

Summary of the Major Conclusions from the 2023 Field Season at the Jeremiah Lee Mansion and Brick Kitchen

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Introduction

In May and June 2023, staff and students from the Fiske Center for Archaeological Research at UMass Boston conducted a second season of geophysical survey and archaeological excavation at the Jeremiah Lee Mansion and Brick Kitchen in Marblehead, Massachusetts. This work built on the 2022 season that had focused on the area between the Mansion and Brick Kitchen, and the eastern part of the yard behind the house. We followed up on some of the most significant results from 2022 test pits and expanded the area covered by conducting a geophysical survey and initial test excavations behind the rest of the Mansion and across the west yard. Excavations were carried out as a 5-week field course for graduate and undergraduate students. This document is an initial summary of the most significant results from the 2023 season written for internal use by the Marblehead Museum and to orient students working on the artifact collection. The most overarching finding from two years of work is that because of the long periods of institutional use and careful stewardship by the Marblehead Museum, archaeological preservation across the whole property is exceptional, and there are significant deposits relating to multiple time periods between ca. 1690 and 1915.

Geophysical Survey Area and Excavation Locations

John Steinberg oversaw the geophysical survey. Using two techniques, ground penetrating radar (GPR) and conductivity, he surveyed the west yard and the area behind the Mansion, extending into the garden beds along the back retaining wall between bushes where possible. In June, we excavated in 23 locations, with a mixture of shovel test pits (50 x 50 cm) and larger excavation units (Table 1; Fig. 1), some of which were contiguous.

These were placed to follow up on 2022 results, to test geophysical anomalies, and in other locations for more even coverage of the west yard.

Major Conclusions, by time period

Bank Period

There are notable deposits from the second half of the 19th century (the later Bank period) behind the house and elsewhere in the west yard. These include a filled privy from the period when the house switched from the Bank to the Historical Society (2315; Fig. 2), a pet burial (2313), and general sheet trash deposits in the historic ground surface around the kitchen addition (2215ext). Notably, these finds contain a number of items related to the children who would have lived at the house as part of the Bank teller's family (marbles, toy tea cups, toy soldier, pet burial). In STP2313, we uncovered the skull of a pet dog, intentionally buried in this location. Only the skull was visible in the test pit; the rest of the animal was located in adjacent, unexcavated area. We left the skeleton in place, but did recover part of the dog's leather collar with metal tags. Conservation treatment allowed us to read the tag, which said "Eliza Reynolds/ Loic [2]06" (Fig. 3). Eliza Reynolds was the youngest daughter of the family of bank cashier William Reynolds and his wife Elizabeth who lived at the bank in the last decades of the 19th century. Other deposits including children's items may relate to the same family. Deposits from the first half of the 19th century are less evident, suggesting a change over time in either how the space around the Bank was maintained, or more intensive residential and business use in the later 19th century.

In the Mansion, we conducted an excavation of a complex of filled features in the brick floor of the southwest room of the basement (Fig. 4). These two, overlapping circular/oval features were

Jeremiah Lee Mansion



Figure 1. Locations of the 2023 excavation units and STPs. Coordinates in the margins are the Massachusetts State Plane grid in meters.

Table 1. 2023 excavation unit locations and sizes. Coordinates describe the south-west corner location and are in the Massachusetts State Plane grid in meters.

Excavation	Ideal SW corner coordinates		Unit size	Reason for unit placement
	E	N		
EU2215 EXT	253322.17	917219.687	1 x 2 m	Expansion of 2215, early 18th c feature
EU2310	253332	917218.5		Expansion from 2207, extent of cobbles
EU2311	253334	917223	2 x 2 m	Expansion around 2214, extent of cobbles and early 18th c feature
EU2317				Basement excavation of circular brick features
EU2318	253309	917217.5	1 x 2 m	Test geophysical anomaly, presumed to be cobbles continuing from 2309
EU2319	253309.5	917221	1 x 0.5 m	Expansion from 2315 to test for additional features
EU2321	253333.2	917223.5	1.5 x 0.75 m	Expansion from 2311 to expose more area without cobbles to test deeper deposits
EU2322	253333.2	917225	1 x 2 m	Expansion from 2311 to explore extent of cobbles
EU2330	253309.5	917201	1 x 1 m	Expansion from 2302 and 2316 to see more of buried rock feature (drain)
STP2302	253311	917201	0.5 x 0.5 m	Placed to test geophysical anomalies
STP2305	253291	917217	0.5 x 0.5 m	Placed to test geophysical anomalies
STP2307	253302.5	917219.5	0.5 x 0.5 m	Placed to cover area NE of knot garden, avoiding geophysical anomalies
STP2312	253305	917195	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2313	253300	917205	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2314	253310	917205	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2315	253310.5	917221	1 x 0.5 m	Test geophysical anomaly, presumed to be privy in historical photograph
STP2316	253310.5	917201	0.5 x 0.5 m	Expansion from 2302 to see more of buried rock feature (drain)
STP2320	253335	917218.5		Expansion from 2310 to see extent of cobbles
STP2323	253295	917215	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2324	253300	917200	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2325	253305	917210	0.5 x 0.5 m	Placed on grid to for coverage of west yard
STP2331	253298.7	917217.3	0.5 x 0.5 m	Excavated through gravel path in knot garden to test depth of cultural deposits
STP2309	314.5	218	0.5 x 0.5 m	Placed to test geophysical anomalies



Figure 2. Some of the artifacts from a privy in STP2315, filled in the early 20th century.

filled with a layer of rubble, including fire bricks and marble in one of them, then capped with a deposit of coal and coal ash. Additional research is required, but these have been preliminarily identified as part of a coal-fired hot air heating system from the mid-19th century.

There are also areas of the berm which contain architectural demolition deposits from the late 19th/early 20th century buildings depicted on the Sanborn maps, but these were minimally explored this season (only STP2323). However, it is likely that the kind of architectural rubble found in STP 2323 extends to the south. Given the later construction, it is not clear that evidence of Lee period use of the north end of the berm/connection to Rockaway street survives. Determining this would entail large and deep excavations, and it is not certain that these would be productive.

Lee Period

We continued to learn about what Lee did to create the landscape or stage on which to build the Mansion and Brick Kitchen. On the east side of the house, as we saw last year, Lee added 3 or more feet of fill to raise the down slope end of the property. In the west yard, there is mostly not a visible fill layer, but instead a late 18th to 20th century topsoil sits on top of an older, earlier 18th century surface (EU2330 for example). In general,



Figure 3 Silvered tag from the leather collar of a dog burial. The tag identifies the owner as Eliza Reynolds.

Lee seems to have added soil to this area as well, but much less, and only topsoil. There are some variations on this in the west yard test pits which should give us some indication of original topography over this space.

Cobbled surfaces around the house were extensive (Fig. 5) and likely filled the whole space between the Mansion and Brick Kitchen and extended behind the house, as seen in EUs 2311, 2321, and 2322, STP 2310/2320, EU2215ext, STP2309, and EU2318 (as well as STP2205). Probing suggests that the cobbles continue west of EU2318 as far as the west edge of the house. The surfaces are created from tightly packed cobbles, generally palm-sized, and flat, placed vertically in the soil. These cobbles would have been gathered from glacial deposits along the beach and carried up to the Mansion property. Raising the landscape and selecting, transporting, and installing these cobble surfaces both represent enormous inputs of labor and resources, invested to create a formal landscape around the house. The cobbles in STP2309 have buttons and small fragments of ceramics between/immediately on top of them, but in general, there is little trash deposition on top of the cobbles, suggesting that they were regularly swept clean.

The preserved cobble surfaces exist at two different elevations. There are deposits at ca. 11.85 meters above sea level and ca. 12.10 meters above sea level both east and north of the house (Table 2). The lower surface seems to be slightly more formal, with the cobbles in neat rows parallel or perpendicular to the sides of the house. The higher



Figure 4. Figure 4. Features in the basement floor. We bisected and excavated half of the fill of each structure. The northwest circle has an interior brick lip below the floor surface, instead of the smooth mortar covering the entire inside of southeast circle. The two parts were separated by a half brick mortared wall between them, indicating they were constructed at different times or for different purposes. The features both contained brick rubble, coal and coal ash, rock, and burnt wood. However, most of the northwest brick rubble was fire brick, as well as three pieces of broken marble slab uncovered at the bottom. When both features were fully exposed, the depths differed by 8 cm (NW is 50 cm, SE is 42 cm), and the elliptical shape of the southeast feature is more visible. There is an opening, presumably an air channel at one end of the northwest feature.



Figure 5. Cobbles surfaces at different locations around the Mansion and Brick Kitchen. Top left: 2215ext, remnant surfaces, cut through by later activities; top center: 2310, north is to the left; top right: 2309; lower left: 2318, cobbles along the northern edge (bottom of image) have been disturbed; lower right: two views of 2311, 2321, and 2322.

Table 2. Elevation of cobble surfaces around the Mansion, in meters above sea level.

Unit	Elevation	Area
2205	11.87	east of house
2309	11.85	north of house
2310	11.81	east of house
2215ext, cxt 171	11.7	north of house
2215ext, cxt 173	11.84	north of house
2311	12.09 to 12.16 (sloped)	east of house
2318	12.05	north of house



Figure 6. Historic photograph showing the knot garden area in the early 20th century. Note the large fieldstones in the northwest corner. Image courtesy of the Marblehead Museum.

surfaces seem slightly less well organized. One question is whether all of these surfaces existed during the Lee period, and whether some are intact (lower) and some are re-set (upper). This is difficult to determine without taking up the cobbles, which we generally avoided. The lower elevations surfaces do seem to be original to the Lee period, based on their orientation relative to the house and the fact that the one section we took up (in STP 2205 in 2022) sits on top of the Lee period fill used to level the property.

We took up a small part of one of the higher elevation surfaces in STP2214/EU2311. In this area, there are small fragments of creamware in the soil around and immediately below the cobbles. Creamware was developed in the 1760s and became a popular and fashionable ceramic type in the 1770s and 1780s. The presence of this diagnostic ware type in the soil around and below the cobbles suggests that the cobbles in this area may have been re-set (or possibly installed for the first time) some time after 1770. Below the cobbles, there is a large, localized deposit of marine clay (not naturally occurring in this location, but placed here during the Lee period or later). We were only able to see one edge of this deposit because it continues under the tree stump in the corner of EU2322, so we do not know its function, but it is sometimes placed to surround and line wells. The

upper surface of the marine clay was at the same elevation as the lower cobbles (ca. 11.8 masl), suggesting that whatever its function, it was part of the Lee period landscape. The fact that it was capped by cobbles suggests that this area of the property might have been reconfigured during the transition between the Lee family and the Bank. No artifacts with a later manufacture date than creamware were found below the cobbles in this area, suggesting that the cobbles were in place by the late 18th century (although this is based on a very small area where we removed the cobbles).

While we did not find any preserved features that can be associated with the Lee barn, we did find multiple test pits (2307, 2331, 2323) in the knot garden area that had deep 19th-century fill layers (1 m+ in all locations), suggesting that this was an open area of much lower elevation that was not filled until the 19th century. This may be the understory of a barn from the Lee period, entered at ground level from the cobbled surface behind the house, but with a lower area for manure or storage. The late 18th century carriage house at Gore Place had this configuration, with a ramp on one side to access the lower level. There are several linear geophysical anomalies east of the knot garden that could be investigated in the future to see if they relate to the barn structure. Historic photographs (Fig. 6) from the early 20th century



Figure 7. One of the many smoking pipes from EU2215ext. This one is marked with II, but most are unmarked and undecorated. There are also a wide range of decorated tin-glazed ceramics, stonewares, and coarse earthenwares.



Figure 8. A small selection of artifacts from the deeper layers of EU2321, also dating to the Jackson period. This deposit also contains animal bone, but the proportions of bones to artifacts are different than in 2215ext, with less bone and fewer smoking pipes overall. This deposit may also be slightly later than the deposit in 2215ext, but that needs to be verified with artifact analysis.

show a large number of displaced field stones at the northwest side of the knot garden area, suggesting that the west side at least was heavily altered and is not likely to be intact. STP2325 did not have this deep 19th century fill, indicating that whatever cause that pattern in 2307, 2331, and 2323 did not extend as far south as 2325.

The presence of so many cobble surfaces from the late 18th century means that there were no areas east of and behind the house where we found Lee period trash/artifact deposits. There were, however, a surprising number of potentially late 18th century artifacts, as well as animal bones, in the topsoil layers west of the house. This suggests that the west yard, which may have been in front of Lee's barn, was more of an active work yard and less of a formal space, with ceramics, buttons, and animal bones getting deposited across the surface. We excavated a relatively small number of test units in this area, but should investigate the distribution of these artifacts over this space to see if there are distinct activity areas (for washing clothes, indicated by the presence of buttons, or for discarding trash or butchered animal bone). In some test pits, the density of artifacts in the topsoil was surprisingly high. Analyzing the artifacts from 2312, 2302, 2316, 2330, 2324, 2313, 2314, and 2325 will provide more information about

this apparent pattern. Any future work in this area should also subdivide the thick (30 cm), visually homogenous topsoil into multiple arbitrary levels to see if it is stratified so that we could separate late 18th from 19th century activity.

The Pre-Lee Period (Jackson and James families)

The fact that Lee raised and leveled the ground surface along this section of Washington Street means that deposits from the earlier occupations of these properties are well preserved. Following up on test units from 2022, we excavated at two locations where there were significant early 18th-century trash deposits relating to the Jackson family (ca. 1690 to the 1750s). One of these is an early filled feature, likely a privy, in EU2215ext with a deep, dense deposit of well preserved animal bone, including birds, fish, and mammals representing the early 18th-century diet. There are also artifacts in this deposit – primarily smoking pipes and ceramic fragments (Fig. 7). The unusual predominance of bone and smoking pipes suggests that this is not generalized trash deposition, but a deposit of a specific set of household waste. Analysis of the animal bones from this deposit is being done by Cal Mikowski for her MA thesis. We also took soil samples to look for seeds, pollen, and para-

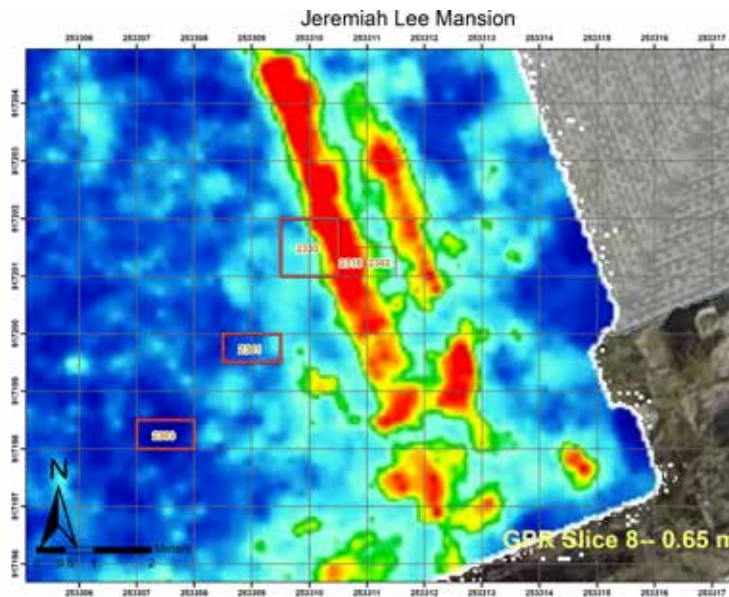


Figure 9. GPR slice showing a very long, linear anomaly west of the Mansion which proved to be a field drain; image of the exposed stone feature.

sites. A preliminary assessment of the ceramics in this deposit suggests that it comes from the early part of the Jackson period (ca. 1690 to 1730). This is an extremely rich and significant early feature.

Excavations in EUs 2311 and 2321 to follow up on the results of 2214 found that there does seem to be a small fieldstone wall in this area, also filled in the pre-Lee period. The tree stump and roots (and the cobble surface, which we mostly wanted to leave intact) made it hard to see a large area. However, there is a N-S row of fieldstones, with an early 18th century trash deposit on the west side of them (Fig. 8). This may have been a small outbuilding or an early property subdivision. The artifacts are also associated with the Jackson family occupation. This is a complex area, with the Lee period marine-clay deposit sitting just above the fieldstones.

In the west yard, we do not have definitive evidence for the location of the James family house, although there are architecture rubble in two test pits – a deposit of displaced field stones in 2314 and a deposit of brick and mortar rubble in 2325. With these small windows, it is hard to tell if this rubble represents leftovers from the construction of the Mansion, the demolition of the James family house, or demolition of something else. In the lab, looking at the artifacts from these layers may help

us date the rubble deposits. There is an apparently pre-Lee ground surface in STPs 2302, 2316, and EU2330 which contains ceramics from pre-1750 in a low density. In the lab, we will get more information about the distribution of pre-1750 artifacts across the west lawn.

Finally, the GPR survey identified a long, linear anomaly west of the Mansion (Fig. 9). When we uncovered the edge in STP 2302, we originally thought that this might be a foundation wall, but further excavation in 2316 and 2330 showed that this is a field drain – loose rocks with air spaces between them placed in a trench to channel water away from an area. The trench for the drain is capped by later yard soils, suggesting that the drain is an early feature of the urban landscape, probably from the James period, or maybe dating to the period when this was common land. If this section of Washington Street was once more sloped, the drain may have been placed to catch water running down the hill and divert it away from structures further down slope (to the east). There are other geophysical anomalies located to the east of the drain, but we do not yet know what they represent.

Outstanding questions/possible follow ups:

Collections focused research on the material

already gathered is the highest priority right now, since it provides information about 200+ years of occupation on the property (ca. 1690 to 1910): the landscape, diet, status, and trade patterns of early urban Marbleheaders; information about the Lee use of space and landscape; and information about the families occupying the Bank building. As a preliminary estimate, we may have recovered as many as 50,000 artifacts this season, in addition to numerous soil samples.

There is particularly rich potential for analysis of early 18th century urban experience including diet (through animal bones and macrobotanical remains), health (through analysis of parasites), and environment (using pollen and landscape data). Some plant remains and artifacts in EU2215ext may also relate to early 18th-century medicinal practices, given George and Bartholomew Jackson's role as doctors/surgeons. The artifacts from the early 18th-century features will provide information about trade patterns, and the ways in which relatively elite Marbleheaders equipped their home, set their table, and engaged in hospitality.

We also have information, in the form of soil deposits, artifacts, and features, about the modifications that Lee made to the landscape in order to build the house, landscape features during the Lee tenure, and some information about activities in the west yard.

In addition to the questions that can be addressed using the collections, there are other questions that could be answered with a combination of collections analysis and in some cases more field research.

Where did the Lee family discard their trash? Right now, based on the amount of trash in the west lawn test pits and the account of Lee bottles in the 19th-century dug burial, it seems that trash deposition was focused on the west yard (in front of/around the barn), not in the cobbled area between the Mansion and Brick Kitchen. However, we have not yet found anything that is a Lee period trash pit, just scattered sheet trash in the yard deposits. There is also a small amount of creamware (a Lee period ceramic type), possibly all from a single vessel around the cobbles near the tree stump between the Mansion and the Brick Kitchen.

How was the space in the west yard of the Mansion used during the Lee period? We will be able to get preliminary answers from the existing data, but further excavation could provide a finer-grained picture of activity areas in this space, which probably was a much more utilitarian/multi-use space than it now appears.

Where was the Lee period privy? Are there other privies along the rear retaining wall in addition to the filled late 19th/early 20th century privy that we located? EU2319 was opened west of the privy in 2315 to try to address this question, but we were not able to go deep enough in the small space that was open. EU2319 did find demolition debris of some earlier structure (abundant plaster), but it is not clear what structure this was from (something at this location or renovations to the Mansion), or what the debris was filling (pit, earlier feature).

Where was the Lee period well? Is it the feature surrounded by marine clay between the Mansion and Brick Kitchen? Learning more about this would be difficult but not impossible because of the location of the tree stump.

There are geophysical anomalies in the west yard that could be further investigated:

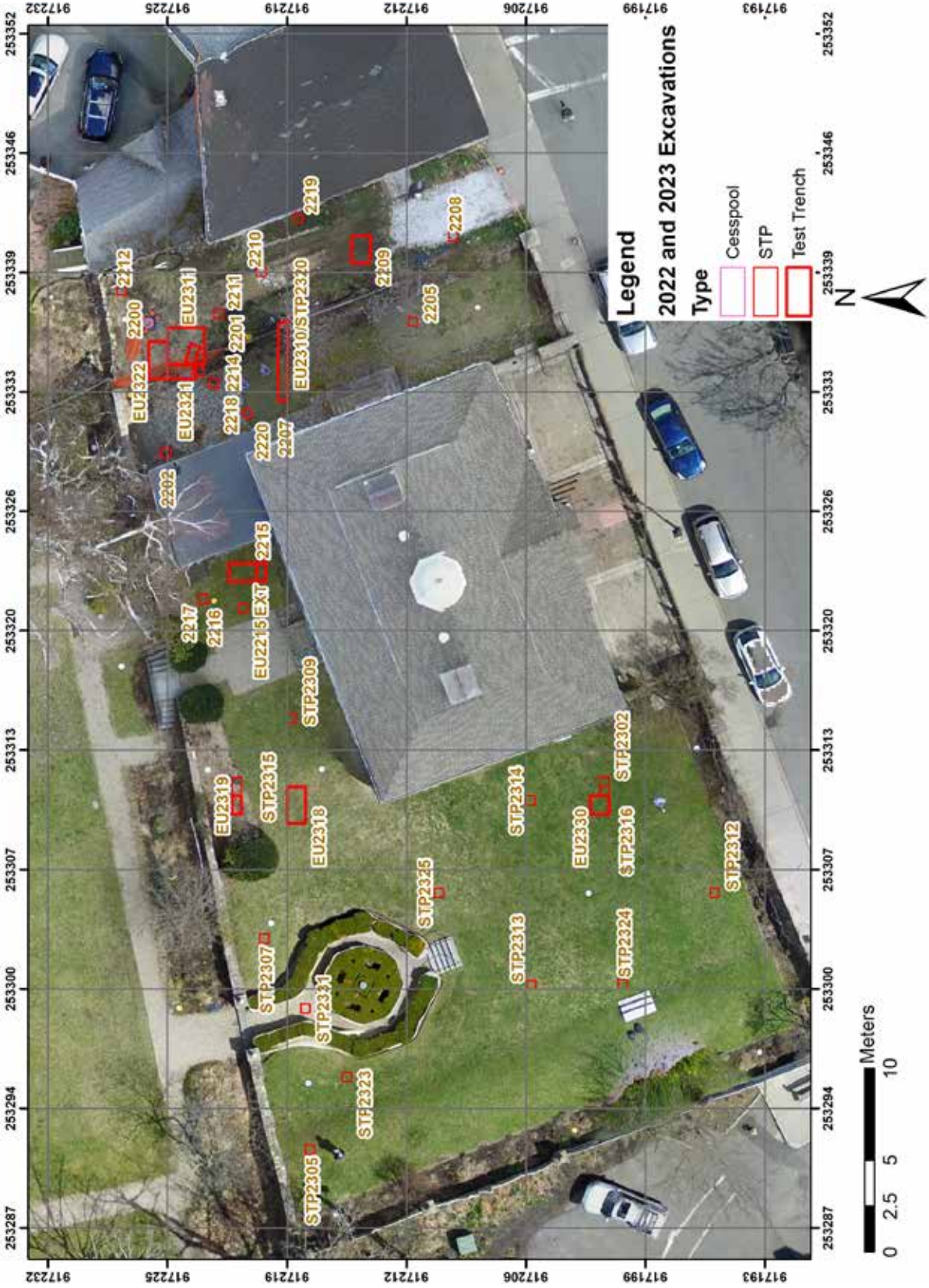
- 1) Linear anomalies east of the knot garden, possible barn foundation, but also possibly utilities related to drainage.
- 2) U-shaped anomaly in STP2302 which we planned but did not excavate.
- 3) Anomalies east of the field drain, possibly related to the James house, but uncertain.

Where did the cobble surface behind the house end? It would be productive to find the west end of the cobble surface uncovered in EU 2318 to see if this surface led to the Lee barn.

Personnel and Acknowledgements

John Steinberg directed the geophysical survey; John Schoenfelder oversaw the mapping/unit layout and took over head photographs. Christa Beranek directed the excavation. The field crew consisted of UMass Boston students

Jeremiah Lee Mansion



All excavation locations (2022 and 2023).

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