



Installation Restoration Program



Air Force Civil Engineer Center

Military Munitions Response Program

Ordnance Area 1 Munitions Response Area

**No Further Response Action Planned Decision Document
(NFRAP DD)**

**Presentation and Public Hearing
Joint Base Cape Cod, Massachusetts**

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Joint Base Cape Cod Cleanup Team Meeting

10 April 2024

NFRAP DD Presentation and Public Hearing Agenda

- List of Acronyms
- Site Description
- Current Site Status
- Where are we in the CERCLA Process?
- Historic Site Use
- Previous Site Investigations
- Next Steps
- How to Submit Comments and Point of Contact
- Comments/Questions

List of Acronyms

AFCEC = Air Force Civil Engineer Center
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
CSE = Comprehensive Site Evaluation
CSM = Conceptual site model
DD = Decision Document
DGM = Digital geophysical mapping
DMM = Discarded military munitions
DoD = Department of Defense
EPA = U.S. Environmental Protection Agency
HRR = Historical Records Review
ISM = Incremental Sampling Methodology
JBCC = Joint Base Cape Cod
LUC = Land Use Control

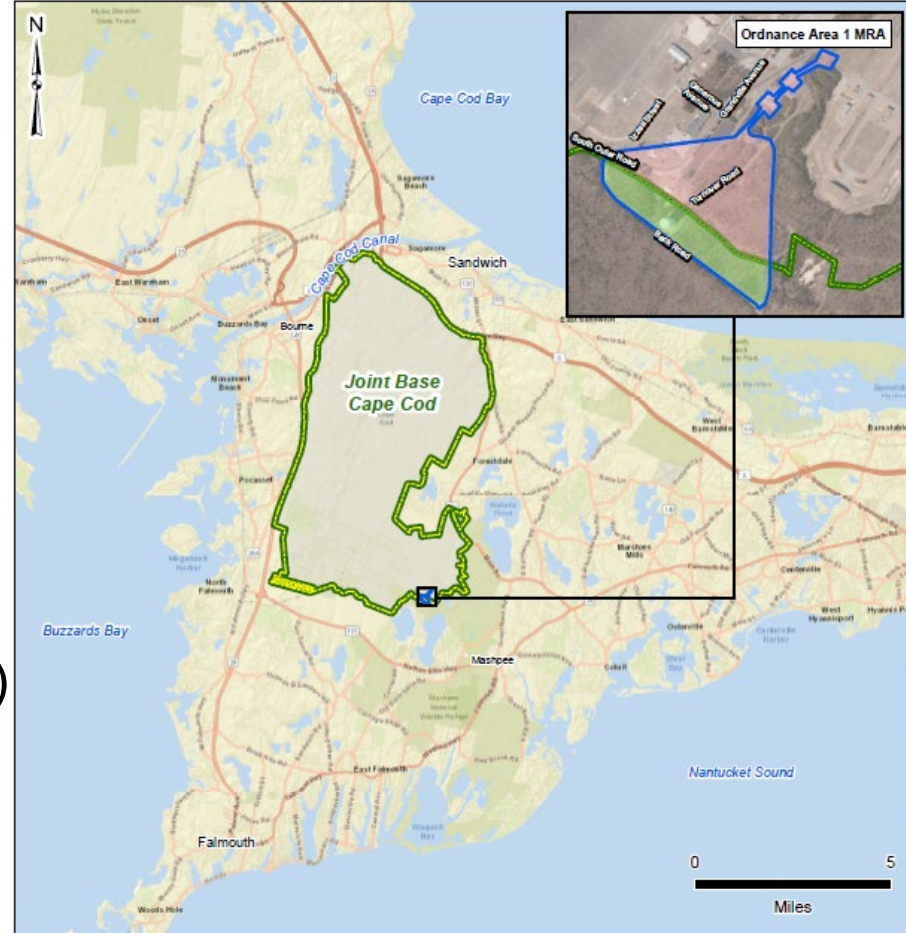
MassDEP = Massachusetts Department of Environmental Protection

MC = Munitions constituents
MD = Munitions debris
MEC = Munitions and explosives of concern
MMRP = Military Munitions Response Program
MRA = Munitions response area
MRS = Munitions response site
mm = Millimeter
mV = Millivolts
NFRAP = No Further Response Action Planned
USAF = U.S. Air Force
UXO = Unexploded ordnance





Ordnance Area 1 MRA

Site Description

- The Ordnance Area 1 Munitions Response Area (MRA) is approximately 25 acres, located near the intersection of Generous Ave and South Outer Rd, north of Back Rd
- The MRA includes two munitions response sites (MRSs)
- Department of Defense Property (DoD) Property MRS – owned and controlled by the US Air Force (USAF)
- Non-DoD Property MRS – Orenda Wildlife Land Trust, Inc., the Briarwood-Mashpee Association, Inc., the Mashpee Water District, the Town of Mashpee (with an easement to the United States of America), and the Town of Mashpee Conservation Commission



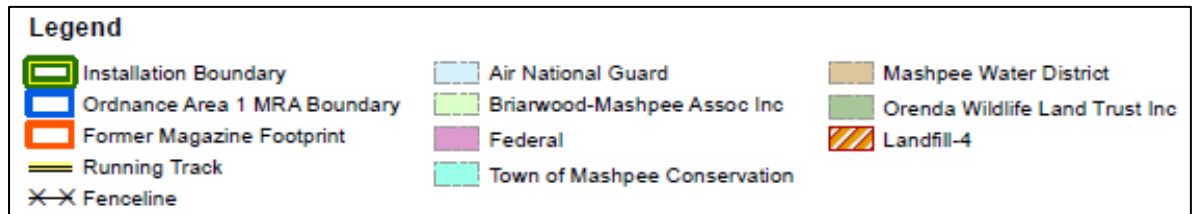
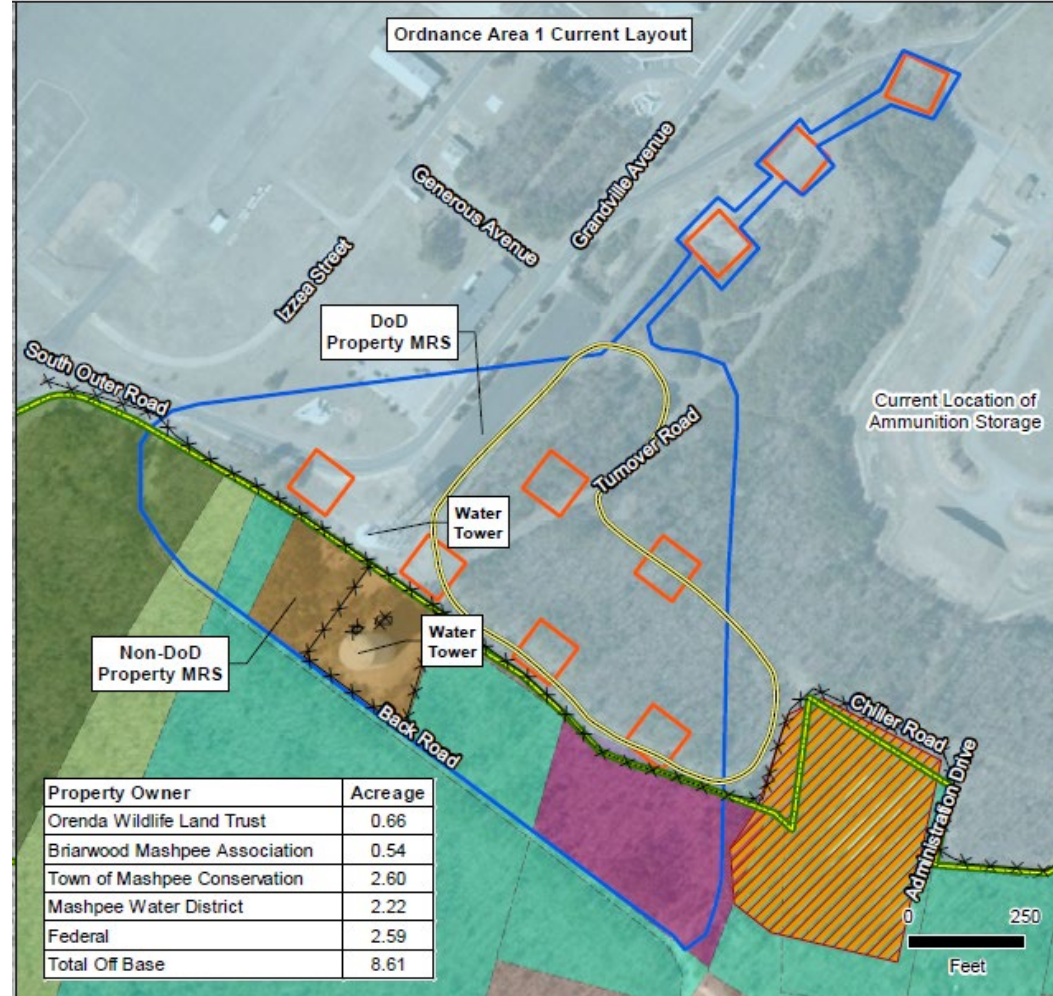
Legend

-  Installation Boundary
-  Ordnance Area 1 MRA Boundary
-  DoD Property MRS
-  Non-DoD Property MRS

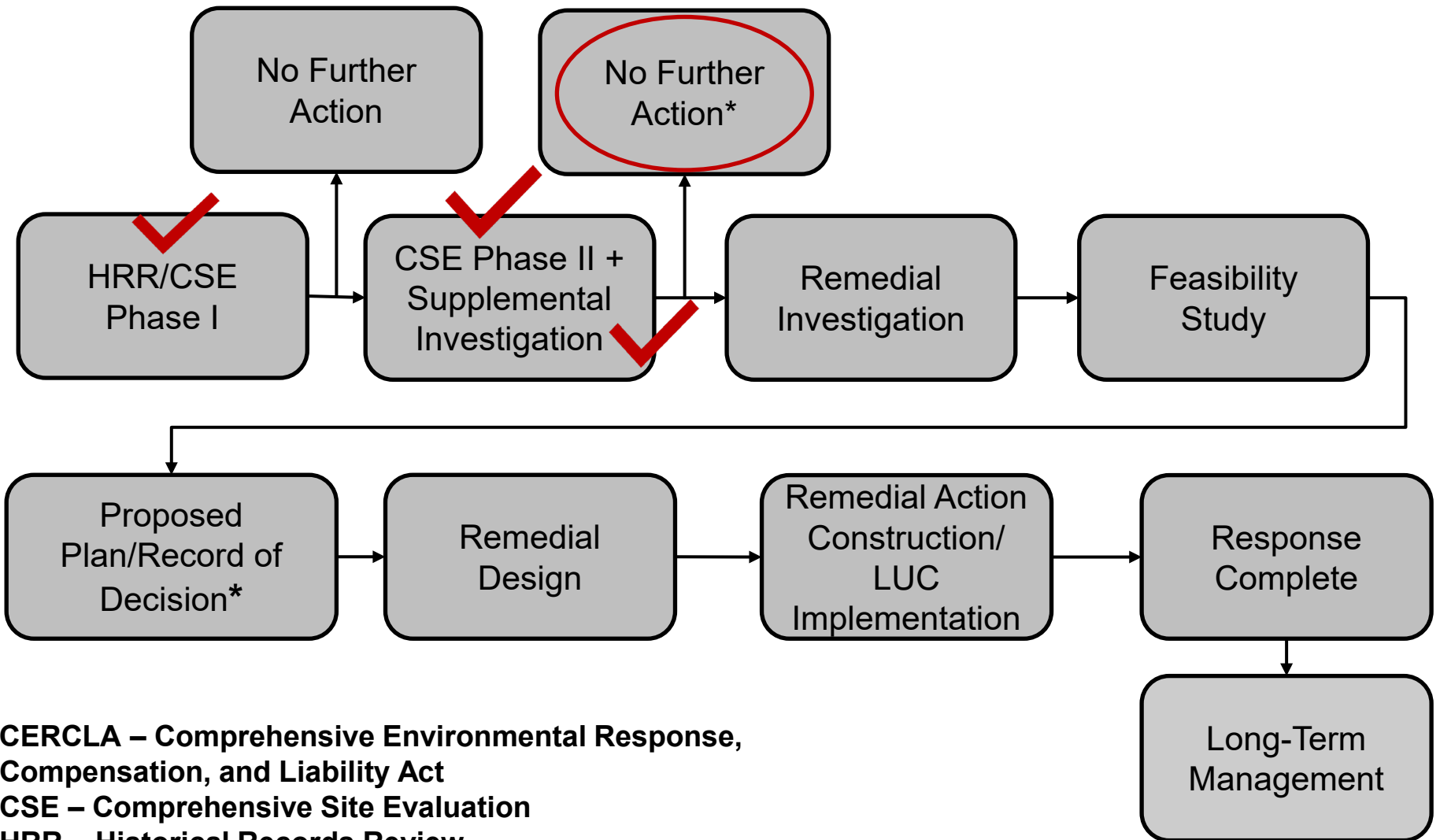
Ordinance Area 1 MRA

Current Site Status

- The DoD Property MRS is partially undeveloped and forested, also redeveloped sections with features such as roads, a water tower, and a running track
- The Non-DoD Property is primarily undeveloped and forested, the town of Mashpee water towers located in the center of the MRS
- Installation fence divides the MRSs, access to the DoD Property MRS is restricted by single access point



Where are we in the CERCLA process?



CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CSE – Comprehensive Site Evaluation

HRR – Historical Records Review

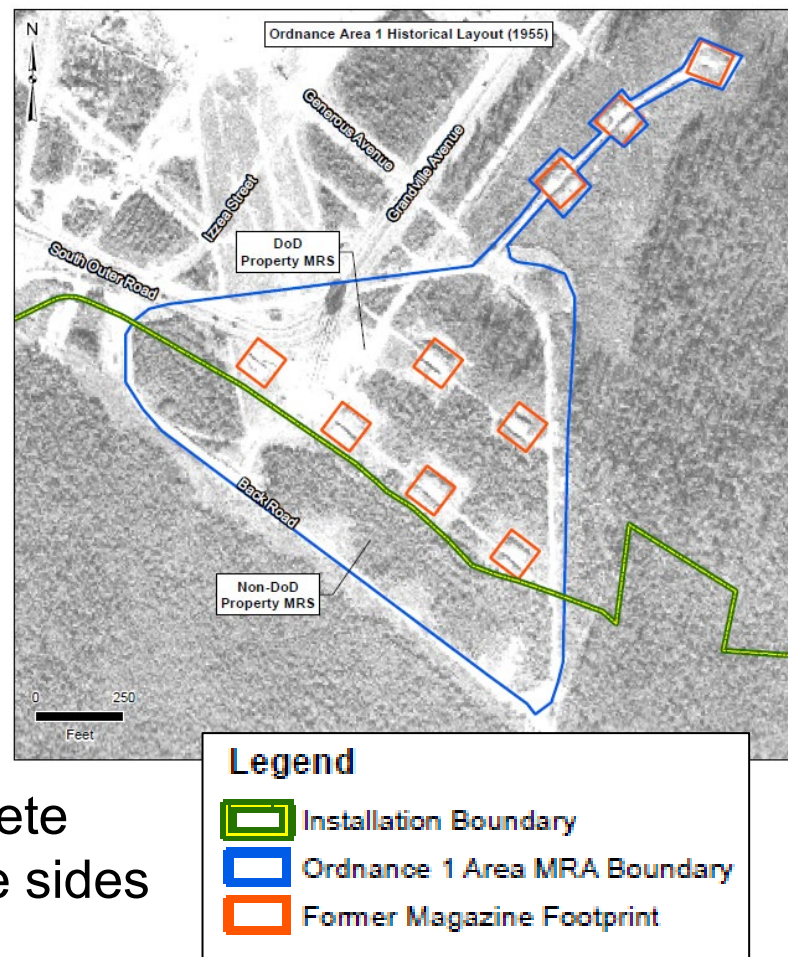
LUC – Land Use Controls

MRA – Munitions Response Area

*** Includes opportunity for public involvement**

Ordnance Area 1 MRA Historic Site Use

- The Ordnance Area 1 MRA was used as a temporary ordnance storage area in the 1950s after the Former Otis Bomb Storage Magazines were decommissioned and while the permanent ammunition supply point was being built (early 1960s)
- Disturbed areas were identified on this 1955 aerial image as the footprints of the former storage areas
- The storage areas would have had a concrete floor surrounded by earthen berms on three sides
- Historical documents did not specify type of ordnance stored but typical understanding is primary use was for aircraft related munitions



Ordnance Area 1 MRA

Previous Site Investigations

- **Comprehensive Site Evaluation (CSE):** AFCEC's process to obtain sufficient data to support informed decision-making to effectively manage areas where munitions were formerly used, stored, or disposed.
- **CSE Phase I (equivalent to CERCLA Preliminary Assessment): 2014**

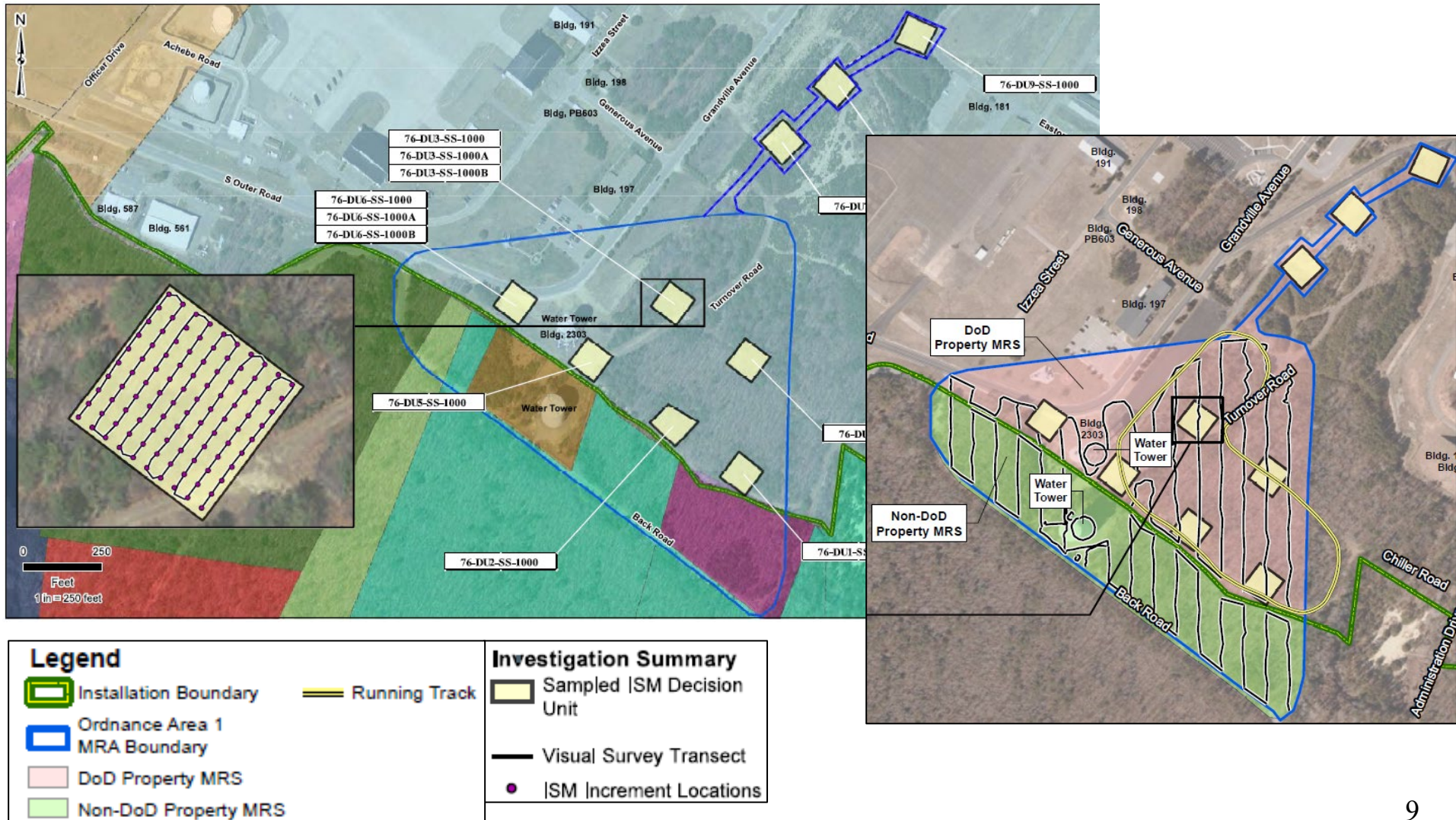
Evaluated risks to human and ecological receptors from munitions and explosives of concern (MEC) and munitions constituents (MC). The CSE Phase I indicated potentially impacted surface and subsurface soil and recommended a CSE Phase II be conducted.
- **CSE Phase II (equivalent to CERCLA Site Inspection): 2015**

Conducted to determine the presence or absence of MEC and MC associated with historical military munitions use. Included a magnetometer-assisted visual inspection of the surface to assess the presence of MEC. Evidence of the bermed areas where munitions would have been stored was included in the surveyed area, but no MEC or munitions debris (MD) were found. MC soil sampling (explosive residues) was also completed during the CSE Phase II, however, no MC were detected above the laboratory reporting limits.

Ordnance Area 1 MRA

Previous Site Investigations

CSE Phase II Soil Sampling Locations and MEC Investigation



ISM = Incremental Sampling Methodology

Ordnance Area 1 MRA

Previous Site Investigations

CSE Phase II Supplemental Investigation (2021 and 2023):

- To further investigate the potential for MEC in the subsurface, a CSE Phase II Supplemental Investigation was completed at the 9-acre Non-DoD Property MRS (accessible to the public)
- Vegetation removal and thinning (trees greater than 5 inches in diameter remained)
- Magnetometer-assisted surface sweep was to remove all metallic debris
- Digital Geophysical Mapping (DGM) survey (used to create a map of surface and subsurface metallic objects) in as close to 100% of the area as possible given vegetation removal restrictions



Ordnance Area 1 MRA

Previous Site Investigations

CSE Phase II Supplemental Investigation (2021 and 2023) - continued

- Intrusive investigation (excavation) of target anomalies above the selected target threshold of seven millivolts (mV) – the response expected for the smallest target of interest (37-millimeter [mm] projectile)
- Magnetometer survey with intrusive investigation was conducted in data gap areas (i.e., inaccessible to the DGM survey team) including roadside drainage trench
- The intrusive investigation at the Non-DoD Property MRS included over 730 dig locations.



Ordnance Area 1 MRA

Previous Site Investigations

CSE Phase II Supplemental Investigation (2021 and 2023) - continued

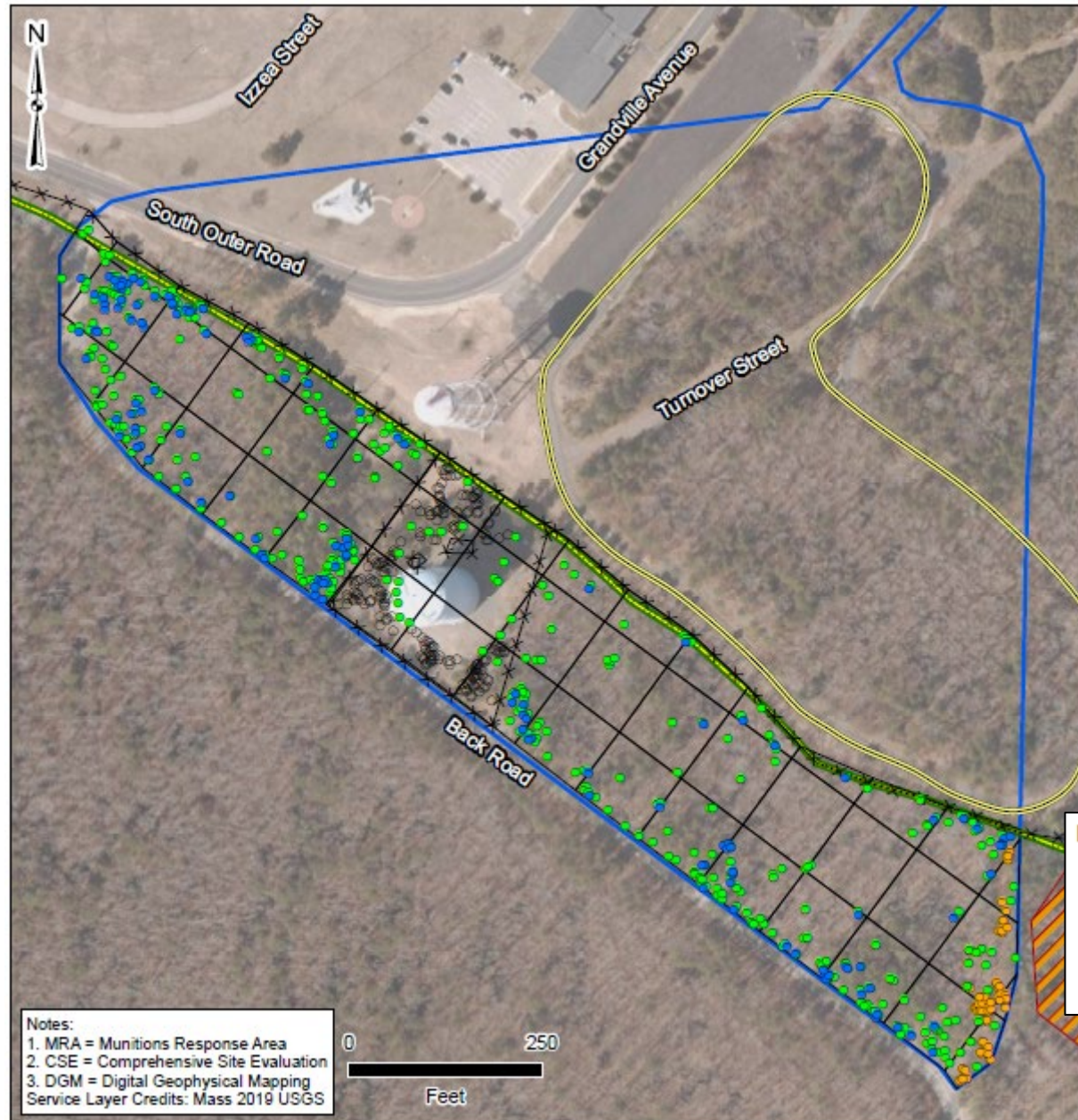
- During the intrusive investigation, no munitions or explosives of concern (MEC) or munitions debris (MD) items were found
 - Note: MD includes remnants of munitions (e.g., fragments, shell casings) remaining after munitions use, treatment, or demilitarization
- All anomalies outside of the Mashpee water tower area were investigated (area within water tower fence were determined to be construction debris related)
- In addition, no MEC or MD were found during construction of the water towers, site roads, parking areas, or running track at the MRA



Ordnance Area 1 MRA

Previous Site Investigations

Summary of CSE Phase II Supplemental Investigations – Intrusive Dig Locations



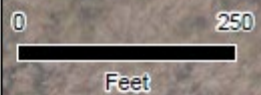
Legend

- Installation Boundary
- Ordnance Area 1 MRA Boundary
- Investigation Grids
- Landfill-4
- Fenceline
- Running Track

Intrusive Investigation

- Targets Intrusively Investigated – CSE Phase II (2021)
- Targets Intrusively Investigated – USACE (2021)
- Targets Intrusively Investigated – CSE Phase II Additional Investigation (2023)
- Anomalies not investigated (Fenced Water Tower Area)

Notes:
 1. MRA = Munitions Response Area
 2. CSE = Comprehensive Site Evaluation
 3. DGM = Digital Geophysical Mapping
 Service Layer Credits: Mass 2019 USGS



Ordnance Area 1 MRA

Previous Site Investigations

CSE Phase II Report Addendum Conclusions (Dec 2023)

- After the CSE Phase II Supplemental Investigation, confirmed the Conceptual Site Model (CSM) for the MRA;
 - No MEC in the form of discarded military munitions (DMM) is present at the MRA
 - No explosive safety hazards or MC risks to human health or the environment have been identified
- The report recommended no further action and site closeout, the MRA can be classified as an Area of No Suspected Contamination and no significant risk or threat to public health or the environment exists.

Ordnance Area 1 MRA

Next Steps

- Public comment period for the Decision Document is 5 April – 4 May 2024
- The Draft Final No Further Response Action Planned Decision Document (NFRAP DD) can be found on the Air Force Civil Engineer Center (AFCEC) webpage:
 - <https://jbcc-iagwsp.org/community/public/irp/>
- The Final Comprehensive Site Evaluation (CSE) Phase II Report and Addendum 1 Report can be found on AFCEC's online Administrative Record:
 - <https://ar.afcec-cloud.af.mil/>
 - Search for "Joint Base Cape Cod" and AR# 570492 and AR# 631677
- AFCEC will address public comments in a Responsiveness Summary
- MassDEP will consider comments and will review the Responsiveness Summary in order to provide a letter of concurrence
- Air Force and EPA finalize Decision Document
 - Responsiveness Summary and the MassDEP Letter of Concurrence are required attachments to the Final NFRAP DD, which will be posted to AFCEC's online Administrative Record.

How to Submit Comments on this Decision Document

- Offer verbal testimony or written comments in the chat bar on the Decision Document during the hearing portion of the meeting
- Mail written comments to:
 - Doug Karson
 - AFCEC/JBCC
 - Attn: Ordnance Area 1 MRA
 - 322 East Inner Road
 - Otis ANG Base, MA 02542-5028
- E-mail comments to
douglas.karson@us.af.mil

Comments/Questions?