

Final
Removal Site Evaluation
For
DoD Military Munitions
Nashua River
Former Fort Devens

Devens, MA

Prepared by
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17 May 2021

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1.0 Introductions

The Base Realignment and Closure (BRAC) office tasked the U.S. Army Corps of Engineers (USACE), Baltimore District, to conduct a Removal Site Evaluation (RSE) for the portion of Nashua River that runs through former Fort Devens. The RSE would evaluate the potential for Department of Defense (DoD) military munitions, which may include munitions that Explosive Ordnance Disposal (EOD) or similarly qualified personnel determined to be Munitions and Explosives of Concern (MEC) to be encountered. The Environmental Protective Agency (EPA) requested an RSE given two separate incidents in which magnet fishermen recovered munitions from the Nashua River during the summer of 2020.

The Former Fort Devens is located in portions of the towns of Ayer, Shirley, and Harvard Massachusetts and that the Devens Regional Enterprise Zone (DREZ) comprises portions of those three towns. Army conducts environmental work in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, 42 U.S.C. §9601 et. seq.). It was placed on the National Priorities List in 1991. The Army and the EPA signed a Federal Facility Agreement in May 1991, however, FFA does not alter the Army's authority with respect to Removal Actions conducted pursuant to CERCLA §104 and Executive Orders 12580 and 11735. Upon notification of the two separate MEC finds in the summer of 2020, EPA sent both a demand letter and initiated informal dispute over the response to these two incidents. In accordance with §12.3(f) of the FFA, the Army determined that this RSE was an appropriate response to the findings of recovered munitions. This RSE has been drafted in accordance with 40 CFR §300.410 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

For this RSE, USACE will conduct an in-depth document review of available historical documents and conduct an analog survey of the riverbanks and accessible shallow water areas.

USACE's objective is to determine the probability of encountering munitions in the Nashua River from military munitions use and evaluate the magnitude of the threat of release (40 CFR 300.410(c)(1)(iii)).

On 24 July 2020, an individual magnetic fishing, which is a form of treasure hunting with a magnet on a rope, from a kayak recovered an Mk-II Grenade and an un-fuzed 60mm mortar. On 12 Aug 2020, another individual magnetic fishing from a kayak recovered an Mk-II Grenade. In both incidents the individuals called 911. The first responders (Devens Fire Department) contacted the State police. The Massachusetts State Police disposed of these munitions.

2.0 Assessment Area Background

The Nashua River is a 37.5-mile-long river that starts in Eastern Worcester county Massachusetts. It flows north into the Merrimack River in Nashua New Hampshire with many little branches of streams going off the main river. The Nashua River encompasses 32 communities. Nashua River runs through the middle of Former Ft. Devens. The river flows east of South Post and mainly west

of what was known as Main and North Post now known as Devens. The river is slow moving, with a river bottom composed of heavy layers of silt and sand.

The munitions recovered in the summer of 2020 were recovered from the river along portions of what would have been considered Fort Devens Main Post.

3.0 Assessment Area Activities

The Nashua River is mainly used for recreational (e.g., kayaking, fishing), with trails along some of its banks used for hiking. In addition, staff and volunteers of the Nashua River Watershed Association (NRWA) periodically conduct removal of invasive water chestnut plants from the area.

4.0 Evaluation for Potential Munitions

In 1917, the United States Army, which leased approximately 11,000 acres created Camp Devens. In 1932, Camp Devens became Fort Devens. Fort Devens was used during World War I (WWI) and World War II (WWII) as a reception, training facility, mobilization, and demobilization center for Soldiers in the New England region. During interwar periods, the Army placed Fort Devens under caretaker status or used it for training the Reserve Officers' Training Corp (ROTC), National Guard, and Army Reserve. As the necessity for Fort Devens decreased, the Army transferred portions of Fort Devens to other non-DoD entities.

Currently, Fort Devens training areas and operational ranges are located on what is known as South Post. Until the 1960's, Fort Devens continued to have operational ranges and training on North and Main Posts (see **figure 1**).

In October 2020, USACE's Baltimore District mobilized a two-person Ordnance & Explosive Safety (OESS) team to conduct an analog survey of the Nashua River's banks and accessible shallow water areas (not more than 2 feet in depth). The OESS team conducted this two-day survey along Nashua River from Hospital Road Bridge south for approximately .75 miles on both the east and west sides of the river for a total of approx. 1.5 miles. The OESS team used a mag and dig approach during this survey. Using this approach, the team investigated each detected anomaly as they conducted the survey.

The OESS team selected this area given the locations at which the magnet fishermen recovered munitions (see **figure 2**) and the results of past investigations that occurred north of Hospital Road Bridge.

a. On the river's east side, the OESS team started at Hospital Road Bridge at which the boat launch is located and worked south. At first, vegetation was thick but then a trail formed along the bank for a while before turning back inland.

b. On the river's west side, USACE entered behind the military unit where one of the magnetic fishermen recovered a munition. On the river's west side, vegetation was thicker. The team worked north and stopped near Hospital Road Bridge at a large wetland area where a contributory stream intersects with the Nashua River, then backtracked to where they started and worked south.

c. The OESS team swept both areas searching for munitions using an industry standard magnetometer (Schonstedt 52cx) and an all-metals detector (White XLT). The OESS team investigated each surface and near surface (just under the detritus) anomaly it detected along the river's banks - approximately 10 feet from water's edge. The OESS team encountered only cultural debris (e.g., barb wire, cans, rebar and pipe). Where it was shallow enough (2 feet or less) for the OESS team to enter the water, the team investigated each detected anomaly, using their hands to feel the detected item. Doing so, team members were able to determine whether an anomaly was potentially a munition. If a team member determined an anomaly may be a munition, the team member removed it from the water for further inspection. In most instances this was no more than 10 feet from the riverbank. USACE team did not encounter either munition or munitions debris (MD) during the course of this survey.

USACE also completed an extensive document review of available information about Former Fort Devens (see section 6.0 References). As a result, USACE determined that Former Fort Devens never used the Nashua River or its riverbanks for munition-related purposes.

While operational ranges existed on Main and North Post prior to the 1960's, none of the operational ranges encumbered the Nashua River (see **figure 3**).

An anti-tank range at which the military fired 37mm into the side of Oak Hill (north and east of Hospital Road Bridge) had a safety buffer zone that at its furthest point included part of the Nashua River (see figure 4). This area has had several Removal Action and Investigation to include parts of the Nashua River.

The munitions fishermen recovered during magnetic fishing were a 60mm mortar and 2ea MK-II hand grenades. Fort Devens did not have a 60mm mortar range on North post, the mortar range has always been located on south post. A practice hand grenade range was located on Fort Devens north post until the late 1930's, but the Nashua River was not part of this range, which was approximately 1,600 feet east of Nashua River (see **figure 5**).

During construction of Hospital Road Bridge which involved excavation within the Nashua River for new bridge abutments, there were no reported discoveries of munitions. In addition, the Army performed munitions surveys within the Nashua River in 1995 based on the Former Fort Devens Archive Search Report. Survey areas included (1) the area near the Hospital Road Bridge where the practice hand grenade was found; and (2) an area along and within the Nashua River that borders the Former North Post. During these surveys, the Army did not encounter live munitions (e.g., unexploded ordnance).

As previously indicated, the Nashua River is a slow-moving river with a bottom that contains a heavy layer of silt that significantly limits the opportunity for munitions to migrate down river.

5.0 Summary and Conclusion

Prior to this survey and based on both historical information, including previous investigations, and use, the Army had determined there was a low probability for

munition to be present in the areas that made up the cantonment (i.e., the main and north post administrative support areas). During the RSE, the Army evaluated the area where individuals recovered munitions during magnet fishing. Based on historical data, the manner in which the Army used this area, and the evaluation's results, the OESS team confirmed there is a low probability for people to encounter munitions within this area. During the RSE's survey (see **figure 6**), USACE did not find historical or physical evidence to indicate that the Army used the banks of Nashua River or the river itself as part of an operational range or for other munition-related operations. Although the OESS team investigated numerous anomalies, it only encountered cultural debris (e.g., barb wire, cans, rebar and pipe). USACE did not encounter or recover munitions or MD.

During the document review, USACE did not find evidence of munitions use being conducted on operational ranges near the Nashua River or its banks.

In compliance with the Defense Explosive Safety Regulation (DESR) 6055.9 Edition 1 and in consideration of the RSE's results, USACE determined that the Nashua River has a "Low Probability" for encountering munitions. This Low Probability Assessment is consistent with areas on Former Fort Devens given the type of historical military use. Should new information become available, USACE in coordination with the State will reassess this determination.

Devens, which includes the Former Fort Devens has a Soils Management and UXO Protocol & Procedures plan (last revised 9/2020). Before any intrusive work is conducted on Devens site workers must watch a UXO awareness video that provides workers with steps they will follow if they encounter a military munition, provided by MASDEV and given at Devens Fire Department. The soil-management plan does not allow soil to leave the DREZ unless it has been screened through a 1-inch screen. This plan would apply to any work in and around Nashua River of the Former Fort Devens.

Based on other instances where munitions have been recovered in areas where munitions would not reasonably be expected to be encountered, the Army believes an individual (e.g., a veteran, a Soldier) most likely discarded the munitions recovered to dispose of them to avoid turning them over to the police or military for disposal.

The Army agrees with actions taken (i.e., placement of signage and implementation of MASDEV restrictions on magnet fishing) to permanently restrict magnet fishing in the Nashua River along Former Fort Devens.

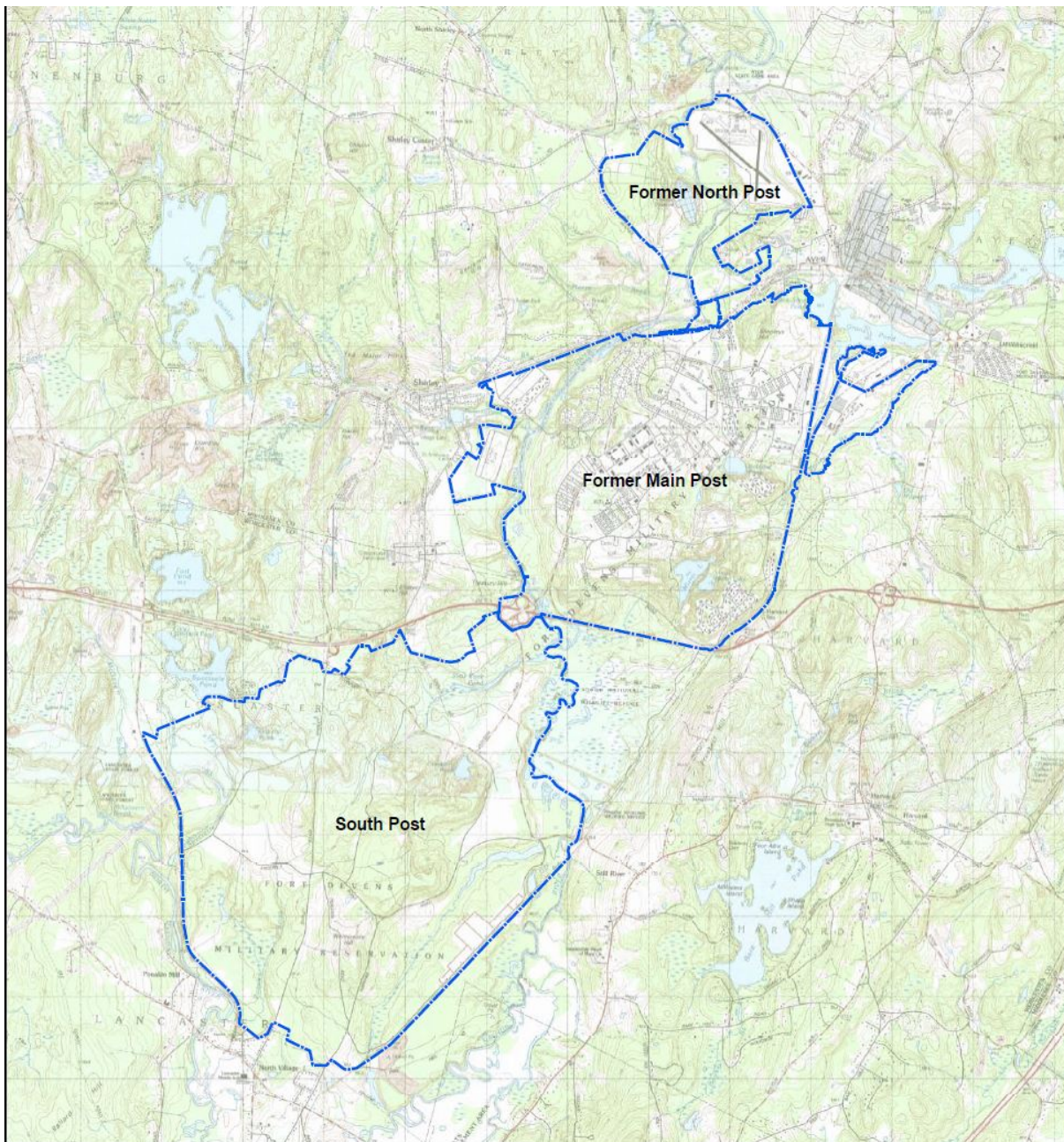
6.0 References

The documents listed below were reviewed as part of this RSE and are available at; <https://www.nae.usace.army.mil/missions/projects-topics/former-fort-devens-environmental-cleanup/>

Archives Search Report (ASR) dated 1995,
HFA Sampling Action Report 1995,
Closed Transferring and Transferred (CTT) dated 2003,
Preliminary Assessment Site Inspection (PASI) dated 2005,
Historical Records Review (HRR) dated 2008,
Site Inspection Report (SI) dated 2011.
Devens Soil Mgmt and UXO Policies and Procedures (Rev. 9/2020)
DESR 6055.9 Edition 1
MA State Police reports dated July and Aug 2020

APPENDIX A

FIGURES



Nashua River Devens, MA



EMDC, Baltimore District
US Army Corps of Engineers

Figure 1
Former Fort Devens
Map

Legend



Fort Devens

Nashua River Devens, MA



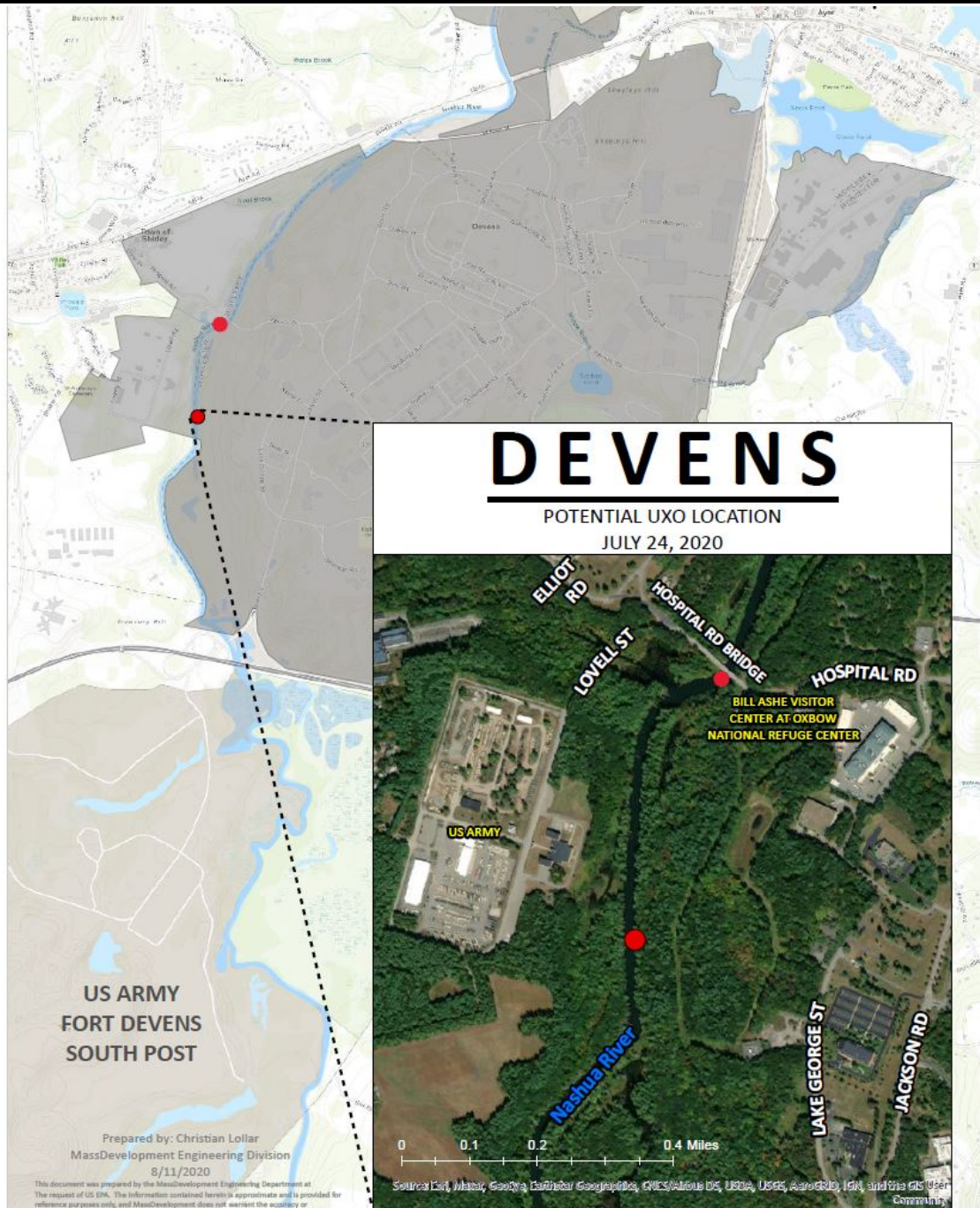
EMDC, Baltimore District
US Army Corps of Engineers

Figure 2
Nashua River
MEC location Map

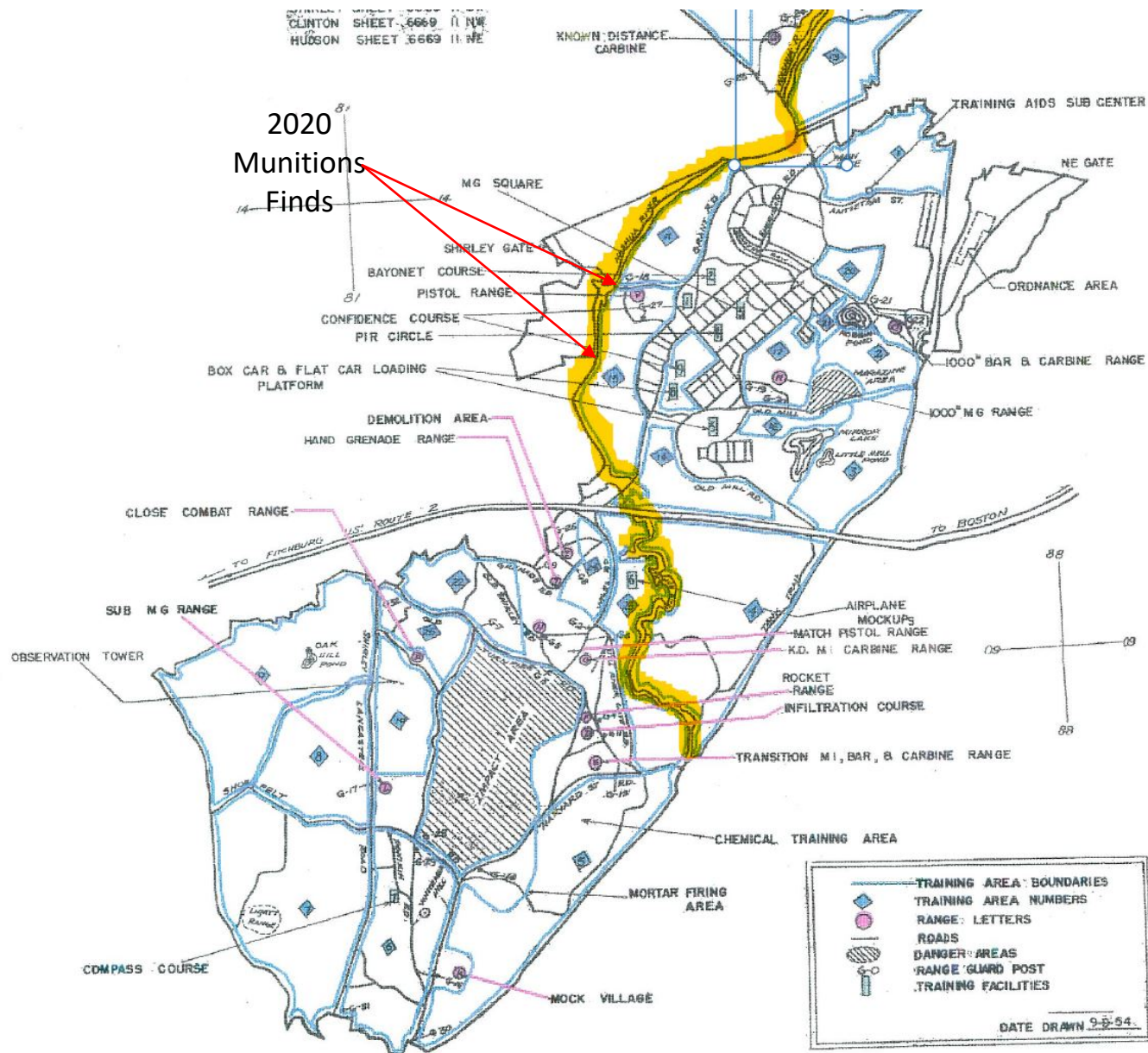
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Munitions
Location



CLINTON SHEET 6669 11 NW
HUDSON SHEET 6669 11 NE



Nashua River Devens, MA



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Figure 3
Historical Map

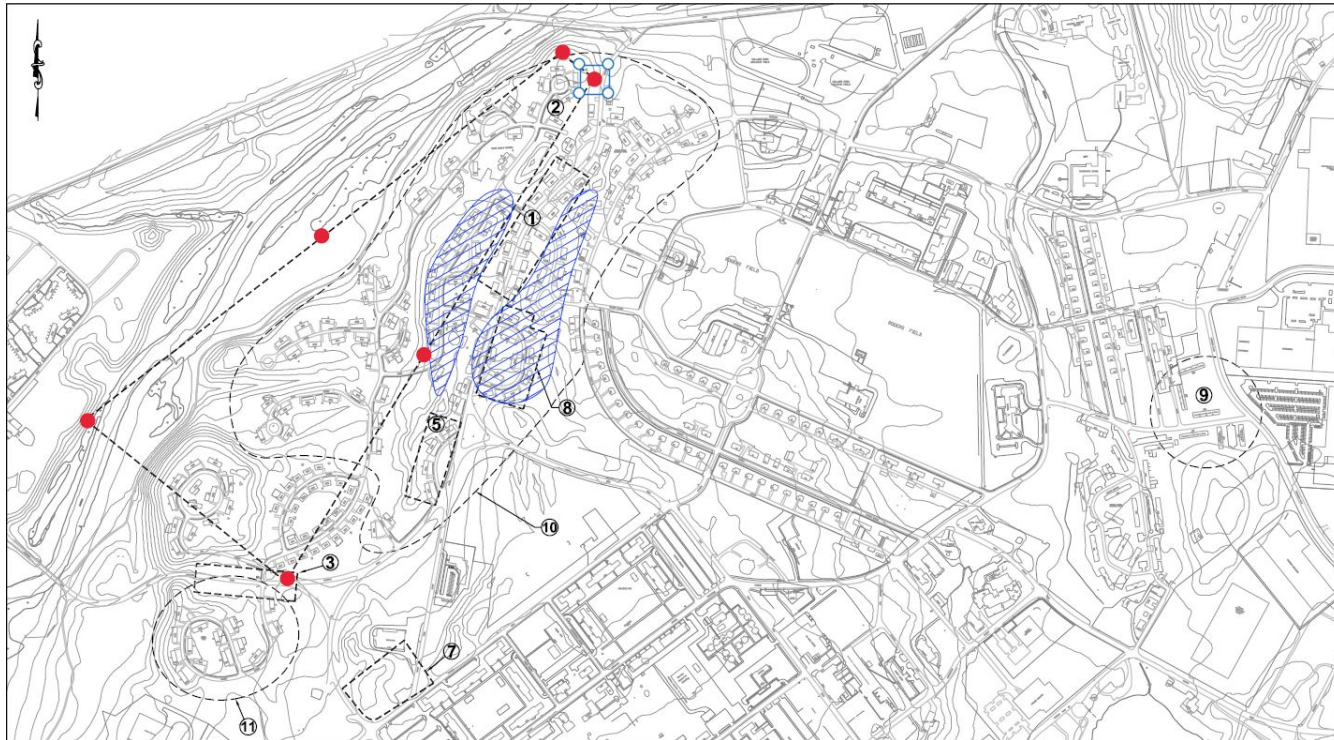
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 Nashua River



Figure 4
Range Fan Map

 **Anti-Tank
Range, 37mm's**



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Figure 5
Historical Map

Legend



**Practice Hand
Grenade Court**





Nashua River Devens, MA



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Figure 6
Transect Map

Legend



**Approximate
Transect of
Survey Team**

APPENDIX B

PHOTO'S



Entrance to boat launch near Hospital road bridge



Just south of Hospital Bridge Road



Sweeping along the riverbank, from the person in the photo to the water's edge on this portion of the river due to the steepness of the bank and the depth of the water.



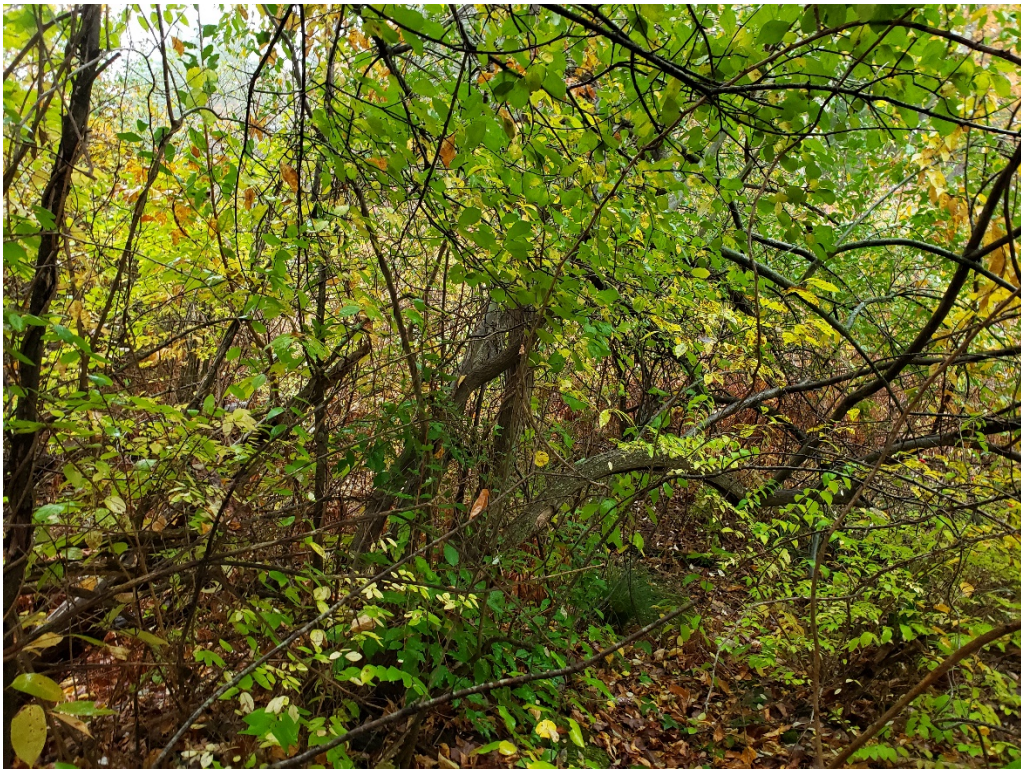
Sweeping in and around historical structure



Scrap metal on the surface (western side) near the base of a steep embankment behind the military unit where the team entered from.



View of historical structure from western side of the river



Thick brush that the team pushed through