

APPENDIX O

LAUNCH AREA HISTORICAL PHOTO ANALYSIS



FORMER NIKE BATTERIES BU 34/35 LAUNCH AREA– (FUDS ID: C02NY0077) HISTORICAL PHOTOGRAPHIC ANALYSIS



ERIE COUNTY, NEW YORK



Near Final

Near Final

Aerial Photography Source: National Archives & Records Administration, Cartographic Records Branch, Record Group 373, NARA Can No. ON 004978, Cartographic Records Branch, College Park, Maryland.

U.S. Army Geospatial Center (AGC)
Warfighter Support Directorate
Hydrologic & Environmental Analysis Branch
Environmental Analysis Team
7701 Telegraph Road
Alexandria, Virginia 22315–3864

FINAL REPORT
APRIL 2017

Prepared for the U.S. Army Corps of Engineers, New York and New England Districts



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NOTICE AND INTRODUCTION



Former Nike Batteries BU 34/35 Launch Area Erie County, New York

By
U.S. Army Geospatial Center (AGC)
Warfighter Support Directorate
Hydrologic and Environmental Analysis Branch
Environmental Analysis Team
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NOTICE

The views, opinions, and conclusions in this report are those of the author and should not be construed as official Department of Army positions or policy unless so designated by other documentation.

Photographic items contained in this report may be restricted for use other than research. It is the responsibility of the party using photographs from this study to contact the U.S. Army Geospatial Center, Warfighter Support Directorate in order to ascertain clearance for use.

INTRODUCTION

This report of findings presents the results of a historical photographic analysis (HPA) of the Niagara-Buffalo Defense Area – Former Nike Batteries BU 34/35 Launch Area, located in Erie County, New York. The Hydrologic and Environmental Analysis Branch of the Warfighter Support Directorate was tasked to search, collect, and analyze historical photographic records and historical map data relative to the project area as part of the Formerly Used Defense Sites (FUDS) program.

This report contains select findings covering the existence of Army activity within the Former Nike Batteries BU 34/35 Launch Area.



METHODOLOGY



METHODOLOGY

The analysis presented in this report is primarily based upon interpretation of gray scale and color photography and satellite imagery over the project area spanning the years of 1951 to 2016. Stereo viewing was employed where overlapping aerial photographs permitted its use. Significant features, derived through photo analysis, are displayed on select photos in this study.

Research was conducted by AGC for historical aerial photography from the early 1950s to present day. Documents (in the form of text, tables, photos, and maps) regarding the use of potentially hazardous materials at the BU 34/35 Nike site Launch Area property were also researched. This information supports the documentation of what types of chemicals were received and used at Nike Site BU 34/35 Launch Area. AGC also conducted multiple searches for information regarding underground utilities such as storm and sewer lines, communication cables, and fuel storage tanks. The types of findings include design drawings (‘as-built’ as well as planned and/or approved development), General Service Administration Property Disposal Data¹, and various other reports.

The primary purpose of this historical photographic study is to locate and identify, from historical imagery, maps, and drawings, features associated with the former U.S. Army Nike Batteries BU 34/35 Launch Area located in the Town of East Aurora within Erie County, New York. Building identification, road, and other site names and numbers are derived from historical maps, still photographs, and textual documents. The historical photographic analysis (HPA) provides insight into the ground conditions of the Nike site Launch Area prior to the property being vacated by the U.S. Army, as well as the identification of any changes identified on available coverage of aerial photography and satellite imagery.

A GIS package (under separate cover) is also being produced by AGC for the U.S. Army Corps of Engineers New York and New England Districts.

1) National Archives & Records Administration; National Archives at Boston, Waltham, Massachusetts and the National Archives at College Park, 8601 Adelphi Road, College Park, Maryland.



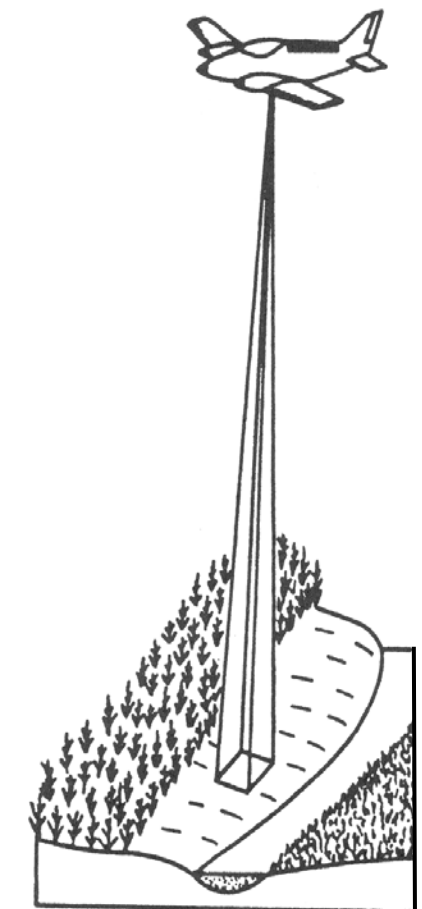
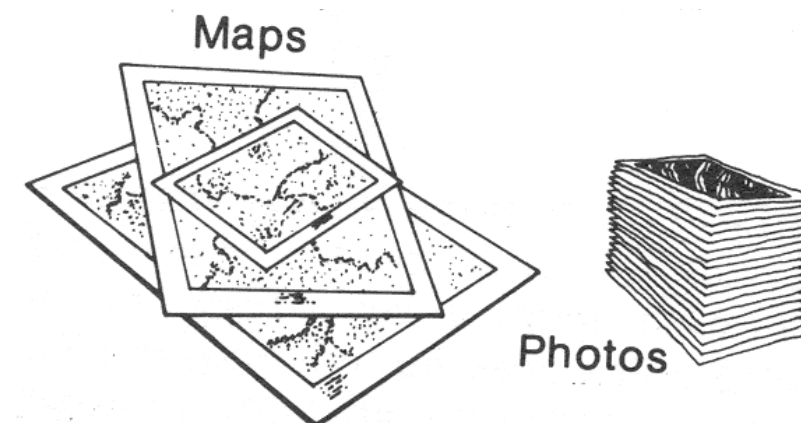
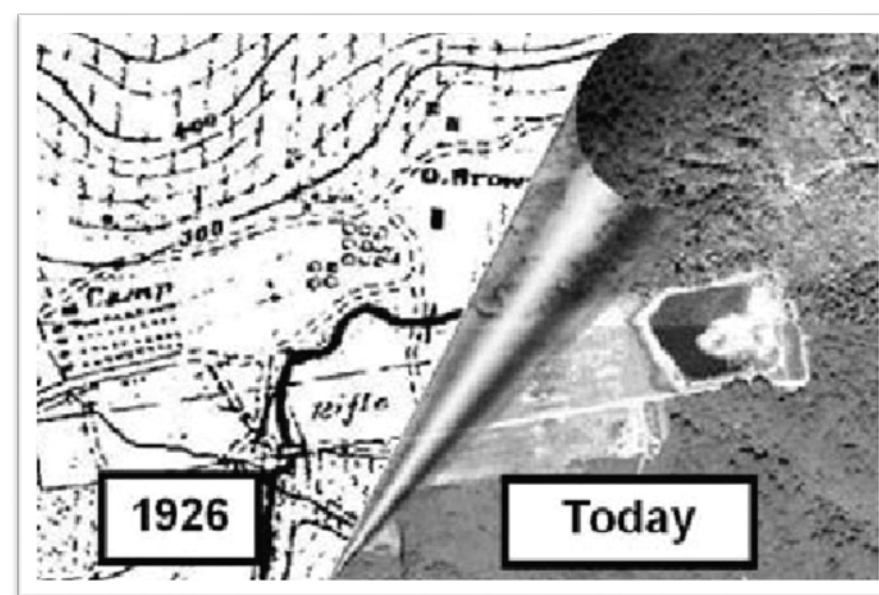
INTERPRETATION OF HISTORICAL AERIAL PHOTOGRAPHY



The Warfighter Support Directorate of the U.S. Army Geospatial Center (AGC) was tasked to conduct data collection and photo interpretation of historical aerial photography and satellite imagery covering the Former Nike Batteries BU 34/35 Launch Area in support of the Formerly Used Defense Site (FUDS) Program.

Historical Aerial Photographic Study

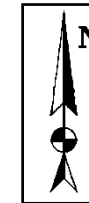
- ⊕ IDENTIFICATION OF FEATURES BY SCALE, SHAPE, TONE, PATTERN, ORIENTATION, SHADOW, AND TEXTURE
- ⊕ CHANGE DETECTION OF MAN-MADE OR NATURALLY-OCCURRING FEATURES
- ⊕ PLACING LOCATIONS OF HISTORICAL FEATURES ON THE CURRENT LANDSCAPE



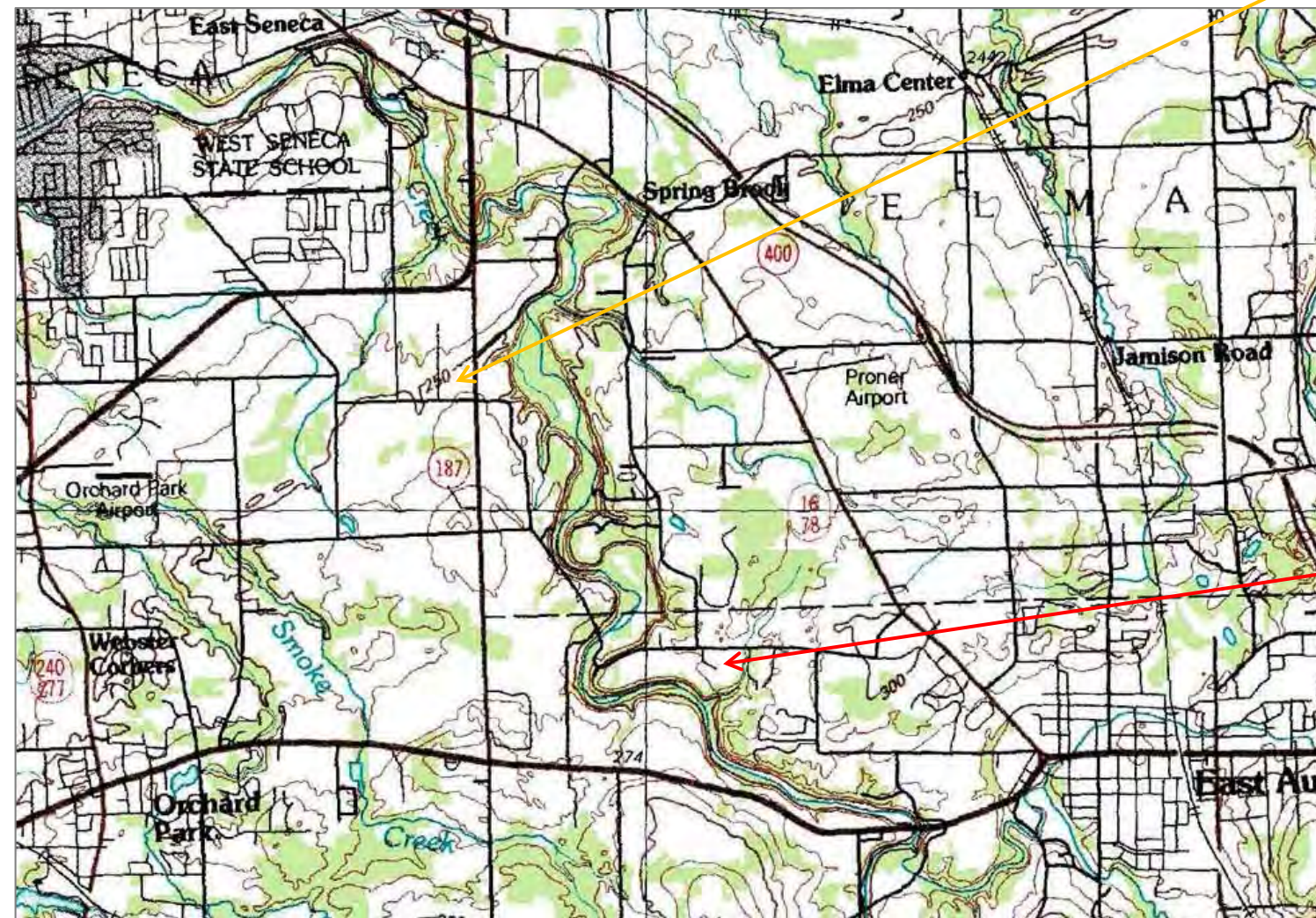


PROJECT AREA LOCATION

The Former Nike Batteries BU 34/35 Launch Area is part of the Niagara-Buffalo Defense Area located in Erie County, New York. It is approximately 10 miles southeast of Buffalo, New York.



1958-dated vertical image of Nike Site BU 34/35. The Control Area is shown in the upper left (in orange) and Launch Area is identified in the lower right (in red).



BU 34/35
Control
Area

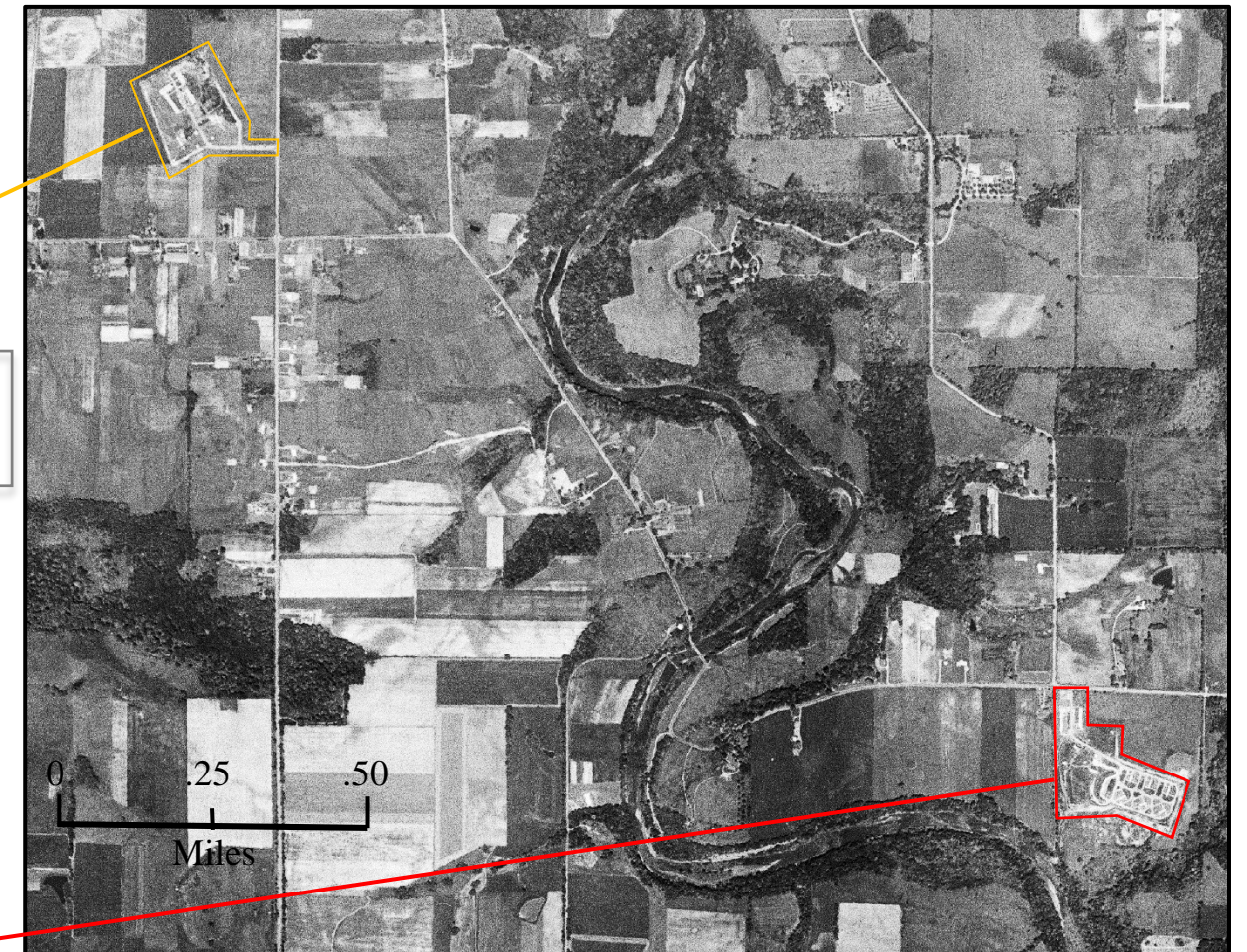


Photo Source: U.S. Geological Survey, EarthExplorer.

Project Location: BU 34/35
Launch Area

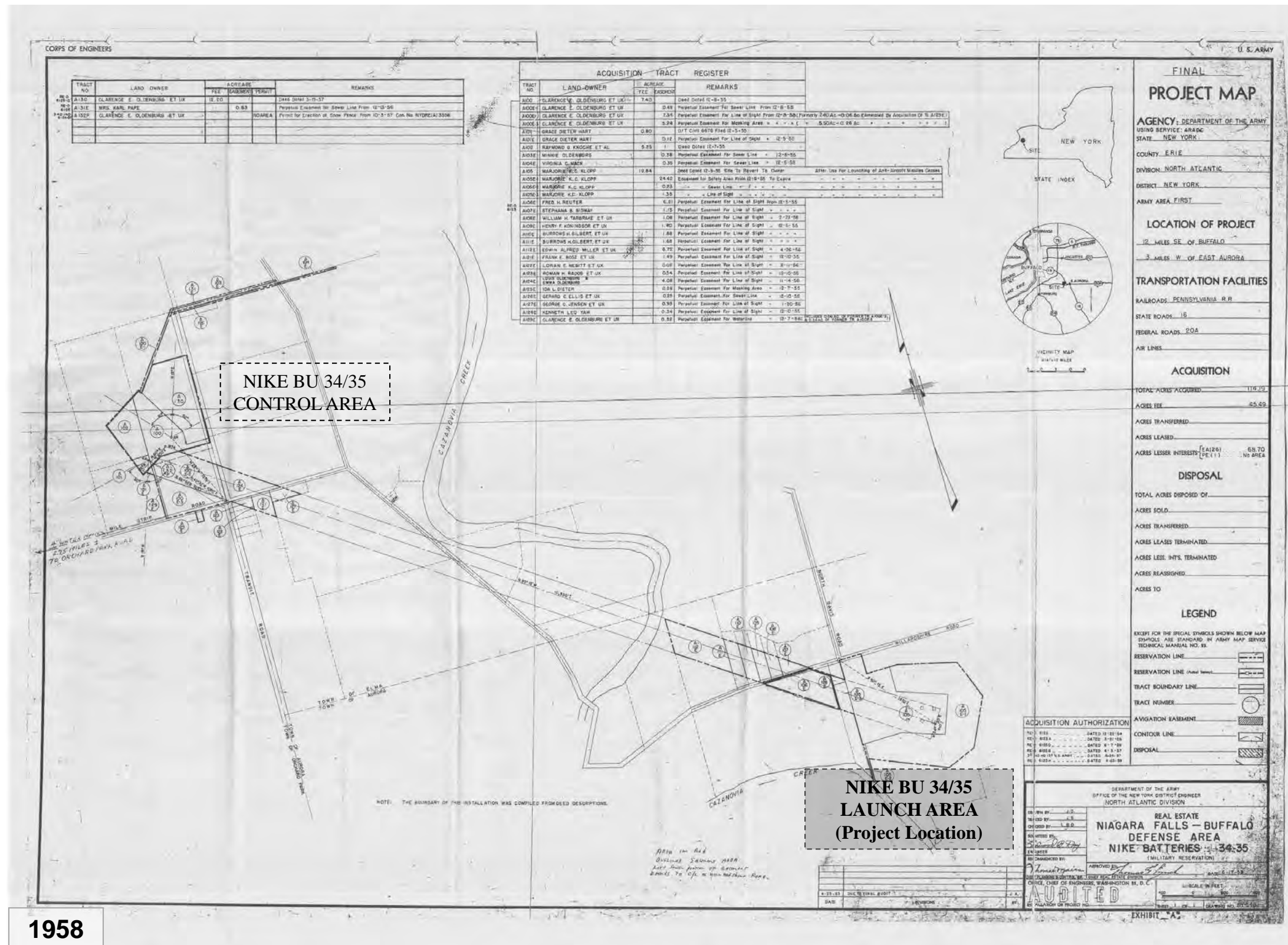
Map Source: U.S. Geological Survey, 30 x 60 Minute Quadrangle, 1984.



PROJECT AREA LOCATION – REAL ESTATE MAP

THE FORMER BU 34/35
NIKE SITE IN ERIE
COUNTY, NY,
CONSISTED OF:

- 1) CONTROL AREA
- 2) LAUNCH AREA



Map Source: the National Archives at Boston, Waltham, Massachusetts, courtesy U. S. Army Corps of Engineers, New England District – Concord, MA



PROJECT OVERVIEW



PROJECT TASKS

The Hydrologic and Environmental Analysis Branch of the Warfighter Support Directorate, Army Geospatial Center (AGC), was tasked by the U.S. Army Corps of Engineers (USACE) New York and New England Districts to complete a Historical Photographic Analysis project for the Former Nike Batteries BU 34/35 Launch Area, located in Erie County, New York. AGC was asked to complete three tasks:

Task 1: Archival Research – AGC researched the use of oil and hazardous materials at the property and any information regarding utilities in the Launch Area of the Niagara Falls - Buffalo Defense Nike Battery BU 34-35 during the Government's use of the property from approximately 1955 to 1964. The AGC research focused on buildings and structures that stored or utilized fuels, oil, and hazardous substances. Also, NAN indicated an interest in obtaining any information and/or plans regarding storm and sewer lines or septic systems at the Launch Area including potential discharge points and conduits (such as ditches). AGC searched selected textual, cartographic, and still photography records from pre-development (before 1955) to post property transfer, with specific emphasis on the time period 1955 to 1964. AGC conducted research at National Capital Area and Buffalo Area repositories. This task supports the completion of the historical photographic analysis performed in Task 3.

Task 2: Imagery Acquisition, Inspection, and Rectification – AGC collected and geo-rectified historical aerial photos, commercial imagery, and maps for the study area for the time period 1955 to 2016. The raw image files and the final geo-rectified files will be delivered at the completion of the project. All raster raw/unrectified data will be delivered in .tif or .img or .jpg format.

Task 3: Historical Photo Analysis – As part of a Final Report, AGC has completed an HPA for the former Nike Ajax site Launch Area. The purpose of this task is to define the ground conditions of the Launch Area prior to the property transfer, as well as identify any changes made to utility lines or discharge points between 1955 and 2016. The results of the HPA will be delivered via PDF report and a GIS data package. All vector data will be contained in a geodatabase and attributed based on NAN and AGC's specifications.



PROJECT OVERVIEW



DESCRIPTION SUMMARY¹

The Former Nike Batteries 34/35 Launch Area was part of the Niagara Falls-Buffalo Defense Area installation in Erie County, New York. The former Launch Area, consisting of 42.70 acres in fee was located in the Town of East Aurora of Erie County, New York. The former Control Area of Nike Batteries 34/35 was located approximately 2 miles from the Launch Area in the Towns of Orchard Park and Elma.

The Nike Batteries 34/35 installation, as a whole, was established in 1956 to be used for the assembly and launching and control of guided missiles for defense against high flying aircraft. The Nike Batteries 34/35 installation, during its full operating period, was a Nike Ajax missile battery type. Originally staffed by the regular U.S. Army, operational control was transferred to the Army National Guard in August of 1960 through October of 1962.

The Launch Area had been improved with approximately seventeen buildings and miscellaneous structures, utilities and supporting facilities of permanent type construction.

HISTORICAL RECORDS RESEARCH AND FINDINGS

Aerial photography, ground photos, and satellite imagery were researched and collected spanning a time period of 1951 through 2016. Both government and non-government sources were contacted for information. Historical records show the site existed as a Nike Ajax missile site from 1956 – 1963. The commander of the site, Major Earl Close, U.S. Army, relinquished his post in November of 1962 for further Nike training at Fort Bliss, Texas.²

The Launch Area property was conveyed to the previous landowner, Mrs. Klopp, of East Aurora, New York on 10 March 1965³.

- 1) Report of Excess of Real Property, Niagara Falls – Buffalo Area Defense Area, NIKE Batteries 34 – 35, Correspondence and an Appraisal Of Real Estate by Robert W. Hopkins, M.A.I., Buffalo, NY, General Services Administration (GSA), 01 July 1963, National Archives and Records Administration (NARA), Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.
- 2) Letter to Ed Thelen from Earl Close, 18 August 2004; ed-thelen.org.
- 3) GSA Memorandum from Acting Chief, Real Property Division to the Director, Eastern Division, Office of Real Property, Washington, D.C., dated 02 February, 1966; NARA, Archives II, Textual Records Branch, College Park, MD, RG 291, Entry 1 (UD-WW), Box 213.



HISTORICAL REVIEW

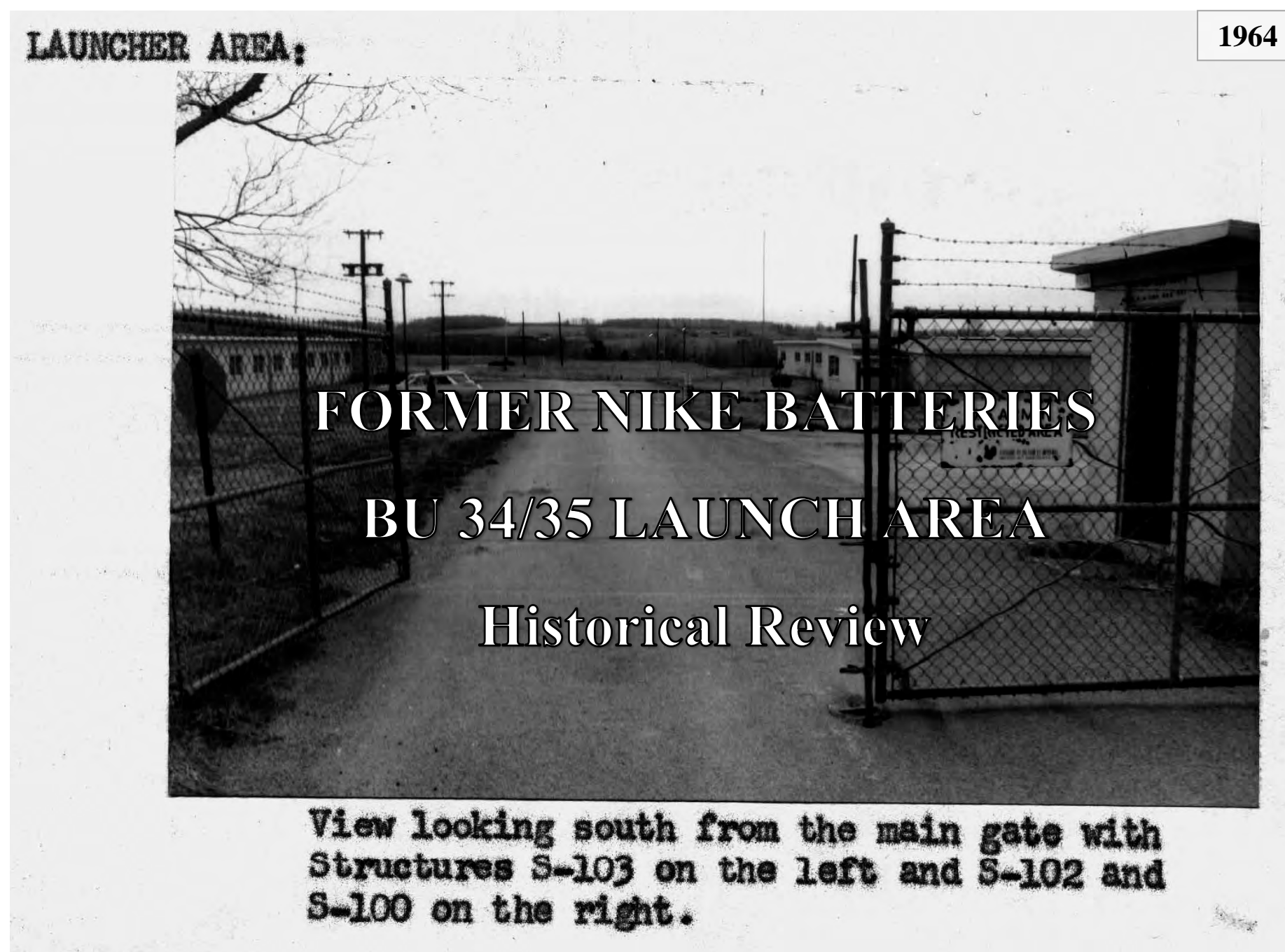


Photo Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

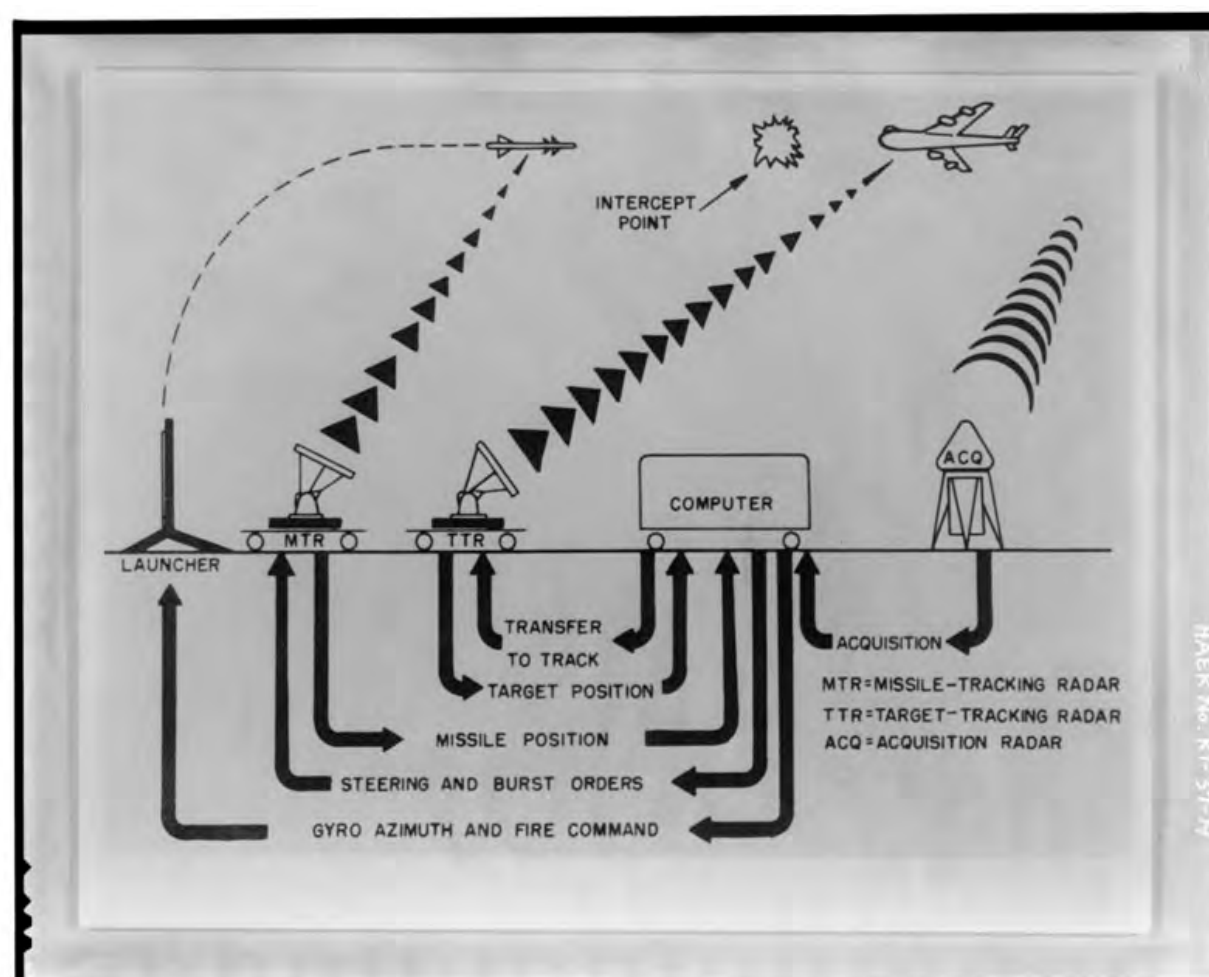


HISTORICAL REVIEW – POST WORLD WAR II

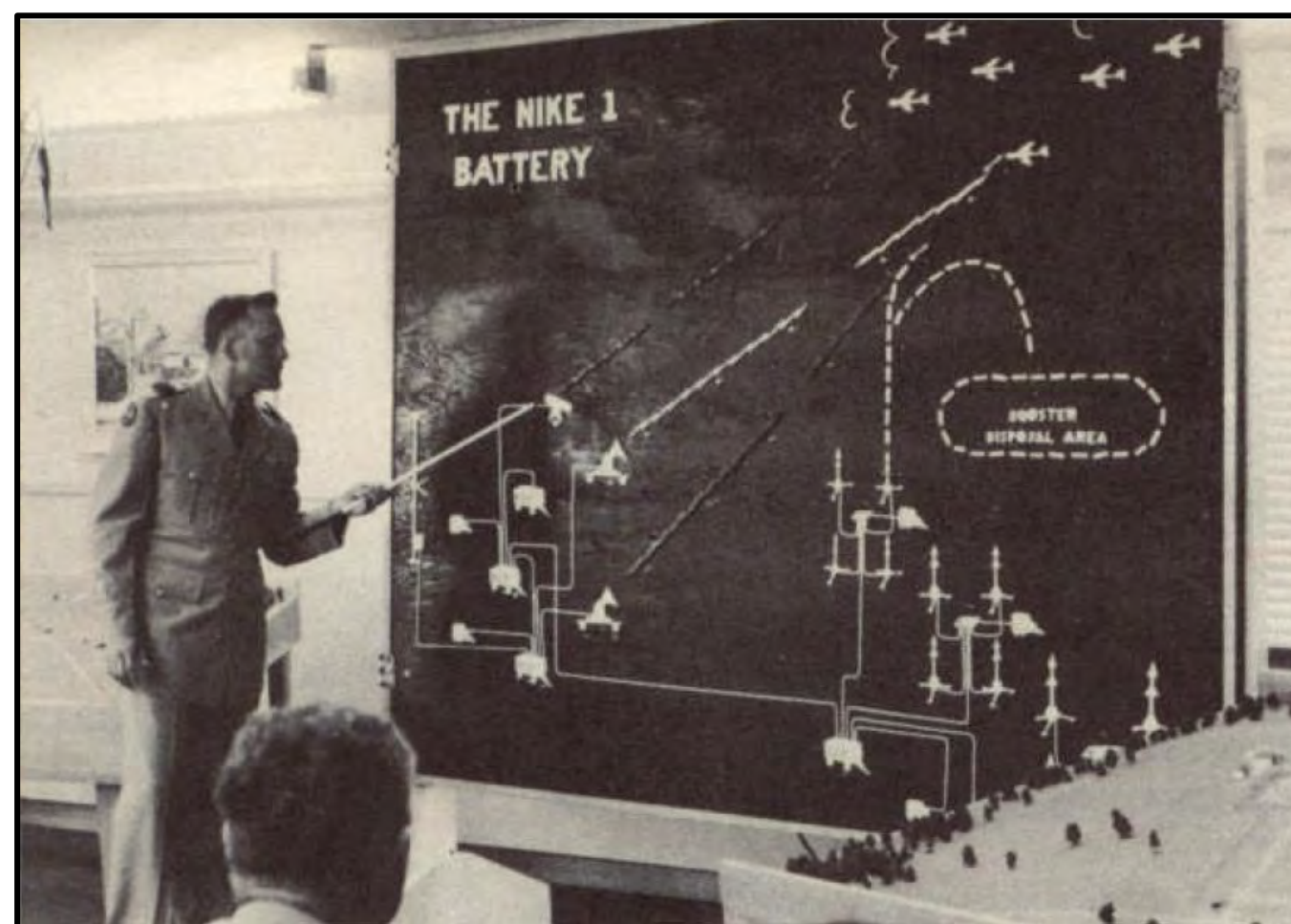


The end of World War II was marked by a renewed focus to defend American metropolitan areas as a result of escalating tensions between the Soviet Union and the United States. At the time however, traditional anti-aircraft artillery weaponry had become obsolete. The technological advances of rocketry and aircraft observed throughout World War II forced American defense planners to modernize traditional weaponry and defense approaches. These anxieties and technological advancements energized the development of the guided missile program.

Throughout much of the 1950s, the primary focus of the guided missile program was the Nike Ajax system. Early technology for the Nike Ajax missile project was introduced around 1950 through the U.S. Army and subcontractors such as Bell Laboratories, Western Electric, and Douglas Aircraft. By the mid 1950s, defense plans were underway to defend American metropolitan areas with surface to air missile batteries.



A depiction of how the Nike Ajax system functioned.



Nike Operations are studied and reviewed regularly.

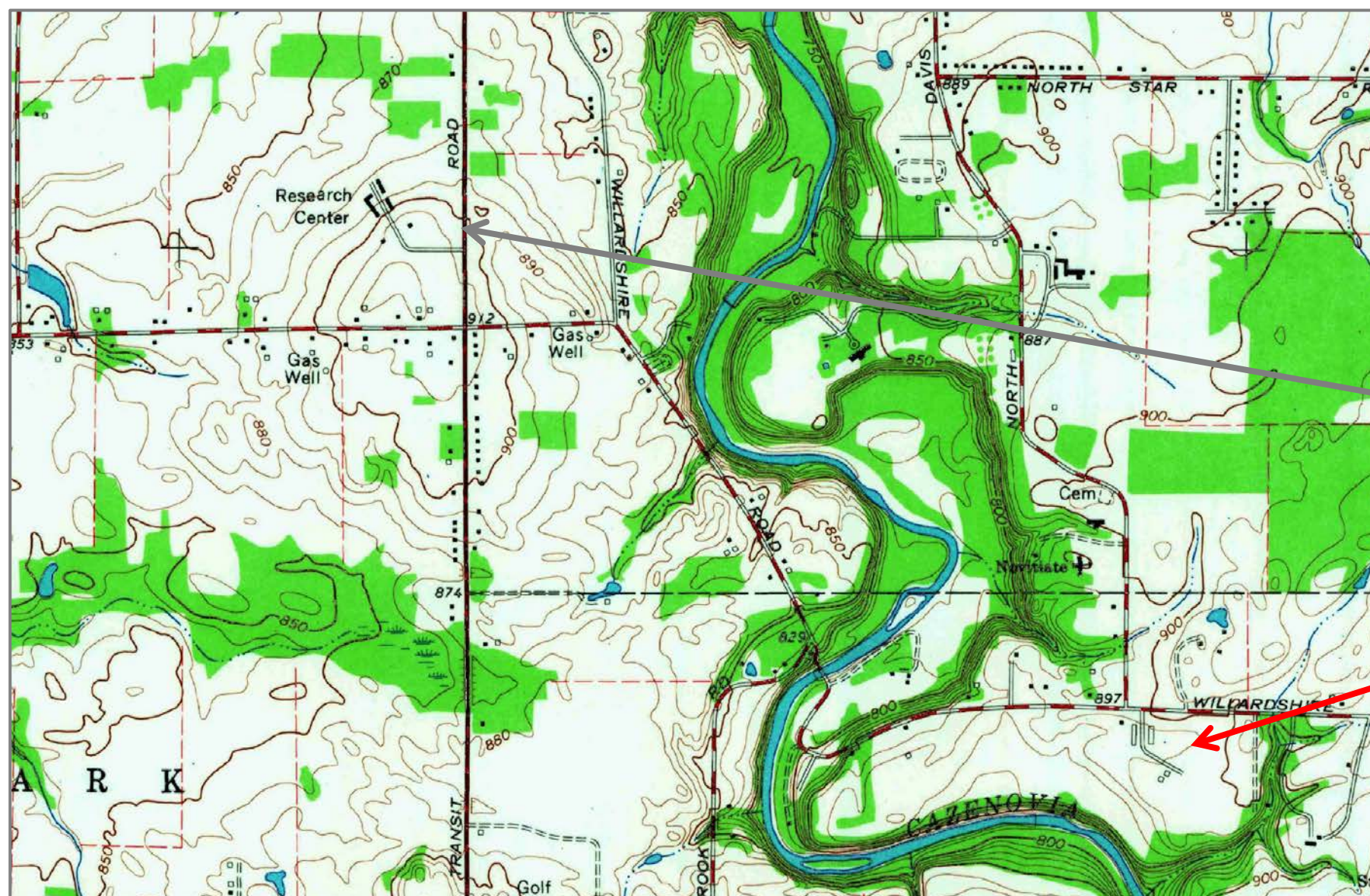
Sources: Library of Congress and Nike, the U.S. Army's Guided Missile System, Western Electric Company, undated.



HISTORICAL REVIEW – POST WORLD WAR II



The Former Nike Batteries 34/35 Launch Area, in Erie County, New York, was a part of the guided missile network built in the mid 1950s. Its primary purpose was to help provide air defense for the Niagara Falls and Buffalo metropolitan region of New York State. Like many Nike Ajax Batteries of that period, Nike Batteries BU 34/35 offered onsite barracks at both the Control Area and Launch Area locations. The former Launch Area, located on Willardshire Road, south of its intersection with North Davis Road, is the focus of this report.



Map Source: USGS, EarthExplorer.

General locations of the former Control and Launcher Areas depicted on a 1965 Geological Survey Topographic Map

**BU 34/35
Control
Area**

**BU 34/35
Launch Area
(Project
Location)**

REVISION	DATE	DESCRIPTION	BY
JOSEPH R. GANGEMI ARCHITECT - ENGINEER NEW YORK, NEW YORK		U. S. ARMY ENGINEER DISTRICT, NEW YORK CORPS OF ENGINEERS NEW YORK 3, NEW YORK	
DRAWN BY: P.F.		NIAGARA - BUFFALO DEFENSE (SAM) INSTALLATIONS BASIC INFORMATION MAPS GENERAL SITE & BUILDING USE PLAN SITE NO. BU-34-DC (ORCHARD PARK)	
DESIGNED BY:		ORCHARD PK., ERIE CO. NEW YORK	
SUBMITTED: [Signature]		REVIEWED: [Signature]	
REVIEWED: [Signature]		RECOMMENDED: [Signature]	
APPROVED: [Signature]		SCALE AS SHOWN	
DATE 25 JUNE 1957		DRAWING NUMBER 18-02-01 SHEET 1 OF 1	
[Signature]		FILE NO. 7657-161	

Source: U.S. Army Corps of Engineers,
New England District.

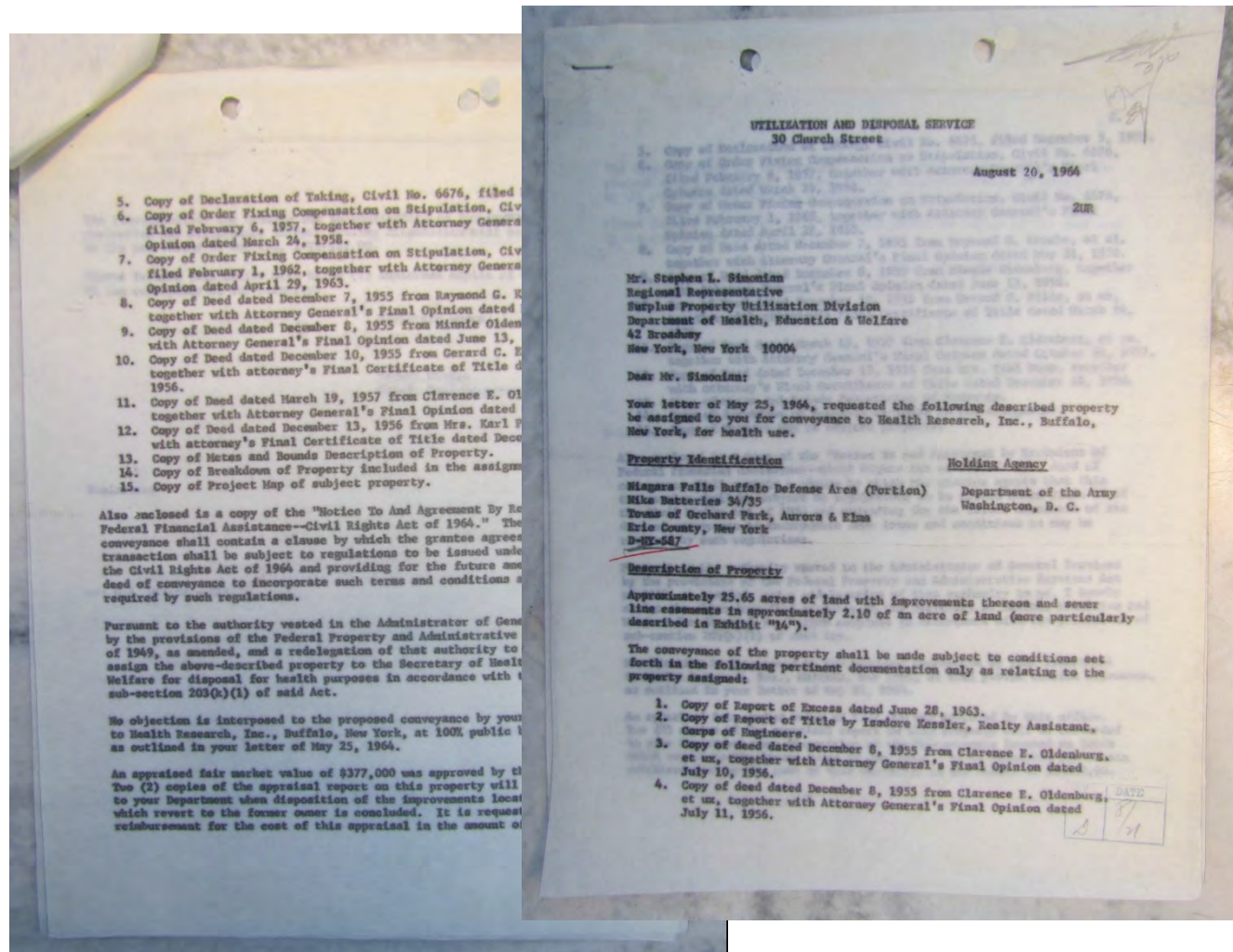
Real estate data from June 1957



HISTORICAL REVIEW 1955 & 1956



Historical records indicate that the federal government began to acquire property for Nike Batteries BU 34/35 in 1955. Further historical documentation shows that deliveries of equipment and movement of personnel occurred in late 1956.



UTILIZATION AND DISPOSAL SERVICE – 30 Church Street
 “3. Copy of deed dated December 8, 1955 from Clarence E. Oldenburg.” “10. Copy of Deed dated December 10, 1955 from Gerard C. Ellis, et ux.” - 20 August, 1964, Memo to Surplus Property Utilization Division, Dept. of Health, Education & Welfare, 42 Broadway, New York, NY 10004. Collected from the National Archives & Records Administration, Archives II, College Park, MD, Textual Records Branch, RG291, Entry 1 (UD-WW), Box 213.



Textual Source: Niagara Falls Gazette, Friday, November 23, 1956, Page 15.

Troops Ready to Leave Fort, Take Positions at East Aurora Nike Site
 “Ft. Niagara – The second body of anti-aircraft troops will move from their temporary quarters at Ft. Niagara to the nearly completed Nike guided missile site in East Aurora...”
 “Lt. Col. William F. LaHatte, commanding officer of the 465th AAA Nike Bn., announced that a convey of 17 trucks carrying radar antennae and control equipment used in guiding the supersonic missiles will reach the East Aurora site Tuesday afternoon. The convoy will transport 85 technicians and radar operators trained at Ft. Bliss, Tex., the Army’s guided missile school, and teams of launcher crewmen.” - 23 November, 1956, Niagara Falls Gazette.



HISTORICAL REVIEW 1956 –1960



By November of 1956, the 465st Missile Battalion was being established at the Nike Batteries BU 34/35. They would later be redesignated as Battery C, 2nd Missile Battalion, 62nd Artillery in September of 1958 and remained stationed until August 1960.

Table I. Niagara – Buffalo Army Air Defense Nike Missile Batteries

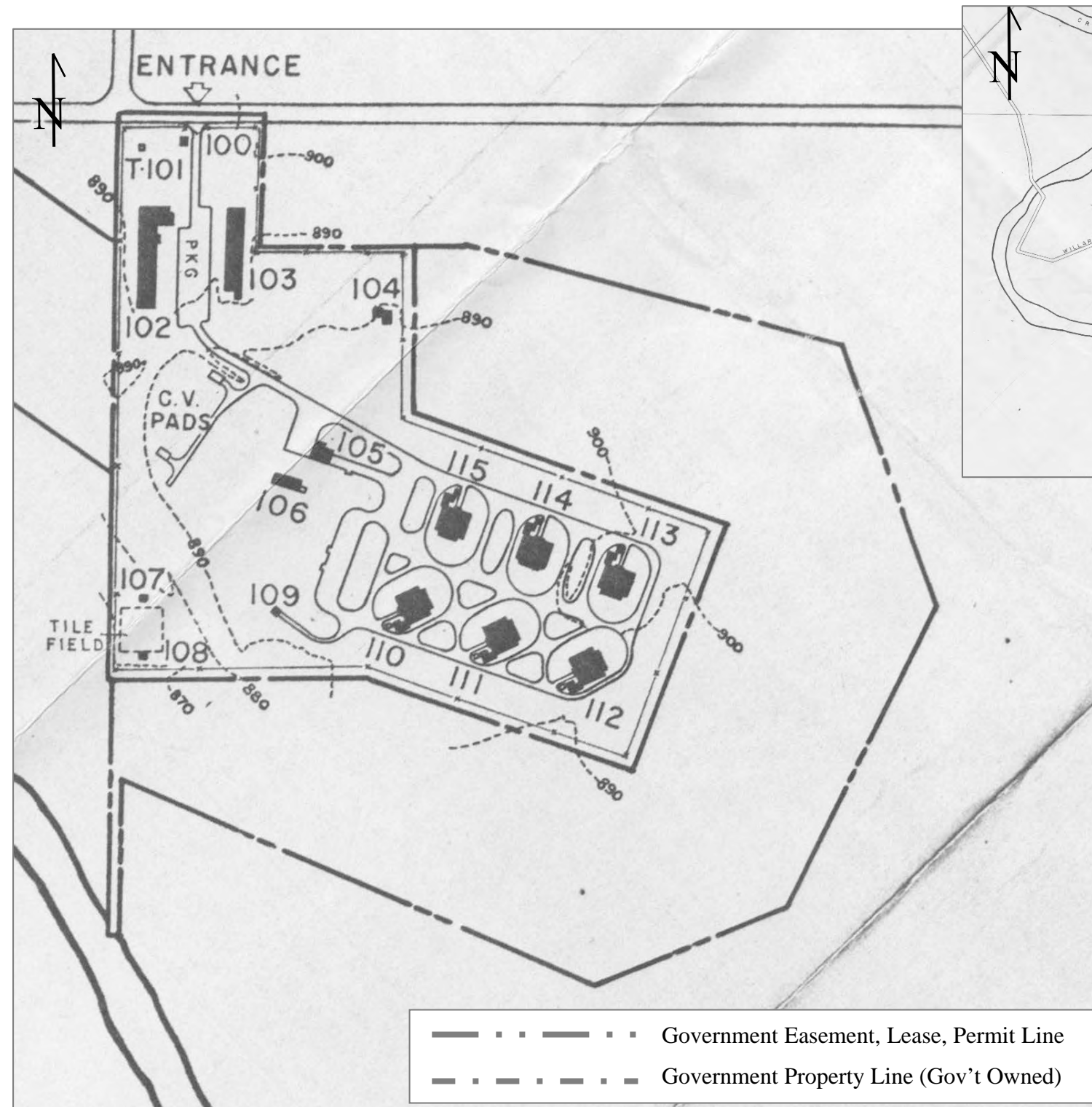
Site	Location	Units Assigned	Years
Fort Niagara	Youngstown	HQ 2 nd AAA Group & Manual AADCP	3/53 - 3/58
		HQ 2 nd Artillery Group (Air Defense) & AADCP	3/58 - 8/61
NF-03/05	Model City (Dual Site)	44 th AAA Missile Battalion, "A" Battery	3/55 - 9/58
		redesignated to: 1 st Missile Battalion, 4 th Artillery, "A" Battery	9/58 - 8/60
		2 nd Missile Battalion, 106 th Artillery, Btys "B"&"C", NYARNG	8/60 - 3/63
NF-16	Cambria (Dual Site)	44 th AAA Missile Battalion, "B" Battery	6/55 – 9/58
		redesignated to 1 st Missile Battalion, 4 th Artillery	9/58 - 3/70
NF-41 (Formerly NF-74/75)	Grand Island (Dual Site)	44 th AAA Missile Battalion, Batteries "C"&"D"	3/55 - 9/58
		redesignated to: 1 st Missile Battalion, 4 th Artillery	9/58 - 4/63
		2 nd Missile Battalion, (Nike) 209 th Artillery, NYARNG	4/63 - 3/70
NF-17	Lockport AFS Shawnee	AADCP (Initially Missile Master, became BIRDIE 9/63	8/61 - 3/70
		HQ 2 nd AAA Group (Air Defense)	8/61 – 10/61
		31 st Artillery Brigade (Air Defense)	10/61-
		Redesignated to 101 st Artillery Group (Air Defense)	3/66 – 11/68
		18 th Artillery Group (Air Defense)	11/68-3/70
BU-09	Millersport	465 th Missile Battalion (Nike), Battery "A"	6/56 - 9/58
		redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 -12/61
BU-18	Lancaster	465 th Missile Battalion (Nike), Battery "B"	6/56 - 9/58
		Redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 - 12/61
		1 st Missile Battalion, 4 th Artillery	12/61 - 4/63
		2 nd Missile Battalion, 209 th Artillery, NYARNG	4/63 - 3/70
BU-34/35	Orchard Park (Dual Site)	465 th Missile Battalion (Nike), Battery "C"	11/56 - 9/58
		redesignated to Bty C, 2 nd Missile Battalion, 62 nd Artillery	9/58 - 8/60
		2 nd Missile Battalion, 106 th Artillery, Btys "A" & "D", NYARNG	8/60 - 3/63
BU-52	Hamburg (Dual Site)	465 th Missile Battalion (Nike), Battery "D"	1/56 - 9/58
		redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 – 12/61

Table I notes:
1. Data compiled from multiple sources²²
2. Redesignation of these units was an Army-wide directive under the Combat Arms Regimental System in January of 1959.
3. The Niagara-Buffero Nike Sites were supported by the Combined Field Maintenance Shop (CFMS) at the Niagara Falls, N.Y. U.S. Army Support Center. ²³
4. 2nd Missile Battalion, 106th Artillery, NYARNG was redesignated 2nd Missile Battalion, 209th Artillery (NYARNG) 1 May 1962.

Textual Source: Fort Niagara and the Cold War Army Defense of Western New York, Part 2 – The “Nike Missile” Era, by Paul Robitaille, 25 March 2015, Table 1, Page 3.



HISTORICAL REVIEW – 1957 INSTALLATION LAYOUT OF BU 34/35 LAUNCH AREA



Source: U.S. Army Corps of Engineers, New England District, Concord, MA.

BUILDINGS LIST – LAUNCH AREA

- 100..... Sentry Booth
- T-101..... Gas Meter House
- 102..... Enlisted Men's Barracks & Bachelor Officers' Quarters
- 103..... Enlisted Men's Barracks
- 104..... Pump House & Water Tank
- 105..... Missile Assembly & Test Building
- 106..... Generator Building
- 107..... Pump House (Dosing)
- 108..... Chlorinator House
- 109..... Acid Storage Shed
- 110..... Missile Storage (Type C)
- 111..... Missile Storage (Type C)
- 112..... Missile Storage (Type B)
- 113..... Missile Storage (Type B)
- 114..... Missile Storage (Type C)
- 115..... Missile Storage (Type C)

Type B Magazine: 49 feet by 60 feet

Type C Magazine: 42 feet by 63 feet

Source: ed-thelen.org/launcher_area.html

REVISION	DATE	DESCRIPTION	BY
JOSEPH R. GANGEMI ARCHITECT - ENGINEER NEW YORK, NEW YORK		U.S. ARMY ENGINEER DISTRICT, NEW YORK CORPS OF ENGINEERS NEW YORK 3, NEW YORK	
DRAWN BY: P. F.		NIAGARA - BUFFALO DEFENSE (SAM) INSTALLATIONS BASIC INFORMATION MAPS GENERAL SITE & BUILDING USE PLAN SITE NO. BU-34-DC (ORCHARD PARK) ORCHARD PK., ERIE CO. NEW YORK	
DESIGNED BY:			
SUBMITTED BY: Joseph R. Gangemi ARCHITECT - ENGINEER			
REVIEWED BY: [Signature] CH. MIL. PL. & RPTS. BR.		RECOMMENDED BY: [Signature] CHIEF, ENGINEERING DIVISION	
APPROVED BY: [Signature] COLONEL C. E., DISTRICT ENGINEER		SCALE AS SHOWN DRAWING NUMBER 18-02-01 SHEET 1 OF 1	
DATE 25 JUNE 1957		FILE NO. 7657-161	

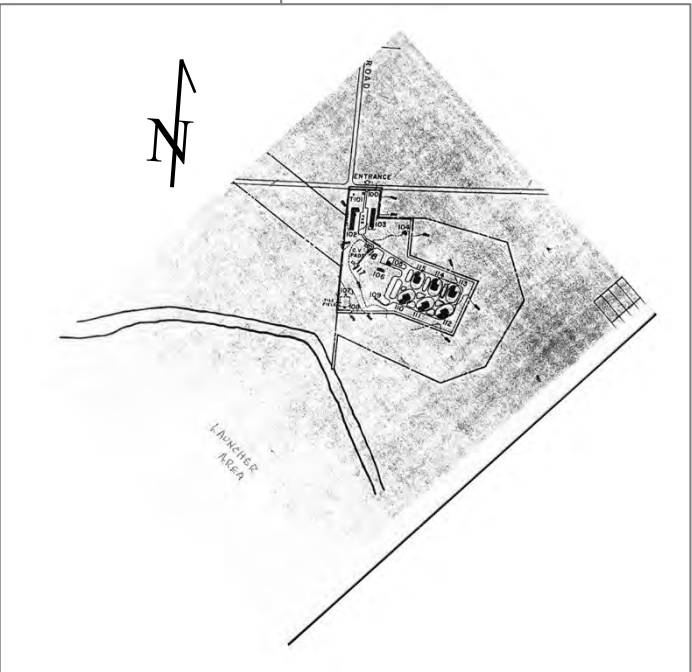
Schedule D



HISTORICAL REVIEW – 1957 INSTALLATION LAYOUT OF BU 34/35 LAUNCH AREA WITH LIMITED REVISIONS DATED 08 JANUARY 1958



Map Source: Personal archives of Earl Close, ed-thelen.org



BUILDING SCHEDULE		
BLDG. NR.	BUILDING USE	GROSS EL. AREA-SF.
100	SENTRY BOOTH (PROGRAMMED)	40
T-101	GAS METER HOUSE	22
102	E.M. BARRACKS & BOQ. (50 E.M. - 4 OFF)	7840
103	E.M. BARRACKS (50 E.M.)	5740
104	PUMP HOUSE / WATER TANK (7500 GAL)	243
105	MISSILE ASSEMBLY & TEST BLD'G	1297
106	GENERATOR BLD'G	820
107	PUMP HOUSE (DOSING)	72
108	CHLORINATOR HOUSE	39
109	ACID STORAGE SHED	42
110	MISSILE STORAGE (TYPE C)	3652
111	MISSILE STORAGE (TYPE C)	3652
112	MISSILE STORAGE (TYPE B)	3954
113	MISSILE STORAGE (TYPE B)	3954
114	MISSILE STORAGE (TYPE C)	3652
115	MISSILE STORAGE (TYPE C)	3652
116	LAUNCHER CONTROL PAD	576
117	..	576

Type B Magazine: 49 feet by 60 feet

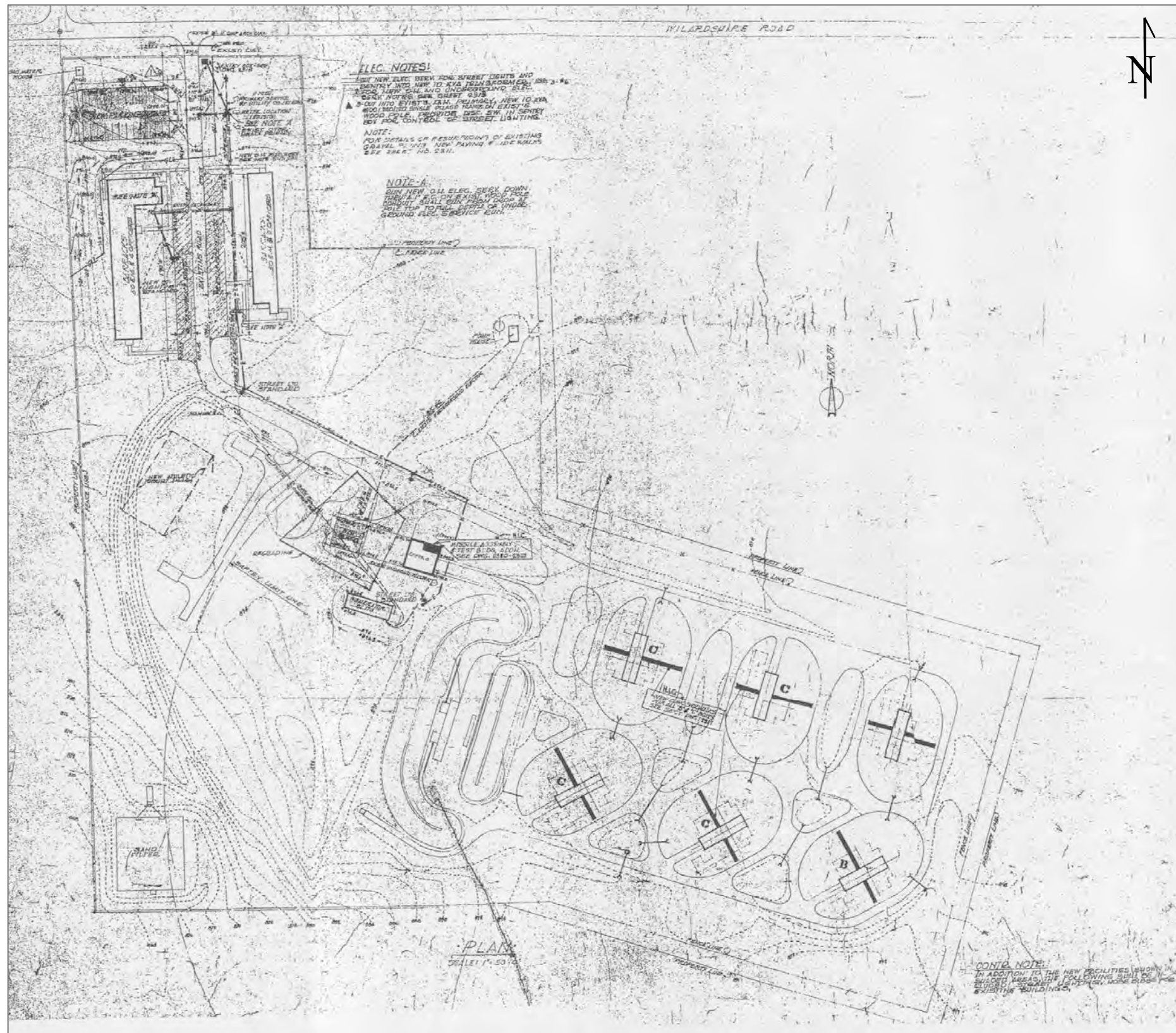
Type C Magazine: 42 feet by 63 feet

Source: ed-thelen.org/launcher_area.html

1	1-8-58	NUMBERED C.V. PADS	
REVISION	DATE	DESCRIPTION	BY
JOSEPH R. GANGEMI ARCHITECT - ENGINEER NEW YORK, NEW YORK		U.S. ARMY ENGINEER DISTRICT, NEW YORK CORPS OF ENGINEERS NEW YORK 3, NEW YORK	
DRAWN BY: P.F.		NIAGARA - BUFFALO DEFENSE (SAM) INSTALLATIONS BASIC INFORMATION MAPS GENERAL SITE & BUILDING USE PLAN SITE NO. BU-34-DC (ORCHARD PARK) ORCHARD PK., ERIE CO., NEW YORK	
DESIGNED BY: <i>Joseph R. Gangemi</i> ARCHITECT - ENGINEER		REVIEWED: <i>G.P. Whittall</i> CH. MIL. PL. & RPTS. BR.	
REVIEWED: <i>Stanley P. Heindel</i> ASSISTANT CHIEF, ENGINEERING DIVISION		RECOMMENDED: <i>Carroll A. Paine</i> CHIEF, ENGINEERING DIVISION	
APPROVED: <i>T.D. Rogers</i> COLONEL C.E. DISTRICT ENGINEER		SCALE AS SHOWN DRAWING NUMBER 18-02-01 SHEET 1 OF 1	
DATE 25 JUNE 1957		FILE NO. 7657-161	



HISTORICAL REVIEW – 1957 INSTALLATION LAYOUT OF BU 34/35 LAUNCH AREA WITH LIMITED REVISIONS DATED 12 FEBRUARY 1958



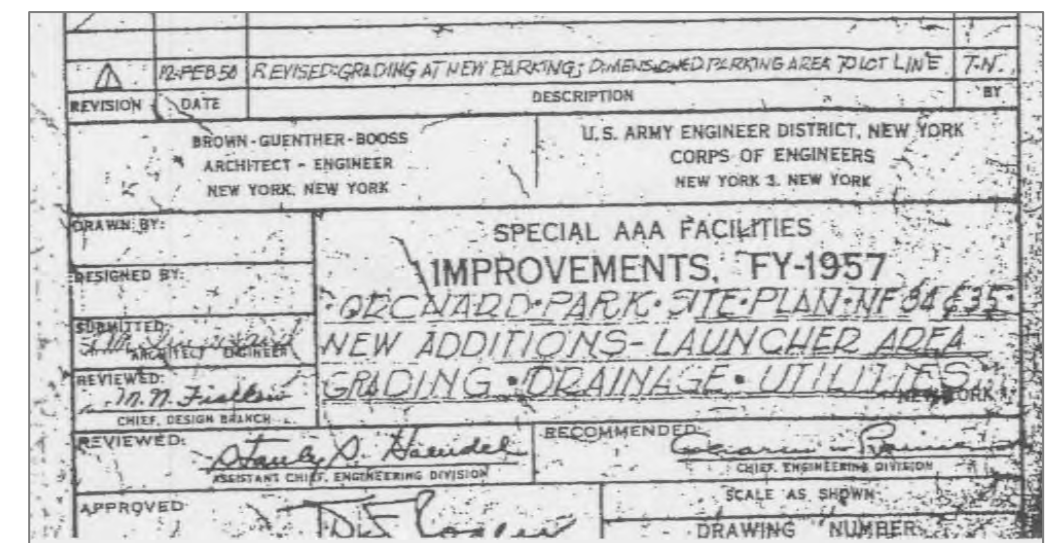
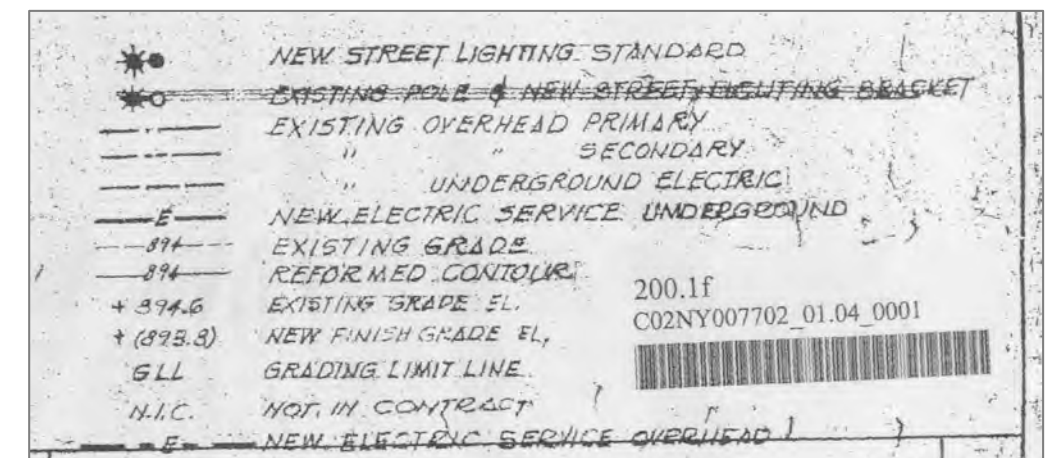
BUILDINGS & OTHER FACILITIES ANNOTATED ON 1957 MAP WITH LIMITED 1958 REVISIONS– LAUNCH AREA

- Sentry Box
- Gas Meter House
- Barracks for Enlisted Men & 4 Officers
- Barracks for Enlisted Men & '0' Officers
- Pump House
- Missile Assembly & Test Building
- Generator Building
- 'B' and 'C' Boxes (missile launch positions)
- Sand Filter (sewage system)

Type B Magazine: 49 feet by 60 feet

Type C Magazine: 42 feet by 63 feet

Source: ed-thelen.org/launcher_area.html

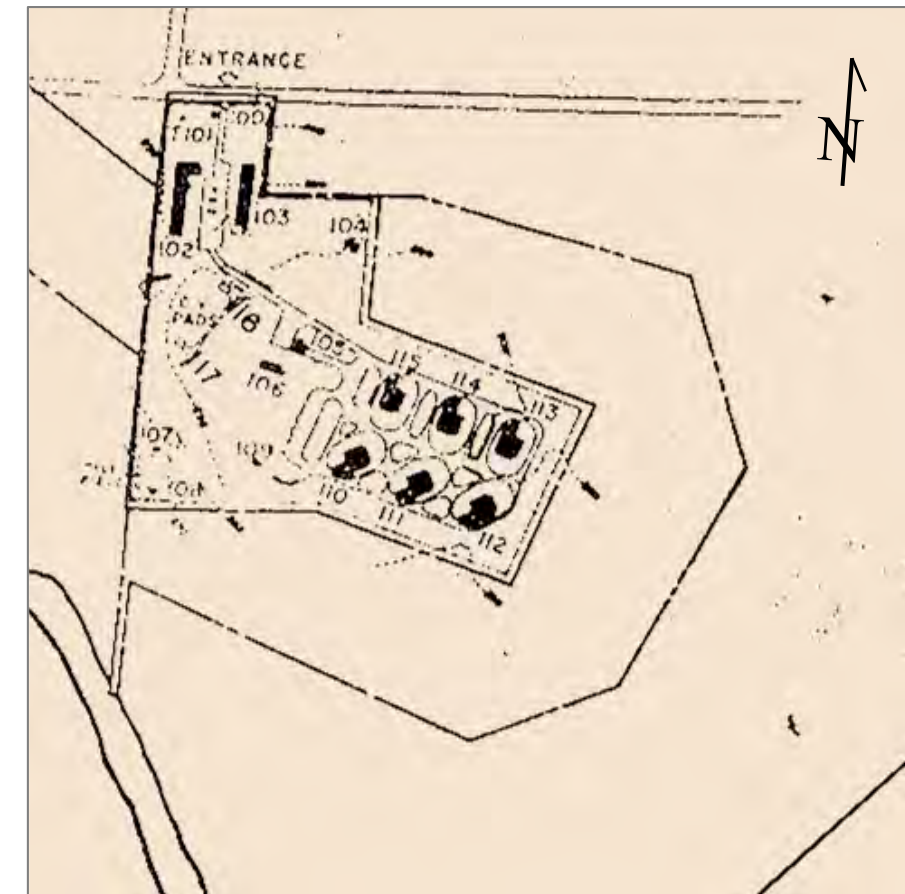


Source: U.S. Army Corps of Engineers, New England District, Concord, MA.



HISTORICAL REVIEW – 1959 AERIAL OBLIQUE OF THE BU 34/35 LAUNCH AREA

THE LAUNCHING AREA, NIAGARA-BUFFALO SITE BU-34, ORCHARD PARK, NEW YORK



LAYOUT OF BU 34/35 LAUNCH AREA

- Government Easement, Lease, Permit Line
- Government Property Line (Gov't Owned)

Stairway down into the Casemate Elevator shaft with aboveground doors closed

Each of the 2 sets of Nike Ajax had 3 underground Casemates which they controlled. Each Casemate was about 30' underground and had between 4,000 - 3,700 sq ft of storage space for 7-9 Ajax Missiles. Underground, the missile would be rolled onto the elevator, the elevator doors opened, and the Missile raised "topside". It would then be rolled to a "satellite" launcher, hooked up, and erected into firing position. The elevator would then return "below ground" and bring up the next Missile. At full "Battle Stations" this site would have 24 Missiles "topside", erected, and ready to fire. The Fire Control (radar) site was 1.7 miles line-of-site, east of the Launching Area. The Nike HERCULES site in Lancaster that I later commanded, was very much like these sites, except it had only ONE complete set of equipment, i.e. only 3 Casemates. This photo was taken about 1959. In 1993 when I visited this site, the only building left was Officer's Quarters & Barrecks. The Casemates were evidently still there, but welded shut & covered with soil & grass.

Source for this page: Personal archives of Earl Close, ed-thelen.org. Details and discussion of BU 34/35 Launch Area provided by Commander Earl Close (Major U.S. Army retired).



HISTORICAL REVIEW 1960 –1963

From August 1960 to March 1963, the 2nd Missile Battalion, 106th Artillery, Batteries “A” and “D” of the New York Army National Guard was assigned at the Nike Batteries BU 34/35. It should be noted that according to an Appraisal Report dated 01 July 1963, the battalion was disbanded from its assignment at this installation in September 1962 (cited by an earlier reference in this report – GSA Property Disposal data).

Table I. Niagara – Buffalo Army Air Defense Nike Missile Batteries

Site	Location	Units Assigned	Years
Fort Niagara	Youngstown	HQ 2 nd AAA Group & Manual AADCP	3/53 - 3/58
		HQ 2 nd Artillery Group (Air Defense) & AADCP	3/58 - 8/61
NF-03/05	Model City (Dual Site)	44 th AAA Missile Battalion, “A” Battery	3/55 - 9/58
		redesignated to: 1 st Missile Battalion, 4 th Artillery, “A” Battery	9/58 - 8/60
		2 nd Missile Battalion, 106 th Artillery, Btys “B”&“C”, NYARNG	8/60 - 3/63
NF-16	Cambria (Dual Site)	44 th AAA Missile Battalion, “B” Battery	6/55 – 9/58
		redesignated to 1 st Missile Battalion, 4 th Artillery	9/58 - 3/70
NF-41 (Formerly NF-74/75)	Grand Island (Dual Site)	44 th AAA Missile Battalion, Batteries “C”&“D”	3/55 - 9/58
		redesignated to: 1 st Missile Battalion, 4 th Artillery	9/58 - 4/63
		2 nd Missile Battalion, (Nike) 209 th Artillery, NYARNG	4/63 - 3/70
NF-17	Lockport AFS Shawnee	AADCP (Initially Missile Master, became BIRDIE 9/63	8/61 - 3/70
		HQ 2 nd AAA Group (Air Defense)	8/61 – 10/61
		31 st Artillery Brigade (Air Defense)	10/61-
		Redesignated to 101 st Artillery Group (Air Defense)	3/66 – 11/68
		18 th Artillery Group (Air Defense)	11/68-3/70
BU-09	Millersport	465 th Missile Battalion (Nike), Battery “A”	6/56 - 9/58
		redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 -12/61
BU-18	Lancaster	465 th Missile Battalion (Nike), Battery “B”	6/56 - 9/58
		Redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 - 12/61
		1 st Missile Battalion, 4 th Artillery	12/61 - 4/63
		2 nd Missile Battalion, 209 th Artillery, NYARNG	4/63 - 3/70
BU-34/35	Orchard Park (Dual Site)	465 th Missile Battalion (Nike), Battery “C”	11/56 - 9/58
		redesignated to Bty C, 2 nd Missile Battalion, 62 nd Artillery	9/58 - 8/60
		2 nd Missile Battalion, 106 th Artillery, Btys “A”& “D”, NYARNG	8/60 - 3/63
BU-52	Hamburg (Dual Site)	465 th Missile Battalion (Nike), Battery “D”	1/56 - 9/58
		redesignated to 2 nd Missile Battalion, 62 nd Artillery	9/58 – 12/61

Table I notes:

1. Data compiled from multiple sources²²
2. Redesignation of these units was an Army-wide directive under the Combat Arms Regimental System in January of 1959.
3. The Niagara-Buffer Nike Sites were supported by the Combined Field Maintenance Shop (CFMS) at the Niagara Falls, N.Y. U.S. Army Support Center. ²³
4. 2nd Missile Battalion, 106th Artillery, NYARNG was redesignated 2nd Missile Battalion, 209th Artillery (NYARNG) 1 May 1962.

Textual Source: Fort Niagara and the Cold War Army Defense of Western New York, Part 2 – The “Nike Missile” Era, by Paul Robitaille, 25 March 2015, Table 1, Page 3.



HISTORICAL REVIEW – 1963 EXCESS OF REAL PROPERTY



DECEMBER 1958
PRESCRIBED BY GENERAL
SERVICES ADMINISTRATION
REGULATION 2-IV-201.00
110-102

**REPORT OF EXCESS
REAL PROPERTY**

1. HOLDING AGENCY NO. N-120 DATE RECEIVED (GSA use only) JUL 1 - 1963
2. DATE OF REPORT JUN 28 1963 GSA CONTROL NO. (GSA use only) 10-704-587

3. TO (Furnish address of GSA regional office)
General Services Administration
Utilization and Disposal Service
30 Church Street, New York, N.Y.

4. FROM (Name and address of holding agency)
Department of the Army
Washington 25, D.C.

5. NAME AND ADDRESS OF REPRESENTATIVE TO BE CONTACTED
Maurice Lustig
Chief, Real Estate Division
U.S. Army Engineer District, New York
111 East 16th Street, New York 3, N.Y.

6. NAME AND ADDRESS OF CUSTODIAN
Commanding General
First United States Army
Governor's Island, New York 4, N.Y.

7. PROPERTY IDENTIFICATION
Niagara Falls - Buffalo Defense Area,
NIKE Batteries 34 - 35

8. PROPERTY ADDRESS (Give full location)
Towns of Orchard Park, Aurora and
Elma, Erie County, New York

9. SPACE DATA

USE	NUMBER OF BUILDINGS (1)	FLOOR AREA (Sq. ft.) (2)	NUMBER OF FLOORS (3)	FLOOR LOAD CAPACITY (4)	CLEAR HEADROOM (5)	LAND (From SF 118b) (6)	ACRE OR SQUARE FEET (7)
A. OFFICE	1	4,639				A. FEE	25.65
B. STORAGE	9	22,646				B. LEASED	
C. OTHER (See 9 F)	19	34,617				C. OTHER	42.70
D. TOTAL (From SF 118a)	29	61,902				D. TOTAL	68.35
E. GOV'T INTEREST: (1) OWNER (2) TENANT						F. SPECIFY "OTHER" USE ENTERED IN C ABOVE	

11. COST TO GOVERNMENT

ITEM	SCHEDULE	COST
A. BUILDINGS, STRUCTURES, UTILITIES, AND MISCELLANEOUS FACILITIES	A (Col. d)	\$ 2,314,600
B. LAND	B (Col. f)	32,973
C. RELATED PERSONAL PROPERTY	C (Col. h)	2,347,573
D. TOTAL (Sum of 11A, 11B, and 11C)		\$
E. ANNUAL PROTECTION AND MAINTENANCE COST (Government-owned or leased) \$4,000.00 (Approx.)		

12. LEASEHOLD(S) DATA (Use separate sheet if necessary)

A. TOTAL ANNUAL RENTAL	\$
B. ANNUAL RENT PER SQ. FT. OR ACRE	\$
C. DATE LEASE EXPIRES	
D. NOTICE REQUIRED FOR RENEWAL	
E. TERMINAL DATE OF RENEWAL RIGHTS	
F. ANNUAL RENEWAL RENT PER SQ. FT. OR ACRE	\$
G. TERMINATION RIGHTS (in days)	
LESSOR	GOVERNMENT

13. DISPOSITION OF PROCEEDS

14. TYPE OF CONSTRUCTION

15. HOLDING AGENCY USE
Support of the Nike Missile Battery, a complex of the Niagara Falls - Buffalo Defense Area (USARADCOM)

16. RANGE OF POSSIBLE USES

17. NAMES AND ADDRESSES OF INTERESTED FEDERAL AGENCIES AND OTHER INTERESTED PARTIES
Mr. James P. Kavanaugh, Commissioner, Department of Urban Renewal, 312 City Hall, Buffalo, New York
Clarence Henning, Supervisor, Town of Orchard Park, New York

18. REMARKS
Niagara Falls - Buffalo Defense Area, Nike Batteries 34 - 35 is located 12 miles southeast of the City of Buffalo and 3 miles west of East Aurora, Erie County, New York. The installation is comprised of two separate areas of land approximately (Cont'd)

19. REPORT AUTHORIZED BY DEPARTMENT OF THE ARMY

NAME	SIGNATURE
MAURICE LUSTIG	<i>Maurice Lustig</i>
TITLE <u>Chief, Real Estate Division</u>	

20. GOVERNMENT PRINTING OFFICE 16-60840-3

On the 28th of June 1963, the New York office of the General Services Administration identified Nike Batteries BU 34/35 as excess property.

The current custodian of the property is: Commanding General, First United States Army, Governor's Island, New York, NY. The holding agency use is: support of the Nike Missile Battery, a complex of the Niagara Falls – Buffalo Defense Area (USARADCOM).

Textual Source: National Archives & Records Administration, Archives II, College Park, MD, Textual Records Branch, RG291, Entry 1 (UD-WW), Box 213.



HISTORICAL REVIEW 1964 - 1965



Nike Batteries BU 34/35 Launch Area

The BU 34/35 Launch Area was comprised of 19.84 acres (fee parcels) and 26 acres (easement parcels). In May of 1964, the land and buildings were appraised (for salvage value) by a Buffalo-area real estate appraiser at the request of the General Services Administration. In 1965, the Launch Area of BU 34/35 along Willardshire Road reverted to the original property owner, Majorie K.C. Klopp. The property was then re-titled to the H.G.M. Land Corporation. Today, the former Launch Area property is owned by Waterhill Evergreen Holdings, LLC.^{1,2}

1) General Services Administration, Region 2, New York, NY, Memorandum from Acting Chief, Real Property Division to the Assistant Commissioner for Real Property, Washington, D.C. dated July 23, 1965. National Archives & Records Administration, Archives II, College Park, MD, Textual Records Branch, RG291, Entry 1 (UD-WW), Box 213.

2) Final Remedial Investigation Work Plan, Former Niagara Falls – Buffalo Defense Nike Battery BU-34/35, East Aurora and Orchard Park, New York, Formerly Used Defense Site (FUDS), No. C02NY007701, Contract No. W912DR-13-D-0013, Prepared for the U.S. Army Corps of Engineers, New England District, 696 Virginia Road, Concord, MA 01742-251, Prepared by T12E Joint Venture, Powell, OH 43065, February 2016, Page 5.



AERIAL PHOTO & SATELLITE IMAGERY COVERAGE



Researched Aerial Photography and Satellite Coverage – Part 1 of 2

Date	Scale	Remarks
1951, Oct	-	Erie County Public Works Department, New York historical aerial photography. Pre-development Nike site vertical aerial coverage over Erie County, New York.
1957	-	Oblique aerial photo annotated by Maj. Earl Close (retired); ed-thelen.org download.
1958, Jun 03	1:60,000	U.S. Air Force mission; USGS EarthExplorer download.
1958, Oct 20	1:20,000	U.S. Department of Agriculture, Farm Service Agency, Salt Lake City, UT.
1960, Apr 29	-	Appraisal of Real Estate, Robert W. Hopkins, M.A.I, May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.
1962, May 09	1:25,000	U.S. Air Force mission; NARA, Archives II, College Park, Maryland, Cartographic Records Branch, Record Group 373.
1963, Sept 24	1:20,000	U.S. Geological Survey; EarthExplorer download.
1964, Mar 16	1:44,000	U.S. Air Force mission, NARA, Archives II, College Park, Maryland, Cartographic Records Branch, Record Group 373.
1966, Jul 03	1:20,000	U.S. Department of Agriculture, Farm Service Agency.
1972, May	1:28,000	Buffalo & Erie County Public Library, Buffalo, New York; Erie Co. Public Works retired data. Scanned images downloaded. Aerial coverage is limited to the former Control Area only.

M.A.I. = Member, Appraisal Institute
NARA = National Archives & Records
Administration
P.C. = Professional Corporation



AERIAL PHOTO & SATELLITE IMAGERY COVERAGE



Researched Aerial Photography and Satellite Coverage – Part 2 of 2

Date	Scale	Remarks
1972, Oct 10	1:24,000	McIntosh and McIntosh, P.C. – Professional Services, Lockport, New York.
1974, Apr 17	1:24,000	U.S. Geological Survey, EarthExplorer download.
1978, May 03	1:24,000	McIntosh and McIntosh, P.C. – Professional Services, Lockport, New York.
1981, Aug 20	1:24,000	McIntosh and McIntosh, P.C. – Professional Services, Lockport, New York.
1990, Oct 06	1:40,000	U.S. Department of Agriculture, Farm Service Agency.
2006, Aug	-	U.S. Geological Survey, EarthExplorer download, NAIP ortho-rectified data in 3 bands (RGB). Satellite imagery. Pixel resolution is 3 feet.
2016, Sept	-	Digital Globe, Inc. Ortho-rectified satellite imagery in 3 bands (RGB). Pixel resolution is 1 foot.

NAIP = National Agriculture Imagery Program
P.C. = Professional Corporation
RGB = Red, Green, Blue



PHOTOGRAPHIC INTERPRETATION OF AERIAL PHOTOGRAPHY: 1951 TO 1962



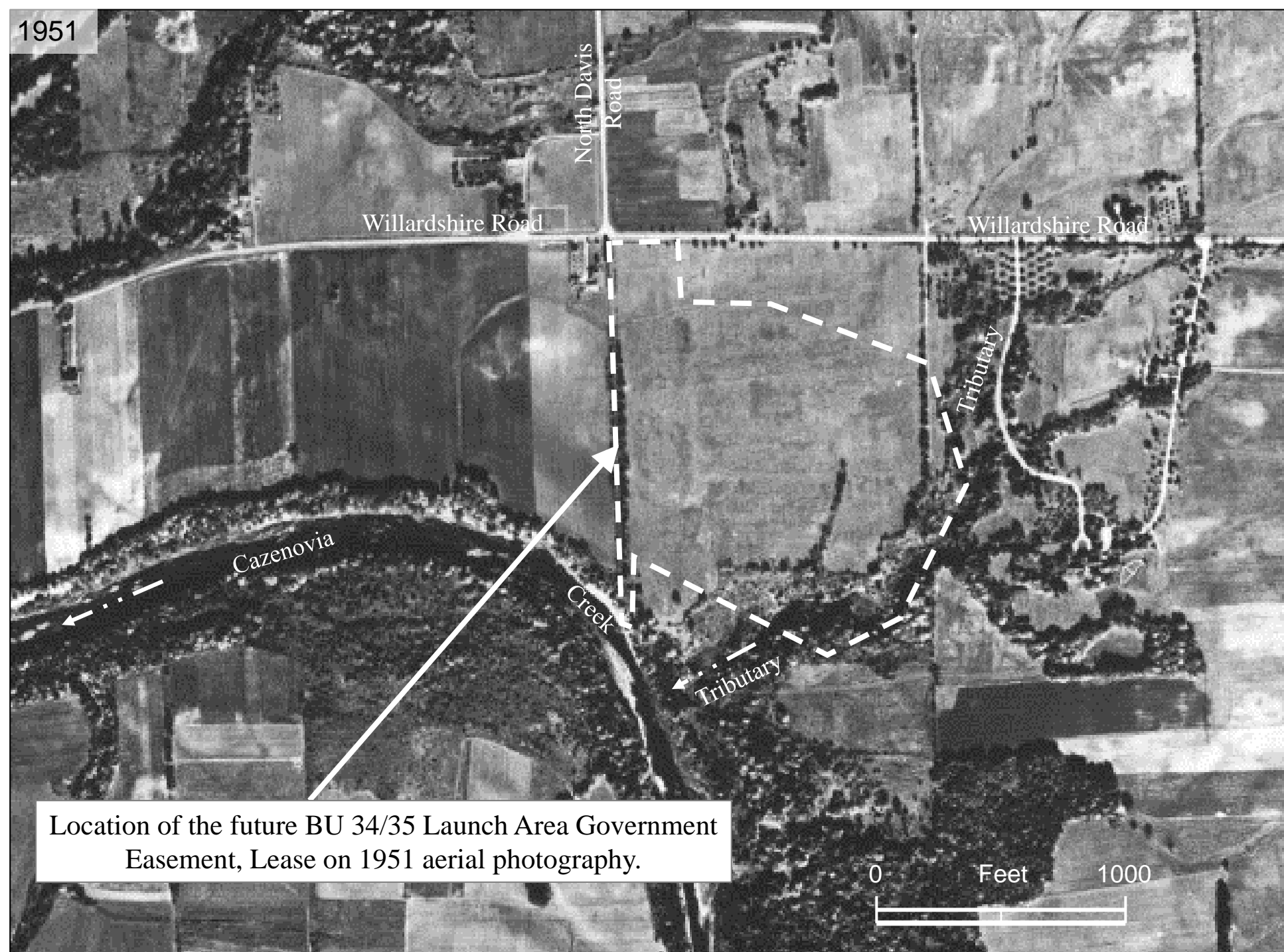
Photographic Source: National Archives & Records Administration, Archives II, College Park, MD.



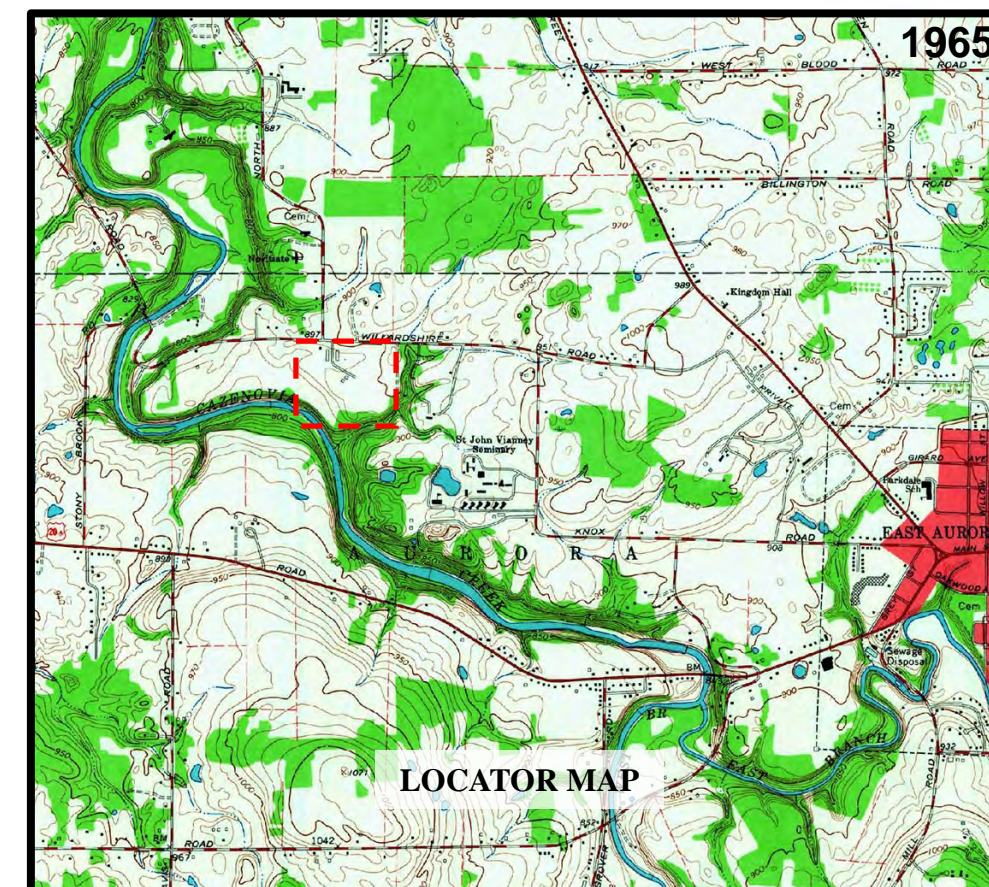
PHOTOGRAPHIC ANALYSIS: PRE-CONSTRUCTION, 1951



Aerial photography dated 14 October 1951 displays agricultural use in the location of the future BU 34/35 Launch Area.



Photographic Source: Erie County Public Works office, Buffalo, New York.

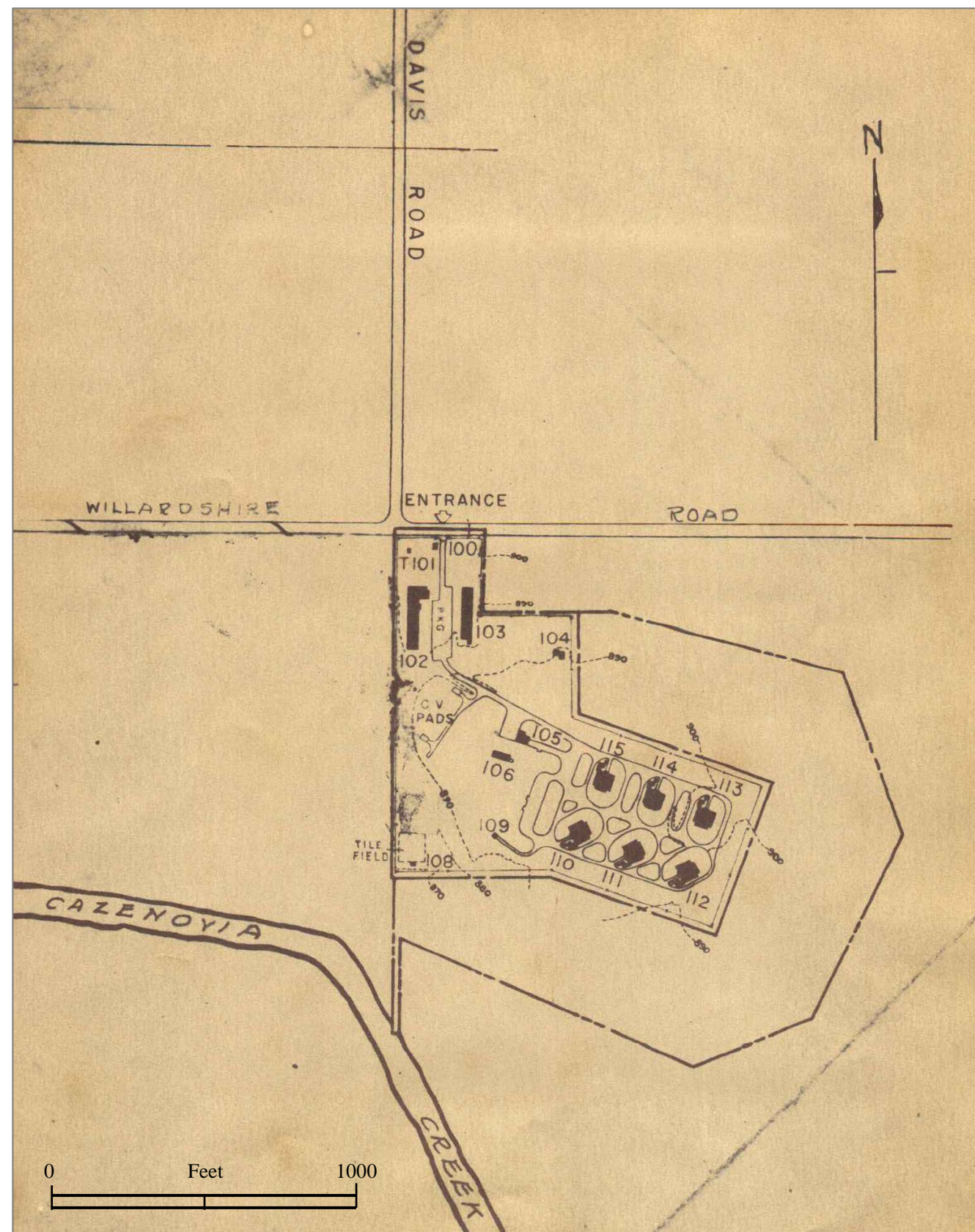


Map Source: U.S. Geological Survey, EarthExplorer.

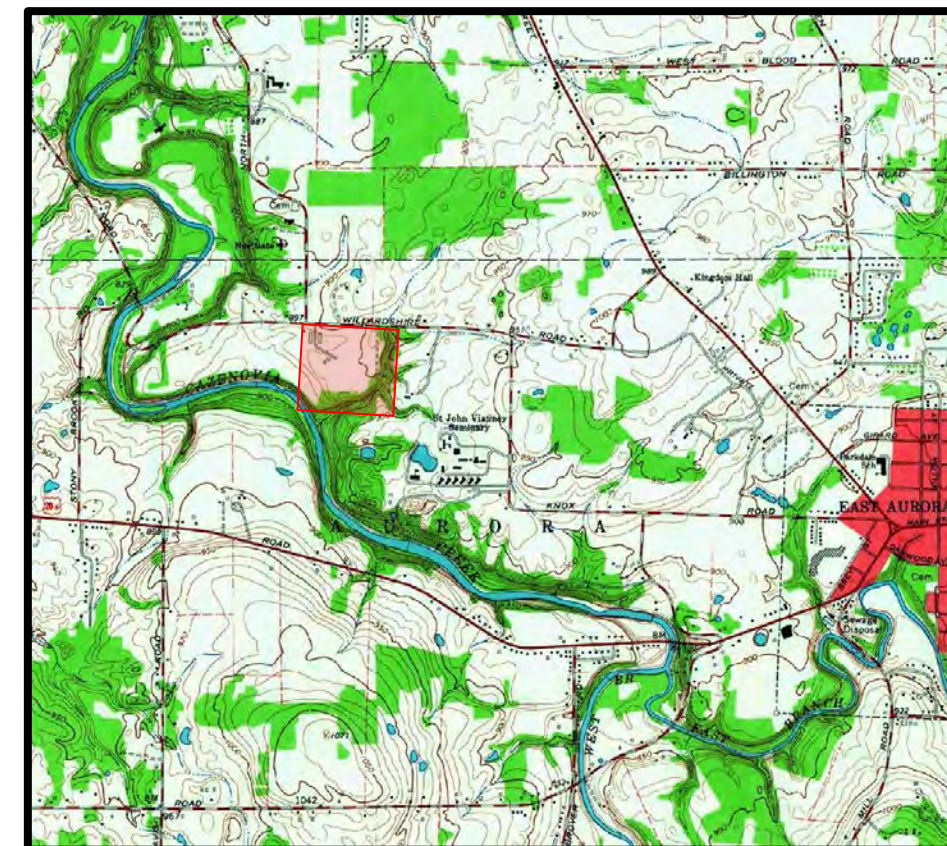
 General map location of former Nike Launch Area BU 34/35



PHOTOGRAPHIC ANALYSIS – AREA OF INTEREST



LOCATION DIAGRAM



LEGEND

-----	Government Easement, Lease, Permit Line
-----	Government Property Line (Gov't Owned)

Legend Source: Niagara – Buffalo Defense (SAM) Installations, Basic Information Maps, General site & Building Use Plan, Sine No. BU – 34 – DC, 25 June 1957; map courtesy U.S. Army Corps of Engineers, New England District, Concord, MA.

Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

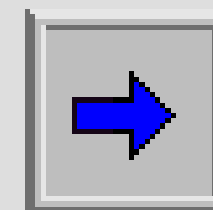


PHOTOGRAPHIC ANALYSIS – OPERATIONAL YEARS



BU 34/35 Launch Area

Photo
Interpretation
Of Aerial And
Ground
Photography



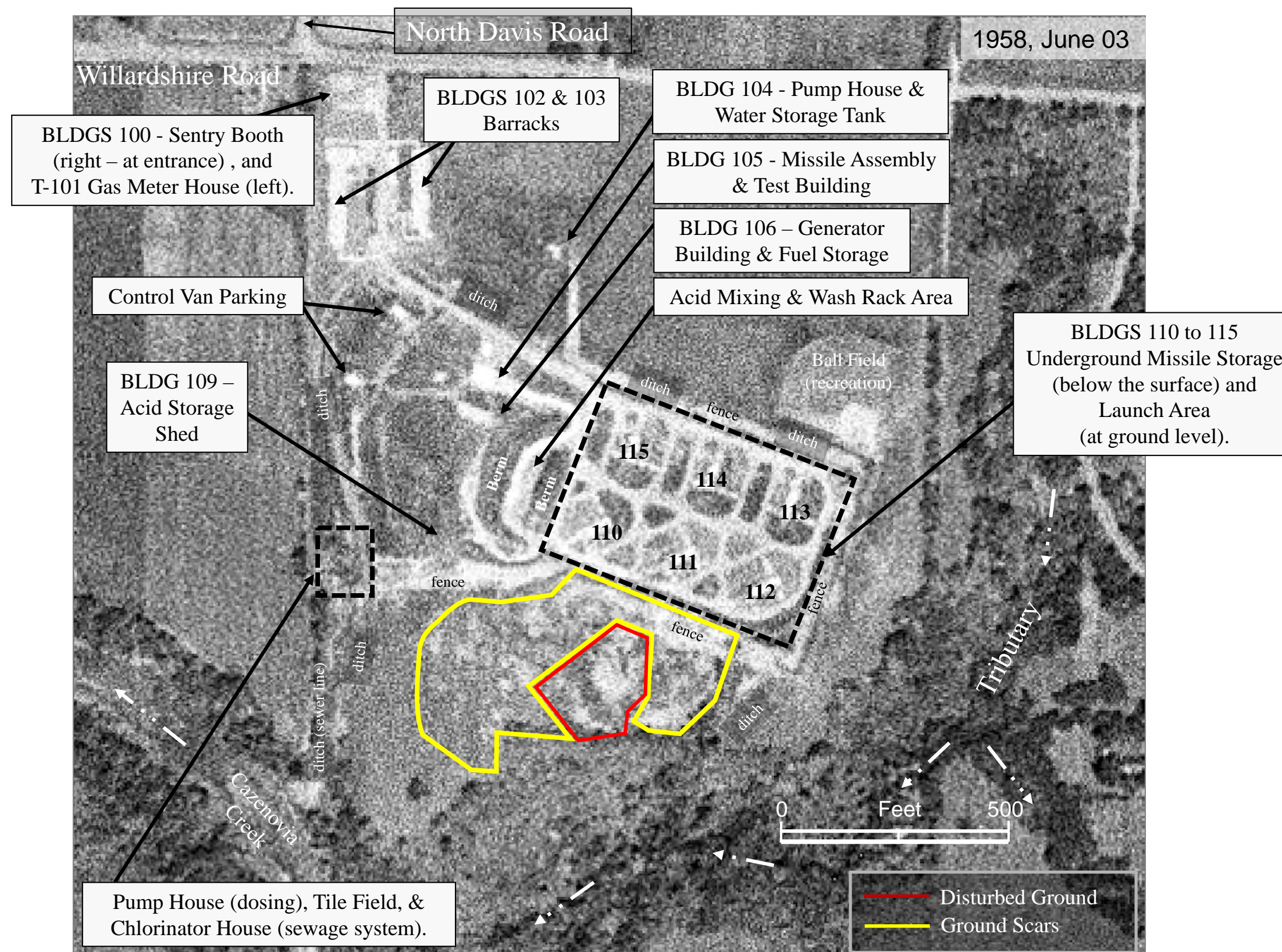
1958 -1962 Aerial Data
1964 Ground Photos (post-closure)



Findings from available historical data.

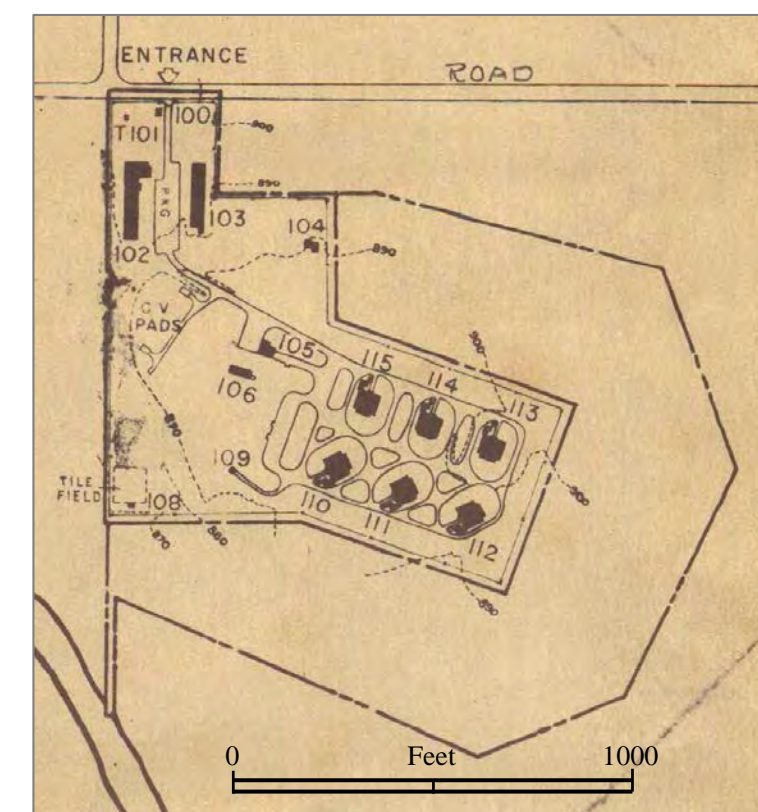


PHOTOGRAPHIC ANALYSIS – LAUNCH AREA: JUNE 1958



Photographic Source: U.S. Geological Survey, EarthExplorer.

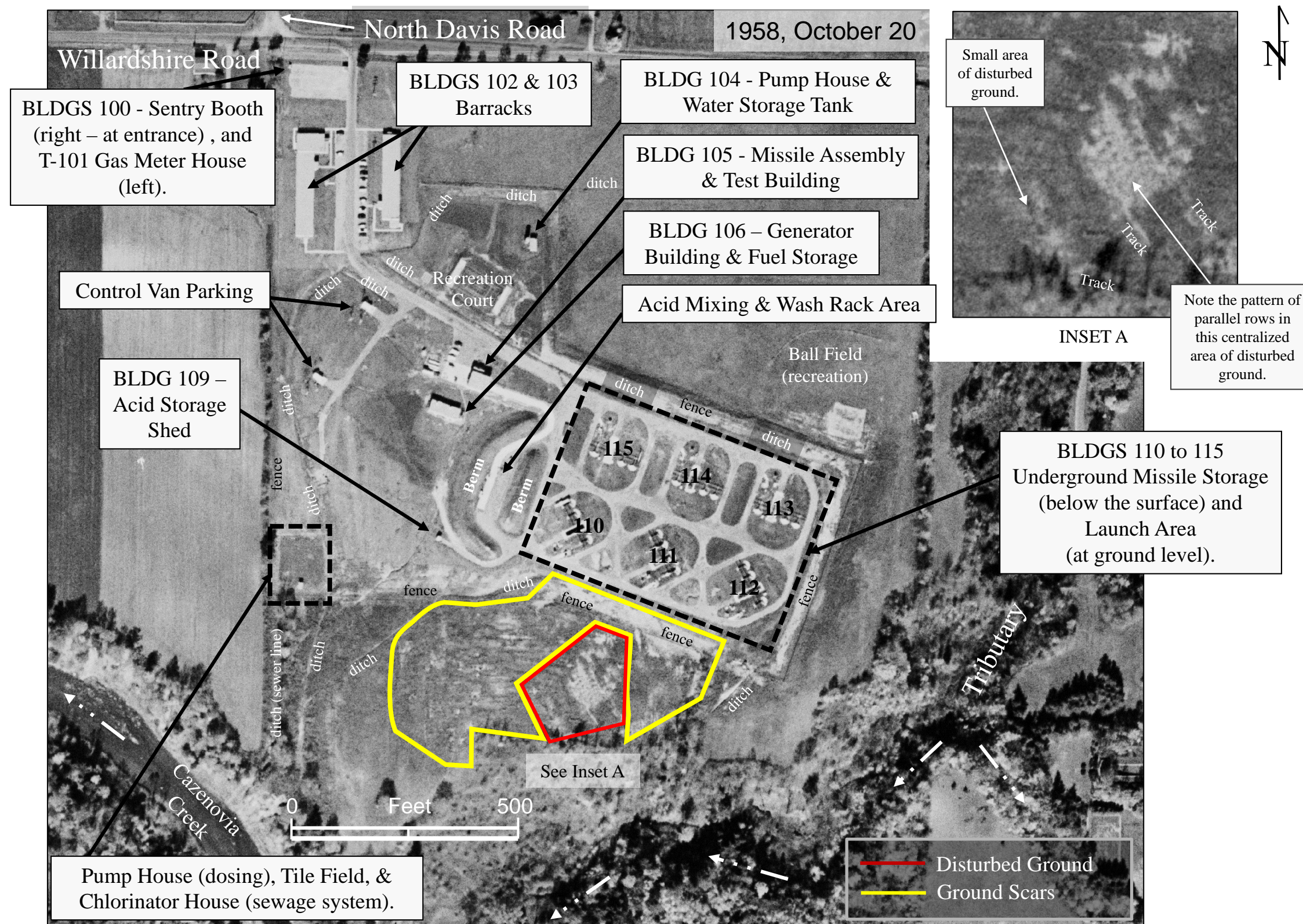
LOCATION DIAGRAM



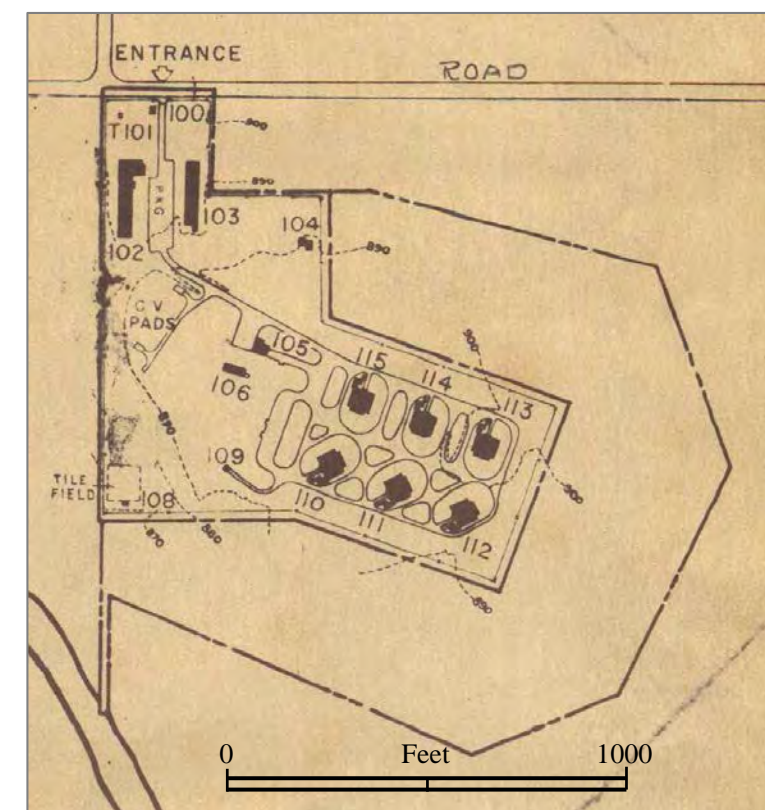
Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.



PHOTOGRAPHIC ANALYSIS – LAUNCH AREA: OCTOBER 1958



LOCATION DIAGRAM



Photographic Source: USDA, Farm Service Agency, Salt Lake City, UT.

Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.



PHOTOGRAPHIC ANALYSIS – LAUNCH AREA: APRIL 1960

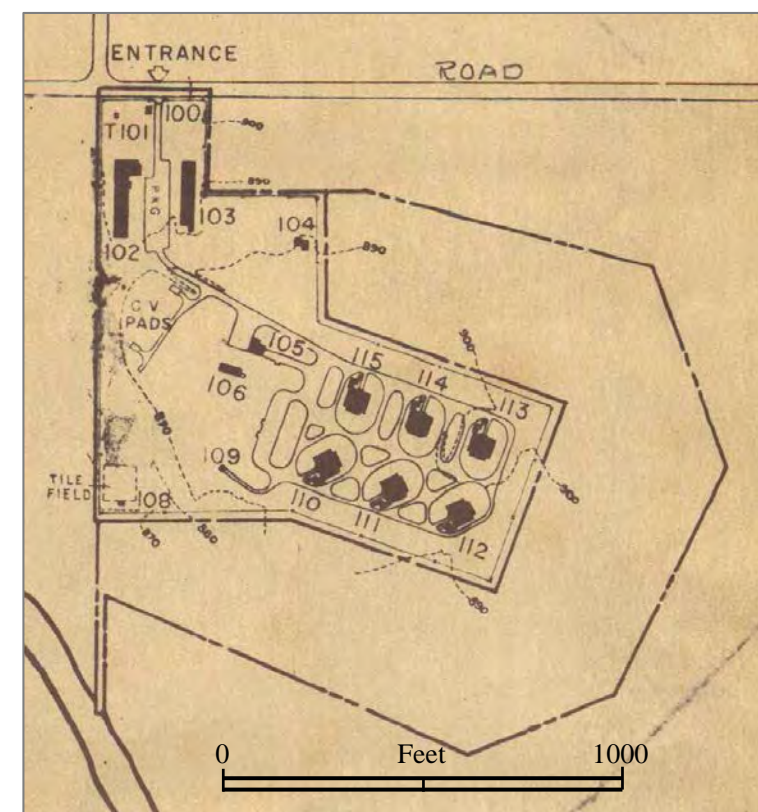
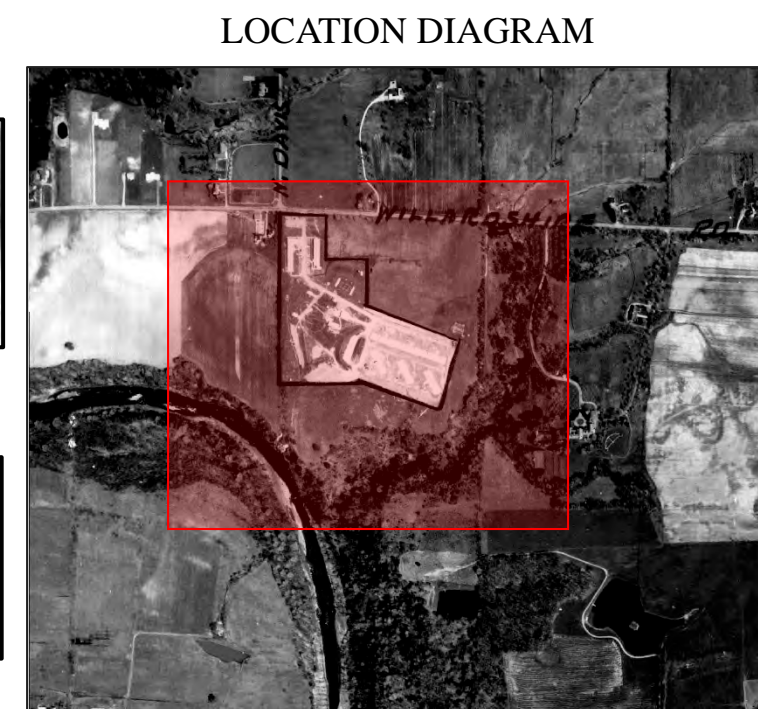
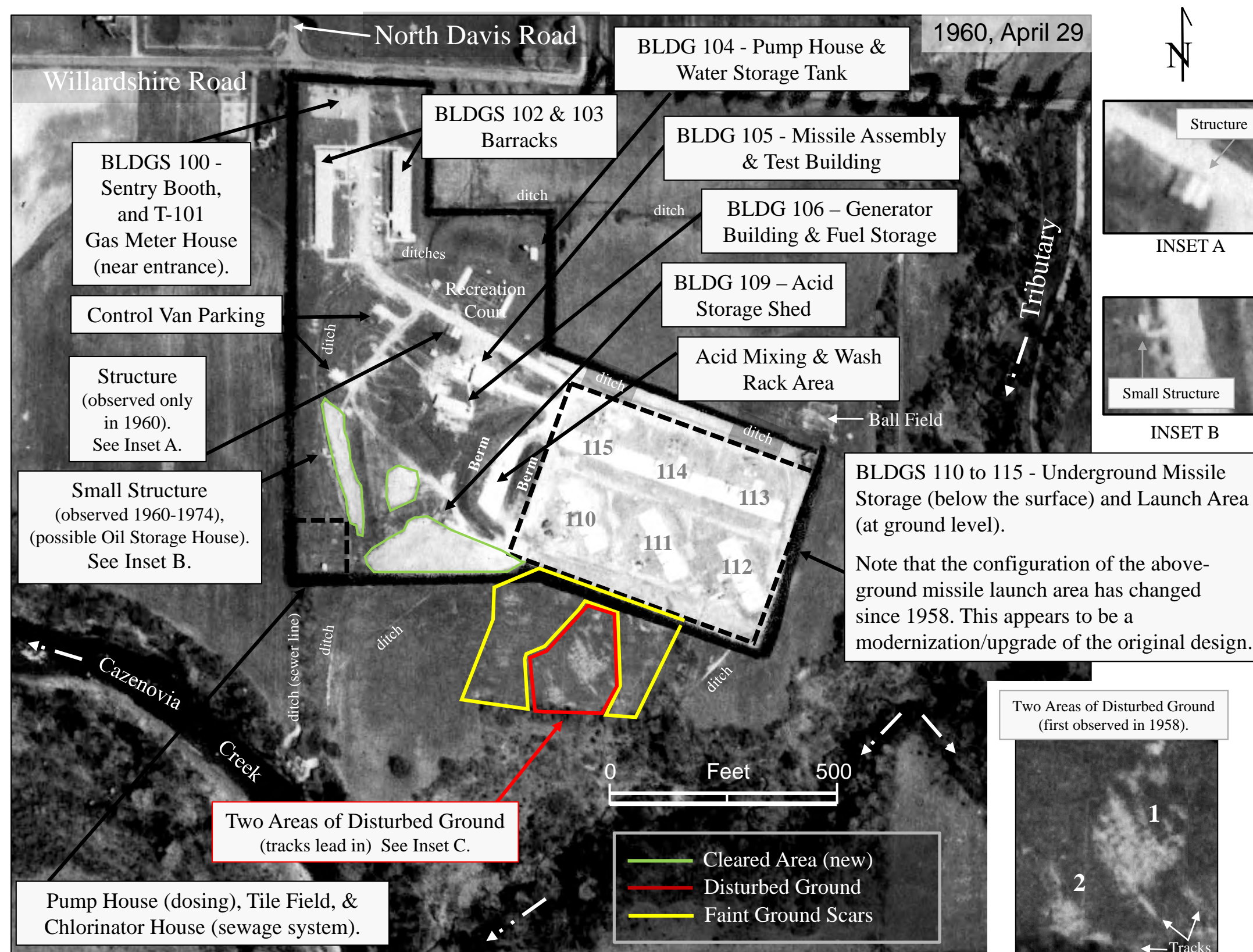


Photo Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

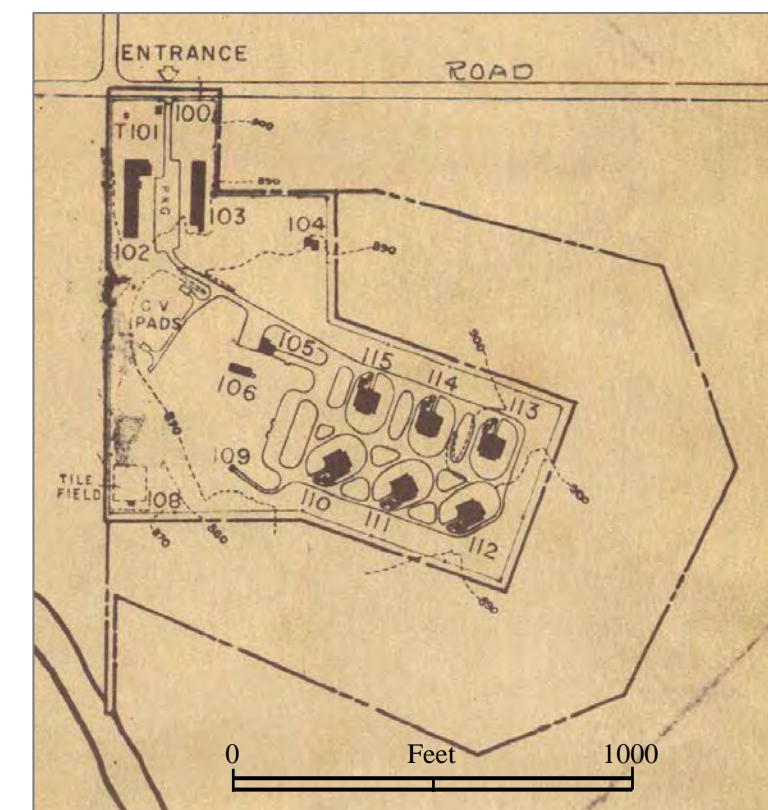


PHOTOGRAPHIC ANALYSIS – LAUNCH AREA: MAY 1962



Photo Source: NARA, College Park, MD, Archives II, Cartographic Records Branch, Record Group 373.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.



GROUND PHOTOGRAPHS – LAUNCH AREA



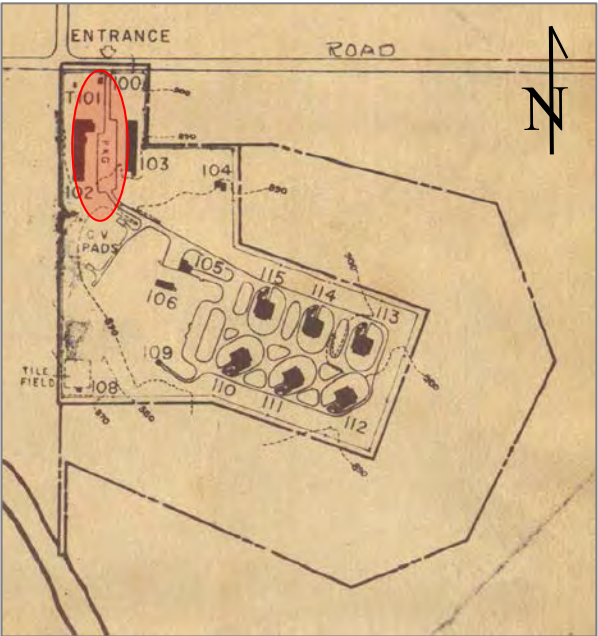
Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 1 of 10.



View looking south from the main gate with Structures S-103 on the left and S-102 and S-100 on the right.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.

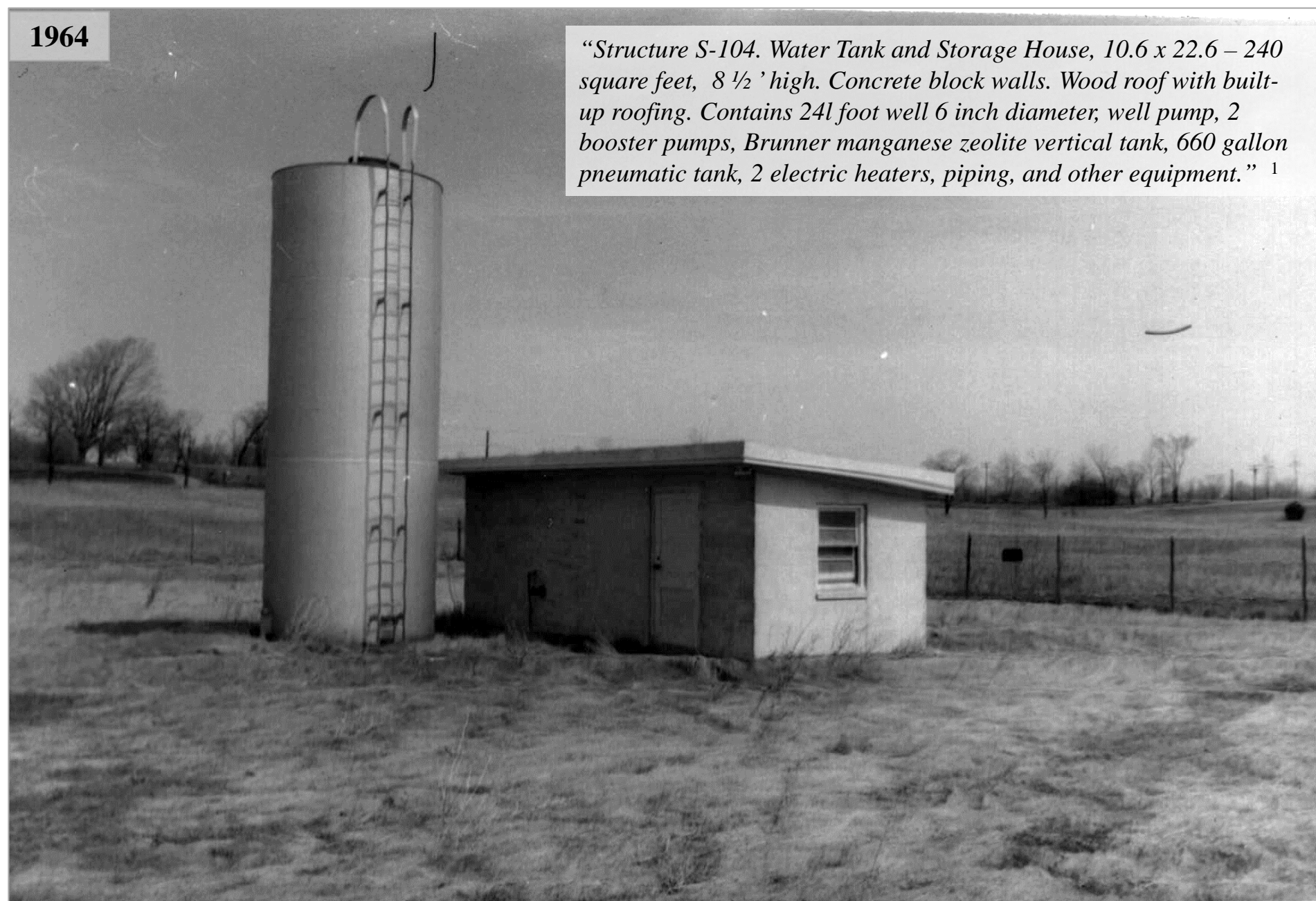


GROUND PHOTOGRAPHS – LAUNCH AREA

Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35

Part 2 of 10.

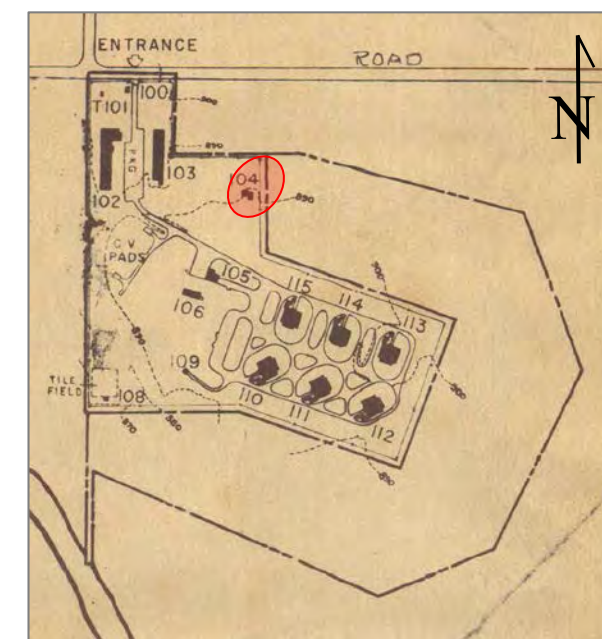
1964



“Structure S-104. Water Tank and Storage House, 10.6 x 22.6 – 240 square feet, 8 ½ ' high. Concrete block walls. Wood roof with built-up roofing. Contains 241 foot well 6 inch diameter, well pump, 2 booster pumps, Brunner manganese zeolite vertical tank, 660 gallon pneumatic tank, 2 electric heaters, piping, and other equipment.”¹

Structure S-104 Water tank and Pump House.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.



GROUND PHOTOGRAPHS – LAUNCH AREA



Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35

Part 3 of 10.

1964

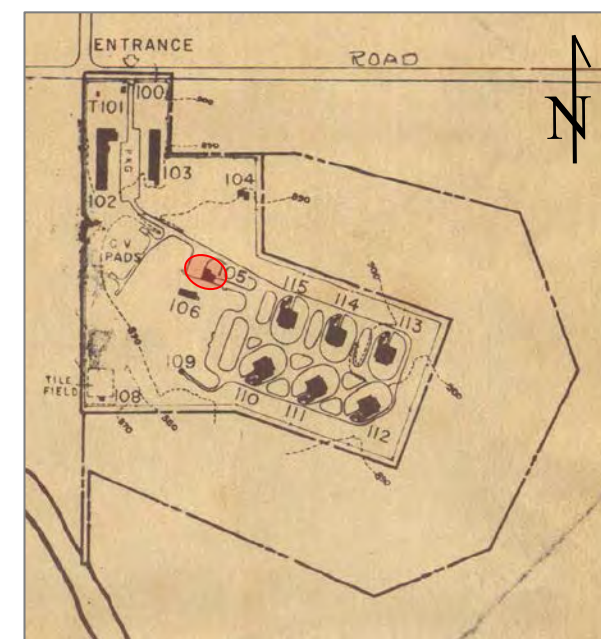
“Structure S-105. Missile Assembly and Test Building, 30 x 40 – 1,200 square feet, 16 ½ ’ high, 9.3 x 21.7 – 202 square feet, 11 ½’ high. Concrete block and exterior walls. Contains missile assembly and test area, storage room with wire mesh and plywood partitions, 2 toilets, 1 lavatory, and 1 urinal. Boiler room is insulated and contains Synchromatic gas fired forced hot air furnace. 20’ metal 10” stack.”¹



Structure S-105 Missile Assembly and Test Building.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.



GROUND PHOTOGRAPHS – LAUNCH AREA



Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 4 of 10.

1964

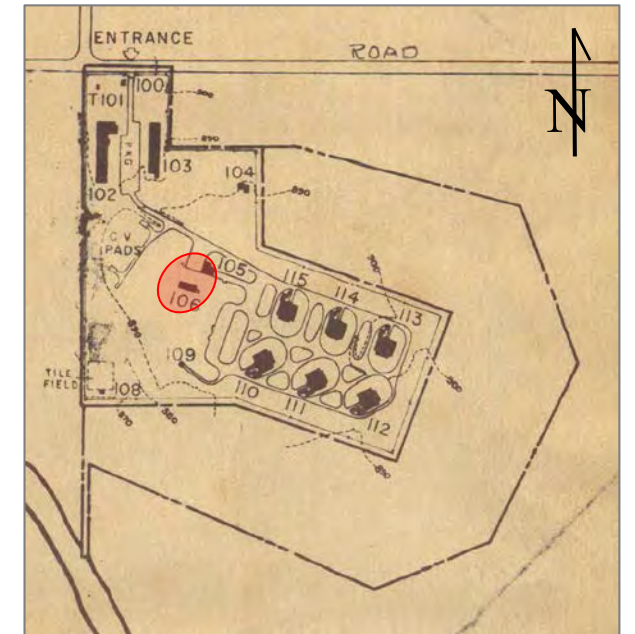
“Structure S-106. Generator Building, 59.3 x 20.7 – 1,227 square feet, 12 ' high. Concrete foundation, floor and generator pads. Rigid top insulation. 2 roof ventilators. Covered fuel and electrical trenches. 2,200 gallon and 6,700 gallon buried oil fuel tanks; 275 gallon above ground transfer tank. Contains generator room, switchboard room with observation port. Walls and ceilings finished with gyp board and asbestos board. No heating left in building.”¹



Structure S-106 Generator Building

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.



GROUND PHOTOGRAPHS – LAUNCH AREA

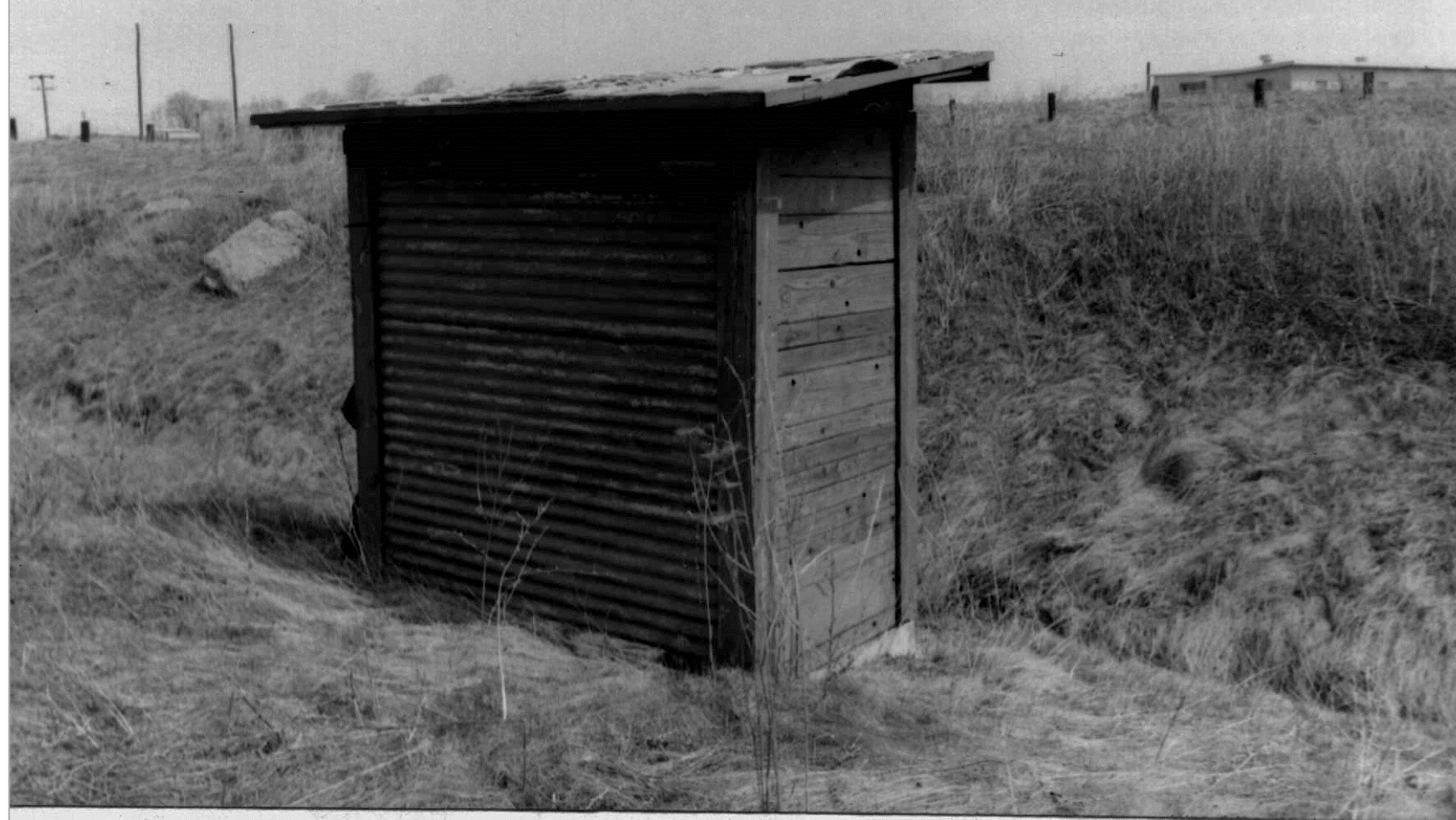


Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35

Part 5 of 10.

1964

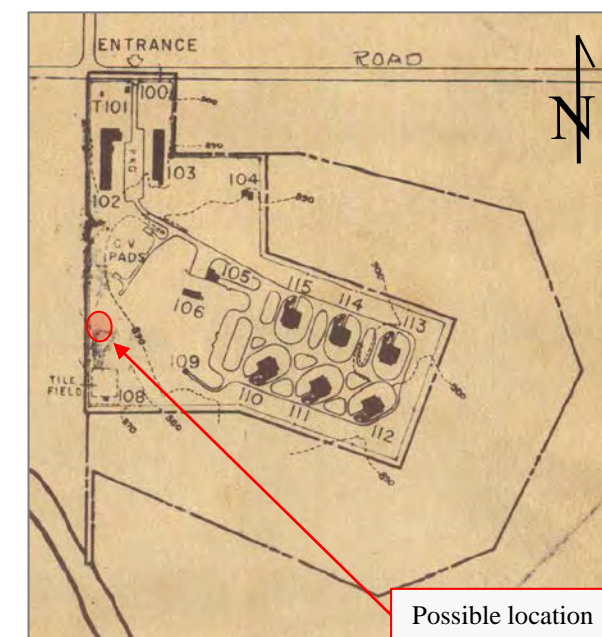
“Oil Storage House. 4 x 7.3 – 29 square feet. 8’ high. Concrete foundation and floor. Frame building with wood and corrugated metal exterior. Wood and tar paper roof. Poor condition.”¹



Oil Storage House.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

Note: the “Oil Storage House” (shown left) is identified solely from a single source identified below. The building construction (not appearing to match military construction standards), the condition shown in 1964, and its location on the property raises doubts as to its authenticity as a former Oil Storage House.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.



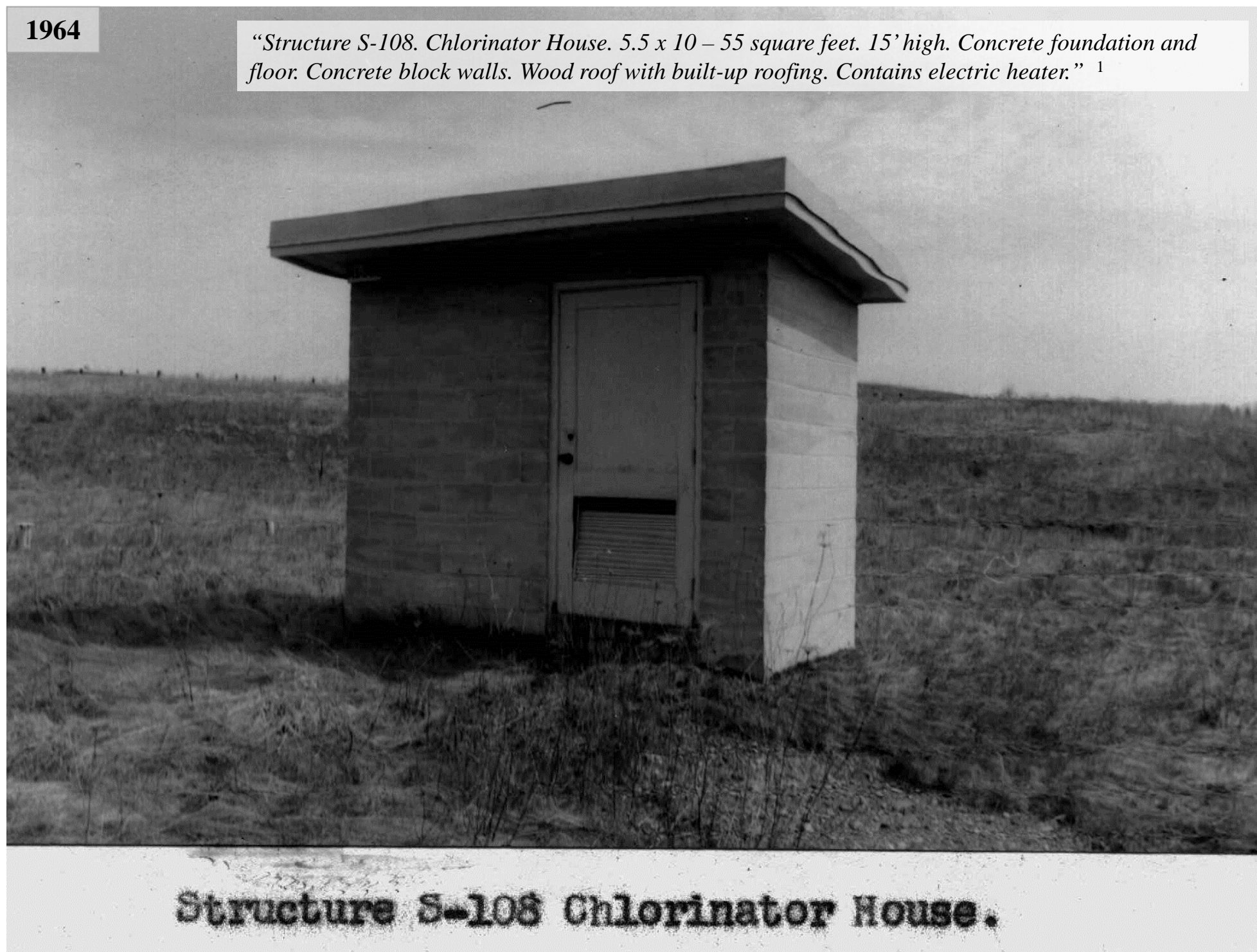
GROUND PHOTOGRAPHS – LAUNCH AREA



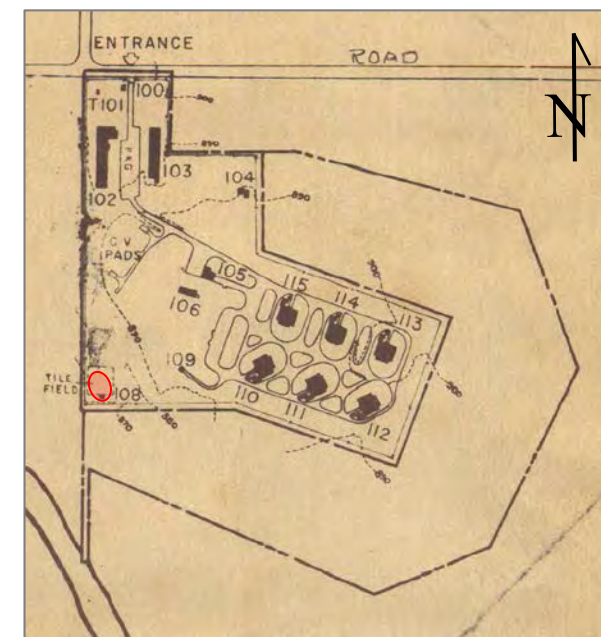
Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 6 of 10.

1964

“Structure S-108. Chlorinator House. 5.5 x 10 – 55 square feet. 15’ high. Concrete foundation and floor. Concrete block walls. Wood roof with built-up roofing. Contains electric heater.”¹



LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.



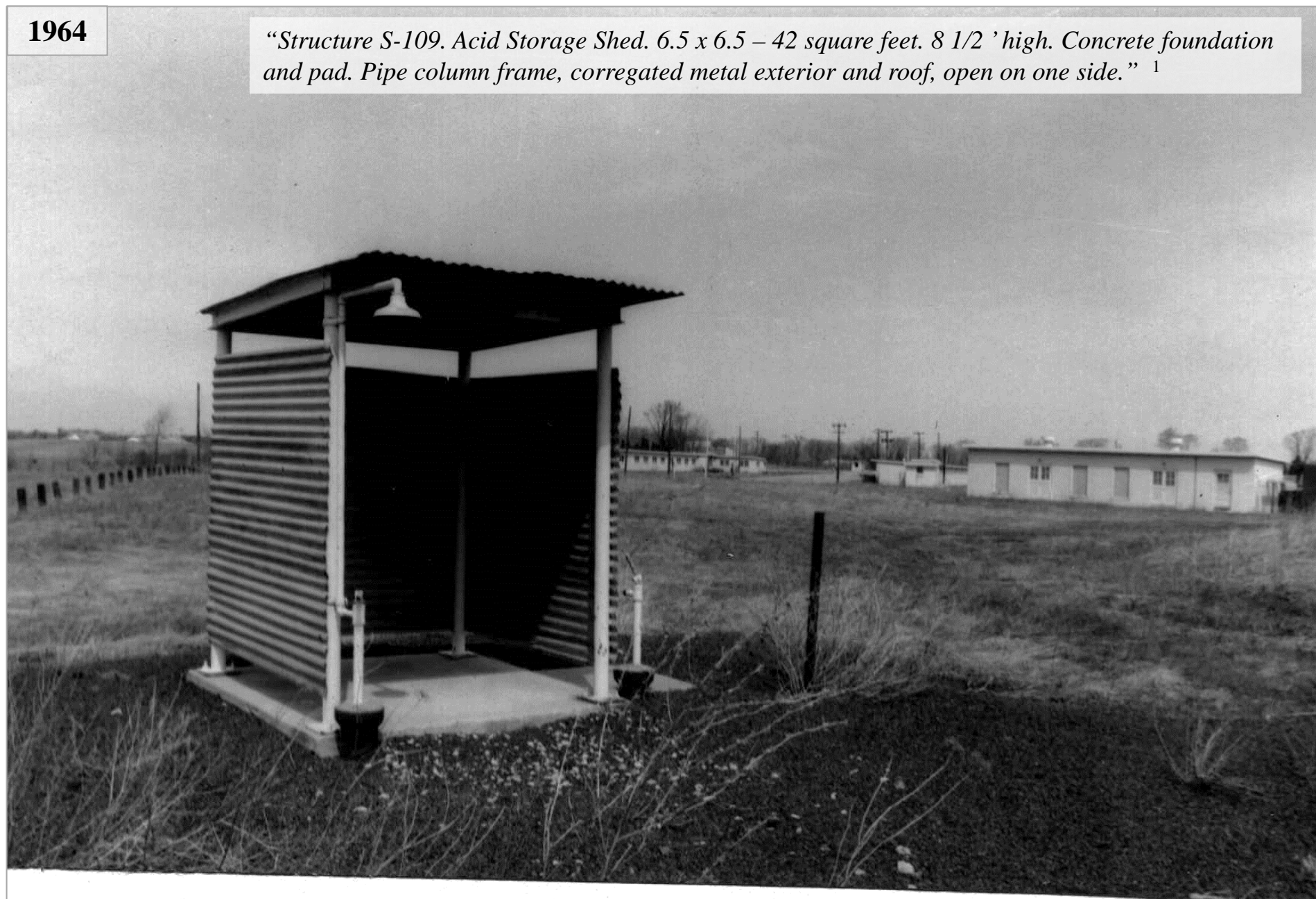
GROUND PHOTOGRAPHS – LAUNCH AREA



Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 7 of 10.

1964

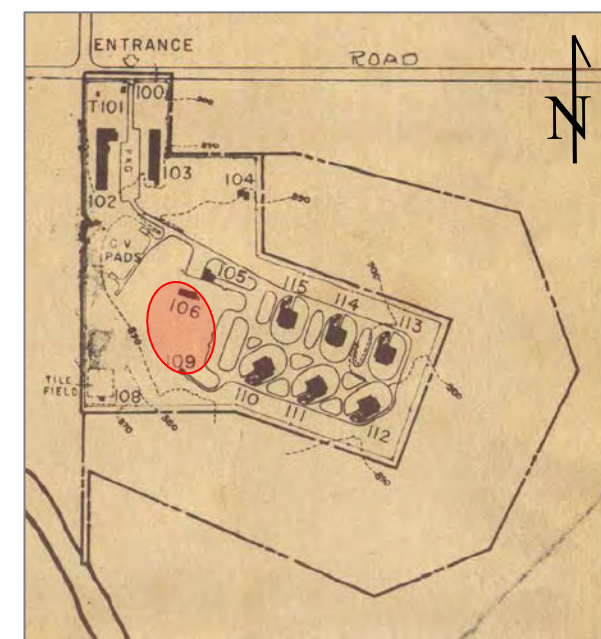
“Structure S-109. Acid Storage Shed. 6.5 x 6.5 – 42 square feet. 8 1/2 ' high. Concrete foundation and pad. Pipe column frame, corrugated metal exterior and roof, open on one side.”¹



Structure S-109 Acid Storage Shed.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.



GROUND PHOTOGRAPHS – LAUNCH AREA



Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35

Part 8 of 10.

1964

Acid Mixing and Wash Rack Area ¹

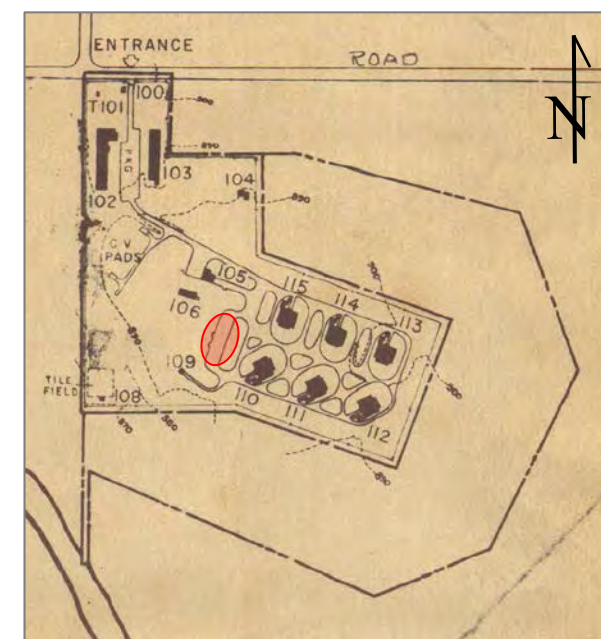
6,651 square feet of concrete ²



**Structure D-10 Acid Fueling
Station.**

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Final Remedial Investigation Work Plan, Former Niagara Falls – Buffalo Defense Nike Battery BU 34/35, East Aurora and Orchard Park, New York, Prepared for the U.S. Army Corps of Engineers (USACE), New England District, by T12E Joint Venture, Powell, Ohio, February 2016, Figure 1-2 (Launch Area Site Map Nike BU 34/35).

2) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.



GROUND PHOTOGRAPHS – LAUNCH AREA



Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 9 of 10.

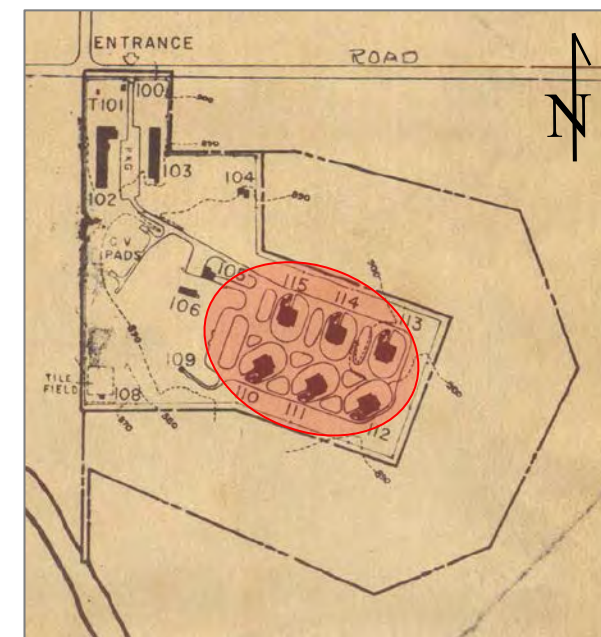
1964



View of the surface over Structures P-110,
P-111, P-112, P-113, P-114 and P-115.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch,
Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I.,
May 1, 1964; located at NARA, Archives II, College Park,
Maryland, Textual Records Branch, Record Group 291.



GROUND PHOTOGRAPHS – LAUNCH AREA

Selected ground photos of buildings and other structures associated with the Launch Area of BU 34/35
Part 10 of 10.

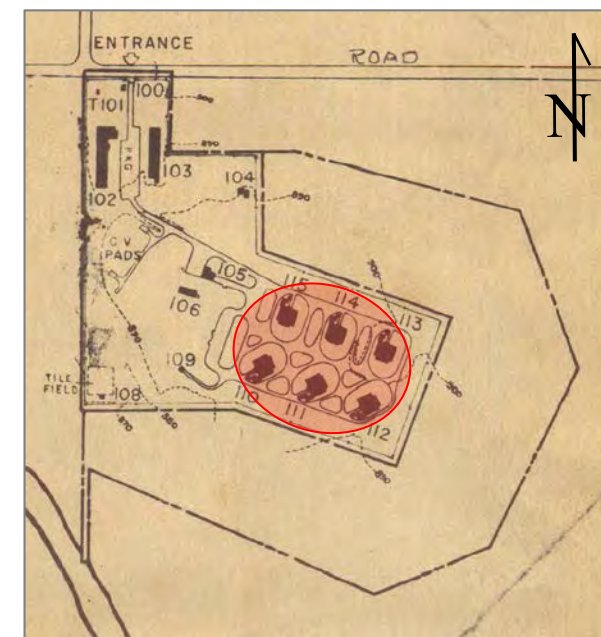
1964



View of one of the sealed entries to
missile storage underground area.

Photo Source: NARA, Archives II, Textual Records Branch, College Park, MD, Record Group 291, Entry 1 (UD-WW), Box 213.

LOCATION DIAGRAM



Map Source: NARA, Archives II, Textual Records Branch, Record Group 291, Entry 1 (UD-WW), Box 213.

1) Source: Appraisal of Real Estate, Robert W. Hopkins, M.A.I., May 1, 1964; located at NARA, Archives II, College Park, Maryland, Textual Records Branch, Record Group 291.

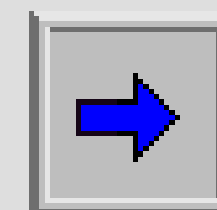


AERIAL PHOTOGRAPHIC REVIEW: POST-OPERATIONAL YEARS



BU 34/35 Launch Area

Aerial Photography &
Satellite Imagery
Summarized Review
of Post-operational
Years



Selected Aerial Data
from 1963 to Present



Changes to Buildings and Property of the former Launch Area.



POST-OPERATIONAL YEARS: FORMER BU 34/35 LAUNCH AREA

PART 1 OF 2

1963



The only observable changes since last observed on 09 May 1962 (when the Launch Area was active) is now a cleaned & undisturbed surface within the covered missile storage area, and no parked vehicles on the property.

1966

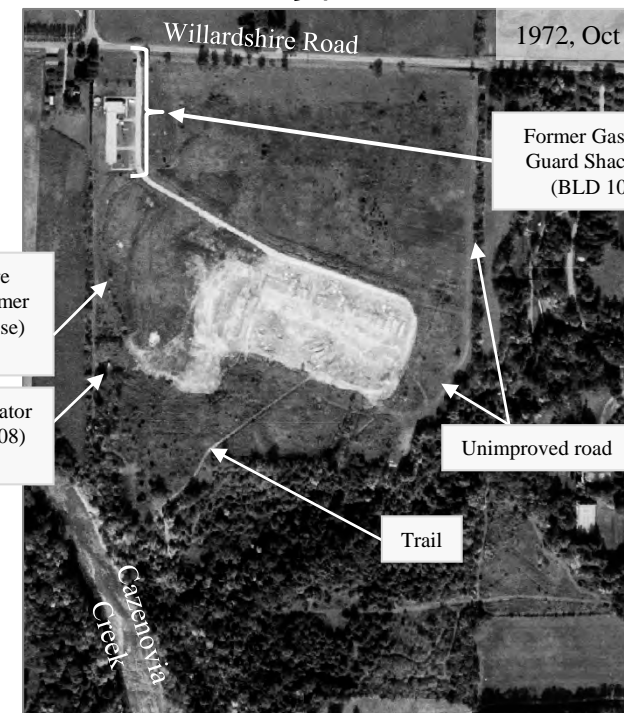


At about this location, a new unimproved road leaves the former Launch Area property.

At about this location, a new unimproved road enters into the former Launch Area property from Willardshire Road.

In July of 1966, buildings & structures remain. A new unimproved road is identified

1972



Former Gas Meter House, Guard Shack, & Barracks (BLD 102) remain..

Small Structure (possibly the former Oil Storage House) remains.

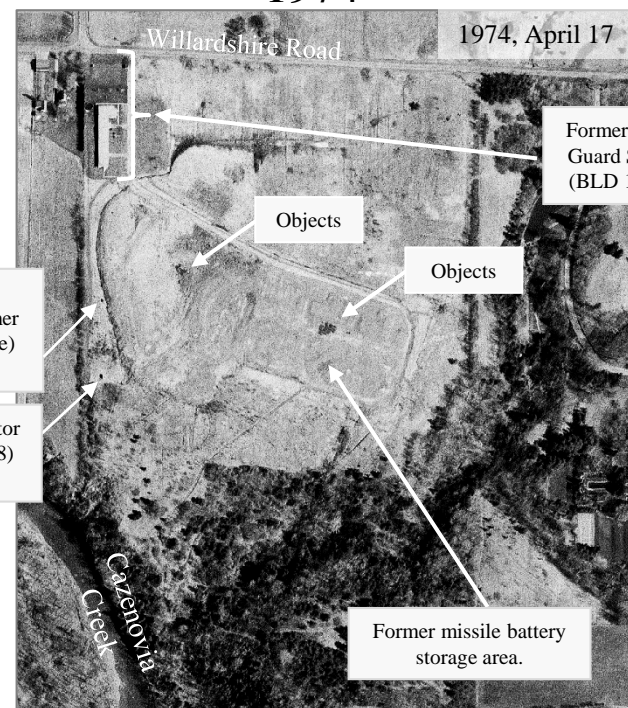
Former Chlorinator House (BLD 108) remains.

Unimproved road

Trail

In October of 1972, the two earthen berms & most buildings have been removed. A large section of the unimproved road observed in 1966 now appears as a trail.

1974



Former Gas Meter House, Guard Shack, & Barracks (BLD 102) remain intact.

Objects

Objects

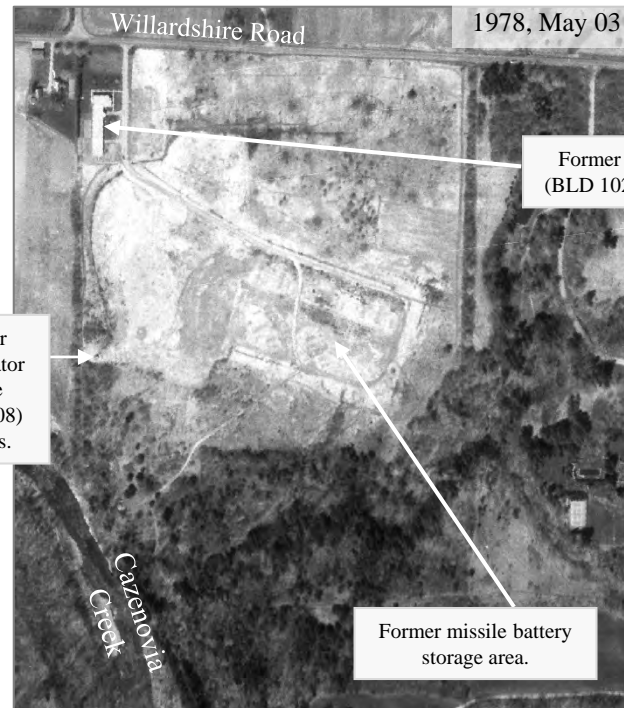
Small Structure (possibly the former Oil Storage House) remains.

Former Chlorinator House (BLD 108) remains.

Former missile battery storage area.

In April of 1974. Two areas of objects are identified

1978



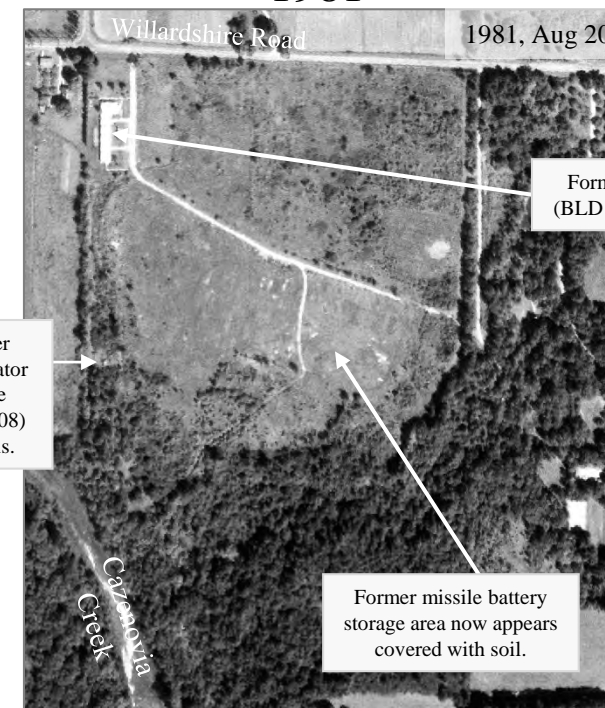
Former Barracks (BLD 102) remains.

Former Chlorinator House (BLD 108) remains.

Former missile battery storage area.

The former missile battery storage area in 1978 is highly visible.

1981



Former Barracks (BLD 102) remains.

Former Chlorinator House (BLD 108) remains.

Former missile battery storage area now appears covered with soil.

The former missile battery storage area is not visually distinct.

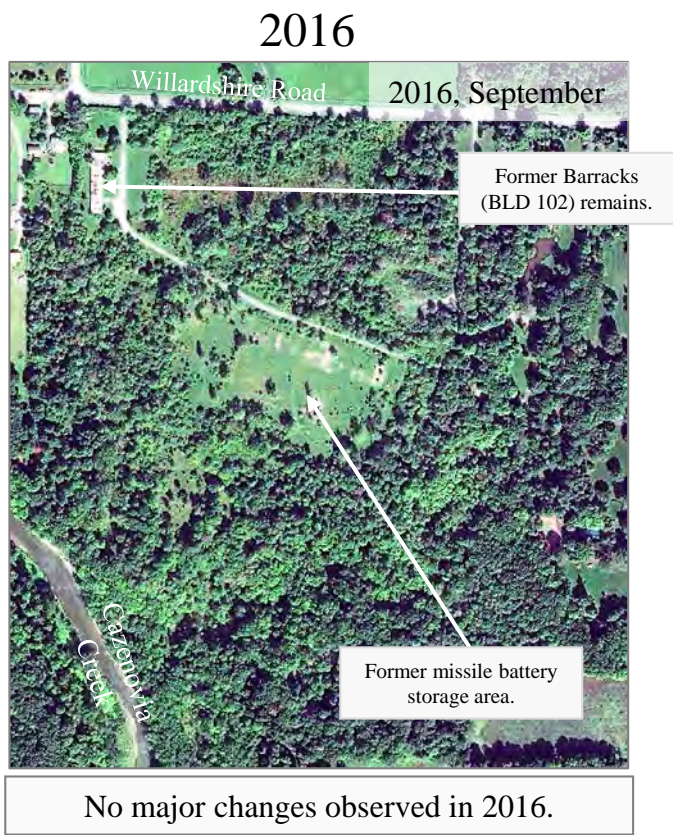
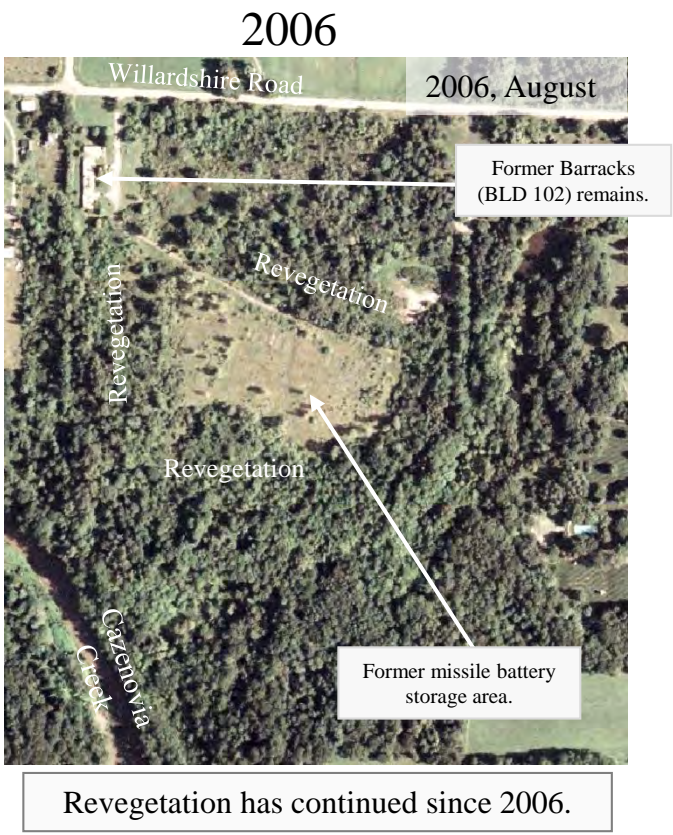


0 Feet 500



POST-OPERATIONAL YEARS: FORMER BU 34/35 LAUNCH AREA

PART 2 OF 2



0 Feet 500



APPENDIX A



Topographic Maps



ORCHARD PARK, NY-ERIE COUNTY QUADRANGLE, U.S. GEOLOGICAL SURVEY TOPO MAP, 1950



Orchard Park Quadrangle,
New York – Erie County,
1950, 7.5 Minute Series
(Topographic).

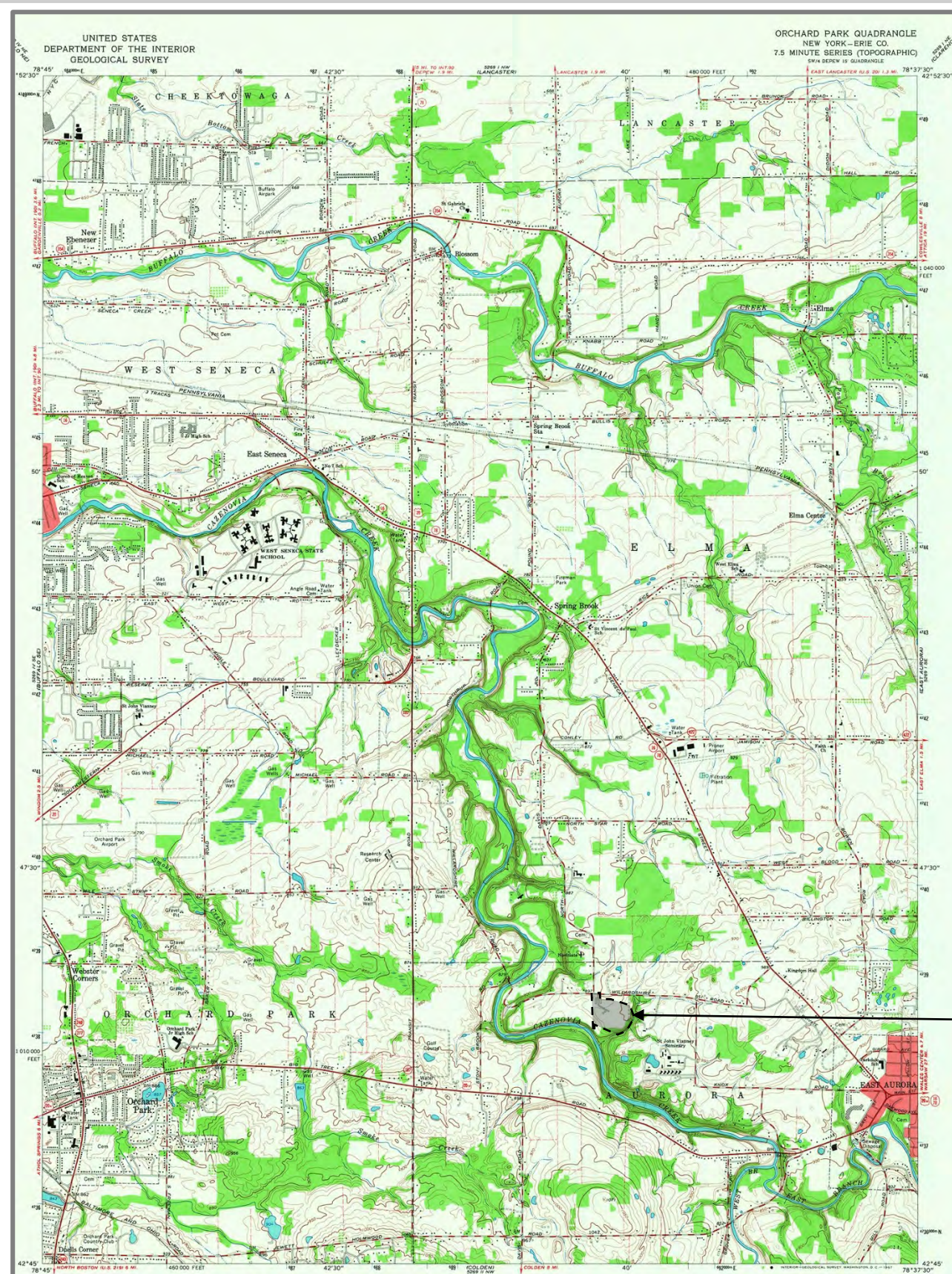
Predevelopment period for
establishment of Nike Missile
Batteries BU 34/35.

Future Location of Nike BU 34/35 Launch Area
(Government Easement, Lease, Permit Line)

Map Source: United States Geological Survey (USGS).



ORCHARD PARK, NY-ERIE COUNTY QUADRANGLE, U.S. GEOLOGICAL SURVEY TOPO MAP, 1965



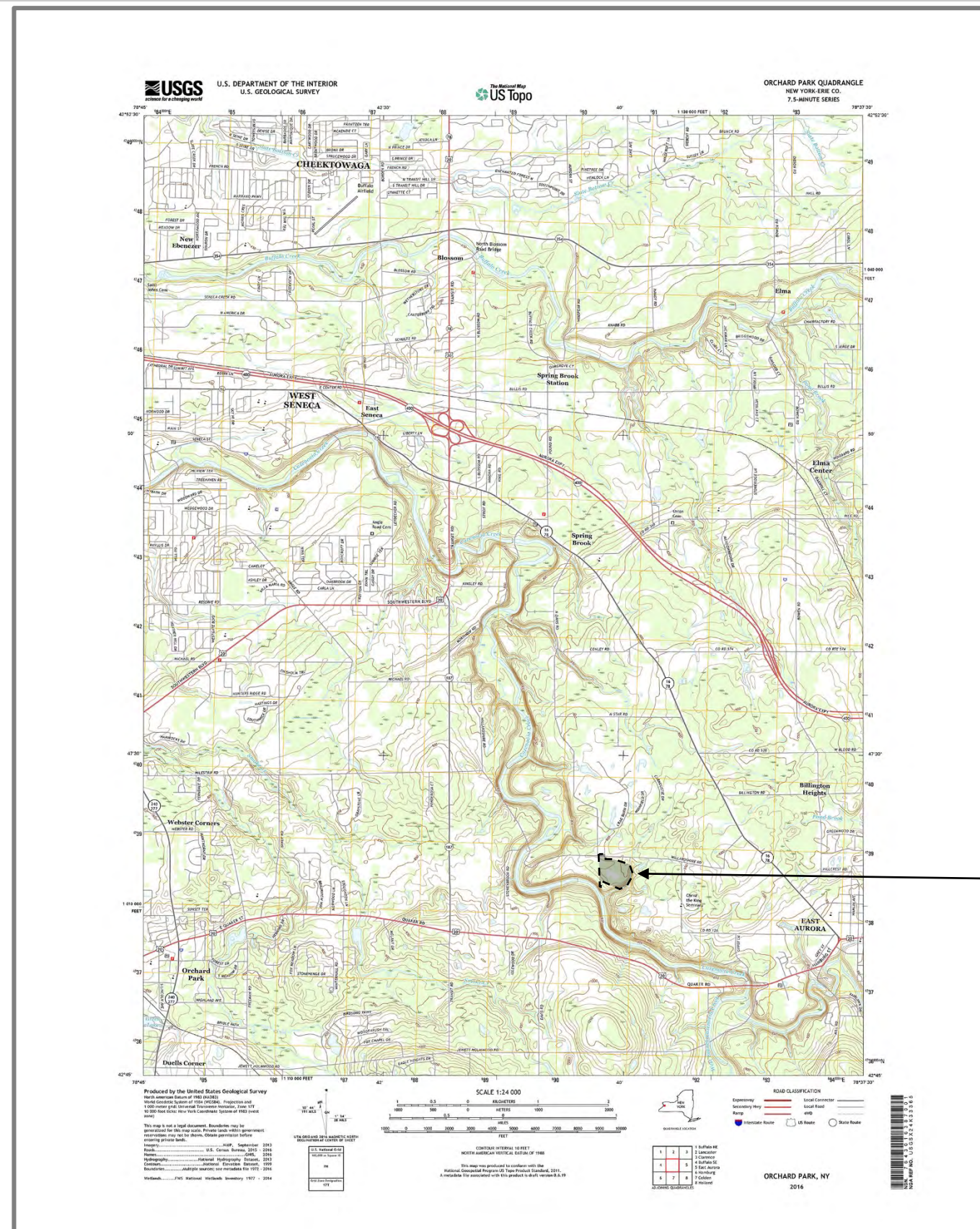
Orchard Park Quadrangle,
New York – Erie County,
1965, 7.5 Minute Series
(Topographic).

Former Nike BU 34/35 Launch Area
(Government Easement, Lease, Permit Line)

Map Source: United States Geological Survey (USGS).



ORCHARD PARK QUADRANGLE, U.S. GEOLOGICAL SURVEY TOPO MAP, 2016



Orchard Park Quadrangle,
New York – Erie County,
2016, 7.5 Minute Series
(Topographic).

Former Nike BU 34/35 Launch Area
(Government Easement, Lease, Permit Line)



APPENDIX B



Building Schedule of Nike Batteries BU 34/35 Launch Area



BU 34/35 BUILDING SCHEDULE – LAUNCH AREA



Report of Buildings, Structures, Utilities, and Miscellaneous Facilities – Part 1 of 2

STANDARD FORM 118-A DECEMBER 1953 PRESCRIBED BY GENERAL SERVICES ADMINISTRATION REGULATION 2-IV-201.00						BUILDINGS, STRUCTURES, UTILITIES, AND MISCELLANEOUS FACILITIES 118-202		1. HOLDING AGENCY NO. NYD-120		2. PAGE 3 OF 4 PAGES OF THIS SCHEDULE GSA CONTROL NO. (GSA use only) D-104-587	
SCHEDULE A—SUPPLEMENT TO REPORT OF EXCESS REAL PROPERTY						3. ANNUAL RENTAL					
LINE NO. (a)	HOLDING AGENCY BUILDING NO. (b)	DESCRIPTION (c)	COST (d)	OUTSIDE DIMENSIONS (e)	FLOOR AREA (Sq. ft.) (f)*	NO. OF FLOORS (g)*	CLEAR HEAD- ROOM (h)*	FLOOR LOAD RANGE (i)*	RESTRICTIONS ON USE OR TRANSFER OF GOVERNMENT INTEREST (j)		
1	*	Government-owned improvements located on lands which revert to Marjorie K. C. Klopp:									
2		LAUNCHER AREA									
3		BUILDINGS									
4	S-105	Missile Assembly & Test Bldg, Conc.	\$ 22,300		1,402	(c)					
5	S-109	Acid Storage Shed Corr. Metal	1,700		42	(b)					
6	S-110	Acid Storage Shed Corr. Metal	1,700		42	(b)					
7	S-102	E.M. Barracks & Off. Qtrs., Conc.	97,400		7,840	(c)					
8	S-103	E.M. Barracks w/o Mess Conc.	75,300		5,740	(c)					
9	S-106	Generator Bldg. Conc.	33,000		1,165	(c)					
10	T-101	Gas Meter House, Wood Siding	100		23	(c)					
11	S-108	Chlorinator House Conc.	1,500		57	(c)					
12	S-107	Sewage Pump House Casing concrete	2,500		57	(c)					
13	S-104	Water Pump House concrete	15,000		242	(c)					
14	S-100	Sentry Station, concrete	2,300		39	(c)					
15	P-110	Missile Storage U/G	104,900		3,650	(b)					
16	P-111	Missile Storage U/G	104,900		3,650	(b)					
17	P-112	Missile Storage U/G	121,300		3,954	(b)					
18	P-113	Missile Storage U/G	121,300		3,954	(b)					
19	P-114	Missile Storage U/G	104,900		3,650	(b)					
20	P-115	Missile Storage U/G	104,800		3,650	(b)					
21		Sub-Total Buildings	\$914,900		39,157						
22											
23		STRUCTURES, UTILITIES & FACILITIES									
24	P-116	Control Van Pad, concrete	\$ 500		--	52 sq. yds.					
25	P-117	Control Van Pad, concrete	500		--	51 sq. yds.					
26	D-28	Concrete Pads	19,800		--	860 sq. yds.					
27	D-3	Multi-Court Area Exterior	9,100		--	800 sq. yds.					
28	D-10	Acid Fueling Station, concrete	13,500		--	739 sq. yds.					
29	D-11	Electric Distribution Lines U/G	11,400		--	4,050 lin.ft.					
30	D-29	Electric Distribution Lines	169,600		--	13,510 lin.ft.					
31	D-31	Transformers (7)	3,100		--						
32	D-12	Gas Pipe Lines	4,300		--	2,055 lin.ft.					
TOTAL											

General Services
Administration

REPORT OF EXCESS
REAL PROPERTY
Dated 28 June 1963.

Source: Tidewater, Inc., Powell,
Ohio 43065

*Prefix figures with symbols to denote type of space, as follows: (a) for office; (b) for storage; (c) for other.



BU 34/35 BUILDING SCHEDULE – LAUNCH AREA



Report of Buildings, Structures, Utilities, and Miscellaneous Facilities – Part 2 of 2

General Services
Administration

REPORT OF EXCESS
REAL PROPERTY
Dated 28 June 1963.

STANDARD FORM 118-A DECEMBER 1953 PRESCRIBED BY GENERAL SERVICES ADMINISTRATION REGULATION 2-IV-201.00						BUILDINGS, STRUCTURES, UTILITIES, AND MISCELLANEOUS FACILITIES 118-202		1. HOLDING AGENCY NO. NYD-120		2. PAGE 4 OF 4 PAGES OF THIS SCHEDULE GSA CONTROL NO. (GSA use only) D-24-587	
SCHEDULE A—SUPPLEMENT TO REPORT OF EXCESS REAL PROPERTY						3. ANNUAL RENTAL					
LINE NO. (a)	HOLDING AGENCY BUILDING NO. (b)	DESCRIPTION (c)	COST (d)	OUTSIDE DIMENSIONS (e)	FLOOR AREA (Sq. ft.) (f)*	NO. OF FLOORS (g)*	CLEAR HEAD- ROOM (h)*	FLOOR LOAD RANGE (i)*	RESTRICTIONS ON USE OR TRANSFER OF GOVERNMENT INTEREST (j)		
1	D-1	Sewage Treatment Plant	\$ 43,900		--	15	TG				
2	D-14	Septic Tank Drug Field	6,200		--						
3	D-15	Sanitary Sewer Lines	38,100		--	1,970	lin. ft.				
4	D-21	Storm Sewers	15,000		--	1,460	lin. ft.				
5	D-16	Water Pipe Line Potable	9,200		--	2,860	lin. ft.				
6	D-24	Ground Fencing, Chain link 6' high	16,900		--	4,410	lin. ft.				
7	D-25	Chain Link Fence 10' high w/Posts	1,000		--	200	lin. ft.				
8	D-17	Roads	52,500			10,356	sq. yds.				
9	D-19	Walks	2,200		--	187	sq. yds.				
10	D-18	Vehicle Parking Area	20,000		--	6,201	sq. yds.				
11	D-20	Vehicle Parking Area	86,800			10,570	sq. yds.				
12		Sub-Total Struct, Util and Fac.	\$523,600		--						
13											
14		TOTAL LAUNCHER AREA	\$1,438,500		39,157						
15											
16											
17		SUMMARY									
18		12 Bldgs - Control Area	\$ 408,600		22,745						
19		17 Bldgs - Launcher Area	914,900		39,157						
20		29 Bldgs - Total	\$1,323,500		61,902						
21											
22		Struct, Util and Fac - Control Area	\$467,500								
23		Struct, Util and Fac - Launcher									
24		Area	523,600								
25		Total Struct, Util and Fac	\$991,100								
26											
27	*	Title to buildings and improvements is vested in the United States of America.									
28											
29											
30											
31											
32											
GRAND / TOTAL			\$2,314,600		61,902						

*Prefix figures with symbols to denote type of space, as follows: (a) for office; (b) for storage; (c) for other.

16-69541-2 U. S. GOVERNMENT PRINTING OFFICE

Source: Tidewater, Inc., Powell,
Ohio 43065



APPENDIX C



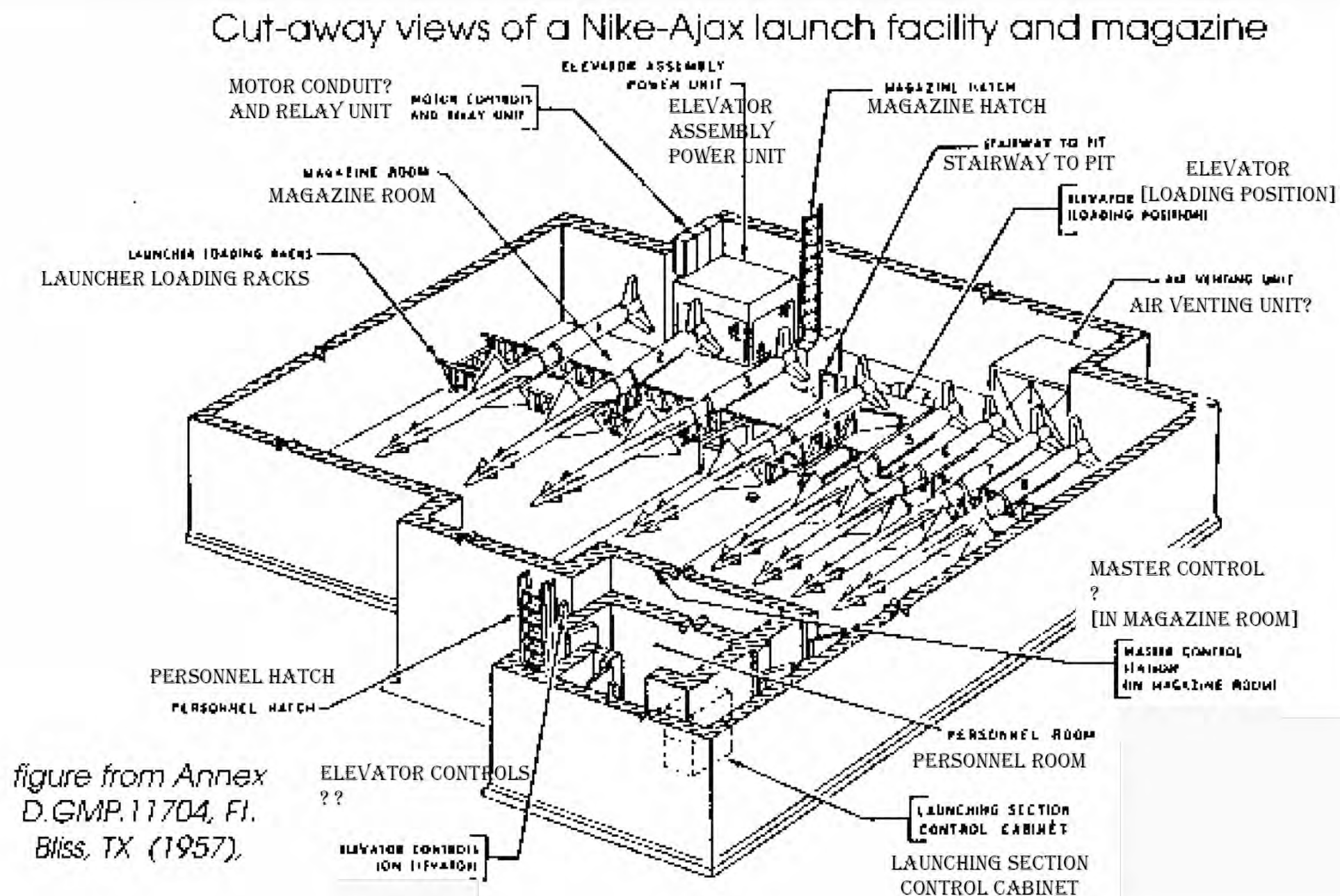
Cutaway Diagram of a NIKE AJAX Launch Area Magazine



NIKE AJAX LAUNCH FACILITY: CUT-AWAY VIEW



CUT-AWAY VIEW: NIKE AJAX LAUNCH FACILITY & MAGAZINE



Source: http://www.airfields-freeman.com/VA/Airfields_VA_Fairfax_W.htm



Glossary of Terms



GLOSSARY



BERM – A man-made ridge or embankment, constructed of natural or man-made materials. Typical to Nike Ajax missile launch areas, earthen berms were built alongside missile fueling areas (usually a long pad) to deflect potential explosions.

BUILDING – A relatively permanent, usually box-like and roofed, man-made structure.

CLEARED AREA – A section of land from which man has removed the trees, shrubs, or natural vegetative cover.

DISTURBED GROUND – A rough ground surface which has been cleared, overturned, dug up, filled and/or changed from the immediate environs in some manner for an unknown purpose.

DITCH – A long narrow excavation dug in the earth (as for drainage).

GROUND SCAR - A surface, vegetated or unvegetated, where marks from a previous activity or feature, or from a subterranean feature are visible. Ground scars can result from many things and therefore vary greatly in appearance.

STRUCTURE – A man-made feature that cannot be classified as a building or shed. Something made up of a number of parts that are held together in a particular way.

TRAIL/TRACK – A marked beaten path or course.

TRIBUTARY – A river or stream flowing into a larger river or lake.

UNIMPROVED ROAD – An unpaved (primitive) route that is unsuitable for public transportation and is seldom or never maintained.



SOURCES OF INFORMATION



Digital Globe, Inc. Commercial satellite imagery.

Erie County (New York) – Department of Public Works - Highways, 95 Franklin Street, Buffalo, New York 14202. 1951 aerial photography of former BU 34/35 Launch Area property.

Internet Web: various government, educational, and private sites - relate to both general Nike Site historical background information and historical data directly related to BU 34/35 including, for example, topographic & historic aerial mapping of the area (produced by the U.S. Geological Survey) and the Project Information and Retrieval System for FUDS, U.S. Army Corps of Engineers.

McIntosh and McIntosh, Inc., P.O. Box 490 – 429 Pine Street, Lockport, New York 14095. 1972, 1978, and 1981 aerial photography over the former BU 34/35 Launch Area property.

National Archives and Records Administration (NARA), Cartographic and Textual Records Branches, College Park, MD. 1962 military-flown aerial photography over the BU 34/35 Launch Area. Partial coverage of 1964 military-flown aerial photography over the former BU 34/35 Launch Area property.

Tidewater, Inc., 3761 Attucks Drive, Powell, Ohio 43065. Building schedule for Nike Missile Batteries BU 34/35.

U.S. Army Corps of Engineers, New England District (CENAE), 696 Virginia Road, Concord, Massachusetts. Historical layout plans of the former Launch Area, building schedule, and textual data relating to the BU 34/35 Launch Area.

U.S. Department of Agriculture, Farm Service Agency, Salt Lake City, UT. Research, identification, and purchase of 1958, 1966, and 1990 aerial image scans.