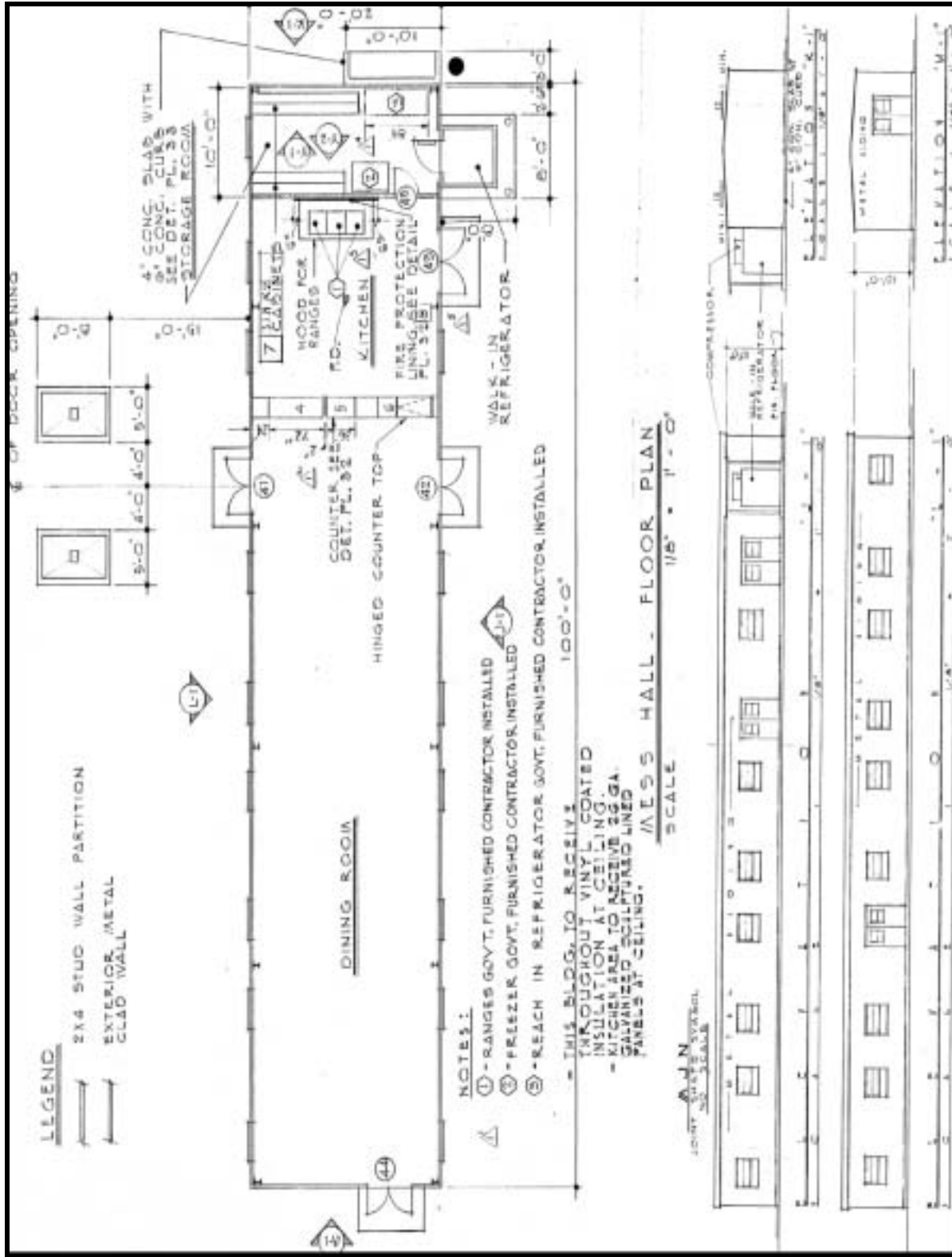


Figure 4.1.222 Mobilization dining facility, elevations and floor plan, Dona Ana Range, Ft. Bliss (1966, revised 1967) (Engineering, Ft. Bliss).



Figure 4.1.223 Mobilization dining facility, Bldg. 8160 (1966), Dona Ana Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.224 Mobilization dining facility, Bldg. 8160 (1966), Dona Ana Range, Ft. Bliss, view SW (RCG&A).

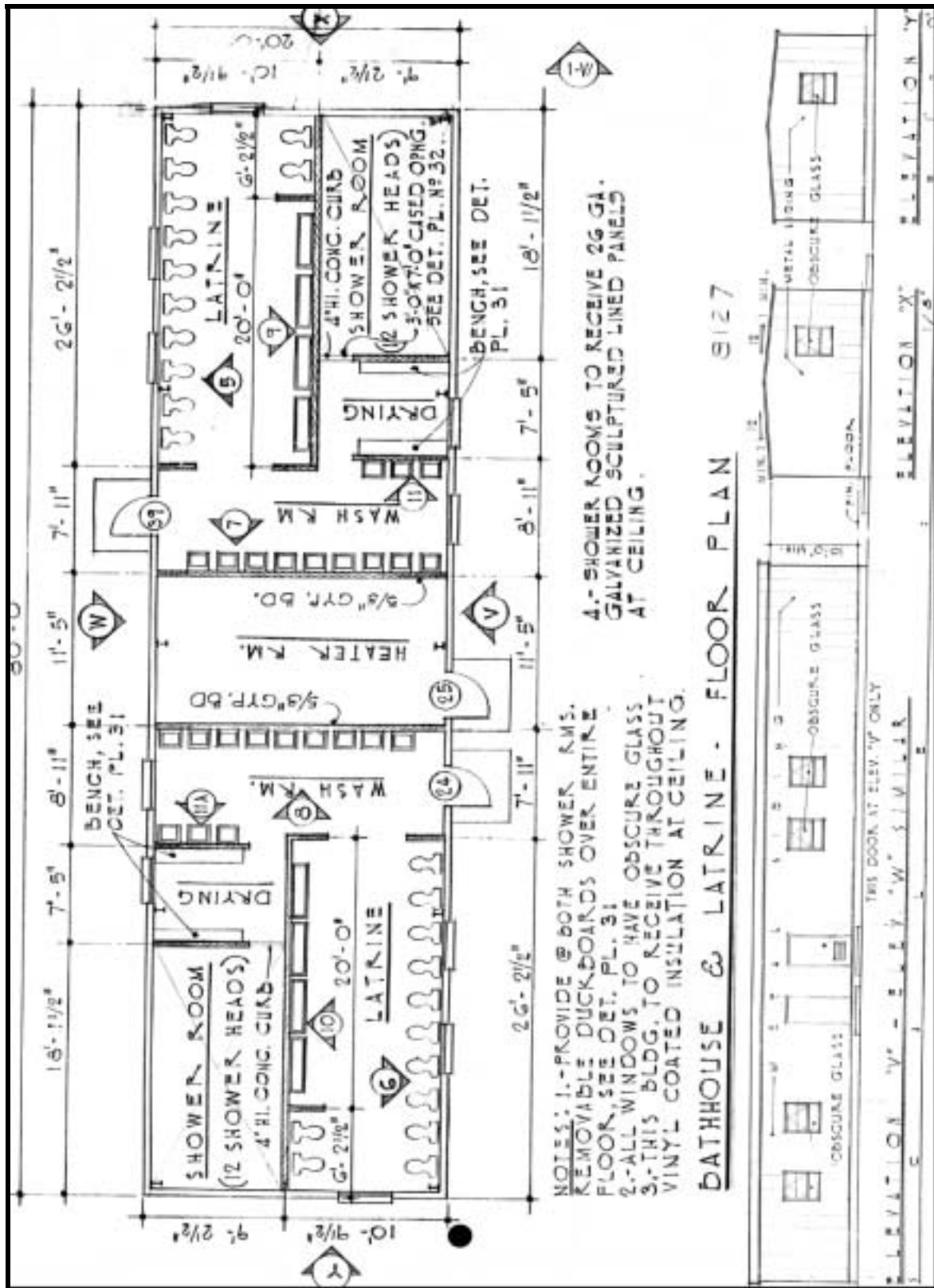


Figure 4.1.225 Mobilization latrine, elevations and floor plan, Dona Ana Range, Ft. Bliss (1966, revised 1967) (Engineering, Ft. Bliss).



Figure 4.1.226 Mobilization latrine, Bldg. 8128 (1966), Dona Ana Range, Ft. Bliss, view E (RCG&A).



Figure 4.1.227 Showers in mobilization latrine, Bldg. 8128 (1966), Dona Ana Range, Ft. Bliss, view NE (RCG&A).

4.1.16 Tent Pads (Knox)

4.1.16.1 Description

Tent pads typically are permanent concrete pads over which tents are placed (Figures 4.1.228 and 4.1.229). Either a metal or wood frame is used to support the tent (Figures 4.1.230-4.1.231)

4.1.16.2 Evolution

Tent pads historically were ground platforms that have been improved with grass, gravel, wood, or masonry.

4.1.16.3 Association

Tent pads are associated with short-term or emergency shelter for Army forces in the field.

4.1.16.4 Integrity

The tent pads identified during the site visits generally were deteriorated and no longer in use. The examples examined did not retain their integrity of design, materials, or workmanship as built resources.



Figure 4.1.228 Tent Pad, Ft. Knox, view NE (RCG&A).



Figure 4.1. 229 Tent Pad, Ft. Knox, view N (RCG&A).



Figure 4.1.230 Tent Pad with wood tent frame, Ft. Knox, view NE (RCG&A).



Figure 4.1.231 Metal tent frame, Ft. Knox, view NE (RCG&A).

4.2 BACHELOR OFFICERS QUARTERS (BOQs)

4.2.1 Hammerhead Bachelor Officers Quarters 1953-1957 (Benning, Bragg, Hood, Knox)

4.2.1.1 Description

Hammerhead Bachelor Officers Quarters (BOQ) were the first major class of BOQs built by the U.S. Army after World War II. The quarters were similar in construction to the hammerhead barracks built for enlisted men. The most striking differences between the buildings types were in plan and support facilities. BOQs were designed without kitchens and mess halls. Kitchen and mess hall wings were replaced by lounges and, occasionally, by offices.

Landscaping around the hammerhead BOQs generally was minimal; plantings were concentrated at the entrances. Trees were few in number and moderate in size.

Hammerhead BOQs came in two and three-story versions depending on the needs of the installation. Fort Bragg utilized a group of six BOQs located around a horseshoe-shaped parking lot (Figure 4.2.1). The BOQs at Fort Benning were aligned parallel to one another (Figure 4.2.2).

Each building rested on a reinforced concrete foundation. The buildings included a reinforced concrete frame and exterior curtain walls of concrete block, painted with waterproof paint. The reinforced concrete frame consisted of exposed, reinforced concrete columns and exposed, reinforced concrete slab floors and roofs (Figure 4.2.3). The interior walls also were masonry block. The roofs appeared flat, but were slightly sloped for perimeter drainage and were sheathed with five-ply built-up roofing covered with gravel. The buildings were built with one-over-one-light, metal sash windows. Entrances in the hammerhead BOQs were located at the ends of the building. In all cases, the entrances were architecturally undistinguished. The entrances featured double metal doors with single-light windows.

Officers were housed in suites (Figure 4.2.4). Each suite consisted of a living/bedroom area, individual closets, and a common bathroom (Figure 4.2.5). The buildings had small basements comprising storage facilities and a heating equipment room.

The three-story hammerhead BOQs occasionally were constructed in conjunction with the two-story version. At Fort Hood, four three-story hammerhead BOQs were sited parallel to each other in the vicinity of the officers' mess (Figure 4.2.6). Three-story BOQs were similar in construction to two-story examples (Figure 4.2.7). The floor plans also were similar; larger lounges and an exterior staircase were included in the larger design (Figures 4.2.8 and 4.2.9).

4.2.1.2 Evolution

Most hammerhead BOQs have been modified and redesigned over time. Many were converted into offices (Figure 4.2.10). The replacement of windows and doors were common modifications to buildings in use as BOQs (Figures 4.2.11-4.2.14). More extensive changes to hammerhead BOQs included gable roofs, new brick and stucco exteriors, modern replacement windows, and remodeled interiors. At Fort Bragg, the exteriors of the buildings were faced in stucco and brick veneers (Figures 4.2.15-4.2.18). In the most extensive renovations, the buildings were stripped to the reinforced concrete frames and rebuilt with modern materials including metal stud

walls, new windows, and foam insulation. In some cases, the interior hallways were removed and replaced with exterior balconies and doorways. At Fort Benning, the BOQs were remodeled in a Spanish Colonial Revival style (Figures 4.2.19-4.2.22). Some hammerhead BOQs were reclassified as transient quarters.

4.2.1.3 Association

Hammerhead BOQs were a result of the first major housing construction program following World War II to house bachelor officers. Hammerhead BOQs were developed to meet the housing shortage experienced by the Army during the Cold War era; personnel strength increased eight-fold over 1934 levels.

4.2.1.4 Integrity

Hammerhead BOQs were industrial in appearance. Their character-defining features include their mass, scale, exposed reinforced concrete frame, exposed concrete block walls, and window placement. Over the years, a number of changes have impacted the integrity of the BOQs.

The BOQs with the most minimal changes from their original design generally have upgraded through the addition of air conditioning systems. In some cases, hammerhead BOQs that have been converted to offices retain greater integrity when compared to in-service housing that has been regularly improved since their construction.

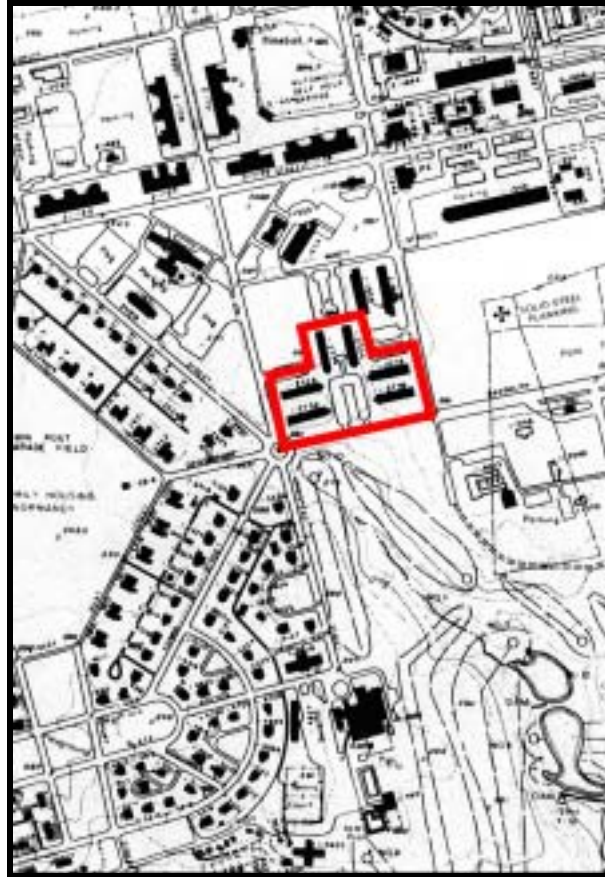


Figure 4.2.1 Map showing two-story, hammerhead BOQ complex, Bldg. 1-2334 through 1-2739, Ft. Bragg.

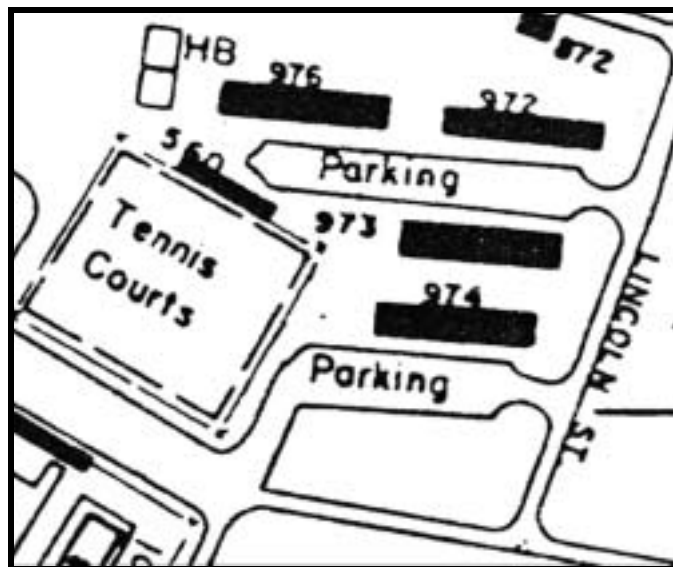


Figure 4.2.2 Map showing two-story, hammerhead BOQs, Bldg. 972-974, 976, Ft. Benning.

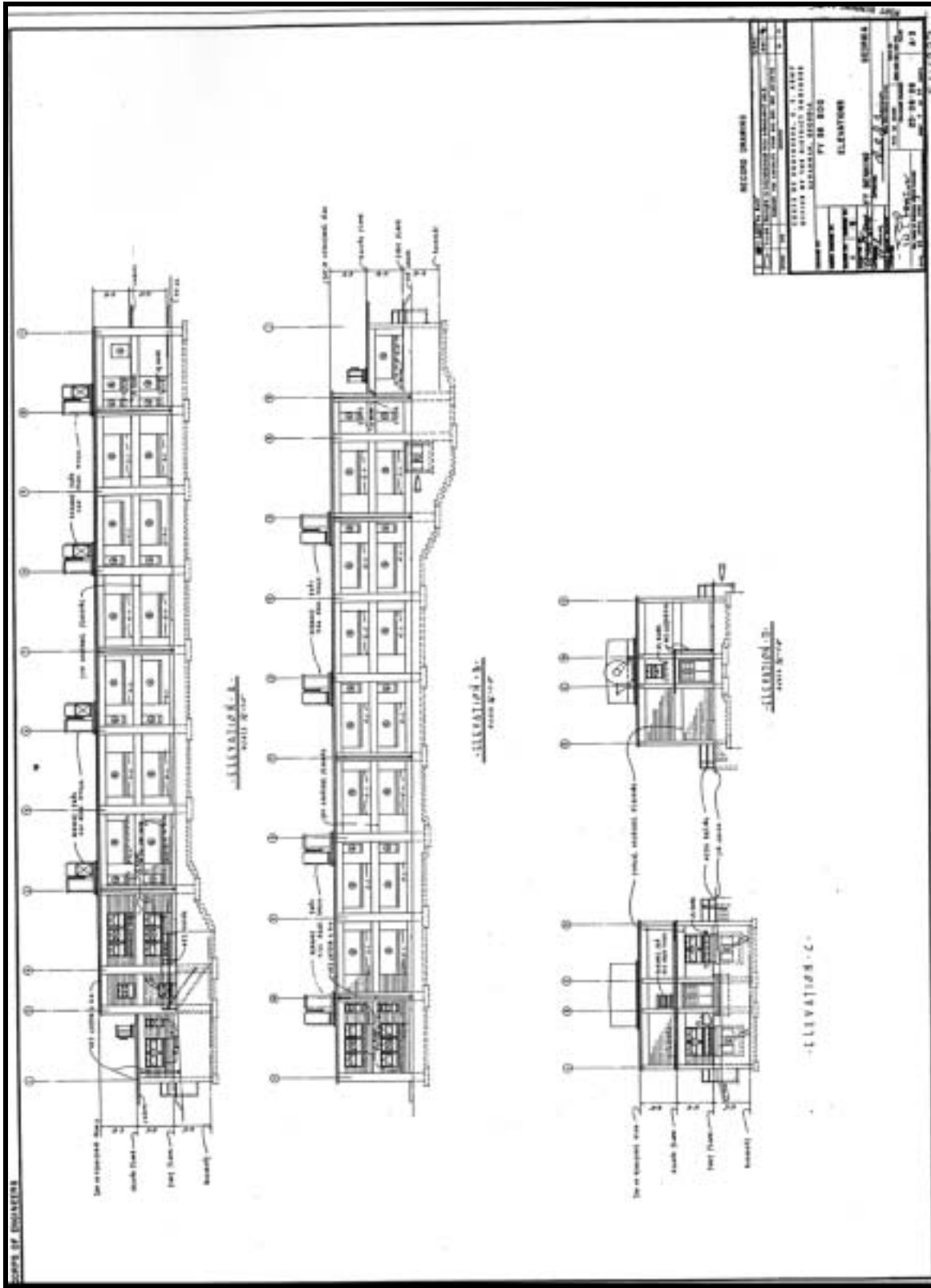


Figure 4.2.3 Two-story, hammerhead BOQ, elevations, Ft. Benning (1954, revised 1957) (Engineering, Ft. Benning).

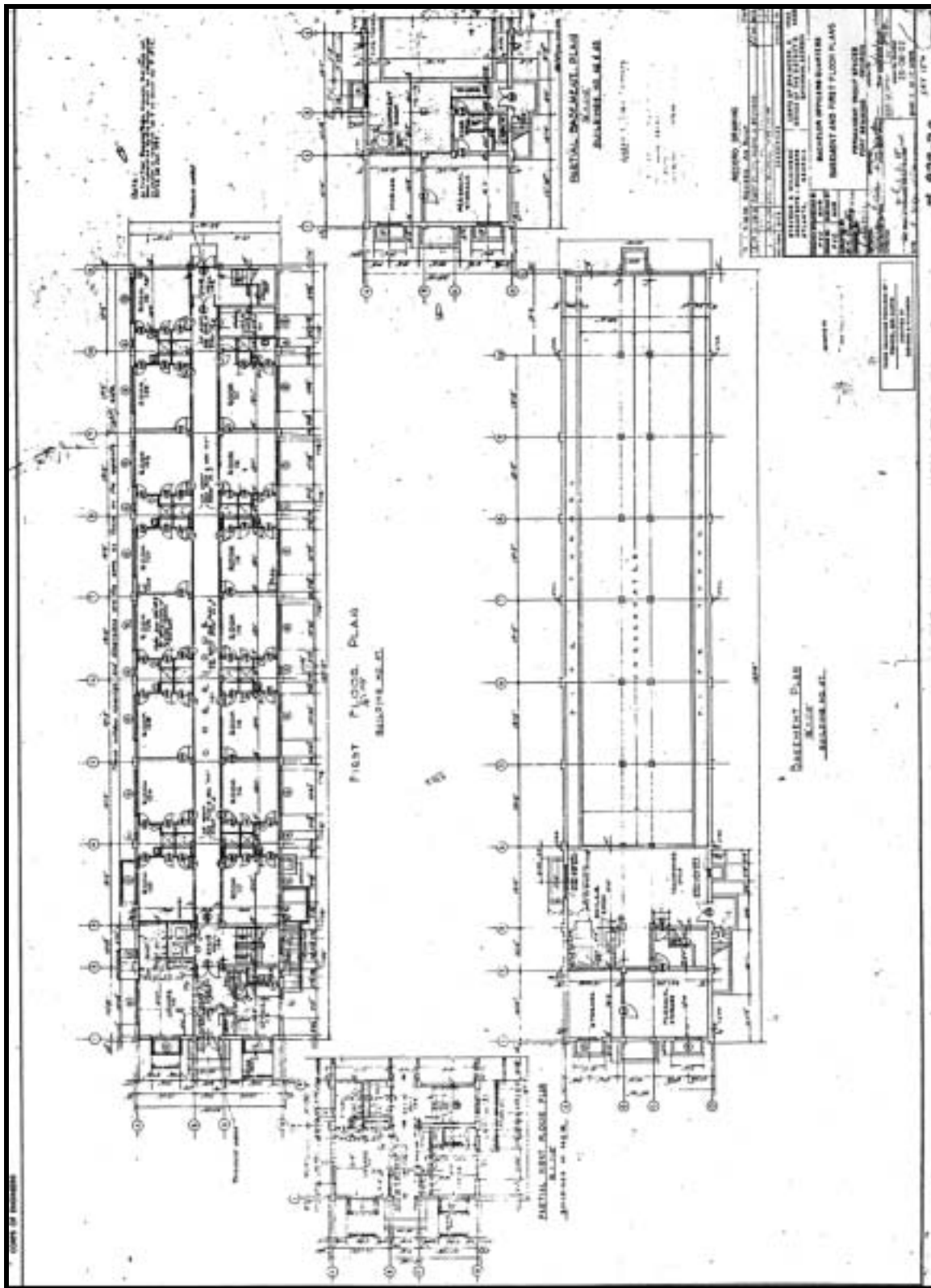


Figure 4.2.4 Two-story, hammerhead BOQ, basement and first floor plans, Ft. Benning (1952, revised 1953) (Engineering, Ft. Benning).

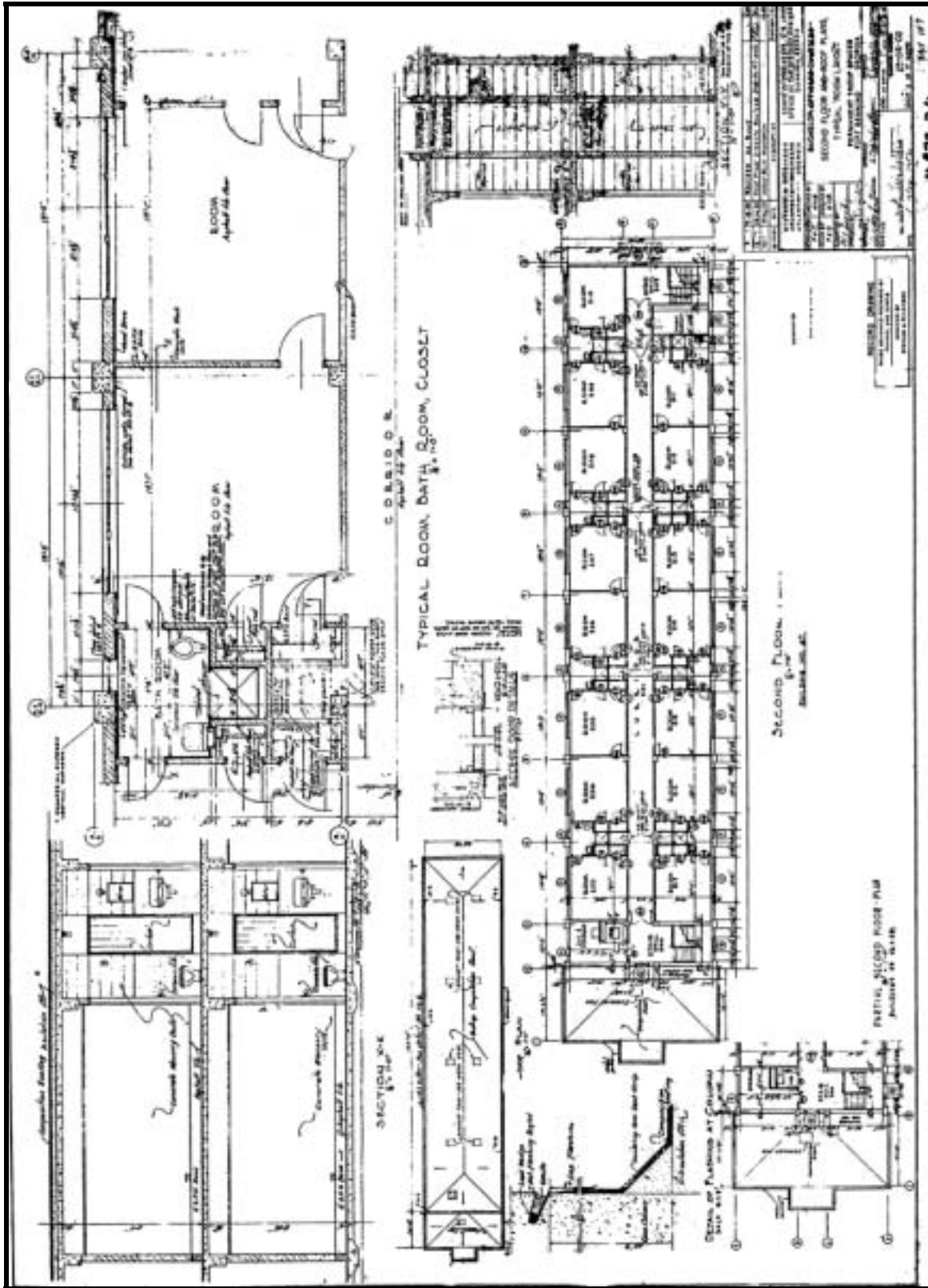


Figure 4.2.5 Two-story, hammerhead BOQ, second floor plan and typical room layout, Ft. Benning (1952, revised 1953) (Engineering, Ft. Benning).

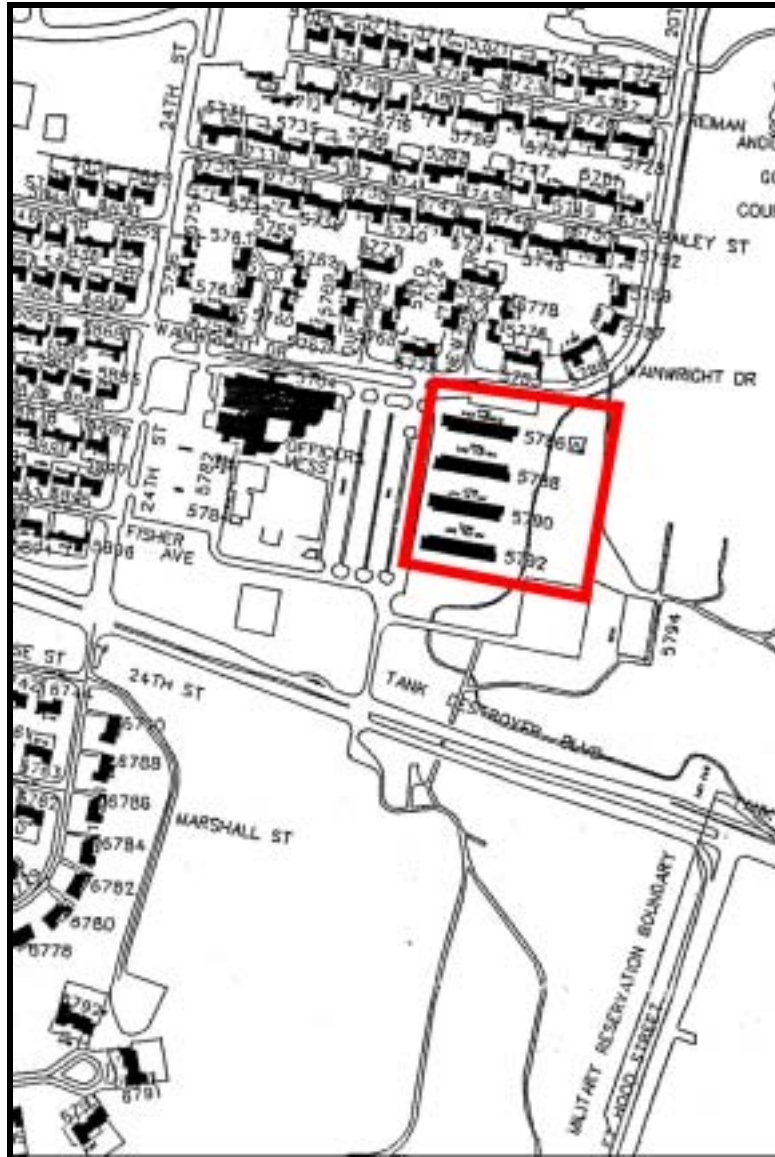


Figure 4.2.6 Map of three-story, hammerhead barracks, Bldg. 5786-5792, Ft. Hood.

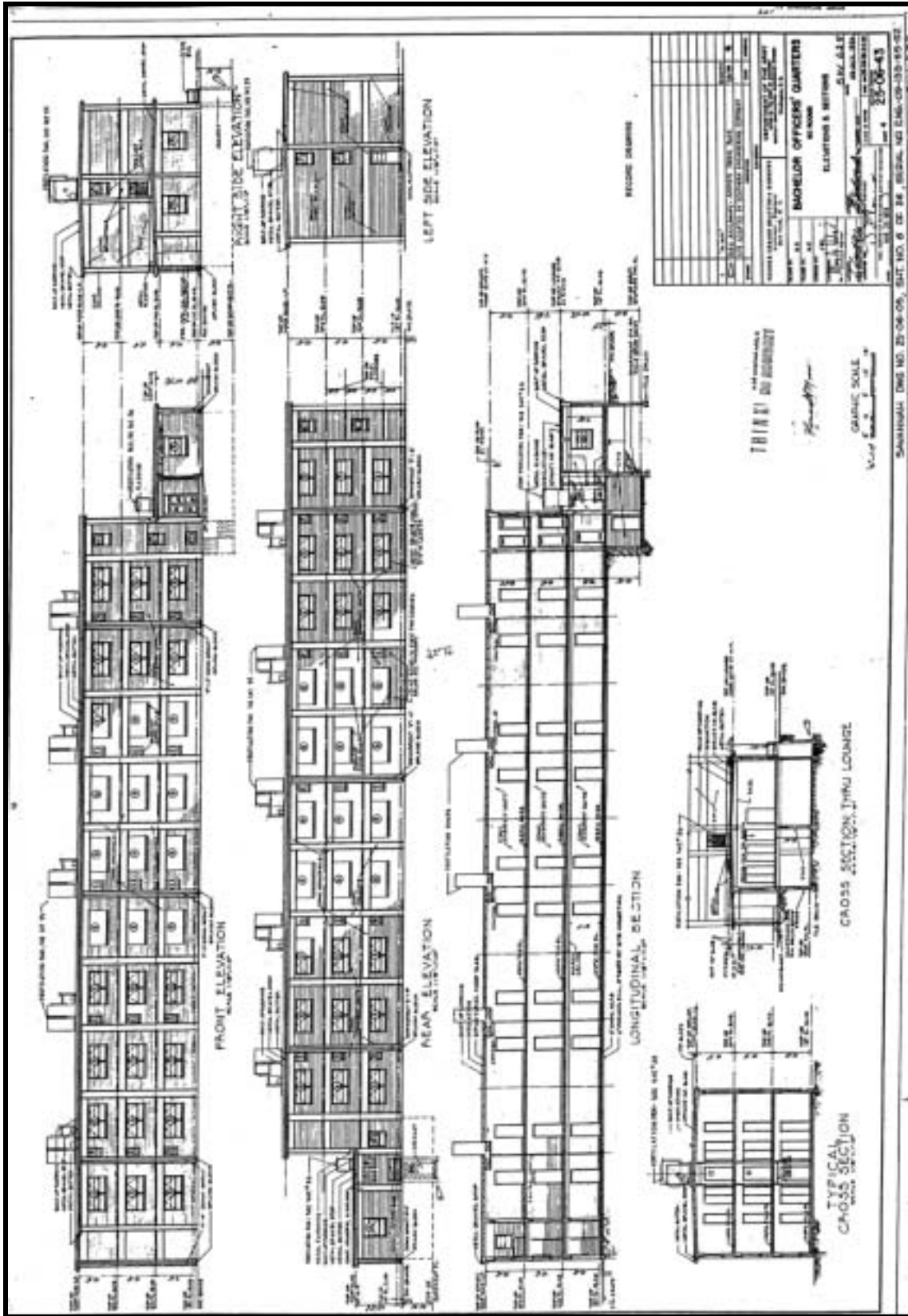


Figure 4.2.7 Three-story, hammerhead BOQ, elevations, Ft. Benning (1955) (Engineering, Ft. Benning).

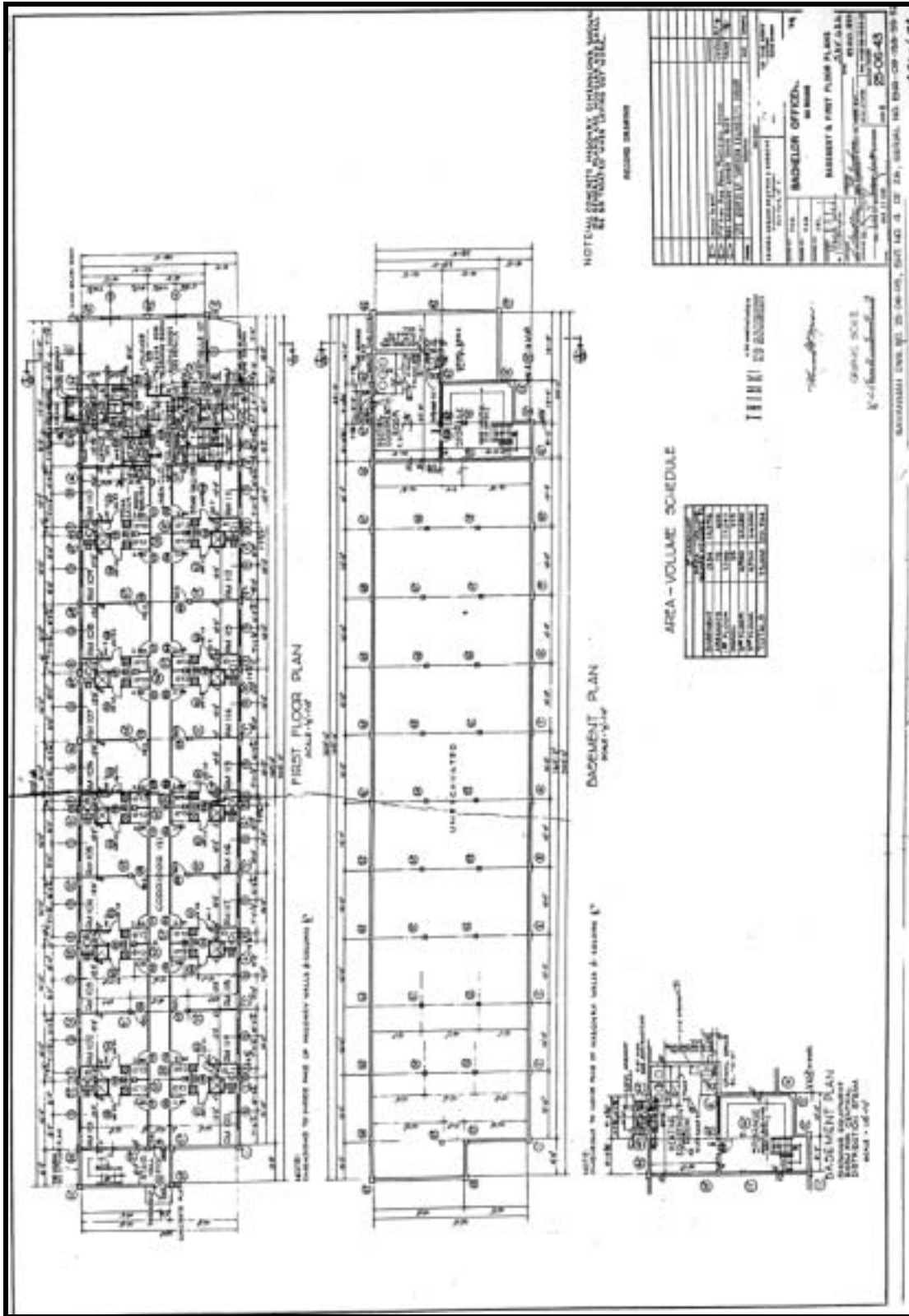


Figure 4.2.8 Three-story, hammerhead BOQ, basement and first floor plan, Ft. Benning (1955) (Engineering, Ft. Benning).

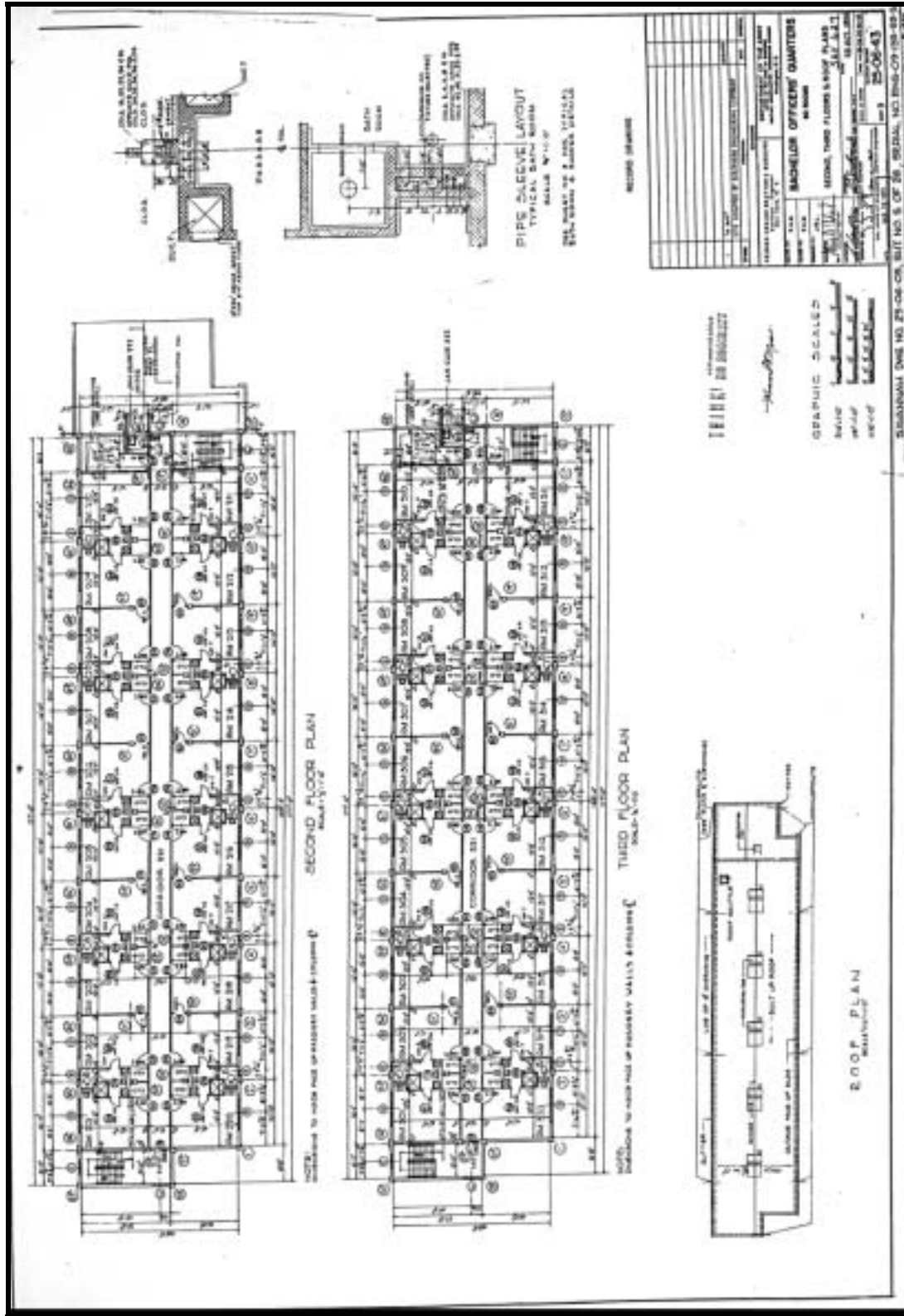


Figure 4.2.9 Three-story, hammerhead BOQ, second, third, and roof plans, Ft. Benning (1955) (Engineering, Ft. Benning).



Figure 4.2.10 Two-story, hammerhead BOQ converted to offices, Bldg. 1-2732 (1953), Ft. Bragg, view SW (RCG&A).



Figure 4.2.11 Two-story, hammerhead BOQ, Bldg. 1394 (1954), Ft. Knox, view NE (RCG&A).



Figure 4.2.12 Two-story, hammerhead BOQ, Bldg. 1392 (1954), Ft. Knox, view W (RCG&A).



Figure 4.2.13 Two-story, hammerhead BOQ, Bldg. 1392 (1954), Ft. Knox, view S (RCG&A).



Figure 4.2.14 Three-story, hammerhead BOQ, Bldg. 5786 (1956), Ft. Hood, view SE (RCG&A).



Figure 4.2.15 Renovated two-story, hammerhead BOQ, Bldg. 1-2334 (1953), Ft. Bragg, view NW (RCG&A).



Figure 4.2.16 Renovated two-story, hammerhead BOQ, Bldg. 1-2334 (1953), Ft. Bragg, view S (RCG&A).



Figure 4.2.17 Renovated three-story, hammerhead BOQ, Bldg. 1-1938 (1955), Ft. Bragg, view NE (RCG&A).



Figure 4.2.18 Renovated three-story, hammerhead BOQ, Bldg. 1-1938 (1955), Ft. Bragg, view SW (RCG&A).



Figure 4.2.19 Renovated two-story, hammerhead UOQ, Bldg. 973 (1953), Ft. Benning, view NW (RCG&A).



Figure 4.2.20 Renovated two-story, hammerhead UOQ, Bldg. 974 (1953), Ft. Benning, view NW (RCG&A).



Figure 4.2.21 Renovated three-story, hammerhead UOQ, Bldg. 975 (1956), Ft. Benning, view S (RCG&A).



Figure 4.2.22 Renovated three-story, hammerhead UOQ, Bldg. 975 (1956), Ft. Benning, view SE (RCG&A).

4.2.2 Apartment-Style Bachelor Officers Quarters 1956-1962 (Bliss, Knox)

4.2.2.1 Description

The apartment-style BOQ was one of the first innovations in BOQ design from the design of hammerhead BOQs. These two-story, rectangular buildings with one-over-one-light, metal-sash windows used an adaptable design that could accommodate differing numbers of personnel by varying the number and length of the buildings. At Fort Knox, the Army built three BOQs arranged in a triangle for the nurses at Ireland Army Hospital (Figure 4.2.23). The Army built an additional eight BOQs for male officers at Fort Knox (Figure 4.2.24). Both these BOQs and a grouping of seven at Fort Bliss were arranged with the buildings facing onto parking lots (Figure 4.2.25).

At Fort Knox, these brick and wood frame BOQs were built on a reinforced concrete slab and incorporated three primary entrances. The women's BOQs faced a park area, which is bounded by the buildings. Parking areas were arranged on the perimeter of the complex (Figures 4.2.26-4.2.28). The men's BOQs featured a different wood trim than the women's quarters and also incorporated a louvered gable dormer above each entrance (Figures 4.2.29 and 4.2.30). At Fort Bliss, walls were constructed of concrete block and the buildings had four primary entrances (Figures 4.2.31-4.2.33). The Fort Bliss examples also had flatter roof than the Fort Knox examples and featured large ventilation units on the roofs. In all examples, each entrance provided access to four apartments – two upstairs and two downstairs. Each apartment contained a kitchen, bedroom, bathroom, and living room. The complex did not include formal landscaping.

4.2.2.2 Evolution

Primary changes to apartment-style BOQs since their construction include the installation of new windows, doors, and heating and air conditioning units. The Fort Knox BOQs were redesigned to incorporate hipped roofs, which conceal heating and air conditioning systems. The Fort Knox examples were reclassified as transient quarters.

4.2.2.3 Association

Apartment-style BOQs reflect the Army's concern over the quality of life for military personnel in the Cold War era. Efforts were made to provide personnel with housing comparable to the civilian sector.

4.2.2.4 Integrity

The character defining features of apartment-style BOQs are the ground plan, two-story scale, multiple entrances, and one-over-one-light, metal-sash. Most of the changes to the apartment-style BOQs have been minor or reversible. Overall, the apartment-style BOQs retain their integrity of location, design, setting, feeling, and association.



Figure 4.2.23 Map of two-story, apartment type women's BOQs, Bldg. 855-857, Ft. Knox.

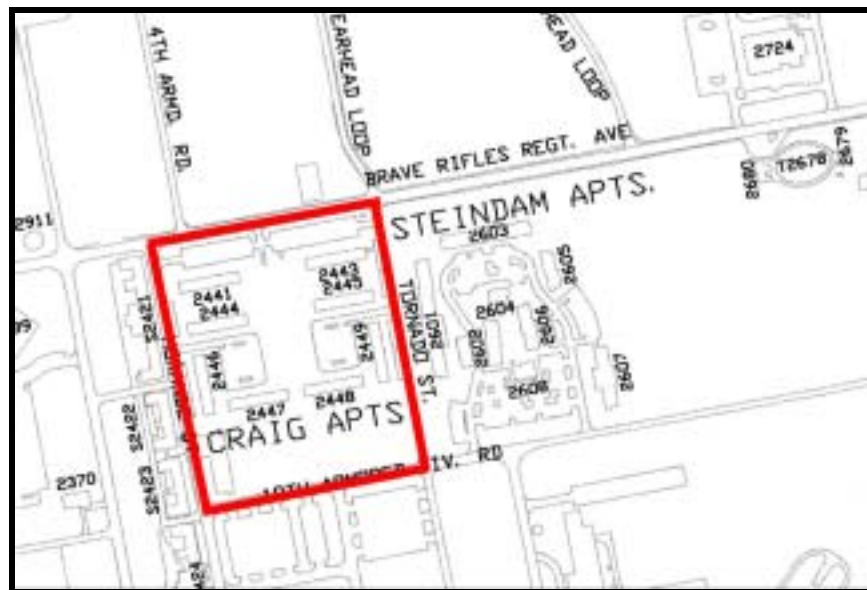


Figure 4.2.24 Map of two-story, apartment type BOQs, Bldg. 2441-2449, Ft. Knox.



Figure 4.2.25 Map of two-story, apartment type BOQs, 5000 area, Ft. Bliss.



Figure 4.2.26 Two-story, apartment type women's BOQ, Bldg. 855 (1959), Ft. Knox, view W (RCG&A).



Figure 4.2.27 Two-story, apartment type women's BOQ, Bldg. 857 (1959), Ft. Knox, view N (RCG&A).



Figure 4.2.28 Two-story, apartment type women's BOQ, Bldg. 856 (1959), Ft. Knox, view N (RCG&A).



Figure 4.2.29 Two-story, apartment type BOQ, Bldg. 2446 (1962), Ft. Knox, view NE (RCG&A).



Figure 4.2.30 Two-story, apartment type BOQ, Bldg. 2446 (1962), Ft. Knox, view NW (RCG&A).

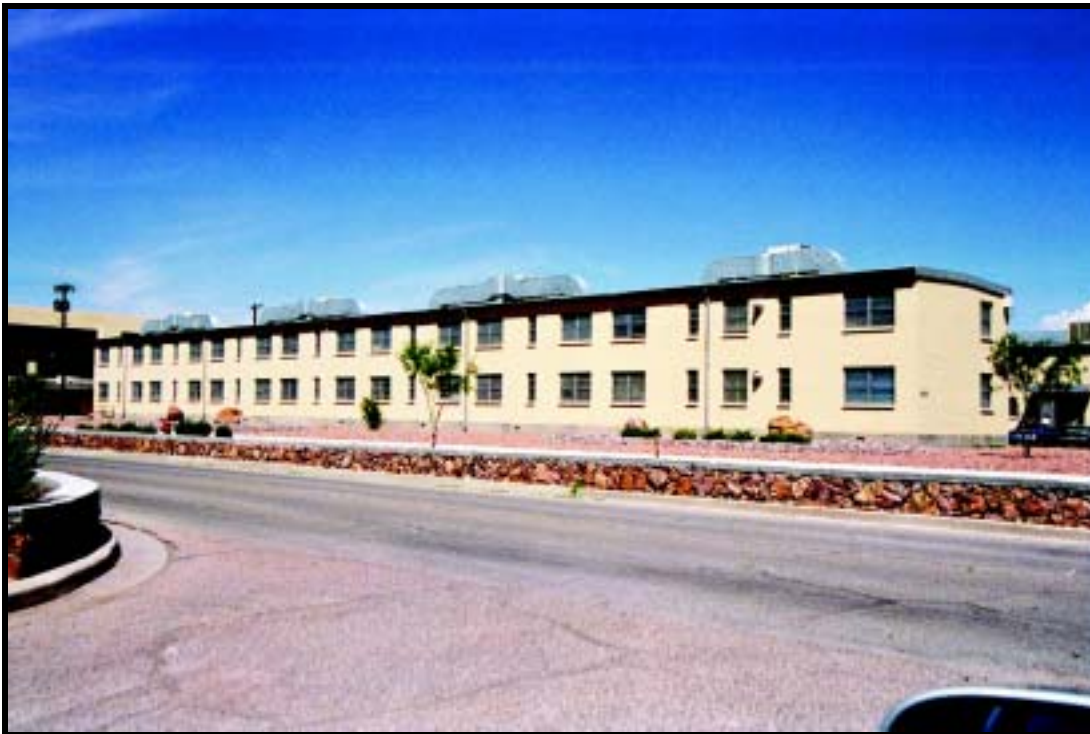


Figure 4.2.31 Two-story, apartment type BOQ, Bldg. 5039 (1958), Ft. Bliss, view NE (RCG&A).



Figure 4.2.32 Two-story, apartment type BOQ, Bldg. 5042 (1962), Ft. Bliss, view SW (RCG&A).



Figure 4.2.33 Two-story, apartment type BOQ, Bldg. 5045 (1962), Ft. Bliss, view NW (RCG&A).

4.2.3 Motel-Type Bachelor Officers Quarters 1968-1973 (Bragg, Polk)

4.2.3.1 Description

Motel designs were first employed for BOQs in the late 1960s. Loewenstein-Atkinson Architects of Greensboro, North Carolina, designed an early example constructed at Fort Bragg (Ft. Bragg drawing 25-06-47; Figures 4.2.34 and 4.2.35). This 120-man, two-story, rectangular, brick structure featured a second floor balcony, exterior entrances, and a flat roof. The building had large fixed windows and glass doors. Exterior stairs accessing the balconies were located at the ends of the buildings (Figures 4.2.36 and 4.2.37). The west end units featured a living room, kitchenette, bedroom, and bathroom for field officers. The remainder of the units were studios for company officers and combined living/bedroom and bathrooms (Figures 4.2.34 and 4.2.35).

The examples of motel-type BOQs identified at Fort Polk were similar in design to those at Fort Bragg. The Fort Polk BOQs differed in plan; an interior corridor extended through the width of the buildings (Figure 4.2.38). A small laundry room and a storage room were accessed from the corridor. The buildings also included a handicapped ramp to the first floor (Figure 4.2.39). Exterior stairs accessed the second floor (Figure 4.2.40). The units included metal doors and paired two-over-two-light windows (Figures 4.2.41 and 4.2.42). Each room included a combined living/bedroom area and a bathroom. Adjoining rooms shared a kitchen (Figure 4.2.38).

4.2.3.2 Evolution

The motel-type BOQs illustrate a pattern of incorporating greater amenities, including kitchens, into BOQ designs. The original windows and doors at Fort Bragg's BOQ were replaced over the years.

4.2.3.3 Association

Quality of life issues for military personnel were an Army concern during the Cold War era. The introduction of motel-type BOQ designs reflects architectural programs that included larger living units with amenities. This design was one of the first to provide all bachelor officers with kitchen facilities.

4.2.3.4 Integrity

The character defining features of motel-type BOQs are the exterior stairs, balconies, exterior unit entrances, flat roof, large fixed windows, and glass doors. The motel-type BOQs have undergone few changes and retain integrity of location, design, setting, workmanship, feeling, and association.

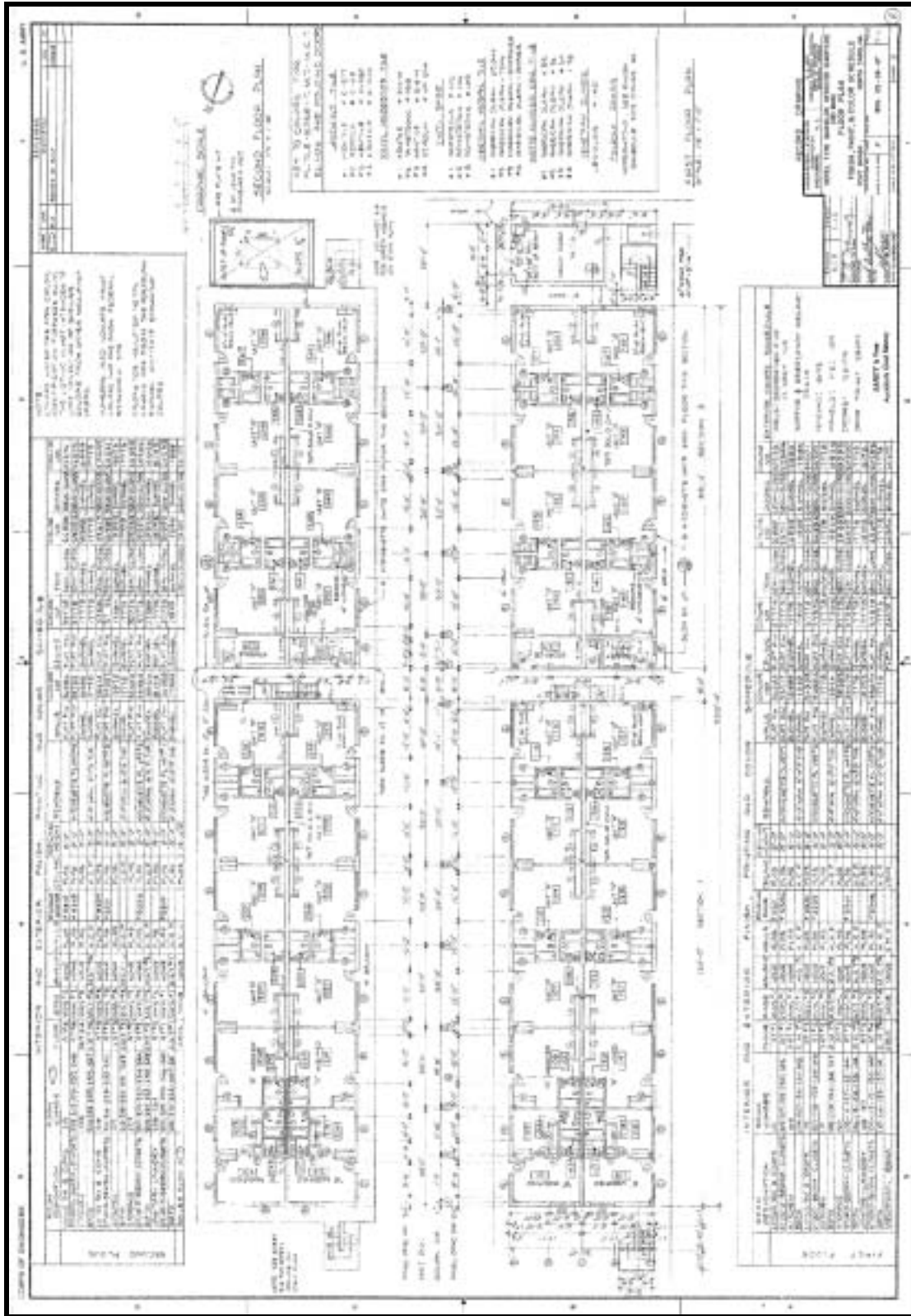


Figure 4.2.34 120-man motel type BOQ, floor plan, Ft. Bragg (1967, revised 1969) (Engineering, Ft. Bragg).

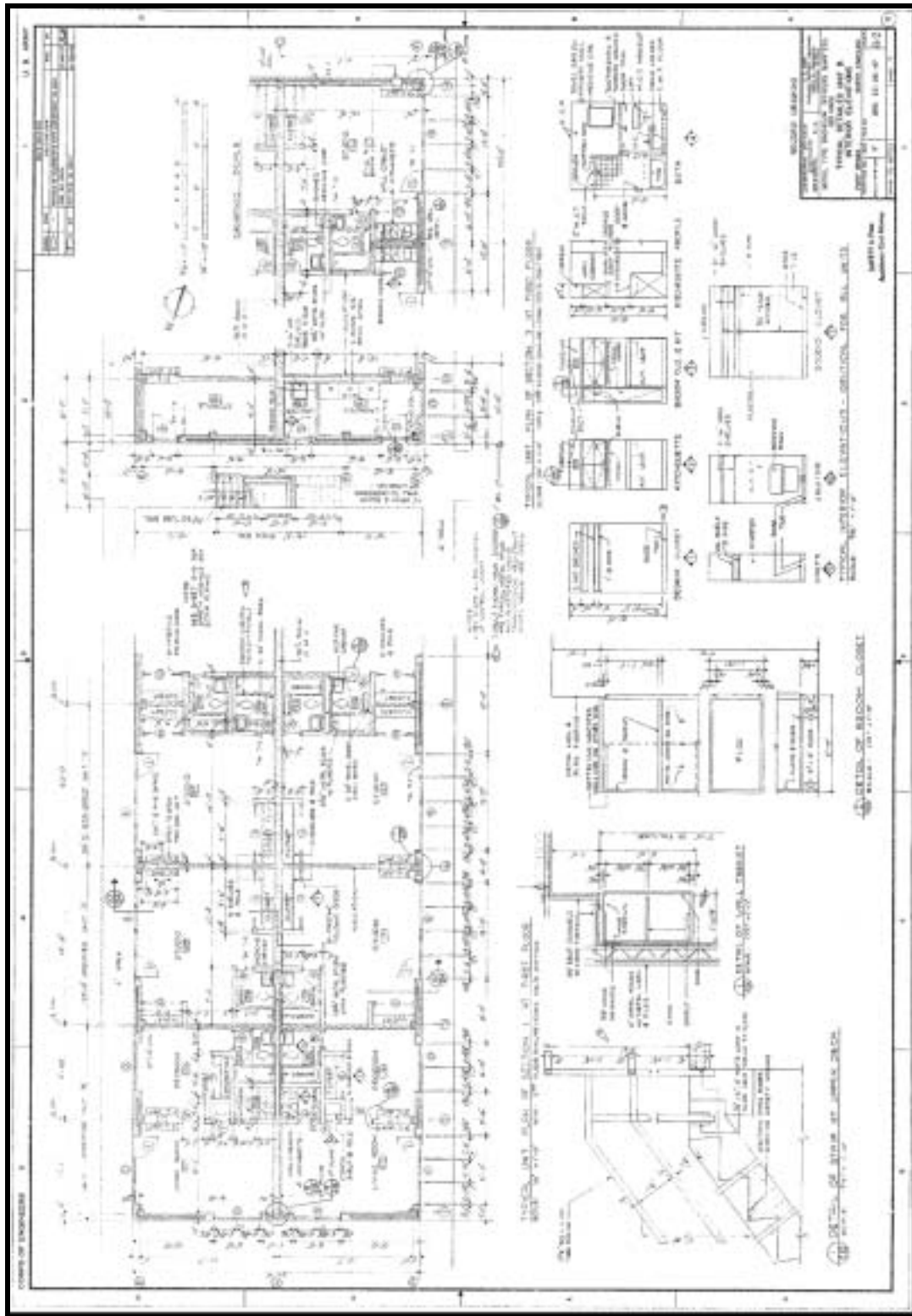


Figure 4.2.35 120-man motel type BOQ, typical unit and interior elevations, Ft. Bragg (1967, revised 1969) (Engineering, Ft. Bragg).



Figure 4.2.36 120-man motel type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view SE (RCG&A).



Figure 4.2.37 120-man motel-type BOQ, Bldg. 1-1939 (1968), Ft. Bragg, view NW (RCG&A).

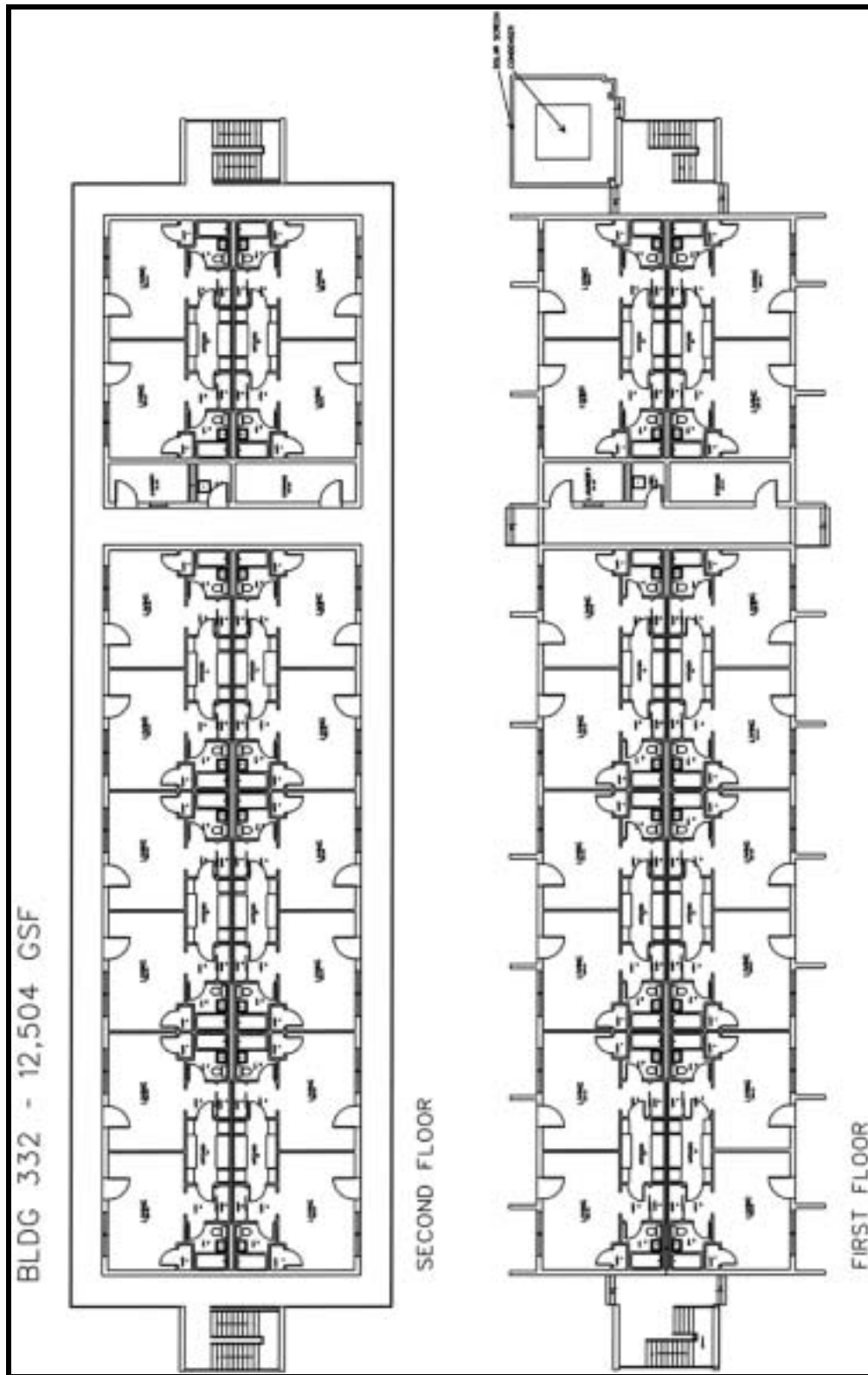


Figure 4.2.38 Motel-type BOQ, Bldg. 332, floor plans, Ft. Polk (ca. 1972) (Engineering, Ft. Polk).



Figure 4.2.39 Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view W (RCG&A).



Figure 4.2.40 Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view SW (RCG&A).



Figure 4.2.41 Motel-type BOQ, Bldg. 331 (1973), Ft. Polk, view NE (RCG&A).



Figure 4.2.42 Motel-type BOQ, Bldg. 332 (1973), Ft. Polk, view SE (RCG&A).

4.2.4 1970s Apartment-Type Bachelor Officers Quarters 1974 (Knox)

4.2.4.1 Description

Bachelor officers were considered in planning housing improvements under the All-Volunteer Army (VOLAR). The standardization of previous BOQs designs was relieved through the introduction of the 1970s apartment-type BOQs. The new designs mixed building sizes and configurations to create a campus-like complex. Congress began appropriating funds for the construction of new designs in fiscal year 1972. The first projects were initiated at Forts Sam Houston, Wolters, and Huachuca. In 1974, construction of another apartment BOQ complex, the Steindam Apartment Complex, was completed at Fort Knox. The 250-man complex consisted of seven BOQ buildings of varying size and a community center (Figure 4.2.43). The pre-cast concrete buildings housed 8, 24, 26, 26, 44, 46, and 76 men, respectively. Each building was two to three stories with exterior stairs, balconies, and flat roofs (Figures 4.2.44-4.2.46). Each unit contained a private balcony accessed by a sliding glass door (Figures 4.2.47 and 4.2.48). Sidewalks connected the buildings, and parking was provided in the vicinity (Figure 4.2.49). Landscaping included trees randomly planted around the complex; shrubs highlighted the building entrances. A central courtyard area was included for picnic tables (Figure 4.2.50).

4.2.4.2 Evolution

The Steindam Apartment Complex was a Bachelor Officers Quarters that illustrates the residential complex approach to BOQ design. The plan for the complex originally was reminiscent of civilian apartments and reflected the Army's concern for developing military housing comparable to the civilian sector. A number of buildings in the Fort Knox example were reclassified as transient officers' quarters and senior enlisted quarters. In addition, the community building was later remodeled for use as an administration and supply building (Figure 4.2.51).

4.2.4.3 Association

The Steindam Apartment Complex reflects the Army's effort to provide housing comparable to that offered in the civilian sector to military personnel.

4.2.4.4 Integrity

The character-defining features of 1970s apartment-style are the exposed pre-cast concrete construction, exterior stairs, individual unit balconies, and flat roofs. With the exception of the community center, the residential complex retains its integrity of location, design, setting, materials, workmanship, feeling, and association.

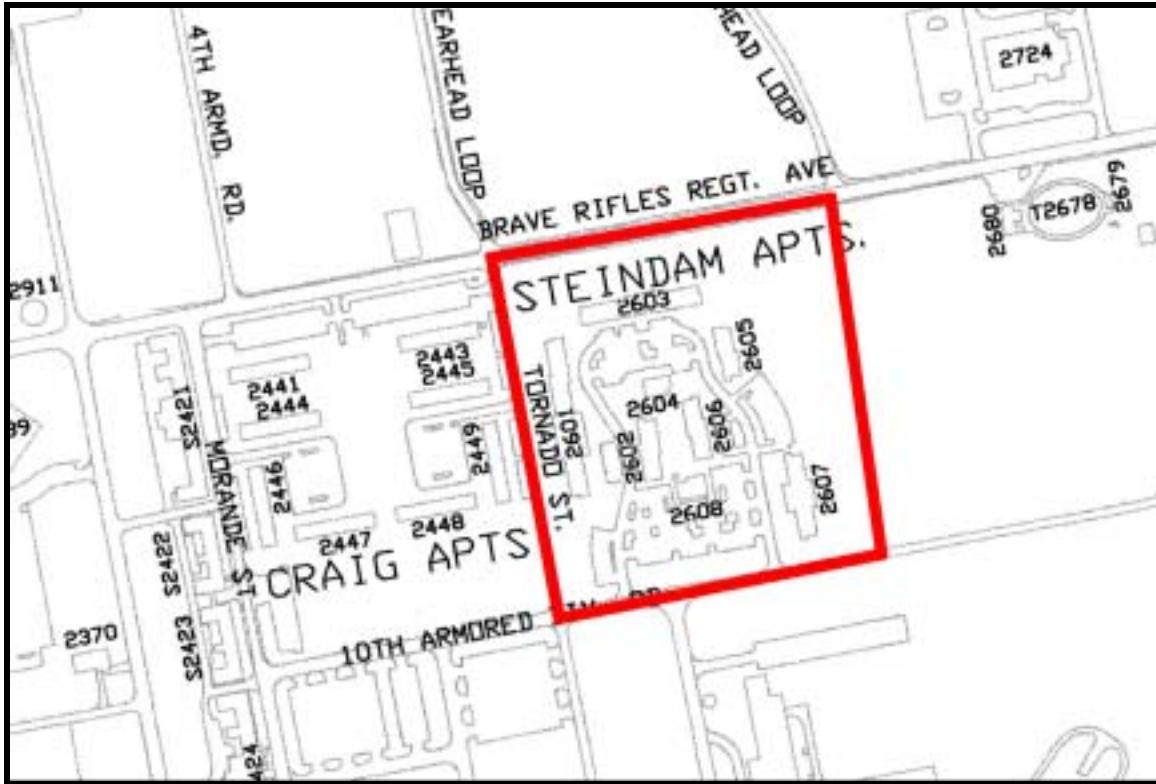


Figure 4.2.43 Map showing apartment-type BOQ complex, 2600 area, Ft. Knox.



Figure 4.2.44 Apartment-type BOQ, Bldg. 2601 (1974), Ft. Knox, view NW (RCG&A).



Figure 4.2.45 Apartment-type BOQ, Bldg. 2601 (1974), Ft. Knox, view SE (RCG&A).



Figure 4.2.46 Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view SW (RCG&A).



Figure 4.2.47 Apartment-type BOQ, Bldg. 2604 (1974), Ft. Knox, view NW (RCG&A).



Figure 4.2.48 Apartment-type BOQ, Bldg. 2606 (1974), Ft. Knox, view NE (RCG&A).



Figure 4.2.49 Apartment-type BOQ, Bldg. 2606 (1974), Ft. Knox, view NW (RCG&A).



Figure 4.2.50 Apartment-type BOQ, Bldg. 2602 (1974), Ft. Knox, view W (RCG&A).



Figure 4.2.51 Community center converted to administration and supply, Bldg. 2608 (1974), Ft. Knox, view SW (RCG&A).

4.2.5 Army Reserve Annual Training Bachelor Officers Quarters 1979 (Hood)

4.2.5.1 Description

Examples of the Army Reserve Training BOQs were located at North Fort Hood. Saunders, Cheng & Appleton, Architects-Engineers-Planners, of Alexandria, Virginia designed these buildings (Ft. Hood real property records). The BOQ complex was organized in rows (Figure 4.2.52).

The Army Reserve Training BOQs were similar in design to the semi-permanent and mobilization BOQs employed elsewhere. The BOQs are long, rectangular, concrete-block buildings that terminate in front gable roofs sheathed in composition shingles (Figure 4.2.53). The gable-ends are clad with vertical siding. The entrances feature single-light metal doors and are located at the gable-ends of the buildings (Figure 4.2.54). The buildings feature one-over-one-light, metal sash windows (Figures 4.2.55). Living units were located off of a central double-loaded corridor (Figure 4.2.56).

4.2.5.2 Evolution

No modifications to the type were identified in the archival record or in the examples identified at North Fort Hood.

4.2.5.3 Association

The Army Reserve training BOQs were similar in design, but differed in construction materials from the semi-permanent and mobilization BOQs previously constructed by the Army to house troops during training. The training BOQs at North Fort Hood were designed by Saunders, Cheng & Appleton, of Alexandria, Virginia. The firm's partners include J.H. Saunders Jr., Tung Chao Cheng, and C. James Appleton III (Ft. Hood real property records).

Tun Chao Cheng was born in Chao-an, Kwangtung, China on 17 June 1931. He received a Bachelor of Science degree in architecture at Taiwan College of Engineering in 1953, attended the Chinese Army Engineering College in 1954, and received a Master of Science degree in architecture from Virginia Polytechnic Institute in 1954. His principal work included the Jefferson Building, Alexandria, 1964; the National Education Association Building, stage 5, Washington D.C., 1966; Fountains Apartments, Alexandria, 1967; Homewood School, Fairfax, Virginia, 1967; and the Seminary Plaza Building, Alexandria, 1969. Awards included first prize in new architecture building design competition, Taiwan College of Engineering, 1952; and City of Kaoshiung, China second prize for President Hall competition, 1953 (Gane and Koyl 1970).

C. James Appleton III was born in Philadelphia on 30 August 1932. He received a Bachelor's degree from University of Pennsylvania. He joined Saunders, Pearson & Partners in 1970 (Gane and Koyl 1970).

4.2.5.4 Integrity

The character-defining features of Army Reserve annual training BOQs are exposed concrete-block walls, front gable roofs, gable-ends clad with vertical siding, and the one-over-one-light, metal-

sash windows. No modifications were identified in the archival record or through site inspections of representative examples. The Army Reserve training BOQs appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

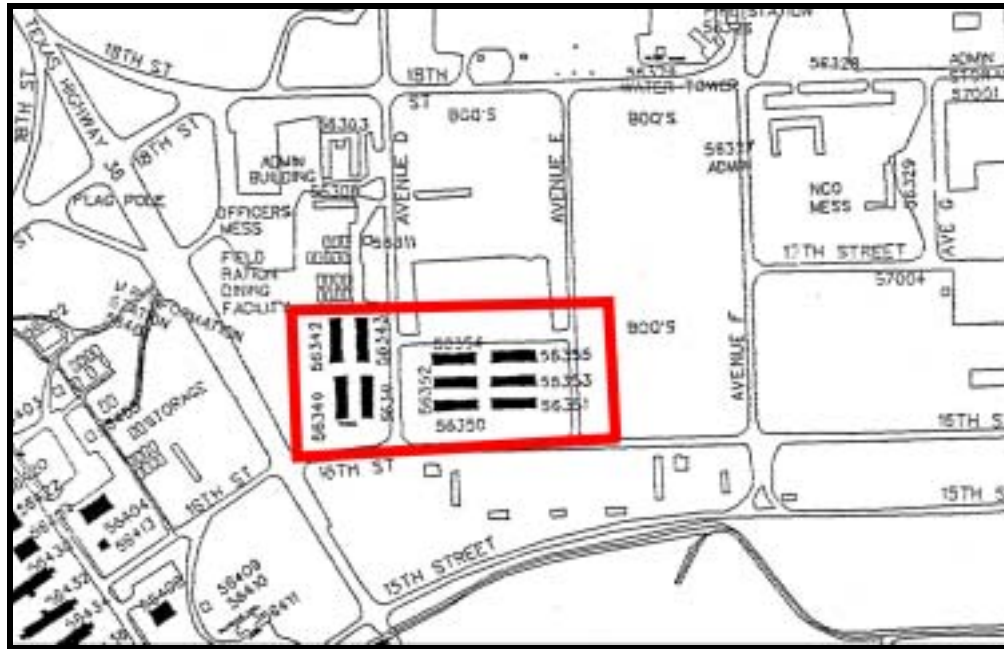


Figure 4.2.52 Map showing the Army Reserve Annual Training UOQ complex.



Figure 4.2.53 Army Reserve Annual Training UOQ, Bldg. 56354, 56352, 56350 (1979), Ft. Hood, view E (RCG&A).



Figure 4.2.54 Army Reserve Annual Training UOQ, Bldg. 56342 (1979), Ft. Hood, view NW (RCG&A).



Figure 4.2.55 Army Reserve Annual Training UOQ, Bldg. 56343 (1979), Ft. Hood, view NW (RCG&A).



Figure 4.2.56 Army Reserve Annual Training UOQ hallway, Bldg. 56343 (1979), Ft. Hood, view N (RCG&A).

4.2.6 High-Rise Bachelor Officers Quarters 1958-1979 (Bragg, Hood, Knox, Polk)

4.2.6.1 Description

The New Garden Apartments at Fort Knox was the first eight-story apartment building authorized under the Wherry Act. Midwest Mortgage Company and its affiliate, Fort Knox Construction Company, designed the \$2 million dollar cross-shaped, brick building. Construction was completed construction in 1958. The building contained 180 efficiency apartments and 20 one-bedroom apartments (ENR 17 July 1952:26). Although built as family housing, the New Garden Apartments was used to house unaccompanied officers and as transient quarters (Ft. Knox real property records). The cross-shaped, brick building featured ribbons of one-over-one, metal-sash windows (Figure 4.2.57). The main entry had a small, flat roofed, porte cochere (Figure 4.2.58). Small parking lots are located around the building (Figure 4.2.59).

Forts Bragg and Hood constructed 300-man, eight-story, Y-shaped, brick BOQs in the late 1960s. The BOQs at Fort Bragg featured horizontal concrete bands and paired, three-light, metal sash windows. Fort Hood's BOQ featured a brick façade divided by concrete framed window bays. Each window bay featured two, one-over-one-light, metal sash windows (Figures 4.2.60-4.2.62). Fort Hood's BOQ was adapted to the site by Howard R. Meyer and Leo L. Landauer & Associates, Architect-Engineers, of Dallas, Texas. The firm also designed a one-story, brick dining facility (Figures 4.2.63 and 4.2.64). The Y-shaped buildings featured a central first-floor lobby located at the intersection of the "Y" (Figure 4.2.64). A bank of elevators provided access to the upper floors from the lobby. Exterior stairs located at the end of each wing provided additional access to the upper floors. Two apartment plans were developed. One wing of the first floor was reserved for distinguished visitors and featured units containing a bedroom, living room with kitchenette, and bathroom (Figure 4.2.65). Most units in the buildings featured a combined bedroom/living room with kitchenette, and bathroom (Figures 4.2.66 and 4.2.67). Although the buildings are similar in plan, examination of the buildings reveals striking differences in the exterior treatments. In the Fort Hood example, Keith Ware Hall, has a wide, overhanging eave to provide sun protection and open stairwells (Figures 4.2.68 and 4.2.69). In contrast, Fort Bragg's Moon and Hardy Halls have minimal eaves and enclosed stairwells (Figures 4.2.70 and 4.2.71).

Mathes, Bergman and Associates, Inc. Architecture-Urban Design, of New Orleans designed a five-story, boomerang-shaped BOQ for Fort Polk (Figure 4.2.72). The brick exterior was broken by textured concrete on the end walls of the wings, the elevator shaft, and above and below the two-over-two-light, metal-sash windows (Figure 4.2.73). The building also featured a central first-floor lobby with a bank of elevators that provided access to the upper floors (Figures 4.2.74 and 4.2.75). Stairs were also located at the front and ends of the building. A lounge was located adjacent to the lobby (Figure 4.2.74). The units featured separate living/bedrooms areas. Each unit had its own kitchenette and bathroom.

Fort Polk's BOQ included simple landscape features consisting of a small grouping of trees on islands in the parking lots and bushes to the side of the front entrance (Figures 4.2.76 and 4.2.77). All parking was located in one lot in front of the building (Figure 4.2.78). The landscape to the rear of the building was left in its natural state except for a few bushes that accented building entrances (Figure 4.2.79).

4.2.6.2 Evolution

The New Garden Apartments and the examples at Forts Bragg and Hood were converted to transient quarters. Fort Polk's boomerang-shaped BOQ was closed due to a fungus infestation. The BOQ will be renovated and converted into an administration building.

4.2.6.3 Association

Howard R. Meyer and Leo L. Landauer & Associates, of Dallas, Texas, designed the eight-story, Y-shaped, high rise BOQ for use at Fort Hood (Ft. Hood drawing No. 00206200 [see Figures 4.2.60-4.2.67]). Howard R. Meyer was born in New York City on 17 February 1903. He graduated from Columbia University with a Bachelor's degree in architecture in 1928. He was "one of the pioneers of modern architecture who combined modern technology with traditional forms and materials in designing commercial, residential, governmental, religious, and educational buildings" (Alexander Architectural Archives 2002). In 1926, Meyer worked for William Lescaze, "then the leading representative of the International Style on the East Coast" (Long 2002). From 1929 to 1931, Meyer worked for the New York firm Bertram Gosvenor Goodhue, and in 1932 was construction superintendent for Thompson & Churchill. In 1932, he formed a firm with Morris B. Saunders (Long 2002).

Meyer established a firm in Dallas in 1935. His work included several small modern houses in the 1930s and early 1940s, including the Sanger House, 1937; the Rose House, 1938; the Pearlstone House, 1938; and the Zale House, 1939. His other residential work included the Charles Storey House, 1949; the Ben Lipshy House, 1950; Turtle Creek Apartments, 1950; and 300-man Bachelor Officers Quarters, Fort Hood, Texas, 1969. His commercial and public work included the Hillel Foundation, Austin, associated with N. Straus Nayfach, 1950; the Hexter Title and Abstract Building, Dallas, 1953; office buildings and warehouses, Red River Arsenal, Texarkana, 1953; public housing projects, Dallas, 1953; Burnet Elementary School, Dallas, 1955; Temple Emanuel, 1959, for which he received an award of merit from the American Institute of Architects; and Caruth Memorial Rehabilitation Center, Dallas, 1961. His other work included religious buildings, the Dallas Home for Jewish Aged, the Dallas Rehabilitation Center, the West Dallas Branch of the Dallas Public Library, and two buildings for the Dallas Housing Authority. His work can be divided into nine categories of design: residential, commercial, industrial, religious, educational, recreational, military structures, scientific structures, and city planning. His awards included a Medal of Merit for Hillel Foundation, University of Texas, Award of Merit for Temple Emanuel, Architect of Merit in the previous ten years from the Texas Society of Architects for Turtle Creek Apartments and Temple Emanuel, and an American Institute of Architects Award of Merit for Temple Emanuel (Koyl 1955, 1962; Gane and Koyl 1970).

The principal partners at Mathes, Bergman and Associates Inc., of New Orleans, were Earl L. Mathes and William E. Bergman (Koyl 1962; Gane and Koyl 1970). The firm was responsible for the design of the high-rise BOQ, Woodfill Hall, at Fort Polk.

Earl L. Mathes was born on 9 May 1912 in New Orleans, Louisiana. He received a Bachelor's degree in architecture from Tulane University in 1933. He was an architectural draftsman and junior associate with Favrot & Reed Architects, and also worked for Favrot, Reed, Mathes & Bergman. His principal works (all New Orleans unless specified) included the Education Building at South Charles Avenue Presbyterian Church, 1949; a store addition at Krauss Co. Ltd., 1951; Tulane University Medical School Cardio-Vascular Research Building, 1952, a school building for the

Tangipahoa Parish School Board, 1953; Louisiana State Office Building, associate architect with August Perez & Associates and Goldstein, Parham & Labouisse, 1959; the Crossbar Office Building of Southern Bell Telephone and Telegraph Co., 1960; alterations to the Hibernia National Bank. 1960; Tulane University Hutchinson Memorial Building, consultant architect to Ellerbe & Co., 1963; Jung Hotel Convention Facility, associate architect with Nolan, Norman & Nolan, 1964; Louisiana State University Student Union Building, Baton Rouge, associate architect with John Desmond and Wilson & Sandler; 1964; and South Central Bell Telephone Co. building, 1968 (Koyl 1955, 1962; Gane and Koyl 1970).

William Edward Bergman was born in Grandview, Texas on 4 May 1913. He received a Bachelor's degree in architecture from University of Texas in 1936. He was a draftsman for H.F. Kuehne in 1936, John Staub in 1937, and Favrot & Reed from 1938 to 1947. He was a partner with Favrot, Ree, Mathes & Bergman from 1949 to 1958, and a partner with Mathes, Bergman & Associates from 1958 to 1964. He remained a partner when the firm reorganized as Mathes, Bergman & Associates Inc. His principal work (all New Orleans unless specified) included Southern Baptist Hospital, 1951; Veterans Administration Hospital, 1952; Mercy Hospital, Carter Woodson Junior High School, and New Orleans Baptist Theological Seminary, 1954; New Orleans Civic Center, associate architect with Favrot & Reed and Goldstern, Parham & Labouisse; Federal Building and Post Office, associate architect with Freret & Wolfe and August Perez & Associates, 1961; First National Life Insurance Company home office, 1961; Civil Court building, associate architect with August Perez & Associates and Goldstein, Parham & Labouisse; and The Rivergate, associate architect with Curtis & Davis and Edward B. Silverstein (Koyl 1955, 1962; Gane and Koyl 1970).

The firm's other work included Boh Brothers Construction Co. Office Building, New Orleans, 1967; and renovations to the University Room at the Roosevelt Hotel, New Orleans, 1968 (New Orleans Building Plans 2002).

4.2.6.4 Integrity

The character defining features of Fort Knox apartment building complex are the distinctive ground plans, brick construction, elevators, scale, and mass. The buildings retain their integrity of location, design, setting, materials, workmanship, feeling, and association.

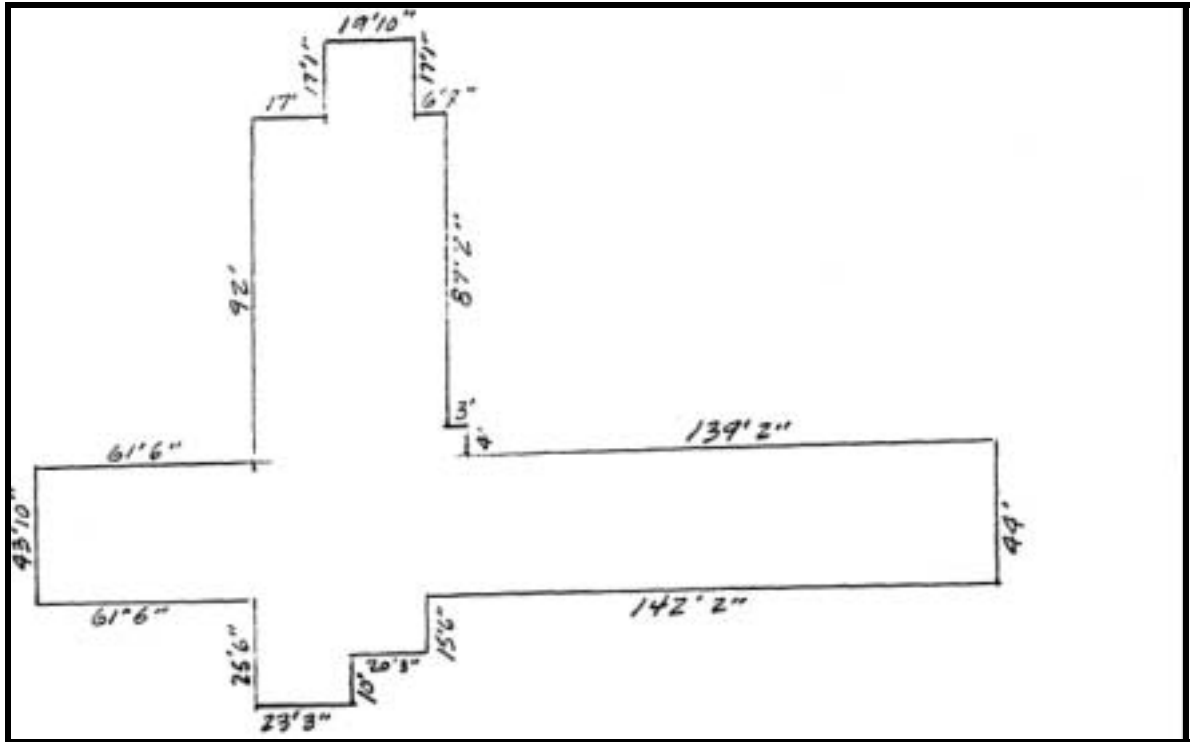


Figure 4.2.57 High Rise BOQ, sketch plan (ca. 1958) (Real Property, Ft. Knox).



Figure 4.2.58 High Rise BOQ, New Garden Apartments, Bldg. 4770 (1958), Ft. Knox, view E (RCG&A).



Figure 4.2.59 High Rise BOQ, New Garden Apartments, Bldg. 4770 (1958), Ft. Knox, view SE (RCG&A).

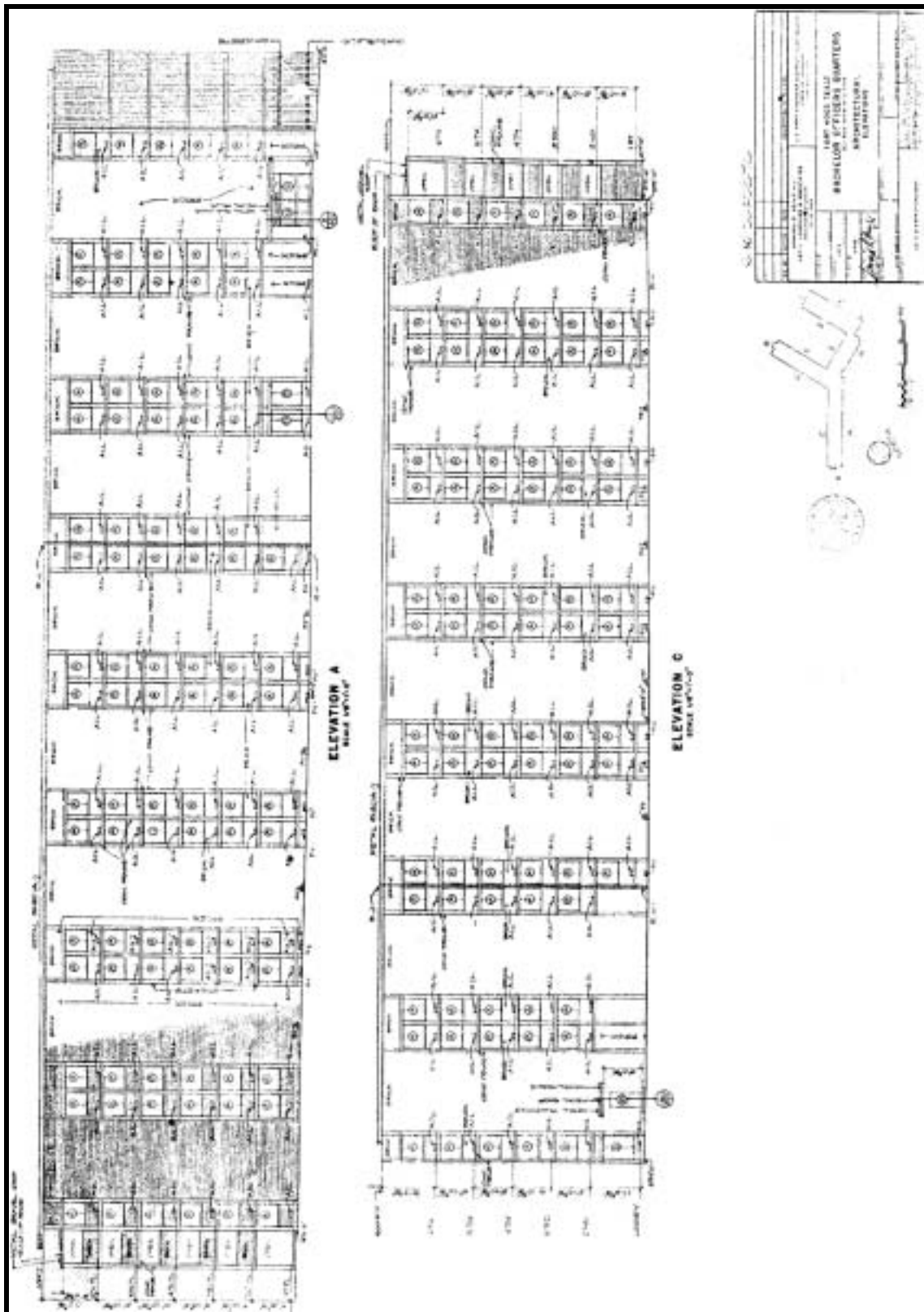


Figure 4.2.60 High Rise BOQ, Keith Ware Hall, elevations A & C, Ft. Hood (ca. 1967) (Engineering, Ft. Hood).

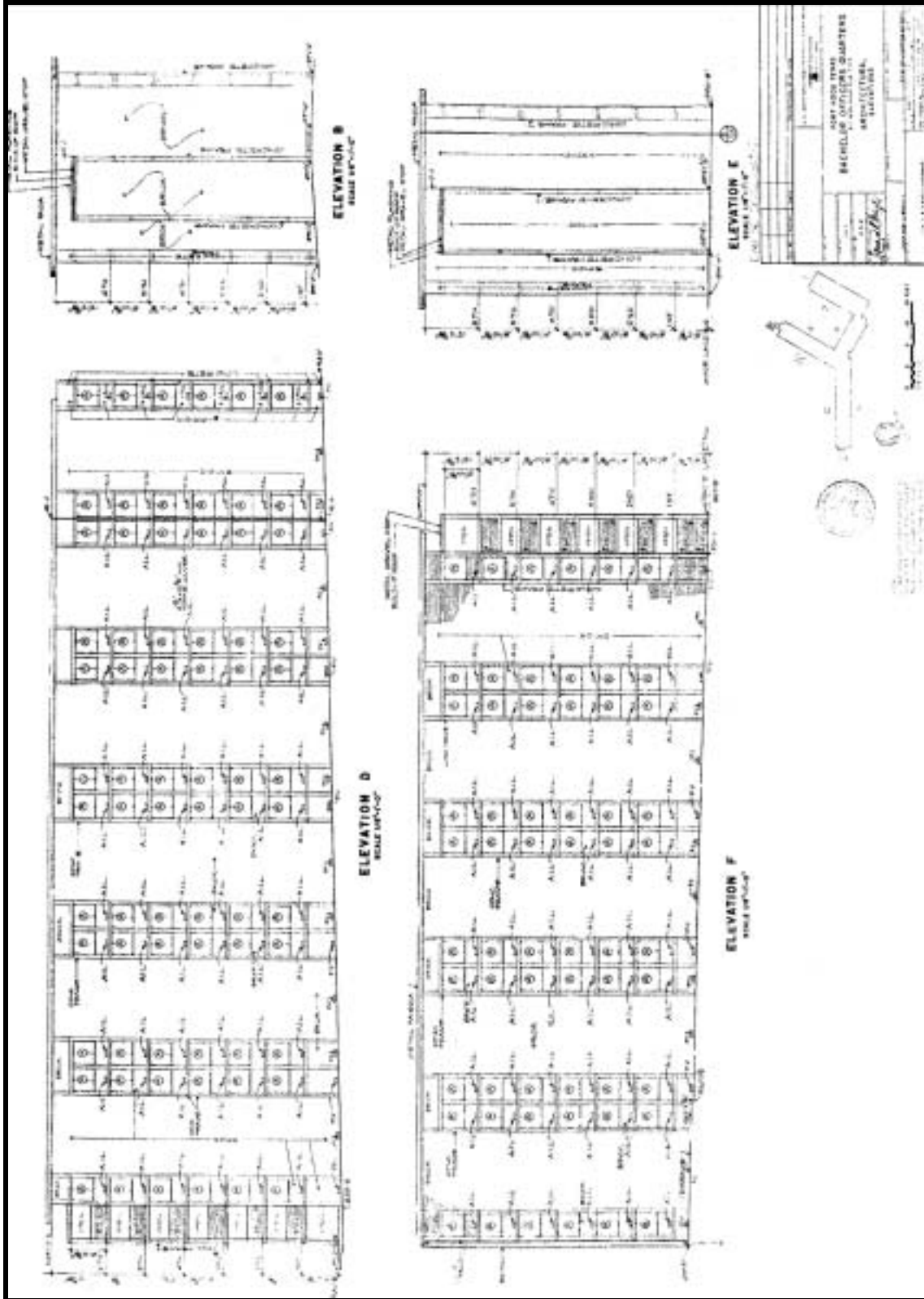


Figure 4.2.61 High Rise BOQ, Keith Ware Hall, elevations D, B, F, & E, Ft. Hood (ca. 1967) (Engineering, Ft. Hood).

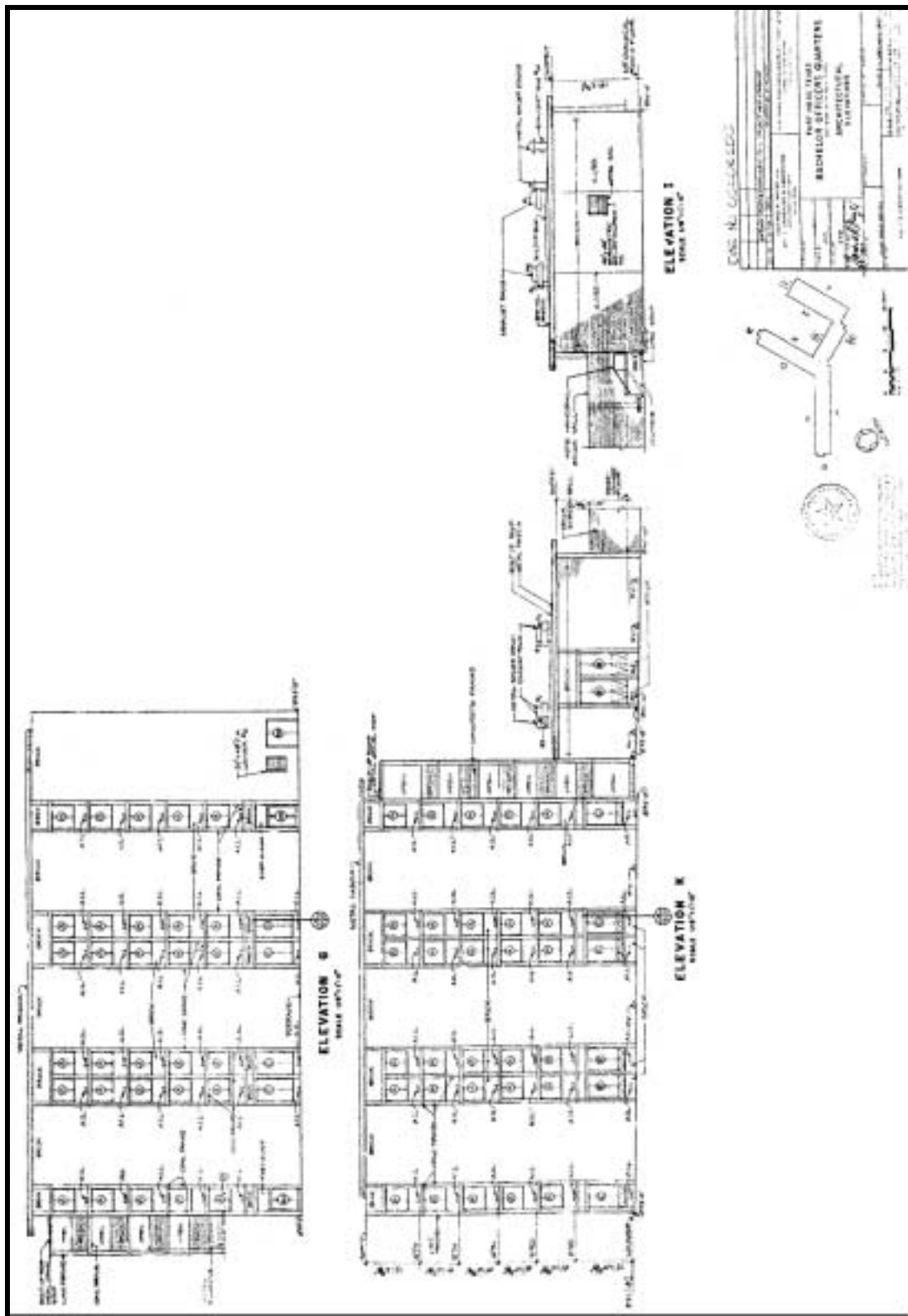


Figure 4.2.62 High Rise BOQ, Keith Ware Hall, elevations G, K, & I, Ft. Hood (ca. 1967, revised 1967) (Engineering, Ft. Hood).

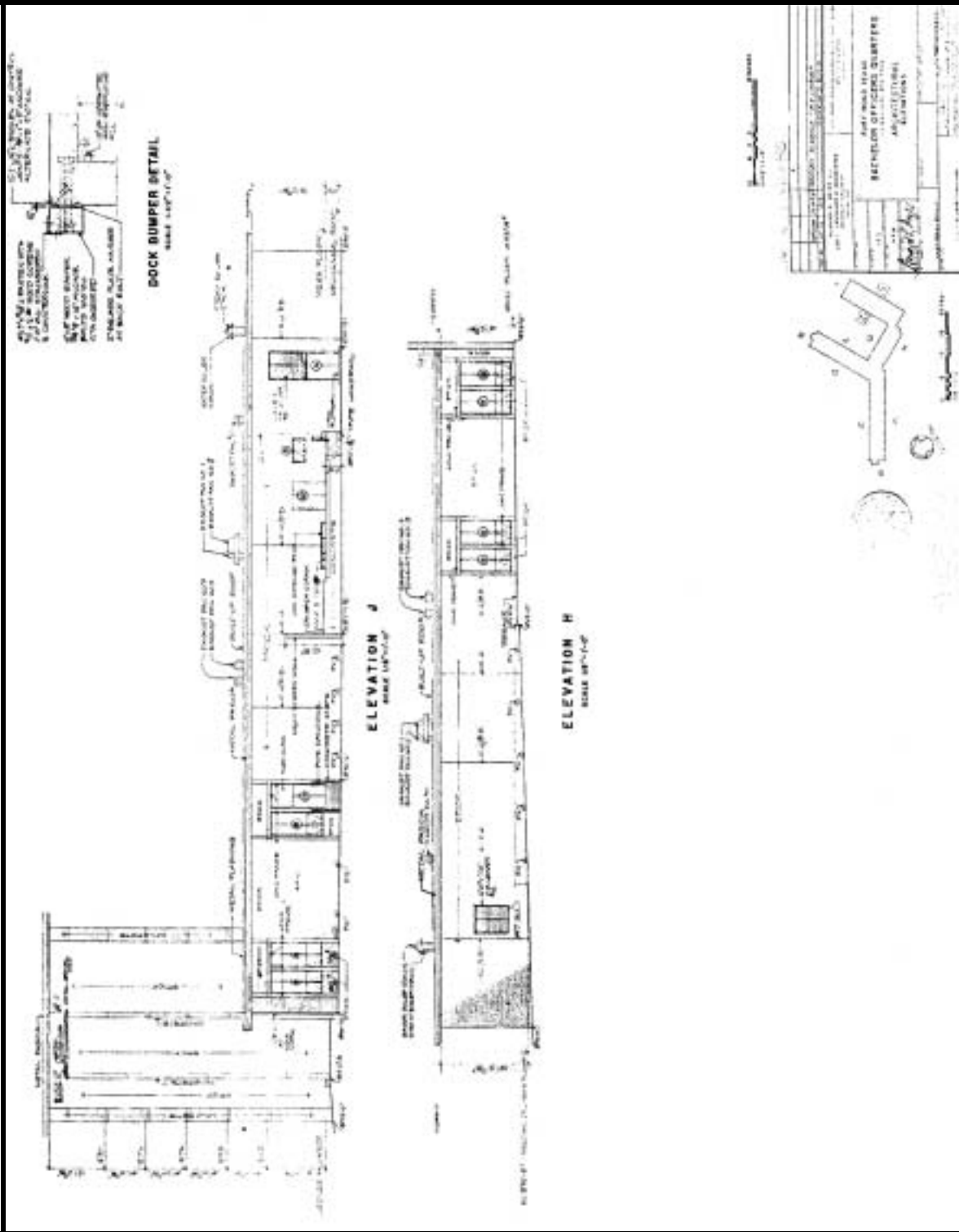


Figure 4.2.63 High Rise BOQ, Keith Ware Hall, elevations J & H, Ft. Hood (ca. 1967, revised 1967) (Engineering, Ft. Hood).

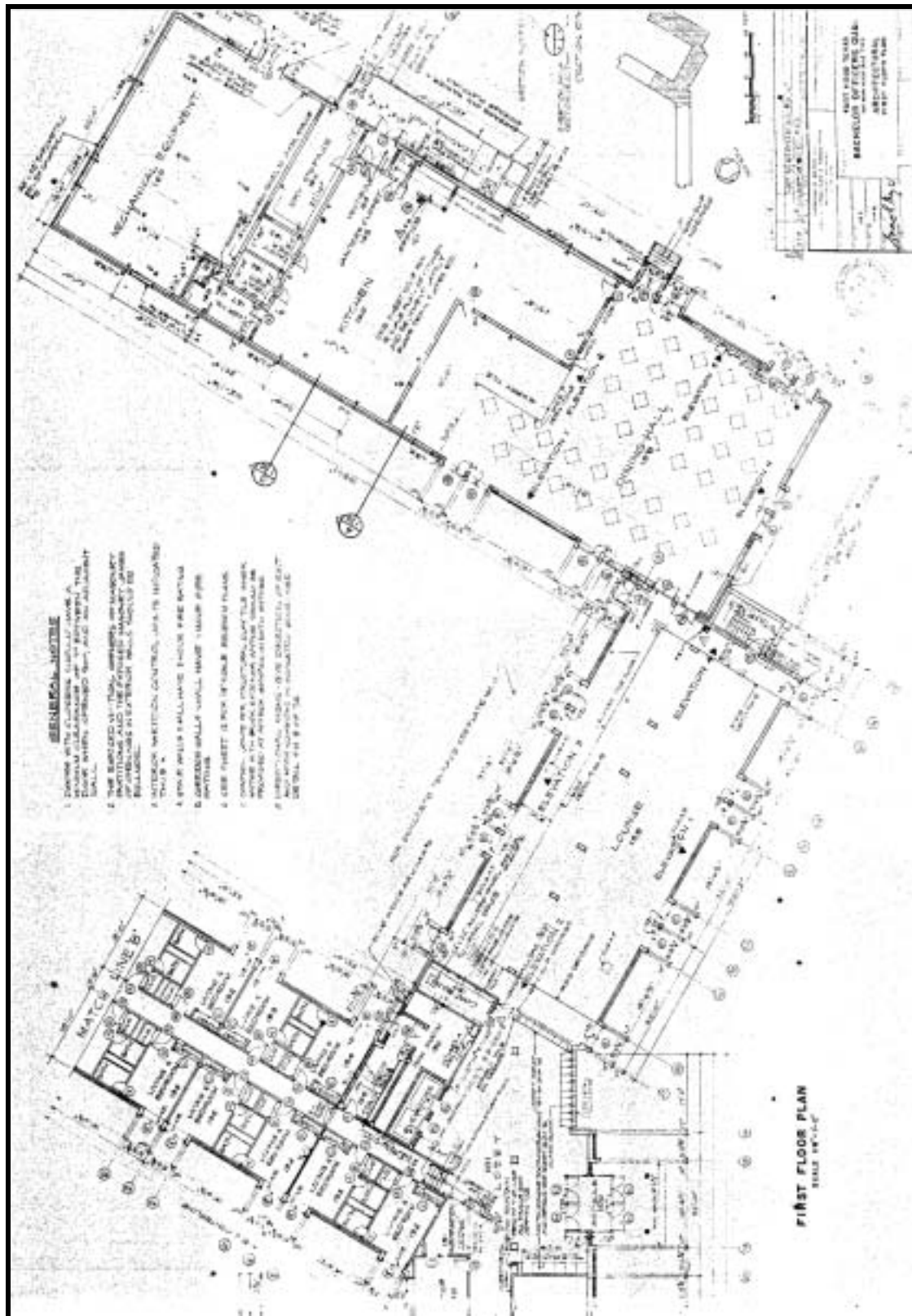


Figure 4.2.64 High Rise BOQ, Keith Ware Hall, first floor plan-core, Ft. Hood (ca. 1967, revised 1970) (Engineering, Ft. Hood).



Figure 4.2.65 High Rise BOQ, Keith Ware Hall, first floor plan-wings, Ft. Hood (ca. 1967, revised 1970) (Engineering, Ft. Hood).

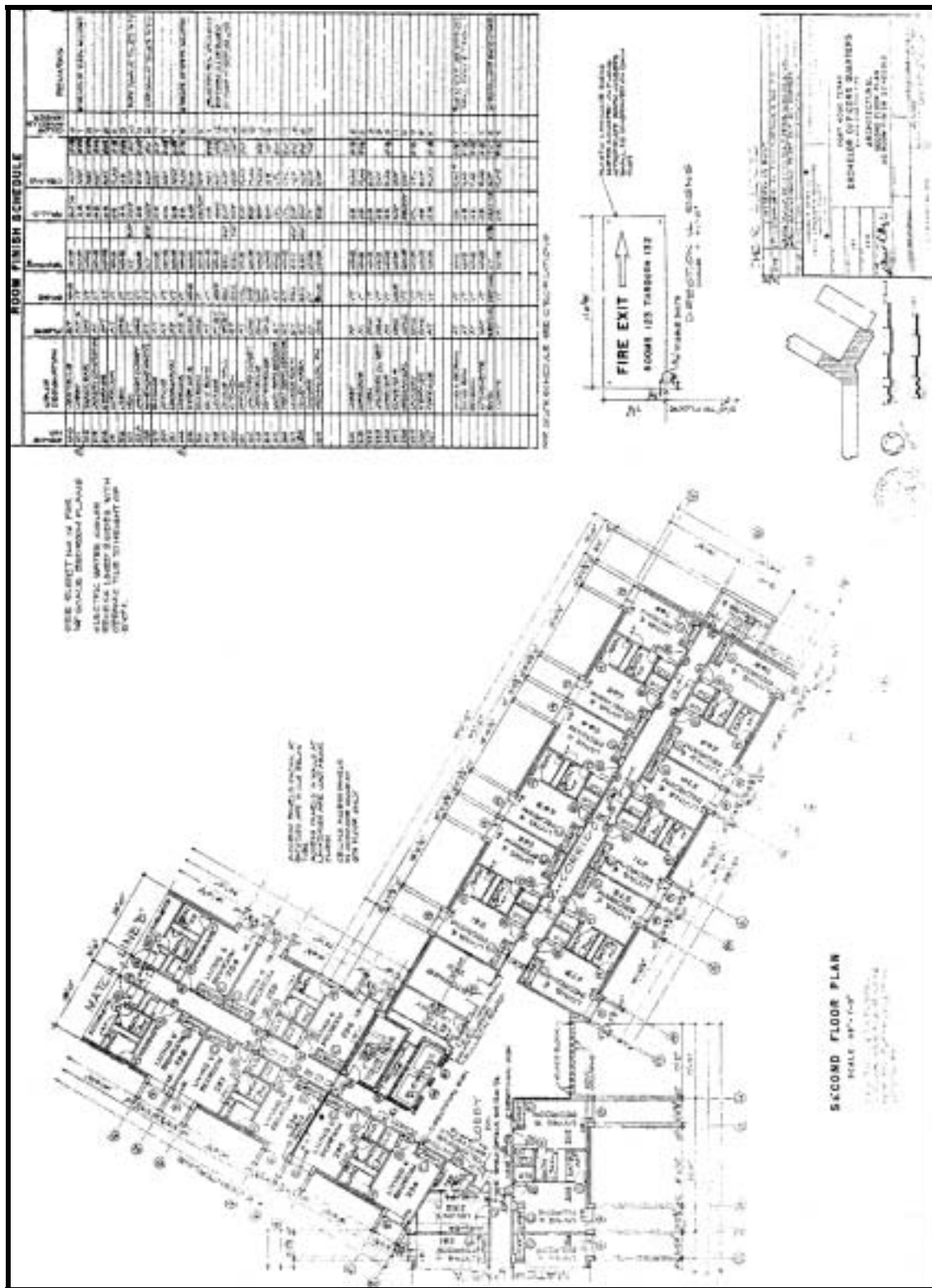


Figure 4.2.66 High Rise BOQ, Keith Ware Hall, second floor plan-core, Ft. Hood (ca. 1967, revised 1970) (Engineering, Ft. Hood).

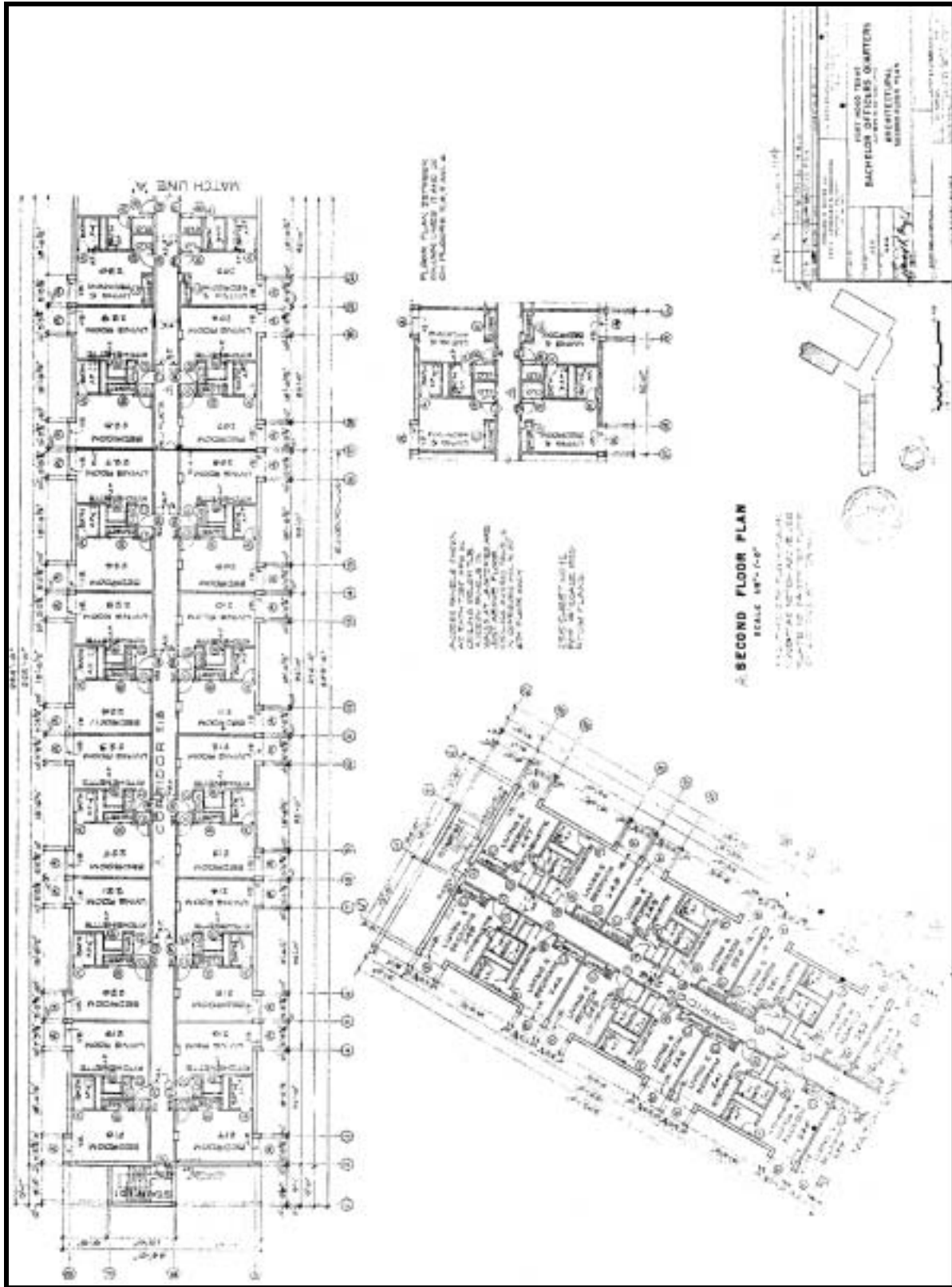


Figure 4.2.67 High Rise BOQ, Keith Ware Hall, second floor plan-wings, Ft. Hood (ca. 1967, revised 1970) (Engineering, Ft. Hood).



Figure 4.2.68 High Rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view N (RCG&A).



Figure 4.2.69 High Rise BOQ, Keith Ware Hall, Bldg. 36006 (1969), Ft. Hood, view SE (RCG&A).



Figure 4.2.70 High Rise BOQ, Moon Hall, Bldg. C-3601 (1966), Ft. Bragg, view SE (RCG&A).



Figure 4.2.71 High Rise BOQ, Hardy Hall, Bldg. C-3703 (1966), Ft. Bragg, view NW (RCG&A).

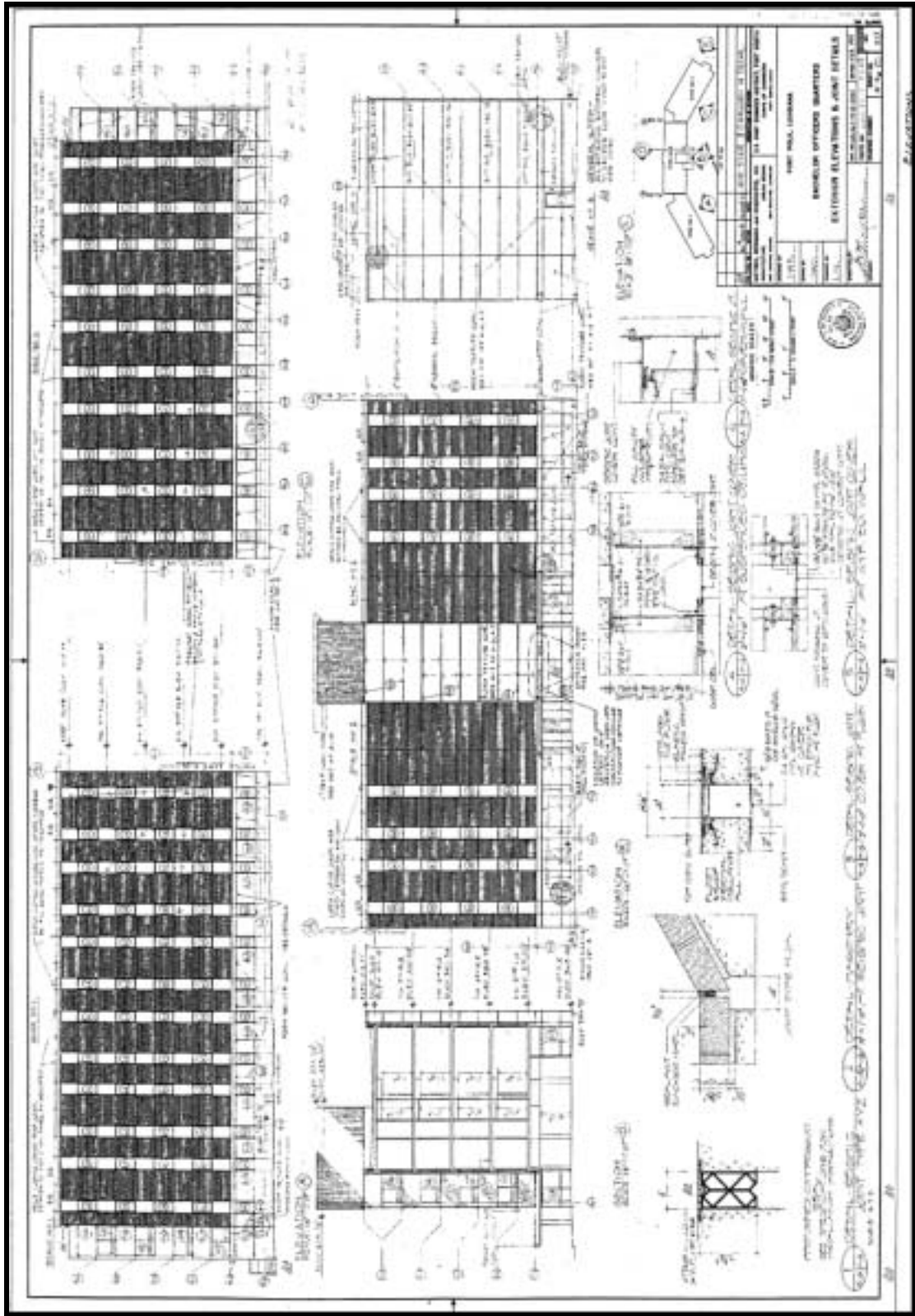


Figure 4.2.72 High Rise BOQ, Woodfill Hall, elevations, Ft. Polk (1977, revised 1977) (Engineering, Ft. Polk).

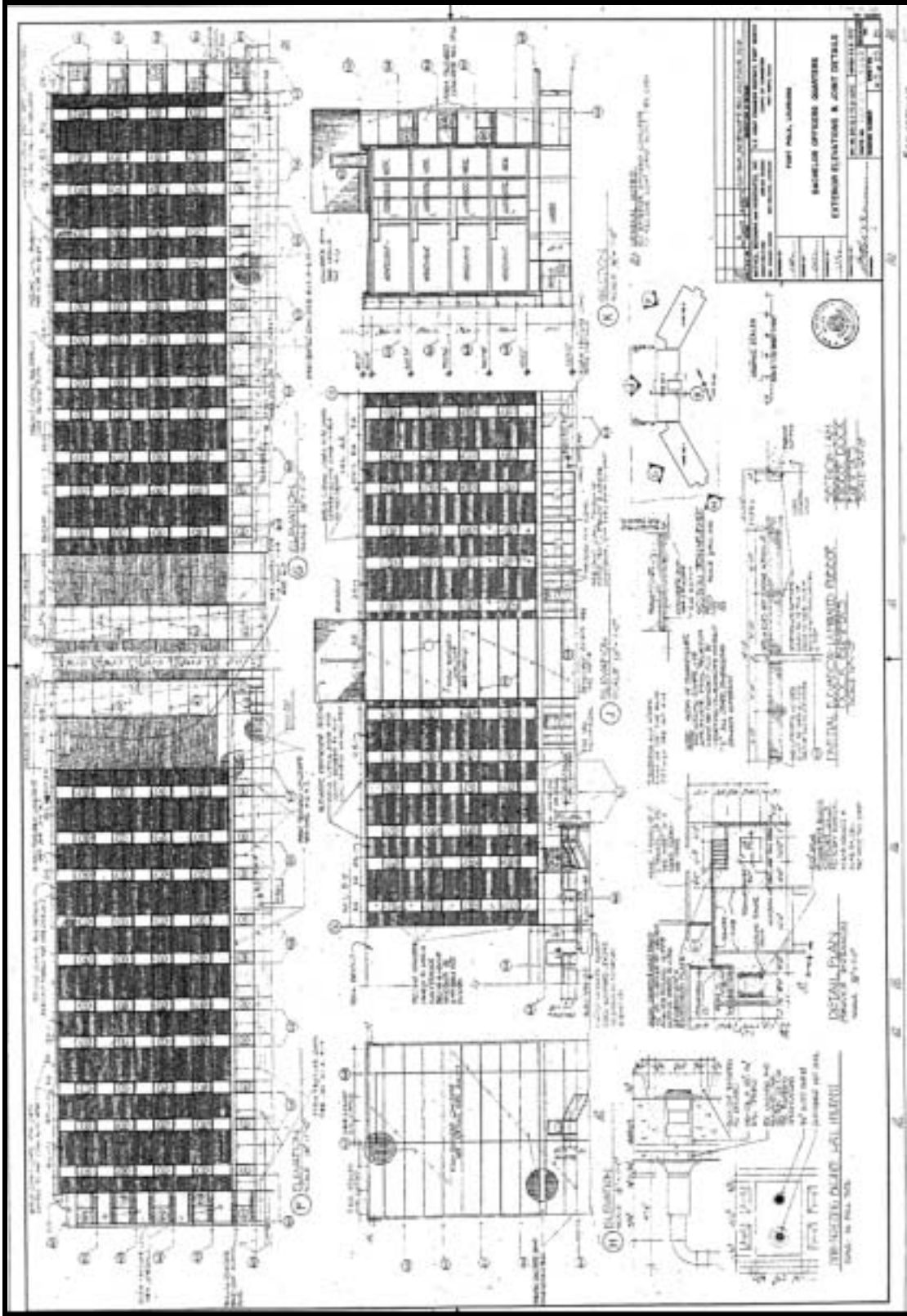


Figure 4.2.73 High Rise BOQ, Woodfill Hall, elevations, Ft. Polk (1977, revised 1977) (Engineering, Ft. Polk).

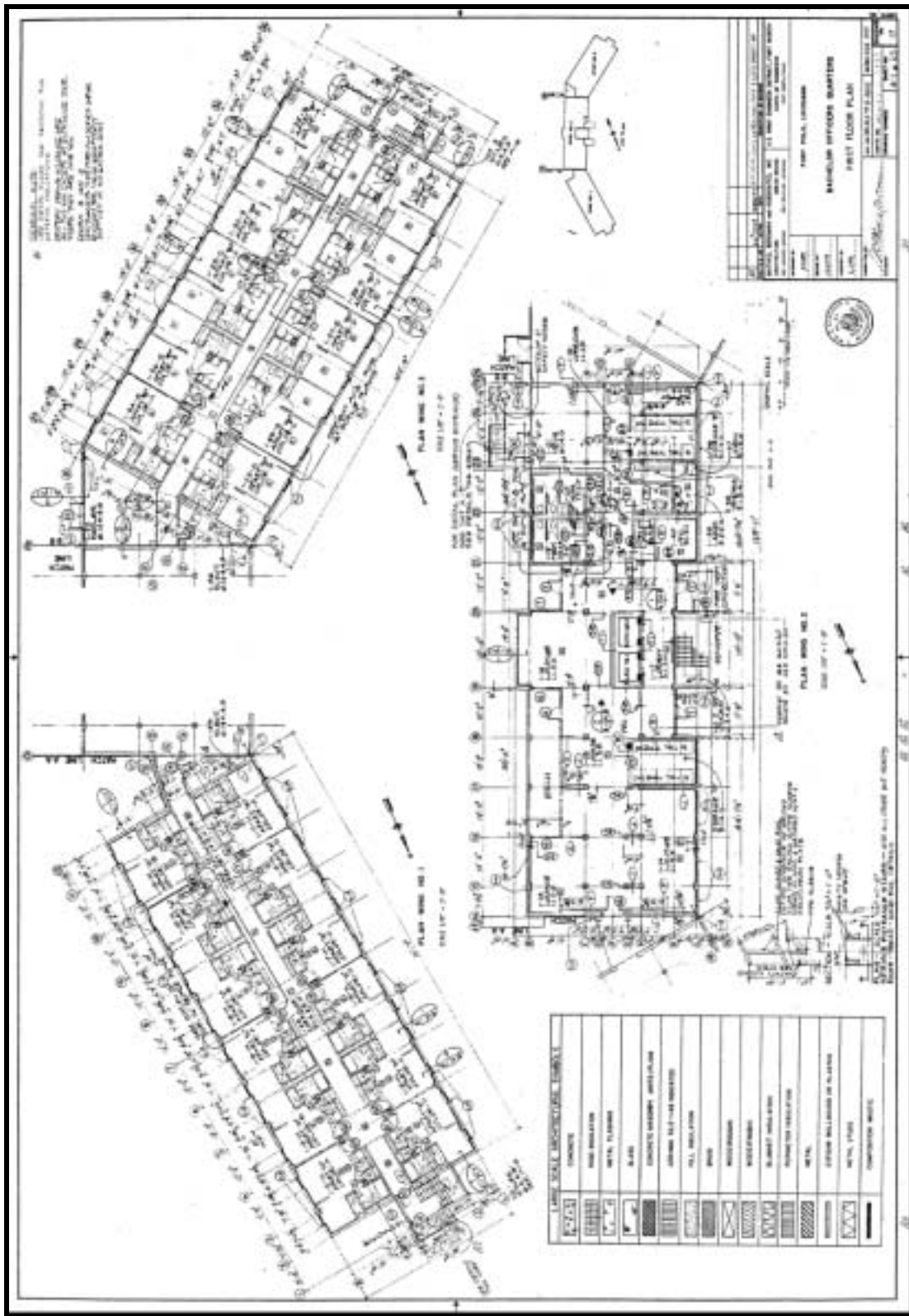


Figure 4.2.74 High Rise BOQ, Woodfill Hall, first floor plan, Ft. Polk (1977, revised 1977) (Engineering, Ft. Polk).

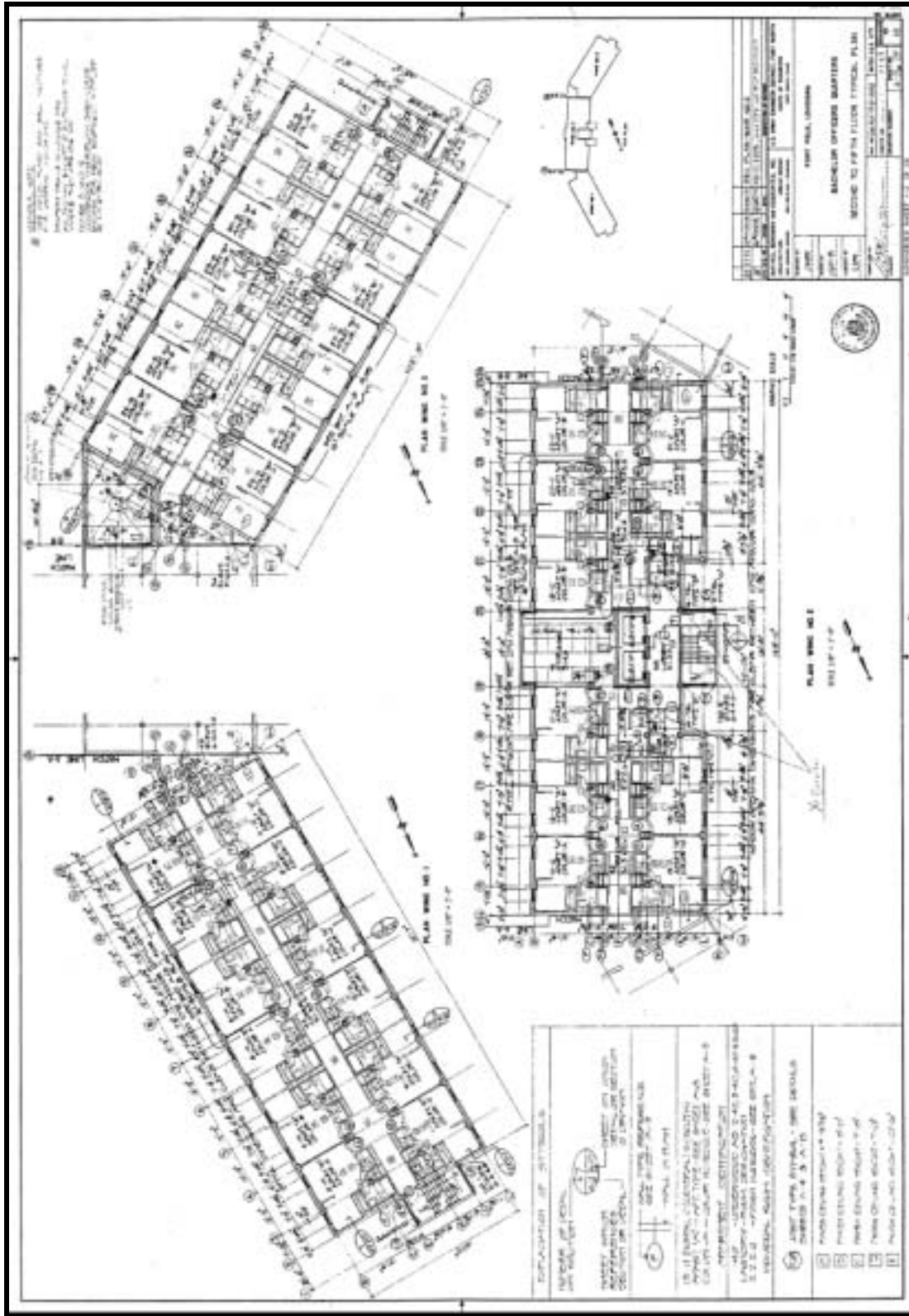


Figure 4.2.75 High Rise BOQ, Woodfill Hall, second to fifth floor plan, Ft. Polk (1977, revised 1978) (Engineering, Ft. Polk).



Figure 4.2.76 High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view E (RCG&A).



Figure 4.2.77 High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view NE (RCG&A).



Figure 4.2.78 High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view SE (RCG&A).



Figure 4.2.79 High Rise BOQ, Woodfill Hall, Bldg. 350 (1979), Ft. Polk, view NW (RCG&A).

4.2.7 Semi-permanent U-shaped Bachelor Officers Quarters 1959 (Bliss)

4.2.7.1 Description

The semi-permanent U-shaped BOQs at Fort Bliss utilized similar materials and construction techniques as the H-shaped barracks located on the installation. The BOQs at Fort Bliss were constructed of painted concrete block and terminated in a gable roof sheathed in composition shingles. Entrances were located at the ends of the uprights of the “U” and each featured two-light wood doors. The buildings featured four-light, metal-sash windows with concrete sills.

Reinforced concrete slabs supports the buildings. The uprights of the “U” were lined with one-man rooms on the interior of the “U” and two-man rooms on the exterior (Figure 4.2.80). Each room was equipped with individual closets. Day rooms were located at the base of the uprights (Figure 4.2.81). Lavatory facilities were located in the cross member of the “U”.

The BOQs were separated from the administration facilities and the enlisted barracks by a road (see Figure 4.1.183). Recreation facilities, including a baseball field and multi-purpose courts, were located nearby.

4.2.7.2 Evolution

The only modification to the original design and construction of the BOQs was the addition of air conditioning (Figure 4.2.82).

4.2.7.3 Association

The semi-permanent BOQs and associated facilities were built to meet the short-term housing needs at Fort Bliss. These BOQs were located on the ranges and were primarily used for training purposes. The BOQs were designed by Davis, Foster, Thorpe and Associates, Inc., of El Paso, Texas. The firm’s partners include Ralph V. Davis, John P. Foster, P.E., and William F. Thorpe, Jr. (Koyl 1955, 1962; Gane and Koyl 1970).

William F. Thorpe, Jr. was born in Charleston, S.C., on 31 January 1925. He received a Bachelor’s degree in architecture with a construction option in 1950. He began his career as a draftsman with Davis & Foster in 1951, and was chief draftsman with the firm from 1954 to 1956. He joined the newly organized firm of Davis, Foster, Thorpe & Associates in 1959. Thorpe’s principal works included two buildings for the Texas Highway Department in 1960, a complex in El Paso and the Information Building in Anthony; Trinity Presbyterian Church in El Paso, 1961; 1,000 Capehart houses at Fort Bliss, 1961; Ector Shopping Center in Odessa, 1961; and business office remodeling for Mountain States Telephone and Telegraph in El Paso, 1961. His work can be grouped into eleven categories of design: commercial, religious, educational, recreational, health, public buildings, military, transportation, communications, scientific, and mortuary structures (Koyl 1955, 1962; Gane and Koyl 1970).

4.2.7.4 Integrity

The character defining features of the U-shaped BOQs are the exposed concrete block walls, distinctive ground plan, and four-light, metal-sash windows with concrete sills. The only modification to the buildings identified in the archival record or through site inspections of representative examples was the addition of air conditioning. The BOQs appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

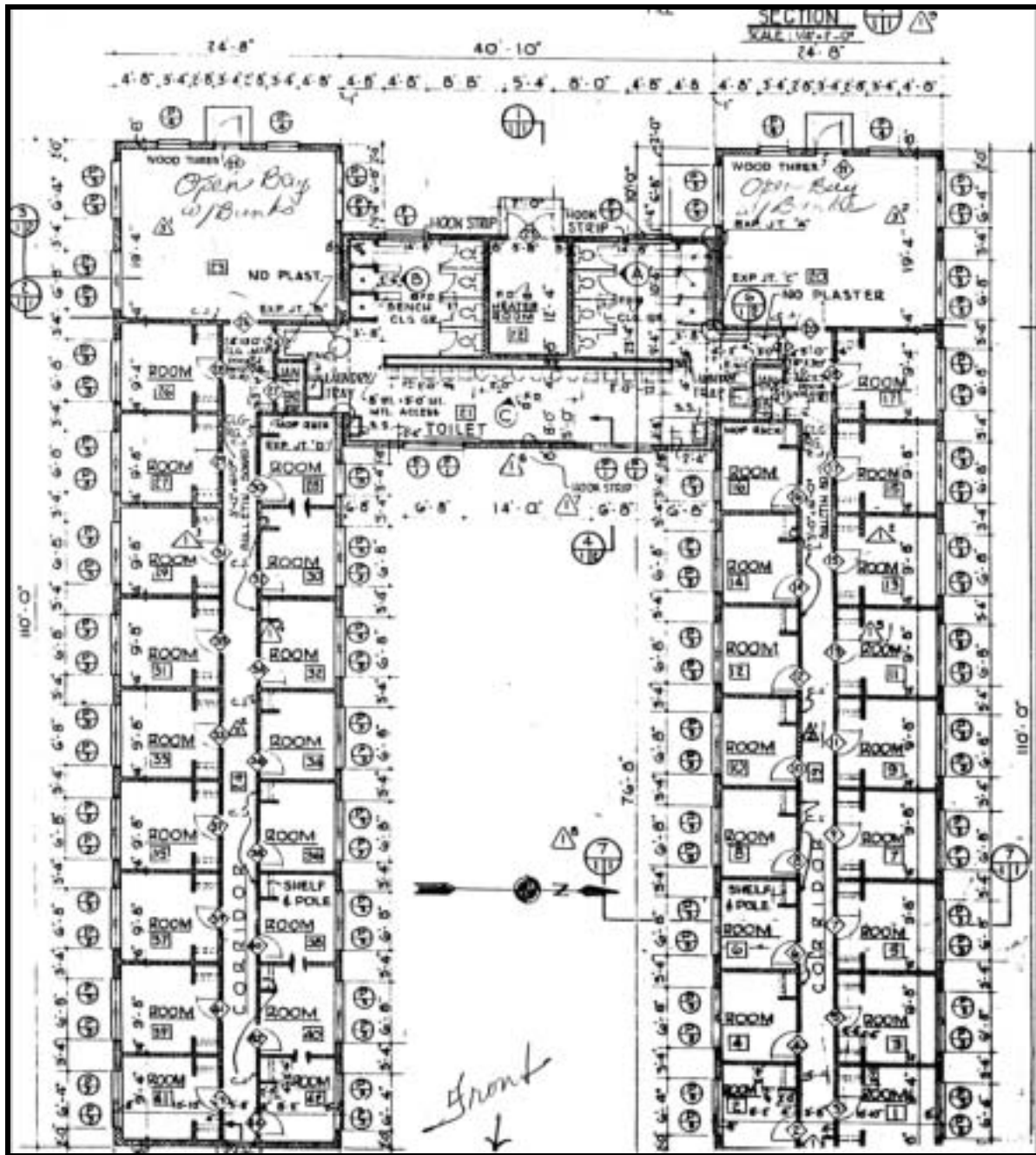


Figure 4.2.80 Semi-permanent “U” BOQ, floor plan, Bldg. 9517, Ft. Bliss (ca. 1957) (Real Property, Ft. Bliss).



Figure 4.2.81 Semi-permanent “U” BOQ dayroom, Bldg. 9517 (1959), McGregor Range, Ft. Bliss, view SE (RCG&A).



Figure 4.2.82 Semi-permanent “U” BOQ hallway, Bldg. 9517 (1959), McGregor Range, Ft. Bliss, view E (RCG&A).

4.2.8 Semi-permanent 16-man Bachelor Officers Quarters 1961 (Bliss)

4.2.8.1 Description

Two, semi-permanent, 16-man BOQs were identified at the Oro Grande Range at Fort Bliss (Figure 4.2.83). The rectangular, concrete block buildings terminated in side gable roof with overhanging eaves (Figure 4.2.84). Swamp coolers located on the roofs provided air conditioning. Concrete lattice privacy walls provided protection from the wind and sun (Figure 4.2.85). Each building featured four suites at each end of the building with a lounge, storage room, and boiler room located in the center. The suites featured two bedrooms, closets, and a common bathroom. Suites opened onto the sidewalks from either the front or rear elevations.

4.2.8.2 Evolution

No modifications to the original design and construction of the BOQs were identified in the archival record or through site inspection of representative examples.

4.2.8.3 Association

The semi-permanent BOQs and associated facilities were built to meet short-term housing needs at Fort Bliss. These BOQs were located on the ranges and primarily housed officers during training. The BOQs were designed by Davis, Foster, Thorpe and Associates, Inc., of El Paso, Texas. The firm's partners include Ralph V. Davis, John P. Foster, P.E., and William F. Thorpe, Jr. (Koyl 1955, 1962; Gane and Koyl 1970).

William F. Thorpe, Jr. was born in Charleston, South Carolina, on 31 January 1925. He received a Bachelor's degree in architecture with a construction option in 1950. He began his career as a draftsman with Davis & Foster in 1951, and was chief draftsman with the firm from 1954 to 1956. He joined Davis, Foster, Thorpe, & Associates when it was founded in 1959. His principal works included two buildings for the Texas Highway Department in 1960, a complex in El Paso and the information building in Anthony; Trinity Presbyterian Church in El Paso, 1961; 1,000 Capehart houses at Fort Bliss, 1961; Ector Shopping Center in Odessa, 1961; and business office remodeling for Mountain States Telephone and Telegraph in El Paso, 1961. His work can be grouped into eleven categories of design: commercial, religious, educational, recreational, health, public buildings, military, transportation, communications, scientific, and mortuary structures (Koyl 1955, 1962; Gane and Koyl 1970).

4.2.8.4 Integrity

The character defining features of the semi-permanent 16-man BOQs are the exposed concrete-block walls, the side gable roof with overhanging eaves, and the concrete lattice privacy walls. No modifications were identified in the archival record or through site inspections of representative examples of the semi-permanent 16-man BOQs at Oro Grande Range. The BOQs appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

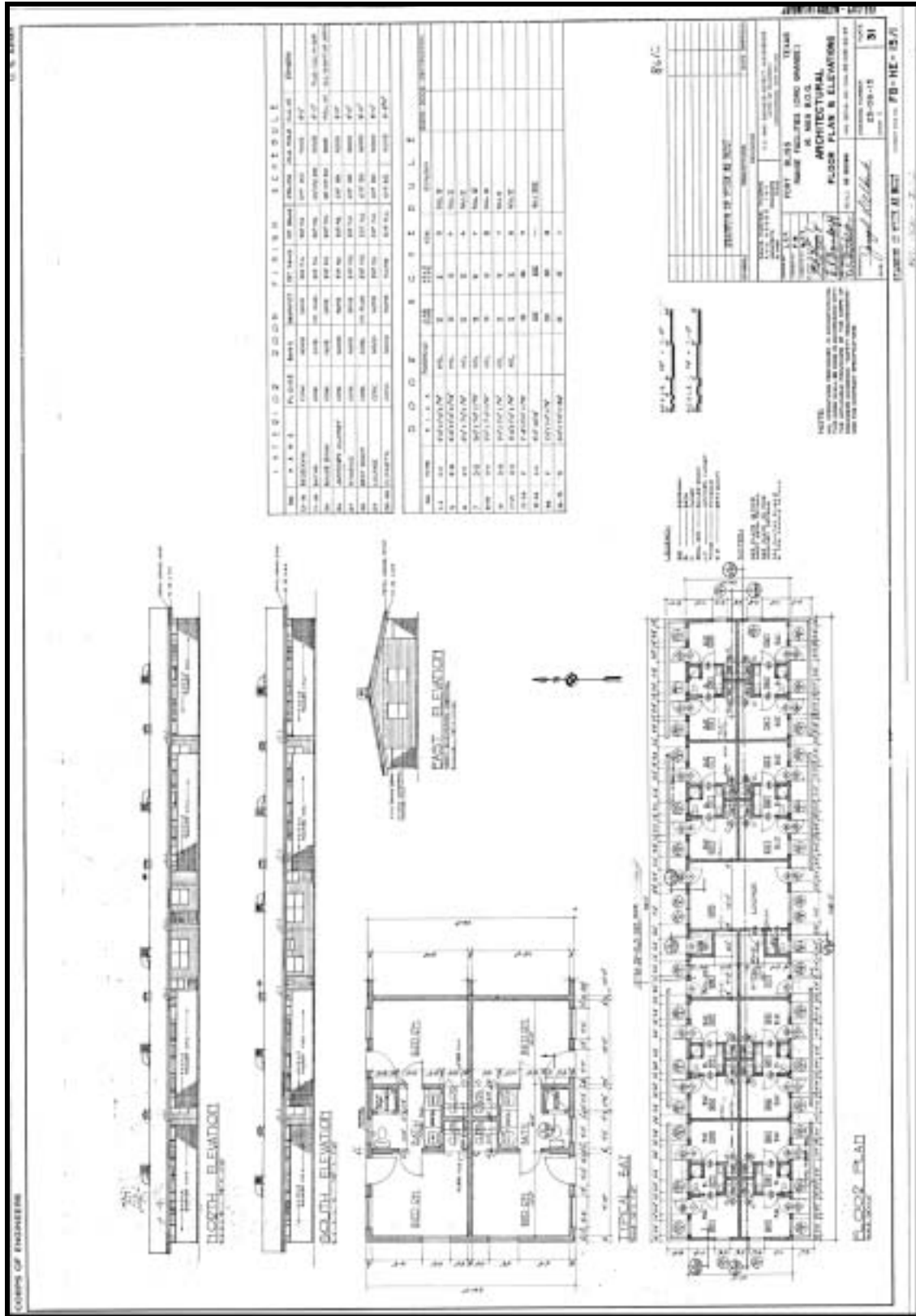


Figure 4.2.83 Semi-permanent 16-man BOQ, floor plan and elevations, Oro Grande Range, Ft. Bliss (ca. 1960) (Engineering, Ft. Bliss).



Figure 4.2.84 Semi-permanent 16-man BOQ, Bldg. S-8609, S-8610 (1961), Oro Grande Range, Ft. Bliss, view SE (RCG&A).



Figure 4.2.85 Semi-permanent 16-man BOQ, Bldg. S-8610 (1961), Oro Grande Range, Ft. Bliss, view NE (RCG&A).

4.2.9 Mobilization Bachelor Officers Quarters 1983 (Bliss)

4.2.9.1 Description

Examples of mobilization BOQs were located at Dona Ana Range at Fort Bliss, Texas. Each building was a 24-foot by 24-foot metal prefabricated structure mounted on skids (Figure 4.2.86). The floors, walls, and roof were metal. The buildings featured sliding, metal sash windows (Figure 4.2.87). A central, metal door provided interior access from the front elevation. The plan of each building featured a shared living room and two bedrooms.

4.2.9.2 Evolution

The mobilization BOQ is related to the Quonset hut form. In the 1950s, the Army investigated prefabricated buildings systems for temporary use. This investigation resulted in the development of C-huts (see Section 4.1.14). The refinement of the C-hut design resulted in the present mobilization BOQ.

No modifications to the original design and construction of the mobilization BOQ were identified in the archival record or through site inspection of representative examples. A windstorm had removed sections of the roof from one of the mobilization BOQs surveyed.

4.2.9.3 Association

The mobilization BOQs were designed during the Cold War to meet the Army's needs for rapidly deployable buildings.

4.2.9.4 Integrity

The character defining features of mobilization BOQs are metal construction, support skids, and the sliding, metal sash windows. The buildings retained their integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 4.2.86 Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view SW (RCG&A).



Figure 4.2.87 Mobilization BOQ, Bldg. 8267 (1983), Dona Ana Range, Ft. Bliss, view S (RCG&A).

4.3 TRANSIENT QUARTERS

While the vast majority of transient quarters consists of converted Bachelor Officers Quarters, buildings constructed as transient quarters include guest houses and inns. Both guest houses and inns were designed for families and for unaccompanied personnel. Guest houses generally were two-story buildings with exterior entrances and balconies. In contrast, the rooms at inns were accessed from central corridors. Inns also included additional features such as swimming pools and, sometimes, restaurants. Both designs were typical of motel designs of the era. For the sake of completeness, an example of NCO motel is included in this section. Opened in 1967, the building was reclassified as transient quarters in 1969.

4.3.1 NCO Motel 1967 (Bragg)

4.3.1.1 Description

NCO motels utilized contemporary motel construction techniques. The rectangular shaped Leal House at Fort Bragg was a NCO motel and featured a two-story center block with flanking one-story wings (Figures 4.3.1 and 4.3.2). The brick non-commissioned officers motel was built in 1967 on a concrete slab and terminated in a flat roof sheathed with built-up tar and gravel. An office was located at the end of the south ell; housekeeping facilities were located at the end of the north ell.

Each unit was recessed from the front façade for privacy. The front elevation of each unit featured a fixed glass, floor-to-ceiling window with an offset metal door (Figure 4.3.3). The rear entrance to each unit consisted of a metal door. An exterior stair located next to the rear parking lot provided access to the second-floor rooms (Figure 4.3.4). Each unit combined a bedroom/living room and a bathroom.

4.3.1.2 Evolution

The Leal House appears to be one of the first motels built on an Army installation. Its original designation was Main NCO Motel, but appears to have been reclassified as a guest house in 1969.

4.3.1.3 Association

The Leal House has served as transient quarters at Fort Bragg since 1969.

4.3.1.4 Integrity

Minimal modifications were identified in the archival record or through site inspections of the representative example. The Leal House appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 4.3.1 Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE (RCG&A).



Figure 4.3.2 Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE (RCG&A).



Figure 4.3.3 Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SE (RCG&A).



Figure 4.3.4 Transient quarter, Leal House, Bldg. 5-5047 (1969), Ft. Bragg, view SW (RCG&A).

4.3.2 Guest Houses 1970-present (Bragg, Hood)

4.3.2.1 Description

The first guest houses were built with 27 or 33 units. Each unit was fitted with bedroom and bathroom facilities sufficient to house individuals or up to four family members. The first guest house was completed at Fort Knox in 1970. The two-story brick guest house terminated in a flat roof. The building featured a center block slightly higher than the two wings. A concrete canopy sheltered the primary entrance on the front of the central block (Figure 4.3.5). The building featured paired, two-over-two-light windows (Figure 4.3.6). Textured concrete defined the window sills and heads. Parking was located in front and rear lots (Figure 4.3.7).

The Army completed its first 88-unit guest house by 1971. Examples of 88-unit guest houses were identified at Fort Bragg and Fort Hood (Figure 4.3.8). Two-story, rectangular, reinforced concrete frame, 88-unit guest houses rested on reinforced concrete foundations and terminated in flat roofs. The buildings featured balconies and exterior stairs located near the ends on the front and rear elevations (Figures 4.3.9 and 4.3.10). The buildings were faced in brick veneers (Figure 4.3.11). Each unit had a metal door with a single-light transom adjoined with a floor-to-ceiling fixed window. Each unit contained a living room/bedroom and a bathroom.

Seeking to provide additional amenities, the Army began construction of guest houses with guest services areas. One example identified at Fort Polk had a two-story principal block and one-story guest services wing, which included lobbies, concession areas, and laundry facilities (Figure 4.3.12). The building terminated in a gable roof (Figure 4.3.13). The principal block had wraparound balconies and exterior stairs on the end elevations and halfway down on the side elevations. The guest services wing included a porte cochere. The wing included a lobby, laundry facilities, a concession area, and offices. The principal block contained 72 rooms (Figure 4.3.14). Each room was equipped with a living room/bedroom with kitchenette and a bathroom.

4.3.2.2 Evolution

The guest house at Fort Knox was the first family transient quarters constructed by the Army. These facilities were built with 27 or 33 units. Each unit was fitted with bedroom and bathroom facilities sufficient to house four family members (AF Times 3 June 1970:20). Realizing the need for larger transient quarters, the Army developed 88-unit guest houses by 1971. The Army progressively added more services for transient families and individuals. In the 1980s, the Army began constructing larger guest services areas for its personnel.

4.3.2.3 Association

The Army built guest houses in an effort to provide affordable temporary quarters for families and individuals until they were assigned to permanent housing. Guest houses eliminated the expense of commercial motels for personnel awaiting permanent quarters or awaiting the arrival of household goods. The cost of the earliest hotels was estimated at \$8 per night (AF Times 3 June 1970:20).

4.3.2.4 Integrity

Minimal modifications were identified in the archival record or through site inspections of representative examples. The guest houses appeared to retain integrity of location, design, setting, materials, workmanship, feeling, and association.



Figure 4.3.5 Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view E (RCG&A).



Figure 4.3.6 Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view NE (RCG&A).



Figure 4.3.7 Transient quarter, Guest House, Bldg. 6597 (1970), Ft. Knox, view S (RCG&A).

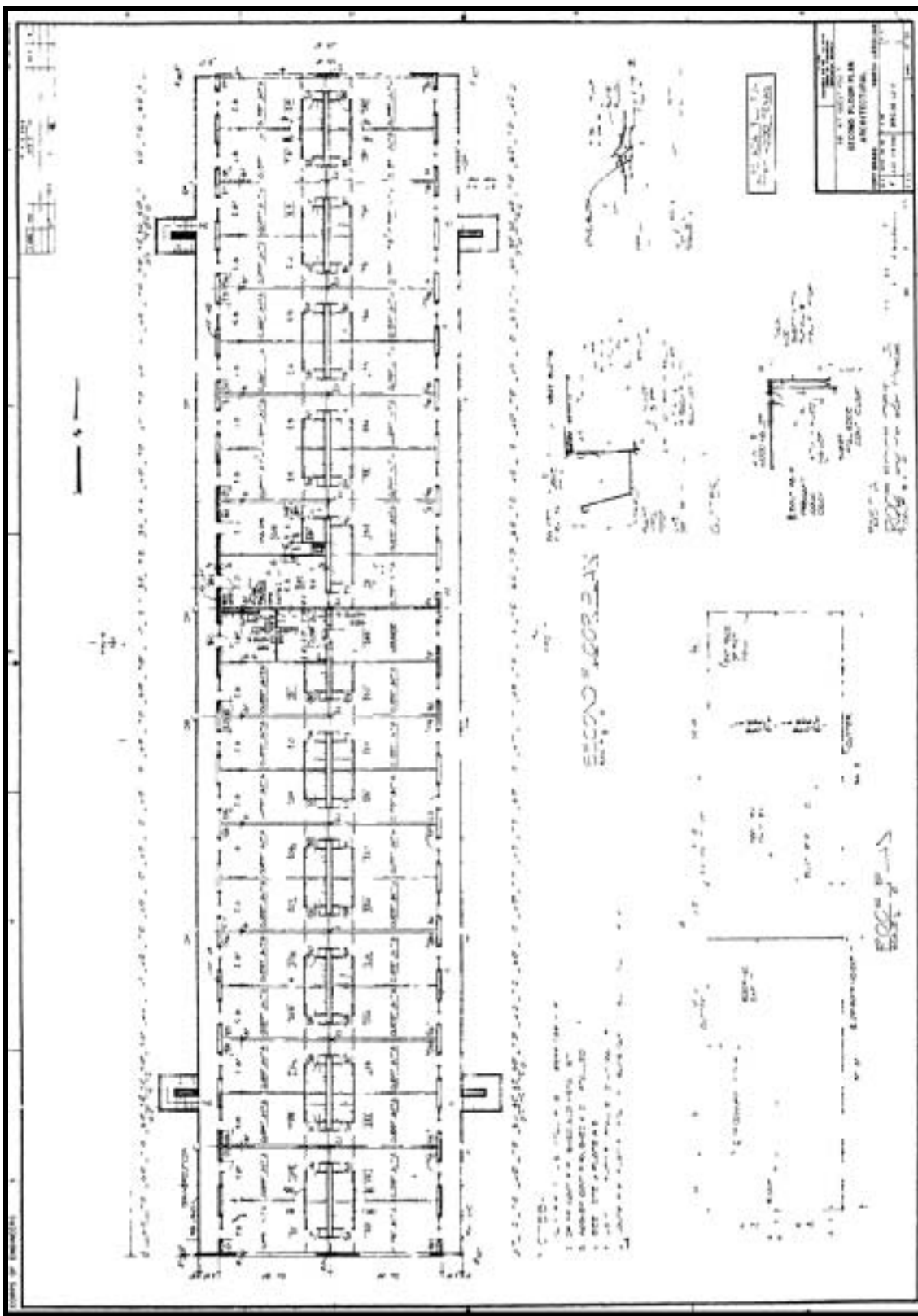


Figure 4.3.8 Transient quarter, Bldg. D-4218, second floor plan, Ft. Bragg (1972) (Engineering, Ft. Bragg).



Figure 4.3.9 Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE (RCG&A).



Figure 4.3.10 Transient quarter, Poxon Guest House, Bldg. 111 (1973), Ft. Hood, view SE (RCG&A).



Figure 4.3.11 Transient quarter, Bldg. D-4218 (1971), Ft. Bragg, view SW (RCG&A).

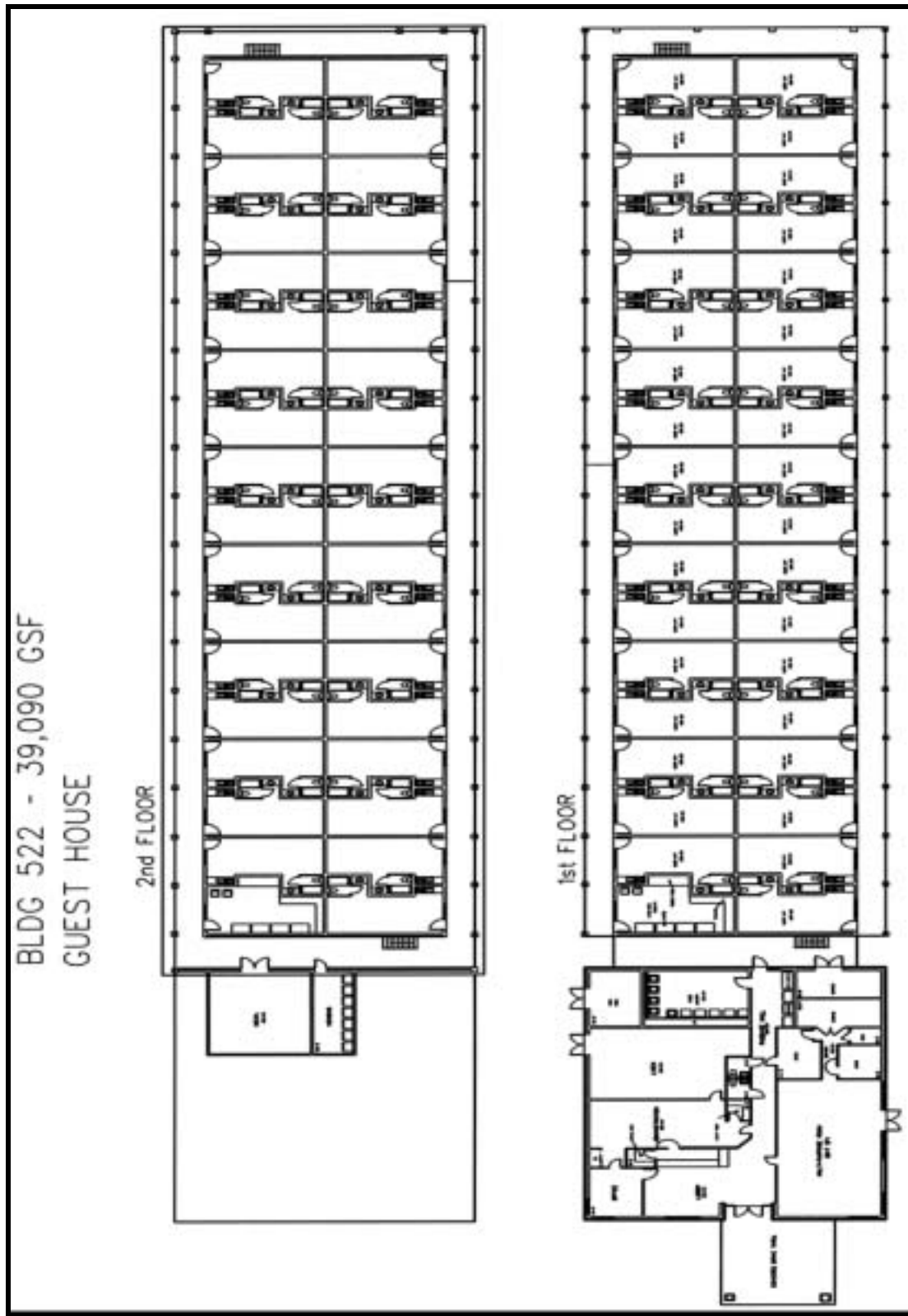


Figure 4.3.12 Transient quarter, Guest House, Bldg. 522, floor plan, Ft. Polk (ca. 1987) (Engineering, Ft. Polk).



Figure 4.3.13 Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NW (RCG&A).



Figure 4.3.14 Transient quarter, Guest House, Bldg. 522 (1988), Ft. Polk, view NE (RCG&A).

4.3.3 Inns 1989

4.3.3.1 Description

Inns were larger facilities than guest houses and included additional amenities, including swimming pools and restaurants. The Inn at Fort Bliss is a three-story building configured like a rolling pin barracks (Figure 4.3.15). The brick building was stuccoed and terminated in a flat roof (Figures 4.3.16 and 4.3.17). The inn featured single and paired one-over-one-light, fixed metal-sash windows (Figure 4.3.18). Single-light, metal doors on the front, rear, and side elevations provided access to the building.

Guest services, the lobby, and large guest rooms were located in the center block. The building featured smaller rooms in the handles of the rolling pin (Figure 4.3.15).

4.3.3.2 Evolution

The Inn at Fort Bliss underwent a large expansion in the past ten years,. A large one-story addition was built around a new pool, which was added behind the original building (Figure 4.3.19). The lobby, offices, and some additional guest services were moved to the new addition and former administration spaces were renovated to include laundry facilities.

4.3.3.3 Association

The Inn at Fort Bliss was designed by William R. Eades Jr., of Memphis, Tennessee. William R. Eades Jr. was born in Huntington, West Virginia on 19 April 1922. He began his career as a draftsman for Estes W. Mann in 1939 and 1940. He worked for Whitman, Requardt & Smith in 1941, and was the chief draftsman for Everett D. Woods from 1945 to 1951. From 1951 to 1952 he operated his own practice. From 1952 to 1953, he was the chief architect for Atlas Engineering Corp. He was chief of design and drafting for architect E. Oren Smith from 1953 to 1955, and worked for John L. Turner & Associates from 1955 to 1961. In 1961 he joined W.W. Bond Jr. & Associates and became vice president. His work encompassed ten categories: residential, commercial, industrial, religious, educational, recreational, health facilities, public buildings, public structures, and military structures (Koyl 1955, 1962; Gane and Koyl 1970).

4.3.3.4 Integrity

The Inn at Fort Bliss has undergone a major expansion and renovation, which has impacted the building's integrity of design, setting, and workmanship.

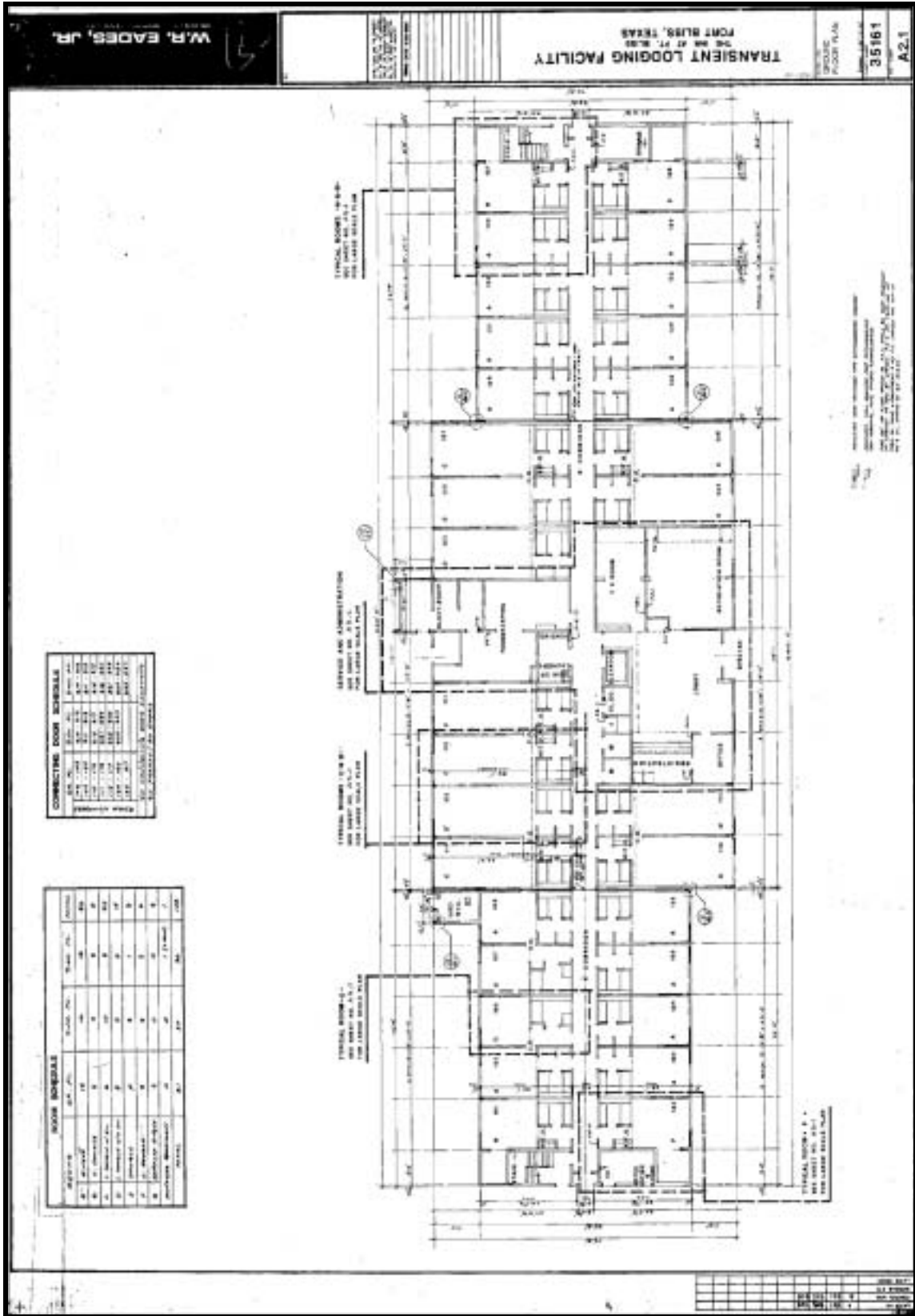


Figure 4.3.15 Transient quarter, The Inn at Ft. Bliss, floor plans (1989) (Engineering, Ft. Bliss).



Figure 4.3.16 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NW (RCG&A).



Figure 4.3.17 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE (RCG&A).



Figure 4.3.18 Transient quarter, The Inn at Ft. Bliss, Bldg. 1744 (1989), view SE (RCG&A).



Figure 4.3.19 Transient quarter addition, The Inn at Ft. Bliss, Bldg. 1744 (1989), view NE (RCG&A).

4.4 SUMMARY

The Army built three major classes of Unaccompanied Personnel Housing during the Cold War era: enlisted barracks, Bachelor Officers Quarters, and transient quarters. Enlisted barracks and Bachelor Officers Quarters have been affiliated with the Army since colonial times. During the Cold War era, the designs of both property types evolved to reflect military standards of living during the Cold War era. Enlisted barracks not in use to support training underwent the most dramatic change. In these barracks, the large, open squad room that served as dormitories for enlisted men were gradually eliminated and central latrines were replaced with private baths. The open bay, squad rooms was a character-defining feature of enlisted barracks since colonial times. Training barracks, constructed as permanent, semi-permanent, and temporary buildings, continue to employ both open bay squad rooms and central latrines. The changes to the plans of Bachelor Officers Quarters were less dramatic. Kitchenettes were gradually introduced into BOQ designs during the Cold War period.

These changes in architectural programs for UPH were introduced to provide greater privacy and reflect greater concern for the quality of life for military personnel. Few examples of the hammerhead enlisted barracks and the hammerhead Bachelor Officers Quarters constructed during Cold War era for Unaccompanied Personnel Housing are older than fifty years. The hammerhead designs were similar to housing programs for unaccompanied personnel preceding World War II, but more austere in exterior design than earlier designs. All other enlisted barracks and Bachelor Officers Quarters are less than fifty years old, as are all transient quarters.

The first transient quarters were completed in 1970 at Fort Knox. While the vast majority of transient quarters are converted Bachelor Officers Quarters, guest houses and inns were built specifically as transient quarters. Guest houses generally are two-story buildings with exterior entrances and balconies. Selected examples, such as the Inn at Fort Bliss, adopted a double loaded, central corridor plan. Both designs were typical of motels designed during the era.

5.0 APPLICATION OF THE HISTORIC CONTEXT IN THE IDENTIFICATION AND EVALUATION OF HISTORIC RESOURCES

5.1 INTRODUCTION

Examples of Unaccompanied Personnel Housing (UPH) constructed during the Cold War Era are located at 145 installations located throughout the United States (Appendix A). The majority of these installations are located near the Atlantic, Gulf, and Pacific coasts. The largest concentration of UPH facilities is found in the southeastern states.

5.2 PROPERTY TYPES ASSOCIATED WITH ARMY UPH FACILITIES

The inventory of Army UPH facilities includes buildings and structures that fulfill two architectural programs: housing and dining facilities. The earliest examples were constructed in the early 1950s to meet the demand for permanent housing necessitated by the large standing Army associated with the Cold War era. UPH facilities comprise three major building types: barracks, Bachelor Officers Quarters, and transient quarters.

The architectural designs adopted by the Army resulted in buildings that are characterized by their mass, scale, unique ground plans, and minimal architectural ornamentation. The typical Army installation during this period featured regiment-size complexes of barracks for enlisted personnel and support buildings, including mess, administration, and supply facilities. Bachelor Officers Quarters and transient quarters frequently were located on the main post and separated from the enlisted barracks complexes. Large installations often included additional housing facilities in the vicinity of testing or training ranges. These facilities often were built with shorter life expectancies using either temporary or semi-permanent construction techniques.

5.3 REGULATORY OVERVIEW

Cultural resources are identified and managed by the Army in accordance with Federal laws and Army regulations. Cultural resources management can be seen as comprising three overall phases of investigation. These phases are identification, evaluation, and treatment.

The National Historic Preservation Act of 1966, 80 Stat. 915, 16 U.S.C. 470, as amended, established the National Register of Historic Places as the official list of properties significant in American history, architecture, archeology, engineering, and culture. The National Register includes properties that merit preservation and is an important planning tool that is updated continually to represent the many facets of American history. The National Register is maintained by the Secretary of the Interior and administered by the National Park Service. The Department of the Interior has developed criteria defining the qualities of significance and integrity for listing properties in the National Register (36 CFR Part 60).

To qualify for National Register listing, properties must possess integrity and significance within an important historic context applying the National Register Criteria for evaluation. Resources generally must be at least 50 years old for National Register designation. Resources that have achieved significance within the past 50 years may be eligible if they are integral parts of an historic district or meet one of seven criteria considerations necessary for individual designation.

Federal agencies are required to consider the effects of their undertakings on properties that are listed in or eligible for listing in the National Register under Section 106 of the National Historic Preservation Act of 1966, as amended. In order to assess the effects of undertakings, Federal agencies identify and evaluate properties to determine their eligibility for inclusion in the National Register prior to assessing project impacts. The Secretary of the Interior has developed standards and guidelines for both identification and evaluation.

The Army codified its policy for cultural resources management in Army Regulation 200-4, *Cultural Resources Management*, and provided additional guidance in the Department of the Army Pamphlet 200-4, *Cultural Resources Management*. These documents outline the Army's compliance procedures for the management of historic properties as regulated under the National Historic Preservation Act of 1966, as amended, within mission requirements.

5.3.1 Resource Identification

Historic properties must be located, or *identified*, in order to be included in the planning process. The Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716) define the Standards for Identification. These standards are:

- | | |
|----------------------|---|
| STANDARD I: | Identification of Historic Properties is Undertaken to the Degree Required to Make Decisions |
| STANDARD II: | Results of Identification are Integrated into the Preservation Planning Process |
| STANDARD III: | Identification Activities Include Explicit Procedures for Record Keeping and Information Distribution |

Identification activities include the development of a research design, archival research, field surveys, and analyses. The research design describes the objectives and methodology of the identification activities. The approach to identifying historic properties depends upon the goals of the survey and the information available.

5.3.1.1 Objectives

The objectives of the identification activity will determine the appropriate methodology. Identification of historic properties may be undertaken to:

- *Update existing survey information*

The identification of historic properties is an on going process. Inventories of an installation's historic properties may not include all properties associated with an installation's Cold War era UPH resources. Built resources associated with UPH are often less than 50 years old, and some structures, such as tent pads, are atypical built resources that may have been excluded in building surveys.

- *Gather information for the planning of a particular project*

An undertaking may be planned in an area that has not been surveyed previously for historic properties.

Thus, the identification of historic properties may be limited to a single property, to a discrete area, or might encompass an entire installation. The research design for the identification activities should indicate clearly the objectives of the effort to identify historic properties.

5.3.1.2 Methodology

Once the objectives of the identification activities are determined, the appropriate methodology can be selected. For documenting UPH, a research design should identify all properties associated with a housing complex. The methodology should be designed to collect data to determine a property's historical functions, construction date, alterations/modifications, and historical relationship to the complex and to surrounding properties.

Archival research and field survey are the two primary means of identifying historic properties. Archival research provides information on what was constructed, why it was constructed, and where it was constructed. Primary sources include historic maps, historic photographs, real property records, completion reports, and original construction drawings. These materials are located in a variety of repositories, including: installation real property offices and engineering offices; installation, command, or service wide history offices; installation and local museums or libraries; and, the National Archives. Secondary sources include installation or activity histories, nationwide historic context studies, and previous cultural resources studies.

The Secretary of the Interior's *Guidelines for Identification* distinguish two categories of survey: reconnaissance and intensive (Parker 1985). Reconnaissance surveys provide general information about the location, distribution, and characteristics of properties. The purpose of intensive surveys is to document historic properties in sufficient detail to allow evaluation of their significance applying the National Register Criteria for Evaluation. Reconnaissance surveys can be useful in establishing boundaries of an area that needs intensive survey. Current installation maps and real property lists, with building numbers and dates of construction, are basic data necessary to conduct a field survey. These documents assist in identifying the properties that should be surveyed and in recording their location. Survey documentation provides a written record of the survey efforts, including maps indicating the boundaries of the area surveyed and the location of properties identified during the survey, survey forms, photographs of surveyed properties, and a survey report. The survey report should describe the survey objectives, methodology, and results.

5.4 RESOURCE EVALUATION

Once properties are identified, their historic significance can be evaluated. The Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716) define the Standards for Evaluation. These standards are:

STANDARD I: Evaluation of the Significance of Historic Properties Uses Established Criteria

- STANDARD II:** Evaluation of Significance Applies the Criteria Within Historic Contexts
- STANDARD III:** Evaluation Results in a List or Inventory of Significant Properties That Is Consulted in Assigning Registration and Treatment Priorities
- STANDARD IV:** Evaluation Results Are Made Available to the Public

The objective of the evaluation process is to identify historic properties, or those resources that require additional consideration and treatment. The accepted criteria used to evaluate historic properties are the National Register Criteria for Evaluation (36 CFR Part 60.4). To evaluate UPH-related facilities, whether an entire complex or a single building, the following information about the property is needed:

- (1) date constructed;
- (2) type of construction, e.g. permanent, semi-permanent, or temporary;
- (3) function of the particular buildings or structures; and,
- (4) relation of the property to the Unaccompanied Personnel Housing mission.

5.4.1 National Register Criteria for Evaluation

The National Register Criteria for Evaluation (36 CFR Part 60.4) were developed to assist in the evaluation of properties eligible for inclusion in the National Register. The National Register Criteria for Evaluation are:

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of persons significant in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That has yielded, or may be likely to yield, information important in prehistory or history.

The National Park Service has published guidance for applying the criteria in *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation* (National Park Service 1998). To qualify for the National Register, a property generally must be older than 50 years, must be associated with an important historic context, and must retain historic integrity.

5.4.2.1 Criterion Consideration G: Properties that Have Achieved Significance Within the Last 50 Years

Certain classes of properties generally are excluded for listing in the National Register of Historic Places. These properties are religious properties, moved properties, birthplaces and graves, cemeteries, reconstructed properties, commemorative properties, and properties less than 50 years old. Properties less than fifty years of age, however, may be eligible for listing in the National Register of Historic Places if they meet Consideration Criterion G, which states:

A property achieving significance within the last fifty years is eligible if it is of *exceptional importance* (National Park Service 1998; Sherfy and Luce 1996).

As stated in National Register Bulletin 15 (1998), exceptional importance “does not require that the property be of national significance. It is a measure of the property’s importance within the appropriate historic context, whether the scale of the context is local, state, or national.”

The Army has developed guidance for evaluating Cold War-era properties in DA PAM 200-4 (Section 3-3.d(2)(b)) as follows:

The Criterion of Exceptional Importance is applied to properties that are less than 50 years old in order to evaluate the National Register eligibility pursuant to 36 CFR 60.4. A Cold War property may have significance under National Register criteria A-D, due to association with major historical events or persons, technological or scientific design achievement, or as a fragile survivor of a class of properties. The significance of Cold War era properties may lie at the national level in association with military themes directly tied to the Cold War, or at the state or local level under other themes.

The *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties* (USAEC 1997) documents the importance of the Army’s military-industrial complex during the Cold War and emphasizes the Army’s direct response to the Cold War. Army resources that possess qualities of significance for listing in the National Register of Historic Places under Criterion Consideration G will be those directly associated with a major Army mission, defined as basic scientific research; wholesale logistical operations; air defense, ballistic missile defense, and Army missiles; command and control, communications, computers, and intelligence; schooling and training; operational forces; Army medical activities; nuclear power program; Army aviation; and, activities associated with other services or Department of Defense Agencies (USAEC 1997). Specific guidance on the application of the criteria for evaluation to Cold War era resources is contained in Chapter 7 of *Thematic Study and Guidelines: Identification and Evaluation of U.S. Army Cold War Era Military-Industrial Historic Properties* (USAEC 1997).

Army Unaccompanied Personnel Housing constructed during the Cold War era generally consisted of simply designed, functional buildings that played a support role to the primary installation mission. UPH facilities from this period would need to be linked directly to an identified significant Army Cold War-era mission in order to meet the stringent eligibility requirements established by the National Register under Criterion Consideration G.

5.4.3 National Register Categories of Historic Properties

The National Register includes real property of several different categories. The following definitions for the categories of historic properties considered for listing in the National Register are taken from National Register Bulletin 15 (National Park Service 1998). Where applicable, examples of UPH-related properties are provided to illustrate these categories.

- ***Building:*** A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity. “Building” also may refer to a historically and functionally related complex, such as a courthouse and jail or a house and barn.

Examples: barracks, Bachelor Officers Quarters, administration building, storage building, mess hall, hutment

- ***Structure:*** The term “structure” is used for constructions erected for purposes other than creating human shelter.

Examples: tent pads

- ***Object:*** The term "object" is used for resources, other than buildings and structures, that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.

- ***Site:*** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.

- ***District:*** A district is a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.

Example: regimental barracks complex

5.4.4 Evaluating Properties Within the Army Unaccompanied Personnel Housing Historic Context

Historic contexts are organizational frameworks that assist in interpreting the broad patterns or trends of history by grouping information related to a shared theme, geographic area, and time period. Historic contexts provide the framework for the application of the National Register Criteria for Evaluation and the foundation for decisions about the comparative significance of properties. The significance of a property is best evaluated within the property's historic context.

The National Park Service offers guidelines in assessing the significance of a property within its historic context (National Park Service 1998). The language of the following guidelines has been adapted to apply to Army Unaccompanied Personnel Housing.

1. Identify the historic and current role(s) of an Army Unaccompanied Personnel Housing facility and whether it represents the Army Unaccompanied Personnel Housing Historic Context.
2. Determine if the Army Unaccompanied Personnel Housing facility is significant in local, state, or national history.
3. Determine to what extent UPH-related property types are present;
4. Determine how the Unaccompanied Personnel Housing facility illustrates an important aspect of Army housing history; and,
5. Determine whether the property retains the physical features necessary to convey its significance.

5.4.4.1 Issues Related to Evaluating Properties Using the Army Unaccompanied Personnel Housing Historic Context

Historic District vs. Individual Eligibility. While Unaccompanied Personnel Housing facilities, as a class of resources, may be significant, not every structure associated with military bachelor housing is eligible for listing in the National Register of Historic Places. The framework established by the historic context for Army UPH focuses on the role of the Unaccompanied Personnel Housing facility within Army UPH history in order to assess its significance and the significance of its component resources. In general, Army Unaccompanied Personnel Housing facilities first should be evaluated as potential districts. Unaccompanied personnel housing facilities generally were constructed as part of a complex in which individual facilities historically contributed to the mission of housing unmarried troops.

For component structures and buildings to be individually eligible for listing in the National Register within the context of Army UPH, they should (1) individually embody a significant engineering design associated with the development of Unaccompanied Personnel Housing; or, (2) represent an example of a type or method of construction or the important work of a significant architect. Infrastructure and support buildings typically are not individually eligible.

Choosing the Correct Historic Context. In some cases, resources that were constructed by the Army to house families have been renovated to house bachelors. The Army UPH Historic Context might not be the appropriate framework for evaluating these types of properties. Rather, historic contexts developed for the evaluation of family housing resources are applicable. For example, Buildings 6827 and 6829 at Fort Hood were built under the auspices of the Capehart and/or Wherry acts to provide family housing and have since been reclassified to house transient personnel. The proper historic context for evaluating these built resources is family housing constructed for the U.S. Army during the Cold War era.

Comparing Related Properties. During the process of evaluating a property's significance, the property usually is compared with other examples of the property type that illustrate the selected historic context. This is not necessary if (1) the property is the only surviving example of a property type that is important within the historic context or (2) the property distinctly has the characteristics necessary to represent the context (National Park Service 1998). In other cases, the property must be evaluated against other similar properties to determine its significance. For example, a hammerhead barracks

complex should be compared historically and physically with other hammerhead barracks complexes to determine whether it contains the components of a hammerhead barracks complex from that period and to assess its level of integrity.

Levels of Significance. The National Register Criteria for Evaluation define three levels of significance: local, state, and national. The level of significance is based on the selection of geographic area, one of the three components of the framework of a historic context (National Park Service 1998).

Local historic contexts are related to the history of a town, city, county, or region. A property could be an example of a property type found in several places, but in a local historic context the significance of a property is assessed in terms of its importance to the local area. Unaccompanied personnel housing facilities are small components of larger Army installations. The likely effect of a particular UPH facility on a local community probably is less profound than the effects that the larger installation has on the local economy, workforce, and history. In most cases, a military installation should be evaluated based on the importance of its role or contribution to the locality. In terms of an evaluation of a typical UPH facility located on an Army post, the contribution to the locality is likely to be minimal. However, its importance within a local context should be assessed on a site-specific basis.

State historic contexts are applied when a property represents an important aspect of state history. Examples of properties significant within a statewide historic context are not necessarily located in every part of the state, but are important to the history of the state as a whole. State Historic Preservation Offices have developed historic contexts relevant to state and local history. The assessment of an UPH facility to the level of state importance will need to be made on a site-specific basis.

National historic contexts are related to aspects of history that affected the nation as a whole. A property that illustrates an aspect of national history should be evaluated within a national context. The Army constructed UPH facilities as part of national program directed to meet national defense needs, and thus represents an aspect of U.S. military history as a whole. A national context is recommended as the appropriate context for assessing Army UPH facilities.

The distinction between properties that are related to a national context and those that are nationally significant should be noted. Nationally significant properties illustrate the broad patterns of U.S. history, possess exceptional value or quality, and retain a high degree of integrity. Nationally-significant properties are eligible for designation as National Historic Landmarks. The National Historic Landmark Criteria for Evaluation (36 CFR Part 65) are more stringent than the National Register Criteria.

5.4.5 Applying the National Register Criteria for Evaluation

5.4.5.1 Introduction

Most of the Cold War era Unaccompanied Personnel Housing is under 50 years of age and therefore not considered eligible under the following criteria because the National Register Criteria for Evaluation exclude properties that achieved significance within the last 50 years unless they are exceptional importance (Criterion G). Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. Unaccompanied Personnel Housing is unlikely to meet the standard for “exceptional importance” and thus will need to be reevaluated under the following criteria once it has reached fifty years of age.

5.4.5.2 Criterion A: Association with Events

Criterion A of the National Register recognizes properties associated with events important in the broad patterns of U.S. history. These events can be of two types: (1) specific events or (2) patterns of events that occurred over time. The evolution of Army Unaccompanied Personnel Housing is an example of a broad trend in military history. In some cases, UPH facilities will be associated with a specific event. For example, cultural resources studies may identify a selection of buildings associated with the establishment of Army training schools as significant.

A methodology for determining if an UPH facility is significant under Criterion A within the Army Unaccompanied Personnel Housing Historic Context is detailed as follows:

1. Determine the role of the UPH facility, its historic associations, and current purposes;
2. Determine the range of property types present at a UPH complex and directly associated with it, including dates of construction of buildings and structures, original configuration and modifications over time, to determine which period of the historic context the UPH facility best represents;
3. Determine if the UPH facility is associated with a specific event; and,
4. Evaluate the property's history to determine whether it is associated with the Army Unaccompanied Personnel Housing Historic Context in an important way.

5.4.5.3 Criterion B: Association with People

Properties may be listed in the National Register of Historic Places for their association with the productive lives of significant persons. The individual in question must have made contributions to history that can be specifically documented and that were important within a historic context. This criterion may be applicable to the architectural firms with whom the Army contracted for specific designs. The criterion may not be applicable to military personnel as Army personnel were assigned to bachelor housing units on a rotation basis, so it is unlikely that any particular UPH facility will be associated with an important military person.

5.4.5.4 Criterion C: Design/Construction

To be eligible for listing in the National Register under Criterion C, properties must meet at least one of the following four requirements: (1) embody distinctive characteristics of a type, period, or method of construction; (2) represent the work of a master; (3) possess high artistic value; or, (4) represent a significant and distinguishable entity whose components may lack individual distinction. Army UPH facilities may be eligible under any one of these requirements.

National Register Bulletin 15 (National Park Service 1998) defines “distinctive characteristics” as “the physical features or traits that commonly recur” in properties. “Type, period, or method of construction” is defined as “the way certain properties are related to one another by cultural tradition or function, by dates of construction or style, or by choice or availability of materials and technology.”

Properties are eligible for listing in the National Register if they are important examples, within a historic context, of design and construction of a particular time. This facet of Criterion C can apply to buildings, structures, objects, or districts.

The term “significant and distinguishable entities” refers to historic properties that contain a collection of components that may lack individual distinction but form a significant and distinguishable whole. This portion of Criterion C applies only to districts. Army regimental barracks complexes generally comprise component parts that often are interrelated physically, functionally, and aesthetically.

To determine if a property is significant within the Army Unaccompanied Personnel Housing Historic Context, the following methodology is suggested:

1. Determine the periods of construction at the UPH facility, including dates of construction, type of construction, historic appearance, and function(s);
2. Determine whether the property is associated specifically with the Army Unaccompanied Personnel Housing Historic Context;
3. Determine the distinctive characteristics of the property type(s) to be evaluated;
4. Compare the property with the other examples of the property type(s) to determine whether the property possesses the distinctive characteristics of its period of construction; and,
5. Evaluate the property's design and construction to determine if it embodies the distinctive characteristics of its type or period of construction.

The concepts of “work of a master,” “possessing high artistic values,” or “work of a craftsman” may be applicable to UPH facilities, since some of UPH facilities may be the work of notable architects. During the Cold War era, the designs of UPH facilities generally exhibit more utilitarian than artistic designs.

Many examples of Army properties significant under Criterion C are listed in the National Register of Historic Places. No Army Cold War era UPH facilities currently are listed in the National Register under Criterion C.

5.4.5.5 Criterion D: Information Potential

Properties may be listed in the National Register if they have yielded, or might be likely to yield, information important in prehistory or history. Two requirements must be met for a property to meet Criterion D: (1) the property must have, or have had, information to contribute to the understanding of history or prehistory; and, (2) the information must be considered important. This criterion generally applies to archeological sites. In a few cases, it might apply to buildings, structures, and objects, if the property itself is the principal source of information and the information is important. For example, a building might be considered under Criterion D if it displays a unique structural system or unusual use of materials, and if the building itself is the main source of information, i.e., no construction drawings or other historical records document the property. In another example, a structure associated with an important technological development about which little other information has survived might be

considered under Criterion D. No Army UPH facilities currently are listed in the National Register under Criterion D.

5.4.6 Integrity

To meet the National Register Criteria for Evaluation, a property, in addition to possessing significance within a historic context, must have integrity. Integrity is the ability of a property to convey its significance through the retention of essential physical characteristics from its period of significance. The National Register Criteria for Evaluation list seven aspects of integrity. These aspects of integrity are:

LOCATION: Location is the place where the historic property was constructed or the place where the historic event occurred.

DESIGN: Design is the combination of elements that create the form, plan, space, structure, and style of a property.

SETTING: Setting is the physical environment of a historic property.

MATERIALS: Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

WORKMANSHIP: Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

FEELING: Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.

ASSOCIATION: Association is the direct link between an important historic event or person and a historic property.

A property eligible for the National Register must possess several of these aspects of integrity. The assessment of a property's integrity is rooted in its significance. The reasons a property is important should be established first, then the qualities necessary to convey that significance can be identified.

1. Determine the essential physical features that must be present for a property to represent its significance;
2. Determine whether the essential physical features are sufficiently visible to convey their significance;
3. Compare the property with similar properties if the physical features necessary to convey the significance are not well-defined; and,
4. Determine, based on the property's significance, which aspects of integrity are particularly important to the property in question and if they are intact.

For UPH-related properties to retain sufficient integrity to be eligible for the National Register, they must retain key features associated with their period of significance. Properties significant for their design and construction must retain the physical features that characterize their periods of original construction. In cases of active Army UPH facilities, key defining elements, including exterior

materials, window placements and treatments, and layouts are more likely to have been modified to extend their useful life. An understanding of integrity issues will be critical in the evaluation process of the significance of resources.

To evaluate the integrity of an UPH facility complex as an historic district, the majority of the UPH-related properties in the district must possess integrity to the identified period of significance. A sufficient number of resources must remain from the period of significance to represent that significance. In a district associated with the Korean War, the majority of the individual components that comprise the district's historic character must date from that period of significance and possess sufficient individual integrity from the original period of construction. For an historic district where the buildings and structures possess significance from more than one period of construction, each resource should be evaluated for integrity based on its original appearance. In addition, the relationships among the districts' components, i.e., massing, arrangement of buildings, and installation plan, must be substantially unchanged since the period(s) of significance. A critical part of evaluating the integrity of a district should include an assessment of whether later building campaigns have disrupted the plan, changed configurations, or obscured the relationships between the buildings and structures.

5.5 RESOURCE TREATMENT

One of the Army's responsibilities under the National Historic Preservation Act of 1966, as amended, is to assume control for preserving historic properties owned or controlled by the Army in a manner consistent with the mission. Department of the Army Pamphlet 200-4 includes standards for maintenance and rehabilitation of historic resources. These standards are based on the Secretary of the Interior's *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. The Secretary of the Interior recommends four interrelated approaches to the treatment of historic properties, as follows:

Preservation focuses on the maintenance and repair of existing historic materials and retention of a property's form as it evolved over time. (Protection and stabilization also are included under this option.)

Rehabilitation is the process of returning a property to a useful state. This treatment encompasses altering or adding to a historic property to meet continuing or changing uses while retaining the property's character-defining features.

Restoration returns a property to particular period(s) of time. This treatment option may include the removal of later additions or changes, the repair of deteriorated elements, or the replacement of missing features.

Reconstruction recreates missing portions of a property for interpretive purposes.

Management of historic properties requires the development of appropriate treatment strategies. Choosing an appropriate treatment for a historic property should take into account a number of factors, including the property's historical significance, physical condition, proposed use, intended interpretation, and mandated building codes. Due to operation priorities defined by mission and funding limitations, preservation and rehabilitation will be the treatment options most often selected for historic properties related to Army UPH facilities. Rehabilitation of buildings and structures provides a pragmatic approach appropriate to preservation when substantial upgrades and modifications are necessary for facilities to remain in continued use.

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APPENDIX A

**ARMY INSTALLATIONS WITH
UPH FACILITIES**

Table 1. Percentage of Cold War UPH

	Total	built pre-1954		built 1954-1958	
Total Number of UPH	8255	4542	55.02%	613	7.43%
Cold War Era UPH	4224	511	12.10%	613	14.51%
Cold War Era barracks	3792	419	11.05%	543	14.32%
Cold War Era BOQs	416	92	22.12%	69	16.59%

Table 2. Detailed Number of UPH by Installation Management Agency (IMA)

Barracks Type	Northeast	Northwest	Southeast	Southwest	Pacific	NG	TOTAL
Hammerhead	49	48	150	104	54		0
H-style	8	13	12	8			0
Rolling Pin	52	157	120	32			0
A-style				12			0
LBC&W	7		20	78			105
BB&A	12	98	15	8			133
Army Reserve Annual Training				34			34
Starship			14	6			20
Quadrangle	8	3	19				30
Receptee			2				2
MEDDAC				1			1
Semi-Permanent U-shaped		1	20				21
Semi-Permanent H-shaped	13			69			82
Hutment	1	5	11	186	88	109	400
Quonset Hut				12			12
Straight-sided quonset hut				17			17
C-hut				151			151
Tent Pad	96	66	6	39	5	27	239
Special Design	15	10	22	10			57
Unclassified	212	128	514	174	208	433	1669
TOTAL	473	529	925	941	355	569	2973
Bachelor Officer's Quarters	Northeast	Northwest	Southeast	Southwest	Pacific	NG	TOTAL
Hammerhead	11	3	11	5			30
Apartment-style	9	6	18	26			59
Motel-type			1	3			4
1970s Apartment-type	2		13	2			17
Army Reserve Annual Training				10			10
High-rise	3		3	7			13
Semi-Permanent U-shaped				2			2
Semi-Permanent 16-man				2			2
Mobilization				2			2
Special Design			4				4
Unclassified	30	72	25	69	34	43	273
BOQ TOTAL	55	81	75	128	34	43	416
Transient Quarters	Northeast	Northwest	Southeast	Southwest	Pacific	NG	TOTAL
Guest House	1	1	2	3			7
Inn	1			1			2
Motel			1	1			2
Unclassified	2		1	1		1	5
TRANSIENT TOTAL	4	1	4	6		1	16
TOTAL UPH	532	611	1004	1075	389	613	3405

Table 3. Number of UPH by Major Commands (MACOM)

Year	Total	AMC	ATEC	FORSCOM	MDW	MEDCOM	MTMC	NG	SMDC	TRADOC	USACE	USARC	USARPAC	USMA
1946	9	1		1	5	1		1						
1947	7				1					1				5
1948	9				1							3	5	
1949	10				1								9	
1950	19	1	1	1	1			13				1	1	
1951	163	11		73		3		5		42		20	9	
1952	138		83	16				4	3	4		8	20	
1953	136	6	2	43				5		72		1	7	
1954	195			74	16	1	2	8	2	53	8	17	14	
1955	79			37	1			4	3	6		6	22	
1956	117	1	1	62	2		2		2	35		2	10	
1957	78	1	6	13		3		2	2	11		5	35	
1958	144	8	21	19	25		1	7		33		1	27	2
1959	156	5	46	33	2			9		56		1		4
1960	40	8	1	4	1			8		9			3	6
1961	146	10		35	2	2		49	8	14		2	10	14
1962	173	5			1			10	121	23		3	8	2
1963	124			65				7		49		3		
1964	90	1		64				1		12		4	4	4
1965	49	3		18						20		8		
1966	227			32	5		1	5		181			3	
1967	194	13		10	21	9		33	3	94				11
1968	39	1		12	2			2		13		9		
1969	173	4		31	5	58		7	22	39		7		
1970	41	1		16	7			3	1	9		4		
1971	103	1		21	1			63	2	15				
1972	87	28	1	9		5		29		11		2	1	1
1973	42	1		3	1			26	3	6		1		1
1974	41			21		1		8		9		1	1	
1975	75			22	10			9		18		2	1	13
1976	131	4		27		9		68		10		4		9
1977	198	3		136	3			9	1	32		6	8	
1978	104			58				19		27				
1979	255			113	36	67		21		18				
1980	61			19				41		1				
1981	7	4		1				2						
1982	40			15				22		3				
1983	45	5		2				34		4				
1984	50			27				11		11				1
1985	80	26		14				25		15				
1986	41	8	1	9		1		4		13		1	4	
1987	131	3	27	83				6		12				
1988	91	26	7	28				8		19			3	
1989	86	5	7	39				25		9		1		
Total	4224	193	204	1305	145	159	6	612	173	1009	8	123	205	73

AMC - US Army Material Command

ATEC - Army Test and Evaluation Command

FORSCOM - US Army Forces Command

MDW - US Army Military District of Washington

MEDCOM - US Army Medical Command

MTMC - US Army Military Traffic Management Command

NG - National Guard

SMDC - US Space and Military Defense Command

TRADOC - US Army Training and Doctrine Command

USACE - US Army Corps of Engineers

USARC - US Army Reserve Corps

USARPAC - US Army, Pacific

Table 4. Detailed Number of Barracks by Installation

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1946	NE	MDW	FORT A P HILL	2	BOQ unclassified
1946	NE	MDW	FORT A P HILL	3	Unclassified
1946	NG	NG	FORT PICKETT, ARNG MTC	1	Unclassified
1946	SW	MEDCOM	FORT SAM HOUSTON	1	Unclassified
1946	SW	FORSCOM	NTC AND FORT IRWIN, CA	1	Unclassified
1946	NE	AMC	PICATINNY ARSENAL	1	Unclassified
1947	NE	MDW	FORT BELVOIR	1	Unclassified
1947	NE	TRADOC	FORT STORY	1	Unclassified
1947	NE	USMA	WEST POINT MIL RESERVATION	5	Unclassified
1948	NE	MDW	FORT BELVOIR	1	Unclassified
1948	SE	USARSO	FORT BUCHANAN	3	Unclassified
1948	PAC	USARPAC	TRIPLER ARMY MEDICAL CENTER	5	Unclassified
1949	NE	MDW	FORT BELVOIR	1	Unclassified
1949	PAC	USARPAC	FORT RICHARDSON	1	Unclassified
1949	PAC	USARPAC	FORT WAINWRIGHT	8	Unclassified
1950	NG	NG	CAMP GRUBER TRAINING CENTER	13	BOQ unclassified
1950	NE	MDW	FORT TOTTEN	1	BOQ unclassified
1950	SE	USARSO	FORT BUCHANAN	1	Unclassified
1950	PAC	USARPAC	FORT WAINWRIGHT	1	Unclassified
1950	SE	FORSCOM	FT CAMPBELL TN	1	Unclassified
1950	NW	AMC	UMATILLA CHEM DEPOT	1	Unclassified
1950	SW	ATEC	WHITE SANDS MISSILE RANGE NM	1	Unclassified
1951	NE	MEDCOM	FORT DETRICK	3	BOQ hammerhead
1951	SW	USARC	FORT HUNTER LIGGETT	1	BOQ unclassified
1951	NW	FORSCOM	YAKIMA TRAINING CENTER	2	BOQ unclassified
1951	SW	FORSCOM	HOOD FORT	29	C-hut
1951	SW	TRADOC	FORT BLISS	1	Hammerhead
1951	PAC	USARPAC	FORT RICHARDSON	8	Hammerhead
1951	NE	TRADOC	FORT LEE	38	Tent Pad
1951	SW	TRADOC	FORT BLISS AAA RANGES	1	Unclassified
1951	NE	TRADOC	FORT LEE	2	Unclassified
1951	NW	FORSCOM	FORT LEWIS	1	Unclassified
1951	NG	NG	FORT WOLTERS	4	Unclassified
1951	SW	AMC	HAWTHORNE ARMY DEPOT	1	Unclassified
1951	PAC	USARPAC	HELEMANO MILITARY RESERVATION	1	Unclassified
1951	NG	NG	MTA CAMP ROBERTS	1	Unclassified
1951	SW	USARC	PARKS RESERVE FORCES TNG AREA	19	Unclassified
1951	NW	FORSCOM	YAKIMA TRAINING CENTER	41	Unclassified
1951	NW	AMC	US ARMY GARRISON SELFRIDGE	10	Wherry
1952	SW	ATEC	WHITE SANDS MISSILE RANGE NM	39	BOQ unclassified
1952	NW	FORSCOM	FORT LEWIS	2	Hammerhead
1952	PAC	USARPAC	FORT RICHARDSON	16	Hammerhead
1952	SE	FORSCOM	FT CAMPBELL KY	5	Hammerhead
1952	SW	FORSCOM	HOOD FORT	6	Hammerhead
1952	NG	NG	CTC FORT CUSTER TRNG CENTER	4	Unclassified
1952	NW	ATEC	DUGWAY PROVING GROUND	9	Unclassified
1952	NE	TRADOC	FORT LEE	3	Unclassified
1952	NW	TRADOC	FORT LEONARD WOOD	1	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1952	PAC	USARPAC	FORT WAINWRIGHT	4	Unclassified
1952	SW	USARC	PARKS RESERVE FORCES TNG AREA	8	Unclassified
1952	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	3	Unclassified
1952	SW	ATEC	WHITE SANDS MISSILE RANGE NM	35	Unclassified
1952	NW	FORSCOM	YAKIMA TRAINING CENTER	3	Unclassified
1953	SE	TRADOC	FORT BENNING GA	3	BOQ hammerhead
1953	SE	FORSCOM	FORT BRAGG	1	BOQ hammerhead
1953	NW	FORSCOM	FORT LEWIS	1	BOQ hammerhead
1953	NE	TRADOC	FORT EUSTIS	1	BOQ unclassified
1953	SE	FORSCOM	FORT STEWART, GA	1	BOQ unclassified
1953	SW	FORSCOM	NTC AND FORT IRWIN, CA	4	BOQ unclassified
1953	NE	AMC	FORT MONMOUTH MAIN POST	2	Double Hammerhead
1953	SW	TRADOC	FORT BLISS	29	Hammerhead
1953	NE	TRADOC	FORT EUSTIS	16	Hammerhead
1953	SE	TRADOC	FORT KNOX	22	Hammerhead
1953	PAC	USARPAC	FORT WAINWRIGHT	7	Hammerhead
1953	SW	FORSCOM	HOOD FORT	9	Hammerhead
1953	SW	FORSCOM	NTC AND FORT IRWIN, CA	25	Hammerhead
1953	SW	TRADOC	FORT BLISS	1	Semi-Permanent H
1953	SW	ATEC	WHITE SANDS MISSILE RANGE NM	2	Special Design
1953	SE	FORSCOM	FORT STEWART, GA	1	Tent Pad
1953	NW	AMC	DETROIT ARSENAL	1	Unclassified
1953	SE	FORSCOM	FORT STEWART, GA	1	Unclassified
1953	NG	NG	KALAELOA	1	Unclassified
1953	NG	NG	MTA CAMP SANTIAGO# COE RQ577	4	Unclassified
1953	SW	USARC	PARKS RESERVE FORCES TNG AREA	1	Unclassified
1953	NE	AMC	SOLDIER SYSTEMS CENTER	1	Unclassified
1953	NE	AMC	TOBYHANNA ARMY DEPOT	2	Unclassified
1954	SE	FORSCOM	HUNTER ARMY AIRFIELD	3	Air Force Barracks
1954	NE	MDW	FORT GEORGE G MEADE	5	BOQ hammerhead
1954	SE	TRADOC	FORT KNOX	4	BOQ hammerhead
1954	SE	TRADOC	FORT MCCLELLAN	3	BOQ special design
1954	PAC	SMDC	FORT GREELY	1	BOQ unclassified
1954	PAC	USARPAC	FORT RICHARDSON	2	BOQ unclassified
1954	PAC	USARPAC	FORT WAINWRIGHT	3	BOQ unclassified
1954	SW	USACE	LAKE MEAD BASE	2	BOQ unclassified
1954	NE	MDW	FORT GEORGE G MEADE	4	Double Hammerhead
1954	SE	TRADOC	FORT BENNING GA	17	Hammerhead
1954	NE	USARC	FORT DIX	17	Hammerhead
1954	NE	MDW	FORT GEORGE G MEADE	7	Hammerhead
1954	SE	TRADOC	FORT KNOX	14	Hammerhead
1954	NW	FORSCOM	FORT LEWIS	35	Hammerhead
1954	SE	TRADOC	FORT MCCLELLAN	1	Hammerhead
1954	PAC	USARPAC	FORT RICHARDSON	6	Hammerhead
1954	SW	TRADOC	FORT SILL OK	4	Hammerhead
1954	PAC	USARPAC	FORT WAINWRIGHT	3	Hammerhead
1954	SE	FORSCOM	FT CAMPBELL TN	36	Hammerhead
1954	SE	TRADOC	FORT MCCLELLAN	8	Special Design
1954	PAC	SMDC	FORT GREELY	1	Unclassified
1954	NE	TRADOC	FORT LEE	2	Unclassified
1954	NE	MEDCOM	FORT RITCHIE RAVEN ROCK SITE	1	Unclassified
1954	SW	USACE	LAKE MEAD BASE	6	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1954	NG	NG	MTA CAMP SANTIAGO# COE RQ577	8	Unclassified
1954	SW	MTMC	OAKLAND ARMY BASE	2	Unclassified
1955	PAC	SMDC	FORT GREELY	1	BOQ unclassified
1955	PAC	USARPAC	FORT RICHARDSON	1	BOQ unclassified
1955	SW	FORSCOM	HOOD FORT	6	C-hut
1955	SW	TRADOC	FORT BLISS	5	Hammerhead
1955	SE	FORSCOM	FORT BRAGG	26	Hammerhead
1955	NE	MDW	FORT GEORGE G MEADE	1	Hammerhead
1955	PAC	USARPAC	FORT RICHARDSON	4	Hammerhead
1955	PAC	USARPAC	FORT WAINWRIGHT	2	Hammerhead
1955	SE	FORSCOM	FORT BRAGG	1	H-style
1955	PAC	USARPAC	POHAKULOA TRAINING AREA	4	Hutment
1955	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	5	Tent Pad
1955	SW	TRADOC	FORT BLISS	1	Unclassified
1955	SE	USARSO	FORT BUCHANAN	6	Unclassified
1955	PAC	SMDC	FORT GREELY	2	Unclassified
1955	PAC	USARPAC	GERSTLE RIVER ARCTIC TEST SITE	1	Unclassified
1955	PAC	USARPAC	HAINES TERMINAL	2	Unclassified
1955	NW	FORSCOM	HAMILTON ARMY AIRFIELD	4	Unclassified
1955	NG	NG	MTA CAMP CROWDER NEOSHO	2	Unclassified
1955	NG	NG	NG COMPTON PARMALEE	1	Unclassified
1955	PAC	USARPAC	POHAKULOA TRAINING AREA	3	Unclassified
1955	NG	NG	TS NIKE 19 COE #25326	1	Unclassified
1956	SW	TRADOC	FORT BLISS	7	BOQ apt
1956	NE	MDW	FORT BELVOIR	2	BOQ hammerhead
1956	SE	TRADOC	FORT BENNING GA	1	BOQ hammerhead
1956	NW	FORSCOM	FORT LEWIS	1	BOQ hammerhead
1956	NE	AMC	FORT MONMOUTH MAIN POST	1	BOQ hammerhead
1956	NW	FORSCOM	FORT RILEY	1	BOQ hammerhead
1956	SW	TRADOC	FORT SILL OK	1	BOQ hammerhead
1956	SW	FORSCOM	HOOD FORT	4	BOQ hammerhead
1956	NW	FORSCOM	FORT CARSON	1	BOQ unclassified
1956	NE	USARC	FORT DIX	1	BOQ unclassified
1956	NE	TRADOC	FORT EUSTIS	4	BOQ unclassified
1956	SW	TRADOC	PRESIDIO OF MONTEREY	1	BOQ unclassified
1956	SE	TRADOC	FORT BENNING GA	2	Hammerhead
1956	SW	TRADOC	FORT BLISS	13	Hammerhead
1956	SE	FORSCOM	FORT BRAGG	16	Hammerhead
1956	SE	TRADOC	FORT KNOX	2	Hammerhead
1956	NE	TRADOC	FORT LEE	2	Hammerhead
1956	NW	FORSCOM	FORT LEWIS	10	Hammerhead
1956	PAC	USARPAC	FORT WAINWRIGHT	8	Hammerhead
1956	SE	FORSCOM	FT CAMPBELL	8	Hammerhead
1956	SW	FORSCOM	HOOD FORT	9	Hammerhead
1956	SW	MTMC	OAKLAND ARMY BASE	1	Hammerhead
1956	PAC	USARPAC	POHAKULOA TRAINING AREA	2	Hutment
1956	SW	ATEC	WHITE SANDS MISSILE RANGE NM	1	Special Design
1956	SE	FORSCOM	FORT BRAGG	1	Unclassified
1956	NW	FORSCOM	FORT CARSON	3	Unclassified
1956	NE	TRADOC	FORT EUSTIS	2	Unclassified
1956	PAC	SMDC	FORT GREELY	2	Unclassified
1956	SE	FORSCOM	FORT STEWART, GA	8	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1956	SE	MTMC	MILITARY OCEAN TML SUNNY POINT	1	Unclassified
1956	NW	USARC	W. SILVER SPRING COMPLEX	1	Unclassified
1957	SW	MEDCOM	FORT SAM HOUSTON	2	BOQ apt
1957	SE	TRADOC	FORT BENNING GA	1	BOQ hammerhead
1957	NE	USARC	FORT DIX	1	BOQ unclassified
1957	SW	ATEC	YUMA PROVING GROUND	1	BOQ unclassified
1957	SE	TRADOC	FORT BENNING GA	1	Hammerhead
1957	SW	TRADOC	FORT SILL OK	2	Hammerhead
1957	NW	FORSCOM	FORT LEWIS	9	H-style
1957	PAC	USARPAC	POHAKULOA TRAINING AREA	35	Hutment
1957	SW	TRADOC	FORT BLISS	5	Semi-Permanent H
1957	SW	MEDCOM	FORT SAM HOUSTON	1	Transient Guest House
1957	NE	USARC	DEVENS RESERVE FORCES TNG AREA	1	Unclassified
1957	NW	ATEC	DUGWAY PROVING GROUND	4	Unclassified
1957	NE	USARC	FINLEYVILL NIKE-PI-43	3	Unclassified
1957	SW	TRADOC	FORT BLISS AAA RANGES	1	Unclassified
1957	PAC	SMDC	FORT GREELY	1	Unclassified
1957	NW	FORSCOM	FORT LEWIS	1	Unclassified
1957	SE	FORSCOM	FT CAMPBELL	3	Unclassified
1957	NG	NG	KALAELOA	1	Unclassified
1957	SW	TRADOC	PRESIDIO OF MONTEREY	1	Unclassified
1957	SE	AMC	REDSTONE ARSENAL	1	Unclassified
1957	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	1	Unclassified
1957	NG	NG	WEST VIEW	1	Unclassified
1957	SW	ATEC	YUMA PROVING GROUND	1	Unclassified
1958	SW	TRADOC	FORT BLISS	2	BOQ apt
1958	SE	TRADOC	FORT KNOX	1	BOQ high rise
1958	NW	AMC	SAVANNA DEPOT ACT	6	BOQ unclassified
1958	SW	ATEC	WHITE SANDS MISSILE RANGE NM	7	BOQ unclassified
1958	SW	ATEC	YUMA PROVING GROUND	1	BOQ unclassified
1958	SE	TRADOC	FORT BENNING GA	6	H-style
1958	SE	FORSCOM	FORT BRAGG	5	H-style
1958	NE	TRADOC	FORT EUSTIS	4	H-style
1958	NE	TRADOC	FORT LEE	3	H-style
1958	NW	FORSCOM	FORT RILEY	4	H-style
1958	SW	FORSCOM	HOOD FORT	8	H-style
1958	NE	AMC	TOBYHANNA ARMY DEPOT	1	H-style
1958	PAC	USARPAC	POHAKULOA TRAINING AREA	2	Hutment
1958	PAC	USARPAC	POHAKULOA TRAINING AREA	23	Hutment
1958	SW	TRADOC	FORT BLISS AAA RANGES	12	Quonset Hut
1958	SE	FORSCOM	FORT BRAGG	1	Special Design
1958	NG	NG	FLORENCE MILITARY RESERVATION	1	Tent Pad
1958	NE	MDW	FORT A P HILL	21	Tent Pad
1958	NE	AMC	DEFENSE DISTRIB.DEPOT SUSQ. PA	1	Unclassified
1958	NE	MDW	FORT A P HILL	4	Unclassified
1958	NW	FORSCOM	FORT CARSON	1	Unclassified
1958	SW	TRADOC	FORT HUACHUCA	3	Unclassified
1958	PAC	USARPAC	FORT SHAFTER	1	Unclassified
1958	NE	TRADOC	FORT STORY	2	Unclassified
1958	NE	MTMC	MILITARY OCEAN TML BAYONNE	1	Unclassified
1958	NG	NG	MTA CAMP EDWARDS	6	Unclassified
1958	PAC	USARPAC	POHAKULOA TRAINING AREA	1	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1958	SE	USARC	RAMEY USARC/AQUADILLA	1	Unclassified
1958	NE	USMA	WEST POINT MIL RESERVATION	2	Unclassified
1958	SW	ATEC	WHITE SANDS MISSILE RANGE NM	12	Unclassified
1958	SW	ATEC	YUMA PROVING GROUND	1	Unclassified
1959	NE	MDW	FORT BELVOIR	2	BOQ apt
1959	SE	TRADOC	FORT KNOX	3	BOQ apt
1959	NW	FORSCOM	FORT RILEY	1	BOQ apt
1959	SW	TRADOC	FORT BLISS AAA RANGES	2	BOQ Semi-Permanent U
1959	NE	AMC	ABERDEEN PROVING GROUND	2	BOQ unclassified
1959	NW	ATEC	DUGWAY PROVING GROUND	37	BOQ unclassified
1959	NW	TRADOC	FORT LEAVENWORTH	1	BOQ unclassified
1959	NE	TRADOC	FORT LEE	2	BOQ unclassified
1959	SE	FORSCOM	FORT STEWART, GA	1	BOQ unclassified
1959	SE	FORSCOM	HUNTER ARMY AIRFIELD	2	BOQ unclassified
1959	PAC	USARPAC	POHAKULOA TRAINING AREA	1	Hutment
1959	SW	TRADOC	FORT BLISS	2	Semi-Permanent H
1959	SW	TRADOC	FORT BLISS AAA RANGES	26	Semi-Permanent H
1959	SW	TRADOC	FORT BLISS AAA RANGES	17	Straight-sided Quonset Hut
1959	NG	NG	CAMP ASHLAND	2	Unclassified
1959	SE	TRADOC	DAHLONEGA	1	Unclassified
1959	NG	NG	FELICITY	1	Unclassified
1959	SW	USARC	FORT HUNTER LIGGETT	1	Unclassified
1959	NE	TRADOC	FORT LEE	2	Unclassified
1959	PAC	USARPAC	FORT RICHARDSON	1	Unclassified
1959	SE	FORSCOM	FORT STEWART, GA	29	Unclassified
1959	NG	NG	MTA CAMP EDWARDS	2	Unclassified
1959	PAC	USARPAC	NIKE ALASKA MIKE	1	Unclassified
1959	PAC	USARPAC	NIKE ALASKA PETER	1	Unclassified
1959	NG	NG	OXFORD	1	Unclassified
1959	NG	NG	ROSWELL WETS	3	Unclassified
1959	NE	AMC	TOBYHANNA ARMY DEPOT	1	Unclassified
1959	NW	AMC	US ARMY GARRISON SELFRIDGE	2	Unclassified
1959	SW	ATEC	WHITE SANDS MISSILE RANGE NM	4	Unclassified
1959	SW	ATEC	YUMA PROVING GROUND	5	Unclassified
1960	NW	FORSCOM	FORT RILEY	2	BOQ apt
1960	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	3	BOQ unclassified
1960	NW	AMC	US ARMY GARRISON SELFRIDGE	1	BOQ unclassified
1960	NE	AMC	ABERDEEN PROVING GROUND	3	Rolling Pin
1960	NW	FORSCOM	FORT RILEY	2	Rolling Pin
1960	SW	TRADOC	FORT BLISS AAA RANGES	3	Semi-Permanent H
1960	NG	NG	N RIVERSIDE (NG MAINT CENTER)	1	Tent Pad
1960	NG	NG	BEE CAVE	1	Unclassified
1960	NE	MDW	FORT A P HILL	1	Unclassified
1960	SW	TRADOC	FORT HUACHUCA	1	Unclassified
1960	SE	TRADOC	FORT JACKSON	2	Unclassified
1960	NE	TRADOC	FORT LEE	2	Unclassified
1960	SE	TRADOC	FORT RUCKER AL	1	Unclassified
1960	NG	NG	GRAYLING AIRFIELD	1	Unclassified
1960	NG	NG	MTA CAMP EDWARDS	3	Unclassified
1960	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	Unclassified
1960	SE	AMC	REDSTONE ARSENAL	4	Unclassified
1960	NE	USMA	WEST POINT MIL RESERVATION	6	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1960	SW	ATEC	WHITE SANDS MISSILE RANGE NM	1	Unclassified
1961	SW	TRADOC	FORT BLISS AAA RANGES	2	BOQ Semi-Permanent 16 man
1961	NE	AMC	ABERDEEN PROVING GROUND	2	BOQ unclassified
1961	NG	NG	FT ALLEN COE#RQ177	1	BOQ unclassified
1961	NG	NG	MTA CAMP SANTIAGO# COE RQ577	3	BOQ unclassified
1961	SE	AMC	REDSTONE ARSENAL	2	BOQ unclassified
1961	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	5	BOQ unclassified
1961	SW	MEDCOM	FORT SAM HOUSTON	1	Capehart
1961	SW	FORSCOM	HOOD FORT	2	Capehart
1961	PAC	USARPAC	POHAKULOA TRAINING AREA	3	Hutment
1961	PAC	USARPAC	POHAKULOA TRAINING AREA	7	Hutment
1961	NW	TRADOC	FORT LEONARD WOOD	6	Rolling Pin
1961	SE	TRADOC	FORT RUCKER AL	2	Rolling Pin
1961	SW	TRADOC	FORT BLISS AAA RANGES	2	Semi-Permanent H
1961	NE	USMA	WEST POINT MIL RESERVATION	14	Special Design
1961	NW	TRADOC	ST. CHARLES USARC	1	Tent Pad
1961	NE	AMC	TOBYHANNA ARMY DEPOT	5	Tent Pad
1961	NE	MEDCOM	FORT DETRICK	1	Unclassified
1961	PAC	SMDC	FORT GREELY	1	Unclassified
1961	NE	MDW	FORT HAMILTON	2	Unclassified
1961	SE	FORSCOM	FORT STEWART, GA	33	Unclassified
1961	NG	NG	FT ALLEN COE#RQ177	21	Unclassified
1961	NW	TRADOC	LAKE OF THE OZARKS RECREATION	1	Unclassified
1961	NG	NG	MTA CAMP EDWARDS	24	Unclassified
1961	NE	USARC	PEDRICKTOWN SUPPORT FACILITY	2	Unclassified
1961	NW	AMC	SAVANNA DEPOT ACT	1	Unclassified
1961	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	2	Unclassified
1962	SW	TRADOC	FORT BLISS	5	BOQ apt
1962	SE	TRADOC	FORT KNOX	8	BOQ apt
1962	NE	TRADOC	FORT LEE	2	BOQ unclassified
1962	NE	AMC	FORT MONMOUTH MAIN POST	2	BOQ unclassified
1962	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	12	BOQ unclassified
1962	PAC	USARPAC	DILLINGHAM MIL RES	6	Hutment
1962	PAC	USARPAC	POHAKULOA TRAINING AREA	2	Hutment
1962	NE	AMC	ABERDEEN PROVING GROUND	3	Rolling Pin
1962	NE	USARC	DEVENS RESERVE FORCES TNG AREA	2	Rolling Pin
1962	NW	TRADOC	FORT LEONARD WOOD	6	Rolling Pin
1962	NW	USARC	2LT WM S HUISMAN USARC	1	Tent Pad
1962	SW	TRADOC	FORT SILL OK	1	Tent Pad
1962	NG	NG	MTA CAMP CLARK NEVADA	1	Tent Pad
1962	NE	MDW	FORT HAMILTON	1	Unclassified
1962	NE	TRADOC	FORT STORY	1	Unclassified
1962	NG	NG	GRAYLING AIRFIELD	1	Unclassified
1962	NG	NG	MTA FT WM HENRY HARRISON	8	Unclassified
1962	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	109	Unclassified
1962	NE	USMA	WEST POINT MIL RESERVATION	2	Unclassified
1963	NE	USARC	FORT DIX	3	BOQ Apt
1963	SW	TRADOC	FORT SILL OK	10	BOQ apt
1963	NW	TRADOC	FORT LEONARD WOOD	37	Rolling Pin
1963	SW	FORSCOM	HOOD FORT	3	Rolling Pin
1963	NG	NG	GRAYLING AIRFIELD	2	Tent Pad
1963	NG	NG	MTA CAMP CLARK NEVADA	1	Tent Pad

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1963	NW	TRADOC	FORT LEAVENWORTH	2	Unclassified
1963	SE	FORSCOM	FORT STEWART, GA	61	Unclassified
1963	SW	FORSCOM	HOOD FORT	1	Unclassified
1963	NG	NG	MTA FT WM HENRY HARRISON	4	Unclassified
1964	SE	TRADOC	FORT RUCKER AL	2	BOQ apt
1964	SE	FORSCOM	FORT STEWART, GA	1	BOQ unclassified
1964	PAC	USARPAC	POHAKULOA TRAINING AREA	3	Hutment
1964	NE	USARC	FORT DIX	4	Rolling Pin
1964	NW	TRADOC	FORT LEONARD WOOD	4	Rolling Pin
1964	SW	TRADOC	FORT SILL OK	3	Rolling Pin
1964	SW	FORSCOM	HOOD FORT	1	Rolling Pin
1964	NG	NG	MTA CAMP CLARK NEVADA	1	Tent Pad
1964	SE	TRADOC	DAHLONEGA	3	Unclassified
1964	SE	FORSCOM	FORT STEWART, GA	62	Unclassified
1964	PAC	USARPAC	POHAKULOA TRAINING AREA	1	Unclassified
1964	SW	AMC	PUEBLO CHEMICAL DEPOT	1	Unclassified
1964	NE	USMA	WEST POINT MIL RESERVATION	4	Unclassified
1965	SE	TRADOC	FORT RUCKER AL	3	BOQ apt
1965	SE	FORSCOM	FORT BRAGG	1	BOQ hammerhead
1965	SW	FORSCOM	NTC AND FORT IRWIN, CA	2	BOQ unclassified
1965	NE	USARC	FORT DIX	8	Rolling Pin
1965	NW	TRADOC	FORT LEAVENWORTH	1	Rolling Pin
1965	NW	TRADOC	FORT LEONARD WOOD	9	Rolling Pin
1965	SW	TRADOC	FORT SILL OK	1	Rolling Pin
1965	NW	TRADOC	FORT LEAVENWORTH	1	Semi-Permanent U
1965	SW	TRADOC	PRESIDIO OF MONTEREY	1	Special Design
1965	NE	AMC	ABERDEEN PROVING GROUND	1	Unclassified
1965	SE	TRADOC	DAHLONEGA	1	Unclassified
1965	NW	FORSCOM	FORT CARSON	1	Unclassified
1965	NW	TRADOC	FORT LEAVENWORTH	2	Unclassified
1965	NW	TRADOC	FORT LEONARD WOOD	1	Unclassified
1965	NE	AMC	FORT MONMOUTH MAIN POST	2	Unclassified
1965	SE	FORSCOM	FORT STEWART, GA	14	Unclassified
1966	NE	TRADOC	CARLISLE BARRACKS	1	BOQ apt
1966	NE	MDW	FORT GEORGE G MEADE	3	BOQ apt
1966	NW	FORSCOM	FORT RILEY	3	BOQ apt
1966	SE	TRADOC	FORT RUCKER AL	2	BOQ apt
1966	SE	FORSCOM	FORT BRAGG	2	BOQ high rise
1966	SW	TRADOC	FORT SILL OK	1	BOQ high rise
1966	SW	TRADOC	FORT SILL OK	1	BOQ unclassified
1966	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	BOQ unclassified
1966	SW	TRADOC	FORT BLISS AAA RANGES	115	C-hut
1966	NG	NG	MTA CAMP CLARK NEVADA	2	Hutment
1966	SE	FORSCOM	FORT BRAGG	7	Rolling Pin
1966	NW	FORSCOM	FORT CARSON	6	Rolling Pin
1966	SE	TRADOC	FORT GORDON	11	Rolling Pin
1966	SE	TRADOC	FORT JACKSON	8	Rolling Pin
1966	NW	TRADOC	FORT LEONARD WOOD	35	Rolling Pin
1966	SW	FORSCOM	HOOD FORT	11	Rolling Pin
1966	SW	MTMC	OAKLAND ARMY BASE	1	Transient Guest House
1966	NG	NG	AASF BYRD FIELD	1	Unclassified
1966	SE	TRADOC	DAHLONEGA	1	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1966	SE	FORSCOM	FORT BRAGG	1	Unclassified
1966	NW	TRADOC	FORT LEONARD WOOD	4	Unclassified
1966	NE	MDW	FORT MYER	2	Unclassified
1966	SW	FORSCOM	FORT POLK	2	Unclassified
1966	SE	TRADOC	FORT RUCKER AL	1	Unclassified
1966	PAC	USARPAC	HELEMANO MILITARY RESERVATION	1	Unclassified
1966	SW	TRADOC	PRESIDIO OF MONTEREY	1	Unclassified
1966	PAC	USARPAC	SEWARD RECREATION AREA	2	Unclassified
1967	SW	TRADOC	FORT SILL OK	3	BOQ high rise
1967	SE	TRADOC	FORT GORDON	1	BOQ unclassified
1967	NG	NG	MTA CLARKS HILL RESERVATION	1	BOQ unclassified
1967	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	3	BOQ unclassified
1967	NG	NG	MTA CAMP CLARK NEVADA	18	Hutment
1967	NE	MDW	FORT A P HILL	21	Rolling Pin
1967	SE	FORSCOM	FORT BRAGG	1	Rolling Pin
1967	NW	FORSCOM	FORT CARSON	6	Rolling Pin
1967	SE	TRADOC	FORT GORDON	10	Rolling Pin
1967	SE	TRADOC	FORT JACKSON	15	Rolling Pin
1967	SE	TRADOC	FORT KNOX	6	Rolling Pin
1967	NW	TRADOC	FORT LEONARD WOOD	6	Rolling Pin
1967	SW	FORSCOM	NTC AND FORT IRWIN, CA	3	Rolling Pin
1967	NE	AMC	ABERDEEN PROVING GROUND	13	Semi-Permanent H
1967	SW	TRADOC	FORT BLISS	9	Semi-Permanent H
1967	SW	MEDCOM	FORT SAM HOUSTON	8	Semi-Permanent H
1967	SW	TRADOC	FORT SILL OK	13	Semi-Permanent H
1967	SE	TRADOC	FORT BENNING GA	20	Semi-Permanent U
1967	NE	MEDCOM	REED WALTER AMC MAIN POST	1	Transient Inn
1967	NG	NG	CAMP GRUBER TRAINING CENTER	3	Unclassified
1967	NG	NG	CAMP SWIFT	1	Unclassified
1967	SE	TRADOC	FORT BENNING GA	1	Unclassified
1967	NE	TRADOC	FORT EUSTIS	7	Unclassified
1967	NG	NG	FORT INDIANTOWN GAP	1	Unclassified
1967	SW	TRADOC	FORT SILL OK	3	Unclassified
1967	NG	NG	FT JUAN MUNA	1	Unclassified
1967	NG	NG	GRAYLING AIRFIELD	2	Unclassified
1967	NG	NG	MTA CLARKS HILL RESERVATION	6	Unclassified
1967	NE	USMA	WEST POINT MIL RESERVATION	11	Unclassified
1968	NE	MDW	FORT MYER	1	BOQ high rise
1968	SE	FORSCOM	FORT BRAGG	1	BOQ motel
1968	SE	TRADOC	FORT GORDON	1	BOQ unclassified
1968	NE	USARC	FORT DIX	9	Rolling Pin
1968	SE	TRADOC	FORT GORDON	6	Rolling Pin
1968	SE	TRADOC	FORT JACKSON	3	Rolling Pin
1968	SW	TRADOC	FORT SILL OK	1	Rolling Pin
1968	SW	FORSCOM	HOOD FORT	4	Rolling Pin
1968	NE	TRADOC	FORT LEE	1	Tent Pad
1968	NG	NG	CAMP ADAIR CORVALLIS	1	Unclassified
1968	NG	NG	CAMP SWIFT	1	Unclassified
1968	NE	MDW	FORT BELVOIR	1	Unclassified
1968	SW	TRADOC	FORT HUACHUCA	1	Unclassified
1968	NE	AMC	FORT MONMOUTH MAIN POST	1	Unclassified
1968	SE	FORSCOM	FORT STEWART, GA	7	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1969	SW	FORSCOM	HOOD FORT	1	BOQ high rise
1969	NE	MDW	FORT MYER	2	BOQ high rise
1969	NE	AMC	ABERDEEN PROVING GROUND	2	BOQ unclassified
1969	NE	MDW	FORT BELVOIR	3	BOQ unclassified
1969	NE	USARC	FORT DIX	2	BOQ unclassified
1969	SW	AMC	MCALESTER AAP	1	BOQ unclassified
1969	SW	MEDCOM	CAMP BULLIS	58	Hutment
1969	SE	FORSCOM	FORT BRAGG	4	Hutment
1969	NE	USARC	FORT DIX	2	Rolling Pin
1969	SE	TRADOC	FORT GORDON	6	Rolling Pin
1969	SE	TRADOC	FORT GORDON	6	Rolling Pin
1969	SE	TRADOC	FORT JACKSON	9	Rolling Pin
1969	SE	TRADOC	FORT KNOX	13	Rolling Pin
1969	NW	FORSCOM	FORT RILEY	12	Rolling Pin
1969	SW	FORSCOM	HOOD FORT	5	Rolling Pin
1969	SW	TRADOC	FORT SILL OK	1	Tent Pad
1969	NW	FORSCOM	YAKIMA TRAINING CENTER	3	Tent Pad
1969	SE	FORSCOM	FORT BRAGG	1	Transient NCO motel
1969	NG	NG	CAMP MINDEN	1	Unclassified
1969	NG	NG	CAMP SHERMAN TNG SITE	1	Unclassified
1969	NG	NG	CAMP SWIFT	1	Unclassified
1969	SE	TRADOC	DAHLONEGA	1	Unclassified
1969	NE	USARC	DEVENS RESERVE FORCES TNG AREA	3	Unclassified
1969	NW	FORSCOM	FORT CARSON	1	Unclassified
1969	SW	TRADOC	FORT HUACHUCA	1	Unclassified
1969	SE	TRADOC	FORT RUCKER AL	1	Unclassified
1969	SE	FORSCOM	FT CAMPBELL KY	3	Unclassified
1969	NW	FORSCOM	HAMILTON ARMY AIRFIELD	1	Unclassified
1969	NG	NG	MTA CAMP CROWDER NEOSHO	4	Unclassified
1969	SW	TRADOC	PRESIDIO OF MONTEREY	1	Unclassified
1969	NW	AMC	ROCK ISLAND ARSENAL	1	Unclassified
1969	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	22	Unclassified
1970	NW	FORSCOM	FORT CARSON	4	BOQ unclassified
1970	NG	NG	MTA CAMP CLARK NEVADA	1	BOQ unclassified
1970	NW	FORSCOM	FORT CARSON	1	Rolling Pin
1970	NW	TRADOC	FORT LEONARD WOOD	4	Rolling Pin
1970	NW	FORSCOM	FORT RILEY	11	Rolling Pin
1970	SE	TRADOC	FORT RUCKER AL	2	Rolling Pin
1970	NE	USARC	ABINGDON MEMORIAL USARC	1	Tent Pad
1970	NE	USARC	PFC CLOYSE E. HALL USARC	1	Tent Pad
1970	SE	TRADOC	FORT KNOX	1	Transient Guest House
1970	NE	USARC	DEVENS RESERVE FORCES TNG AREA	1	Unclassified
1970	NE	MDW	FORT A P HILL	7	Unclassified
1970	SW	USARC	FORT HUNTER LIGGETT	1	Unclassified
1970	NW	TRADOC	LAKE OF THE OZARKS RECREATION	2	Unclassified
1970	NG	NG	MTA CAMP CLARK NEVADA	1	Unclassified
1970	NG	NG	PAPAGO MILITARY RESERVATON	1	Unclassified
1970	SW	AMC	SIERRA ARMY DEPOT	1	Unclassified
1970	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	1	Unclassified
1971	NE	TRADOC	FORT EUSTIS	2	BOQ unclassified
1971	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	2	BOQ unclassified
1971	SE	FORSCOM	FORT BRAGG	1	Transient Guest House

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1971	NG	NG	MTA CAMP CLARK NEVADA	59	Hutment
1971	SE	FORSCOM	FORT BRAGG	12	Rolling Pin
1971	NW	FORSCOM	FORT CARSON	5	Rolling Pin
1971	SE	TRADOC	FORT JACKSON	3	Rolling Pin
1971	NW	TRADOC	FORT LEONARD WOOD	5	Rolling Pin
1971	NW	FORSCOM	FORT LEWIS	1	Transient Guest House
1971	NG	NG	CAMP MINDEN	1	Unclassified
1971	NE	FORSCOM	FORT DRUM	1	Unclassified
1971	NE	MDW	FORT GEORGE G MEADE	1	Unclassified
1971	SE	TRADOC	FORT GORDON	1	Unclassified
1971	SE	TRADOC	FORT GORDON RECREATION AREA	1	Unclassified
1971	NW	TRADOC	FORT LEAVENWORTH	1	Unclassified
1971	NE	AMC	FORT MONMOUTH MAIN POST	1	Unclassified
1971	SE	TRADOC	FORT RUCKER AL	1	Unclassified
1971	SE	FORSCOM	FT CAMPBELL TN	1	Unclassified
1971	NG	NG	MTA CAMP SANTIAGO# COE RQ577	3	Unclassified
1971	SW	TRADOC	PRESIDIO OF MONTEREY	1	Unclassified
1972	SW	FORSCOM	HOOD FORT	6	A-style
1972	NW	FORSCOM	FORT RILEY	2	BB&A
1972	SW	MEDCOM	FORT SAM HOUSTON	1	BOQ high rise
1972	SE	TRADOC	FORT JACKSON	1	BOQ unclassified
1972	NG	NG	MTA CLARKS HILL RESERVATION	1	BOQ unclassified
1972	NG	NG	MTA CAMP CLARK NEVADA	17	Hutment
1972	NW	FORSCOM	FORT RILEY	1	Rolling Pin
1972	SW	MEDCOM	FORT SAM HOUSTON	3	Special Design
1972	NE	USARC	FORT DIX	1	Transient Guest House
1972	SE	TRADOC	FORT GORDON	1	Unclassified
1972	SW	TRADOC	FORT HUACHUCA	2	Unclassified
1972	SW	USARC	FORT HUNTER LIGGETT	1	Unclassified
1972	SE	TRADOC	FORT JACKSON	6	Unclassified
1972	NE	TRADOC	FORT LEE	1	Unclassified
1972	SW	MEDCOM	FORT SAM HOUSTON	1	Unclassified
1972	NG	NG	MTA CLARKS HILL RESERVATION	11	Unclassified
1972	SE	AMC	REDSTONE ARSENAL	28	Unclassified
1972	NE	USMA	WEST POINT MIL RESERVATION	1	Unclassified
1972	PAC	USARPAC	WHEELER ARMY AIRFIELD	1	Unclassified
1972	SW	ATEC	YUMA PROVING GROUND	1	Unclassified
1973	SW	FORSCOM	HOOD FORT	1	BOQ 88-man
1973	SW	FORSCOM	FORT POLK	2	BOQ motel
1973	NW	SMDC	MICKELSEN STANLEY R SFG PAR	1	BOQ unclassified
1973	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	BOQ unclassified
1973	PAC	SMDC	U.S. ARMY KWAJALEIN ATOLL	1	BOQ unclassified
1973	NG	NG	MTA CAMP CLARK NEVADA	2	Tent Pad
1973	NG	NG	CAMP MINDEN	1	Unclassified
1973	NE	MDW	FORT GEORGE G MEADE	1	Unclassified
1973	NW	TRADOC	FORT LEONARD WOOD	6	Unclassified
1973	SW	AMC	HAWTHORNE ARMY DEPOT	1	Unclassified
1973	NG	NG	KALAELOA	3	Unclassified
1973	NW	SMDC	MICKELSEN STANLEY R SFG PAR	1	Unclassified
1973	NG	NG	MTA CAMP CLARK NEVADA	1	Unclassified
1973	NG	NG	MTA CAMP SANTIAGO# COE RQ577	17	Unclassified
1973	NW	USARC	SPRINGFIELD AFRC/AMSA #54	1	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1973	NE	USMA	WEST POINT MIL RESERVATION	1	Unclassified
1974	SW	FORSCOM	HOOD FORT	6	A-style
1974	NW	FORSCOM	FORT CARSON	11	BB&A
1974	SW	TRADOC	FORT HUACHUCA	1	BOQ 70s apt
1974	SE	TRADOC	FORT KNOX	8	BOQ 70s apt
1974	SW	MEDCOM	FORT SAM HOUSTON	1	BOQ 70s apt
1974	NG	NG	MTA CAMP CROWDER NEOSHO	5	Hutment
1974	SW	FORSCOM	HOOD FORT	4	LBCW
1974	NE	USARC	1LT JIMMIE L. MONTEITH USARC	1	Tent Pad
1974	NG	NG	REGIONAL TRNG INST	3	Unclassified
1974	PAC	USARPAC	SEWARD RECREATION AREA	1	Unclassified
1975	NW	FORSCOM	FORT CARSON	5	BB&A
1975	SE	TRADOC	FORT RUCKER AL	5	BB&A
1975	NE	TRADOC	FORT LEE	2	BOQ 70s apt
1975	SE	FORSCOM	FT CAMPBELL TN	5	BOQ 70s apt
1975	SW	TRADOC	FORT BLISS AAA RANGES	1	C-hut
1975	NE	MDW	FORT BELVOIR	7	LBCW
1975	SW	TRADOC	FORT SILL OK	6	LBCW
1975	SW	FORSCOM	HOOD FORT	11	LBCW
1975	SE	TRADOC	FORT JACKSON	2	Starship
1975	NG	NG	FLORENCE MILITARY RESERVATION	5	Tent Pad
1975	NG	NG	MTA CAMP CLARK NEVADA	2	Tent Pad
1975	NE	USARC	PFC HARRY J. FRIDLEY USARC	1	Tent Pad
1975	NE	USARC	TSG FRANK D. PEREGORY USARC	1	Tent Pad
1975	NE	MDW	FORT BELVOIR	1	transient unclassified
1975	NE	MDW	FORT GEORGE G MEADE	1	transient unclassified
1975	NE	FORSCOM	FORT DRUM	1	Unclassified
1975	NE	MDW	FORT GEORGE G MEADE	1	Unclassified
1975	SE	TRADOC	FORT GORDON	2	Unclassified
1975	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	Unclassified
1975	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	1	Unclassified
1975	NE	USMA	WEST POINT MIL RESERVATION	13	Unclassified
1976	NW	FORSCOM	FORT CARSON	11	BB&A
1976	NW	TRADOC	FORT LEONARD WOOD	2	BB&A
1976	SW	MEDCOM	FORT SAM HOUSTON	8	BB&A
1976	NG	NG	MTA CAMP SANTIAGO# COE RQ577	10	BOQ unclassified
1976	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	Hutment
1976	SE	FORSCOM	FORT BRAGG	9	LBCW
1976	SW	FORSCOM	FORT POLK	6	LBCW
1976	NE	MEDCOM	REED WALTER AMC MAIN POST	1	Special Design
1976	NE	AMC	ABERDEEN PROVING GROUND	1	Unclassified
1976	NE	USARC	DEVENS RESERVE FORCES TNG AREA	4	Unclassified
1976	SE	TRADOC	FORT JACKSON	3	Unclassified
1976	NE	TRADOC	FORT LEE	5	Unclassified
1976	SE	FORSCOM	FT CAMPBELL TN	1	Unclassified
1976	NG	NG	MTA CAMP SANTIAGO# COE RQ577	57	Unclassified
1976	SW	AMC	PINE BLUFF ARSENAL	2	Unclassified
1976	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	9	Unclassified
1976	SW	AMC	SIERRA ARMY DEPOT	1	Unclassified
1977	NW	FORSCOM	FORT RILEY	17	BB&A
1977	SE	TRADOC	FORT RUCKER AL	3	BB&A
1977	NE	MDW	FORT BELVOIR	1	BOQ unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1977	SE	FORSCOM	FORT STEWART, GA	13	BOQ unclassified
1977	SE	FORSCOM	FORT BRAGG	2	LBCW
1977	SW	FORSCOM	FORT POLK	7	LBCW
1977	SW	FORSCOM	HOOD FORT	9	LBCW
1977	SE	TRADOC	FORT JACKSON	1	Starship
1977	NG	NG	CTA CAMP MC CAIN	1	Unclassified
1977	NE	MDW	FORT A P HILL	1	Unclassified
1977	SE	TRADOC	FORT GORDON	27	Unclassified
1977	PAC	SMDC	FORT GREELY	1	Unclassified
1977	SW	USARC	FORT HUNTER LIGGETT	6	Unclassified
1977	NG	NG	FORT INDIANTOWN GAP	5	Unclassified
1977	NE	MDW	FORT MYER	1	Unclassified
1977	NG	NG	FORT PICKETT, ARNG MTC	1	Unclassified
1977	SW	TRADOC	FORT SILL OK	1	Unclassified
1977	SE	FORSCOM	FORT STEWART, GA	78	Unclassified
1977	SE	FORSCOM	FT CAMPBELL KY	10	Unclassified
1977	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	Unclassified
1977	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	8	Unclassified
1977	SW	AMC	SIERRA ARMY DEPOT	3	Unclassified
1978	NW	FORSCOM	FORT CARSON	10	BB&A
1978	NW	TRADOC	FORT LEONARD WOOD	18	BB&A
1978	NW	FORSCOM	FORT LEWIS	7	BB&A
1978	NW	FORSCOM	FORT RILEY	2	BB&A
1978	NG	NG	TS ETHAN ALLEN RANGE	1	BOQ unclassified
1978	SW	FORSCOM	FORT POLK	8	LBCW
1978	SW	FORSCOM	HOOD FORT	13	LBCW
1978	SE	TRADOC	FORT BENNING GA	3	Starship
1978	NG	NG	AUBURN TS	2	Tent Pad
1978	SE	TRADOC	FORT KNOX	3	Tent Pad
1978	NG	NG	CTA CAMP MC CAIN	1	Unclassified
1978	NE	FORSCOM	FORT DRUM	1	Unclassified
1978	NE	TRADOC	FORT LEE	3	Unclassified
1978	NW	FORSCOM	FORT LEWIS	1	Unclassified
1978	SE	FORSCOM	FORT STEWART, GA	11	Unclassified
1978	SE	FORSCOM	FT CAMPBELL KY	4	Unclassified
1978	SW	FORSCOM	HOOD FORT	1	Unclassified
1978	NG	NG	MTA CAMP SANTIAGO# COE RQ577	9	Unclassified
1978	NG	NG	TS ETHAN ALLEN RANGE	6	Unclassified
1979	SW	FORSCOM	HOOD FORT	34	Army Reserve
1979	NW	TRADOC	FORT LEONARD WOOD	13	BB&A
1979	SW	FORSCOM	HOOD FORT	10	BOQ Army Reserve
1979	SW	FORSCOM	FORT POLK	1	BOQ high rise
1979	SW	MEDCOM	CAMP BULLIS	67	Hutment
1979	SW	FORSCOM	FORT POLK	6	LBCW
1979	SE	TRADOC	FORT BENNING GA	1	Starship
1979	SE	TRADOC	FORT JACKSON	1	Starship
1979	NW	FORSCOM	FORT LEWIS	54	Tent Pad
1979	SW	TRADOC	FORT SILL OK	3	Tent Pad
1979	NG	NG	N RIVERSIDE (NG MAINT CENTER)	1	Tent Pad
1979	NG	NG	BIAK TRAINING CENTER	1	Unclassified
1979	NG	NG	CAMP ATTERBURY	17	Unclassified
1979	NG	NG	CTC FORT CUSTER TRNG CENTER	2	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1979	NE	MDW	FORT A P HILL	36	Unclassified
1979	SE	FORSCOM	FORT STEWART, GA	8	Unclassified
1980	NG	NG	FORT INDIANTOWN GAP	1	BOQ unclassified
1980	SE	FORSCOM	FORT STEWART, GA	1	BOQ unclassified
1980	SE	FORSCOM	FORT BRAGG	8	LBCW
1980	SW	FORSCOM	FORT POLK	8	LBCW
1980	SW	TRADOC	FORT SILL OK	1	Starship
1980	NG	NG	CAMP ATTERBURY	40	Unclassified
1980	SE	FORSCOM	FORT BRAGG	1	Unclassified
1980	NE	FORSCOM	FORT DRUM	1	Unclassified
1981	NE	AMC	ABERDEEN PROVING GROUND	4	BB&A
1981	NG	NG	CAMP ASHLAND	1	Unclassified
1981	SE	FORSCOM	FORT BRAGG	1	Unclassified
1981	NG	NG	VTS MILAN	1	Unclassified
1982	SE	FORSCOM	FORT BRAGG	1	BOQ unclassified
1982	NG	NG	MTA CAMP SANTIAGO# COE RQ577	4	Hutment
1982	SE	FORSCOM	FORT BRAGG	1	LBCW
1982	SE	TRADOC	FORT BENNING GA	1	Starship
1982	SW	TRADOC	FORT SILL OK	1	Starship
1982	SE	TRADOC	FORT KNOX	1	Tent Pad
1982	SW	FORSCOM	FORT POLK	1	Transient Motel
1982	NG	NG	CAMP ATTERBURY	17	Unclassified
1982	SE	FORSCOM	FORT BRAGG	4	Unclassified
1982	SE	FORSCOM	FORT STEWART, GA	4	Unclassified
1982	SE	FORSCOM	FT CAMPBELL KY	4	Unclassified
1982	NG	NG	MTA CAMP CLARK NEVADA	1	Unclassified
1983	SW	TRADOC	FORT BLISS AAA RANGES	2	BOQ mobilization
1983	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	Hutment
1983	SW	TRADOC	FORT HUACHUCA	2	Tent Pad
1983	NG	NG	CAMP GRUBER TRAINING CENTER	4	Unclassified
1983	SW	AMC	DEF DISTR REG WEST SHARPE SITE	1	Unclassified
1983	NE	FORSCOM	FORT DRUM	1	Unclassified
1983	NG	NG	FORT PICKETT, ARNG MTC	27	Unclassified
1983	SE	FORSCOM	FT CAMPBELL KY	1	Unclassified
1983	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	Unclassified
1983	SE	AMC	REDSTONE ARSENAL	4	Unclassified
1984	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	BOQ unclassified
1984	SE	TRADOC	FORT MCCLELLAN	9	Special Design
1984	SE	TRADOC	FORT BENNING GA	1	Starship
1984	NG	NG	CTC FORT CUSTER TRNG CENTER	1	Tent Pad
1984	NG	NG	FLORENCE MILITARY RESERVATION	1	Tent Pad
1984	NG	NG	VTS CATOOSA	2	Tent Pad
1984	SE	TRADOC	FORT JACKSON	1	Transient unclassified
1984	NG	NG	CAMP GRUBER TRAINING CENTER	1	Unclassified
1984	SE	FORSCOM	FORT STEWART, GA	3	Unclassified
1984	SE	FORSCOM	FT CAMPBELL TN	9	Unclassified
1984	NW	FORSCOM	HAMILTON ARMY AIRFIELD	10	Unclassified
1984	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	Unclassified
1984	SW	FORSCOM	NTC AND FORT IRWIN, CA	5	Unclassified
1984	NG	NG	VTS CATOOSA	4	Unclassified
1984	NE	USMA	WEST POINT MIL RESERVATION	1	Unclassified
1985	SE	TRADOC	FORT RUCKER AL	7	BB&A

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1985	NG	NG	GREENLIEF TS	2	BOQ unclassified
1985	SW	FORSCOM	NTC AND FORT IRWIN, CA	6	BOQ unclassified
1985	NG	NG	TS ETHAN ALLEN RANGE	1	BOQ unclassified
1985	NW	FORSCOM	FORT LEWIS	1	Hammerhead
1985	SE	FORSCOM	FORT BRAGG	3	Quadrangle
1985	SE	FORSCOM	HUNTER ARMY AIRFIELD	2	Quadrangle
1985	SE	TRADOC	FORT BENNING GA	1	Receptee
1985	SE	TRADOC	FORT BENNING GA	1	Receptee
1985	NW	FORSCOM	FORT CARSON	1	Tent Pad
1985	NE	AMC	SENECA ARMY DEPOT ACTIVITY	26	Tent Pad
1985	NG	NG	VTS JOHN SEVIER	4	Tent Pad
1985	NE	TRADOC	FORT STORY	4	Unclassified
1985	NG	NG	GREENLIEF TS	1	Unclassified
1985	NG	NG	MTA CAMP SANTIAGO# COE RQ577	6	Unclassified
1985	SW	FORSCOM	NTC AND FORT IRWIN, CA	1	Unclassified
1985	SW	TRADOC	PRESIDIO OF MONTEREY	2	Unclassified
1985	NG	NG	VTS JOHN SEVIER	11	Unclassified
1986	SE	FORSCOM	FORT BRAGG	1	1930s remodelled
1986	NE	AMC	ABERDEEN PROVING GROUND	8	BB&A
1986	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	Hutment
1986	SE	FORSCOM	FORT BRAGG	3	Quadrangle
1986	SW	MEDCOM	FORT SAM HOUSTON	1	Starship
1986	SW	TRADOC	FORT SILL OK	1	Tent Pad
1986	NW	FORSCOM	PINON CANYON	1	Tent Pad
1986	NG	NG	TS ETHAN ALLEN RANGE	1	transient
1986	SW	USARC	BT COLLINS USARC/OMS/AMSA (G)	1	Unclassified
1986	SE	FORSCOM	CAMP MACKALL	2	Unclassified
1986	NG	NG	CTA CAMP MC CAIN	1	Unclassified
1986	SE	TRADOC	FORT BENNING GA	1	Unclassified
1986	SE	FORSCOM	FORT STEWART, GA	1	Unclassified
1986	NW	FORSCOM	PINON CANYON	1	Unclassified
1986	SW	TRADOC	PRESIDIO OF MONTEREY	11	Unclassified
1986	PAC	USARPAC	SCHOFIELD BKS MIL RESERVE	4	Unclassified
1986	NG	NG	TS ETHAN ALLEN RANGE	1	Unclassified
1986	SW	ATEC	WHITE SANDS MISSILE RANGE NM	1	Unclassified
1987	NW	ATEC	DUGWAY PROVING GROUND	19	BOQ unclassified
1987	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	BOQ unclassified
1987	NG	NG	VTS JOHN SEVIER	1	BOQ unclassified
1987	NW	ATEC	DUGWAY PROVING GROUND	5	Hutment
1987	SE	TRADOC	FORT KNOX	7	Hutment
1987	SW	FORSCOM	NTC AND FORT IRWIN, CA	61	Hutment
1987	SE	FORSCOM	FORT BRAGG	5	Quadrangle
1987	NW	FORSCOM	FORT LEWIS	3	Quadrangle
1987	SE	TRADOC	FORT JACKSON	2	Starship
1987	NW	ATEC	DUGWAY PROVING GROUND	3	Tent Pad
1987	SE	FORSCOM	FORT STEWART, GA	1	Tent Pad
1987	SW	FORSCOM	NTC AND FORT IRWIN, CA	13	Tent Pad
1987	SW	AMC	SIERRA ARMY DEPOT	2	Tent Pad
1987	NG	NG	CTA CAMP MC CAIN	3	Unclassified
1987	NW	TRADOC	FORT LEAVENWORTH	1	Unclassified
1987	SE	TRADOC	FORT RUCKER AL	2	Unclassified
1987	SW	AMC	SIERRA ARMY DEPOT	1	Unclassified

Year Built	IMA	MACOM	Site Installation Name	#	Property Type
1987	NG	NG	VTS JOHN SEVIER	1	Unclassified
1988	SE	TRADOC	FORT MCCLELLAN	1	BOQ special design
1988	SW	TRADOC	FORT SILL OK	3	BOQ unclassified
1988	SW	FORSCOM	FORT POLK	1	MEDDAC
1988	NE	AMC	ABERDEEN PROVING GROUND	3	Quadrangle
1988	SE	FORSCOM	FORT BRAGG	2	Quadrangle
1988	SE	AMC	REDSTONE ARSENAL	4	Quadrangle
1988	SE	TRADOC	FORT BENNING GA	2	Starship
1988	SW	TRADOC	FORT SILL OK	2	Starship
1988	NW	ATEC	DUGWAY PROVING GROUND	1	Tent Pad
1988	NW	FORSCOM	FORT CARSON	1	Tent Pad
1988	SW	AMC	SIERRA ARMY DEPOT	16	Tent Pad
1988	SW	FORSCOM	FORT POLK	1	Transient Guest House
1988	SW	TRADOC	FORT BLISS	1	Transient-Special Design
1988	NE	AMC	ABERDEEN PROVING GROUND	3	Unclassified
1988	SE	FORSCOM	CAMP DAWSON	3	Unclassified
1988	NG	NG	CAMP GRUBER TRAINING CENTER	5	Unclassified
1988	SE	FORSCOM	CAMP MACKALL	12	Unclassified
1988	NG	NG	CAMP MURRAY	2	Unclassified
1988	SE	TRADOC	DAHLONEGA	1	Unclassified
1988	NW	ATEC	DUGWAY PROVING GROUND	5	Unclassified
1988	NE	FORSCOM	FORT DRUM	7	Unclassified
1988	SE	TRADOC	FORT GORDON	7	Unclassified
1988	SE	TRADOC	FORT RUCKER AL	1	Unclassified
1988	PAC	USARPAC	FORT SHAFTER	1	Unclassified
1988	PAC	USARPAC	FORT WAINWRIGHT	2	Unclassified
1988	SW	FORSCOM	HOOD FORT	1	Unclassified
1988	NG	NG	MTA CLARKS HILL RESERVATION	1	Unclassified
1988	SW	TRADOC	PRESIDIO OF MONTEREY	1	Unclassified
1988	SW	ATEC	YUMA PROVING GROUND	1	Unclassified
1989	NG	NG	MTA CAMP SANTIAGO# COE RQ577	1	BOQ unclassified
1989	NE	USARC	USAR KEYSTONE ORD OUTDOOR TNG	1	Hutment
1989	NE	AMC	ABERDEEN PROVING GROUND	5	Quadrangle
1989	SW	TRADOC	FORT SILL OK	1	Starship
1989	SW	TRADOC	FORT BLISS	1	Transient-Inn
1989	SE	FORSCOM	CAMP MACKALL	13	Unclassified
1989	SE	TRADOC	DAHLONEGA	1	Unclassified
1989	NW	ATEC	DUGWAY PROVING GROUND	7	Unclassified
1989	NG	NG	EDGEMEADE TS MTN HOME	2	Unclassified
1989	NE	FORSCOM	FORT DRUM	20	Unclassified
1989	SE	TRADOC	FORT GORDON	2	Unclassified
1989	NW	TRADOC	FORT LEONARD WOOD	4	Unclassified
1989	NG	NG	MTA CAMP CROWDER NEOSHO	1	Unclassified
1989	NG	NG	MTA CAMP SANTIAGO# COE RQ577	2	Unclassified
1989	SW	FORSCOM	NTC AND FORT IRWIN, CA	6	Unclassified
1989	NG	NG	VTS MILAN	19	Unclassified

Table 5. UPH by Type and Year

YEAR	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	
Permanent																									
Hammerhead						9	29	110	144	38	71	3													
H-style										1		9	31												
Rolling Pin															5	8	11	40	12	19	78	68	23	53	
A-style																									
LCB&W																									
BB&A																									
Army Reserve																									
Starship																									
Quadrangle																									
Receptee																									
MEDDAC																									
Semi-Permanent																									
U-shaped																					1		20		
H-shaped								1				5		28	3	2							43		
Hutment									4	2	35	25	1		10	8		3				2	18	62	
Mobilization																									
Quonset Hut													12												
Straight-sided Quonset Hut														17											
C-huts						29				6												115			
Tent Pads						38		1		5			22		1	6	3	3	1				1	4	
Special Designs						10		2	11		1		1			17					1				
Unclassified	7	7	9	10	5	71	70	11	20	23	18	20	36	57	25	88	122	68	71	22	16	36	12	42	
BARRACKS TOTAL	7	7	9	10	5	157	99	125	175	77	92	72	127	103	34	131	144	111	87	43	211	185	36	161	
Permanent BOQs																									
Hammerhead						3		5	9		11	1									1				
Apartment-style											7	2	2	6	2		13	13	2	3	9				
Motel-type																								1	
1970s Apartment-type																									
Army Reserve AT																									
High-Rise													1									3	3	1	3
Semi-Permanent BOQs																									
U-shaped															2										
16-man																2									
Mobilization																									
Unclassified	2			14	3	39	6	8	2	7	2	14	45	4	13	16		1	2	3	5	1	8		
Special Designs									3																
BOQ TOTAL	2			14	6	39	11	20	2	25	5	17	53	6	15	29	13	3	6	15	8	3	11		
Transient Quarters											1											1	1	1	
TOTAL UPH	9	7	9	10	19	163	138	136	195	79	117	78	144	156	40	146	173	124	90	49	227	194	39	173	

Table 5. UPH by Type and Year

YEAR	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	TOTAL
Permanent																					
Hammerhead																1					405
H-style																					41
Rolling Pin	18	25	1																		361
A-style			6		6																12
LCB&W				4	24	15	18	21	6	16		1									105
BB&A			2	11	10	21	20	37	13		4					7	8				133
Army Reserve										34											34
Starship					2		1	3	2	1	2		1		1	1	2	4	1		20
Quadrangle																5	3	8	9	5	30
Receptee																2					2
MEDDAC																			1		1
Semi-Permanent																					
U-shaped																					21
H-shaped																					82
Hutment		59	17		5		1			67			4	2			1	73		1	400
Mobilization																					
Quonset Hut																					12
Straight-sided Quonset Hut																					17
C-huts						1															151
Tent Pads	2			2	1	9			5	58			1	2	4	31	2	19	18		239
Special Designs			3				1								9	1					57
Unclassified	15	13	54	33	4	20	83	145	37	64	42	3	30	39	34	25	24	8	53	77	1669
BARRACKS TOTAL	35	97	83	35	31	66	121	184	103	244	59	7	38	43	48	71	40	110	85	84	3792
Permanent BOQs																					
Hammerhead																					30
Apartment-style																					59
Motel-type				3																	4
1970s Apartment-type					10	7															17
Army Reserve AT										10											10
High-Rise			1							1											13
Semi-Permanent BOQs																					
U-shaped																					2
16-man																					2
Mobilization														2							2
Unclassified	5	4	2	4			10	14	1		2		1		1	9		21	3	1	273
Special Designs																				1	4
BOQ TOTAL	5	4	3	7	10	7	10	14	1	11	2		1	2	1	9		21	4	1	416
Transient Quarters	1	2	1			2							1		1		1		2	1	16
TOTAL UPH	41	103	87	42	41	75	131	198	104	255	61	7	40	45	50	80	41	131	91	86	4224

APPENDIX B

UPH SITE VISITS/CASE STUDIES

APPENDIX B

UPH SITE VISITS/CASE STUDIES

B.1 FORT BENNING, GEORGIA

Physical Description. Fort Benning encompasses 182,000 acres, or 285 square miles, in Muscogee and Chattahoochee counties, Georgia, and Russell County, Alabama. Several rivers, creeks, highways, and railroads cross the installation. The Chattahoochee River, which forms the border between Georgia and Alabama, flows through the installation's southwest corner. Several tributaries fan out through the installation, including the Uchee, Oswichee, and Upatoi creeks and their tributaries. U.S. Route 80 extends along the installation's northern border and U.S. Route 27/280 extends through the installation. The Georgia Southwest Railroad line runs through the installation as does the Norfolk Southern Railroad line (Fort Benning and CERL 2001:2-1, 2-2; U.S. Army Directorate of Information Management 2002).

Fort Benning is the initial training area for the U.S. Army Infantry and the home of the U.S. Army Infantry School and Center. The installation contains 16,000 acres of artillery ranges. The installation also hosts Airborne and Ranger training, the School of the Americas and the Army's Non-Commissioned Officer Academy, and provides a power projection platform for rapid deployment. Fort Benning provides training facilities for several Forces Command units (Fort Benning and CERL 2001:2-1, 2-2).

History of the Installation

The United States Army established a post three miles from downtown Columbus in October 1918 when the Infantry School of Arms relocated from Fort Sill, Oklahoma. Fort Sill could not accommodate the rapidly growing school, which trained soldiers for World War I (Kane and Keeton 1998:1-2, 134, 151).

The temporary installation was named Camp Benning, in honor of Confederate General Henry Benning. Prior to the Civil War, Benning established a legal practice and served for six years as a judge of the Georgia Supreme Court. Benning represented Muscogee County at Georgia's secession convention held after South Carolina seceded from the Union in 1860. Benning was a member of the committee that introduced the bill calling for Georgia to secede from the Union. Benning was noted for his courage during the 1863 Battle of Chickamauga, fought in an attempt to drive the Union forces out of the area surrounding Chattanooga, Tenn. Benning's men gave him the nickname "Old Rock" for his courage in battle (Kane and Keeton 1998:108-10, 113).

The initial site chosen for Camp Benning was not large enough to meet the Army's needs. The camp was moved nine miles south of Columbus, south and east of the intersection of Upatoi Creek and the Chattahoochee River. After World War I ended in 1919, public support for military spending waned. The War Department, with the agreement of the United States Senate Committee on Military Affairs, stopped construction at Camp Benning. Major John Paul Jones, the Quartermaster Corps Officer in charge of construction, found the order ambiguous and continued work on building already under construction. Jones and other post officials improvised to complete the buildings.

Railroad tracks were laid to transport construction materials to the camp from the Central of Georgia Railroad connection in Columbus. The camp was successful in persuading a judge to hold a 4 a.m. hearing to reverse a restraining order preventing the tracks from crossing a competing railroad's line (Kane and Keeton 1998:152-5).

Only about 2,000 acres had been acquired for the camp, and the stop order complicated efforts to acquire more land. While Jones continued construction, a locally important member of the Senate committee reversed his earlier decision to support the stop-work order. Senator Hoke Smith of Georgia convinced the other members of the committee to reconsider and to hold public hearings concerning Camp Benning. As the Senators considered the public opinion in favor of and against the camp, Col. Morton C. Mumma, Camp Benning's Assistant Commandant, offered a compromise. The compromise reduced the amount of land that the government would purchase for the camp and reduced the amount of money for construction. The Senate committee voted in March 1919 to resume building and to buy land. Soldiers moved to the unfinished camp in June, to prevent Federal officials from reversing the committee's decision (Kane and Keeton 1998:155-6).

Congress again voted to cut off funding for Camp Benning in 1919 as part of the military appropriations bill, and directed that unexpended funds be returned to the Treasury. The War Department issued a second, firmer stop-construction order, leaving roughly 250 officers and 1,500 enlisted men to work, attend classes, and live in unfinished buildings lacking basic utilities. Soldiers were pressed into duty to complete construction using resources available on the post. Trees were felled on-site and planed at the post's two sawmills. The infantry school continued to accept students despite squalid conditions, poor housing, and a lack of space. Camp Benning's fortunes turned when a Congressional committee toured the camp in September 1919, and World War I General John Pershing visited three months later. Meanwhile, the Army developed data proving the infantry school's worth. The figures showed that the infantry represented 89 per cent of American combat casualties in World War I. Army officials argued that these casualties could have been reduced with better infantry training in a permanent school such as the one at Camp Benning. Finally convinced in February 1920, Congress made the camp a permanent post in 1922 (Kane and Keeton 1998:156-8).

Command focused on long-term planning. In 1924, Brigadier Gen. Briant H. Wells, the post's Commandant, developed a plan for permanent construction that "emphasized the outdoor environment" through landscaping and a campus-like design. The plan, known as the Wells Plan, called for recreational amenities. Later that decade, the Army retained planner George B. Ford to further develop the base. The "grand scheme" he completed in 1929 "create(d) aesthetically pleasing designs with open spaces, straight avenues, and appealing architecture," in line with the City Beautiful Movement. He suggested coordinating existing and future buildings so that their colors and styles matched (Kane and Keeton 1998:159-162).

Curriculum changes were introduced by Lt. Col. George C. Marshall, who later developed the Marshall Plan to assist Europe after World War II. Marshall became Assistant Commandant of Fort Benning in 1927. Marshall oversaw changes in Fort Benning's educational system to avoid the high casualties of World War I. The Marshall changes are known as the Benning Revolution (Kane and Keeton 1998:159-62).

Troops streamed into Fort Benning in 1940 to prepare for World War II, and hundreds of temporary buildings were erected. George S. Patton arrived to train and reorganize the Second Armored Division. The installation "became a major staging area for sending troops overseas." An Officer Candidate School and a new parachute school were opened. Fort Benning trained more than 600,000 soldiers during the war, including the country's first African-American parachute unit (Kane and Keeton 1998:164-5).

After the war, Fort Benning continued training soldiers. Ranger training, begun in 1950, prepared soldiers for the Korean War. Also at this time, the Officer Candidate School reopened. The installation trained thousands of soldiers for Vietnam and helped in the development of helicopters to transport troops. During the 1970s and 1980s, the installation had several “firsts.” In 1973, the 197th Infantry tested the Army’s move away from the draft by becoming the first all-volunteer brigade-size unit. The same year, Privates Joyce Kutsch and Rita Johnson were the first women to receive airborne training and to become parachute riggers. The first Officer Candidate class that included women graduated in 1977. Gen. Colin Powell served at Fort Benning and in 1989 became the first African-American chairman of the Joint Chiefs of Staff, the military advisors to the President. In 2001 General Powell became Secretary of State in the administration of President George W. Bush. In 1990, Fort Benning was “a major staging ground” for troops on their way to the Middle East to fight Iraq after its invasion of Kuwait (Kane and Keeton 1998:168-9).

UPH on Fort Benning

The Army constructed several types of Cold War era UPH buildings on Fort Benning. Barracks were the principal building types constructed, although a small number of Bachelor Officers Quarters were built (Tables 1 and 2). Hammerhead barracks were the most prevalent type built, with twenty-four examples currently listed in the Integrated Facilities System (IFS) database. The majority were built on the Main Post (Figure B.1.1) and completed in 1954, although a few were completed in 1956 and 1957, principally in the Kelley Hill area of Fort Benning. A number of hammerhead barracks are no longer categorized as UPH. In 1958, the Army built eight examples of H-shaped barracks in the Kelley Hill area. UPH construction activity was quiet on post until the complex of sixteen semi-permanent U-shaped barracks was completed in Fort Benning’s Harmony Church area in 1967 (Figure B.1.2). Construction of permanent barracks did not resume until the 1978 construction of Fort Benning’s first three starship barracks in the Sand Hill area (Figure B.1.3). Additional examples of starship barracks were completed in 1979, 1982, 1984, and 1988. In order to house personnel before they were assigned to a unit, a receptee barracks was completed in 1985.

The barracks at Fort Benning have been relatively unmodified. The principal modifications consisted of interior changes to the hammerhead barracks, including the addition of concrete block walls to divide the squad rooms into smaller enlisted man rooms. Overall, the barracks at Fort Benning appear to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

The Army constructed a small number of Bachelor Officers Quarters at Fort Benning in the 1950s. Four examples of two-story hammerhead BOQs and one example of a three-story hammerhead BOQs were completed between 1953 and 1957. All of Fort Benning’s Bachelor Officer Quarters have undergone several modifications including changes to the floor plan, new landscaping, the addition of exterior doors, balconies, exterior stairs, and tile clad gable roofs. Fort Benning’s BOQs no longer appear to retain integrity of design, setting, materials, workmanship, and feeling.

Table 1. Fort Benning Barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT BENNING GA	2752	1954	72122	double hammerhead barracks
FORT BENNING GA	2753	1954	72122	double hammerhead barracks
FORT BENNING GA	2753	1954	72210	double hammerhead barracks
FORT BENNING GA	2754	1954	72122	double hammerhead barracks
FORT BENNING GA	2755	1954	72122	double hammerhead barracks
FORT BENNING GA	2755	1954	72210	double hammerhead barracks
FORT BENNING GA	2756	1954	72122	double hammerhead barracks
FORT BENNING GA	2760	1954	72122	double hammerhead barracks
FORT BENNING GA	2761	1954	72122	double hammerhead barracks
FORT BENNING GA	2762	1954	72122	double hammerhead barracks
FORT BENNING GA	2762	1954	72210	double hammerhead barracks
FORT BENNING GA	2807	1954	72111	hammerhead barracks
FORT BENNING GA	2808	1954	72111	hammerhead barracks
FORT BENNING GA	2808	1954	72210	hammerhead barracks
FORT BENNING GA	2809	1954	72111	hammerhead barracks
FORT BENNING GA	2810	1954	72111	hammerhead barracks
FORT BENNING GA	2810	1954	72210	hammerhead barracks
FORT BENNING GA	2816	1954	72114	hammerhead barracks
FORT BENNING GA	2831	1954	72111	hammerhead barracks
FORT BENNING GA	2831	1954	72210	hammerhead barracks
FORT BENNING GA	2832	1954	72111	hammerhead barracks
FORT BENNING GA	2833	1954	72111	hammerhead barracks
FORT BENNING GA	2833	1954	72210	hammerhead barracks
FORT BENNING GA	2834	1954	72111	hammerhead barracks
FORT BENNING GA	2836	1954	72111	hammerhead barracks
FORT BENNING GA	2837	1954	72111	hammerhead barracks
FORT BENNING GA	2837	1954	72210	hammerhead barracks
FORT BENNING GA	2838	1954	72111	hammerhead barracks
FORT BENNING GA	2838	1954	72210	hammerhead barracks
FORT BENNING GA	2839	1954	72111	hammerhead barracks
FORT BENNING GA	2819	1956	72122	hammerhead barracks
FORT BENNING GA	9012	1956	72111	hammerhead barracks
FORT BENNING GA	9013	1957	72111	hammerhead barracks
FORT BENNING GA	9013	1957	72210	hammerhead barracks
FORT BENNING GA	9014	1958	72111	H-shaped barracks
FORT BENNING GA	9015	1958	72111	H-shaped barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT BENNING GA	9015	1958	72210	H-shaped barracks
FORT BENNING GA	9018	1958	72111	H-shaped barracks
FORT BENNING GA	9021	1958	72111	H-shaped barracks
FORT BENNING GA	9021	1958	72210	H-shaped barracks
FORT BENNING GA	9022	1958	72111	H-shaped barracks
FORT BENNING GA	9053	1958	72111	H-shaped barracks
FORT BENNING GA	9053	1958	72210	H-shaped barracks
FORT BENNING GA	9054	1958	72111	H-shaped barracks
FORT BENNING GA	9057	1958	72111	H-shaped barracks
FORT BENNING GA	9057	1958	72210	H-shaped barracks
FORT BENNING GA	3035	1985	72111	receptee barracks
FORT BENNING GA	3035	1985	72181	receptee barracks
FORT BENNING GA	3025	1985	72210	receptee barracks dining hall
FORT BENNING GA	4700	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4701	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4704	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4705	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4706	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4707	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4710	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	4711	1967	72111	semi permanent U-shaped barracks
FORT BENNING GA	5001	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5004	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5005	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5008	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5009	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5016	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5017	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	5018	1967	72122	semi permanent U-shaped barracks
FORT BENNING GA	4702	1967	72210	semi permanent U-shaped barracks dining hall
FORT BENNING GA	5021	1967	72210	semi permanent U-shaped barracks dining hall
FORT BENNING GA	5022	1967	72210	semi permanent U-shaped barracks dining hall
FORT BENNING GA	5013	1967	72360	semi permanent U-shaped barracks lounge
FORT BENNING GA	3210	1978	72111	starship barracks
FORT BENNING GA	3210	1978	72181	starship barracks
FORT BENNING GA	3305	1978	72111	starship barracks
FORT BENNING GA	3305	1978	72181	starship barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT BENNING GA	3405	1978	72111	starship barracks
FORT BENNING GA	3405	1978	72181	starship barracks
FORT BENNING GA	3245	1979	72111	starship barracks
FORT BENNING GA	3245	1979	72181	starship barracks
FORT BENNING GA	3240	1982	72111	starship barracks
FORT BENNING GA	3240	1982	72181	starship barracks
FORT BENNING GA	3335	1984	72111	starship barracks
FORT BENNING GA	3335	1984	72181	starship barracks
FORT BENNING GA	3105	1988	72111	starship barracks
FORT BENNING GA	3105	1988	72181	starship barracks
FORT BENNING GA	3425	1988	72111	starship barracks
FORT BENNING GA	3425	1988	72181	starship barracks
FORT BENNING GA	3210	1978	72210	starship barracks dining hall
FORT BENNING GA	3305	1978	72210	starship barracks dining hall
FORT BENNING GA	3405	1978	72210	starship barracks dining hall
FORT BENNING GA	3245	1979	72210	starship barracks dining hall
FORT BENNING GA	3240	1982	72210	starship barracks dining hall
FORT BENNING GA	3335	1984	72210	starship barracks dining hall
FORT BENNING GA	3105	1988	72210	starship barracks dining hall
FORT BENNING GA	3425	1988	72210	starship barracks dining hall
FORT BENNING GA	5034	1986	72111	Unknown

IFS Key

72010 = Transient Quarters (lodging)

72111 = Enlisted UPH

72114 = Enlisted Barracks, Annual Training

72115 = Enlisted Barracks, Mobilization

72121 = Transient UPH, Advanced Individual Trainees

72122 = Transient UPH, Advanced Skills Trainees

72170 = UPH, Senior NCO

72181 = Trainee Barracks

72210 = Dining Facility

72310 = UPH Laundry Building, Detached

72350 = Garage, UPH, Detached

72351 = Carport, UPH

72360 = Misc. Facilities, Detached (lounge or SCB)

72410 = Unaccompanied Officers Quarters, Military

72412 = Annual Training Officers Quarters

72510 = Hutment

72520 = Tent Pad

Table 2. Ft. Benning Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
FORT BENNING GA	972	1953	72410	2-sto hammerhead BOQ
FORT BENNING GA	973	1953	72410	2-sto hammerhead BOQ
FORT BENNING GA	974	1953	72410	2-sto hammerhead BOQ
FORT BENNING GA	976	1957	72410	2-sto hammerhead BOQ
FORT BENNING GA	975	1956	72410	3-sto hammerhead BOQ

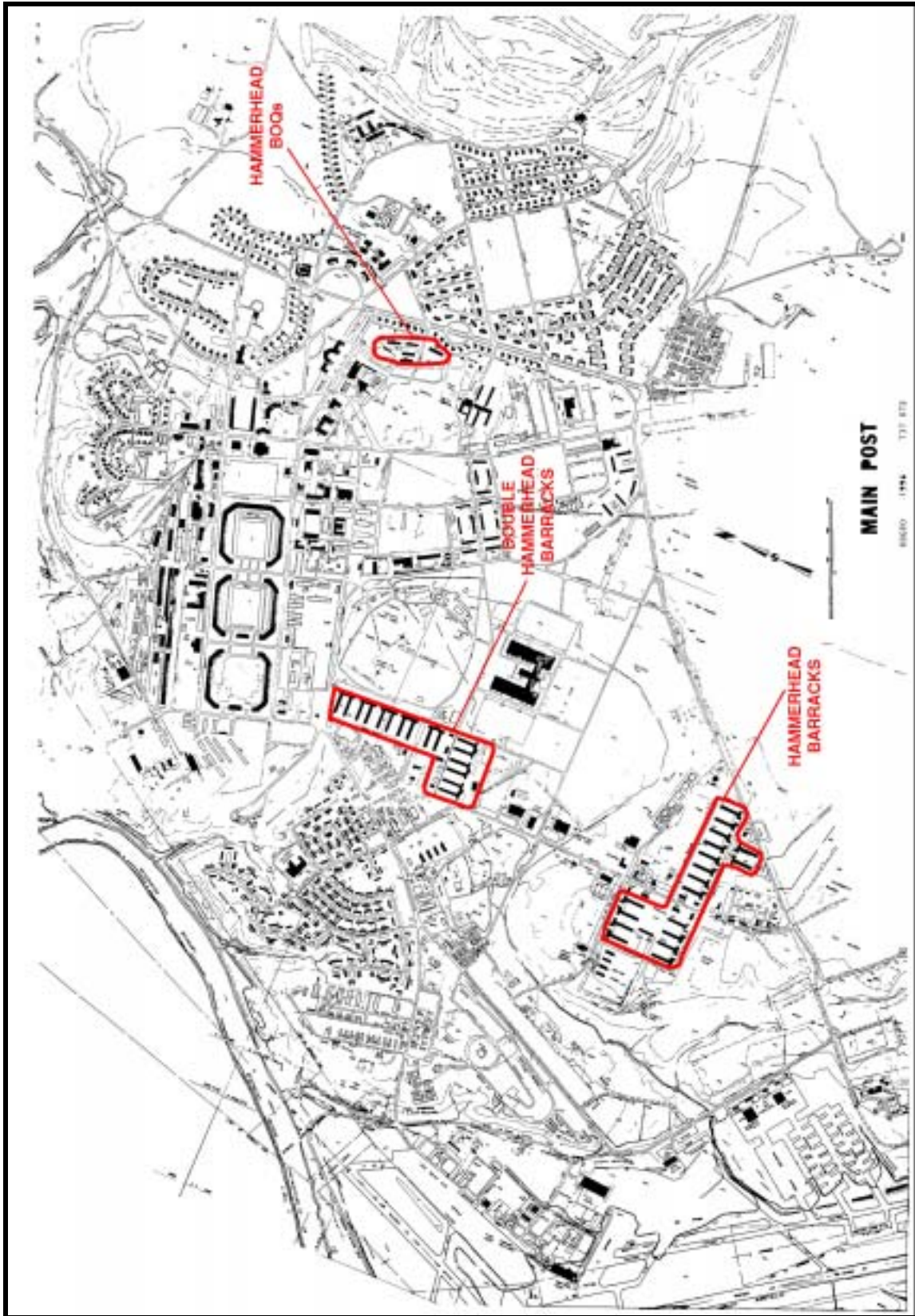


Figure B.1.1. Map of Main Post, Fort Benning.

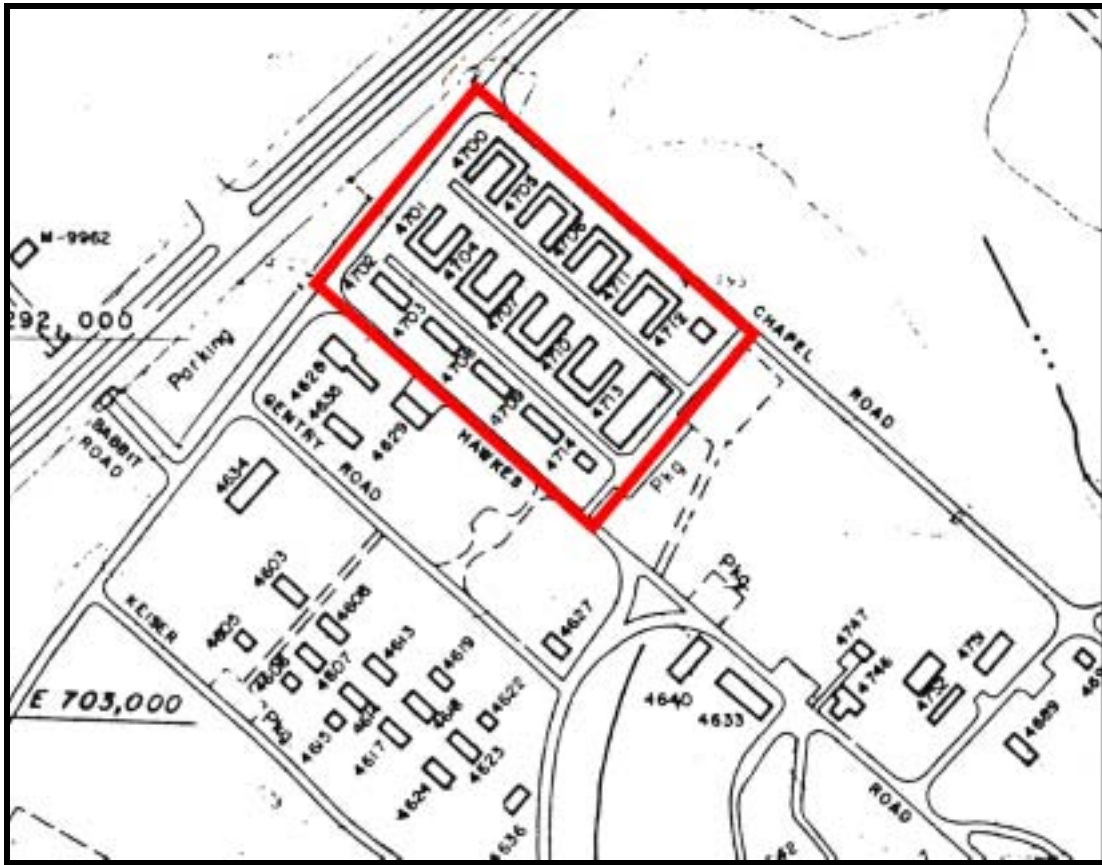


Figure B.1.2 Map of Harmony Church Area, Fort Benning.

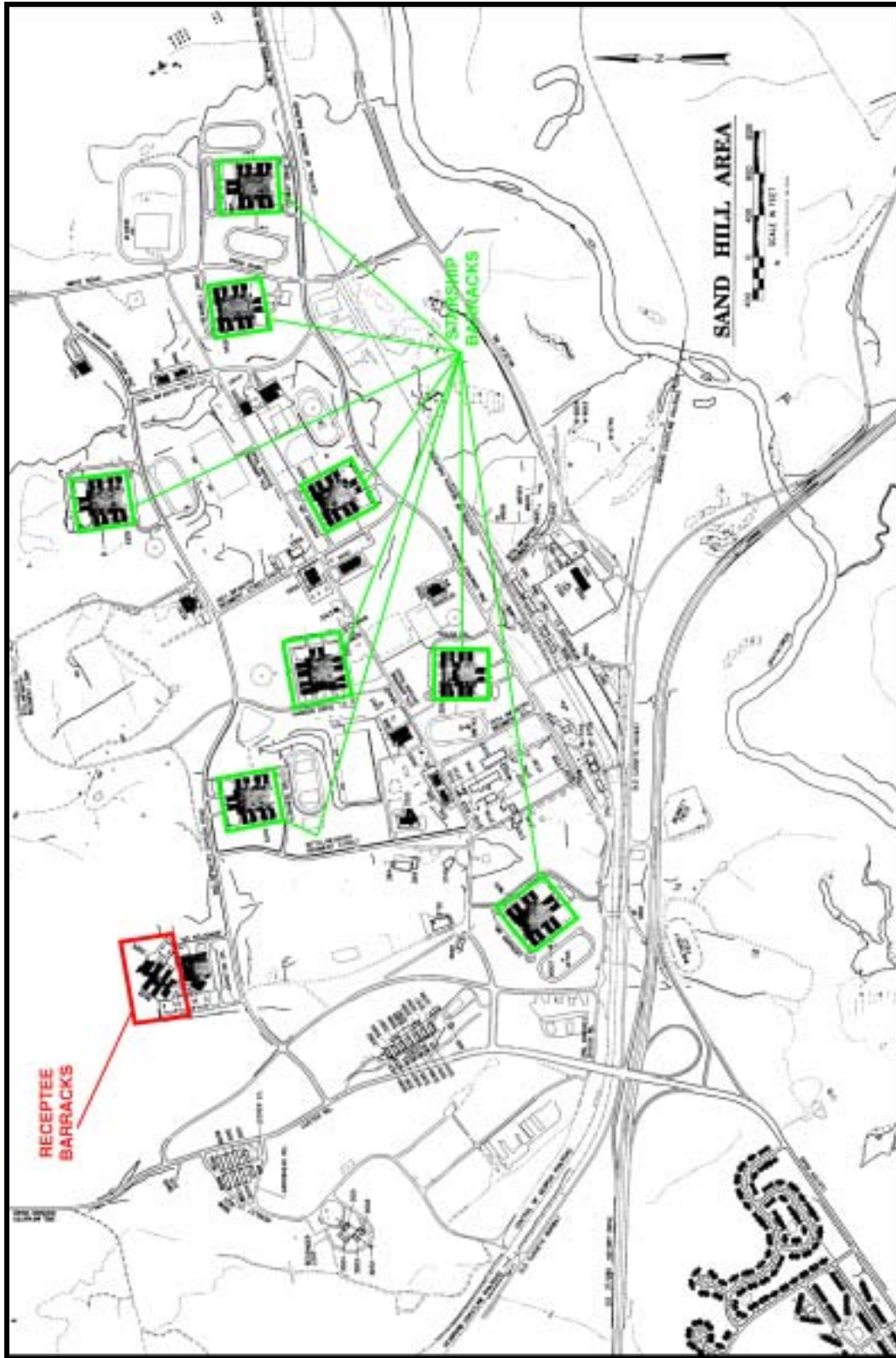


Figure B.1.3 Map of Sand Hill area, Fort Benning.

B.2 FORT BLISS, TEXAS

Physical Description. Fort Bliss consists of 1.1 million acres located in far western Texas and southeastern New Mexico. The installation sits atop a high mesa overlooking El Paso, Texas, and Juarez, Mexico (U.S. Army Air Defense Artillery School 2001). The installation lies three miles north of the Rio Grande River. The installation was established in 1848 as an infantry post, and was converted into a cavalry post in 1911 (U.S. Army Construction Engineering Research Laboratory 1998). Today, Fort Bliss houses the Army's Air Defense School and the U.S. Army Sergeants Major Academy (McCarthy and Enscoe 2001:section 7, page 1).

History of the Installation

Fort Bliss was founded in 1848, when the United States government established a military base along the Rio Grande River in the area of El Paso del Norte, a pass through the Franklin and Sierra Madre mountains (Metz 2002:1). The government intended to use the base to defend the newly created United States-Mexican border, "to maintain law and order; to protect settlers and California-bound migrants from Indian attacks; and to survey for a new transcontinental railroad" (Metz 2002:1).

Six rifle companies of the Third Infantry Regiment, a howitzer battery, and regimental staff, totaling 257 soldiers, first occupied the site (U.S. Army Construction Engineering Research Laboratory 1998; Metz 2002:1). The post was known simply as "the Post opposite El Paso" (U.S. Army Construction Engineering Research Laboratory 1998). Four companies were based at Coons' Rancho, formerly Ponce's Ranch, in downtown El Paso, and two companies were based at the Presidio at San Elizario, a former Spanish garrison 20 miles southeast of El Paso (Metz 2002:1).

The installation was moved several times. The first move occurred in September 1851, when the post and Presidio were closed and the troops relocated to Fort Fillmore, 40 miles north (Metz 2002:1). The military returned to the Rio Grande in 1854 when Lt. Col. Edmund Brooke Alexander and four companies of the Eighth United States Infantry rented quarters at Magoffinsville, three miles east of Coons' Rancho (Metz 2002:1). Later that year, the post was named Fort Bliss, in honor of Lt. Col. William Wallace Smith Bliss, an U.S. Army Assistant Adjutant General, who was General Zachary Taylor's Chief of Staff during the Mexican-American War (U.S. Army Construction Engineering Research Laboratory 1998).

Confederate forces of Texas overtook Fort Bliss on March 31, 1861. Confederate Lt. Col. John Robert Baylor and members of the Second Regiment of Texas Mounted Rifles occupied the post. Brig. Gen. Henry Hopkins Sibley attempted to invade New Mexico from the fort in mid-1862 but was repelled. Col. James H. Carleton and portions of the California Volunteers recaptured Fort Bliss for the Union. In 1865 and 1866, Carleton also protected Mexican President Benito Juárez, then living in El Paso del Norte (Metz 2002:1).

The soldiers stationed at the fort moved three miles north in March 1867 after the Rio Grande flooded and swept away the post at Magoffinsville. The new post was named Camp Concordia and then renamed Fort Bliss. The post was closed in 1877 just before the Salt War of San Elizario but was re-established at the recommendation of a military board. The fort was moved in 1878 to downtown El Paso. The post was moved in 1879 to Hart's Mill, three miles west of downtown El Paso, and served as a stopping point for troops pursuing Indians. After the Apache leader Geronimo surrendered in 1886, the government closed small, isolated bases. Fort Bliss was slated to be replaced by New Mexico's Fort Selden, but El Paso community leaders contributed \$7,000 to buy land on Lanoria

Mesa, five miles east of town, and Congress agreed to allocate \$300,000 for new facilities. Fort Bliss was established at its current location on the Lanoria Mesa in 1893 (Metz 2002:2).

In 1911, Fort Bliss was the largest cavalry post in the United States (Metz 2002:2). Prompted by the Mexican Revolution in 1910, the United States government reinforced the base with cavalry, infantry, and other troops. They patrolled the Mexican border to “prevent illegal arms smuggling and to discourage any hostile acts against the United States.” While overseeing the base, Gen. John J. Pershing led an expedition of cavalry, infantry, and artillery into Mexico between March 1916 and February 1917 to pursue Mexican revolutionary Francisco (Pancho) Villa, who had attacked Columbus, New Mexico (U.S. Army Construction Engineering Research Laboratory 1998). Cavalry continued to patrol the Mexican border during World War I (U.S. Army Construction Engineering Research Laboratory 1998), and the First Cavalry Division was activated at Fort Bliss in 1921 (Metz 2002:2).

The mission at Fort Bliss changed to meet the needs of the twentieth century. The Fort Bliss Flying Field was established in 1919 and was renamed Biggs Field in 1925. In 1921, the fort received its first artillery unit with the arrival of the Eighty-second Field Artillery Battalion. William Beaumont General Hospital opened on July 1, 1921. By the 1940s, the fort had grown from a few thousand acres to more than 1 million acres, measuring roughly seventy-five miles long and fifty-four miles wide (Metz 2002:2). As the Army continued to mechanize, horses were phased out; Fort Bliss became an anti-aircraft artillery training center in 1940. The First Cavalry Division suspended patrols along the international border once Mexico entered World War II against the Axis powers in 1942. The cavalry division departed from the post in 1943 for the Pacific Theater, operating as a mechanized infantry unit (U.S. Army Construction Research Engineering Laboratory 1998).

The base’s mission continued to change to meet the Army’s needs. In 1946, Fort Bliss housed the United States Army Anti-Aircraft Artillery and Guided Missile Center, and later the United States Army Air Defense Center. The Air Force took control of Biggs Field in 1947, renaming it Biggs Air Force Base. During its 19 years of service Briggs Field supported blimps, DH4s, B-17s, B-29s, B-50s, B-36s, B-47s, and B-52s. Briggs Air Force Base reverted back to Army control in 1966 and was renamed Biggs Army Airfield. Fort Bliss’ other postwar function included training international military students (Metz 2002:3).

UPH on Fort Bliss

The Army constructed a diverse range of Cold War era UPH building types on Fort Bliss including a large assortment of mobilization facilities. Barracks were the principal building types constructed, although a number of Bachelor Officers Quarters and transient quarters were built (Tables 1, 2, and 3). Hammerhead barracks were the only barracks building type built featuring permanent construction. Fifty-two hammerhead barracks are currently listed in the Integrated Facilities System (IFS) database. All are located the Main Post (Figure B.2.1). The first was completed in 1951, although most were completed in 1953, 1955, and 1956. Additional examples of hammerhead barracks are no longer categorized as UPH. Fort Bliss has an active program in place to modernize its hammerhead barracks. Modifications have included new exterior materials, new exterior stairs, and new window and door treatments. Consequently, many of the hammerhead barracks at Fort Bliss no longer appear to retain integrity of design, materials, workmanship, and feeling.

Additional barracks featured semi-permanent and temporary construction. The Army constructed semi-permanent H-shaped barracks at the Fort Bliss AAA Ranges from 1959 through 1961 with additional examples built in 1967 at Fort Bliss’s Biggs Field (Figure B.2.2). In addition,

two U-shaped barracks were built in 1959. These two barracks were similar to the H-shaped barracks, except that the cross member of the H was shifted towards the ends of the uprights to form a "U". A large number of barracks of temporary construction were located on the AAA ranges. Quonset huts and straight-sided Quonset huts were relocated to the ranges in 1958 and 1959, respectively, and seventy-five C-huts were completed on the ranges in 1966. A number of the semi-permanent barracks have been modified with additional interior walls to divide the squad rooms into enlisted man rooms and relocated entrances. These barracks no longer appear to retain integrity of design, and workmanship. The semi-permanent barracks and the temporary barracks appear to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

The most prevalent type of Bachelor Officers Quarters built at Fort Bliss were the apartment-type BOQ. The Army completed twenty-one of these buildings between 1956 and 1962. In addition four semi-permanent BOQs were constructed on the ranges. Two U-shaped BOQs and two 16-man BOQs were built in 1959 and 1961 respectively. In addition, two mobilization BOQs were completed in 1983. Because of the few modifications made to the BOQs at Fort Bliss, the BOQs appear to retain integrity of location, design, setting, materials, workmanship, feeling, and association.

The Inn at Fort Bliss was the only transient quarters visited at Fort Bliss. The inn was completed in 1989. A large expansion of the inn since its completion has impacted the integrity of the design, materials, and workmanship.

Table 1. Fort Bliss Barracks

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	8107	1966	72410	C-hut
BLISS FORT AAA RANGES	8108	1966	72410	C-hut
BLISS FORT AAA RANGES	8109	1966	72115	C-hut
BLISS FORT AAA RANGES	8110	1966	72115	C-hut
BLISS FORT AAA RANGES	8111	1966	72115	C-hut
BLISS FORT AAA RANGES	8112	1966	72115	C-hut
BLISS FORT AAA RANGES	8113	1966	72115	C-hut
BLISS FORT AAA RANGES	8114	1966	72115	C-hut
BLISS FORT AAA RANGES	8115	1966	72115	C-hut
BLISS FORT AAA RANGES	8116	1966	72115	C-hut
BLISS FORT AAA RANGES	8117	1966	72115	C-hut
BLISS FORT AAA RANGES	8118	1966	72115	C-hut
BLISS FORT AAA RANGES	8119	1966	72115	C-hut
BLISS FORT AAA RANGES	8120	1966	72115	C-hut
BLISS FORT AAA RANGES	8121	1966	72115	C-hut
BLISS FORT AAA RANGES	8122	1966	72115	C-hut
BLISS FORT AAA RANGES	8123	1966	72115	C-hut
BLISS FORT AAA RANGES	8124	1966	72115	C-hut
BLISS FORT AAA RANGES	8125	1966	72115	C-hut
BLISS FORT AAA RANGES	8126	1966	72115	C-hut
BLISS FORT AAA RANGES	8130	1966	72410	C-hut
BLISS FORT AAA RANGES	8131	1966	72410	C-hut
BLISS FORT AAA RANGES	8132	1966	72115	C-hut
BLISS FORT AAA RANGES	8133	1966	72115	C-hut
BLISS FORT AAA RANGES	8134	1966	72115	C-hut
BLISS FORT AAA RANGES	8135	1966	72115	C-hut
BLISS FORT AAA RANGES	8136	1966	72115	C-hut
BLISS FORT AAA RANGES	8137	1966	72115	C-hut
BLISS FORT AAA RANGES	8138	1966	72115	C-hut
BLISS FORT AAA RANGES	8139	1966	72115	C-hut
BLISS FORT AAA RANGES	8140	1966	72115	C-hut
BLISS FORT AAA RANGES	8141	1966	72115	C-hut
BLISS FORT AAA RANGES	8142	1966	72115	C-hut
BLISS FORT AAA RANGES	8143	1966	72115	C-hut
BLISS FORT AAA RANGES	8144	1966	72115	C-hut

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	8145	1966	72115	C-hut
BLISS FORT AAA RANGES	8146	1966	72115	C-hut
BLISS FORT AAA RANGES	8147	1966	72115	C-hut
BLISS FORT AAA RANGES	8148	1966	72115	C-hut
BLISS FORT AAA RANGES	8149	1966	72115	C-hut
BLISS FORT AAA RANGES	8203	1966	72115	C-hut
BLISS FORT AAA RANGES	8204	1966	72115	C-hut
BLISS FORT AAA RANGES	8205	1966	72115	C-hut
BLISS FORT AAA RANGES	8206	1966	72115	C-hut
BLISS FORT AAA RANGES	8207	1966	72115	C-hut
BLISS FORT AAA RANGES	8208	1966	72115	C-hut
BLISS FORT AAA RANGES	8209	1966	72115	C-hut
BLISS FORT AAA RANGES	8210	1966	72115	C-hut
BLISS FORT AAA RANGES	8211	1966	72115	C-hut
BLISS FORT AAA RANGES	8212	1966	72115	C-hut
BLISS FORT AAA RANGES	8213	1966	72115	C-hut
BLISS FORT AAA RANGES	8214	1966	72115	C-hut
BLISS FORT AAA RANGES	8215	1966	72115	C-hut
BLISS FORT AAA RANGES	8216	1966	72115	C-hut
BLISS FORT AAA RANGES	8217	1966	72115	C-hut
BLISS FORT AAA RANGES	8218	1966	72115	C-hut
BLISS FORT AAA RANGES	8219	1966	72115	C-hut
BLISS FORT AAA RANGES	8220	1966	72115	C-hut
BLISS FORT AAA RANGES	8223	1966	72115	C-hut
BLISS FORT AAA RANGES	8224	1966	72115	C-hut
BLISS FORT AAA RANGES	8225	1966	72115	C-hut
BLISS FORT AAA RANGES	8226	1966	72115	C-hut
BLISS FORT AAA RANGES	8227	1966	72115	C-hut
BLISS FORT AAA RANGES	8228	1966	72115	C-hut
BLISS FORT AAA RANGES	8229	1966	72115	C-hut
BLISS FORT AAA RANGES	8230	1966	72115	C-hut
BLISS FORT AAA RANGES	8231	1966	72115	C-hut
BLISS FORT AAA RANGES	8232	1966	72115	C-hut
BLISS FORT AAA RANGES	8233	1966	72115	C-hut
BLISS FORT AAA RANGES	8234	1966	72115	C-hut
BLISS FORT AAA RANGES	8235	1966	72115	C-hut
BLISS FORT AAA RANGES	8236	1966	72115	C-hut
BLISS FORT AAA RANGES	8237	1966	72115	C-hut
BLISS FORT AAA RANGES	8238	1966	72115	C-hut

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	8239	1966	72115	C-hut
BLISS FORT	2414	1951	72111	hammerhead barrack
BLISS FORT	2421	1953	72111	hammerhead barrack
BLISS FORT	2442	1953	72111	hammerhead barrack
BLISS FORT	2452	1953	72111	hammerhead barrack
BLISS FORT	2471	1953	72111	hammerhead barrack
BLISS FORT	2480	1953	72111	hammerhead barrack
BLISS FORT	2410	1953	72111	Hammerhead barracks
BLISS FORT	2411	1953	72111	Hammerhead barracks
BLISS FORT	2412	1953	72111	Hammerhead barracks
BLISS FORT	2413	1953	72111	Hammerhead barracks
BLISS FORT	2416	1953	72111	Hammerhead barracks
BLISS FORT	2417	1953	72111	Hammerhead barracks
BLISS FORT	2418	1953	72111	Hammerhead barracks
BLISS FORT	2420	1953	72111	Hammerhead barracks
BLISS FORT	2444	1953	72114	Hammerhead barracks
BLISS FORT	2445	1953	72114	Hammerhead barracks
BLISS FORT	2447	1953	72111	Hammerhead barracks
BLISS FORT	2447	1953	72210	Hammerhead barracks
BLISS FORT	2448	1953	72111	Hammerhead barracks
BLISS FORT	2449	1953	72111	Hammerhead barracks
BLISS FORT	2449	1953	72210	Hammerhead barracks
BLISS FORT	2450	1953	72111	Hammerhead barracks
BLISS FORT	2472	1953	72111	Hammerhead barracks
BLISS FORT	2473	1953	72111	Hammerhead barracks
BLISS FORT	2474	1953	72111	Hammerhead barracks
BLISS FORT	2475	1953	72111	Hammerhead barracks
BLISS FORT	2475	1953	72210	Hammerhead barracks
BLISS FORT	2476	1953	72111	Hammerhead barracks
BLISS FORT	2477	1953	72111	Hammerhead barracks
BLISS FORT	2478	1953	72111	Hammerhead barracks
BLISS FORT	2479	1953	72111	Hammerhead barracks
BLISS FORT	2901	1955	72111	Hammerhead barracks
BLISS FORT	2902	1955	72111	Hammerhead barracks
BLISS FORT	2903	1955	72111	Hammerhead barracks
BLISS FORT	2904	1955	72111	Hammerhead barracks
BLISS FORT	2905	1955	72111	Hammerhead barracks
BLISS FORT	1002	1956	72111	Hammerhead barracks
BLISS FORT	1002	1956	72210	Hammerhead barracks

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT	1003	1956	72111	Hammerhead barracks
BLISS FORT	1004	1956	72111	Hammerhead barracks
BLISS FORT	1005	1956	72121	Hammerhead barracks
BLISS FORT	1006	1956	72121	Hammerhead barracks
BLISS FORT	1006	1956	72210	Hammerhead barracks
BLISS FORT	1007	1956	72111	Hammerhead barracks
BLISS FORT	1008	1956	72111	Hammerhead barracks
BLISS FORT	1009	1956	72111	Hammerhead barracks
BLISS FORT	1009	1956	72210	Hammerhead barracks
BLISS FORT	1010	1956	72121	Hammerhead barracks
BLISS FORT	1011	1956	72121	Hammerhead barracks
BLISS FORT	1012	1956	72121	Hammerhead barracks
BLISS FORT	1013	1956	72121	Hammerhead barracks
BLISS FORT	1014	1956	72121	Hammerhead barracks
BLISS FORT AAA RANGES	8153	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8155	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8157	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8160	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8162	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8164	1966	72210	mobilization dining hall
BLISS FORT AAA RANGES	8159	1966	72360	mobilization lounge
BLISS FORT AAA RANGES	8163	1966	72360	mobilization lounge
BLISS FORT AAA RANGES	8645	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8646	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8647	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8648	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8649	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8650	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8651	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8652	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8653	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8654	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8655	1958	72115	Quonset Hut
BLISS FORT AAA RANGES	8679	1958	72210	Quonset Hut dining hall
BLISS FORT AAA RANGES	9441	1951	72210	semi permanent dining hall
BLISS FORT AAA RANGES	9510	1957	72210	semi permanent dining hall
BLISS FORT	11142	1967	72210	semi permanent dining hall
BLISS FORT AAA RANGES	8680	1959	72115	semi permanent H-shaped barrack

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	8681	1961	72115	semi permanent H-shaped barrack
BLISS FORT AAA RANGES	8682	1961	72115	semi permanent H-shaped barrack
BLISS FORT AAA RANGES	9402	1957	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9403	1959	72111	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9404	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9405	1959	72111	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9406	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9407	1959	72111	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9408	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9409	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9410	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9411	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9412	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9413	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9414	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9415	1959	72010	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9416	1959	72010	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9417	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9418	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9419	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9420	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9421	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9422	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9423	1959	72114	semi permanent H-shaped barracks

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	9425	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9427	1959	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9428	1960	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9430	1960	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9432	1960	72114	semi permanent H-shaped barracks
BLISS FORT	11141	1967	72111	semi permanent H-shaped barracks
BLISS FORT	11144	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11147	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11149	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11150	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11151	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11152	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11153	1967	72114	semi permanent H-shaped barracks
BLISS FORT	11285	1967	72114	semi permanent H-shaped barracks
BLISS FORT AAA RANGES	9504	1959	72114	semi permanent U-shaped barrack
BLISS FORT AAA RANGES	9506	1959	72114	semi permanent U-shaped barrack
BLISS FORT AAA RANGES	8620	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8621	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8622	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8623	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8624	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8625	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8626	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8628	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8629	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8631	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8632	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8633	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8634	1959	72115	straight-sided Quonset Hut

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT AAA RANGES	8635	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8636	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8637	1959	72115	straight-sided Quonset Hut
BLISS FORT AAA RANGES	8615	1959	72210	straight-sided Quonset hut dining hall
BLISS FORT	7309	1955	72111	Unknown
BLISS FORT	11174	1957	72111	Unknown
BLISS FORT	11175	1957	72111	Unknown
BLISS FORT	11354	1959	72111	Unknown
BLISS FORT AAA RANGES	8176	1975	72115	Unknown

IFS Key

72010 = Transient Quarters (lodging)

72111 = Enlisted UPH

72114 = Enlisted Barracks, Annual Training

72115 = Enlisted Barracks, Mobilization

72121 = Transient UPH, Advanced Individual Trainees

72122 = Transient UPH, Advanced Skills Trainees

72170 = UPH, Senior NCO

72181 = Trainee Barracks

72210 = Dining Facility

72310 = UPH Laundry Building, Detached

72350 = Garage, UPH, Detached

72351 = Carport, UPH

72360 = Misc. Facilities, Detached (lounge or SCB)

72410 = Unaccompanied Officers Quarters, Military

72412 = Annual Training Officers Quarters

72510 = Hutment

72520 = Tent Pad

Table 2. Fort Bliss Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT	5015	1956	72010	apartment type BOQ
BLISS FORT	5016	1956	72010	apartment type BOQ
BLISS FORT	5017	1956	72010	apartment type BOQ
BLISS FORT	5018	1956	72010	apartment type BOQ
BLISS FORT	5019	1956	72170	apartment type BOQ
BLISS FORT	5020	1956	72010	apartment type BOQ
BLISS FORT	5023	1956	72010	apartment type BOQ
BLISS FORT	5039	1958	72410	apartment type BOQ
BLISS FORT	5039	1958	72010	apartment type BOQ
BLISS FORT	5040	1958	72410	apartment type BOQ
BLISS FORT	5040	1958	72010	apartment type BOQ
BLISS FORT	5041	1962	72410	apartment type BOQ
BLISS FORT	5041	1962	72010	apartment type BOQ
BLISS FORT	5042	1962	72410	apartment type BOQ
BLISS FORT	5042	1962	72010	apartment type BOQ
BLISS FORT	5043	1962	72410	apartment type BOQ
BLISS FORT	5043	1962	72010	apartment type BOQ
BLISS FORT	5044	1962	72410	apartment type BOQ
BLISS FORT	5044	1962	72010	apartment type BOQ
BLISS FORT	5045	1962	72410	apartment type BOQ
BLISS FORT	5045	1962	72010	apartment type BOQ
BLISS FORT AAA RANGES	8267	1983	72410	mobilization BOQ
BLISS FORT AAA RANGES	8268	1983	72410	mobilization BOQ
BLISS FORT AAA RANGES	8609	1961	72010	semi permanent 16-man BOQ
BLISS FORT AAA RANGES	8610	1961	72010	semi permanent 16-man BOQ
BLISS FORT AAA RANGES	9517	1959	72114	semi permanent U-shaped BOQ
BLISS FORT AAA RANGES	9518	1959	72114	semi permanent U-shaped BOQ

Table 3. Fort Bliss Transient Quarters

	Bldg. No.	Year	Cat. Code	Building Type
BLISS FORT	1744	1989	72010	Transient-The Inn at Fort Bliss
BLISS FORT	11332	1953	72010	Unknown
BLISS FORT	11265	1957	72010	Unknown
BLISS FORT	11266	1957	72010	Unknown
BLISS FORT	11340	1959	72010	Unknown
BLISS FORT	7060	1988	72010	YMCA

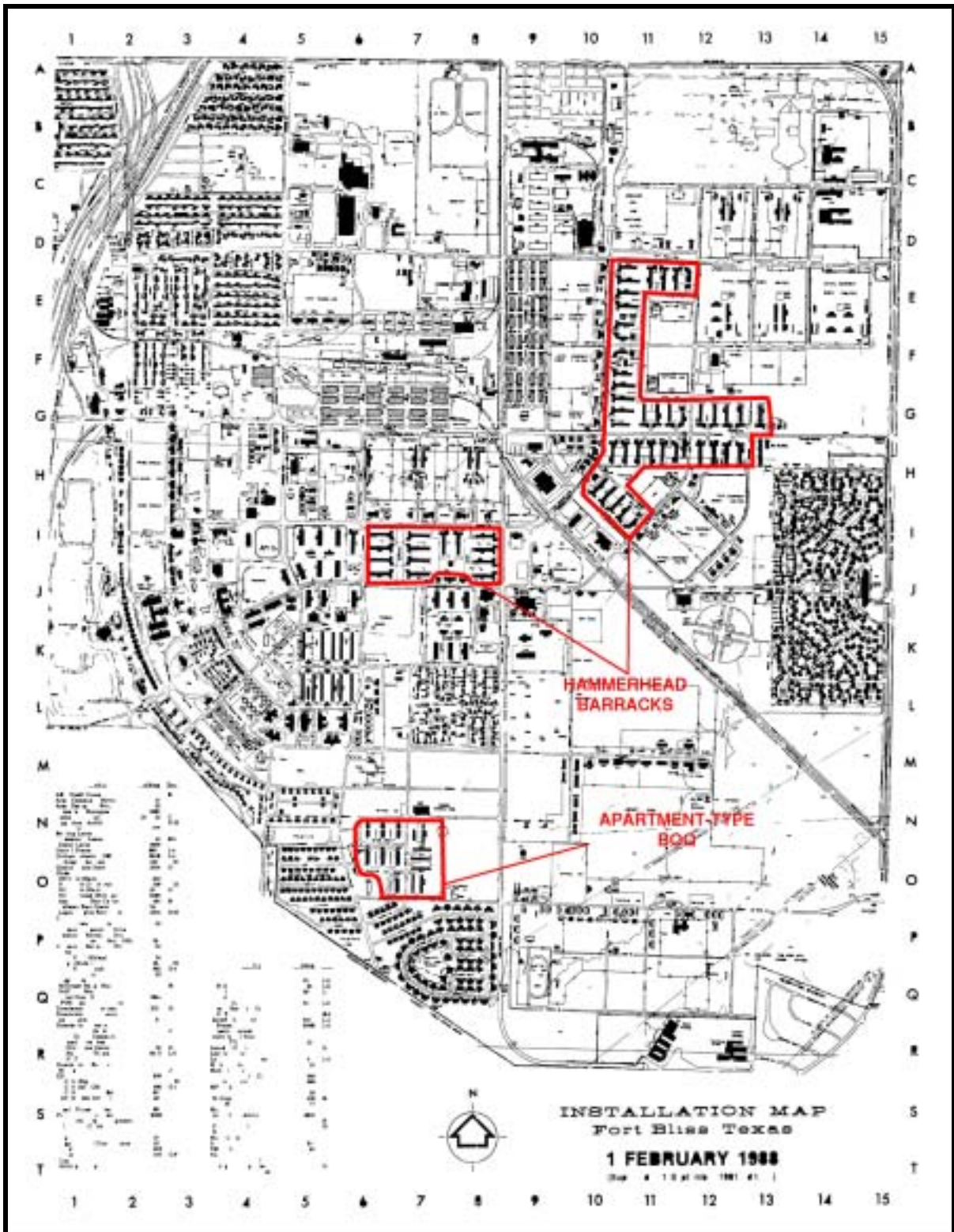


Figure B.2.1 Map of Main Post, Fort Bliss.

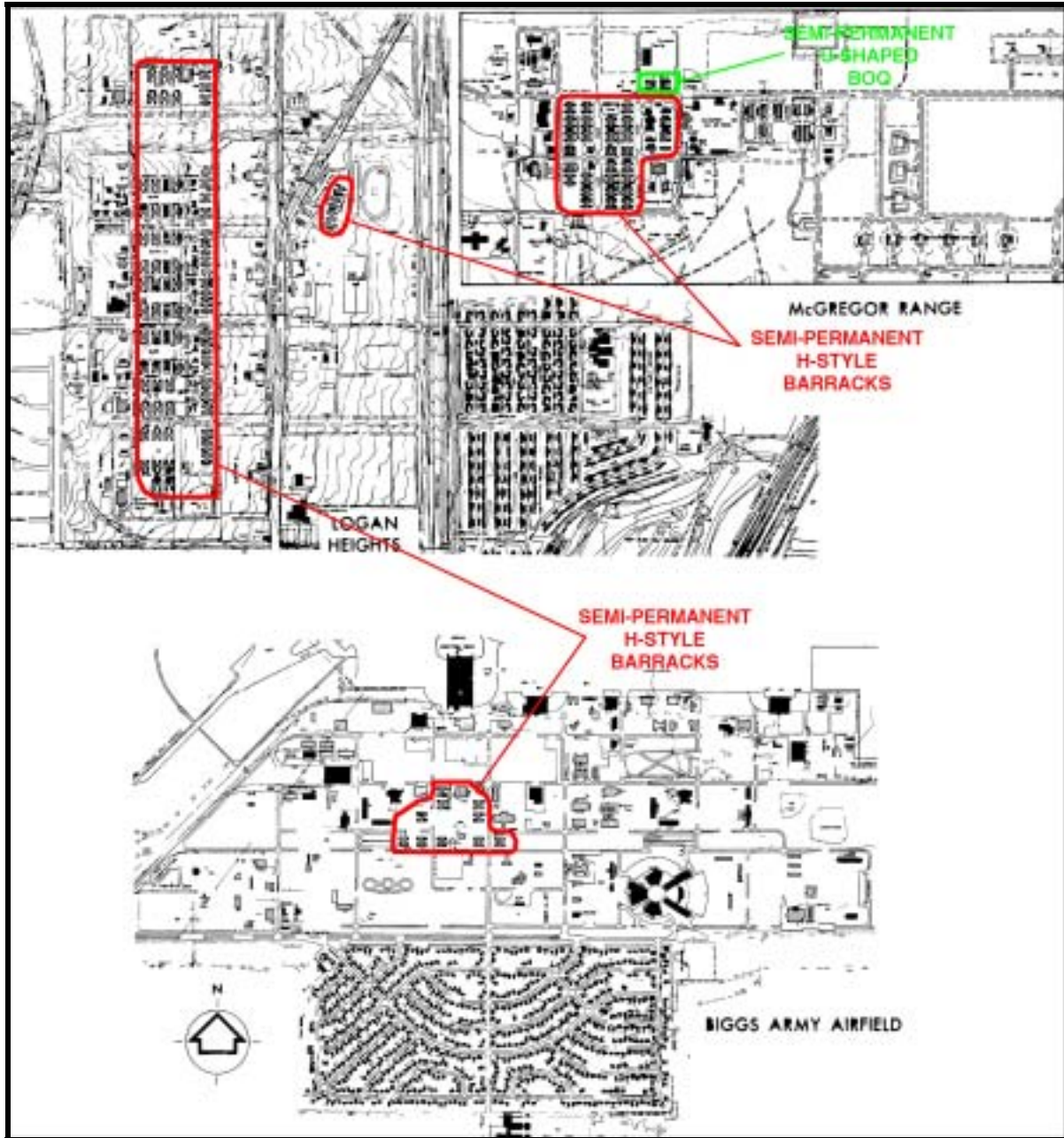


Figure B.2.2 Map of Fort Bliss.

B.3 FORT BRAGG, NORTH CAROLINA

Physical Description. Located in Cumberland County in the sand hills of southeastern North Carolina, just north of the city of Fayetteville and the Cape Fear River, Fort Bragg is sited on gently rolling land characterized by its sandy composition and pine forests. The installation at Fort Bragg, along with nearby Camp Mackall, consists of over 160,000 acres. Under the Forces Command (FORSCOM), Fort Bragg serves as headquarters to the Special Operations Command and the XVIII Army Airborne Corps, a highly specialized strategic crisis response force trained for rapid deployment. An active Army installation since 1918, Fort Bragg's mission is training, maintenance, and support of the Special Operations Command and the XVIII Army Airborne Corps.

History of the Installation

Fort Bragg was founded as an artillery training installation during World War I. Fort Bragg was created when specialized training bases were first established (Little 2001:12). In 1918, the Army's Chief of Artillery, Major General William J. Snow, requested that Field Artillery brigade commanders locate potential sites for field artillery training. Site selection required adequate water supplies, suitable soil, nearby railroads lines, and a climate allowing year-round training (Cannan et al 1995:vol. III:41).

The location of today's Fort Bragg met the requirements. The War Department established Camp Bragg on 21 August 1918 and named it for Captain Braxton Bragg. A North Carolina native, Captain Bragg was educated at West Point, served in the Mexican War, and served as a general in the Confederate Army. The camp officially was established on 4 September 1918 and construction began on 16 September. By spring 1919, the camp was ready for occupancy.

The Beaux Arts design for the cantonment was completed by Lt. Col. D. H. Sawner of the Quartermaster Corps office in Washington, DC; New York City planner C.F. Pilat; and supervising engineer J.E. Sirrine of Greenville, South Carolina. When completed, the camp accommodated 536 officers, 15,713 enlisted men, 51 nurses and 5,780 animals (Cannan et al 1995:vol. III:41). The end of the war reduced the number of troops stationed at the camp; however, the camp continued to host a two-brigade garrison for regular Army units and a National Guard artillery training center (Little 2001:14). Even though the Army recognized that Camp Bragg was the only facility large enough to allow training in the use of modern artillery, the camp was slated for deactivation in 1921.

After intensive lobbying efforts by Commanding Officer General Albert J. Bowley and Fayetteville civic organizations, orders to close the base were revoked (Cannan et al 1995:vol. III:42 and Little 2001:14). The camp was designated a permanent installation in April 1922 and its name was changed to Fort Bragg.

To address the lack of funds available for the maintenance of cantonments, in 1926 Congress enacted Public Law 45. The legislation provided for the creation of a "Military Post Construction Fund" to be used to build of housing and hospitals. Funds were raised from the disposition of 43 military installations. The first monies were expended in 1927; Fort Bragg was one of the recipients.

Administered by the Construction Service of the Quartermaster Corps, inter-war construction on installations was the result of large-scale planning efforts that illustrated contemporary planning principles (Little 2001:16). The Construction Service was responsible for all aspects of implementation including post planning, building design and construction oversight. The

Quartermaster Corps worked in conjunction with military and civilian architects, planners, and engineers to complete construction on the permanent installations. In his capacity as advisor to the War Department, city planner George B. Ford advocated the construction of modern posts that were pleasing and attractive.

Although standardized plans were developed, building designs generally incorporated design elements unique to the region's history and climate. The Spanish Colonial and Mission Revival styles were selected for those installations located south of Virginia, including Fort Bragg. The Quartermaster architects felt that the style was appropriate for the climate, even though the Spanish Colonial and Mission Revival styles were not common in the region (Cannan et al 1995:vol. III:42). By the late 1930s, this construction phase resulted in the construction of numerous permanent structures, including officers' quarters, NCO quarters, enlisted men's barracks, stables, artillery gun sheds, a hospital, nurse's quarters, and administration buildings (Cannon et al 1995:vol. III:42).

When plans were announced in 1939 to increase the size of the U.S. Army, Fort Bragg was one of the installations slated for expansion. In the years before the United States involvement in World War II, artillery training was a major mission at Fort Bragg. The 155mm Howitzer was introduced at the base in 1939. After the attack on Pearl Harbor in 1941, Fort Bragg became an important training facility for various units including the 2nd Armored Division, the 9th Infantry Division, the 100th Infantry Division and the 13th, 22nd, and 32nd Artillery Brigades (Little 2001:23). Training of airborne units began at Fort Bragg during World War II when the 82nd Airborne Division moved to Fort Bragg from Camp Clairborne, Louisiana, in 1942. The 101st Airborne Division also relocated to Fort Bragg that same year. Few new buildings were constructed during the war.

When the war ended, installations nationwide were scrutinized for potential closure. In January 1946, Fort Bragg became the permanent home for the 82nd Airborne Division. Until the outbreak of the Korean Conflict in 1950, the 82nd Airborne Division was the only major unit on post.

The early 1950s brought an increase in troop activity, including training for units fighting in the war and the establishment of new units and missions. As the Cold War intensified, a new type of infantry unit was established. Organized to operate for extended periods of time behind enemy lines, the Special Forces were created to organize local partisan forces (Little 2001:29). Fort Bragg became the training center for this unit. Since 1952, the Special Operations Command, which oversees the Special Forces, Ranger, and other special operations units located at installations throughout the country, has been headquartered at Fort Bragg (Little 2001:20). Other units moved to Fort Bragg during the Cold War era, including the Army's V Corps.

During the Korean Conflict, the installation once again served as a training facility. When the XVIII Airborne Corps in 1951 was reactivated at Fort Bragg, the installation was nicknamed the "Home of the Airborne" because of its presence and that of the 82nd Airborne Division (Little 2001:30). To administer joint air/ground activity training, the Army Air Support Headquarters was established in 1951 (Little 2001:30). A new airfield, Simmons Army Airfield, was constructed in 1952 to relieve the adjacent Pope Air Field. The construction boom also included a division-sized barracks area, new family housing, and such amenities as an NCO club, education facilities, and sporting arenas (Office n.d.:129). Training troops in psychological warfare and special forces operations began in 1952 with the creation of the Psychological Warfare Center.

When the United States became more involved in Vietnam in 1961, the 5th Special Forces Group (Airborne) was activated at Fort Bragg. Their mission was to train the Republic of South Vietnam's government and military personnel in counterinsurgency to fight against the encroaching communist influences from North Vietnam. In 1965, the Special Warfare Complex was expanded,

and it ushered in a period of new construction. Much of the construction went into the Special Warfare Complex. Its headquarters and academic buildings were completed in early 1965 (Office n.d.:135-140; Fort Bragg 2002).

In the 1970s, the aftermath of the Vietnam War and the establishment of the “All-Volunteer” Army brought a number of changes to Fort Bragg. Fort Bragg began decreasing the number of troops sent to Vietnam as the war waned, and it instituted programs to eliminate the prevalence of drug use among returning troops. In 1974, a new commissary was constructed along with additional family housing and community support facilities. The All-American Expressway was opened between Fort Bragg and Fayetteville at the end of the decade (Fort Bragg 2002).

In the 1980s, the 82nd Airborne Division participated in operations in Grenada, Honduras, and Panama. After hurricane Hugo in 1989, the XVIII Airborne Corps soldiers assisted St Croix in the US Virgin Islands. Fort Bragg was center of rapid deployment, which was developed during the Cold War and used afterwards (Fort Bragg 2002).

In the post-Cold War era, the 82nd Airborne Division was deployed to Kuwait in 1990. Fort Bragg lent aid to Florida following hurricane Andrew in 1992. In 1994, the 82nd Airborne Division participated in the largest paratrooper drop since World War II when it was deployed to Haiti to support the duly elected government of Jean Aristide (Fort Bragg 2002).

UPH on Fort Bragg

The Army constructed a diverse range of Cold War era UPH building types on Fort Bragg (Figure B.3.1). Barracks were the predominant property type, although a small number of Bachelor Officers Quarters and Transient Quarters were also built (Tables 1, 2 and 3). Hammerhead barracks were the most prevalent type built with fifty-eight examples constructed in 1955 and 1956. The Army constructed eight H-shaped barracks in 1958. Nineteen rolling pin barracks were completed with nine completed in 1966 and ten completed in 1971. At the time of the site visit, the rolling pin barracks were undergoing extensive renovations. Modifications include new floor plans, exterior stairs, balconies, gable roofs and new wall materials. The Army constructed nineteen Lyles, Bissett, Carlisle, and Wolfe Barracks on the installation in 1976. Thirteen quadrangle barracks were completed in the Cold War era with the first completed in 1985. Additional barracks of this type were constructed in the 1990s. In addition, four hutments of semi-permanent construction were completed in 1969. Overall, the barracks at Fort Bragg, except for the renovated rolling pin barracks, have undergone few modifications and retain their integrity of location, design, setting, materials, workmanship, feeling, and association.

The Army constructed six Cold War era Bachelor Officers Quarters at Fort Bragg including two hammerhead BOQs, a motel-type BOQ, two high-rise BOQs, and one unknown type. A two-story hammerhead BOQ was completed in 1953 and three-story hammerhead BOQ was completed in 1956. Both have been modified with new gable roofs, replacement windows and doors, and new exterior materials. The two high-rise BOQs were built in 1966 and the motel-type BOQ was completed in 1968. All three have been reclassified as transient quarters, but retain integrity of location, design, setting, materials, workmanship, and feeling.

Two transient quarters were identified on the site visit. The Leal House, which was a NCO Motel, and an 88-unit guest house. Both buildings retain integrity of location, design, setting, materials, workmanship, feeling, and association.

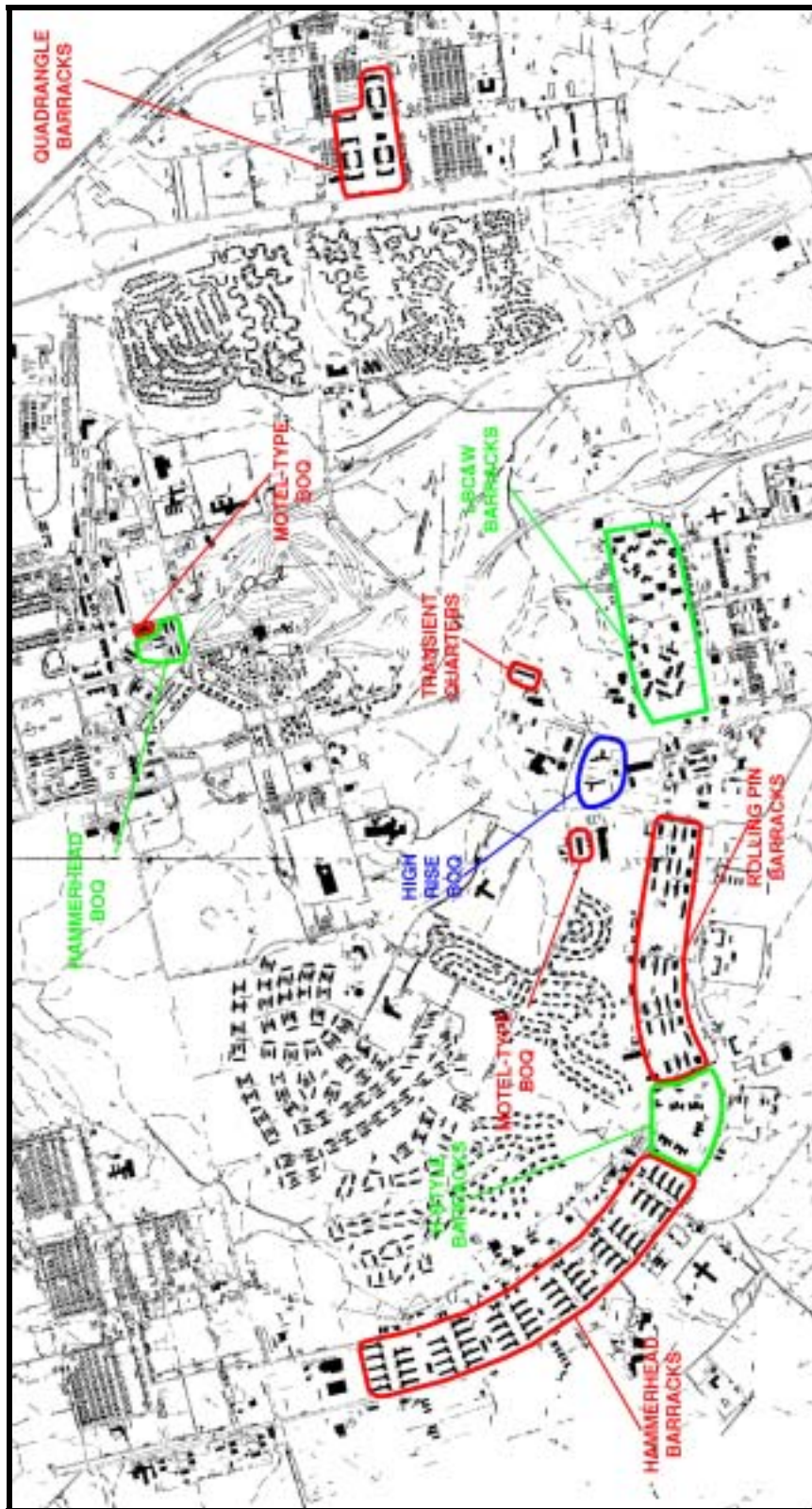


Figure B.3.1 Map of Fort Bragg.

Table 1. Fort Bragg Barracks

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	P3042	1956	72210	dining facility
BRAGG FT	O8402	1980	72210	dining facility
BRAGG FT	O8404	1981	72210	dining facility
BRAGG FT	O9073	1982	72210	dining facility
BRAGG FT	C3321	1955	72210	Hammerhead barracks
BRAGG FT	C3323	1955	72111	Hammerhead barracks
BRAGG FT	C3325	1955	72111	Hammerhead barracks
BRAGG FT	C4120	1955	72111	Hammerhead barracks
BRAGG FT	C4122	1955	72111	Hammerhead barracks
BRAGG FT	C4122	1955	72210	Hammerhead barracks
BRAGG FT	C4123	1955	72111	Hammerhead barracks
BRAGG FT	C4125	1955	72111	Hammerhead barracks
BRAGG FT	C4420	1955	72111	Hammerhead barracks
BRAGG FT	C4422	1955	72111	Hammerhead barracks
BRAGG FT	C4422	1955	72210	Hammerhead barracks
BRAGG FT	C4424	1955	72111	Hammerhead barracks
BRAGG FT	C4424	1955	72210	Hammerhead barracks
BRAGG FT	C4426	1955	72111	Hammerhead barracks
BRAGG FT	C4426	1955	72210	Hammerhead barracks
BRAGG FT	C4428	1955	72111	Hammerhead barracks
BRAGG FT	C4428	1955	72210	Hammerhead barracks
BRAGG FT	C5225	1955	72111	Hammerhead barracks
BRAGG FT	C5227	1955	72111	Hammerhead barracks
BRAGG FT	C5322	1955	72111	Hammerhead barracks
BRAGG FT	C5324	1955	72111	Hammerhead barracks
BRAGG FT	C5528	1955	72111	Hammerhead barracks
BRAGG FT	C5528	1955	72210	Hammerhead barracks
BRAGG FT	C5626	1955	72111	Hammerhead barracks
BRAGG FT	C5725	1955	72111	Hammerhead barracks
BRAGG FT	C5725	1955	72210	Hammerhead barracks
BRAGG FT	C5823	1955	72111	Hammerhead barracks
BRAGG FT	C6231	1955	72111	Hammerhead barracks
BRAGG FT	C6329	1955	72111	Hammerhead barracks
BRAGG FT	C6427	1955	72111	Hammerhead barracks
BRAGG FT	C6432	1955	72111	Hammerhead barracks
BRAGG FT	C6432	1955	72210	Hammerhead barracks
BRAGG FT	C6530	1955	72111	Hammerhead barracks

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	C6628	1955	72111	Hammerhead barracks
BRAGG FT	C6726	1955	72111	Hammerhead barracks
BRAGG FT	C6726	1955	72210	Hammerhead barracks
BRAGG FT	C7236	1956	72111	Hammerhead barracks
BRAGG FT	C7236	1956	72210	Hammerhead barracks
BRAGG FT	C7334	1956	72111	Hammerhead barracks
BRAGG FT	C7433	1956	72111	Hammerhead barracks
BRAGG FT	C7433	1956	72210	Hammerhead barracks
BRAGG FT	C7437	1956	72111	Hammerhead barracks
BRAGG FT	C7531	1956	72111	Hammerhead barracks
BRAGG FT	C7535	1956	72111	Hammerhead barracks
BRAGG FT	C7634	1956	72111	Hammerhead barracks
BRAGG FT	C7634	1956	72210	Hammerhead barracks
BRAGG FT	C7732	1956	72111	Hammerhead barracks
BRAGG FT	C8142	1956	72111	Hammerhead barracks
BRAGG FT	C8241	1956	72111	Hammerhead barracks
BRAGG FT	C8339	1956	72111	Hammerhead barracks
BRAGG FT	C8339	1956	72210	Hammerhead barracks
BRAGG FT	C8344	1956	72111	Hammerhead barracks
BRAGG FT	C8344	1956	72210	Hammerhead barracks
BRAGG FT	C8438	1956	72111	Hammerhead barracks
BRAGG FT	C8438	1956	72210	Hammerhead barracks
BRAGG FT	C8442	1956	72111	Hammerhead barracks
BRAGG FT	C8541	1956	72111	Hammerhead barracks
BRAGG FT	C8640	1956	72111	Hammerhead barracks
BRAGG FT	C3321	1955	72111	H-shaped barracks
BRAGG FT	C8750	1958	72111	H-shaped barracks
BRAGG FT	C8750	1958	72210	H-shaped barracks
BRAGG FT	C8948	1958	72111	H-shaped barracks
BRAGG FT	C8948	1958	72210	H-shaped barracks
BRAGG FT	C9055	1958	72111	H-shaped barracks
BRAGG FT	C9349	1958	72111	H-shaped barracks
BRAGG FT	C9354	1958	72111	H-shaped barracks
BRAGG FT	O8411	1969	72510	Hutment
BRAGG FT	O8412	1969	72510	Hutment
BRAGG FT	O8413	1969	72510	Hutment
BRAGG FT	O8414	1969	72510	Hutment
BRAGG FT	H4350	1976	72111	LBC&W barracks
BRAGG FT	H4445	1976	72111	LBC&W barracks

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	H4654	1976	72111	LBC&W barracks
BRAGG FT	H4952	1976	72111	LBC&W barracks
BRAGG FT	H5245	1976	72111	LBC&W barracks
BRAGG FT	H5448	1976	72111	LBC&W barracks
BRAGG FT	H5454	1976	72111	LBC&W barracks
BRAGG FT	H5752	1976	72111	LBC&W barracks
BRAGG FT	41137	1977	72111	LBC&W barracks
BRAGG FT	41238	1977	72111	LBC&W barracks
BRAGG FT	H4812	1980	72111	LBC&W barracks
BRAGG FT	H4817	1980	72111	LBC&W barracks
BRAGG FT	H4822	1980	72111	LBC&W barracks
BRAGG FT	H5117	1980	72111	LBC&W barracks
BRAGG FT	H5122	1980	72111	LBC&W barracks
BRAGG FT	H5214	1980	72111	LBC&W barracks
BRAGG FT	H5412	1980	72111	LBC&W barracks
BRAGG FT	H5812	1980	72111	LBC&W barracks
BRAGG FT	H5748	1982	72111	LBC&W barracks
BRAGG FT	H4842	1976	72210	LBC&W dining hall
BRAGG FT	M4020	1985	72111	Quadrangle barracks
BRAGG FT	M4313	1985	72111	Quadrangle barracks
BRAGG FT	M4520	1985	72111	Quadrangle barracks
BRAGG FT	M4040	1986	72111	Quadrangle barracks
BRAGG FT	M4346	1986	72111	Quadrangle barracks
BRAGG FT	M4540	1986	72111	Quadrangle barracks
BRAGG FT	M3019	1987	72111	Quadrangle barracks
BRAGG FT	M3213	1987	72111	Quadrangle barracks
BRAGG FT	M3226	1987	72111	Quadrangle barracks
BRAGG FT	M3233	1987	72111	Quadrangle barracks
BRAGG FT	M3519	1987	72111	Quadrangle barracks
BRAGG FT	E4728	1988	72111	Quadrangle barracks
BRAGG FT	E4824	1988	72111	Quadrangle barracks
BRAGG FT	21105	1986	72111	remodelled 1930s barracks
BRAGG FT	D2004	1966	72111	Rolling Pin barracks
BRAGG FT	D2007	1966	72111	Rolling Pin barracks
BRAGG FT	D2420	1966	72111	Rolling Pin barracks
BRAGG FT	D2517	1966	72122	Rolling Pin barracks
BRAGG FT	D2723	1966	72111	Rolling Pin barracks
BRAGG FT	D2730	1966	72111	Rolling Pin barracks
BRAGG FT	D2822	1966	72111	Rolling Pin barracks

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	D2826	1966	72111	Rolling Pin barracks
BRAGG FT	D3026	1967	72111	Rolling Pin barracks
BRAGG FT	D3142	1971	72111	Rolling Pin barracks
BRAGG FT	D3151	1971	72111	Rolling Pin barracks
BRAGG FT	D3238	1971	72111	Rolling Pin barracks
BRAGG FT	D3255	1971	72111	Rolling Pin barracks
BRAGG FT	D3345	1971	72111	Rolling Pin barracks
BRAGG FT	D3348	1971	72111	Rolling Pin barracks
BRAGG FT	D3355	1971	72111	Rolling Pin barracks
BRAGG FT	D3438	1971	72111	Rolling Pin barracks
BRAGG FT	D3545	1971	72111	Rolling Pin barracks
BRAGG FT	D3548	1971	72111	Rolling Pin barracks
BRAGG FT	D3039	1971	72210	Rolling Pin dining hall
BRAGG FT	D3055	1971	72210	Rolling Pin dining hall
BRAGG FT	O9072	1982	72121	Unknown

IFS Key

72010 = Transient Quarters (lodging)

72111 = Enlisted UPH

72114 = Enlisted Barracks, Annual Training

72115 = Enlisted Barracks, Mobilization

72121 = Transient UPH, Advanced Individual Trainees

72122 = Transient UPH, Advanced Skills Trainees

72170 = UPH, Senior NCO

72181 = Trainee Barracks

72210 = Dining Facility

72310 = UPH Laundry Building, Detached

72350 = Garage, UPH, Detached

72351 = Carport, UPH

72360 = Misc. Facilities, Detached (lounge or SCB)

72410 = Unaccompanied Officers Quarters, Military

72412 = Annual Training Officers Quarters

72510 = Hutment

72520 = Tent Pad

Table 2. Fort Bragg Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	11939	1968	72010	120-man motel type BOQ
BRAGG FT	12334	1953	72111	2-sto Hammerhead BOQ
BRAGG FT	11938	1956	72111	3-sto hammerhead BOQ
BRAGG FT	D3601	1966	72010	high rise BOQ
BRAGG FT	D3705	1966	72010	high rise BOQ
BRAGG FT	O9071	1982	72410	Unknown

Table 3. Fort Bragg Transient Quarters

	Bldg. No.	Year	Cat. Code	Building Type
BRAGG FT	42843	1958	72210	Hospital dining hall
BRAGG FT	42843	1958	72010	Hospital Wing
BRAGG FT	55047	1969	72010	Guest House
BRAGG FT	D4215	1971	72010	88-unit Guest House
BRAGG FT	O9081	1982	72010	Unknown
BRAGG FT	O9082	1982	72010	Unknown
BRAGG FT	W2151	1989	72010	Unknown

B.4 FORT HOOD, TEXAS

The Army opened Camp Hood as the Tank Destroyer Tactical and Firing Center in 1942, although construction of the camp was not completed until 1 September 1943. The Army initially acquired 108,000 acres for the center, and the camp was planned to last the duration of the war. At its peak during World War II, from June 1943 through early 1944, Fort Hood trained nearly 95,000 soldiers and housed 4,000 prisoners of war. In 1951, the Army designated Camp Hood as a permanent installation known as Fort Hood. The following year, a large tract of land around Lake Belton was added to the government reservation and the installation eventually grew to 217,337 acres (340 square miles). Throughout its history, Fort Hood has principally trained armored divisions. To this day, it remains the largest armored training installation in the United States.

Fort Hood comprises three distinct areas: Fort Hood, North Fort Hood, and West Fort Hood. Fort Hood contains the main cantonment area and Hood Army Airfield (AAF), an airfield initially established during World War II. North Fort Hood principally serves as a housing and training area for National Guard units. West Fort Hood was known as Killeen Base when built. Robert Gray AAF was built adjacent to Killeen Base during the 1950s and also is part of West Fort Hood (Department of the Army 1992; Faulk and Faulk 1990:56; Fort Hood 2002).

A study in September 1945 found that Camp Hood's 158,579 acres were ideal for military purposes. The facility was large, in an underpopulated area, had a temperate climate, and had an adequate sewer, water, and transportation infrastructure. Although the number of installation personnel decreased in the postwar downsizing of the military, construction of a new airbase was proposed on the west side of Camp Hood. On 8 November 1946, Major General F. L. Parks, the Army's Chief of Public Relations, announced that a new 7,000- to 8,000-foot runway would be built west of Camp Hood to train all units at the installation in the art of air transportation. During this time, military planners predicted that, in future wars, entire armies would move by air.

When the Armed Forces were reorganized in 1947, the new airfield was turned over to the U.S. Air Force (USAF) and named for Robert Gray. Gray was a local hero who had flown in General James Doolittle's 1942 raid on Tokyo and was killed in action six months later in China (Faulk and Faulk 1990:88).

Concurrently, construction began on Killeen Base adjacent to Robert Gray AFB. Killeen Base was one of seven atomic weapons storage depots built by the U.S. The base was officially a Department of Defense Classified Ordnance Storage Area and was under the direction of the Defense Atomic Support Agency. The 7,000-acre base had tunnels blasted out of solid rock. The miners who constructed the tunnels were flown in from Kentucky. They were not informed of their work destination or the purpose of the tunnels. The tunnels were reinforced with concrete and sealed off with double steel doors (TCATA n.d.). The Department of Defense nearly closed Killeen Base in 1969 before Headquarters Mobile Army Sensor System Test and Evaluation Review System (MASSTER) was assigned as a new tenant. At this time, the base was renamed West Fort Hood (TCATA n.d.).

Robert Gray Air Force Base supported the Defense Atomic Support Agency at Killeen Base and provided training in close air support and air supply for ground troops training in the field at Fort Hood. In December 1960, the Air Force began cutting back on the number of personnel at Robert Gray AFB; in June 1963, it was turned over to Army control. The Army moved into what became known as Robert Gray AAF and began flying planes and helicopters on air reconnaissance, troop movement, logistics, and supply missions (Faulk and Faulk 1990:124). West Fort Hood became the home for Project MASSTER. The primary mission of MASSTER was to develop and test new night

vision and target acquisition technology. Fort Hood was selected because its 340 square miles contained terrain that simulated most places around the world. In addition to the suitable terrain, Fort Hood had two divisions, which were inducted into the project. The project was to last until the conclusion of the Vietnam War, but it continued until the mid-1980s. Besides the advances in sensor systems, MASSTER developed new applications of motorcycles and “dune buggies” for reconnaissance. In 1975, MASSTER contributed to the formation of the 6th Cavalry Brigade (Air Combat), a brigade of devoted attack helicopters. The brigade was designed in coordination with “deep attack” concepts of striking the reinforcement echelons as the main forces fight at the front (MAASTER 2003; Global Security.org 2002).

The 1st Armored Division stayed at Fort Hood until 1971 when it was deployed to Germany. 1st Cavalry Division replaced the armored division. 1st Cavalry Division and Fort Hood became the testing ground for a new division reorganization called Triple Capability or TRICAP. The 1st Cavalry Division during Vietnam had been an air assault unit combining attack helicopters with airmobile infantry. The new organization combined armor, mechanized infantry, airmobile infantry, and attack helicopters. A year later, the 1st Cavalry Division at Fort Hood was organized with two armored brigades and a one air cavalry combat brigade (First Armored Division 2002).

The 2nd Armored Division remained at Fort Hood until its deployment to Kuwait in 1990. Following Desert Shield, the 2nd Armored Division was disbanded and elements were absorbed into the 4th Infantry Division when it was relocated to Fort Hood in 1995 (Grunts.net 2002a,b).

UPH on Fort Hood

The Army constructed a wide range of Cold War era UPH building types at Fort Hood (Figure B.4.1). The Army principally constructed barracks, but smaller numbers of Bachelor Officers Quarters and Transient quarters were constructed. Fort Hood constructed its hammerhead barracks between 1952 and 1956 and completed its H-style barracks in 1958. The post added twenty-one rolling pin barracks between 1966 and 1969. At the time of the site visit, all three types had undergone or were undergoing extensive modifications including changing the floor plans and adding balconies, exterior stairs, exterior doors, and new wall materials. The modified barracks no longer retain integrity of design, materials, workmanship, and feeling. The Army built eight A-style barracks between 1972 and 1974. The Army completed the first Lyles, Bissett, Carlisle, and Wolfe barracks at Fort Hood in 1975 and by 1978, the Army had completed thirty-five buildings. In 1979, the Army completed thirty-one training barracks for the Army Reserve on North Fort Hood (Figure B.4.2). In addition, a large number of C-huts not on the IFS database were moved to North Fort Hood in the mid-1960s. Fort Hood’s barracks constructed since 1970 have undergone few modifications and retain their integrity of location, design, setting, materials, workmanship, feeling, and association.

The Bachelor Officers Quarters at Fort Hood consisted of three building types. Four three-story hammerhead BOQs were completed in 1956. In 1969, the Army completed a high-rise BOQ. Ten Army Reserve annual training BOQs were finished in 1979. All the BOQs retain integrity of location, design, setting, materials, workmanship, and feeling. The high-rise BOQ has been subsequently reclassified as transient quarters.

The 88-unit guest house was the only building constructed as transient quarters. The building retains its integrity of location, design, setting, materials, workmanship, feeling, and association.

Table 1. Fort Hood Barracks

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	56425	1979	72210	Army Reserve dining hall
HOOD FORT	56447	1979	72210	Army Reserve dining hall
HOOD FORT	56471	1979	72210	Army Reserve dining hall
HOOD FORT	56430	1979	72114	Army Reserve training barracks
HOOD FORT	56431	1979	72114	Army Reserve training barracks
HOOD FORT	56432	1979	72114	Army Reserve training barracks
HOOD FORT	56433	1979	72114	Army Reserve training barracks
HOOD FORT	56434	1979	72114	Army Reserve training barracks
HOOD FORT	56435	1979	72114	Army Reserve training barracks
HOOD FORT	56436	1979	72114	Army Reserve training barracks
HOOD FORT	56437	1979	72114	Army Reserve training barracks
HOOD FORT	56438	1979	72114	Army Reserve training barracks
HOOD FORT	56439	1979	72114	Army Reserve training barracks
HOOD FORT	56440	1979	72114	Army Reserve training barracks
HOOD FORT	56441	1979	72114	Army Reserve training barracks
HOOD FORT	56450	1979	72114	Army Reserve training barracks
HOOD FORT	56451	1979	72114	Army Reserve training barracks
HOOD FORT	56452	1979	72114	Army Reserve training barracks
HOOD FORT	56453	1979	72114	Army Reserve training barracks
HOOD FORT	56454	1979	72114	Army Reserve training barracks
HOOD FORT	56455	1979	72114	Army Reserve training barracks
HOOD FORT	56456	1979	72114	Army Reserve training barracks
HOOD FORT	56457	1979	72114	Army Reserve training barracks
HOOD FORT	56460	1979	72114	Army Reserve training barracks
HOOD FORT	56461	1979	72114	Army Reserve training barracks
HOOD FORT	56462	1979	72114	Army Reserve training barracks
HOOD FORT	56463	1979	72114	Army Reserve training barracks
HOOD FORT	56464	1979	72114	Army Reserve training barracks
HOOD FORT	56465	1979	72114	Army Reserve training barracks
HOOD FORT	56466	1979	72114	Army Reserve training barracks
HOOD FORT	56467	1979	72114	Army Reserve training barracks
HOOD FORT	56480	1979	72114	Army Reserve training barracks
HOOD FORT	56481	1979	72114	Army Reserve training barracks
HOOD FORT	56482	1979	72114	Army Reserve training barracks
HOOD FORT	21003	1972	72111	A-style barracks
HOOD FORT	31007	1972	72111	A-style barracks
HOOD FORT	31009	1972	72111	A-style barracks

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	41002	1972	72111	A-style barracks
HOOD FORT	27002	1974	72111	A-style barracks
HOOD FORT	27006	1974	72111	A-style barracks
HOOD FORT	34006	1974	72111	A-style barracks
HOOD FORT	34010	1974	72111	A-style barracks
HOOD FORT	21002	1972	72210	A-style dining hall
HOOD FORT	31008	1972	72210	A-style dining hall
HOOD FORT	27004	1974	72210	A-style dining hall
HOOD FORT	34008	1974	72210	A-style dining hall
HOOD FORT	56413	1951	72210	C-hut kitchen
HOOD FORT	56414	1951	72210	C-hut kitchen
HOOD FORT	56522	1951	72210	C-hut kitchen
HOOD FORT	56523	1951	72210	C-hut kitchen
HOOD FORT	56524	1951	72210	C-hut kitchen
HOOD FORT	56525	1951	72210	C-hut kitchen
HOOD FORT	56532	1951	72210	C-hut kitchen
HOOD FORT	56533	1951	72210	C-hut kitchen
HOOD FORT	56534	1951	72210	C-hut kitchen
HOOD FORT	56535	1951	72210	C-hut kitchen
HOOD FORT	56542	1951	72210	C-hut kitchen
HOOD FORT	56543	1951	72210	C-hut kitchen
HOOD FORT	56544	1951	72210	C-hut kitchen
HOOD FORT	56545	1951	72210	C-hut kitchen
HOOD FORT	56618	1951	72210	C-hut kitchen
HOOD FORT	56622	1951	72210	C-hut kitchen
HOOD FORT	56623	1951	72210	C-hut kitchen
HOOD FORT	56624	1951	72210	C-hut kitchen
HOOD FORT	56625	1951	72210	C-hut kitchen
HOOD FORT	56632	1951	72210	C-hut kitchen
HOOD FORT	56633	1951	72210	C-hut kitchen
HOOD FORT	56634	1951	72210	C-hut kitchen
HOOD FORT	56635	1951	72210	C-hut kitchen
HOOD FORT	56702	1951	72210	C-hut kitchen
HOOD FORT	56710	1951	72210	C-hut kitchen
HOOD FORT	56752	1951	72210	C-hut kitchen
HOOD FORT	56753	1951	72210	C-hut kitchen
HOOD FORT	56754	1951	72210	C-hut kitchen
HOOD FORT	56755	1951	72210	C-hut kitchen
HOOD FORT	56529	1955	72210	C-hut kitchen

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	56539	1955	72210	C-hut kitchen
HOOD FORT	56549	1955	72210	C-hut kitchen
HOOD FORT	56629	1955	72210	C-hut kitchen
HOOD FORT	56639	1955	72210	C-hut kitchen
HOOD FORT	56759	1955	72210	C-hut kitchen
HOOD FORT	10001	1952	72111	Hammerhead barracks
HOOD FORT	10002	1952	72111	Hammerhead barracks
HOOD FORT	10003	1952	72111	Hammerhead barracks
HOOD FORT	10003	1952	72210	Hammerhead barracks
HOOD FORT	10004	1952	72111	Hammerhead barracks
HOOD FORT	10005	1952	72111	Hammerhead barracks
HOOD FORT	10006	1952	72111	Hammerhead barracks
HOOD FORT	9422	1953	72111	Hammerhead barracks
HOOD FORT	10007	1953	72111	Hammerhead barracks
HOOD FORT	10007	1953	72210	Hammerhead barracks
HOOD FORT	10008	1953	72111	Hammerhead barracks
HOOD FORT	10008	1953	72210	Hammerhead barracks
HOOD FORT	10009	1953	72111	Hammerhead barracks
HOOD FORT	10011	1953	72111	Hammerhead barracks
HOOD FORT	10016	1953	72111	Hammerhead barracks
HOOD FORT	10018	1953	72111	Hammerhead barracks
HOOD FORT	10020	1953	72111	Hammerhead barracks
HOOD FORT	10021	1953	72111	Hammerhead barracks
HOOD FORT	9418	1956	72111	Hammerhead barracks
HOOD FORT	9419	1956	72111	Hammerhead barracks
HOOD FORT	9420	1956	72111	Hammerhead barracks
HOOD FORT	9420	1956	72210	Hammerhead barracks
HOOD FORT	9421	1956	72111	Hammerhead barracks
HOOD FORT	9423	1956	72111	Hammerhead barracks
HOOD FORT	9424	1956	72111	Hammerhead barracks
HOOD FORT	9425	1956	72111	Hammerhead barracks
HOOD FORT	9425	1956	72210	Hammerhead barracks
HOOD FORT	10010	1956	72111	Hammerhead barracks
HOOD FORT	10022	1956	72111	Hammerhead barracks
HOOD FORT	10022	1956	72210	Hammerhead barracks
HOOD FORT	9210	1958	72111	H-Style barracks
HOOD FORT	9211	1958	72111	H-Style barracks
HOOD FORT	9211	1958	72210	H-style barracks
HOOD FORT	9213	1958	72111	H-Style barracks

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	9214	1958	72111	H-Style barracks
HOOD FORT	9214	1958	72210	H-style barracks
HOOD FORT	14019	1958	72111	H-Style barracks
HOOD FORT	14020	1958	72111	H-Style barracks
HOOD FORT	14022	1958	72111	H-Style barracks
HOOD FORT	14023	1958	72111	H-Style barracks
HOOD FORT	87012	1974	72111	LBC&W barracks
HOOD FORT	87013	1974	72111	LBC&W barracks
HOOD FORT	87015	1974	72111	LBC&W barracks
HOOD FORT	29008	1975	72111	LBC&W barracks
HOOD FORT	29009	1975	72111	LBC&W barracks
HOOD FORT	29010	1975	72111	LBC&W barracks
HOOD FORT	29019	1975	72111	LBC&W barracks
HOOD FORT	29020	1975	72111	LBC&W barracks
HOOD FORT	29021	1975	72111	LBC&W barracks
HOOD FORT	29022	1975	72111	LBC&W barracks
HOOD FORT	87007	1975	72111	LBC&W barracks
HOOD FORT	87020	1975	72111	LBC&W barracks
HOOD FORT	87021	1975	72111	LBC&W barracks
HOOD FORT	87022	1975	72111	LBC&W barracks
HOOD FORT	36007	1977	72111	LBC&W barracks
HOOD FORT	36008	1977	72111	LBC&W barracks
HOOD FORT	39004	1977	72111	LBC&W barracks
HOOD FORT	39005	1977	72111	LBC&W barracks
HOOD FORT	39006	1977	72111	LBC&W barracks
HOOD FORT	39007	1977	72111	LBC&W barracks
HOOD FORT	39012	1977	72111	LBC&W barracks
HOOD FORT	39013	1977	72111	LBC&W barracks
HOOD FORT	39017	1977	72111	LBC&W barracks
HOOD FORT	39031	1978	72111	LBC&W barracks
HOOD FORT	39032	1978	72111	LBC&W barracks
HOOD FORT	39034	1978	72111	LBC&W barracks
HOOD FORT	39035	1978	72111	LBC&W barracks
HOOD FORT	39036	1978	72111	LBC&W barracks
HOOD FORT	39037	1978	72111	LBC&W barracks
HOOD FORT	39038	1978	72111	LBC&W barracks
HOOD FORT	39039	1978	72111	LBC&W barracks
HOOD FORT	39040	1978	72111	LBC&W barracks
HOOD FORT	39051	1978	72111	LBC&W barracks

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	39052	1978	72111	LBC&W barracks
HOOD FORT	39053	1978	72111	LBC&W barracks
HOOD FORT	87017	1974	72210	LCB&W dining hall
HOOD FORT	39041	1978	72210	LCB&W dining hall
HOOD FORT	12003	1963	72111	Rolling Pin barracks
HOOD FORT	12004	1963	72111	Rolling Pin barracks
HOOD FORT	12008	1963	72111	Rolling Pin barracks
HOOD FORT	12006	1966	72111	Rolling Pin barracks
HOOD FORT	12009	1966	72111	Rolling Pin barracks
HOOD FORT	16003	1966	72111	Rolling Pin barracks
HOOD FORT	16004	1966	72111	Rolling Pin barracks
HOOD FORT	16006	1966	72111	Rolling Pin barracks
HOOD FORT	16008	1966	72111	Rolling Pin barracks
HOOD FORT	16009	1966	72111	Rolling Pin barracks
HOOD FORT	21006	1966	72111	Rolling Pin barracks
HOOD FORT	21008	1966	72111	Rolling Pin barracks
HOOD FORT	21009	1966	72111	Rolling Pin barracks
HOOD FORT	36001	1968	72111	Rolling Pin barracks
HOOD FORT	37006	1968	72111	Rolling Pin barracks
HOOD FORT	37008	1968	72111	Rolling Pin barracks
HOOD FORT	37009	1968	72111	Rolling Pin barracks
HOOD FORT	37003	1969	72111	Rolling Pin barracks
HOOD FORT	37004	1969	72111	Rolling Pin barracks
HOOD FORT	41008	1969	72111	Rolling Pin barracks
HOOD FORT	41009	1969	72111	Rolling Pin barracks
HOOD FORT	12005	1964	72210	Rolling Pin dining hall
HOOD FORT	12007	1966	72210	Rolling Pin dining hall
HOOD FORT	41007	1969	72210	Rolling Pin dining hall
HOOD FORT	722	1988	72210	Semi Permanent dining hall
HOOD FORT	90041	1963	72111	Unknown
HOOD FORT	90038	1978	72210	Unknown

IFS Key

72010 = Transient Quarters (lodging)

72111 = Enlisted UPH

72114 = Enlisted Barracks, Annual Training

72115 = Enlisted Barracks, Mobilization

72121 = Transient UPH, Advanced Individual Trainees

72122 = Transient UPH, Advanced Skills Trainees

72170 = UPH, Senior NCO

72181 = Trainee Barracks

72210 = Dining Facility

72310 = UPH Laundry Building, Detached

72350 = Garage, UPH, Detached

72351 = Carport, UPH

72360 = Misc. Facilities, Detached (lounge or SCB)

72410 = Unaccompanied Officers Quarters, Military

72412 = Annual Training Officers Quarters

72510 = Hutment

72520 = Tent Pad

Table 2. Fort Hood Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	5786	1956	72010	3-sto hammerhead BOQ
HOOD FORT	5788	1956	72010	3-sto hammerhead BOQ
HOOD FORT	5790	1956	72010	3-sto hammerhead BOQ
HOOD FORT	5792	1956	72010	3-sto hammerhead BOQ
HOOD FORT	56340	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56341	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56342	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56343	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56350	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56351	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56352	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56353	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56354	1979	72410	Army Reserve annual training UOQ
HOOD FORT	56355	1979	72410	Army Reserve annual training UOQ
HOOD FORT	36006	1969	72010	high rise BOQ
HOOD FORT	36006	1969	72210	high rise BOQ

Table 3. Fort Hood Transient Quarters

	Bldg. No.	Year	Cat. Code	Building Type
HOOD FORT	111	1973	72010	88-unit Guest House
HOOD FORT	6827	1961	72010	Capehart housing
HOOD FORT	6829	1961	72010	Capehart housing

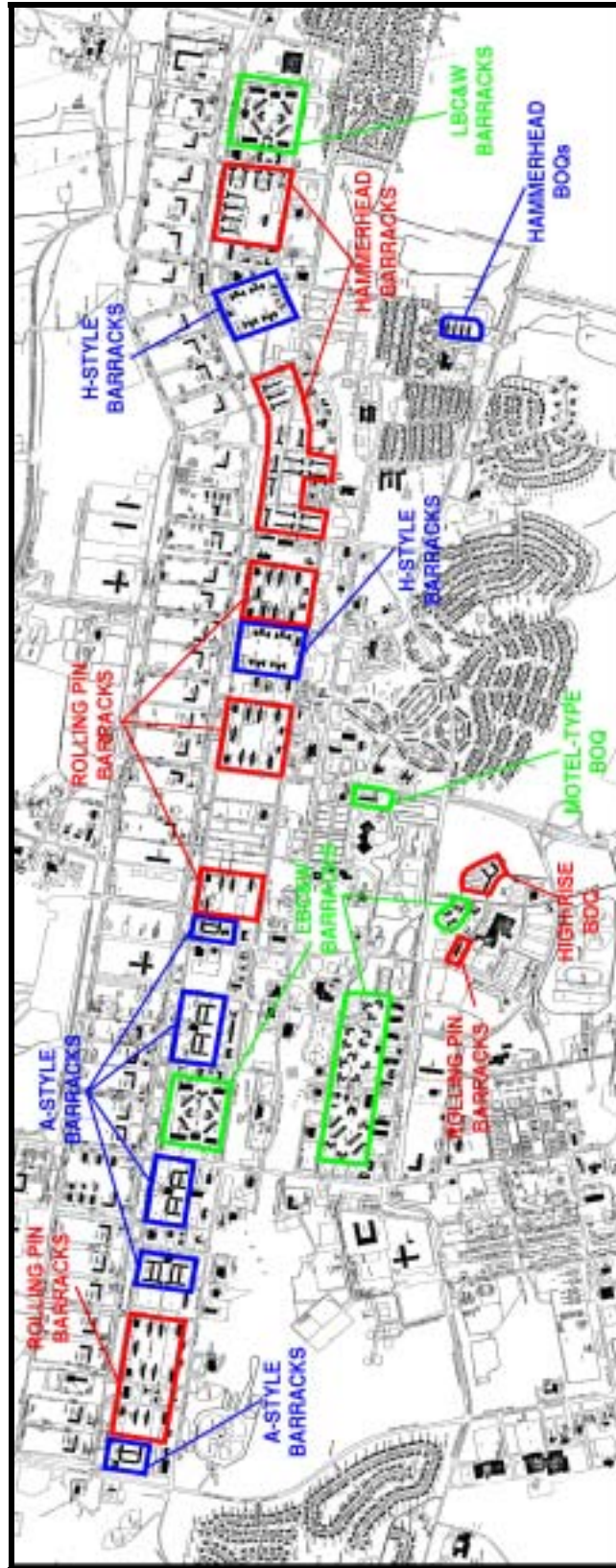


Figure B.4.1 Map of Main Cantonment, Fort Hood.

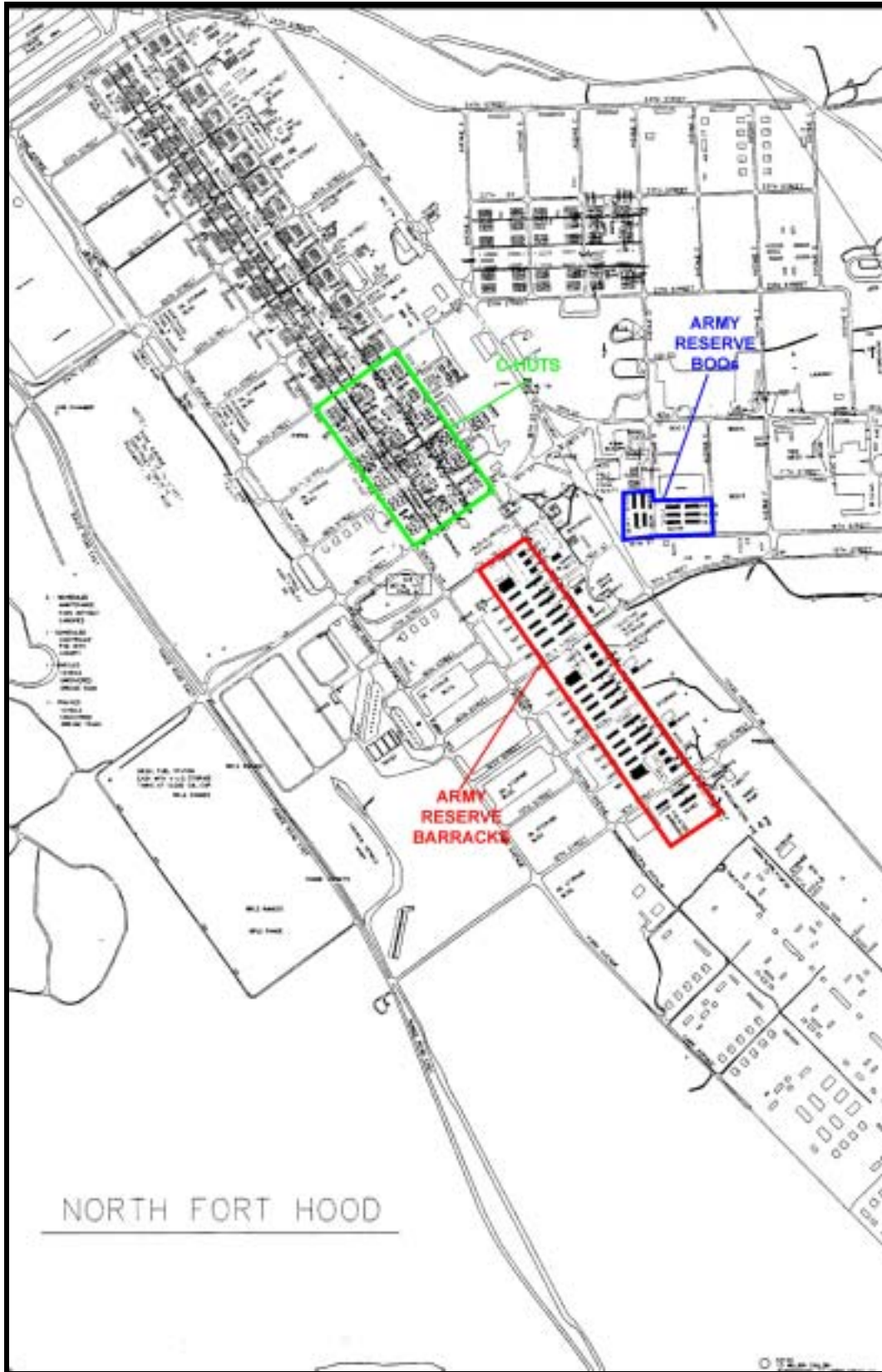


Figure B.4.2 Map of North Fort Hood.

B.5 FORT KNOX, KENTUCKY

Physical Description. Fort Knox is home to the United States Army Armor Center where soldiers are trained to use, maintain, and command tanks and other armored vehicles ranging from an individual tank to a brigade. The units at Fort Knox include the 1st Armor Training Brigade, 12th Cavalry Regiment, 4th Training Brigade, and the 194th Armored Brigade. Fort Knox encompasses 109,068 acres, allowing 63 firing ranges for direct and indirect fire weapons and 15 training areas.

Camp Knox (1918-1931)

Fort Knox began as an artillery training camp in World War I. As the Army fielded increasing numbers of artillery units, it required range areas to train the new units. The land near West Point, Kentucky, provided a suitable location for an additional training area. It had a suitable climate for training most of the year. Both rail and highway transportation systems served the area. Moreover, part of the land already had been leased by the Army as an annex to Camp Zachary Taylor in Louisville. In May 1918, the War Department directed that land be acquired near West Point. The site was named Camp Henry Knox, in honor of George Washington's chief of artillery. It originally was designated as a subpost of Camp Zachary Taylor in Louisville (NARA RG 407, AG Project File, Fort Knox 1917-1925, 601.1 (6-3-18)).

The constructing contractor arrived at the site in early August 1918, and construction began within two weeks. Work progressed under emergency conditions until Armistice Day. Thereafter construction proceeded slowly until December, when construction halted altogether. Even before construction began at Camp Knox, some artillery regiments were quartered in a tent camp near West Point. As buildings were completed, these units moved to Camp Knox (NARA RG 77, Completion Reports, Fort Knox, Vol. 1).

With the end of World War I, the Army closed or deactivated most of its wartime training cantonments. The Army attempted to use Camp Knox as a demobilization center, but in January 1919, a frantic telegram to the Surgeon General's office from the Camp Taylor surgeon complained of inadequate medical facilities. Consequently the War Department terminated all demobilization activities at the post (NARA RG 407, AG Project File, Fort Knox, 1917-1925, 680.3). For a short time, it was the home of a balloon company (NARA RG 407, AG Project File, Fort Knox, 1917-1925, 652) and an artillery school (NARA RG 77, Completion Reports, Fort Knox, Vol. 3).

In 1922, the War Department reconsidered the utilization of Camp Knox, and decided to use it only for summer training within the Fifth Corps Area. It directed that some buildings be retained, but others be removed. The permanent garrison for the post was reduced to a single infantry company that protected government property during the winter months. At one time, activity on the post during the winter declined to the point where the government leased some of the buildings to a circus company (NARA RG 407, AG Project File, Fort Knox, 1917-1926, 375.5 (9-22-24), 602 (2-24-22), 602.1 (9-6-22), 680.41, 680.44).

Three different types of training programs operated at Camp Knox during the summer: the Citizens Military Training Camp, the Reserve Officers' Training Corps, and the National Guard. Citizen's Military Training Camp (CMTC) was a new innovation of the National Defense Act of 1920. Young men between the ages of 17 and 24 attended a military indoctrination program that mixed Army training with recreational opportunities. ROTC camps provided advanced instruction to college students seeking Reserve commissions (NARA RG 407, AG Project File, Fort Knox 1917-1925, 335.17, 354.1,

354.17). National Guard training continued even into the 1930s, after the mechanized cavalry occupied the post, as indicated by completion reports that documented improvements to the National Guard Training areas (NARA RG 77, Completion Reports, Fort Knox, Vols. 6A, 8, 13).

Camp Knox resembled other World War I temporary cantonments in its hasty design and construction. Buildings were intended to last a short time and were constructed hastily. By the mid-1920s, these buildings were deteriorating rapidly throughout the nation. The poor living conditions of soldiers became a chronic source of complaints by the War Department to Congress. In 1926, Congress enacted Public Law No. 45 authorizing the Secretary of War to dispose of 43 military reservations, or portions thereof, and to deposit the money received from those sales into a "Military Post Construction Fund." As initially planned, the cost of the program was estimated at \$110 million over a ten-year period (Risch 1962: 713-714).

Fort Knox (1931 - present)

In 1931, the Army Chief of Staff, Douglas MacArthur, instructed each branch to develop mechanized forces in its own way and authorized the creation of a mechanized cavalry organization. From the disbanded mechanized force at Camp Eustis, the Cavalry received the headquarters, tank units, armored cars and support units. These moved to Camp Knox, where they became the nucleus of the new 7th Cavalry Brigade. In November 1931, personnel from the mechanized force moved from Camp Eustis to Camp Knox. In January 1932, the post was redesignated Fort Knox, to reflect its new permanence as the home of the mechanized cavalry (Shuffer 1959: 107; Johnson 1990: 115; Gillie 1947: 52-53).

While other Army posts were receiving new buildings during the late 1920s and early 1930s, Camp Knox retained its flimsy temporary structures. The camp's use only as a summer training installation did not justify any permanent construction. When the first elements of the 7th Cavalry Brigade arrived in 1931, they found a collection of dilapidated, World War I-era buildings. The camp had no paved roads or sidewalks, only miles of red dust that rain turned into a sea of mud (Gillie 1947: 52-55).

After the establishment of the new mechanized 7th Cavalry Brigade, the Quartermaster Corps developed a plan for Fort Knox and selected Georgian Colonial Revival standardized plans for the building designs. The first permanent construction begun in 1933, consisted of brick barracks for the 1st Cavalry Regiment. Between 1933 and 1935, Fort Knox received new enlisted barracks, NCO family quarters, company grade officer quarters, field grade officer quarters, bachelor officer quarters, an officers' mess, administration building, a fire and guard house, and a new hospital. To support mechanized operations, the Army also constructed a garage complex, an ordnance warehouse, an ordnance shop, a quartermaster warehouse, and above-ground ammunition magazines. A new sewage plant completed the first wave of permanent construction (NARA RG 77, Completion Reports, Vols. 4-6).

Nevertheless, the new construction did not provide sufficient quarters for all personnel. In 1936, the 7th Brigade estimated that 25 per cent of eligible families were living in temporary quarters (NARA RG 407, AG Project File 1926-1939, 6023 (11-9-34)). Whenever possible, the Army renovated old buildings, usually using funds or labor from the Works Progress Administration. The Army also used WPA labor to improve the National Guard camp and to provide landscaping on the post (NARA RG 77, Completion Reports, Fort Knox, Vol. 8).

With the arrival of additional units, another wave of permanent construction began between 1938 and 1940. In 1938, construction began on barracks for the 13th Cavalry, the 68th Field Artillery, the 12th Observation Squadron, and a medical detachment. The Army also constructed appropriate family quarters for officers and noncommissioned officers, including a central heating plant for the officers' quarters. The hospital was enlarged, and nurses' quarters were added in 1939. Other new recreation or administrative buildings included a restaurant, an officers' golf club, an NCO swimming pool, a post exchange, and a quartermaster office building. Thirty-one semi-permanent duplex NCO quarters were completed in 1940 (NARA RG 77, Completion Reports, Fort Knox, Vols. 7-9).

The addition of an observation squadron also resulted in further construction at Godman Field at Fort Knox. Between 1940 and 1941 the Army constructed a new paint and dope house, a photographic laboratory, a heating plant, and an operations hangar; repaved the runway; and added a new fuel system (NARA RG 77, Completion Reports, Fort Knox, Vol. 20).

Non-military construction also was undertaken during the 1930s. In late 1934, the Treasury and War Departments sought a site for the federal gold depository east of the Mississippi River that was secure from both foreign attack and domestic disturbances. The site selection criteria required a site in the nation's interior, away from the nation's borders, as protection against an aerial attack, and a reasonable distance from any large cities, as protection against any domestic disturbance. A military installation was preferred, so that the soldiers could provide added security. These criteria narrowed the selection to Fort McClellan, Alabama, and Fort Knox. After considering both sites, the War Department concluded that Fort Knox best met the requirements. In August 1935, Congress authorized the transfer of land to the Treasury Department, and construction began almost immediately afterwards (NARA RG 407, AG project file, Fort Knox, 602.3 (11-9-34)).

In September 1939, the German Army began its offensive against Poland, and rapidly overran its opposition. The German use of concentrated tank formations added immensely to the striking power of its Army, and contributed to the new expression "blitzkrieg" or lightning war. The German success resulted in renewed pressure for the War Department to increase its mechanization efforts.

On July 10, 1940, the War Department announced the creation of the "Armored Force" as a separate command. The creation of a separate command allowed the War Department to bypass requirements for specific Congressional authorization for another branch. The term Armored Force was selected because neither the Infantry nor the Cavalry had yet appropriated the term armored (Hechler 1946: 7-9).

Although derived from mechanized cavalry and infantry tank organizations, the armored force concept represented a significant departure for employing mechanized units. The Army developed armored divisions to fight major battles, and then to use their superior mobility to exploit victories. This concept represented a significant increase in the roles of armor beyond the reconnaissance and pursuit roles of the mechanized cavalry.

Adna Chaffee was selected as the first commander of the Armored Force, and Fort Knox was designated the headquarters for the new organization. The nucleus of the Armored Force was the 7th Cavalry Brigade and the Provisional Tank Brigade. From this comparatively small beginning the American armored forces of World War II would develop. Fort Knox would become a focal point for this growth.

As home to the headquarters for the new Armored Force Command, Fort Knox suddenly achieved a prominent position in the Army structure. Most of the important developments relating to the American employment of armor were connected to Fort Knox. Here, three armored divisions were

activated. The Armored School and the Armored Replacement Training Center educated thousands of officers and enlisted men in the use of tanks. The Armored Force Board and the Armored Force Medical Research Laboratory performed essential work in the development of doctrine and equipment.

The installation figuratively exploded with the new demands. In July 1940, there were only 864 buildings on the post. Thereafter, building construction often reached a rate of 160 buildings per month. There were about 3,820 buildings by August 1943. Within the same time period, the acreage of the post more than tripled, from 30,000 acres to 106,861 acres (Hechler 1946: 11).

Most of these buildings were temporary, of the so-called 700 and 800 series. The 700 series consisted of buildings designed in the 1930s to be used in a future emergency; the 800 series consisted of refinements of the 700 plans. These two series of drawings constituted the bulk of temporary cantonment construction throughout the War Department during World War II (NARA RG 77, Completion Reports, Fort Knox, Vols. 13-17; Fine and Remington 1972: 65-74 and *passim*). Even with this additional construction, the post could not accommodate all the personnel assigned. Soldiers occasionally were quartered in tents, and the crowded conditions became a subject of Congressional inquiries (NARA RG 407, AG Project File, Fort Knox, 1940-1945, 333.9).

During the Cold War era, the military population on post and the civilian workforce remained large, reflecting the importance of the armored force in United States' doctrine in the nuclear age. The military population surged at times of high tension overseas and during the Korean and Vietnam wars (Fort Knox 2001:15).

Military downsizing after the Gulf War directly affected Fort Knox, with military and civilian personnel levels gradually reduced throughout the 1990s. The relocation of the U.S. Army Recruiting Command to Fort Knox in 1992 helped ease the reductions (Fort Knox 2001:15).

UPH on Fort Knox

Barracks are the predominant property type at Fort Knox, although the installation has a variety of Bachelor Officers Quarters and a Transient Quarters (Tables 1, 2, and 3). Hammerhead barracks are the most prevalent building type with sixty-one examples in the IFS database. The largest number was completed in 1953 and 1954, although a few were completed as late as 1956. The Army expanded housing capacity with the construction of fourteen rolling pin barracks between 1967 and 1969. Four tent pads listed in the IFS database were constructed between 1978 and 1982 and seven hutments were completed in 1987. A few of the hammerhead barracks have been extensively renovated. Modifications include the addition of balconies, exterior stairs, and gable roofs, new floor plans, and new wall materials. Except for these renovated barracks, the barracks at Fort Knox retain integrity of location, design, setting, materials, workmanship, feeling, and association.

The installation features a range of Bachelor Officers Quarters. Four two-story hammerhead BOQs were constructed in 1954. Between 1959 and 1962, eleven apartment-type BOQs were completed. In 1974, the Army constructed a complex of eight 1970s apartment-type BOQs. All the BOQs retain integrity of location, design, setting, materials, workmanship, feeling, and association.

The Army's first transient quarters was completed at Fort Knox in 1970. The guest house retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Table 1. Ft. Knox Barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT KNOX	1474	1953	72114	hammerhead barracks
FORT KNOX	1475	1953	72114	hammerhead barracks
FORT KNOX	1475	1953	72210	hammerhead barracks
FORT KNOX	1476	1953	72111	hammerhead barracks
FORT KNOX	1479	1953	72114	hammerhead barracks
FORT KNOX	1480	1953	72114	hammerhead barracks
FORT KNOX	1480	1953	72210	hammerhead barracks
FORT KNOX	1482	1953	72111	hammerhead barracks
FORT KNOX	1483	1953	72111	hammerhead barracks
FORT KNOX	1484	1953	72111	hammerhead barracks
FORT KNOX	1485	1953	72111	hammerhead barracks
FORT KNOX	1486	1953	72111	hammerhead barracks
FORT KNOX	2375	1953	72210	hammerhead barracks
FORT KNOX	2377	1953	72210	hammerhead barracks
FORT KNOX	2378	1953	72122	hammerhead barracks
FORT KNOX	2378	1953	72210	hammerhead barracks
FORT KNOX	2379	1953	72122	hammerhead barracks
FORT KNOX	2380	1953	72122	hammerhead barracks
FORT KNOX	2380	1953	72210	hammerhead barracks
FORT KNOX	2381	1953	72122	hammerhead barracks
FORT KNOX	6541	1953	72181	hammerhead barracks
FORT KNOX	6541	1953	72210	hammerhead barracks
FORT KNOX	6544	1953	72181	hammerhead barracks
FORT KNOX	6544	1953	72210	hammerhead barracks
FORT KNOX	6548	1953	72181	hammerhead barracks
FORT KNOX	6548	1953	72210	hammerhead barracks
FORT KNOX	6550	1953	72181	hammerhead barracks
FORT KNOX	6550	1953	72210	hammerhead barracks
FORT KNOX	6553	1953	72181	hammerhead barracks
FORT KNOX	6553	1953	72210	hammerhead barracks
FORT KNOX	6557	1953	72181	hammerhead barracks
FORT KNOX	6557	1953	72210	hammerhead barracks
FORT KNOX	297	1954	72114	hammerhead barracks
FORT KNOX	297	1954	72210	hammerhead barracks
FORT KNOX	298	1954	72111	hammerhead barracks
FORT KNOX	6539	1954	72114	hammerhead barracks
FORT KNOX	6542	1954	72181	hammerhead barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT KNOX	6542	1954	72210	hammerhead barracks
FORT KNOX	6543	1954	72181	hammerhead barracks
FORT KNOX	6543	1954	72210	hammerhead barracks
FORT KNOX	6545	1954	72181	hammerhead barracks
FORT KNOX	6545	1954	72210	hammerhead barracks
FORT KNOX	6546	1954	72181	hammerhead barracks
FORT KNOX	6546	1954	72210	hammerhead barracks
FORT KNOX	6547	1954	72181	hammerhead barracks
FORT KNOX	6547	1954	72210	hammerhead barracks
FORT KNOX	6551	1954	72181	hammerhead barracks
FORT KNOX	6551	1954	72210	hammerhead barracks
FORT KNOX	6552	1954	72181	hammerhead barracks
FORT KNOX	6552	1954	72210	hammerhead barracks
FORT KNOX	6554	1954	72181	hammerhead barracks
FORT KNOX	6554	1954	72210	hammerhead barracks
FORT KNOX	6555	1954	72181	hammerhead barracks
FORT KNOX	6555	1954	72210	hammerhead barracks
FORT KNOX	6556	1954	72181	hammerhead barracks
FORT KNOX	6556	1954	72210	hammerhead barracks
FORT KNOX	6558	1954	72181	hammerhead barracks
FORT KNOX	6558	1954	72210	hammerhead barracks
FORT KNOX	853	1956	72111	hammerhead barracks
FORT KNOX	6578	1956	72181	hammerhead barracks
FORT KNOX	6578	1956	72210	hammerhead barracks
FORT KNOX	7108	1987	72510	Hutment
FORT KNOX	9168	1987	72510	Hutment
FORT KNOX	9169	1987	72510	Hutment
FORT KNOX	9170	1987	72510	Hutment
FORT KNOX	9171	1987	72510	Hutment
FORT KNOX	9172	1987	72510	Hutment
FORT KNOX	9173	1987	72510	Hutment
FORT KNOX	5936	1967	72181	rolling pin barracks
FORT KNOX	5937	1967	72181	rolling pin barracks
FORT KNOX	5938	1967	72181	rolling pin barracks
FORT KNOX	5939	1967	72181	rolling pin barracks
FORT KNOX	5941	1967	72181	rolling pin barracks
FORT KNOX	5916	1969	72181	rolling pin barracks
FORT KNOX	5919	1969	72181	rolling pin barracks
FORT KNOX	5920	1969	72181	rolling pin barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT KNOX	5921	1969	72181	rolling pin barracks
FORT KNOX	5922	1969	72181	rolling pin barracks
FORT KNOX	6010	1969	72121	rolling pin barracks
FORT KNOX	6011	1969	72121	rolling pin barracks
FORT KNOX	6015	1969	72181	rolling pin barracks
FORT KNOX	6017	1969	72121	rolling pin barracks
FORT KNOX	5940	1967	72210	Rolling Pin dining hall
FORT KNOX	5942	1967	72210	Rolling Pin dining hall
FORT KNOX	5915	1969	72210	Rolling Pin dining hall
FORT KNOX	5917	1969	72210	Rolling Pin dining hall
FORT KNOX	6012	1969	72210	Rolling Pin dining hall
FORT KNOX	6018	1969	72210	Rolling Pin dining hall
FORT KNOX	CML0A	1978	72520	Tent pad
FORT KNOX	TCS09	1978	72520	Tent pad
FORT KNOX	TCS0A	1978	72520	Tent pad
FORT KNOX	TFF0A	1982	72520	Tent pad

IFS Key

72010 = Transient Quarters (lodging)

72111 = Enlisted UPH

72114 = Enlisted Barracks, Annual Training

72115 = Enlisted Barracks, Mobilization

72121 = Transient UPH, Advanced Individual Trainees

72122 = Transient UPH, Advanced Skills Trainees

72170 = UPH, Senior NCO

72181 = Trainee Barracks

72210 = Dining Facility

72310 = UPH Laundry Building, Detached

72350 = Garage, UPH, Detached

72351 = Carport, UPH

72360 = Misc. Facilities, Detached (lounge or SCB)

72410 = Unaccompanied Officers Quarters, Military

72412 = Annual Training Officers Quarters

72510 = Hutment

72520 = Tent Pad

Table 2. Ft. Knox Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
FORT KNOX	1391	1954	72114	2-sto hammerhead BOQ
FORT KNOX	1392	1954	72114	2-sto hammerhead BOQ
FORT KNOX	1393	1954	72114	2-sto hammerhead BOQ
FORT KNOX	1394	1954	72114	2-sto hammerhead BOQ
FORT KNOX	855	1959	72010	apartment type BOQ
FORT KNOX	856	1959	72010	apartment type BOQ
FORT KNOX	857	1959	72010	apartment type BOQ
FORT KNOX	2441	1962	72010	apartment type BOQ
FORT KNOX	2442	1962	72210	No longer Extant
FORT KNOX	2443	1962	72010	apartment type BOQ
FORT KNOX	2444	1962	72010	apartment type BOQ
FORT KNOX	2445	1962	72010	apartment type BOQ
FORT KNOX	2446	1962	72010	apartment type BOQ
FORT KNOX	2447	1962	72010	apartment type BOQ
FORT KNOX	2448	1962	72010	apartment type BOQ
FORT KNOX	2449	1962	72010	apartment type BOQ
FORT KNOX	2601	1974	72170	1970s apartment type BOQ
FORT KNOX	2601	1974	72410	1970s apartment type BOQ
FORT KNOX	2602	1974	72010	1970s apartment type BOQ
FORT KNOX	2603	1974	72010	1970s apartment type BOQ
FORT KNOX	2604	1974	72010	1970s apartment type BOQ
FORT KNOX	2605	1974	72010	1970s apartment type BOQ
FORT KNOX	2606	1974	72170	1970s apartment type BOQ
FORT KNOX	2607	1974	72010	1970s apartment type BOQ
FORT KNOX	2608	1974	72360	1970s apartment type BOQ community center
FORT KNOX	4770	1958	72410	high rise BOQ
FORT KNOX	4770	1958	72010	high rise BOQ

Table 3. Ft. Knox Transient Quarters

	Bldg. No.	Year	Cat. Code	Building Type
FORT KNOX	6597	1970	72111	Guest House

B.6 FORT POLK, LOUISIANA

Physical Description. Fort Polk is the largest military installation in Louisiana approximately 198,759 acres (Army Times 1966:185; Fort Polk 2001). The post is located in Vernon Parish in the southwestern part of the state within the hills of Kisatchie National Forest. The fort was named for Reverend Leonidas Polk, the first Episcopal Bishop of the Diocese of Louisiana and a Confederate general.

Camp Polk, 1941-1955

By 1939 it was obvious to national leaders that the United States eventually would be pulled into the war with Hitler. His forces were fighting a new type of war involving fast moving mechanized forces. The U.S. Army was not prepared for such warfare and began looking for a suitable area for large-scale training maneuvers where damage claims could be kept to a minimum. An area in western Louisiana and eastern Texas was selected that year because the population was sparse, lumber companies already had disturbed the land, and the land was relatively unproductive (Marler 1996:2)

The Louisiana Maneuvers began in May 1940 (Marler 1996:2). During summer 1941, the site of Camp Polk served as headquarters for the group supervising the immensely influential U.S. Army war games between the Second or Red Army and the Third or Blue Army. More than 400,000 soldiers participated (Casey 1983:164). Success in the war games enhanced the career and reputation of several military giants, including the then-unknown Colonel Dwight D. Eisenhower.

The success of the Louisiana Maneuvers led to the establishment of Camp Polk on September 28, 1940 (Marler 1996:4). Construction began on Camp Polk in January 1941. The facility was intended as a training cantonment for the armored divisions then being organized. Benham Engineering Company provided the architects and engineers to construct the cantonment; W. Horace Wilkinson Company of New Orleans served as contractor. The initial construction included about 780 frame buildings (Casey 1983:164).

During World War II, the camp served as a training area for various armored divisions, but other groups also received instruction, including (briefly) the Women's Army Corps. Camp Polk also served as a POW camp before it was closed on December 31, 1946. During the summers of 1948 and 1949, the camp was partially reopened to accommodate summer training for the National Guard (Army Times 1966:186). The camp was reactivated in September 1950 for the Korean War as a training facility to prepare soldiers going to Korea. Although it had no fortifications, on November 1, 1955, the camp was assigned the title of Fort Polk, an indication of its permanent status (Casey 1983:164).

Fort Polk, 1955-Present

Like many military installations, Fort Polk has a history of being activated and de-activated. After two large-scale exercises, Sage Brush and King Cole, the post was de-activated in 1959, but reactivated in response to the Berlin Crisis of 1961. Fort Polk became an infantry training center in 1962. The Vietnam War followed, and Fort Polk became the main training center for soldiers heading to southeast Asia. In 1973, the installation became the sole training center qualifying basic infantry soldiers. More than one million men graduated from basic and advanced individual training before the training center colors were retired in 1976 (Fort Polk 2002). In 1975, Fort Polk became home to the

5th Infantry Division (Mechanized) (Casey 1983:165). As a result, a huge building program, expending more than \$200 million, began at the installation in 1978 (Casey 1983:165; Fort Polk 2002). After the close of the Cold War, another change occurred at Fort Polk. In October 1992, the Defense Department moved the 5th Infantry Division (redesignated as the 2nd Armored Division) to Fort Hood and on March 12, 1993 conferred on Fort Polk a new title: the Joint Readiness Training Center. The Joint Readiness Training Center, a shared mission of all the services, trained masses of American troops to undertake new and often sensitive roles in foreign intervention and international peacekeeping in the latter part of the twentieth century. Fort Polk became home to the 2nd Armored Cavalry Regiment of the XVIII Airborne Corps, whose mission was quick deployment anywhere in the world in time of war (Fort Polk 2002).

UPH at Fort Polk

The site visit to Fort Polk was chosen primarily for its large number of late Cold War era UPH barracks (Table 1). The predominant building type is the Lyles, Bissett, Carlisle, and Wolfe barracks (Figure B.6.1). The Army built thirty-one examples that are listed in the IFS database. They were built between 1976 and 1980. One example of a MEDDAC barracks built in 1988 was identified at Fort Polk. The barracks at Fort Polk retain integrity of location, design, setting, materials, workmanship, feeling, and association.

Fort Polk has three examples of Cold War era Bachelor Officer Quarters (Table 2). Two motel-type BOQs were constructed in 1973 and a high-rise BOQ was completed in 1979. The BOQs retained integrity of location, design, setting, materials, workmanship, feeling, and association, although the high-rise BOQ was scheduled to be converted into an administration facility.

The Army constructed one guest house as a transient quarters at Fort Polk in 1988 (Table 3). The lobby of the guest house has been modified but, overall, the guest house retains integrity of location, design, setting, materials, workmanship, feeling, and association.

Table 1. Fort Polk Barracks

	Bldg. No.	Year	Cat. Code	Building Type
FORT POLK	6927	1981	72170	Capehart
FORT POLK	6931	1981	72170	Capehart
FORT POLK	1566	1976	72111	LBC&W barracks
FORT POLK	1567	1976	72111	LBC&W barracks
FORT POLK	1567	1976	72010	LBC&W barracks
FORT POLK	1631	1976	72010	LBC&W barracks
FORT POLK	1634	1976	72010	LBC&W barracks
FORT POLK	1635	1976	72111	LBC&W barracks
FORT POLK	1945	1977	72111	LBC&W barracks
FORT POLK	1948	1977	72111	LBC&W barracks
FORT POLK	1950	1977	72010	LBC&W barracks
FORT POLK	2042	1977	72111	LBC&W barracks
FORT POLK	2044	1977	72111	LBC&W barracks
FORT POLK	2045	1977	72111	LBC&W barracks
FORT POLK	1266	1978	72111	LBC&W barracks
FORT POLK	1268	1978	72111	LBC&W barracks
FORT POLK	1344	1978	72111	LBC&W barracks
FORT POLK	1346	1978	72111	LBC&W barracks
FORT POLK	1348	1978	72111	LBC&W barracks
FORT POLK	1568	1978	72170	LBC&W barracks
FORT POLK	1949	1978	72111	LBC&W barracks
FORT POLK	2043	1978	72111	LBC&W barracks
FORT POLK	1054	1979	72111	LBC&W barracks
FORT POLK	1150	1979	72111	LBC&W barracks
FORT POLK	1152	1979	72111	LBC&W barracks
FORT POLK	1154	1979	72111	LBC&W barracks
FORT POLK	1156	1979	72111	LBC&W barracks
FORT POLK	2272	1980	72111	LBC&W barracks
FORT POLK	2273	1980	72111	LBC&W barracks
FORT POLK	2274	1980	72111	LBC&W barracks
FORT POLK	2277	1980	72111	LBC&W barracks
FORT POLK	2386	1980	72111	LBC&W barracks
FORT POLK	2387	1980	72111	LBC&W barracks
FORT POLK	2389	1980	72111	LBC&W barracks
FORT POLK	1632	1976	72210	LBC&W dining hall
FORT POLK	1942	1977	72210	LBC&W dining hall
FORT POLK	1162	1979	72210	LBC&W dining hall

	Bldg. No.	Year	Cat. Code	Building Type
FORT POLK	2382	1980	72210	LBC&W dining hall
FORT POLK	293	1988	72111	MEDDAC barracks
FORT POLK	M0107	1966	72210	Unknown
FORT POLK	M0108	1966	72111	Unknown
FORT POLK	7188	1947	72210	WWII dining hall

IFS Key

- | | |
|---|--|
| 72010 = Transient Quarters (lodging) | 72210 = Dining Facility |
| 72111 = Enlisted UPH | 72310 = UPH Laundry Building, Detached |
| 72114 = Enlisted Barracks, Annual Training | 72350 = Garage, UPH, Detached |
| 72115 = Enlisted Barracks, Mobilization | 72351 = Carport, UPH |
| 72121 = Transient UPH, Advanced Individual Trainees | 72360 = Misc. Facilities, Detached (lounge or SCB) |
| 72122 = Transient UPH, Advanced Skills Trainees | 72410 = Unaccompanied Officers Quarters, Military |
| 72170 = UPH, Senior NCO | 72412 = Annual Training Officers Quarters |
| 72181 = Trainee Barracks | 72510 = Hutment |
| | 72520 = Tent Pad |

Table 2. Fort Polk Bachelor Officers Quarters

	Bldg. No.	Year	Cat. Code	Building Type
FORT POLK	350	1979	72010	high rise BOQ
FORT POLK	331	1973	72010	motel type BOQ
FORT POLK	332	1973	72010	motel type BOQ

Table 3. Fort Polk Transient Quarters

	Bldg. No.	Year	Cat. Code	Building Type
FORT POLK	9	1952	72010	cottage
FORT POLK	522	1988	72010	Guest House
FORT POLK	425	1956	72010	No Longer Extant

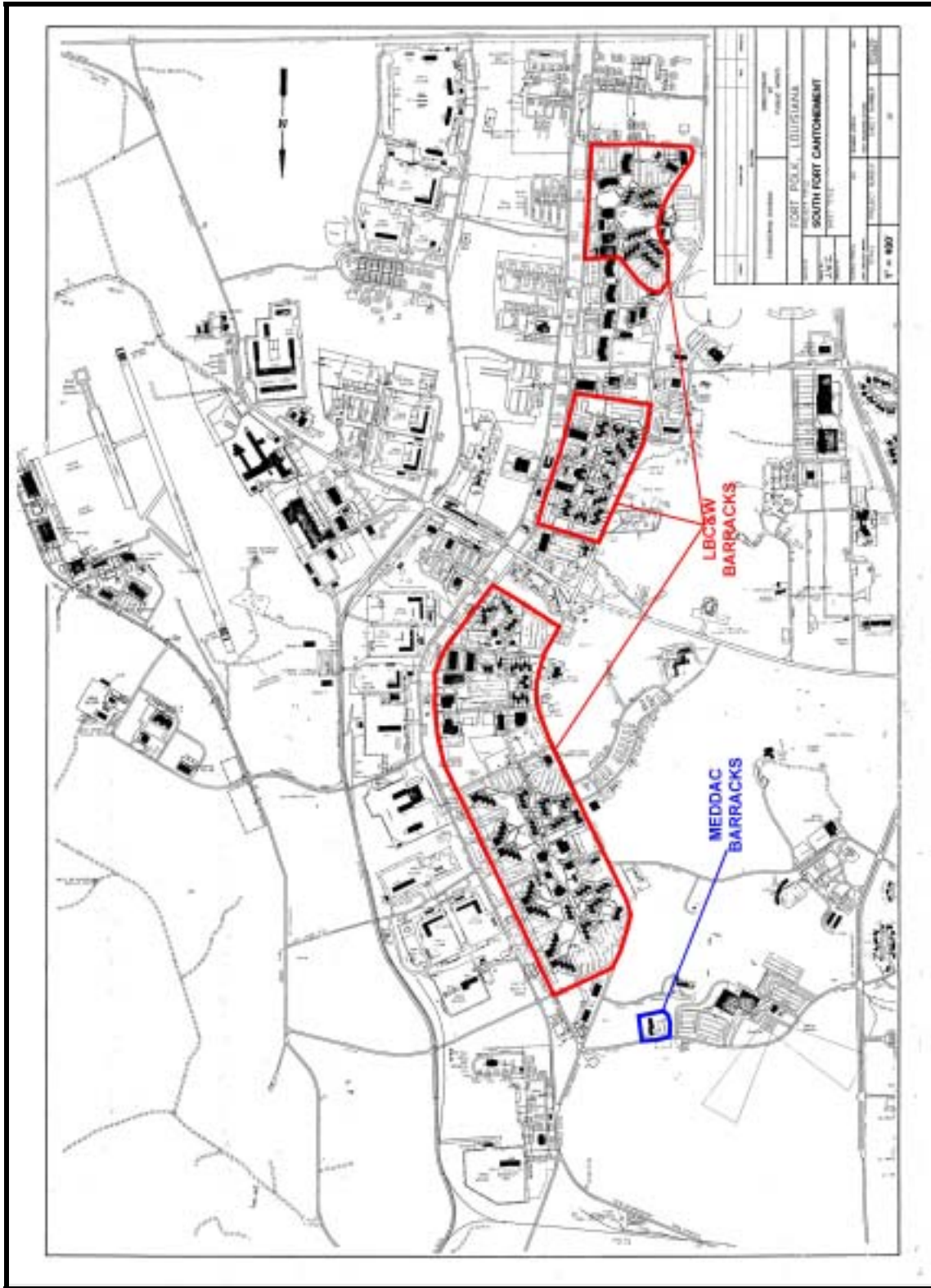


Figure B.6.1 Map of Fort Polk.