

Appendix 4-21

Archaeological Assessment Report for Sites 7 and 10



JAN 11 2012



RECEIVED

Due Diligence Report
Falmouth Wastewater Management
Treatment Plan
Falmouth, Massachusetts

Submitted to:

Due Diligence Review
Archaeological Sensitivity Assessment

January 4, 2012

GHD

1545 Iyannough Road
Hyannis, Massachusetts, 02601

GHD is assisting the Town of Falmouth with the implementation of new facilities for groundwater infiltration. Two potential recharge sites are proposed in areas of undisturbed woodlands east of the West Falmouth Highway (Route 28) and north and south of Thomas Landers Road (Figure 1). GHD requested that PAL conduct a Due Diligence Review/archaeological assessment of these two sites, designated as Site 7 (approximately 6 acres) and Site 10 (approximately 11 acres) (Figures 2 and 3).

The goal of the project was to conduct a review of previously identified cultural resources in the project vicinity; document existing conditions within the sites; produce archaeological sensitivity maps of the proposed sites, and make recommendations regarding the need for and scope of additional investigations at the intensive (locational) archaeological survey level.

This document presents the results of the Due Diligence Review and archaeological sensitivity assessment of the proposed Falmouth Wastewater Sites 7 and 10 parcels, together with documentation of existing conditions and recommendations regarding the potential for cultural resources to be present within the proposed project areas.

The archaeological sensitivity assessment and site walkover was completed by Holly Herbster, PAL principal investigator, in December 2011.

Results of Archival Research/Site File Search

Prior to the start of fieldwork, archaeological site files maintained at the Massachusetts Historical Commission (MHC) were reviewed for updated information on known cultural resources within and/or near the project area. The site file review indicated that no previously recorded archaeological sites are located within or immediately adjacent to the two project sites. Archaeological sites have been recorded in Falmouth in similar environmental settings to those found in the project area.

The town-wide archaeological reconnaissance survey of Falmouth (Donta et al 1996) was reviewed for information about documented pre- and post-contact period land use in the general project area. No pre-contact or post-contact period sites are recorded within or in proximity to the Site 7 or 10 parcels. This section of Falmouth appears to have remained largely undeveloped throughout the historic period, with large lots left as woodland. A review of eighteenth and nineteenth century maps and atlases (e.g. Walker 1880, Walling 1858) did not identify any structures or other improvements within the proposed sites. The general area was not developed for large-scale agricultural use, although small residential farms were most likely present in the vicinity. The combination of sandy/gravelly soils and uneven topography combined to make this section of town less desirable for farming than other sections of Falmouth with more even terrain and well-drained soils.

The soils in the project sites are classified as Plymouth Barnstable Complex, rolling and extremely bouldery (USDA 1993). No wetlands are located within either parcel.

Site Walkover/Existing Conditions Assessment

The fieldwork portion of the project consisted of a walkover survey of both project sites. The purpose of the walkover was to conduct a visual examination of the ground surface, assess existing conditions, and collect information to assist with the development of the archaeological sensitivity assessment. Digital photographs were taken of both project areas and the vicinity.

Site 7

This parcel is located south of Thomas Landers Road and is roughly bounded on the east by Research Road and on the west by Route 28 (see Figure 2). The entire parcel is wooded with no large areas of visible disturbance. A network of foot/bike trails passes through the parcel. The topography is characterized by several large level areas as well as undulating “knob and kettle” terrain, especially in the southwestern portion of the parcel (Figure 4). The proposed site contains scrub oak/pitch pine stands that are relatively thin. Ground vegetation is limited to briars and vines.



Figure 4. Photo of Site 7, typical vegetation (PAL 2011).

Boulders and erratics are visible across the ground surface in all sections of the parcel. An area of collected boulders was noted near the southern parcel boundary; however based on GPS locational data collected in the field, it is located just south of the parcel boundary (see Figure 2). The boulders do not appear to form any sort of structure and may have been dumped in the area during a previous episode of land-clearing somewhere in the vicinity (Figure 5).



Figure 5. Photo of boulder concentration, south of Site 7 boundary (PAL 2011).

Soil augers placed across the parcel documented some previous ground disturbance, primarily in the upper layers. The western and southern portions of the parcel contained a truncated A/topsoil measuring less than 10 cm in depth overlying very shallow natural B₁ and B₂ sandy subsoils.

At the request of the proponent, the area between the southwestern corner of Parcel 7 and existing town wastewater facilities was also examined during the walkover survey (see Figure 2). This corridor may be a potential connection point between new and existing facilities should Parcel 7 be developed. Conditions in this area were similar to those noted elsewhere in Parcel 7, although the topography is marked by a very steep slope just north of the existing facilities, and a partially paved access road extends from the northern end of the developed area.

Site 10

This proposed site is located north of Thomas Landers Road and is currently accessed by a very rough dirt road that enters the site from the eastern end (see Figure 3). The dirt road extends roughly three quarters of the way through the site and ends at a large open clearing. This area has been stripped and extensively disturbed (Figure 6). Dirt and boulder piles are located across the surface and the area has been used for refuse dumping.

The remainder of the site consists of pitch pine/scrub oak forest and undulating “knob and kettle” topography that is typical of the region. Glacial erratic and large and small boulders are scattered across the surface (Figure 7). A well-worn cart path/trail extends from the western end of the disturbed area and continues beyond the western project area boundary. No other indications of human-made features (e.g. stone walls, quarry areas, foundations) were noted during the walkover survey.



Figure 6. Photo of disturbed area, Site 10 (PAL 2011).



Figure 7. Photo of Site 10, typical vegetation (PAL 2011).

Soil augers placed in the wooded section of the parcel documented a natural soil stratigraphy consisting of a very shallow (less than 10 centimeters [cm]) grey sandy podzol soil overlying shallow A/topsoil and B/subsoil coarse sandy soils.

Sensitivity Assessment

The results of the research and walkover survey were used to develop a sensitivity assessment and predictive statements regarding the potential for the presence of archaeological resources within the project area.

Based on the results of the archival research and walkover survey, the project sites were stratified into zones of high, moderate and/or low archaeological sensitivity. The criteria used to predict

sensitivity take into account the proximity of known archaeological sites, the proximity of favorable environmental and/or cultural variables such as fresh water, and the extent of previous belowground disturbance (Table 1).

Both project sites generally exhibit a moderate sensitivity for pre-contact period archaeological resources to be present (see highlighted rows, Table 1). No archaeological sites are recorded in or immediately adjacent to the project sites, nor are any wetland areas located within or in proximity to either proposed site. The assessment is based on the combination of generally undisturbed well-drained soils, a lack of historic or modern development (including no clear evidence of plowing), and the presence of level terrain as well as undulating topography. The portion of Parcel 10 that has been previously disturbed has been assessed as having a low archaeological sensitivity.

Recorded pre-contact archaeological resources in similar environmental settings include short and long-term camps and resource gathering areas. If present, archaeological deposits within the proposed sites would likely be associated with seasonal and/or temporary use by Native Americans over a period that could span 10,000 years. The level terraces would have been well-suited for camp sites and short-term habitation and the kettles, knobs, and large boulders (which could have served as look-outs) would have provided excellent opportunities for hunting and gathering.

Table 1. Archaeological Sensitivity Ranking.

Presence of Sites		Proximity to Favorable Cultural/Environmental Characteristics			Degree of Disturbance			Sensitivity Ranking
Known	Unknown	< 150 m	≥ 150 < 500 m	> 500 m	None/Minimal	Moderate	Extensive	
.		.			.			High
.		.				.		High
.		.					.	Low
.			.		.			High
.			.			.		Moderate
.			.				.	Low
.				.	.			High
.				.		.		Moderate
.				.			.	Low
	.	.			.			High
	.	.				.		Moderate
	.	.					.	Low
	.		.		.			Moderate
	.		.			.		Moderate
	.		.				.	Low
	.			.	.			Moderate
	.			.		.		Low
	.			.			.	Low

Summary and Recommendations

The archaeological sensitivity assessment of the Falmouth Wastewater Sites 7 and 10 included a review of previously identified archaeological resources, the documentation of existing conditions, and a ranking of the project area into zones of high, moderate and low archaeological sensitivity.

It is possible that intact, potentially significant archaeological deposits associated with pre-contact campsites and/or hunting activities could be present across the level terraces and swales that characterize each site.

If ground-disturbing activities are proposed for the parcel, PAL recommends that the proponent consult with the MHC to determine the need for and scope of an intensive (locational) archaeological survey of proposed project impact areas. The purpose of the survey, which would need to be completed in consultation with and under permit from the MHC, would be to identify any potentially significant archaeological resources within the impact area(s).

References Cited

- Donta, Christopher, Thomas Arcuti and Mitchell Mulholland
1996 *Archaeological Reconnaissance Survey of Falmouth, Massachusetts*. Report on file, Massachusetts Historical Commission, Boston, MA.
- United States Department of Agriculture
1993 *Interim Soil Survey Report, Barnstable County, Massachusetts*. Soil Conservation Service. U.S. Government Printing Office, Washington, D.C.
- Walker, George H.
1880 *Atlas of Barnstable County*. Walker Lithograph and Publishing Co., Boston, MA.
- Walling, Henry F.
1858 *Atlas of the Counties of Barnstable, Dukes and Nantucket Massachusetts*. D. R. Smith and Co., Boston, MA.

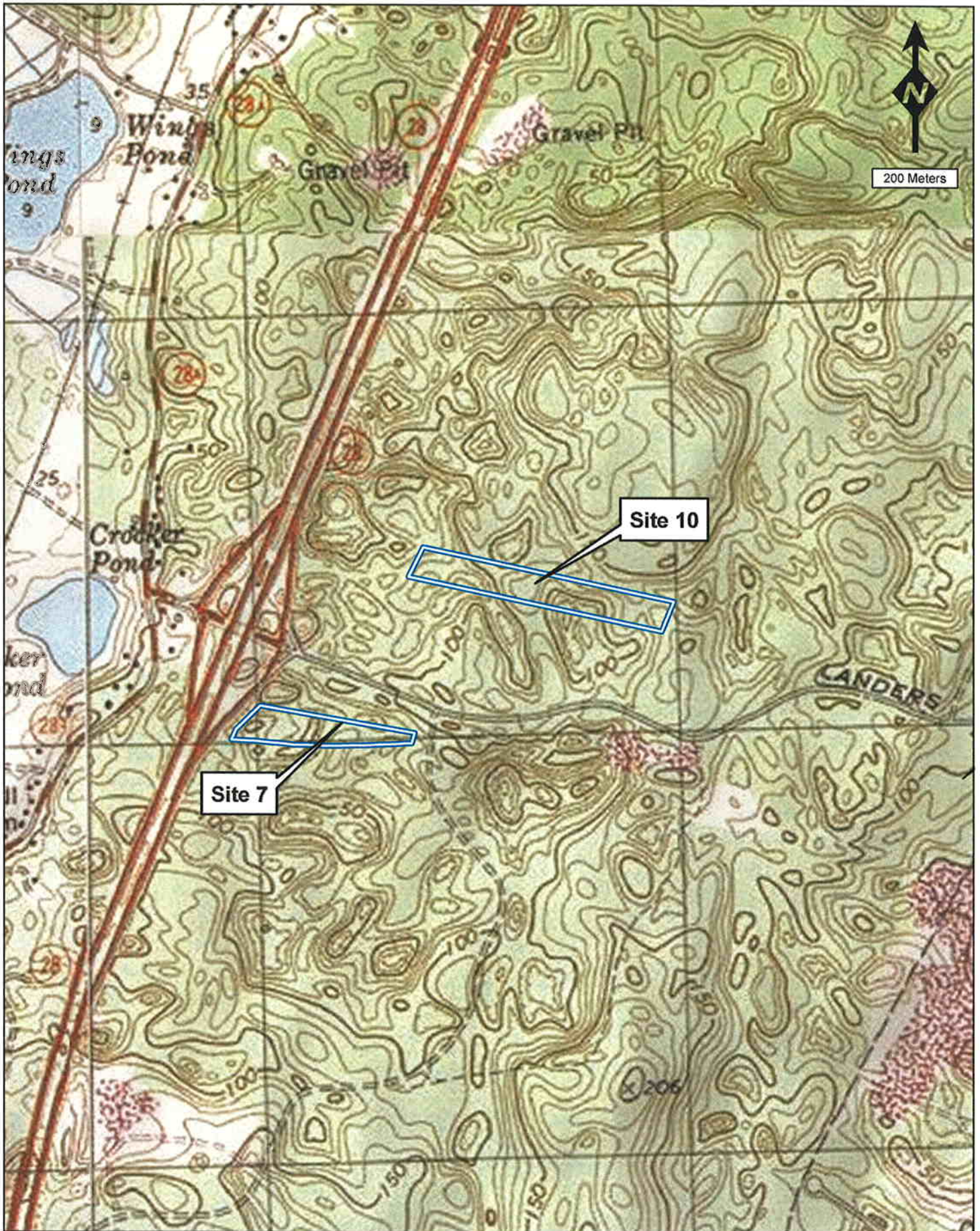


Figure 1. Location of the Falmouth Wastewater Sites 7 and 10 project areas on the Falmouth USGS quadrangle.

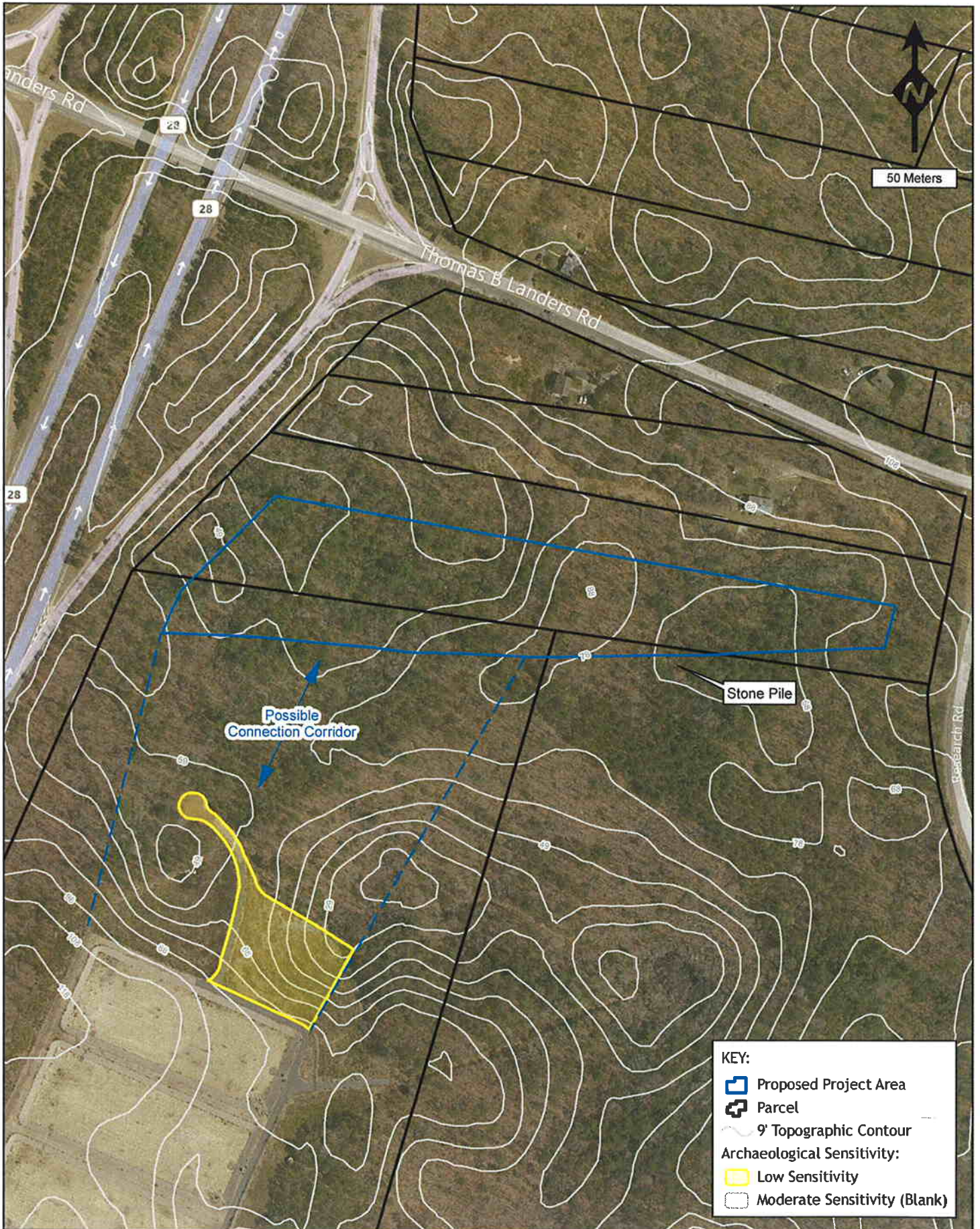


Figure 2. Map of Falmouth Wastewater Site 7 showing existing conditions and archaeological assessment.

MANAGEMENT ABSTRACT

PAL completed an intensive (locational) archaeological survey of the proposed Falmouth Wastewater treatment facilities at Site 7 in Falmouth, Massachusetts. The proposed project involves the construction of two new 39,000-sq ft sand beds (Nos. 14 and 15). The project will also include the construction of an approximately 12-ft wide and 675-ft long access road connecting the existing Sand Bed No. 13 to the southwest corner of the proposed new Sand Bed No. 15.

Fifty-two 50-x-50 centimeter (cm) test pits were excavated within the area of potential effect (APE). One isolated Brewerton-style Late Archaic (5000–3000 B.P.) projectile point was recovered during the course of the fieldwork. The projectile point is not considered to be a significant cultural resource and the combined results of archival research, reconnaissance survey, and subsurface archaeological testing did not identify any other archaeological deposits within the proposed wastewater treatment facility APE. Therefore, the proposed project is not expected to impact any significant cultural resources and no further archaeological investigations are recommended.