



FORMER NIKE BU 51/52 BATTERY LAUNCH AREA, HAMBURG, NY

HISTORICAL PHOTOGRAPHIC ANALYSIS



Source: National Archives at College Park, MD

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

FINAL REPORT
APRIL 2020

Prepared for the U.S. Army Corps of Engineers, New England District



TABLE OF CONTENTS



PAGE 1	COVER
PAGE 2	TABLE OF CONTENTS
PAGE 3	NOTICE AND INTRODUCTION
PAGE 4	METHODOLOGY
PAGE 5	PROJECT AREA LOCATION
PAGE 6	PROJECT AREA OF INTEREST
PAGE 7	SITE HISTORY
PAGE 8	SPATIAL DATA SOURCES
PAGES 9-40	PHOTOGRAPHIC ANALYSIS: 1951 - 2019
PAGES 41-43	APPENDIX - MAPS
PAGE 44-46	GLOSSARY
PAGE 47	SOURCES OF INFORMATION



NOTICE AND INTRODUCTION



Former Nike BU-51/52 Battery Launch Area Hamburg, Erie County, NY (FUDS C02NY0079)

By
U.S. Army Corps of Engineers
U.S. Army Geospatial Center
Warfighter Support Directorate
Hydrologic and Environmental Analysis Branch
Environmental Analysis Team

April 2020 Final Report

Prepared for
U.S. Army Corps of Engineers, New England District

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 Falls (NF) - Buffalo (BU) Defense Area – Former Nike Battery BU 51/52 Launch Area, located in Hamburg, Erie County, New York. The Hydrologic and Environmental Analysis Branch of the Warfighter Support Directorate was tasked to search, collect, and analyze historical photographic and cartographic records relative to the project area under the Formerly Used Defense Sites (FUDS) program.



METHODOLOGY - PHOTO INTERPRETATION



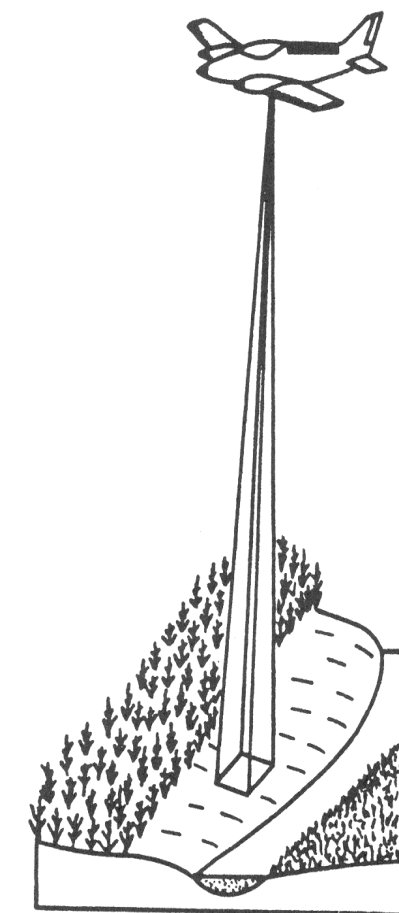
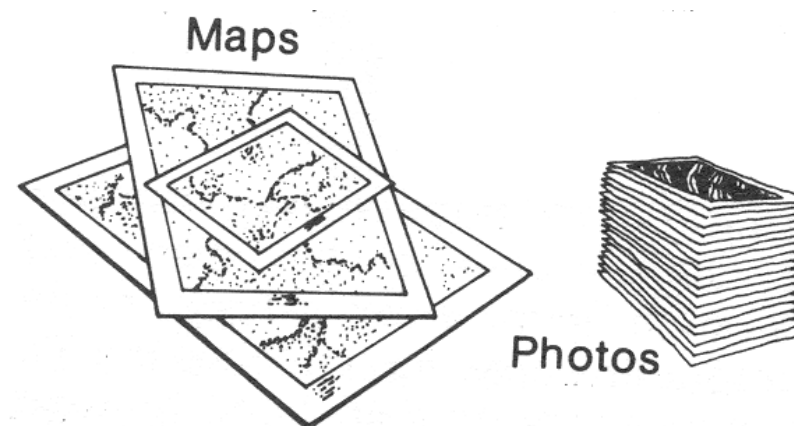
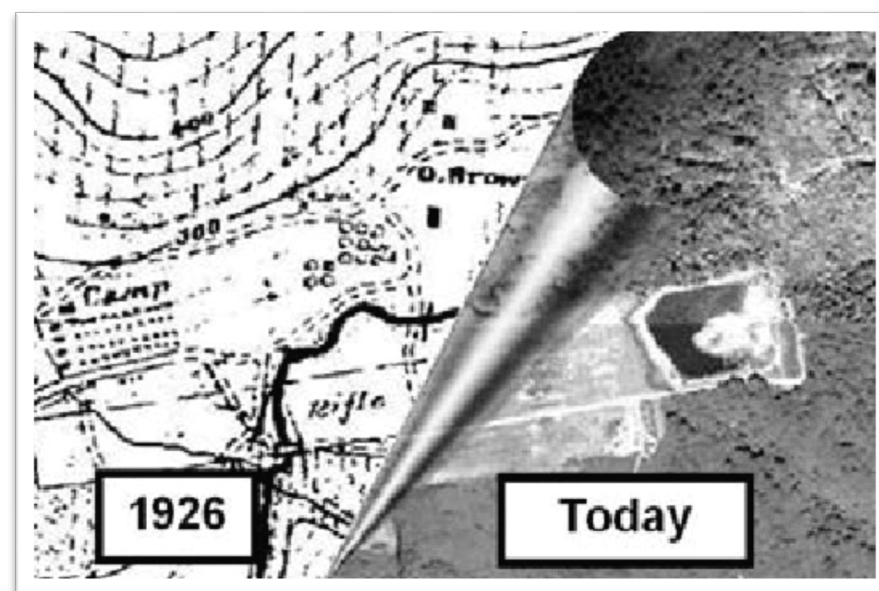
METHODOLOGY

The analysis presented in this report is primarily based upon interpretation of historical photography over the project area spanning 1951 to 2019. Significant features, derived through photo interpretation, are displayed on select photos in this study.

Building, road, and other site names and numbers are derived from historical maps, still photographs, and other textual documents.

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

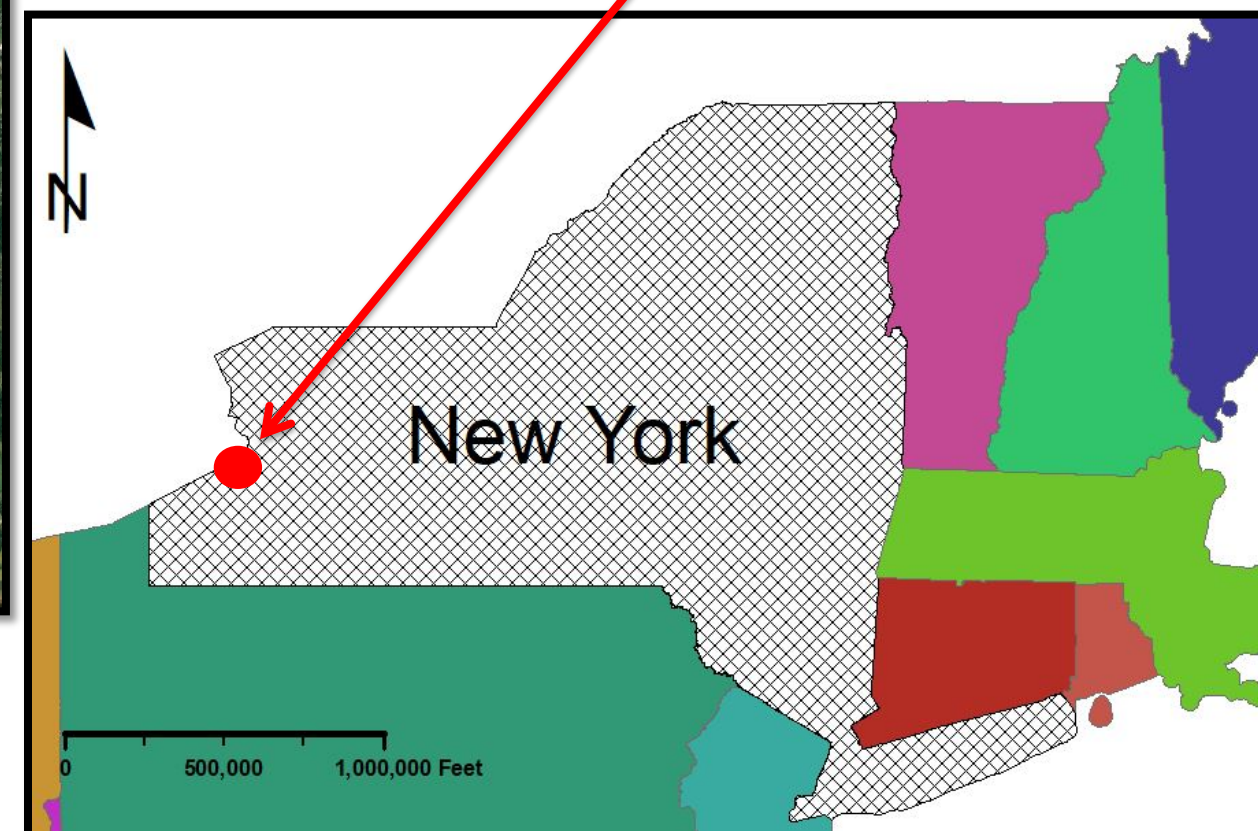
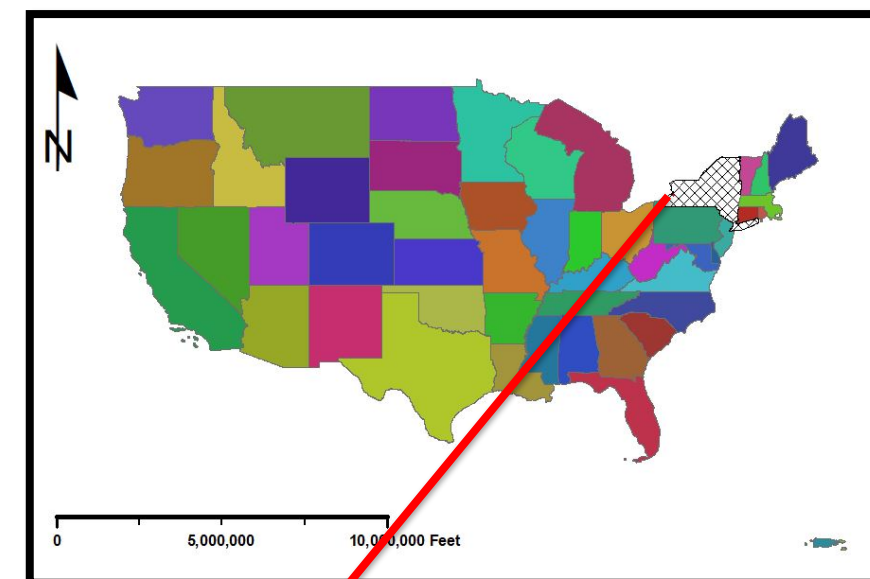




PROJECT AREA LOCATION



Source: Google Earth



AOI = Area Of Interest



PROJECT AREA OF INTEREST

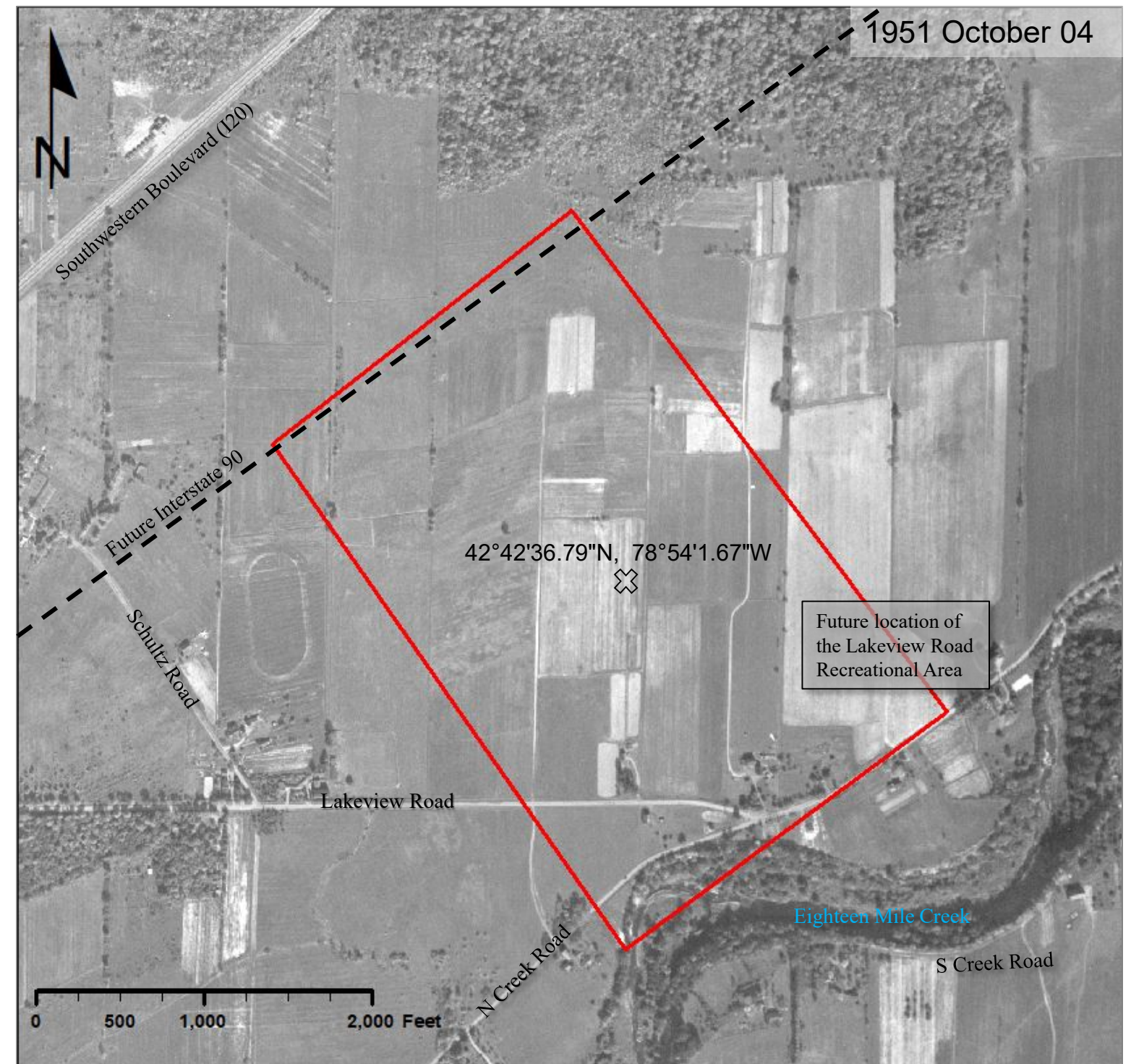


LOCATION

The Area of Interest (AOI) is located approximately 3.5 miles west of the Town of Hamburg, Erie County, New York. The current AOI is bordered to the north by Interstate 90, to the west by Schulz Road, to the south by Lakeview Road and to the east by the Lakeview Road Recreational Area (approximate 7.5 acres of the southwest corner of the park is located within the AOI). The center coordinate for the AOI is approximately 42°42'36.79"N, 78°54'1.67"W.

AOI = Area Of Interest

----- = Future Interstate 90 (I90)



Source: National Archives at College Park, MD.



SITE HISTORY



The former Nike Anti-Aircraft Missile Site BU-51/52 was part of the Niagara Falls-Buffalo Defense Area (NF, BU). The former BU-51/52 Launch Area is located in Hamburg, Erie County, New York. The area is currently owned by the Town of Hamburg.

The Department of Defense acquired 152.54 acres (including a 95.2 acre easement) between December 1955 and May 1956. The former Nike BU-51/52 Launch Area was declared excess and the property was transferred to the General Services Administration in June 1965. In 1968, the property was conveyed to the Town of Hamburg.

The former Launch Area is currently used by the Town of Hamburg's Highway Department. The area north of the former Launch Area was used as a landfill (Hamburg Landfill), operated by the Town of Hamburg from 1970 until it was closed in 1984.



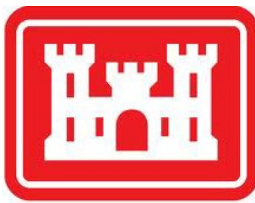
SPATIAL DATA SOURCES



Date	Scale	Data Type	Source
1951 October 04	1:20,000	Panchromatic Vertical Aerial	National Archives at College Park, MD
1958 June 03	1:60,000	Panchromatic Vertical Aerial	U.S. Geological Survey
1959 May 18	1:20,000	Panchromatic Vertical Aerial	National Archives at College Park, MD
1959 July 25	Oblique	Panchromatic Oblique Aerial	National Archives at College Park, MD
1963 May 07	1:24,000	Panchromatic Vertical Aerial	U.S. Geological Survey
1964 March 16	1:44,000	Panchromatic Vertical Aerial	National Archives at College Park, MD
1966	1:9,000	Panchromatic Vertical Aerial	U.S. Department of Agriculture
1967 September 16	6 ft.	Panchromatic Satellite (film)	National Archives at College Park, MD
1970 July 06	1:120,594	Color Infrared Vertical Aerial	U.S. Geological Survey
1974 April 01	1:24,000	Panchromatic Vertical Aerial	U.S. Geological Survey
1975 June 30	2-4 ft.	Panchromatic Satellite (film)	National Archives at College Park, MD
1976 August 19	2-4 ft.	Panchromatic Satellite (film)	National Archives at College Park, MD
1979 June 12	2-4 ft.	Panchromatic Satellite (film)	National Archives at College Park, MD
1981 May 01	1:80,000	Panchromatic Vertical Aerial	U.S. Geological Survey
1982 July 05	2-4 ft.	Panchromatic Satellite (film)	National Archives at College Park, MD
1983 March 01	1:24,000	Panchromatic Vertical Aerial	U.S. Geological Survey
1988 April 01	1:24,000	Color Infrared Vertical Aerial	U.S. Geological Survey
1995 March 28	1 m	Multispectral Satellite	U.S. Geological Survey
2002 April 23	1:14,400	Color Vertical Aerial	U.S. Geological Survey
2006 June 17	1 m	Multispectral Satellite	U.S. Geological Survey
2009 May 31	1 m	Multispectral Satellite	U.S. Geological Survey
2011 July 01	1 m	Multispectral Satellite	U.S. Geological Survey
2013 September 25	1 m	Multispectral Satellite	U.S. Geological Survey
2015 May 28	0.5 m	Multispectral Satellite	U.S. Geological Survey
2017 October 02	1 m	Multispectral Satellite	U.S. Geological Survey
2019 March 25	43 cm	Multispectral Satellite	Digital Globe
2019	Unk	Multispectral Satellite	Google Earth



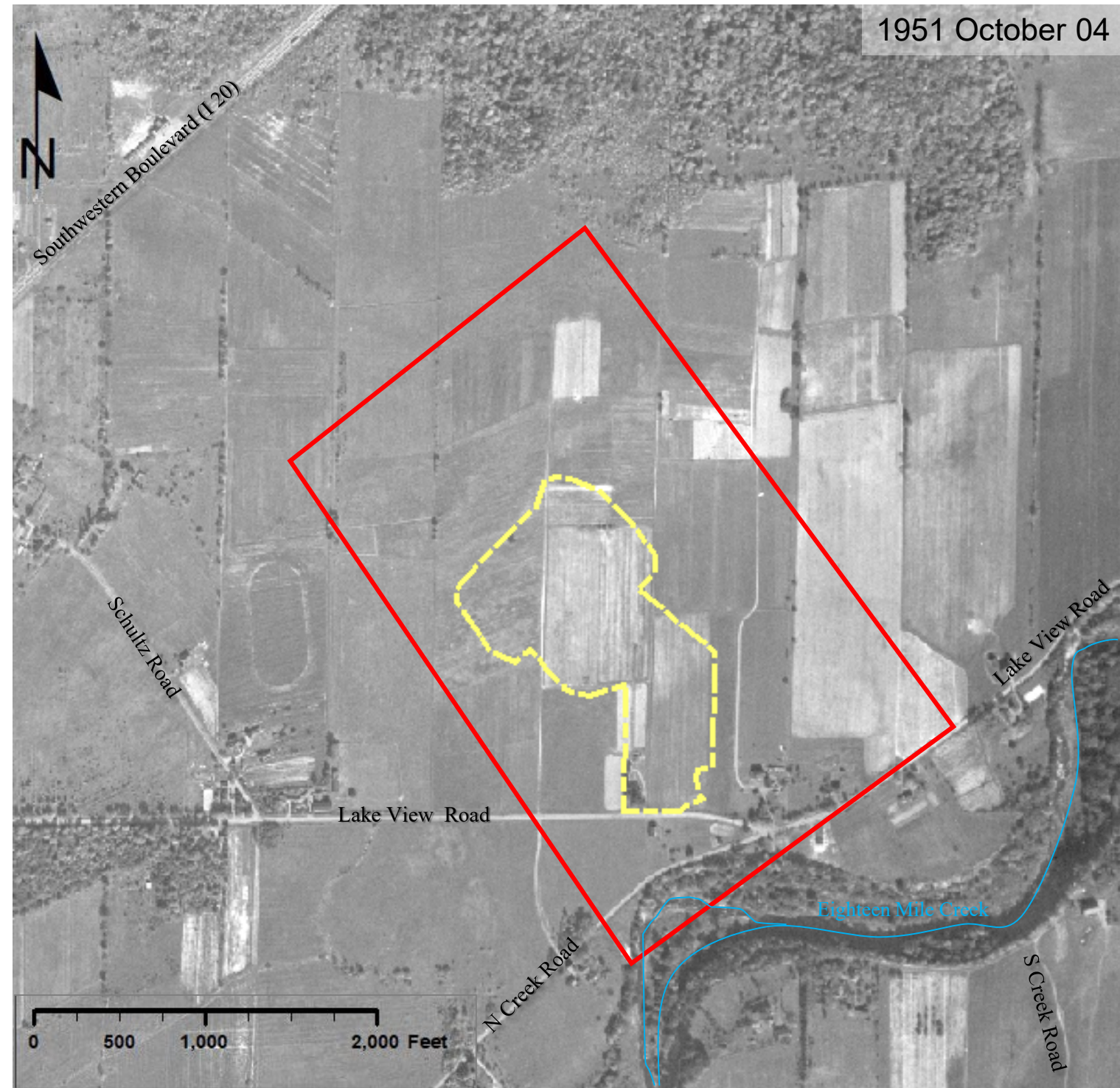
Photo
Interpretation
Of Aerial
Photography
(1951-2019)



PHOTOGRAPHIC ANALYSIS: 1951, PRE-CONSTRUCTION





Land use is primarily agriculture within the future Nike BU 51/52 Launch Area.

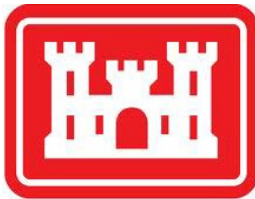


Source: National Archives at College Park, MD.

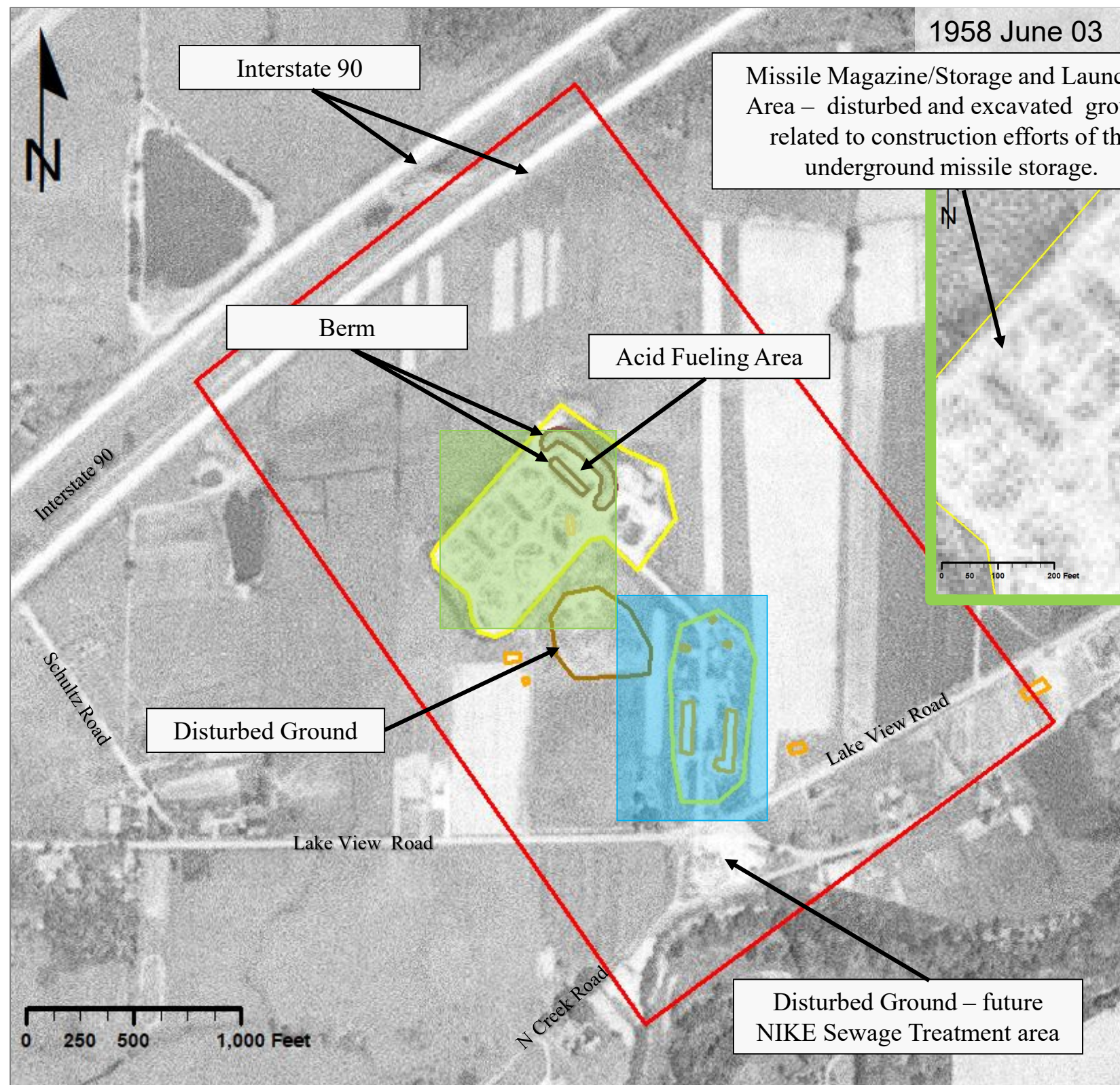


Source: U.S. Geological Survey.

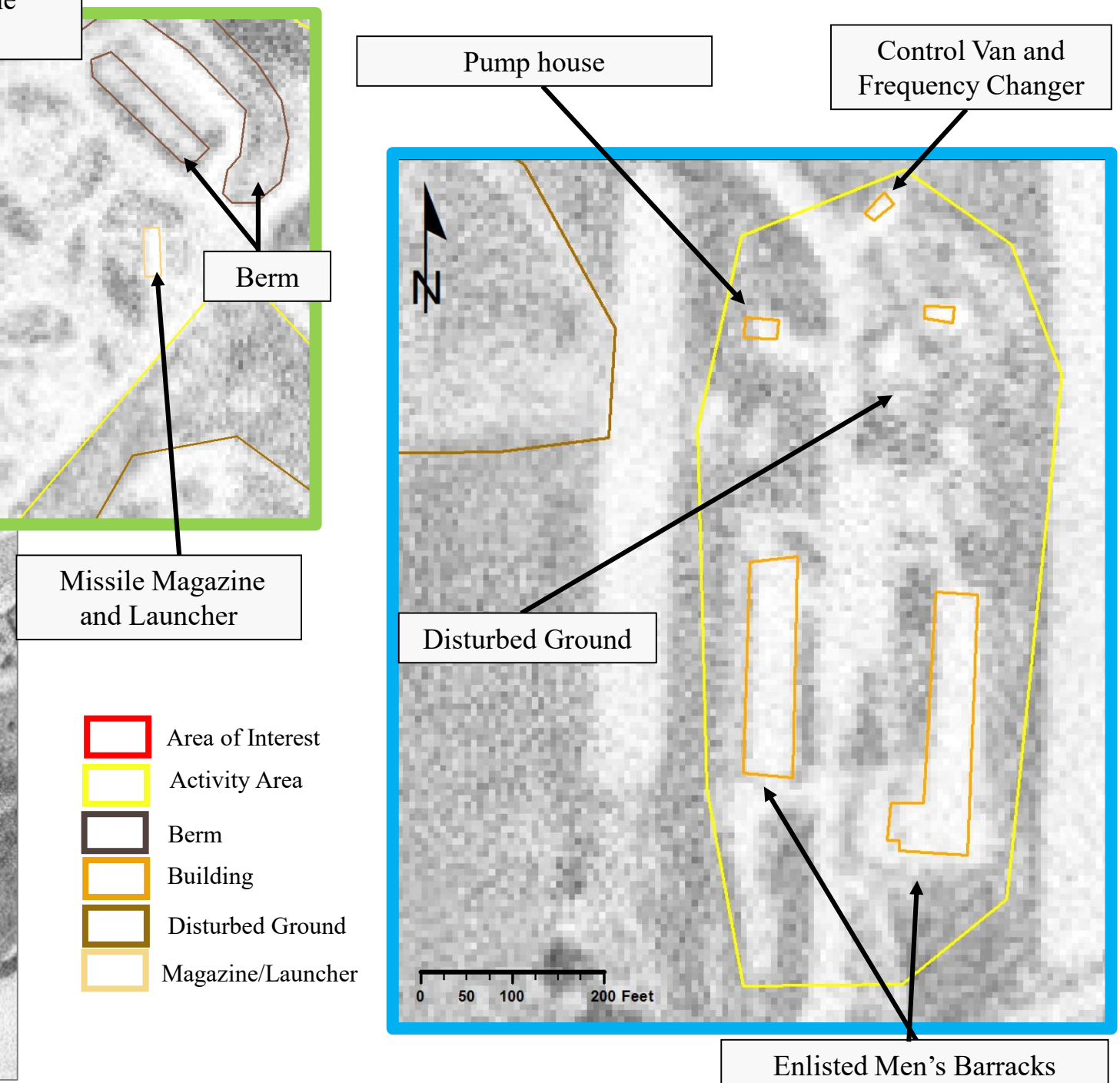
-  Area of Interest
-  Future Nike Site Area (1958)



PHOTOGRAPHIC ANALYSIS: 1958



The Launch Area along with the barracks, pump house, and other support buildings are visible. Interstate 90 has been constructed and partially runs through the study area.



Source: U.S. Geological Survey.



PHOTOGRAPHIC ANALYSIS: 1959



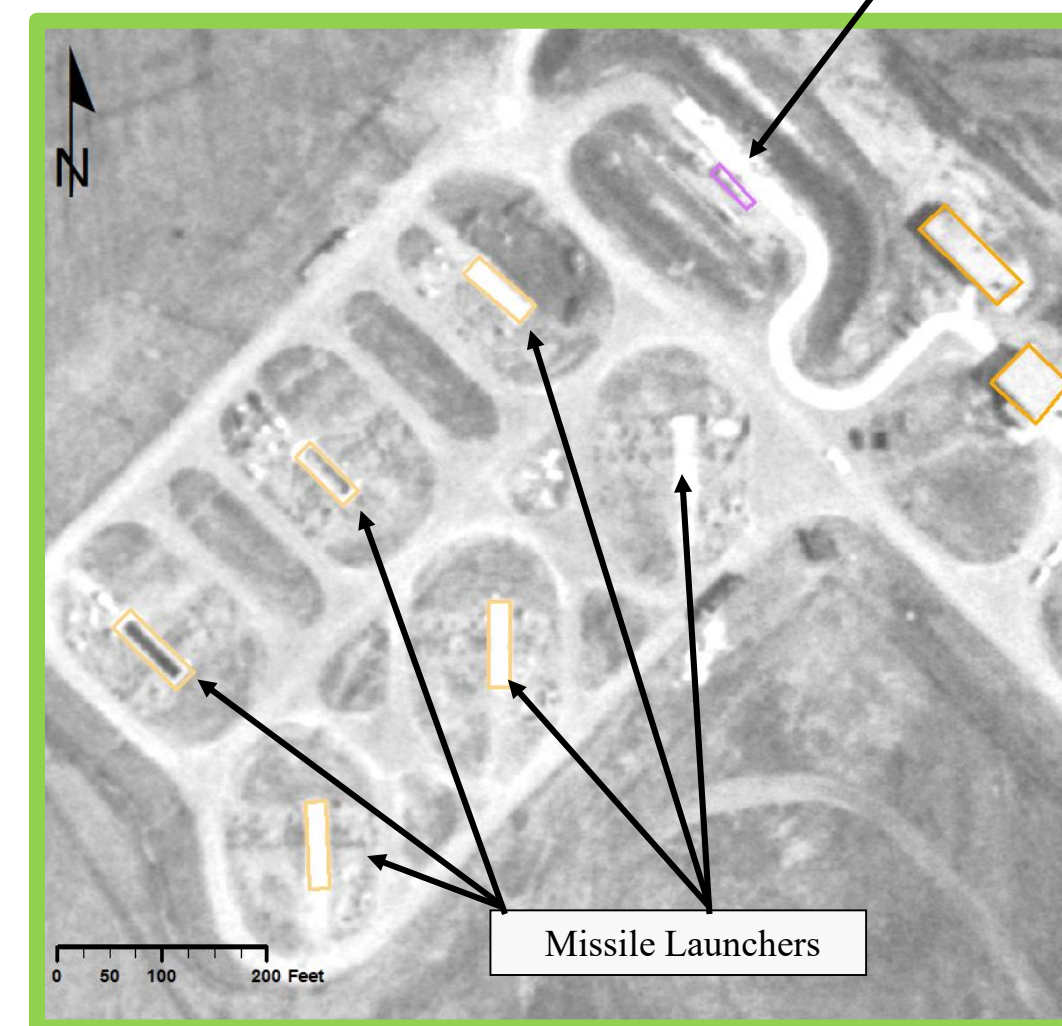
Source: National Archives at College Park, MD.

An aboveground storage tank (AST) is observed within the Acid Fueling Area.

- Area of Interest
- Building
- Missiles
- Magazine/Launcher
- Vertical Tank
- Storage Tank

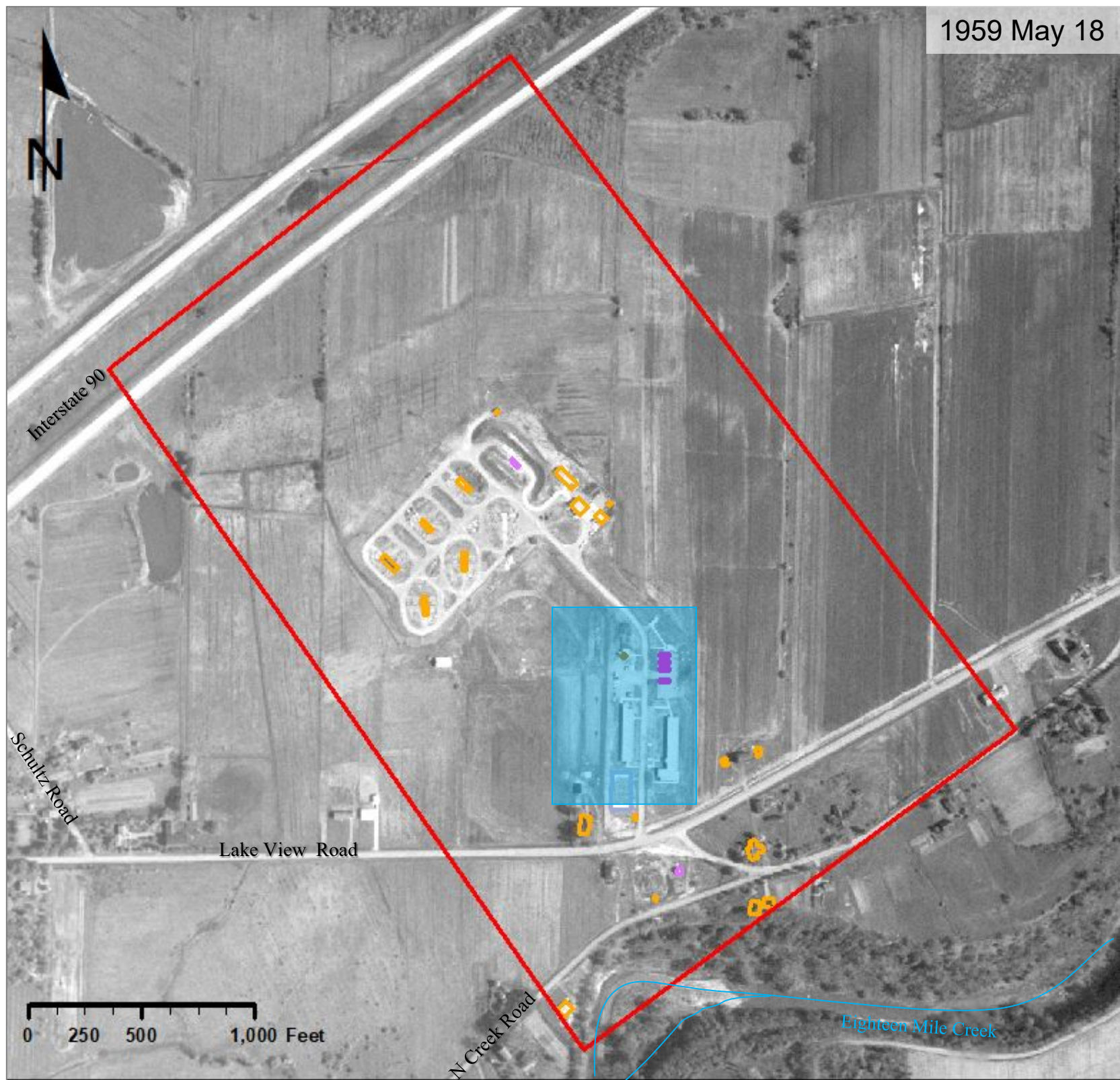


Storage Tank – Located in the Acid Fueling Area



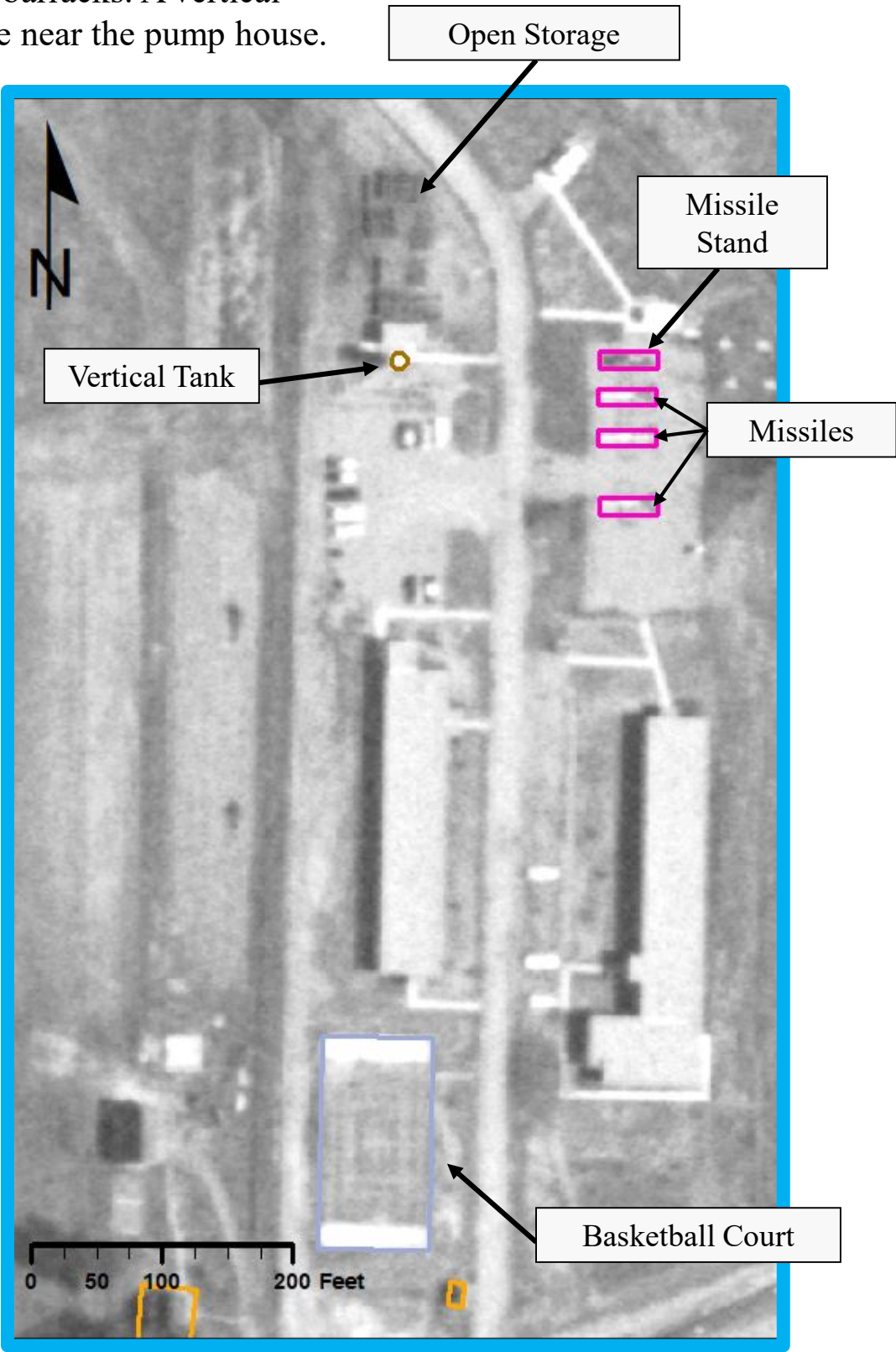


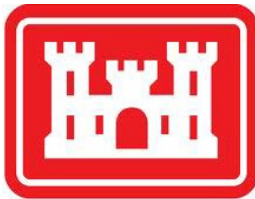
PHOTOGRAPHIC ANALYSIS: 1959 CONTINUED



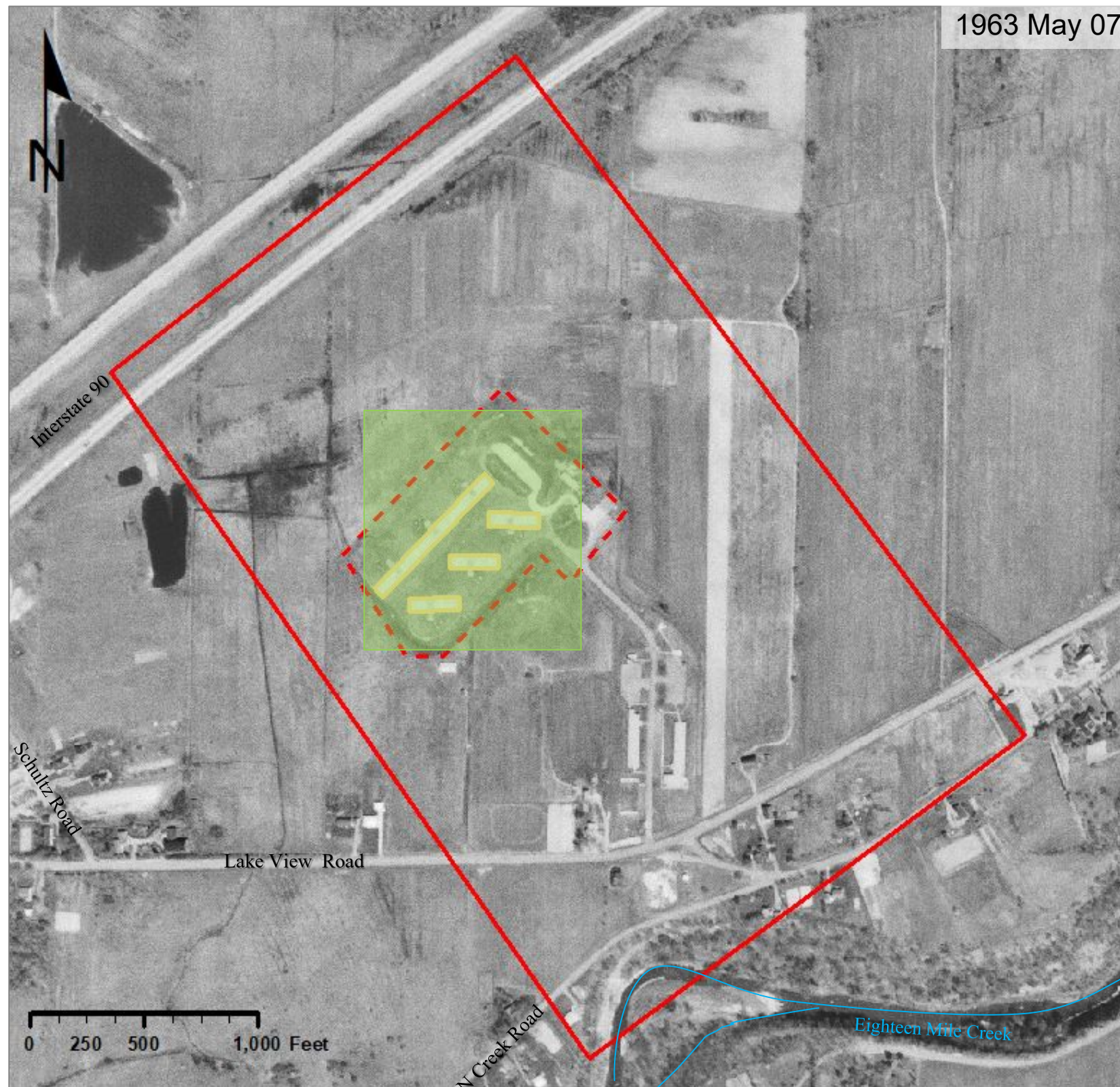
Source: National Archives at College Park, MD.

Missiles and stands are observed just north of the enlisted men's barracks. A vertical storage tank is visible near the pump house.








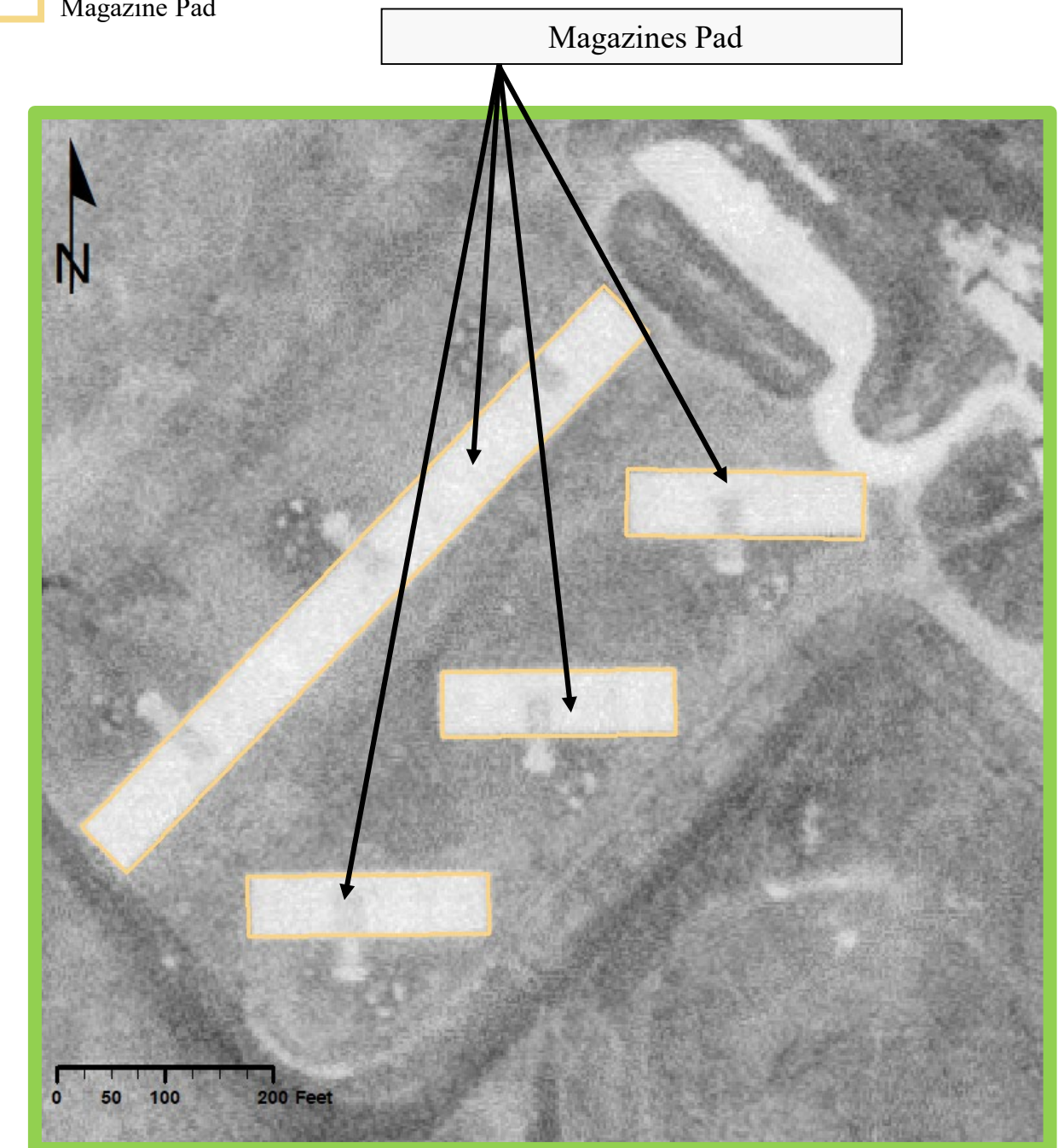
PHOTOGRAPHIC ANALYSIS: 1963



Source: U.S. Geological Survey

Construction on the launch area appears complete.

-  Area of Interest
-  Underground Missile and Launcher Area
-  Magazine Pad

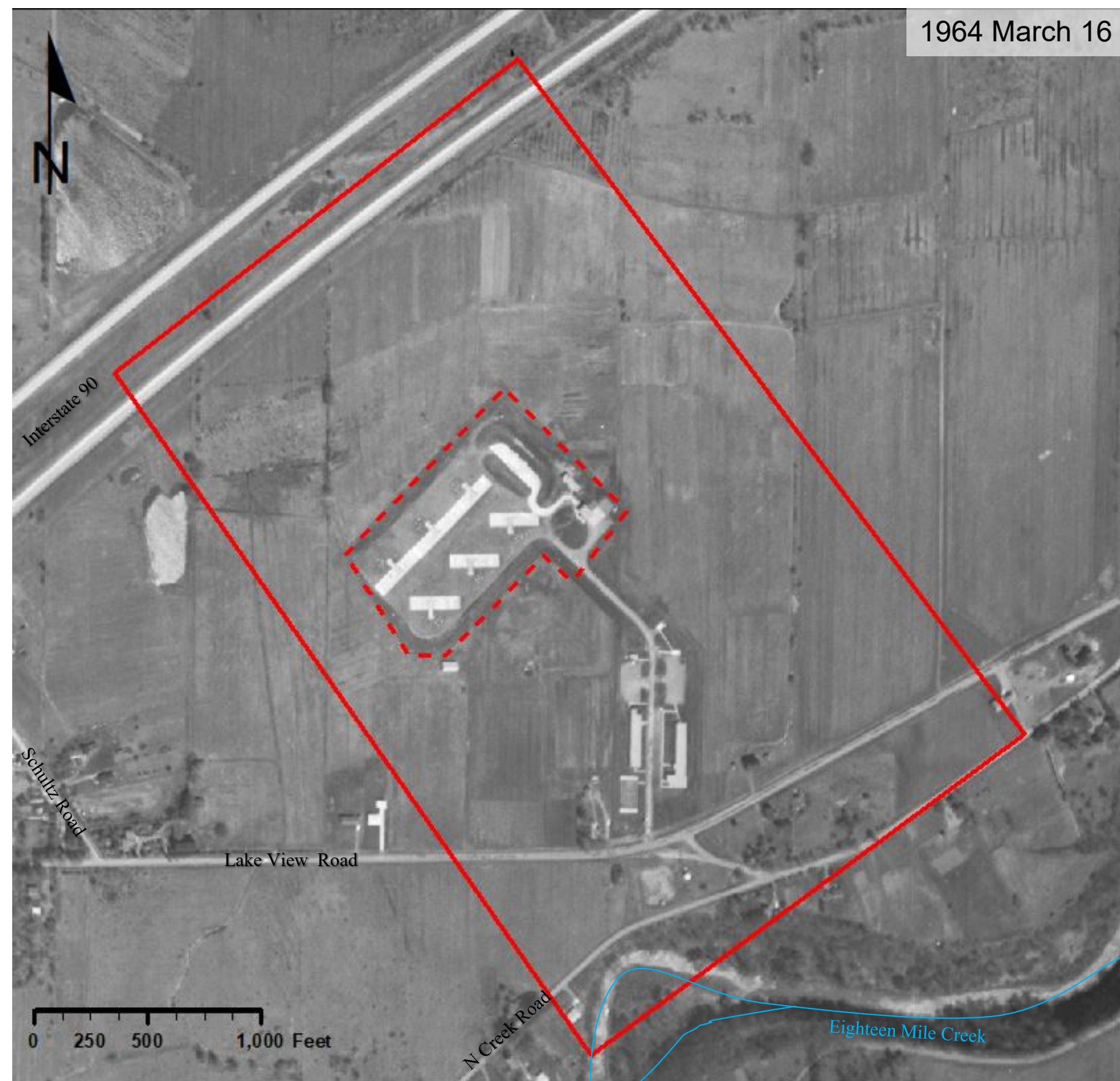




PHOTOGRAPHIC ANALYSIS: 1964



No significant changes are observed from 1963 and 1964.



Source: National Archives at College Park, MD.



PHOTOGRAPHIC ANALYSIS: 1966, 1967

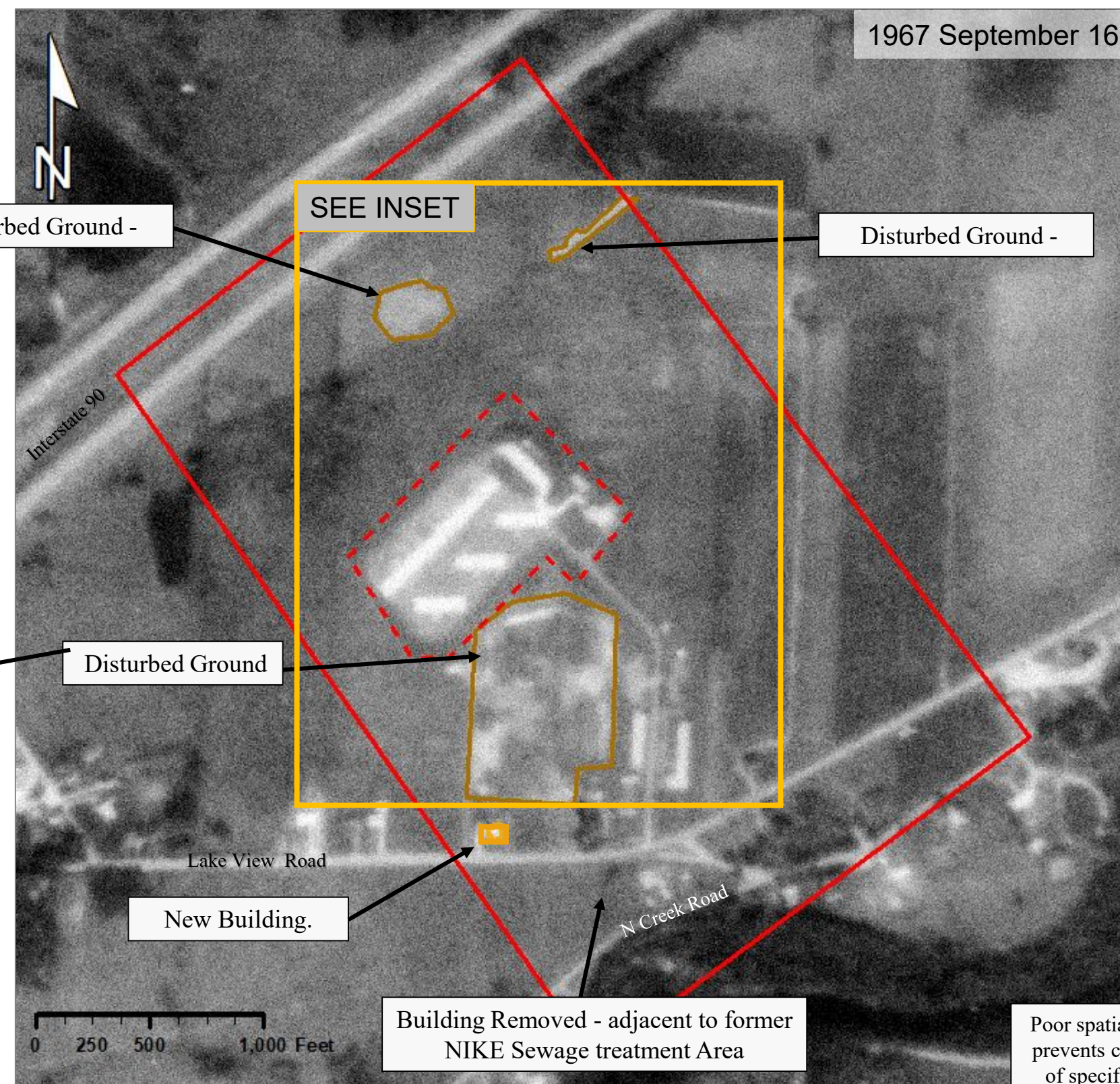
Newly cleared and disturbed area (with access road) north of the Launch Area is evident in the 1966 imagery.



Source: February 2019 Abbreviated Remedial Investigation Work Plan (page 175).

- Area of Interest
- Underground Missile and Launcher Area
- Building
- Cleared Area
- Disturbed Ground

Boundary on image from
Bluestone RI report



Source: National Archives at College Park, MD.

Poor spatial resolution
prevents confirmation
of specific features
and/or activity.









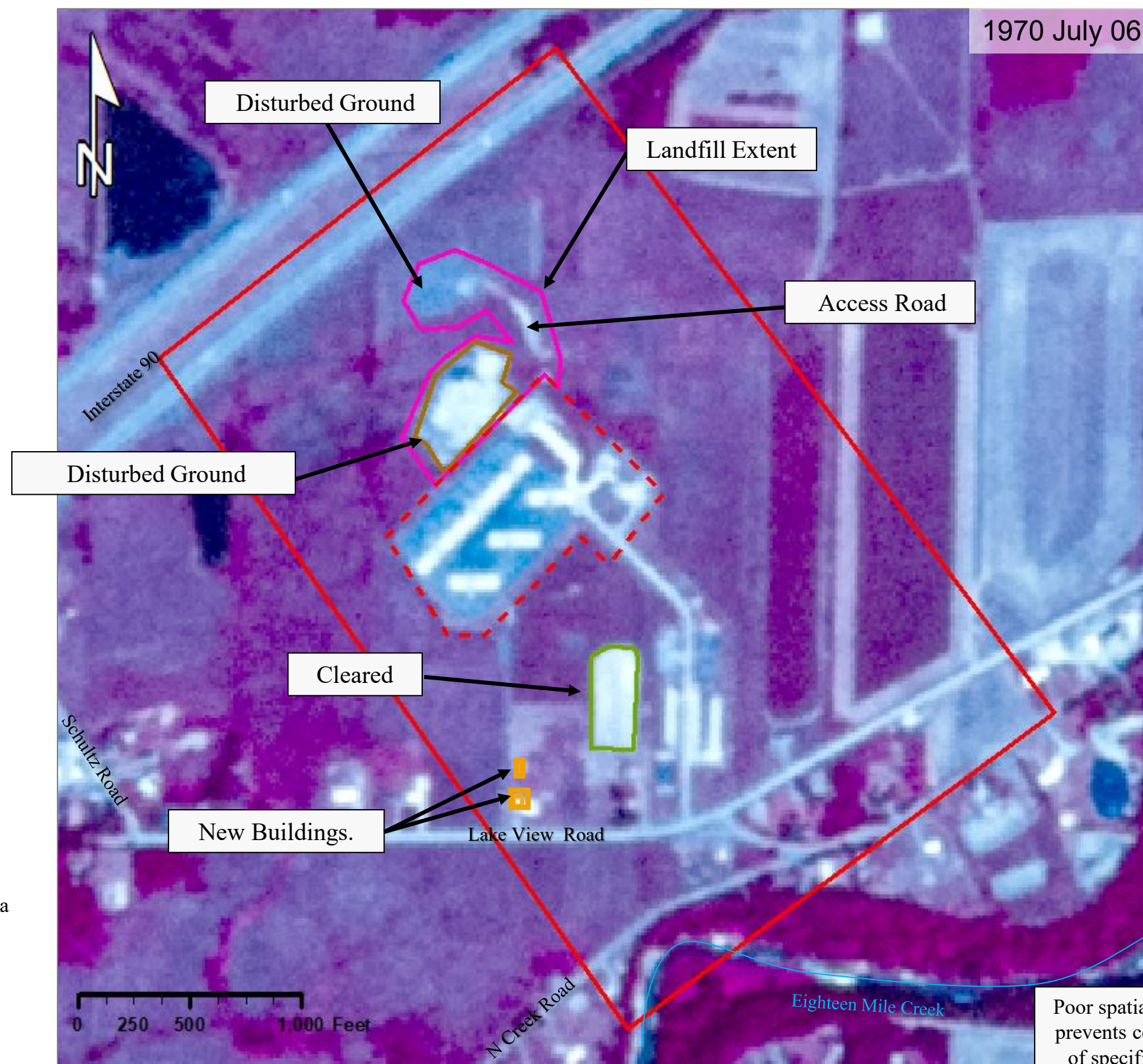
PHOTOGRAPHIC ANALYSIS: 1970



Two areas of disturbed ground are observed immediately north of and accessed through the former Launch Area. This area north of the former Launch Area was transferred to the Town of Hamburg in 1968 and is identified as the Hamburg Landfill.

New cleared areas and structures are visible within the former Launch Area.

-  Area of Interest
-  Former Underground Missile and Launcher Area
-  Landfill Extent
-  Building
-  Cleared Area
-  Disturbed Ground

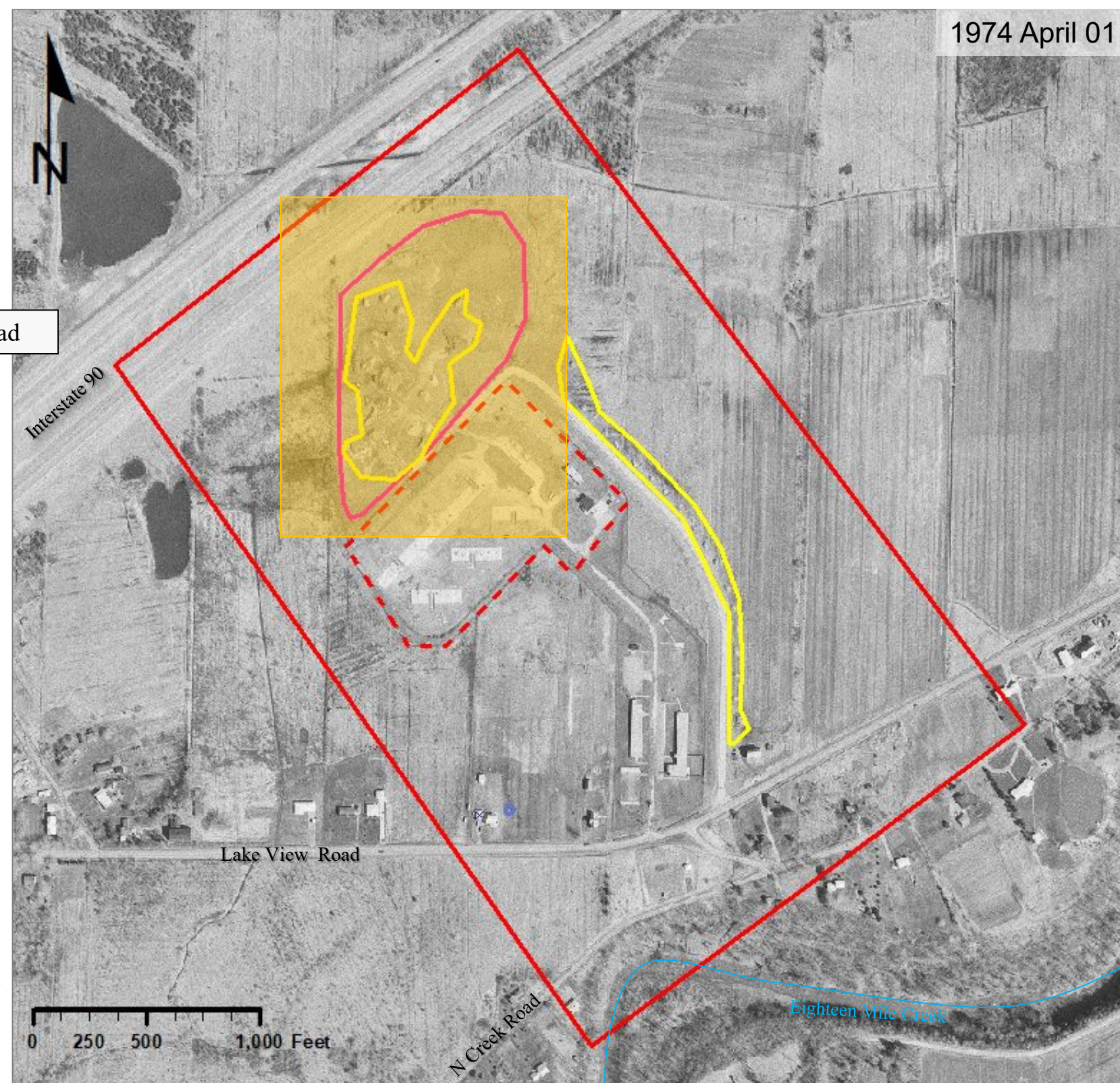
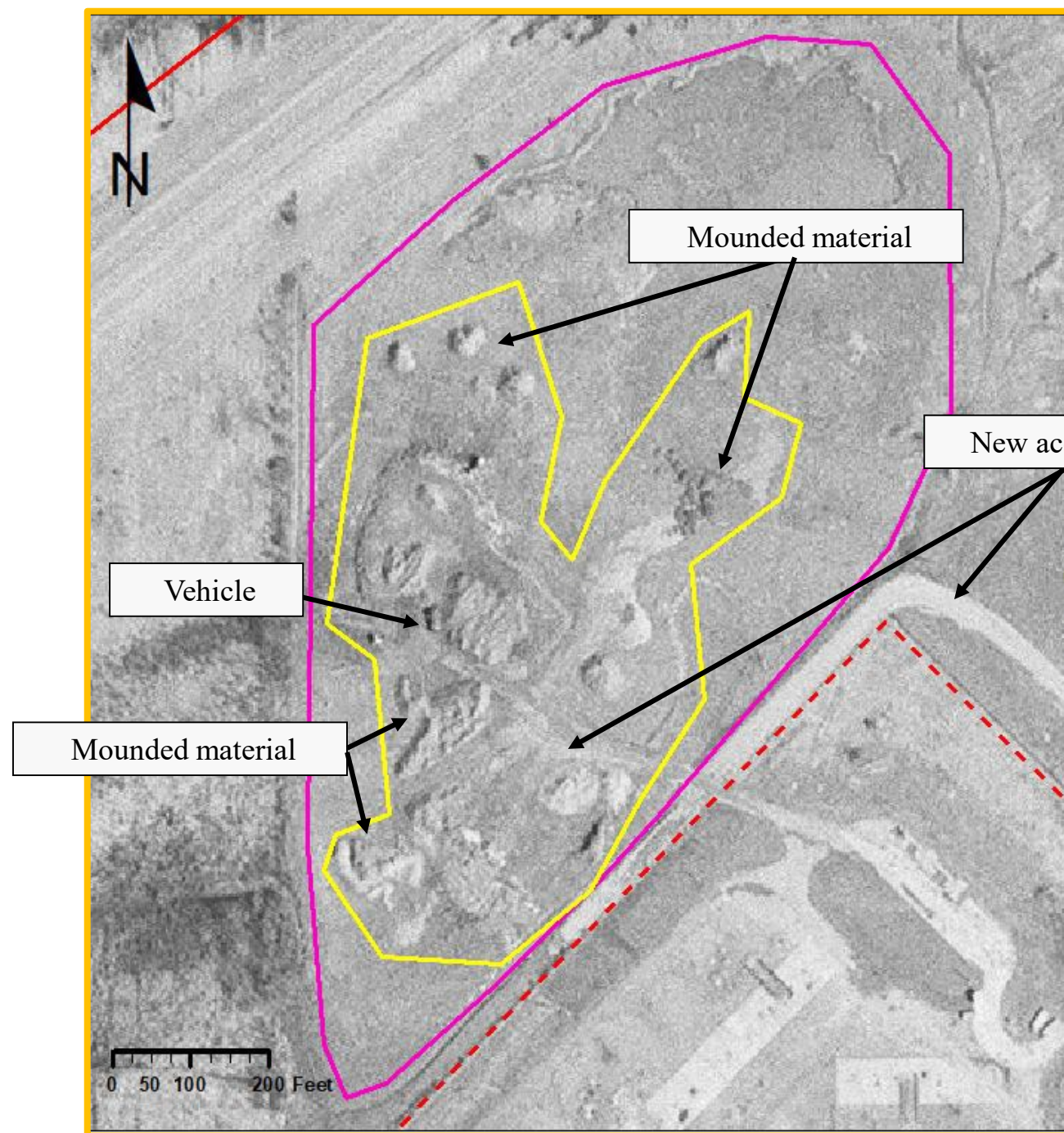


Source: U.S. Geological Survey

Poor spatial resolution prevents confirmation of specific features and/or activity.



PHOTOGRAPHIC ANALYSIS: 1974



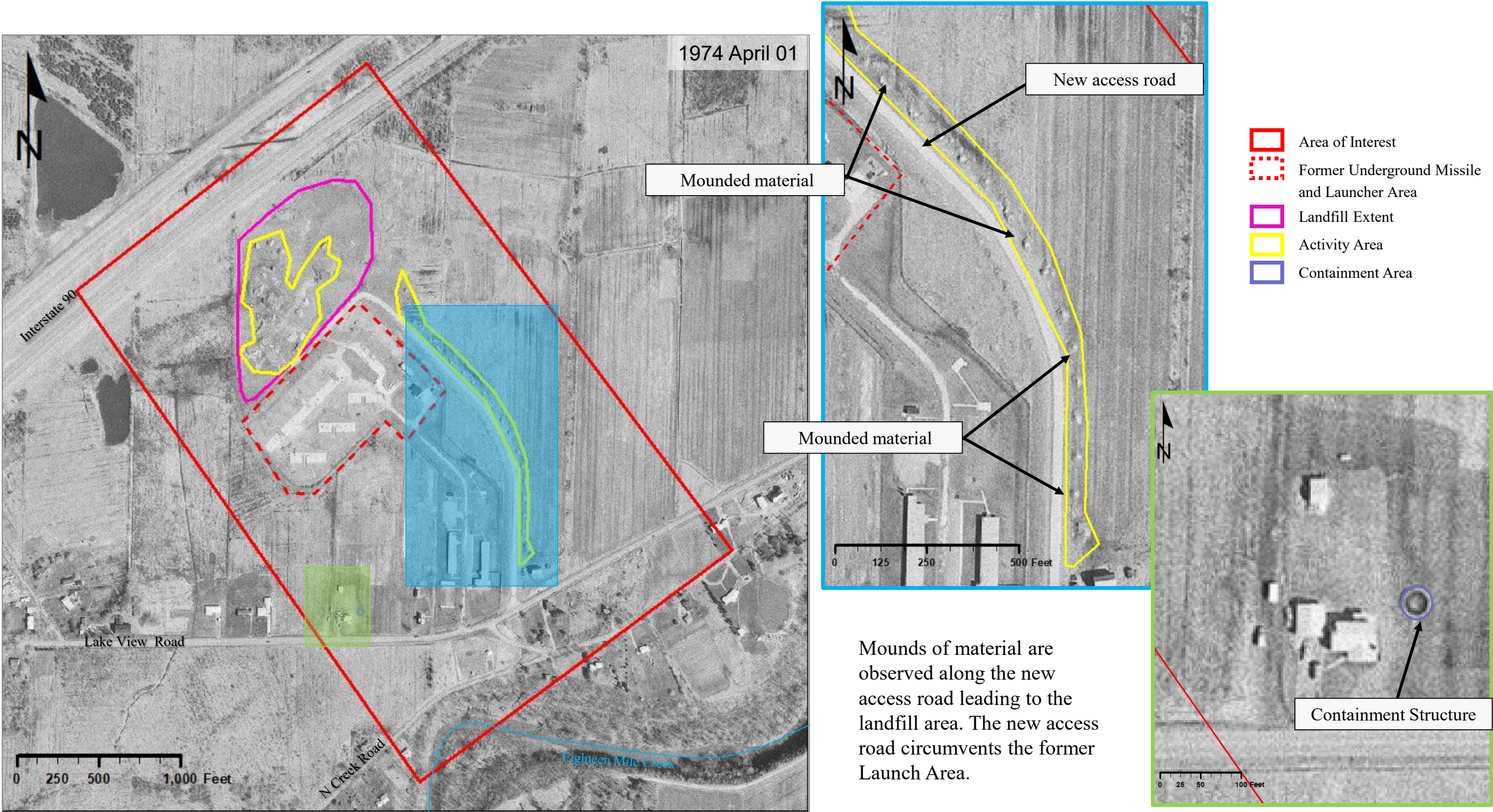
Mounds of material are observed within the landfill area. No significant change is observed within the former Launch Area.

- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Activity Area
- Containment Area

Source: U.S. Geological Survey.



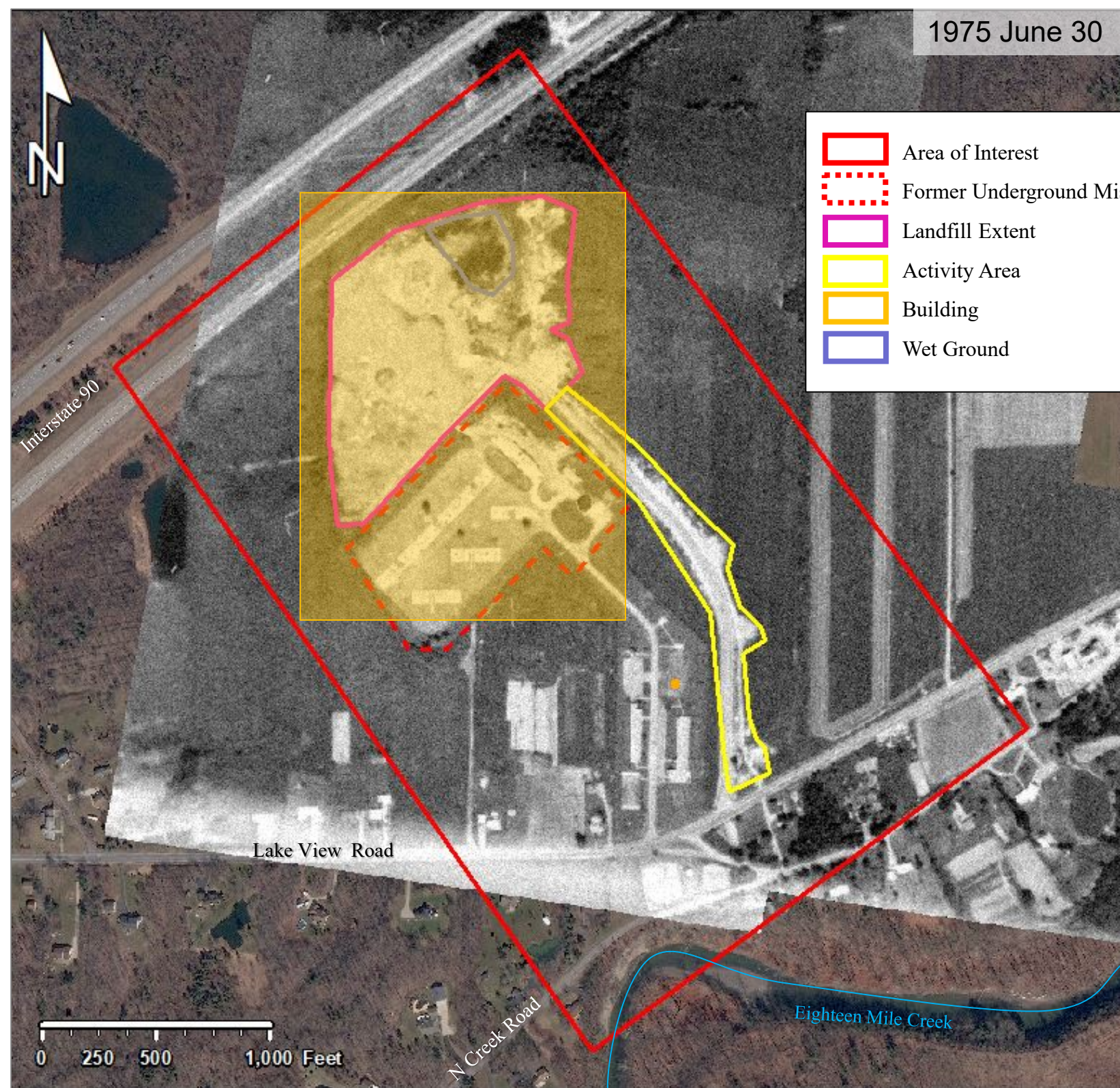
PHOTOGRAPHIC ANALYSIS: 1974 CONTINUED



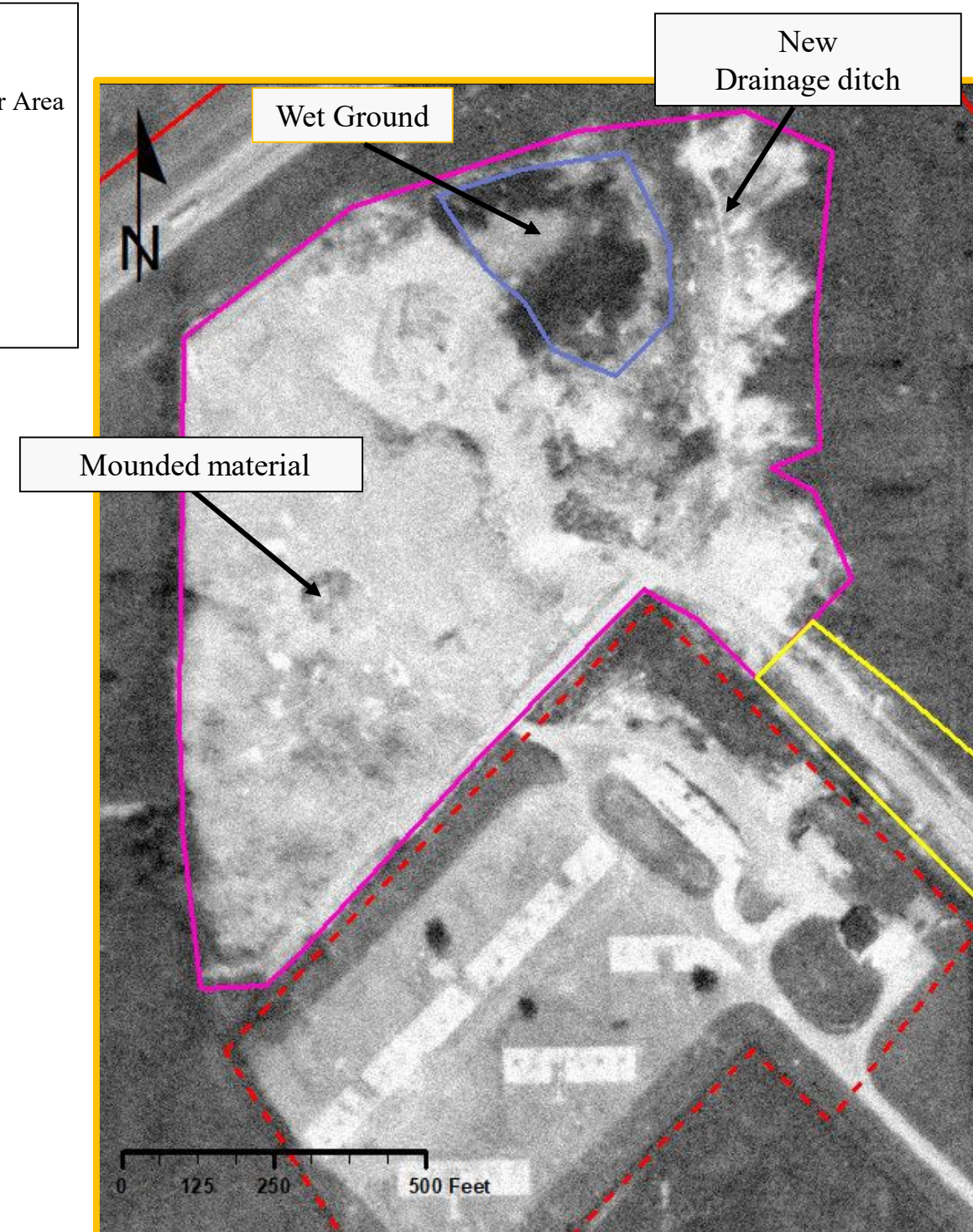
Source: U.S. Geological Survey.



PHOTOGRAPHIC ANALYSIS: 1975



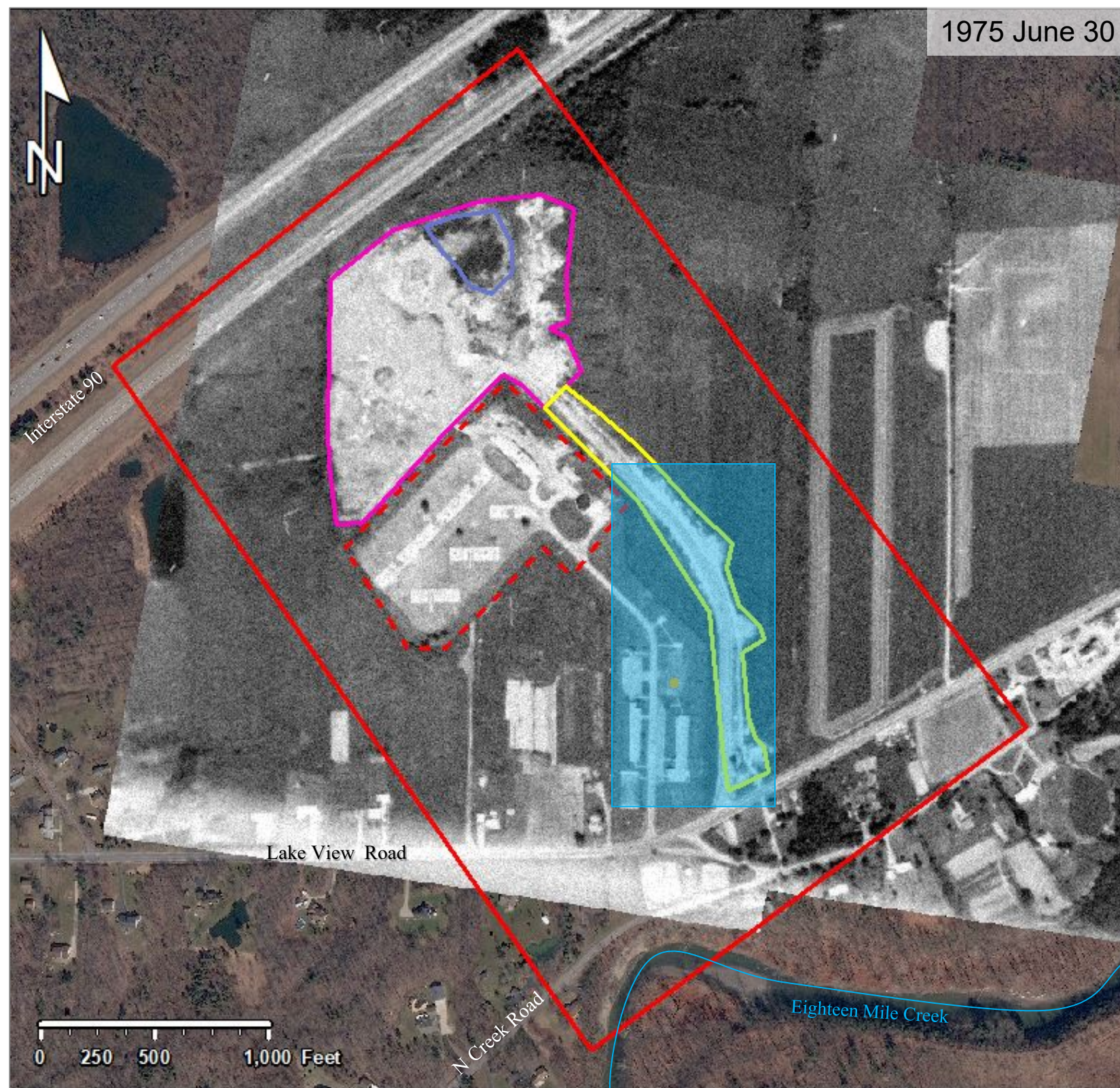
Increased activity is observed within the landfill. A new drainage ditch leads northeast to the perimeter of the landfill along the highway.



Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.

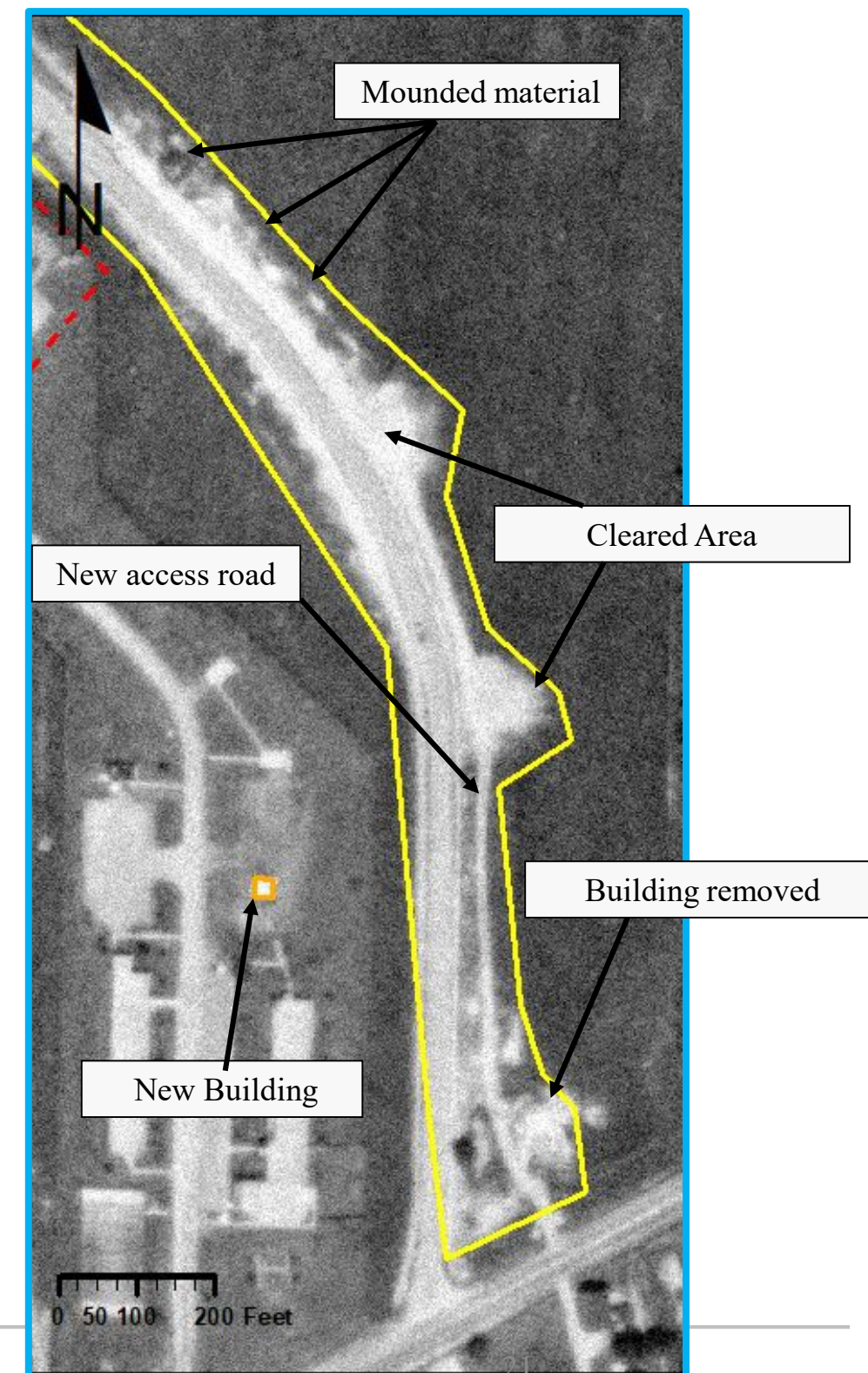


PHOTOGRAPHIC ANALYSIS: 1975 CONTINUED



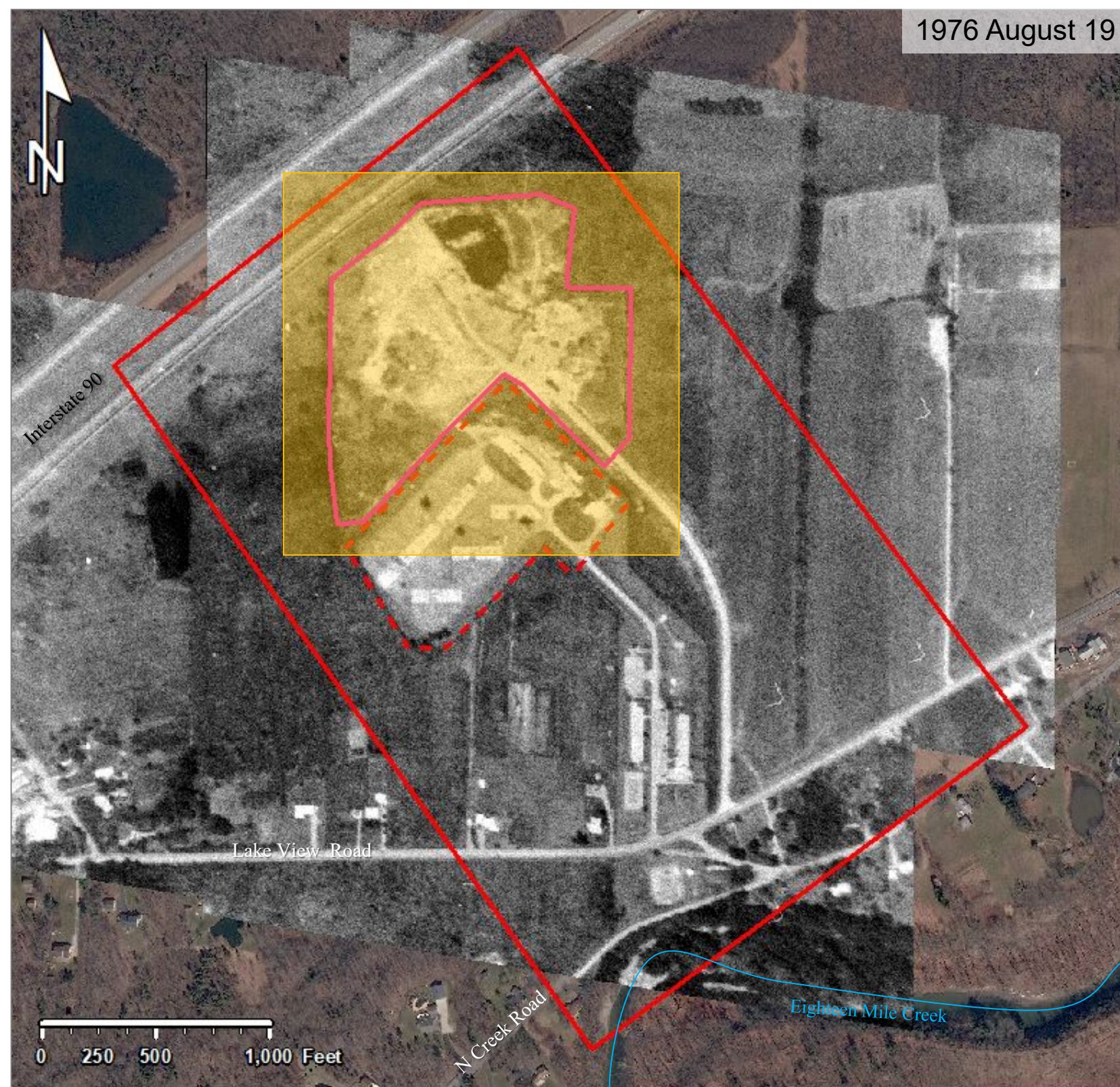
Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.

A new building is visible north of the former enlisted men's barracks. Cleared areas and small mounds of material are observed along a new access road.



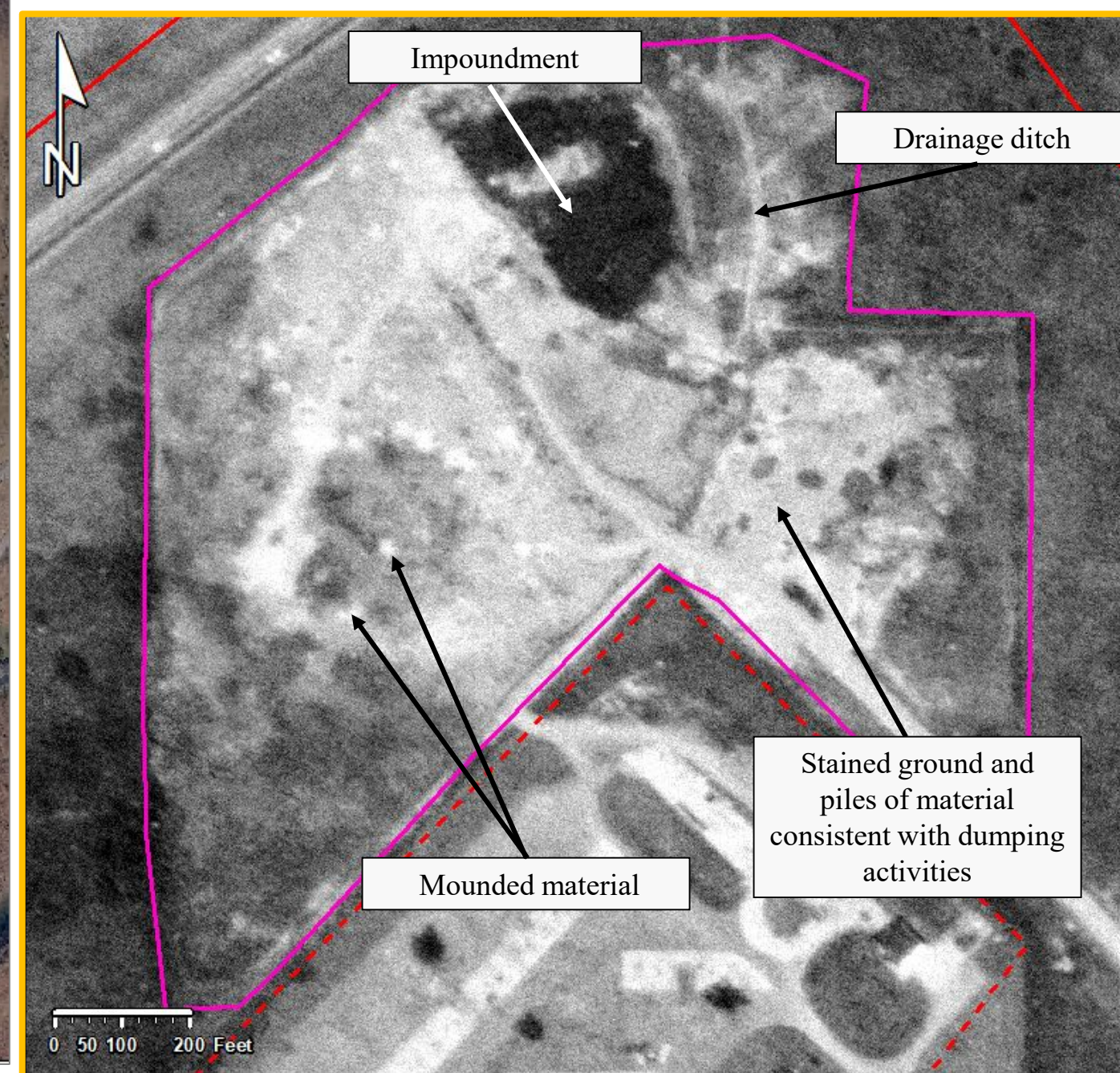


PHOTOGRAPHIC ANALYSIS: 1976

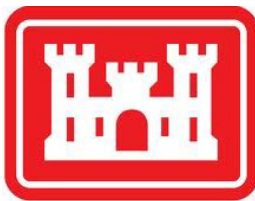


- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent

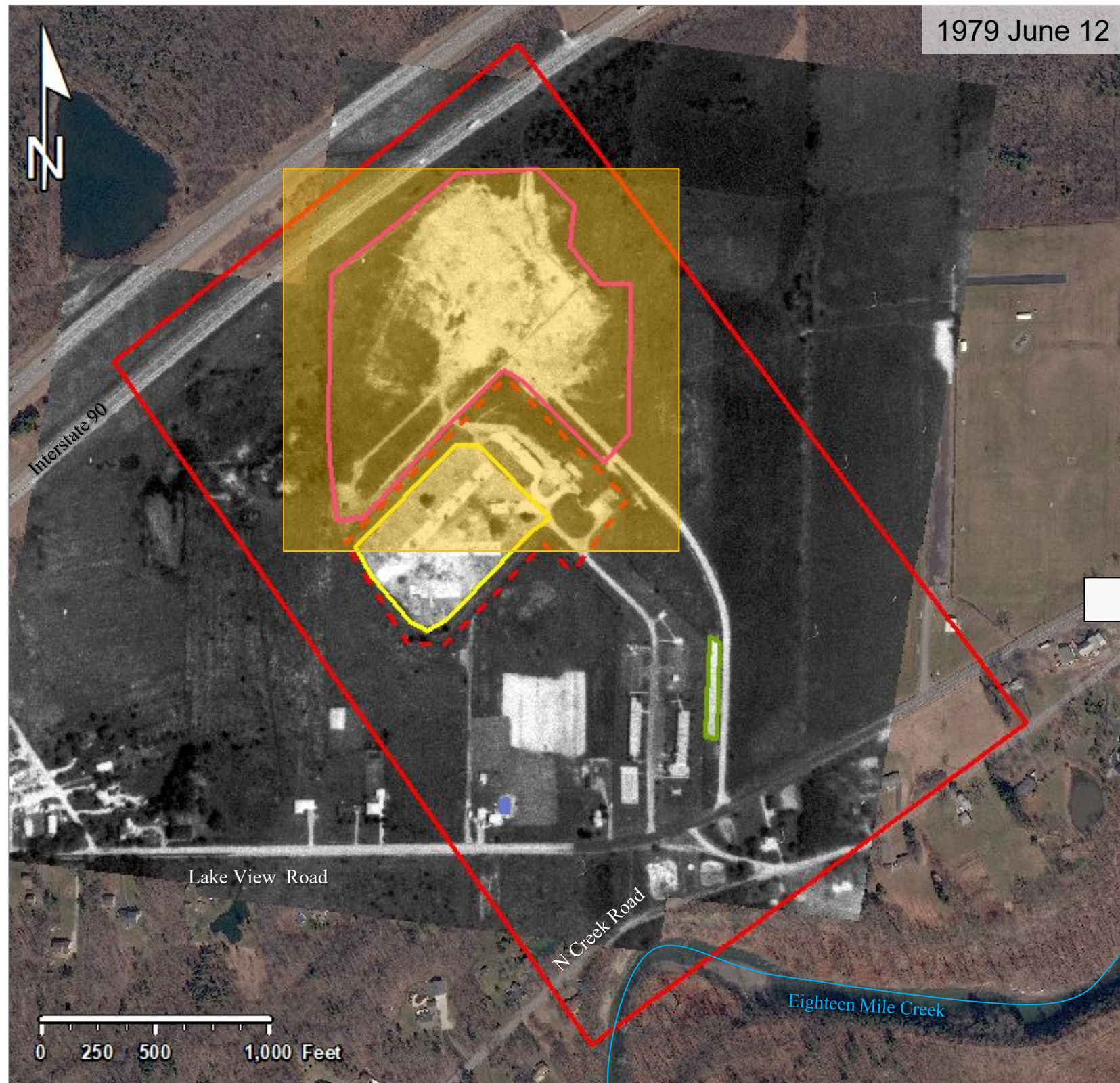
Continued activity is observed within the landfill north of the former Launch Area.



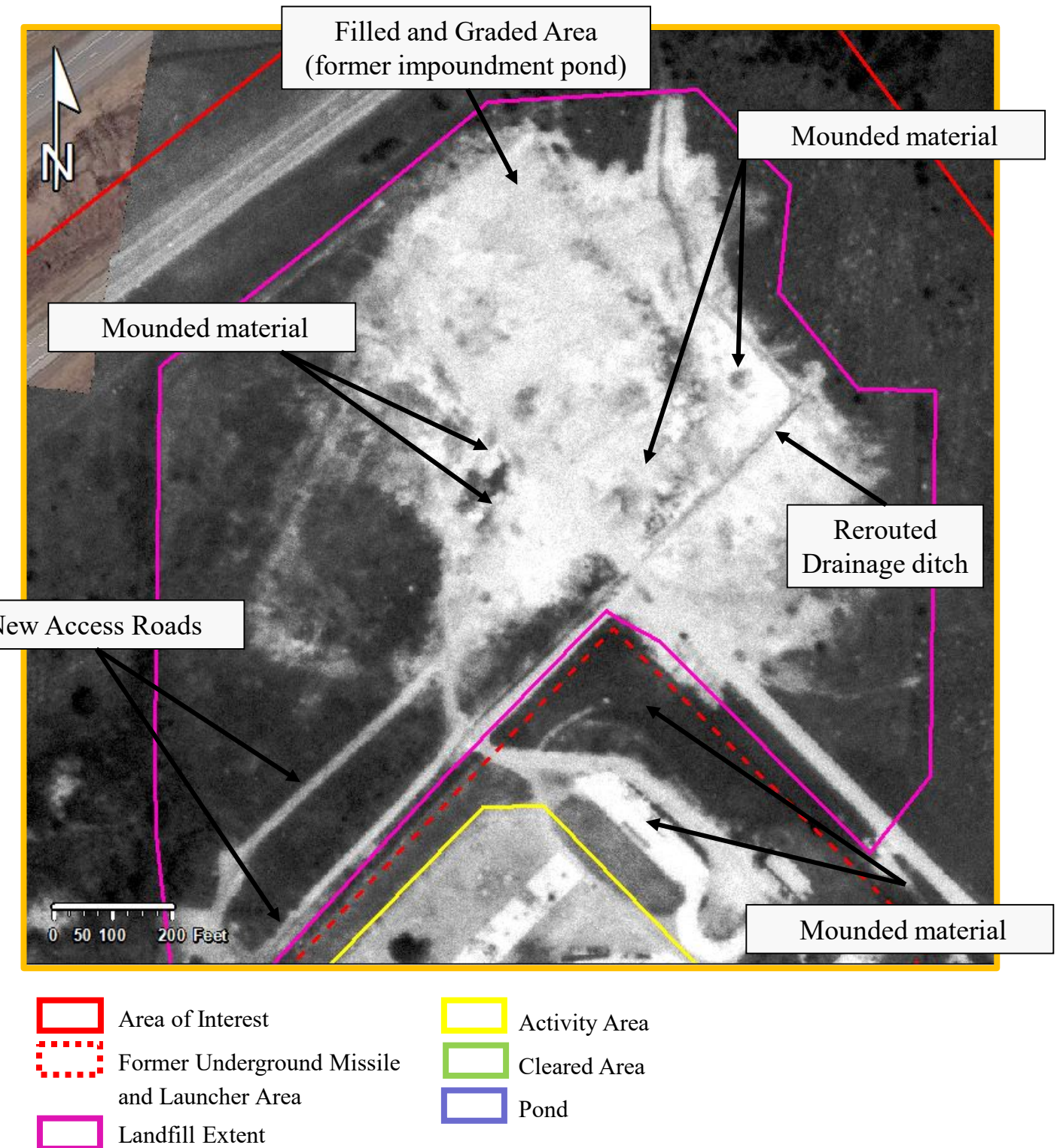
Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.



PHOTOGRAPHIC ANALYSIS: 1979



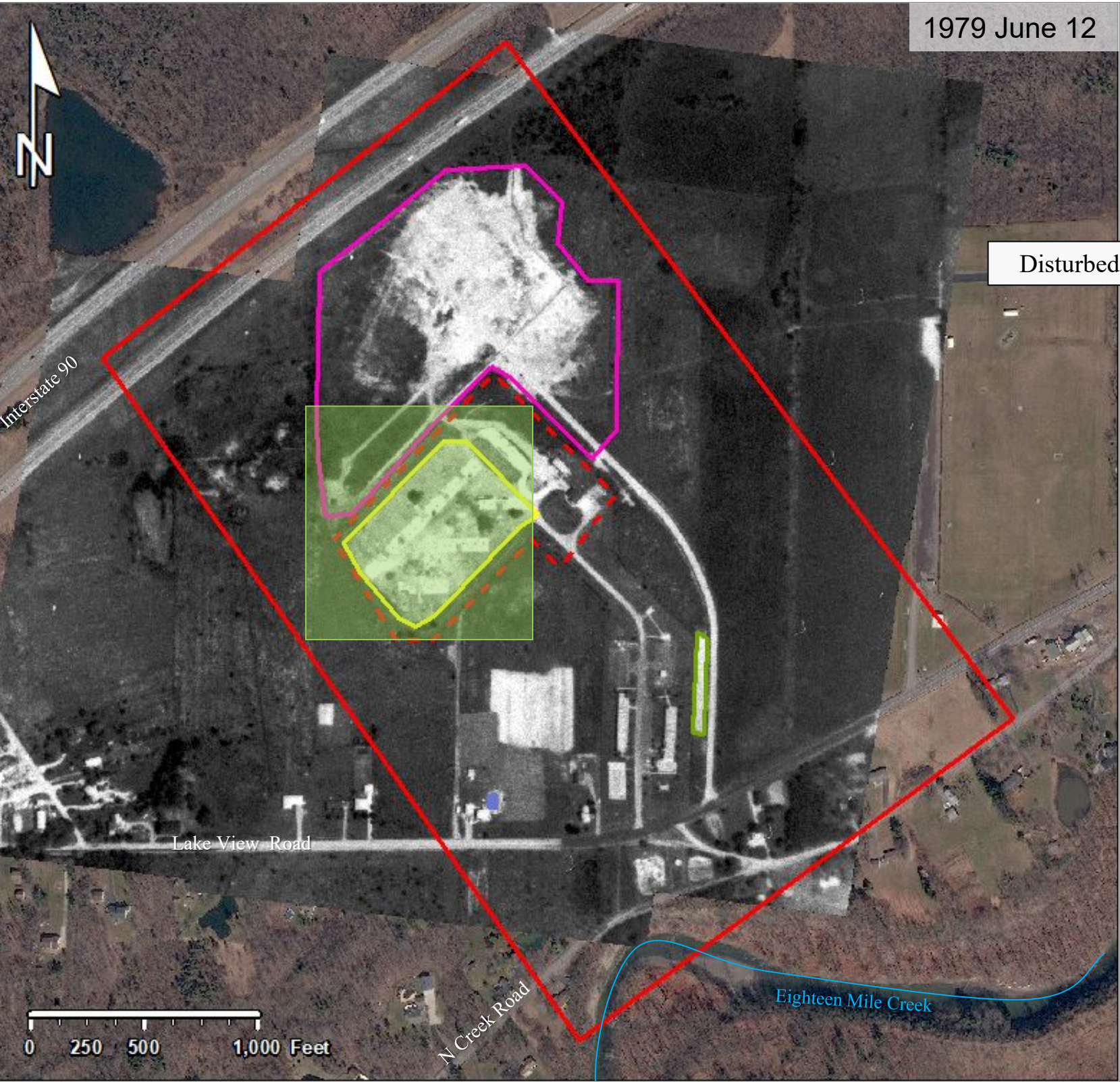
Graded areas, mounded material, a rerouted drainage ditch, and new access roads leading from the former Launch Area are observed within the landfill.



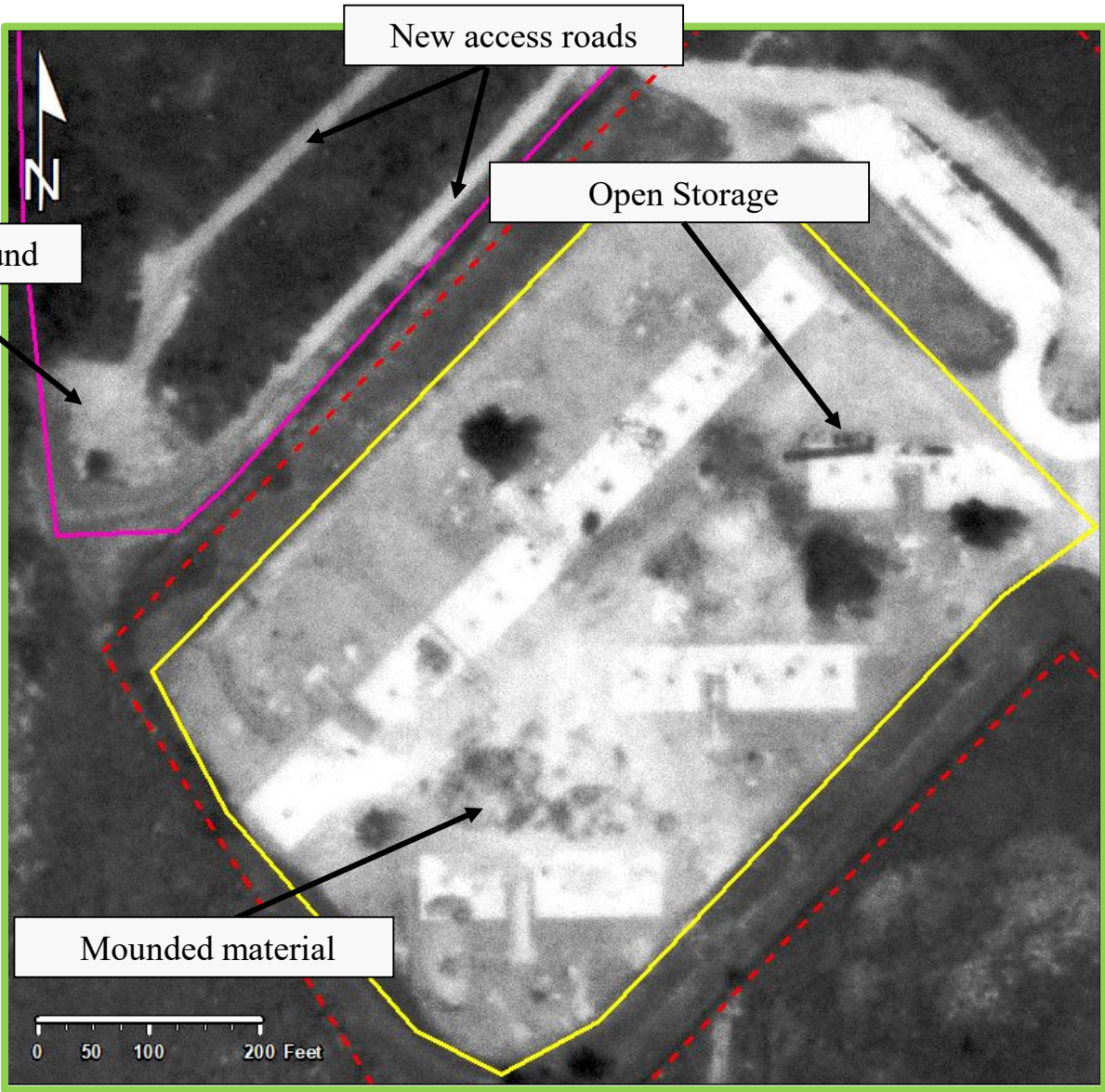
Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.



PHOTOGRAPHIC ANALYSIS: 1979 CONTINUED



Disturbed ground, mounded material, and ground scars are observed within the former Launch Area.



- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Activity Area
- Cleared Area
- Pond

Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.



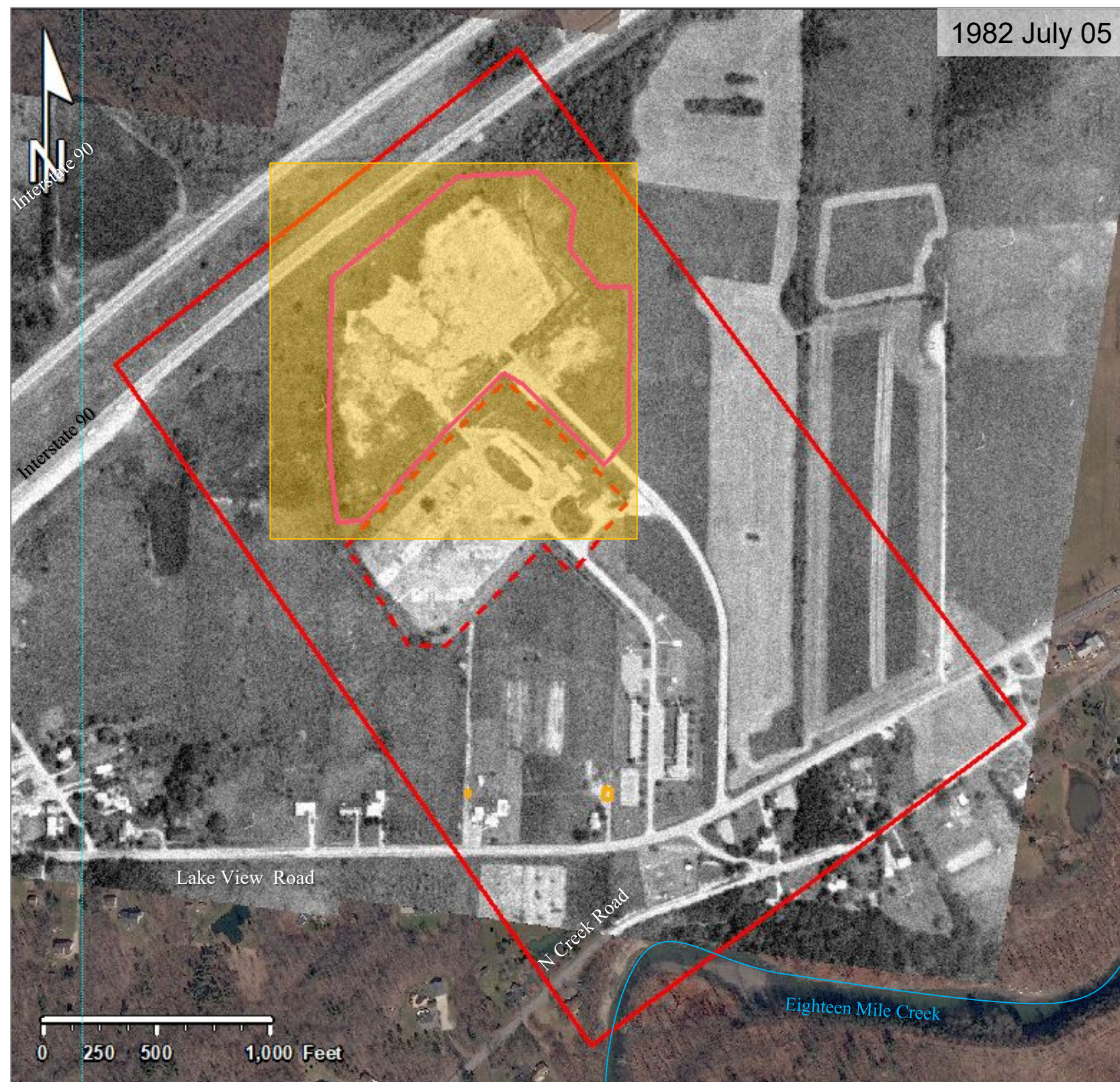
PHOTOGRAPHIC ANALYSIS: 1979 CONTINUED



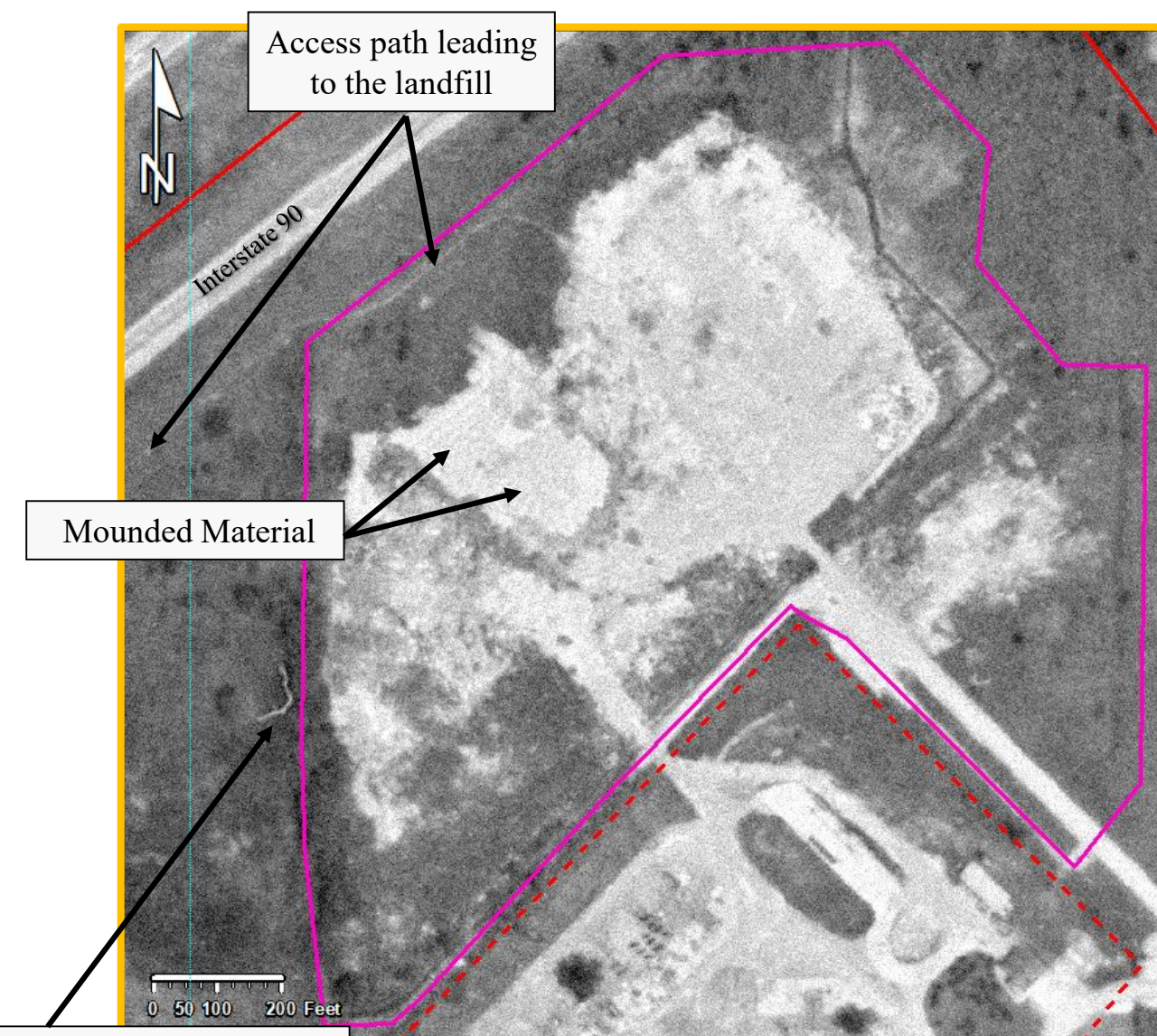
Sources: National Archives at College Park, MD (1979) , U.S. Geological Survey (1981), and Digital Globe base image (2019).



PHOTOGRAPHIC ANALYSIS: 1982



Continued use of the landfill is observed. The access roads visible in 1979 are no longer visible in 1982.



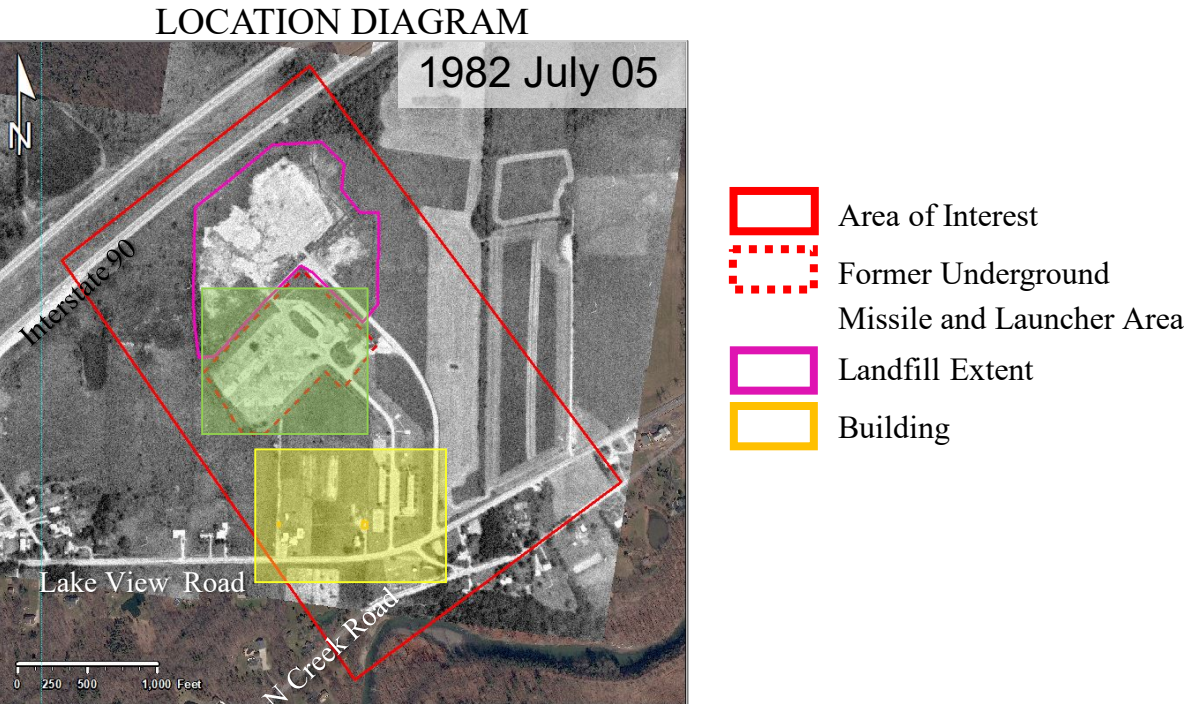
Photographic Artifact –
Artifact created during data
collection process. Feature
not present on original film

- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Building

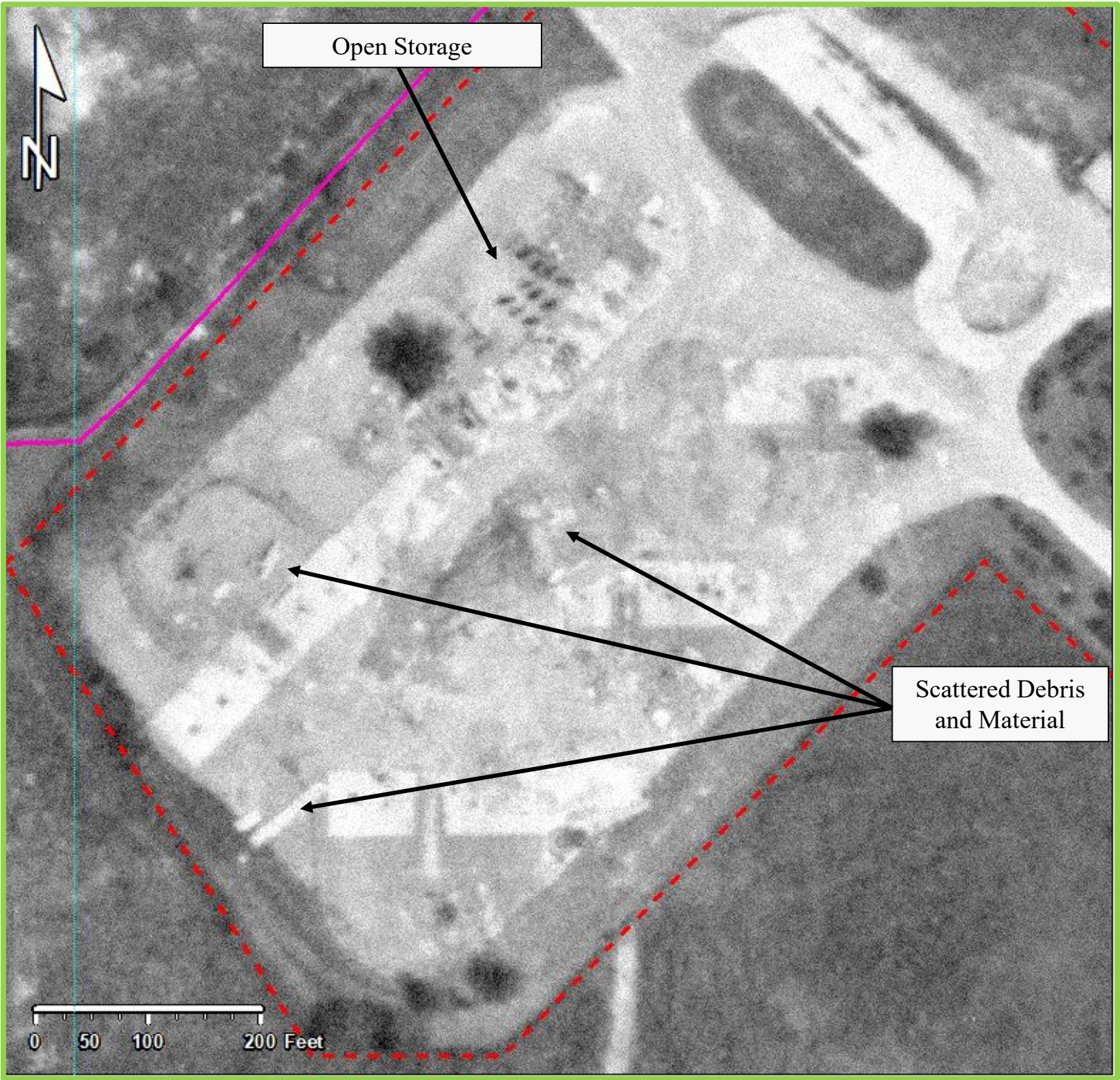
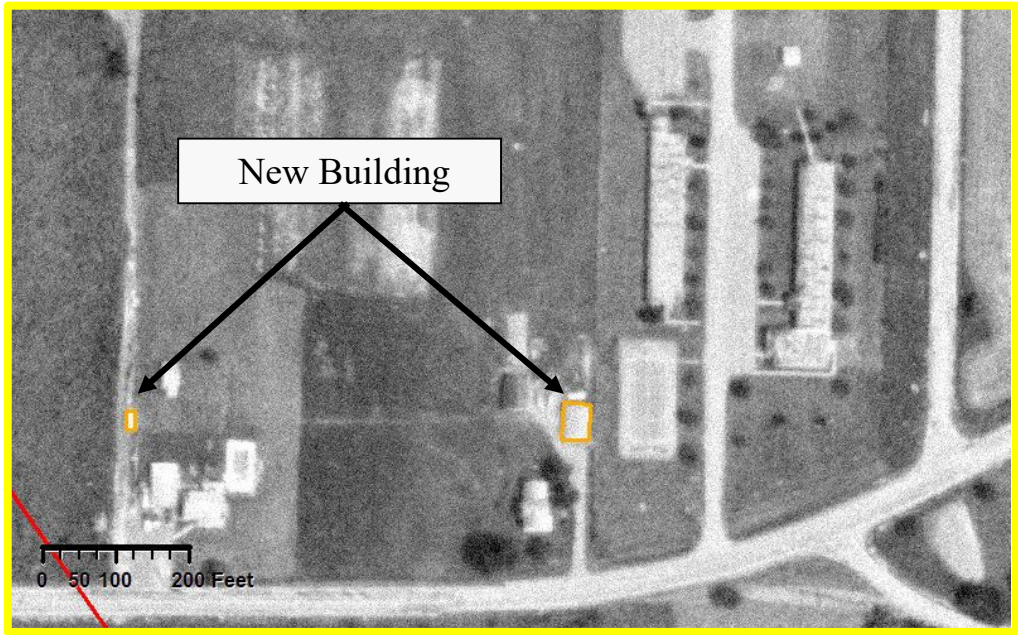
Sources: National Archives at College Park, MD and 2019 March 25 base image Digital Globe.



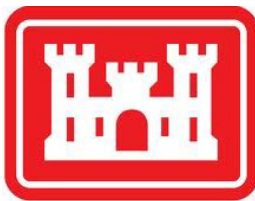
PHOTOGRAPHIC ANALYSIS: 1982 CONTINUED



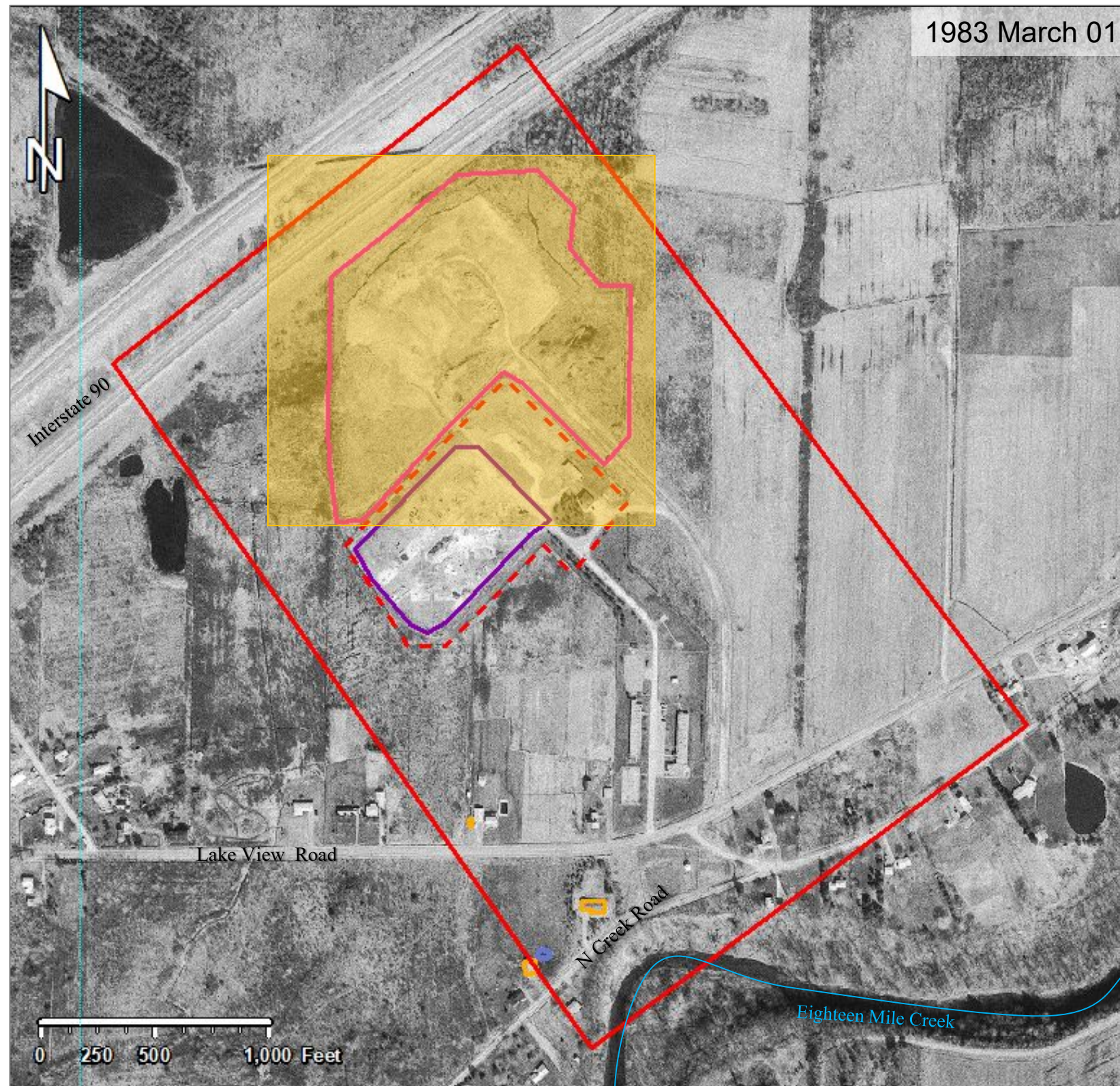
Scattered debris, material, ground scars, and open storage are observed within the former Launch Area. New buildings are observed south of the former Launch Area.



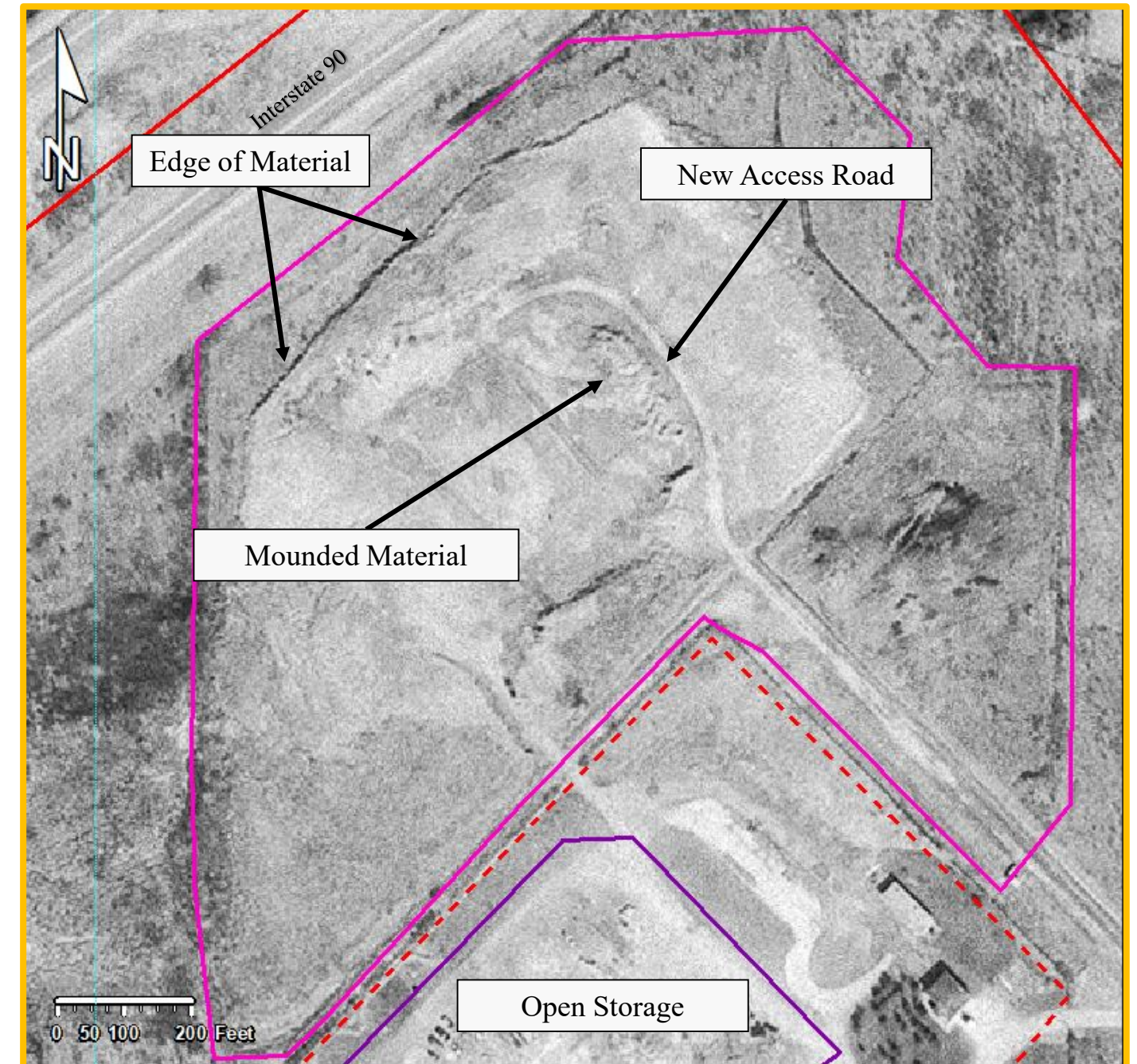
Source: National Archives at College Park, MD.



PHOTOGRAPHIC ANALYSIS: 1983

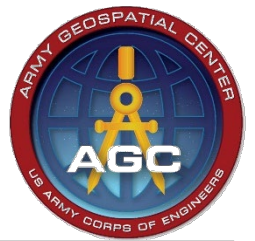
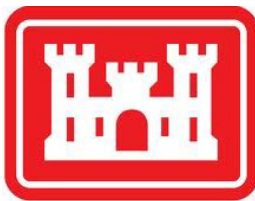


Source: U.S. Geological Survey.



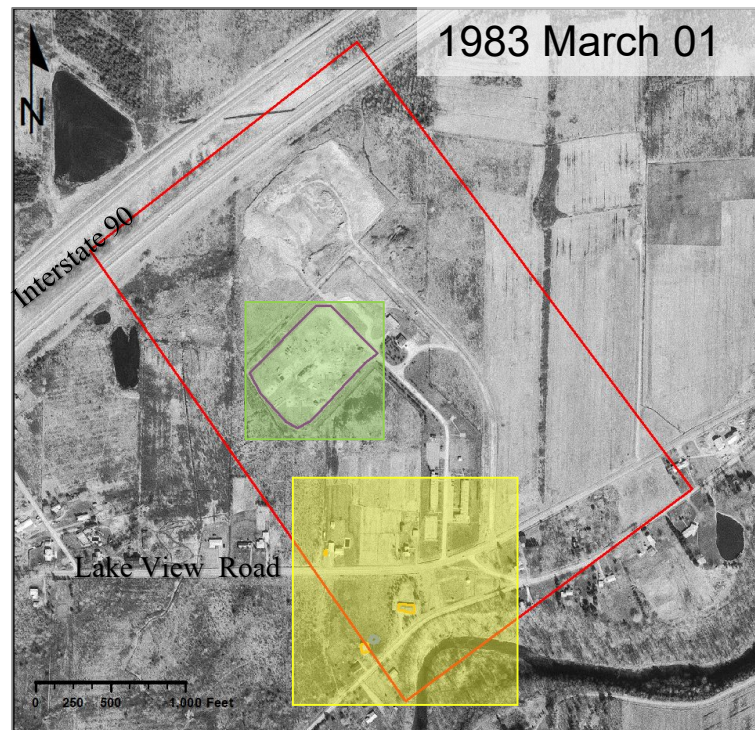
- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Building
- Open Storage
- Pond

Continued accumulation of material and a new access road are observed within the landfill.



PHOTOGRAPHIC ANALYSIS: 1983 CONTINUED

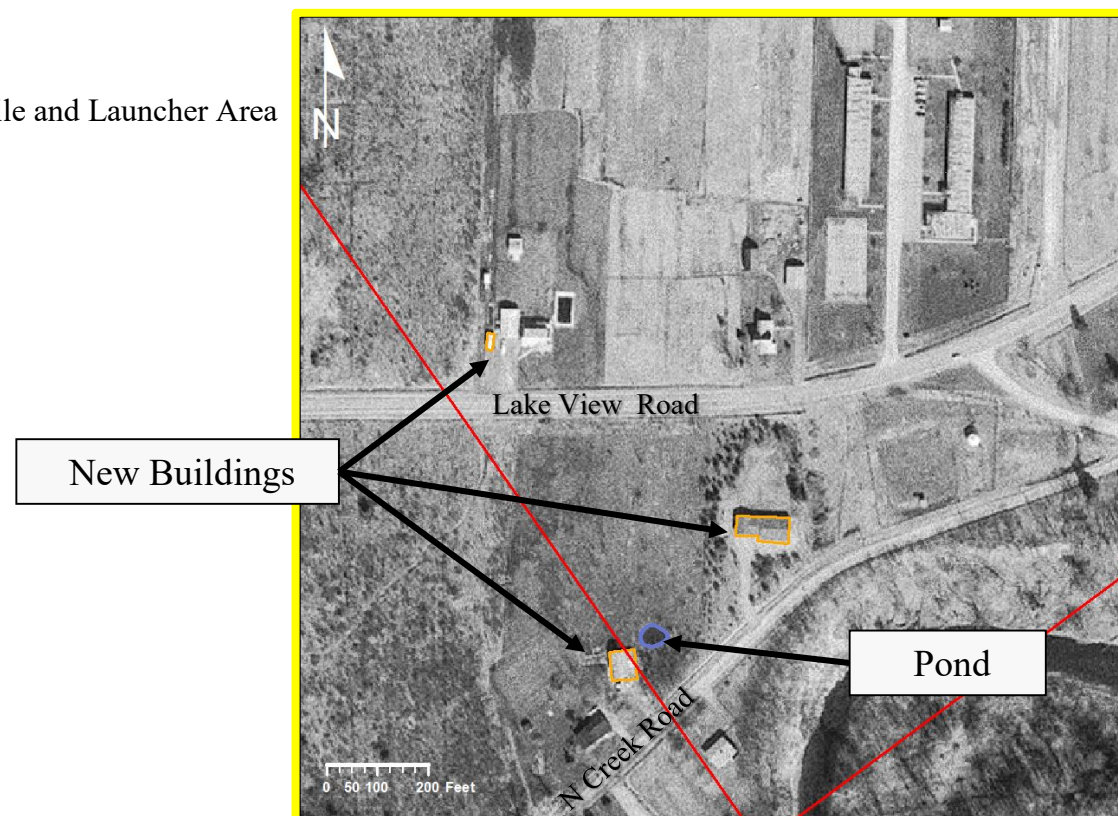
LOCATION DIAGRAM



Increased usage is observed within the former Launch Area. Mounded material, vehicles and open storage are visible throughout the area.

Several new buildings are observed in the southern portion of the study area.

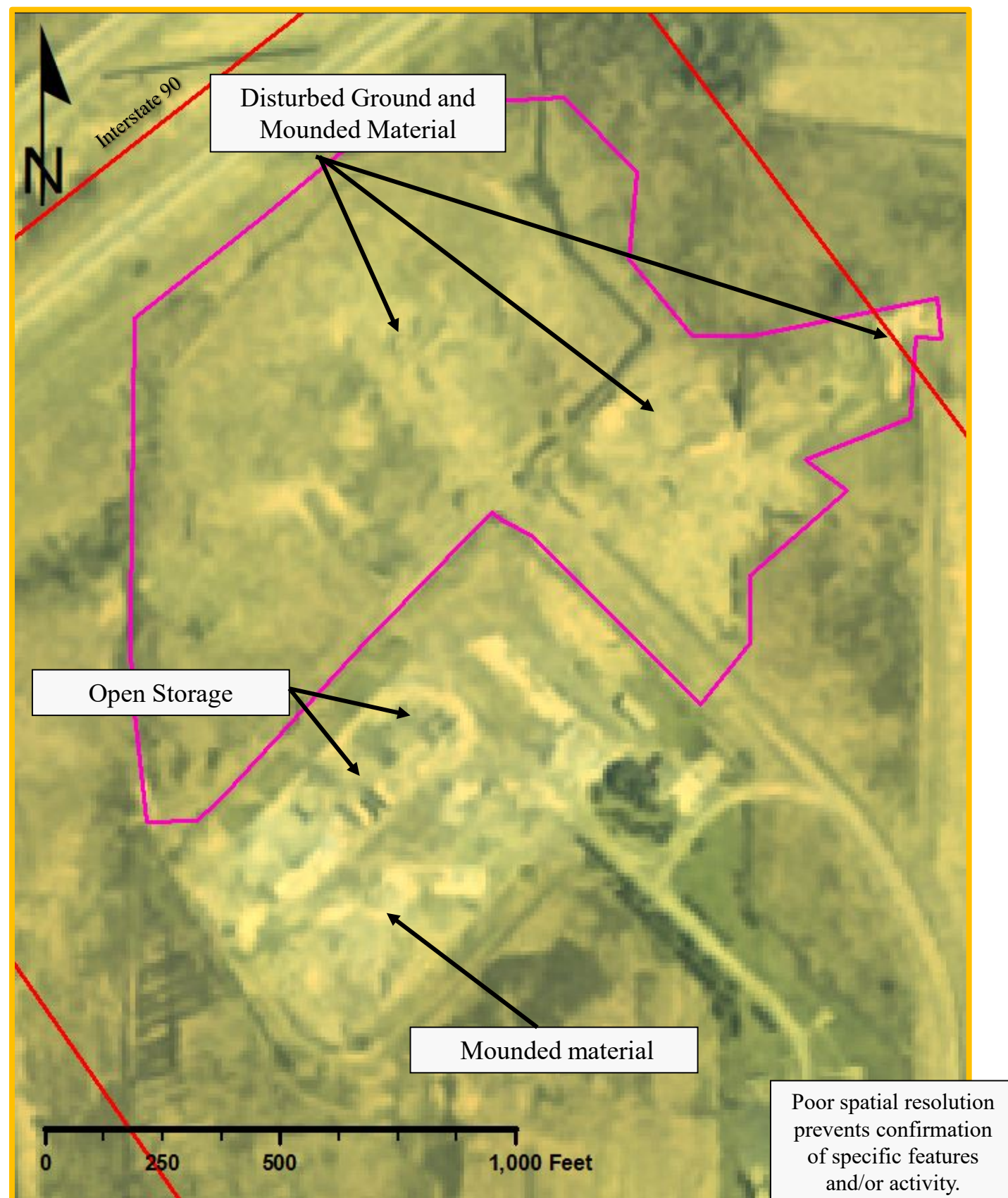
- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Building
- Open Storage
- Pond



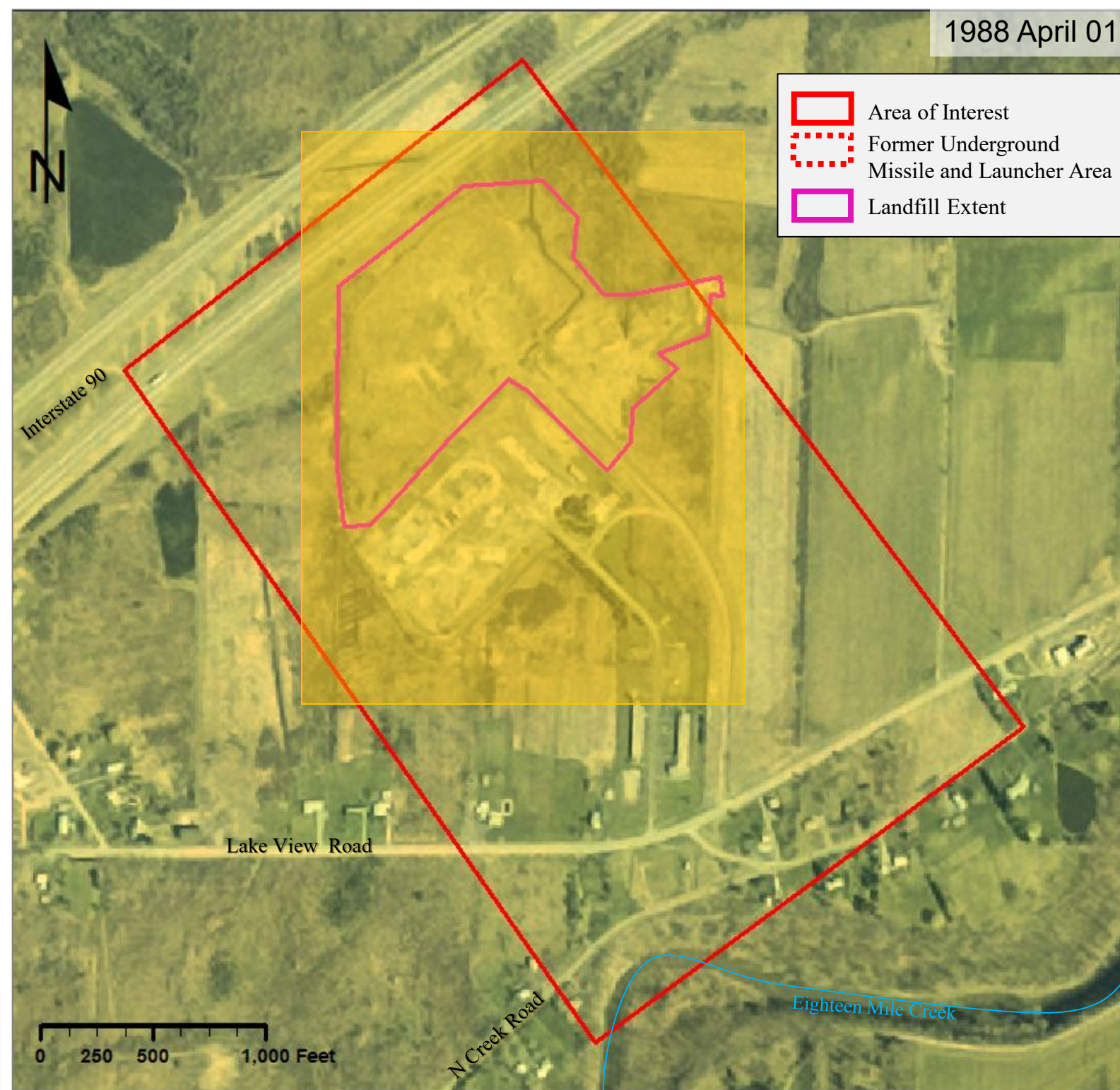
Source: U.S. Geological Survey.



PHOTOGRAPHIC ANALYSIS: 1988



The landfill extends east of the former Launch Area. Continued activity is visible within the former Launch Area.



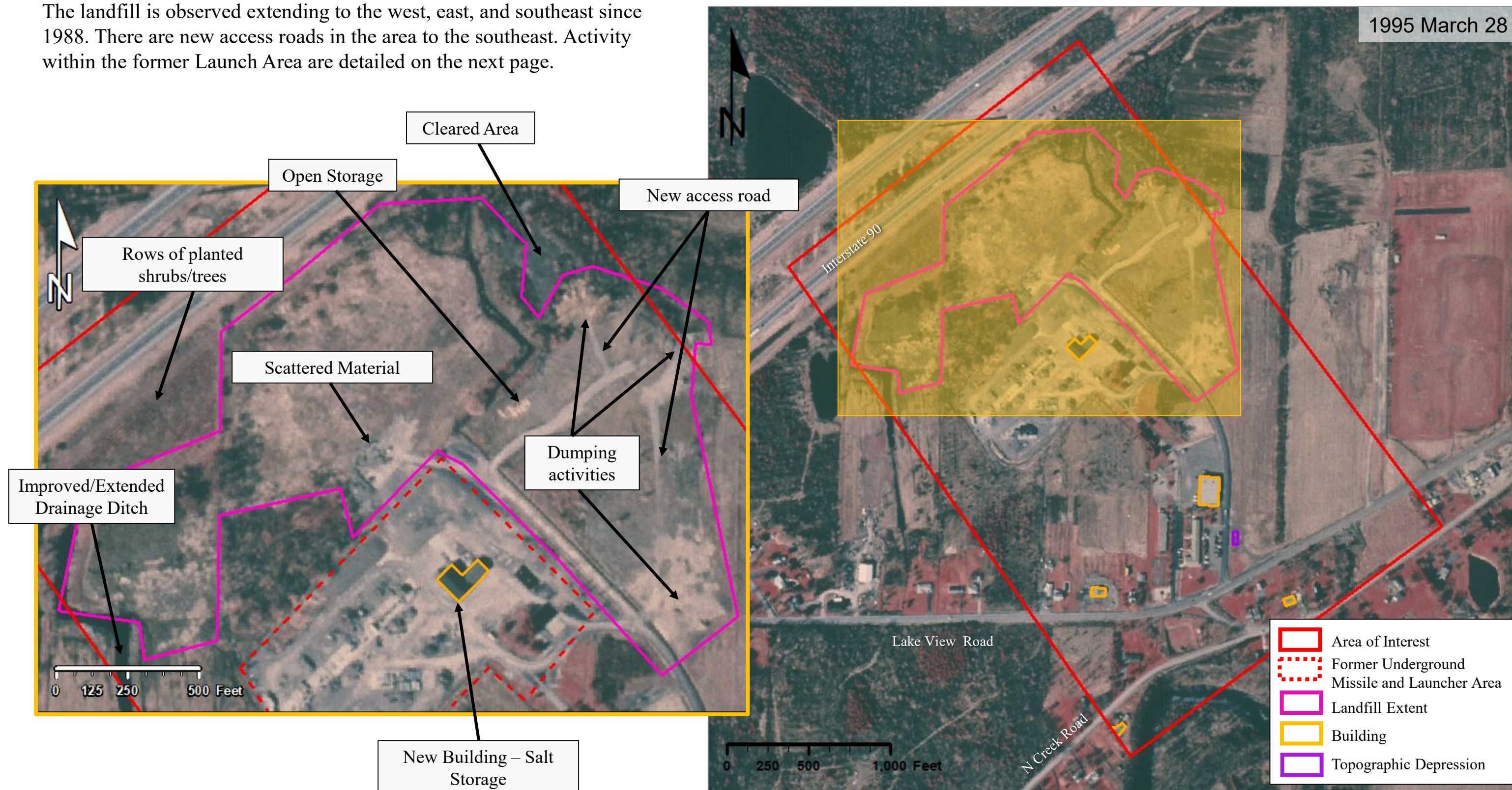
Source: U.S. Geological Survey.



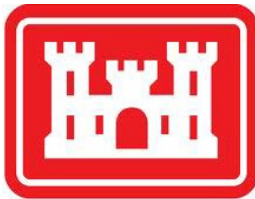
PHOTOGRAPHIC ANALYSIS: 1995



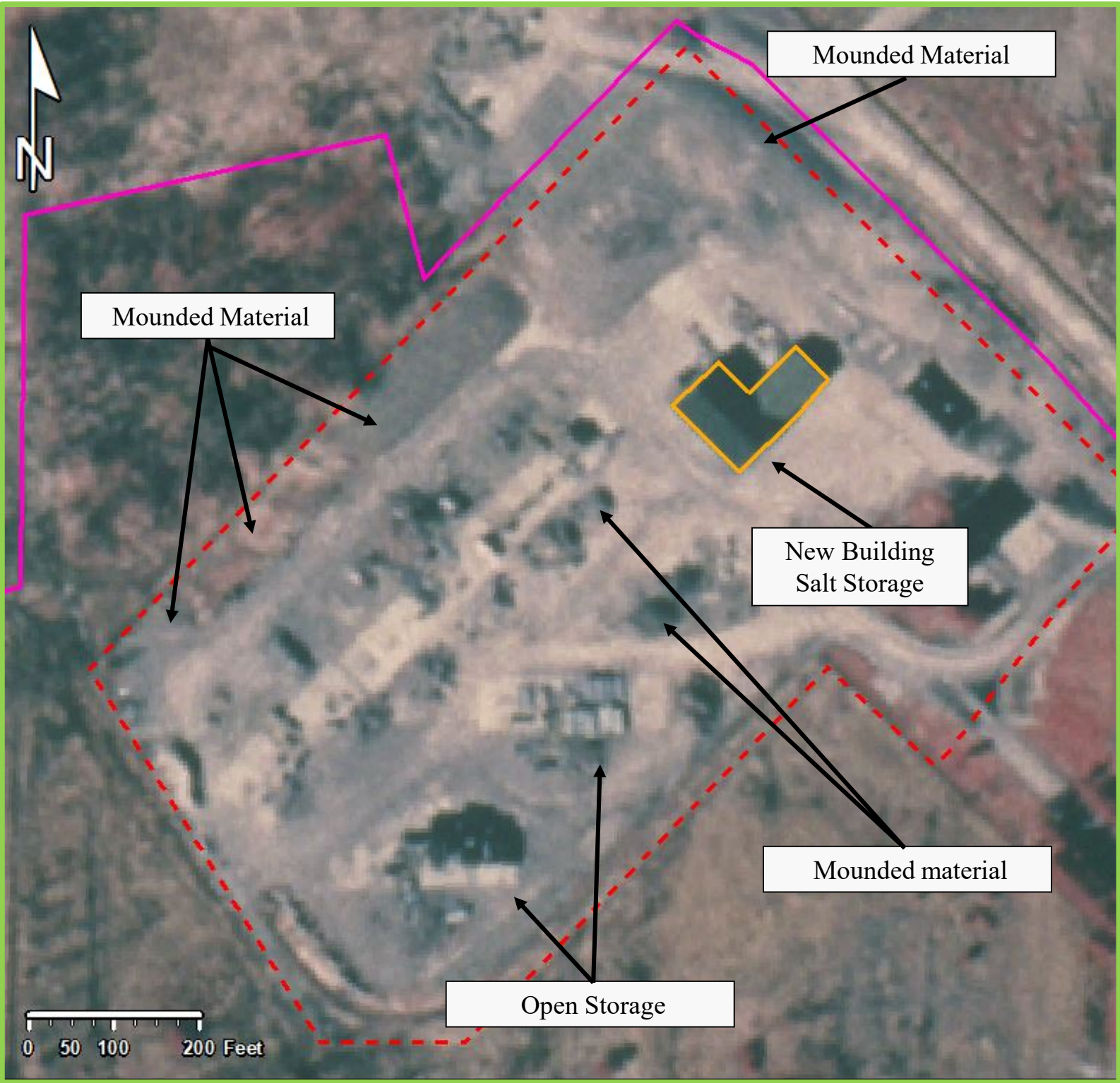
The landfill is observed extending to the west, east, and southeast since 1988. There are new access roads in the area to the southeast. Activity within the former Launch Area are detailed on the next page.



Source: U.S. Geological Survey.



PHOTOGRAPHIC ANALYSIS: 1995 CONTINUED



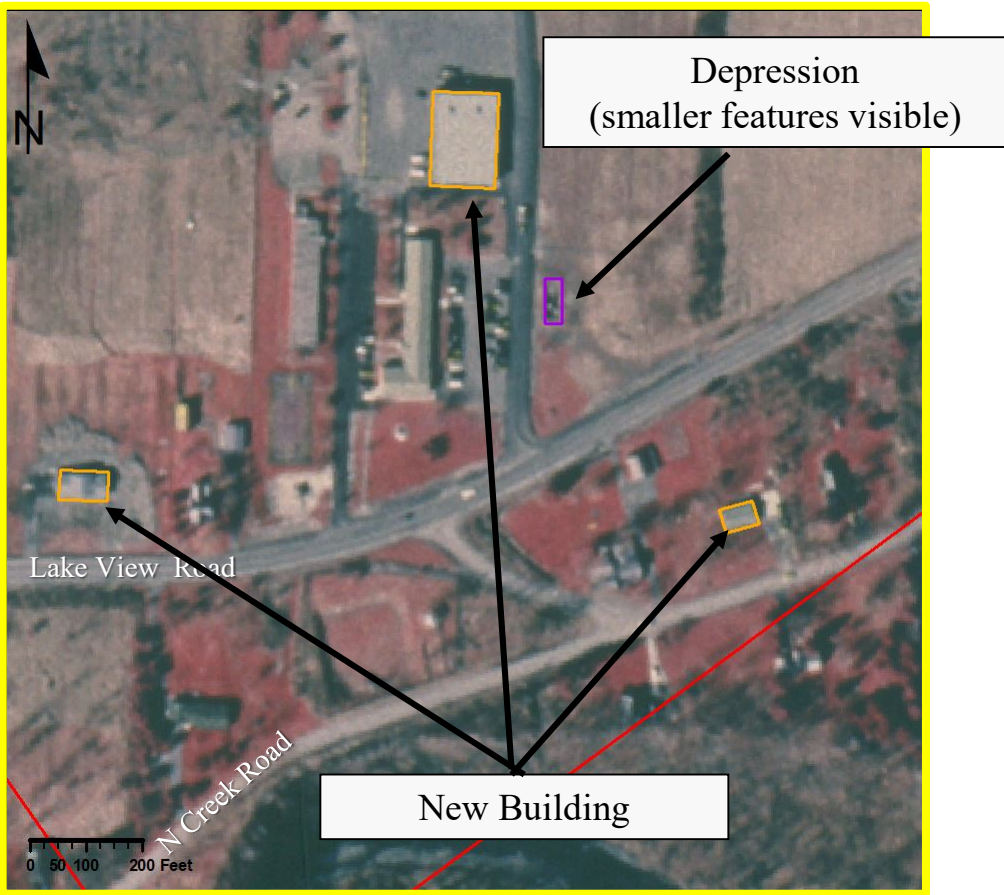
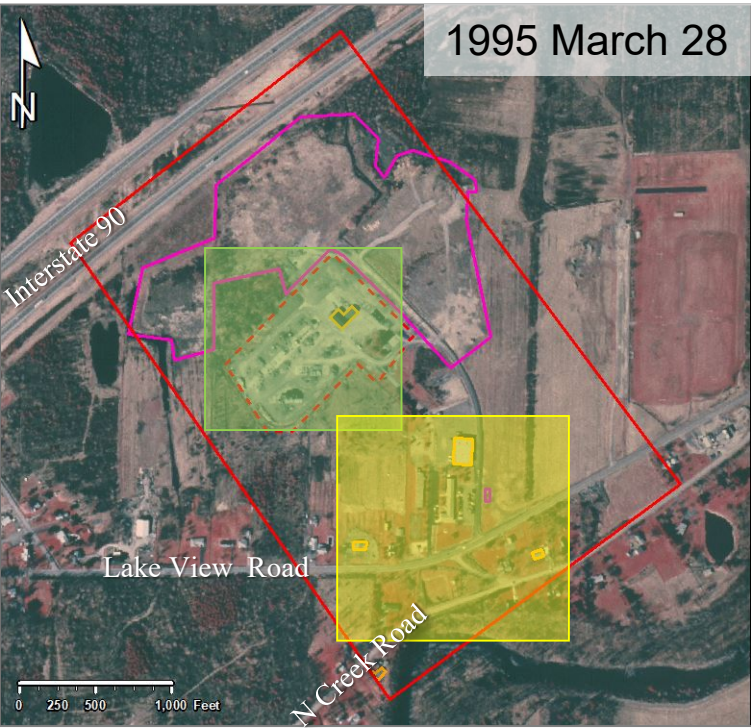
Source: U.S. Geological Survey.

New buildings, open storage, and mounded material are visible within the former Launch Area.

New buildings are seen in the area south of the former Launch Area.

- Area of Interest
- Former Underground Missile and Launcher Area
- Landfill Extent
- Building
- Topographic Depression

LOCATION DIAGRAM

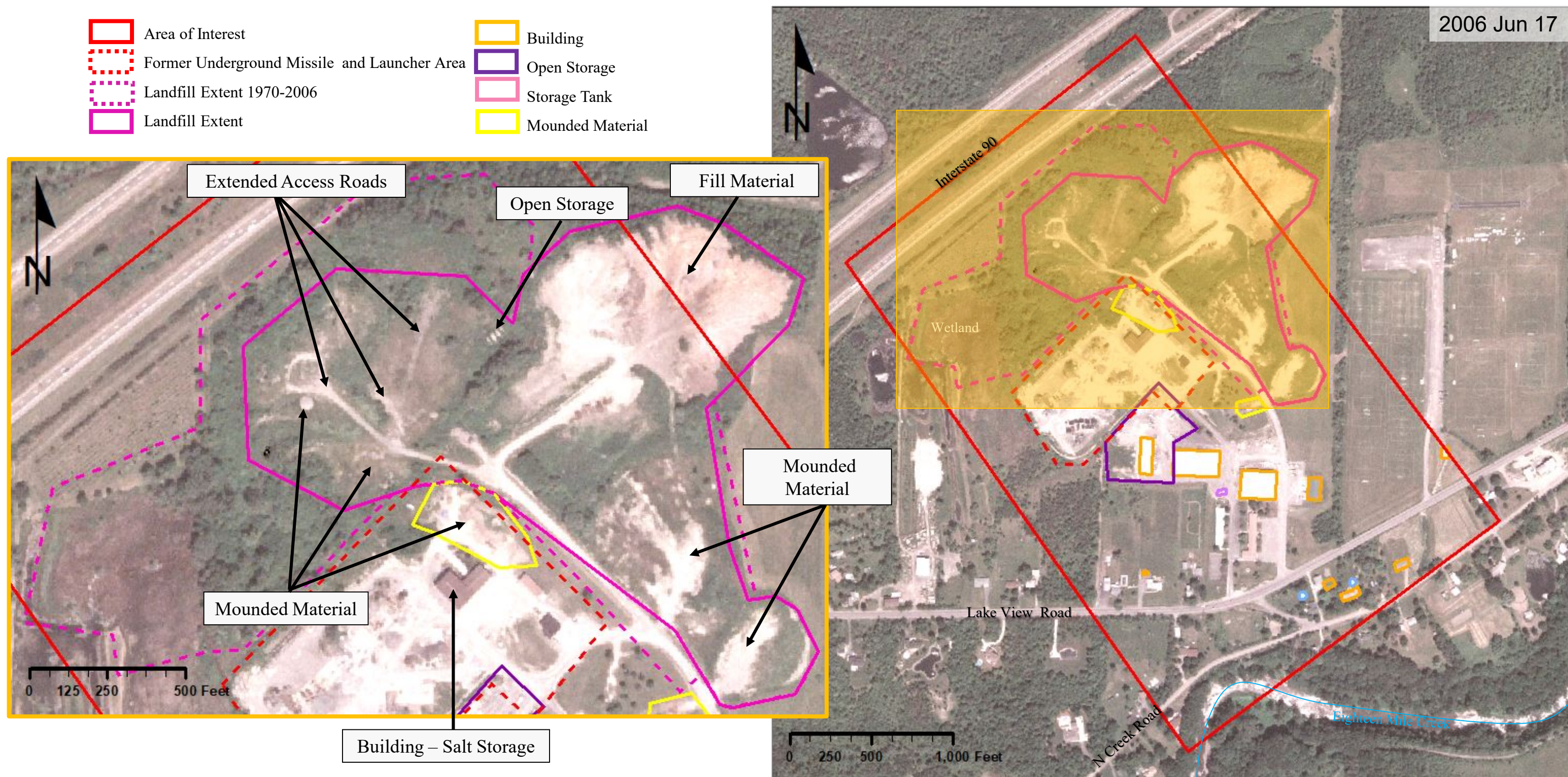




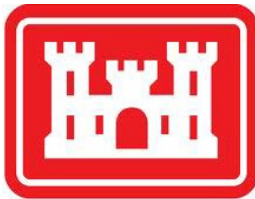
PHOTOGRAPHIC ANALYSIS: 2006



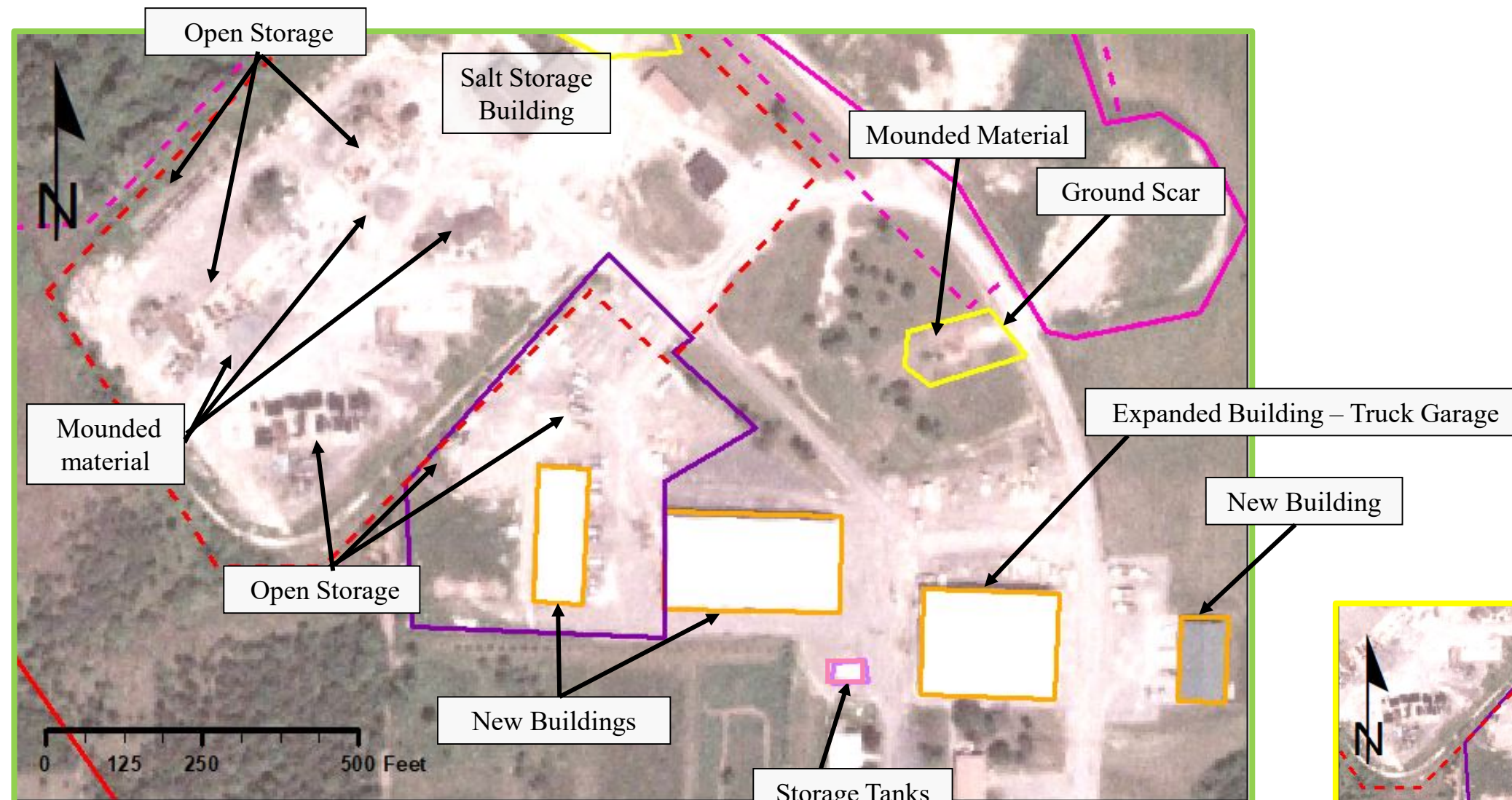
The landfill extends to the northeast. The area appears cleared or fill material has been deposited for use. Although vegetation is encroaching, new access roads are visible throughout the landfill. Continued activity is observed within the former Launch Area and is detailed on the next page.



Source: U.S. Geological Survey.



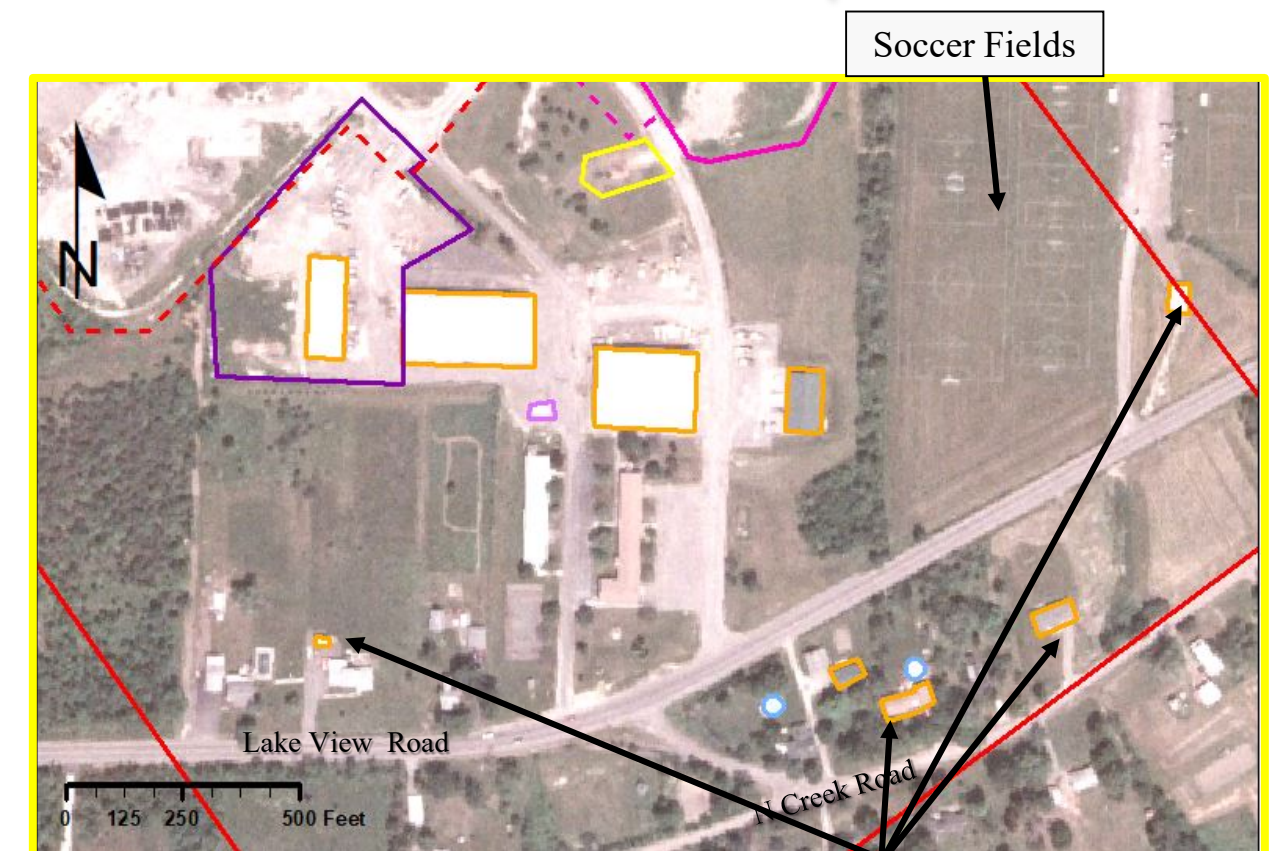
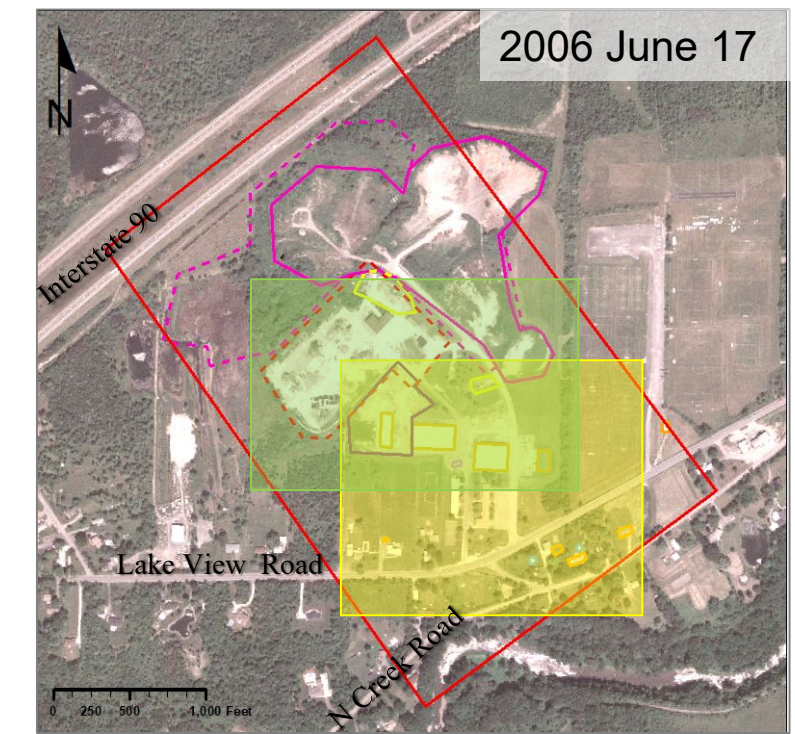
PHOTOGRAPHIC ANALYSIS: 2006 CONTINUED



- | | | | |
|--|--|--|------------------|
| | Area of Interest | | Building |
| | Former Underground Missile and Launcher Area | | Open Storage |
| | Landfill Extent 1970-2006 | | Storage Tank |
| | Landfill Extent | | Mounded Material |

Open storage, mounded material, and new buildings are observed within the former Launch Area.

LOCATION DIAGRAM

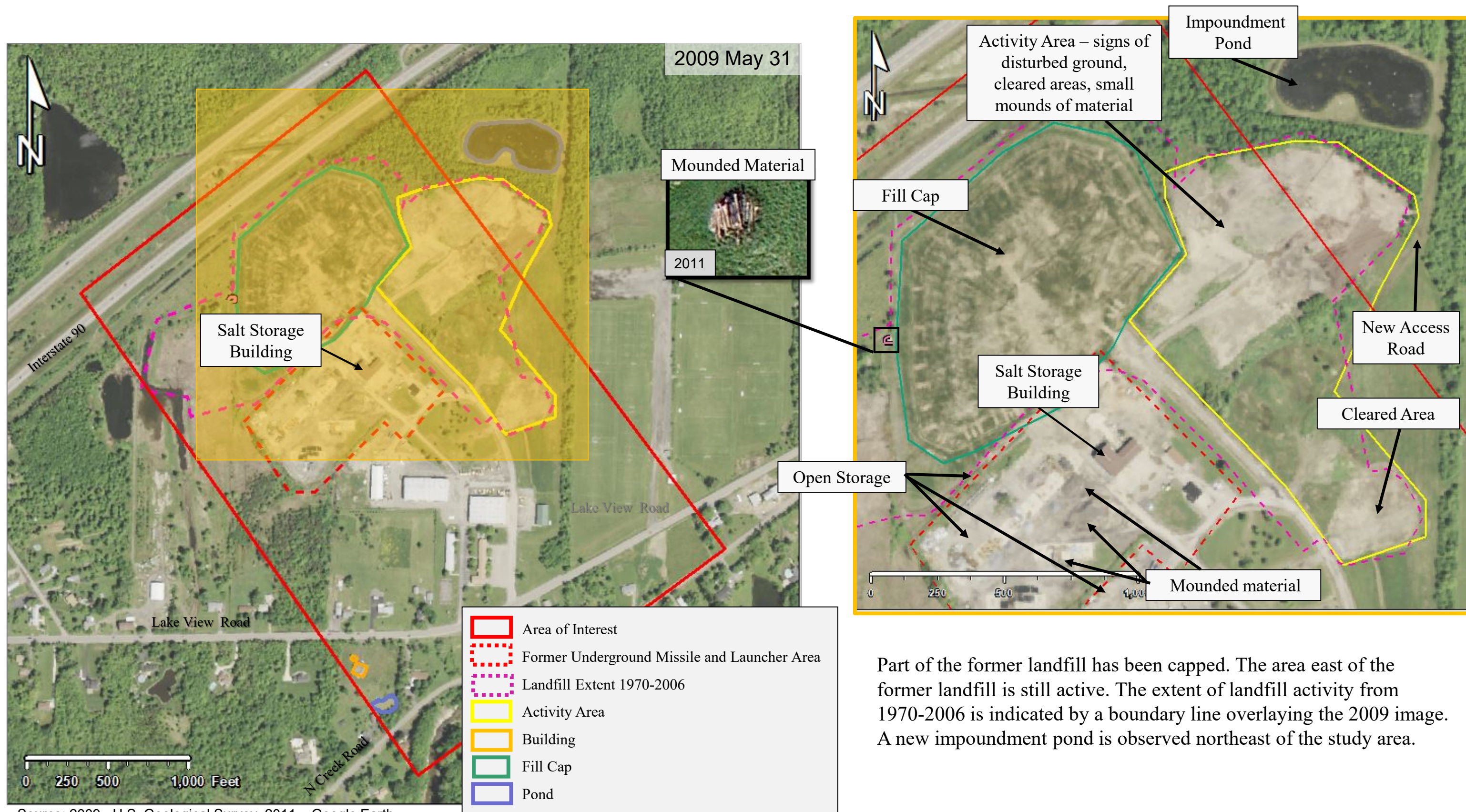


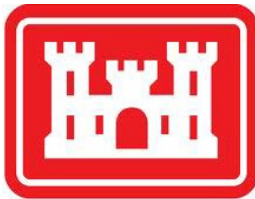
Source: U.S. Geological Survey.

New Building – residential area

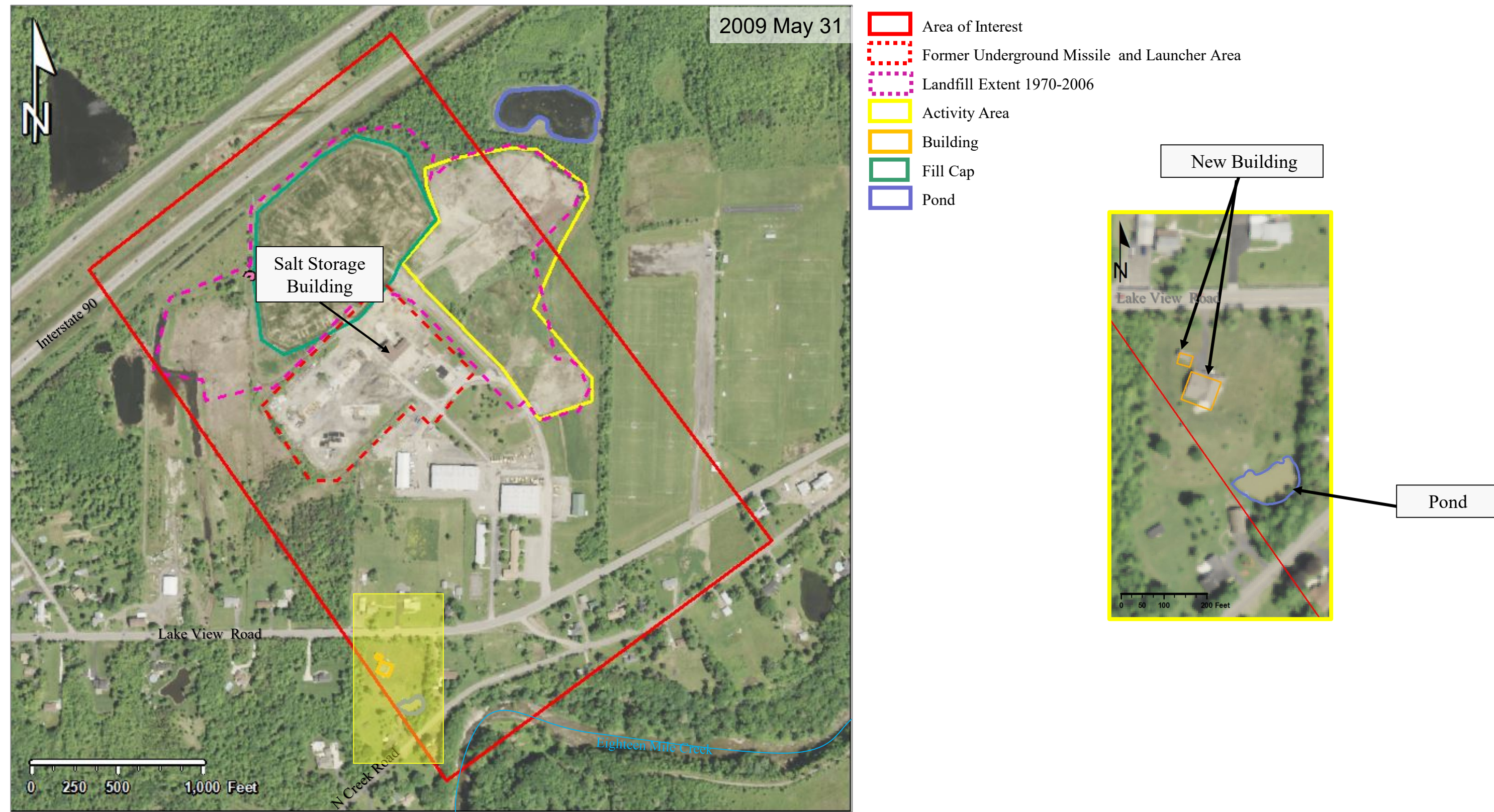
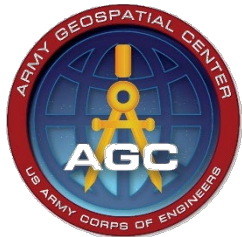


PHOTOGRAPHIC ANALYSIS: 2009





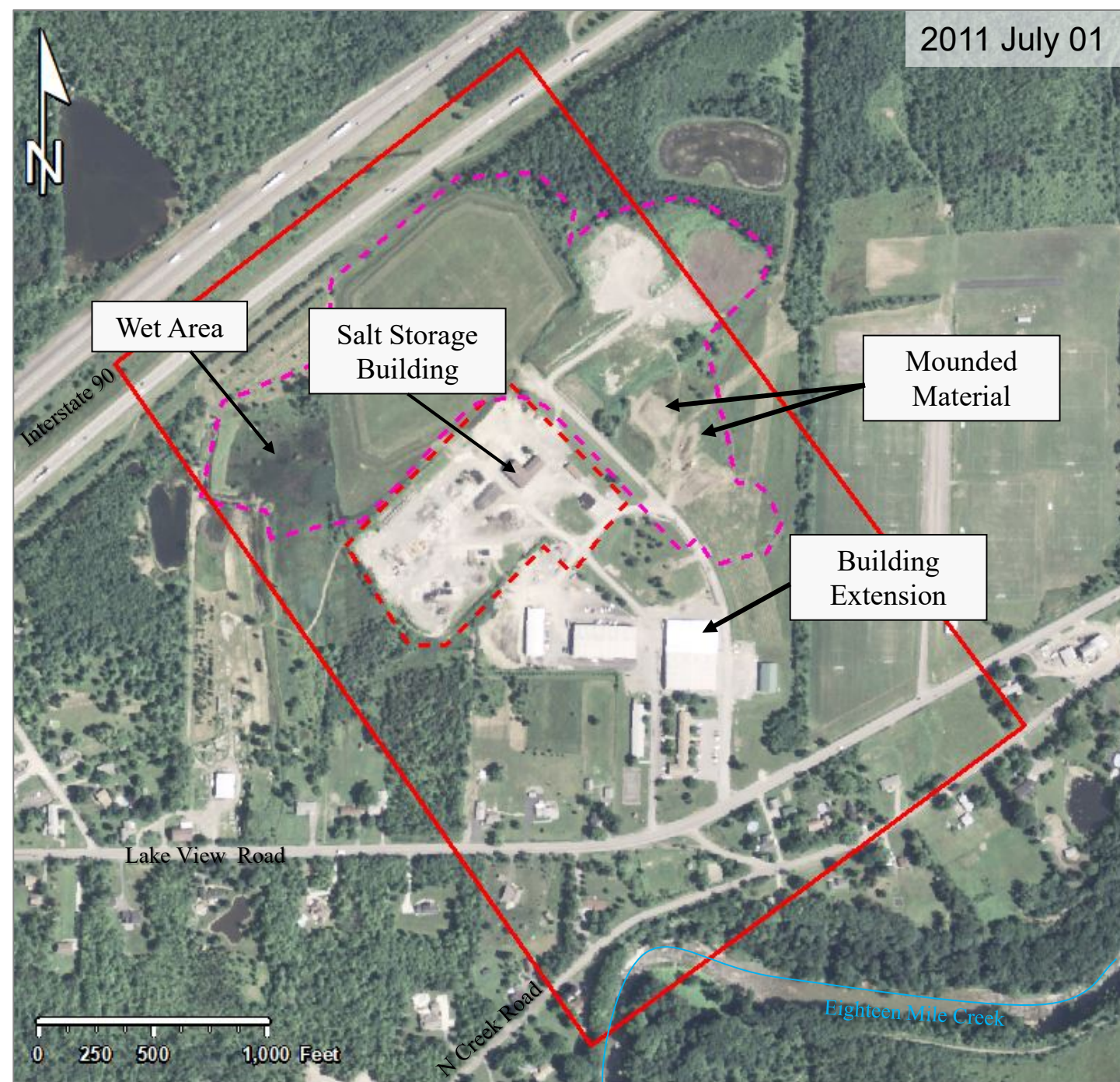
PHOTOGRAPHIC ANALYSIS: 2009 CONTINUED






Source: U.S. Geological Survey.

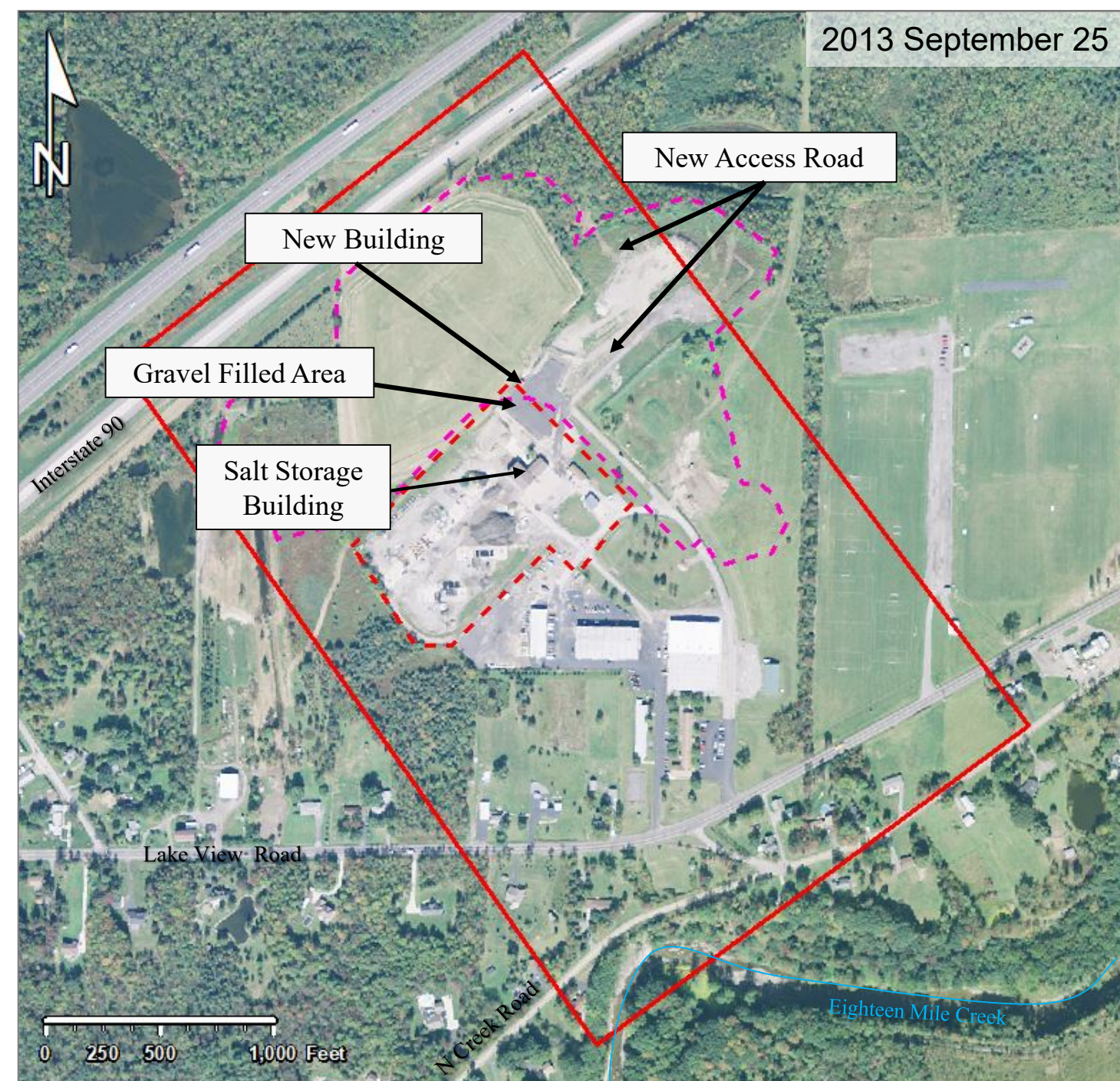


PHOTOGRAPHIC ANALYSIS: 2011, 2013



-  Area of Interest
-  Former Underground Missile and Launcher Area
-  Landfill Extent 1970-2006

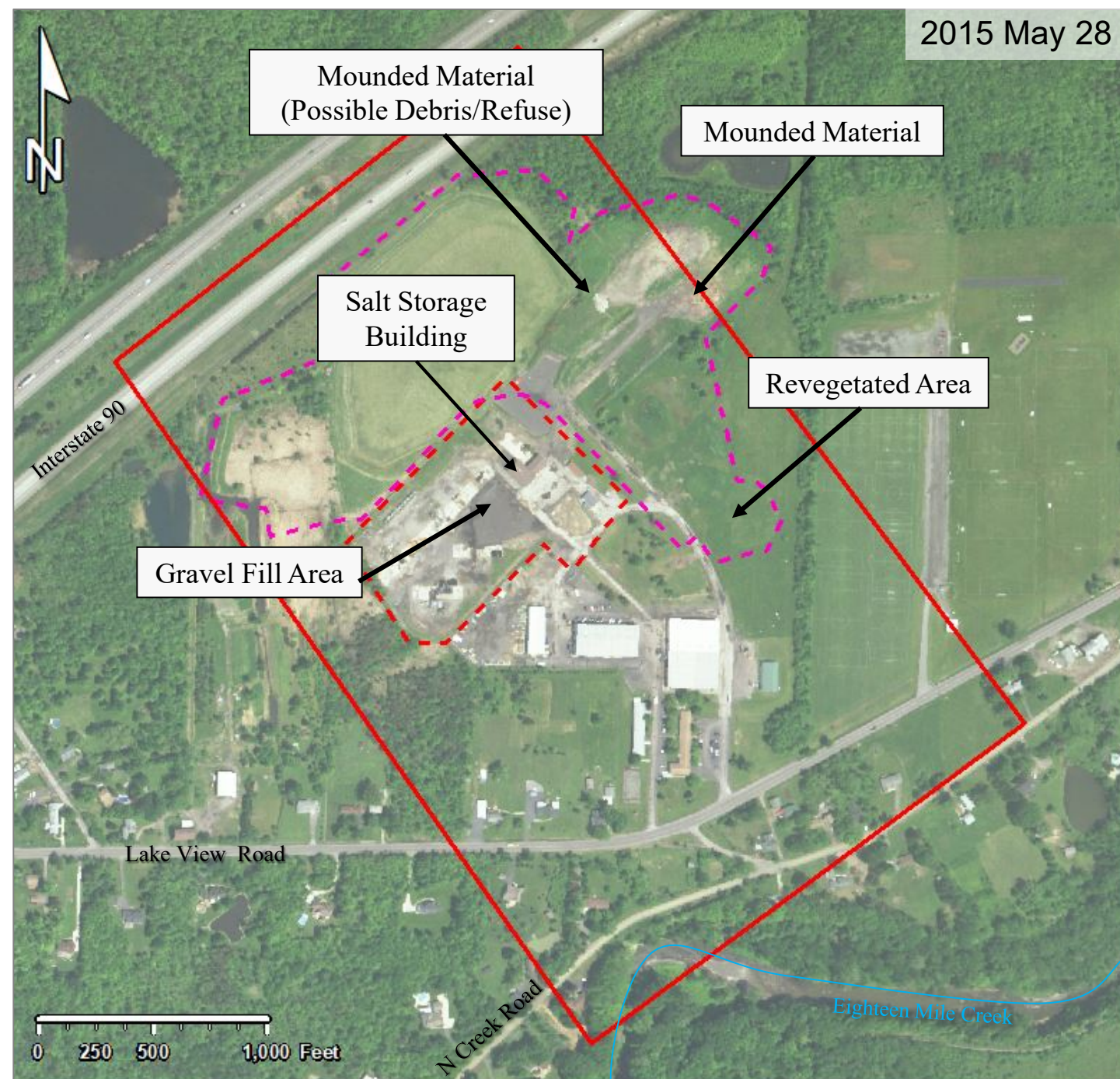
In 2011 and 2013, continued activity is observed within the northeastern section of the study area, as well as within the former Launch Area.






Source: U.S. Geological Survey

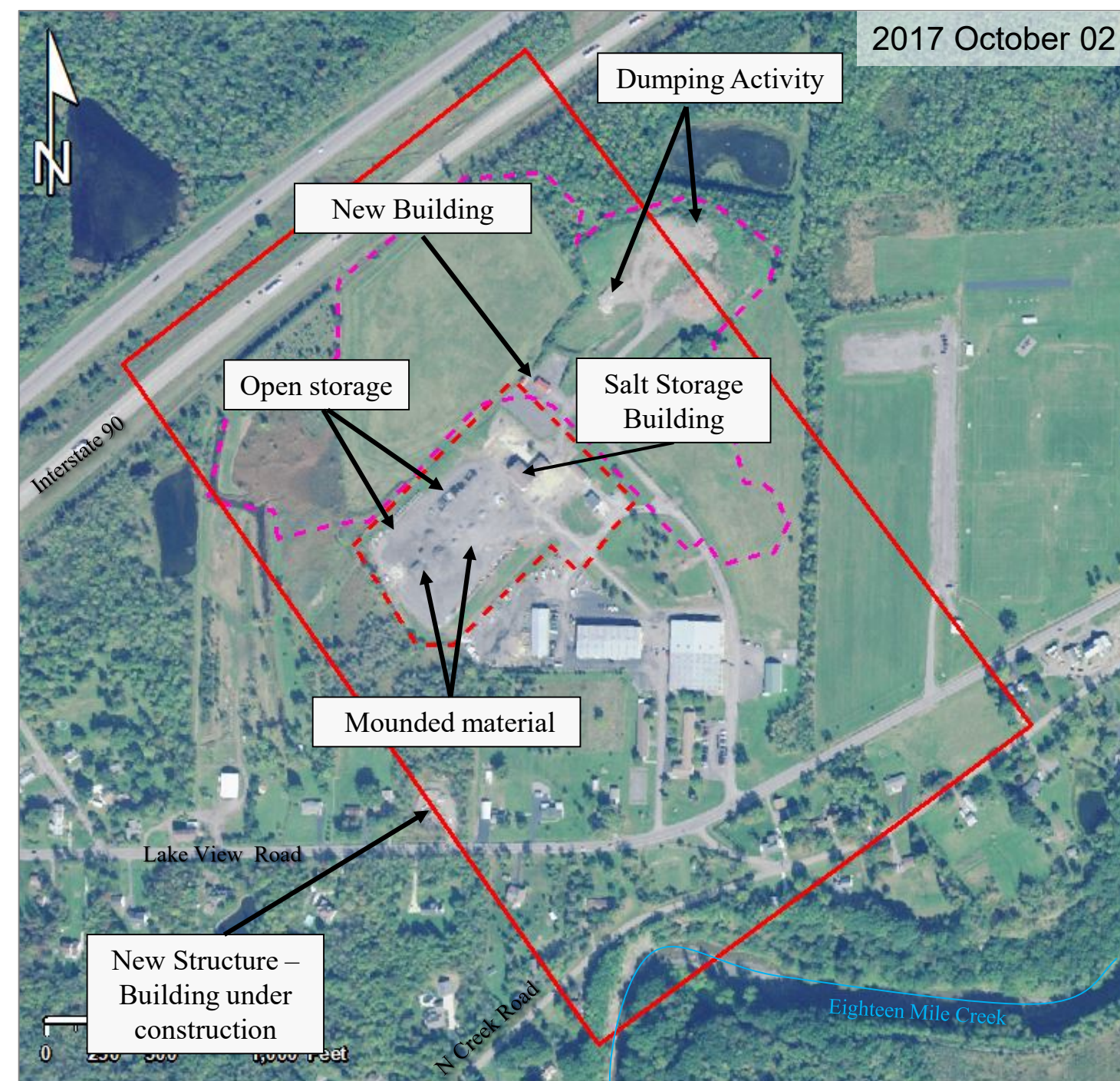


PHOTOGRAPHIC ANALYSIS: 2015, 2017



-  Area of Interest
-  Former Underground Missile and Launcher Area
-  Landfill Extent 1970-2006

Dumping activity is observed in the area to the northeast in 2015 and 2017 imagery. Gravel observed in 2015 appears to have been used to pave most of the former Launch Area. A new building is located within entry point to the northeast area.






Source: U.S. Geological Survey

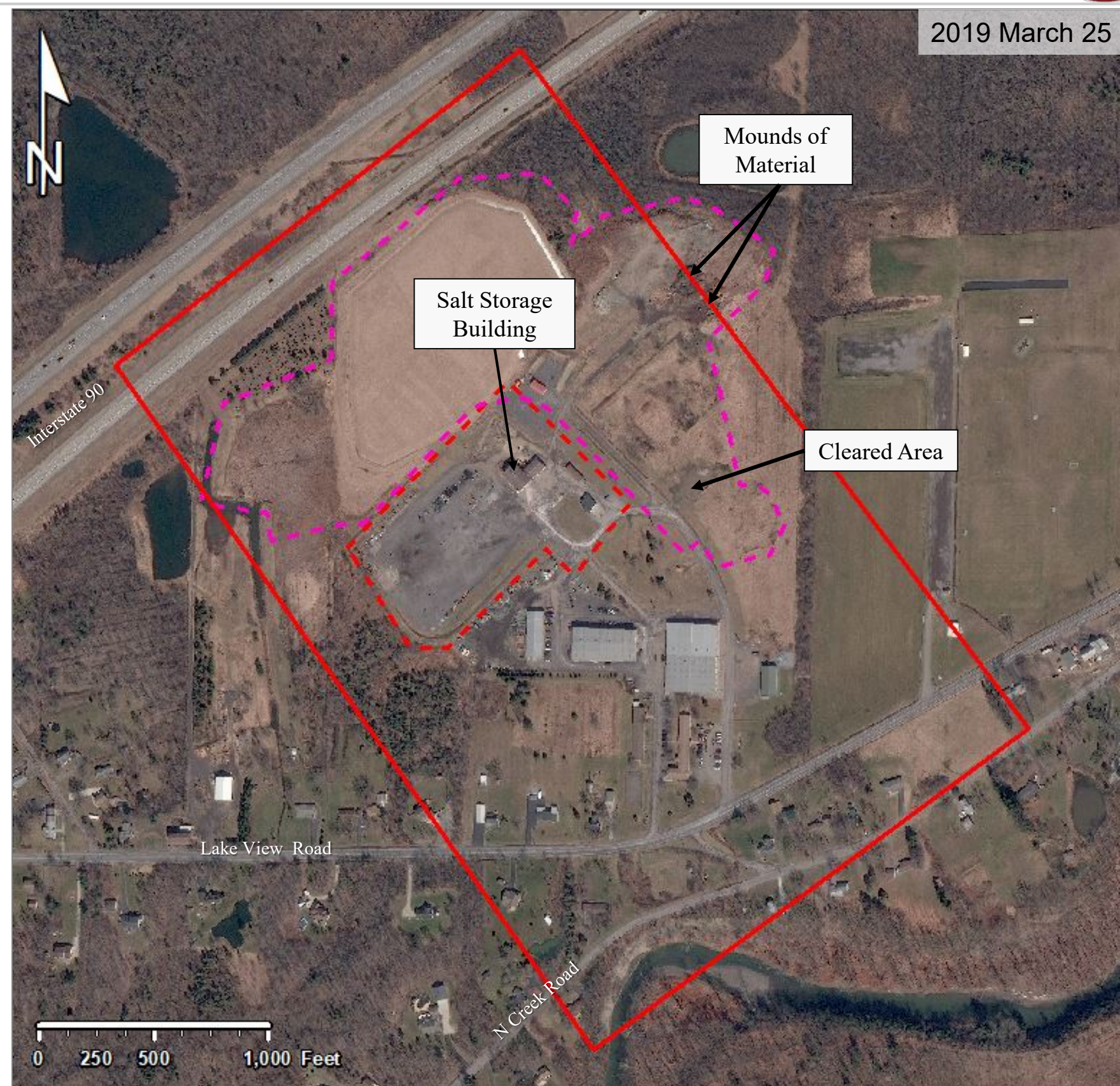


PHOTOGRAPHIC ANALYSIS: 2019



In 2019, small mounds of new material are observed within the active area to the northeast. An area previously used and revegetated has been cleared again. No other change in land use is observed.

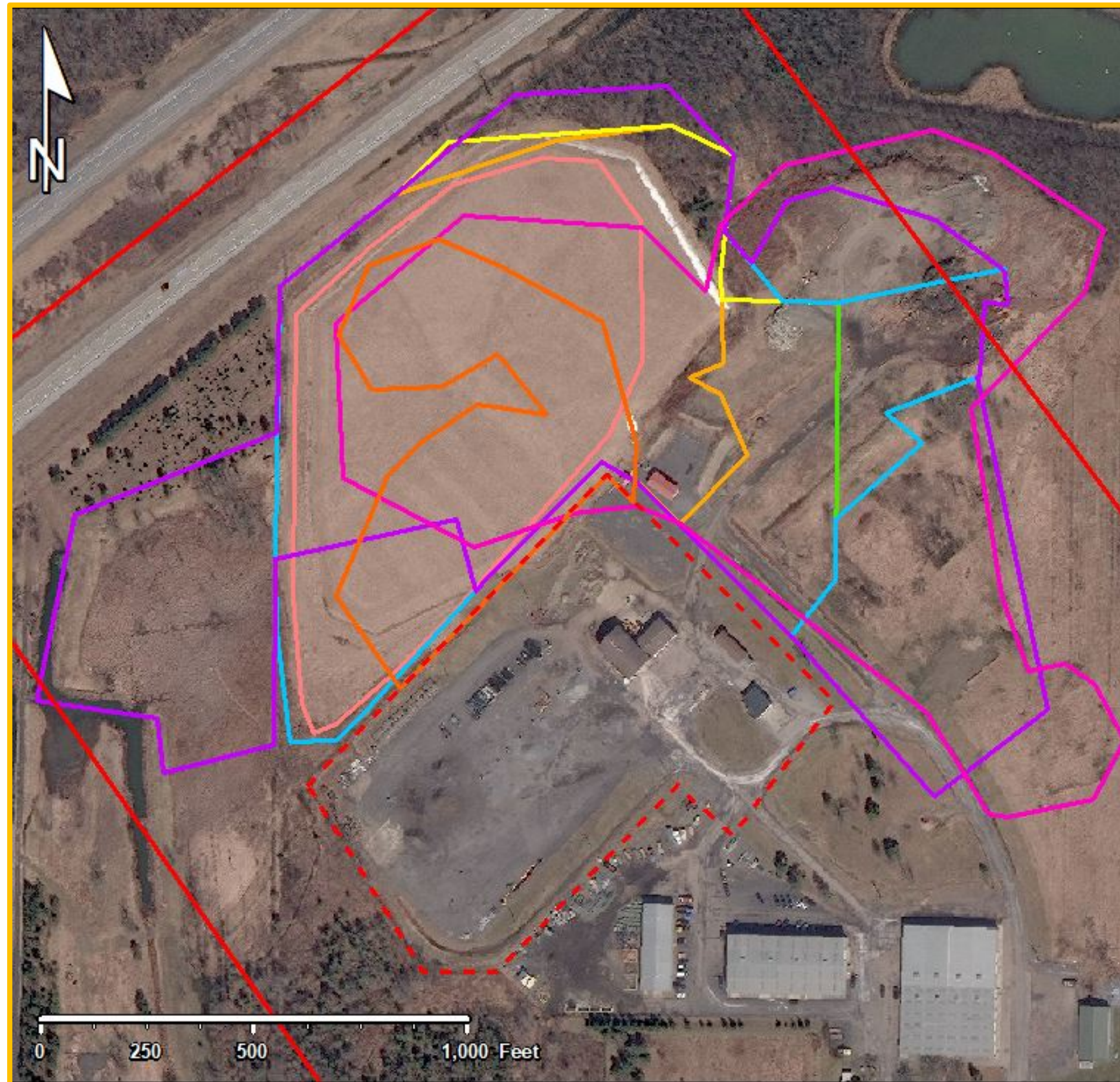
-  Area of Interest
-  Former Underground Missile and Launcher Area
-  Landfill Extent 1970-2006



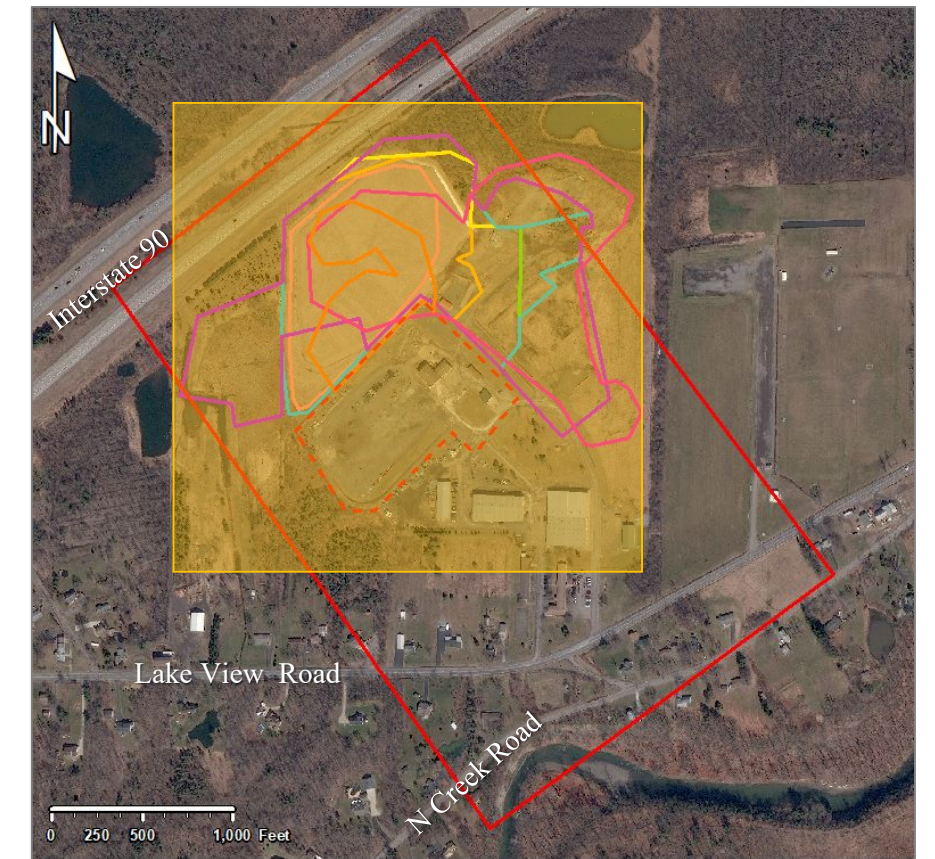
Source: Digital Globe



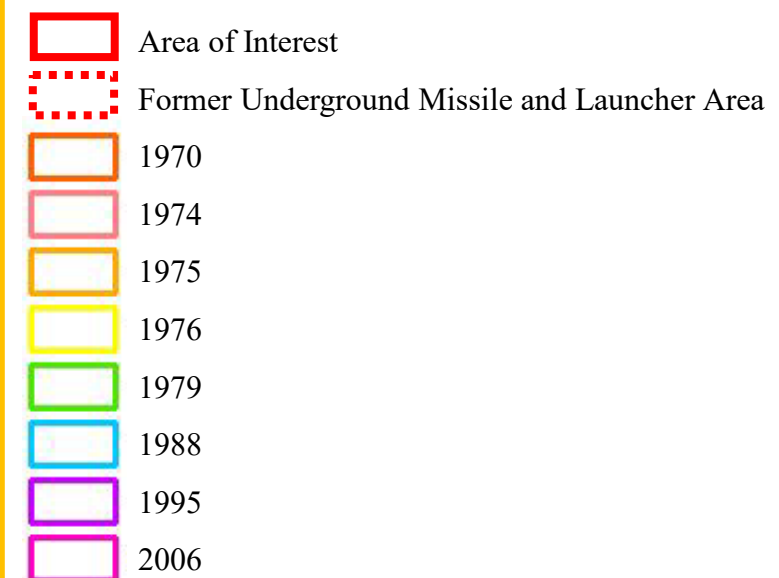
PHOTOGRAPHIC ANALYSIS: LANDFILL EXTENT 1970-2006



LOCATION DIAGRAM



Source: Digital Globe





APPENDIX



Maps



APPENDIX - MAPS

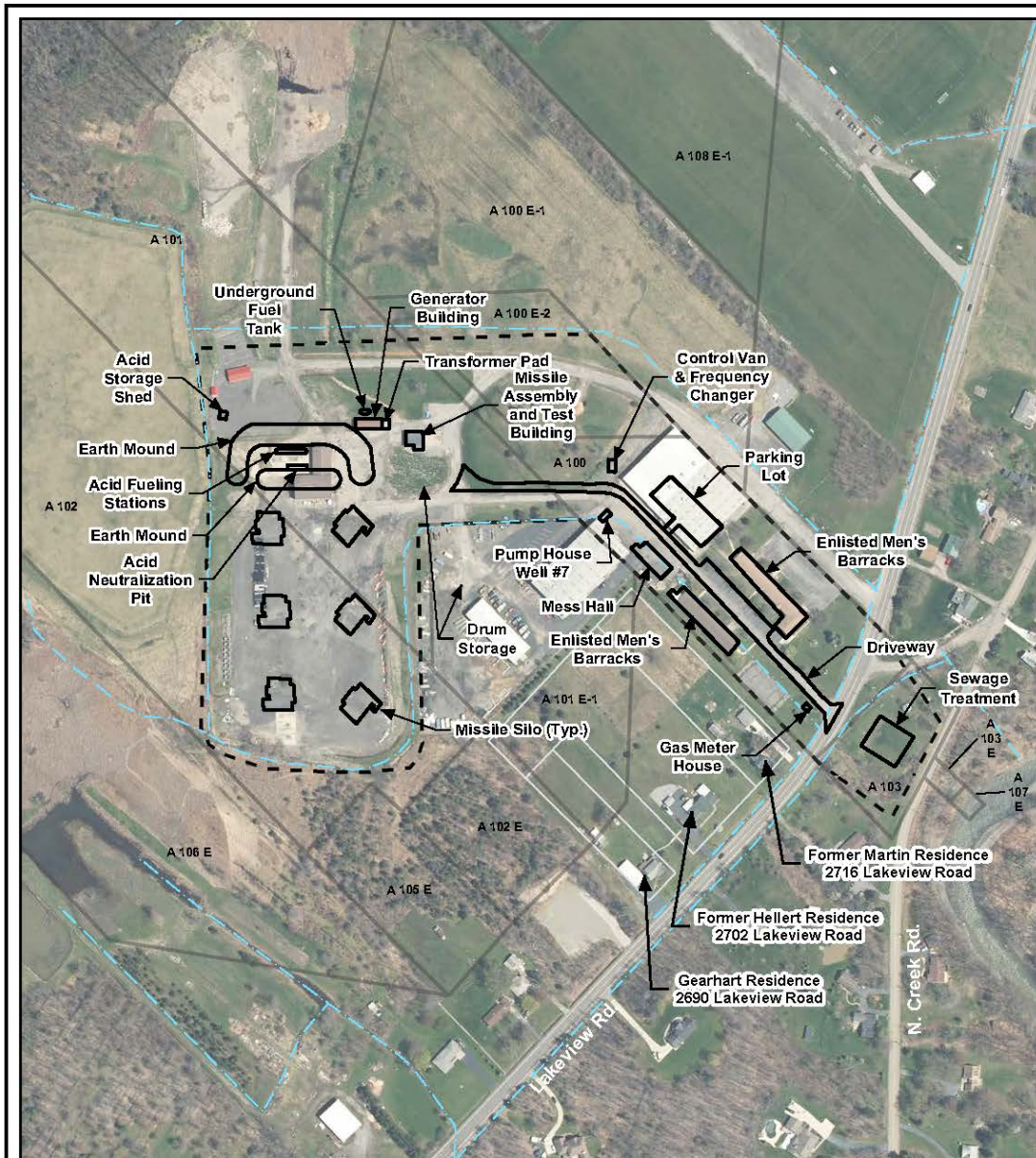


Figure 2-3: Former Nike BU-51/52 Launch Area – Historical Site Features



Source: February 2019 Abbreviated Remedial Investigation Work Plan – Nike Antiaircraft Missile Battery BU-51/52 Erie County, New York. Page 99. Prepared for the U.S. Army Corps of Engineers New England District. Filename: 2019 02 Final Abbreviated RI WP_Nike_Bluestone.pdf



APPENDIX – MAPS (continued)

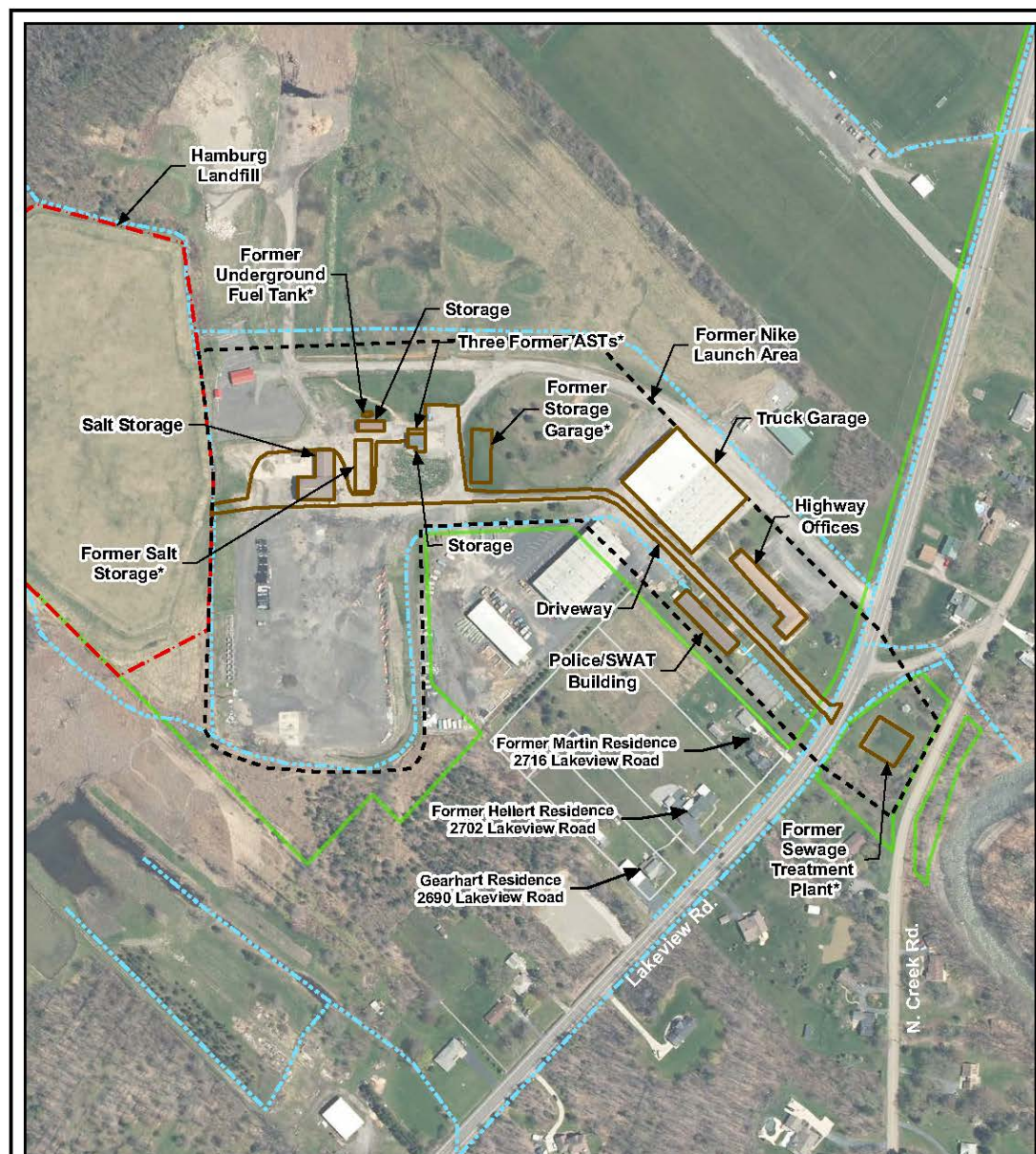
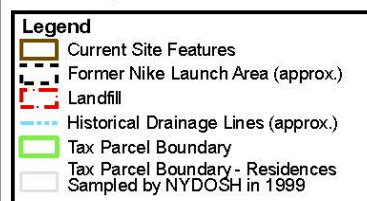


Figure 2-4: Former Nike BU-51/52 Launch Area – Current Site Features



0 75 150 225 300 600 Feet
Scale is approximate - for illustrative purposes only.

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator

Sources: Battelle, 2000; GZA, 1999; NYS GIS, 2017.

*Former site features were removed by the Town of Hamburg, after the property transfer from DoD.

Source: February 2019 Abbreviated Remedial Investigation Work Plan – Nike Antiaircraft Missile Battery BU-51/52 Erie County, New York. Page 101. Prepared for the U.S. Army Corps of Engineers New England District. Filename: 2019 02 Final Abbreviated RI WP_Nike_Bluestone.pdf



GLOSSARY



Access Road A paved or unpaved route of vehicular access.

Activity Area An area depicting various ground disturbances (to include any disturbed ground, cleared area, ground scars, etc.) related to military usage including possible waste disposal operations.

Bare Area/Ground An unvegetated ground surface; may be areas which have not revegetated at a normal rate.

Berm/Dike A man-made ridge or embankment, constructed of natural or man-made materials, often used to prevent movement of materials, usually liquids.

Building Relatively permanent, usually box-like and roofed, man-made structure.

Cleared Area An area from which man has removed the trees, shrubs or other natural vegetative cover.

Container Something such as a can, box, bucket or barrel used to hold, store and/or transport materials. Drums and tanks are subclasses of container.

Containment Area/Structure An area designed to restrain the movement of, or impound liquid, semi-liquid or dry unconsolidated material. Impoundments are a subclass of containment areas.

Debris The scattered remains of anything broken or destroyed.

Depression A sunken surface area.

Disturbed Area 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.

Drainage, Surface The routes by which liquid flows. Surface drainage includes perennial, intermittent, channelized and suspected pathways.

Drums Cylindrical, plastic, metal, or fiber container for storing and/or transporting materials; typically of a 55 gallon capacity, but ranging widely to suit industrial applications. Drums smaller than 55 gallons can be difficult to identify on aerial photography and may be placed in the more general category of container.

Dump A site used to dispose of solid wastes without environmental controls; i.e., not directly associated with a waste generating facility where disposal of waste is regulated.

Edge of Slope A topographic contour which simulates a relatively sharp and distinct downward inclination of the ground surface.

Effluent Substance which flows out of a containing space. Outflow or discharge. Generally refers to water and/or wastes, treated or untreated, flowing out of a treatment plant, impoundment, sewer, storm drain or industrial outfall onto the ground or into surface waters.

Excavation A cavity in the earth formed by digging or scooping out materials.

Extraction An area where earthen materials, such as minerals, sand and gravel or metals, have been removed for use elsewhere. Examples are quarries, borrow pits, pit and strip mines.

Fence A structure serving as an enclosure, barrier or boundary, usually made of posts, boards, wire and/or rails.

Fill Area Area where material, either earthen and/or non-earthen, has been deposited either for disposal, to level the ground surface, or to eliminate a wet area.

Fill Material Material, earthen and/or non-earthen, that has been deposited in a fill area.



GLOSSARY (continued)



Graded Area Area where the ground surface has been shaped; usually leveled to a smooth horizontal or sloping surface.

Ground Scar A ground 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 (e.g. septic drain fields, archaeological features, buried waste disposal pits, trench scars, etc.)

Historical Boundary A line on a map or an overlay which delineates the area where a facility or activity was previously located or conducted.

Impoundment/Lagoon/Pit A containment area, man-made or naturally occurring, that appears to be used for waste and/or water storage, disposal, or treatment.

Landfill A land disposal site, usually for solid waste which intermittently employs a cover material. At a regulated sanitary landfill, waste is spread in layers, compacted to the smallest practical volume, with cover material applied at the end of each operating day.

Material A substance (usually a non-liquid, if that distinction can be made) placed, bulldozed, graded, mixed, spread, etc., over an area. Generally refers to raw or waste materials on or in the vicinity of the site.

Mounded Material Material which has been placed in piles or mounds. Frequently extraction materials, construction materials, or industrial raw materials are stored in large mounds in the open. At fill areas and landfills uniformly dump truck size mounds of material are often present.

Open Storage An open-air, outdoor area for storage of materials, supplies, vehicles and/or equipment; may or may not be enclosed by a fence.

Outfall The place where effluent is discharged.

Pit A relatively deep, steep sided hold in the ground surface.

Scrap Discarded materials that may be suitable for reprocessing

Sediment Material that settles to the bottom of a liquid. Material suspended in water or in the air.

Site Boundary A line on a map or an overlay which delineates the area where any facility or activity is located or conducted. This area is determined from the aerial photography supplemented with information provided by the client, and does not necessarily denote legal property lines.

Sludge A semi-solid residue from any number of air or water treatment processes.

Stain An area that is soiled or discolored and distinct from the surrounding area.

Standing Liquid A temporary collection of liquid on a surface.

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

Tones, Light/Medium/Dark A general, and somewhat subjective, classification of the wide range of tones/shades visible on panchromatic photography/imagery.

Trailer A transport vehicle designed to hauled; a van drawn by a truck or automobile and used as a house or an office. Both semi and house trailers are often used for storage or office space on a site. Specific trailer types are annotated if the spatial resolution permits and if the feature is deemed significant.

Treatment/Storage/Disposal Facility Site where a hazardous substance is treated, stored and/or disposed of.

Trench A long, narrow excavation.



GLOSSARY (continued)



Vegetation Stress A condition wherein vegetation has been weakened and exhibits physiologic stress due to any number of changes in the environment; such as, exposure to toxic substances or weather extremes, lack of nourishment, inundation, parasites, or disease.

Vehicle A device for carrying passengers, goods or equipment, such as a car or a truck. Specific types of motor vehicles are annotated as such if the imagery permits their positive identification and if they are deemed significant.

Waste Disposal Area An area directly associated with a waste generating facility (as opposed to a dump site), where waste materials are discarded.

Well Head That portion of a well that is visible above the ground surface of which opens at ground level.

Wet Area Saturated ground which may or may not be an established wetland.

Wetland Areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.



SOURCES OF INFORMATION AND DATA



Archival Sources:

Google Earth

National Archives at College Park, Maryland (Cartographic and Architectural, Still Pictures, and Textual Records Sections)

U.S. Geological Survey

Websites:

<http://nikemissile.org/>

Reference Documents:

Abbreviated Remedial Investigation Work Plan – Nike Antiaircraft Missile Battery BU-51/52 Erie County, New York, February 2019. Prepared for the U.S. Army Corps of Engineers New England District. Filename: 2019 02 Final Abbreviated RI WP_Nike_Bluestone.pdf

Historical Overview of the Nike Missile System, December 1984. Prepared for the U.S. Army Toxic and Hazardous Materials Agency, Assessments Division, Aberdeen Proving ground, Maryland. Filename: Hist_Overview_Nike_Missile_System_McMaster_1984.pdf

History of the Niagara – Buffalo Army Air Defense 1952-1970 by Paul Robitaille, 2015. Filename: NFBU52-70.pdf

Investigation of Former Nike Missile Sites for Potential Toxic and Hazardous Waste Contamination, Volume I, March 1986. Prepared for the U.S. Army Corps of Engineers, Huntsville Division. Filename: Investigation_Former_Nike_Missile_Sites_Toxic_Haz_Waste_Vols1&2_1986.pdf