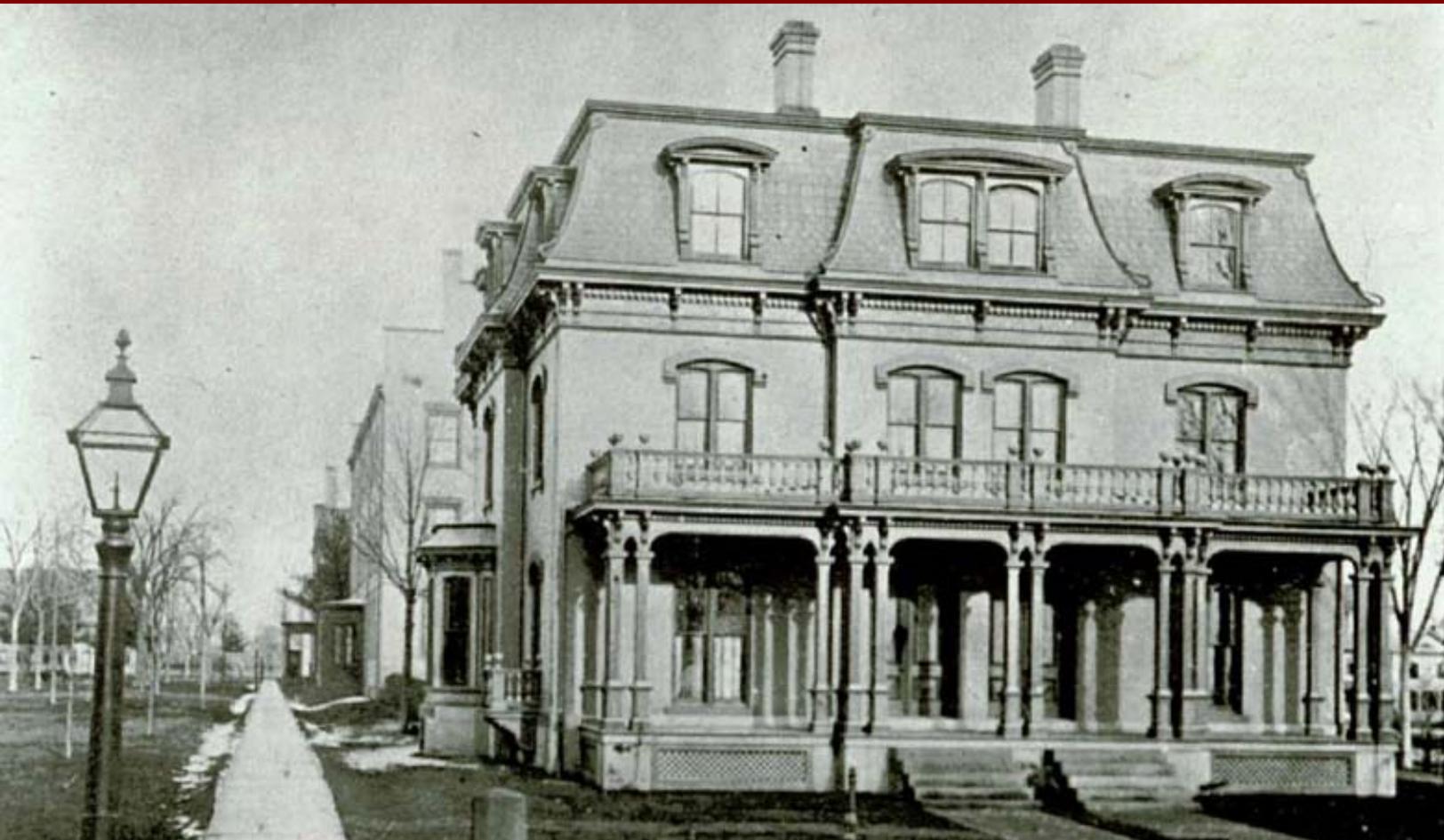




# BUILDING No. 5 & 6

Springfield Armory National Historic Site  
Springfield, Massachusetts



Historic Structure Report

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# **BUILDING No. 5 & 6**

## **HISTORIC STRUCTURE REPORT**

**Springfield Armory National Historic Site  
Springfield, Massachusetts**

By

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2012

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# CONTENTS

CONTENTS.....	iii
LIST OF FIGURES AND CREDITS.....	xi
ACKNOWLEDGMENTS .....	xix
<b>INTRODUCTION .....</b>	<b>1</b>
<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
Purpose and Scope .....	3
Brief Description .....	3
Research Conducted.....	4
Research Findings .....	5
Additional Research .....	5
Recommended Treatment and Use.....	6
<b>ADMINISTRATIVE DATA.....</b>	<b>7</b>
Location of Site.....	7
National Historic Landmark.....	7
National Register of Historic Places.....	7
Proposed Treatment and Use .....	8
<b>DEVELOPMENTAL HISTORY.....</b>	<b>13</b>
<b>HISTORICAL BACKGROUND AND CONTEXT .....</b>	<b>15</b>
Introduction.....	15
Establishment of the Springfield Arsenal .....	16
Early Years of the Springfield Armory (1794–1815) .....	17
Colonel Roswell Lee, Superintendent (1815–1833).....	19
Major James W. Ripley, Commanding Officer (1841–1854).....	24
The Springfield Armory, Later Years (1854–1968) .....	31
Pre–Civil War Development .....	31
Civil War Growth and Production.....	33
Post–Civil War Progress .....	34

Early Twentieth Century through the World Wars.....	42
Post-World War II through Deactivation.....	43
Establishment of the Springfield Armory National Historic Site.....	44
<b>CHRONOLOGY OF DEVELOPMENT AND USE.....</b>	<b>47</b>
Introduction.....	47
Planning and Construction .....	48
Historic Appearance .....	52
Exterior Elements.....	52
Design .....	52
Foundation .....	52
Walls .....	53
Masonry .....	53
Entablature.....	53
Doorways.....	53
Windows.....	54
Basement .....	54
First Story .....	54
Second Story.....	54
Attic.....	55
Porches and Balconies .....	55
Roofs and Related Elements.....	56
Chimneys.....	56
Exterior Finishes.....	56
Interior Elements .....	67
Introduction.....	67
Basement.....	67
Quarters No. 5 .....	67
Quarters No. 6 .....	69
First Story .....	71
Quarters No. 5 .....	71
Quarters No. 6 .....	75
Second Story .....	77
Quarters No. 5 .....	77
Quarters No. 6 .....	80

Attic .....	82
Quarters No. 5 .....	82
Quarters No. 6 .....	83
<b>Alterations.....</b>	<b>104</b>
1870 to 1876.....	104
Late Nineteenth and Early Twentieth Century.....	105
Armory Hill Plans .....	105
Kitchen Additions .....	105
Exterior Elements.....	106
Interior Elements.....	106
Two-Story Bay Addition .....	108
World War I and II Era.....	108
Exterior.....	109
Interior.....	110
Mid-to Late Twentieth Century .....	110
Springfield Technical Community College Ownership .....	112
<b>CURRENT PHYSICAL DESCRIPTION.....</b>	<b>125</b>
Introduction.....	125
Exterior Elements.....	125
Design .....	125
Foundation.....	126
Walls.....	126
Masonry.....	126
Entablature .....	126
Doorways .....	127
Windows .....	127
Basement.....	127
First Story .....	127
Bay Windows.....	128
Second Story .....	128
Attic .....	128
Porches.....	128
Front Porch.....	128
Back Steps .....	129

Roofs and Related Elements .....	129
Chimneys.....	129
Interior Elements .....	130
Introduction .....	130
Basement .....	130
Quarters No. 5.....	130
Plan .....	130
Floors .....	130
Walls.....	131
Doorways .....	131
Windows .....	131
Ceilings.....	131
Stairs.....	132
Utilities .....	132
Finishes .....	132
Quarters No. 6.....	132
Plan .....	132
Floors .....	133
Walls.....	133
Doorways .....	133
Windows .....	134
Ceilings.....	134
Stairs.....	134
Utilities .....	134
Finishes .....	135
First Story .....	135
Quarters No. 5.....	135
Plan .....	135
Floors .....	135
Walls.....	135
Doorways .....	136
Windows .....	137
Ceilings.....	137
Stairs.....	137

---

Fireplaces .....	138
Utilities .....	138
Finishes .....	139
Quarters No. 6.....	139
Plan .....	139
Floors .....	139
Walls.....	140
Doorways .....	140
Windows .....	141
Ceilings.....	141
Stairs.....	141
Fireplaces .....	141
Utilities .....	141
Finishes .....	142
Second Story.....	142
Quarters No. 5.....	142
Plan .....	142
Floors .....	142
Walls.....	143
Doorways .....	143
Windows .....	143
Ceilings.....	143
Stairs.....	144
Fireplaces .....	144
Utilities .....	144
Finishes .....	145
Quarters No. 6.....	145
Plan .....	145
Floors .....	145
Walls.....	145
Doorways .....	146
Windows .....	146
Ceilings.....	146
Stairs.....	146
Fireplaces .....	146
Utilities .....	147

Finishes .....	147
Attic .....	147
Quarters No. 5.....	147
Plan .....	147
Floors .....	148
Walls.....	148
Doorways .....	148
Windows .....	148
Ceilings.....	148
Stairs.....	148
Utilities .....	149
Finishes .....	149
Quarters No. 6.....	149
Plan .....	149
Floors .....	149
Walls.....	149
Doorways .....	149
Windows .....	150
Ceilings.....	150
Stairs.....	150
Utilities .....	150
Finishes .....	150

<b>CHARACTER-DEFINING FEATURES AND GENERAL RECOMMENDATIONS.....</b>	<b>169</b>
<b>INTRODUCTION .....</b>	<b>171</b>
<b>CHARACTER-DEFINING FEATURES .....</b>	<b>173</b>
Exterior Elements.....	173
Design and Context .....	173
Walls and Related Elements .....	173
Doorways and Related Elements .....	173
Windows .....	173
Porches.....	174
Roofs and Related Elements .....	174

---

Interior Elements .....	174
Plan .....	174
Floors .....	174
Walls.....	174
Ceilings.....	174
Doorways .....	175
Windows .....	175
Staircases.....	175
<b>GENERAL RECOMMENDATIONS .....</b>	<b>176</b>
Exterior Elements.....	176
Design and Context .....	176
Walls.....	176
Doorways and Related Elements .....	177
Windows .....	177
Porches.....	178
Roofs and Related Elements .....	178
Interior Elements .....	178
Plan .....	178
Floors .....	179
Walls.....	179
Ceilings.....	179
Doorways .....	180
Windows .....	180
Staircases.....	180
Accessibility .....	180
<b>BIBLIOGRAPHY .....</b>	<b>195</b>
<b>GLOSSARY .....</b>	<b>195</b>

**APPENDICES**.....195

**APPENDIX A**

    “Estimated cost of erecting New Officers Quarters.” .....197

**APPENDIX B**

    “Proposals for Plumbing New Quarters for Officers.” .....203

**APPENDIX C**

    Correspondence from Lt. Col. J. G. Benton to Brig. Gen. Stephen V. Benét,  
    Chief of Ordnance, proposing additions to Building No. 5 & 6 (fig. 73). .....209

**APPENDIX D**

    Springfield Armory Historical Record, Building No. 5 & 6. ....213

**APPENDIX E**

    “Springfield Technical Community College, Feasibility Study;  
    Study of: Renovations to Historic Buildings 5/6 and 11;”  
    selected sections pertaining to Building No. 5 & 6.....243

# LIST OF FIGURES AND CREDITS

Historic maps, drawings, and photographs were reproduced from the Archival Collection at the Springfield Armory National Historic Site (SPAR Archives Collection), Springfield, Massachusetts, and from the SPAR photographic collection available on the Rediscovery website (URL – <http://www.rediscovery.com>) unless otherwise noted. All current photographs from 2010 are by the author, James Lee.

## Figures

1. Springfield Armory National Historic Site regional map.  
(*General Management Plan, Springfield Armory National Historic Site*, 1986) ..... 9
2. Springfield Armory National Historic Site location map.  
(*General Management Plan, Springfield Armory National Historic Site*, 1986) ..... 10
3. Existing Conditions, Springfield Armory National Historic Site, July 1984. .... 11
4. “Plan of Land sold to the United States in Springfield  
and the public Buildings standing thereon – 1801.”  
(SA B 1206, SPAR Archives Collection)..... 18
5. National Armory at Springfield, Massachusetts, circa 1821.  
(6570-SA 1, SPAR Archives Collection) ..... 21
6. “No. 1, A Map of the Public Land about the Upper and Middle Water Shops, 1830,”  
National Armory, Springfield, Massachusetts.  
“Drawn by 2<sup>nd</sup> Lieutenant T. B. Linnard, 2<sup>nd</sup> U.S. Artillery, 1830–1831.”  
(Cabinet 2, Drawer A, Folder 3, SPAR Archives Collection) ..... 22
7. “No. 2, Armory Hill” at the National Armory, Springfield, Massachusetts.  
“Drawn by 2<sup>nd</sup> Lieutenant T. B. Linnard, 2<sup>nd</sup> U.S. Artillery, 1830–1831.”  
(Cabinet 2, Drawer A, Folder 3, SPAR Archives Collection) ..... 23
8. Detail of U.S. Armory from Map of Springfield, Massachusetts, surveyed and drawn  
by Marcus Smith and H. A. Jones, Published by M. Dripps, New York, 1851.  
(The Norman B. Leventhal Map Center, Boston Public Library) ..... 30
9. Springfield Armory Main Arsenal looking west, circa 1870.  
(X1302-SA, SPAR Archives Collection) ..... 30
10. “Topographical Plan of the Springfield Armory,  
Springfield, Massachusetts, April 1864.” Shedd and Edson, Civil Engineers  
and Surveyors, 42 Court Street, Boston. (11086–SA, SPAR Archives Collection) ..... 32
11. “View of Springfield, Massachusetts, 1875.” Published by O. H. Bailey and Co.  
(G3764.S7A3 1875.B3, Library of Congress, Maps Collection,  
<http://lcweb2.loc.gov/ammem/gmdhtml/gmdhome.html>) ..... 37

12.	Detail from bird’s-eye view of Springfield, Massachusetts, 1875 (see fig. 11).....	38
13.	“Springfield Armory, Hill [and] Watershops,” Secretary of War Report, 1875 (Serial Set No. 1677, Session Vol. No. 2, 44 <sup>th</sup> Congress, 1 <sup>st</sup> Session, December 1875. Digital copy from URL <a href="http://infoweb.newsbank.com.ezproxy.bpl.org">http://infoweb.newsbank.com.ezproxy.bpl.org</a> ) .....	39
14.	“Plan of New Shops on Federal Square, National Armory, Springfield, Mass., January 1888.”(Serial Set Vol. No. 2720 Session Vol. No. 7, 51 <sup>st</sup> Congress, 1 <sup>st</sup> Session, 1889. Digital copy from URL <a href="http://infoweb.newsbank.com.ezproxy.bpl.org">http://infoweb.newsbank.com.ezproxy.bpl.org</a> ) .....	40
15.	“Main Grounds of U.S. Springfield Armory, April 15, 1897.” (SA 1257, SPAR Archives Collection).....	41
16.	Buildings and Grounds, Hill Shops, Springfield Armory, October 18, 1918. (Cabinet 2, Drawer B, Folder 2, SPAR Archives Collection) .....	45
17.	Springfield Armory Hill Shops, Showing Buildings, Grounds, Roads, Sidewalks, Fences, May 2, 1904 with revisions through September 17, 1957. (Cabinet 2, Drawer B, Folder 2, SPAR Archives Collection) .....	46
18.	Springfield Armory looking east, circa 1865, depicting U.S. Fire Engine House on right side of illustration (4NHS91.1, SPAR Archives Collection) .....	50
19.	U.S. Fire Engine House in foreground from circa-1865 stereoview. (SPAR Archives Collection) .....	50
20.	Plan of Springfield Armory showing Officer’s Quarters in south corner of Union Square or the Green, 1870 (The Norman B. Leventhal Map Center, Boston Public Library) .....	51
21.	Building No. 5 & 6, earliest known historic photograph of the building showing the façade, circa 1870. (699-SA, SPAR Archives Collection) .....	51
22.	Building No. 5 & 6, “Detail of Underpinning stone and water table for new Officers Quarters, U.S. Armory, Springfield, Mass, Apr. 3 <sup>rd</sup> 1869.” (S.A. 1434, Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection).....	58
23.	Building No. 5 & 6, typical entablature and cornice moldings .....	59
24.	Building No. 5 & 6, typical entablature, cornice, and brackets. ....	59
25.	Building No. 5 & 6, front door to Quarters No. 5.....	60
26.	Building No. 5 & 6, drawing of historic basement entrances from larger drawing of roof plan and rear elevation. (S.A. 1434, Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection) .....	60
27.	Building No. 5 & 6, W117, showing typical window in main block of building.....	61

28.	Building No. 5 & 6, north-elevation bay window, W118–W120.....	61
29.	Building No. 5 & 6, typical dormer window, W308.....	62
30.	Building No. 5 & 6, typical center dormer with double window, W309 and W310 .....	62
31.	Building No. 5 & 6, trim on hip of mansard roof.....	63
32.	Building No. 5 & 6, bull’s-eye trim and pendant on hip of mansard roof.....	63
33.	Building No. 5 & 6, brick and brownstone chimneys.....	63
34.	Building No. 5 & 6, basement plan circa 1870, depicting original configuration. (S.A. 1434, Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection).....	64
35.	Building No. 5 & 6, first floor plan circa 1870, depicting original configuration. (S.A. 1434, Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection).....	65
36.	Building No. 5 & 6, second floor plan circa 1870, depicting original configuration (S.A. 1434, Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection).....	66
37.	Building No. 5 & 6, 1876 basement plan, depicting historic plan with 1875 addition, room descriptions, measurements, and utilities ( <i>Plans of Officer’s Quarters at Arsenals and Armory</i> , SPAR Archives Collection).....	85
38.	Building No. 5 & 6, 1876 first floor plan, depicting historic plan with 1875 addition, room descriptions, measurements, and utilities (Ibid.).....	86
39.	Building No. 5 & 6, 1876 second floor plan, depicting historic plan with, room descriptions, measurements, and utilities, as well as the alteration to the bedroom in Quarters No. 6 (Ibid.) .....	87
40.	Building No. 5 & 6, 1876 attic plan, depicting historic plan with, room descriptions, measurements, and utilities (Ibid.).....	88
41.	Building No. 5 & 6, typical basement awning window. ....	89
42.	Building No. 5 & 6, frame for former duct and heat register. ....	89
43.	Building No. 5 & 6, Quarters No. 5, basement, Cellar coal chute in north wall.....	90
44.	Building No. 5 & 6, Quarters No. 6, framed east wall in Laundry with lath-and-plaster finish. ....	90
45.	Building No. 5 & 6, Quarters No. 6, basement stairs.....	91
46.	Building No. 5 & 6, Quarters No. 6, Pantry doorway. ....	91
47.	Building No. 5 & 6, Quarters No. 6, Room 6/004, historic casing on original exterior (now interior) basement window .....	91

48.	Building No. 5 & 6, typical detailed baseboard and doorway casing found in the front rooms of the quarters.....	92
49.	Building No. 5 & 6, typical simple baseboard found in the back rooms of the quarters. ....	92
50.	Building No. 5 & 6, Quarters No. 5, interior of front doors. ....	93
51.	Building No. 5 & 6, Quarters No. 5, typical front door hinge with acorn finials and embossed design.....	93
52.	Building No. 5 & 6, Quarters No. 5, doorway from Room 5/103 to Room 5/104, typical of the interior doorways.....	93
53.	Building No. 5 & 6, Quarters No. 5, arched doorway between Rooms 5/102 and 5/103. ....	94
54.	Building No. 5 & 6, Quarters No. 5, W101 depicting tall double window with detailed casing typical of the front rooms. ....	94
55.	Building No. 5 & 6, Quarters No. 6, bay window typical of the bay windows in both quarters.....	95
56.	Building No. 5 & 6, Quarters No. 6, W108, showing regular-height window with casings, and panels below the sashes.....	95
57.	Building No. 5 & 6, Quarters No. 5, front stairs typical of both quarters. ....	96
58.	Building No. 5 & 6, Quarters No. 6, back stairs typical of both quarters.....	96
59.	Building No. 5 & 6, Quarters No. 5, Room 5/103, marble mantelpiece typical of both quarters.....	97
60.	Building No. 5 & 6, Quarters No. 6, Room 6/103, two-tone floorboards with center pattern. ....	97
61.	Building No. 5 & 6, Quarters No. 6, Room 6/104, dado with molded baseboard and chair rail.....	98
62.	Building No. 5 & 6, Quarters No. 6, front door (D102). ....	98
63.	Building No. 5 & 6, Quarters No. 6, Room 6/102, marble mantelpiece and tiled hearth. ....	99
64.	Building No. 5 & 6, Quarters No. 6, Room 6/103, tiled hearth. ....	99
65.	Building No. 5 & 6, Quarters No. 6, Room 6/104, stone mantelpiece with iron insert, and marble hearth. ....	100

66.	Building No. 5 & 6, Quarters No. 5, second-story connecting doorway from Room 5/207.....	100
67.	Building No. 5 & 6, Quarters No. 5, Room 5/203, hall doorway with transom, and closet doorway.....	101
68.	Building No. 5 & 6, Quarters No. 5, Room 5/206, second-story back-hall stairs.....	101
69.	Building No. 5 & 6, Quarters No. 5, Room 5/202, heating grate in side wall of fireplace. ....	102
70.	Building No. 5 & 6, Quarters No. 6, Room 6/205, wainscot with molded baseboard and chair rail.....	102
71.	Building No. 5 & 6, Quarters No. 6, Room 6/203, molded cornice trim.....	103
72.	Building No. 5 & 6, Quarters No. 6, Room 6/302, window niche with closet doorway, typical of attic windows. ....	103
73.	Building No. 5 & 6, proposed additions to the front Parlors of both quarters, 1875. ....	114
74.	Building No. 5 & 6, façade showing addition to Quarters No. 6 Parlor, and Parlor balconies for both quarters, 1876.....	114
75.	Detail from Plan of Springfield Armory showing “Officers Quarters,” Building No. 5 & 6, 1877. (SPAR Archives Collection).....	115
76.	Detail from Plan of Springfield Armory showing Building No. 5 & 6 with east/back addition and north elevation two-story bay addition, 1907. (SPAR Archives Collection).....	115
77.	Building No. 5 & 6, basement, historic plan with additions sketched in (SPAR Archives Collection).....	116
78.	Building No. 5 & 6, first floor plan, historic plan with additions sketched in, and “K” and “L” noted in east ell addition (SPAR Archives Collection) .....	117
79.	Building No. 5 & 6, north-elevation drawing of ell circa 1905 (SPAR Archives Collection).....	118
80.	Building No. 5 & 6, east ell looking west.....	119
81.	Building No. 5 & 6, north elevation ell window (W116).....	119
82.	Building No. 5 & 6, 1920, looking southeast (x1307-SA, SPAR Archives Collection) .....	120
83.	Building No. 5 & 6, 1931, looking east (409-SA, SPAR Archives Collection).....	120
84.	Building No. 5 & 6, 1938, façade looking east (1804-SA, SPAR Archives Collection).....	121

85.	Building No. 5 & 6, 1938, looking northeast (1925-SA, SPAR Archives Collection) .....	121
86.	Building No. 5 & 6, first floor plan showing alterations to Quarters No. 6, 1960 (Cabinet B, Drawer 1, Folder 5, SPAR Archives Collection) .....	122
87.	Building No. 5 & 6, south-elevation ell window (W110).. .....	123
88.	Building No. 5 & 6, Room 6/104, china cabinet built in to former window niche, added in 1960.....	123
89.	Building No. 5 & 6, basement plan with exterior doorway, window, and room numbers assigned for this project.....	151
90.	Building No. 5 & 6, first floor plan with exterior doorway, window, and room numbers assigned for this project.....	152
91.	Building No. 5 & 6, second floor plan with exterior doorway, window, and room numbers assigned for this project.....	153
92.	Building No. 5 & 6, attic plan with exterior doorway, window, and room numbers assigned for this project.....	154
93.	Building No. 5 & 6, looking northeast, 2011. ....	155
94.	Building No. 5 & 6, looking northwest, 2011. ....	155
95.	Building No. 5 & 6, looking southwest, 2011. ....	156
96.	Building No. 5 & 6, looking southeast, 2011. ....	156
97.	Building No. 5 & 6, cast-iron steps on south side of front porch, 2011. ....	157
98.	Building No. 5 & 6, view of building and roofs, 2011. ....	157
99.	Building No. 5 & 6, Quarters No. 5, bulkhead walls and steps showing collapsed wall on left side of bulkhead steps, 2011.....	158
100.	Building No. 5 & 6, Quarters No. 6, Room 6/005, basement stairs in Kitchen ell, 2011..	158
101.	Building No. 5 & 6, Quarters No. 5, Room 5/102, bay windows and walls, 2011.....	159
102.	Building No. 5 & 6, Quarters No. 5, Room 5/104, wainscot and arched niche in former Dining Room, 2011. ....	159
103.	Building No. 5 & 6, Quarters No. 5, Room 5/105, east wall and doorway to Room 5/106 depicting paneling, cabinets, and appliances, 2011.....	160
104.	Building No. 5 & 6, Quarters No. 5, Room 5/102 fireplace and mantelpiece, 2011. ....	160

---

105.	Building No. 5 & 6, Quarters No. 6, Room 6/101 wall under front stairs with added closet doorways, 2011. ....	161
106.	Building No. 5 & 6, Quarters No. 6, Room 6/105, ell Kitchen depicting alterations and cabinets, 2011. ....	161
107.	Building No. 5 & 6, Quarters No. 5, Room 5/202, W201 typical interior window in second-story bedrooms at the front of the building, 2011.....	162
108.	Building No. 5 & 6, Quarters No. 5, Room 5/202, fireplace and mantelpiece, 2011. ....	162
109.	Building No. 5 & 6, Quarters No. 6, Room 6/202, south and west walls, 2011.....	163
110.	Building No. 5 & 6, Quarters No. 6, Room 6/202, south and east walls including added closet (Room 6/203), 2011. ....	163
111.	Building No. 5 & 6, Quarters No. 6, Room 6/207, ceiling trim in front hall, 2011.....	164
112.	Building No. 5 & 6, Quarters No. 6, Room 6/207, second-story stair balustrade, 2011 ..	164
113.	Building No. 5 & 6, Quarters No. 6, Room 6/302, interior of wall cavity under mansard roof, 2011. ....	165
114.	Building No. 5 & 6, Quarters No. 5, Room 5/304, typical attic doorway, 2011. ....	165
115.	Building No. 5 & 6, Quarters No. 5, Room 5/302, tongue-and-groove board ceiling in window niche, 2011.....	166
116.	Building No. 5 & 6, Quarters No. 6, Room 6/303, closet with built-in drawers, 2011.....	166
117.	Building No. 5 & 6, Quarters No. 6, Room 6/306, wardrobe, 2011.....	167
118.	Building No. 5 & 6, Quarters No. 6, Room 6/303, doorway with transom window, 2011.....	167

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James J. Lee III

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# INTRODUCTION

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# EXECUTIVE SUMMARY

## Purpose and Scope

Building No. 5 & 6 is one of several extant buildings that were constructed as part of the Springfield Armory in Springfield, Massachusetts. The purpose of this report is to document the evolution of the building, identify its significant historic features, and provide guidance for preservation of the building. The project included archival research at the local and regional level, and building investigation and research, all of which was performed by James Lee, Architectural Conservator, Historic Architecture Program (HAP). The project was phased over two fiscal years (FY 2011 and FY 2012) and culminated in the Historic Structure Report (HSR). In accordance with National Park Service (NPS) standards and as outlined in *Director's Order - 28*, the HSR contains Part 1 "Developmental History," which includes sections on "Historical Background and Context," "Chronology of Development and Use," and "Current Physical Description." The HSR also includes an additional subsection to Part 1 in the form of "Character-Defining Features (CDFs) and General Recommendations" for Building No. 5 & 6. The sections on CDFs and General Recommendations will help guide the stabilization of, and appropriate repairs and improvements to the building. The report does not include a "Part 2. Treatment and Use" or "Part 3. Record of Treatment."

## Brief Description

The Springfield Armory was initially established as an arsenal during the American Revolution. The first structures were erected near the militia training field

on the hill northeast of the Connecticut River and Springfield town center. This area would later become the Hill Shops for the Springfield Armory and included the Green, Armory Square, and Federal Square. As the Armory developed, the buildings erected on the hill were constructed with masonry materials that conveyed a sense of permanence.

Planning for a duplex officers' quarters began in 1869 and the masonry structure was constructed in 1870 (see subsequent section "Planning and Construction"). The new building housed Springfield Armory Quarters No. 5, and Quarters No. 6 for officers of the Armory, and was designated "Building No. 5 & 6." Historically the building was also known as the "Junior Officer's Quarters," the "Double Officer's Quarters," and "Quarters No. 5 & 6." The Springfield Armory Historical Record (Appendix D) and other documentation consistently refer to the structure as "Building No. 5 & 6," which is the designation used throughout this report.

Building No. 5 & 6 is located in the south corner of the Green, and forms the terminus for the line of buildings along the southern border of Armory Square. The buildings location at the corner of the Green also gives it a prominent location on the crest of the hill overlooking Springfield. In this respect the building is also quite visible from the surrounding neighborhood (see subsequent section "Historical Background and Context").

Building No. 5 & 6 is a Second Empire-style structure crowned by the characteristic mansard roof that is covered with patterned gray slates. The building has many exterior and interior architectural elements that reflect the Victorian period influences.

The exterior of Building No. 5 & 6 is masonry with brownstone foundations and red brick walls. It has an elaborate wooden entablature with a molded cornice and scroll-cut brackets. The doorways and windows are symmetrically placed. They are trimmed with brownstone lintels and windowsills, and wooden casings. On the first and second stories each of the windows has two sets of double-hung, one-over-one sashes. There are bay windows on the side elevations. The arched dormer windows in the mansard roof have double-hung, two-over-two sashes with decorative wooden trim. The front porch extends the full length of the façade and is accessed by two sets of brownstone steps. It has paired wooden columns and brackets at the molded cornice.

Documentary and physical evidence indicate that there were additions to Building No. 5 & 6 in the nineteenth and early twentieth centuries. These included a one-story extension on the south elevation, a one-story ell on the back/east elevation, and a two-story bay on the north elevation. Though these additions changed the plan of the building, they were added during the historic period, and done with materials that matched the historic materials. The additions are considered part of the historic structure.

Building No. 5 & 6 remained a two-family residence through the closing of the Springfield Armory. It has been owned by the Commonwealth of Massachusetts and operated by Springfield Technical Community College (STCC) since 1968 when the Armory was closed. The building has been vacant for over a decade.

The extant architectural elements of Building No. 5 & 6 include intact historic elements as well as alterations made to the building while the Springfield Armory was active. Historic elements and some alterations are significant and character defining, and should be preserved.

## Research Conducted

This Historic Structure Report includes a brief history of the Springfield Armory and documents the evolution of Building No. 5 & 6 relying on documentary research using both primary and secondary sources, and physical investigation of extant building materials. Primary source research was conducted at the National Archives and Records Administration, Northeast Region, and in the Archival Collection of the Springfield Armory National Historic Site. That collection includes important historic maps, plans, drawings, and photographs. The Archives Collection also houses an eight-volume set of notes compiled by Derwent S. Whittlesey for his 1920 dissertation “The Springfield Armory.” The current report also draws upon research by the author (James Lee) for other HSRs. In addition to these sources, previous research performed by Carole L. Perrault and Judith Quinn (now Sullivan) for the “Springfield Armory National Historic Site, Springfield, Massachusetts, Building 19, Historic Structure Report, Volumes I and II,” DRAFT, was reviewed for this report. The information from these sources was augmented by secondary source materials from various repositories and world-wide websites. A portion of the Springfield Armory NHS photographic collection was available on the Rediscovery website. Repositories consulted and utilized for this project include the following:

Connecticut Valley Historical Museum,  
Springfield, MA;  
National Archives and Records  
Administration (NARA), Northeast  
Region, Waltham, MA;  
NPS, Historic Architecture Program  
Library, Lowell, MA;  
NPS, Northeast Museum Services Center,  
Boston, MA;  
NPS, Technical Information Center, Denver  
Service Center, Denver, CO;

Rediscovery website, URL  
<http://www.rediscov.com>;  
 Springfield National Historic Site, Archives  
 Collection, Springfield, MA;  
 Springfield Public Library, Springfield, MA.

## Research Findings

Research of primary and secondary sources provided valuable information on the history and development of the Springfield Armory and Building No. 5 & 6. The Springfield Armory Archives Collection includes several historic maps and photographs of the Armory and the Hill Shops, which were used to portray the background history of the site. In addition, previous reports, especially those by Derwent S. Whittlesey, and John Albright, contributed greatly to the context of the site and provided some useful information about the building.

Primary documentation from the National Archives includes correspondence and contracts, which helped establish a better understanding of the construction and subsequent alterations to Building No. 5 & 6. Historic plans, historic photographs, more recent architectural plans, and contracts are primarily housed in the Springfield Armory Archives Collection, and some are available at the National Archives and the Connecticut Valley Historical Museum. Those documents also provided information about the building's historic appearance and later alterations. That information, coupled with the current building investigation, helped determine the extent and significance of the alterations to the building.

The research determined that Building No. 5 & 6 retains many of its historic elements and consequently has a high degree of historic integrity.

## *Additional Research*

A significant amount of research materials have been deposited with the Springfield Armory Archives Collection. With the assistance of SPAR staff, the current research appears to have exhausted this repository. However, there are some inconsistencies in filing of archival materials prior to the institution of the current plan for the archives, so it is possible that materials relating to Building No. 5 & 6 might still be found there.

Future research of Building No. 5 & 6 should search for records pertaining to the early twentieth century additions, which include the one-story ell, and the two-story bay. The current research relied on some drawings of the ell, plans of the site, and physical investigation. Primary source documentation of those changes would also be useful. Further study at the National Archives should include ferreting out any primary source material pertaining to twentieth-century alterations to the building by the U.S. Army.

Current research of the 1960s renovations found the first-story plan, but did not find further documentation of those changes. Though those renovations were confirmed by building investigation, further documentation of that work would be of interest.

The Second Empire style was favored by U.S. Treasury Supervisory Architect, Alfred Mullet, and may have influenced the use of that style on Building No. 5 & 6. A list of buildings attributed to Mullet did not include this structure, and neither the Springfield Armory nor Springfield, Massachusetts, was cited.<sup>1</sup> Further research may be warranted.

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<sup>1</sup>David E. Ferro, "Alfred Bult Mullet: His Life and Work." Student project (AE682). University of Florida, March 1976.

## Recommended Treatment and Use

Building No. 5 & 6 is currently unoccupied and there are no plans by STCC to stabilize or adaptively use the building. The building is listed in the National Register of Historic Places Nomination Form and is an “historic structure” as defined by the Memorandum of Understanding (MOU) Between the United States of America and the Commonwealth of Massachusetts,<sup>2</sup> which has been extended through July 16, 2012.<sup>3</sup>

According to the MOU the 34.61 acres of land owned by the Commonwealth of Massachusetts constitutes a “Preservation Control Area” and the Board of Higher Education, in cooperation with the NPS, is charged with preserving the exterior appearance of the historic structures and the Green.

The MOU further defines three levels of building preservation. Building No. 5 & 6 is included in “Level 1” which states that “Every effort will be made to stabilize and maintain the historic exterior appearance of these buildings within this category; NPS will provide advice and consultation on suitable materials and methods of repair and maintenance. Changes necessary for the adaptive use of these buildings will not affect the exterior appearance.”<sup>4</sup>

Therefore the exterior appearance of the building should not be significantly

impacted by the stabilization, and any subsequent rehabilitation and adaptive use.

Building No. 5 & 6 is currently in fair to poor condition. The current neglect of Building No. 5 & 6 does not fulfill the agreement between the NPS and the State. If the current deterioration of the building is allowed to continue, this historic resource may be irreparably damaged.

It is recommended that Building No. 5 & 6 be stabilized and preserved through rehabilitation and adaptive use. Rehabilitation of the building should conform to *The Secretary of the Interior’s Standards for the Treatment of Historic Properties*, which includes the *Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings*. The goal of the rehabilitation should be the adaptive use of Building No. 5 & 6 by STCC. It is important that the rehabilitation strive to preserve the character-defining features (CDFs) of the building, and any changes to the building should be undertaken with attention to the CDFs (see subsequent section “Character-Defining Features and General Recommendations”).

The rehabilitation of the building should be done in a manner that does not diminish the historic integrity of the structure. The adaptive use of the building may require the installation of Americans with Disabilities Act (ADA)-compliant entrances and facilities in the building. The installation of ADA-compliant features should be made with minimal impact to the CDFs of the building. It is further recommended that any alterations be planned with awareness to the historic elements of the building. The feasibility of any alterations to the exterior and interior should be studied, and should be planned with minimal impact to the CDFs. Any substantial rehabilitation of the exterior or interior of Building No. 5 & 6 should be reviewed for Section 106 compliance.

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<sup>2</sup> “Memorandum of Understanding Between the United States of America and the Commonwealth of Massachusetts,” MU-1600-8-9001, August 21, 1998; copy in HAP List of Classified Structure files, Lowell, MA.

<sup>3</sup> Michael Quijano-West, Superintendent SPAR, to Ira Rubenzahl, President STCC, July 16, 2010; A44 (SPAR-NER); copy in HAP List of Classified Structure files, Lowell, MA.

<sup>4</sup> Memorandum of Understanding, 2.

# ADMINISTRATIVE DATA

## Location of Site

Springfield Armory National Historic Site (SPAR) is located in Springfield, Massachusetts, which is situated in the western part of the state along the Connecticut River (figs. 1 and 2). Of the 54.92-acre historic site, the SPAR comprises approximately 20 acres of the former Armory and includes the Main Arsenal (Building 13), Commanding Officer's Quarters (Building 1) and Garage (Building 18), Gatehouse (Building 33), cast-iron fence, and the cultural landscape associated with that portion of the Armory. The remaining 34.61 acres on the hill is owned by the Commonwealth of Massachusetts for use as part of the Springfield Technical Community College campus. The college has the use of the Green, Building No. 5 & 6, and Buildings 7, 8, 9, 10, 11, 16, 19, and 27, among others (fig. 3).

## National Historic Landmark

The Springfield Armory in Springfield, Massachusetts, was designated a National Historic Landmark (NHL) on December 19, 1960. The NHL includes the entire 54.92 acres of the former Hill Shops and Armory Square. The NHL Statement of Significance notes that the Springfield Armory "was the U.S. Army's main research and development center and pilot manufactory for small arms. It was formally established as a Federal arsenal in 1794."<sup>5</sup>

<sup>5</sup> National Historic Landmarks Program website; <http://tps.cr.nps.gov/nhl>.

## National Register of Historic Places

The Springfield Armory National Historic Site was established by Congress on October 26, 1974,<sup>6</sup> and the nomination of Armory Square to the National Register of Historic Places was accepted by the Keeper on December 12, 1975. The historic site includes 54.92 acres of land and several historic structures that were part of the Hill Shops of the Springfield Armory. The Statement of Significance in the National Register Inventory – Nomination Form (NR 66000898) included the following:

Of the extant properties associated with the Springfield Armory the oldest and most significant are concentrated in Armory Square the fifty-four acre area bounded by State, Federal, Pearl, and Byers Streets. Here are located the administrative building, quarters for the commanding officer and the remaining officer complement, and a number of other buildings ranging in date from 1807 through World War II. Despite some recent construction, Armory Square retains its essential character as the administrative center of a major military installation which saw its greatest growth during the first half of the nineteenth century.<sup>7</sup>

<sup>6</sup> General Management Plan/Development Concept Plan, Springfield Armory National Historic Site, Massachusetts (Springfield, MA: National Park Service, July 1986), Appendix A: Legislation, 31.

<sup>7</sup> Polly M. Rettig. "National Register of Historic Places Inventory – Nomination Form" (Washington, D.C.: National Park Service, December 1974).

The National Register Nomination recognized the period of significance of the site from 1778, when an arsenal was established in that location, through 1968, when the Armory was deactivated, as well as 1794 when the site was designated a Federal Armory. Building No. 5 & 6 is considered a contributing resource to the National Register Nomination for the Springfield Armory.

## Proposed Treatment and Use

The Memorandum of Understanding (MOU) and the 1986 *General Management Plan* (GMP) for Springfield Armory NHS note that the National Park Service, the Commonwealth of Massachusetts, and Springfield Technical Community College would work collaboratively to manage the 54.92-acre Springfield Armory site and extant buildings associated with the Armory, including Building No. 5 & 6.

As previously described, Building No. 5 & 6 is unoccupied and the college has no current proposals for the adaptive use of the building.

A Feasibility Study completed in 2002 did review some alternate uses for Building No. 5 & 6. However, it found that all alternatives were “problematic.” The final recommendation of that report was that the building should be stabilized (Appendix E). That work has not been accomplished since the report, and the deterioration of the building has continued.

The preservation of Building No. 5 & 6 will require stabilization. The subsequent rehabilitation of the building should preserve the exterior of the building as recommended by the MOU, and should strive to preserve exterior and interior character-defining features.

## Related Studies

Publications identified in the Cultural Resources Management Bibliography were consulted in the preparation of this report. For a broader discussion of the history of the Springfield Armory and its cultural resources consult the publications listed below.

Albright, John. *Historic Structure Report, Historical Data and Historical Base Map, Springfield Armory National Historic Site, Massachusetts*. Denver, CO: DOI, NPS, May 1978.

Kinsley, Amy. “Cultural Landscapes Inventory, Springfield Armory, Springfield Armory National Historic Site,” DRAFT. DOI, NPS, Olmsted Center for Landscape Preservation, 2004.

Raber, Michael S., Patrick M. Malone, Robert B. Gordon, and Carolyn C. Cooper. “Conservative Innovators and Military Small Arms: An Industrial History of the Springfield Armory, 1794–1968.” South Glastonbury, CT: Raber Associates, August 1989.

U.S. Department of the Interior, National Park Service. *General Management Plan /Development Concept Plan, Springfield Armory National Historic Site*. DOI, NPS, August 1986.

Whittlesey, Derwent S. “The Springfield Armory.” (Ph.D. Dissertation, University of Chicago.) 1920. Transcription by John McCabe and Richard Colton, Springfield Armory NHS, 2006.

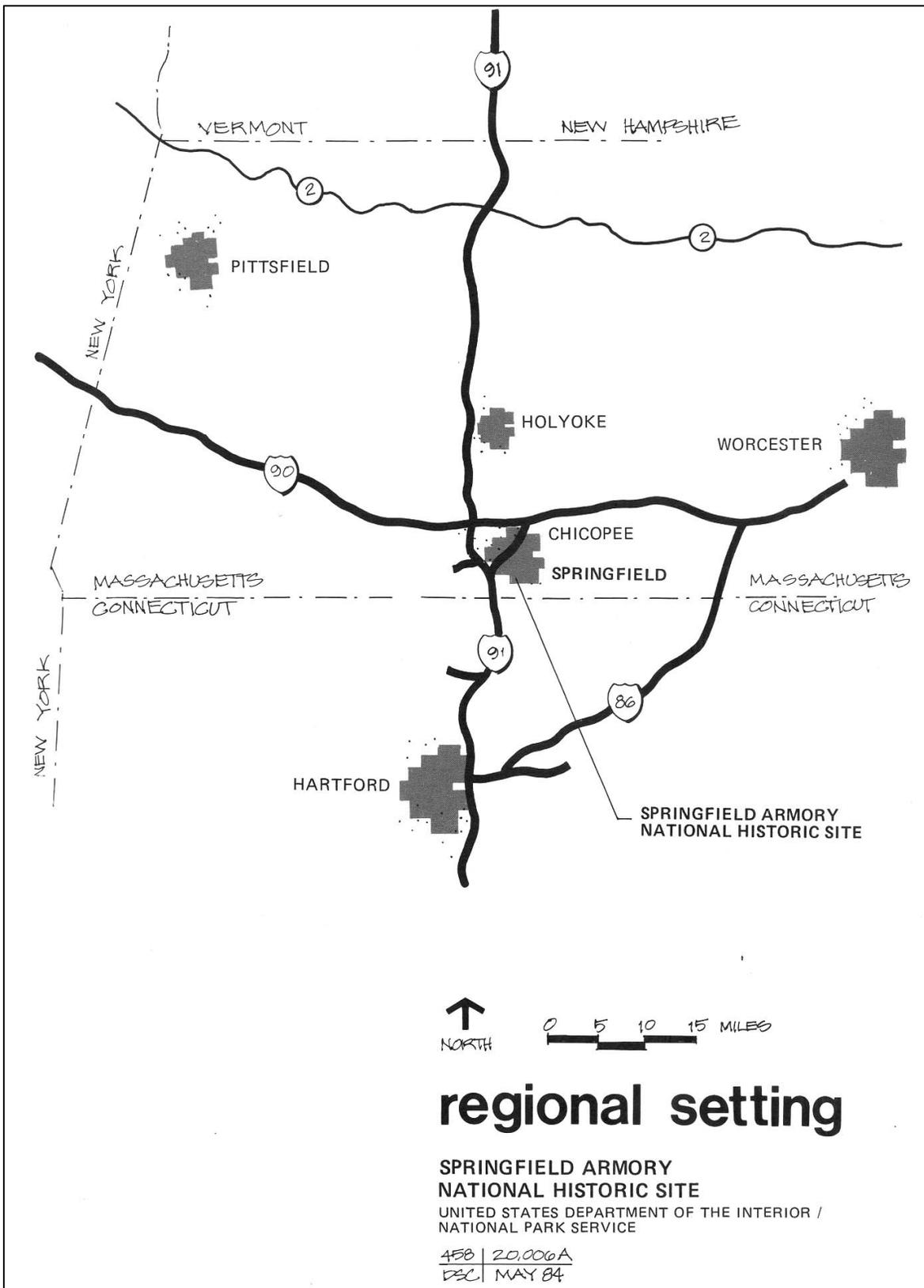


Figure 1. Springfield Armory National Historic Site regional map.

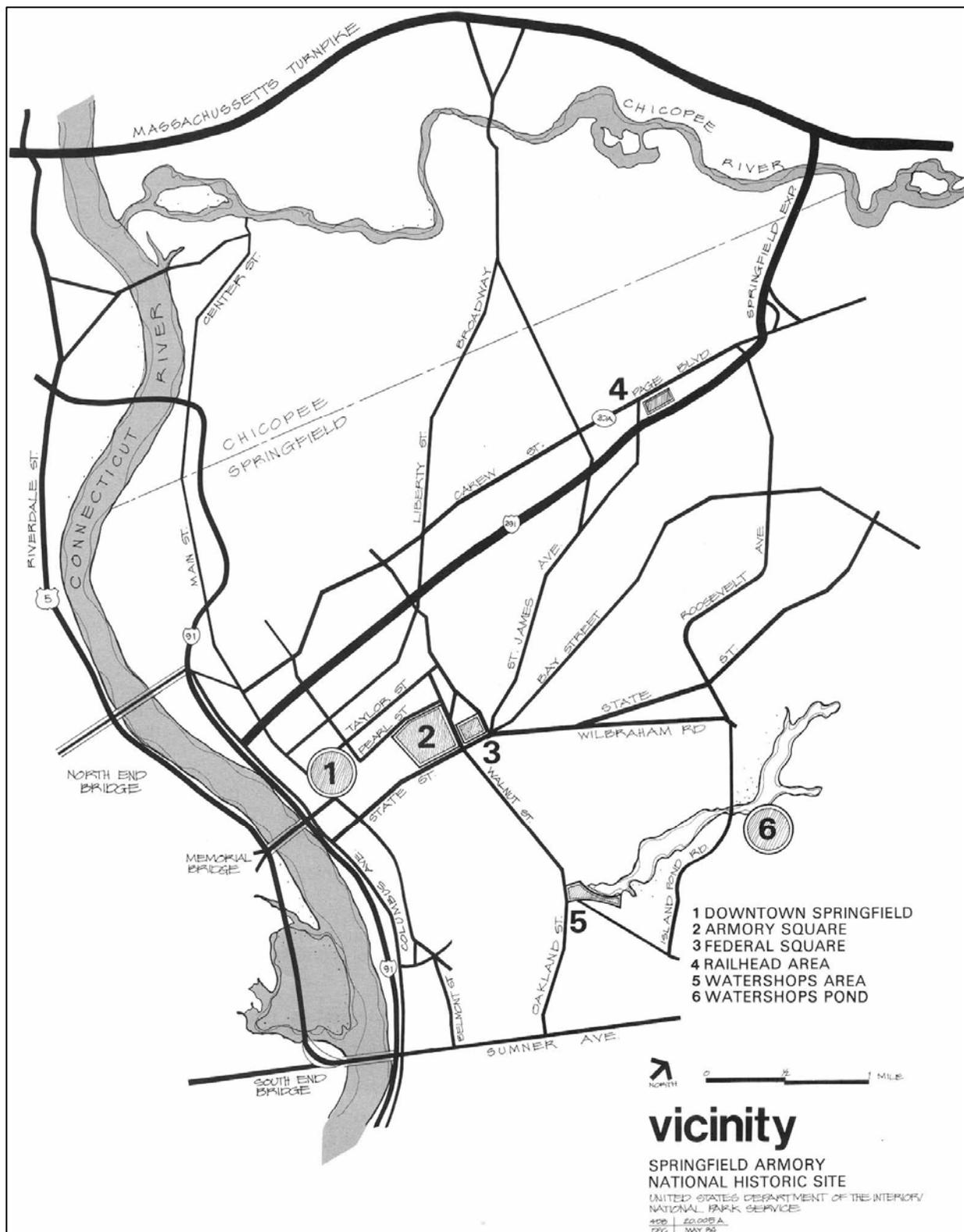


Figure 2. Springfield Armory National Historic Site location map.

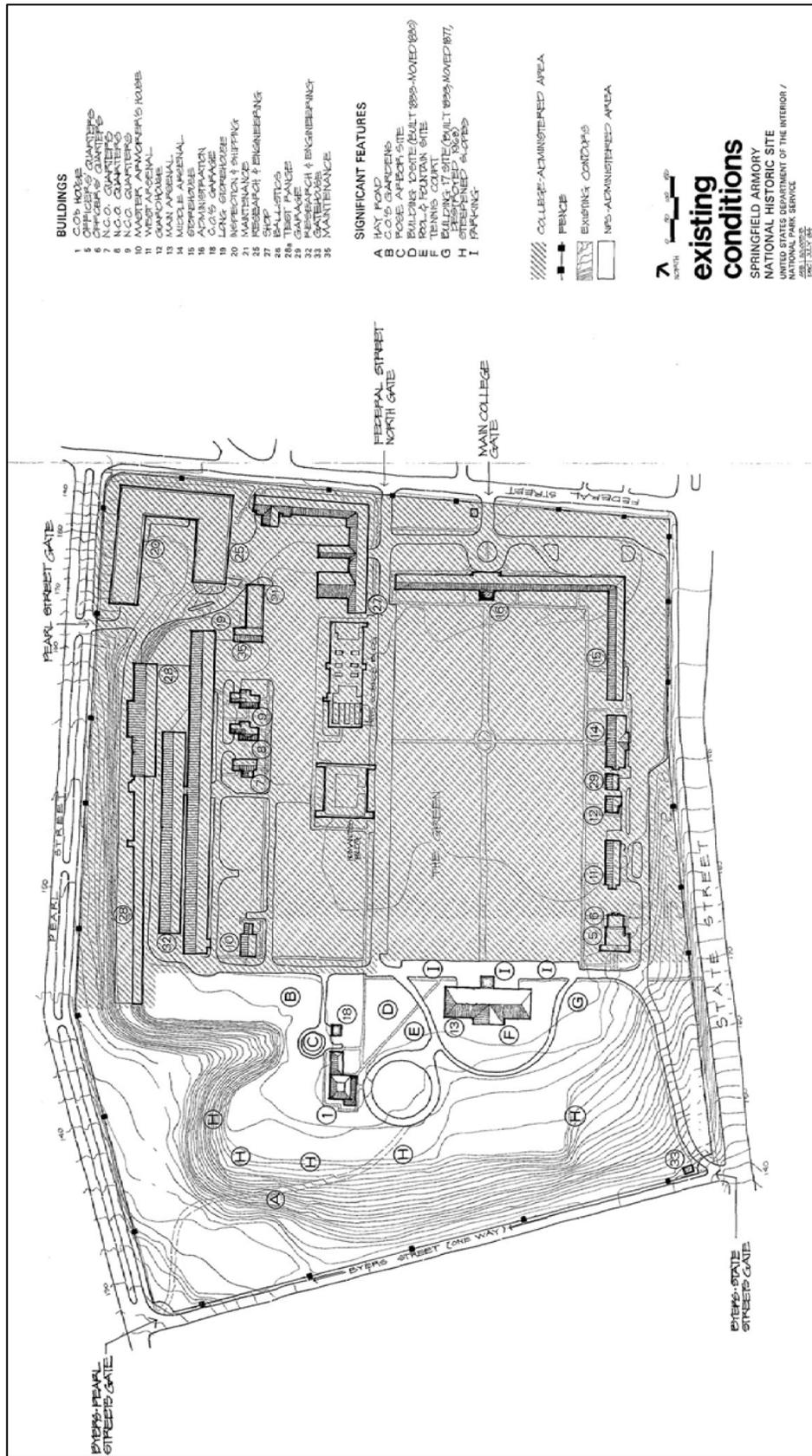


Figure 3. Existing Conditions, Springfield Armory National Historic Site, July 1984. The plan includes recently constructed buildings on the north side of the Green including the Putnam Building west of Building 27.

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# **DEVELOPMENTAL HISTORY**

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# HISTORICAL BACKGROUND AND CONTEXT

## Introduction

The following historical background of the Springfield Armory is intended to provide some context for Building No. 5 & 6 at that site.<sup>8</sup> The following section is based on the previous research supplemented by primary and secondary sources from the Springfield Armory NHS and the National Archives. The history of the Springfield Armory has been the subject of several publications including: Derwent S. Whittlesey's Ph. D. Dissertation, "The Springfield Armory: A Study in Institutional Development"; Constance M. Green, *History of the Springfield Armory*; John Albright, *Historic Structure Report, Historical Data and Historical Base Map, Springfield Armory National Historic Site, Massachusetts*; and Michael S. Raber, et al., "Innovators and Military Small Arms: An Industrial History of the Springfield Armory, 1794–1968." These publications, among others, provide accounts of the arsenal, arms manufacturing, and social history of the Springfield Armory, as well as the development of the site and buildings. They provided an understanding of the significance of the site and the context for the Building No. 5 & 6. For a more in-depth history of the Springfield Armory, the reader should refer to the publications previously listed.

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<sup>8</sup> Portions of the following section were taken from: James J. Lee III, *Building 27, Historic Structure Report* (Lowell, MA: DOI, NPS, NER, Historic Architecture Program, 2011).

To support the efforts of the Colonies during the American Revolution, an arsenal and workshop were established in Springfield, Massachusetts, in 1777.<sup>9</sup> The National Armory at Springfield was established by the federal government in 1794 with Springfield native David Ames named as the first superintendent. In the nineteenth century two men were very influential in the physical development of the Armory: Colonel Roswell Lee, Superintendent, and Major James W. Ripley, the Armory's first U.S. Military Commanding Officer. During these formative years and into the twentieth century, the Armory grew to encompass three separate areas known as the Hill Shops, Water Shops, and Railhead Area. The Hill Shops were located on a bluff northeast of the central business district of Springfield and were comprised of two units, Armory Square and Federal Square, divided by Federal Street. The Water Shops were located a mile southwest of the Hill Shops at the intersection of Walnut Street and the Mill River, and the Railhead Area was northeast of the Hill Shops on Page Boulevard (fig. 2).<sup>10</sup>

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<sup>9</sup> Derwent S. Whittlesey, "The Springfield Armory: A Study In Institutional Development." Ph. D. Dissertation (Chicago, IL: University of Chicago, 1920). Citations in this report are from the 2006 transcription by John McCabe and Richard Colton, Springfield Armory NHS.

<sup>10</sup> Carole L. Perrault and Judith A. Quinn. "Springfield Armory National Historic Site, Springfield, Massachusetts, Building 19, Historic Structure Report, Volume I., Text and Bibliography (Draft)." (Boston, MA: U.S. DOI, NPS, NAR, CRC, BCB, Nov. 1991).

The hill location of the Springfield Armory and its importance to the city of Springfield were aptly described by historian John Albright:

Unwanted by farmers, more easily defensible than any surrounding areas, and located with the growing cluster of firearms manufactories near the Connecticut River, the site on which the Armory began its development, could hardly have been more appropriate. The hill site has been occupied constantly since 1777 by some sort of armory or arsenal activity. It has been a constant factor in the life of the city as well as the sole occupant of the site. Its presence on the commanding slope overlooking Springfield and its stylistic impact on the city's public buildings are seen at the first glance of the modern city and the Armory, and is formally recognized in the seal of the city of Springfield, which shows the Armory's Main Arsenal.<sup>11</sup>

The Armory currently consists of a 54.92-acre parcel that is bounded by Byers, Pearl, Federal, and State Streets and includes Armory Square. Thus, the contextual history will be focused on the development of the Hill Shops and Armory Square, also historically referred to as the Green, Tower Hill (and/or Tower Square), and Union Square.<sup>12</sup>

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<sup>11</sup> John Albright, *Historic Structure Report, Historical Data and Historical Base Map, Springfield Armory National Historic Site, Massachusetts*. (Denver, CO: U.S. Department of the Interior, National Park Service, May 1978), 1.

<sup>12</sup> Albright, 57. Historic maps refer to the square as the Green (1824), Tower Hill (1851), and Armory Square (1899). James Ripley referred to it as "Liberty Square" in 1843, and it was known as Union Square by 1865 and also in the 1884 description of the Armory in *King's Handbook of Springfield* by Albert Kirkham. By the end of the nineteenth century and since then, it has been known as Armory Square.

## Establishment of the Springfield Arsenal

During the Revolutionary War, Springfield, Massachusetts, was recommended as a practical site for arms and ammunition storage by Colonel Henry Knox. Springfield's proximity to the Connecticut River and the regional concentration of gunsmiths were among the reasons for choosing that location. Knox's assurance so convinced General George Washington that he championed the cause to the Continental Congress, which agreed to establish an arsenal and arms workshop in Springfield in 1777.<sup>13</sup>

The first structures for the arsenal were erected near the militia training field on a hill northeast of the town center in 1778. The buildings included a storage "magazine, barracks, and accommodations for the operation of the laboratory."<sup>14</sup> Thus the arsenal at Springfield was established in the area that would become the Hill Shops and Armory Square. The barracks and laboratory were constructed on the hill location near Boston Road (presently State Street), while the magazine was apparently built on the low ground north of the hill.<sup>15</sup>

After the Revolutionary War, Springfield was maintained for the storage of military arms and ammunition. During this time the U. S. Congress recognized the importance of preserving and storing the supplies of powder in proper magazines. To that end a new magazine was constructed in Springfield at the east end of the hill training field in 1782, and served as storage for the arsenal, and later the armory, for sixty years. The magazine was a brick structure

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<sup>13</sup> Whittlesey, 13–18.

<sup>14</sup> *Ibid.*, 23.

<sup>15</sup> *Ibid.*

and one of the earliest permanent structures built on the hill.<sup>16</sup>

During the 1780s the operations at Springfield continued at a reduced rate. The arsenal became a site of conflict during Shays' Rebellion in 1787 that turned the tide of that rebellion.<sup>17</sup> Otherwise the hill site in Springfield was quiet until after the establishment of the National Armory.

## Early Years of the Springfield Armory (1794–1815)

President George Washington authorized an act of Congress for the creation of two National Armories in 1794, choosing Harpers Ferry, Virginia (now West Virginia), as the southern site and Springfield, Massachusetts, as the northern site. "On April 2, the President approved 'An Act to Provide for the Erecting and Repairing of Arsenals and Magazines, and for other purposes,' which authorized the establishment of two arsenals and magazines."<sup>18</sup> The Springfield Armory would be established on the hill where the arsenal was already a presence, and along the Mill River to the southeast.

Springfield native and manufacturer, David Ames was the first civilian superintendent of the Springfield Armory and was tasked with establishing the arms manufactory. Though some of the buildings on the hill were owned by the government, the land was still owned by the town of Springfield. The government first purchased a 1.5-acre lot

<sup>16</sup> Frank B. Sarles and Denys P. Meyers, et al. *Springfield Armory, Massachusetts*. (Boston, MA: U.S. DOI, NPS, Office of Archeology and Historic Preservation, August 17, 1967), 9; Whittlesey, 34–35.

<sup>17</sup> Sarles and Meyers, 9; Whittlesey, 36–37.

<sup>18</sup> Sarles and Meyers, 9.

with rights to build a dam on the Mill River in 1795.<sup>19</sup> Utilizing the waterpower of the river, the government would build a portion of the arms manufactory on that site. That was where the Lower Water Shops would be established and expanded in the future with the purchase of additional land and water rights, ultimately growing to include the Upper and Middle Water Shops.

On the hill the government first purchased 30.5 acres from the citizens of Springfield, Massachusetts, on August 24, 1801.<sup>20</sup> A historic map of the site depicts a small arms manufactory that included a forging shop, filing shops, an inspection shop, stores, barracks, and the Superintendent's house, among others (fig. 4). That plot of land would become the Hill Shops and Armory Square, upon which the armory would expand, starting with the replacement of buildings consumed by fire in 1801, and continuing under Superintendent Ames (1794–1802), and his successors Joseph Morgan (1802–1805), and Benjamin Prescott (1805–1813 and 1815).

Superintendent Prescott continued the expansion of the Hill Shops with the addition of the "New Brick Store" in 1807 (later known as the "West Arsenal," "the Barracks," and Building 11); the two-story building had a third-story addition during the Civil War, and is the oldest extant building. Other new construction during Prescott's superintendency included a two-story stocking and filing shop, annealing shops, a two-story administration building, and a one-and-a-half-story forge shop, which later became the core of the workshops (Building 27).<sup>21</sup> These were among the buildings forming the Springfield Armory as it was inherited by Superintendents Henry Lechler (1813–1815), and Roswell Lee (1815–1833).

<sup>19</sup> Whittlesey, 48.

<sup>20</sup> Sarles and Meyers, 10; Whittlesey, 50.

<sup>21</sup> Whittlesey, 52–53. Alterations to Building 27 in 1983 demolished most of this historic core.



## Colonel Roswell Lee, Superintendent (1815– 1833)

When Colonel Roswell Lee took command of the Springfield Armory in 1815, he resigned his military commission and became a civilian superintendent. Lee took over an arms and ammunition manufactory that had witnessed increased activity during the War of 1812 and was considered a large industrial site for that time.<sup>22</sup>

Soon after his appointment to Springfield, Superintendent Lee was planning to add several buildings to the complex in efforts to transform it into a “Grand National Armory.” At the time Armory Square was surrounded by brick workshops, wooden and brick dwellings, and had a prominent flagpole planted in the center of the Green. It was within this setting that Roswell Lee envisioned his ambitious design. By the end of the summer in 1815 he had plans for new buildings, including a brick administration building, and a formal landscape that would help fulfill his vision.<sup>23</sup>

Superintendent Lee’s plans came to fruition over the next several years. A map of the Armory circa 1821 depicts an industrial complex consisting of at least ten buildings related to arms manufactory and storage, and fourteen residences (fig. 5).<sup>24</sup> The development of the Hill Shops during this period was focused on the central Green that contained a flagpole historically known as the “Liberty Pole.”<sup>25</sup> At the time the map was made, Roswell Lee had only just begun his campaign to transform the Armory.

<sup>22</sup> Albright, 5.

<sup>23</sup> Albright, 5; Perrault and Quinn, 16; Whittlesey, 79.

<sup>24</sup> Perrault and Quinn, Vol. I, 16.

<sup>25</sup> Albright, 6.

An inspection of the Springfield Armory in 1823 by the Ordnance Office in the War Department made the following observations, which described the beginnings of Lee’s grand plan that grew up around the Green:

The aforesaid buildings are arranged northerly of the great State road leading to Boston, bordering on a large flat square piece of ground, fenced and set out with trees, around which is a road about 60 feet wide, leading to several dwelling houses occupied by the officers and workmen; the whole assuming a handsome and regular appearance.<sup>26</sup>

Roswell Lee apparently took every opportunity to improve the buildings at the Armory. When the main shop on the hill burned in 1824, he chose to replace it with a brick structure. Lee got approval for two shops, called the North and South Shops, which were completed by 1825 along with other brick buildings.<sup>27</sup> Two maps of the Armory dated 1830–31 illustrate the improvements made by Superintendent Lee, and depict the formality he introduced to the hill landscape (figs. 6 and 7). Though the Green appears to be planted with formal rows of trees, there were no formal walkways but several footpaths (fig. 7). Perhaps not so coincidentally, many of the footpaths funnel to the gate opposite the Paymaster’s Office.

The historic map identifies the Armory structures around the square; on the southern edge were the “Brick Storehouses for muskets”; on the east side were two “Brick finishing shops” (the North and South Shops) that flanked the “offices”; and north of those was the “Brick forging shop” (once the core of Building 27). Additionally “Old frame stores,” sheds, and the “Old

<sup>26</sup> U.S. Congress, House, Committee on Military Affairs, *Armory at Springfield*, 17<sup>th</sup> Congress, 2<sup>nd</sup> Session, no. 246, March 3, 1823, 538–39; as cited by Albright, 7.

<sup>27</sup> Whittlesey, 100–101.

Magazine” were located on the east side of Federal Street, in the present Federal Square. “Frame dwelling houses” lined the north side of the green and the “Old barracks” were situated north of those buildings (fig. 7).

During his tenure Roswell Lee also built a new Superintendent’s Quarters on the west side of the green. The building was depicted on both the circa-1821 and 1830–31 maps of the Armory (figs. 5 and 7). A review of the Springfield Armory in 1852 noted that in 1820 the Superintendent had been quartered in a wood-frame dwelling and that Secretary of War John C. Calhoun had suggested that Lee construct better accommodations for himself. The Superintendent got approval for a new building and began construction in the fall of 1820. The brick quarters was completed by 1821 and was described as two stories high with the main part “45 feet front and 40 feet rear” and the back part “35 feet by 18 feet.”<sup>28</sup> The Superintendent’s Quarters, which was constructed in part by local builder and real estate developer Charles Stearns,<sup>29</sup> was later razed by Major James W. Ripley and is now the site of the Main Arsenal Building (Building 13).

Superintendent Roswell Lee’s tenure ended when he died in 1833. In his final year at the Springfield Armory he commissioned construction of the Master Armorer’s House and the Paymaster’s House, which flanked the Superintendent’s Quarters at the west end of Armory Square.<sup>30</sup> Lee’s legacy

was a substantial industrial complex on the hill and along the Mill River, which was the beginning of the “Grand National Armory.”

Roswell Lee’s successor John Robb was a political appointee of President Andrew Jackson, and also served as a civilian superintendent. Superintendent Robb was primarily concerned with the continued manufacture of arms, rather than furthering Lee’s plans for the physical plant. During Robb’s seven years as Superintendent the buildings at the Armory were maintained and the exteriors of the brick buildings were painted in “ordnance colours.” However, the condition of the buildings as reported by Major James Ripley when he took command in 1841 suggested that only small sums were spent on building maintenance.<sup>31</sup>

Superintendent John Robb’s tenure did continue the “tradition of excellence in arms manufacturing” that had been established by Colonel Lee. When Robb left the position in 1840 the Springfield Armory consisted of eighty-five buildings, including forty-six shops, eight storehouses, and twenty-one quarters, with a combined property value of \$209,161.<sup>32</sup>

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<sup>28</sup> The National Armories, A Review of the System of Superintendency, Civil and Military, Particularly with Reference to Economy, and General Management at the Springfield Armory. (Springfield, MA: G.W. Wilson’s Steam Power Presses, 1852) 44; Carole Perrault and Judith Quinn, research files for Building 19, HSR, Draft, HAP, Lowell, MA.

<sup>29</sup> *Springfield Gazette*, Vol. XV – No. 16, April 22, 1846. Military Court of Inquiry; testimony by Charles Stearns (see Whittlesey, 129).

<sup>30</sup> Albright, 16–17.

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<sup>31</sup> *Ibid.*, 17.

<sup>32</sup> Whittlesey, 120.

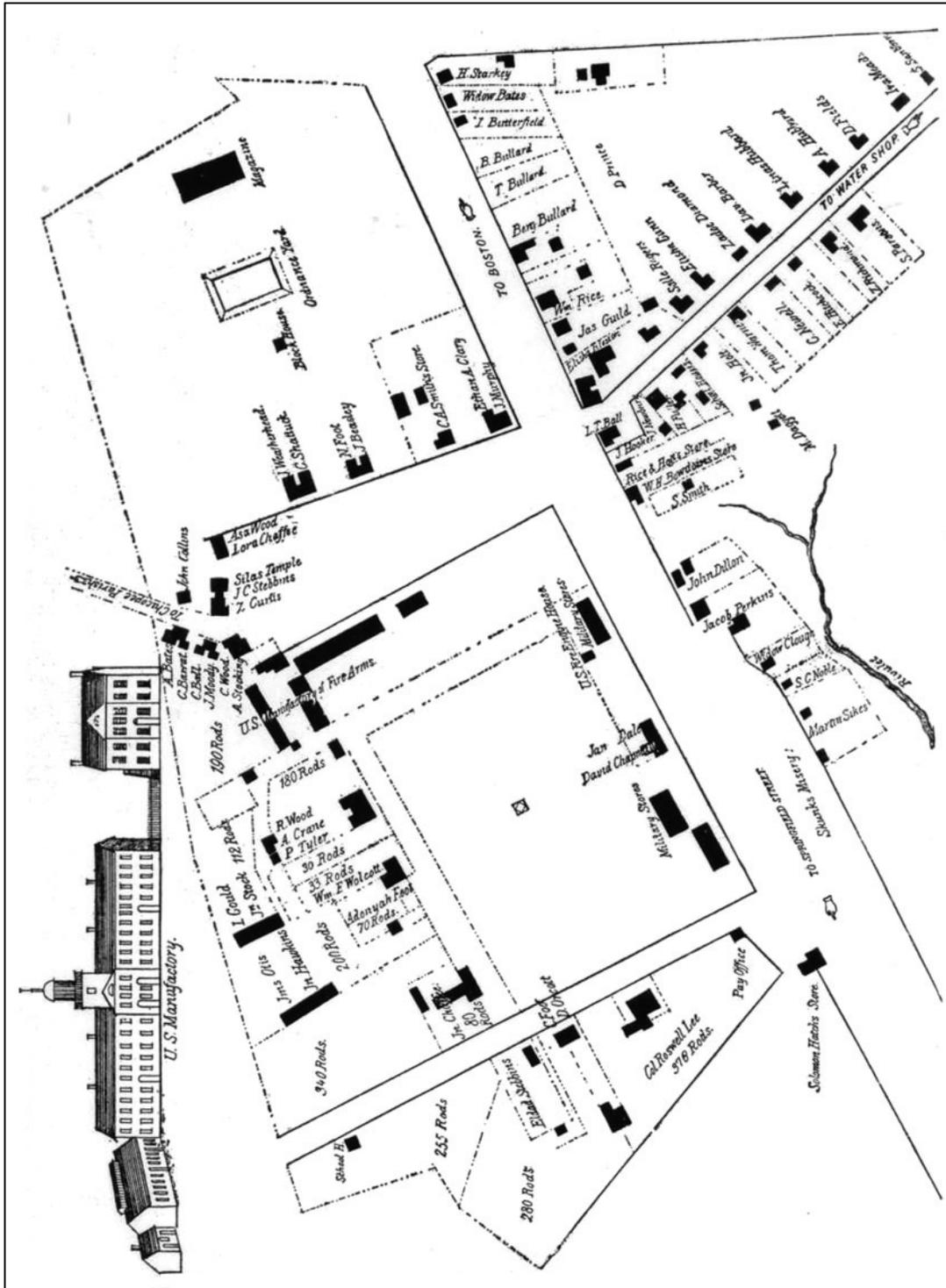


Figure 5. National Armory at Springfield, Massachusetts, circa 1821. The sketch of the “U. S. Manufactory” depicts the historic forge as a one-story building to the left of the main workshops.

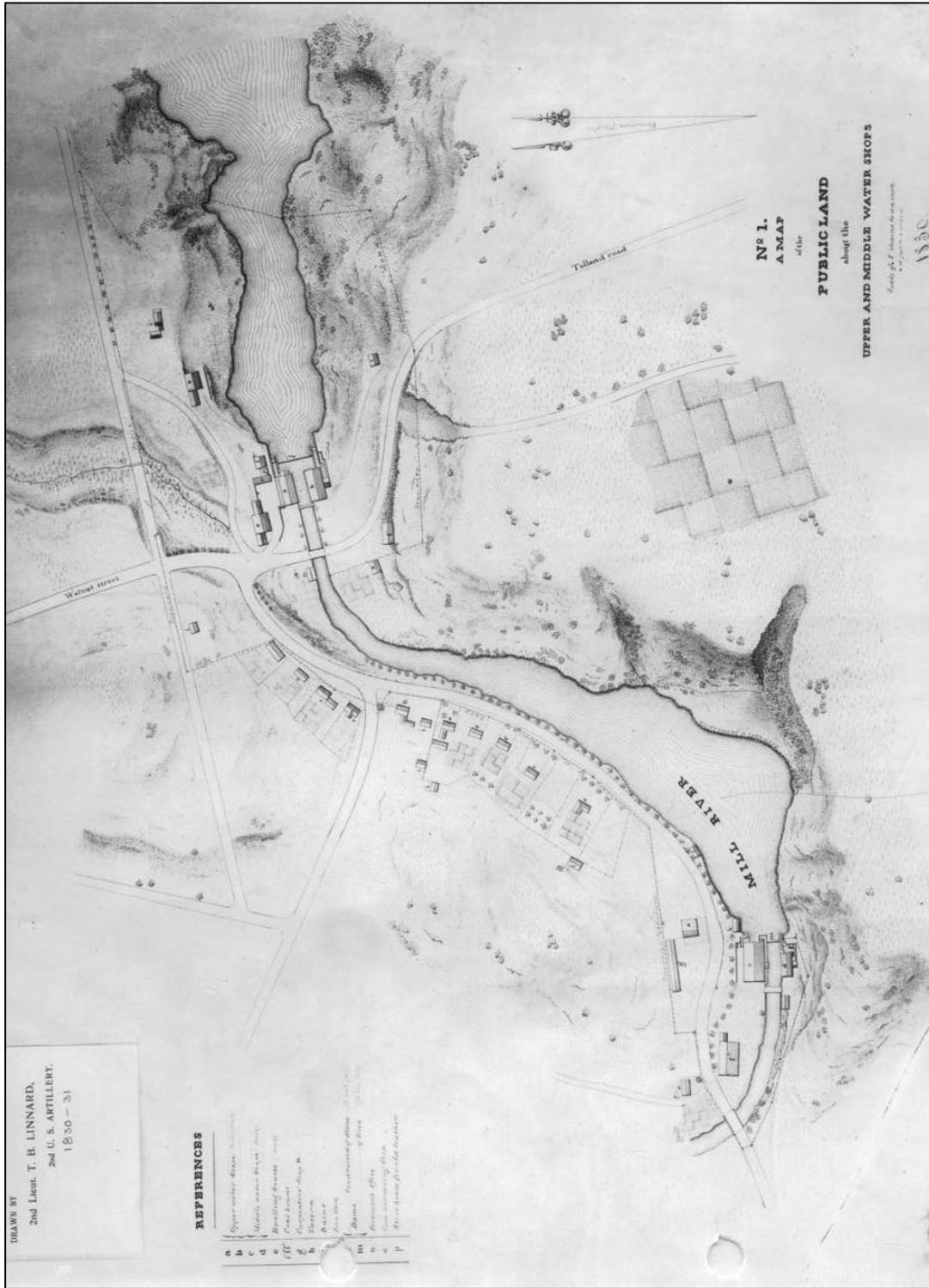


Figure 6. "No. 1, A Map of the Public Land about the Upper and Middle Water Shops, 1830," National Armory, Springfield, Massachusetts. "Drawn by 2<sup>nd</sup> Lieutenant T. B. Linnard, 2<sup>nd</sup> U.S. Artillery, 1830-1831."



## **Major James W. Ripley,** **Commanding Officer** **(1841–1854)**

James W. Ripley was a Major in the Ordnance Department when he was appointed the command of the U.S. National Armory at Springfield in 1841. Major Ripley was a graduate of the U.S. Military Academy, West Point, New York, and had spent the previous eight years in command of the Kennebec Arsenal, Augusta, Maine. His background, qualifications, and personality were aptly summarized by Derwent Whittlesey in the following passage:

Connecticut born, West Point bred, a veteran of 1814 and of the Seminole Wars, afterward Chief of Ordnance during the Civil War, Ripley expressed in his personality the quintessence of military precision and discipline; vigorous, assertive, stubborn, he undertook vast measures, carried them through, and stood by them when they afterward needed defense.<sup>33</sup>

Whittlesey's description of James W. Ripley provides some insight into the character of the man whose tenure at the Springfield Armory was marked by great accomplishments, but was also fraught with controversy.

Though James W. Ripley was technically a civil superintendent when first appointed to the Springfield Armory, he retained his rank of Major in the Ordnance Department. In 1842 Congress signed into law that all National Armories would be commanded by military officers.<sup>34</sup> The dispute over civilian

versus military superintendence at the National Armories was a national issue that had local consequences for Springfield. The decision to install military commanders was based on the European model with the reasoning that greater efficiency in the manufacture of arms could be achieved by placing the armories in charge of ordnance officers who were practiced in the use and manufacture of the weapons.<sup>35</sup> Thus Major James W. Ripley became the first military Commander of the National Armory at Springfield in October 1842, which marked just one of the controversies during his command at the Armory.

In the year prior to his official appointment as Commander, Major Ripley had already begun to impose his vision for the National Armory and his military discipline upon Springfield Armory. Major Ripley's plan for the Armory was essentially an extension of Roswell Lee's "Grand National Armory," but on an extremely ambitious scale. His goals of improving the appearance of the site and the productivity of the arms manufactory would include the acquisition of additional land at the hill site and the construction of new buildings to support the growth of the Armory. Among the more prominent structures erected during Ripley's tenure were the Commanding Officer's Quarters and the New Arsenal, both situated at the west end of Armory Square. Major Ripley's expansion of the physical plant at the Armory resulted in the ordered aesthetic appearance of the hill site in the nineteenth century, which endured through the current century. In addition, his efforts to improve the manufacturing at the Armory accomplished his goal of increased productivity during his thirteen years as Commanding Officer.

Major Ripley's initial projects on the site included painting the exteriors of the more prominent buildings on the hill, followed by more substantial undertakings. His first

<sup>33</sup> Ibid., 120–121.

<sup>34</sup> Whittlesey, 124. Regulation of the War Department, Oct. 1, 1842, signed by I. C. Spencer, House Document #207, 2<sup>nd</sup> Session, 27<sup>th</sup> Congress (SPAR Archives Collection).

<sup>35</sup> Whittlesey, 124.

estimate for funds for the Armory submitted on October 29, 1841 totaled over \$30,000 and included a new trunk and flume for the Water Shop, new machinery, repairs to the Superintendent's Quarters, and improvements to and fencing of the grounds.<sup>36</sup> Ripley apparently received some of the necessary funding, but later determined that the disrepair of the Superintendent's Quarters required that it be entirely rebuilt.<sup>37</sup> Though this specific request was denied, Ripley was given the authority to proceed with repairs to the shops and machinery, and to temporarily suspend operations to achieve those repairs. Some workers were soon discharged as a result of the work, and the entire plant was shut down in August 1842 for more extensive repairs. Manufacturing at Springfield resumed on November 1, 1842 and Major Ripley reinstated some, but not all of the workers.<sup>38</sup>

Ripley's actions in November 1842 were contentious on two levels: first, he released from employment workers who had previously enjoyed the less strict regulations of the civilian superintendence; secondly, he hired many Irish Catholic workers who had followed him from the Kennebec Arsenal. His actions raised the ire of the portion of the Springfield population that opposed military command, and also created animosity toward the Irish Catholics in a predominantly Protestant town.<sup>39</sup> In his defense Major Ripley argued that he had dismissed workers who had abused their

former positions and whose employment was not in the public interest, nor that of the armory. Among his grievances Ripley noted:

“irregular work hours, leaving the shops at pleasure to attend to private concerns, reading newspapers during hours of labor, and smoking in the shops. The most serious abuse of all was the established idea that the men were entitled to their places beyond the term of time for which they were hired, and could not rightfully be discharged without rendering to them satisfactory reason. In truth, the pretensions of the men were such as, if yielded to, placed the establishment under their control.”<sup>40</sup>

Ripley's actions not only fueled the opposition to his command by the general populace, but also ignited a feud between Ripley and Charles Stearns.

Charles Stearns was a local builder and real estate developer who had been involved in the growth of Springfield and was apparently well connected to the local political scene. Stearns's opposition to military superintendence and his interest in real estate around the Armory hill site would lead to a protracted conflict between himself and Major Ripley. This was due in part to the fact that Stearns's real estate interests in the vicinity of the Armory were affected by Ripley's discharge of workers in 1842. Displaced workers had to move elsewhere for work, which created a surplus of houses near the hill and depressed the market in which Stearns had a large stake. The ensuing conflict between Ripley and Stearns was well documented in correspondence and court records. The feud was exacerbated in 1843 when Ripley demolished the Superintendent's Quarters,

<sup>36</sup> Major James W. Ripley to Chief of Ordnance, Col. George Bomford, October 29, 1841; Letters Sent to Chief of Ordnance 1836–1895, Vol. 1 of 20, Entry 1354, Record Group (RG) 156. NARA Northeast Region (Waltham, MA).

<sup>37</sup> Ripley to Lt. Col. George Talcott, now Chief of Ordnance, April 25, 1842; Letters Sent to Chief of Ordnance 1836–1895, Vol. 1 of 20, Entry 1354, RG 156. NARA Northeast Region (Waltham, MA).

<sup>38</sup> Whittlesey, 123–124.

<sup>39</sup> Whittlesey, 124–125.

<sup>40</sup> Defense of Major James W. Ripley, read before the Court of Inquiry at Springfield, March 16, 1846, 4. Senate Document, #344, 29<sup>th</sup> Congress, 1<sup>st</sup> Session. Washington, Ritchie, and Heiss, 1846; as cited by Whittlesey, 124.

which Stearns had helped build. Derwent Whittlesey and John Albright documented the rift that lasted throughout Ripley's tenure.<sup>41</sup>

The opposition to Major Ripley's command and the reforms that it embodied did not deter his progress and actually appeared to strengthen his resolve. Major Ripley's ambitious plan for the Armory was evident in his estimated budget for fiscal year 1843, which included vast improvements to the hill site.

In brief, these plans comprised the purchase of additional land on the north and west of the government holdings on the hill, grading and planting the tract, laying out roads around the margins of it, fencing the remaining ground, and the construction of new buildings on a comprehensive scale.<sup>42</sup>

A rash of fires at the Armory in the winter of 1842–43, including two that were attributed to arson, strengthened Ripley's request for fencing of the Armory grounds.<sup>43</sup> Among Major Ripley's initial building projects on the hill was the new Superintendent's Quarters. Though his first budget had included funds to repair the existing quarters, a subsequent investigation and report found that the building should be abandoned and demolished.<sup>44</sup> Ripley's request to remove the existing Superintendent's Quarters was approved in April 1843.<sup>45</sup> However, budget constraints

<sup>41</sup> Whittlesey, 125–144. Albright, 22–46.

<sup>42</sup> Whittlesey, 129.

<sup>43</sup> Ripley to Talcott, Jan. 3, 1843; Letters Sent to Chief of Ordnance 1836–1895, Vol. 1 of 20, Entry 1354, RG 156. NARA Northeast Region (Waltham, MA).

<sup>44</sup> Ripley to Talcott, April 25, 1842; Letters Sent to Chief of Ordnance 1836–1895, Vol. 1 of 20, Entry 1354, RG 156. NARA Northeast Region (Waltham, MA).

<sup>45</sup> Talcott to Ripley, April 20, 1843; Registers of Letters Received from Chief of Ordnance, Entry 1364, RG 156. NARA Northeast Region (Waltham, MA).

and public scrutiny of the operations at the Springfield Armory delayed the replacement of the quarters until 1845.

The construction of the Commanding Officer's Quarters on a new site in 1845 marked the beginning of Major Ripley's building campaign that would continue through 1854, the end of his term as commander. During this same period additional land on the west slope of the hillside was purchased to extend the boundaries of the Springfield Armory. Between the western boundary of the 1801 property and Byers Street several lots were added to the grounds of the Armory between 1841 and 1852, as well as two more lots in 1856 after Ripley's command.<sup>46</sup> This expanded the Armory hill site and created a buffer west of the new Commanding Officer's Quarters.

The Mexican War fueled an increase in production at the Springfield Armory. "From July 1846 until July 1847, Springfield produced '14,300 muskets complete, spare parts equal to 1,000 muskets, tools, and other items.'"<sup>47</sup> During this period and throughout his tenure at the Springfield Armory, James W. Ripley pursued excellence and expediency in the manufacture of arms and strived to create an impressive facility. "For meritorious conduct, particularly in the performance of his duty in the prosecution of the War with Mexico," Major Ripley was brevetted Lieutenant Colonel (Bvt. Lt. Col.) on May 30, 1848.<sup>48</sup> The increased production

<sup>46</sup> "Map of Main Ground of Springfield Armory, Approximate Boundaries of Land Plots Conveyed to U.S. Gov't, Springfield Armory U.S.A." Sept. 7, 1912, U.S. Ordnance Department. Map Case 2, Drawer A, Folder 3; SPAR Archives Collection.

<sup>47</sup> Albright, 26.

<sup>48</sup> George W. Cullum. *Biographical Register of the Officers and Graduates of the U.S. Military Academy* (Cambridge, MA: The Riverside Press, 1891, 3<sup>rd</sup> Edition, Volume I).

during his tenure was accompanied by an expansion of the facilities.

The new Commanding Officer's Quarters was well underway in 1846 when Major Ripley started planning for two additional buildings on the hill. Plans for the Long Storehouse (Building 19) and the New Arsenal (Building 13) were submitted to the Chief of Ordnance in that year, and construction of the buildings would soon follow. The Long Storehouse, which was constructed for storing "musket stocks, box boards, and other lumber," was begun on September 4, 1846 and was nearing completion by June 30, 1847.<sup>49</sup> In October 1846 Major Ripley forwarded plans of the new Main Arsenal to Lieutenant Colonel (Lt. Col.) George Talcott, Chief of Ordnance, for his approval.<sup>50</sup> As the construction of Ripley's new quarters was nearing completion in the spring of 1847, the excavation of the foundation for the new Arsenal had begun.<sup>51</sup> The Main Arsenal was constructed on the site of the former Superintendent's Quarters and was completed in 1850.<sup>52</sup> It was flanked by the Greek Revival-style Paymaster's House and Master Armorer's House, erected by Roswell Lee in 1833, as well as the Commanding Officer's Quarters to the north (figs. 7 and 8). The row of buildings

defined the west end of Armory Square and helped achieve Major Ripley's vision for the Springfield Armory.

In addition to these significant structures, additions were made to the Machine Shop (Annex/Building 27) at the northeast corner of the hill site. Historic documents indicate that the building was extended 61 feet, and that a 50-foot-long wing was added to the north side of the building.<sup>53</sup> Both of these additions were two stories high, and physical evidence suggests that they are part of the building today.

Major Ripley's improvements to the hill site also included numerous projects on the grounds. Annual appropriations were expended on grading newly acquired property, adding turf, planting shade trees, installing stone flagging for the sidewalks around the square, and constructing fences around the perimeter of the Armory.<sup>54</sup> Of these projects, the fencing was probably the most conspicuous addition to the landscape.

Though the fence was initially constructed with pickets and high boards, Ripley disliked the appearance and began planning for an ornamental iron fence set in a foundation of native sandstone. The foundation materials were taken from a Longmeadow, Massachusetts, quarry starting in October 1847, but the patterns for the pickets and gates were not approved until May 1852 by then Bvt. Lt. Col. James W. Ripley. Ripley did witness the installation of the iron fence and Main Gate along State Street, but would not see the entire fence completed during his command.<sup>55</sup> The decorative iron fence had not yet been completed at Armory Hill in 1851, as it was not depicted in the Map of Springfield from that year (fig. 8), nor was it described by journalist James Abbott for *Harper's New Monthly Magazine* in 1852:

<sup>49</sup> Perrault and Quinn, Vol. I, 36. The *Building 19, Historic Structure Report* documented that the first two sections of the Long Storehouse were built between 1846 and 1849. The building was also added to in 1861 and 1862, and achieved its full length by 1864 (Perrault and Quinn, Vol. I, 36–39).

<sup>50</sup> Ripley to Talcott, Oct. 27, 1846; Letters Received 1812–1894, Entry 21, RG 156. Perrault and Quinn, research files for Building 19, HSR, Draft, HAP, Lowell, MA; originals at NARA.

<sup>51</sup> Robert L. Carper and Richard G. Turk, *Historic Structure Report, Architectural Data Section, Springfield Armory National Historic Site, Massachusetts*. (Denver, CO: U.S. Department of the Interior, National Park Service, Sept. 1984) 11.

<sup>52</sup> Carper and Turk, 11.

<sup>53</sup> Lee, *Building 27, HSR*, 54.

<sup>54</sup> Whittlesey, 135; Albright, 27.

<sup>55</sup> Whittlesey, 136; Albright, 29.

On reaching the summit of the ascent, the visitor finds himself upon an extended plain, with streets of beautiful rural residences on every hand, and in the center a vast public square occupied and surrounded by the buildings of the Armory. These buildings are spacious and elegant in their construction, and are arranged in a very picturesque and symmetrical manner within the square, and along the streets that surround it. The grounds are shaded with trees; the dwellings are adorned with gardens and shrubbery. Broad and neatly kept walks, some graveled, other paved, extend across the green or along the line of the buildings, opening charming vistas in every direction.<sup>56</sup>

Though his focus for the Springfield Armory was on the hill, Ripley did make some modifications to the Upper Water Shops during his command as part of the improvements to the manufacturing systems.<sup>57</sup>

James W. Ripley's thirteen years as Commander may have been marked by controversy, but he had made great strides toward the creation of his vision of the Springfield Armory. During his tenure production was streamlined and increased, and the buildings and grounds were vastly improved. One of his last projects was the painting of the exteriors of most of the buildings around the square with a uniform color from 1852 through 1853.<sup>58</sup> The final inspection report during Bvt. Lt. Col. Ripley's command found the buildings on the hill in good condition and praised

<sup>56</sup> Jacob Abbott, "The Armory at Springfield," *Harper's New Monthly Magazine*, No. XXVI, Vol. V, July 1852.

<sup>57</sup> Whittlesey, 135.

<sup>58</sup> Ripley to Col. H. K. Craig, Chief of Ordnance, May 31, 1854; Letters Sent to Chief of Ordnance, 1836–1895, Vol. 2 of 20, Entry 1354, RG 156. NARA Northeast Region (Waltham, MA).

Ripley's improvements to the Springfield Armory.

As an important manufactory, this Armory, its character, its facilities for fabricating arms, and its products, are not less honorable to the country than useful, and in every view connected with public pride, and utility, it demands the liberal support of the government.

In its plan, construction, and arrangement, it should be such, as to convey the impression of the power of the country to supply an important means for the effective defence [sic], independent of foreign, or private, aid, and like other of our governmental constructs [sic], it should possess both qualities of permanency and architectural perfection.

Plans, looking to the future greatness, and consequently increased wants of the country should be adopted for this armory, and executed with skill, and liberal economy.<sup>59</sup>

During what would be James W. Ripley's last year as Commander of the Springfield Armory, a special committee was appointed to review the issue of civil versus military superintendence in 1853. The review of the commission and Bvt. Lt. Col. Ripley's defense of his command and military superintendence was documented by Derwent Whittlesey. The outcome of this commission was the passage of an act repealing the appointment of military officers as superintendents to the National Armories by President Franklin Pierce in August 1854.<sup>60</sup> The War Department instructed Ripley to turn over the Armory to his Master Armorer, which he did with expediency, leaving his command at the Springfield Armory on August 16, 1854.<sup>61</sup>

<sup>59</sup> Lt. Col. R. S. Baker, Springfield Armory Inspection Report, Oct. 3, 1853; Box 63, Entry 1003, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>60</sup> Whittlesey, 139–44.

<sup>61</sup> Albright, 46.

John Albright has aptly summed up James W. Ripley's contributions and accomplishments to the Springfield Armory, as well as his legacy evident in the extant facilities and grounds of the Armory.

Lieutenant Colonel James Ripley had taken over an establishment whose basic plan had been conceived by the energetic and competent Major Roswell Lee. Ripley had expanded on Lee's concept of buildings surrounding the open square, and not only reinforced that appreciation of the relationship of space, landscape vistas, and buildings, but had improved the technical and manufacturing process at the site as well.<sup>62</sup>

Albright concluded:

The Armory contained all the major buildings that the National Park Service would gain responsibility for over 120 years later. No major construction took place after Ripley's administration in that portion of the Armory which is now a national historic site. The subsequent history of the site is the narration of major changes which include the removal of the two buildings flanking the Main Arsenal, and the modernization and erection of outbuildings. But the major configuration of the 1854 complex and of the 1977 complex are identical.<sup>63</sup>

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<sup>62</sup> Albright, 45–46.

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<sup>63</sup> Albright, 46.

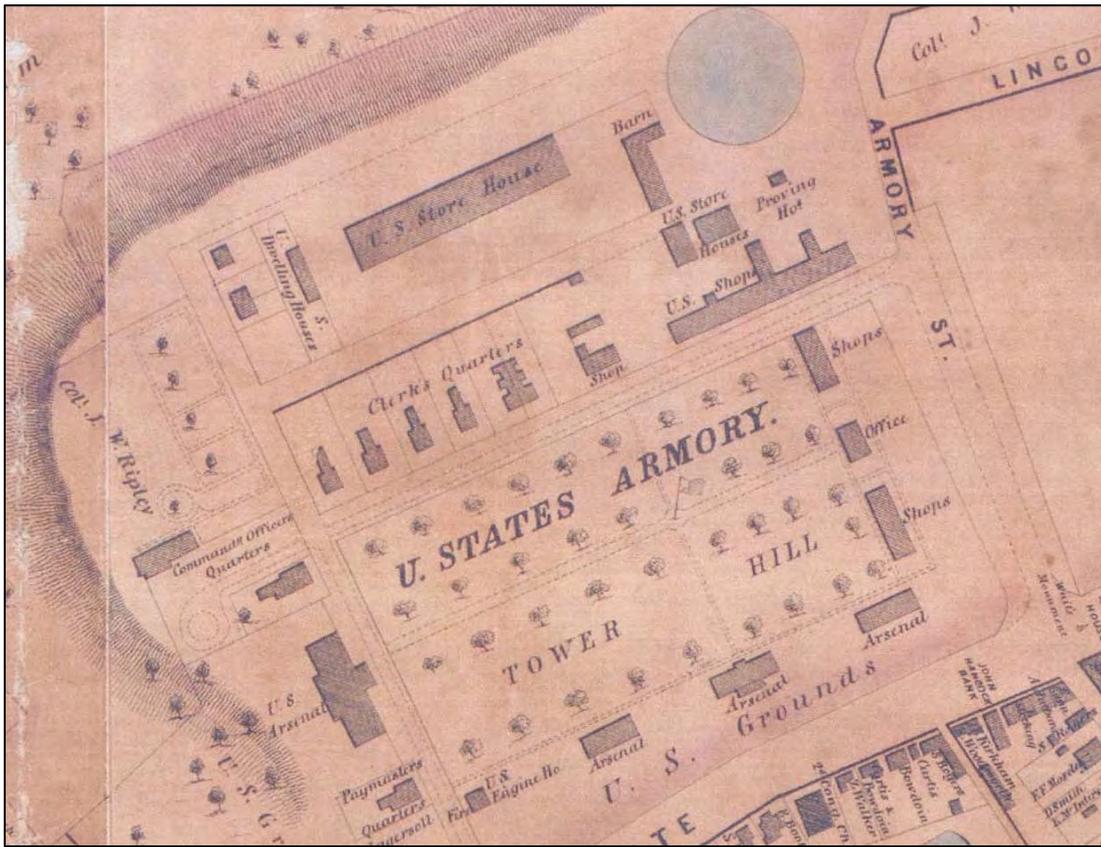


Figure 8. Detail of U.S. Armory from Map of Springfield, Massachusetts, surveyed and drawn by Marcus Smith and H.A. Jones; Published by M. Dripps, New York, 1851.



Figure 9. Springfield Armory Main Arsenal looking west. Paymaster's House to the south (left), Master Armorer's House to the north (right), and Commanding Officer's Quarters far to the north, circa 1870.

## The Springfield Armory, Later Years (1854–1968)

### *Pre–Civil War Development*

General James S. Whitney, a political appointee, assumed the duties of the Superintendent on October 19, 1854.<sup>64</sup> As previously described, Whitney inherited a well-run armory that, with the exception of the Water Shops, was in overall good condition with an efficient manufactory. Superintendent Whitney came to rely on the procedures and personnel of his predecessor to run the Springfield Armory.<sup>65</sup>

During his command James W. Ripley had focused on developing the manufacturing on the hill and allowed the Water Shops deteriorate, which was noted by Lt. Col. R. S. Baker during his inspection in June 1854.<sup>66</sup> Consequently, Superintendent Whitney found the Water Shops in dilapidated condition, and requested funds to rebuild the Upper and Lower Water Shops and raise the Dam.<sup>67</sup> Whitney's improvements included the sale of the Lower Water Shops, consolidation of the Middle and Upper Water Shops that included the demolition of some existing buildings, and construction of new buildings and dams. Construction of the

<sup>64</sup> James S. Whitney, Esq. to Lt. Col. Craig, Chief of Ordnance, Oct. 19, 1854; Letters Sent 1835–1860, Entry 1351, RG 156. Perrault and Quinn, research files; microfilm roll 159 SPAR Archives Collection; originals at NARA.

<sup>65</sup> Whittlesey, 145–146.

<sup>66</sup> Baker, Springfield Armory Inspection Report, June 16, 1854; Entry 1003, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>67</sup> Whitney to Craig, Nov. 17, 1854; Letters Received 1812–1894, Box 144, Entry 21, RG 156. Perrault and Quinn, research files; originals at NARA.

new Water Shops was started during the summer of 1856, and by 1860 all the new buildings were in place.<sup>68</sup> In June 1860 Lt. Col. Ripley, now Inspector of Armories and Arsenals, reported that there were several improvements near the new Water Shops, including a new magazine for storing powder and the removal of nearly all the old buildings at the former Middle Water Shop.<sup>69</sup> The work at the Water Shops demanded a large percentage of Whitney's time and effort, but he also managed to continue Ripley's project of enclosing the hill with iron fencing. In June 1855 he ordered the casting of additional sections of fence,<sup>70</sup> and by the end of fiscal year 1856 the Federal Street side of the fence was completed.<sup>71</sup> Erection of fencing along Byers and Pearl Streets would have to wait until those roads were completed and all the abutting property attained by the Government.<sup>72</sup> In August 1859 Superintendent Whitney authorized the delivery of the stone gateposts for the corner of Byers Street;<sup>73</sup> the fence was installed on that street by mid-1860.<sup>74</sup> Continuation of the fence along Pearl Street would not be completed until 1862, after Whitney's term as Superintendent.<sup>75</sup>

<sup>68</sup> Whittlesey, 148–149.

<sup>69</sup> Ripley, Springfield Armory Inspection Report, June 20, 1860; Entry 1003, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>70</sup> Whitney to Ames Manufacturing Co., Chicopee, MA, June 20, 1855; Letters Sent 1835–1860, Entry 1351, RG 156; microfilm roll 159 SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

<sup>71</sup> Whittlesey, 146.

<sup>72</sup> Ibid.

<sup>73</sup> Whitney to A. S. Dwelly, Esq., Aug. 26, 1859; Letters Sent Jan. 1858–Aug. 1860, Entry 1351, RG 156; microfilm roll 159 SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

<sup>74</sup> Whittlesey, 146.

<sup>75</sup> Albright, 48–50.

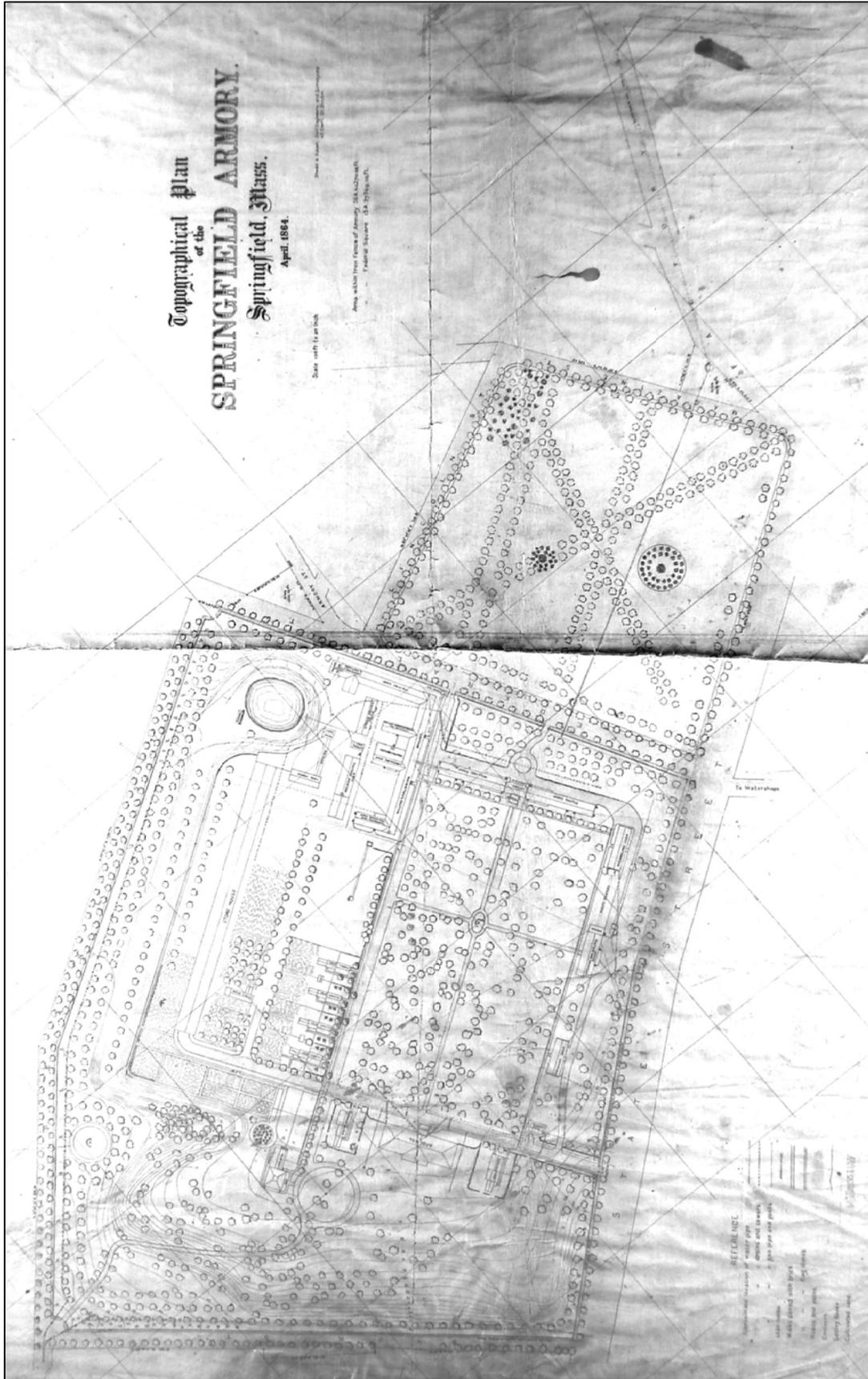


Figure 10. "Topographical Plan of the Springfield Armory, Springfield, Massachusetts, April 1864." Shedd and Edson, Civil Engineers and Surveyors, 42 Court Street, Boston, Massachusetts.

## *Civil War Growth and Production*

During the Civil War activity at the Springfield Armory increased in response to the destruction of the U.S. Armory at Harpers Ferry in April 1861 and the needs of the Union Army. In May of that year Superintendent George Dwight wrote Lt. Col. Ripley, now Chief of Ordnance, that “The production at this Armory will be by the 10<sup>th</sup> of June at the rate of one hundred muskets per day.”<sup>76</sup> Plans and estimates “for new Work Shops and their Machinery designed when completed, in connection with the other machinery, to produce the required standard of one hundred thousand stands of arms annually” were forwarded to Ripley on June 17, 1861.<sup>77</sup>

Captain Alexander B. Dyer, Ordnance Department, took over superintendence of the Springfield Armory in August 1861 and would oversee the increased production and expansion of the Armory through most of the Civil War. In June 1863, now Major A. B. Dyer reported that the building projects for the year included an addition to the Storehouse, a Drying House, a Forging Shop, a Tempering and Case Hardening Shop, and an Engine Room and Boiler House, as well as the addition of a second story to the Polishing and Annealing Shops.<sup>78</sup>

Major Dyer’s report also documented that 217,782 rifle muskets had been fabricated

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<sup>76</sup> George Dwight to Lt. Col. Ripley, May 20, 1861; Letters Received 1812–1894, Box 184, Entry 21, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>77</sup> Dwight to Ripley, July 17, 1861; Letters Received 1812–1894, Box 185, Entry 21, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>78</sup> Major A. B. Dyer to Chief of Ordnance Ripley, June 30, 1863, Letters Sent to Chief of Ordnance 1836–1895, Entry 1354, RG 156; microfilm roll 195, SPAR Archives Collection.

during the previous year.<sup>79</sup> The increase in production during this period was represented in the following passage from *King’s Handbook of Springfield*, “United States Armory,” published in 1884:

When Fort Sumter was fired upon, about 1,000 guns per month was the production; three months after, the number was increased to 3,000 per month; and gradually the number was increased till, as before noticed, in 1864 the product for a day’s work was 1,000; and many days the same number were boxed and shipped to the quartermasters of the army in different parts of the country...<sup>80</sup>

Not only did production increase during this period, but the advent of the Civil War gave Chief of Ordnance Ripley the opportunity to enact legislation that would require the appointment of Ordnance Officers as superintendents for the U.S. Armories.<sup>81</sup> The irony of Ripley’s actions seven years after his removal from military command of the Springfield Armory is not lost on historians.

The development of the Springfield Armory, and specifically the Hill Shops, during this period is documented by a topographical map surveyed and drawn by Engineers Shedd and Edson in 1864 (fig. 10). The map reflects some of the changes to the site since the 1850s and depicts the concentration of manufacturing on the hill, including an expansive workshop (Building 27) northeast of the square, which had grown to comprise most of its present form. Though a large section of the workshops

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<sup>79</sup> Ibid.

<sup>80</sup> Albert Kirkham, “United States Armory,” *King’s Handbook of Springfield*, 1884, 252–53 (reproduced by Albright, Appendix B, 118).

<sup>81</sup> Whittlesey, 146. Note: James W. Ripley served as the Chief of Ordnance from April 23, 1861 through Sept. 14, 1863. He was brevetted Brigadier General on July 2, 1861 and received his full commission as Brig. Gen. on August 3, 1861 (Cullum, 119).

was damaged by fire on July 2, 1864, most of the building was salvageable and was soon repaired.<sup>82</sup>

The Armory grounds appear to be graded and completely enclosed by the iron fence on the 1864 map (fig. 10). There were entrance gates on State Street and Federal Street with another located at the corner of Byers and Pearl Streets that had an access road to the circle in front of the Commanding Officer's Quarters. The map depicts the layout of the roads and walkways at the Armory, many of which survive today. The Armory grounds and square, then known as Union Square, were landscaped with trees, hedges, and gardens. The trees around the perimeter and along some of the roads and walks were orderly, while the trees on the Green and west hillside had a more natural arrangement.

Near the close of the Civil War, the rural landscape with farms and light development in the neighborhood of the Springfield Armory was beginning to change. John Albright points out that the development of Springfield and the hill around the Armory was atypical for a New England mill town. The architecture, landscaping, and overall layout of the properties on the hill were aesthetically appealing and not part of the squalor so often associated with mill towns. Indeed, the pleasant appearance of the developing neighborhood was apparently influenced by the Armory, and they became part of the same fabric.<sup>83</sup>

The transformation of the neighborhood around the Springfield Armory after the Civil War served to connect the facility with the greater Springfield community. This development was illustrated in a bird's-eye

view of Springfield drawn in 1875 (figs. 11 and 12) and described by Albright:

At roughly the same time, the land between downtown Springfield and the Armory, marked today by churches, two cathedrals, museums, and the public library, began to take on the character that the area shows now. The developments bounded the Armory and reflected the careful mix of architectural and landscaping considerations evident in one form or another at Springfield Armory.<sup>84</sup>

### *Post-Civil War Progress*

After the Civil War, production at the Springfield Armory slowed down and some of the work shifted to repairs to guns shipped to the Armory. The *Springfield Republican* documented the arrival of damaged arms in 1866 and 1867. It indicated that tens-of-thousands weapons were received at the Armory during that time including guns, knives, sabers, and bayonets. The newspaper reported that "A museum, to be composed of the curiosities collected among the returned guns, is contemplated."<sup>85</sup> It was also reported on February 24 "Yesterday more than fifty boxes of old guns, sent in for storage and repairs, were received at the east arsenal, most of them from arsenals in western cities. An immense number of these old guns is now collected at the armory here, and the work of packing is constantly going on. In the basement of the east arsenal building, a long and wide apartment, it is estimated that as many as 75,000 guns, all of the Enfield and Springfield patterns, are now stored."<sup>86</sup> The collection of weapons was apparently the genesis for a museum at the Springfield Armory.

<sup>82</sup> Dyer to Brig. Gen. George D. Ramsey, Chief of Ordnance, July 3–6, 1863, Letters Sent to Chief of Ordnance, 1836–1895, Entry 1354, RG156; microfilm roll 195, SPAR Archives Collection.

<sup>83</sup> Albright, 60.

<sup>84</sup> Albright, 57.

<sup>85</sup> *Springfield Republican*, January 2, 1866.

<sup>86</sup> *Springfield Republican*, February 24, 1866.

Soon after taking command of the Armory in June 1866, Col. J. G. Benton requested “specimens of muskets, rifles, carbines, pistols and swords as he may deem desirable for a museum of small arms.”<sup>87</sup> The *Springfield Republican* further chronicled the arrival of arms to the Armory, and on July 29, 1867 reported that visitors to the Armory could view the museum that was forming in the tower of the office building (Building 16).<sup>88</sup> Though this may have remained an informal museum for the time, Col. Benton continued to add to the collection including several specific requests to Major S. Crispin in 1870.<sup>89</sup> By 1871 it appeared that the Armory Museum was official when Col. Benton forwarded a “catalogue of the Armory Museum” to the Chief of Ordnance.<sup>90</sup>

Upon Col. Benton’s request, select pieces from the Armory Museum were exhibited by Lieut. Metcalfe at the 1876 Centennial Exhibition in Philadelphia.<sup>91</sup> After that exhibit the museum continued to be housed at the Armory in Building 16, and was later known as the Small Arms Museum. The museum was moved to Building 27 in 1939, and then to the Main Arsenal in 1968.<sup>92</sup>

There were few changes to the Springfield Armory during the 1870s. The building at the southern corner of the Green was replaced with a double officers’ quarters (Building No. 5 & 6) in 1870. The new duplex quarters was constructed with brick and brownstone with a slate roof in keeping with other buildings on the hill. However, it

<sup>87</sup> Col. J. G. Benton to Gen. A. B. Dyer, Chief of Ordnance, July 27, 1866; SPAR Archives Collection.

<sup>88</sup> *Springfield Republican*, July 29, 1867.

<sup>89</sup> Col. Benton to Major S. Crispin, Ordnance Agency, New York, November 16, 1870; SPAR Archives Collection.

<sup>90</sup> Col. Benton to Chief of Ordnance, March 18, 1871; SPAR Archives Collection.

<sup>91</sup> Col. Benton to Chief of Ordnance, May 6, 1875; SPAR Archives Collection.

<sup>92</sup> Lee, *Building 27 HSR*, 82.

was designed in the Second Empire style of the Victorian era, which was a departure from the more classical architecture of the earlier buildings (see subsequent section “Chronology of Development and Use”).<sup>93</sup>

A map from the Annual Report of the Secretary of War in 1875 documents the relocation of the main entrance gate from State Street to the corner of State and Byers Streets, as well as the addition of the access road for the new entrance that ran southeast of the Paymaster’s Quarters (fig. 13). During this period the Armory Hill Shops that were involved in arms manufacturing included present-day Building 16 (marked as 14–16 on the map) and Building 27 (marked as 17–21 on the map). On the 1875 map, Building 27 has the same layout as in 1864, most of which survives today. Also evident on this map is the addition of an unidentified building, No. 29, to the Federal Square parcel, which was northeast of the main Armory. A bird’s-eye view of Springfield in 1875 shows the hill site of the Armory and the Water Shops in the larger context of the city (fig. 11). The view depicts the new Byers Street entrance and an adjacent gatehouse at the Armory. It also illustrates the development of the neighborhood around the Armory, and between the Armory and downtown Springfield, which was previously discussed (fig. 12).

The arrangement of the buildings at the west end of the square changed in 1879 when the Master Armorer’s Quarters was moved to a new site near the west end of the Long Storehouse. The contract for preparing a new foundation and moving the building was signed by Col. J. G. Benton, Superintendent, on October 27, 1879.<sup>94</sup> The

<sup>93</sup> Sarles, Myers, et al., 21.

<sup>94</sup> Contract by Col. J. G. Benton with H. C. Trask, Oct. 27, 1879; Contracts for Ordnance Supplies and Construction 1806–1918, Series I, Entry 1382, RG 156. Perrault and Quinn, research files; originals at NARA.

contract specified that the work should be done over a two-month period, and on January 3, 1880 the relocated quarters was inspected and approved by the Ordnance Department Assistant Inspector.<sup>95</sup>

A map of the Springfield Armory that includes updates through 1882 shows only slight changes to the site, including the relocation of the Master Armorer's Quarters. Construction at the Armory began to increase near the end of that decade under the direction of Superintendent A. R. Buffington, Lieutenant Colonel, Ordnance Department. The development was focused on Federal Square and began in 1887 when Lt. Col. Buffington contracted for the construction of a fireproof milling shop.<sup>96</sup> A map of Federal Square dated January 1888 shows the new Milling Shop and two additional building complexes that were proposed for the site (fig. 14). These included a "Carpenter and Stocking Shop" in one structure and a "Machine Shop and Assembling, Filing and Polishing, Machine Shop Office and Drafting Room, Hardening and Tempering, Engine, Boiler, and Blacksmith" in another building that was 430 feet long with a central cross section and wings on both ends. The contract for building a fireproof Stocking and Carpenter Shop was signed in 1888,<sup>97</sup> and by the 1890s the facilities at Federal Square had noticeably changed. Though the structures around Armory Square were not

extensively altered during this period, the addition of a covered piazza on the Commanding Officer's Quarters created a noticeable difference in the appearance of that building.

An inspection report for the Springfield Armory in 1892 noted that the post was still lighted by gas.<sup>98</sup> In 1894 General Electric Company was contracted to provide two dynamos that would deliver 200 amps at 125 volts.<sup>99</sup> Though the contract did not specify the location of the electrical components, they were probably located in the area of new construction at Federal Square (an electric light plant for the Water Shops was constructed in 1899).<sup>100</sup>

The improvements to the site in the 1890s are reflected in the 1897 plan of the "Main Grounds of the U. S. Springfield Armory" (fig. 15). The plan depicts the Hill Shops in both Armory and Federal Square, and clearly shows the development of Federal Square. At the west end of the Square the Pay Master's Quarters had been moved in 1895, which left the Main Arsenal to form the terminus for that end of the square.<sup>101</sup> As John Albright pointed out, the site plans of the Hill Shops provide consistent documentation of the changes since 1864 and help chronicle the development of the Springfield Armory through the twentieth century.

<sup>95</sup> Ibid.; contract file includes a memo by Assistant Inspector (signed name illegible) dated Jan. 3, 1880.

<sup>96</sup> Contract by Lt. Col. A. R. Buffington with Darling Brothers, August 1, 1887; Contracts for Ordnance Supplies and Construction 1806–1918, Series I, Entry 1382, RG 156; microfilm roll 141, SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

<sup>97</sup> Buffington with Darling Brothers, June 27, 1888; Contracts for Ordnance Supplies and Construction 1806–1918, Series I, Entry 1382, RG 156; microfilm roll 141, SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

<sup>98</sup> Inspection of U.S. National Armory, June 16, 1892; Box 63, Entry 1003, RG 156. Perrault and Quinn, research files; originals at NARA.

<sup>99</sup> Contract with General Electric Company, Nov. 11, 1894, Contracts for Ordnance, Supplies and Construction, 1806–1918, Entry 1382, RG 156. NARA Northeast Region (Waltham, MA).

<sup>100</sup> Contract with General Electric Company, June 6, 1899, Contracts for Ordnance, Supplies and Construction, 1806–1918, Entry 1382, RG 156. NARA Northeast Region (Waltham, MA).

<sup>101</sup> Albright, 74–75.



Figure 11. "View of Springfield, Massachusetts, 1875." The hill site of Springfield Armory was listed as "Public Buildings, No. 7 - U.S. Army" and the Water Shops were listed as "No. 8 - U.S. Water Shops."



**Figure 12.** Detail from bird's-eye view of Springfield, Massachusetts, 1875. The illustration depicts the Armory and the development of the neighborhood and town as described by historian John Albright.

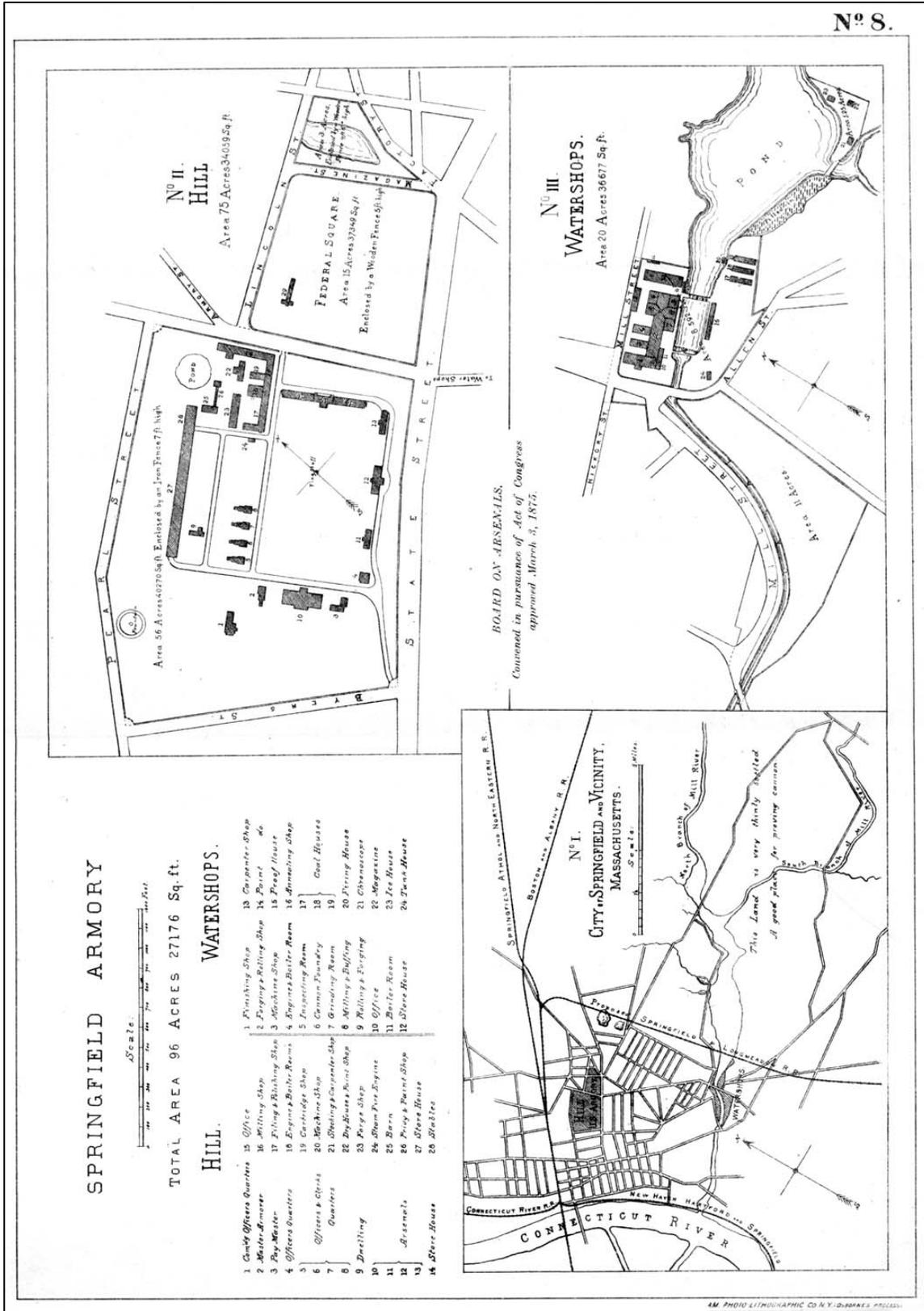


Figure 13. "Springfield Armory, Hill (and) Watershops," Secretary of War Report, 1875.



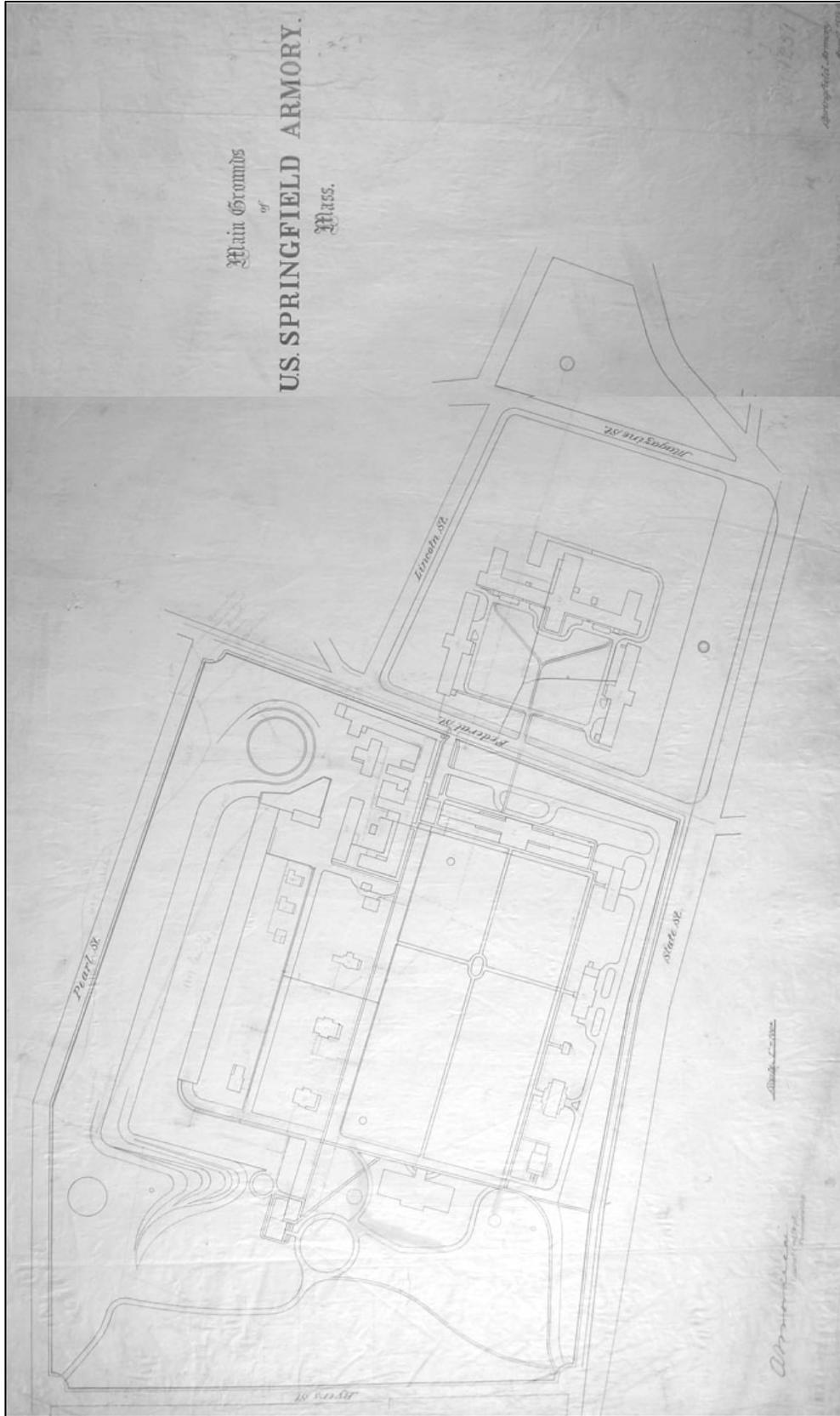


Figure 15. "Main Grounds of U. S. Springfield Armory, April 15, 1897."

## *Early Twentieth Century through the World Wars*

Early-twentieth-century changes to the Springfield Armory Hill Shops included updating and modernizing much of the infrastructure. Correspondence documents improvements to the gas, electric, water, and sewer systems, including switching the Commanding Officer's Quarters from spring water to city water. The installation of fire hydrants during this period was apparently part of the improvements that brought city water to the Armory. Development of the electric service for the site included the construction of the Electric Light Plant and the erection of electric light poles along the Pearl Street side of the Armory.<sup>102</sup>

Building construction at Armory Square during this period was not extensive and appears to have been limited to just a few structures. Among those was a new Gatehouse at the Byers Street entrance gate, and the construction of two greenhouses, one of which was located northeast of the Commanding Officer's Quarters.<sup>103</sup> Otherwise, building improvements in the early twentieth century were focused on systems improvements and maintenance.

A similar pattern of development apparently persisted during World War I (WWI), leading to the conclusion that efforts at the Armory were focused on weapons development for the Ordnance Department.<sup>104</sup> Though annual reports from 1913 and 1916 reported decreases in the manufacturing, experimentation and development of arms continued. Production at the facility increased in 1917, coinciding with the entry of the United States into WWI. The Annual Report of the Chief of Ordnance for 1918 reported:

On November 1, 1917, an output of 1,000 rifles per day had been attained. At the close of the fiscal year components are being manufactured at the rate of 1,200 completed rifles. . . To accomplish this the force has been on two shifts throughout the year, and the plant has been in operation 110 hours per week. The number of employees has been more than doubled, and every effort is being made to train and mold the 5,129 employees now on the roll into a well balanced and efficient organization. Women are at work in the shops and their employment will be continued and extended wherever practicable.<sup>105</sup>

The Chief of Ordnance also reported that new machinery and equipment were purchased and that technology was expanding. Additions to the Hill Shops continued to be focused on the Federal Square section of the Armory and included a new Power Plant, a Metallurgical Laboratory, and a Chemical Laboratory.<sup>106</sup> Meanwhile the buildings around Armory Square apparently remained static, having only minor alterations and maintenance during this period. Though the shops at Armory Square remained active, there was an apparent shift in arms manufacturing from the Armory Square shops to the Federal Square shops by the early twentieth century (fig. 16).

Though production of arms slowed after WWI, weapons development and experimentation continued through the 1930s and the M1 rifle was ready for production by 1936.<sup>107</sup> At the same time, improvements and repairs to the physical plant and the buildings were carried out by the Works Progress Administration (WPA, renamed the Work Projects Administration

<sup>102</sup> Albright, 76–78.

<sup>103</sup> Ibid.

<sup>104</sup> Perrault and Quinn, 24.

<sup>105</sup> U.S. Ordnance Department, "Report of the Chief of Ordnance, 1918." (Washington, DC: Government Printing Office, 1918) 1059–60. As cited by Perrault and Quinn, 24.

<sup>106</sup> Perrault and Quinn, 25.

<sup>107</sup> Ibid.

in 1939). Work at the Springfield Armory was reported in the local paper on February 21, 1937:

...there was 350,000 square feet of painting being done; 25,000 square yards of concrete flooring in shops; 20,000 square feet of wooden flooring in shops and houses; construction of three gatehouses where various signals and alarms and watchmen are housed; remodeling an old building into a seven car garage; additions to and renovations of 15 of the housing and storage buildings and the reroofing of two old buildings with slate and copper roofs in addition to the rearranging and cleaning of approximately 1000 tons of stand-by machinery and the replacing of 7000 feet of steam, electric and gas underground mains.<sup>108</sup>

However, all of the improvements by the WPA did not significantly add to the buildings at Armory Square. The garage for the Commanding Officer's Quarters (Building 18) was probably added during this period, as well as the aforementioned gatehouses, but the buildings around the square were retained and not significantly altered or enlarged.<sup>109</sup>

With the advent of World War II (WWII), the Springfield Armory once again witnessed increased production vital to the war effort. The automation of the manufacturing process led to increased production of the M1 rifle, which was the weapon of choice during WWII with nearly 90 percent of those rifles produced at the Springfield Armory.<sup>110</sup> Plans of the Armory from that period indicate that additional

buildings were erected at Federal Square to accommodate the increased production (fig. 17).

### *Post-World War II through Deactivation*

After WWII and through the 1950s and early 1960s, weapons manufacturing focused more on technology and scientific research. At Springfield Armory buildings were adapted or enlarged in order to accommodate uses for communications technology, metals testing, radiographics, etc. Still, the layout of the buildings around Armory Square remained relatively unchanged. The landscape was slightly altered to accommodate vehicular traffic, but was otherwise unchanged.<sup>111</sup>

The Springfield Armory was declared a National Historic Landmark on March 22, 1963, and was scheduled to be phased out as a military installation by April 1968. The Department of Housing and Urban Development (HUD) leased 34.61 acres of the 54.92-acre hill site to the Springfield Technical Institute in 1967. Once the Armory had been deactivated, the Institute, renamed Springfield Technical Community College in 1968, established a campus within the northeastern quadrant of Armory Square. The campus contained former Armory grounds and facilities, including the Parade Green/Armory Square, Officers' Quarters (Building No. 5 & 6), Master Armorer's Quarters (Building 10), Building 11, Building 16, Long Storehouse (Building 19), Annex (Building 27), and Test Range (Building 28a), as well as the iron fence within that portion of the site.<sup>112</sup> Despite the change in use, the college campus retained the structures and spatial appearance of the former Armory. Upon the termination of the thirty-year lease with

<sup>108</sup> "Many Improvements Are Effected by WPA at Springfield Armory," *Springfield Sunday Union and Republican*, February 21, 1937. SPAR Archives Collection. As cited by Perrault and Quinn, 26.

<sup>109</sup> Albright, 83.

<sup>110</sup> Perrault and Quinn, 26.

<sup>111</sup> Ibid.

<sup>112</sup> Perrault and Quinn, 27.

HUD, that portion of Armory Square became the property of the Commonwealth of Massachusetts, and was managed by the Division of Capital Asset Management for the state.

The Springfield Armory Museum, Inc. was established as a nonprofit museum in 1968 after the Armory was deactivated.<sup>113</sup> The museum incorporated the former Small Arms Museum, which now included collections from two world wars and more recent developments in small arms manufacture. The organization leased property from the State of Massachusetts and moved the collection from Building 27 to the Main Arsenal (Building 13).

## **Establishment of the Springfield Armory National Historic Site**

An act passed on October 26, 1974 established a National Historic Site at the former Springfield Armory.<sup>114</sup> The legislation stipulated that the arms collection owned by the Department of the Army, which included the collection of Superintendent Col. J. G. Benton started in the 1870s,<sup>115</sup> should continue to have a presence at Springfield Armory.<sup>116</sup> Springfield Armory National Historic Site was officially opened by the Secretary of the Interior in 1978 under the administration of

the National Park Service. The National Park Service is responsible for approximately 20 acres of land, the Main Arsenal (Building 13), Commanding Officer's Quarters (Building 1) and Garage (Building 18), Gatehouse (Building 33), and the iron fence associated with its portion of the Armory.

Since the deactivation of Springfield Armory, the Armory Square site has retained many of its historic features. Historic structures and landscapes that traditionally defined the space including Armory Square, the Main Arsenal at the west end of the square, and the Administration Building (Building 16) at the east end, as well as the historic structures along the south side of the square including Building No. 5 & 6 at the southwest corner, have been preserved by the National Park Service and Springfield Technical Community College. Construction of modern buildings on the north side of the square, that included the demolition of the west end of Building 27 when Putnam Hall was constructed in 1974 (fig. 3), and the addition of new roads, walkways, and parking lots has impacted the site. However, the overall nineteenth-century configuration of the Springfield Armory has been preserved at Armory and Federal Squares, and many of the historic buildings are standing today.

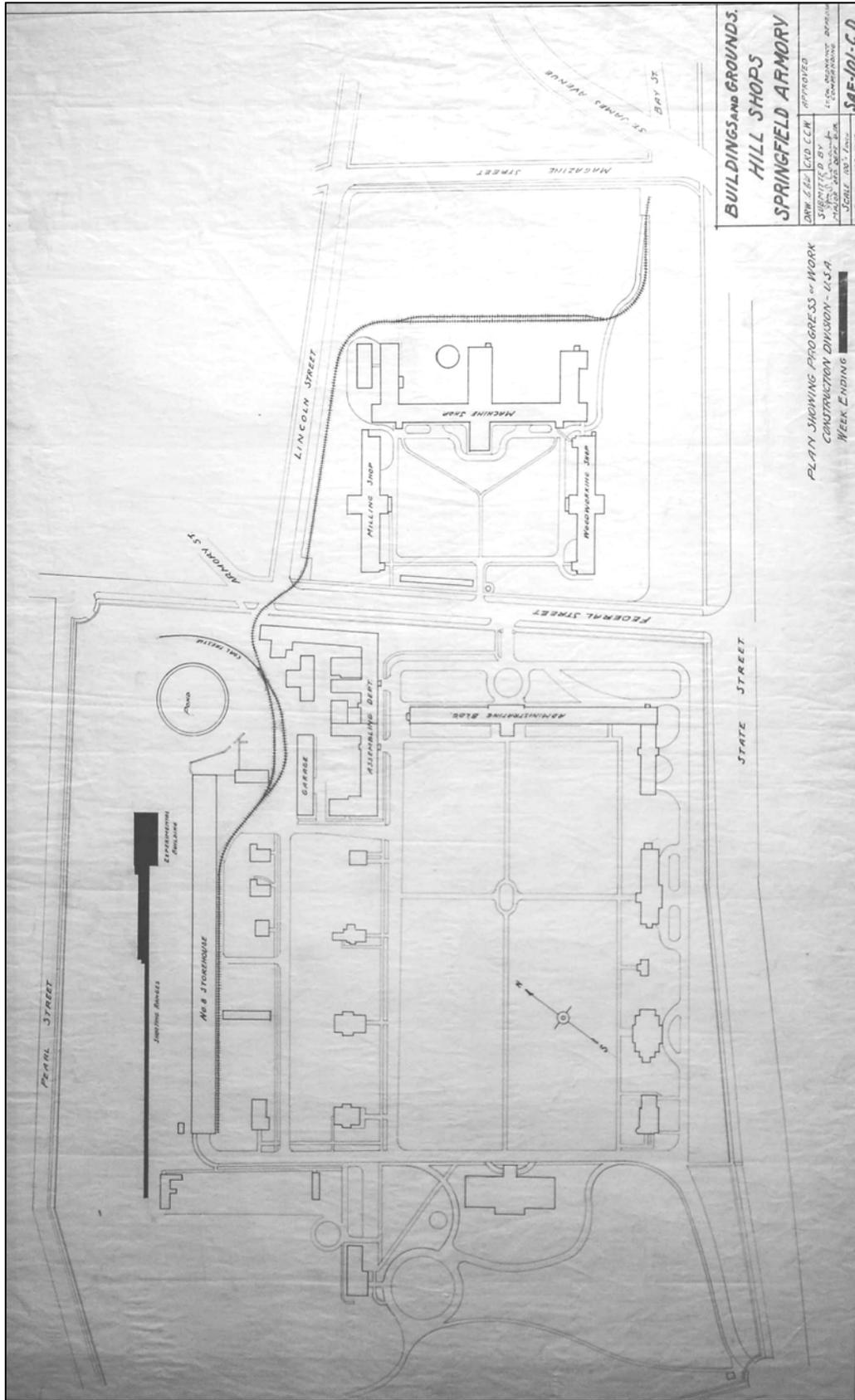
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<sup>113</sup> Senate Committee Report No. 93-590, 93 Congress, 1<sup>st</sup> Session, December 3, 1973. Reproduced by Carper and Turk, Appendix E, 479.

<sup>114</sup> Public Law 93-486, 93 Congress H.R. 13157, October 26, 1974. Reproduced by Carper and Turk, Appendix D, 475.

<sup>115</sup> Sarles, Myers, et al., 17.

<sup>116</sup> Senate Committee Report No. 93-590, 93 Congress, 1<sup>st</sup> Session, December 3, 1973. Reproduced by Carper and Turk, Appendix E, 479.



**Figure 16.** Buildings and Grounds, Hill Shops, Springfield Armory, October 18, 1918. In Armory Square Building 16 and Building 27, formerly workshops, are labeled the Administration Building and the Assembling Department respectively. The buildings in Federal Square are labeled as the Milling Shop, Machine Shop, and Woodworking Shop.



# CHRONOLOGY OF DEVELOPMENT AND USE

## Introduction

Building No. 5 & 6 is located in the south corner of the Green and forms the terminus for the line of buildings along the southern border of Armory Square. The building is sited near the crest of the hill overlooking Springfield to the southwest.

Documentary evidence indicates that the site was empty in 1830, and that the first structure in that location was constructed by 1851. The earliest building on this site was a small two-story building with a gable roof, and a wraparound porch. The building is depicted in both a circa-1850 sketch of the Armory and a circa-1865 photograph taken from the tower of the Main Arsenal (figs. 18 and 19). The 1851 map of Springfield labeled the building as the “U.S. Fire Engine House,” and the 1864 map of the Armory labeled it as the “Fire Engine” building (figs. 8 and 10). Both the photograph and sketch depict large doorways on the southwest elevation and breaks in the porch at those doorways. These were apparently the doorways for the fire apparatus.

In 1866 a new fire engine house, with a hose tower to prevent the rubber hoses from rotting, was proposed for the Hill Shops area.<sup>117</sup> The new location for the fire engine house was west of Building 27 on the north side of the Green. Documentation indicates that the new building was constructed in 1867. Correspondence suggests that the old

<sup>117</sup> Bvt. Capt. C. C. Chaffee to Bvt. Col. J. G. Benton, July 23, 1866; Reports to Commanding Officers, Entry 1385, RG 156; microfilm reel 114, SPAR Archives Collection; Perrault and Quinn, research files.

engine house may have been used as a guard house for a short period of time. Two years later plans were made for the construction of Building No. 5 & 6 in the former location of the engine house.

Superintendent J. G. Benton submitted revised plans for the new officers’ quarters in 1869. Documentary evidence suggests that the building was constructed during that year, and completed in 1870. The new building was designated “Building No. 5 & 6,” and historically served as the quarters for Springfield Armory junior officers and their families.

Building No. 5 & 6 was designed as a duplex or two-family residence. Additions to the building in the nineteenth and early twentieth centuries did not significantly alter its historic appearance (see subsequent section “Additions and Alterations”). The building remained a two-family residence through the closing of the Springfield Armory.

The following sections will describe the historic appearance and evolution of Building No. 5 & 6 based on documentary and physical evidence. Two drawings dated 1869 show the foundation and flooring plans for the building. Other plans show the historic layout with later additions sketched in. Since those additions were well documented, the plans provide a reliable representation of the historic appearance (figs. 34–36). Later drawings, including 1876 plans, and period maps of the Armory were useful in determining when alterations were made to the building.

The earliest historic photograph of the building was not dated, but based on alterations to the building it appears to date

before 1875 (fig. 21). Later photographs were helpful for documenting alterations to Building No. 5 & 6. Current photographs of historic elements are also used in the following sections to illustrate the historic appearance (though current conditions are not reflective of the historic aesthetic).

Primary source documents including correspondence were useful in understanding the original appearance of the building. Estimates and proposals for the construction of the building included lists of materials and expenses that provided information about some of the original elements. The following sections will reference the correspondence and list of materials as evidence of the original appearance of the building, and later alterations.

Investigation of the extant building elements provided additional information regarding historic materials, and alterations to the quarters. Paint samples were taken from both exterior and interior elements, and analysis of the samples was performed as a comparative dating tool. In order to minimize damage to historic materials, the physical investigation of extant elements was done in a nondestructive manner. In this respect the investigation was limited, but did yield some useful information.

The subsequent “Current Physical Description” includes plans of Building No. 5 & 6 with doorway, window, and room numbers assigned for this project. The room designations are based on the quarters number (No. 5 or No. 6), and the rooms within the current residences. Those plans will be referred to in the following sections to help illustrate the history of the building (figs. 89–92). The façade of the building faces southwest, but for the purposes of this report the plan designation was adjusted. Thus the façade will be referred to as the west elevation; the north elevation abuts the Green; the east elevation faces Building 11; and the south elevation faces State Street.

## Planning and Construction

In 1851 a modest-sized two-story fire engine house sat at the south corner of the Green opposite the Paymaster’s House (figs. 18 and 19).

Bvt. Col. J. G. Benton was planning for improvements to the Armory in the years immediately following Civil War. Those projects included a new Stable and Carriage Store, repairs and improvements to the Timber Store, Pay Master’s House, and Clerk’s Quarters, as well as construction of an Engine House, Hose Tower, and open reservoir.<sup>118</sup> The initial estimates for these projects were submitted in September 1866, and again in January 1867.<sup>119</sup> The new Engine House with an attached Hose Tower was apparently built in 1867–68 and is depicted in the 1875 views and plans of the Armory (fig. 12 and 13).

Bvt. Col. Benton also submitted estimates for officers’ quarters in 1867, which were to be placed on the north side of the Green in line with the Clerk’s Quarters. However, the appropriations for the quarters were not initially approved. Benton submitted new plans and estimates for officers’ quarters on March 19, 1869. The plans were for “a double set of officers quarters,” and he stated that he wished to substitute the new plans for those submitted in 1867.<sup>120</sup> In the following excerpt from his correspondence, Benton described the new quarters:

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<sup>118</sup> Benton to Dyer, September 27, 1866, Letters Received, Chief of Ordnance, 1812–94, Entry 1014, RG 156. NARA; Perrault and Quinn, research files.

<sup>119</sup> Benton to Dyer, January 8, 1867, *ibid.*

<sup>120</sup> Benton to Col. T. J. Treadwell, Ordnance Bureau, March 19, 1869; Letters Sent to Chief of Ordnance 1836–1895, Vol. 8 of 20, Entry 1354, RG 156; NARA Northeast Region (Waltham, MA).

The plan now submitted is for two families and maybe needed should another officer be sent here for duty. It is proposed to place these quarters on the site of the old guard house and near that of the Pay Master's Quarters. This site is a much pleasanter and more convenient than the one already referred to (in line with the Clerk's Quarters), and I would strongly recommend its adoption. The style of the building is different from the other buildings on the post, as regards the roof and the position of the kitchens, but it is the only one that I can recommend as well adapted for the site, and it will, I think add to the beauty of the Armory grounds.

The estimate cost is \$15,000 about the same as for the others, which were only arranged for one family.<sup>121</sup>

Bvt. Col. Benton also noted that one of the clerks had been displaced by an officer who would potentially occupy the new quarters.

The funding for the duplex officers' quarters was apparently approved, and in July 1869 Mr. H. T. Fitts, Springfield Armory Master Carpenter, submitted an estimate of \$14,951 for constructing the "New Officers Quarter" (Appendix A).<sup>122</sup> The estimate included descriptions of building elements, and clearly indicates that it was a two-family residence. Construction of the building apparently started soon after the submission of that estimate.

During the construction of the new quarters solicitations for plumbing the building included a detailed description of the proposed plumbing (Appendix B).<sup>123</sup> This description, combined with early plans for

<sup>121</sup> Ibid.

<sup>122</sup> Fitts, "Estimated cost of erecting New Officers Quarters," July 12, 1869; Reports to Commanding Officers, Entry 1385, RG 156; NARA Northeast Region (Waltham, MA).

<sup>123</sup> "Proposals for Plumbing New Quarters for Officers," July 28, 1869; Reports to Commanding Officers, Entry 1385, RG156; NARA Northeast Region (Waltham, MA).

the building, provided interesting details about the early plumbing for the building. Master Carpenter Fitts submitted his recommendation of Goodhue Plumbing to Col. Benton on August 9, 1869,<sup>124</sup> and the following day Benton wrote Mr. C. L. Goodhue accepting the plumbers bid for the job.<sup>125</sup>

Col. Benton wrote to Wm. A. Orcutt of Boston on May 5, 1870 requesting a "competent person" be sent to the Armory to install lightning rods on the new quarters.<sup>126</sup> This correspondence indicates that Building No. 5 & 6 was all but complete by that date. Benton's annual report of the 1870 fiscal year stated that "Two sets of Officers Quarters (were) completed."<sup>127</sup>

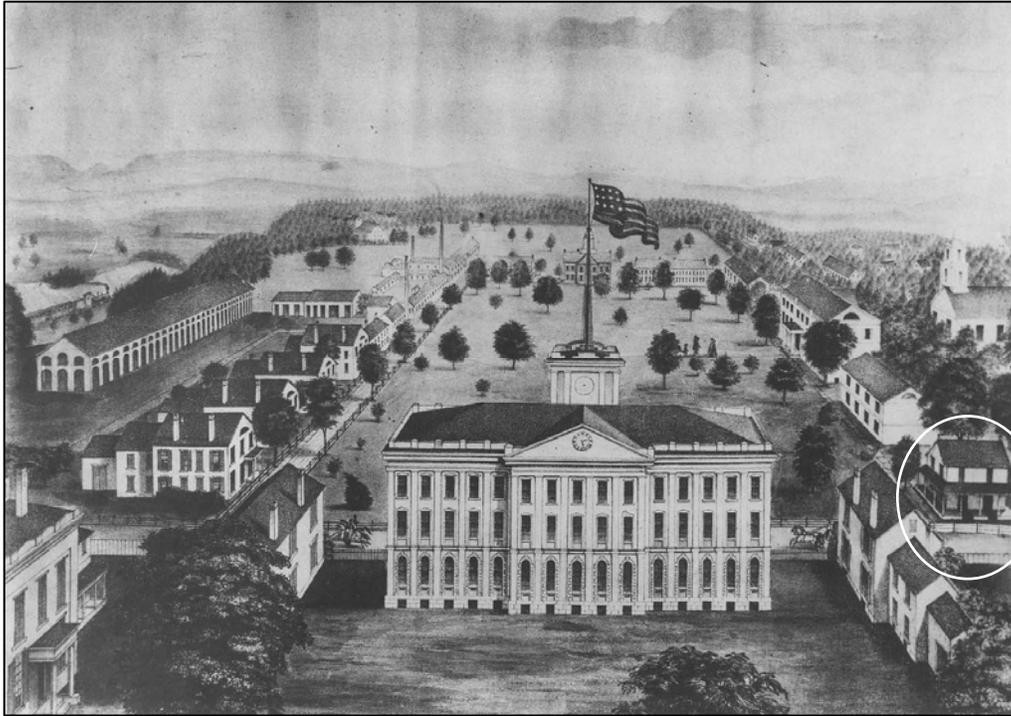
The documentary evidence indicated that Building No. 5 & 6 was the only officers' quarters constructed during that period. The 1870 map of Springfield depicts the new "Officer's Quarters" in the south corner of "Union Square" or the Green (fig. 20). Similarly the 1875 map of the Armory lists that building as "Officers Quarters" (fig. 13). Both it and the 1875 bird's-eye view of Springfield show this building as the only new quarters constructed on the site since the 1864 survey by Shedd and Edson (figs. 10–13)

<sup>124</sup> H. T. Fitts, "Report on estimates for plumbing the New Quarters," August 9, 1869; Reports to Commanding Officers, Entry 1385, RG156; NARA Northeast Region (Waltham, MA).

<sup>125</sup> Benton to C. L. Goodhue, August 10, 1869; Letters Sent 1864–70, Entry 1351, RG156; microfilm roll 164, SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

<sup>126</sup> Benton to Wm. A. Orcutt, May 5, 1870; Letters Sent 1864–70, Entry 1351, RG156; microfilm roll 164, SPAR Archives Collection.

<sup>127</sup> Benton to Dyer, October 8, 1870, "Report of Operations at the Springfield Armory for the year ending 30<sup>th</sup> June 1870," Letters Sent to Chief of Ordnance 1836–1895, Vol. 8 of 20, Entry 1354, RG 156; NARA Northeast Region (Waltham, MA).



**Figure 18.** Springfield Armory looking east, circa 1865 depicting U.S. Fire Engine House on right side of illustration (circled).



**Figure 19.** U.S. Fire Engine House in foreground from circa-1865 stereoview.



Figure 20. Plan of Springfield Armory showing Officer's Quarters in south corner of Union Square or the Green, 1870.



Figure 21. Building No. 5 & 6, earliest known historic photograph of the building showing the façade, circa 1870.

## Historic Appearance

### *Exterior Elements*

#### Design

Though the materials used in the construction of Building No. 5 & 6 were similar to the other buildings on the hill, the basic design was a departure from the established classical revival-style structures surrounding the Green.

Building No. 5 & 6 was designed and built in the Second Empire style of the Victorian era (fig. 21). The building had a mansard roof, which was characteristic of the Second Empire style. This particular roof style was named for seventeenth-century French architect François Mansart and was popularized during France's Second Empire and the reign of Napoleon III. Other characteristics of that style used in this building included bay windows, arched window heads, dormer windows, and bracketed cornices. Typical of that period, these architectural elements exhibited a combination of Victorian era influences, especially Italianate.<sup>128</sup>

Historically, Building No. 5 & 6 consisted of a main block that was three stories high with the mansard roof forming the third/attic story. The building was 46 feet square with three bays on each elevation including a projecting center bay (figs. 22 and 34–36). The center bays on the west and east elevations had two openings on each story. The south and north elevations had bay windows on the first story, and single window openings in the upper stories. The projecting center bays continued at the mansard roof, where it was stepped with a hip on either side of the center bay.

<sup>128</sup> Virginia & Lee McAlester. *A Field Guide to American Houses*. (New York: Alfred A. Knopf Publishing, 1984), 242.

In addition to buildings departure from the established design, it was also the only two-family residence at the Armory. The new officers quarters was planned and built as a duplex structure with the two quarters mirroring each other (Quarters No. 5 and Quarters No. 6).

The Second Empire design of Building No. 5 & 6, and its location on the corner of the Green made it prominent among the Armory structures assembled on the hill.

#### Foundation

The above-grade foundation of Building No. 5 & 6 was constructed with dressed ashlar brownstone that had a 10-inch brownstone water table with a beveled edge. The foundations of the bay windows on the side elevations were constructed as part of the main foundation. Examination of the physical evidence found that the brownstone was a 4-inch-thick veneer backed by brick foundation walls that were three wythes thick (see Glossary). Below grade the foundation was also brick.

A drawing of the foundation from 1869 shows the elevations and plan of the “underpinning” for the building (fig. 22). The drawing depicts where the stones should be laid, and also shows the foundation windows and doorways. A notation on the plan states “The above stonework to be of Longmeadow stone.”<sup>129</sup> Stone from local quarries in Longmeadow, Massachusetts (also known as Luke Kibbes Quarries), had also been used in the construction of the Commanding Officer's Quarters, the Main Arsenal, and the bases of the perimeter fence, among others.

<sup>129</sup> “Details of underpinning stone and water table for New Officers Quarters, U.S. Armory, Springfield, Mass,” April 3, 1869; Cabinet B, Drawer 4, Folder 1, SPAR Archives Collection.

## Walls

### *Masonry*

The exterior walls of Building No. 5 & 6 were red brick set in a running or stretcher bond and were four wythes thick. Running bond uses either metal ties or diagonal bonding to bind the exterior and interior stacks of bricks (see Glossary). The center bays on each elevation projected 16 inches from the plane of the main wall, and on the south and north elevations the bay windows extended beyond those.

### *Entablature*

The entablature below the mansard roof included a double band of wooden molding, a molded wooden cornice, and molded brackets (see Glossary). The lowest sections of the entablature molding, the architrave and frieze, were attached to the brick wall and had sections of brick between the moldings. The lowest molding had a torus-with-cavetto profile. Above that, the frieze had a narrower torus-with-cavetto molding and a section of brick. The cornice had dentils, and a cavetto below the soffit with a flat-bead-bevel-cyma recta/ogee molding above (fig. 23). The cornice molding held an integral gutter.

The soffit and upper molding of the cornice was supported by carved brackets that were doubled at the corners and the projecting bays (fig. 24). Each bracket had filleted edges and a convex/rounded center. The lower vertical portion had a torus molding that followed the contour of the frieze molding. Above that the bracket curved out in a cyma-reversa/reverse ogee that in profile was carved to resemble a shepherd's hook. At the cornice the horizontal section of the bracket was arched. Beyond that the bracket was beveled and then flat up to the top band of molding. The top band of molding was a narrow quarter-round that also wrapped around the cornice.

The bracketed entablature of Building No. 5 & 6 perpetuated the Victorian-era design not evident on other structures on the hill.

### **Doorways**

The exterior of Building No. 5 & 6 had four doorways, two for each of the quarters. Each residence had a west-façade entrance doorway on the first story, and a basement doorway on the east elevation. The doorways for the two quarters were similar.

The façade had arched doorways with double doors for each residence (fig. 25). Each doorway had a segmental arched brownstone lintel with carved brackets on each side. The threshold was also brownstone and aligned with the water table. Each doorway had wooden double doors with a half-arched light over a molded panel in each door leaf. The molding surrounding the light and panel had a cavetto-and-bead profile. The double doors were enframed with a wooden surround with a wide three-quarter-round molding.

Based on drawings and extant evidence, each of the quarters had a basement doorway at the bottom of exterior steps on the east elevation. The historic plans suggest that the steps had a landing level with the rear basement windows, and then continued to the doorways. The steps were probably constructed with brownstone and physical evidence of these steps remains in the basement (fig. 26).

The documentary and physical evidence indicate that each exterior basement doorway had a single wooden door with lift-off hinges, a brownstone threshold, and a brownstone lintel at the level of the water table. Within the masonry opening the doorway had wooden jambs and header with an exterior trim that had a shallow cyma-reversa profile. The drawings suggest that each of the doors had two arched lights

over two molded panels, but the doors were later removed.

## Windows

When Building No. 5 & 6 was built in 1870 the alignment of the windows was symmetrical and each of the quarters had a similar pattern of openings.

### *Basement*

The historic basement windows were typically double windows set in the brownstone foundation with brownstone sills, and the water table formed the lintels. Many of the windowsills were at grade. However, two windows on the side elevations (W007 and W012) and two on the east elevation (now within the basement of the ell addition) were built with window wells. The windows at grade had two sashes divided by a wooden center mullion. These were awning sashes that opened into the basement and had wooden surrounds. The larger windows had two sets of double-hung, one-over-one sashes divided by a wooden center mullion. These windows also had wooden casing with a shallow cyma-reversa profile.

### *First Story*

The first-story windows were typically double windows with brownstone trim (fig. 27). The lintels had segmental arches and were bracketed. The sills also had brackets that aligned with the window opening. Each window had two sets of double-hung, one-over-one sashes, and the top sashes had shallow segmental arches. Each set of sashes was divided by a center wooden mullion, and the windows had wooden casings with a shallow cyma-reversa profile.

The front Parlors of both quarters (Rooms 5/102 and 6/102) had floor-to-ceiling windows in the front and side walls.

Originally the side windows opened onto small balconies.

The center projecting bay on the east elevation had two double windows, which were later removed when the building was altered.

## Bay Windows

The five-sided bays were constructed with wooden elements above a brownstone foundation (fig. 28). Each had four windows with double-hung, one-over-one sashes. The windows on the face of each bay were doubled and had dividing mullions.

The bays had a wooden base with a cyma-recta base molding, a flat section, and a quarter-round molding below the wooden windowsills that wrapped around each bay. Above the windows, each bay had a torus-with-quarter-round molding, a flat frieze, and a bracketed cornice with dentils at the base and a cyma-recta molding at the top. The cornice brackets were similar to the main cornice but smaller.

The roof of each bay was double-pitched with a flared lower section and a shallow-pitched half-hipped roof above. A cove molding separated the two sections of roof. The list of materials for the construction of the building suggests that the roof was historically covered with tin.

### *Second Story*

The second-story windows were similar to those of the first story, double windows with brownstone trim. Each window had two sets of double-hung, one-over-one sashes divided by a wooden center mullion and surrounded by wooden casings.

The center bay on the west and east elevations had two double windows, which was consistent with the first-story openings.

*Attic*

The attic windows were set in dormers in the mansard roof. Each dormer had molded pilasters with brackets supporting segmental dormers (fig. 29). The bases of the pilasters consisted of a plinth, a wide quarter-round, a filleted torus, and a second filleted torus. The vertical section of the pilaster had a fillet molding. The brackets had three torus moldings progressing from small to large up to an arched horizontal that supported the soffit, segmental arched pediment, and roof above.

The windows in each dormer had double-hung, two-over-two sashes, and the top sashes were arched. The center dormers on the west and east elevations had two windows within a wider dormer with a segmental pediment (fig. 30).

The documentation suggests that the dormer roofs were historically covered with tin. They are currently covered with copper, which was also used during the historic period.

**Porches and Balconies**

Building No. 5 & 6 was apparently constructed with a front porch or piazza. The porch was outlined in the 1869 foundation plans (fig. 22), and a “piazza” for the new quarters was part of the 1869 cost estimate (Appendix A).

The earliest photograph of the building documented the historic appearance of the front porch, which was since altered (fig. 21). The porch extended almost the full length of the façade and had a projecting center bay similar to the façade. It was a raised porch with a brownstone walkway and steps for each of the residences.

The base of the porch had brownstone piers with frames of diagonal lattice between each pier. Two sets of five brownstone steps, one

for each of the quarters, led up to the porch deck, which was constructed with wooden floorboards.

The porch had paired wooden columns with three at the outside corners and single pilasters where the porch met the façade. The column bases were square with chamfered edges and molded panels with a bead-and-ovolo profile. The base was capped with a cavetto molding below a torus with a sloped top. The shaft of the column was square with chamfered edges. Each column was capped with a fillet-cavetto-torus-fillet molding.

Above the column capital, half arches sprang to flat arches spanning the columns. The flat arches had chamfered edges, and above that a flat frieze and molded cornice. The cornice had dentils below a plain soffit with a cyma-recta molding at the top, which held the integral gutter.

Each column supported a bracket at the porch cornice and roof line. The brackets had the same details as the main building.

The porch roof was a shallow-pitched hipped roof. The list of materials for the cost estimate suggests that the roof was historically covered with tin. It is currently covered with copper, which was also used during the historic period.

A balustrade was built around the perimeter of the porch roof (fig. 21). The balustrade had a molded bottom railing and vase-like half-balusters supporting a molded railing. At the corners were square posts that aligned with the porch columns. The posts had chamfered edges and ball finials.

Historic plans and photographs depict a first-story balcony in front of the Parlor window of Quarters No. 5 (fig. 21). The balcony appears to have been part of the original construction. Though there was no documentation of a balcony for Quarters No. 6 from that period, it's assumed that the

quarters were symmetrical, and the later addition to the Parlor of Quarters No. 6 did include a balcony (see subsequent section “Additions and Alterations”). The historic balcony had heavy curved brackets supporting the deck. The balcony had a balustrade that copied the one on the front porch roof. Presently there are no balconies on the building.

## Roofs and Related Elements

The feature that most defined the Building No. 5 & 6 as a Second Empire-style structure was the mansard roof. The mansard roof was a double-pitched hipped roof designed to create a usable attic story. The lower section was steeply pitched, and the upper section is a shallow-pitched hipped roof. Like the walls, each elevation of the roof had a projecting center bay. The gutter system was part of the lower cornice and was included in the cost estimates for the building.

The lower roof flared at the eaves. This portion of the roof was covered with gray slates that were installed in a pattern of alternating bands of plain and hexagon shapes. The corners of the hips were trimmed with wooden molding with a loop at the eaves, and bulls-eye moldings in the top corners (fig. 31). A turned pendant was attached at the junction of the bulls-eyes (fig. 32).

The break between the upper and lower sections of the hipped roof was trimmed with wooden molding with copper flashing along the top edge. The molding had a three-quarter-round, cavetto, beaded cyma-recta profile.

Based on the materials listed in the cost estimate, the upper hip was historically covered with tin roofing. The historic plans show that the projecting center bays had low peaks, and valleys at the main roof. The roof was pierced by four brick chimneys, two for each residence.

## Chimneys

Building No. 5 & 6 was built with four chimneys that carried flues for furnaces, ranges, and fireplaces for each of the residences. The chimneys were rectangular brick stacks, each with three flues. The base of each chimney was constructed with beveled brownstone curbing. The fifth course from the top of each stack was corbelled, as were the top two courses. Above that each chimney had a corbelled brownstone cap (fig. 33).

## Exterior Finishes

Historic photographs and records documented that the exterior of Building No. 5 & 6 was historically painted. This apparently included the exterior brick, wooden trim, and brownstone elements. Though the photographs are black-and-white, the basic color tones can be identified. Additional documentation and limited paint sampling contributed to the understanding of the historic appearance.

Springfield Armory records indicate that the structures at Armory Hill were painted during the historic period. Efforts were made to keep all the buildings painted with uniform “ordnance” paint colors. Though the proposal for constructing Building No. 5 & 6 included \$2,800 for carpentry and painting work, it is not known when the exterior of the building was first painted. The circa-1870 photograph suggests that at least the exterior trim was painted, but whether the masonry was painted is not known. Documentary evidence and the building’s appearance in later photographs do suggest it was painted by the 1920s (see subsequent section “Alteration”).

Research on other Armory buildings suggests that the walls were painted yellow-brown/tan and the trim was red-brown at the time Building No. 5 & 6 was

constructed.<sup>130</sup> Since the exterior masonry has been stripped, there were no viable paint samples from the brick and brownstone. However, later historic photographs indicate that the brick was a light color (possibly tan), and the trim and sashes were darker. Paint samples from the exterior window casing and the bay window trim found that the earliest paint layer was red-brown, matching the paint research for other buildings. Historic photographs suggest that the cornice trim elements were painted to match the window and doorway casings. Samples from the front doors determined that they were a dark wood originally coated with a dark resin (probably varnish). It seems likely that Building No. 5 & 6 was painted soon after construction to be in keeping with the other buildings on the Green.

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<sup>130</sup> James J. Lee III and Marilou Ehrler, *Commanding Officer's Quarters, Historic Structure Report* (Lowell, MA: DOI, NPS, NER, Historic Architecture Program, 2010) 80.

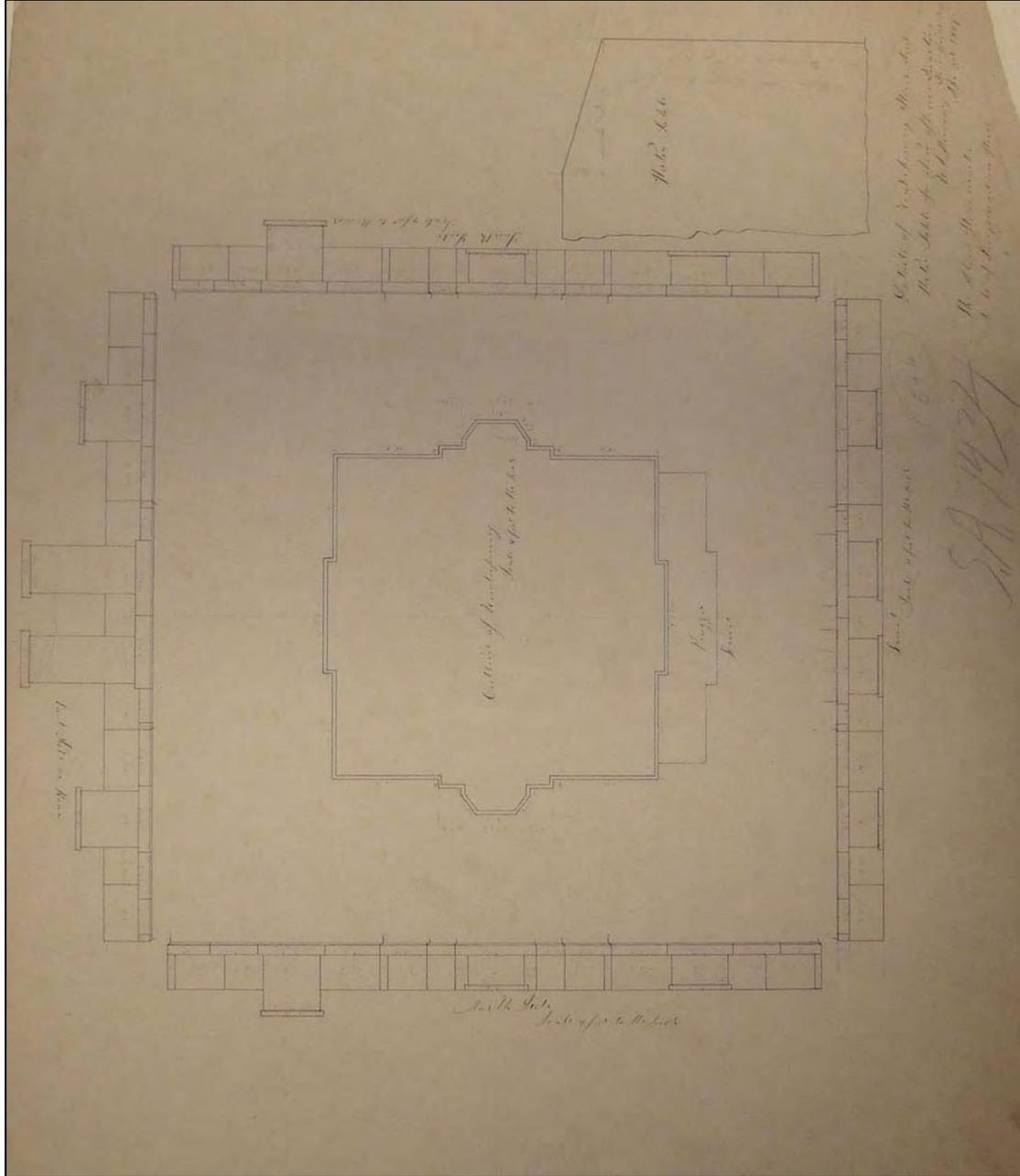


Figure 22. Building No. 5 & 6, "Detail of Underpinning stone and water table for new officers Quarters, U.S. Armory, Springfield, Mass, Apr. 3<sup>rd</sup> 1869."

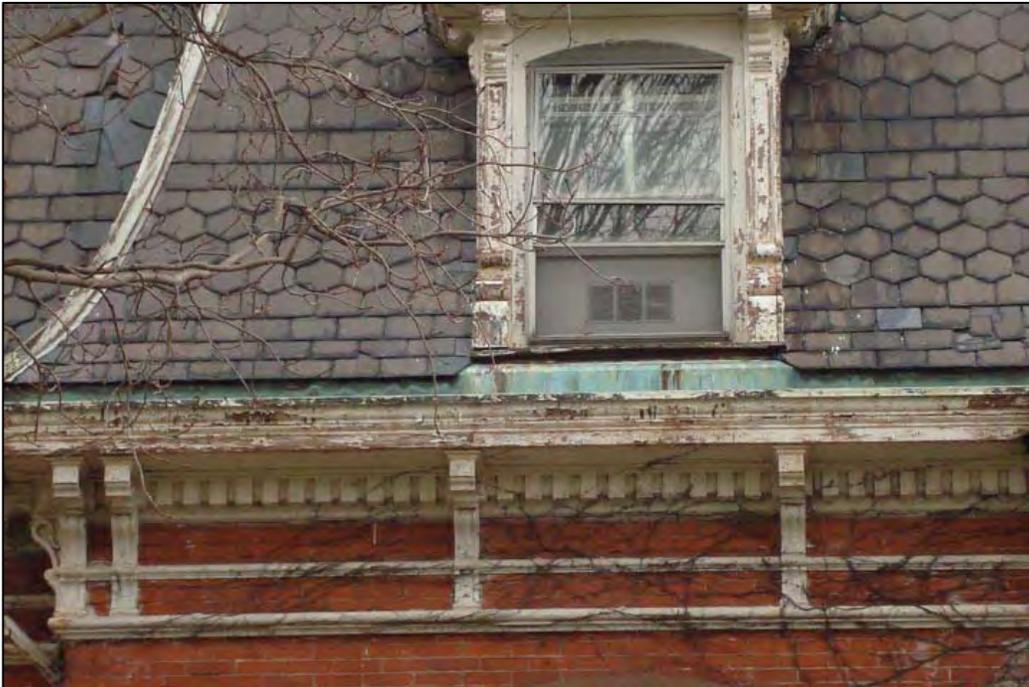
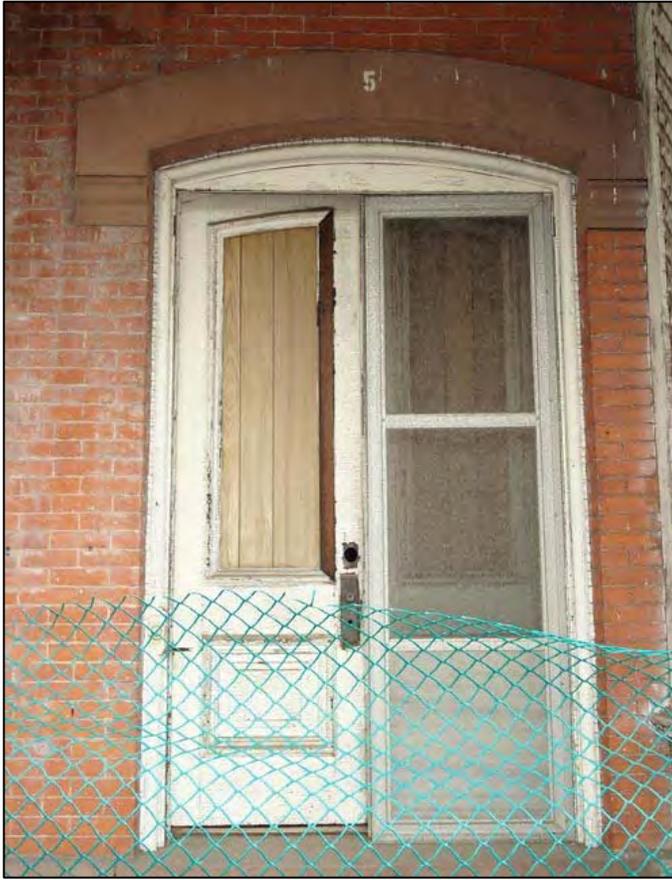


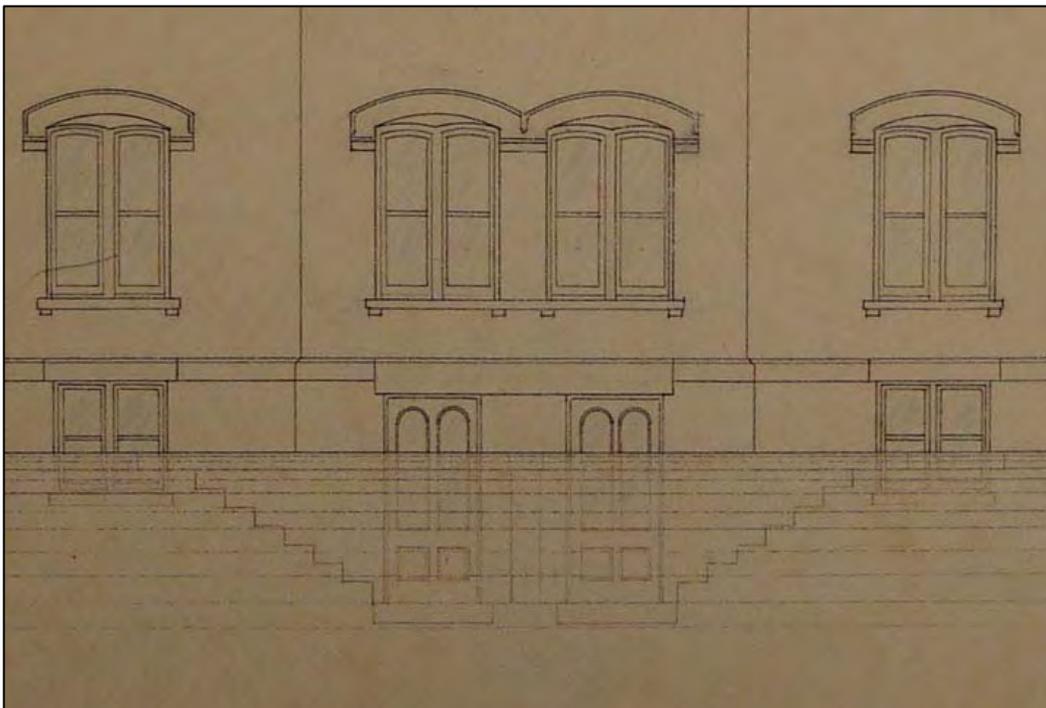
Figure 23. Building No. 5 & 6 typical entablature and cornice moldings.



Figure 24. Building No. 5 & 6 typical entablature, cornice, and brackets.



**Figure 25.** Building No. 5 & 6, front door to Quarters No. 5.



**Figure 26.** Building No. 5 & 6, drawing of historic basement entrances from larger drawing of roof plan and rear elevation.



**Figure 27.** Building No. 5 & 6, W117 showing typical window in main block of building.



**Figure 28.** Building No. 5 & 6, north elevation bay window, W118-W120.



**Figure 29.** Building No. 5 & 6, typical dormer window, W308.



**Figure 30.** Building No. 5 & 6, typical center dormer with double window, W309 and W310.



**Figure 31.** Building No. 5 & 6, trim on hip of mansard roof.



**Figure 32.** Building No. 5 & 6, bulls-eye trim and pendant on hip of mansard roof.



**Figure 33.** Building No. 5 & 6, brick and brownstone chimneys.



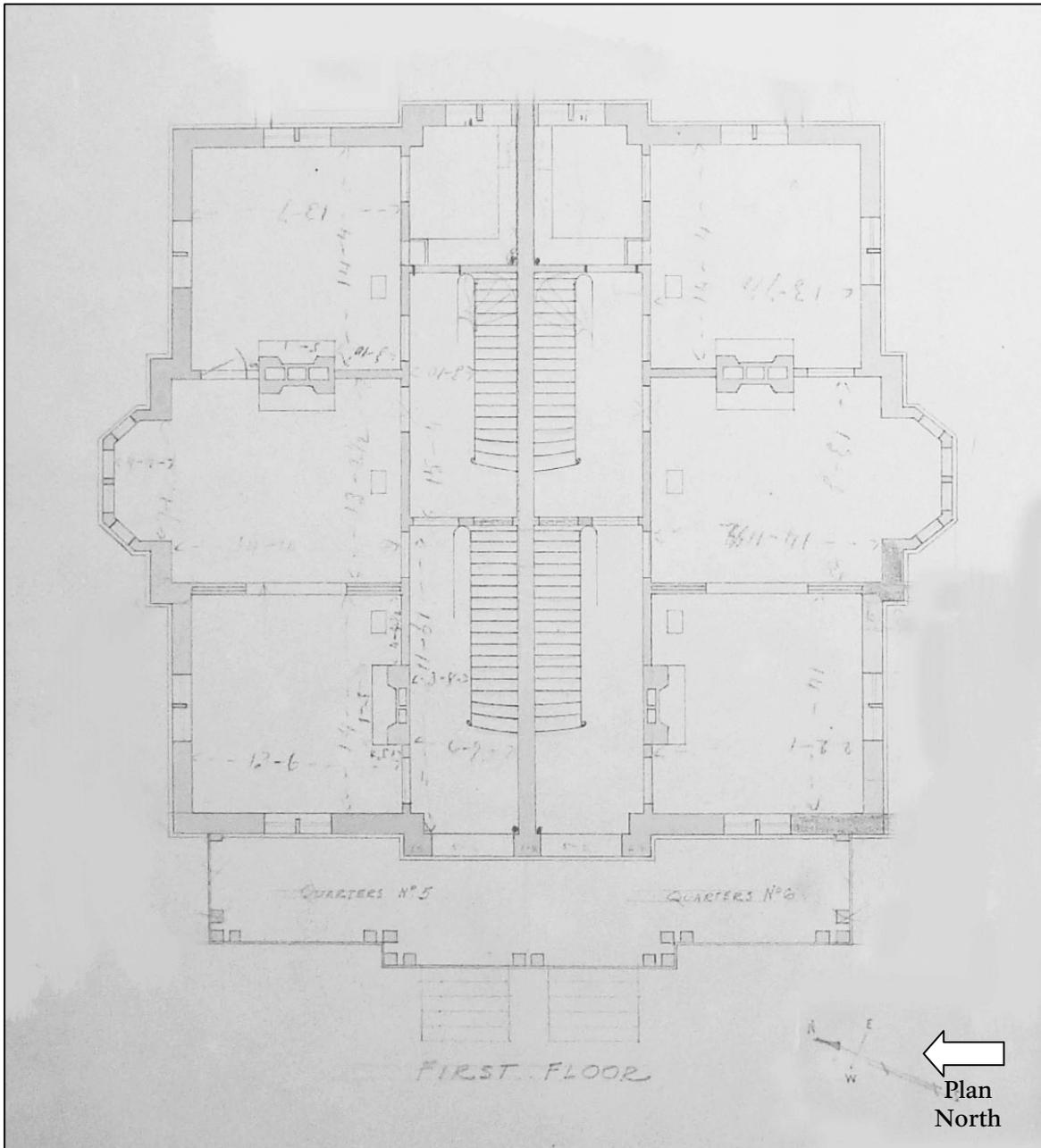


Figure 35. Building No. 5 & 6, first floor plan circa 1870, depicting original configuration.

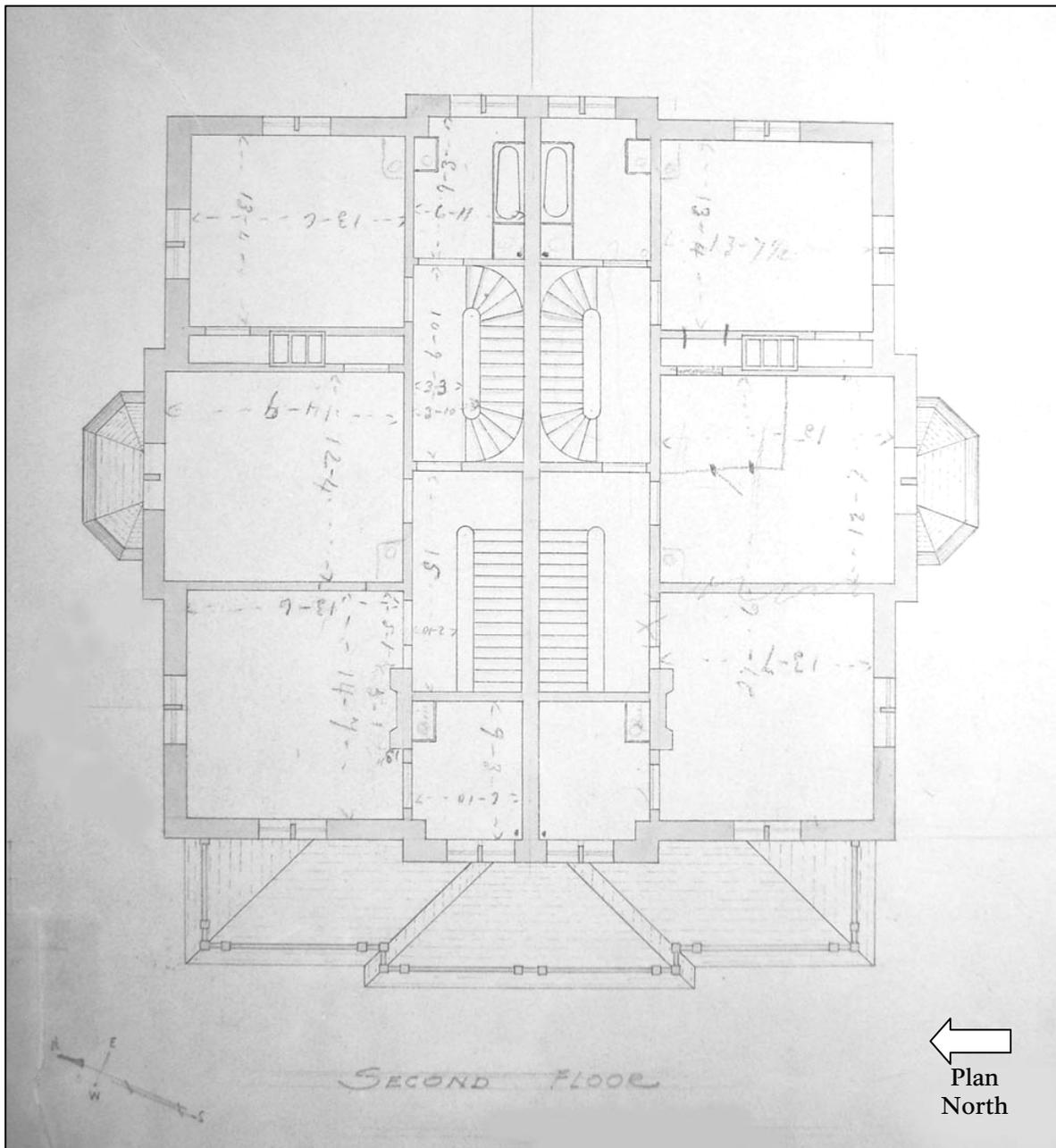


Figure 36. Building No. 5 & 6, second floor plan circa 1870, depicting original configuration.

## *Interior Elements*

### **Introduction**

Two sets of plans were used when researching the historic appearance of the interior of Building No. 5 & 6. The earliest plans of the historic layout had some additions sketched in, but the original plan could be read (figs. 34–36). The 1876 plans included some alterations, but provided valuable information about the historic elements (figs. 37–40). In addition the 1876 plans labeled some of the rooms, and the utilities.

The following sections will describe the layout of each of the quarters, and some of the historic elements. Some of the physical evidence is extant in one of the quarters, but not the other. It is generally assumed that both quarters used the same materials (even if there is not extant evidence of certain elements). This is based on the cost estimates, and the historic plans that often indicated that the same items were provided for both quarters. Current photographs of some of the historic elements are included in this section. Later alterations will be covered in subsequent sections, and the current elements will be discussed in the “Current Physical Description.”

The building was divided into two residences with a brick partition wall in the center separating the two units. Documentary evidence suggests that when the building was first constructed, the plans of these residences mirrored each other. Quarters No. 5 occupied the north half of the building, and Quarter No. 6 was on the south side. Each of the quarters had a basement, first story, second story, and attic. The basic arrangement for each story of both residences included halls along the center partition that had staircases for each unit. Each of the quarters had three rooms arranged off the halls from the front to the back of the building. The symmetry evident

on the exterior was carried over to the interior plan.

The physical evidence indicates that there was a hierarchy of finishes and woodwork for the interior rooms. The more public rooms on the first story, and halls and some of the bedrooms on the second story had more elaborate baseboards, doorway casings, and window casings, while the basement, back halls, pantries, back bedrooms, and attic rooms had less decorative woodwork. The following sections will describe the woodwork in more detail.

### **Basement**

#### *Quarters No. 5*

##### **Plan**

The basement of Quarters No. 5 was accessed via a staircase near the center of the building, and an exterior entrance on the east elevation. The basement plan was established by brick partition walls that created two long halls and a smaller back room along the center partition of the building, and three square rooms north of the halls (fig. 34).

The 1876 plan designated these rooms from front to back as the Cellar, Laundry, and Kitchen (fig. 37). There was a furnace located in the corner of the Laundry, and a chimney stack on the south wall of the Cellar. The Laundry had two sinks within the foundation of the north bay window. The east side of the Laundry was further partitioned with a Pantry for the Kitchen, a closet, and a Water Closet that was accessed from the hall. The Kitchen was in the back corner of the basement and was equipped with sinks and a range. The adjacent back hall had a dumb waiter to the first-story Pantry.

## Floors

There were brick floors throughout basement of Quarters No. 5. The Kitchen hearth at the base of the chimney was also brick and was raised 6 inches. The physical evidence suggests that sections of the basement had wooden floors laid on sleepers above the brick floors. These were later removed from Quarters No. 5, but were evident in Quarters No. 6.

## Walls

The basement had brick walls partitioning the rooms, while the partitions in the Laundry for the Pantry, closet, and water closet (W.C.) were plaster and lath. The staircase was also enclosed with plaster-and-lath walls.

There was evidence that the plaster walls had wooden baseboards with molded caps. Again, this evidence was extant in Quarters No. 6, and is described in the subsequent section.

## Doorways

The exterior basement doorway was a masonry opening with a brownstone threshold. The doorway was trimmed with wooden jambs and header. The interior casing was composed of a 6¼-inch-wide board with a 3-inch-wide board on top of that forming a double casing. Both boards had quarter-round profiles. The exterior door had lift-off hinges with acorn finials. There were mortises for smaller hinges on the outside of the doorway casing, suggesting that the doorway historically held a screen door.

The interior doorways in the basement were masonry openings with segmental arched headers. Based on extant physical evidence in Quarters No. 6, the doorways to the closets and Pantry had wooden casings and doors (see subsequent section “Quarters No. 6, Doorways”).

## Windows

The interiors of the windows were typically constructed with wooden jambs and headers, and beaded window stops (fig. 41). All of the windows had two sets of sashes (either awning sashes, or double-hung, one-over-one sashes) separated by plain wooden mullions. The awning sashes had two hinges at the top and opened in. Based on the extant evidence, some of the windows had interior casings. These were double casings with quarter-round profiles on both boards (similar to the doorway casings). These windows had full-depth jambs, headers, and sills with plain aprons below the sills. These were evident in what was the basement Kitchen (Room 5/004). Other windows had wooden jambs with a rounded bevel (3 inches deep), a beveled sill (3½ inches deep), and a beveled header (10½ inches deep). This simpler window trim was evident in the Cellar and Laundry (Rooms 5/001–5/003).

## Ceilings

There was evidence that the ceilings throughout the basement were historically covered with wooden lath and plaster. These ceilings were later removed, except in a few areas of Quarters No. 6 where they remain today (see subsequent section “Quarters No. 6, Ceilings”).

## Stairs

Quarters No. 5 and No. 6 had staircases that descended from the first story near the center of the building. The staircase for Quarters No. 5 was in Room 5/007. The top of the staircase was later closed off and the stairs were subsequently removed. However, the extant staircase in Quarters No. 6 was similar, and provided evidence of the historic appearance of the stairs in both quarters (see subsequent section “Quarters No. 6, Stairs”).

## Utilities

The historic documents indicate that the building was constructed with utilities that were typical for the period. The basement rooms in both quarters were equipped with piping and fixtures for gas lighting, many of which were labeled on the 1876 plans (fig. 37). The cost estimate for the building included a range for each residence, which was installed in the basement Kitchen and also evident on the 1876 plans.

Mr. Fitts's estimate also included two hot-air furnaces, which are depicted in the early basement plans. The hot-air system included "registers" on the first story. Though the registers and ductwork were later removed, there was evidence of the framed openings in the basement ceilings for the hot-air ducts (fig. 42).

Each of the quarters also had coal chutes related to the heating system. In Quarters No. 5 the chute was in the north wall of the Cellar (Room 5/002). The chute had a round opening outside the building and an arched opening in the wall. It had a brick-lined chute that sloped from the outside opening to the wall opening (fig. 43).

The estimate for plumbing and the 1876 plans indicates that both the Laundry and Kitchen were plumbed with sinks and wash tubs. The basement plumbing also included the small W. C. off the stair hall. The plumbing estimate noted that the basement would have two copper boilers (one for each quarters) that would supply hot water to the utilities for each of the quarters.

## Finishes

The extensive removal of historic elements in the basement of Quarters No. 5 made it difficult to determine what the historic finishes might have been. Some of the brick surfaces were painted white, which may have been a historic treatment. The extant woodwork in Quarters No. 6 provided more

information regarding the historic finishes of both quarters (see subsequent section "Quarters No. 6, Finishes").

## *Quarters No. 6*

### Plan

Like Quarters No. 5, the basement of Quarters No. 6 was accessed via a staircase near the center of the building. It also held some of the essential functions for the residence, including the furnace, Laundry, and Kitchen with Pantry, and adjacent hall with dumb waiter (figs. 34 and 37).

The plans and other documentation indicate that Quarters No. 6 was designed and built to mirror Quarters No. 5. Though later alterations affected the appearance, the physical evidence does suggest that the two residences were constructed using similar plans and materials.

### Floors

Quarters No. 6 had brick floors throughout the basement and the brick hearth in the Kitchen was raised 6 inches. There were extant wood floors at the base of the stairs and in the Pantry. These floors were laid on sleepers and raised 6 inches above the brick floor. The floorboards in the Pantry were 7 inches wide, and the floorboards at the base of the stairs were 2½ inches wide.

Further physical evidence suggests that other rooms in the basement had wooden floors above the brick floors. In the Laundry (Room 6/003), Laundry closet, and W.C. the baseboards were raised about 6 inches above the floor, and it appeared that wooden floors had been installed there. The 1876 plans also suggest that wooden floors were installed in the Kitchen and Laundry. The plans gave ceiling heights of 7 feet 8 inches in these rooms, which are the same as the ceiling height in the Pantry with the wood floor. Also the Cellar (Room 6/002) had a ceiling height of 8 feet 2 inches,

which was 6 inches higher (fig. 37). Since all the ceilings are level, the difference in height would be accounted for by the 6-inch-high floors. Physical evidence suggests that the wooden floors extended through the stair hall and probably the back hall. In the stair hall the lower baseboards are not finished and appear to be a later alteration probably added after the wooden floors were removed. The evidence further suggests that the floors in the front hall (Room 6/001) and Cellar (Room 6/002) were brick with no wooden floors installed over them.

### Walls

As in Quarters No. 5, the basement walls in Quarters No. 6 were brick with framed partitions in the Laundry for the Pantry, closet, and W.C that were finished with lath and plaster (fig. 44). At the south end of the plaster partition wall was a wooden end cap where the wall transitioned to brick.

The staircase was also enclosed with plaster-and-lath walls, which continued to the doorway to Room 6/001 and along the north wall under the stairs. The end of the staircase partition was capped with a plain board with rounded edges (fig. 45).

In Quarters No. 6 baseboards were installed along the extant plaster walls. In the Laundry closet and Pantry the baseboard was a plain 8-inch-high board with a beveled top. In the stair hall the baseboard had a 5-inch-high plain board with 3½-inch-high molded board above that. The molded section had a fillet and quarter-round cap. A small piece of this same baseboard was in the Kitchen between the chimney and the Pantry doorway. This same baseboard was used in some of the upper-story rooms as well.

In the Kitchen (Room 6/004) there was a small section of wooden wainscot with a molded chair rail between the chimney and the Pantry doorway (fig. 46). The chair rail

had a cyma-recta profile with a torus cap. This was the only extant section of the wainscot and chair rail, but historically it may have been installed along other walls in the Kitchen.

### Doorways

The exterior basement doorway was a masonry opening with an interior wood casing that was similar to Quarters No. 5.

The interior doorways in the basement were masonry openings with segmental arched headers. The doorways to the closets and Pantry had wooden casings and doors (fig. 46). The doorway to the Pantry was the most intact of the interior doorways. It had a double casing formed by a 6¼-inch-wide board with a 3-inch-wide board laid on top, both with quarter-round profiles. The inside of the doorway was cased with a single 6¼-inch board with a quarter-round profile. The doorway had a four-panel door with beaded cyma-recta profile moldings around the panels. The door had two lift-off hinges with acorn finials, a brown marbled-porcelain knob, and a separate keyway with a metal escutcheon.

Some of the other interior doorways were also trimmed with simple casings similar to the Pantry, including the doorway to the Laundry closet (fig. 44), and the doorway between Rooms 6/007 and 6/001. Other interior doorways were probably trimmed with similar elements, including the W.C. However, there was no remaining evidence of those doorways.

### Windows

The interiors of the windows in the basement of Quarters No. 6 were similar to those of Quarters No. 5. The double window in the east wall of Room 6/004 had intact interior casings that consisted of a plain mullion, double casings with quarter-round profiles, and a wooden sill with apron. Most of the other windows had

wooden jambs, headers, and sills with rounded bevels.

There was an interior window in the partition wall of the W.C. The window was near the ceiling and opened into Room 6/003 (fig. 44). It was trimmed with 3-inch casings with a quarter-round profile on the inside edge.

### Ceilings

The ceilings are currently open to the framing of the first floor, but plaster burns on the floor joists indicate that the basement ceilings were historically covered with wooden lath and plaster. There were extant examples of the plaster-and-lath ceilings in the Pantry, W.C., and Laundry closet. The underside of the staircase was also covered with wooden lath and remnants of plaster.

### Stairs

A closed staircase along the center partition wall led from the basement to the first story of Quarters No. 6 (fig. 45). The stairs had 9½-inch treads with a bullnose and 8-inch risers. The walls and ceiling enclosing the stairs were finished with plaster and lath, and the end of the stair partition (at the base of the stairs) was capped with boards with quarter-round profiles on the edges. The basement baseboard with fillet and quarter-round molding also formed the stringboard on both sides of the stairs. The top of the staircase was later closed off.

### Utilities

Based on the historic plans and existing evidence it appears that the utilities in the basement of Quarters No. 6 were similar to those in Quarters No. 5. In Room 6/004 the range would have been installed on the brick hearth, and the sinks were apparently mounted on the outside wall. The hot-air furnace in Quarters No. 6 may have been located in the Laundry (Room 6/003) as indicated in the 1876 plans, but the existing

hot-air brick furnace (no longer in use) was in Room 6/002. The physical evidence suggests that there was a doorway between Room 6/001 and 6/002 as shown in the earliest plan (fig. 34), and that it was closed off with brick when the furnace was installed in Room 6/002. There was physical evidence of the hot-air heating registers and duct work in Room 6/002. The original coal chute in Room 6/002 was moved when the building was added to in 1875.

### Finishes

The brick walls are mostly painted white, and the existing plaster walls are also white. The few layers of paint suggest that these were early finishes, but they are degraded.

The Pantry doorway is painted white on the Kitchen side, and light tan on the interior of the Pantry. Other doorways with intact wooden casings are grained, as is the window trim of the W.C., the cap on the stair partition, and some of the baseboards. These surfaces have not been coated before or after the graining, suggesting that this was the historic finish. Though graining, a faux paint finish meant to give the appearance of natural wood, might seem like an elaborate finish for the basement rooms, it was not unusual during the period of construction.

The extant window trim in Room 6/004 was painted tan, and some of the other windows have degraded dark brown finishes.

### First Story

#### *Quarters No. 5*

#### Plan

The first-story plan of Quarters No. 5 was similar to the basement, and followed the layout of the primary partition walls (fig. 35). The front hall (Room 5/101) and back hall (Room 5/108) each had a staircase to the second story, and the back hall had a

doorway under the staircase that led to the basement stairs. The back room (Room 5/107) along the center partition historically served as a Pantry with a dumbwaiter.

Like the basement, the first-story rooms were arranged north of the halls. The front room (Room 5/102) was the Parlor, which had a doorway from the front hall and a wide doorway to the adjacent Sitting Room (Room 5/103). The Sitting Room (Room 5/103) was the middle room on the first story, and had a bay window. The earliest plan indicates that Room 5/103 had doorways to both the front hall and one from the back hall, but 1876 plans only depict the front hall doorway (fig. 38). The Sitting Room also had a doorway to the Dining Room. The Dining Room was in the back corner of the quarters and had an adjacent Pantry. There were doorways from the back hall and Sitting Room, as well as one to the Pantry. The adjacent Pantry had a rear window, and was equipped with a sink and dumb waiter, as well as shelving.

### Floors

There were some extant wooden floors, as well as more recent flooring materials. It appears that the rooms were historically floored with tongue-and-groove boards. Extant flooring in some rooms the wooden strips are 2 inches wide, and appear to be historic.

### Walls

The interior walls were covered with wooden lath and plaster, including the brick center partition and the framed partitions. In the front hall (Room 5/101) where the projecting center bay forms an interior corner, the corner was chamfered. Physical evidence shows that the bricks in this corner were cut for the chamfer and covered with plaster (fig 50).

The interior walls were historically finished with baseboards some of which are extant.

Historically the baseboards in Rooms 5/101–5/104 had the same profile. The baseboard had a plain 7-inch-high mopboard with a 4-inch molded cap. The molding had a cyma-recta with bead and cavetto profile (fig. 48). The back hall and Pantry had simpler baseboards similar to the basement (fig. 49). Those baseboards had a plain mopboard and molded cap with a fillet and quarter-round profile. The use of different baseboards on the first story of Quarters No. 5 is one illustration of the hierarchy of finishes previously described.

The physical evidence indicated that both dining rooms in the quarters had a wooden dado and chair rail, which distinguished the Dining Room from the other first story rooms. The dado was also listed in the cost estimate for the quarters. Some of these elements remain in Room 5/104 including the baseboard (missing the cap) and chair rail, but the dado was evidently replaced. The dado was better preserved in Room 6/104 (see subsequent section “Quarters No. 6, Walls”).

### Doorways

The interior of the front door (D101) had wooden casings with a segmental arched head (fig. 50). The casing had a detailed molding that was composed of (from inside to outside) a quarter-round, flat, cavetto, beaded-cyma-reversa, and filleted-cavetto profile (fig. 51). The casing was 7 inches wide with a simpler molding at the base. The base molding was 7 inches high, and had two stepped sections with rounded edges and a fillet with cavettos on both sides.

D101 had double doors, each with a molded panel below a single light. On the interior of the door both the light and panel were trimmed with a beaded-cyma reversa, with beaded cavetto molding, and the panel had a shallow pyramid shape (fig. 50). Each door had two lift-off hinges with acorn finials and a vine design embossed on the side (fig. 51).

Many of the interior doorways had similar historic elements. The doorway casings in Rooms 5/101–5/107 were the same molded casings as on the front doorway, but without the arched header (fig. 52). The doorway between Rooms 5/102 and 5/103 was a wide arched opening with two sliding pocket doors (fig. 53). There was also a doorway connecting Quarters No. 5 and No. 6 that had a door on both sides of the opening. The jambs and header in this doorway had molded panels with cavetto-and-bead profiles.

The doorway casings in Room 5/108 were similar to the double casing in the basement having two boards with quarter-round edges. These casings extended to the floor and did not have a separate base.

The interior doors were four-panel doors with two long rectangular panels over two short rectangular panels. The panel moldings had double cavetto-and-bead profiles with the inner cavetto and bead being smaller. The door to the basement stairs in Room 5/108 was unique in that it had two panes of glass in each of the upper panels. The doors typically had two lift-off hinges with acorn finials. The doors had decorative knobs and separate keyways with escutcheons.

## Windows

The exterior elements of the windows, including the sashes, were previously described. In Quarters No. 5 the Parlor (Room 5/102) had tall windows on the front and north walls with a balcony accessed from the north window (fig. 54). The Sitting Room (Room 5/103) had a bay window with sashes in three of the walls (fig. 55). The Dining Room (Room 5/104) had windows with double sets of sashes on the north and east elevations (fig. 56). Historically the Pantry also had a double window, which was later altered.

The windows, except for the bay, had two sets of sashes and were typically set in shallow niches with wooden trim. The sash sets were typically double-hung, one-over-one sashes with segmental arches on top. The outside casing of the openings was similar to the doorway casings, including the bases, and extended from the floor to 8 feet 8 inches at the top of the casing. The double windows typically had wooden mullions with cyma-recta moldings on either side of a wide center bead. The windowsills were typically a wooden bullnose sill with a beaded cyma-recta molding below it spanning the opening.

In the Parlor (Room 5/102) the windows were 7 feet 5 inches tall and set 7 inches above the floor (W101). In the Dining Room (Room 5/104) the windows were 5 feet 11 inches tall and were set 2 feet 3 inches above the floor (W117). These windows had two panels below the sill that had with cavetto-and-bead moldings. It is not known what elements were at the base of these windows, because in all cases it has been removed.

The bay window in Room 5/103 had an arched opening (fig. 55). The bay had five sides, two short sides connecting to the main block and three sides with windows (W118–W120). W118 and W120 each had one set of sashes and W119 had two sets of sashes. All sash sets were double-hung, one-over-one with a segmental arch on top. The windows were trimmed with cyma-recta and wide-bead moldings. The short sides had narrow panels trimmed with the same moldings as the windows. Above the windows was a plain frieze and a cornice with a cavetto-and-quarter-round molding. The ceiling of the bay had four panels with cavetto-and-bead moldings.

## Ceilings

The ceilings throughout the first story were historically constructed with wooden lath and plaster. The 1876 plans indicate that there were ceiling fixtures in the center of each of the main rooms.

The extant evidence suggests that some of the rooms in Building No. 5 & 6 had molded cornice trim. However, this only survives in two second-story rooms (see subsequent section “Second Story, Quarters No. 6, Ceilings”). Based on the evidence that similar trim elements were used throughout the building, it seems likely that the decorative cornices in Quarters No. 6 were historically used in other parts of the building.

## Stairs

The front hall in Quarters No. 5 had an open stringer wooden staircase that ascended to the second story (fig. 57). The stairs had 11-inch bull-nose treads and 7¼-inch risers. The stairs had a wooden banister with turned balusters and a molded handrail. The first story newel post was eight sided with beveled base trim, molded arched panels, and molded circles on each facet. The top of the newel was also molded and had a molded cap. The stair stringer had plain trim boards with quarter-round edges; while the stringboard along the center wall had the same molding as the first story baseboard.

At the second story was a square newel post with molded panels and a turned cap. The second-story newel post had a triangular drop pendant that was visible in the first story hall. In the second story hall the banister continues around the stairwell and ends at the west wall.

In the back hall (Room 5/108) stairwell had stairs to the basement and the second story. The basement stairs were accessed through a doorway and were previously described.

The stairs to the second story were open stringer stairs that were steeper than the front hall stairs (fig. 58). These stairs had 10-inch bull-nose treads and 8¼-inch risers with winding steps at the top of the stairs. The stairs had a wooden banister that was continuous from the first story to the attic. It had turned balusters and a molded handrail and a newel post on the first story. The newel post had an octagonal base and a vase-shaped turned shaft with a round cap. The stairs had a plain stringer with a beaded edge and the stringboard along the wall had the same profile as the baseboard in the back hall.

## Fireplaces

The estimate for the construction of Building No. 5 & 6 included “8 chimney pieces with grates.” The earliest plans indicate that three of those chimney pieces or mantelpieces were installed on the first story of Quarters No. 5. The physical evidence suggests that all of the historic mantelpieces had iron grates with coal-burning heaters.

In the Parlor (Room 5/102), the earliest plan shows that there was a mantelpiece on the south wall. However, the 1876 plan notes that there was no mantel for that chimney, and the present mantel is later. It is not known whether Room 5/102 originally had a mantelpiece, but that would have accounted for one of the eight called for in the proposal.

The mantelpiece installed in the east wall of the Sitting Room (Room 5/103) remains today. It was a white marble mantelpiece with an arched opening and an iron grate (fig. 59). The frontispiece of the mantel had an arch with three-quarter-round edges and rounded chamfers on the outside edges. The mantelpiece had spandrels with carved channels and a center medallion. The mantelshelf was also marble and had a curved edge with a cyma-recta profile. This fireplace had a mosaic-tiled hearth. The

design features large octagonal red tiles with bands diamond fretwork in black, tan, and white and red tiles with gold floral motifs. The hearth had a diamond pattern border of blue and white tiles outlined with narrow black tiles. A similar tiled hearth was extant in Quarters No. 6 and is better preserved (see subsequent section “Quarters No. 6, Fireplaces,” fig. 64).

The Dining Room (Room 5/104) had a stone mantelpiece with an iron grate on the west wall. The mantelpiece was a polished red-brown stone with a curved mantelshelf. The frontispiece had an arch, chamfered edges, channeled spandrels, and a center medallion/shield. This fireplace has a white marble hearth.

### Utilities

The 1869 description of the plumbing for the new quarters included copper basins in the “china closets” or pantries adjacent to the Dining Rooms. The 1876 plan appears to confirm the location of these basins, which was noted as a “sink” in the plan of Quarters No. 6.

The 1876 plan indicates the locations of heating registers throughout the first story of Building No. 5 & 6. According to those plans there was a register near the north wall in the front hall, the south wall in the Parlor, the south wall in the Sitting Room, and the west wall in the Dining Room. There was also evidence of the openings for the registers in the basement, which was previously described.

The 1876 plans also show gas light fixtures in the rooms. The main rooms had fixtures in the center of the ceiling, which were probably chandeliers based on the way they were drawn in plan. The Pantry also has a ceiling fixture that was probably a simpler light. In the halls there was gas piping and valve stems for wall fixtures.

### Finishes

Though paint analysis was not performed as part of this project, there was limited sampling of elements, and it was possible to determine some of the historic finishes. The exterior doors were historically covered with a dark resinous finish, giving them a dark brown color, which was retained on the front doors of Quarters No. 5. The paint evidence suggests that the interior doors were a lighter species of wood that was coated with a dark graining consisting of brown paint and a dark varnish.

The woodwork in the Dining Room (5/104) was historically a grained finish. This was evident on the baseboard, chair rail, and window casings. Based on the samples taken, other woodwork in the first story of Quarters No. 5 was painted off-white, though other colors may have been used. The historic finishes of the walls are not known, and the ceilings were probably painted white.

### *Quarters No. 6*

#### Plan

The first-story plan of Quarters No. 6 mirrored that of Quarters No. 5 (fig. 35). There was a front hall, back hall, and Pantry along the center partition. The rooms arranged south of the halls from front to back were a Parlor, Sitting Room with a bay window, and Dining Room. The halls had staircases to the second story and basement. The 1876 plans show a similar layout except the Parlor in Quarters No. 6 was enlarged by that time (see subsequent section “Alterations”).

#### Floors

The floors in Quarters No. 6 were historically tongue-and-groove wooden floors. The 2-inch-wide floorboards in the halls and in Room 6/104 appear to be historic and may be from the original

construction. While the floors in the Parlor and Sitting Room appear to be historic, they were probably installed after the initial construction (fig. 60). This was most evident in the Parlor, because the floor is consistent with the expanded plan of the room. The flooring in both these rooms was two-toned with alternating light and dark strips of wood and a center pattern (see subsequent section “Current Physical Description”).

## Walls

The walls were typically constructed with wooden lath and plaster. Like Quarters No. 5, the interior corner of the projecting bay in the front hall (Room 6/101) was chamfered and parged with plaster.

The baseboards in Quarters No. 6 had the same profiles as Quarters No. 5. The more decorative baseboards were used in the front hall, Parlor, Sitting Room, and Dining Room. The simpler baseboards were used in the back hall and Pantry.

The Dining Room (Room 6/104) was constructed with a paneled dado that is extant (fig 61). The baseboard had the same profile as the front rooms and the dado was divided into panels with applied moldings. The panel molding had a cavetto-and-bead profile, which was the same as the uppermost molding of the baseboard. The panel molding was mitered where it joined the top of the baseboard. The dado had a 2-inch-wide chair rail with a cavetto, bead, and cyma-recta profile.

## Doorways

The main entrance to the quarters was in the front hall. That doorway (D102) had the same elements as the front doorway of Quarters No. 5 (D101). Like D101, D102 was trimmed with elaborate casings and had two wooden doors with glass lights over raised panels (fig. 62).

The interior doorways in Quarters No. 6 were also similar to those in Quarters No. 5. More decorative molded casings were used in the front hall, Parlor, Sitting Room, and Dining Room, while plain boards with quarter-round moldings were used in the back hall and Pantry. The doorways typically had four-panel doors with lift-off hinges, decorative knobs, and separate keyways.

The earliest plan indicates that the Sitting Room (Room 6/103) had a doorway to the front hall and the back hall. However, the back hall doorway was not shown in the 1876 plans. Since the physical evidence was inconclusive, it is not known whether the doorway was ever constructed.

## Windows

The windows in Quarters No. 6 had the same molded casings that were evident in Quarters No. 5. They were typically double windows with two sets of sashes except for the bay window. The windows in the Parlor (Room 6/102) were tall and the south window had access to a balcony. The bay window in Room 6/103 had the same elements as the bay window in Room 5/103. In Room 6/104 there were two panels below the windows (fig. 56). In all cases the elements observed were similar to those in Quarters No. 5.

## Ceilings

The ceilings in Quarters No. 6 were constructed with wooden lath and plaster. There was some evidence of the historic cornice in Room 6/104, which was 6½ inches wide, and had a cavetto-cyma reversa-cavetto molding below a plain frieze. Based on evidence in the second story, the cornice in Room 6/104, and probably some other first story rooms, may have included a molded border around the ceiling. However, the extent of the historic cornice moldings could not be determined from the physical evidence.

## Stairs

Quarters No. 6 had stairs in the front hall that ascended along the center partition of the building to the second story. These stairs were constructed with same materials as the corresponding front stairs in Quarters No. 5. Likewise the stairs in the back hall with access to the basement and second story were similar to those in Quarters No. 5.

The area beneath the front stairs was historically open, and the connecting doorway to Quarters No. 5 was located there. The basement stairs (now blocked off) were accessed through a doorway under the back stairs.

## Fireplaces

Of the eight “chimney pieces” noted in the cost estimate, three were installed in the first story of Quarters No. 6. The Parlor had a marble mantelpiece with an iron grate that had a cast iron surround (fig. 63). This was the most decorative mantelpiece in the building. It had a frontispiece with chamfered pilasters that had a center panel with a vine pattern, all of which continued to the spandrels that also had marble rosettes. The center of the mantelpiece had a carved bracket that supported the marble mantelshelf (now missing). The fireplace had a tiled hearth that followed the mosaic pattern in Room 5/103, but had a red and white tile border.

Quarters No. 6 also had mantelpieces in the Sitting Room (Room 6/103) and Dining Room (Room 6/104). In both cases the elements in those fireplaces were similar to those used in Quarters No. 5. The marble mantelpiece in Room 6/103 had a mosaic tile hearth that was well preserved (fig. 64). Room 6/104 had a stone mantelpiece with a marble hearth. The iron grate in that fireplace has an intact heater (fig. 65).

## Utilities

As previously described, the 1876 plans depict gas fixtures and heat registers in Building No. 5 & 6. These utilities were installed in similar locations in both quarters. However, the 1876 plan shows an addition to the front Parlor in Quarters No. 6 (Room 6/102), which altered the location of the center ceiling fixture.

The physical evidence in the basement of the duct work for the heat registers appears to confirm the locations shown in the 1876 plans.

## Finishes

The extant finishes are generally not historic, but limited sampling of the woodwork did determine some of the historic finishes. Samples of the trim elements suggest that they were generally painted off-white. The interior doors were grained with a dark resinous finish. The baseboard, dado, chair rail, and window elements in Room 6/104 were grained.

The plaster walls were not sampled and may have been painted or covered with wallpaper. The ceilings were most likely painted white.

## Second Story

### *Quarters No. 5*

#### Plan

The second story of Quarters No. 5 followed the same basic plan as the first story (fig. 36). Along the center partition there were two stair halls (front hall, Room 5/207 and back hall, Room 5/206), a closet at the front of the building (Room 5/201), and a bathroom at the back (Room 5/205). There were three bedrooms north of the halls that had similar dimensions to the first-story rooms, except

the middle room did not have a bay window.

The bedrooms and bathroom could be accessed from the halls, and the two front bedrooms had a connecting doorway. The front bedroom (Room 5/202) had access to the large closet at the front of the quarters (Room 5/201), while the middle and back bedrooms had smaller closets in the wall partitioning the two rooms. As on the first story, there were differences in the trim details in the front rooms compared to the back rooms.

### Floors

The floors throughout the second story of Building No. 5 & 6 were tongue-and-groove wooden-strip floors. Though some of the floors were replaced or covered during alterations, the physical evidence suggests that some of the extant flooring was from the period of construction. The historic wooden floors were also evident in the more recent built-in closet in Room 5/201.

### Walls

The walls in Quarters No. 5 were typically plaster on wooden lath, and the center brick partition was also covered with plaster. The baseboards in the front hall (Room 5/207), the front bedroom (Room 5/202), and middle bedroom (Room 5/203) had the same molded profile as the public rooms on the first story. Though the baseboard in the front closet (Room 5/201) was altered, there was evidence in Room 6/201 that these closets had the same decorative baseboards as the adjacent bedrooms. The back hall (Room 5/206), back bedroom (Room 5/204), and bathroom (Room 5/205) historically had the simpler baseboard found in the back hall on the first story.

There is evidence in Quarters No. 6 that historically the bathrooms had tongue-and-groove wooden wainscot with a chair rail. The extant wainscot in Room 6/205 had

beaded boards ranging in width from 2¾ inches to 3¾ inches. The wainscot was capped with a molded chair rail and the typical baseboard. The wainscot was removed from Room 5/205 but remains in Room 6/205 (see subsequent section “Quarters No. 6, Walls”).

### Doorways

The doorway trim followed the hierarchy of the baseboards. The front closet (Room 5/201), front bedroom (Room 5/202), middle bedroom (Room 5/203), and front hall (Room 5/207) had doorway casings with the same profile as the public rooms on the first story. The back hall (Room 5/206), back bedroom (Room 5/204), and bathroom (Room 5/205) had plain casings with quarter-round edges like the back hall on the first story.

The doorway connecting the two quarters was similar to the first story connecting doorway. The jambs and head had molded panels, and each of the quarters had its own locking door (fig. 66).

The second-story doors were typically four-panel doors with double cavetto-and-bead profiles like those used on the first story. The doors typically had two lift-off hinges with acorn finials, porcelain knobs, and separate keyways (fig. 67).

The doorway to Room 5/203 had a two-light pivoting transom over the door (fig. 67). The two lights had knife edge muntins. The doorway casing continued around the transom, and a plain header with quarter-round edges separated the door and transom. The physical evidence suggests that the casing was part of the original construction, which was confirmed by the paint evidence.

### Windows

Historically the front bedroom (Room 5/202) had double windows in the front and

side walls with two sets of double-hung, one-over-one sashes typical of the second-story windows. The adjacent closet (Room 5/201) had a double window on the front wall. The middle bedroom (Room 5/203) had a double window on the north wall. The back bedroom (Room 5/204) had double windows on the back and side walls. All of the second-story windows had niches with wooden casings that measured 5 feet 7 inches to the top of the casing. The sills were 2 feet from the floor and there were two molded panels below the double sashes.

The window casings in the front rooms and middle bedroom were the more elaborate molded casings, matching the doorway casings in those rooms. The casings in the back bedroom were plain like the doorway trim.

### Ceilings

The ceilings in Quarters No. 5 were plaster on wooden lath. Though many of the plaster ceilings have been covered, there is plaster in Rooms 5/201, 5/203, and 5/204.

There was evidence of detailed cornice moldings in Quarters No. 6, but none survive in Quarters No. 5. The ceiling in Room 5/201 does have a cyma-recta molding along sections of the room that appears to be historic. Paint evidence shows that the cornice had similar layering as the window casing, suggesting the cornice probably dates to the original construction. Room 5/203 also had a 2½-inch-wide cornice with a bead, flat, cavetto, and bead profile that appeared historic. This trim may also date from the period of construction.

### Stairs

As previously described, the front hall stairs to the first story had a wooden banister with a square newel and turned balusters around the stairwell.

In the back hall there were open-stringer winding stairs to the attic (fig. 68). The stairs had tapered treads and 8-inch-high risers. Several treads at the bottom and top of the stairs were angled for the winding stairs. The stairs had a wooden banister that continued from the first-story stairs up to the attic where it continued around the stairwell. The banister had turned balusters and a molded handrail. The stair stringer was a plain board with a three-quarter-round corner bead. The stringboard along the wall had the same details as the baseboard in the back hall.

### Fireplaces

Room 5/202 was the only room on the second story of Quarters No. 5 that had a fireplace. The mantelpiece was on the south wall of the room and had an arched iron grate that was similar to the mantelpiece in Room 5/104. The mantelpiece was stone and had a center arch where the grate was inserted. The frontispiece had channels carved in the pilasters and spandrels, and a center medallion/shield. The mantelshelf was curved and had a shallow cyma-recta profile along the outer edge. The fireplace had a marble hearth.

### Utilities

The 1869 description of the plumbing noted that there were plans for washbasins in the chambers. The 1876 plans indicate the locations of the basins in Rooms 5/201, 5/203, and 5/204, as well as the bathroom plumbing (fig. 39). The fixtures in the bathroom (Room 5/205) included a wash basin, bathtub, and water closet. The description of the plumbing indicates that all of the basins and the bathtub were plumbed for hot and cold water.

The 1876 plans also indicate that there were gas fixtures in the walls of all of the second-story rooms, but did not indicate any ceiling fixtures on that story.

The only evidence of heating on the second story of Quarters No. 5 was a heat register in the side of the fireplace in Room 5/202 (fig. 69). The heat register appeared to be historic and could date from the original construction. Otherwise it appears that the heat for the second story was supplied by the fireplace in Room 5/202, and heat that rose from the first story.

### Finishes

Examination of a limited number of paint samples indicated that the woodwork on the second story of Quarters No. 5 was painted off-white. Paint samples from the doors showed that they were constructed with a light-colored wood that was finished with a brown paint and dark varnish. Historically that gave the doors a dark finish, which was retained on the doors connecting the two quarters. Most of the other doors were later painted off-white.

The historic treatment of the plaster walls is not known. Many of the plaster walls were presently covered with wallpaper, and may have been the papered historically, but with different wallpapers.

The plaster ceilings were probably painted white.

### *Quarters No. 6*

#### Plan

The earliest drawings suggest that Quarters No. 6 originally had the same layout as Quarters No. 5 (fig. 36). Based on the earliest drawings, the historic plan would have included a closet, front and back hall, and a bathroom along the center partition, and three bedrooms south of the halls. Thus the two quarters would have been symmetrical, which was evident throughout the building. However, the plan was altered to two bedrooms during the historic period.

That there were originally three bedrooms planned for the second story is suggested by the plumbing estimate that called for six basins in the chambers (one for each bedroom with three bedrooms in each quarters). Paint samples from the north-wall baseboard also indicated that it was installed after the original baseboard (see subsequent section "Alterations"). The 1876 plans confirm that the two front bedrooms had been altered to form one bedroom by that time (fig. 39).

### Floors

The physical evidence suggests that the second story rooms in Quarters No. 6 had wooden tongue-and-groove floors. In Room 6/201 flooring within a later built-in cabinet appears to be original. These boards are 2 $\frac{1}{8}$  inches wide and were probably typical of the second-story flooring. Similar floors were extant in Rooms 6/206, and 6/207, as well as the closets. This evidence was also consistent with the historic flooring in Quarters No. 5.

### Walls

The walls in Quarters No. 6 were finished with plaster and lath, and the center brick partition was parged with plaster. Like Quarters No. 5, the baseboards in the front rooms had a more elaborate molded profile like those of the first story, while the back hall (Room 6/206), back bedroom (Room 6/204), and bathroom (Room 6/205) had simpler baseboards.

The physical evidence indicates that the bathroom walls were historically covered with wooden wainscot consisting of tongue-and-groove beaded boards ranging from 2 $\frac{3}{4}$  inches to 3 $\frac{3}{4}$  inches wide. The wainscot had the typical baseboard and was capped with a molded chair rail with a cyma-recta and bead profile. Large sections of the wainscot remain in 6/205 (fig. 70).

## Doorways

The doorways in Quarters No. 6 were typical of the second story. The doorway casings in the front rooms were more decorative, similar to the first-story public rooms, while the back hall (Room 6/206), back bedroom (Room 6/204), and bathroom (Room 6/205) had plain casings with quarter-round edges like the back hall on first story.

The second-story doors were similar to those in Quarters No. 5 having four-panel doors with double cavetto-and-bead profiles. The doors had two lift-off hinges with acorn finials, porcelain knobs, and separate keyways.

## Windows

The windows in Quarters No. 6 had two sets of double-hung sashes like the rest of the second story. The window casings had the same profiles as the doorways in the respective rooms. The casings extended to the floor, creating a window niche that included the sashes, sills, and two molded panels below the sills.

## Ceilings

The ceilings in Quarters No. 6 were typical of the building in being covered with wooden lath and plaster. The historic plans indicate that the ceiling height was 10 feet.

Though later alterations removed most of the cornice moldings around ceilings, a section of the historic cornice remains in the closet (Room 6/203). The molding ran along the top of the wall and extended to the ceiling (fig. 71). It was a detailed cornice that included reverse-cyma-recta and several beaded cavetto profiles. The physical evidence suggested that this cornice was used in Room 6/202 and may have been used extensively throughout the building. There was also a section of this same cornice in the hall (Room 6/207), but a

portion of it was removed for the current ceiling tiles.

## Stairs

Like Quarters No. 5, the front hall stairs in Quarters No. 6 had a wooden banister with a square newel and turned balusters around the stairwell.

The back hall stairs to the attic were open-stringer stairs with winding steps. The stair treads had a bullnose profile. Several treads at the bottom and top of the stairs were angled for the winding stairs. Similar to Quarters No. 5 the stairs had a wooden banister with turned balusters and a molded handrail that continued from the first story to the attic and enclosed the stairwell. The stair stringer was a plain board with a three-quarter-round corner bead. The stringboard was similar to the back hall baseboard.

## Fireplaces

The fireplace in Room 6/202 was similar to the fireplace in Room 5/202 and the first-story Dining Rooms. The stone mantelpiece had a center arch with a cast-iron insert and grate. Like the other mantelpieces, the frontispiece had channels carved in the pilasters and spandrels, and a center medallion/shield. The mantelshelf was curved and had a shallow cyma-recta profile along the outer edge. The fireplace had a marble hearth.

## Utilities

The 1876 plans indicate that Quarters No. 6 had similar utilities as Quarters No. 5. There were gas fixtures in the hallways and bedrooms, as well as a gas ceiling fixture in Room 6/202. There were basins in the bedrooms and the bathroom had a bathtub, basin, and W.C.

## Finishes

A limited number of paint samples taken from the woodwork on the second story of Quarters No. 6 indicated that it was generally painted off-white like Quarters No. 5. The doors were historically coated with a brown paint and dark brown resin, and were later painted.

The historic treatment of the plaster walls is not known. Many of the plaster walls were presently covered with wallpaper, and may have been the papered historically, but with different wallpapers. The earliest finish on the bathroom wainscot was a layer of tan paint covered with varnish. This may have been a grained finish, which was found elsewhere in the building.

The plaster ceilings were probably painted white.

## Attic

### *Quarters No. 5*

#### Plan

The attic rooms were laid out in a similar plan as the second story, but had one hall and stair. Along the center partition were a front room (Room 5/301), hall (Room 5/306), and bathroom (Room 5/305), with three bedrooms off the hall. Due to the slope of the mansard roof, the attic bedrooms were smaller than the second-story bedrooms and had deep window niches (fig. 40).

#### Floors

The physical evidence indicates that the floors in the attic were historically wooden. Though most of the floors are covered with vinyl flooring, Room 5/301 has wooden floors that appear to be historic. These consist of random-width tongue-and-groove floorboards between 5 and 7 inches

wide. Similar wooden floors were probably used throughout the attic, which would be consistent with the rest of the building.

## Walls

The slope of the mansard roof required that the outside walls of the attic rooms be framed within the roof structure. This created cavities in the outside walls between the wall framing and the roof framing, and also formed the deep window niches that are evident in the plans (fig. 72). Each room had access to the wall cavities through a small closet.

The outside walls and interior partitions were wooden framed and covered with wooden lath and plaster. The center brick partition was also covered with plaster.

The baseboards in the attic were typical of the back hall on the lower stories, consisting of a wooden baseboard and cap with a fillet and quarter-round profile. As previously described, this baseboard design was simpler than that used in the more public rooms on the first story.

## Doorways

The doorways for the attic rooms and closets were typically constructed with simple casings that matched the back hall on the second story. The casings had two boards with quarter-round edges. The doorways had four panel doors with beaded cyma-reversa panel molding. The doors typically had two lift-off hinges with acorn finials and porcelain knobs with separate keyways. The doorway from the hall to Room 5/303 had a two-light pivoting transom over the door. In this doorway the casing continued around the transom.

The doorways to the closets in the window niches had single-panel doors with two cabinet hinges and a single cabinet latch. These doorways had plain wooden casings with quarter-round edges.

## Windows

The windows in the attic of Quarters No. 5 were within the recesses formed by the framed walls. Each window had two-over-two, double-hung sashes with an arched-top sash. The windows had plain casings and window stops with rounded edges. The windowsills were 8½ inches deep with beveled edges, and below each sill was a ¾ inch apron with a quarter-round edge.

## Ceilings

The physical evidence indicates that the ceilings were plaster and lath. Many of the ceilings were later covered, but there were extant plaster ceilings that probably date to the period of construction.

## Stairs

The stairs to the attic ascend from the back hall of the second story and were previously described. In the attic hall (5/306) the winder stairs end at the east end of the hall and the banister continues around the stairwell.

## Utilities

The 1876 plans do not depict any gas fixtures in the attic of the building.

The proposal for plumbing the building noted that lead-lined water tanks for the system would be installed in the attic. The 1876 plans depict the water tanks in the back room of the attic, which is now the bathroom.

## Finishes

In-situ examination of the woodwork indicated that it was historically painted off-white. Paint samples from the doors had a light tan paint with a resinous layer that appears to be graining.

The plaster walls may have been painted, but in most cases were later covered with wallpaper. The ceilings were probably painted white to off-white.

## *Quarters No. 6*

### Plan

The attic plan of Quarters No. 6 was similar to that of Quarters No. 5 and maintained the symmetry of the two quarters (fig. 40). The hall and two storage rooms were along the center partition, and the three bedrooms were arranged south of the hall from front to back.

### Floors

Though the floors are presently covered with sheet vinyl, the historic floors were probably wooden tongue-and-groove boards similar to those observed in Quarters No. 5.

### Walls

The walls were typically wooden framed and covered with wooden lath and plaster. The center brick partition was also covered with plaster. As in Quarters No. 5, the outside walls were framed under the roof framing, creating cavities between the two framing systems. This also created deep window niches, and small closets were built into some of the niches.

The baseboards in the attic of Quarters No. 6 were typical of the simpler baseboard used throughout the building. It was a wooden baseboard and cap with a fillet-and-quarter-round profile.

### Doorways

The doorways were similar to those in Quarters No. 5, and again followed the simpler design found throughout the building. They had double-board casings and four-panel doors with lift-off hinges,

porcelain knobs, and separate keyways. The doorway from the hall to Room 6/303 had a two-light pivoting transom with a continuous casing.

The doorways to the closets in the window niches had single-panel doors with two cabinet hinges and a single cabinet latch. These doorways had plain wooden casings with quarter-round edges.

### **Windows**

As noted in the exterior descriptions, the windows on each story of the building were symmetrically placed. Each of the window niches in the attic of Quarters No. 6 held two-over-two, double-hung sashes with an arched top sash. The windows had plain casings and window stops with rounded edges. The windowsills were 8½ inches deep with beveled edges, and below each sill was a ¾-inch apron with a quarter-round edge.

### **Ceilings**

Though some of the ceilings are currently covered with tiles, there was evidence of the historic wooden-lath-and-plaster ceilings throughout the attic of Quarters No. 6.

### **Stairs**

As previously described, the stairs to the attic are winder stairs with a continuous banister that also encloses the attic stairwell. The attic stairs ascend from the back hall of the second story (Room 6/206) to the east end of the attic hall (Room 6/306).

### **Utilities**

Like Quarters No. 5, the only utility for Quarters No. 6 evident in 1876 plans was the water tank for the plumbing system. The 1876 plans depict the water tanks in the back room of the attic, which is now the bathroom.

### **Finishes**

In-situ examination of the woodwork indicated that it was historically painted off-white. Paint samples from the doors suggest that historically they were grained and later painted off-white.

The plaster walls and ceilings were probably painted white to off-white.

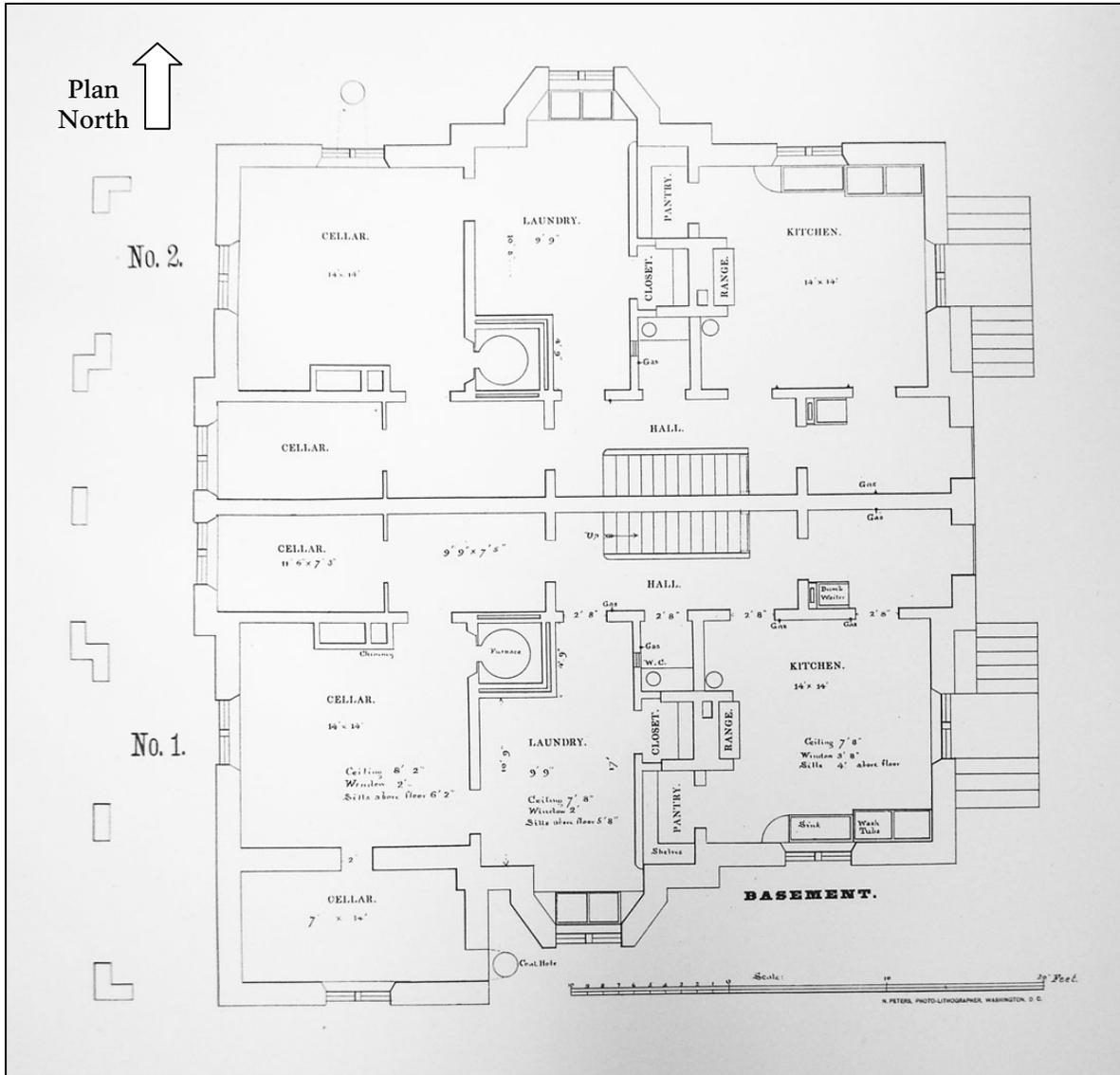


Figure 37. Building No. 5 & 6, 1876 basement plan, depicting historic plan with 1875 addition, room descriptions, measurements, and utilities.

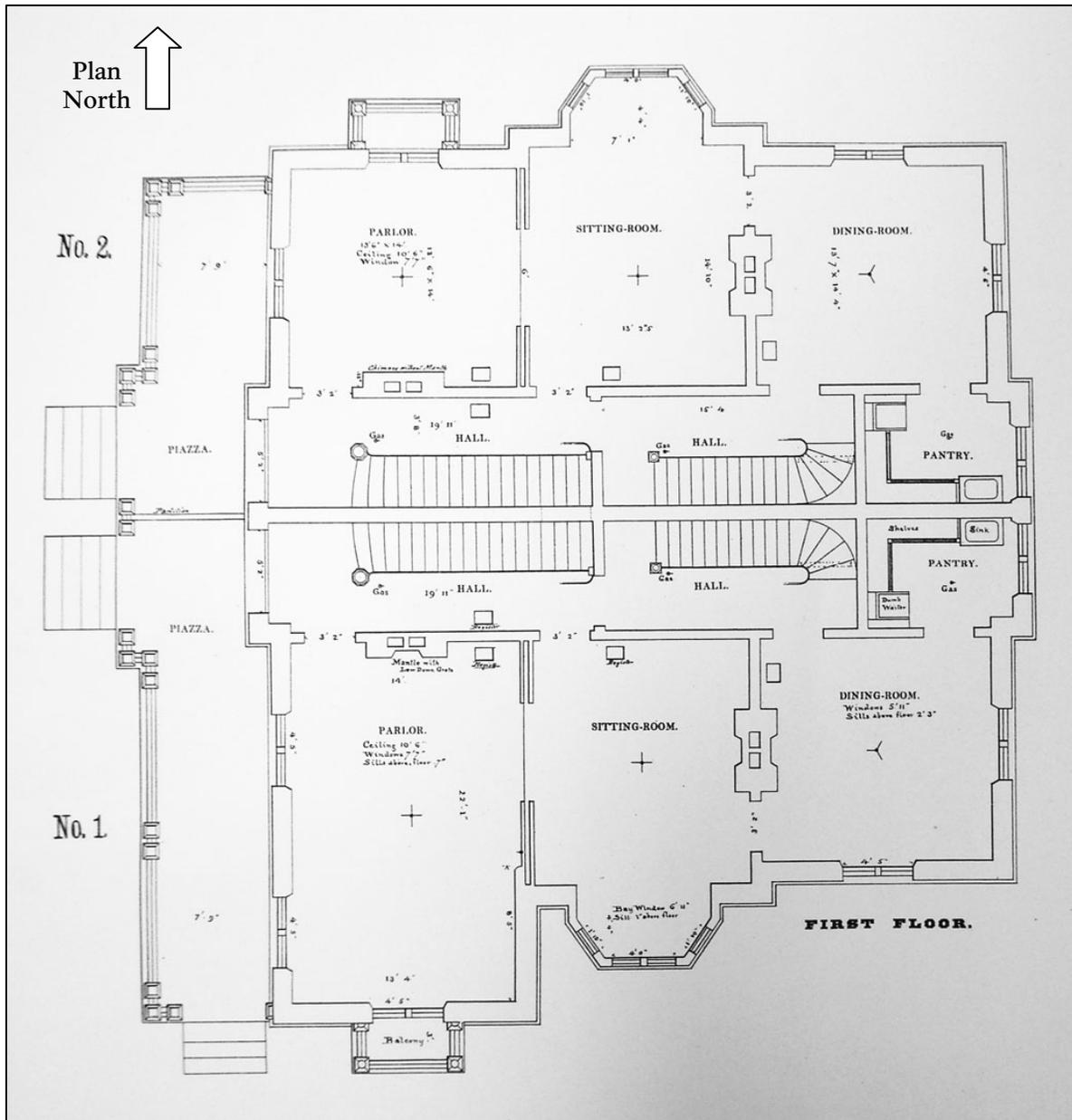
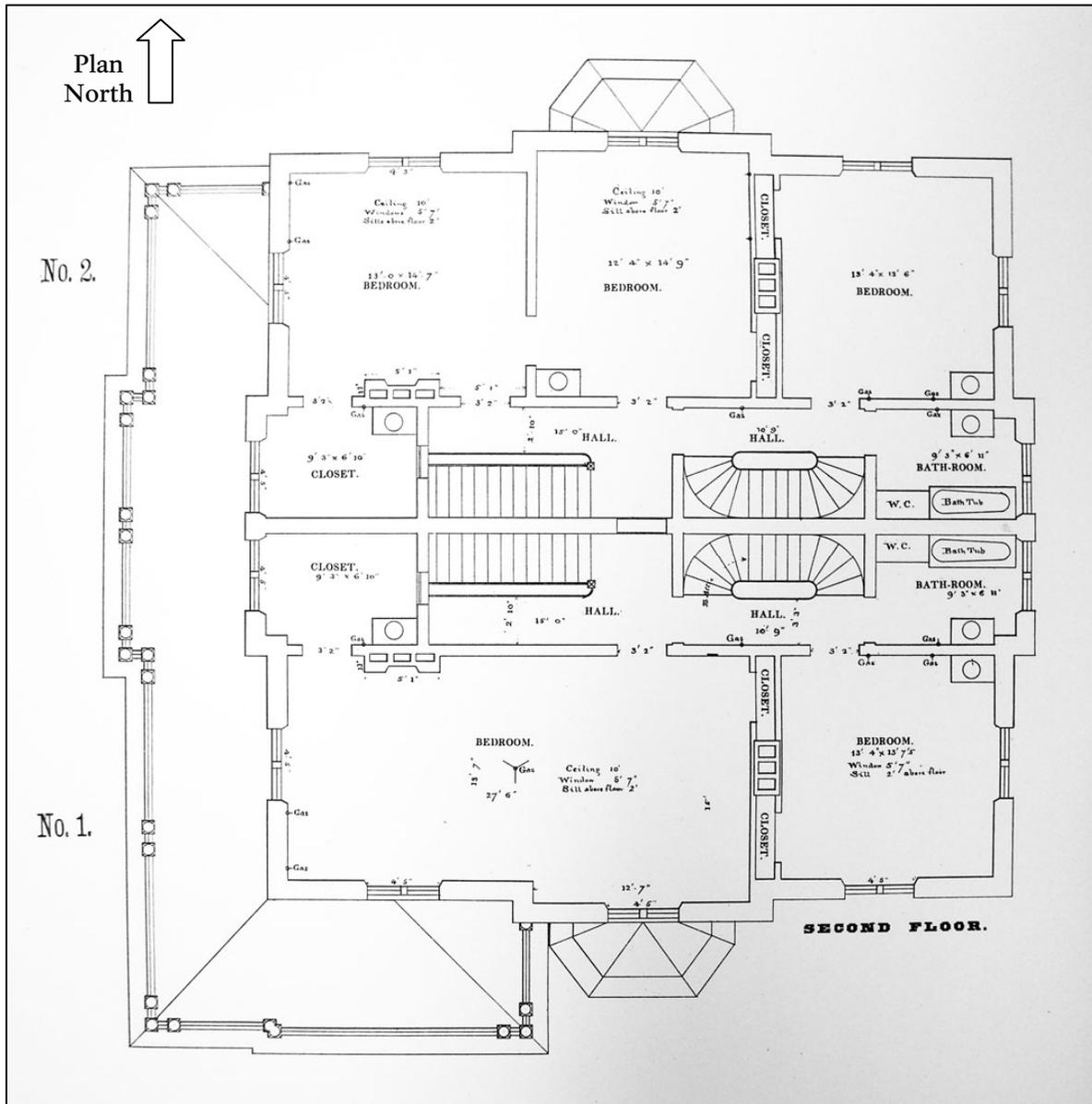


Figure 38. Building No. 5 & 6, 1876 first floor plan, depicting historic plan with 1875 addition, room descriptions, measurements, and utilities.



**Figure 39.** Building No. 5 & 6, 1876 second floor plan, depicting historic plan with, room descriptions, measurements, and utilities, as well as the alteration to the bedroom in Quarters No. 6.





Figure 41. Building No. 5 & 6, typical basement awning window.



Figure 42. Building No. 5 & 6, frame for former duct and heat register.



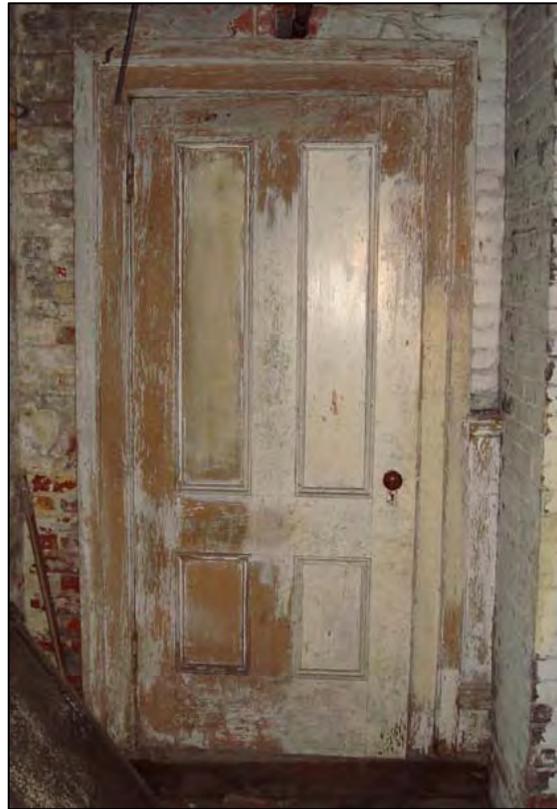
**Figure 43.** Building No. 5 & 6, Quarters No. 5 basement, Cellar coal chute in north wall.



**Figure 44.** Building No. 5 & 6, Quarters No. 6, framed east wall in Laundry with lath and plaster finish.



**Figure 45.** Building No. 5 & 6, Quarters No. 6, basement stairs.



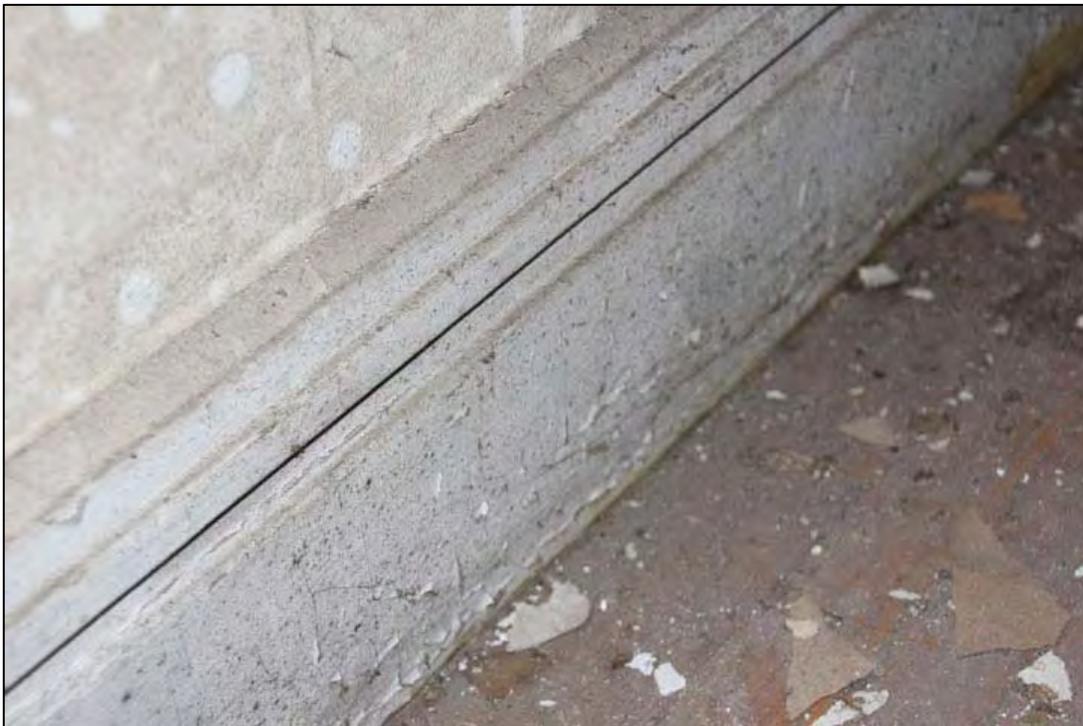
**Figure 46.** Building No. 5 & 6, Quarters No. 6, Pantry doorway.



**Figure 47.** Building No. 5 & 6, Quarters No. 6, Room 6/004, historic casing on original exterior (now interior) basement window.



**Figure 48.** Building No. 5 & 6, typical detailed baseboard and doorway casing found in the front rooms of the quarters.



**Figure 49.** Building No. 5 & 6, typical simple baseboard found in the back rooms of the quarters.



**Figure 50.** Building No. 5 & 6, Quarters No. 5, interior of front doors.



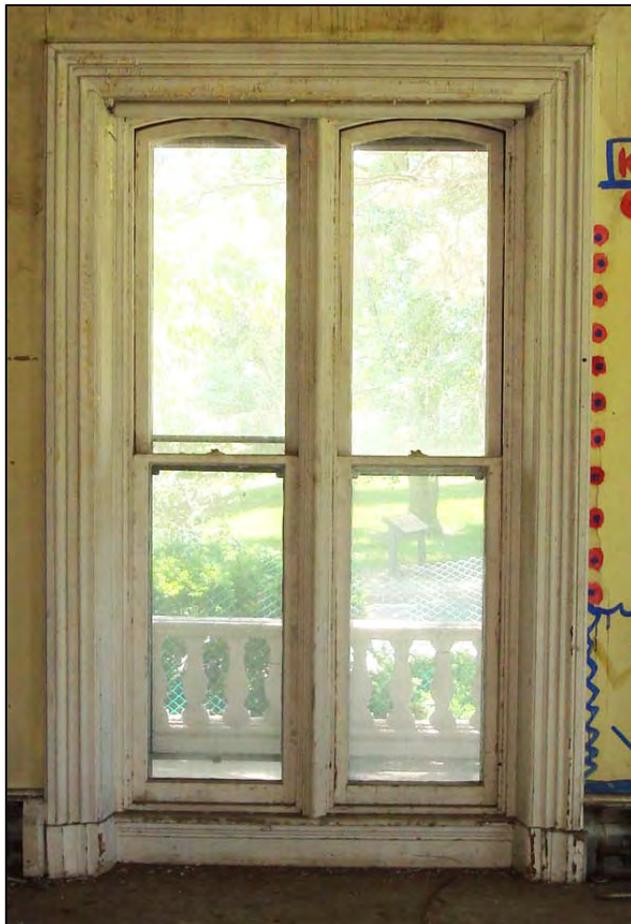
**Figure 51.** Building No. 5 & 6, Quarters No. 5, typical front door hinge with acorn finials and embossed design.



**Figure 52.** Building No. 5 & 6, Quarters No. 5, doorway from Room 5/103 to Room 5/104, typical of the interior doorways.



**Figure 53.** Building No. 5 & 6, Quarters No. 5, arched doorway between Rooms 5/102 and 5/103.



**Figure 54.** Building No. 5 & 6, Quarters No. 5, W101 depicting tall double window with detailed casing typical of the front rooms.



**Figure 55.** Building No. 5 & 6, Quarters No. 6, bay window typical of the bay windows in both quarters.



**Figure 56.** Building No. 5 & 6, Quarters No. 6, W108 showing regular-height window with casings, and panels below the sashes.



**Figure 57.** Building No. 5 & 6, Quarters No. 5, front stairs typical of both quarters.



**Figure 58.** Building No. 5 & 6, Quarters No. 6, back stairs typical of both quarters.



**Figure 59.** Building No. 5 & 6, Quarters No. 5, Room 5/103 marble mantelpiece typical of both quarters.



**Figure 60.** Building No. 5 & 6, Quarters No. 6, Room 6/103 two-tone floorboards with center pattern.



**Figure 61.** Building No. 5 & 6, Quarters No. 6, Room 6/104 dado with molded baseboard and chair rail.



**Figure 62.** Building No. 5 & 6, Quarters No. 6, front door (D102).



Figure 63. Building No. 5 & 6, Quarters No. 6, Room 6/102, marble mantelpiece and tiled hearth.



Figure 64. Building No. 5 & 6, Quarters No. 6, Room 6/103 tiled hearth.



**Figure 65.** Building No. 5 & 6, Quarters No. 6, Room 6/104, stone mantelpiece with iron insert, and marble hearth.



**Figure 66.** Building No. 5 & 6, Quarters No. 5, second-story connecting doorway from Room 5/207.



**Figure 67.** Building No. 5 & 6, Quarters No. 5, Room 5/203, hall doorway with transom, and closet doorway.



**Figure 68.** Building No. 5 & 6, Quarters No. 5, Room 5/206, second-story back-hall stairs.



**Figure 69.** Building No. 5 & 6, Quarters No. 5, Room 5/202, heating grate in side wall of fireplace.



**Figure 70.** Building No. 5 & 6, Quarters No. 6, Room 6/205, wainscot with molded baseboard and chair rail.



**Figure 71.** Building No. 5 & 6, Quarters No. 6, Room 6/203, molded cornice trim.



**Figure 72.** Building No. 5 & 6, Quarters No. 6, Room 6/302, window niche with closet doorway, typical of attic windows.

## Alterations

### *1870 to 1876*

The documentation indicates that Building No. 5 & 6 was completed by July 1870. The earliest photograph of the building was taken before any alterations (fig. 21). It depicts the façade and front porch, and the north-elevation balcony and bay window. As previously described, the Victorian-era architectural details are evident in that photograph.

The earliest known alterations to Building No. 5 & 6 were proposed in May 1875. In a letter to the Chief of Ordnance, Lt. Col. J. G. Benton proposed additions to both quarters “to enlarge the parlors, which are now all together to (sic) small for the convenience of the occupants.”<sup>131</sup> The proposed additions to the Parlors were the same for each of the quarters and the total cost was estimated at \$2,200. Drawings that accompanied the letter illustrated the enlarged Parlors for Quarters No. 5 and No. 6 (fig. 73). The proposed additions included the expansion of both Parlors, the addition of one window in each of the quarters, and the extension of the porch along the wider façade. This would have fulfilled Benton’s request and maintained the symmetry of the two quarters. However, documentary and physical evidence indicate that only the Parlor of Quarters No. 6 was expanded at that time.

The best illustration of that alteration and the general appearance of the building at that time is the 1876 plan of the quarters (figs. 37–40). In addition a drawing of the façade from the same period depicts the exterior appearance (fig. 74).

<sup>131</sup> Benton to Brig. Gen. Stephen V. Benét, May 12, 1875, Letters Sent to Chief of Ordnance 1836–1895, Vol. 9 of 20, Entry 1354, RG 156; NARA Northeast Region (Waltham, MA).

The 1876 plans show that the basement and first story Parlor of Quarters No. 6 were enlarged. The physical evidence shows that the materials used in the alteration were similar to the original materials.

As part of the alteration window was added and the porch was extended. The shallow-pitched hipped roof of the one-story addition was an extension of the porch roof, and the roof balustrade and integral gutter were continued on the addition. The plans and later photographs document that the porch extension included the addition of cast-iron steps on the south end of the porch. In addition, the plans and later photographs document that the Parlor retained the balcony on the south side.

The interior alterations that were part of the Parlor expansion apparently included new walls, ceilings, and woodwork matching the original elements, and the installation of new flooring, which may be the extant two-tone floorboards. The plans also suggest that the ceiling gas lighting fixture was relocated in order to keep it in the center of the room.

The 1876 plans suggest that there were other alterations to the original elements.

The earliest plan and photograph of the building depict a balustrade on the roof of the front porch, but not at the first story. By 1876 a balustrade was shown in the plans of the building. That plan also shows a porch partition between the front doorways of the quarters that was not shown in the earlier documents. Like the roof balustrade, the lower balustrade was constructed with vase-shaped half-balusters, a molded lower rail and a molded top rail. The partition was a board wall with a balustrade, and lattice above that. These additions were apparently made to the building about the same time as the Parlor addition in 1875. The physical evidence is supported by paint

evidence from the extant balusters and the porch partition balusters.

The earliest plan and the proposal for Building No. 5 & 6 indicate that there was a mantelpiece with a grate in each of the eight fireplaces. However, the 1876 plan notes that the fireplace in the Parlor (Room 5/102) of Quarters No. 5 had no mantelpiece. Physical evidence indicates that the existing mantelpiece is a later addition, and so it appears that the original mantelpiece was either removed before 1876 or was never installed.

The 1876 plans also depict that the second story of Quarters No. 6 had been altered from three to two bedrooms. The front bedroom (Room 6/202) had been enlarged by the removal of the partition that separated it from the middle bedroom. As previously described, the documentary and physical evidence suggests that both quarters were originally constructed with three bedrooms. The 1876 plan shows that the two front rooms in Quarters No. 6 were joined to make one larger room. This appears to be confirmed by the paint evidence found on samples from the baseboard in Room 6/202. Paint samples from the north wall baseboard had one less paint layer. This suggests that the changes were made soon after original construction, which was confirmed by the 1876 plans.

### *Late Nineteenth to Early Twentieth Century*

#### **Armory Hill Plans**

An 1877 plan of Armory Hill documents that Building No. 5 & 6 same footprint as the 1876 plans (fig. 75). That plan also shows the steps to the basement entrances at the back of the building, walkways around the building, and an ice house behind it. A plan of the Armory drawn in 1894 shows a similar plan for Building No. 5 & 6

indicating that there were no significant alterations between those dates. However, in plans of the Armory drawn in 1897 there was an addition on the back/east side of Building No. 5 & 6 (fig. 15). Review of other historic plans and photographs determined that the addition was a one-story ell for the Kitchens of the two quarters. A decade later plans of the Armory show the Kitchen-ell addition and a three-sided bay on the north elevation (fig. 76). These additions, as well as the 1875 addition, were the most significant changes to the original structure.

#### **Kitchen Additions**

The documentary evidence indicates that the Kitchen ell was added between 1894 and 1897. In addition, correspondence regarding construction of an unnamed officers' quarters suggests a date of circa 1895 for the addition.<sup>132</sup> Though there were no dated drawings of the addition, there were sketched plans and an elevation drawing.

One of the plans was a light sketch on a copy of the 1876 first floor plan. This appears to have been a preliminary sketch, and was not representative of the addition as it was built. Another set of plans for Building No. 5 & 6 show the historic layout with later additions sketched in. Those plans include basement and first floor plans that show the back ell of the building (figs. 77 and 78).

The basement plan depicts one room, stairs, and a chimney mass for each of the quarters. It also shows the window openings and bulkhead opening, but no steps to the bulkhead. The basic plan is representative of the existing addition.

<sup>132</sup> Chief of Ordnance to Springfield Armory Superintendent, April 18, 1895; Register of Letters Received from Chief of Ordnance 1833–1900, Entry 1364, RG 156; NARA Northeast Region (Waltham, MA).

The first floor plan from that same set of drawings also appears to be accurate. That plan shows that each of the quarters had a two rooms, and stairs to the basement. It included the location of the exterior doorways, but did not show all of the window openings. Nor did it depict the doorways from the main block to the ell.

The elevation drawing was of the north side of the ell, and accurately represented the addition as it was built (fig. 79). That drawing depicted a 27-foot-long addition that was one story high with arched double windows, a bracketed cornice, hipped roof, and a back porch.

### *Exterior Elements*

Historic plans and photographs, and the physical evidence indicate that the exterior of the addition was in keeping with the main block (fig. 80).

The exterior foundation was brick with a brownstone water table. It had two double windows and a bulkhead on the south and north side elevations. Each of the windows had two awning sashes with a center mullion separating the sashes. The windows had brownstone sills, and brownstone lintels that were level with the water table. The historic bulkheads were probably wooden and had brick foundations with brownstone caps at the ground level.

The exterior walls were red brick similar to the main block, but were laid in a variant of common bond versus the running bond on the main block. The brick coursing on the ell had seven rows of stretcher course to one bonding course. The bonding course had alternating headers and stretchers. The top four brick courses of the walls were stepped to form a frieze. Along the frieze there were scroll-cut brackets that supported a wooden soffit and cornice. A wooden molding was installed along the edge of the wall and soffit. The cornice had a plain board and a cyma-reversa molding above that.

There were two doorways on the back wall (one for each of the quarters) that had segmental arched brick lintels with brackets, and wooden door frames and doors. The brick lintels were constructed with two courses of row-lock bricks (fig. 80). Each doorway had a set of brownstone steps and a landing with brick foundations. The historic plans show a shed-roof portico over the back-door landing, but those were not extant.

Each of the side elevations had three double windows with segmental arched lintels with brackets similar to the doorways (fig. 81). The windows had brownstone sills with brick brackets. Each window had two sets of double-hung, one-over-one sashes with an arched-top sash, like the main block.

The ell was covered with a shallow half-hipped roof. A chimney stack was built near the center of the roof and served both quarters. The top four courses of the chimney were corbelled.

### *Interior Elements*

The only documentation of the interior was the historic plan (figs. 77 and 78). There have been alterations to the interior elements since the ell was first built, but there is some physical evidence of the historic appearance. Quarters No. 5 was the least altered of the two additions. Though the counters, appliances, fixtures, and some of the elements were altered, Quarters No. 5 best preserves the historic plan of the addition, and some of the historic elements.

The basement of the ell was laid out with one room for each of the quarters. A brick partition wall separated the basement rooms of the respective quarters, and the brick chimney mass was centered on that wall. The basement rooms in both quarters had brick floors and brick foundation walls. The area of the partition wall in the stairwell was plastered, but based on the existing evidence, that was the only plastered

basement wall. The physical evidence suggests that the brick walls were historically painted, and may have been painted when the ell was first added. Unlike the main block, the ceilings in the ell basement were open to the framing of the first floor.

The basement in each of the quarters had a doorway to the main block basement that had been the original exterior doorway. In each quarters the bulkhead was accessed through a doorway with a brownstone lintel and brick jambs. The physical evidence in Quarters No. 6 suggests that a board-and-batten door hung in that doorway. The bulkhead had brick walls, and seven brownstone steps with a 10-inch tread and 7½-inch rise.

The exterior basement windows had wooden frames with no trim. The window between the ell and the main block retained the original exterior trim, which was previously described.

Each of the quarters had stairs to the first-story Kitchen. These were open-stringer stairs that had 9½-inch treads and 8-inch risers with two winder steps near the bottom. The stairwell walls at the first-story level were plastered, and in the basement the stairs were open on one side (the other side being the center partition wall between the two quarters).

The first story of the ell had two rooms in each of the quarters with a center brick partition wall dividing the quarters. The historic plan of the rooms in Quarters No. 6 marked them with a “K” and “L,” suggesting that these were the new Kitchen and Laundry for the quarters (fig. 78). This same room plan was used for Quarters No. 5, and remains intact with few alterations or additions.

In both quarters the floors of the addition were probably wooden, but they are presently covered with sheet vinyl. The

Springfield Armory Historical Record indicates that in the 1930s the Laundry floors were covered with linoleum.

The walls were covered with plaster, but any other historic wall treatments are unknown due to later alterations. The ceilings in the Kitchen and Laundry were covered with wooden lath and plaster.

When the addition was constructed each of the quarters accessed the first story through the former windows in the Pantry (Rooms 5/107 and 6/107). The windows were removed and doorways were installed. The evidence suggests that the Pantries retained that function.

The addition also covered the east windows in both of the Dining Rooms (Rooms 5/104 and 6/104). The window niches remained, and in Quarters No. 6 a china cabinet was later built in that location.

The existing physical evidence in Quarters No. 5 indicates that the doorways were trimmed with plain casings with quarter-round profiles on the inside edges. The doors had four panels that were trimmed with beaded cyma-reversa moldings. They had lift-off hinges and brass escutcheons and door knobs. There is evidence of an early grained finish on the doorway casing and door to the basement in Room 5/105. There is also evidence of graining on the back door and basement door in Room 6/105.

The windows in the ell addition held the two sets of sashes, as previously described. The interior casings were similar to the doorway casings, and there is evidence of early graining on the extant casings and sashes in Quarters No. 5. Each window had a plain sill with a bullnose edge and a wooden apron below the sill.

The construction of the Kitchen ell for both quarters meant that function could be moved from the basement to the first story.

It is interesting to note that Col. Benton in his 1869 letter to Col. Treadwell had mentioned that the position of the Kitchen (in the basement) was different from other quarters at the Armory.<sup>133</sup> Apparently the basement Kitchen was not as convenient as a first-story Kitchen, and by the turn of the twentieth century the building had been altered for that purpose.

## Two-Story Bay Addition

The addition to the Parlor of Quarters No. 5 that was requested in 1875 was finally completed during the early twentieth century. However, the addition was not like the 1875 addition to Quarters No. 6. Instead it was a two-story, three-sided bay addition that enlarged both the Parlor and the bedroom above, as depicted in early-twentieth-century photographs (figs. 82).

The current research did not discover specific documentation of the addition, but historic maps of the Armory indicate it was in place by 1907 (fig. 76).

The exterior of the bay was constructed with elements that matched those of the original building. The foundation and water table were brownstone, the upper stories were brick, and it had a bracketed cornice. The bay addition had arched double windows with brownstone lintels and sills. There were three windows on each story; one on each facet of the bay. The first story windows were tall and matched the historic windows in the Parlor. The bay had a shallow-pitched hipped roof level with the attic of the main block, and thus it did not block the attic window W314 in Room 5/302.

<sup>133</sup> Benton to Col. T. J. Treadwell, Ordnance Bureau, March 19, 1869; Letters Sent to Chief of Ordnance 1836–1895, Vol. 8 of 20, Entry 1354, RG 156; NARA Northeast Region (Waltham, MA).

When the bay was added, the front porch was extended. The porch extension had a rounded end that curved around to the front corner of the bay (fig. 82). The porch extension was built with materials that were similar to those of the original porch, but the porch columns were single instead of doubled like the original porch.

The interior elements of the bay addition were similar to the historic elements on both the first and second stories. The floors were historically wooden tongue-and-groove boards. The existing floorboards in the bedroom are continuous, and appear to be historic, suggesting that the floorboards were replaced at the time of the addition. The walls and ceilings were plastered, and presumably finished in a manner similar to the rest of the room. The window trim on both the first and second stories copied the detailed molding of the original windows.

The addition of the two-story bay enlarged the building, and used similar materials and finishes to blend with the original architecture. However, the addition was not symmetrical with the rest of the building, and in that respect altered the symmetry and intent of the original design.

## *World War I and II Era*

The additions that were previously described represent the most significant changes to the exterior of the Building No. 5 & 6. Historic photographs and documents, including the Springfield Armory Historical Record (Appendix D), indicate that the building was regularly maintained during the World War I and II era. This included exterior painting and upgrades to interior elements during that period.

The Historical Record documented that repairs to the building between 1921 and 1930 ranged from \$236 to \$994, and the average yearly expense over that time was

\$611.<sup>134</sup> The records found do not indicate what repairs were done during that time period, but later records indicate that among other things utilities and bathroom fixtures were upgraded.

## Exterior

As previously described, Springfield Armory records indicate that the structures at Armory Hill were painted with “ordnance” colors during the historic period. Historic photographs indicate that the exterior of Building No. 5 & 6 was painted in the 1920s and 1930s (figs. 82 and 83).

Vining and Borrner painters, Springfield, Massachusetts, were contracted to paint the exterior of the building in 1916. The contract stated:

The contractor shall furnish necessary labor and materials for painting all the exterior brick, wood, and stone work of the building known as Quarters No. 5 & 6, for the sum of three hundred and forty (340) dollars.

The above building to have two coats of Atlantic pure white lead and linseed oil; the color to be the same as at present. The window sash to have one coat of bronse (sic) green paint and all windows to be puttied where necessary. All doors to be painted two coats, except the two front doors, and all tin roofs to have one coat of Prince’s metallic paint.<sup>135</sup>

The contract indicates that the exterior elements were previously painted and that

<sup>134</sup> Springfield Armory, Massachusetts, Historical Record, Building No. 5 & 6, June 30, 1921 through June 30, 1942; SPAR Archives Collection.

<sup>135</sup> Contract by Commanding Officer, Springfield Armory with Vining & Borrner, May 16, 1916; Contracts for Ordnance Supplies and Construction 1806–1918, Series I, Entry 1382, RG 156. Microfilm roll 141 SPAR Archives Collection; Perrault and Quinn, research files; originals at NARA.

the same colors would be kept. Though it doesn’t indicate what the existing colors were, paint samples and research on other Armory buildings suggested that the walls were painted yellow-brown/tan and the trim was red-brown during that period.<sup>136</sup> Paint samples from the exterior window casing and the bay window trim found that the earliest three paint layers were red-brown, matching the paint research for other buildings. As stated in the contract, the sashes were “bronse (sic) green,” which, based on the photograph, was apparently a dark green.

The 1920 historic photographs indicate that the brick was a light color (possibly tan) and the trim and sashes were dark, fitting the evidence found in the paint samples (fig. 82). The porch elements appear to have been monochrome. Limited sampling of the porch columns indicated they were painted brown at the time and evidently matched the window and doorway casings. This photograph apparently represents the historic paint colors applied in 1916.

A series of historic photographs taken in 1931, depict Building No. 5 & 6 with a similar color scheme (fig. 83). The walls appear to be lighter than the 1920 photographs, but the intent of light walls and dark trim remained consistent. In the 1931 photographs the porch columns are noticeably lighter than the rest of the porch trim. Paint samples determined that the columns were tan and the column bases and other porch trim was brown during that period.

The brick walls and brownstone doorway and window trim were subsequently stripped of paint. This was probably done by the WPA in 1937 when the *Springfield Republican* wrote that the “Brick buildings

<sup>136</sup> James J. Lee III and Marilou Ehrler, *Commanding Officer’s Quarters, Historic Structure Report* (Lowell, MA: DOI, NPS, NER, Historic Architecture Program, 2010) 80.

once painted with a sickly brown coating are being cleaned by sandblasting, thus restoring the beauty of the original brick.”<sup>137</sup> The new treatment is evident in two 1938 photographs (figs. 84 and 85). Both photographs depict the unpainted brick walls and brownstone, white trim, and dark sashes. The lattice below the porch was also dark during that period.

Limited paint sampling indicated that this paint scheme was maintained during that period and through the present. However, the sashes are currently painted white and the lattice is gray.

The exterior photographs also document that the balustrade along the front porch roof was removed between 1931 and 1938. The balcony for Quarters No. 6 was also removed by that time, but may have been removed prior to 1931 since it is hard to discern in that photograph.

## Interior

As previously described, the records that were found for the repairs during the 1920s and early 1930s were not specific. The repairs during that time were probably more related to maintenance and did not represent significant changes to the building. The list of building fixtures in 1930 included three Water Closets (toilets) in each of the quarters, suggesting that the second-story bathrooms at the front of the house were installed by that time. The expenses for 1932 were somewhat higher than usual, but comparison of the building fixtures between 1930 and 1932 did not suggest any major alterations. The increase in 1932 expenses may have been due to painting or some other larger maintenance item.

<sup>137</sup> *Springfield Republican*, February 21, 1937, Springfield Armory Scrapbook No.1; Microfilm roll #51, SPAR Archives Collection.

The Historical Record documents some of the items purchased for both Quarters No. 5 and No. 6 from July 1933 through June 1942 (Appendix D). The expense sheets indicate that similar maintenance and upgrades were performed in each of the quarters. During that period utilities were replaced, and new bathroom fixtures were installed. The 1941 expenses of \$6,574 were significantly higher, and represented extensive replacement of electrical fixtures, water heaters, and bathroom renovations.

Bathroom renovations appeared to be ongoing during that period. The records indicate that the renovations included installing towel bars, tooth brush holders, soap dishes, and in 1941 a new bathtub and shower were installed. Review of the list of building fixtures during that period suggested that the sinks in the bedrooms were removed between 1937 and 1938. In addition new bathroom sinks were installed in 1938.

Other interior repairs during that period included new steam radiators, new window shades, and new linoleum in the Laundry of Quarters No. 5. In addition telephones were installed in November 1941.

Of the repairs documented by the Historical Record, the utility upgrades and bathroom alterations were probably the most significant. However, these changes did not alter the plan of the building or room layout.

## *Mid-to Late Twentieth Century*

Though no records were found for building repairs during the late 1940s and the 1950s, it seems likely that Building No. 5 & 6 was maintained in a manner similar to the previous decades.

The documentary and physical evidence suggests that the ell bathroom (Room 5/106a) was added in the 1950s. The

Historical Record documents that Quarters No. 5 had three bathrooms in the 1940s (all on upper stories). The 1960 plans show the ell bathroom making the total of four bathrooms for Quarters No. 5. Thus it appears that the bathroom was added in the 1950s. There was evidence that this room was partitioned by tongue-and-groove board walls (now covered with gypsum board), and the door was a five-panel door, which differs from the other four-panel doors in the ell. It also appears that the window for the bathroom (W113) was added at that time. The window is not like others in the ell. It has a concrete sill, steel lintel, and double-hung, six-over-six sashes. All of these materials are consistent with the 1950s period of this alteration. The similar window in Quarters No. 6 (W112) was probably added at the same time. However, due to later alterations, it is not known whether Quarters No. 6 had a bathroom added at the same time.

The interior of Quarters No. 6 was altered in 1960. The renovations at that time were focused on the Kitchen ell and also included changes to the hallways (fig. 86).

The changes to the exterior elements of Building No. 5 & 6 during that renovation were limited to the windows in the ell of Quarters No. 6. The three double-sash windows on the south elevation of the ell were changed to double-hung, four-over-four sashes with two sets of sashes in each window. The new windows were installed in the historic masonry openings, but were not arched like the earlier windows. The new windows were smaller, requiring brick infill below the windowsills, which was evident from the exterior (fig. 87).

The interior alterations were more extensive, and included remodeling the Kitchen and Laundry of Quarters No. 6. The partition between the Kitchen and the Laundry Room was removed creating a single open room. New counter tops, cabinets, and a peninsula counter were

installed. A closet for the laundry appliances was built along the partition for the basement stairs. A new gypsum-board ceiling with a plaster skim coat was installed below the earlier plaster ceiling. The floor was covered with sheet linoleum. The interiors of the altered windows were trimmed with plain boards with a bead and an astragal around the edge. The windowsills were plain and had a plain apron below. The mullions between the sets of sashes were also plain. The doorway trim and door to the former Pantry were removed, and the Pantry was also altered.

The alterations to the Pantry included removing the partition between it and the back hall, and adding partitions for a bathroom that was built under the stairs in the back hall. This essentially eliminated the Pantry, which became a passageway from the Kitchen to the back hall and Dining Room.

A half-bathroom was added under the back stairs to the second story and in what had been the landing to the basement stairs (now blocked off). The doorway to the bathroom was trimmed with molded casings similar to the historic trim. The door was a five-panel door with two butt hinges and a locking doorknob. The floor was covered with sheet linoleum. The walls were gypsum with ceramic tile wainscot. The ceiling was also gypsum with a textured pattern and a ceiling light fixture. The new bathroom had a porcelain toilet and sink.

During the 1960 renovations to Quarters No. 6 the area under the front stairs was enclosed for a storage space. This included adding a partition wall under the stair stringer, a doorway to the new storage, and a doorway to a closet adjoining the two quarters. The doorway between Quarters No. 5 and Quarters No. 6 was left unaltered.

The wall under the stairs was finished with gypsum board, and trimmed with a baseboard similar to the historic baseboard.

The two doorways also had casings that matched the historic materials. The door to the storage area was a small three-panel door with butt hinges and a brass doorknob. The door to the closet adjoining the two quarters was missing.

One other alteration associated with the 1960 renovations was the addition of a china cabinet to the Dining Room (Room 6/104). The china cabinet was built into the former window niche in the east wall of the room. It was a wooden cabinet with multi-light double doors on the upper section and double raised-panel doors below (fig. 88). The upper doors were arched and had arched lights conforming to the door. All the doors had cabinet hinges and small brass knobs. The china cabinet had adjustable shelves. The casing surrounding the china cabinet had a shallow cyma-reversa profile in keeping with other trim in the room (though less elaborate).

Other alterations to the interior of the building were not as well documented, but appear to have occurred in the 1960s and 1970s. Those alterations included the installation of flooring tiles throughout most of Quarters No. 5, the installation of ceiling tiles in both quarters, and the installation of baseboard heat on the outside walls of most of the rooms. Of these alterations the installation of the baseboard heat was probably the most significant, because it involved removing historic baseboards. The more recent alterations are described in the subsequent section “Current Physical Description.”

### *Springfield Technical Community College Ownership*

Upon the deactivation of the Springfield Armory, Building No. 5 & 6 was among the buildings and grounds that were transferred to the Commonwealth of Massachusetts and

operated by Springfield Technical Community College (STCC).

Building No. 5 & 6 has been vacant for over two decades and is in poor condition. The State has commissioned studies that included conditions assessments of Building No. 5 & 6, but no significant measures have been taken to correct poor building conditions or properly maintain the building.

The “Springfield Technical Community College, Comprehensive Facilities Study” done in April 1988 noted that Building No. 5 & 6 was vacant at that time.<sup>138</sup> The exterior conditions notes for the building indicated that the porch cornice was deteriorated, one brownstone step was cracked, the exterior masonry needed repointing and showed some cracking, and some roof slates were damaged. The interior conditions included water infiltration, damaged ceilings, and non-functioning and damaged utilities.

In 2002 the State commissioned a feasibility study for the rehabilitation of Building No. 5 & 6, and Building 11.<sup>139</sup> The study included a description of the buildings, the conditions, and alternatives for preservation and rehabilitation (Appendix E). Many of the conditions noted for Building No. 5 & 6 were the same as those observed in 1988, but the deterioration had advanced, and the problems had multiplied. Among the more severe problems was the condition of the five chimneys, which were stabilized by the NPS at the time.

<sup>138</sup> Crissman & Solomon Architects, Inc., et al.; “Springfield Technical Community College, Comprehensive Facilities Study,” April 12, 1988; 69–80; copy at STCC Maintenance Department.

<sup>139</sup> Michael Rosenfield, Inc. Architects, “Springfield Technical Community College, Feasibility Study; Study of: Renovations to Historic Buildings 5/6 and 11.” Office of Division of Capital Asset Management, Boston, Massachusetts; September 17, 2002.

Upon completion of the study, Building 11 was rehabilitated for adaptive use, but Building No. 5 & 6 was left unused. Further stabilization and rehabilitation of the building has not been performed, and the building materials show further signs of deterioration over the past decade. The subsequent “Current Physical Description” and the appended feasibility study provide some idea of the current condition of the building.

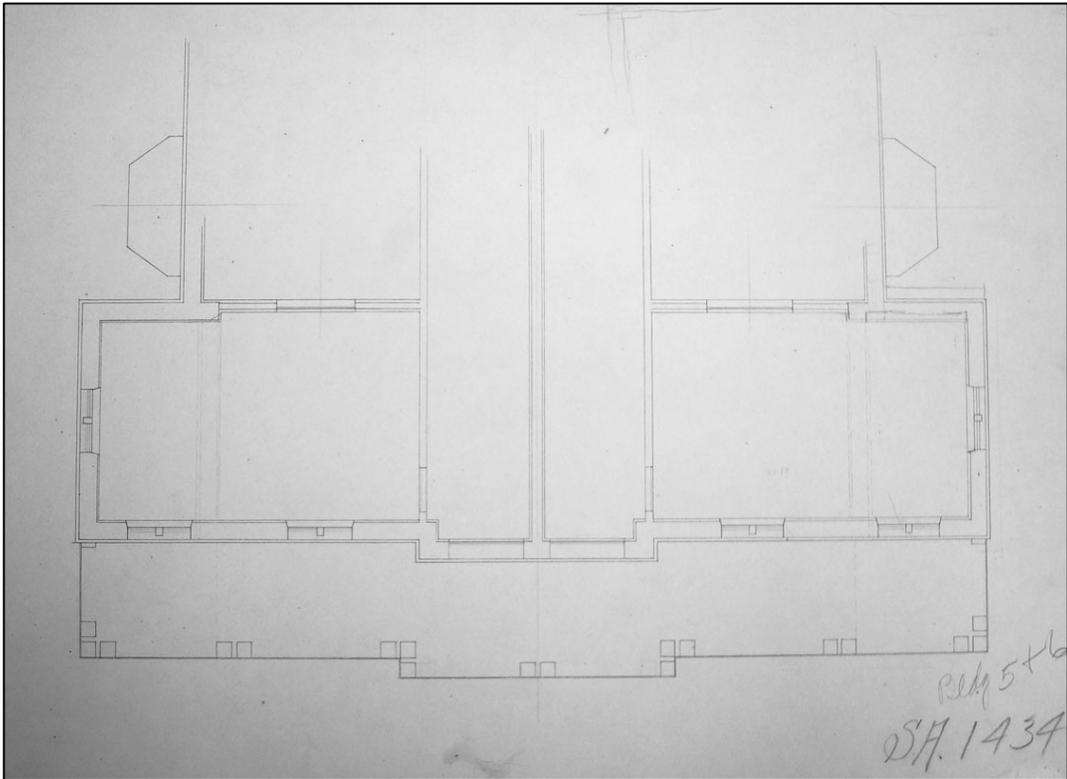


Figure 73. Building No. 5 & 6, proposed additions to the front Parlors of both quarters, 1875.



Figure 74. Building No. 5 & 6, façade showing addition to Quarters No. 6 parlor, and parlor balconies for both quarters, 1876.

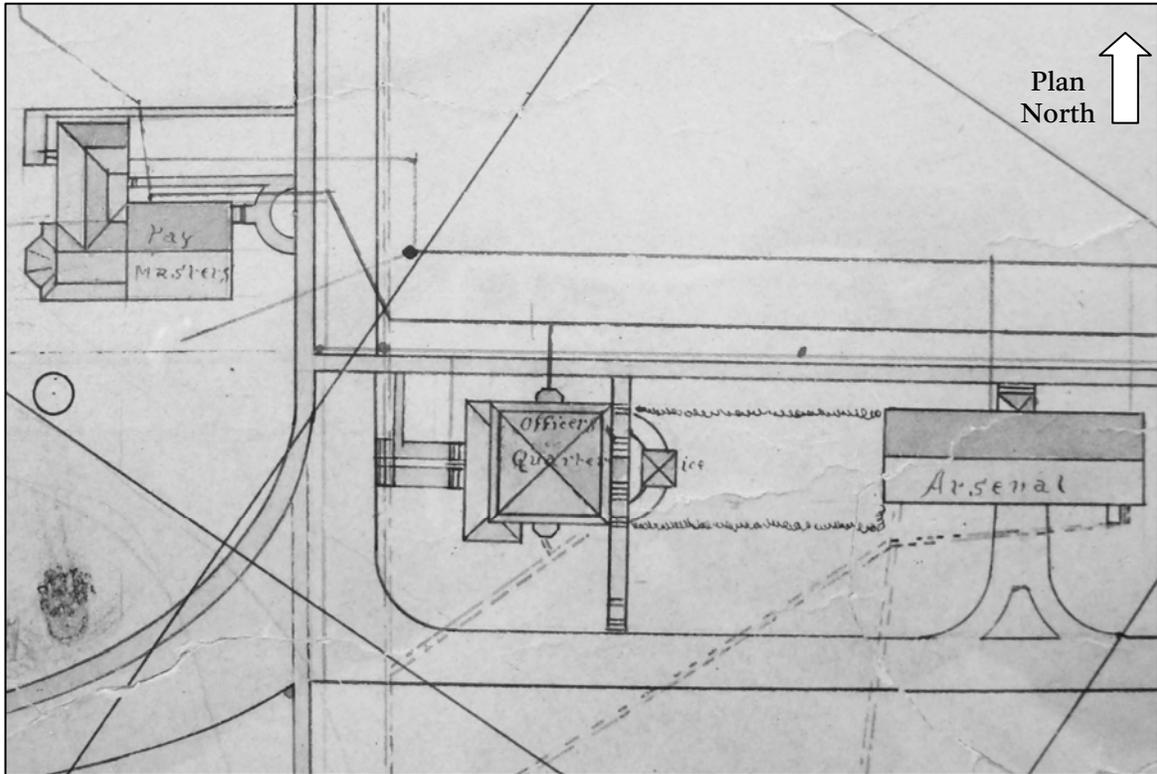


Figure 75. Detail from Plan of Springfield Armory showing "Officers Quarters," Building No. 5 & 6, 1877.

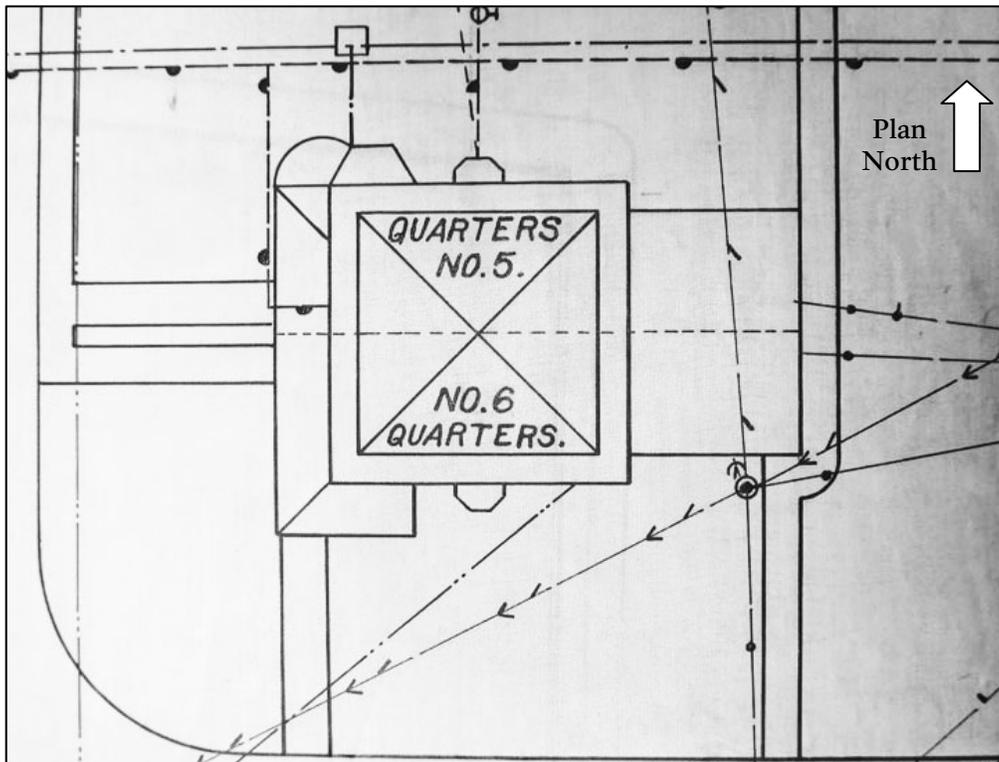


Figure 76. Detail from Plan of Springfield Armory showing Building No. 5 & 6 with east/back addition and north-elevation two-story bay addition, 1907.

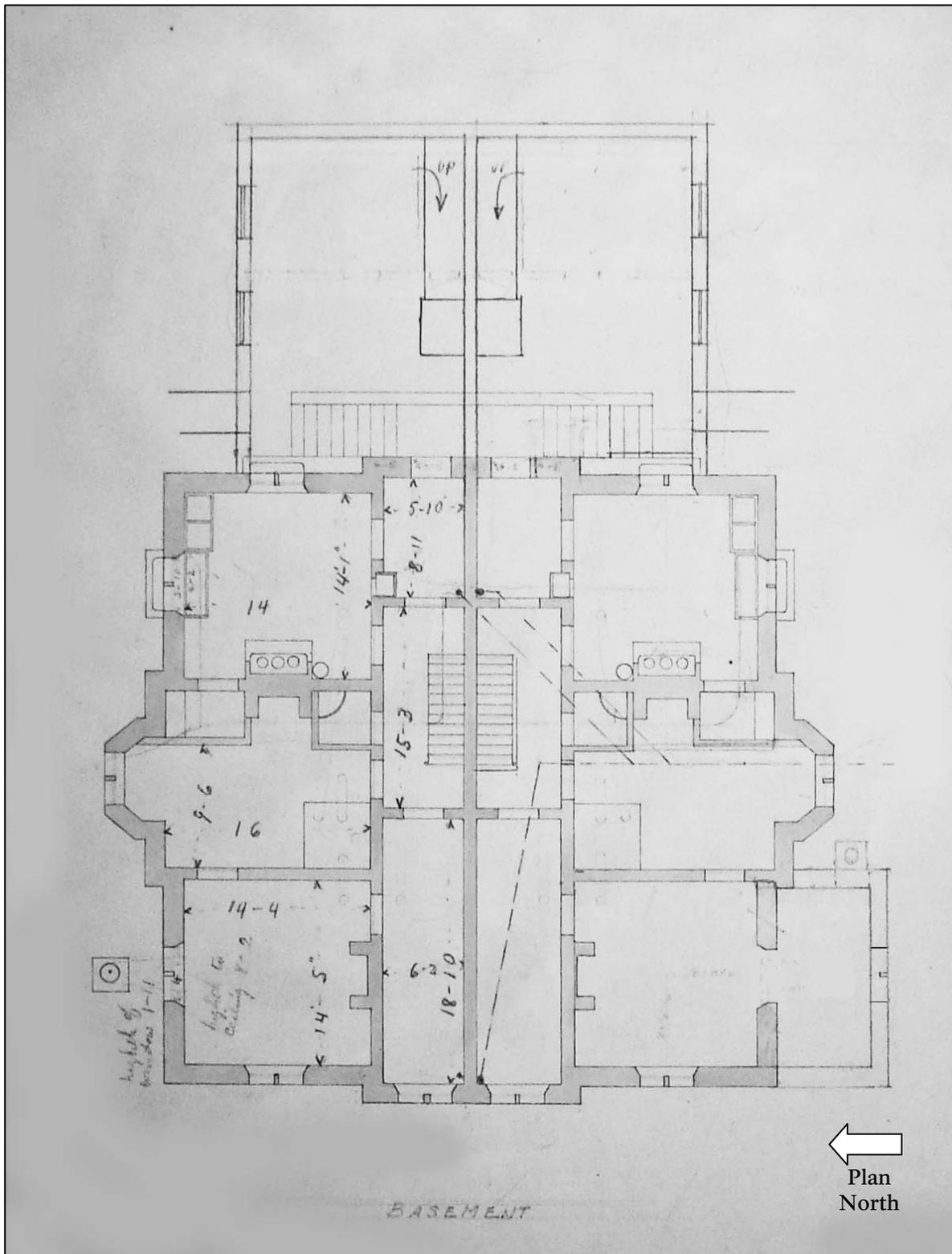


Figure 77. Building No. 5 & 6, basement, historic plan with additions sketched in.

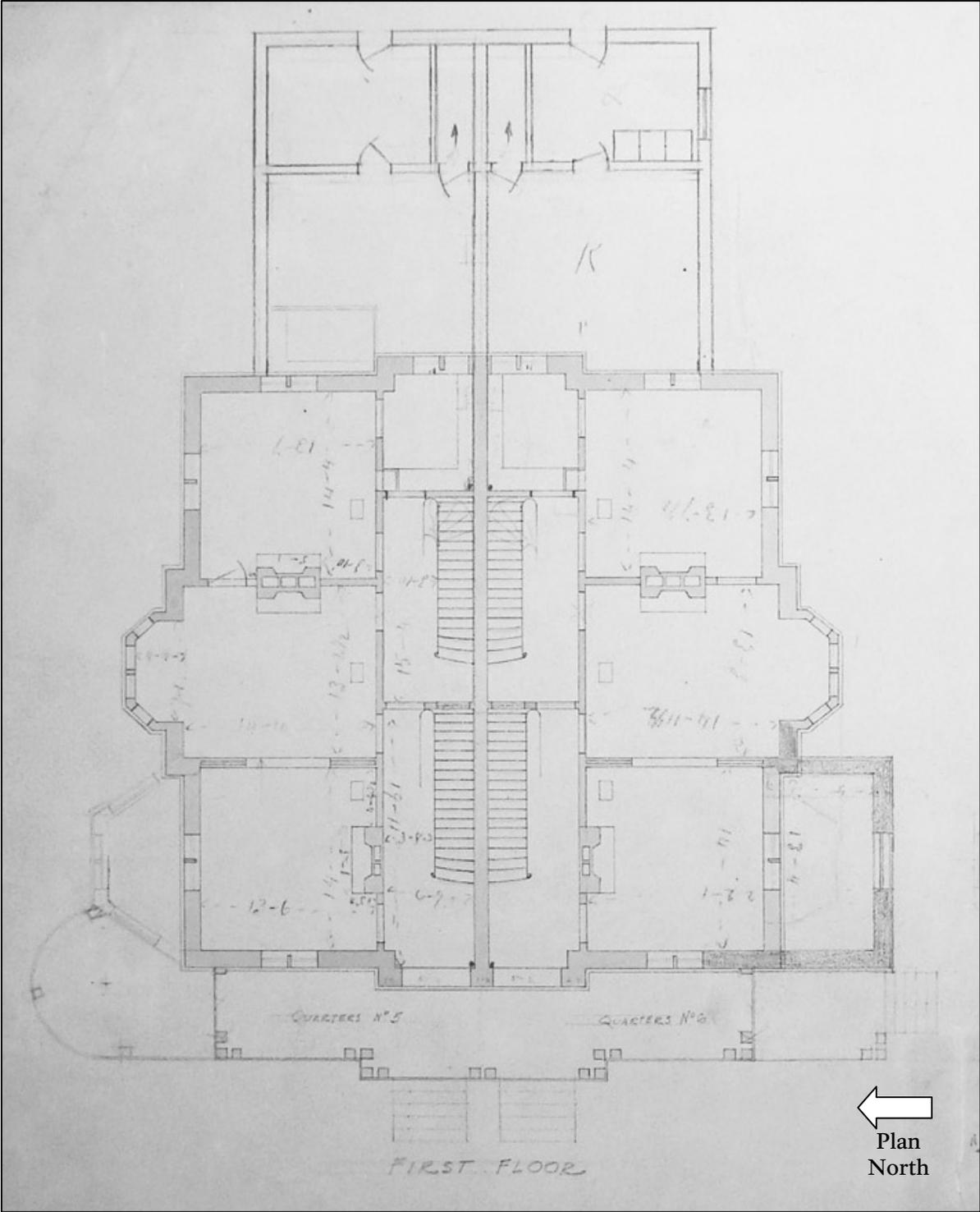


Figure 78. Building No. 5 & 6, first floor plan, historic plan with additions sketched in, and “K” and “L” noted in east ell addition.

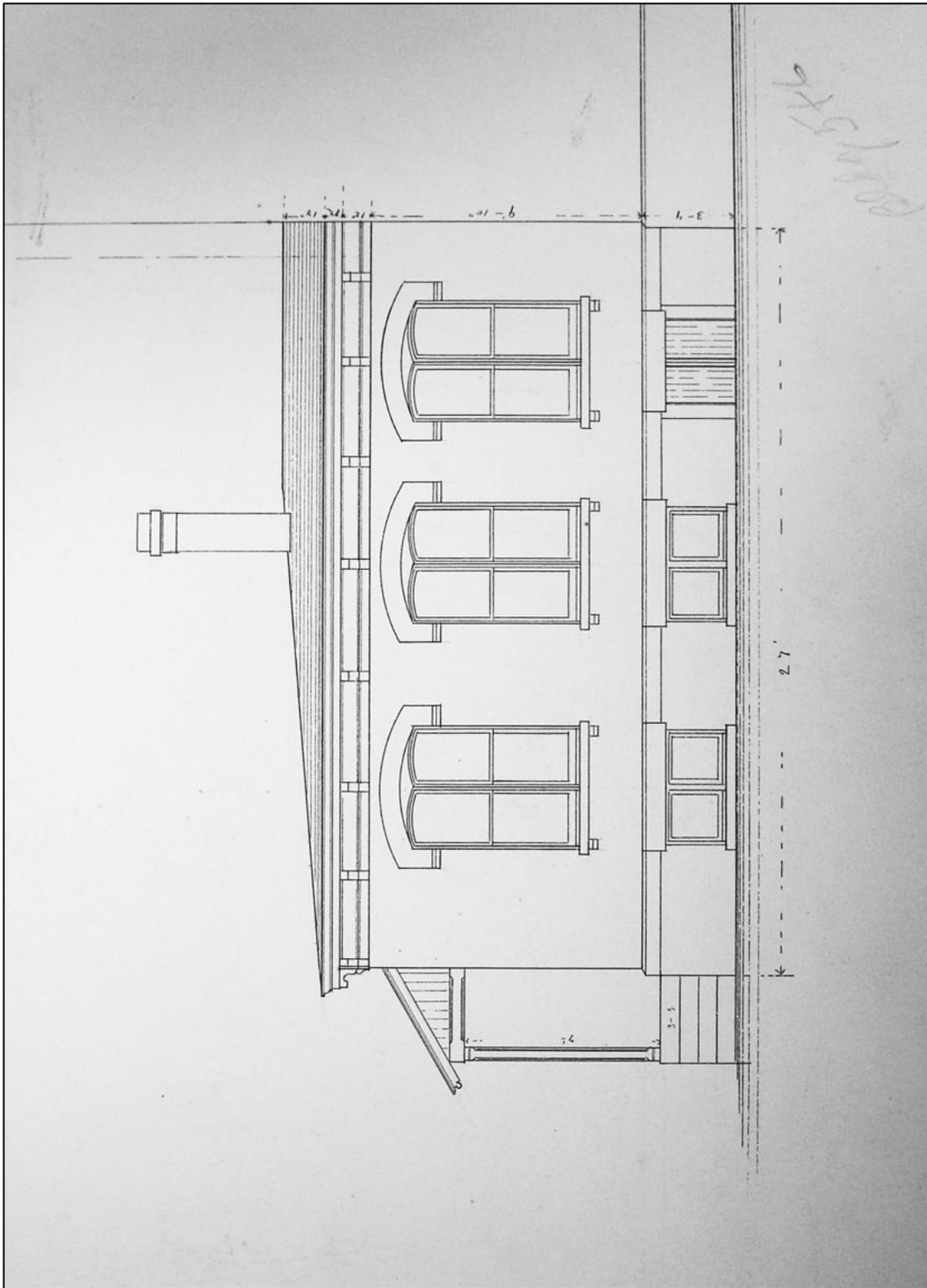


Figure 79. Building No. 5 & 6, north-elevation drawing of ell circa 1905.



**Figure 80.** Building No. 5 & 6, east ell looking west.



**Figure 81.** Building No. 5 & 6, north-elevation ell window (W116).



Figure 82. Building No. 5 & 6, 1920 looking southeast.



Figure 83. Building No. 5 & 6, 1931, looking east.



Figure 84. Building No. 5 & 6, 1938, façade looking east.



Figure 85. Building No. 5 & 6, 1938, looking northeast.





**Figure 87.** Building No. 5 & 6, south-elevation ell window (W110).



**Figure 88.** Building No. 5 & 6, Room 6/104, china cabinet built in to former window niche, added in 1960.

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# CURRENT PHYSICAL DESCRIPTION

## Introduction

Building No. 5 & 6 was constructed as duplex officers' quarters. It currently retains two living quarters, but is not used.

The exterior and interior of Building No. 5 & 6 retain historic elements that convey its historic appearance, but the building is in overall poor condition and some of the historic elements may be deteriorated beyond repair (figs. 93–96).

The current physical description will describe the existing structure and the extant historic elements of the building. Since previous sections described many of the building elements, the following sections will augment those descriptions.

This section will also describe the historic integrity of some of the building elements. This refers to the ability of the materials to convey the historic appearance and significance of the building. The historic integrity can be affected by the condition of the materials, but should not be confused with the structural or physical integrity of the elements.

The following sections include general conditions, but are not intended to be an exhaustive conditions report. The appended feasibility study does describe some of the conditions, and some of the materials have further deteriorated during the past ten years.

Building plans with numbered exterior doorways, windows, and rooms are included in this section (figs. 89–92). The interior rooms are numbered according to the quarter's number (No. 5 or No. 6) and the respective rooms within each of the

quarters. These reference numbers were assigned for this report and will be used throughout this section to identify elements of the building.

## Exterior Elements

### *Design*

Building No. 5 & 6 is a Second Empire-style masonry structure with a mansard roof, which is the most distinctive feature of that style.

Building No. 5 & 6 consists of a three-story main block and a one-story ell. Though originally designed and constructed as a symmetrical building, additions have altered that symmetry. The main block has a two-story bay in the west corner and a one-story addition in the south corner. The one-story ell was added to the east elevation at the turn of the twentieth century.

The basement and first story are generally rectangular, while the upper stories are square. The four elevations of the main block have projecting center bays, and the side elevations have bay windows on the first story.

The west façade of the main block currently measures 54 feet on the basement and first story and 46 feet on the upper stories (not including the two-story bay). The main block on all other elevations is also 46 feet wide. The ell is 27 feet by 35 feet.

The Second Empire style of Building No. 5 & 6 is unique among the Armory Hill buildings and is therefore an important part of Armory Square. Though some of the

materials are deteriorated, the building retains a high degree of historic integrity.

### *Foundation*

The exposed foundation on the main block of Building No. 5 & 6 is dressed-ashlar brownstone that has a 10-inch-wide brownstone water table with a slight bevel. Similar brownstone elements are used on the south-corner addition and west-corner bay addition. The foundation of the Kitchen ell is brick with a brownstone water table.

The masonry foundation is in fair condition. There is evidence of excessive ground moisture that is causing discoloration and promoting mold and moss growth.

Since the brownstone and brick foundations are historic and in fair condition, they retain a high degree of historic integrity.

There are two foundation-level bulkhead entrances on the side elevations of the Kitchen ell (one for each of the quarters). Both are metal bulkheads set on top of concrete and brick foundations. The metal bulkheads are in good condition, but the masonry foundation under the bulkhead of Quarters No. 5 is eroding due to water problems.

### *Walls*

#### **Masonry**

The exterior walls of Building No. 5 & 6 are red brick with brownstone doorway and window elements. The bricks on the main block are laid in running bond, and the bricks on the ell are a variation of common bond. On the main block the center bays on each elevation project 16 inches from the plane of the main wall, and on the south and north elevations bay windows extend

beyond those. At the corners of the two-story bay the bricks are joined in a zipper-like manner and are not mitered.

The exterior brick walls are in fair condition. There are some cracked bricks and deteriorated mortar joints. There are several areas of moisture damage and related efflorescence, discoloration, and mold growth. In addition, floodlights have been attached to the walls near the corners of the building, damaging historic materials. However, overall the exterior walls appear to be stable and retain a high degree of historic integrity.

#### **Entablature**

Along the top of the walls the entablature of the main block includes a double band of wooden molding, a molded wooden cornice with dentils, and wooden scroll-cut brackets (figs. 23 and 24). Similar elements are used on the additions to the main block, though the wooden cornice of the ell has simpler moldings and brackets. These elements are presently painted white.

The cornice has an integral gutter at the base of the mansard roof. The gutters appear to be lined with copper. There are downspouts at the corners of the projecting bays, and the corner of the additions.

Sections of the cornice are badly deteriorated and/or completely decayed due to failing gutters and lack of maintenance. The exterior paint on these elements is degraded and peeling. In some areas the historic materials may not be salvageable.

The bracketed entablature of Building No. 5 & 6 is an important characteristic of the building. The ornamental details are not evident on other structures on the hill and help distinguish this building. Since there are intact sections of these elements that convey the historic appearance, they do retain a high degree of historic integrity.

## *Doorways*

The exterior of Building No. 5 & 6 has four doorways. Each of the quarters has a façade entrance doorway and a back doorway in the Kitchen ell. The doorways for the two quarters were similar.

The façade doorways are arched with wooden double doors for each residence. Each doorway has a segmental arched brownstone lintel and a brownstone threshold. The quarter's number is painted on the lintel over each doorway. The double doors have a half-arched light over a molded panel in each door leaf and have molded wooden surrounds. Both doors to Quarters No. 5 are missing their glass, and the left door is missing some trim and the doorknob (fig. 25). The doors to Quarters No. 6 have textured glass that appears to be a replacement of the historic glass. Both doorways have aluminum screen doors that are in disrepair with one missing on Quarters No. 5. The doors and surrounding wooden trim are painted white.

The façade doorway elements are in good condition and the doors are in fair condition. They are part an important part of the historic appearance and retain a high degree of historic integrity.

The back doorways are part of the Kitchen addition. Both doorways have arched brick lintels and brownstone thresholds (fig. 80). Each has a single wooden four-panel door in a wooden frame, all of which are painted white. The door to Quarters No. 5 has no exterior hardware and is opened from the inside by a push bar. The door to Quarters No. 6 has a knob-and-lock set on a rectangular escutcheon plate. The back doors retain medium historic integrity.

## *Windows*

Historically the fenestration of Building No. 5 & 6 was perfectly symmetrical. The windows and doorways on all elevations were aligned, and each of the quarters had a similar pattern of openings. Later alterations would change that, but for the most part the symmetry of the historic appearance is still evident. Building No. 5 & 6 also has some windows that are characteristic of Victorian-era design, including the bay windows and arched dormers. For these reasons the windows of the building are important and retain a high degree of historic integrity.

### **Basement**

The extant basement windows are double windows set in the masonry foundation with brownstone lintels and sills. The windows typically have awning sashes with sills that are at grade. Two windows on the side elevations (W007 and W012) are taller with double-hung sashes and window wells. The windows all have wooden mullions and casing with a shallow cyma-reversa profiles.

### **First Story**

The first-story windows in the main block are double windows with brownstone lintels and sills. The ell windows on the side elevations are also double windows, but have brick lintels and brownstone sills. The double windows typically have two sets of double-hung, one-over-one sashes with arched top sashes. The front Parlors of both quarters (Rooms 5/102 and 6/102) have tall windows that extend to the floor level in the front and side walls, including the bay. The windows have molded wooden casings and are divided by a wooden center mullion.

The windows on the south side of the ell (Quarters No. 6, W109–W111) have two sets of double-hung, four-over-four sashes that were part of the 1960 alterations. The back

windows in the ell (W112 and W113) have double-hung sashes, plain wooden trim, and cast-concrete windowsills. These two windows were later alterations.

All of the windows have combination aluminum storm windows over each of the sashes. The window woodwork and sashes are currently painted white, but the paint is failing. Overall the first-story windows are in fair condition.

### *Bay Windows*

Each of the quarters has a five-sided bay window on the side elevation. Each bay has four sets of double-hung, one-over-one sashes, with doubled sashes on the face of each bay (fig. 28).

The bays have brownstone foundations, wooden elements surrounding the sashes, molded wooden cornices with wooden brackets, and double-pitched copper roofs. The wooden elements are currently painted white. Though the paint is failing, the bay windows appear to be in overall good condition and are an important characteristic of the historic appearance.

### **Second Story**

The second-story windows are similar to the first story, being double windows with brownstone trim. The windows are uniform in size and each has two sets of double-hung, one-over-one sashes. The windows have wooden casings and are divided by wooden mullions. The projecting center bays on the west and east elevations have two windows. As on the first story, each set of sashes has a combination aluminum storm window. The window woodwork is currently painted white, but the paint is degraded and peeling. The second story windows appear to be in fair condition.

### **Attic**

The attic windows are set in segmental-arched dormers in the mansard roof (fig. 29). The dormers have molded wooden casings around the windows, and the projecting side walls are covered with slate. The top of each dormer has an arched pediment, and the roof is covered with copper. The dormers on the west and east elevations have two windows within a wider dormer (fig. 30). All of the dormer windows have double-hung, two-over-two sashes. The wooden elements of the dormers are currently painted white. The paint finishes are deteriorated and there appears to be some wood decay on the dormers. The dormers and dormer windows are in fair condition.

### *Porches*

#### **Front Porch**

The front porch extends the length of the façade and has a projecting section at the center and a semicircular extension at the north end. The porch is raised on brownstone piers with lattice between the piers and has a wooden deck.

Two sets of five brownstone steps, one for each of the quarters, lead from the walkway to the porch. There are metal hand railings on either side of each set of steps. There is a set of five iron steps with metal railings on the south side of the porch (figs. 97a, and b).

The earlier sections of the porch have doubled wooden columns supporting the roof structure with three columns in the corners. The north extension has single columns. The columns have molded bases and capitals. Presently several columns are missing and have been temporarily replaced with 4-inch-by-4-inch posts (figs. 93 and 96).

One section of the historic balustrade remains in place, while other sections are missing. The extant section has turned balusters with a molded bottom and top rail.

The porch has a dividing wall between the front doorways of the quarters. This is a board wall covered with lattice and has a balustrade at the base.

The porch ceiling has wooden tongue-and-groove boards and a molding along the edge. The ceiling is painted white and sections of boards are falling down.

The porch columns support a plain frieze and bracketed cornice with moldings and dentils. The cornice has an integral gutter with downspouts at two of the doubled columns.

The porch roof is a shallow-pitched hipped roof that appears to be covered with copper.

The front porch is unsafe and in poor condition. Several columns and most of the balustrade are missing, and there are deteriorated or missing pieces on the remaining elements.

Some elements are stored in the basement of Quarters No. 6, but others do not remain.

The front porch was integral to the historic appearance of the building, and though it was added to and is in poor condition, it does retain a medium degree of historic integrity.

### **Back Steps**

There are two sets of back steps, one leading to the back doorway of each of the quarters. Both have three brownstone steps and a brownstone landing with a brick base (fig. 80). A pipe railing is installed on the east side of each set of steps.

The back steps to Quarters No. 5 are in fair condition. Those to Quarters No. 6 are in

poor condition. The brick base has fallen apart, and the landing is pitched and has fallen away from the building. The lower section of the pipe railing is missing. The back porches have low historic integrity.

### *Roofs and Related Elements*

The mansard roof on Building No. 5 & 6 is a double-pitched hipped roof with a steeply pitched lower roof and a shallow-pitched upper roof (fig. 98). The roof has projecting center bays and the lower roof is flared at the eaves. This lower roof is covered with gray slates that have alternating patterns. The corners of the hips are trimmed with wooden molding with a loop at the eaves, and bull's-eye moldings in the top corners (figs. 31 and 32). There is a molded wooden cornice separating the lower and upper roofs. The upper roof was historically metal, but is currently covered with rubber membrane.

As previously described, the mansard roof is an important feature of the building and retains a high degree of historic integrity.

The Kitchen ell has a shallow-pitched hipped roof that is presently covered with a rubber membrane. Some water in the Kitchen of Quarters No. 5 indicates that the roof, or flashing between the roof and main block, is failing. The roof has a low degree of historic integrity.

Copper is used for covering the porch roof, the bay windows, the two-story bay, and the dormers (fig. 98). As noted in the feasibility study, some of the copper roofs are leaking. These copper roofs retain a medium degree of historic integrity.

### *Chimneys*

Building No. 5 & 6 has four chimneys in the main block and one chimney in the ell. The

chimneys were rectangular brick stacks with corbelled tops, and brownstone bases and caps (fig. 33). Some of the chimneys have been temporarily stabilized with plywood panels and straps. The chimneys have medium historic integrity.

## Interior Elements

### *Introduction*

The following sections describe the current layout of each of the quarters, and some of the existing elements, as well as general conditions. The descriptions are meant to supplement the previous descriptions, and will note whether historic elements are intact. Previous sections should be consulted for more detailed descriptions of the historic elements.

The historic plan of Building No. 5 & 6 remains mostly intact. That includes the original main block, the additions, the Kitchen ell, and other alterations made during the historic period.

Quarters No. 5 and No. 6 are divided by a brick partition wall and the general plan of both quarters is similar. Each of the quarters has a basement, first story, second story, and attic. The basic arrangement for each story of both residences includes halls and staircases along the center partition and rooms arranged off the halls from the front to the back of the building. The basement and first story include the ell addition east of the main block.

The interior of Building No. 5 & 6 is in overall poor condition and a portion of the historic elements have been pilfered, especially the marble mantelpieces. However, the historic plan and some of the historic elements were retained. While individually some of these elements have a high degree of historic integrity, as a whole

the interiors have a medium level of historic integrity.

### *Basement*

#### **Quarters No. 5**

##### *Plan*

The basement of Quarters No. 5 retains the brick partitions that defined the original layout plus the foundations of the bay and the Kitchen ell. In this respect the current plan is representative of the historic plan.

The basement is accessed by a staircase from the Kitchen and by an exterior bulkhead entrance. The earlier staircase in Room 5/007 was removed and the doorway at the top of the stairs has been blocked off.

The two-story bay on the north elevation has a crawl space, and the original coal chute is intact (fig. 43). The framed partitions that were in Room 5/003 were removed, but the brick walls of the historic furnace are still intact. A rectangular brick enclosure was constructed on the west wall of Room 5/002 and covers half of W001. This appears to be related to an earlier heating or hot water system, but its purpose or period of construction was not determined.

##### *Floors*

The floors throughout basement of Quarters No. 5 are brick, as is the raised Kitchen hearth. Any wooden floors that may have existed during the historic period have been removed. The brick floors are in overall stable condition with some cracking and movement, but no significant deficiencies. The floor area near the bulkhead is covered with debris and was wet during the site visit.

## *Walls*

The basement has brick walls partitioning the rooms, and any framed walls have been removed. The walls are mostly exposed brick with some deteriorated paint finishes and some plaster in Room 5/007 where the staircase had been. The brick walls appear to be in overall good condition.

The brick retaining wall of the bulkhead entrance has buckled and partially collapsed (fig. 99). This is due to water infiltration and poor drainage on the exterior of the building. The bulkhead wall is in poor condition, and the water infiltration could cause further damage to historic materials.

## *Doorways*

The basement has an exterior entrance through a metal bulkhead into Room 5/005. The walls of the bulkhead are brick capped with brownstone and it has brownstone steps. The doorway at the bottom of the steps is a masonry opening that was trimmed with a plain wooden frame that held a plank door. Only the header and right side of the door casing remains, and the door is on the floor buried in debris. As previously described, the west wall of the bulkhead has collapsed due to water infiltration. The water infiltration and hole in the bulkhead wall has allowed a large amount of debris to wash into the basement and also provides easy access for animals. In addition the bulkhead doors are not secured and allow access to the building by anyone who chooses to move the concrete bumper on top of it.

The original exterior basement doorway leads from the ell (Room 5/005) to the main block basement (Room 5/006). This is a masonry opening with a brownstone lintel and threshold. The doorway has wooden jambs and header with remnants of casings with shallow cyma-reversa profiles. The casings on the Room 5/006 side of the doorway have been removed.

The interior doorways in the main block basement are typically masonry openings with segmental arched headers. Some of the doorways have been repaired and the structure reinforced with wooden headers. The historic wooden casings and doors have been removed from the basement of Quarters No. 5.

## *Windows*

The interiors of the windows are typically constructed with wooden jambs and headers. The windows in the ell (W010 and W011) have two sets of awning sashes separated by plain wooden mullions (one of the sashes is currently covered by plywood). The awning sashes are hinged at the top and open in.

The windows in Room 5/004 were historically double windows with double-hung, one-over-one sashes. The window on the east wall, which opens into the ell, retains some historic elements, but the sashes are missing. The window on the north wall (W012) was altered to two small fixed sashes with wooden jambs and header.

The windows in the rest of the basement are double windows with awning sashes. These windows have wooden jambs, headers, sills, and plain center mullions (fig. 41). The headers are typically full-depth with rounded edges, while the jambs and sills are approximately 3 inches deep. Half of W001 is covered by a brick box that may have been related to the heating system.

The wooden window elements are generally in fair to poor condition, and some are deteriorated beyond repair.

## *Ceilings*

The ceilings throughout the basement are open to the framing of the first floor. As previously described, there is evidence that the ceilings in the main block were historically covered with wooden lath and

plaster. However, it appears that the ceiling in the ell (Room 5/005) was always open to the framing.

### *Stairs*

The basement of Quarters No. 5 is accessed via a staircase in the ell. The staircase ascends along the center partition and ends at the east wall of Room 5/005. This is an open staircase at the basement level and is enclosed by plaster walls at the first story. The stairs have 8-inch risers and the treads are 9 inches deep with a winding tread near the base of the stairs. There is a wooden handrail on the north side of the stairs. The stairs have several rotten treads and are presently in poor condition, posing a safety risk.

The original basement staircase for Quarters No. 5 was in Room 5/007. The top of the staircase was later closed off and the stairs were subsequently removed. The enclosed stairwell on the first story remains, as do some of the plaster walls and evidence of the staircase.

The basement stairs in Quarters No. 5 retain minimal historic integrity.

### *Utilities*

Building No. 5 & 6 was most recently heated by baseboard radiant heat. The equipment for this system is in the basement of Quarters No. 5, Room 5/003. The system is currently inoperable and requires either extensive repairs or replacement (Appendix E).

There is a gas shut-off valve in Room 5/001 and 1-inch gas piping for the building's utilities.

There are also electrical panels and phone circuits in the basement. These also appear to be out of date and inoperable. The electrical components are in poor condition and some are missing. In addition the

electrical system would not meet current code requirements.

None of these utilities are up-to-date or currently in operation, and they have no historical integrity.

There was some evidence of the historic utilities. The brick walls that enclosed the historic hot-air furnace are intact, and there are holes in the walls for earlier ductwork. There are also extant vent holes in the framing for the original heat registers. Some of these retain the beaded frame and provide evidence of where the heat registers were located (fig. 42). These elements are part of the historic fabric and retain historic integrity.

### *Finishes*

The finishes in the basement of Quarters No. 5 are degraded and in some cases are no longer evident. Some of the brick surfaces have white and light green paints, and the plaster in the former stairwell is also painted light green. These may have been historic treatments, but there was not enough evidence to determine when they were applied. Some of the existing window casings have a degraded paint layer, which presently appears to be gray but was white when first applied. The finishes in the basement retain minimal historic integrity.

## **Quarters No. 6**

### *Plan*

The basement of Quarters No. 6 was accessed via a staircase in the Kitchen ell. It has the same basic layout as Quarters No. 5, and the quarters essentially mirror each other.

The basement of Quarters No. 6 has retained all of its brick partitions, as well as the historic framed partitions. In Room 6/003 framed partitions for the former W.C.

(6/007a), a closet (6/003a), and the Pantry (6/004a) remain. The stairwell in Room 6/007 is also enclosed with a framed partition, and though the stairs are now blocked at the first story, the staircase remains. In Room 6/002 a rectangular brick partition once served as the hot-air furnace for Quarters No. 6. This was not the original furnace location as indicated in the 1876 plans, but appears to have been an early alteration. There is also a brick chimney-like structure covering half of W004, similar to the one in Room 5/002.

The current basement plan of Quarters No. 6 reflects the historic plan and retains a high degree of historic integrity.

### *Floors*

Quarters No. 6 has brick floors throughout basement and a 6-inch brick hearth in the Kitchen. The brick floors are generally stable with some cracks, and some areas in Room 6/005 where the bricks have been disturbed.

There are wood floors at the base of the stairs and in the Kitchen Pantry. These floors are laid on sleepers and raised 6 inches above the brick floor. The floorboards in the Pantry were 7 inches wide and are rotten in one of the corners. The floorboards at the base of the stairs were 2½ inches wide and in fair condition. The evidence suggests that there were other wood floors in the basement, but these are the only ones that remain.

The brick and wood floors in the basement are part of the historic building material and retain a high degree of historic integrity.

### *Walls*

The outside and inside walls in the basement of Quarters No. 6 are typically brick, and the framed partition walls are covered with wooden lath and plaster. In Room 6/003 the south end of the plaster

partition wall has a wooden end cap where the wall transitions to brick.

The framed walls that enclose the staircase are also covered with wooden lath and plaster. The center brick partition of the building is also plastered in the stairwell and down to the doorway to Room 6/001, as well as along the north wall under the stairs. The end of the staircase partition is capped with a plain board with rounded edges.

The extant woodwork in the basement of Quarters No. 6 was previously described. It consists of plain baseboards in the Room 6/003, 6/003a, 6/004a, and under the stairs in Room 6/007. The wooden baseboard at the base of the stairs has a molded cap, and the same style board is used as the stair stringers.

In Room 6/004 a small section of wooden wainscot with a molded chair rail and baseboard remains between the chimney and the Pantry doorway. There was no other evidence of the wainscot, but this small section suggests that it was used along some of the walls in this room.

The brick walls are in fair to good condition and the plaster walls are in poor condition with holes in the plaster and sections of plaster failure. The woodwork is generally in fair condition. All of these elements are part of the historic building materials, and provide evidence of the historic appearance. Therefore they retain a high degree of historic integrity.

### *Doorways*

The exterior entrance to the basement of Quarters No. 6 is a metal bulkhead. The bulkhead has brick walls capped with brownstone with some cement added to the cap. Brownstone steps lead down to the basement of the ell (Room 6/005). The doorway (D001) in the basement is a masonry opening, which had a door that has been removed along with the wooden door

frame. The tongue-and-groove door is leaning against the basement wall, and the header of the door frame remains in place.

Most of the interior doorways in the basement are masonry openings with segmental arched headers. The lintels over the doorways to Room 6/007a and Room 6/003 have been reinforced with wooden beams, and the arches were removed. The doorway to Room 6/004a (the Pantry) has wooden casings and a paneled door that were previously described (fig. 46). The doorway between rooms 6/001 and 6/007 and the closet (6/003a) doorway also have wooden casings, but the doors were removed.

The interior doorways in the basement of Quarters No. 6 retain some of the historic elements and are in fair condition. These elements have medium historic integrity, because they still convey an aspect of the historic appearance of the building.

### *Windows*

The windows in the basement of Quarters No. 6 are similar to Quarters No. 5. They are typically double windows with awning sashes, except for W007 which has two sets of double-hung, one-over-one sashes. The windows have wooden jambs, headers, and sills. The window in the east wall of Room 6/004 (now an interior window) has intact casings (fig. 47). The interior window in the partition wall of Room 6/003 has wooden casings, but no sash.

The basement windows are in poor to fair condition and retain medium historic integrity.

### *Ceilings*

Most of the ceilings in the basement are open to the framing of the first floor. Plaster ceilings on wooden lath remain in Rooms 6/004a, 6/007a, and 6/003a, but have

had some plaster loss. The staircase and the underside of the staircase in Room 6/007 also have remnants of the historic wooden lath and plaster ceiling. The extant plaster ceilings are generally in poor condition.

The ceilings in the basement of Quarters No. 6 retain medium historic integrity.

### *Stairs*

The staircase in the Kitchen ell leads down to the basement of Quarters No. 6. On the first story the staircase is enclosed by plaster walls, and in the basement it is an open-stringer staircase (fig. 100). It has wooden treads and risers with a winder tread near the bottom of the stairs. There is a wooden handrail on the south side of the staircase. This is currently the only interior staircase to the basement. The original staircase is extant in Room 6/007, but has been blocked off at the top the stairs (fig. 45). This staircase has wooden bullnose treads and wooden risers. The wooden stair stringer has the same profile as the adjacent baseboard in Room 6/007.

The basement stairs are in fair condition and have medium historic integrity.

### *Utilities*

The basement of Quarters No. 6 retains some evidence of the historic utilities including the hot-air brick furnace, holes for ductwork, and framed openings for the former heat registers. The coal chute that was part of the ca. 1875 addition is also extant. These utilities are evidence of the historic elements and retain medium historic integrity.

Other existing utilities that were added to the building include electrical wiring and fixtures, water, gas, and heating pipes, and a hot-water heater, among others. These were currently out of service, but appear to be in poor condition and have minimal historic integrity.

### *Finishes*

The finishes in the basement are generally degraded and in poor condition. Some of the brickwork is painted white, as is most of the plaster. There are also areas of light green paint in the ell staircase, and the stairs are painted blue-green. The extant window trim in Room 6/004 is painted tan, and some of the other windows have degraded dark finishes. As previously described, some of the woodwork in the main block is grained, and this appears to be in fair condition. Though most of the finishes are degraded, the graining is an important historic finish and retains high historic integrity.

### *First Story*

#### **Quarters No. 5**

##### *Plan*

The first-story plan of Quarters No. 5 appears to retain the historic layout of the main block and the ell. In the main block the halls (Rooms 5/101 and 5/108) and the Pantry (Room 5/107) extend along the center partition of the building. The rooms of the main block are arranged north of the hallways from front to back and have interconnecting doorways. The plan of the ell retains the Kitchen and Laundry with a half-bathroom and a closet that appears to be a later addition. The existing plan conveys the historic appearance and retains a high degree of historic integrity.

The front hall (Room 5/101) is a rectangular room with a staircase and doorways to adjoining rooms and the back hall. The back hall (Room 5/108) also has a staircase and a closet under the stairs that had been the stairs to the basement.

The Parlor (Room 5/102) is a rectangular room with a full-width three-sided bay. The adjacent Sitting Room (Room 5/103) is

square with an arched opening to a bay window. The Dining Room (Room 5/104) is square with a niche on the east wall that originally housed a window. The Dining Room is at the back of the main block and has an adjacent Pantry with access to the ell. The Pantry has 1950s-era cabinets and countertops on the south and west walls.

The ell has a rectangular Kitchen, stairs to the basement, and a small rectangular Laundry with a half-bath and closet. The Kitchen has metal cabinets and Formica counters along the west wall and a peninsula extending from the north wall. There are also cabinets and a stainless-steel counter with a double sink on the east wall. The Kitchen cabinets and built-in appliances appear to date from the 1950s. While the cabinets and sink may be historic, they are in poor condition and have minimal historic integrity in the context of this building.

##### *Floors*

On the first story, the floors throughout the main block of Quarters No. 5 are 9-inch square vinyl tiles. The tiles appear to be laid over the historic wooden floorboards. The tiles are in poor condition and have no historic integrity. It was not possible to assess the condition of the wood floors.

The Kitchen and Pantry floors are sheet vinyl. There is a small section of tongue-and-groove floorboards at the top of the stairs suggesting that there are similar floorboards under the vinyl flooring. The vinyl flooring is in poor condition and has no historic integrity. The small section of floorboards is worn, but in fair condition and retain medium historic integrity.

##### *Walls*

On the first story of Quarters No. 5 the interior walls are covered with wooden lath and plaster in the main block and gypsum board in the ell.

Overall the plaster walls are extensively cracked and failing in some areas. In the front hall (Room 5/101) the plaster is missing from the chamfered corner and the other plaster walls are cracked. In Room 5/102 a large section of plaster has fallen off the wall in the bay due to water infiltration (fig 101). The other main block rooms have cracked walls, and in the back-hall closet (Room 5/108a) the plaster has fallen off the center partition wall. Due to extensive cracking and failure, the walls are in poor condition, but since they provide evidence of the historic building materials, they do retain medium historic integrity.

The historic baseboards in the main block that were previously described remain on many of the inside walls. Rooms 5/101–5/103 have sections of the more elaborate baseboard, and Room 5/108 has the simpler baseboard (figs. 48 and 49). On the outside walls in Rooms 5/102–5/104 the baseboards have been removed and baseboard radiators have been installed. The extant historic baseboards are important evidence of the historic appearance and retain high historic integrity.

The interior walls of Room 5/104 have a wooden dado with baseboard and chair rail. The existing dado is 6-inch-wide tongue-and-groove paneling (fig. 102). Each panel has a bead down the center creating 3-inch-wide match boards. The baseboard has a cyma-recta cap unlike the earlier baseboards throughout the first story. The chair rail has a cavetto, bead, and cyma-reversa profile that is consistent with the extant historic chair rail in Room 6/104 (see subsequent section “Quarters No. 6, Walls”). The physical evidence suggests that the dado and baseboard were replaced, but the date of that work is not known. Since the dado appears to be an alteration that occurred during the historic period, it has medium historic integrity.

The ell has gypsum-board walls with faux-tile panels covering the lower half in all

areas but the stairwell (fig. 103). The faux-tile panels have stainless-steel strips at the panel joints and on the corners. The panels have plain wooden baseboards and molded wooden caps. Similar faux tile was installed as a backsplash above the counters in Room 5/107. These are later alterations and have minimal historic integrity.

In Room 5/106 there is evidence that the wall partitioning the bathroom (Room 5/106a) has tongue-and-groove match boards under the gypsum-board walls. The board-wall construction suggests that this was an alteration to the space, which was probably completed in the 1940s, as previously described.

### *Doorways*

The interior doorways in Quarters No. 5 retain many of their historic elements in fair condition. In both the main block and the ell the historic doorway casings are generally intact. Some doors are missing, but there are representative examples in fair condition. The overall condition of the historic doorway elements is fair and they retain a high degree of historic integrity.

The front doorway (D101) has molded wooden casings and wooden double doors (fig. 50). While the historic casings with an arched header are intact, the historic doors are damaged. The lights in both doors are missing and the openings boarded over. The doors do retain the historic lift-off hinges, but the door knobs are missing.

The doorways in Rooms 5/101–5/104 have historic molded casings similar to those of the front doorway. Though some doors are missing, there are extant four-panel doors in Room 5/103 and in the connecting doorway to Quarters No. 6 that provide examples of the historic doors and hardware. The sliding pocket doors in the arched doorway between Rooms 5/102 and 5/103 have been removed and the pockets boarded over.

The doorway elements in Room 5/108 are also historic and retain the casings with quarter-round edges. The paneled door to the closet (former basement stairs) has two panes of glass in each of the upper panels, which are currently painted white. The doorway to Room 5/107 is narrower than the others and was probably added when the ell was added and the Pantry was remodeled.

Most of the extant doorway elements in the ell date from the period of the addition. In Room 5/105 the casings and basement door appear to be historic. The closets in the Laundry were later additions and have hollow-core doors and molded casings. The door to the bathroom is a two-panel door with butt hinges, which supports the evidence that the bathroom was added after the initial construction of the ell. The back door (D 104) is a four-panel door that has been altered to open out and has push-bar, a closer, and two butt hinges.

### *Windows*

The exterior window elements and sashes for both Quarters No. 5 and No. 6 were previously described. In the main block of Quarters No. 5 the interior window elements retain the historic casings, but in the bay of Room 5/102 the trim under the windowsills was removed when baseboard heating was installed (figs. 54 and 101). Otherwise the historic casings and sashes appear to be intact.

When the Kitchen ell was added the east window in Room 5/104 was covered and the window in Room 5/107 was altered to a doorway. In Room 5/104 the former window is now an arched niche.

The windows in the ell appear to retain the historic casings and sashes. The bathroom window (W113) appears to be a later addition and has double-hung, six-over-one sashes. The casings are plain with a quarter-round edge, which is similar to the other

casings in the ell. This window may have been added when the bathroom was added, but the evidence was insufficient to determine the date of that alteration.

The interior window elements in the main block and ell of Quarters No. 5 are in fair condition. Some deterioration due to water infiltration was noted, and the paint finishes are generally degraded. However, these window elements still convey the historic appearance of the building, and retain a high degree of historic integrity.

### *Ceilings*

The historic plaster ceilings in the first story of the main block are currently covered with 12-inch square acoustic tiles attached to wooden strapping. The tile ceilings are generally trimmed with coved cornice boards. In some cases the tiles have fallen from the ceiling and the historic plaster above them is also damaged. The ceiling in Room 5/102 has the most damage. The tile ceilings are later alterations and have no historic integrity.

The ceilings in the ell are covered with gypsum board with no trim. The existing ceilings are suspended below the historic plaster ceilings. The ceilings in Rooms 5/105 and 5/106 are extensively stained, covered with mold, and failing, as is the plaster ceiling above them. In addition water is currently leaking from the ell roof through the Kitchen ceiling. These ceiling have minimal historic integrity.

### *Stairs*

The historic front hall and back hall stairs in Quarters No. 5 remain intact. The front hall (Room 5/101) open-stringer stairs retain the turned balusters and molded railing (fig. 57). The first-story newel post is missing its cap and some trim, but is mostly intact. The stair treads and risers are currently carpeted.

The back hall (Room 5/108) also retains the historic open-stringer stairs with four winder treads at the top of the stairs. The staircase has a turned newel post and balusters, and a molded handrail (fig. 58). The wooden banister is continuous from the first story to the attic. Other historic stair elements including the stringers, stringboards, and other trim are intact.

Both staircases are covered with debris, but are otherwise in fair condition. The stairs retain a high degree of historic integrity.

### *Fireplaces*

Historically the first story of Quarters No. 5 had three fireplaces. The fireplaces in Room 5/103 and 5/104 appear to retain some of the historic elements. As previously discussed, the fireplace in Room 5/102 was altered from the original “chimney piece,” but the alteration was done during the historic period is considered historic. That fireplace has a wooden mantelpiece with molded wooden pilasters and a wooden frieze with a central key supporting a wooden mantelshelf (fig. 104). The fireplace was surrounded by ceramic tiles that were removed and stored in the Kitchen cabinets. The fireplace hearth is laid with similar ceramic tiles. An arched iron surround for the fireplace grate was resting next to the fireplace. This fireplace has been extensively damaged, with one of the pilasters pulled apart, tiles removed, and large amount of debris on the hearth. Though not part of the original building fabric, the mantelpiece is historic and retains a medium degree of historic integrity.

The historic mantelpiece in Room 5/103 remains today and is the only marble mantelpiece that is still intact. The mosaic-tiled hearth has some loose or missing tiles, but is mostly intact. An arched iron surround for the fireplace grate is set in the fireplace.

The historic stone mantelpiece in Room 5/104 is also intact and has a marble hearth and an iron grate. These elements appear to be in good condition, but the mantelpiece has been painted and the paint is failing.

The fireplaces in Rooms 5/103 and 5/104 retain historic elements and have a high degree of historic integrity.

### *Utilities*

Quarters No. 5 was most recently heated with radiant heat (currently not functioning). On the first story fin-tube baseboard radiators are installed along most of the outer walls. The radiators have the typical aluminum covers that are painted white. These baseboard radiators are in poor condition and are not considered historic.

The existing electrical service for Quarters No. 5 is 240/120 volt, supplied by a 100-amp circuit panel in the basement. The switches, outlets, and light fixtures were later alterations, and as noted in the Feasibility Study, there is no known wiring plan. Ceiling light fixtures are missing in Rooms 5/101–5/104. The ceiling fixtures in Rooms 5/105–5/107 are circular with frosted glass. In Room 5/108 the ceiling light is a porcelain utility fixture with a bare bulb. The electrical utilities in Quarters No. 5 are in poor condition and are not historic.

The plumbing in the first story of Quarters No. 5 consists of a Kitchen sink, Pantry sink, bathroom sink and toilet, and dishwasher and laundry hook-ups. The Kitchen has a double sink that is integral with the stainless-steel countertop and cabinets below that appear to date from the 1950s. The dishwasher is also part of that set of cabinets (fig. 103). While the set of cabinets and sink may be historic, they are in poor condition and have minimal historic integrity in the context of this building. Likewise, the other plumbing utilities are

later alterations and have minimal historic integrity.

### *Finishes*

The painted surfaces throughout the first story of Quarters No. 5 are in poor condition. The woodwork is typically painted off-white, and the dado in Room 5/104 is light pink. The doors are also painted white, except for the front doors, which are finished with a dark resin that appears to be the historic treatment for most of the interior doors. The woodwork finishes are so degraded that they have minimal historic integrity. The only exception is the front door, which does convey the historic appearance and has a high degree of historic integrity. The wood graining was evident on the dado elements in Room 5/104 and provides evidence of the historic treatment.

The walls are typically covered with wallpaper, which in some cases has been painted over. The walls in the ell have light blue faux paneling and painted gypsum board above that. All of the wall finishes are in poor condition and have minimal historic integrity.

## **Quarters No. 6**

### *Plan*

The first-story plan of Quarters No. 6 is similar to that of Quarters No. 5, but alterations in 1875 and 1960 did change some aspects of the layout. The historic plan is generally intact, with the hallways along the brick center partition of the building, the main block rooms south of that, and the Kitchen ell added to the east. The first story plan of Quarters No. 6 retains a high degree of historic integrity.

The front and back halls (Rooms 6/101 and 6/108) are long rectangular rooms. The front hall has open-stringer stairs to the

second story with closets that were added in 1960 under the stairs, as well as access to the connecting doorway to Quarters No. 5 (fig. 105). The back hall has a second staircase, and a bathroom under the stairs that had been the access to the basement stairs.

Room 6/102 is a rectangular room at the front of the quarters with a marble fireplace. Room 6/103, the adjacent room, is square with an arched opening to a bay window on the south side of the building. Room 6/104 was the Dining Room and is square with a built-in china cabinet in the east wall in the former window niche. The former Pantry (Room 6/107) is at the end of the main block and has access to the ell. The Pantry was altered in 1960 and has a built-in desktop with drawers.

The ell was also altered in 1960 and is a large rectangular room with a Kitchen area at the west end (Room 6/105) that is separated from the rest of the room by a peninsula. At the east end of the open ell (Room 6/106) is a closet for the laundry hook-up and the stairs to the basement. The Kitchen area has 1960s-era metal cabinets and Formica counters with a stainless-steel sink and space for appliances (fig. 103). While the cabinets and sink may be historic, they are in poor condition and have minimal historic integrity in the context of this building.

### *Floors*

The rooms in the main block have tongue-and-groove wooden floorboards, with the exception of the half-bathroom, which has sheet vinyl flooring. The wood floors in Room 6/102 and 6/103 have alternating light and dark woods with a center pattern (fig. 60). The floor in Room 6/102 was apparently installed after 1875, because it covers the entire room including the addition form that period. The wooden floors in the main block are considered historic and retain a high degree of historic integrity.

The sheet-vinyl flooring in the bathroom and Kitchen probably dates from the 1960 alterations and both lack historic integrity. The Kitchen floor is in poor condition and is covered with debris.

### *Walls*

The walls in the main block are typically wooden lath and plaster, and in the Kitchen ell they are gypsum board. The plaster walls are in fair condition with some cracks and plaster loss evident. The plaster walls convey the historic appearance and retain a high degree of historic integrity.

The bathroom has ceramic wainscoting with gypsum wallboard above that, and both are in fair condition. These are later alterations and are not considered historic.

The walls in the Kitchen ell are covered with Formica in the area with the cabinets. The gypsum board walls are in poor condition especially in the east corner of the room. These walls are not considered historic.

The baseboards in the main block of Quarters No. 6 retain the historic molding profiles, but some were removed when the baseboard radiators were installed. The more decorative baseboards are extant in Room 6/101–6/104, and the simpler baseboard remains in Room 6/108.

Room 6/104 retains the historic paneled dado and trim (fig. 61). The arched china cabinet that was added in 1960 occupies the former window niche in the east wall. The dado and related elements are historic and retain a high degree of historic integrity.

### *Doorways*

The interior doorways in the main block of Quarters No. 6 retain the historic casings and some of the historic doors. As in Quarters No. 5, the hierarchy of the doorway casings in the public rooms versus the back hall remains. The extant historic

elements are in fair condition and retain a high degree of historic integrity.

The front doorway (D102) elements are intact, including the decorative lift-off hinges (fig. 62). The right side of the casing is covered by a chase for plumbing. Both leaves of the double doors have textured glass, but the glass in the left door leaf is broken and covered with plywood. The left door leaf has a brass knob-and-lock set with a rectangular escutcheon. The inside stile of the right door leaf is patched at the top and bottom, and may be damaged beneath the patches.

The doorways under the front hall stairs were added during the 1960 alterations (fig. 105). There is a low doorway to a small closet and a doorway to the larger closet that in turn leads to the doorway connecting to Quarters No. 5. The doorways casings are similar to the historic casings, and the door to the small closet is a three-panel door with butt hinges and a brass knob. The larger closet door is missing. The connecting doorway has the historic casings and four-panel door.

The other interior doorways in the main block of Quarters No. 6 retain the historic casings, but most of the doors are missing. The door connecting the front and back halls has nine lights over two horizontal panels, and it hangs from three butt hinges. The physical evidence suggests that this door was a later alteration and may have been installed during the 1960 alterations. The doorway to the bathroom under the back stairs also dates from the 1960 alterations.

In the Kitchen ell the doorway casings were altered during the 1960 alterations. However, the door to the basement appears to be historic and retains the historic hardware. Likewise the back entrance door (D103) appears to be historic. Due to some of the alterations, the doorways in the ell have medium historic integrity.

## *Windows*

The windows in the main block of Quarters No. 6 preserve the historic casings and double sashes. The casings of the tall windows in Room 6/102 extend to the floor and were not altered when the baseboard radiators were installed. The bay window in Room 6/103 also retains the historic elements, but the baseboard was removed when radiators were installed. The historic window elements in the main block are in fair condition and have a high degree of historic integrity.

The interior window elements and sashes in the Kitchen ell were altered in 1960. The casings are plain with an applied bead down the center and plain windowsills and aprons. Each window has two sets of double-hung, four-over-four sashes, except W112, which has double-hung, six-over-six sashes. Since they have been altered, the windows in the ell have minimal historic integrity.

## *Ceilings*

As in Quarters No. 5, the plaster ceilings in the main block of Quarters No. 6 have been covered with strapping and acoustic tiles. In most of the rooms the ceiling tiles are 12 inches square and in Room 6/104 they are 24 inches square. The tile ceilings are typically trim with coved cornice boards. The bathroom under the stairs (Room 6/108a) is covered with textured plaster, which is probably applied over gypsum board. The tile ceilings are stained and failing in many areas, as is the plaster above them. The tile ceilings and related cornice boards are not historic and have no historic integrity.

The ceilings in the Kitchen ell are gypsum board suspended below the historic plaster ceilings. Both of these ceilings are extensively damaged, especially near the east corner of the room where water infiltration has caused the ceilings to

collapse. The ceilings in the ell have minimal historic integrity.

## *Stairs*

Quarters No. 6 has stairs in both the front hall and the back hall; both ascending along the center partition of the building to the second story. Both are open-stringer stairs and retain the historic elements including the newel posts, turned balusters, and molded handrails. The newel post in the front hall stairs is missing its cap. The extant stairs convey the historic appearance and have a high degree of historic integrity.

## *Fireplaces*

The historic marble mantelpieces in Room 6/102 and Room 6/103 were looted and the marble mantelshelves are missing. However, other parts of the mantelpiece are intact, as are the mosaic-tiled hearths in both rooms. Room 6/104 has the stone mantelpiece with iron grate and a marble hearth, all of which appear to be historic. The mantelpiece has been painted over, but the red-brown stone is evident below the peeling paint. The historic fireplace elements in the first story of Quarters No. 6 have a high degree of historic integrity.

## *Utilities*

Like Quarters No. 5, Quarters No. 6 has fin-tube baseboard radiators with aluminum covers installed along most of the outer walls. These baseboard radiators are in fair to poor condition and are not considered historic.

The existing electrical service for Quarters No. 6 is 240/120 volt, supplied by a 100-amp circuit panel in the basement. The switches, outlets, and light fixtures were later alterations, and as noted in the Feasibility Study, there is no known wiring plan. There are ceiling fixtures in all of the rooms that are mounted near the center of the ceiling. The ceiling lights in Rooms 6/102–6/104 are

hanging fixtures that probably date to the 1960 alterations. The ceiling fixtures in Rooms 6/105–6/106 are circular with frosted glass. The electrical utilities in Quarters No. 6 are in fair to poor condition and are not historic.

The plumbing in the first story of Quarters No. 6 consists of a bathroom sink and toilet, Kitchen sink, and dish washer and laundry hook-ups. All of these utilities were added during the 1960 alterations. The Kitchen has a single stainless-steel sink set in a Formica counter top with cabinets below. The plumbing utilities are later alterations and have minimal historic integrity.

### *Finishes*

The woodwork in the first story of Quarters No. 6 is mostly painted white and off-white. The woodwork in Room 6/104 is painted golden-yellow and there is evidence that the baseboard, dado, chair rail, and window elements were historically grained. The paint finishes are generally degraded and dirty. The existing finishes have minimal historic integrity, but the evidence of earlier finishes below the present ones is important to understanding the historic appearance of the building.

The walls in the main block are typically covered with wallpaper, which in some cases has been painted over. The gypsum walls in the ell are painted white. The existing wall finishes have minimal historic integrity.

## *Second Story*

### **Quarters No. 5**

#### *Plan*

The second story of Quarters No. 5 retains the historic layout with minimal alterations. There are two long rectangular halls and

two bathrooms (one at either end of the quarters) along the central building partition. Three bedrooms are arranged north of the halls, and the front bedroom (Room 5/202) has exclusive access to the front bathroom (Room 5/201). The bedrooms are square with the exception of the three-sided bay addition to Room 5/202. The partition between Rooms 5/203 and 5/204 has a closet for each of the rooms. These characteristics of the historic plan remain, and the plan retains a high degree of historic integrity.

The doorway connecting Rooms 5/202 and 5/203 has been walled over. The bathrooms were altered in the 1930s–40s, and a closet was added in Room 5/201 next to the bathtub enclosure. A small closet was more recently added to the front hall (5/207). The second-story plan of Quarters No. 5 is otherwise unchanged since the historic period.

#### *Floors*

The bedrooms and the front hall retain the historic wooden floors. These are typically 2-inch wide tongue-and-groove boards and are 2½ inches wide in the hall. In Room 5/203 the floor also has a subtle two-tone pattern and a border that wraps around the room. The closets in Rooms 5/203 and 5/204 have random-width floorboards between 5 and 7 inches wide; these boards appear to be the subfloor. The edge of the finished floors in the bedrooms is molded with a cyma-reversa profile where it meets the closet floor.

The floors in the bathrooms (Rooms 5/201 and 5/205) are currently covered with sheet vinyl, but evidence in the closet in Room 5/201 suggests that they were also historically wooden. The floor in Room 5/206 was also probably wooden, but is now covered with 9-inch square linoleum tiles.

The wooden floors are considered historic and retain a high degree of historic integrity.

## *Walls*

The walls on the second story of Quarters No. 5 are the historic lath-and-plaster walls. The two bathrooms have ceramic tile wainscoting with plaster walls above and ceramic tile shower walls. The added closet in the front hall has gypsum-board walls. The plaster walls appear to be historic and are in fair to poor condition with extensive cracking and some plaster loss. The plaster walls have a medium degree of historic integrity.

In the bathrooms the walls have ceramic tile wainscoting and shower enclosures. The walls above that appear to be skim-coated gypsum board, all of which appears to date from later alterations and has minimal historic integrity.

The extant baseboards in the halls and bedrooms appear to be historic. However, the baseboards were removed where the baseboard radiators were installed along the outside walls. The east wall in Room 5/202 was altered to a simpler design, probably when the doorway connecting Rooms 5/202 and 5/203 was walled over. The extant historic baseboards in the front hall and front bedrooms are representative of the decorative baseboard, while the simpler baseboard is extant in the back hall and back bedroom. These examples of the historic baseboards are important, and overall the baseboards have a medium degree of historic integrity.

## *Doorways*

The doorways appear to retain the historic elements including the casings, doors, and some of the hardware. The doorway casings in the front of the quarters are the more decorative molded casings, and at the back of the building are the simpler casings. The doors are typically four panel doors with lift-off hinges, porcelain knobs and separate keyways. The doorway connecting the two quarters also retains historic elements and a

separate door for each of the quarters (fig. 66). The closet doorway in Room 5/207 has plain trim and a hollow-core door.

The doorway to Room 5/203 has a transom over the door that appears to be historic. The doorway casing continues around the transom, and appears to be the historic casing.

The doorways appear to be in fair condition, with the primary issues being degraded finishes. The extant historic doorway elements convey the historic appearance of the quarters and retain a high degree of historic integrity.

## *Windows*

The window elements on the second story including the bay in Room 5/202 have not been significantly changed since the historic period. The double windows are set in shallow niches surrounded by wooden casings (fig. 107). The historic casings in the front rooms are more elaborate than those in the back rooms. The windows retain the historic double sash sets, molded panels, and casings. However, part of the panels below the windows, the base of the window casings, and the baseboards were removed when baseboard radiators were installed. The double window in Room 5/205 has been covered with glass blocks and the interior elements could not be assessed.

The window elements are generally in fair condition and retain a high degree of historic integrity.

## *Ceilings*

Some of the plaster ceilings in Quarters No. 5 appear to date to the historic period. In Rooms 5/202, 5/206, and 5/207 the plaster ceilings are covered with 12-inch square acoustic tiles with simple cove moldings. The ceiling in Room 205 is covered with textured plaster that is probably applied

over gypsum board installed during the bathroom alterations.

Sections of the ceiling in Room 5/201 have a historic cyma-recta molding that paint analysis determined dates from the original construction. Room 5/203 also has a 2½-inch-wide cornice with a bead-flat-cavetto-bead profile that appears to be historic.

The ceiling conditions vary from poor to fair and sections of the ceiling in Room 5/202 have failed. The plaster ceilings and historic cornice moldings retain medium historic integrity, while the tile ceilings have minimal historic integrity.

### *Stairs*

The front and back stairs of Quarters No. 5 appear to retain historic elements and are in fair condition. The front hall stairs to the first story has a wooden banister with a square newel and turned balusters around the stairwell.

The back hall has open-stringer stairs to the attic with winding treads at the top and bottom of the stairs. The stairs have a wooden banister with turned balusters and a molded handrail that continues from the first story up to the attic. The stair stringer has a plain board with a three-quarter-round corner bead. The stringboard along the wall has the same details as the back hall baseboard.

The stair elements convey the historic appearance and retain a high degree of historic integrity.

### *Fireplaces*

The fireplace in Room 5/202 retains the historic stone mantelpiece and arched iron insert. The mantelpiece has carved spandrels, a center medallion/shield, and a curved mantelshelf that is similar to the mantelpiece in Room 5/104. The center arch has an iron insert that held the grate,

which is not in place. The fireplace has a marble hearth. The stone mantelpiece has been painted numerous times, and the paint is chipping and peeling, and is in poor condition.

This is the only fireplace in the second story of Quarters No. 5 and, with the exception of the paint finish, is in good condition. The fireplace retains a high degree of historic integrity.

### *Utilities*

The plumbing in the two bathrooms (Rooms 5/201, and 5/205) includes porcelain sinks, toilets, and bathtubs. The sinks have chrome legs and fixtures, and chrome towel racks are mounted on the walls. The fixtures are in fair condition, and appear to date from the bathroom alterations in the 1940s. However, the plumbing is drained and inoperable, and will require upgrading. The existing plumbing fixtures date from the historic period, but retain minimal historic integrity.

The second-story rooms are generally lighted with electric ceiling fixtures that were part of the later alterations. The bathrooms have light fixtures above the sinks on either side of the medicine cabinets. The electrical switches and outlets throughout the second story are later alterations. A panel in the back hall houses wiring for some of the earliest electrical service to the building, as well as more recent additions and telephone service. While the wall panel is of historic interest, the existing electrical fixtures have no historic integrity.

The second-story heating for Quarters No. 5 was most recently baseboard radiators, but that system is not operable and is apparently damaged. The baseboard radiators are installed along the outside walls of each room and typically have aluminum covers that are painted white. The baseboard radiators are damaged, and some sections

are missing. The current heating elements have no historic integrity.

The heat register in the side of the fireplace in Room 5/202 does appear to be historic and could date from the original construction. It retains a high degree of historic integrity.

### *Finishes*

The current finishes in the second story of Quarters No. 5 are generally degraded and in poor condition. The woodwork is typically painted white to off-white, except for the stair elements and some of the doors, which appear to retain their historic finishes. Those finishes convey the historic appearance and retain a medium degree of historic integrity.

Many of the plaster walls are covered with wallpaper, which in some cases has been painted over. The wall colors range from light blue to pink. The condition of the wallpapers and painted papers is so poor that it was not possible to assess their historic significance. These elements have no historic integrity.

The remaining plaster ceilings are painted white, but are badly cracked and stained.

## **Quarters No. 6**

### *Plan*

The second-story plan of Quarters No. 6 has not been altered since the historic period, which included the alteration of the two front bedrooms to one large rectangular bedroom (figs. 109 and 110). The current layout includes the long rectangular halls and bathrooms along the center partition and two bedrooms on the south side of the building. A large closet (Room 6/203) was added to Room 6/202 during the historic period (fig. 110). The physical evidence indicates that the orientation of one of the

smaller closets in Room 6/204 (Room 6/204a) was altered when the large closet (Room 6/203) was added. The current plan is representative of the historic configuration and has a high degree of historic integrity.

### *Floors*

The historic wooden floors are extant in Rooms 6/202, 6/206, and 6/207, and were evident in the closet of Room 6/201. These are tongue-and-groove floors and are typical of the historic flooring in the building. The closet floors in Room 204 are also wooden, but are wider boards that appear to be subflooring with a molded edge at the threshold. The floors in the two bathrooms (Rooms 6/201, and 6/205) are presently covered with sheet vinyl. The remaining wooden floors have a high degree of historic integrity.

### *Walls*

The historic plaster walls in the second story of Quarters No. 6 are generally intact with some cracking evident. The plaster walls retain medium historic integrity.

The walls in Room 6/201 are covered with faux-tile wainscoting, and the bathtub enclosure and adjacent closet have gypsum-board walls. These are later alterations and have minimal historic integrity.

Most of the walls in the back bathroom (Room 6/205) are covered with wooden wainscot (fig. 70). The area enclosing the bathtub has been covered with ceramic tiles. The wainscot is capped with a molded chair rail and retains the historic baseboard. Paint analysis determined that the wainscoting is historic and it has a high degree of historic integrity.

The baseboards along the outside walls have been removed and replaced with baseboard radiators. Of the remaining baseboards, those in the front rooms have a more

elaborate molded profile; while the back hall (Room 6/206), back bedroom (Room 6/204), and bathroom (Room 6/205) retain the simpler baseboard typical of the building. The intact baseboards are historic and have a high degree of historic integrity.

### *Doorways*

The doorways in the second story of Quarters No. 6 generally retain their historic elements. As with the other woodwork, the more elaborate doorway casings are found in the front rooms and the simpler casings are in the back rooms. The doors appear to be historic and have been painted. The historic doors retain the lift-off hinges, but some of the historic porcelain knobs have been replaced with newer brass knobs with rectangular brass escutcheons. The door to closet 6/204a has different-sized panels and different panel molding than the other doors. This is further evidence of the change to this closet when closet 6/203 was added.

The historic doorway elements appear to be in fair condition and retain a medium degree of historic integrity.

### *Windows*

The second-story windows in Quarters No. 6 retain the historic casings and sashes. The windows have two sets of double-hung sashes, and the casings match the doorway casings in the respective rooms. The casings extend to the floor, creating a window niche that includes the sashes, sills, and two molded panels below the sills. In Room 6/201 the right side casing is covered by a pipe chase.

The window elements are in fair condition and retain a high degree of historic integrity.

### *Ceilings*

The plaster ceilings in the second story of Quarters No. 6 remain in Rooms 6/201,

6/202, 6/203, and 6/204. The ceilings in the halls and bathroom are covered with 12-inch square acoustic tiles. The remaining plaster ceilings retain a medium degree of historic integrity.

There are sections of historic cornice moldings in Rooms 6/203 and 6/207 (figs. 71 and 111). The entire molding remains in Room 6/203. Since this closet was once part of the larger room, the evidence suggests that historically the molding was used throughout the room. The molding in Room 6/207 has the same profile (though the edge is covered by ceiling alterations) and also dates from the historic period. Since these are some of the only remaining historic cornice moldings in the building, they are important in understanding the historic appearance of the building and retain a high degree of historic integrity.

### *Stairs*

The historic elements of the second-story stairs in Quarters No. 6 appear to be intact. The front hall stairs to the first story have a wooden banister that surrounds the stairwell (fig. 112). The back hall has open-stringer stairs that continue to the attic. These stairs have winding steps and a wooden banister that continues from the first story to the attic.

The historic stair elements are in fair condition, and retain a high degree of historic integrity.

### *Fireplaces*

The fireplace in Room 6/202 is similar to the fireplace in Room 5/202 and the first-story Dining Rooms. The historic mantelpiece has carved spandrels, a center medallion, and an arched iron insert that held a grate. A curved mantelshelf rests on top of the mantelpiece, and the fireplace has a marble hearth. The stone mantelpiece has been painted numerous times, and the paint is chipping and peeling.

With the exception of the poor condition of the paint finishes, the mantelpiece is in good condition. The fireplace retains a high degree of historic integrity.

### *Utilities*

The plumbing in the second-story bathrooms (Rooms 6/201 and 6/205) includes porcelain fixtures that date from alterations. The sink and bathtub appear to date from the 1940s alterations to the bathrooms, and the toilets may date to the 1930s. The sinks have chrome legs and fixtures. The bathtub fixtures appear to be changed since the 1940s installation. Chrome towel racks are mounted on the walls, and there is a recessed medicine cabinet above the sink. The plumbing is currently shut off, and the condition of the pipes is not known. Since the fixtures were installed during the historic period, the existing plumbing fixtures retain medium historic integrity.

The second-story rooms in Quarters No. 6 have electric fixtures mounted near the center of the ceiling. The bathrooms have wall-mounted light fixtures on either side of the medicine cabinets. The electrical switches and outlets throughout the second story are later alterations. The existing electrical fixtures have no historic integrity.

As in the rest of the building, the most recent forced-hot-water heating system included baseboard radiators installed along the outside walls. They typically have aluminum covers that are painted white. The baseboard radiators are damaged and in poor condition. The current heating elements have no historic integrity.

### *Finishes*

The woodwork on the second story of Quarters No. 6, including the window elements, doorway casings, and doors, is currently painted white to off-white. Historically the woodwork was painted off-

white and the doors were finished with dark brown graining. The paint samples indicated that the wainscoting in Room 6/205 was historically grained. The painted surfaces are generally dirty and degraded, but encapsulate the historic paint finishes. The current finishes have minimal historic integrity, but the paint history is important.

Many of the plaster walls are presently covered with wallpaper, which in some cases has been painted over. The front hall paper has a diamond floral pattern, but is stained and in poor condition. The wall finishes have minimal historic integrity.

The plaster ceilings are presently painted white, but are stained and discolored. These finishes have minimal historic integrity.

### *Attic*

#### **Quarters No. 5**

##### *Plan*

The attic plan of Quarters No. 5 includes a single hall with stairs, front and back rooms along the center partition, and three bedrooms off the hall. The outside walls were framed under the roof framing, creating cavities between the two framing systems. This created deep window niches, and small closets were built into some of the niches. The bedrooms are square and each has a closet. In Room 5/302 the closet is in the south wall next to the chimney. In Rooms 5/303 and 5/304 the closets are in the partition wall on either side of the chimney. The closet in Room 5/303 has three drawers built into the base of the closet. There is a built-in closet in the hall that is 7 feet 6 inches wide by 1 foot 9 inches deep. The closet has three four-panel doors and a baseboard and molded cornice. The closet was included in the 1876 plans of the attic and marked as a “wardrobe.”

The plan has not been altered since the historic period and retains a high degree of historic integrity.

### *Floors*

Most of the floors are currently covered with sheet vinyl that was installed over wooden floors. Room 5/301 has historic wooden floorboards that may have been typical for the attic. The vinyl floors are in poor condition and not historically significant. However, the wooden floor does have a high degree of historic integrity.

### *Walls*

The attic walls in Quarters No. 5 retain the historic lath-and-plaster walls that are framed within the roof framing. The cavities between the wall framing and roof framing are accessible through small closet doors within the window niches (figs. 72 and 113). Most rooms have the historic baseboard with a fillet and quarter-round cap that was used in the back rooms of the lower stories. Some of the historic baseboards were removed when baseboard radiators were installed.

The plaster walls and wooden baseboards are in fair condition, and retain a medium degree of historic integrity.

### *Doorways*

The attic doorways in the rooms and closets have wooden casings and doors. The casings have two boards with quarter-round edges, and the doors are four-panel doors with lift-off hinges and porcelain knobs (fig. 114). The doorway in Room 5/303 has a two-light transom. All of these elements are historic and retain a high degree of historic integrity.

The wall cavities between the wall and roof framing are accessed through narrow doorways that have single-panel doors with

two cabinet hinges and a single cabinet latch. These doorways had plain wooden casings with quarter-round edges. These doorways are historic and retain a high degree of historic integrity.

### *Windows*

The attic windows in Quarters No. 5 have double-hung, two-over-two sashes, and are set in deep niches formed by the framed walls. The windows have plain casings and windowsills with molded aprons below the sills. Some of the window niches have tongue-and-groove boards on the ceiling (fig. 115). The window elements are in fair condition and retain a high degree of historic integrity.

### *Ceilings*

With the exception of Rooms 5/301 and 5/304, all of the ceilings are currently covered with 12-inch square acoustic tiles. In Room 5/301 the ceiling is particle board with wooden battens. In Room 5/304 the ceilings are plaster. Presumably the historic treatment for all of the ceilings in the attic of Quarters No. 5 was wooden lath and plaster. There is an access hatch to the attic in the ceiling of Room 5/305. The existing ceilings are stained and failing in sections. They are in poor condition and have minimal historic integrity.

### *Stairs*

The stairs to the back hall of the second story were previously described. The top stair is at the east end of the hallway. The attic banister encloses the stairwell. The stair elements are in fair condition and retain a high degree of historic integrity.

### *Utilities*

The current plumbing includes porcelain fixtures that appear to date from the 1940s alterations. As with other plumbing in the building, it is currently inoperable and the condition of the pipes is not known. The plumbing elements retain minimal historic integrity.

The existing electrical services include ceiling light fixtures in each room and fixtures on either side of the medicine cabinet in the bathroom. The switches and outlets date from later alterations. The electrical elements retain minimal historic integrity.

The current heating system has baseboard radiators installed along the outside walls. They typically have aluminum covers that are painted white. The baseboard radiators are damaged and in poor condition, and it is not known whether the system is working. The current heating elements have no historic integrity.

### *Finishes*

The woodwork is typically painted white to off-white and in Room 5/304 the baseboard is brown. The walls in Room 5/302 and 5/303 are painted light blue and in Room 5/304 they are tan; all are paint over wallpaper. The hall and front room are white and the bathroom is papered. The – plaster ceiling is painted white, and the tile ceilings are unpainted. The existing finishes are not historic, but historic finishes are preserved under the present layers.

## **Quarters No. 6**

### *Plan*

The attic plan of Quarters No. 6 mirrors that of Quarters No. 5. The front room (6/301), hall, and bathroom are along the center partition, and the three bedrooms are south

of the hall. Like Quarters No. 5, there are cavities between the roof framing and wall framing, which created deep window niches. The closets were in similar locations, and the closet in Room 6/303 has three drawers built into it (fig. 116). There is a built-in closet/wardrobe in the hall (though it wasn't depicted in the 1876 plan, it does have the same elements as the closet in Room 5/306; fig. 117). The plan has not been altered since the historic period and retains a high degree of historic integrity.

### *Floors*

The floors in most of the rooms are currently covered with sheet vinyl, and the historic wooden floors are probably in place beneath the vinyl. The floor in Room 6/305 is ceramic tile. The existing vinyl and tile floors have minimal historic integrity.

### *Walls*

The walls are framed with dimensional lumber and covered with wooden lath and plaster. This appears to be the historic treatment and retains a high degree of historic integrity.

The walls in the bathroom have a ceramic tile wainscoting, and the shower stall is enclosed with tiles. The walls above these are plaster. These are alterations and retain minimal historic integrity.

The baseboards in the attic of Quarters No. 6 are typical of the simpler baseboard used throughout the building. Some of the baseboards were removed for the heating system, and those remaining are in fair condition. The baseboards retain a medium degree of historic integrity.

### *Doorways*

The doorways in the attic of Quarters No. 5 have wooden casings typical of the simpler casings used in the back rooms of the building. The doors are typical historic

four-panel doors with lift-off hinges, and replacement brass knobs with brass escutcheons. The doorway in Room 6/303 has a two-light pivoting transom (fig. 118).

The closets built in to the window niches have narrow doorways. They have plain wooden casings, and single-panel doors with two cabinet hinges and a single cabinet latch.

The doorway elements are in fair condition and retain a high degree of historic integrity.

### *Windows*

The attic windows in Quarters No. 6 are set within the niches formed by the framing system. Each window has two-over-two, double-hung sashes with wide muntins separating the lights in each sash. The top sash has a segmental arch. The windows have plain casings and windowsills, and an apron below each sill. The walls and ceiling of the window niche are typically plastered. The existing window elements appear to date from the historic period and retain a high degree of historic integrity.

### *Ceilings*

The historic wooden-lath-and-plaster ceilings remain in Room 6/301–6/304, while the other ceilings are covered with 12-inch square acoustic tiles. The plaster ceilings are in poor condition and retain a medium degree of historic integrity.

### *Stairs*

The winder stairs to the attic terminate at the east end of the hall. The wooden banister that follows the stairs also encloses the stairwell. The stair elements are in fair condition and retain a high degree of historic integrity.

### *Utilities*

The current plumbing includes porcelain fixtures and a tiled shower stall that appear to date from the 1940s alterations. The plumbing is currently shut off and the condition of the pipes is not known. The plumbing elements retain minimal historic integrity.

The existing electrical services include ceiling light fixtures in each room and fixtures on either side of the medicine cabinet in the bathroom. The switches and outlets date from later alterations. The electrical elements retain minimal historic integrity.

The current hot-water heating system is baseboard radiators installed along the outside walls. They typically have aluminum covers that are painted white. The baseboard radiators are damaged and in poor condition, and it is not known whether the system is working. The current heating elements have no historic integrity.

### *Finishes*

The woodwork is typically painted white to off-white. The plaster walls and ceilings are also painted white to off-white, and some of the walls have wallpaper with paint over the paper. The hallway paper is peeling, and there is a light blue-green on the walls below that. A similar color is exposed on the bathroom walls beneath the peeling paper. The finishes on the woodwork and walls are degraded and in poor condition. The existing finishes are not historic, but some of the earlier finishes are preserved under the current layers.

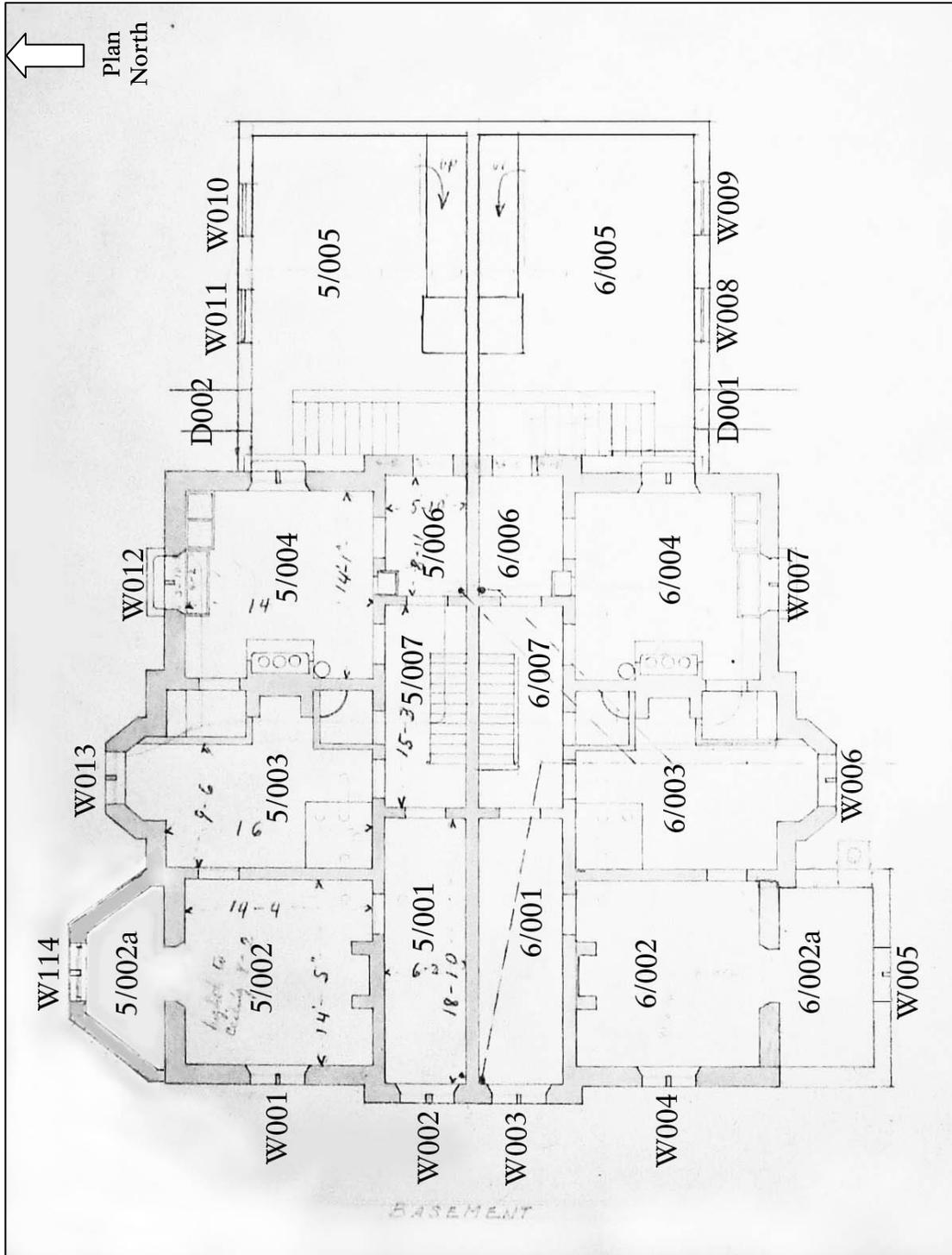


Figure 89. Building No. 5 & 6, basement plan with exterior doorway, window, and room numbers assigned for this project.

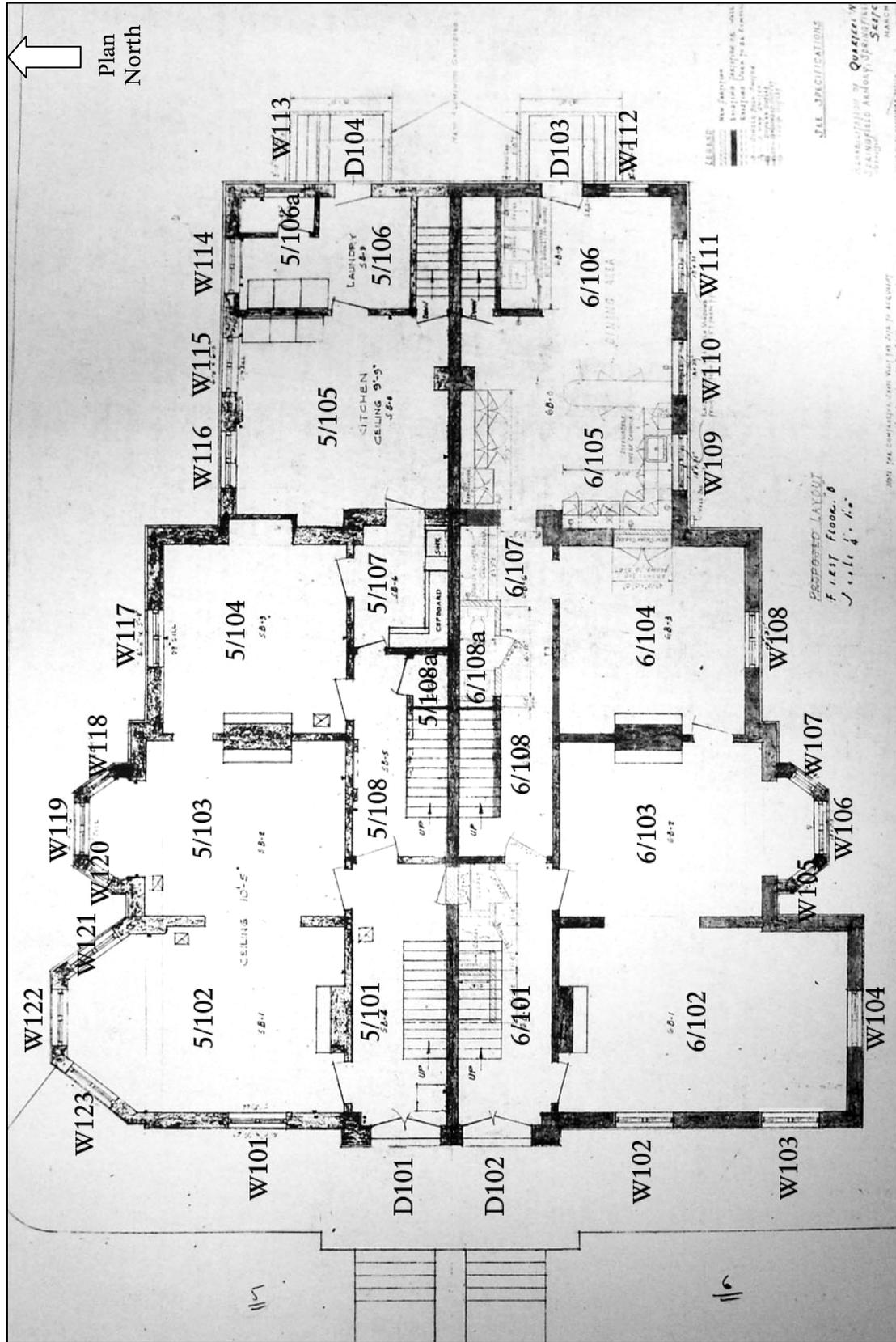


Figure 90. Building No. 5 & 6, first floor plan with exterior doorway, window, and room numbers assigned for this project.

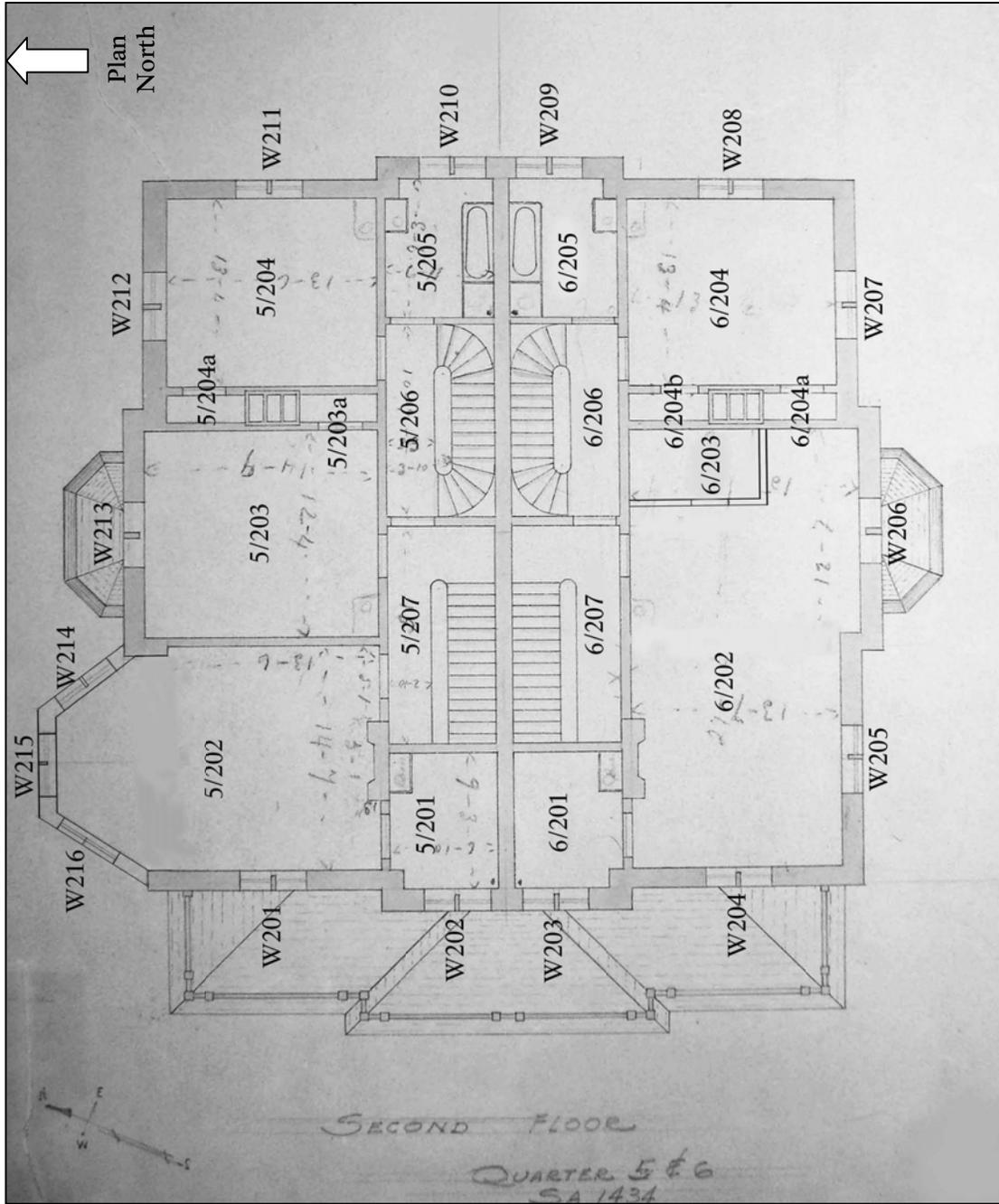


Figure 91. Building No. 5 & 6, second floor plan with exterior doorway, window, and room numbers assigned for this project.

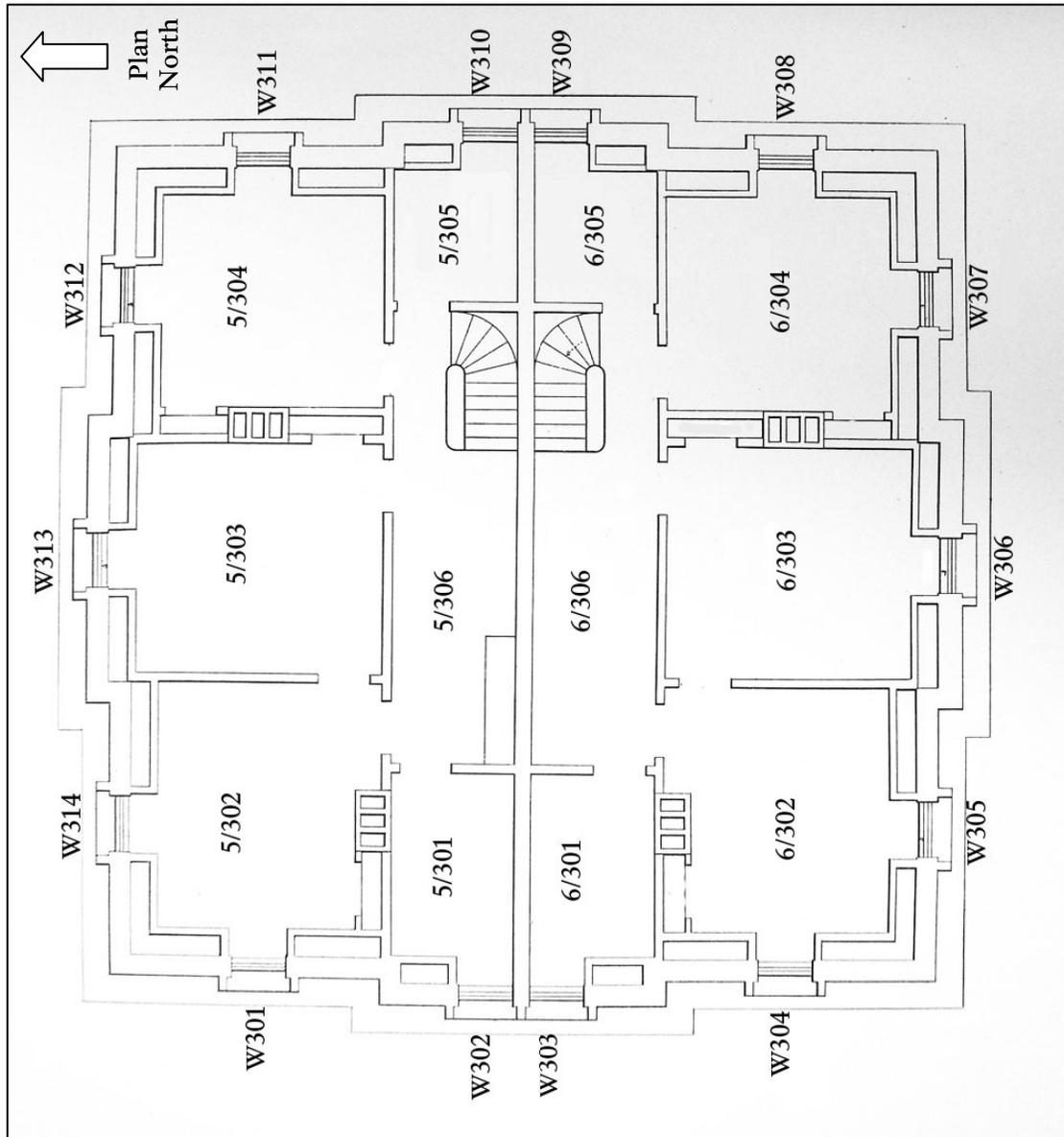


Figure 92. Building No. 5 & 6, attic plan with exterior doorway, window, and room numbers assigned for this project.



**Figure 93.** Building No. 5 & 6, looking northeast, 2011.



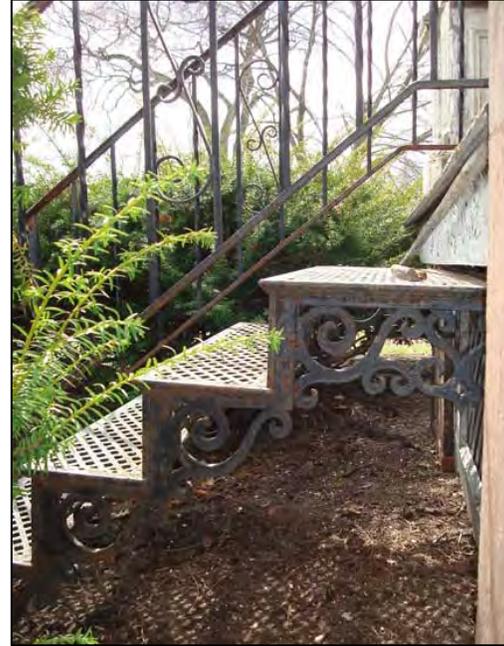
**Figure 94.** Building No. 5 & 6, looking northwest, 2011.



Figure 95. Building No. 5 & 6, looking southwest, 2011.



Figure 96. Building No. 5 & 6, looking southeast, 2011.



Figures 97a, and 97b. Building No. 5 & 6, cast-iron steps on south side of front porch, 2011.



Figure 98. Building No. 5 & 6, view of building and roofs from Arsenal (Building 13) tower looking southeast, 2011.



Figure 99. Building No. 5 & 6, Quarters No. 5, bulkhead walls and steps showing collapsed wall on left side of bulkhead steps, 2011.



Figure 100. Building No. 5 & 6, Quarters No. 6, Room 6/005, basement stairs in Kitchen ell, 2011.



Figure 101. Building No. 5 & 6, Quarters No. 5, Room 5/102, bay windows and walls, 2011.



Figure 102. Building No. 5 & 6, Quarters No. 5, Room 5/104, wainscoting and arched niche in former Dining Room, 2011.



**Figure 103.** Building No. 5 & 6, Quarters No. 5, Room 5/105, east wall and doorway to Room 5/106, depicting paneling, cabinets, and appliances, 2011.



**Figure 104.** Building No. 5 & 6, Quarters No. 5, Room 5/102 fireplace and mantelpiece, 2011.



**Figure 105.** Building No. 5 & 6, Quarters No. 6, Room 6/101 wall under front stairs with added closet doorways, 2011.



**Figure 106.** Building No. 5 & 6, Quarters No. 6, Room 6/105, ell Kitchen depicting alterations and cabinets, 2011.



**Figure 107.** Building No. 5 & 6, Quarters No. 5, Room 5/202, W201 typical interior window in second-story bedrooms at the front of the building, 2011.



**Figure 108.** Building No. 5 & 6, Quarters No. 5, Room 5/202, fireplace and mantelpiece, 2011.



**Figure 109.** Building No. 5 & 6, Quarters No. 6, Room 6/202 south and west walls, 2011.



**Figure 110.** Building No. 5 & 6, Quarters No. 6, Room 6/202 south and east walls including added closet (Room 6/203), 2011.



**Figure 111.** Building No. 5 & 6, Quarters No. 6, Room 6/207, ceiling trim in front hall, 2011.



**Figure 112.** Building No. 5 & 6, Quarters No. 6, Room 6/207, second-story stair balustrade, 2011.



**Figure 113.** Building No. 5 & 6, Quarters No. 6, Room 6/302, interior of wall cavity under mansard roof, 2011.



**Figure 114.** Building No. 5 & 6, Quarters No. 5, Room 5/304, typical attic doorway, 2011.



**Figure 115.** Building No. 5 & 6, Quarters No. 5, Room 5/302, tongue-and-groove board ceiling in window niche, 2011.



**Figure 116.** Building No. 5 & 6, Quarters No. 6, Room 6/303, closet with built-in drawers, 2011.



**Figure 117.** Building No. 5 & 6, Quarters No. 6, Room 6/306, wardrobe, 2011.



**Figure 118.** Building No. 5 & 6, Quarters No. 6, Room 6/303, doorway with transom window, 2011.

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# **CHARACTER-DEFINING FEATURES AND GENERAL RECOMMENDATIONS**

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# INTRODUCTION

An historic structure may be significant for its architectural features and/or its association with historic events, places, and persons. Building No. 5 & 6 was recognized by the National Register as a contributing historic structure to Armory Square and the Springfield Armory (see the previous section “Introduction, National Register of Historic Places”). The character-defining features (CDFs) of a structure are those visual features and elements that define the structure and contribute to its historic integrity. To retain the historic integrity of the structure, it is important to retain and preserve those CDFs.

There is currently no proposed use for Building No. 5 & 6, but it is recommended that the building be stabilized for future rehabilitation and adaptive use by STCC. The rehabilitation of a structure should strive to retain the CDFs. *The Secretary of the Interior’s Standards for Rehabilitation* address this in the definition of “rehabilitation,” which is “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.”<sup>140</sup> The Secretary of the Interior further addresses rehabilitation in the following standards:

1. A property will be used as it was historically, or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

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<sup>140</sup> NPS website URL – <http://www.cr.nps.gov/hps/tps/stanguide/index.htm>.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.<sup>141</sup>

The following sections will identify the character-defining features and make general recommendations for the stabilization, rehabilitation, and adaptive use of Building No. 5 & 6. The general recommendations are meant to guide the rehabilitation of the building. The rehabilitation of Building No. 5 & 6 should be done in a manner that does not diminish the historic integrity of the structure and should be planned with minimal impact to the CDFs. The rehabilitation of the building should conform to the appropriate building codes including fire, safety, and accessibility codes for historic buildings. Any substantial rehabilitation of the exterior or interior of Building No. 5 & 6 should be reviewed for Section-106 (S-106) compliance.

Building No. 5 & 6 is in overall fair to poor condition, but does retain many of its architectural elements that convey the

building's historic appearance. The building is currently unoccupied, which has led to deferred maintenance and general neglect. Failure of the heating system several years ago caused damage to some of the interior elements. The biggest threats to the building while it remains unoccupied are water infiltration and pest control. Both of these issues have contributed to the deterioration of exterior and interior elements, and the overall accumulation of debris and filth in the building. In addition the building has been vandalized and several elements of the marble fireplaces were pillaged. At a minimum Building No. 5 & 6 should be stabilized to prevent further deterioration.

The stabilization and subsequent rehabilitation of Building No. 5 & 6 would preserve the building in accordance with the agreement between the NPS and the Massachusetts Board of Higher Education. The following CDFs and General Recommendations should provide guidance for that process.

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<sup>141</sup> NPS website URL – [http://www.cr.nps.gov/hps/tps/stanguide/rehab/rehab\\_standards.htm](http://www.cr.nps.gov/hps/tps/stanguide/rehab/rehab_standards.htm)

# CHARACTER-DEFINING FEATURES

## Exterior Elements

dentils, cornice molding, and scroll-cut brackets.

### *Design and Context*

- Site and location of Building No. 5 & 6 in the southwest corner of the Green forming the terminus for the line of buildings along the southern border of Armory Square. In addition the location of the building near the crest of the hill overlooking Springfield to the southwest.
- The overall massing of the building, especially the three-story masonry main block, which is indicative of the period architecture and the historic appearance. Also the massing of the additions including the two-story bay and the one-story ell, all of which were added during the historic period.
- The Victorian-era Second Empire style of Building No. 5 & 6. Especially the mansard roof that is characteristic of the style and other architectural elements that exhibit Victorian-era influences typical of that period.

### *Walls and Related Elements*

- Exterior masonry walls that were constructed to harmonize with other masonry buildings at the Springfield Armory. This includes the brownstone foundation walls and water tables and the red brick exterior walls of the main block and ell.
- The wooden elements of the entablature that includes the architrave moldings,

### *Doorways and Related Elements*

- The exterior doorway locations in relation to the overall design and symmetry of the building, as well as the function of the building, and the interior spaces.
- All extant historic front doorway materials, including the doors, brownstone lintels and thresholds, and wooden casings.

### *Windows*

- The overall design, proportions, symmetry, and locations of the exterior windows including the dormer windows.
- The extant brownstone sills and lintels of the main block windows, and the brick lintels and brownstone sills of the ell windows.
- All historic architectural elements of the bay windows including the wooden base trim, window casings, cornice trim, and the hipped copper roof with wooden trim.
- All historic architectural elements of the dormer windows including the pilasters, wooden casings, segmental arched pediments with copper roofing, and other related elements.
- The extant double-hung, one-over-one sashes, and two-over-two dormer sashes with arched-top sashes.

## *Porches*

- The front porch of Building No. 5 & 6 including the brownstone steps and piers, wooden columns, balustrade, molded cornice, scroll-cut brackets, tongue-and-groove board ceiling, and copper roof.

## *Roofs and Related Elements*

- The Second Empire-style mansard roof, which is a double-pitched hipped roof.
- The patterned gray slates on the lower portion of the roof.
- The wooden trim at the corners of the hips including the wooden molding with a loop at the eaves, and bull's-eye moldings and pediments in the top corners.
- The cornice below the lower roof with an integral gutter system and the molded cornice between the upper and lower slopes of the roof.
- The four brick chimneys that pierce the main block roof, including the brownstone bases and caps.

## Interior Elements

### *Plan*

- The current plan of Building No. 5 & 6 is representative of the historic layout including alterations to the building during the historic period.
- The room sizes and arrangement that reflect the use of the building as a duplex and the historic room use.

## *Floors*

- The historic wooden floors that remain on the first story, second story, and attic of Building No. 5 & 6.

## *Walls*

- The center brick partition dividing the building into two quarters.
- Brick partition walls in the basement.
- The plaster walls on the first, second, and attic stories of the main block of Building No. 5 & 6 including the outside walls and the framed partition walls.
- The two styles of baseboards found throughout the building that remain from the historic period and reflect the hierarchy of the room use during the historic period.
- The historic wainscoting and related trim in Room 6/104.
- The historic wainscoting and related trim in Room 6/205.

## *Ceilings*

- The ceiling heights on the first, second, and attic stories.
- Any intact plaster ceilings on the first, second, and attic stories.
- The sections of historic cornice in Room 6/201 and 6/203.

### *Doorways*

- The interior doorway casings, doors, and related elements that were identified as historic, including the front doorways, and the arched doorways between the Parlor and Sitting Room in each of the quarters.

### *Windows*

- The interior window elements throughout the first, second, and attic stories of Building No. 5 & 6, including the casings, sashes, and related trim.

- The extant historic elements of the bay windows in Room 5/104 and 6/104, including the window casings, windowsills, sashes, and ceiling trim.

### *Staircases*

- The extant interior staircases and related elements in the main block of Building No. 5 & 6 including the remaining basement stairs, first-story stairs in both the front and back halls, second-story stairs in the front and back halls, and attic stairs.

# GENERAL RECOMMENDATIONS

## Exterior Elements

### *Design and Context*

- The current location of Building No. 5 & 6 in the southwest corner of Armory Square serves as a terminus for the row of buildings along the south side of the Green. The building site is a conspicuous location relative to the Green and the surrounding neighborhood. The stabilization and any rehabilitation and/or adaptive use of the building should not alter the existing location and should preserve these CDFs.
- The massing of the main block of Building No. 5 & 6 is indicative of the period architecture, the building's historic appearance, and the evolution of the building. The massing of the building is an important CDF that should not be altered during stabilization and rehabilitation. Alterations that would significantly change the massing of the building either by accretion or subtraction should be avoided. The alteration of the massing of the one-story ell may be permissible if it does not impact the main block of the building.
- The Second Empire style of Building No. 5 & 6, which is characterized by the mansard roof and other Victorian-era influences, should be preserved during the stabilization and any subsequent rehabilitation of the building according to the general recommendations in the following sections.

### *Walls*

- Exterior masonry elements, including the brownstone foundation and water table, and brick walls should be preserved during the stabilization and rehabilitation of Building No. 5 & 6. Any stabilization projects should retain the existing configuration of the masonry elements and not significantly alter the exterior appearance. The installation of fire-protection systems, exterior lighting, signage, and any ADA-compliant access should be done in a manner that has minimal impact on the exterior wall elements. The installation of an exterior ADA route and other alterations should be reviewed for S-106 compliance. If feasible, additional lighting and signage should be fastened to the building with a system that anchors into existing mortar joints. Efforts should be made to avoid making holes in the exterior brick and brownstone for anchoring additional items. Any deficiencies or deterioration of the exterior brick, brownstone, and mortars should be repaired with materials that replicate the color, strength, and overall appearance of the historic materials and are compatible with the extant materials.
- The wooden entablature, including the moldings and brackets, is historic. It is characteristic of the Victorian-era elements and the overall style of the building. These elements should be stabilized and preserved so that they will continue to convey the historic appearance of Building No. 5 & 6. The stabilization and rehabilitation of these elements should be done with in-kind materials. Where the paint finishes are deteriorated, the woodwork should be

prepared, primed, and painted in an effort to preserve the historic materials.

### *Doorways and Related Elements*

- The locations of the exterior doorways, especially the front doors, are considered character defining and should not be altered. The doorway locations are part of the symmetry of the exterior fenestration, which is an important characteristic of the building. During any subsequent adaptive use of the building, the installation of an ADA-compliant entrance should use an existing doorway. The rehabilitation of the building should not close off existing doorways, and should not create additional doorways.
- The front doorways retain historic materials that should be preserved. The stabilization and any subsequent rehabilitation of the building should retain the brownstone and wooden elements of the doorways. Damaged or missing doorway elements should be repaired or replaced with in-kind materials. Deteriorated paint finishes should be prepared, primed, and painted. During any subsequent adaptive use of the building, the installation of an ADA-compliant entrance should be done with minimal impact on the historic elements of the front doorways. Allowances should be made for the installation of ADA-required handles and closers on the historic doors, but the impact of these on the historic elements should be minimized. Should any doors require replacement, the new doors should be designed to match the extant historic doors and be constructed with compatible materials. The installation of an ADA-compliant entrance and related alterations should be reviewed for S-106 compliance.

### *Windows*

- The historic exterior windows including the related masonry elements, wooden trim, and sashes of Building No. 5 & 6 are generally in fair condition and should be stabilized and maintained. Damaged or missing window elements should be repaired or replaced with in-kind materials. If any of the sashes require replacement, the new sashes should match the existing design and materials of the existing sashes. Deteriorated paint finishes should be prepared, primed, and painted. Window openings should not be covered, blocked, or altered, and new windows should not be added.
- The bay windows and related elements, including the copper roof, should be stabilized and maintained. Damaged or missing window elements should be repaired or replaced with in-kind materials. If any of the sashes require replacement, the new sashes should match the existing design and materials of the existing sashes. Deteriorated paint finishes should be prepared, primed, and painted.
- The dormer windows including the pilasters, wooden casings, segmental arched pediments with copper roofing, and related elements should be stabilized and maintained. Damaged or missing window elements should be repaired or replaced with in-kind materials. If any of the sashes require replacement, the new sashes should match the existing design and materials of the existing sashes. Deteriorated paint finishes should be prepared, primed, and painted.
- The windows in the first, second, and attic stories have combination storm windows that are in fair to poor condition. During any subsequent rehabilitation and adaptive use of the building, the storm windows can be

replaced with new storm windows that fit in the same manner as the current storms. Alternately the existing storm windows could be removed and interior storm windows could be installed.

### *Porches*

- The historic elements of the front porch should be repaired and stabilized to ensure their preservation. Damaged or missing wooden elements should be repaired or replaced with in-kind materials. Deteriorated paint finishes should be prepared, primed, and painted in an effort to preserve the historic materials.
  - The brownstone steps and piers should be stabilized. The steps are in good condition except for the bottom step to Quarters No. 5, which could be either reset or replaced in kind.
  - The wooden columns and balustrade need to be repaired, and some elements need to be replaced. Damaged or missing elements should be replaced with in-kind materials that are similar to the historic design.
  - The molded cornice and scroll-cut brackets may require repairs, which should also be done in kind.
  - The tongue-and-groove board ceiling should be repaired and replacement should be done with in-kind materials.
  - The copper roof should be repaired to prevent leaking. If feasible, copper roofing should be used, but rubber membrane may be allowed if approved by S-106 review.

### *Roofs and Related Elements*

- The mansard roof is a double-pitched hipped roof that is characteristic of the Second Empire style and should be stabilized and maintained. The patterned

gray slates on the lower portion of the roof are historic and should be retained. Repairs and replacement of slates should be done with in-kind materials.

- The wooden elements of the mansard roof including the lower cornice with integral gutter system, the upper cornice, and wooden trim at the corners of the hips should be stabilized and maintained. Damaged or missing wooden elements should be repaired or replaced with in-kind materials. Where the paint finishes are deteriorated, the woodwork should be prepared, primed, and painted in an effort to preserve the historic materials.
- The four brick chimneys on the main block roof are historic and should be repaired and stabilized. If the chimneys need to be rebuilt the brick and brownstone should be salvaged and reused. If replacement bricks are needed they should match the color, size, shape, and strength of the existing brick. New mortars used for both repointing and rebuilding the chimneys should match the historic mortars, and replicate the color, strength, and overall appearance of those mortars.

## Interior Elements

### *Plan*

- The existing plan, room sizes, and room arrangement, especially in the main block, conveys the historic appearance of Building No. 5 & 6. Efforts should be made to preserve the historic plan during the stabilization and any subsequent rehabilitation and reuse of the building. The partition walls in the main block should not be significantly altered or removed during the rehabilitation. Interior walls may need to be altered to

accommodate ADA-compliant access and facilities. If feasible those changes should be minimized (see subsequent section “Accessibility”).

## *Floors*

- The exposed wooden floors on the first story, second story, and attic of Building No. 5 & 6 should be preserved, especially the floors in Rooms 6/101–6/104. These floors convey the historic appearance and are an important part of the historic character. They are in fair to good condition and should be refinished during any subsequent rehabilitation. The existing vinyl floors throughout the building may also cover wooden floors. If feasible, the vinyl flooring should be removed and the historic wooden floors should be restored. Damaged or missing wooden elements should be repaired or replaced with in-kind materials.

## *Walls*

- The brick partition walls in the basement, and the center brick partition on all stories of the building should be preserved during the stabilization and subsequent rehabilitation of Building No. 5 & 6. These walls are part of the structural system and should not be significantly altered or removed during stabilization and rehabilitation. Repairs to the brick walls should be done with mortars that are compatible with the existing materials.
- The intact plaster walls on the first, second, and attic stories of the main block of the building should be stabilized and repaired. Many of the walls are cracked and sections of the plaster walls are failing. If feasible, the existing plaster should be retained and any repairs should

be done with in-kind materials. If plaster repairs and replacement are not feasible, walls can be repaired with skim-coated gypsum board that resembles the historic appearance. Any new walls can also be constructed with skim-coated gypsum board.

- The historic baseboards found throughout the building and the historic wainscoting and related trim in Rooms 6/104 and 6/205 should be preserved during the stabilization and subsequent rehabilitation of the building. Damaged or missing wooden elements should be repaired or replaced in kind. Where the paint finishes are deteriorated, the woodwork should be prepared, primed, and painted in an effort to preserve the historic materials.

## *Ceilings*

- The ceiling heights throughout the main block of Building No. 5 & 6 are representative of the historic ceiling heights, despite the addition of acoustic tiles in many rooms. The height of the ceilings is character-defining and should be preserved. The stabilization and any subsequent rehabilitation of the building should not include the installation of ceiling panels or drop ceilings, which would alter the height of the historic ceilings.
- Any intact plaster ceilings on the first, second, and attic stories of the main block of the building should be stabilized and repaired. Many of the ceilings are covered with acoustic tiles, and the plaster is cracked and failing. Where the plaster ceilings are stable they should be retained, and any repairs should be done with in-kind materials. If plaster repairs and replacement are not feasible, ceilings can be repaired with skim-coated gypsum board that resembles the historic

appearance. The stabilization and rehabilitation of the building should remove acoustic ceiling tiles and repair those ceilings with new plaster or skim-coated gypsum board.

- The sections of historic cornice in Rooms 6/201 and 6/203 should be retained. Deteriorated paint finishes should be properly prepared, primed, and painted.

### *Doorways*

- The interior doorway casings, doors, and related elements that were identified as historic, including the front doorways, should be preserved. Damaged or missing wooden elements should be repaired or replaced with in-kind materials. Where the paint finishes are deteriorated, the woodwork should be prepared, primed, and painted in an effort to preserve the historic materials. The existing doorways should not be altered during the stabilization and rehabilitation of the building. If necessary, it may be feasible to enlarge certain doorways during the rehabilitation to improve ADA access and circulation, which should be reviewed on a case-by-case basis. Any doorways that are enlarged should use casings that match the historic casings in that particular room.

### *Windows*

- The interior window elements throughout the first story, second story, and attic of Building No. 5 & 6 should be rehabilitated and maintained. This includes the casings, sashes, and related trim, as well as the elements of the bay windows in Room 5/104 and 6/104. The repair and rehabilitation of the historic window elements should be done with in-kind materials. If necessary, sash cords

and hardware should also be replaced in kind. Where the paint finishes are deteriorated, the woodwork should be prepared, primed, and painted in an effort to preserve the historic materials.

### *Staircases*

- The extant interior staircases and related elements in the main block of Building No. 5 & 6 including the remaining basement stairs, first-story stairs in both the front and back halls, second-story stairs in the front and back halls, and attic stairs should be stabilized and rehabilitated. The rehabilitation and repair of the staircase elements should be done with in-kind materials. Missing elements should be replaced in kind or with period-appropriate materials. Any woodwork with deteriorated paint finishes should be prepared, primed, and painted in an effort to preserve the historic materials. None of the extant historic staircase should be removed unless there are extensive structural issues and they cannot be brought up to code compliance. In that case, replacement stairs should strive to replicate the design of the historic stairs.

## Accessibility

Compliance with ADA accessibility requirements should be planned as part of any subsequent rehabilitation and reuse of Building No. 5 & 6. Since the building is included in the National Register of Historic Places Nomination for the Springfield Armory, by ADA definition, it qualifies as a historic building.<sup>142</sup> It is recommended that the requirements for an ADA-compliant building be reviewed. Additionally, the

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<sup>142</sup> <http://www.access-board.gov/adaag/about/index.htm>

feasibility of alternate access routes to the building, and alternatives for interior accessibility and facilities should be studied. The following recommendations should help guide the placement of ADA-accessible facilities at the Building No. 5 & 6.

- The building should have at least one accessible route from an ADA-compliant parking space or spaces into the building. There are currently handicap-access parking spaces on the east side of the Arsenal Building (northwest of Building No. 5 & 6). Additional parking spaces could be created closer to Building No. 5 & 6. The route from these parking spaces to the building is direct and could access an ADA-compliant entrance on the front or back of the building. An ADA-accessible route should include accessible sidewalks, an access ramp or lift to the first story of the building, and an ADA-compliant entrance and doorway. The existing sidewalk from the parking area is in good condition and may meet code requirements. The requirements for an ADA-compliant access route should be reviewed, and alternate routes to the building should be considered.
- One option for an ADA-compliant access route could be planned through either of the front doorways (D101 or D102) allowing access to the first story of Building No. 5 & 6. An access ramp with could be constructed from the existing sidewalk northwest of the building and incorporated into the front porch. The ramp would have to rise above the existing floor level of the porch to reach the doorway threshold. Either of the front doorways could be made ADA compliant to allow access to the first story of the building.
- Compliance with ADA regulations requires the installation of an accessible restroom. The construction of any restrooms should be accomplished with the least amount of alterations to historic elements as possible. One possible location for an accessible restroom would be in the location of the existing first story restroom (Room 5/106a). The restroom could be expanded to incorporate part of Room 5/106 in order to meet the ADA clearance requirements. It may be necessary to widen doorways and hallways to provide an accessible route to the new ADA-compliant restroom. Based on the national plumbing code, it may be necessary to provide one male and one female ADA-accessible toilet. If that is the case, options for another restroom in the one-story ell of the building should be considered. However, one unisex accessible toilet may be accepted with a variance. The number of toilets is based on occupancy load.
- The adaptive use of Building No. 5 & 6 may include public meeting and office spaces. Access would need to be provided to the second story, or an accessible office would need to be created on the first story. If public meeting spaces are included in the second story, accessible routes to the second story would be required. The installation of a Limited Use Limited Access (LULA) elevator in Room 5/107 could provide access to the second story of the building. Though Room 5/107 currently serves as access to Room 5/105, access to Room 5/105 could be created through the former window niche in the northeast wall of Room 5/104. The alternative of installing a lift on either of the historic front staircases would impact those CDFs and is not recommended. It is therefore recommended that an accessible office be created on the first story of the building, and if possible, public meeting spaces should be limited to the first story.
- If the installation of ADA-compliant entrances, offices, and restrooms should require alterations to the doorways, walls,

ceilings, trim and/or related elements, the replacement elements should be constructed to replicate the appearance of the historic elements.

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# **GLOSSARY**

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**Brick Bonds and Terminology:**

**Stretcher (running) bond:** in masonry, a bond in which bricks or stones are laid lengthwise; all courses are laid as stretchers with the vertical joints of one course falling midway between those of the adjacent courses.<sup>143</sup>

**Common bond:** a pattern of brickwork in which every third, fifth, sixth, or seventh course consists of headers and the other courses consist of stretchers.<sup>144</sup>

**Stacked bond:** in brickwork, a pattern bond; the facing brick is laid with all the vertical joints continuously aligned. The brick is bonded to the backing by metal ties.<sup>145</sup>

**Garden wall cross bond:** in brickwork, a bond in which a course of headers alternates with a course consisting of a header followed by three stretchers.<sup>146</sup>

**Flemish bond:** A brick pattern in which each course consists of headers and stretchers that are laid alternately; each header is centered with respect to the stretchers above and below it.<sup>147</sup>

**Soldier course:** a row of bricks in which each brick is laid on its end, with the narrower face showing on the wall surface.<sup>148</sup>

**Rowlock:** a brick (or row of bricks) laid on its end so that its end is visible.<sup>149</sup>

Diagram 1:<sup>150</sup>

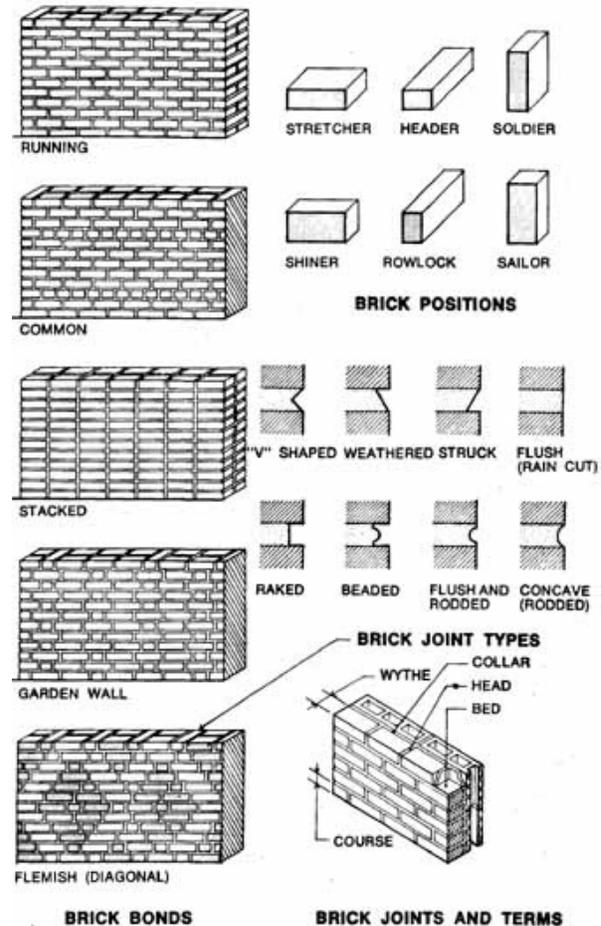
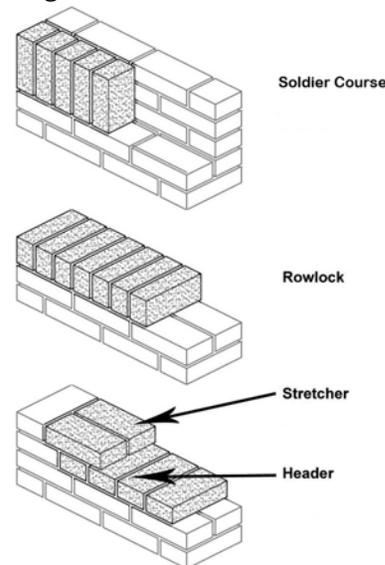


Diagram 2:<sup>151</sup>



<sup>143</sup> Harris, 953.

<sup>144</sup> Harris, 235.

<sup>145</sup> Harris, 930.

<sup>146</sup> Harris, 453.

<sup>147</sup> Harris, 416.

<sup>148</sup> Harris, 909.

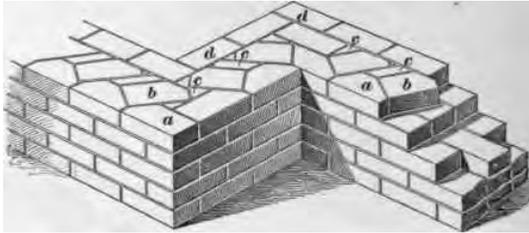
<sup>149</sup> Harris, 835.

<sup>150</sup> <http://www.crsupport.us/images>

<sup>151</sup> <http://buildipedia.com/images>

**Diagonal bonding:** the front brick is cut at angles (a); the bonding brick laid diagonally (b); different-shaped bats are laid to form the closers of the bond brick (c); and there is an inside course of stretchers (d).

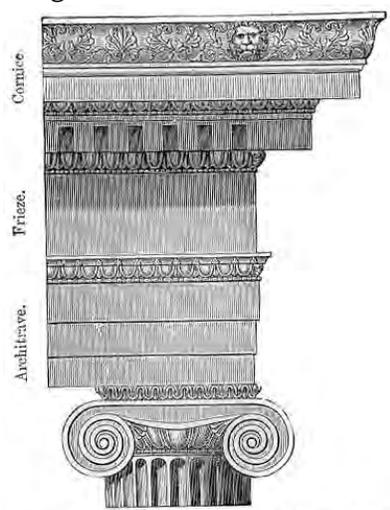
Diagram:<sup>152</sup>



**Molding Terminology:**

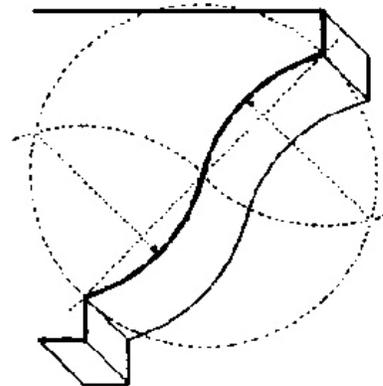
**Entablature: 1.** In Classical architecture and its derivatives, an elaborate horizontal band and molding supported by columns; horizontally divided into three basic elements: architrave (the lowest member), frieze (the middle member), and cornice (the uppermost member). **2.** Any similar construction that crowns a wall, window, or doorway.<sup>153</sup>

Diagram:<sup>154</sup>



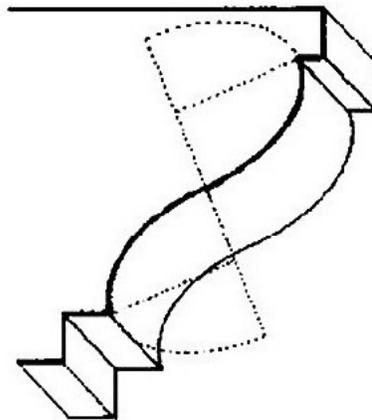
**Cyma-recta or ogee:** a molding of double curvature that is concave at the outer edge and convex at the inner edge.<sup>155</sup>

Diagram:<sup>156</sup>



**Cyma-reversa or reverse ogee:** a molding of double curvature that is convex at the outer edge and concave at the inner edge.<sup>157</sup>

Diagram:<sup>158</sup>



<sup>152</sup> The Colliery Engineer Co. "A Treatise On Architecture And Building Construction, Vol. 2: Masonry. Carpentry. Joinery," 1899.

<sup>153</sup> Harris, 370.

<sup>154</sup> [http://www.bc.edu/bc\\_org/avp/cas/fnart/arch/greek/entablat](http://www.bc.edu/bc_org/avp/cas/fnart/arch/greek/entablat).

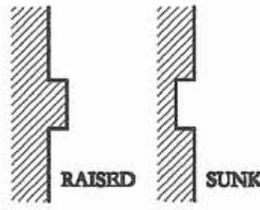
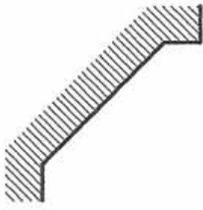
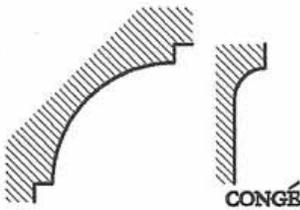
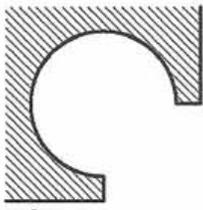
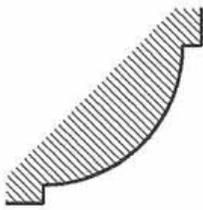
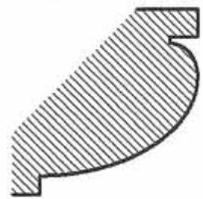
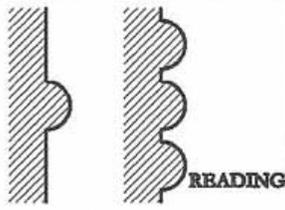
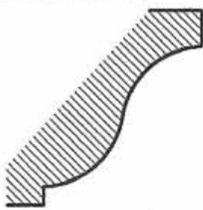
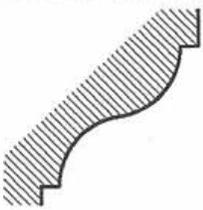
<sup>155</sup> Harris, 293.

<sup>156</sup> <http://www.traditionalbuilding.com>

<sup>157</sup> Harris, 293.

<sup>158</sup> <http://www.traditionalbuilding.com>

Classical Molding Profiles Diagram:<sup>159</sup>

PLANE SURFACES	 <p>RAISED SUNK FILLET</p>	 <p>FASCIA</p>	 <p>SPLAY</p>
CONCAVE	 <p>CAVETTO CONGÉ</p>	 <p>SCOTIA</p>	 <p><math>\frac{3}{4}</math> HOLLOW</p>
CONVEX	 <p>OVOLO</p>	 <p>TORUS</p>	 <p><math>\frac{3}{4}</math> ROUND</p>
CONVEX	 <p>GREEK ECHINUS</p>	 <p>THUMB</p>	 <p>READING BEAD</p>
COMPOUND	 <p>CYMA RECTA</p>	 <p>CYMA REVERSA</p>	 <p>BEAK</p>
<p>MOULDING PROFILES BY GEOMETRY</p> <p>CLASSICAL PRIMER</p> <p>BRANDWEIN, A.L.A. Revised by M. GUNNISON COLLINS</p> <p>Institute of Classical Architecture &amp; Classical America</p>			

<sup>159</sup> <http://www.classicist.org/publications-and-bookshop/handbook/moldings/>

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# APPENDICES

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## APPENDIX A

**“Estimated cost of erecting New Officers Quarters.”<sup>160</sup>**

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<sup>160</sup> Fitts, “Estimated cost of erecting New Officers Quarters,” July 12, 1869; Reports to Commanding Officers, Entry 1385, RG 156; NARA Northeast Region (Waltham, MA).

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- Fitts -  
Estimate Cost of Erecting  
New Officers Quarters -  
Copy sent to Ordnance Office  
July. 12 1869.

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Estimated Cost of New Officers Quarters

to be completed in the year ending March 31, 1969.

Underpinning Stone and Water Table including Wooden caps & Sills	1350 00
200 thousand Brick Laid @ \$18.00	3600 00
10 thousand feet of Range Trench @ \$27.00 Roof Boarding	486 00
2000 Sq. feet Tin Roofing @ 15.00	200 00
14 Sq. Slate @ \$20 per sq	280 00
front Piazza complete	500 00
2 Bay Windows	300 00
Window frames & Sash	700 00
8 Chimney Piers with grates	300 00
Doors & Blinds	400 00
Lath & Plastering	864 00
Window Glaz	56 00
Plumbing	1100 00
End Throughs & Conductors	200 00
2 Cooking Ranges	200 00
2 Hot air furnaces	300 00
Stair Building	550 00
Window & Door Finishing	75 00
Stone Steps (front & Rear)	350 00
Carpenter & Painters work	2800 00
	14951 00

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## APPENDIX B

**“Proposals for Plumbing New Quarters for Officers.”<sup>161</sup>**

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<sup>161</sup> “Proposals for Plumbing New Quarters for Officers,” July 28, 1869; Reports to Commanding Officers, Entry 1385, RG156; NARA Northeast Region (Waltham, MA).

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A. C. M. Knight - Hon

Lawrence & Co

Goodhue

Plumber

Proposals for Plumbing  
New Quarters for Officers  
1869

## Description of Plumbing for New Quarters

The water is to be taken into the house from the North side of cellar and carried directly to the attic through  $1\frac{1}{4}$ " pipe, of the best quality, to weigh not less than  $4\frac{3}{4}$  pounds per foot, and supply two water tanks. These tanks will have floating valves, and are to be 3 feet wide 5 ft. deep & 4 ft. 6" long, and lined with sheet lead,  $\frac{6}{8}$  pounds per square foot. From the tanks the water is to be taken to supply the houses. There are to be 2 Bath tubs  $5\frac{1}{2}$  ft. long with 2 water closets and 2 wash basins in the rooms directly under the ~~tanks~~ <sup>rooms directly tanks</sup> to be made complete with all necessary traps, cocks, marble slabs &c; also 6 wash basins in the Chambers, to be plumbed for hot and cold water, and made complete with Stebbins' best silver plated basin cocks, and best marble slabs. In the two China closets on the first floor there is to be a copper basin furnished with Stebbins' best silver plated cocks &c and marble slabs. In the basement there are to be 2 Copper boilers with all necessary fixtures to supply hot water to all the basins, sinks, wash tubs &c. In each tenement, all of the materials is to be of the best quality, all of the lead pipe to be above medium weight, and the work to be done in a thorough manner and complete in all its parts, Satisfactory to the Officer in Command.

Proposed to Plumber -

Sealed proposals to be made, endorsed,  
"Proposal for plumbing New Quarters"  
and to be delivered, or before Aug. 5, 1869

Master Carpenter Fitts will furnish any  
information desired.

Proposal will be made for the material,  
and labor, separately, and also as a whole.

Proposal will also state whether, Copper, or  
Galvanized Iron boiler, with the price for each.

National Army  
Springfield Mass  
July 28, 1869.

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## APPENDIX C

Correspondence from Lt. Col. J. G. Benton to Brig. Gen. Stephen V. Benét, Chief of Ordnance, proposing additions to Building No. 5 & 6 (fig. 73).<sup>162</sup>

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<sup>162</sup> Benton to Brig. Gen. Benét, May 12, 1875, Letters Sent to Chief of Ordnance 1836–1895, Vol. 9 of 20, Entry 1354, RG 156; NARA Northeast Region (Waltham, MA).

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341

National Armory, Springfield, Mass.

May 12<sup>th</sup> 1875-

Chief of Ordnance, U. S. A.

Washington, D. C.

Sir: I have the honor to forward herewith drawings of a proposed addition to the new officers quarters at this post. The addition is the same for each set of quarters, and it is estimated to cost for both \$2200. which I would propose to have defrayed out of the appropriation for Springfield Armory 1876, The object of the addition is to enlarge the parlors, which are now altogether too small for the convenience of the occupants

Yours obedt servt.

(Signed) J. G. Benton

Lt. Col. Comdg.

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## APPENDIX D

Springfield Armory Historical Record, Building No. 5 & 6.<sup>163</sup>

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<sup>163</sup> Springfield Armory, Massachusetts, Historical Record, Building No. 5 & 6, June 30, 1921 through June 30, 1942; SPAR Archives Collection.

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O.O. Form 5972-A  
 Modified S.A.  
 SPRINGFIELD ARMORY, MASS.  
 HISTORICAL RECORD  
 BUILDINGS.  
 BUILDING NO. 5&6.

Place <u>Armory Square.</u>	Designation <u>Quarters 5&amp;6.</u>	Original Cost <u>\$22,000.00</u>	Date Completed <u>1870</u>
Description:-			
Walls <u>Brick.</u>	Foundation <u>Brick.</u>	Number of stories <u>3</u> (includes attic).	
Roof <u>Slate.</u>	Floors <u>Wood.</u>		
Dimensions <u>Main part 46' x 46'.</u>		Total floor area (above basement) <u>5490 Sq.Ft.</u>	
<u>Annex 27' x 35'.</u>		" " (basement) <u>2517 " "</u>	
		" roof " <u>2327 " "</u>	
		" " (porch & annex) <u>1770 " "</u>	
How lighted <u>Electricity.</u>		Appraised value <u>\$35,000.00</u>	
How heated <u>Steam.</u>		(0.0.682/1188, 10-18-30)	
Water connections <u>Yes.</u>			
Sewer " <u>Yes.</u>			
S.A. Drawings Nos. <u>6055</u>	Cubical Content <u>68,200 cu. ft.</u>		

Above data as of June 30, 1930.

BUILDING FIXTURES, ETC. 1930.

	#5	#6	#5	#6	#5	#6	#5	#6	Date or Fiscal Year.	Cost of Repairs.	Cost plus Betterments.
Awnings.	3	0							June 30, 1921	\$ 518.11	\$22,000.00
Bath, shower, (tub).	1	0							, 1922	408.00	
" " (built-in).	0	0							, 1923	702.72	
Blinds, outside, (prs.)	0	0							, 1924	236.23	
Cooler, water, w/tank conn.	0	0							, 1925	678.61	
Doors, storm.	0	0							, 1926	994.47	
Fire-places.	4	4							, 1927	412.15	
Heaters, water, gas.	1	1							, 1928	584.14	
" " , steam.	1	1							, 1929	896.55	
Meters, gas.	1	1							, 1930	682.52	
" , elec.	1	1									\$22,000.00
" , steam	1	1									

BUILDING FIXTURES, ETC.	1930.						Date or Fiscal Year.	Cost of Repairs.	Cost plus Betterments.
	#5	#6	#5	#6	#5	#6			
Radiators, steem.	2	4							
Range, coal.	0	0							
" , gas.	1	1							
Receptacles, elec., sockets.	34	39							
" , " , plug-in.	7	8							
Refrigerators, permanent.	1	1							
Sash, storm.	0	0							
Screen, door.	2	3							
" , window.	33	33							
Shades, window.	37	37							
Shutters, window, (prs.)	8	7							
Sinks, kitchen.	1	1							
" , slop.	0	0							
" , wash	6	5							
Stove, laundry.	0	0							
Tank, hot water, storage.	1	1							
Tubs, bath.	3	3							
Tubs, laundry, (sections).	3	3							
Urinals.	0	0							
Water-closets.	3	3							
Windows, storm.	0	0							

Springfield Armory, Massachusetts

BUILDINGS

BUILDING NO. 5 & 6  
SHEET NO. 1

Historical Record

As of June 30th, 1932

QUARTERS NO. 5 AND 6

Place Armory Square

Description of Building

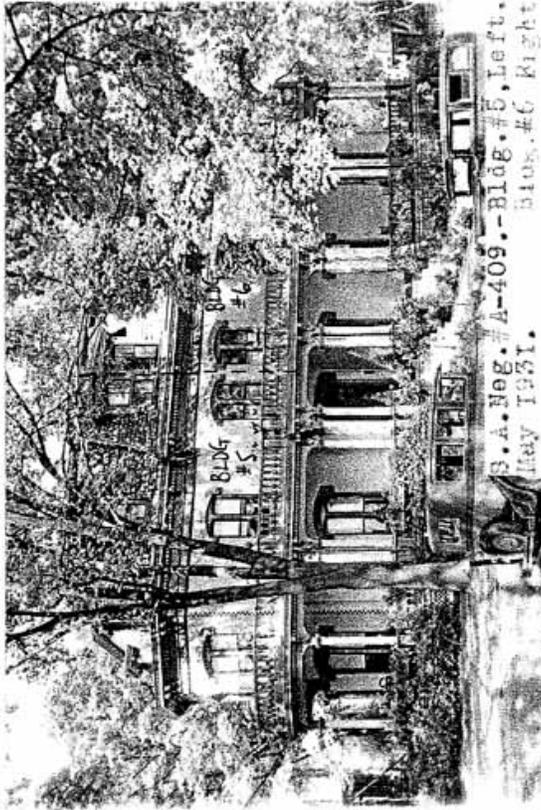
Walls Brick  
Foundation Brick  
Floors Wood  
Roof Slate

Dimensions of Building

Main Bldg. 46' x 46'  
Wing 27' x 35'  
Wing  
Wing

Roof Area, sq ft.

Main Bldg. 2327  
Porch & Annex 1770



S. A. Neg. # A-409. - Bldg. #5, Left. Bldg. #6 Right. May 1931.

ASST. OFFICERS QUARTERS

Cubical Contents, Cu. ft.  
Total 68,200

Drawing Reference

S. A. 6055  
S. A.

How heated Steam  
How lighted Electricity

DATE OF COMPLETION AND COST

Original Bldg. 1870  
Addition 1931-1933 \$200.00  
Addition

Floors and Area, sq. ft.

Basement 2517  
1st floor 2536  
2nd floor 1502  
3rd floor 1452

Total

8007

Water connections Yes  
Sewer connections Yes  
Gas connections Yes

Cost  
\$22,000.00  
\$22,200.00

Repairs Previously Expended

\$

Year ending June 30  
1932 \$ 1,373.44  
1933 668.70  
1934  
1935  
1936  
1937  
1938

APPRaised VALUE  
(0.0.662/1188, 10-18-30)  
\$ 25,000.00



U.S. GOVERNMENT PRINTING OFFICE: 1919  
 Building Fixtures & Parts of Systems  
 Building No. 6  
 Sheet No. 1

SPRINGFIELD ARMORY, MASS.  
 HISTORICAL RECORD

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1932	1933	1934	1935	1936
Box, mail		1	1			
Heater, water, gas		1	1			
Heater, water, steam		1	1			
Meter, electric		1	1			
Meter, gas		1	1			
Meter, steam		1	1			
Radiator, steam		4	4			
Range, gas (A.A.)		1	1			
Receptacle, electric light. (socket)		39	39			
Receptacle, electric light. (plug-in)		8	8			
Refrigerator, permanent		1	1			
Screen, door		3	3			
Screen, window		33	33			
Shade, window		39	39			
Sink, kitchen		1	1			
Sink, wash		5	5			
Tank, hot water, storage		1	1			
Telephone		1	1			
Tub, bath		3	3			
Tub, laundry, 3 section		1	1			
Watercloset		3	3			
Necessary lighting conduit, including: wiring, fittings, connections, fixtures, etc.		1	1			
Necessary piping, gas, including: Valves, fittings, connections, etc.		1	1			
Necessary piping, sewer, including: Trays, fixtures, etc.		1	1			
Necessary piping, steam heat, including: Valves, fittings, connections, etc.		1	1			
Necessary piping, water, including: Valves, fittings, connections, etc.		1	1			

# Springfield Armory, Massachusetts

BUILDINGS

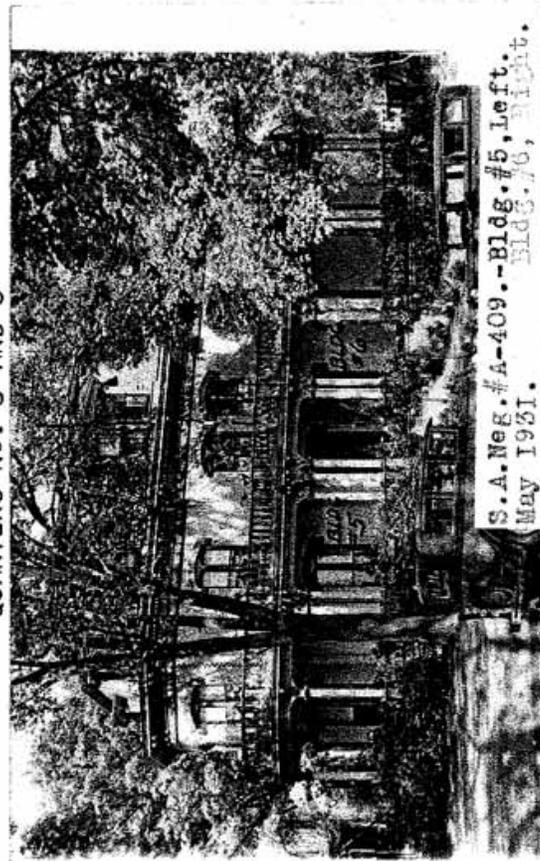
17

## Historical Record

BUILDINGS NO. 5 & 6  
SHEET NO. 1

As of June 30th, 1932

QUARTERS NO. 5 AND 6



Place **Armory Square**

Description of Building

Walls **Brick**  
Foundation **Brick**  
Floors **Wood**  
Roof **Slate**

Dimensions of Building

Main Bldg. **46' x 46'**  
Wing **27' x 35'**  
Wing  
Wing

Roof Area, sq ft.

Main Bldg. **2327**  
**Porch & Annex 1770**

Cubical Contents, Cu. ft.

Total **68,200**

Drawing Reference

S. A. **6055**  
S. A.

How heated **Steam**  
How lighted **Electricity**

DATE OF COMPLETION AND COST

Date  
Original Bldg. **1870**  
Addition **1931-1933**  
Addition

**\$200,000**

Floors and Area, sq. ft.

Basement **2517**  
1st floor **2536**  
2nd floor **1502**  
3rd floor **1452**  
**Total 8007**

Water connections  
Sewer connections  
Gas connections

**Yes**  
**Yes**  
**Yes**

Cost

**\$22,000.00**  
**\$22,200.00**

Repairs  
Previously Expended

\$

Year ending June 30,  
1932 **\$ 1,373.44**  
1933 **668.70**  
1934 **656.62**  
1935 **829.10**  
1936 **820.17**  
1937 **528.51**  
1938 **485.44**

APPRaised VALUE

**(0.0.682/1198, 10-18-30)**  
**\$ 35,000.00**

ASST. OFFICERS QUARTERS

S. A. Neg. #A-409. - Bldg. #5, Left. Bldg. #6, Right. May 1931.

SPRINGFIELD ARMORY, MASS.  
 Building Fixtures & Parts of Systems  
 Building No. 5  
 Sheet No. 1

HISTORICAL RECORD

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1932	1933	1934	1935	1936
Awning		3	3	3	3	3
Box, mail		1	1	1	1	1
Heater, water, gas (inc tank-Quartermaster)		1	1	1	1	1
Heater, water, steam		1	1	1	1	1
Meter, electric		1	1	1	1	1
Meter, gas		1	1	1	1	1
Meter, steam		1	1	1	1	1
Radiator, steam		2	2	2	2	2
Range, gas (Q.M.)		1	1	1	1	1
Receptacle, electric light (socket)		34	34	34	34	29
Receptacle, electric light (plug-in)		7	7	7	7	7
Screen, door		2	2	2	2	2
Screen, window		33	33	33	33	33
Shade, window		36	36	36	36	38
Sink, kitchen		1	1	1	1	1
Sink, wash		6	6	6	6	5
Tank, hot water, storage		1	1	1	1	0
Telephone		1	1	1	1	1
Tub, bath		3	3	3	3	3
Tub, laundry 3 section		1	1	1	1	1
Watercloset		3	3	3	3	3
Necessary lighting conduit, including: Wiring, fittings, connections, fixtures, etc.						
Necessary, piping, gas, including: Valves, fittings, connections, etc.						
Necessary piping, sewer, including: Traps, fixtures, etc.						
Necessary piping, steam heat, including: Valves, fittings, connections, etc.						
Necessary piping, water, including: Valves, fittings, connections, etc.						

**SPRINGFIELD ARMORY, MASS.**  
**HISTORICAL RECORD**

S. A. 6-L-34. 1000

Building Fixtures &  
Parts of Systems

Building No. 5  
Sheet No. 2

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1932	1933	1934	1935	1936
Bar, towel Holder, tumbler Holder, tooth brush Dish, soap Holder, toilet pa						4 2 2 1 2

U.S. ARMY  
Building Fixtures &  
Parts of Systems

SPRINGFIELD ARMORY, MASS.

HISTORICAL RECORD

Building No. 5  
Sheet No. 1-A

As of June 30th.

1937 1938 1939

1938  
Adj.

ARTICLES	SYSTEM SYMBOL	1937				1938				1939				1940				1941				1942				1943				1944				1945				1946			
		3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1	3	1	1	1
Awning																																									
Box, mail																																									
Heater, water, gas (incl. tank-Quartermaster)																																									
Heater, water, steam																																									
Heater, electric																																									
Meter, gas																																									
Meter, steam																																									
Radiator, steam																																									
Range, gas (Q.M.)	SHH																																								
Receptacle, electric light (socket)	PLH																																								
Receptacle, electric light (plug-in)	PLH																																								
Screen, door																																									
Screen, window																																									
Shades, window																																									
Sink, kitchen																																									
Sink, wash																																									
Tank, hot water, storage																																									
Telephone																																									
Tub, bath																																									
Tub, laundry, 3 section																																									
Watercloset																																									
Necessary lighting conduit, including:																																									
Wiring, fittings, connections, fixtures, etc.																																									
Necessary piping, gas, including:																																									
Valves, fittings, connections, etc.																																									
Necessary piping, sewer, including:																																									
Traps, fixtures, etc.																																									
Necessary piping, steam heat, including:																																									
Valves, fittings, connections, etc.																																									
Necessary piping, water, including:																																									
Valves, fittings, connections, etc.																																									

SPRINGFIELD ARMORY, MASS.

Building Fixtures &  
Parts of Systems

HISTORICAL RECORD

Building No. 5  
Sheet No. 1-B

As of June 30th.

ARTICLES	1938				SYSTEM SYMBOL	1936				
	1937	1938	1938 Adj.	1938		1935	1936	1936	1936	
Bar, towel		4		4						
Bath room		2		2						
Holder, tumbler		2		2						
Holder, tooth brush		1		1						
Dish, soap		2		2						
Holder, toilet paper		1		1						
Fixture, ceiling, electric light		2		2						
Thermostat w/electric clock controlling		1		1						
1-1/2" motorized steam valve		1		1						

S. A. Form Ms-B

SPRINGFIELD ARMORY, MASS.  
 HISTORICAL RECORD  
 CHRONOLOGICAL

Building No. 5.....

sheet #1

Quantity	Description	Voucher No.	Date	Upkeep	Additions, Betterments, Losses	Total Expenditures	Value
1	1/2 doz. ...	12	9-12-35	-			
1	1 doz. ...	15	9-26-35	-			
1	1 doz. ...	12	9-11-35	(7.00)			
1	1 doz. ...						
1	1 doz. ...						
5	5 doz. ...	#19	10-14-35	7.65			
4	4 doz. ...	#25	12-2-35	1.90			
2	2 doz. ...	"	"	.48			
1	1 doz. ...	"	"	.85			
2	2 doz. ...	#76	2-23-35	3.40			
1	1 doz. ...	"	12-14-35	.48			
1	1 doz. ...	#37	1-24-36	.67	EXPENSE		
1	1 doz. ...	#38	1-2-36				
1	1 doz. ...						
1	1 doz. ...						
26	26 doz. ...	#79	5-21-37	44.50			
1	1 doz. ...	M 81	9-17-37	11.17			
1	1 doz. ...	M 82	"		11.50		
1	1 doz. ...	M 82	"		6.256		
1	1 doz. ...	M 82	"		90.00		
1	1 doz. ...	M 82	6-25-37				

**SPRINGFIELD ARMORY, MASS.  
HISTORICAL RECORD  
CHRONOLOGICAL**

Building No .....5.....

sheet #2

Quantity	Description	Voucher No.	Date	Upkeep	Additions, Betterments, Losses	Total Expenditures	Value
14	Repairs of assemblies, 1427-1438 (see p 14 also, electric light (socket) 2515-31 no 4226 no 4227 no 4228 no 4229 no 4230 no 4231 no 4232 no 4233 no 4234 no 4235 no 4236 no 4237 no 4238 no 4239 no 4240 no 4241 no 4242 no 4243 no 4244 no 4245 no 4246 no 4247 no 4248 no 4249 no 4250 no 4251 no 4252 no 4253 no 4254 no 4255 no 4256 no 4257 no 4258 no 4259 no 4260 no 4261 no 4262 no 4263 no 4264 no 4265 no 4266 no 4267 no 4268 no 4269 no 4270 no 4271 no 4272 no 4273 no 4274 no 4275 no 4276 no 4277 no 4278 no 4279 no 4280 no 4281 no 4282 no 4283 no 4284 no 4285 no 4286 no 4287 no 4288 no 4289 no 4290 no 4291 no 4292 no 4293 no 4294 no 4295 no 4296 no 4297 no 4298 no 4299 no 4300 no 4301 no 4302 no 4303 no 4304 no 4305 no 4306 no 4307 no 4308 no 4309 no 4310 no 4311 no 4312 no 4313 no 4314 no 4315 no 4316 no 4317 no 4318 no 4319 no 4320 no 4321 no 4322 no 4323 no 4324 no 4325 no 4326 no 4327 no 4328 no 4329 no 4330 no 4331 no 4332 no 4333 no 4334 no 4335 no 4336 no 4337 no 4338 no 4339 no 4340 no 4341 no 4342 no 4343 no 4344 no 4345 no 4346 no 4347 no 4348 no 4349 no 4350 no 4351 no 4352 no 4353 no 4354 no 4355 no 4356 no 4357 no 4358 no 4359 no 4360 no 4361 no 4362 no 4363 no 4364 no 4365 no 4366 no 4367 no 4368 no 4369 no 4370 no 4371 no 4372 no 4373 no 4374 no 4375 no 4376 no 4377 no 4378 no 4379 no 4380 no 4381 no 4382 no 4383 no 4384 no 4385 no 4386 no 4387 no 4388 no 4389 no 4390 no 4391 no 4392 no 4393 no 4394 no 4395 no 4396 no 4397 no 4398 no 4399 no 4400 no 4401 no 4402 no 4403 no 4404 no 4405 no 4406 no 4407 no 4408 no 4409 no 4410 no 4411 no 4412 no 4413 no 4414 no 4415 no 4416 no 4417 no 4418 no 4419 no 4420 no 4421 no 4422 no 4423 no 4424 no 4425 no 4426 no 4427 no 4428 no 4429 no 4430 no 4431 no 4432 no 4433 no 4434 no 4435 no 4436 no 4437 no 4438 no 4439 no 4440 no 4441 no 4442 no 4443 no 4444 no 4445 no 4446 no 4447 no 4448 no 4449 no 4450 no 4451 no 4452 no 4453 no 4454 no 4455 no 4456 no 4457 no 4458 no 4459 no 4460 no 4461 no 4462 no 4463 no 4464 no 4465 no 4466 no 4467 no 4468 no 4469 no 4470 no 4471 no 4472 no 4473 no 4474 no 4475 no 4476 no 4477 no 4478 no 4479 no 4480 no 4481 no 4482 no 4483 no 4484 no 4485 no 4486 no 4487 no 4488 no 4489 no 4490 no 4491 no 4492 no 4493 no 4494 no 4495 no 4496 no 4497 no 4498 no 4499 no 4500 no 4501 no 4502 no 4503 no 4504 no 4505 no 4506 no 4507 no 4508 no 4509 no 4510 no 4511 no 4512 no 4513 no 4514 no 4515 no 4516 no 4517 no 4518 no 4519 no 4520 no 4521 no 4522 no 4523 no 4524 no 4525 no 4526 no 4527 no 4528 no 4529 no 4530 no 4531 no 4532 no 4533 no 4534 no 4535 no 4536 no 4537 no 4538 no 4539 no 4540 no 4541 no 4542 no 4543 no 4544 no 4545 no 4546 no 4547 no 4548 no 4549 no 4550 no 4551 no 4552 no 4553 no 4554 no 4555 no 4556 no 4557 no 4558 no 4559 no 4560 no 4561 no 4562 no 4563 no 4564 no 4565 no 4566 no 4567 no 4568 no 4569 no 4570 no 4571 no 4572 no 4573 no 4574 no 4575 no 4576 no 4577 no 4578 no 4579 no 4580 no 4581 no 4582 no 4583 no 4584 no 4585 no 4586 no 4587 no 4588 no 4589 no 4590 no 4591 no 4592 no 4593 no 4594 no 4595 no 4596 no 4597 no 4598 no 4599 no 4600 no 4601 no 4602 no 4603 no 4604 no 4605 no 4606 no 4607 no 4608 no 4609 no 4610 no 4611 no 4612 no 4613 no 4614 no 4615 no 4616 no 4617 no 4618 no 4619 no 4620 no 4621 no 4622 no 4623 no 4624 no 4625 no 4626 no 4627 no 4628 no 4629 no 4630 no 4631 no 4632 no 4633 no 4634 no 4635 no 4636 no 4637 no 4638 no 4639 no 4640 no 4641 no 4642 no 4643 no 4644 no 4645 no 4646 no 4647 no 4648 no 4649 no 4650 no 4651 no 4652 no 4653 no 4654 no 4655 no 4656 no 4657 no 4658 no 4659 no 4660 no 4661 no 4662 no 4663 no 4664 no 4665 no 4666 no 4667 no 4668 no 4669 no 4670 no 4671 no 4672 no 4673 no 4674 no 4675 no 4676 no 4677 no 4678 no 4679 no 4680 no 4681 no 4682 no 4683 no 4684 no 4685 no 4686 no 4687 no 4688 no 4689 no 4690 no 4691 no 4692 no 4693 no 4694 no 4695 no 4696 no 4697 no 4698 no 4699 no 4700 no 4701 no 4702 no 4703 no 4704 no 4705 no 4706 no 4707 no 4708 no 4709 no 4710 no 4711 no 4712 no 4713 no 4714 no 4715 no 4716 no 4717 no 4718 no 4719 no 4720 no 4721 no 4722 no 4723 no 4724 no 4725 no 4726 no 4727 no 4728 no 4729 no 4730 no 4731 no 4732 no 4733 no 4734 no 4735 no 4736 no 4737 no 4738 no 4739 no 4740 no 4741 no 4742 no 4743 no 4744 no 4745 no 4746 no 4747 no 4748 no 4749 no 4750 no 4751 no 4752 no 4753 no 4754 no 4755 no 4756 no 4757 no 4758 no 4759 no 4760 no 4761 no 4762 no 4763 no 4764 no 4765 no 4766 no 4767 no 4768 no 4769 no 4770 no 4771 no 4772 no 4773 no 4774 no 4775 no 4776 no 4777 no 4778 no 4779 no 4780 no 4781 no 4782 no 4783 no 4784 no 4785 no 4786 no 4787 no 4788 no 4789 no 4790 no 4791 no 4792 no 4793 no 4794 no 4795 no 4796 no 4797 no 4798 no 4799 no 4800 no 4801 no 4802 no 4803 no 4804 no 4805 no 4806 no 4807 no 4808 no 4809 no 4810 no 4811 no 4812 no 4813 no 4814 no 4815 no 4816 no 4817 no 4818 no 4819 no 4820 no 4821 no 4822 no 4823 no 4824 no 4825 no 4826 no 4827 no 4828 no 4829 no 4830 no 4831 no 4832 no 4833 no 4834 no 4835 no 4836 no 4837 no 4838 no 4839 no 4840 no 4841 no 4842 no 4843 no 4844 no 4845 no 4846 no 4847 no 4848 no 4849 no 4850 no 4851 no 4852 no 4853 no 4854 no 4855 no 4856 no 4857 no 4858 no 4859 no 4860 no 4861 no 4862 no 4863 no 4864 no 4865 no 4866 no 4867 no 4868 no 4869 no 4870 no 4871 no 4872 no 4873 no 4874 no 4875 no 4876 no 4877 no 4878 no 4879 no 4880 no 4881 no 4882 no 4883 no 4884 no 4885 no 4886 no 4887 no 4888 no 4889 no 4890 no 4891 no 4892 no 4893 no 4894 no 4895 no 4896 no 4897 no 4898 no 4899 no 4900 no 4901 no 4902 no 4903 no 4904 no 4905 no 4906 no 4907 no 4908 no 4909 no 4910 no 4911 no 4912 no 4913 no 4914 no 4915 no 4916 no 4917 no 4918 no 4919 no 4920 no 4921 no 4922 no 4923 no 4924 no 4925 no 4926 no 4927 no 4928 no 4929 no 4930 no 4931 no 4932 no 4933 no 4934 no 4935 no 4936 no 4937 no 4938 no 4939 no 4940 no 4941 no 4942 no 4943 no 4944 no 4945 no 4946 no 4947 no 4948 no 4949 no 4950 no 4951 no 4952 no 4953 no 4954 no 4955 no 4956 no 4957 no 4958 no 4959 no 4960 no 4961 no 4962 no 4963 no 4964 no 4965 no 4966 no 4967 no 4968 no 4969 no 4970 no 4971 no 4972 no 4973 no 4974 no 4975 no 4976 no 4977 no 4978 no 4979 no 4980 no 4981 no 4982 no 4983 no 4984 no 4985 no 4986 no 4987 no 4988 no 4989 no 4990 no 4991 no 4992 no 4993 no 4994 no 4995 no 4996 no 4997 no 4998 no 4999 no 5000	101495 97	6-30-38 4-2-40	4 261.60	25.27		
	Fixtures, recorded as receptacles, electric light (socket) as listed in Hist. Record. as of June 30, 1938, on April 2, 1940.						
	Fixtures, recorded as receptacles, electric light (socket) as listed in Hist. Record. as of July 1, 1938, on October 1, 1937, in F.Y. 1937, Historical Record. shows balance of 29 as of June 30, 1937, inventory records figure of 41 sockets as of July 1, 1938.						
2	5, 4, Wash J. & I. 38-39	241	6-30-38		25.00		
1	meter, steam J. & I. 38-39	241	6-30-38		10.75		
3	Applng	250	5-28-41		5.37		
7	Radiator, Steam	250	5-28-41		25.00		
2	Receptacle, electric light (socket)	250	5-28-41		.79		
22	Receptacle, electric light (plug-in)	250	5-28-41		8.58		
1	Screen, Door	250	5-28-41		3.50		
26	Shades, Window	250	5-28-41		36.46		
1	Tank, Hot Water, STORAGE	250	5-28-41		8.00		
1	Fixtures, Ceiling, Electric Light	250	5-28-41		1.17		

S. A. 61-28, 1900  
 Building Fixtures & Parts of Systems

SPRINGFIELD ARMORY, MASS.

HISTORICAL RECORD

Building No. 6  
 Sheet No. 1

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1932	1933	1934	1935	1936
Box, mail		1				1
Heater, water, gas (Inc tank U.M.Property)		1	1	1	1	1
Heater, water, steam		1	1	1	1	1
Meter, electric		1	1	1	1	1
Meter, gas		1	1	1	1	1
Meter, steam		1	1	1	1	1
Radiator, steam		4	4	4	7	7
Range, gas (Q.M.)	SHH	1	1	1	1	1
Receptacle, electric light, (socket)	PLH	39	39	39	39	39
Receptacle, electric light (plug-in)	PHH	8	8	8	8	8
Refrigerator, permanent		1	1	1	1	1
Screen, door		3	3	3	3	3
Screen, window		33	33	33	33	33
Shade, window		39	39	39	39	39
Sink, kitchen		1	1	1	1	1
Sink, wash		5	5	5	5	5
Tank, hot water, storage		1	1	1	1	1
Telephone	TCH	1	1	1	1	1
Tub, bath		1	1	1	1	1
Tub, laundry, 3 section		3	3	3	3	3
Watercloset		1	1	1	1	1
Necessary lighting conduit, including: Wiring, fittings, connections, fixtures, etc.		1	1	1	1	1
Necessary piping, gas, including: Valves, fittings, connections, etc.		1	1	1	1	1
Necessary piping, sewer, including: Traps, fixtures, etc.		1	1	1	1	1
Necessary piping, steam heat, including: Valves, fittings, connections, etc.		1	1	1	1	1
Necessary piping, water, including: Valves, fittings, connections, etc.		1	1	1	1	1

# SPRINGFIELD ARMORY, MASS. HISTORICAL RECORD

S. A. 6-1-364 1000  
Building Fixtures &  
Parts of Systems

Building No. 6  
Sheet No. 2

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1932	1933	1934	1935	1936
Holders, toilet paper, bath room Cabinet, medicine " Holders, soap " Racks, towel "				3	3	3 1 3 2

U. S. GOVERNMENT PRINTING OFFICE: 1934  
 SPRINGFIELD ARMORY, MASS.  
 Building Fixtures & Parts of Systems

HISTORICAL RECORD

1937 1938 1933 1935 1936

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1937	1938	1933	1935	1936
Box, mail		1	1	1		
Heater, water, gas (Inc tank Q.M. Property)		1	1	1		
Heater, water, steam		1	1	1		
Heater, gas, hot water, auto. Superior, w/55 gal. copper tank		1	1	1		
Meter, electric		1	1	1		
Meter, gas		1	1	1		
Meter, steam		1	1	1		
Radiator, steam		7	7	7		
Range, gas (Q.M.)		1	1	1		
Receptacle, electric light (socket)	PLH	59	39	41		
Receptacle, electric light (plug-in)	PLH	8	8	23		
Refrigerator, permanent		1	1	1		
Screen, door		3	3	3		
Screen, window		33	33	37		
Shades, window		72	72	37		
Sink, kitchen		3	3	2		
Sink, wash		5	5	3		
Tank, hot water, storage		0	0	0		
Telephone		1	1	1		
Tub, bath		3	3	3		
Tub, laundry, 3 section		1	1	1		
Watercloset		3	3	3		
Necessary lighting conduit, including: Wiring, fittings, connections, fixtures, etc.		5	5	5		
Necessary piping, gas, including: Valves, fittings, connections, etc.		0	0	0		
Necessary piping, sewer, including: Traps, fixtures, etc.		1	1	1		
Necessary piping, steam heat, including: Valves, fittings, connections, etc.		3	3	3		
Necessary piping, water, including: Valves, fittings, connections, etc.		1	1	1		
Necessary piping, water, including: Valves, fittings, connections, etc.		3	3	3		

# SPRINGFIELD ARMORY, MASS. HISTORICAL RECORD

Building Fixtures &  
Parts of Systems

Building No. 6  
Sheet No. 2-A

1939  
Adj.

1938

1937

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1937				1938				1939			
		1937	1937	1937	1937	1938	1938	1938	1938	1939	1939	1939	1939
Holders, toilet paper, bath room Cabinet, medicine " Holders, soap " Racks, towel "		5	1	3	2	5	1	3	2	5	1	3	2



# SPRINGFIELD ARMORY, MASS. HISTORICAL RECORD CHRONOLOGICAL

Building No ..... 6  
sheet #2

Quantity	Description	Voucher No.	Date	Uplieep	Additions, Betterments, Losses	Total Expenditures	Value
1	Valve, reducing pressure	121	9-17-37			EXPENDABLE	
1	Cold Water Faucet 1/4" c.Kime	160	1-23-37			EXPENDABLE	
1	Hot Water Faucet 1/4" c.Kime	160	1-23-37			EXPENDABLE	
16	Rebar, steel, round 7x30	177	5-9-37		130.50	EXPENDABLE	
1	Hot water gas heater	177	5-9-37		77.76		
	Repair of sewer, 1937-1938	Vou. # 93	6-30-38	#223 34 <del>100-50</del>			
1	Shack. Kitchen 1-1 38-39	241	6-30-38		12.50		
2	Shack. Wash 1-1 38-39	241	6-30-38		25.00		
1	Meter, Steam I + J 38-11	241A	6-30-38		24.00		
1	Heater, Water, Gas, Auto, "Superior" of 58gal. <sup>supper tank</sup>	250	5/29/41		77.61		
2	Receptacle, electric light. (Socket)	250	5/28/41		.73		
15	Receptacle, electric light. (Plug-in)	250	5/28/41		5.85		
4	Screens, Window	250	5-28-41		3.16		
55	Shades, Window	250	5-28-41		49.00		
1	Tank, Hot Water, Storage	250	5-28-41		8.00		
35	Shades, Window	250	5-28-41		4.00		

S. A. Form 16-41

S. A. 421-08 700

# Springfield Armory, Massachusetts

BUILDINGS

BUILDING NO. 5 & 6.  
SHEET NO. 1

## Historical Record

As of June 30, 1938

Place Armory Square

### Description of Building

Walls Brick  
Foundation Brick  
Floors Wood  
Roof Slate

### Dimensions of Building

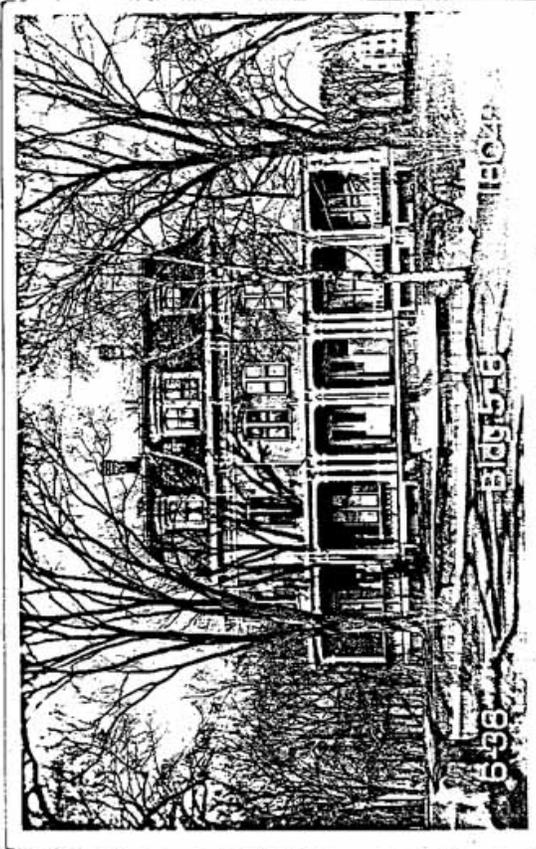
Main Bldg. 46' x 46'  
Wing 27' x 36'  
Wing

Roof Area, sq. ft. 3354

Wing 1,026

Main Bldg. 2,528

Porch 633



### ASST. OFFICER'S QUARTERS

Floors and Area, sq. ft.	Repairs Previously Expended
Basement 2,517	
1st floor 2,542	
2nd floor 1,525	\$ 4,876.54
3rd floor 1,452	
Total 8,036	Year ending June 30,
	1938 485.44
	1939 215.42
	1940 133.59
	1941 6574.72
	1942 884.08
	1943
	1944

### Cubical Contents, Cu. ft.

Total 60,200

### Drawing Reference

S. A.

S. A.

How heated Steam

How lighted Electricity

### DATE OF COMPLETION AND COST

Date

Original Bldg. 1870

Addition 1931-1933 \$200.00

Addition \$22,200.00

### Cost

\$22,000.00

\$22,200.00

### APPRAISED VALUE

(S.A. 600/947, 1-4-39)

\$ 20,000.00

# Springfield Armory, Massachusetts

BUILDINGS

Revised as of June 30, 1942  
As of June 30, 1938

## Historical Record

BUILDING NO. 5 & 6  
SHEET NO. 1A

Place **ARMORY Square**

### Description of Building

Walls **Brick**  
Foundation **Brick**  
Floors **Wood**  
Roof **Slate**

### Dimensions of Building

Main Bldg. **46' x 46'**  
Wing **27' x 56'**  
Wing  
Wing

Photograph 3 1/4" x 5 1/2"

Roof Area, sq. ft. **3354**  
Wing **1,026**  
Main Bldg. **2,328**  
Porch **583**

Asst. Officer's Quarters

Cubical Contents, Cu. ft.  
Total **68,200**

Drawing Reference

S. A.  
S. A.

How heated **Steam**

How lighted **Electricity**

### DATE OF COMPLETION AND COST

Original Bldg. **1870**  
Addition  
Addition

Floors and Area, sq. ft.  
Basement **2,517**  
1st floor **2,542**  
2nd floor **1,525**  
3rd floor **1,452**  
Total **8,036**

Repairs  
Previously Expended  
**\$ 5,076.54**  
Year ending June 30,  
1938 **485.44**  
1939 **215.42**  
1940 **133.59**  
1941 **6,574.72**  
1942 **884.08**  
1943  
1944

Water connections **yes**  
Sewer connections **yes**  
Gas connections **yes**

Cost  
**\$22,000.00**

(S.A. 600/947-1-4-58)  
APPRAISED VALUE

**\$ 20,000.00**

S. A. Form Me-41

S. A. 4-21-38 700

SPRINGFIELD ARMORY, MASS.  
HISTORICAL RECORD

Building Fixtures &  
Parts of Systems

44 55 4

Building No. 5  
Sheet No. 1

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1938	1939	1940	1941	1942
Box, mail		1	1	1	1	1
Heater, water, gas -		1	1	1	1	1
Heater, water, steam		1	1	1	1	1
Meter, gas		1	1	1	1	1
Meter, electric		1	1	1	1	1
Radiators	CHH	9	9	9	9	9
Range, gas - ON		1	1	1	1	1
Receptacles, electric light (socket)	PLH	41	41	41	0	0
Receptacles, electric light (plug in)	PLN	29	29	29	0	0
Bar, towel		4	4	4	0	0
Holder, tumbler		2	2	2	0	0
Holder, tooth brush		2	2	2	0	0
Dish, soap		1	1	1	0	0
Holder, toilet paper		2	2	2	0	0
Screens, door		3	3	3	0	0
Screens, window		33	33	33	3	3
Shades, window		36	36	46	33	33
Sink, kitchen		2	2	2	46	46
Sink, wash		3	3	3	2	2
Tank, hot water storage		1	1	1	3	3
Telephone	FCH	1	1	1	1	1
Tubs, bath		3	3	3	1	1
Tub, laundry (3 section)		1	1	1	1	1
Thermostat w/electric clock controlling		1	1	1	2	2
1 1/2" motorized steam valve.		1	1	1	1	1
Watercloset	CHH	1	1	1	1	1
Cabinet, Medicine		3	3	3	1	1
Regulator, tank, hot water, Lawler		0	0	0	3	3
Monophones		0	0	0	1	1
Panelboard - Lighting		0	0	0	1	1
Shower Cabinet		0	0	0	1	1

# SPRINGFIELD ARMORY, MASS. HISTORICAL RECORD

Building Fixtures &  
Parts of Systems

(410)

Building No. 5  
Sheet No. 2

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1938	1939	1940	1941	1942
<p>Necessary lighting conduit, including: Wiring, fittings, connections, fixtures, etc. Necessary piping, gas, including: Valves, fittings, connections, etc. Necessary piping, sewer, including, traps, fixtures, etc. Necessary piping, steam heat, including: Valves, fittings, connections, etc. Necessary piping, water, including: Valves, fittings, connections, etc.</p>						

S. A. FORM 205-46

S. A. 525-31. 1500

SPRINGFIELD ARMORY, MASS. Sheet #1  
 HISTORICAL RECORD  
 CHRONOLOGICAL

Building No ..... 5

(607)

Quantity	Description	Voucher No.	Date	U/keep	Additions, Betterments, Losses	Total Expenditures	Value
2	Shades, window P.O. 3549 Ex. 2972	(N) 162	2-20-39		2.80		
1	Heater, hot water, gas, tank Plant repaired Vol. 23 P. 27	(N) 184	11-11-39		78.20		
1	Heater, hot water, gas, tank P.O. 546 Ex. 2988	(M) 184	11-18-39		87.50		
	Repairs to Arsenals, 1938-1939 (Gas 5*6)	239	6-30-39	215.42			
3	Shades, window P.O. 7565 Ex. 3182-17	(N) 318	6-30-40		10.40		
	Repairs to Arsenals, 1939-1940	329	6-30-40	133.09			
1	Cabinet, Medicine	(N) 51	11-11-40		6.86		
1	Chromotherm M.H. 011823 P.O. 7949 P. Equip Shipping ticket	222	5-10-41		0.00		
1	Chromotherm M.H. 011823 P. Equip Rec Report	222	5-10-41		0.00		
1	Regulator, tank, hot water, boiler, type S. 3523-62 P.O. 8005 I. I. 41-167	269	6-7-41		49.10		
1	Tub, Bath P. Equip 62 8-11-41	282	6-18-41		20.00		
4	Receptacles, electric light socket 3A 100 718	(N) 327	6-30-41		2.00		
4	Receptacles, electric light Plug in	(N) 327	6-30-41		5.80		
4	BAR, Towel	(N) 327	6-30-41		4.50		
2	Holder, Tumbler	(N) 327	6-30-41		1.98		
2	Holder, Tooth Brush	(N) 327	6-30-41		1.98		
1	Dish, Soap	(N) 327	6-30-41		.69		
2	Holder, toilet paper	(N) 327	6-30-41		1.18		
	Repairs to Arsenals, 1940-1941	333	6-30-41	3,274.03			
	1942						
1	Shower, Cabinet. (C 4712) P.O. 9791 3448-15	(N) 30	11-15-41		78.00	455889	
1	Telephone, wall type, old. P. Equip 042	(N) 79	11-1-41		15.00		



S. A. Form Me-41

SPRINGFIELD ARMORY, MASS.  
HISTORICAL RECORD

S. A. Form Me-41 700

Building Fixtures &  
Parts of Systems

4771

Building No. 6  
Sheet No. 1

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1938	1939	1940	1941	1942
Box, mail		1	1	1	1	1
Heater, water, gas		1	1	1	1	1
Heater, water, steam		1	1	1	1	1
Meter, electric		1	1	1	1	1
Meter, gas		1	1	1	1	1
Radiator, steam	DRH	7	7	7	7	7
Range, gas		1	1	1	1	1
Receptacles, electric light (socket)	PHH	41	41	41	41	41
Receptacles, electric light (plug in)	PHH	23	23	23	23	23
Holder, toilet paper		3	3	3	3	3
Cabinet, medicine		1	1	1	1	1
Holder, soap		3	3	3	3	3
Racks, towel		2	2	2	2	2
Refrigerator		1	1	1	1	1
Screens, door		3	3	3	3	3
Screens, window		37	37	37	37	37
Shades, window		37	37	37	37	37
Sink, kitchen		2	2	2	2	2
Sink, wash		3	3	3	3	3
Tank, hot water storage		1	1	1	1	1
Telephone	TCN	1	1	1	1	1
Tubs, bath		1	1	1	1	1
Tubs, laundry, (3 section)		3	3	3	3	3
Watercloset		1	1	1	1	1
Thermostat with electric clock controlling 1 1/2" motorized steam valve.		1	1	1	1	1
Heater, Water, Gas, auto "Superior" c/w 35 Gal. copper tank		0	0	0	0	0
Regulator, tank, hot water "Lawler" Type S		0	0	0	0	0
Monophone		1	1	1	1	1
Panelboard, Lighting		1	1	1	1	1

# SPRINGFIELD ARMORY, MASS. HISTORICAL RECORD

S. A. 4-27-38 700  
Building Fixtures &  
Parts of Systems (4)

Building No. 6  
Sheet No. 2

As of June 30th.

ARTICLES	SYSTEM SYMBOL	1938	1939	1940	1941	1942
<p>Necessary lighting conduit, including: Wiring, fittings, connections, fixtures, etc. Necessary piping, gas, including: Valves, fittings, connections, etc. Necessary piping, sewer, including: Traps, fixtures, etc. Necessary piping, steam heat, including: Valves, fittings, connections, etc. Necessary piping, water, including: Valves, fittings, connections, etc.</p>						

S. A. FORM 38-43

S. A. 587-31 1540

**SPRINGFIELD ARMORY, MASS. Sheet #1**  
**HISTORICAL RECORD**  
**CHRONOLOGICAL**

Building No . . . 5 . . . . .

Quantity	Description	Voucher No.	Date	U'sleep	Additions, Betterments, Losses	Total Expenditures	Value
6	Shades, window P.O. 3481 CASH	122	1-16-41		8.10	H 42 H 05	
1	Heater, Water Gas, Automatic Superior						
	1/2 30 gallon copper tank O.S.D. 44-188	257	5-28-41		150.00	O.S.D. 44-188	
1	Heater Water Gas	254	5-28-41		25.00	O.S.D. 44-188	
1	Tank, Hot Water, Storage	254	5-28-41		10.00	O.S.D. 44-188	
1	Regulator, tank, hot water "low" Type S 3523-62 P.O. 3308	269	6-7-41		49.10	H 56 172	
41	Receptacle electric light socket - 30 amp P.O. 3327	327	6-30-41		82.00		
23	Receptacle electric light plug in P.O. 3327	327	6-30-41		52.00		
3	Holder toilet paper P.O. 3327	327	6-30-41		1.00		
3	Holders P.O. 3327	327	6-30-41		1.50		
2	Rack towel P.O. 3327	327	6-30-41		1.50		
	Repairs to Arsenals, 1940-1941 1942	333	6-30-41	3,300.69			
1	Telephones, wall type cl. P. Equip. 042 P.O. 358	79	11-1-41		10.00		
2	monophones, desk type. P.O. 3669	136	2-15-42		43.50	H 6500	
1	Panel board lighting. 15 Amps. Ramp 3487 P.O. 3487	272	6-30-42		156.10	H 57138	
	REPAIRS OF ARSENALS - 1941-1942	414	6-30-42	607.38			

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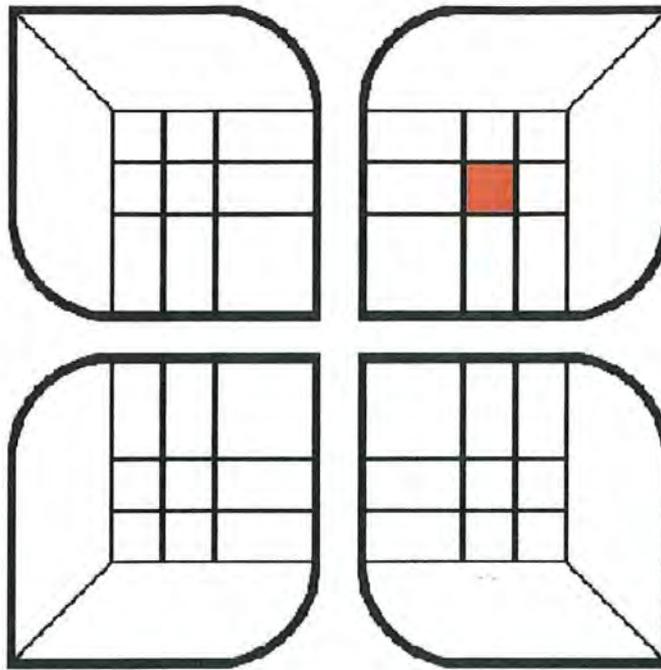
## APPENDIX E

**“Springfield Technical Community College, Feasibility Study; Study of:  
Renovations to Historic Buildings 5/6 and 11;” selected sections pertaining to  
Building No. 5 & 6.<sup>164</sup>**

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<sup>164</sup> Michael Rosenfield, Inc. Architects, “Springfield Technical Community College, Feasibility Study; Study of: Renovations to Historic Buildings 5/6 and 11.” Office of Division of Capital Asset Management, Boston, Massachusetts; September 17, 2002.

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# SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

## FEASIBILITY STUDY

DCAM Project # MA STC0101 ST1  
OMR Project # 0107.00

September 17, 2002

**Study of:**

Renovations to Historic Buildings 5/6 and 11  
Springfield Technical Community College  
Springfield, Massachusetts

**Prepared for:**

Office of Programming  
Division of Capital Asset Management  
Boston, Massachusetts

The Office of Michael Rosenfeld, Inc., *Architects*  
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**Preface**

This study was prepared for the Office of Planning, Design, and Construction of the Division of Capital Asset Management, Commonwealth of Massachusetts, in accordance with Massachusetts General Laws Chapter 29, Sections 7K and 26A. It is intended to investigate agency capital needs, evaluate alternatives, and recommend a solution that corresponds to the current needs of that agency, in conformance with its current long term facilities development plan.

The study provides a clear and detailed frame of reference for the design and implementation process and recommends a solution that can be accomplished within the appropriation or authorization for that project. It includes a space program that reflects the user agency's needs, a description of the project requirements, an accurate estimate of capital and operating costs, and an implementation schedule. Conceptual building designs, where included, are not intended to constrain the final design, but rather to illustrate functional relationships, demonstrate the practical operation of design and conformance with applicable codes and standards, and serve as the basis of developing an accurate cost estimate.

Before DCAM can enter into a contract for final design services, this study must be certified by the head of the User Agency, and by the Director of Programming and the Commissioner of DCAM. Thereafter, no substantial changes can be made to the program during the implementation process. In no event shall the design work be such as would result in a change in the number of gross square feet to be constructed in the project of more than ten percent (10%) from the number specified in this study.

### **Acknowledgements**

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**Table of Contents**

i.	Certification	
ii.	Preface	
iii.	Acknowledgments	
iv.	Table of Contents	
<b>1.0</b>	<b><u>Executive Summary</u></b>	<b><u>1-1</u></b>
<b>2.0</b>	<b><u>Existing Conditions Assessments</u></b>	<b><u>2.1-1</u></b>
<b>2.1</b>	<b><u>Building 5/6</u></b>	<b><u>2.1-1</u></b>
2.1.1	Site Analysis	2.1-1
2.1.2	Building Configuration	2.1-1
2.1.3	Building Condition	2.1-2
2.1.4	Building Code Compliance	2.1-3
2.1.5	Accessibility Compliance	2.1-5
2.1.6	Hazardous Materials	2.1-5
2.1.7	Engineering Investigation	2.1-5
2.1.8	Existing Conditions Documentation	2.1-6
<b>2.2</b>	<b><u>Building 11</u></b>	<b><u>2.2-1</u></b>
2.2.1	Site Analysis	2.2-1
2.2.2	Building Configuration	2.2-1
2.2.3	Building Condition	2.2-2
2.2.4	Building Code Compliance	2.2-3
2.2.5	Accessibility Compliance	2.2-5
2.2.6	Hazardous Materials	2.2-5
2.2.7	Engineering Investigation	2.2-5
2.2.8	Existing Conditions Documentation	2.2-6
<b>3.0</b>	<b><u>Programs and Test Fits</u></b>	<b><u>3-1</u></b>
<b>4.0</b>	<b><u>Alternatives</u></b>	<b><u>4-1</u></b>
<b>4.1</b>	<b><u>Building 5/6</u></b>	<b><u>4-1</u></b>
4.1.1	Stabilization Alternatives	4-1
4.1.2	Restoration Alternatives	4-2
4.1.3	Reuse Alternatives	4-4
<b>4.2</b>	<b><u>Building 11</u></b>	<b><u>4-6</u></b>
4.2.1	Stabilization Alternatives	4-6
4.2.2	Restoration Alternatives	4-7
4.2.3	Reuse Alternatives	4-9
<b>5.0</b>	<b><u>Recommendations</u></b>	<b><u>5-1</u></b>
<b>5.1</b>	<b><u>Building 5/6 Recommendations</u></b>	<b><u>5-1</u></b>
<b>5.2</b>	<b><u>Building 11 Recommendations</u></b>	<b><u>5-3</u></b>
<b>5.3</b>	<b><u>Outline Specifications</u></b>	<b><u>5-4</u></b>
5.3.1	Building 5/6 Stabilization	5-4
5.3.2	Building 11 Restoration	5-7
<b>5.4</b>	<b><u>Cost Estimate Summary</u></b>	<b><u>5-10</u></b>
<b>5.5</b>	<b><u>Operating Cost</u></b>	<b><u>5-12</u></b>
<b>5.6</b>	<b><u>Schedule</u></b>	<b><u>5-12</u></b>

**Appendices**

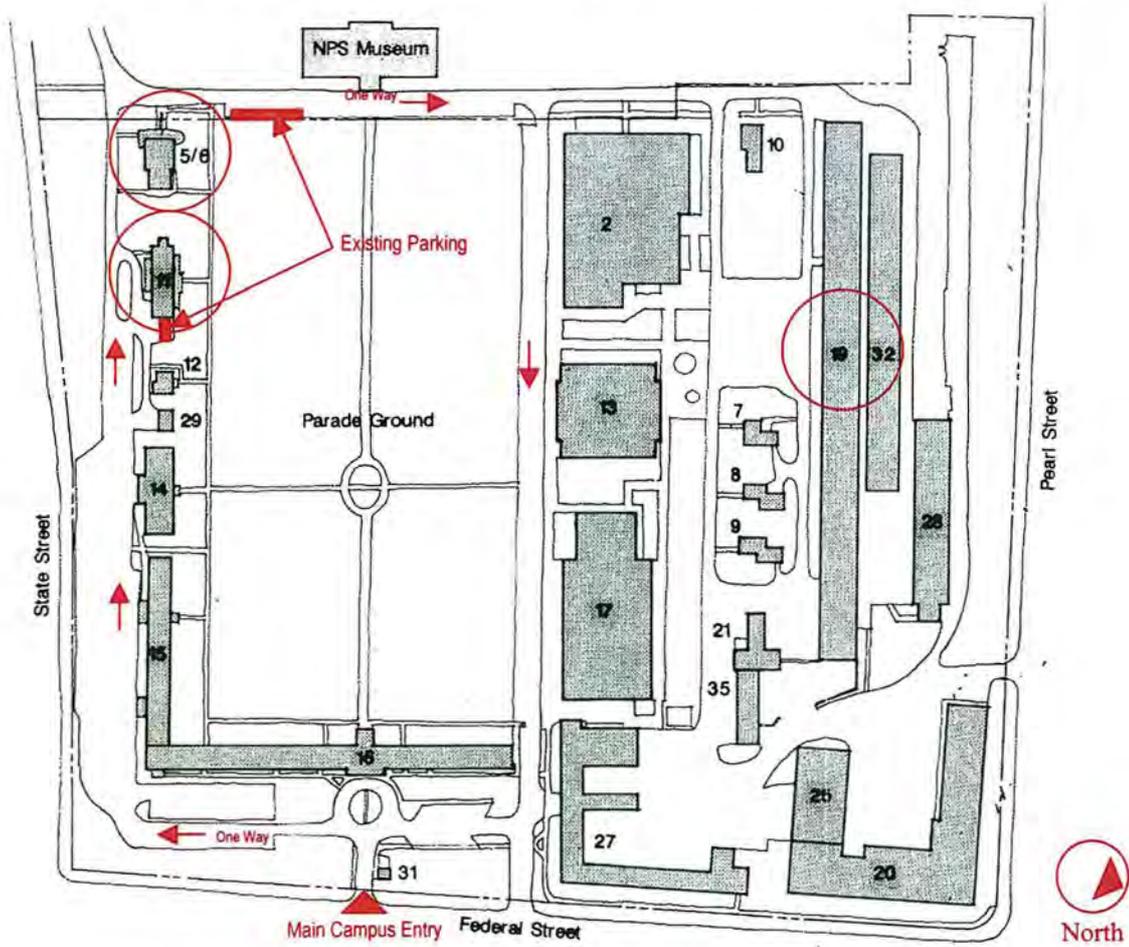
- A. Project Directory
- B. Engineering Reports
- C. Hazardous Materials
- D. MHC and NPS Correspondence
- E. Meeting Minutes
- F. Photographs
- G. Programs
- H. Test Fits
- I. Cost Estimates
- J. Codes and Standards
- K. Goals, Work Plan and Methodology

### 1.0 Executive Summary

#### 1.1 Background and History

Springfield Technical Community College (STCC) occupies a portion of the historic Springfield Armory with the National Park Service (NPS). The campus includes multiple historic structures dating as far back as the late 1700's as well as three large buildings of recent vintage. STCC and the Division of Capital Asset Management (DCAM) initiated a study of Buildings 5/6, 11, and 19 (three vacant historic structures) to address their deterioration and investigate possible programs for the buildings were they to be occupied. Occupying the vacant buildings would insure regular and continued maintenance, improve security and minimize vandalism.

Three programs were identified by STCC as candidates for relocation: Daycare, Early Child Development, and Center for Business and Technology. Programmatic evaluation and test-fits (see **Appendices G,H**), show that Buildings 5/6 and 11 are not appropriate for any of the three programs, while Building 19 offers significant potential for adaptive reuse. In the interest of preventing further deterioration to Buildings 5/6 and 11 as soon as possible, while allowing more time to study potential reuse of Building 19, the scope of this study includes only Buildings 5/6 and 11. The study for Building 19 will be completed and certified at a later date.



## 1.2 Existing Conditions Summary

Buildings 5/6 and 11 were inspected by the architectural team, the structural engineer, the MEPPF team and a hazardous materials engineer. Both buildings exhibit a high degree of wear expected from old structures that have been unoccupied for years. Wood rot, crumbling masonry pointing, leaky roofs, and broken windows have allowed the weather and animals to enter the buildings and accelerate the deterioration over time. The buildings are in fair condition structurally, however, the porches are in very poor condition both structurally and aesthetically. Windows and doors are in fair condition. Interior finishes reflect their years of use, neglect and water infiltration. Kitchens and toilet rooms are beyond salvage. Mechanical, electrical, and plumbing systems, where they exist at all, are long abandoned and barely functional. Heating systems have been vandalized, but appear sufficiently repairable to keep the buildings from freezing for now. Life safety non-compliance and accessibility barriers must be addressed should the buildings be occupied. The hazardous materials investigation found a significant amount of hazardous materials present in both buildings, including lead, asbestos, and fecal matter.

## 1.3 Memorandum of Understanding

According to a Memorandum of Understanding dated August 21, 1999 (see **Appendix D**), the National Park Service and has an advisory role in providing “technical and professional assistance” in matters regarding “construction, alteration, or repair of structures” on the site. This Agreement also states that, “any construction, alteration or repair will be subject to the concurrence of the Massachusetts Historic Preservation Office”.

## 1.4 Program and Alternatives

Programming, code and test fit investigations made it clear that Buildings 5/6 and 11 are inappropriate for the programs investigated through the course of this study. Daycare, for example, would occupy only part of these buildings, and code prohibits this use on a third floor. Accessibility barriers are a major impediment to Building 5/6 utilization and its compartmentalized layout is not very flexible: Fit-out would incur drastic reconfiguration and would force fragmentation of any program onto three floors. Building 11, while more flexible and accessible, would still require the programs to be fragmented onto multiple floors. All three programs are better housed elsewhere.

## 1.5 Recommendations

Under these circumstances, both buildings 5/6 and 11 have no proposed occupant. The study focuses therefore on best utilization of the available funding. Besides Reuse, which would include full exterior restoration and interior fit-out, this study considered two levels of work: Stabilization and Restoration. Stabilization refers to work that would prevent further deterioration of the building by the elements, deter vandalism, make the exterior structure safe, and improve the aesthetic appearance.

Because Building 5/6 does not have a recommended use, has limited structural concerns, and has no dedicated funding, Stabilization is recommended. The recommended scope of work includes: Rebuilding brick chimneys, repairing existing slate roof, covering copper roofs with new EPDM, repointing and replacing brick where needed, repairing windows and doors, painting all exterior woodwork, securing doors by repairing or replacing exterior door hardware, repairing the heating system, replacing copper gutters and downspouts in kind, and installing a fire alarm connected to the campus system. The wood porches will be restored. Windows will be covered with Plexiglas to

prevent vandalism. Hazardous materials will not be abated except as they are found in areas of repair. This approach insures basic safety and security for the building and for students outside around the building, and prevents decay from animals and the elements, and improves the aesthetic appearance of the building, while remaining sensitive to the limited funding available.

With a Massachusetts Historical Commission grant of \$714,000 dedicated to Building 11 renovations, this project is able to accomplish more than basic stabilization and full exterior Restoration is recommended. The recommended scope of work includes: Reconstruction of the upper half of the east and west end walls, 100% brick repointing, full roof replacement, replacement of both porches, complete hazardous materials abatement, repair of existing windows and doors and installation of storm windows, painting of all woodwork, drainage system rehabilitation, replacement or repair of all copper flashing and gutters, repair of the heating system, and installation of a fire alarm connected to the campus system. All materials will be replaced “in-kind” to restore the exterior to better than its condition in 1968. Brick and roof slates will be salvaged, cleaned and reused, where possible.

As the design and construction documents are developed, and the precise locations for any excavation or new construction have been identified, a narrative description and a set of scaled plans showing those locations will be provided to MHC for their review.

### 1.6 Project Cost

The construction cost estimate was prepared assuming project start in first quarter of 2003, and escalation is carried to midpoint of construction in second quarter of 2003. Special conditions of 4% are carried to account for the presumed difficulties of accessing the restricted access campus, and the potential difficulties of materials storage and traffic around the construction site. The Estimated Construction Cost (ECC) is currently estimated as follows:

A. Building 5/6 Stabilization: \$336,785

Funding would come entirely from General Obligation funds.

B. Building 11 Restoration: \$958,425

\$714,000 would come from an MHC grant, the remainder from General Obligation funds.

Note that these are Construction Costs, not Total Project Costs (TPC).

### 1.7 Operating costs

As the buildings are not to be currently occupied, Operating Costs will not be significant and are estimated to be \$17,300 per year for general maintenance. Utilities expenses will be marginal and there are no anticipated additional staffing needs. Generally, maintenance expenses will include regularly scheduled painting and vigilance against signs of deterioration. The buildings should be checked once per quarter for any change in their condition and to test the fire alarm system.

### 1.8 Schedule

The Project Schedule is proposed as follows:

September 2002	Begin Design and Construction Documentation
January 2003	Bidding
March 2003	Construction Contract
June 30, 2003	MHC grant expires if project is not under contract for construction.
November 2003	Substantial Completion

## **2.1 Existing Conditions Assessments: Building 5/6**



### **2.1.1 Site Analysis**

Building 5/6 is a three-story, 11,700 square foot Second Empire style building constructed in 1870 located in the southeast corner of the Springfield Technical Community College. The facility occupies a very visible corner site and is bordered on the south and the west by an internal campus circulation road, to the east by Building 11, and to the north by the parade ground, which also functions as an athletic field.

The site is generally flat on the north and east and slopes gradually down on the south and west to the access roads. There is a limited amount of landscaping with some shrubs adjacent to the open porch and medium-sized deciduous trees spread irregularly around the remaining site area.

There is no parking or pickup/drop-off area to serve this building. Due to the grade and location, there are limited opportunities for curbside parking or a small drop-off location. Additional parking may be feasible by further development at adjacent sites such as at Building 11 or the Armory Museum.

### **2.1.2 Building Configuration**

This building was constructed in 1870 as a duplex junior officer's quarters and has a residential scale. Utilitarian functions occupied the basement; shared living and dining spaces occupied the first floor with private bedrooms and bathrooms functions on the upper two floors. Building 5/6 is symmetrically configured with corridors, stairwells, restrooms and storage rooms flanking either side of a party wall composing a main axis at the buildings' midpoint. Living spaces surround this core at the perimeter. Entry and stair locations, as well as construction methodology, significantly limit reconfiguration options.



### 2.1.3 Building Condition

The overall physical condition of the building is poor. Most of the problems observed are due to the age of the facility and subsequent abandonment and neglect. The useful life expectancy of many of the building's components and systems has been reached requiring major repairs and/or replacement.

The building structure appears to be in fair condition with evidence of distress and general deterioration in some areas. The building exterior is composed of solid brick walls, brownstone window and door sills and heads, a slate mansard roof with copper flashing. Gutters are integral and appear to be copper lined with ribbed painted aluminum downspouts. Architectural features include wood fascias and soffits with ornamental brackets and an open wood porch with double columns and a heavy wood balustrade design. Windows are wood framed double-hung with divided lights and are paired within single masonry openings. Many are equipped with retrofitted aluminum storm windows. All exterior doors are solid wood panel.

The building envelope is experiencing exterior joint deterioration and some discoloration, and caulking is generally absent at window locations. There is slate missing from the mansard roof at intermittent locations and a rubber membrane temporarily covering the original copper roof of the one-story component. There is evidence of past and present water infiltration problems on the exterior as evidenced by missing brick, rotted soffits, rotted wood brackets and rotted woodwork at dormers. These problems are due in part to leaking gutters and downspouts and roof and/or flashing failure. The woodwork is very weathered with peeling paint where it isn't rotted, and its overall structural integrity is unknown.

Exterior walls are solid brick with plaster interior finish (furred). All windows are single glazed double-hung wood framed and appear to be original. They are generally in fair condition, functional, with weathered frames requiring painting.

The open entry porch in the front of the building is in very poor condition. Most of the wood is rotted, and some ornamental rails and balusters are missing (they were later found to be stored in the basement). Further exploration may lead to a small amount of this wood being salvaged. The porch superstructure also seems to be experiencing some distress with some of the support columns vertically displaced causing the floor and roof to shift; this may be indicative of more significant foundation issues. Some temporary columns have been installed as a mitigation measure to replace those that have been permanently damaged. The stone front entry steps are also displaced. To the rear, the original wall-hung exterior light fixtures are missing and one of the two masonry service entry stairs has collapsed. It should be noted that a



chimney structure on the rear of the building is covered in plywood and bound with straps: its condition is unknown but assumed tenuous.

Interior finishes include plaster walls, wood trim of varying design and profile, ornamental wood floors and plaster or suspended ceilings. Most finishes appear to be worn due to previous use, subsequent neglect, water infiltration, and moisture and pest problems. There are some isolated areas where floors are sloping which can probably be attributed to displaced and/or deflected floor joists. Architectural features include marble fireplaces, wood casework and a wood strip/mosaic floor within the shared living space. Mantle shelves have been removed, and many elements have experienced some vandalism and neglect, but offer good restoration opportunities. Most other areas are in such a state of deterioration or damage, that little of value can be salvaged.

There is evidence of past water infiltration problems scattered intermittently throughout the interior of the building, and in some locations it is severe. This includes, but is not limited to, water staining, complete plaster delamination, discoloration, paint peeling, etc. From visible surface conditions observed, it appears that ceiling joists are still in reasonably good condition: more destructive exploratory work may be performed to assess full extent of water damage during subsequent design phases.



The kitchen is in poor condition with vinyl tile floors, plaster walls and a plaster ceiling. All cabinets, appliances, etc. are severely damaged and offer no architectural or functional salvage potential

Though the facility is in poor condition, it appears to be structurally sound and with sufficient investment offers excellent potential for reuse. It is worth noting that there is evidence of a significant pest problem (rodents, raccoons, squirrels, cats, birds, etc.) that will require mitigation.

#### **2.1.4 Building Code Compliance**

##### Massachusetts State Building Code

Chapter 34 of the Massachusetts Building Code governs renovations and additions to existing buildings. Building 5/6 has “Partially Preserved Historic Status”, exempting it from the structural requirements of Chapter 34. Many existing building components do not comply with the current code. This includes, but is not limited to, general building size limitations, fire separation areas, stairway railings, door hardware, fire protection, etc.

Building 5/6 has 11,700 gross square feet. The existing construction is exterior masonry bearing walls and unprotected wood/steel framing. It is classified as Construction Type 3B and Use Group B (Business), I-2 (Institutional) or E (Educational) based on the proposed programs discussed herein. The maximum potential impact to the proposed facility rehabilitation/renovation scope serving the Day Care Program, Child Development Program and Center for Business Technology Program could be summarized as follows:

- Fire separations required for Use Group I-2 (Day Care) could be up to 3 hours (Chapter 3, 780 CMR)

- Minimum of 2 separate exits directly to grade and limited Day Care use permitted on upper floors (Chapter 4, 780 CMR)
- Height and area limitations are well within acceptable limits (Chapters 5, 780 CMR)
- Exterior walls, fire walls, shaft walls, party walls to be 2-hr rated; tenant separation walls and interior load bearing partitions to be 1-hr (Chapter 6, 780 CMR)
- Exterior wall is not required to be rated (Chapter 7, 780 CMR)
- Fire suppression system required for Use Group I-2 (Day Care) or if atrium exists (Chapter 9, 780 CMR)
- Existing stair reconstruction and enclosure; each tenant with direct access to stair for egress (Chapter 10, 780 CMR)
- Use Group I-2 or E (both Day Care) will trigger full building compliance with any upper story use requiring a fire separated egress stair (Chapter 34, 780 CMR)

The previous use classification of this building, understood to be R-2, Residential (Dormitory), will help determine the full extent of required code compliance. Building 5/6 is considered Partially Preserved, and is therefore exempt from certain seismic retrofitting requirements. The amount of code-compliant work required will be based on the Use Group, total project scope of work, the facility configuration, and extent of renovations undertaken in the existing building to facilitate the designated program. Though not compulsory, some modifications should be incorporated to bring the overall facility to a consistent level of protection and provide an increase level of safety for the users. Specific recommendations are noted later in this chapter. For more comprehensive building code information, please reference **Appendix J. Codes and Standards**.

#### Massachusetts State Energy Code:

The existing building envelope is solid brick with interior plaster veneer with no insulation. The windows are a wood framed single-glazed, double-hung system with fully divided glazing units. The roof is slate with a wood framed substructure. Attic appears to be uninsulated.

Mechanical, Electrical and Plumbing systems all appear to be original or advanced in age. Most of these components do not meet current energy standards and performance criteria. It is difficult to assess the current level of thermal comfort throughout the building due to its condition.

As part of any major addition or renovation, new systems must be in compliance with Mass Code 3407.0. Alterations to components must comply with 3407 – Component Values for Altered Elements, or 1304.2, Prescriptive Building Envelope Criteria, or 1304.5, Building Envelope Trade-off Option. Fenestration may be replaced with opaque elements matching the thermal transmittance of existing exterior wall, however it is not anticipated that this option will be exercised due to the desire to maintain the historic appearance of the building. Compliance of roof-ceiling assemblies is not required unless the existing roofing material is removed or structural analysis shows the roof will not support the added live loads imposed by compliance.



### 2.1.5 Accessibility Compliance

Building 5/6 has numerous issues relative to full accessibility including, but not limited to, doorway widths and clearances, door hardware, toilet facilities, stairwells, absence of an elevator, absence of an accessible ramp, fire alarm, and no entry/exit opportunities. The facility, when occupied, shall be required to be in compliance with the Massachusetts Architectural Access Board (521 CMR) as follows: Cumulative over any three year period,

- if the addition or renovation costs 30% or more than the CAMIS replacement value of the existing building, the existing facility must be made fully accessible. Building 5/6 is valued at \$8,994,492.
- if the work costs less than 30% of the value of the existing building, but more than \$100,000, the new work must be compliant, and an accessible public entrance, toilets, telephone, and drinking fountains must be provided and located on an accessible route.



Buildings need not comply until they are occupied. Once occupied, this building will also be subject to the provisions of the Americans with Disabilities Act (ADA). As civil rights law, the ADA and its architectural guidelines are not enforced by local building officials. However, the client, designer, and DCAM may be held responsible for not fulfilling the intent of this law. DCAM is committed to the spirit of Title II of the ADA by addressing both programmatic and structural issues, with the goal of making every public building equally usable, regardless of physical ability.



Note that general site circulation to cars, parking areas and adjacent outdoor activity space is limited, with compromised accessibility. Curb cut locations and way finding signage to accessible entrances and routes must be incorporated as part of future work.

### 2.1.6 Hazardous Materials

The full extent of this scope is defined by a study prepared by Diversified Environmental Corp., available in **Appendix C**. Materials requiring abatement include animal feces scattered throughout the building, lead paint, PCB containing ballasts and asbestos containing materials. Animal waste alone is not classified as hazardous, and may be abated without special precautions. Total value of the required abatement is estimated at \$21,835. Diversified Environmental Corp. notes that building paper on the roof is also presumed to contain asbestos, but is not quantified because it is fully encapsulated. This paper must be removed where work is done on the roof, with full removal valued at under \$1000.

### 2.1.7 Engineering Investigations

**Structural:** The existing building is masonry exterior bearing wall with wood floor joists supported by interior bearing walls. There is evidence of significant wood and brick deterioration, especially at porches and chimneys. Live load capacity appears consistent with residential uses (30-40psf), but some reinforcing will be necessary for longer spans as part of a fitout project. As a “Partially

Preserved Historic Building”, Building 5/6 is exempt from the structural provisions of Chapter 34. However, the level of structural intervention required still depends on the intended use and the change in structural hazard category: in particular, a change of use to Day Care (E or I-2) will require a significant increase in seismic retrofitting because the building loses its status as an “existing building” for the purposes of Chapter 34, and the structural exemption is thereby lost. Any other use on the other hand, including Residential (R) or Business (B), has no impact on the “existing building” status, and does not impact the structural exemption.

Mechanical: The existing system is steam fed to a heat exchanger, with hot water distributed throughout the building. It is currently not operational. The system is old and miscellaneous parts and system components are missing. A new steam supply and return from the central plant are currently being installed into the building, but the system within the building will require significant overhaul.

Electrical: The existing electrical service is distributed from two 240/120V 100 amp panels in the basement, one feeding each tenant area. No utility drawings were found to determine feed location. System circuitry, components and interior light fixtures are all inoperable and in very poor condition with numerous missing components. There are building mounted HID fixtures that are in fair to poor condition.

Plumbing: The existing plumbing system is extremely old and has not been used for years. None of the fixtures or components meets code. A 1” gas line, 2” copper drains from sinks, and 4” sewer pipe were observed, but cut-off or discontinuous pipes were present and the systems are probably impaired.

Fire Protection: There is no fire alarm or suppression system in this building.

Civil: No drawings were found to confidently locate utilities. A water line appears to skirt the parade ground, and manholes suggest a sewer line or storm drain to the northwest of the building. Additional investigation as part of a building fit-out design is recommended, including full utility survey, storm and sewer line testing, hydrant flow test and possible soil testing if the storm system is inadequate.

For a more detailed assessment and recommendation by discipline, please reference *Appendix B* for individual engineering reports.

### **2.1.8 Existing Conditions Documentation**

Please see the following pages for a more comprehensive facility documentation of existing conditions.

# Building #5/6 West Façade



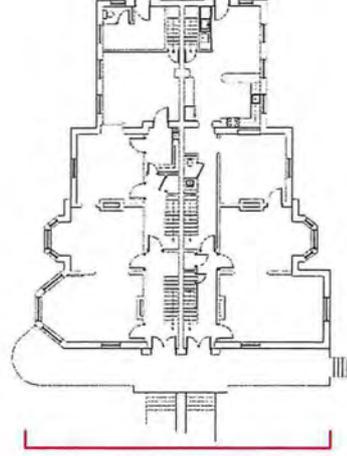
- Significant weathering; soffit rot severe
- Significant rot at ridge
- Broken wooden ridge scroll

- General Notes:**
- General soffit rot and weathering
  - Wood window frames generally salvageable
  - Lattice and railings can be stripped and salvaged or replaced/rebuilt
  - Remaining columns may be salvaged, with significant repair
  - Copper flashing in good condition
  - Porch floor has some buckling, significant weathering
  - Significant rot and flashing damage at dormer / mansard roof interface
  - Aluminum storm system at all windows

- Specific Notes:**
- Significant weathering; ceiling rot severe
  - Water penetration at porch columns
  - Sagging porch foundation
  - Reset steps

**LEGEND**

- 100% Brick Repointing
- 50% Brick Repointing
- 25% Brick Repointing
- \_\_\_ % Brick Repointing
- \_\_\_ % Brick Repointing at Jamb
- \_\_\_ % Brick Repointing under Head
- Missing Brick
- Exposed Roof Structure
- Missing Slate
- Crack
- Missing Window Lites/ Total Window Lites
- Aluminum Storm Frame
- Broken/Missing Window Frame
- Severe Wood Rot



# Building #5/6 North Façade: West End



### General Notes:

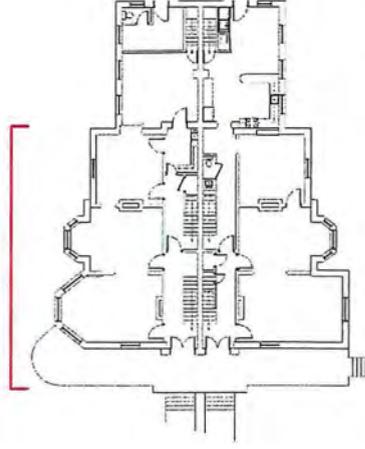
- Re-grout around all stone window sills and windows
- Damaged/missing slate roof tiles
- Severe rot at roof ridge
- Aluminum storm system at all windows (except at basement)

### Specific Notes:

- Wood separated from brick at roof edge
- Significant ivy growth
- Heavy rot/weathering
- Plywood over window opening
- Jamb and sill rot

Significant weathering; soffit rot severe

LEGEND	
	100% Brick Repointing
	50% Brick Repointing
	25% Brick Repointing
	0% Brick Repointing
	100% Brick Repointing at Jamb
	50% Brick Repointing under Head
	25% Brick Repointing under Head
	0% Brick Repointing under Head
	Missing Brick
	Exposed Roof Structure
	Missing Slate
	Crack
	Missing Window Lites/ Total Window Lites
	Aluminum Storm Frame
	Broken/Missing Window Frame
	Severe Wood Rot



# Building #5/6 North Façade: East End



**General Notes:**

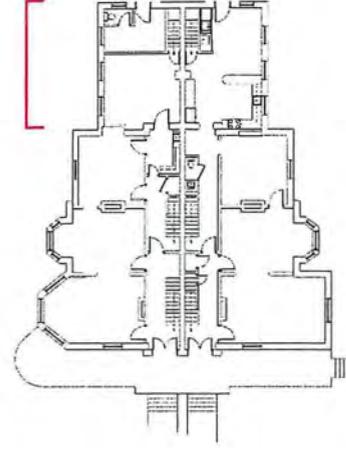
- Rotting wood at soffits
- Rubber roof needs replacement
- Aluminum storm system at all windows (except at basement)

**Specific Notes:**

- Missing trim
- 100% repointing at indicated area of East face
- Severely rusted bulkhead door
- Concrete repairs to original stone at bulkhead are deteriorating
- Plywood over window opening
- 2" pipe from window

**LEGEND**

	100% Brick Repointing
	50% Brick Repointing
	25% Brick Repointing
	___% Brick Repointing
	___% Brick Repointing at Jamb
	___% Brick Repointing under Head
	Missing Brick
	Exposed Roof Structure
	Missing Slate
	Crack
	Missing Window Lites/ Total Window Lites
	Aluminum Storm Frame
	Broken/Missing Window Frame
	Severe Wood Rot



# Building #5/6 East Façade



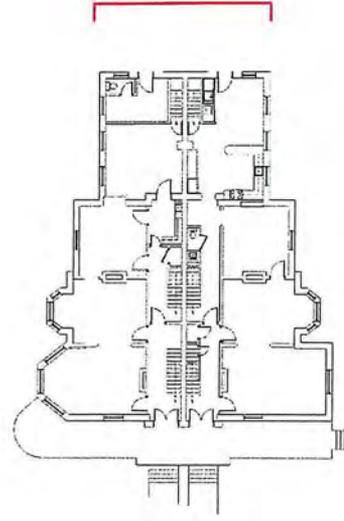
### General Notes:

- Severely weathered doors
- Missing light fixtures
- Rotted and weathered soffits
- Wood window frames generally salvageable
- Copper flashing in good condition
- Aluminum storm system at all windows

### Specific Notes:

- 4 or 5 slipping slate tiles
- Missing wood trim
- Copper downspout missing brackets
- Plywood strapped chimney
- Missing bracket
- Wood rail is rotted; metal brackets are corroded but intact
- Displaced Stair

LEGEND	
	100% Brick Repointing
	50% Brick Repointing
	25% Brick Repointing
	% Brick Repointing
	% Brick Repointing at Jamb
	% Brick Repointing under Head
	Missing Brick
	Exposed Roof Structure
	Missing Slate
	Crack
	Missing Window Lites/ Total Window Lites
	Aluminum Storm Frame
	Broken/Missing Window Frame
	Severe Wood Rot



# Building #5/6 South Façade: East End



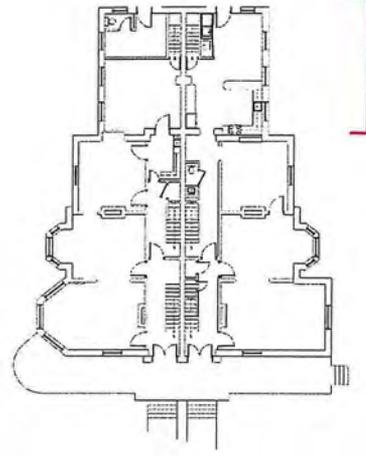
### General Notes:

- Rotting wood at soffits
- Rubber roof needs replacement
- Aluminum storm system at all windows (except at basement)
- Metal pipe straps at aluminum downspout)

### Specific Notes:

- Most brackets rotted or broken
- 100% repointing at indicated area of East face
- Opening for pipe
- Severely rusted bulkhead door
- Concrete repairs to original stone at bulkhead are deteriorating

LEGEND	
	100% Brick Repointing
	50% Brick Repointing
	25% Brick Repointing
	_% Brick Repointing
	_% Brick Repointing at Jamb
	_% Brick Repointing under Head
	Missing Brick
	Exposed Roof Structure
	Missing Slate
	Crack
	Missing Window Lites/ Total Window Lites
	Aluminum Storm Frame
	Broken/Missing Window Frame
	Severe Wood Rot



# Building #5/6 South Façade: West End



### General Notes:

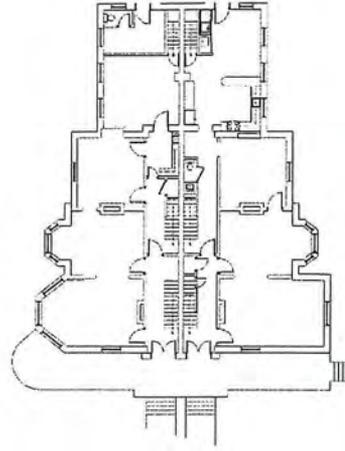
- Significant rot of soffits and gutters
- Wood window frames generally salvageable
- Remaining columns may be salvaged, with significant repair
- Copper flashing in good condition
- Porch floor has some buckling, significant weathering
- Lifting/damaged slate tiles
- Aluminum storm system at all windows (except at basement)

### Specific Notes:

- Split wood ridge
- Severe wood rot
- Significant ivy growth
- Severe rot at gutter and soffit

**LEGEND**

- 100% Brick Repointing
- 50% Brick Repointing
- 25% Brick Repointing
- % Brick Repointing
- % Brick Repointing at Jamb
- % Brick Repointing under Head
- Missing Brick
- Exposed Roof Structure
- Missing Slate
- Crack
- Missing Window Lites/ Total Window Lites
- Aluminum Storm Frame
- Broken/Missing Window Frame
- Severe Wood Rot

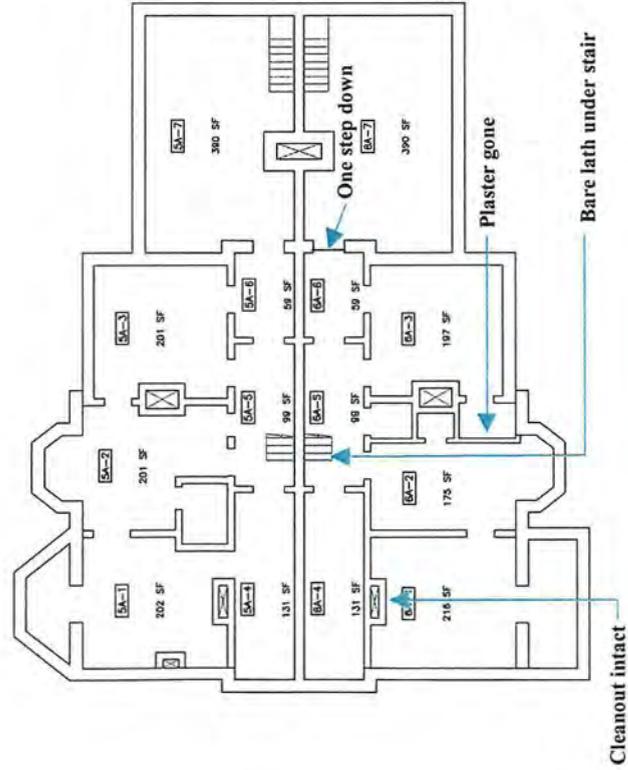


# Building #5/6 Floor Plans

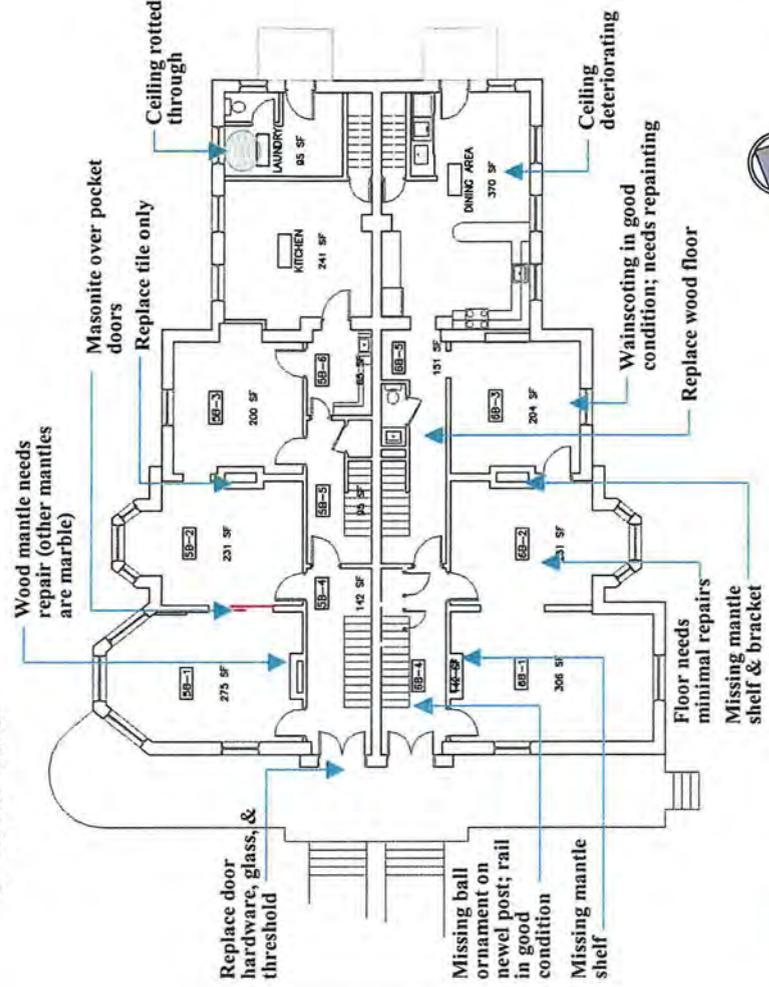
## General Notes:

- No ceilings in basement
- Brick floor in basement
- All new plaster needed
- Ceilings are panel on furring in lath (bare)

### Basement Plan



### 1st Floor Plan

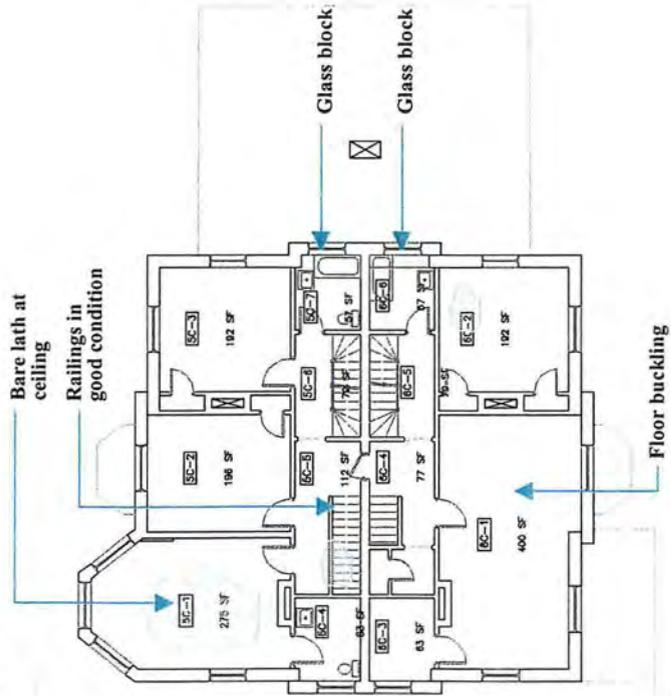


# Building #5/6 Floor Plans

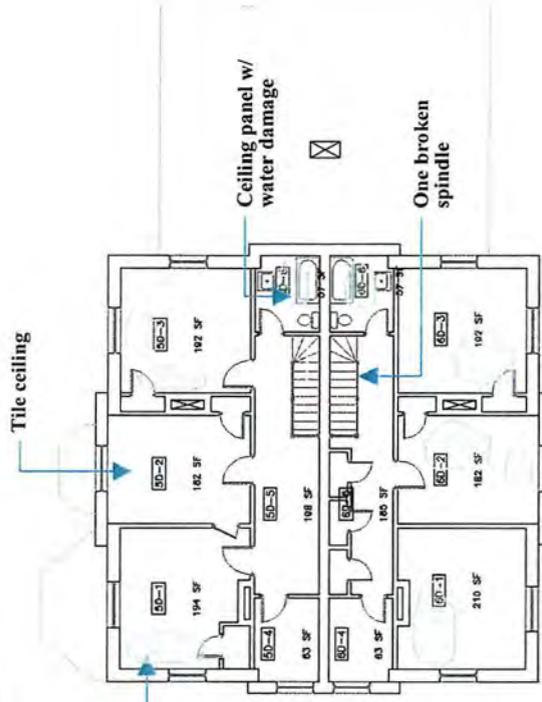
**General Notes:**

- Wood at mantles generally in good condition
- Large areas of ceiling decay
- Stair railings generally in good condition

**2nd Floor Plan**



**3rd Floor Plan**



### **3.0 Programs and Test Fits**

The campus programs identified by STCC as candidates for relocation are the Daycare center, Child Development, and the Center for Business and Technology. The Office of Michael Rosenfeld, Inc., *Architects* prepared questionnaires and programming forms to assist these programs in considering their requirements. OMR then interviewed representatives of each department, and toured the existing facilities with them. Care was taken to discuss not only current but also anticipated future needs. Meeting minutes were prepared and distributed for comment, and existing floor plans were solicited from STCC to verify space allocations and requests.

On the basis of these activities, OMR prepared charts and drawings to illustrate the program defined by each department. These may be found in **Appendix G**. This material was reviewed by STCC and became the basis for Test Fits prepared by OMR. Plan options for each program were developed within the footprint of Buildings 5/6 and 11, with care to account for entries and egress, circulation, accessibility, toilets, etc. In each case, the goal was to minimize changes to existing floor plans to accommodate the required program. Test fit materials may be found in **Appendix H**.

Based on the test fits, this study concluded that the three proposed programs were not a good fit into Buildings 5/6 and 11:

- The Center for Business and Technology required consolidation of their office and testing lab components, large computer labs, extensive parking adjacent to the building, a secure location adjacent to a campus cashier, and high visibility from the campus entrance. Neither Building 5/6 or 11 could successfully fulfill these requirements.
- Child Development runs primarily at night, students are primarily women, and safety is a significant concern. The program prefers to be in a larger building with other night-time uses in a central location, directly adjacent to parking.
- Daycare fills neither building completely, is prevented by code from occupying a third floor, would diminish the integrity of the parade ground with play structures, and incurs increased seismic retrofit costs by code.

Springfield Technical Community College and the Division of Capital Asset Management concurred with the conclusions of the report. As a result, the project shifted its focus from possible building reuse to stabilization or restoration, with further study required to find building uses and tenants. Cost estimates to fit-out Buildings 5/6 and 11 for these three programs were prepared, and may be a useful reference for this future study.

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## **4.0 Alternatives**

Three levels of rehabilitation were considered for Buildings 5/6 and 11: Stabilization, Restoration, and Reuse. The term “Stabilization” is used to describe work that would prevent further deterioration of the building by the elements with limited regard for historic accuracy or appearance.

“Restoration” refers to work that would restore the building envelope to its appearance in 1968, the year the Springfield Armory was abandoned by the military. The focus of this work is on retaining as much of the original building material as possible, duplicating in kind what cannot be repaired, and limiting as much as possible the use of modern products or materials foreign to the original construction. The exact scope of work for both Stabilization and Restoration stems from a careful documentation of the existing conditions, and consideration of the available funds.

“Reuse” encompasses all work associated with fitting out these buildings with new programs, including an appropriate level of exterior envelope work, new systems, and new interior layouts to bring the buildings into code conformance and ready for use. **Test Fits (Appendix H)** and **Cost Estimates (Appendix I)** were prepared to describe three possible programs in each building. Reuse of either Building 5/6 or 11 for any of the programs evaluated by this study was ultimately deemed unsuitable. Rather than seeking an alternate programmatic use, the focus of the study shifted to identifying work to preserve the buildings’ exteriors, while making best use of available funding.

### **4.1 Building 5/6**

**4.1.1 Stabilization** of the building would seek to identify those elements of the building most in need of repair in order to arrest further deterioration and insure the continued survival of the structure. For Building 5/6, the work was described as follows (See **Cost Estimate, Appendix I**, for detailed list):

#### A. Substructure

- Structural Repair:
  - Exterior bulkhead basement wall repair
  - Porch footing repair if required

#### B. Shell

- Structural Repair:
  - Wood porch replacement
  - Roof deck repair at leaks and at gutters
  - Parapet wall reconstruction (salvage brick)
  - Brick chimney stabilization (salvage brick)
  - Wood beam repair (floor support)
- Exterior Walls:
  - Brick replacement at missing bricks
  - Brick and stone repointing at deteriorating conditions only
  - Caulking
  - Wood trim repair to prevent water infiltration
- Windows and Doors:
  - Install Plexiglas covers at all windows to prevent vandalism
  - Reglaze at broken glass only
  - Repair extreme wood rot
  - Exterior metal bulkhead demolition and replacement
- Roof:

- 
- Slate repair and replacement (salvage slate)
  - EPDM linings to copper gutters
  - Downspouts replacement with aluminum painted to match copper
  - Copper flashing and ridge repair or replacement
  - Ice and water shield installation
  - Rubber membrane to cover existing corroded copper roofs
  - Finishes
    - Repaint all painted surfaces, including windows, doors, trim, and porch
  - C. Interiors
    - No work
  - D. Services
    - Lightning Protection:
      - Repair and replace missing components
    - Mechanical
      - Service or replace steam heating components to eliminate leaks and maintain a minimum space temperature within building to prevent freezing
    - Electrical
      - Cut power or provide for convenience power and/or lighting as required
    - Plumbing
      - Test system for integrity; shut off at main for later use (and reconfiguration)
    - Fire Protection
      - Coordinate with local fire department (and STCC administration) to determine minimum requirements. Due to proximity and rapid response time of local fire department (2 minutes reported by STCC), this study recommends installing a fire alarm and detection devices connected to Main Gate guardhouse.
  - E. Equipment & Furnishings
    - No work
  - F. Special Construction & Demolition
    - Demolition only as required to support repairs
    - Hazardous Materials abatement as required by law
  - G. Building Sitework
    - Utility shutoff at mains
    - Roof leader cut off at grade and surface pipe (or splash block) away from structure
    - Remove ineffective temporary perimeter fence (orange)
    - Stone step and metal rail repair for safety

**4.1.2 Restoration** of Building 5/6 would include the following work:

- A. Substructure
  - Structural Repair:
    - Exterior bulkhead basement wall repair
    - Porch footing repair if required
- B. Shell
  - Structural Repair:
    - Wood porch replacement, salvaging as much as possible, adding wood ramps to match
    - Wood beam repair (floor support)
    - Brick chimney dismantling and reconstruction, reusing existing brick
    - Parapet wall reconstruction

- Roof:
    - Copper & Slate roof replacement: 100%, salvage slate, remove asbestos paper, repair deck
    - Copper gutter replacement: 100%
    - Copper downspouts replacement: 100%
    - Copper flashing and ridge repair or replacement
    - Ice and water shield installation
  - Exterior Walls:
    - Brick replacement at missing or broken bricks only
    - 100% brick and stone repointing for uniform appearance
    - 100% Caulking
    - Repair or replacement of exterior wood trim, fascias, soffits, shutters
  - Windows and Doors:
    - Install storm windows at all openings
    - Repair existing windows, including custom milling of replacement components
    - Repair or replace all door and window hardware.
    - Exterior metal bulkhead demolition and replacement
  - Finishes
    - Repaint all painted exterior surfaces
- C. Interiors
- No work
- D. Services
- Lightning Protection:
    - Repair and replace missing components
  - Mechanical
    - Service or replace steam heating components to eliminate leaks and maintain a minimum space temperature within building to prevent freezing.
  - Electrical
    - Cut power or provide for convenience power and/or lighting as required
  - Plumbing
    - Test system for integrity; shut off at main for later use (and reconfiguration)
  - Fire Protection
    - Coordinate with local fire department (and STCC administration) to determine minimum requirements. Due to proximity and rapid response time of local fire department (2 minutes reported by STCC), this study recommends installing a fire alarm and detection devices connected to Main Gate guardhouse.
- E. Equipment & Furnishings
- No work
- F. Special Construction & Demolition
- Demolish existing wood porch
  - Demolition to support repairs
  - Hazardous Materials abatement as required by law
- G. Building Sitework
- Utility shutoff at mains
  - Repair and cleaning or replacement of subsurface drainage systems
  - Remove ineffective temporary perimeter fence (orange)
  - Stone step and metal rail repair for safety
-

**4.1.3 Reuse** of Building 5/6 was considered by evaluating three programs recommended by STCC for relocation (See **Appendix G. Programs** and **Appendix H. Test Fits**). On the basis of the material developed in the Programming phase, OMR developed a Test Fit package to investigate how each of these programs could be accommodated in each of the study buildings.

Building 5/6 proved problematic for all of the programs. The residential scale of the building, with many small rooms, is difficult to utilize in a business or educational setting. Furthermore, the method of construction makes change relatively difficult and very intrusive to the interior, which still boasts period details. Accessibility requirements would have a severe and detrimental effect on the building as well, requiring insertion of an elevator.

Daycare in particular is a poor fit in this building. Code prohibits daycare on a third floor, thus Building 5/6 and would have an empty upper floor with this use. Furthermore, introducing Daycare as a change of use increases the Seismic Hazard Index to 2, requiring extensive and costly additional seismic retrofit. This remains the case even though Buildings 5/6 and 11 are classified as “Partially Preserved”, by special qualification in the code. For these reasons, Daycare was disqualified.

Both CBT and Child Development require large labs and classrooms. Building 5/6 handles this poorly due to the small rooms as described in the accompanying documentation. This study concluded that Building 5/6 was not suitable for the three programs identified by STCC as likely candidates for relocation.

Reuse of Building 5/6 is presented here for reference when a use is identified for the structure. Reuse requires all work described under Restoration above, in addition to the following:

A. Substructure

- Elevator substructure

B. Shell

- Structural Engineering
  - Replace damaged structural elements and structural upgrade as required by code
  - For Day Care (E or I-2), address special seismic hazards only as required for “partially preserved historic buildings”
  - For Center for Business Technology or Child Development, Business use (B), insure no reduction in lateral stability due to renovations and address special seismic hazards only as required for “partially preserved historic buildings”
- Energy Code Compliance
  - Install storm window system
  - Supplement existing building envelope (insulate attic and walls) in conjunction with any fit-out project
- Thermal and Moisture Protection
  - Insulation of all exterior walls and attic floors
  - Interior caulk at wall openings
  - Elevator pit waterproofing

C. Interiors

- Building Configuration
  - Maintain existing circulation elements, add elevator and explore options for relocating added stairway (for occupancy>50) and minimize reconfiguration for reuse.
- Building Code Compliance - For more comprehensive building code information, please reference **Appendix J. Codes and Standards**.

Provide new labeled doors, hardware and hold-opens as required  
 Provide one accessible rated stair enclosure for occupancy<50  
 Provide two accessible rated stair enclosures for occupancy>50

- Accessibility Compliance
  - Replace door hardware
- Metals
  - Light gage partition framing systems.
  - Miscellaneous metals
- Wood and Plastics
  - Stair repair and stair rail replacement
  - Balcony rail replacement
  - Floorboard repair and limited in-kind replacement
- Doors and Windows
  - Interior windows and doors
  - Fire door replacement (if required)
  - Hardware
- Finishes
  - Repaint all painted surfaces
  - Ceiling, wall and floor finishes
  - Trim

#### D. Services

- Building Code Compliance - For more comprehensive building code information, please reference **Appendix J. Codes and Standards**.
  - Provide new sprinkler system
  - Provide a fire alarm system
- Energy Code Compliance
  - Replace existing MEP components as required based on age, physical condition, performance, and remaining useful life expectancy with new energy code-compliant components
- Accessibility Compliance
  - Provide accessible fire alarm pull stations and strobes
  - Provide accessible toilet facilities
  - Provide accessible drinking fountains
  - Provide accessible stair rails
  - Provide accessible signage
  - Provide all other code and ADA required systems and services for equal access regardless of physical ability
- Mechanical
  - New HVAC systems
- Electrical
  - All new primary and secondary distribution systems
  - All new lighting systems
  - All new voice/data systems
  - All new security systems
  - Complete fire detection and alarm system to meet code, supplementing system installed under restoration or stabilization above if required.
- Plumbing
  - New plumbing systems, including all new toilet rooms
- Fire Protection

- 
- New sprinkler system
  - E. Equipment & Furnishings
    - Equipment
    - Furnishings
      - Signage
      - FF&E
      - Shades
    - Conveying Systems
      - New elevator
  - F. Special Construction & Demolition
    - Demolition
      - Hazardous materials abatement: 100%
      - Removal of all water damaged ceiling, wall, and floor elements
      - Removal of all required interior partitions
  - G. Building Sitework
    - Accessibility Compliance
      - Review pedestrian site circulation patterns (adjacent to the building) and consider re-grading options and/or accessible ramp incorporation
      - Review accessible parking space and drop-off location(s) and provide a more direct accessible route to building
    - Develop main entry sequence
    - Incorporate limited parking on site, or on adjacent site
    - Mitigate accessibility issues relative to site circulation
    - Explore the possibility of incorporating exterior student gathering spaces adjacent to the building and incorporate site furnishings
    - New utility connections, incl. water, steam, data (campus fiber), telephone, electric, sewer
    - Repair and clean or replace roof and site drainage structures
    - Excavation
      - New underground water, sanitary, electrical, data, roof drainage
      - New elevator pit
    - Concrete
      - Exterior curbs, steps, walls

## 4.2 Building 11

**4.2.1 Stabilization** of the building would seek to identify those elements of the building most in need of repair in order to arrest further deterioration and insure the continued survival of the structure. For Building 11, the work was described as follows (See **Cost Estimate, Appendix I**, for detailed list):

### A. Substructure

- Exterior bulkhead basement wall repair
- Porch foundation repair if required

### B. Shell

- Roof:
  - Slate repair and replacement (maximize slate salvage)
  - EPDM linings to copper gutters
  - Downspouts replacement with aluminum painted to match copper
  - Copper flashing and ridge repair or replacement
  - Ice and water shield installation
  - Rubber membrane to cover existing corroded copper porch roofs

## **5.0 Recommendations**

In determining the recommended scope of work several factors were weighed against one another: Programming suitability, Preservation of the buildings, Historical aesthetic, and Budget and Schedule.

Programming and Test Fits (See **Appendices G,H**) show that none of the three programs considered for relocation to Buildings 5/6 or 11 prove to be feasible. Pending further study of other possible uses, reuse is not recommended for either structure at this time. The college and DCAM will continue to seek an appropriate use for the buildings as well as potential alternate funding sources for the cost of interior fit-out.

If no action is taken the result will be continued deterioration of Buildings 5/6 and 11. At minimum, the project will prevent the buildings from further deterioration by repairing or restoring building elements that allow damage caused by weather and animal infiltration. Because the buildings will remain unoccupied for the time being, it is recommended that measures be taken to prevent vandalism and to promote continued maintenance of the building envelope.

According to a "Memorandum of Understanding Between the United States of America and the Commonwealth of Massachusetts" (Mu-1600-8-9001 dated August 21, 1999), the Campus is part of a "Preservation Control Area". The agreement describes three levels of building preservation. Buildings 5/6 and 11 are considered Level 1: "Building treatment under this category will be defined by the Secretary of the Interior. Every effort will be made to stabilize and maintain the Historic exterior appearance of those buildings within this category." According to the Secretary of the Interior's Standards for Preservation (<http://www2.cr.nps.gov/tps/secstan4.htm>), Preservation is defined as "the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. The recommended scope of work will be developed in a manner consistent with these standards.

Restoration of the exterior envelope (as described in **4.0 Alternatives**) is recommended for Building 11 in order to completely use the Massachusetts Historic Commission (MHC) grant of \$714,000 designated specifically for work to that building. General Obligation funds will be used in addition to the grant. The estimated construction cost for Building 11 is \$958,425. Because work to Building 5/6 will be funded by General Obligation funds, and because the building will remain vacant at this time, it is recommended that no funds be expended that are beyond meeting the other basic project goals as described above in this section. A more comprehensive renovation will be undertaken once an appropriate occupant and use has been identified. The estimated construction cost for Building 5/6 is \$336,785.

The MHC grant of \$714,000 will expire on June 30, 2003 if the project is not under contract. Because of this tight schedule the feasibility of bidding Buildings 5/6 separately from Building 11 was considered. Because the scope of work for each building is similar, which offers an economy of scale to the project, it is recommended that both buildings be bid as one project.

### **5.1 Building 5/6**

The scope of stabilization for Building 5/6 defined under **4.0 Alternatives**, is further detailed as follows:

**Substructure:** Foundation, Basement. The existing basement of Building 5/6 is largely brick and in excellent condition. The floor is looselaid brick showing no evidence of moisture damage. Given the

good condition of the basement, no exterior moisture proofing is recommended. Porch foundations may ultimately require renovation, but this is beyond the scope of simple stabilization.

**Shell:** Super Structure, Exterior Enclosure, Roofing. While the building appears essentially sound, significant signs of moisture penetration indicate a need to repair the envelope. Repointing of the brick walls only where the mortar is deteriorating is recommended to maximize repair while minimizing cost. Though mortar will be sampled and composition matched, this may result in an inconsistent appearance due to the weathering of the existing mortar.

The intersection of roof and wall requires extensive repair to prevent further moisture penetration into the body of the brick walls from the top.

Though there is evidence of corrosion in the fasteners securing slate to the roof, and this may be endemic to the roof, this study recommends simply repairing areas of missing slate. A complete roof replacement would require removal of asbestos containing paper, and the cost is significant. The upper mansard roof and the lower flat roof both need replacement, and we recommend an EPDM membrane: the cost is low compared to the original copper, and these surfaces are not visible from the surrounding area. Gutters and downspouts will be replaced with new copper gutters and downspouts.

Windows and doors are reasonably sound, with some damage to frames, muntins and glass. This study recommends covering the windows with Plexiglas, a strategy STCC successfully employed on Building 19. The Plexiglas is reasonably inexpensive, minimizes visual disruption and offers excellent protection against vandalism and animal entry. Rotting woodwork should be repaired where it offers opportunity for water penetration or animal entry, and all painted surfaces require sanding and painting. Paint color must be matched to existing color.

Wood porches show extensive deterioration, and it is recommended that they be replaced, preserving any salvageable materials and details.

**Interiors:** Interior Construction, Stairs, Interior Finishes. No interior work is recommended for this project. Any interior work would of necessity be linked to a reuse proposal or risk being redone or reconsidered.

**Services:** Conveying, Plumbing, HVAC, Fire Protection, Electrical. No conveying project is recommended since location and fitout would depend on a reuse proposal.

Plumbing systems must be made tight to insure no leakage and shut down to insure no danger of water loss or damage.

HVAC systems, to the extent that they exist, must be made tight to prevent water damage and sufficiently functional to prevent freezing.

Electrical systems must be shut down, or some minimal convenience power and lighting may be provided as determined by the College. Power for fire detection and alarm systems will be required.

Fire Protection systems do not exist, but some measure of protection is required. Given the proximity and rapid response time (2 minutes reported by STCC) of the local fire department, a simple detection and alarm system tied to the main gate is recommended.

**Equipment and Furnishings:** (none)

**Special Construction and Demolition:** Selective Building Demolition. The state of the building requires selective demolition in order to affect repairs. Existing rubber membrane roofs must be removed for replacement since only one reproofing application is allowed by code. Assorted woodwork and porch components vital to the safety, weather resistance or structural integrity of the building will be removed and replaced. Door hardware will be replaced where necessary to secure the building. As a stabilization project, this scope is intended to be minimal.

**Site:** Site Preparation, Site Improvements, Site Utilities. Site work is minimal. The basement is sufficiently dry and intact, and perimeter damp or waterproofing is not recommended. Site stairs are to be repaired for safety, and roof drainage must be led away from the building by cutting downspouts and installing splash blocks, or by cleaning the existing underground drainage. No other work is anticipated at this time.

## 5.2 Building 11

The scope of stabilization for Building 11 defined under **4.0 Alternatives**, is detailed as follows:

**Substructure:** Foundation, Basement. The existing basement of Building 11 is a mixture of concrete, stone and block. Evidence of moisture penetration through the basement wall suggests perimeter waterproofing. This task is postponed however, until the basement is occupied. Porch foundations will require investigation, leveling and possible repair or replacement. Several wood beams in the basement require reinforcing or repair where they rest on the basement wall.

**Shell:** Super Structure, Exterior Enclosure, Roofing. The brick gable end walls and chimneys of Building 11 are separating from the building and require partial rebuilding. This study recommends dismantling these walls to their midpoint off the ground, and reconstructing them with the salvaged brick. Complete repointing of all brick is recommended for uniformity of appearance.

The intersection of roof and wall requires extensive repair to prevent further moisture penetration into the body of the brick walls from the top.

Evidence of corrosion in the fasteners securing slate to the roof suggests a complete roof replacement may be required. However, this study recommends more detailed study of the roof in the next phase of the project before committing to complete replacement, primarily due to the expense. For now, the cost estimate includes complete roof slate replacement, removal of asbestos-containing building paper, and repair as required of the underlying roof deck. All copper components, including snow rails, ridge, and parapet flashing, gutters and downspouts are proposed to be replaced in kind, though some salvage and repair may ultimately be possible.

Windows and doors appear reasonably sound, with some damage to frames, muntins and glass. The Massachusetts Historic Commission recommends repair of the existing windows with custom wood extrusions and single glazing, and installation of storm windows to reduce heat loss and provide some protection against vandalism and animal entry. To insure protection against vandalism, exterior Plexiglas storm windows are recommended. All painted surfaces require sanding and repainting.

Wood porches and bulkhead show extensive deterioration and require complete rebuilding. Some amount of wood salvage and repair may ultimately be possible but complete replacement is carried in the cost estimate.

**Interiors:** Interior Construction, Stairs, Interior Finishes. Since hazardous material removal will already be required for the roof paper, and fecal matter in the building is so repugnant, the project proposes to abate all hazardous and fecal matter in the building in this project. No other interior work other than structural repair is proposed.

**Services:** Conveying, Plumbing, HVAC, Fire Protection, Electrical. No conveying project is recommended since location and fitout would depend on a reuse proposal.

Plumbing systems must be made tight to insure no leakage and shut down to insure no danger of water loss or damage.

HVAC systems, to the extent that they exist, must be made tight to prevent water damage and sufficiently functional to prevent freezing.

Electrical systems must be shut down, or some minimal convenience power and lighting may be provided as determined by the College. Power for fire detection and alarm systems is required.

Fire Protection systems do not exist, but some measure of protection is required. Given the proximity and rapid response time (2 minutes reported by STCC) of the local fire department, a simple detection and alarm system tied to the main gate is recommended.

**Equipment and Furnishings:** (none)

**Special Construction and Demolition:** Selective Building Demolition. Extensive dismantling of the existing building is required. If roof slates are determined to require replacement due to fastener corrosion, then the roof must be removed, taking care to salvage the slate. The gable end walls and chimneys must be partially dismantled and the brick salvaged. The wood porches must be dismantled, and sound wood components like ornate balustrades salvaged if possible for reuse. Severely damaged wood windows must be removed for repair in a shop. Doors will require all new hardware and must be removed for refurbishing.

**Site:** Site Preparation, Site Improvements, Site Utilities. Site work is minimal. Roof drainage must be cleaned, repaired or replaced and may require trenching for new pipe. Notification of Massachusetts Historical Commission and an Archeological Assessment are required for any subsurface disturbance. Video inspection of the pipes at the next project phase may save work in this regard. Without an intended use, no effort is recommended in terms of curbs and paving.

### 5.3 Outline Specifications

The following specifications detail the intended work at Buildings 5/6 and 11:

#### 5.3.1 Building 5/6 Stabilization

##### A. Substructure

##### A10 Foundations

##### A1010 Standard Foundations

1. Remove sufficient porch floorboards to investigate porch foundations. Reconstruct foundations if required maximizing use of existing material.
2. Investigate rear stone step foundation after stone step removal and reconstruct if required, maximizing use of existing material.

## B. Shell

## B10 Superstructure

## B1010 Floor Construction

1. Repair wood beams in basement supporting first floor, where sagging or buckling. Install new, pressure-treated structural wood reinforcing to both sides of buckling wood beams.

## B1020 Roof Construction

1. Reinforce at diagonal crack in roof framing.
2. Rebuild, reinforce or brace unreinforced brick structure, including chimneys, parapets, and pediments. Salvage all existing brick. Remove sample of existing mortar for lab analysis: mortar color and composition to match original.
3. Replace existing wood porches to match original. Custom mill components as required to match historic detail. Salvage and reuse existing elements to the greatest extent possible. Install pressure treated material for all structural elements. Use kiln-dried material, #2 or better, and paint to match existing.

## B20 Exterior Enclosure B2010 Exterior Walls

1. Repoint brick and stone at deteriorating mortar only, with mortar color and composition to match original.
2. Replace missing brick with brick to match original.
3. Replace rotting wood trim, soffits and details providing insect, animal or moisture penetration through the building envelope. Custom mill to match existing sizes and profiles. Repaint to match existing.
4. Scrape, putty and repaint all existing painted surfaces to match existing color.

## B2020 Exterior Windows

1. Replace deteriorating wood trim, sills and jambs. Custom mill size and shape to match existing. Finish to match existing.
2. Replace missing or broken glass with new, single pane glazing.
3. Recaulk all windows.
4. Install new exterior Plexiglas glazing in wood frames to exterior over existing windows. Paint wood frames to match existing wood. Plexiglas to be two sheets overlapping by min. 6" to insure air movement between Plexiglas and window. Weep condensation through Plexiglas frames.

## B2030 Exterior Doors

1. Replace double bulkhead doors at north and south sides to match existing. (See F2010 Building Elements Demolition).
2. Replace existing door security and any broken hardware to match existing. Provide keying system compatible with STCC standard.

## B30 Roofing

## B3010 Roof Coverings

1. At all missing slate:
  - a. Remove existing asbestos containing roofing paper and replace with new paper, lapping appropriately to shed water. (See F2020 Hazardous Components Abatement).
  - b. Repair any deteriorating roof deck exposed by paper removal.
  - c. Install new slate to match existing slate as follows: Replace slate from existing stockpiles. If unavailable, perform sufficient analysis on existing slate to determine original quarry of origin. If unavailable from original quarry, match as closely as possible from existing sources.

2. At all flat roofs:
  - a. Remove existing re-roofing material to original roof covering. (See F2010 Building Elements Demolition).
  - b. Install mechanically fastened EPDM membrane over entire flat roof, providing appropriate accessories to accommodate roof penetrations and necessary flashing.
3. At porch roofs:
  - a. Install flat seam copper roof, sheet size and application to match original, providing appropriate accessories to accommodate necessary flashing.
4. At flashing and detailing:
  - a. Repair existing flashing in place where feasible by patching with similar materials.
  - b. Where repairs are not feasible, remove existing flashing and replace with similar material. Salvage and reuse any slate roofing removed to replace flashing. (See F2010 Building Elements Demolition).
  - c. Flash all roofing into new copper gutters with ice and water shield to 3' above gutter. Salvage and reuse any slate roofing removed to install ice and water shield. (See F2010 Building Elements Demolition).

## C. Interiors: Not Used.

## D. Services

## D10 Conveying

Not Used

## D20 Plumbing

## D2020 Domestic Water Distribution

1. Close water supply valve and drain system to prevent freeze damage. Inspect system to insure no leakage.

## D2040 Rain Water Drainage

1. Replace deteriorating downspouts with copper downspouts to match original copper. (See F2010 Building Elements Demolition).
2. Where existing site drainage is functional, direct downspouts into existing underground piping. (See G3030 Storm Sewer). Where existing site drainage is not functional, install copper leaders to match original copper, to 4' from building envelope. Install splash block to distribute flow.

## D30 HVAC

## D3040 Distribution Systems

1. Inspect existing steam and hot water distribution systems and repair any leaks or malfunctions. Replace control valves as required. Replace or install radiators as required.

## D3070 Systems Testing and Balancing

1. Insure adequate steam supply and heat distribution to prevent freezing.

## D40 Fire Protection

See D50 Electrical

## D50 Electrical

## D5010 Electrical Service and Distribution

1. Disconnect electrical service, except for fire detection and alarm system.

## D5030 Communications and Security

1. Install heat and smoke detection equipment to meet code.
2. Install connection to main entry gate alarm system through existing underground conduit.

## D5090 Other Electrical Systems

1. Repair or replace missing or damaged components of existing lightning protection system with identical materials.

E. Equipment and Furnishings: Not Used

F. Special Construction & Demolition

F10 Special Construction: Not Used

F20 Demolition                      F2010 Building Elements Demolition

1. Remove wood porch floorboards sufficient to inspect porch foundations.
2. Remove for reuse existing roofing slate sufficient to repair or install flashing (See B3010 Roof Coverings).
3. Remove existing bulkheads.
4. Remove for reuse stone steps at kitchen and porch entries.
5. Remove wood porch, salvaging material to the greatest extent possible.
6. Remove deteriorating metal downspouts.

F2020 Hazardous Components Abatement

1. Remove asbestos-containing roofing paper at all roof repairs.

G. Building Sitework

G10 Site Preparation: Not Used

G20 Site Improvements: Not Used

G30 Site Utilities                      G3030 Storm Sewer

1. Inspect underground roof drainage system and test for proper drainage.

G40 Site Electrical:              Not Used

G90 Other Construction: Not Used

**5.3.2 Building 11 Restoration**

A. Substructure

A10 Foundations                      A1010 Standard Foundations

1. Investigate porch foundations after porch demolition and reconstruct if required, maximizing use of existing material. Notify Massachusetts Historical Commission prior to any site disturbance and determine need for Archeological Assessment.
2. Repair stone foundation supporting wood bulkhead. Notify Massachusetts Historical Commission prior to any site disturbance and determine need for Archeological Assessment.
3. Install new handicap ramp footings. Notify Massachusetts Historical Commission prior to any site disturbance and determine need for Archeological Assessment.

B. Shell

B10 Superstructure                      B1010 Floor Construction

1. Repair wood beams in basement supporting first floor, where sagging or buckling. Install new, pressure-treated structural wood reinforcing to both sides of buckling wood beams.
2. Clean and recoat existing ornamental cast iron columns in basement.
3. Replace existing wood porches to match original. Custom mill elements as required matching historic detail. Salvage and reuse existing elements to the greatest extent possible. Install pressure treated material for all structural elements. Use kiln dried material, #2 or better. Paint to match existing.
4. Install new, wood handicap ramp at new, wood porch facing street. Match existing porch balustrade details, flooring and finishes.

## **Appendix G. Program**

Springfield Technical Community College identified the departments for possible relocation to Buildings 5/6 or 11. Department heads from Springfield Technical Community College, management staff from the Division of Capital Asset Management and architects from the Office of Michael Rosenfeld worked in partnership in the programming effort for these departments. The following materials are the products of the programming process. They include for each program a written and graphic program summary, relationship diagrams, and existing plans. Programming meeting notes may be found in **Appendix E**. The efficiency factor (net to gross area ratio) for the programs is assumed to be 1.3.

### **Center for Business and Technology**

Existing Size: 8,350 gsf

Proposed Size: 8,950 gsf

This non-academic program offers computerized testing capabilities and workforce development and hobby courses to business and the public. It sells these services through a marketing component currently located in Building 15, and maintains computer testing facilities in Building 2. The marketing component is essentially office space, with open workstations, some closed offices and a conference room. The testing facility is largely composed of labs filled with computer workstations. We understand that the program would prefer not to be split into two buildings, and that the marketing component in particular prefers to be near a campus entry. Because the program caters to businesses not typically familiar with the campus, it needs to be easily located. The marketing component also receives money and needs a location near a cashier. The cashier is currently located in Building 15, directly adjacent to the existing CBT facility.

Building 5/6 was considered particularly problematic for CBT. The small rooms don't lend themselves to large computer labs, parking is extremely limited, and the location is too far from a cashier and the campus entrance. However, they did express interest in an executive training facility with overnight accommodation in Building 5/6. This program does not currently exist.

### **Child Development**

Existing Size: 3,680 nsf

Proposed Size: 4,950 nsf

Child Development is an academic program located currently in Building 13, focusing students on teaching and raising children. The program runs primarily at night, with only 20 daytime students and 2 classes of 25 students running 4 nights per week. Students are primarily women, and safety is a significant concern. The program prefers to be in a larger building with other night-time uses directly adjacent to parking.

Students do a project every term, and the display of these projects attracts 150-200 visitors. A considerable amount of display space is required to successfully run this event. Teachers own all their own teaching materials, and require oversized offices to store it. Storage outside the office is undesirable due to concerns about losing them to theft or carelessness. The program needs a large lab classroom and a lecture room.

The program expressed concerns about both Buildings 5/6 and 11 due to isolation, remoteness, and lack of adjacent parking. The program does not want to be isolated in their own building. Building 5/6 does not have a room sufficiently large for the lab classroom.

**Daycare**

Existing Size: 3,715 nsf

Proposed Size: 4,510 nsf

Daycare is currently located in Building 20 on the second floor. Building 20 is undergoing a larger reorganization due to an asbestos abatement project, making relocation opportune but also implicating this program in that project. In other words, its relocation may also be considered in conjunction with the other programs in Building 20.

Daycare is currently licensed for 2 classes of up to 20 preschool children, but the director foresees expanding to an additional class of 9 toddlers. Parent drop-off is a concern, and must be accommodated smoothly near the facility. Most, but not all, parents work at STCC and park elsewhere. The program also receives prepared foods delivered by Holyoke Headstart. The program requires proximity to a secure outdoor play area with play structures as a condition of licensure.

Daycare needs to be on a single floor and requires large, sunny classrooms with toilets and sinks mounted at child-appropriate height. Janitorial services are frequently required and must be easily acquired.

Teachers are constrained by the schedule to eat lunch during the children's rest period, thus ready access to food service is important.

These issues disqualified both Buildings 5/6 and 11. Building 5/6 did not have rooms sufficiently sized for classrooms, and did not allow the entire program to fit on a single floor. The program is too small to fill the entire building, and is not allowed by code to occupy the third floor. Building 11 also required a multi-floor layout and left the third floor unoccupied.

Concern about the outdoor play area with its plastic play structure diminishing the historic appearance of the parade ground further compromised the potential fit. Secretary of the Interior design guidelines preclude the possibility of locating a secure play area on or visible from the parade grounds.

Isolating the program in Buildings 5/6 or 11 also increases inconveniences for the program: janitorial services would presumably be less easily acquired, and food service would be more remote.

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