



**US Army Corps
of Engineers®**
Engineer Research and
Development Center

ERDC
INNOVATIVE SOLUTIONS
for a safer, better world

Fort Leonard Wood Lake of the Ozarks Recreation Area, NRHP Section 110 Inventory and Evaluation

Sunny E. Adams and Adam D. Smith

June 2016



The U.S. Army Engineer Research and Development Center (ERDC) solves the nation's toughest engineering and environmental challenges. ERDC develops innovative solutions in civil and military engineering, geospatial sciences, water resources, and environmental sciences for the Army, the Department of Defense, civilian agencies, and our nation's public good. Find out more at www.erdcl.usace.army.mil.

To search for other technical reports published by ERDC, visit the ERDC online library at <http://acwc.sdp.sirsi.net/client/default>.

Fort Leonard Wood Lake of the Ozarks Recreation Area, NRHP Section 110 Inventory and Evaluation

Sunny E. Adams and Adam D. Smith

*Construction Engineering Research Laboratory
U.S. Army Engineer Research and Development Center
2902 Newmark Drive
Champaign, IL 61822*

Final report

Approved for public release; distribution is unlimited.

Prepared for Fort Leonard Wood, Directorate of Public Works, Environmental Division
Fort Leonard Wood, MO

Under Project 450959, "Evaluation of 85 Facilities for the NRHP at Fort Leonard
Wood"

Abstract

This document is an architectural survey of 68 buildings and structures located at the Fort Leonard Wood Lake of the Ozarks Recreation Area (LORA), Missouri and constructed from 1960–1970, for eligibility to the National Register of Historic Places (NRHP). This survey satisfies Section 110 of the National Historic Preservation Act of 1966 as amended, and was used to determine the eligibility of these buildings and structures for inclusion on the NRHP.

It is the recommendation of this report that none of the buildings are individually eligible for the NRHP, and the LORA is not eligible as a historic district.

DISCLAIMER: The contents of this report are not to be used for advertising, publication, or promotional purposes. Citation of trade names does not constitute an official endorsement or approval of the use of such commercial products. All product names and trademarks cited are the property of their respective owners. The findings of this report are not to be construed as an official Department of the Army position unless so designated by other authorized documents.

DESTROY THIS REPORT WHEN NO LONGER NEEDED. DO NOT RETURN IT TO THE ORIGINATOR.

Contents

Abstract	ii
Figures and Tables	v
Preface	x
Unit Conversion Factors	xi
Abbreviations	xii
1 Methodology	1
1.1 Background.....	1
1.2 Objective.....	4
1.3 Approach.....	7
1.3.1 Previous reports.....	7
1.3.2 Current project.....	7
1.3.3 Site visit.....	7
1.4 Researchers.....	7
2 Historic Context	9
2.1 Introduction.....	9
2.2 History prior to the development of LORA.....	9
2.3 Development of LORA.....	10
3 LORA Buildings and Facilities	19
3.1 Camp site buildings and facilities.....	19
3.1.1 Building 144 (enlisted UPH), 1970.....	19
3.1.2 Building 146 (Dining Facility), 1970.....	22
3.1.3 Buildings 400 and 401 (separate toilet/shower), 1969.....	27
3.1.4 Building 500 (NAF [nonappropriated funds] sales outlet), 1961.....	29
3.1.5 Building 505 (boat house), 1961.....	33
3.1.6 Building 506 (general item repair), 1961.....	36
3.1.7 Building 528 (administrative general purpose), 1961.....	39
3.1.8 Building 537 (marine fuel facility), 1961.....	44
3.1.9 Building 549 (recreation shelter), 1961.....	45
3.1.10 Building 550.....	51
3.1.11 Building 555 (separate toilet/shower), 1961.....	55
3.1.12 Building 560 (administrative general purpose), 1961.....	58
3.2 Accommodation sites.....	64
3.2.1 Rental cabins.....	65
3.2.2 RV hook-up sites.....	69
3.2.3 Rustic campsites.....	70
3.3 Support utilities.....	71

3.3.1	<i>Building 150 (water well potable), 1961</i>	72
3.3.2	<i>Building 151 (sewage lift station), 1961</i>	72
3.3.3	<i>Building 538 (vehicle fuel MOGAS), 1961</i>	73
3.3.4	<i>Building 561 (water well potable), 1961</i>	74
3.3.5	<i>Buildings 561A and 561 B</i>	76
3.3.6	<i>Building 610 (sewage lift station), 1961</i>	78
3.3.7	<i>Building 780 (Industrial waste treatment), 1961</i>	78
3.3.8	<i>Building 781 (IND waste treatment), 1961</i>	79
3.3.9	<i>Other support facilities located at LORA (with no building numbers)</i>	80
3.4	Roads, sidewalks, pavements, parking lots, retaining walls, drainage ditches.....	83
3.4.1	<i>Roads</i>	86
3.4.2	<i>Sidewalks</i>	88
3.4.3	<i>Pavements/parking lots</i>	92
3.4.4	<i>Retaining walls</i>	95
3.4.5	<i>Ditches</i>	96
3.5	Marina, docks, and piers.....	97
3.6	Recreation area/pavilions.....	100
3.7	Newer buildings.....	103
3.8	Not-surveyed structures.....	105
4	Inventory Results	107
4.1	Categories of historic properties.....	107
4.2	Criteria for evaluation.....	108
4.3	Aspects of historic integrity.....	108
4.1	Significance.....	110
4.1.1	<i>State or local significance</i>	110
4.2	Final determinations of eligibility.....	110
	References and Resources	113

Report Documentation Page

Figures and Tables

Figures

Figure 1. Map with location of LORA (dot B) relative to FLW (dot A and area around it shaded in beige) (www.bing.com , accessed January 2016).....	2
Figure 2. Site map of LORA buildings, facilities, docks, and recreation areas (accessed January 2016 from www.fortleonardwoodmwr.com).....	3
Figure 3. 1959 USGS Toronto Quad Map, with red outline showing the future location of LORA (USGS).	9
Figure 4. Location map showing the surrounding towns and counties, 1960 (DPW, FLW).	10
Figure 5. Recreation area site and location map with legal description of tract of land for LORA (DPW, FLW).	12
Figure 6. Proposed drawing for the site of LORA, 1960 (DPW, FLW).....	13
Figure 7. Site and utilities map for the southern recreation area (Whiteman Air Force Base), 1961 (DPW, FLW).....	14
Figure 8. General site map of the north and south recreation area with the leasing information highlighted in red, 1967 (DPW at FLW; modified by ERDC-CERL, 2015).	16
Figure 9. FLW recreation center, basic information map, 1978 (DPW, FLW).	17
Figure 10. Location map of south recreation area from 1961 [left] compared to the location of Building 144 on a 1978 map [right] (DPW, FLW).....	19
Figure 11. Looking east from the lower gravel road upward to Building 146 [left] and Building 144 [right] (ERDC-CERL, 2015).	20
Figure 12. West elevation of Building 144 (ERDC-CERL, 2015).	21
Figure 13. East elevation of Building 144 (ERDC-CERL, 2015).	21
Figure 14. South elevation of Building 144 (ERDC-CERL, 2015).....	22
Figure 15. Location map of south recreation area from 1961 [left] compared to the location of Building 146 on a 1978 map [right] (DPW, FLW).....	23
Figure 16. Looking east from the lower gravel road upward to Building 146 [left] and Building 144 [right] (ERDC-CERL, 2015).	24
Figure 17. Southwest oblique of Building 146 (ERDC-CERL, 2015).	24
Figure 18. West elevation of Building 146 (ERDC-CERL, 2015).	25
Figure 19. Southeast oblique of Building 146 (ERDC-CERL, 2015).	25
Figure 20. Close-up of metal-sash slider window, wood fascia, and metal roof decking on Building 146 (ERDC-CERL, 2015).	26
Figure 21. North elevation of Building 146 (ERDC-CERL, 2015).	26
Figure 22. West elevations of Building 400 [left] and Building 401 [right] (ERDC-CERL, 2015).	27
Figure 23. Northwest oblique of Building 401 (ERDC-CERL, 2015).....	28

Figure 24. East elevation of Buildings 400 [right] and 401 [left] (ERDC-CERL, 2015).....	28
Figure 25. Location of Building 500 (shown in red) on a 1967 map (DPW at FLW).....	29
Figure 26. Special services building elevations and details, 1962 (DPW, FLW).....	30
Figure 27. West (front) elevation of Building 500 (ERDC-CERL, 2015).	31
Figure 28. South elevation of Building 500 (ERDC-CERL, 2015).	31
Figure 29. East elevation of Building 500 (ERDC-CERL, 2015).	32
Figure 30. Northwest oblique of Building 500 (ERDC-CERL, 2015).....	32
Figure 31. West elevation of Building 505 (ERDC-CERL, 2015).	34
Figure 32. South elevation of Building 505 (ERDC-CERL, 2015).	34
Figure 33. South elevation of Building 505, showing the connection between the original structure and the addition (ERDC-CERL, 2015).	35
Figure 34. East elevation of Building 505 (ERDC-CERL, 2015).	35
Figure 35. North elevation of Building 505 (ERDC-CERL, 2015).....	36
Figure 36. West elevation of Building 506 (ERDC-CERL, 2015).	37
Figure 37. South elevation of Building 506 (ERDC-CERL, 2015).	37
Figure 38. East elevation of Building 506 (ERDC-CERL, 2015).	38
Figure 39. North elevation of Building 506 (ERDC-CERL, 2015).....	38
Figure 40. Location of Building 528 (shown in red) on a 1967 map (DPW at FLW).....	39
Figure 41. Looking north from the marina toward Building 528 (ERDC-CERL, 2015).....	40
Figure 42. Wood deck addition surrounding the Building 528 on the east, south, and west sides (ERDC-CERL, 2015).....	41
Figure 43. Gable roof that extends out to protect the incised concrete walkway of Building 528 (ERDC-CERL, 2015).	41
Figure 44. South elevation of Building 528 (ERDC-CERL, 2015).	42
Figure 45. East elevation of Building 528 (ERDC-CERL, 2015).	42
Figure 46. North elevation of Building 528 (ERDC-CERL, 2015).....	43
Figure 47. West elevation of Building 528 (ERDC-CERL, 2015).....	43
Figure 48. Northeast oblique of Building 537 (ERDC-CERL, 2015).	45
Figure 49. Southwest oblique of Building 537 (ERDC-CERL, 2015).	45
Figure 50. A sketch of the recreation pavilion to be located at LORA, 1960 (DPW, FLW).....	47
Figure 51. Looking at the southeast and southwest sides of Building 549, with the poured concrete foundation visible at the shoreline (ERDC-CERL, 2015).....	48
Figure 52. North oblique of Building 549 (ERDC-CERL, 2015).....	48
Figure 53. Northeast side of Building 549 (ERDC-CERL, 2015).....	49
Figure 54. Newer concrete ramp on the northeast side of Building 549 (ERDC-CERL, 2015).	49
Figure 55. Interior view of Building 549 (ERDC-CERL, 2015).....	50

Figure 56. View of partial wall enclosures for the storage areas of Building 549 (ERDC-CERL, 2015).	50
Figure 57. Location of Building 550 (shown in red) on a 1967 map (DPW at FLW).	51
Figure 58. The concrete steps, retaining walls, and porch leading up to the south elevation of Building 550 (ERDC-CERL, 2015).	52
Figure 59. Southwest oblique of Building 550 (ERDC-CERL, 2015).	52
Figure 60. Close-up of a replacement vinyl window on the south elevation of Building 550 (ERDC-CERL, 2015).	53
Figure 61. Concrete sidewalk, retaining wall, and steps on the east side of Building 550, leading to Building 551 (ERDC-CERL, 2015).	54
Figure 62. North elevation of Building 550 (ERDC-CERL, 2015).	54
Figure 63. Location of Building 555 (shown in red) on a 1967 map (DPW at FLW).	55
Figure 64. South elevation of Building 555 (ERDC-CERL, 2015).	56
Figure 65. West elevation of Building 555 (ERDC-CERL, 2015).	57
Figure 66. View of the relationship of Buildings 550 [left] and 555 [right], east elevation (ERDC-CERL, 2015).	57
Figure 67. Site plan for 50-man barracks at LORA, 1963 (DPW, FLW).	58
Figure 68. North elevation of Building 560 (ERDC-CERL, 2015).	59
Figure 69. Northeast oblique of Building 560 (ERDC-CERL, 2015).	60
Figure 70. Southeast oblique of Building 560 (ERDC-CERL, 2015).	60
Figure 71. South elevation of Building 560 (ERDC-CERL, 2015).	61
Figure 72. Close-up of the modified overhanging eave of Building 560 (ERDC-CERL, 2015).	61
Figure 73. Close-up of a replacement vinyl one-over-one window on the south elevation of Building 560 (ERDC-CERL, 2015).	62
Figure 74. Close-up of a replacement two-pane slider window on the south elevation of Building 560 (ERDC-CERL, 2015).	62
Figure 75. Left side of the south elevation of Building 560 (ERDC-CERL, 2015).	63
Figure 76. West elevation of Building 560 (ERDC-CERL, 2015).	63
Figure 77. Interior view of the laundry facility of Building 560 (ERDC-CERL, 2015).	64
Figure 78. Location maps of trailer sites in 1967 [left] and current cabin sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).	65
Figure 79. Example of a one-bedroom cabin (ERDC-CERL, 2015).	66
Figure 80. Examples of two-bedroom log cabins with loft, located off Pippen Drive (ERDC-CERL, 2015).	66
Figure 81. Example of a two-bedroom, two-bath cabin (ERDC-CERL, 2015).	67
Figure 82. Example of a three-bedroom/two-bath cabin (ERDC-CERL, 2015).	67
Figure 83. Examples of 3-bedroom log cabins with loft off Fleet Lane (ERDC-CERL, 2015).	68
Figure 84. Example of a duplex located off Pippen Drive (ERDC-CERL, 2015).	68

Figure 85. Location maps of parking area in 1967 [left] and current pull-through RV hook-up sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).	69
Figure 86. Looking east at the pull-through RV hook-up area (ERDC-CERL, 2015).	69
Figure 87. Concrete pad in RV hook-up area (ERDC-CERL, 2015).	70
Figure 88. Location maps of parking area in 1967 [left] and current rustic camp sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).	71
Figure 89. Example of a rustic campsite (ERDC-CERL, 2015).	71
Figure 90. Southwest oblique of Building 150 (ERDC-CERL, 2015).	72
Figure 91. View toward Building 151 (ERDC-CERL, 2015).	73
Figure 92. Building 538 with fuel-pumping station in foreground (ERDC-CERL, 2015).	74
Figure 93. North oblique of Building 561 (ERDC-CERL, 2015).	75
Figure 94. Southeast elevation, showing the concrete appendage of Building 561 (ERDC-CERL, 2015).	75
Figure 95. Southwest elevation of Building 561 (ERDC-CERL, 2015).	76
Figure 96. Northeast oblique of Building 561A (ERDC-CERL, 2015).	77
Figure 97. Southwest oblique of Building 561B [right] and south elevation of Building 561A [left] (ERDC-CERL, 2015).	77
Figure 98. View of Building 610 (ERDC-CERL, 2015).	78
Figure 99. Looking at Building 780 (ERDC-CERL, 2015).	79
Figure 100. Site of Building 781 (ERDC-CERL, 2015).	80
Figure 101. Looking at one of the two waste lagoons located at the south end of LORA (ERDC-CERL, 2015).	81
Figure 102. View of fenced area surrounding the lagoons on the north end of LORA (ERDC-CERL, 2015).	81
Figure 103. LORA water tower (ERDC-CERL, 2015).	82
Figure 104. Communications antenna (ERDC-CERL, 2015).	83
Figure 105. Site and utilities map of the south recreation area, 1961 (DPW, FLW).	84
Figure 106. Site plan of LORA showing road layouts, 1967 (DPW, FLW).	85
Figure 107. Looking southeast down Olney Circle with Building 505 on the left (ERDC-CERL, 2015).	86
Figure 108. Looking north down Lake Road with Buildings 400 and 401 on the right (ERDC-CERL, 2015).	87
Figure 109. Looking south on Fleet Lane, with a row of three-bedroom log cabins on the left (ERDC-CERL, 2015).	87
Figure 110. Looking north on a gravel road leading to Building 549 (ERDC-CERL, 2015).	88
Figure 111. Original sidewalk and steps leading from Building 500 (general store) up the hillside to the back-in style RV hook-up sites (ERDC-CERL, 2015).	89
Figure 112. Original concrete sidewalk and steps leading from the swimming area up the hillside to the rental cabins along Phippen Drive (ERDC-CERL, 2015).	90

Figure 113. A set of newer concrete steps leading up the hillside to a cabin off Phippen Drive (ERDC-CERL, 2015).....	90
Figure 114. Newer concrete sidewalk with metal handrails that leads from the paved parking lot near the marina to Building 528 and the marina (ERDC-CERL, 2015).....	91
Figure 115. Newer sidewalk leading from Building 555 to the road near the heliport (ERDC-CERL, 2015).	91
Figure 116. Helipad site (ERDC-CERL, 2015).....	92
Figure 117. Boat-launching ramp (ERDC-CERL, 2015).....	93
Figure 118. Paved parking lot near the marina (ERDC-CERL, 2015).....	94
Figure 119. Unpaved parking area located near Building 549 (ERDC-CERL, 2015).....	94
Figure 120. Stonework retaining wall constructed near Building 528 (ERDC-CERL, 2015).	95
Figure 121. Newer concrete-block retaining wall near the swimming area (ERDC-CERL, 2015).	96
Figure 122. Concrete ditch located near Building 528 (ERDC-CERL, 2015).	97
Figure 123. Floating dock at the marina (ERDC-CERL, 2015).	98
Figure 124. Boat dock with storage slips at the marina (ERDC-CERL, 2015).....	98
Figure 125. View of a floating dock at the marina (ERDC-CERL, 2015).	99
Figure 126. Small floating dock located near the boat-launching ramp.	99
Figure 127. Basketball/volleyball court (ERDC-CERL, 2015).....	100
Figure 128. A 1978 map showing the location of the day room and not the court (DPW, FLW).	101
Figure 129. Sandy area designated for picnicking (ERDC-CERL, 2015).....	101
Figure 130. Covered pavilion located near the rental cabins off Fleet Lane (ERDC-CERL, 2015).....	102
Figure 131. Newer playground area located near the swimming area, with newer bath house to the left of the photo (ERDC-CERL, 2015).....	103
Figure 132. Building 529, latrine (ERDC-CERL, 2015).....	104
Figure 133. Newer bath house facility located near the boat launch (ERDC-CERL, 2015).....	104

Tables

Table 1. List of buildings, structures, and objects constructed between 1960 and 2008 on the FLW Real Property database located at LORA (FLW DPW).	4
Table 2. Excerpt from the Real Property list at LORA (DPW, FLW).....	64
Table 3. List of LORA facilities built from 1960 to 1970 that were surveyed and recommendations given of their eligibility (ERDC-CERL).....	111

Preface

This study was conducted for Fort Leonard Wood (FLW), under project No. 450959, ““Evaluation of 85 Facilities for the NRHP at Fort Leonard Wood.” Funding for this project was provided by Military Interdepartmental Purchase Request (MIPR) #10660502. The technical monitor was Ms. Stephanie L. Nutt, FLW Cultural Resources Program Coordinator.

The work was performed by the Land and Heritage Conservation Branch (CNC) of the Installations Divisions (CN), U.S. Army Engineer Research and Development Center – Construction Engineering Research Laboratory (ERDC-CERL). At the time of publication, Dr. Michael L. Hargrave was Chief, CEERD-CNC; and Ms. Michelle J. Hanson was Chief, CEERD-CN. The Deputy Director of ERDC-CERL was Dr. Kirankumar Topudurti, and the Director was Dr. Ilker Adiguzel.

COL Bryan S. Green was the Commander of ERDC, and Dr. Jeffery P. Holland was the Director.

Unit Conversion Factors

Multiply	By	To Obtain
acres	4,046.873	square meters
feet	0.3048	meters
inches	0.0254	meters
miles (US statute)	1,609.347	meters
square feet	0.09290304	square meters
yards	0.9144	meters

Abbreviations

Term	Meaning
DPW	Directorate of Public Works
ERDC-CERL	Engineer Research and Development Center – Construction Engineering Research Laboratory
FLW	Fort Leonard Wood
IND	industrial
LORA	Lake of the Ozarks Recreation Area
MIPR	Military Interdepartmental Purchase Request
MOGAS	mobility gasoline
MP	Military Police
MWR	Morale, Welfare, and Recreation
NAF	nonappropriated funds
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
RV	recreational vehicle
UPH	Unaccompanied personnel housing

1 Methodology

1.1 Background

Congress codified the National Historic Preservation Act of 1966 (NHPA), the nation's most effective cultural resources legislation to date, in order to provide guidelines and requirements for preserving tangible elements of our past. This was done primarily through the creation of the National Register of Historic Places (NRHP) in 1966. Contained within the NHPA (Sections 106 and 110) are requirements for federal agencies to address their cultural resources, which are defined as any prehistoric or historic district, site, building, structure, or object. Section 110 requires federal agencies to inventory and evaluate their cultural resources. Section 106 requires determination of the effects of federal undertakings on properties deemed eligible or potentially eligible for the NRHP.

The Lake of the Ozarks Recreation Area (LORA) is part of the morale, welfare, and recreation (MWR) program of Fort Leonard Wood (FLW), Missouri. The Lake of the Ozarks is more than just a lake; it's a great unique vacation destination. LORA is FLW's own vacation getaway, and is open to active-duty and retired military, National Guard and reservists, DoD employees, family members, and contract employees. At LORA, patrons can rent cabins or use campsites, RV sites, and picnic pavilions.

LORA is located about 57 miles northeast of FLW on the Grand Glaize arm of the Lake of the Ozarks (Figure 1). Lake of the Ozarks is one of the nation's largest man-made lakes. Surrounded by expansive forests and rolling hills and enhanced by dramatic bluffs, the lake has over 1,150 miles of shoreline. The lake was created from the construction of Bagnell Dam by Union Electric Company and was opened to the public in 1931, when dam construction was completed.

LORA is a year-round Army recreation facility covering approximately 360 acres. LORA has been operational since 1961. The setting of LORA offers a wide range of camping options: cabin rentals, full and partial RV hook-ups, and rustic campsites. LORA also offers a lakefront pavilion, a swimming beach, boat docks, a full-service marina, boat and personal watercraft rentals, boat and recreational vehicle (RV) storage, picnic areas, and a launching ramp. A small country store located in the main

recreation area offers fishing equipment, groceries, and sundry items (Figure 2).

Figure 1. Map with location of LORA (dot B) relative to FLW (dot A and area around it shaded in beige) (www.bing.com, accessed January 2016).

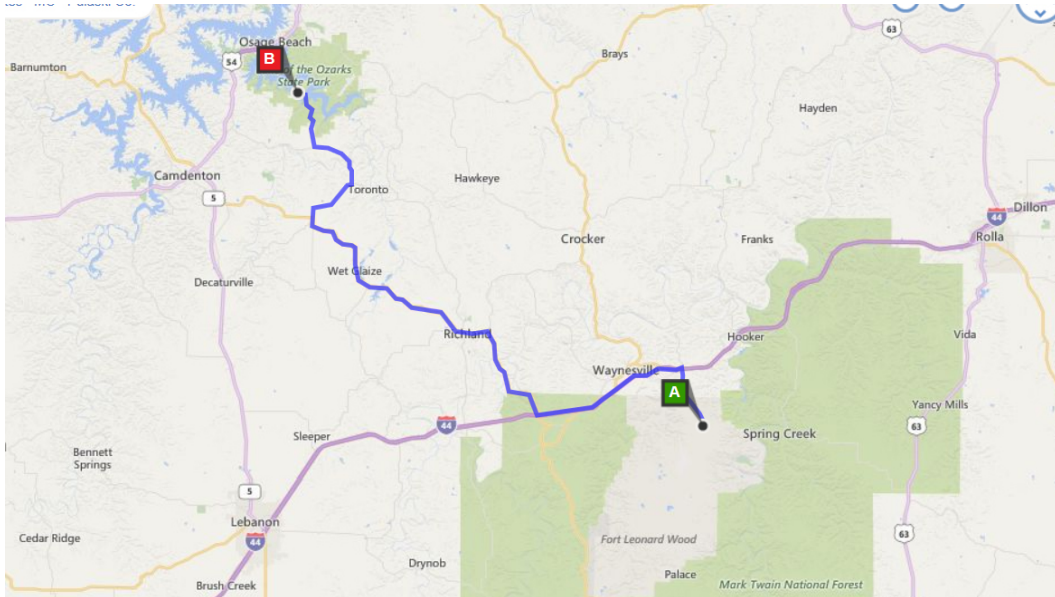


Figure 2. Site map of LORA buildings, facilities, docks, and recreation areas (accessed January 2016 from www.fortleonardwoodmwr.com).



1.2 Objective

The objective of this effort was to inventory and assess the buildings and structures located at LORA. An original list of 88 buildings, structures, and objects constructed between 1960 and 2008 was given to the research team (Table 1). It was then decided that only the 71 buildings, structures, or objects constructed between 1960 and 1970 would be evaluated (Table 1; the three marked not surveyed could not be located on a map or during site visit). Thus for this report, a total of 68 buildings, structures, and objects from that time period were individually surveyed for eligibility to the National Register of Historic Places (NRHP). This survey satisfies Section 110 of the National Historic Preservation Act of 1966 as amended, and it was used to determine the eligibility of these buildings and structures for inclusion on the NRHP.

Table 1. List of buildings, structures, and objects constructed between 1960 and 2008 on the FLW Real Property database located at LORA (FLW DPW).

BUILDING NUMBER	ACQUISITION DATE	CURRENT USE	CATEGORY CODE
140	1961	OIL STORAGE BUILDING	21470
141	1961	COURT AREA	75011
144	1970	ENLISTED UPH	72111
146	1970	DINING FACILITY	72210
150	1961	WATER WELL POTABLE	84130
151	1961	SEWAGE LIFT STATION	83150
400	1969	SEPARATE TOILET/SHOWER	73075
401	1969	SEPARATE TOILET/SHOWER	73075
500	1961	NAF SALES OUTLET	74003
505	1961	BOAT HOUSE	74009
506	1961	GENERAL ITEM REPAIR	21414
523	1977	RECREATION PIER/PLATFORM	75070
528	1961	ADMINISTRATIVE GENERAL PURPOSE	61050
529	2005	SEPARATE TOILET/SHOWER	73075
532	1970	TRAILER SITES	71310
537	1961	MARINE FUEL FACILITY	12210
538	1961	VEHICLE FUEL MOGAS	12311
548	1961	RW (ROTARY WING) LAND PAD PAVEMENT	11130

BUILDING NUMBER	ACQUISITION DATE	CURRENT USE	CATEGORY CODE
549	1961	RECREATION SHELTER	75052
550	1961	RECREATION BILLETS	74036
555	1961	SEPARATE TOILET/SHOWER	73075
560	1961	ADMINISTRATIVE GENERAL PURPOSE	61050
561	1961	WATER WELL POTABLE	84130
601	2006	SEPARATE TOILET/SHOWER	73075
610	1961	SEWAGE LIFT STATION	83150
615	1989	SEWAGE LIFT STATION	83150
617	1981	RECREATION PIER/PLATFORM	
700	1961	TRAILER SITES	71310
702 (not surveyed)	1961	WATER WELL POTABLE	84130
704 (not surveyed)	1961	SEWAGE LIFT STATION	83150
706	1961	TRAILER SITES	71310
708	1961	TRAILER SITES	71310
710	1961	TRAILER SITES	71310
712	1961	TRAILER SITES	71310
714	1961	TRAILER SITES	71310
716	1961	TRAILER SITES	71310
718	1961	TRAILER SITES	71310
720	1961	TRAILER SITES	71310
722	1961	TRAILER SITES	71310
724	1961	TRAILER SITES	71310
726	1960	TRAILER SITES	71310
728	1960	TRAILER SITES	71310
730	1961	TRAILER SITES	71310
732	1960	TRAILER SITES	71310
734	1960	TRAILER SITES	71310
736	1961	TRAILER SITES	71310
738	1961	TRAILER SITES	71310
740	1961	TRAILER SITES	71310
742	1961	TRAILER SITES	71310
744	1961	TRAILER SITES	71310
746	1961	TRAILER SITES	71310
748	1961	TRAILER SITES	71310
750	1961	TRAILER SITES	71310
751	1996	RECREATION BILLETS	74036
752	1961	TRAILER SITES	71310

BUILDING NUMBER	ACQUISITION DATE	CURRENT USE	CATEGORY CODE
753	1996	RECREATION BILLETS	74036
754	1961	TRAILER SITES	71310
755	1996	RECREATION BILLETS	74036
756	1961	TRAILER SITES	71310
758	1961	TRAILER SITES	71310
760	1961	TRAILER SITES	71310
762	1961	TRAILER SITES	71310
764	1961	TRAILER SITES	71310
766	1991	RECREATION BILLETS	74036
768	1961	TRAILER SITES	71310
770	1961	TRAILER SITES	71310
772	1961	TRAILER SITES	71310
774	1961	TRAILER SITES	71310
775	1990	TRAILER SITES	71310
776	1960	TRAILER SITES	71310
780	1961	IND WASTE TREATMENT	83140
781 (not surveyed)	1961	IND WASTE TREATMENT	83140
13510	1961	COMMUNICATION LINES UNDERGROUND	13510
81240	1961	OVERHEAD ELECTRIC LINES	81241
83210	1961	SANITARY SEWER	83210
84210	1961	WATER DIST POTABLE	84210
85110	1987	ROADS PAVED	85110
85130	1961	ROADS, UNPAVED	85130
85211	1987	ORGANIZED PARKING UNPAVED	85211
85215	1987	NON-ORGANIZED PARKING PAVED	85215
85216	2008	NON-ORGANIZED PARKING UNPAVED	85216
85221	1961	SIDEWALKS, PAVED	85220
87120	1961	DRAINAGE DITCH	87120
87150	1961	RETAIN STRUCTURE	87150
87151	1970	RETAIN STRUCTURE	87150
87210	1978	FENCING/WALLS	87210
88010	1978	FIRE ALARM SYSTEM	88010
SIGNS	2005	FACILITY INFORMATION SIGN	69030

An analysis of the 68 buildings and structures built from 1960 through 1970 was performed, including their basic histories and an assessment of

their current conditions. For a property to qualify for the NRHP, it must meet at least one of the four National Register Criteria for Evaluation, must be significantly associated with an important historic context, and must retain sufficient integrity to convey its significance.

1.3 Approach

1.3.1 Previous reports

No previous Section 110 studies have been done at LORA.

1.3.2 Current project

Under a Military Interdepartmental Purchase Request (MIPR), the Engineer Research and Development Center-Construction Engineering Research Laboratory (ERDC-CERL) was retained by the Fort Leonard Wood (FLW) Directorate of Public Works (DPW) cultural resources office to complete an architectural survey of the buildings and landscapes located at LORA.

1.3.3 Site visit

The researchers conducted one site visit to inventory the buildings, structures, and landscape located at LORA. The site visit occurred in September 2015.

1.4 Researchers

This project was conducted by ERDC-CERL in Champaign, Illinois. The researchers were Adam Smith (M.Arch), with 18 years of experience in military architectural history and Sunny Adams (M.Arch), with 12 years of experience in military architectural history.

(This page intentionally blank.)

2 Historic Context

2.1 Introduction

Lake of the Ozarks Recreational Area (LORA) is part of the Morale, Welfare and Recreation (MWR) program of Fort Leonard Wood (FLW), Missouri. Lake of the Ozarks is more than just a lake; it's a vacation destination for thousands of residents from the region and the nation. LORA is FLW's own vacation site and is open to: active-duty and retired military, National Guard and reservists, DoD employees, family members, and contract employees. At LORA, patrons can rent cabins or use campsites, RV sites, and picnic pavilions.

2.2 History prior to the development of LORA

Lake of the Ozarks was created during the construction of Bagnell Dam by Union Electric Company and was opened to the public in 1931. The lake is one of the nation's largest man-made lakes. Surrounded by expansive forests and rolling hills and enhanced by dramatic bluffs, the lake has over 1,150 miles of shoreline. Much of the area is part of the Lake of the Ozarks State Park (Figure 3). LORA is located on the Grand Glaize arm of the park.

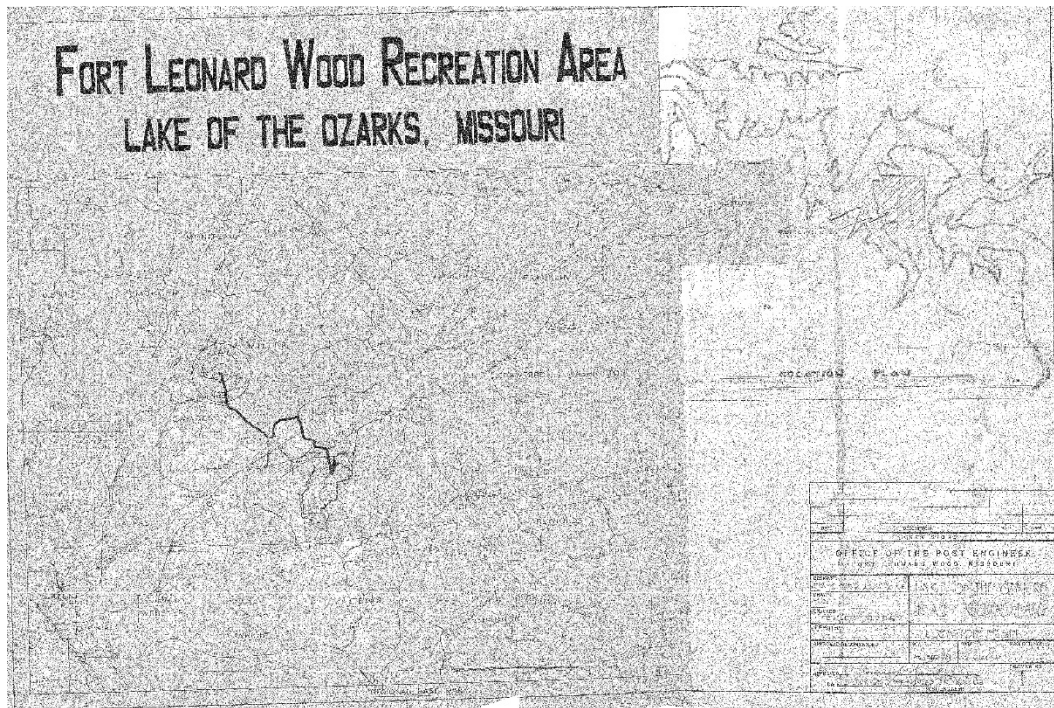
Figure 3. 1959 USGS Toronto Quad Map, with red outline showing the future location of LORA (USGS).



2.3 Development of LORA

LORA is located about 57 miles northwest of FLW on the Grand Glaize arm of the Lake of the Ozarks (Figure 4). The setting of LORA is rural, with the majority of the property covered with vegetation. The western side of the site is defined by the undulating shoreline of the lake. The shoreline is at the base of rolling hills, with most of the usable buildings constructed into the side of the hill or located at the top. Long stretches of poured concrete steps and sidewalks with metal handrails provide access down to the shoreline. There are a few paved roads winding throughout the site to connect the visitors to the campsites, buildings, and marina.

Figure 4. Location map showing the surrounding towns and counties, 1960 (DPW, FLW).



No records were located to indicate how LORA was initially developed. More than likely, FLW leased the land from the Missouri State Park Board. According to a drawing (no date) provided to the research team by the FLW cultural resources office, the original site of LORA was smaller in acreage than the current site. Today's LORA boundary originally was laid out in two separate tracts. The north recreation area, approximately 300 acres, was leased to FLW, while the south recreation area, approximately

26 acres, was leased to Whiteman Air Force Base.¹ The two recreation sites were not adjacent to each other. A small strip of land separated the two (Figure 5).

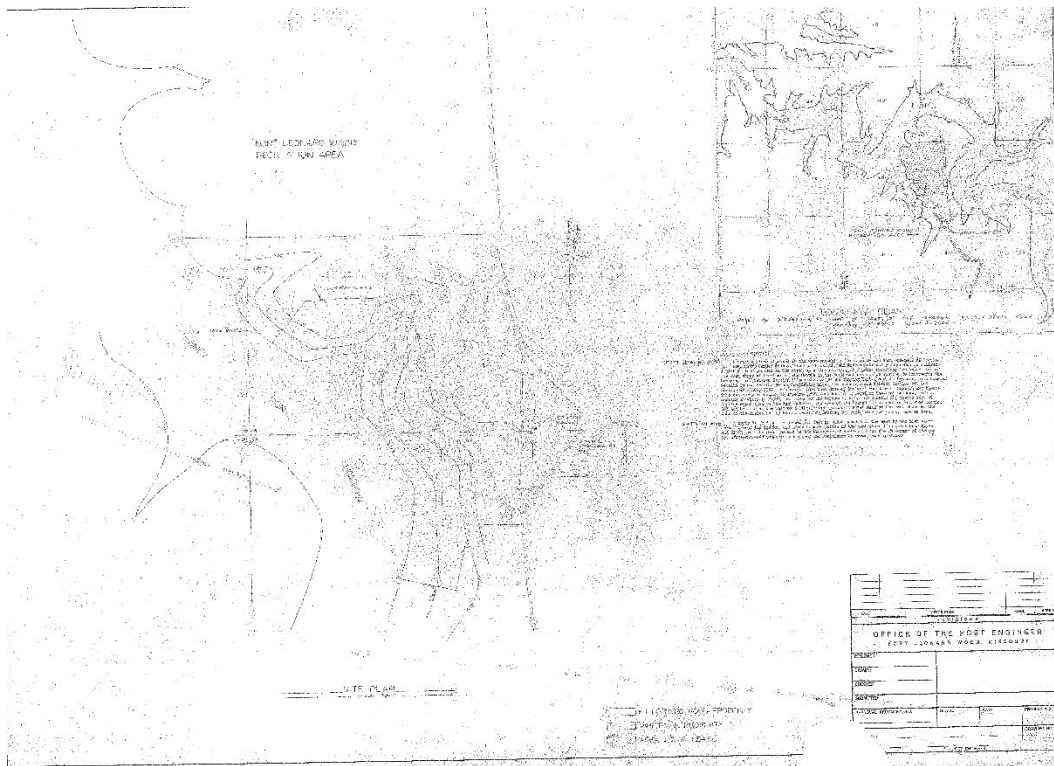
The drawing provided the legal description for the north and south recreation areas as follows:

Fort Leonard Wood: A tract of land situated in the west one-half of Section 29 and east one-half of Section 30, T40N, R15W, Camden County, State of Missouri, and more specifically described as follows: A plot of land bounded on the north by a line starting at a point where the low water line of the east shore of the Lake of the Ozarks in the Northeast quarter of Section 30 intersects the boundary line between Section 19 and Section 30 and running East along the boundary line between Section 29, T40N, R15W, to a point 1,600 feet East of the west boundary of Section 29; thence in the southerly direction to a point 1,827 feet East of a point on the West boundary line of Section 29 which is 3,900 feet South of the Northwest corner of Section 29; thence West to the low water line on the east shore of the Lake of the Ozarks in the East one-half of Section 30; and bounded on the west by a line following the low water mark on the east shore of the Lake of the Ozarks in the East one-half of Section 30; containing 300 acres, more or less.

Whiteman Air Force Base: A strip of land not to exceed 500 feet in width bounded on the west by the high water mark, Lake of the Ozarks, and lying between points on the east shore line which bear S45°E and N15°E from the point common to the NW corner of Section 32 and the SW corner of Section 29, aforementioned township and range, and containing 26 acres, more or less.

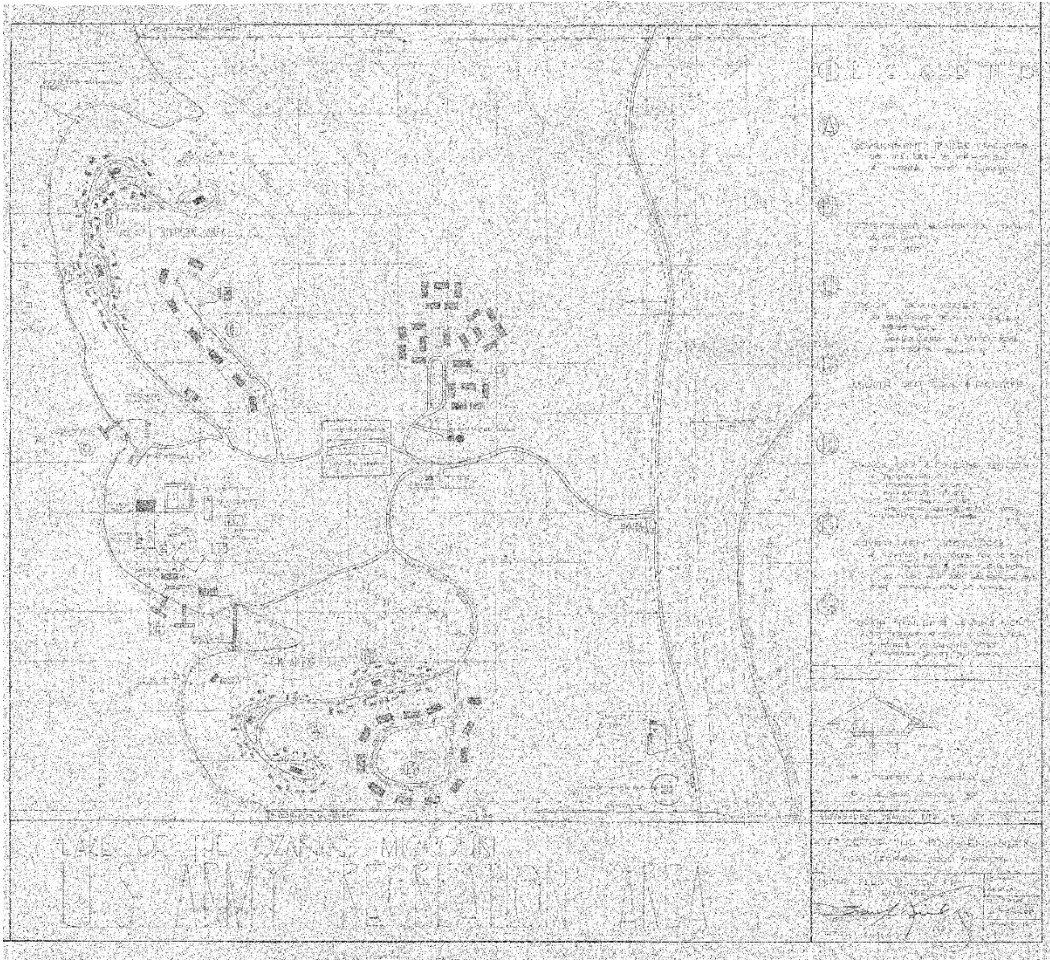
¹ Whiteman AFB is a joint-service base, with Air Force, Army, and Navy units. Its host unit is the U.S. Air Force's 509th Bomb Wing. The base is located approximately 2 miles south of Knob Noster, Missouri, and 70 miles east-southeast of Kansas City, Missouri. Whiteman AFB was established in 1942 as Sedalia Glider Base (www.whiteman.af.mil/news/story.asp?id=123062505).

Figure 5. Recreation area site and location map with legal description of tract of land for LORA (DPW, FLW).



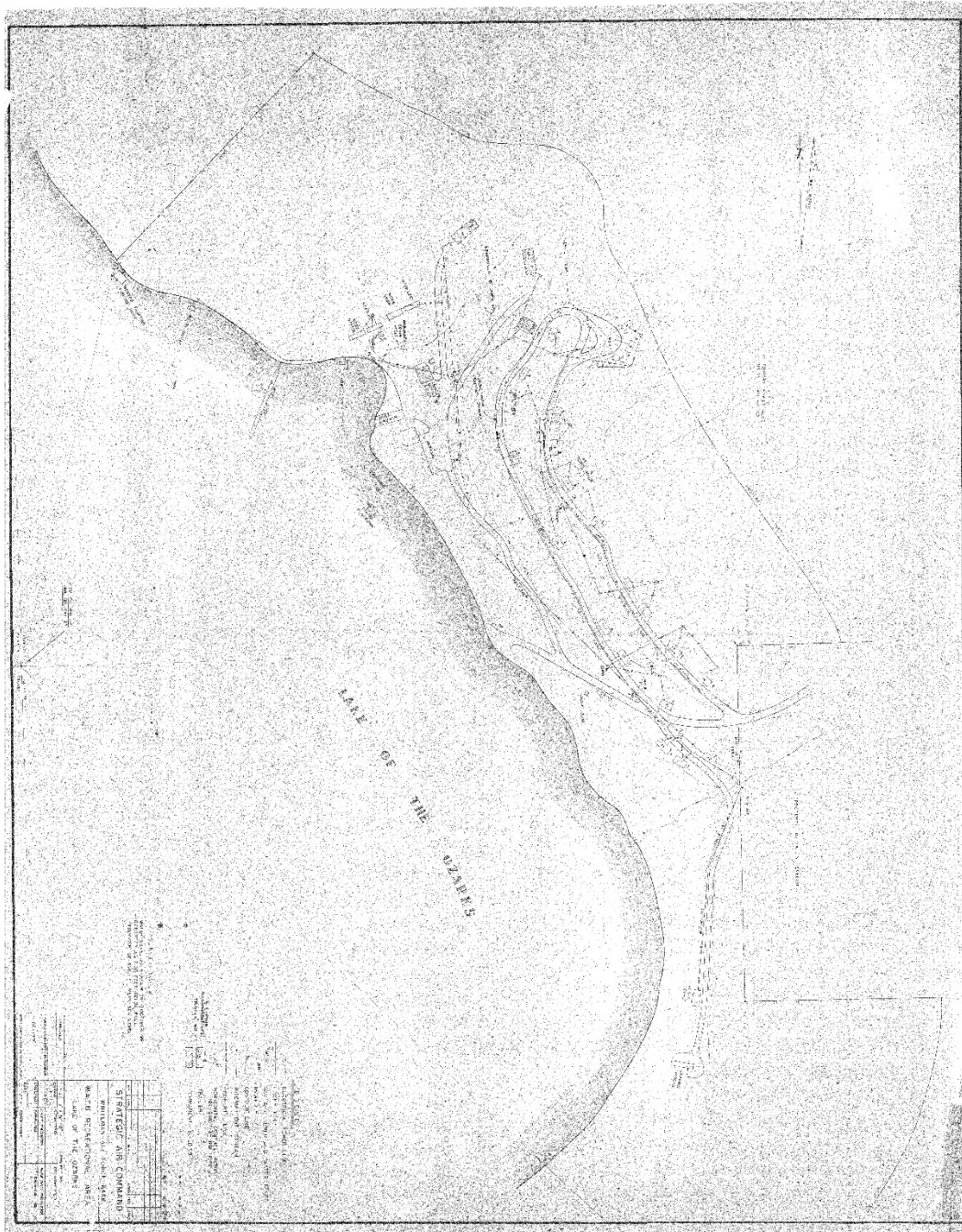
A proposed sketch drawing of the north recreation area from 1960 shows detailed road layouts, support buildings, recreation areas, and enlisted men and officer site accommodation facilities (Figure 6). The proposed drawing was divided into areas that included: (a) government trailer facilities (50 trailers, 20 officers and 30 enlisted men) and four shower/toilet buildings, (b) government all-weather housing (24 officers and 36 enlisted men), (c) troop dormitories (20 buildings housing 600 enlisted men, one mess hall, one headquarters and supply room, and one recreation building), (d) a private boat dock and facilities, (e) snack bar and covered pavilion (two tennis courts, two horseshoe courts, one badminton court, one volleyball court, one spectator lounge and sun area, and a children's play area), (f) government boat dock (two floating boat docks for 30 boats, one maintenance and issue building, two gas pumps with storage tanks, and boat storage for 30 boats), (g) private trailer and camping facilities (50 trailer sites, 20 officers and 30 enlisted men; site for 60 camping sites; and four shower/toilet buildings). It is unclear to the research team if these facilities were all actually constructed or if this drawing was used as a guideline to what was actually constructed in the early 1960s.

Figure 6. Proposed drawing for the site of LORA, 1960 (DPW, FLW).



The south recreation area drawing from 1961 depicts roads, barracks, storage buildings, trailer office and sales building, a bath house, a boat launching ramp, a swimming area, boat docks, and 22 trailer/camp sites (Figure 7).

Figure 7. Site and utilities map for the southern recreation area (Whiteman Air Force Base), 1961 (DPW, FLW).



Early construction in 1961 at LORA (north recreation area) included a post exchange building (Building 550), a main office (Building 500), barracks (Building 560), latrine (demolished and replaced with Building 529), storage buildings, (Buildings 505, 506, and 528), and a bath house (demolished). In 1961, the setting of LORA offered several campsites and trailer sites, a lakefront pavilion (Building 549), a swimming beach, a court

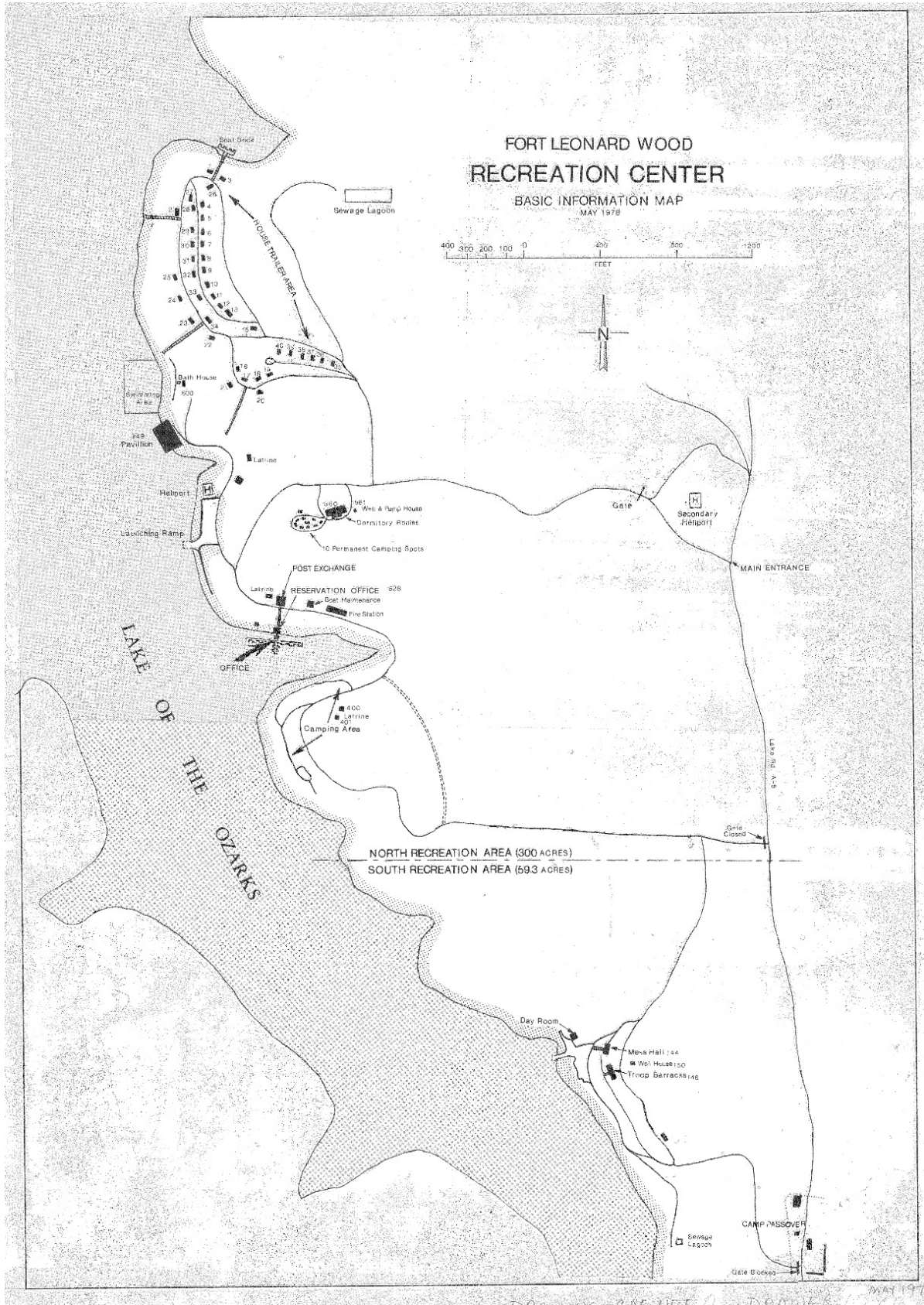
area, boat docks, a full-service marina (Building 538), picnic areas, a boat launching ramp, and a helipad. Support facilities that were constructed in 1961 included a water tower (original one demolished and replaced), a sewage lagoon, an oil storage building (Building 140), small sewage lift stations (Buildings 151, 610, and 706), and water wells (Buildings 150, 561, and 704). There are no archival records related to the design and construction of the facilities, but the only two possible candidates were the FLW Office of the Post Engineer or Whiteman Air Force Base.

According to a 1967 map, approximately 34 acres were leased to FLW from the Missouri State Park Board. This little strip of land was the unleased land located between the north recreation area and the south recreation area. According to this same map, Whiteman AFB did not renew its lease and in 1967, FLW took over the 59 acres of the south recreation site (Figure 8).

Two small latrine facilities were constructed in 1969 (Buildings 400 and 401). A mess hall (Building 146) and a barracks (Building 144) were constructed in 1970. These two buildings were built on the south recreation area after FLW leased this property (Figure 9).

Several trailer sites were also designated in the real property database that was given to the research team. Over time, trailer sites that were located at the north end of the LORA site had permanent structures, such as cabins, built on top of them. The cabins each have individual numbers, but these numbers do not correlate to the real property database for the trailer site numbers.

Figure 9. FLW recreation center, basic information map, 1978 (DPW, FLW).



(This page intentionally blank.)

3 LORA Buildings and Facilities

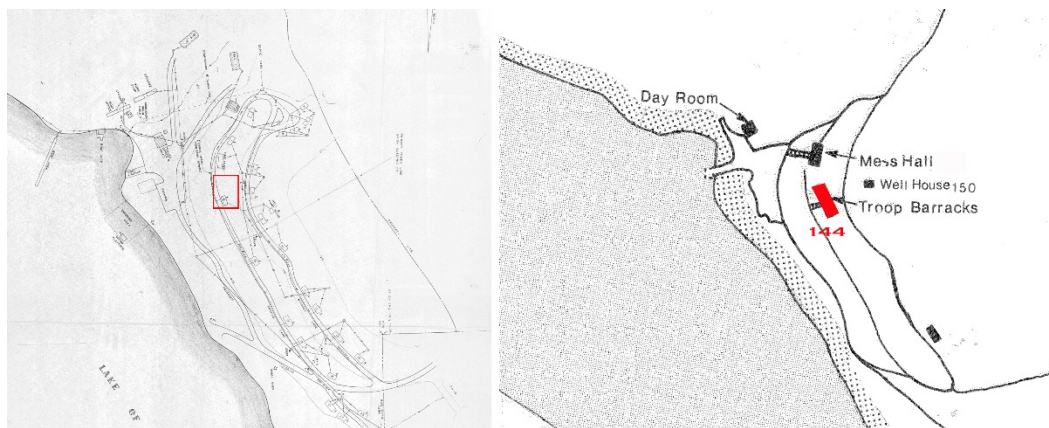
3.1 Camp site buildings and facilities

There are 13 buildings and facilities located at LORA that exist to serve the guests of the campsites. These buildings range from administrative buildings to boat house, to dining facility, to separate toilet/shower facilities. Buildings 144, 146, 400, 401, 500, 505, 506, 528, 537, 549, 550, 555, and 560 were photographed and evaluated for this report.

3.1.1 Building 144 (enlisted UPH), 1970

Building 144 was constructed in 1970 at LORA as a barracks building in the south recreation area that was leased in 1967 (Figure 10). The building is currently used as enlisted unaccompanied personnel housing (UPH). The building is located on the southeastern side of LORA, off Lake Road. Building 144 is adjacent to Building 146 (dining facility). A poured concrete pad is located between them. A set of poured concrete steps lead from the elevated road (Lake Road) on the east side of the structures down to the concrete pad (Figure 11). Both structures are located on top of a small hill overlooking the shoreline of the lake. A set of concrete steps lead from the concrete pad down the hill to a gravel road closer to the shoreline.

Figure 10. Location map of south recreation area from 1961 [left] compared to the location of Building 144 on a 1978 map [right] (DPW, FLW).²



² Note: The map on the left with the red box indicates the future location of Building 144 compared to the map on the right that shows the current location for the building. Note how many of the buildings that were there when FLW acquired the land compared to when Building 144 was constructed.

Building 144 is a long one-story rectangular structure constructed of concrete block walls. The building has a side gable roof clad with metal roofing materials and wood fascia. The windows are metal-sash, single-pane slider windows that are located just below the wood fascia. The west elevation is symmetrical, with two single-entry doors located in the middle of the elevation and seven evenly spaced windows located on either side of the doors (Figure 12). The east elevation faces a concrete retaining wall. The elevation consists of fourteen windows (Figure 13). The north and south elevations each have a single entry door (Figure 14).

Figure 11. Looking east from the lower gravel road upward to Building 146 [left] and Building 144 [right] (ERDC-CERL, 2015).



Figure 12. West elevation of Building 144 (ERDC-CERL, 2015).



Figure 13. East elevation of Building 144 (ERDC-CERL, 2015).



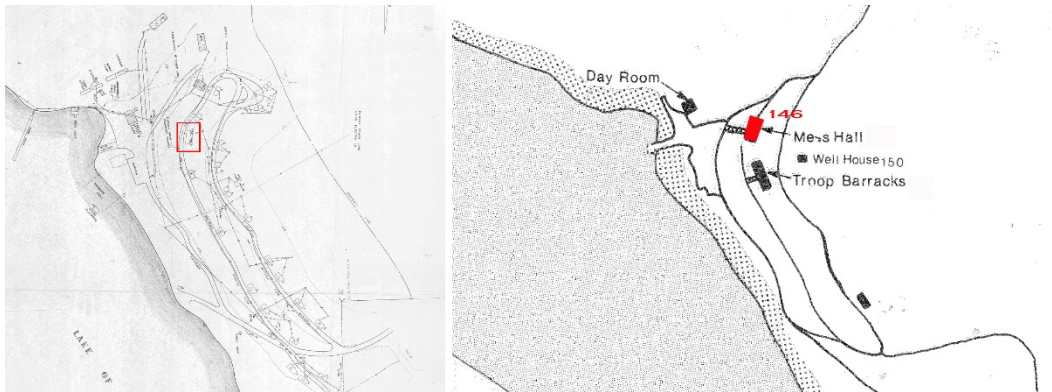
Figure 14. South elevation of Building 144 (ERDC-CERL, 2015).



3.1.2 Building 146 (Dining Facility), 1970

Building 146 was constructed in 1970 as a mess hall in the south recreation area that was leased by FLW in 1967 (Figure 15). The building is currently used as a dining facility. The building is located on the southeastern side of the LORA, off of Lake Road. Building 146 is adjacent to Building 144 (enlisted UPH). A poured concrete pad is located between them. A set of poured concrete steps lead from the elevated road (Lake Road) on the east side of the structures down to the concrete pad. Both structures are located on top of a small hill overlooking the shoreline of the lake (Figure 16). A set of concrete steps lead from the concrete pad down the hill to a gravel road closer to the shoreline.

Figure 15. Location map of south recreation area from 1961 [left] compared to the location of Building 146 on a 1978 map [right] (DPW, FLW).³



Building 146 is a simple one-story building with a rectangular footprint, concrete block exterior walls, a side gable roof clad with metal roofing materials, wood fascia, and metal-sash single-pane slider windows (Figure 20). The west elevation faces the lake and has a single-entry door with a large pane located on the left side of the elevation, and four evenly spaced windows located on the right side (Figure 18). The east elevation faces a concrete retaining wall and contains four smaller windows (Figure 19). The north and south elevations each have a single-entry door (Figure 17 and Figure 21).

³ Note: The map on the left with the red box indicates the future location of Building 146 compared to the map on the right that shows the current location for the building. Note how many of the buildings that were there when FLW acquired the land compared to when Building 146 was constructed.

Figure 16. Looking east from the lower gravel road upward to Building 146 [left] and Building 144 [right] (ERDC-CERL, 2015).



Figure 17. Southwest oblique of Building 146 (ERDC-CERL, 2015).



Figure 18. West elevation of Building 146 (ERDC-CERL, 2015).



Figure 19. Southeast oblique of Building 146 (ERDC-CERL, 2015).



Figure 20. Close-up of metal-sash slider window, wood fascia, and metal roof decking on Building 146 (ERDC-CERL, 2015).



Figure 21. North elevation of Building 146 (ERDC-CERL, 2015).



3.1.3 Buildings 400 and 401 (separate toilet/shower), 1969

Buildings 400 and 401, separate toilet/shower facilities, were constructed in 1969. The buildings are located on the southeastern side of LORA, off Lake Road. Buildings 144 and 146 are just west across Lake Road from these two structures. A poured concrete sidewalk leads from Lake Road to the facilities (Figure 22). A wooded area is located on the east side of the facilities.

Buildings 400 and 401 are small, simple structures. Each structure sits on a rectangular concrete pad. The walls are constructed of frame and filled with wood panels. The shed roofs are clad with newer metal roofing materials and overhang on all four sides, exposing the wood roof framing members. The west elevation of each structure has a single-entry metal screen door (Figure 23). The east elevations face a wooded area (Figure 24).

Figure 22. West elevations of Building 400 [left] and Building 401 [right] (ERDC-CERL, 2015).



Figure 23. Northwest oblique of Building 401 (ERDC-CERL, 2015).



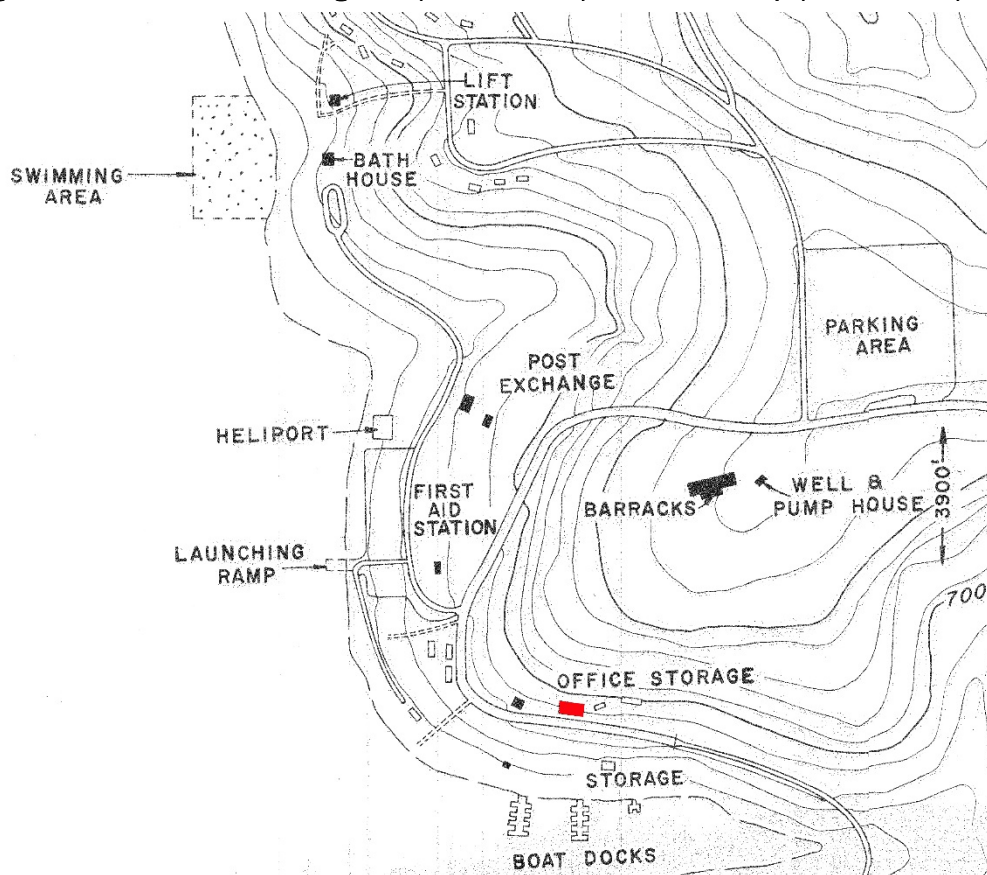
Figure 24. East elevation of Buildings 400 [right] and 401 [left] (ERDC-CERL, 2015).



3.1.4 Building 500 (NAF [nonappropriated funds] sales outlet), 1961

Building 500 was constructed in 1961 as an office building (Figure 26). Currently, the building serves as a small general store that provides supplies for basic camping and fishing needs. The store also carries necessities such as ice, milk, bread, eggs, and firewood. The building is located on the west side of LORA and overlooks the lakeshore, marina, and Building 528. Olney Circle is located on the south side of the building, while a sloping, tree-covered hill frames the north side of the building (Figure 25). Building 505 is located to the east, and Building 529 is located to the west.

Figure 25. Location of Building 500 (shown in red) on a 1967 map (DPW at FLW).



Building 500 is a simple, one-story rectangular building. The roof is a side gable that is clad with asphalt shingles, metal fascia, and has wood siding covering the gable ends. The exterior walls are clad with a stucco material. All of the window openings are currently covered with plywood. The main entry is located on the west side and is defined by a set of bright aluminum and plate glass doors (Figure 27). A wood-beam retaining wall frames a poured concrete sidewalk and pad leading to the entry doors. The south

elevation faces Olney Circle. There are four evenly spaced window openings and a single-entry door, which is located on the right side of the elevation (Figure 28). The east elevation faces a fenced-in area. There is a small lean-to addition located on the left side of the east elevation (Figure 29). There are three covered window openings on the north side of the building (Figure 30).

Figure 26. Special services building elevations and details, 1962 (DPW, FLW).

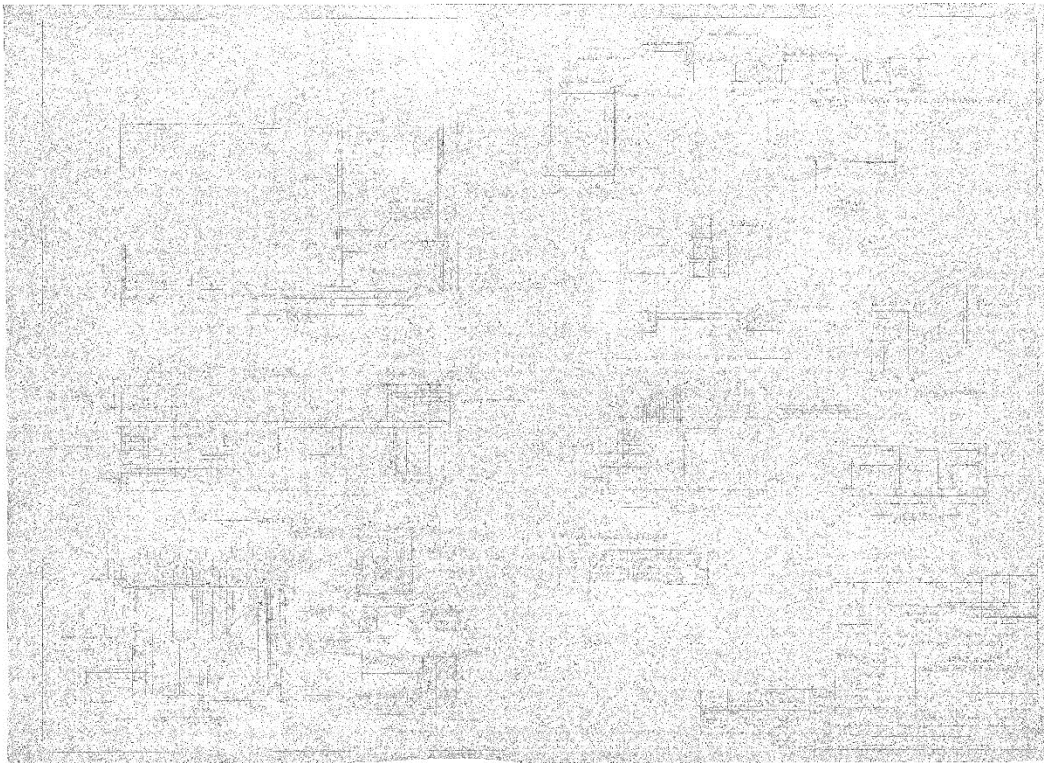


Figure 27. West (front) elevation of Building 500 (ERDC-CERL, 2015).



Figure 28. South elevation of Building 500 (ERDC-CERL, 2015).



Figure 29. East elevation of Building 500 (ERDC-CERL, 2015).



Figure 30. Northwest oblique of Building 500 (ERDC-CERL, 2015).



3.1.5 Building 505 (boat house), 1961

Building 505 was constructed in 1961 as a storage building. It is currently used as a boat maintenance facility to serve the guests of LORA. The building is located on the west side of LORA and overlooks the lakeshore, marina, and Building 528. Olney Circle is located on the south side of the building, while a sloping, tree-covered hill frames the north side of the building. Building 506 is located to the east, and Building 550 is located to the west.

Building 505 is a long, one-story rectangular structure with a raised concrete foundation, metal-clad exterior walls, and a gable roof clad with metal roofing materials. The west elevation faces a fenced-in gravel area. A large metal overhead door is located in the middle and a single entry door is placed on the right side of the west elevation (Figure 31). The south elevation faces Olney Circle (Figure 32). It appears that, at some point, the original building constructed in 1961 received an addition. The left side of the building is clad with one type of metal siding, while the right side has a different metal siding and a different metal roof (Figure 33). It is unclear which portion of the building was the original and which portion was the addition. There is a single metal-sash window and small louvered vent located on the left side of the south elevation. At the far right side of the south elevation is a small concrete block lean-to addition. This addition has a shed roof and a raised concrete foundation. The east elevation faces another fenced-in area. The concrete block lean-to is located on the left side of the east elevation, while a large metal overhead door is located in the center of the elevation (Figure 34). The north elevation faces a concrete retaining wall. There are no window or door openings on the north elevation (Figure 35).

Figure 31. West elevation of Building 505 (ERDC-CERL, 2015).



Figure 32. South elevation of Building 505 (ERDC-CERL, 2015).



Figure 33. South elevation of Building 505, showing the connection between the original structure and the addition (ERDC-CERL, 2015).



Figure 34. East elevation of Building 505 (ERDC-CERL, 2015).



Figure 35. North elevation of Building 505 (ERDC-CERL, 2015).



3.1.6 Building 506 (general item repair), 1961

Building 506 was constructed in 1961 as a storage building. It is currently used as a maintenance/repair facility. The building is located on the west side of LORA and overlooks the lakeshore, marina, and Building 528. Olney Circle is located on the south side of the building, while a sloping, tree-covered hill frames the north side of the building. Building 505 is located to the west, and two smaller wood shed structures (no numbers) are located to the east.

Building 506 is a simple, rectangular, one-story wood-frame structure with a concrete pier foundation. The building's exterior walls are constructed of wood members, with plywood sheets as infill. The building has a side-gable roof with overhanging eaves, exposing the wood rafters on the north and south sides. The roof is clad with crimped metal sheets. The west elevation faces a fenced-in area. A metal overhead door is located in the middle of the elevation (Figure 36). There are no window or door openings on the north and south elevations (Figure 37 and Figure 39). The east elevation consists of a single-entry door (Figure 38).

Figure 36. West elevation of Building 506 (ERDC-CERL, 2015).



Figure 37. South elevation of Building 506 (ERDC-CERL, 2015).



Figure 38. East elevation of Building 506 (ERDC-CERL, 2015).



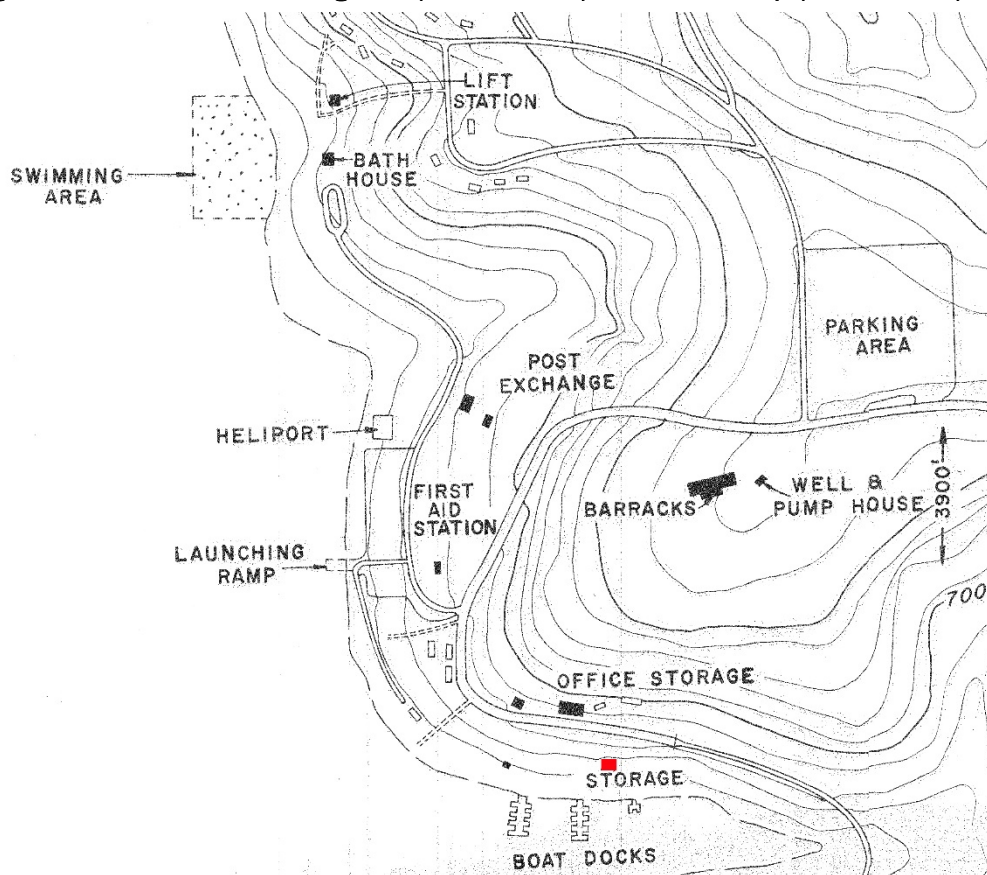
Figure 39. North elevation of Building 506 (ERDC-CERL, 2015).



3.1.7 Building 528 (administrative general purpose), 1961

Building 528 was constructed in 1961 as a storage building. It is currently used as the main office to serve guests at LORA. The building provides services such as lodging reservations, check-ins, boat rentals, and fishing licenses. The building is located on the west side of LORA, and it overlooks the lakeshore and marina (Figure 40). Olney Circle is located on the north side of the building. Concrete steps with metal handrails and stone retaining wall provide access from Olney Circle down to the building. Building 500 is located up the hill on the north side of the building.

Figure 40. Location of Building 528 (shown in red) on a 1967 map (DPW at FLW).



Building 528 is set within the slope of a hill. The raised concrete foundation is visible on the south side of the building (Figure 41). A poured concrete walkway encompasses the building on the east, south, and west sides. A set of poured concrete steps lead off the south elevation down to the marina. A wood-framed deck wraps around the building the left side of the south elevation and the west sides (Figure 42).

The building is a one-story rectangular building with a gable roof that protects an incised concrete walkway around the edge of the building. The overhanging gable is supported at the corners (Figure 43). The building is clad with newer metal siding. The vertical supports of the gable overhang are clad in a different metal siding. The building has a newer metal roof. The windows are a mixture of one-over-one and paired slider windows. The south elevation faces the marina and lake. There is one slider window and two one-over-one windows on the south elevation (Figure 44). The east elevation has a single-entry door (Figure 45). The north elevation has no window or door openings and faces a poured concrete retaining wall (Figure 46). The west elevation consists of two one-over-one windows and a slider window (Figure 47).

Figure 41. Looking north from the marina toward Building 528 (ERDC-CERL, 2015).



Figure 42. Wood deck addition surrounding the Building 528 on the east, south, and west sides (ERDC-CERL, 2015).



Figure 43. Gable roof that extends out to protect the incised concrete walkway of Building 528 (ERDC-CERL, 2015).



Figure 44. South elevation of Building 528 (ERDC-CERL, 2015).



Figure 45. East elevation of Building 528 (ERDC-CERL, 2015).



Figure 46. North elevation of Building 528 (ERDC-CERL, 2015).



Figure 47. West elevation of Building 528 (ERDC-CERL, 2015).



Since there is no actual property record card for this building, the dates for changes to the building are unknown; however, it appears to the researchers that a larger gable roof structure was constructed and “placed” over the smaller original rectangular building, creating the incised walkway and explaining why there are two different types of metal siding used. The original windows have all been removed and replaced.

3.1.8 Building 537 (marine fuel facility), 1961

Building 537 was constructed in 1961 as the fuel stop for the marina at LORA. According to Real Property, this facility is the Marine Fueling Facility. While the number is on the shed/building (the pump house), it's really for the combination of the pump house, pipes and pumps that run from the pump house to the fueling pier and loading arms. The building is located on the west side of LORA, near the main office building (Building 528). Concrete sidewalks lead to a walking platform that leads to a floating dock. A large paved parking lot is located to the northwest. There are three separate floating docks near the fueling platform.

Building 537 actually sits on top of a floating dock that has three boat slips and two fueling pumps. Building 537 is a simple one-story rectangular structure with metal siding and a metal gable roof. The windows are metal-sash slider windows. The north and south elevations mirror each other, and each has two single slider windows, a ribbon of slider windows, and a single-entry door. The east and west elevations mirror each other, and each has three slider windows (Figure 48 and Figure 49).

Figure 48. Northeast oblique of Building 537 (ERDC-CERL, 2015).



Figure 49. Southwest oblique of Building 537 (ERDC-CERL, 2015).



3.1.9 Building 549 (recreation shelter), 1961

Building 549 was constructed in 1961 as a recreation pavilion (Figure 50). It is currently used as the main recreation dock/pavilion to serve the

guests of LORA. The building is located on a point that juts out into the lake along the western edge of the LORA site. Access to the building from the south is by a single-lane road. A gravel parking area is on the northeast side of the building. A sandy picnic area is located to the southeast, and a beach/swimming area is located to the north.

Building 549 is a structure built on top of a concrete pier/wood-post foundation system, with the structure being anchored to the shoreline by a poured concrete foundation (Figure 51). The building is elevated over the lake. The building is an open-air structure that has partial wall enclosures on the northeast, southeast, and northwest sides (Figure 53 and Figure 56). The partial wall enclosures were designed as storage space and are clad with wood siding (Figure 56). Access to the shelter is from the northeast side, where there is a concrete sidewalk that leads to both a newer concrete ramp and direct access onto the platform for the shelter (Figure 54). The floor of the building is wood plank. The ceiling of the shelter is wood and is supported by wood columns (Figure 55). A wood-paneled safety wall wraps around three sides of the building, allowing for views to the lake (Figure 52). The roof is a hipped shed shape and is clad with newer metal roofing materials. It is unclear when this roof material modification occurred.

Figure 50. A sketch of the recreation pavilion to be located at LORA, 1960 (DPW, FLW).

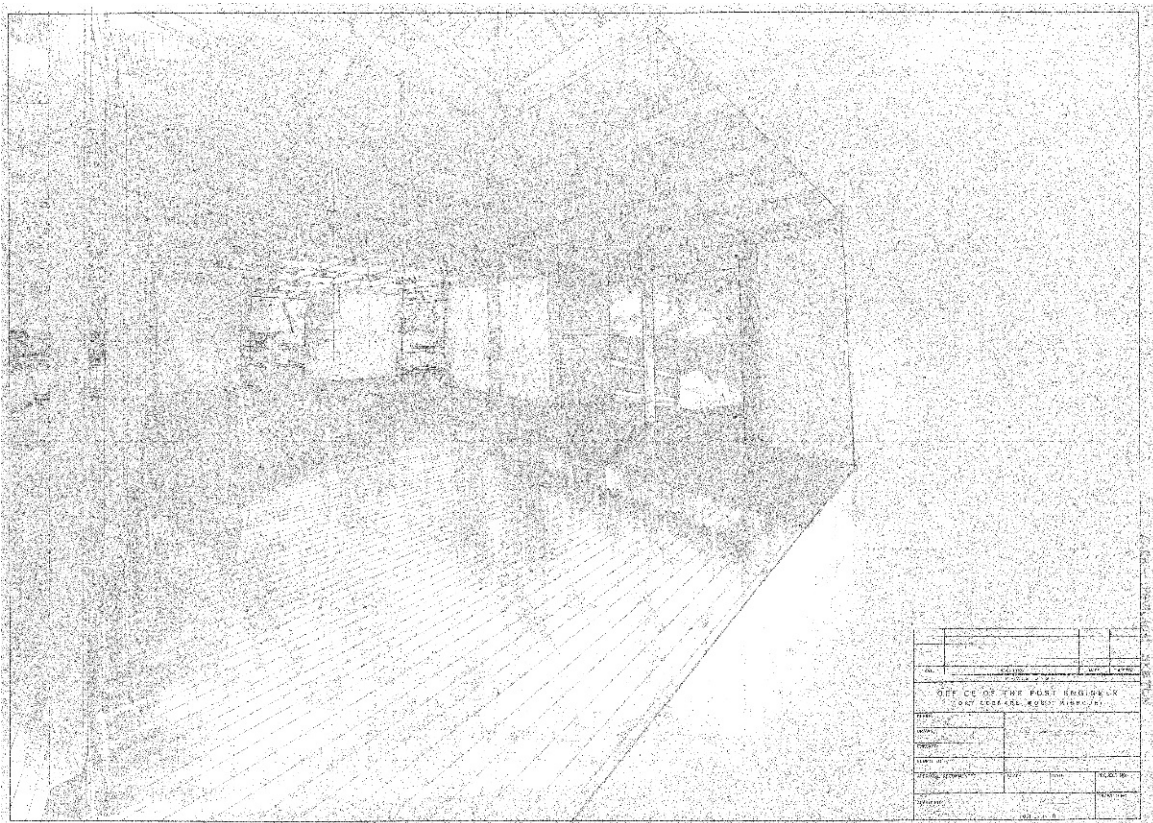


Figure 51. Looking at the southeast and southwest sides of Building 549, with the poured concrete foundation visible at the shoreline (ERDC-CERL, 2015).



Figure 52. North oblique of Building 549 (ERDC-CERL, 2015).



Figure 53. Northeast side of Building 549 (ERDC-CERL, 2015).



Figure 54. Newer concrete ramp on the northeast side of Building 549 (ERDC-CERL, 2015).



Figure 55. Interior view of Building 549 (ERDC-CERL, 2015).



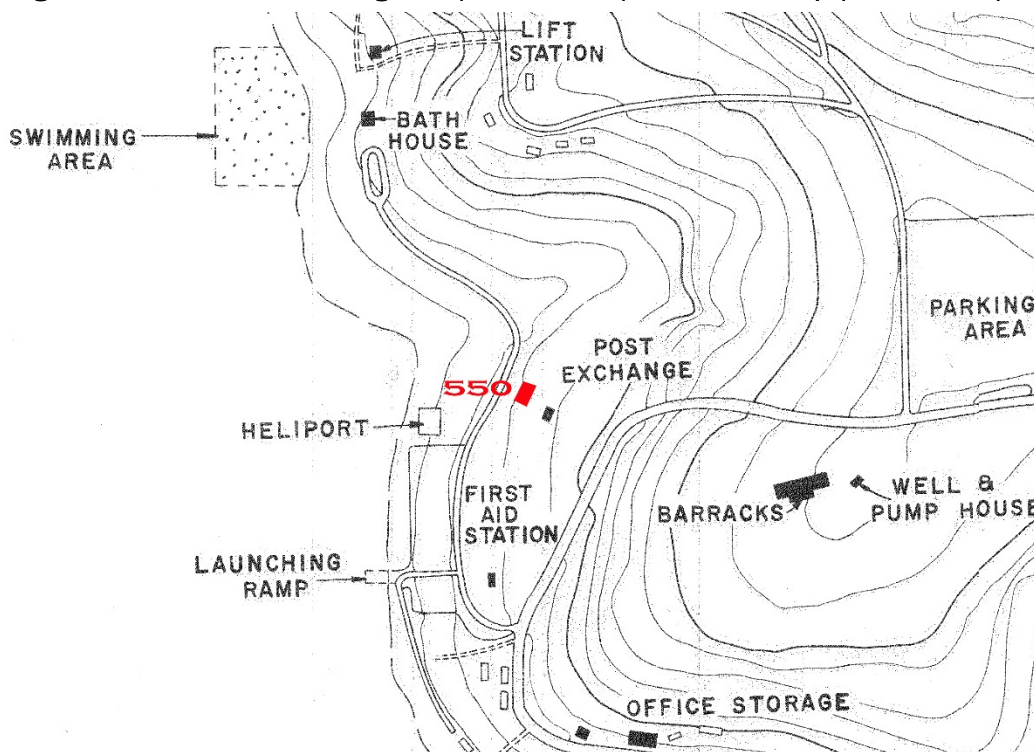
Figure 56. View of partial wall enclosures for the storage areas of Building 549 (ERDC-CERL, 2015).



3.1.10 Building 550

Building 550 was constructed in 1961, as the original Post Exchange (PX) building at LORA. At an unknown date, the building was converted into recreation billets. The building is located off a gravel road near the west shore of the LORA site (Figure 57). The building is positioned on the side of a hill overlooking the lake and the nearby helipad. A set of poured concrete steps with concrete retaining walls lead from the gravel drive up to the concrete porch in front of the building (Figure 58). Building 555 is just to the northeast.

Figure 57. Location of Building 550 (shown in red) on a 1967 map (DPW at FLW).



Building 550 is a small one-story structure with a rectangular footprint, a built-up gable roof with overhanging eaves with wood and metal fascia, concrete block exterior walls, replacement vinyl awning windows, and concrete windowsills. The south (front) elevation is divided into five bays by concrete pilasters (Figure 59). Four of the bays are each filled with a large window that is comprised of a single-pane fixed window in the middle that is flanked by a one-over-one awning window on either side (Figure 60). The fourth bay on the south elevation is filled with a single-entry door. The east and west elevations mirror each other. Each elevation has a large window opening nestled under the gable end that has been covered

with plywood. The overhanging eaves on these sides of the building show the exposed wood beam support of the gable roof.

Figure 58. The concrete steps, retaining walls, and porch leading up to the south elevation of Building 550 (ERDC-CERL, 2015).



Figure 59. Southwest oblique of Building 550 (ERDC-CERL, 2015).



Figure 60. Close-up of a replacement vinyl window on the south elevation of Building 550 (ERDC-CERL, 2015).



A poured concrete sidewalk with retaining wall runs along the east side of the building (Figure 61). The sidewalk connects Building 550 to Building 555. The north elevation faces the hill and another concrete retaining wall. A long narrow window opening located in the middle of the elevation has been covered with wood (Figure 62).

Figure 61. Concrete sidewalk, retaining wall, and steps on the east side of Building 550, leading to Building 551 (ERDC-CERL, 2015).



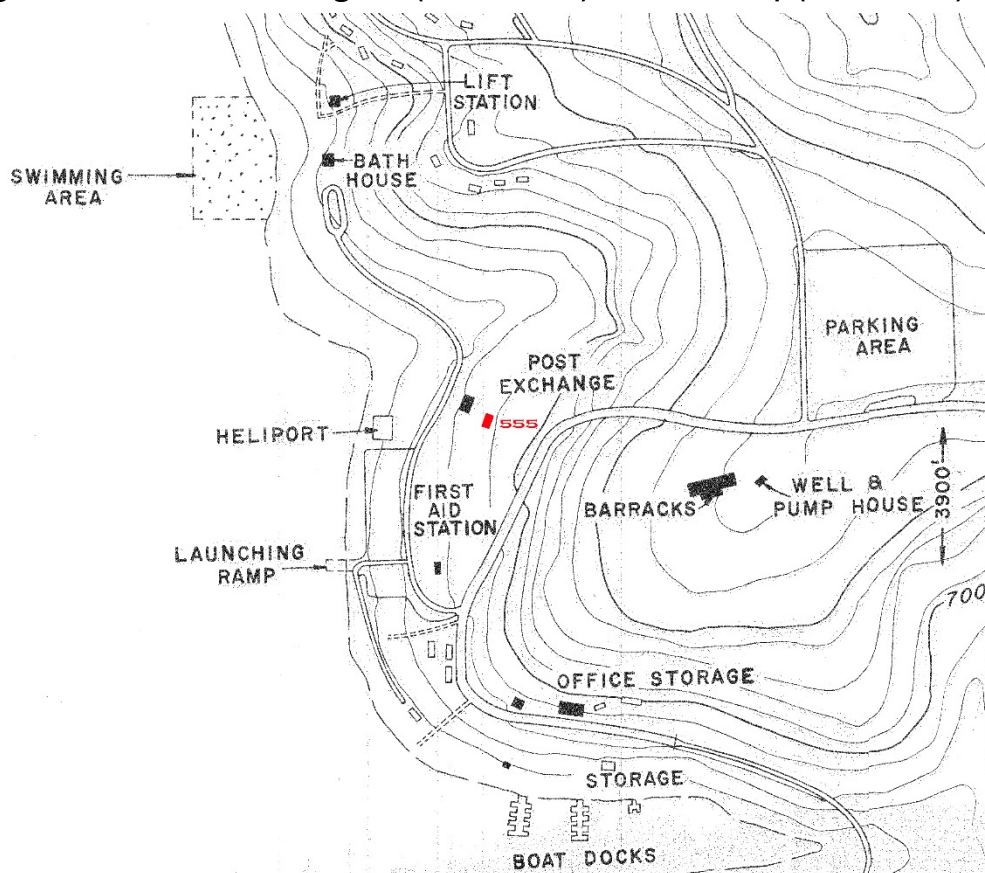
Figure 62. North elevation of Building 550 (ERDC-CERL, 2015).



3.1.11 Building 555 (separate toilet/shower), 1961

Building 555 was constructed in 1961 as a toilet/shower facility. It is currently vacant. The building is located off a gravel road near the west shore of the LORA site. The building is positioned on the side of a hill overlooking the lake and the nearby helipad (Figure 63). A set of poured concrete steps with concrete retaining walls leads from the gravel drive up to a concrete porch in front of the building. A separate poured concrete stair/sidewalk with metal handrails leads from the south side of the building down to the road and the helipad. Building 550 is just to the southwest (Figure 66).

Figure 63. Location of Building 555 (shown in red) on a 1967 map (DPW at FLW).



Building 555 is a simple one-story structure with a rectangular footprint, a shallow built-up shed roof with overhanging eaves and exposed wood rafter supports, concrete block exterior walls, concrete windowsills, and a band of wood louvered screens located at the top of the walls. A set of poured concrete steps provide access to the building on the south side. The south elevation of the building is divided into two bays by a concrete pilas-

ter (Figure 64). The top of the wall is filled with wood louvered vents that are covered with a mesh screen. The east and west elevations mirror each other. Each elevation consists of a single-entry door and the same band of louvered vents at the top of the wall. In front of each of these elevations is a concrete block privacy wall. The roof overhangs protect the sidewalk between the building's exterior wall and the privacy wall on these elevations (Figure 65). The north elevation is nestled into the hill, and the same types of louvered vents are located at the top of the wall.

Figure 64. South elevation of Building 555 (ERDC-CERL, 2015).



Figure 65. West elevation of Building 555 (ERDC-CERL, 2015).



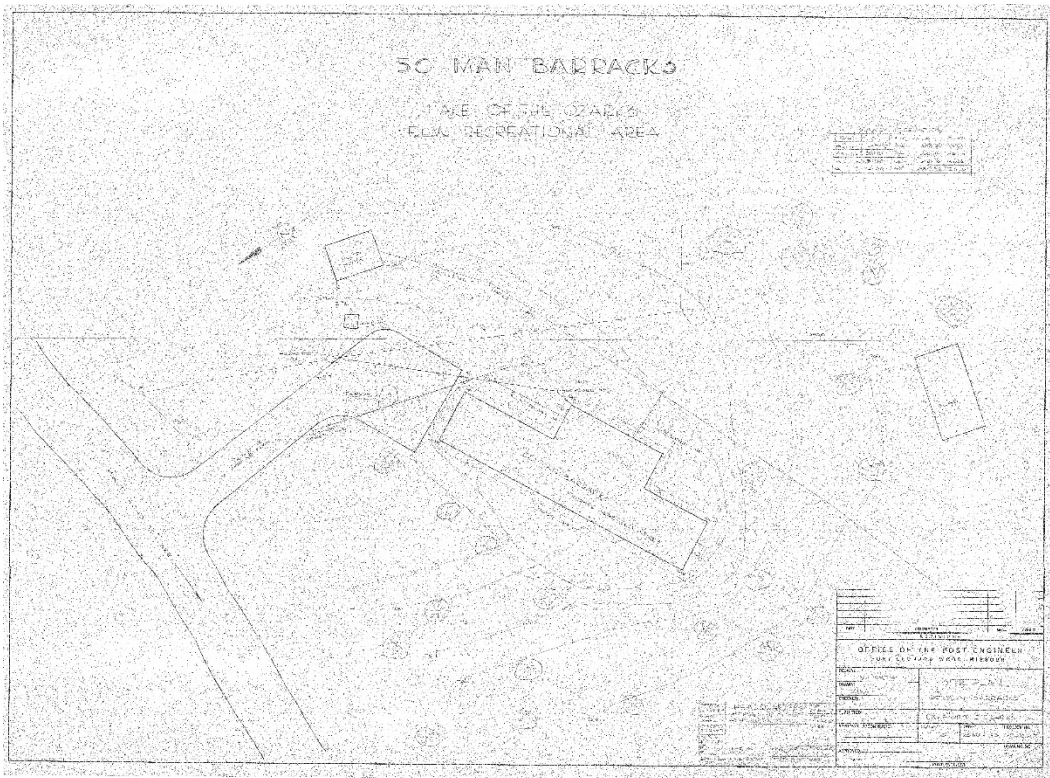
Figure 66. View of the relationship of Buildings 550 [left] and 555 [right], east elevation (ERDC-CERL, 2015).



3.1.12 Building 560 (administrative general purpose), 1961

Building 560 was constructed in 1961 as a 50-man barracks building (Figure 67). It is currently used as the main security and laundry/bath house (administrative/general purpose) for the guests at the LORA site. The building is located near the center of LORA to serve all guests. Olney Circle runs along the north side of the building, and a paved drive circles around the other three sides. Back-in type of RV hook-up sites are located to the south, and pull-through RV hook-up sites are located to the north-east of the building.

Figure 67. Site plan for 50-man barracks at LORA, 1963 (DPW, FLW).



The north elevation faces Olney Circle. There are seven one-over-one windows on this elevation (Figure 68 and Figure 69). The east elevation is two-part: the right side projects outward and there is a single-entry door and a smaller original metal-sash one-over-one window on this part of the elevation, and the left side is recessed with a small narrow slider window on that portion of the wall (Figure 70). The middle section of the south elevation projects outward from the left and right sides (Figure 71).

Building 560 is a one-story structure with a rectangular footprint and a flat built-up roof with overhanging eaves. The overhanging eaves have been modified with newer metal fascia and metal soffits covering the original exposed rafter system (Figure 72). The exterior walls are constructed of concrete block. All of the windows on the building are replacement vinyl windows. The types of windows are one-over-one double-hung and two-pane slider windows (Figure 73 and Figure 74). The middle section of the south elevation consists of three metal doors and two smaller narrow slider windows. There is a single-entry door on the left side of the south elevation (Figure 75). There are two replacement one-over-one windows and a door on the right side of the south elevation. The west elevation is two-part: the left side projects outward and there is a single entry door on this part of the wall, and the right side of the elevation is recessed (Figure 76). The windowsills are concrete block. The doors are metal and are all replacement.

Building 560 serves two functions: the north part of the building is administrative space, while the south portion of the building is a laundry/bath house. The interior of the laundry/bath house has original glazed sanitary tile walls (Figure 77).

Figure 68. North elevation of Building 560 (ERDC-CERL, 2015).



Figure 69. Northeast oblique of Building 560 (ERDC-CERL, 2015).



Figure 70. Southeast oblique of Building 560 (ERDC-CERL, 2015).



Figure 71. South elevation of Building 560 (ERDC-CERL, 2015).



Figure 72. Close-up of the modified overhanging eave of Building 560 (ERDC-CERL, 2015).



Figure 73. Close-up of a replacement vinyl one-over-one window on the south elevation of Building 560 (ERDC-CERL, 2015).



Figure 74. Close-up of a replacement two-pane slider window on the south elevation of Building 560 (ERDC-CERL, 2015).



Figure 75. Left side of the south elevation of Building 560 (ERDC-CERL, 2015).



Figure 76. West elevation of Building 560 (ERDC-CERL, 2015).



Figure 77. Interior view of the laundry facility of Building 560 (ERDC-CERL, 2015).



3.2 Accommodation sites

There are several types of rental accommodations offered at LORA; these options include cabins, RV sites, and rustic campsite areas. The real property database identifies all of these accommodation sites as “trailer sites.” Over time, some of the trailer sites have had permanent structures, such as cabins, built on top of them. The cabins each have individual numbers, RV hook-up sites have individual numbers, and rustic campsites have individual numbers, but none these numbers correlate to the real property database for the trailer site numbers. There is no way to determine what building number listed on the Real Property list corresponds with a particular cabin number or rustic campsite (Table 2).

Table 2. Excerpt from the Real Property list at LORA (DPW, FLW).

BUILDING NUMBER	YEAR BUILT	CURRENT USE	CATEGORY CODE
708	1961	TRAILER SITES	71310
710	1961	TRAILER SITES	71310
712	1961	TRAILER SITES	71310
714	1961	TRAILER SITES	71310
716	1961	TRAILER SITES	71310

3.2.1 Rental cabins

There are several rental cabins located on the north side of the LORA site, and accessible via Phippen Drive, Fleet Lane, and Thoughtful Lane (Figure 78). There are 10 one-bedroom cabins (Figure 79), 5 two-bedroom log cabins with a loft (Figure 80), 6 two-bedroom/two-bath cabins (Figure 81), 3 three-bedroom/two-bath cabins (Figure 82), 5 three-bedroom log cabins with a loft (Figure 83), and 1 large duplex cabin (Figure 84). Originally the locations of the cabins were trailer sites in 1961. At an unknown date(s), these more permanent housing units were built on those sites. To date, the cabins have undergone some exterior modifications to include new metal roofs, wood porch additions, screened-in enclosures of some of the porches, new windows, and exterior stucco-like cladding (on the one duplex structure).

Figure 78. Location maps of trailer sites in 1967 [left] and current cabin sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).

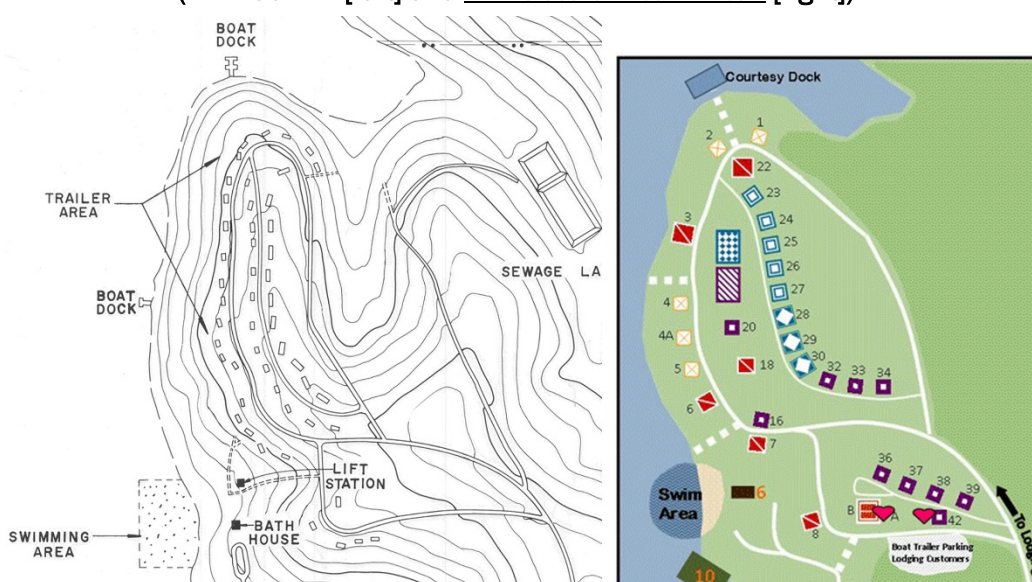


Figure 79. Example of a one-bedroom cabin (ERDC-CERL, 2015).



Figure 80. Examples of two-bedroom log cabins with loft, located off Phippen Drive (ERDC-CERL, 2015).



Figure 81. Example of a two-bedroom, two-bath cabin (ERDC-CERL, 2015).



Figure 82. Example of a three-bedroom/two-bath cabin (ERDC-CERL, 2015).



Figure 83. Examples of 3-bedroom log cabins with loft off Fleet Lane (ERDC-CERL, 2015).



Figure 84. Example of a duplex located off Phippen Drive (ERDC-CERL, 2015).



3.2.2 RV hook-up sites

There is a pull-through RV hook-up area just northeast of the Military Police (MP) station at the intersection of Olney Circle and Pippen Drive (Figure 85). This area includes 11 concrete pads for RV parking (Figure 86 and Figure 87). There are also 16 back-in RV hook-up sites that are nestled in a wooded area south of Olney Circle. This area is a bit more secluded than the pull-through site.

Figure 85. Location maps of parking area in 1967 [left] and current pull-through RV hook-up sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).

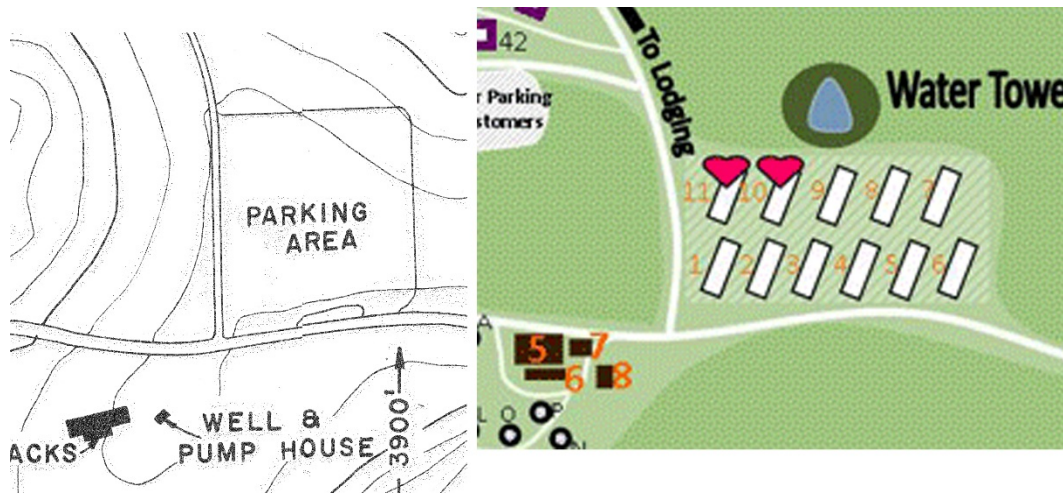


Figure 86. Looking east at the pull-through RV hook-up area (ERDC-CERL, 2015).



Figure 87. Concrete pad in RV hook-up area (ERDC-CERL, 2015).



3.2.3 Rustic campsites

There are 22 rustic campsites located on the south side of the site, located off Olney Circle (Figure 88). These sites are simple in nature and include a small earthen pad for a tent, a concrete pad with picnic table, and a fire pit (Figure 89).

Figure 88. Location maps of parking area in 1967 [left] and current rustic camp sites [right] (DPW at FLW [left] and www.fortleonardwoodmwr.com [right]).

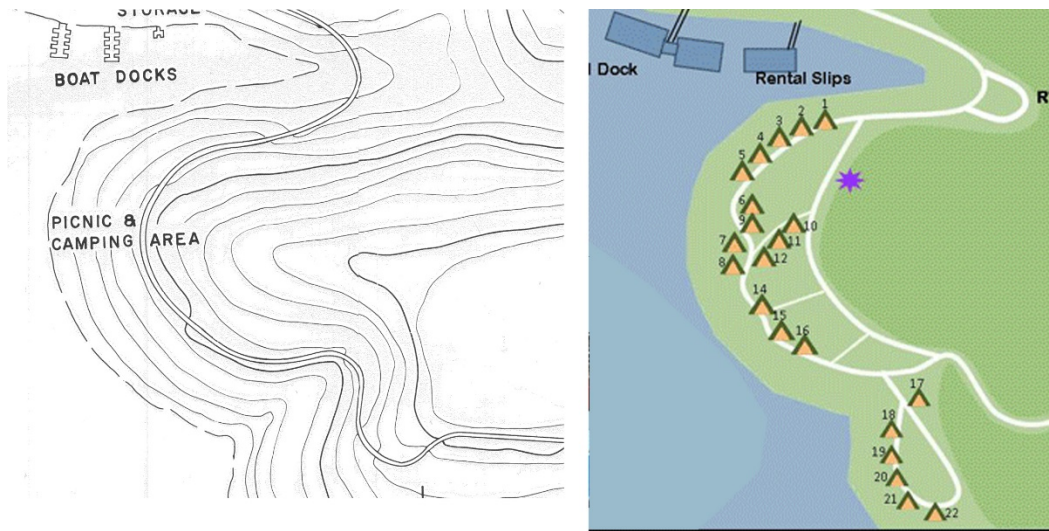


Figure 89. Example of a rustic campsite (ERDC-CERL, 2015).



3.3 Support utilities

There are several small utility-type structures located at LORA that were built to support the overall function of the recreation site and to help serve the guests of LORA. These structures include water wells, sewage lift sta-

tions, and waste treatment facilities; they are designated as Buildings 150, 151, 538, 561, 561A, 561B, 610, 780, and 781.

3.3.1 Building 150 (water well potable), 1961

Building 150, water well potable, was constructed in 1961. The building is located on the southeastern side of LORA, off Lake Road. Buildings 144 and 146 are located to the west across Lake Road. The building is set into a hill and surrounded by vegetation.

Building 150 is a small, simple, rectangular structure with concrete block exterior walls. The building has a metal shed roof with a metal fascia system. There is a single metal entry door and a small louvered vent on the south elevation (Figure 90). There are no door or window openings on the north, east, or west elevations.

Figure 90. Southwest oblique of Building 150 (ERDC-CERL, 2015).



3.3.2 Building 151 (sewage lift station), 1961

Building 151, sewage lift station, was constructed in 1961. The utility is located on the southeastern side of LORA, off Lake Road. Buildings 144 and

146 are located to the west across Lake Road, and Building 150 is located to the north. The building is set into a hill and surrounded by vegetation. Building 151 is a concrete chamber below grade (Figure 91).

Figure 91. View toward Building 151 (ERDC-CERL, 2015).



3.3.3 Building 538 (vehicle fuel MOGAS), 1961

Building 538, vehicle fuel mobility gasoline (MOGAS), was constructed in 1961 as a fuel station for vehicles. The building is located on the west side of LORA, and it overlooks the lakeshore and marina. Olney Circle is located on the south side of the utility, while a sloping, tree-covered hill frames the north side of the building. Building 506 is located to the west. The structure of this utility is comprised of a concrete pad with concrete retaining walls that house two above-ground fuel tanks. A fuel pumping station is located nearby (Figure 92).

Figure 92. Building 538 with fuel-pumping station in foreground (ERDC-CERL, 2015).



3.3.4 Building 561 (water well potable), 1961

Building 561, water well, potable, was constructed in 1961 as a supporting facility for the LORA site. The building is located near the center of LORA to serve all guests. Olney Circle runs along the north side of the building, and a paved drive circles the around the other three sides. Back-in RV hook-up sites are located to the south, and pull-through RV hook-up sites are located to the northeast of the building. The building has two adjacent structures that support this building: Building 561A and Building 561B.

Building 561 is a one-story structure with a T-shaped footprint. The building's exterior walls are constructed of concrete, with a textured stucco finish on the bottom half and metal siding on the top half. The building has a metal-clad shed roof. There are no door or window openings on the northeast, northwest, or southwest elevations (Figure 93 and Figure 95). A concrete/stucco appendage projects off the southeast side of the building. This part of the structure is covered with a shallow barrel concrete roof (Figure 94). There is a single-entry metal door located on this elevation. Shallow poured-concrete walls and a poured-concrete pad frame the entry to this door.

It appears that the original structure had a flat concrete roof and at an unknown date (since no real property record card was located), metal-clad

exterior walls were added on top of the original roof, ultimately extending the height of the building.

Figure 93. North oblique of Building 561 (ERDC-CERL, 2015).



Figure 94. Southeast elevation, showing the concrete appendage of Building 561 (ERDC-CERL, 2015).



Figure 95. Southwest elevation of Building 561 (ERDC-CERL, 2015).



3.3.5 Buildings 561A and 561 B

Buildings 561A and 561B, water well, potable, were constructed in 1961 as supporting structures to Building 561, which is adjacent to the two structures. Building 561A is located to the northeast of Building 561, and Building 561B is located to the southwest of Building 561. The buildings are located near the center of LORA. Olney Circle runs along the north side of the buildings. Back-in RV hook-up sites are located to the south, and pull-through RV hook-up sites are located to the northeast of the buildings.

Buildings 561A and 561B are simple one-story concrete block structures with a square footprint (Figure 96 and Figure 97). Each structure has a hipped roof that is clad with asphalt shingles. Each building has a concrete slab foundation. Each structure has one single-entry door. There are no window openings on either structure.

Figure 96. Northeast oblique of Building 561A (ERDC-CERL, 2015).



Figure 97. Southwest oblique of Building 561B [right] and south elevation of Building 561A [left] (ERDC-CERL, 2015).



3.3.6 Building 610 (sewage lift station), 1961

Building 610, sewage lift station, was constructed in 1961 as a support facility for LORA. The utility is located on the west side of LORA. Building 610 is located near Buildings 550 and 555. It appears that the original concrete chamber that was constructed in 1961 has been removed, and a newer type of sewage lift station has been built underground and then secured by a chain-link fence (Figure 98). At the time of the site visit, there was no building number associated with this newer facility.

Figure 98. View of Building 610 (ERDC-CERL, 2015).



3.3.7 Building 780 (Industrial waste treatment), 1961

Building 780, industrial waste treatment, was constructed in 1961. It was constructed as a support facility for LORA. The facility is located on the far northwest corner of the LORA site. The building is accessible by a dirt road that branches off Phippen Drive. The facility is a long rectangular “pool.” The whole facility is surrounded by a chain-link fence (Figure 99).

At the time of the site visit, it was unclear to the research team if this was the original waste-treatment facility from 1961, or if the whole system had been replaced at some point.

Figure 99. Looking at Building 780 (ERDC-CERL, 2015).



3.3.8 Building 781 (IND waste treatment), 1961

Building 781, IND (industrial) waste treatment, was constructed in 1961. The facility was built as a support facility to serve LORA. It is located at the northwest edge of the LORA site and is accessible down a dirt road from Building 780. The facility is constructed of poured concrete and is located mostly underground. A security fence surrounds the facility (Figure 100).

Figure 100. Site of Building 781 (ERDC-CERL, 2015).



3.3.9 Other support facilities located at LORA (with no building numbers)

Two large wastewater lagoons are located at the far southwest end of the LORA site. These lagoons are surrounded by grasslands and protected by a security fence (Figure 101). It is unclear what dates these lagoons were created at LORA. There are also two other large lagoons located at the north end of LORA. These lagoons were not accessible to the researchers. The area was surrounded by chain-link fencing (Figure 102). According to a 1967 map, these were sewage lagoons.

Figure 101. Looking at one of the two waste lagoons located at the south end of LORA (ERDC-CERL, 2015).



Figure 102. View of fenced area surrounding the lagoons on the north end of LORA (ERDC-CERL, 2015).⁴



⁴ Note: The lagoons located at the north end of LORA were not accessible at the time of the survey.

A main water tower is located near the center of the LORA site. It is adjacent to the back-in RV hook-up sites, and it is north of Building 560 that houses the administrative office/laundry. The water tower has a large sphere at the top of its post with the lettering “Fort Leonard Wood Lake Ozark Recreation Area” painted on it (Figure 103). A security fence surrounds the base of the tower.

Figure 103. LORA water tower (ERDC-CERL, 2015).



A tall metal communications tower is located adjacent to Building 560, near the center of the LORA site (Figure 104).

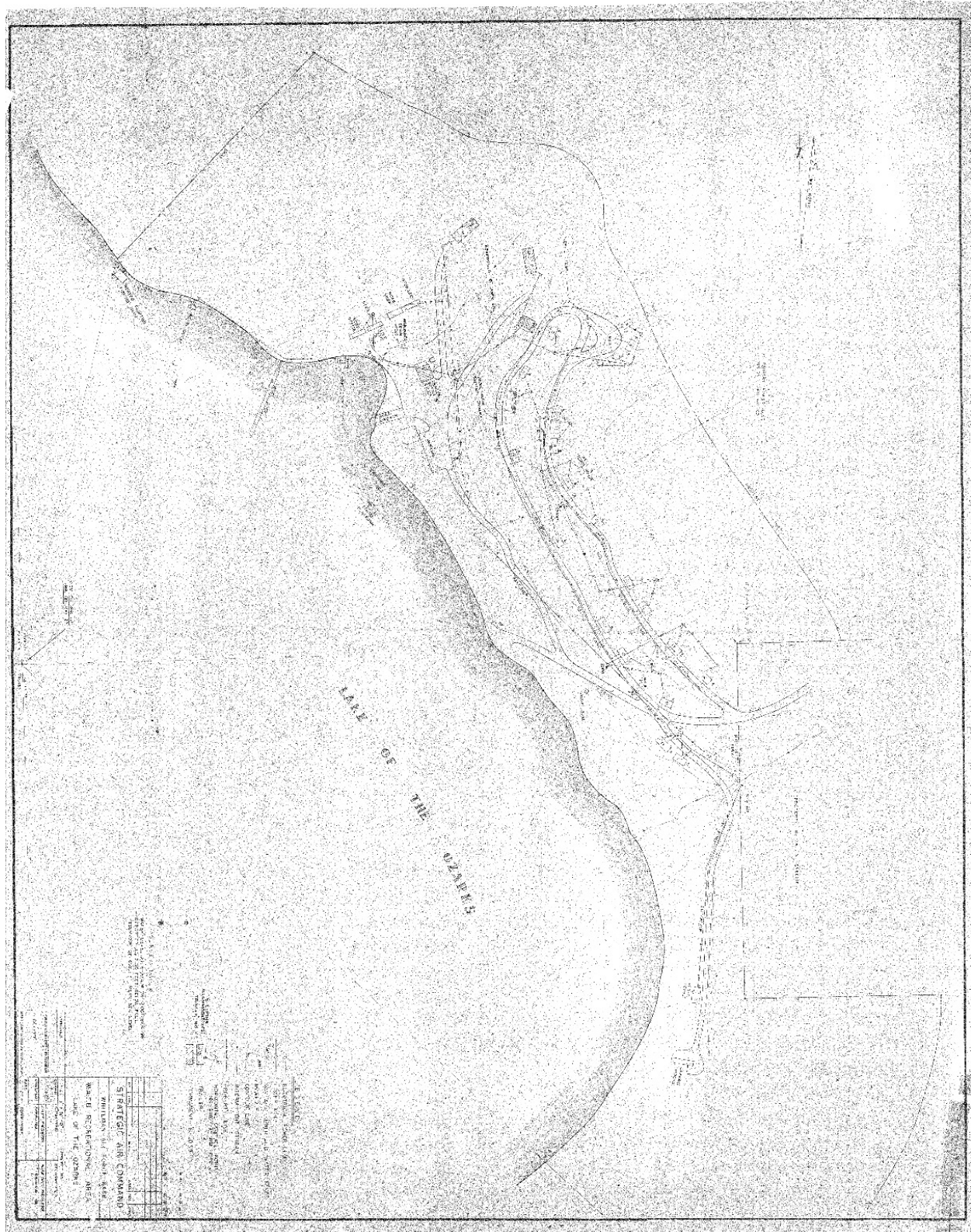
Figure 104. Communications antenna (ERDC-CERL, 2015).



3.4 Roads, sidewalks, pavements, parking lots, retaining walls, drainage ditches

The majority of the LORA site is covered by vegetation, with minimal man-made circulation whether it be vehicular or pedestrian. A 1961 map of the south recreation area (Figure 105) and an overall 1967 map of LORA (Figure 106) show early circulation patterns of roads and some sidewalks. The majority of the original circulation patterns and layout of the roads and sidewalks are still intact.

Figure 105. Site and utilities map of the south recreation area, 1961 (DPW, FLW).



3.4.1 Roads

It is unclear which roads were originally paved and which ones were unpaved. More than likely, Olney Circle the main road providing access into the LORA site, was paved in 1961, and the roads that branched off it were left unpaved at the time. Currently Phippen Drive, Fleet Lane, Thoughtful Lane, and Lake Road are also paved, with a few gravel side roads that provide access to some of the supporting buildings at LORA (Figure 107 through Figure 110).

Figure 107. Looking southeast down Olney Circle with Building 505 on the left (ERDC-CERL, 2015).



Figure 108. Looking north down Lake Road with Buildings 400 and 401 on the right (ERDC-CERL, 2015).



Figure 109. Looking south on Fleet Lane, with a row of three-bedroom log cabins on the left (ERDC-CERL, 2015).



Figure 110. Looking north on a gravel road leading to Building 549 (ERDC-CERL, 2015).



3.4.2 Sidewalks

The LORA site sits up on a bluff overlooking the lake. A number of poured concrete sets of steps with metal pipe handrails were constructed in the early years of LORA, circa 1961, in order to help provide access for the guests from the “trailer sites” [now cabins] down to the lakeshore, recreation shelter, swimming area, and marina. Several of these long sidewalk/steps are still intact (Figure 111 and Figure 112). There have been a few newer sidewalks added at later dates to help with the circulation pattern and ease of getting around LORA (Figure 113 through Figure 115).

Figure 111. Original sidewalk and steps leading from Building 500 (general store) up the hillside to the back-in style RV hook-up sites (ERDC-CERL, 2015).



Figure 112. Original concrete sidewalk and steps leading from the swimming area up the hillside to the rental cabins along Phippen Drive (ERDC-CERL, 2015).

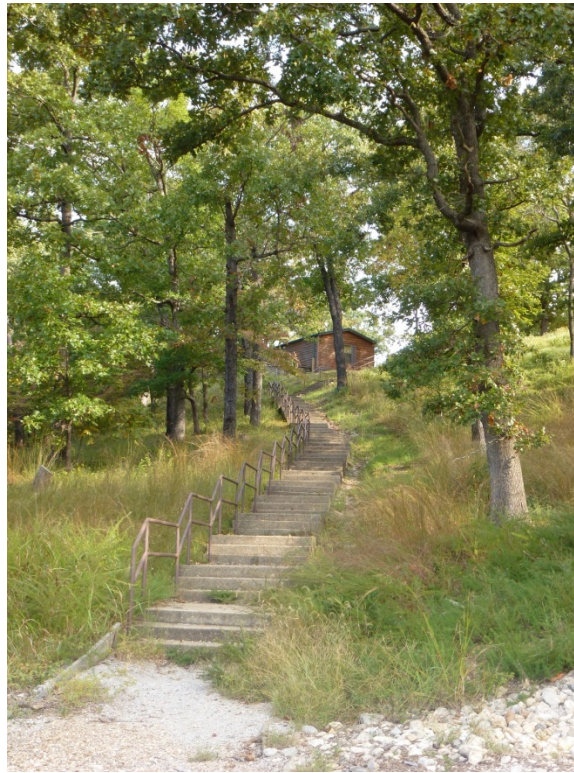


Figure 113. A set of newer concrete steps leading up the hillside to a cabin off Phippen Drive (ERDC-CERL, 2015).

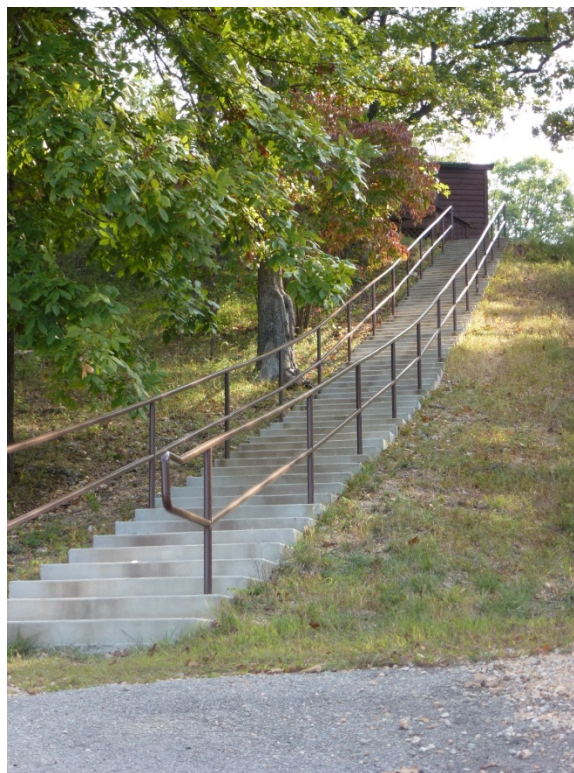


Figure 114. Newer concrete sidewalk with metal handrails that leads from the paved parking lot near the marina to Building 528 and the marina (ERDC-CERL, 2015).



Figure 115. Newer sidewalk leading from Building 555 to the road near the heliport (ERDC-CERL, 2015).



3.4.3 Pavements/parking lots

Building 548 (rotary wing landing pad, pavement), was constructed as a helipad in 1961. The pad is located on a flat piece of land on the west side of the LORA site near the shoreline. It is accessible via a paved driveway. Buildings 550 and 555 are to the east, Building 549 is to the north, and the boat launching ramp is to the south. The helipad is constructed of a concrete pad and is square in shape. The letter “H” is painted on the concrete as well as four triangles (Figure 116).

Figure 116. Helipad site (ERDC-CERL, 2015).



There is a poured concrete boat-launching ramp located on the east side of the LORA site. A large paved lot is adjacent to the ramp for boat turnaround (Figure 117).

Figure 117. Boat-launching ramp (ERDC-CERL, 2015).



There are only a few areas for parking at LORA. These areas are both paved and unpaved. It is unclear if the parking lot nearest the marina was originally a gravel lot or if it was paved later (Figure 118). There is also a paved lot near the boat launching ramp, where trailers can park. There is an unpaved lot near Building 549 (recreation shelter; Figure 119).

Figure 118. Paved parking lot near the marina (ERDC-CERL, 2015).



Figure 119. Unpaved parking area located near Building 549 (ERDC-CERL, 2015).



3.4.4 Retaining walls

Since LORA is located on a hillside/bluff overlooking the lake, there are several retaining walls constructed to support the hill near buildings, walkways, and roads. Many of these walls are simply constructed of poured concrete. A few are constructed of stonework, but the newer walls are constructed of concrete block (Figure 120 and Figure 121).

Figure 120. Stonework retaining wall constructed near Building 528 (ERDC-CERL, 2015).



Figure 121. Newer concrete-block retaining wall near the swimming area (ERDC-CERL, 2015).



3.4.5 Ditches

LORA is set on a hilly bluff overlooking the Lake of the Ozarks. Some permanent-type drainage ditches were constructed to divert water away from the buildings and down the hillside (Figure 122).

Figure 122. Concrete ditch located near Building 528 (ERDC-CERL, 2015).



3.5 Marina, docks, and piers

There are three large, floating docks located at the marina. These docks provide boat slips and storage for LORA guests (Figure 123, Figure 124, and Figure 125). Another smaller floating dock is located at the northern end of LORA, closest to the rental cabins and is accessible by a set of concrete steps. A small floating pier is located at the boat launching ramp (Figure 126).

Figure 123. Floating dock at the marina (ERDC-CERL, 2015).



Figure 124. Boat dock with storage slips at the marina (ERDC-CERL, 2015).



Figure 125. View of a floating dock at the marina (ERDC-CERL, 2015).



Figure 126. Small floating dock located near the boat-launching ramp.



3.6 Recreation area/pavilions

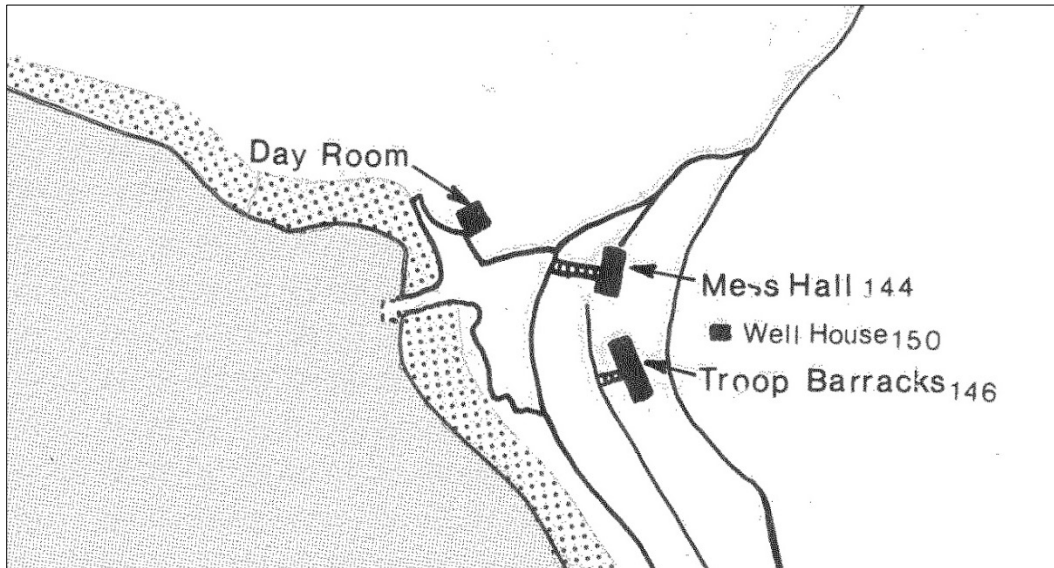
There are several different locations around LORA that guests can use for relaxation, recreation, or dining.

A poured-concrete court area (Figure 127) is located on the south side of LORA near Buildings 144 and 146. There are two basketball goals and poles set for a volleyball net. According to the Real Property list, this court is designated Building 141 (court area) and it is listed as being constructed in 1961; however, as late as 1978 a map indicates that a building (a day room) was located where this court is currently (Figure 128).

Figure 127. Basketball/volleyball court (ERDC-CERL, 2015).



Figure 128. A 1978 map showing the location of the day room and not the court (DPW, FLW).



A small sandy area is designated for picnicking near the shore of the lake (Figure 129). It is located just to the south of Building 549 (recreation shelter). This area is accessible via a paved road, and there is a gravel parking area close by.

Figure 129. Sandy area designated for picnicking (ERDC-CERL, 2015).



There is a small covered pavilion area located off Fleet Lane near the rental cabins. The pavilion was constructed in early 1970s as a simple four-post structure with a metal gable roof and a concrete pad foundation (Figure 130).

Figure 130. Covered pavilion located near the rental cabins off Fleet Lane (ERDC-CERL, 2015).



A newly constructed play-structure is located near the helipad and boat-launch ramp on the west side of LORA (Figure 131). The play area is nestled into the hillside and supported by a concrete-block retaining wall. A newly constructed bath house is located to the north.

Figure 131. Newer playground area located near the swimming area, with newer bath house to the left of the photo (ERDC-CERL, 2015).



3.7 Newer buildings

A few newer structures have been built at LORA. These supporting structures are constructed of concrete block with gable metal roofs. Building 529 (latrine) is located on the northeast side of Building 500 (NAF sales outlet) off of Olney Circle (Figure 132). The new building replaced a previously demolished latrine. Another concrete building was built near the newly constructed play structure near the helipad and boat-launching ramp. This building was constructed as a larger bath house (Figure 133). A poured concrete retaining wall supports the slope of the hill on the east side of the building. There was no number on the building to indicate what Building number it was.

Figure 132. Building 529, latrine (ERDC-CERL, 2015).



Figure 133. Newer bath house facility located near the boat launch (ERDC-CERL, 2015).



3.8 Not-surveyed structures

There were three structures that were on the original list given to the researchers that were not surveyed because they could not be located on either a current map or by on-site reconnaissance. These buildings were Building 702 (water well potable, 1961), Building 704 (sewage lift station, 1961), and Building 781 (IND waste treatment, 1961).

(This page intentionally blank.)

4 Inventory Results

4.1 Categories of historic properties

The identification of historically significant properties is achieved through evaluation of their position within a larger historic context. According to the NRHP, historic contexts are defined as "...the patterns, themes, or trends in history by which a specific occurrence, property, or site is understood, and its meaning (and ultimately its significance) within prehistory or history is made clear (NPS 1997, 7). A historic property is determined significant or not significant by applying standardized National Register Criteria for Evaluation to property within its historical context. The NRHP categorizes significant properties as buildings, sites, districts, structures, or objects (NPS 1997, 9). The definitions of these property types follow:

Building: A building is created principally to shelter any form of human activity. Examples of buildings include: administration building, house, barn, stable, train station, church, or shed.

Structure: Structures are distinguished from buildings by being functional constructions made for purposes other than creating human shelter. Examples of structures include: aircraft hangars, bandstands, bridges, canals, fences, kilns, or windmills.

Object: The term object is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment. Examples of objects include boundary markers, fountains, monuments, sculptures or statues.

Site: A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure. Examples of sites include: battlefield, campsite, ceremonial site, designed landscape, rock shelter, or village site.

District: A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development. A district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. A group of features lacking in individual distinction may even be considered eligible if the grouping achieves significance as a whole within its historic context. While a district derives its importance from being a unified entity, it can contain buildings, structures, sites, objects, or open spaces that do not contribute to the significance of the district if these properties do not adversely affect the district's integrity.

4.2 Criteria for evaluation

The National Register Criteria for Evaluation define how historic properties are significant by categorizing a property's associations with important historic qualifiers. The *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation* (NPS 1997) lists four major criteria to which a historic property can be associated: Criterion A—important events, Criterion B—persons, Criterion C—importance in design and construction, and Criterion D—information potential. Although there are other criteria considerations, the four major criteria are described in more detail below:

- A. Event** is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. Person** is associated with the lives of persons significant in our past; or
- C. Design/Construction** embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. Information Potential where the property has** yielded, or is likely to yield, information important in prehistory or history.

4.3 Aspects of historic integrity

In addition to possessing historical significance, to be eligible to the NRHP properties must also retain sufficient physical integrity of features in order to convey its significance (NPS 1997, 44–45). Historic properties both retain integrity and convey their significance, or they do not. The National Register recognizes seven aspects or qualities of a property that define the concept of integrity. To retain historic integrity, a property must possess several, and usually most, of the seven aspects. The retention of specific aspects of historic integrity is paramount for a property to convey its significance. Determining which of these aspects are most important to a particular property requires knowing why, where, and when the property is significant. The seven aspects of integrity are again listed in *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation* (NPS 1997):

Location

Location is the place where the historic property was constructed or the place where the historic event occurred.

Design

Design is the combination of elements that create the form, plan, space, structure, and style of a property. It results from conscious decisions made during the original conception and planning of a property (or its significant alteration) and applies to activities as diverse as community planning, engineering, architecture, and landscape architecture. Design includes such elements as organization of space, proportion, scale, technology, ornamentation, and materials.

Setting

Setting is the physical environment of a historic property. Setting refers to the character of the place in which the property played its historical role. It involves how, not just where, the property is situated and its relationship to surrounding features and open space.

Materials

Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form an historic property.

Workmanship

Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.

Feeling

Feeling is a property's expression of the aesthetic or historic sense of a particular time period.

Association

Association is the direct link between an important historic event or person and a historic property.

Integrity has very specific connotations in defining historic and cultural resources. Integrity is the authenticity of physical characteristics from which resources obtain their significance. Historic properties convey their significance through their integrity. Districts and individual resources are considered significant if they possess a majority of these seven aspects. Properties in a historic district are classified as either "contributing or non-contributing" resources. Contributing resources date from the historic period of significance established for the district. They contribute to the significance and character of the district through their historical associations and/or architectural values. Non-contributing resources are those that, due to the date of construction, alterations, or other factors, do not contribute to the district's historic significance or character.

4.1 Significance

The overall time period for this report was from 1960 to 1970. From researching the construction dates of the applicable buildings, no one period of significance could be determined. LORA facilities have been changed and transformed throughout the years since it became part of FLW in 1961.

4.1.1 State or local significance

The researchers were tasked with recommending the eligibility or ineligibility of LORA. LORA is not significant to the mission of Fort Leonard Wood, and does not in and of itself have significance at the state or local level. LORA's significance as part of the Lake of the Ozarks State Park could not be determined in the scope of this report.

4.2 Final determinations of eligibility

The identification of historically significant properties is achieved only through an evaluation which associates a property within a larger historic context. According to the NRHP, "Historic contexts are those patterns, themes, or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within prehistory or history is made clear" (NPS 1997, 7). Therefore, to qualify as historic, a property must have an association with a relevant historic context as well as retain its physical integrity, through which its historic significance is conveyed.

It is the determination of this report that these 68 buildings, structures, and sites are individually **NOT ELIGIBLE** to the NRHP due to the lack of significance as individual buildings under any of the four Criteria for Evaluation. LORA was looked at as a whole for eligibility as a historic district, but no one period of significance could be determined, due to the constant changes to the facilities and the recreational area as a whole. LORA is not significant to the mission of FLW and under Criterion A is not significant to military recreation at the national, state, or local levels. The design of LORA or its individual buildings could not be attributed to a master architect or landscape architect under Criterion C, and the aggregate of LORA from 1960 to 1970 does not have the qualities needed to be eligible as a historic district. No buildings, structures, or sites were found to be eligible for the NRHP (Table 3.).

Table 3. List of LORA facilities built from 1960 to 1970 that were surveyed and recommendations given of their eligibility (ERDC-CERL).

BUILDING NUMBER	ACQUISITION DATE	CURRENT USE	CATEGORY CODE	NRHP ELIGIBILITY
140	1961	OIL STORAGE BUILDING	21470	NO
141	1961	COURT AREA	75011	NO
144	1970	ENLISTED UPH	72111	NO
146	1970	DINING FACILITY	72210	NO
150	1961	WATER WELL POTABLE	84130	NO
151	1961	SEWAGE LIFT STATION	83150	NO
400	1969	SEPARATE TOILET/SHOWER	73075	NO
401	1969	SEPARATE TOILET/SHOWER	73075	NO
500	1961	NAF SALES OUTLET	74003	NO
505	1961	BOAT HOUSE	74009	NO
506	1961	GENERAL ITEM REPAIR	21414	NO
528	1961	ADMINISTRATIVE GENERAL PURPOSE	61050	NO
532	1970	TRAILER SITES	71310	NO
537	1961	MARINE FUEL FACILITY	12210	NO
538	1961	VEHICLE FUEL MOGAS	12311	NO
548	1961	RW (Rotary Wing) LAND PAD PAVEMENT	11130	NO
549	1961	RECREATION SHELTER	75052	NO
550	1961	RECREATION BILLETTS	74036	NO
555	1961	SEPARATE TOILET/SHOWER	73075	NO
560	1961	ADMINISTRATIVE GENERAL PURPOSE	61050	NO
561	1961	WATER WELL POTABLE	84130	NO
610	1961	SEWAGE LIFT STATION	83150	NO
700	1961	TRAILER SITES	71310	NO
706	1961	TRAILER SITES	71310	NO
708	1961	TRAILER SITES	71310	NO
710	1961	TRAILER SITES	71310	NO
712	1961	TRAILER SITES	71310	NO
714	1961	TRAILER SITES	71310	NO
716	1961	TRAILER SITES	71310	NO
718	1961	TRAILER SITES	71310	NO
720	1961	TRAILER SITES	71310	NO
722	1961	TRAILER SITES	71310	NO
724	1961	TRAILER SITES	71310	NO

BUILDING NUMBER	ACQUISITION DATE	CURRENT USE	CATEGORY CODE	NRHP ELIGIBILITY
726	1960	TRAILER SITES	71310	NO
728	1960	TRAILER SITES	71310	NO
730	1961	TRAILER SITES	71310	NO
732	1960	TRAILER SITES	71310	NO
734	1960	TRAILER SITES	71310	NO
736	1961	TRAILER SITES	71310	NO
738	1961	TRAILER SITES	71310	NO
740	1961	TRAILER SITES	71310	NO
742	1961	TRAILER SITES	71310	NO
744	1961	TRAILER SITES	71310	NO
746	1961	TRAILER SITES	71310	NO
748	1961	TRAILER SITES	71310	NO
750	1961	TRAILER SITES	71310	NO
752	1961	TRAILER SITES	71310	NO
754	1961	TRAILER SITES	71310	NO
756	1961	TRAILER SITES	71310	NO
758	1961	TRAILER SITES	71310	NO
760	1961	TRAILER SITES	71310	NO
762	1961	TRAILER SITES	71310	NO
764	1961	TRAILER SITES	71310	NO
768	1961	TRAILER SITES	71310	NO
770	1961	TRAILER SITES	71310	NO
772	1961	TRAILER SITES	71310	NO
774	1961	TRAILER SITES	71310	NO
776	1960	TRAILER SITES	71310	NO
780	1961	IND WASTE TREATMENT	83140	NO
13510	1961	COMMUNICATION LINES UNDERGROUND	13510	NO
81240	1961	OVERHEAD ELECTRIC LINES	81241	NO
83210	1961	SANITARY SEWER	83210	NO
84210	1961	WATER DIST POTABLE	84210	NO
85130	1961	ROADS, UNPAVED	85130	NO
85221	1961	SIDEWALKS, PAVED	85220	NO
87120	1961	DRAINAGE DITCH	87120	NO
87150	1961	RETAIN STRUCTURE	87150	NO
87151	1970	RETAIN STRUCTURE	87150	NO

References and Resources

National Park Service (NPS). 1997. *National Register Bulletin #15, How to Apply the National Register Criteria for Evaluation*. Washington, DC: U.S. Department of the Interior.

Real Property information and drawing documentation provided by Directorate of Public Works, Fort Leonard Wood, Missouri.

U.S. Army MWR. http://www.fortleonardwoodmwr.com/lake_ozarks.php.

Whiteman Air Force Base. www.whiteman.af.mil/news/story.asp?id=123062505.

REPORT DOCUMENTATION PAGE			<i>Form Approved</i> <i>OMB No. 0704-0188</i>		
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) June 2016		2. REPORT TYPE Final Technical Report		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Fort Leonard Wood Lake of the Ozarks Recreation Area, NRHP Section 110 Inventory and Evaluation			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Sunny E. Adams and Adam D. Smith			5d. PROJECT NUMBER 450959		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Engineer Research and Development Center (ERDC) Construction Engineering Research Laboratory (CERL) PO Box 9005 Champaign, IL 61826-9005			8. PERFORMING ORGANIZATION REPORT NUMBER ERDC/CERL TR-16-7		
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) Fort Leonard Wood Directorate of Public Works Environmental Division Fort Leonard Wood, MO 65473			10. SPONSOR/MONITOR'S ACRONYM(S) FLW		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.					
13. SUPPLEMENTARY NOTES Copies are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.					
14. ABSTRACT This document is an architectural survey of 68 buildings and structures located at the Fort Leonard Wood Lake of the Ozarks Recreation Area (LORA), Missouri and constructed from 1960–1970, for eligibility to the National Register of Historic Places (NRHP). This survey satisfies Section 110 of the National Historic Preservation Act of 1966 as amended, and was used to determine the eligibility of these buildings and structures for inclusion on the NRHP. It is the recommendation of this report that none of the buildings are individually eligible for the NRHP, and the LORA is not eligible as a historic district.					
15. SUBJECT TERMS Fort Leonard Wood (Mo.), Ozarks, Lake of the (Mo.), Lake of the Ozarks Recreation Area (LORA), Historic preservation; Architectural survey; National Register of Historic Places (NRHP)					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 128	19a. NAME OF RESPONSIBLE PERSON
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (include area code)