

**TECHNICAL REPORT**

**MOA MITIGATION SERVICES – ARCHAEOLOGICAL MONITORING  
COTLEY RIVER RESTORATION / BARSTOW'S POND DAM REMOVAL**

**Taunton, Massachusetts**

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## MANAGEMENT ABSTRACT

The Public Archaeology Laboratory, Inc. (PAL) completed mitigation services for the Cotley River Restoration/Barstow's Pond Dam Removal Project in Taunton, Massachusetts. The mitigation services consisted of archaeological monitoring of the contractor installation of protective fencing and timber mats at the Barstow's Pond Mill Site (MHC #TAU-HA-67) and protective fencing at the pre-contact Cotley River Native American Site (MHC #19-BR-693); aboveground survey, including mapping and photography of the timber and earthen berm dam components of the mill site; archaeological monitoring of the dam removal process; and archaeological walkover/reconnaissance survey of the pond drawdown area.

Although dam excavations did not extend to the original river bed bottom, archaeological monitoring of the dam removal confirmed the presence of a fully earthen berm component with uniform fill soils dating to the late nineteenth century with no evidence of timber core or underlying mattress. The timber dam component dates to the mid-twentieth-century, but the structure likely replaced an earlier timber component or possibly an extension of the earthen dam originally constructed to abut the west embankment of the river. The modern timber dam component was built to maintain water control during periods of high flow in the last decade of the sawmill operations and following the cessation of mill operations. No evidence of eighteenth- or early nineteenth-century dam core components was encountered, although the timbers, wood planks, and concrete elements removed in the east channel (spillway) likely are the remains of older sluiceway gate structure(s) that were improved and/or modified over time by the mill operators. No archaeological deposits were identified in the dewatered pond impoundment.

The dam removal construction excavations were done in such a way as to protect and preserve the mill foundation and associated waterpower (wheel) infrastructure components at the east side of the Barstow's Pond Mill archaeological site and former east river channel, which now will serve only as an overflow for the main river channel to the west. Future archival research and archaeological investigations of the preserved mill site's foundation remains and associated waterpower could address research questions related to the history of the sawmill operations at the site and technological changes that occurred under the different mill ownerships in the eighteenth, nineteenth, and twentieth centuries.



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## Introduction

This report presents the results of the mitigation measures completed by The Public Archaeology Laboratory, Inc. (PAL) for the Cotley River Restoration/Barstow's Dam Removal Project (the Project) in Taunton, Massachusetts to fulfill Stipulations I and II of the Project's Memorandum of Agreement (MOA). PAL's mitigation work was conducted under contract to DER.

The Massachusetts Department of Fish and Game's Division of Ecological Restoration (DER) and Project partners, including the Taunton Development Corporation (TDC, the dam owner), Save the Bay, and the National Oceanic and Atmospheric Association/National Marine Fisheries Service (NOAA/NMFS), as the lead federal agency, undertook the removal of the Barstow's Pond Dam on the Cotley River in Taunton, Massachusetts (Figure 1). The Project was designed to restore a free-flowing riverine system for migratory and resident fish in the Cotley River. The dam structure was a contributing element of the Barstow's Pond Mill Site (MHC #TAU-HA-67), a historic property eligible for listing in National Register of Historic Places (National Register).

The cultural resources mitigation work assisted the Project partners in fulfilling Stipulations I and II of the Project's MOA, in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800) and Massachusetts General Laws, Chapter 9, Sections 26-27C (950 CMR 71). MOA Stipulation I involves archaeological site avoidance and protection of the pre-contact Cotley River Native American Site (MHC #19-BR-693) and remaining portions of the post-contact Barstow's Pond Mill Site (MHC #TAU-HA-67) during the dam removal and restoration work, before the start of construction activities for the dam removal and river restoration (Figure 2). Stipulation II involves archaeological reconnaissance/walkover survey of the dewatered impoundment and monitoring of the construction excavation and removal of the earth and timber dam structure and associated water control features.

## Project Description

The Project involved removing the Barstow's Pond Dam approximately 2,000 feet (ft) upstream of the Cotley River's confluence with the Taunton River, which flows unimpeded in a southerly direction to Narragansett Bay. The timber crib spillway, earthen embankment, and sluiceway components of the dam were removed as part of the Project. The mill wheel remnants and existing stone walls and structures associated with the mill that once operated at this location were protected during construction and remain in place. Access to staging areas was along an existing dirt road; no work was conducted between this road and the east channel (spillway) where the historic stone wall structures remain. The drawdown of the impoundment (Barstow's Pond) upstream of the dam was done by removing boards from the dam's sluiceway.

The river flows were first diverted to the right side of the channel for work on the left side of the channel, including riverbank stabilization treatment, and then to the left side of the channel. Up to 6 ft of sediment was expected to be excavated from immediately behind the dam. The riverbank protection on the right side of the channel terminated at the downstream extent of the dam, tying into the existing riverbank. On the left side of the channel, the riverbank stabilization treatment was installed for approximately 30 ft upriver of the channel split. Woody and native plantings were installed in the channel bed and along the riverbanks, including the dam removal site, once they were restored.

## Project Background

In April 2012, the Project partners contracted Archaeological Services at the University of Massachusetts–Amherst (UMass Archaeological Services or UMAS) to conduct an archaeological reconnaissance and intensive (locational) archaeological (Phase I) to comply with the Massachusetts Historical Commission's (MHC's) request for survey in accordance with Section 106 and M.G.L. Chapter 9, Sections 26-27C (950 CMR 71). The archaeological survey identified two archaeological sites within the Project's Area of Potential Effects (APE): the Cotley River Native American Site (19-BR-693) and the Barstow's Pond Mill Site (TAU-HA-67). In a letter dated March 13, 2014, the MHC concurred with the NOAA/NMFS's determination that the Barstow's Pond Mill Site meets the eligibility criteria (36 CFR 60.4) for listing in the National Register under Criteria A, C, and D at the local level of significance. The MHC also agreed that the Cotley River Native American Site is potentially eligible for listing in the National Register because it has the potential to yield important information regarding Early Woodland Period settlement and subsistence patterns in the Cotley River/Taunton River drainage.

In June 2014, UMass Archaeological Services prepared an Archaeological Site Avoidance and Protection Plan (ASAPP) for the two site locations within the Project's APE that contain sensitive archaeological resources to be impacted during the removal of the dam. The ASAPP contained measures for the protection of these two sensitive archaeological resource areas before and during Project construction. The ASAPP also indicated that the dam component of the National Register-eligible Barstow's Pond Mill Site was to be removed as part of the Project and, therefore, mitigation measures during dam removal should be implemented. In January 2015, the NOAA/NMFS provided the revised 90-percent Project design plans, a copy of the ASAPP, and a map of the Project's APE to the MHC, the Massachusetts Board of Underwater Archaeological Resources (MBUAR), the Old Colony Historical Society, the Mashpee Wampanoag Tribe, the Aquinnah Wampanoag Tribe, and the Narragansett Indian Tribe. The NOAA/NMFS correspondence invited these entities to review and comment on the Project plans and effects and to be signatories to any resultant Project MOA.

In February 2017, the NOAA/NMFS consulted with the MHC and the Advisory Council on Historic Preservation (ACHP) regarding its finding of adverse effect on historic properties, draft MOA, and final design plans. In a letter dated February 17, 2017, the ACHP declined to participate in the Section 106 consultation process unless requested at a later date by the Massachusetts State Historic Preservation Office (SHPO), the Tribal Historic Preservation Offices (THPOs), or any other parties. In a letter dated March 3, 2017, the MHC concurred with the draft MOA mitigation measures and requested copies of any written consulting party comments on the draft MOA, which was finalized and executed in June and July 2017 among the NMFS, MHC, MBUAR, and the TDC (Appendix A).

## PAL Personnel and Tasks

PAL personnel involved in the monitoring and documentation efforts were Suzanne Cherau (principal investigator/project manager), Jennifer Banister (project archaeologist, industrial), John Kelly (archaeologist), and Charlie Hartfelder (architectural historian). Jay Waller (senior archaeologist) assisted with Total Station mapping. The archaeological fieldwork was conducted from February 12 to March 6, 2018, under State Archaeologist's Permit No. 3796 issued by the MHC/State Archaeologist on December 18, 2017, and under MBUAR Special Use Permit No. 17-010 issued on December 5, 2017 (Appendix A).

All tasks were carried out in accordance with the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716–44742, National Park Service [NPS] 1983) and the



MHC's *Public Planning and Environmental Review: Archaeology and Historic Preservation* (1979a) and were completed in compliance with the applicable Massachusetts General Laws. This report follows the guidelines established by the National Park Service in the *Recovery of Scientific, Prehistoric, Historic, and Archeological Data* (36 CFR 66, Appendix A). Key PAL personnel involved in the cultural resources investigations meet the *Secretary of the Interior's Professional Qualification Standards* (36 CFR 61, Appendix A).

### **Tribal Participation**

Martin Hendricks of the Mashpee Wampanoag Tribe, under the direction of David Weeden (Deputy Tribal Historic Preservation Officer), provided Tribal monitoring during the site mapping, site avoidance, and dam removal excavation field activities.

### **Site Descriptions**

The ASAPP contained measures for the protection of the pre-contact Cotley River Native American Site (19-BR-693) and all but the dam component of the Barstow's Pond Mill Site (TAU-HA-67). The sites' descriptions below incorporate information from the ASAPP and from UMass Archaeological Services' technical report for the 2013 archaeological reconnaissance and intensive (locational) archaeological (Phase I) survey.

#### **Cotley River Native American Site (19-BR-693)**

The intensive survey subsurface testing of the proposed staging/stockpile area in the southeastern portion of the Project APE identified the pre-contact Cotley River Native American site. Seven of the 30 test pits in this area yielded a total of 14 artifacts: 1 argillite Rossville projectile point dating to the Early Woodland Period (approximately 3,000 to 2,000 years ago), 9 quartz flakes, 1 quartz core fragment, and 3 pieces of quartz shatter in plow zone and undisturbed subsoils. The quartz core suggests that stone tools were being manufactured at this location, and the debitage is a result of stone tool manufacture or use (Lynch 2014; Lynch and Barker 2013). The site boundary outlined by UMass Archaeological Services includes an approximately 15-ft (4.5-meter [m]) buffer around the test pits containing the pre-contact cultural material (see Figure 2).

#### **Barstow's Pond Mill Site (TAU-HA-67)**

The intensive survey identified the visible remains of the late eighteenth- through twentieth-century sawmill and dam on the east side of the Cotley River approximately 70 ft (21.3 m) south of Middleborough Avenue (see Figure 2).

### ***Documentary Record***

The intensive survey did not determine the original construction date of the mill, but noted that the dam and sawmill are indicated on late eighteenth-century and nineteenth-century maps of Taunton (Anonymous [Anon.] 1830; Beers 1871; Everts and Richards 1895; Tisdale 1795; Walker 1881; Walling 1858). Historical documents identified the sawmill as belonging to Joseph Dean in the late eighteenth century, with ownership passing to the Barstow family (related to Dean by marriage) in the mid-nineteenth century.

Joseph Dean built the Dean-Barstow House, located at 275 Williams Street adjacent to the Barstow's Pond mill site.<sup>1</sup> He was a descendant of Walter Dean(e), one of Taunton's original settlers. According to records at the Old Colony Historical Society in Taunton, the earliest mention of the mill is in a March 10, 1938, newspaper article about the Dean-Barstow House: Joseph "owned the property across the road from the house, whereon still stands a sawmill of early date, and it is said that while Lafayette was in Newport, Rhode Island, during the Revolution, the boards for the barracks were sawed at the mill of Joseph Dean."

According to the UMAS report, if this newspaper account is correct, Joseph Dean operated the sawmill during the final quarter of the eighteenth century, before building his house on Williams Street (Lynch 2014; Lynch and Barker 2013). The National Register nomination form for the Dean-Barstow House notes that the house was constructed "from lumber planed and finished in Dean's saw mill, located on land abutting the site" (MHC 1979b). The documentary research indicated that the construction of a saw mill at this location "can be confidently placed at least as early as the late eighteenth century" (Lynch and Barker 2013:45).

No mention of the sawmill on the Cotley River was found in town and county histories, nor was it considered an important contributor to Taunton's industrial boom in the nineteenth century (Emery 1893; Hurd 1883; Hutt 1924). Therefore, "the saw mill in the project area was probably a small, family operation, and likely originated as an industry to support a local agrarian community." There are no Sanborn insurance maps of this rural area in Taunton to provide any details of the mill site in the late nineteenth to mid-twentieth centuries. The 1830 (Anon.) map of Taunton indicates a single sawmill structure on the east side of the river adjacent to what is now Middleborough Avenue. Two mill structures (labeled "shingle saw and clapboard mill") are indicated on the west side of the river south of Middleborough Avenue on 1852 and 1858 (Walling) maps. An 1871 (Beers) map shows the sawmill straddling the river; the 1881 (Walker), 1895 (Everts and Richards), and 1944 (USGS) maps depict the mill buildings adjacent to the east side of the river. The 1895 map is the only one that depicts and labels the dam adjacent to the L-shaped wood-frame sawmill building.

The 2013 intensive survey report does not include a full chain-of-title for the sawmill property, but the archival materials, including census records, indicate that mid-nineteenth-century ownership of the property transferred from the Dean family to the Barstow family and that the two families appear to have been related by marriage—Charles N. C. Barstow married Harriet Dean, a granddaughter of Joseph Dean, in 1881. They resided on Stevens Street, along the east side of the mill pond. In the 1890s, Charles and Harriet's son Henry acquired the property and his name is indicated on an 1896 plan of land that includes the sawmill site on the south side of Middleborough Avenue. Taunton directories record Henry as a tackmaker in 1881 and 1883 and then as a tackmaker and sawmill owner on Middleborough Road from 1884 until 1898; in 1898, only "sawmill" is listed as his occupation. From 1899 to 1926 he is also listed as an "Ice Dealer" (Lynch and Barker 2013). An "ice house" depicted on the west side of the pond south of the sawmill on an 1881 town map does not appear on earlier or later town maps. The sawmill, dam, and associated waterpower infrastructure are indicated on city plans of the property from the 1950s and early 1960s, although it is unclear if the mill building was still standing at that time.

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<sup>1</sup> The Dean-Barstow House is listed in the *Inventory of Historic Assets of the Commonwealth* (MHC #TAU.592) and the National Register as an Individual Property and as part of a Multiple Resource Area.

### *Visible Remains of the Mill Site<sup>2</sup>*

The 2013 intensive survey determined that the visible remains of the sawmill structure are dominated by a 37-ft-long (11.3-m) dry-laid stone wall, with remnant timber sill, that is 5 ft (1.5 m) tall on its east side and 8 ft (2.4 m) tall on its west side (Figure 3). The wall is parallel to the east side of the east channel (spillway) (named “tailrace” in the intensive survey report) that parallels what was likely the original (main) run of the river to the west (Figure 4). The sawmill structure’s cellar hole is on the east side of the foundation wall and is visible as a 20-ft (6-m) wide depression between the wall and the access road to the east (Figure 5).

Two wheel pits are present in the mill foundation component of the site: one stone-lined wheel pit is in the cellar hole floor that contains the remains of a 6-ft (1.8-m) diameter vertical waterwheel, and a second wheel pit is on the west side of the foundation wall closest to the raceway/sluiceway. The water wheel remains consist of the central vertical iron shaft, wooden spokes, and collapsed sections of the outer wooden rim with machine-cut nails still in place (Figure 6). Stone piers flank the north and south ends of the western wheel pit; the piers likely supported an overshot or undershot waterwheel (Figure 7). The southwest side of the western wheel pit abuts the 6-ft (1.8-m) wide east channel (spillway) that would have allowed excess water to flow through the dam and into the mill’s tailrace (see Figure 4). The water flowing through the east channel, which is now the current run of the river, was guided by stone retaining walls along the 15-ft (4.6-m) wide downstream channel section (Figure 8).

Only the northern pier within the western wheel pit was observed during the 2018 mapping fieldwork of the dam remains (see Figure 7 and discussion below). The pier is 3.7 ft (1.1 m) tall, 2.0 ft (0.6 m) wide at the top, 2.5 ft (0.8 m) wide at the base, and is constructed of mortared fieldstone. There was no visible evidence of the three southern piers indicated on the 2013 site plan (see Lynch and Barker 2013:figure 4).<sup>3</sup> A square hole in the foundation wall between the two wheel pits was also noted during the 2018 fieldwork; this hole likely was the location of a drive shaft or support bar connected to the central axles of the exterior or interior water wheels (Figure 9). The hole is 9.6 inches (in) (24 cm) wide by 10.8 in high (27 cm).

A possible granite millstone fragment was noted in the cellar hole of the mill building near the interior wooden waterwheel. The millstone fragment is approximately 12-x-16 in (30-x-40 cm) and approximately 3 in (7 cm) thick, with faint radiating furrows (grooves) incised on what would have been the dressed face of the stone (Figure 10). The side edges are very worn, which may indicate later reuse for some purpose other than as a millstone in the sawmill.

Two additional stone walls interpreted as part of the sawmill foundation were documented in 2018.<sup>4</sup> One of the walls extends in a curved alignment about 6 ft (1.8 m) long at the southwest end of the fieldstone foundation wall (Figure 11). From there it turns southwest at a right angle underneath the (modern) wood plank deck and joins the second wall (approximately 25 ft [7.6 m] long) that lines the upstream (east) spillway channel and then extends approximately 14 ft (4.3 m) southeasterly into the embankment (Figure 12). The addition of these walls to the overall site plan more closely corresponds to the footprint of the mill building depicted on the 1895 (Everts and Richards) atlas map of Taunton (see Lynch and Barker

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<sup>2</sup> The 2013 description of the mill foundation remains have been updated with 2018 site conditions and photographs.

<sup>3</sup> The 2013 UMAS report does not provide a photograph of the three southern piers depicted on the 2013 site plan, so the 2018 fieldwork relied solely on the 2013 schematic plan location.

<sup>4</sup> The location of these additional stone walls associated with the mill foundation are depicted on Figure 14 of this report.

2013:figure 8) and the 1952 plan of road for this section of Middleborough Avenue (see Lynch and Barker 2013:figure 14). The two newly documented walls are constructed of dry-laid fieldstone similar to the other mill foundation wall. The portion of the wall along the spillway and under the former wood plank deck is parged cement over fieldstone (see Figure 12a).

### *Visible Remains of the Dam*

The earthen and timber dam associated with the mill complex spanned approximately 78 ft (23.7 m) across the east and west channels of the Cotley River, which were separated by an “island” containing mature trees and shrubby vegetation. The dam was set at a right angle to the sawmill foundation wall on the east bank of the east channel (spillway). The earthen berm component of the dam was approximately 48 ft (14.6 m) long and extended from the west side of the spillway to the east bank of the west (overflow) channel that was likely the original run of river. The top of the earthen dam was 5 ft (1.5 m) wide, and its upstream side was faced with square timber pilings (vertical ties) that extended 2.75–3.8 ft (0.84–1.1 m) above the top of the berm's surface.

The timber dam component extended 30 ft (9.1 m) across the west channel connecting to the earthen berm on the east and stone retaining walls on the west. The upstream stone retaining walls formed a right angle with the timber dam section, extending approximately 24 ft (7.3 m) in a northwesterly direction into the neighboring yard and 21 ft (6.4 m) in a southwesterly direction along the upstream river bank. The stone retaining wall on the downstream side of the dam extends approximately 48 ft (14.6 m) along the northwest side of the overflow channel and includes an 8-ft (2.4-m) long cut granite block set flush with the current ground surface. The timber dam was constructed of equally spaced timber piles that supported a truss system of diagonal timbers faced with boards (Lynch 2014; Lynch and Barker 2013).

### **Project Impacts and Site Avoidance and Protection**

The visible elements of the sawmill—the foundation wall, cellar hole, wheel pits, stone piers, and retaining walls along the east channel (spillway)—were in a delineated no impact zone within the Project APE (see Figure 2). Site avoidance and protection measures were developed for the portions of the mill site outside the dam removal work areas. They included the placement of high visibility fencing downstream of the dam and timber mats in the proposed access extension work area leading to the modern wood plank deck over the east channel (spillway) before construction activities. The timber mats were designed to distribute the vehicle load and reduce compaction and to protect the ground surface and any buried resources from inadvertent construction-related disturbances. The direct construction impacts to the dam component of the mill site were subjected to archaeological monitoring and recordation as part of the MOA mitigation measures.

### **Mitigation Methodology**

PAL's mitigation fieldwork for the Project consisted of four primary tasks, described below in the order of completion during the construction phase of work:

- **Aboveground survey, including mapping and photography of the dam component of the mill site**

Before the contractor's mobilization and site construction work, the aboveground survey of the dam was conducted using a Total Station, supplemented by hand measurements and detailed plan and profile views

(e.g., timber dam cross section). High resolution digital photographs of the visible structural remains of the dam and related components, including the visible mill building remains, were also taken as part of the fieldwork.

- **Flagging and fencing of both archaeological site areas and protective matting on the ground surface at the mill site**

As part of the contractor mobilization work, and in accordance with the ASAPP, the construction areas of avoidance around the mill site and the pre-contact Native American site (see Figure 2), were staked and flagged and set off with high visibility orange construction fencing (Figures 13 and 14). The contractor was also instructed to place “No Trespassing” signs on the protective construction fencing (Figure 15). A PAL archaeologist ensured that the avoidance areas were accurately flagged and staked and delineated according to the Project Engineer and final construction plans. The protective fencing was inspected and monitored by PAL archaeologists before and during the construction work and dam removal excavations to ensure that it properly conformed to the mapped and flagged site avoidance areas and that there were no inadvertent disturbances.

PAL archaeologists also monitored the contractor's installation and removal of the timber construction mats in the access extension area within the mill site, as depicted in Figure 2 and as described in the ASAPP (Figures 16 and 17). A PAL monitor ensured that the use of timber mats protected the ground surface and potential buried resources from construction disturbances throughout the fieldwork.

- **Archaeological monitoring of the dam removal excavation work**

During the construction phase of the Project, PAL archaeologists conducted monitoring and recordation during the machine excavations of the earth and timber dam structure and associated water control features (see Figure 2). Any potentially significant archaeological resources exposed during the excavation work were recorded using GPS (handheld Trimble with sub-meter accuracy). Digital photographs were taken and sketch/measured drawings (plans, profiles, and cross-sections) were made as safety considerations allowed. The recordation focused on hidden/buried aspects of the dam structure (e.g., core of the dam) and large artifacts within the structure, which were photographed and sketched/measured in the field. The locations and nature of identified cultural deposits were recorded, but no artifacts were collected as part of the archaeological monitoring fieldwork.

- **Archaeological walkover/reconnaissance survey of the pond drawdown area**

Finally, also during the construction phase of the Project, PAL archaeologists conducted a walkover/reconnaissance survey of the pond drawdown area to locate and identify any potentially significant archaeological resources exposed on the ground surface/impoundment floor. The locations of identified resources were mapped and recorded on Project plans, using GPS (handheld Trimble with sub-meter accuracy), and digital photographs and notes regarding the nature and content of the location(s) and feature(s) were taken.

## **Results of Mitigation Fieldwork**

The archaeological mitigation fieldwork consisted of the aboveground survey of the earthen and timber components of Barstow's Pond Dam, monitoring and recordation of the dam removal excavations, and archaeological walkover/reconnaissance survey of the pond drawdown area upstream of the dam. One mill-



related artifact was exposed during the dam removal excavations: an iron pulley with attached line shaft (see below).

### **Aboveground Survey**

The earthen berm component of the Barstow's Pond Dam was approximately 48 ft (14.6 m) long and 4 ft (1.2 m) high with a flat crest approximately 6 ft (1.8 m) wide (Figure 18). The upstream side (southern edge) of the earthen berm was lined with vertical timbers that rose above the crest of the dam approximately 3 ft (0.9 m) (Figure 19). The timbers were set tightly abutting one another and were reinforced with horizontal wood boards nailed to the upstream (southern) sides (Figure 20; see Figure 19). The timbers were similar in size and shape to railroad ties, with creosote residue on the exterior surfaces and iron S-shaped pins embedded in the short ends to prevent rotting and splitting (Figure 21).

On the west side of the earthen berm was the timber section of the dam, which was approximately 30 ft (9 m) long and 7 ft (2.1 m) high (see Figure 18) and constructed of twelve 6-x-8-in (15-x-20-cm) evenly spaced (every 3 ft [0.9 m]) diagonal timbers supported by braces and horizontal joists that rested on a dense cobble substrate in the river bed (Figures 22–24). Removable wood planking with iron handles created the upstream face of the dam and could easily be adjusted based on the water level in Barstow's Pond (Figure 25). The timber dam was anchored to the earthen dam to the east and to stone retaining walls to the west by horizontally laid timber planking abutments (Figure 26). The timber structure had lower and upper plank decking made of sawn “2-x-4s” (see Figure 23). The upper deck had evenly spaced 3 ft (0.9 m) on center vertical posts to allow access across the crest of the structure (see Figure 21; Figure 27). Dry-laid stone retaining walls are present along the upstream west bank of the west channel on both sides of the timber section of the dam (see Figures 16 and 24). The west channel is also lined with a dry-laid fieldstones on both sides below the timber dam section (see Figure 16; Figures 28 and 29).

### **Dam Removal Monitoring and Recordation**

Machine excavation of the dam began with the removal of the modern wood deck and boards from the east channel (spillway) to facilitate drawdown of the impoundment (Figure 30). Removal of the wood deck, underlying support structures, and the wooden boards lining both sides of the spillway destabilized the mortared stones forming the right angle corner of the mill foundation remains closest to the east channel and southwest corner of the western wheel pit (Figures 31 and 32). The 5.2-ft (1.6-m) tall section of destabilized wall is composed of 8–10 courses of mortared narrow fieldstones topped with flat dry-laid fieldstones that formed a roughly 2.5-ft (0.8-m) square corner (Figure 33). The “cornerstone” section abuts the dry-laid fieldstone wall to the west and dry-laid fieldstone wall to the south that was underneath the wood plank deck across the spillway. The stonework rests on a horizontal wood timber set at the water line of the east channel. A rotting vertical wood post is present at the south side of the dry-laid stones where they abut a poured concrete section of mill foundation wall.

Because of the unforeseen wall destabilization, PAL instructed the construction contractor to stop work in this area and informed the Project partners of the possible need for additional protection measures. Following an on-site meeting with the contractor and PAL, the Project partners agreed that additional protection measures were needed to protect the mill foundation wall. As the lead federal agency, NOAA/NMFS notified the MHC and other MOA consulting parties of the proposed additional measures (see Appendix A): realigning the timber mats and access road extension across the east channel (spillway) slightly south away from the loose masonry to avoid further disturbance (Figure 34); shifting the proposed channel reconstruction work in this location approximately 5 ft (1.5 m) to the west; and placing native stone

material against the east side of the channel to within approximately 1 ft (30.5 cm) of the top of the stone wall (Figure 35). This approach was deemed appropriate given that the realigned east channel would no longer be the primary channel and would not receive normal river flows. NOAA did not receive a response from the MHC, and the additional protection measures for the mill foundation were carried out by the contractor.

The contractor's machine excavations continued with the excavation of sediments in the east channel to further increase the drainage of the upstream pond and facilitate the dam removal work. Loose timbers and wood boards measuring 4–8 ft (1.2–2.4 m) in length were removed from the spillway and adjacent east bank of the earthen berm and in the east channel (Figure 36). The timbers and boards were not attached or anchored to the spillway sidewalls and most likely were remnants of flashboards and/or earlier spillway and sluiceway gate components.

One large structural element removed from the river bed in the channel was an approximately 4-ft (1.2-m) long slab of formed concrete and conglomerate cement embedded with a wood timber (Figure 37). The formed concrete on the top side was approximately 8 in (20 cm) thick and the conglomerate cement on the bottom side was approximately 5 in (13 cm) thick and contained embedded fieldstones that were facedown in the river channel sediments. The wood timber in the center was about 7 in (18 cm) thick and there were no nails or other hardware indicating that it was fastened to other wood or concrete parts. The entire composite element appears to have been lain horizontally across the width of the channel close to the top of the sediments and likely functioned as the base of former sluiceway gate(s) originally made of timber(s) and then improved with the formed concrete on top.

The excavation of sediment in the spillway channel also uncovered an iron pulley just below the top of the river bed sediments at the southwest side of the western wheel pit. The pulley is about 10 in (25 cm) in diameter and 7 in (18 cm) wide and is fixed on the iron line shaft still present at both ends (Figure 38). The pulley would have been driven by belt from the power source (water wheels) to turn the saws that operated in the mill.

Once the water levels had receded, the contractor continued with the removal of the east portion of the earthen dam and the associated vertical timbers along the upstream side to facilitate the placement of the steel plates for vehicle access over the east channel<sup>5</sup> (Figure 39). Only the upper 3–4 ft of the earthen fill, consisting of brown (10YR 4/3) and light yellowish brown (10YR 6/3) silty medium sand with gravel, were removed. The lower fill levels were left in place to provide an upstream barrier to the "island" kept in place between the west and east channels.

Work then continued to the west with the removal of the timber dam's wood planks and braces (Figure 40). Once the timber dam component was fully removed, the west channel was reconstructed away from the stone and wood plank abutments (Figure 41). Excavation of the remainder of the earthen dam to the desired grade (as noted above) then continued from west to east; the dam fill in this area was consistent with that observed in the east portion (Figure 42). Bank treatment along the west and east river channels was conducted concurrently with dam excavation and the construction of the east channel (Figures 43–45). The only cultural materials noted in the earthen berm fill soils were a few scattered bricks stamped "S & H" for

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<sup>5</sup> The dam removal excavation work was completely done using machine access from the east; the previously proposed west access through the west channel (dry river bed) was not needed.

Stiles and Hart, a brick manufacturer established in 1886 in Bridgewater, Massachusetts (Figure 46; Stiles and Hart Brick Company 2018).

### **Walkover/Reconnaissance Survey**

PAL conducted a walkover/reconnaissance survey with close ground surface inspection of the exposed areas of the upstream impoundment following the pond drawdown and dam removal work. The survey was conducted from the edge of the impoundment because the silt deposits were completely waterlogged (Figure 47). The impoundment shoreline sloped gently along the west side and was a steep embankment along the east side (Figure 48; see Figure 47). The impoundment contained soil and vegetation, particularly along the shorelines that was elevated enough to be intermittently dry during low water levels (Figure 49). The overlying silt deposits obscured the natural (pre-industrial) impoundment landforms and any cultural features that might have been present. No surface indications of any in situ pre-contact Native American or post-contact mill-related archaeological deposits were observed during the walkover/reconnaissance survey of the dewatered impoundment.

### **Interpretations and Conclusions**

The archaeological monitoring during the dam removal activities confirmed the presence of an earthen berm component that contained uniform fill soils in its upper layers and no evidence of timber core or underlying mattress. The dam removal excavations of the earthen dam component removed only the upper fill soils to the desired grade and did not extend the full depth of the berm down to the river bed. Therefore, it is possible that earlier timber crib or mattress components are present and still deeply buried in the island between the two former river channels. The mottled and consistent nature of the upper fill soils contained only a few “S & H” stamped bricks that post-date 1886, which indicates that the berm component of the dam was probably modified during Henry Barstow's late nineteenth-century occupation of the sawmill site.

The wood and modern wire nails, sawn wood planks, and configuration of the timber dam component to the west indicates a mid-twentieth-century construction date, but the structure likely replaced an earlier timber component or possibly an extension of the earthen dam originally constructed to abut the west embankment of the river. The modern timber dam component was built to maintain water control during periods of high flow in the last decade of the sawmill operations and following the cessation of mill operations. No evidence of eighteenth- or early nineteenth-century dam core components was encountered, although the timbers, wood planks, and concrete and timber elements removed in the east channel (spillway) are likely the remains of older sluiceway gate structure(s) that were improved and/or modified over time by the mill operators. The archaeological data recorded during the aboveground survey and monitoring mitigation work have been added to the MHC inventory form for the post-contact Barstow's Pond Mill archaeological site (TAU-HA-67) (Appendix B.)

The dam removal construction excavations were done in such a way as to protect and preserve the mill foundation and associated waterpower (wheel) infrastructure components at the east side of the Barstow's Pond Mill archaeological site and former east river channel, which now will serve only as an overflow for the main river channel to the west. Future archival research and archaeological investigations of the preserved mill site's foundation remains, including the wheel pits and deeply buried earthen berm dam component, could address research questions related to the history of the sawmill operations at the site and technological changes that occurred under the different mill ownerships in the eighteenth, nineteenth, and twentieth centuries.



## References

Anonymous (Anon.)

1830 *Map of the Town of Taunton, Massachusetts*. On file, Massachusetts State Archives, Boston, MA.

Beers, Frederic W.

1871 *Atlas of Bristol County, Massachusetts*. F. W. Beers and Company, New York, NY.

Emery, S. H.

1893 *History of Taunton, Massachusetts From Its Settlement to the Present Time*. D. Mason & Co., Syracuse, NY.

Everts and Richards Company

1895 *New Topographical Atlas of Surveys: Bristol County, Massachusetts*. Everts and Richards Company, Philadelphia, PA.

Hurd, D. Hamilton (editor)

1883 *History of Bristol County, Massachusetts*. J. W. Lewis and Company, Philadelphia, PA.

Hutt, F. W. (editor)

1924 *A History of Bristol County, Massachusetts*. Lewis Historical Publishing Company, Inc., New York and Chicago, IL.

Lynch, Kerry J.

2014 *Archaeological Site Avoidance and Protection Plan for the Cotley River Native American Site and Access Extension Area of the Barstow's Pond Dam Removal Project, Taunton, Massachusetts*. UMass Archaeological Services. Submitted to MA Division of Ecological Restoration, Boston, MA.

Lynch, Kerry J., and F. Timothy Barker

2013 *Archaeological Reconnaissance and Intensive (Locational) Survey for the Removal of the Barstow's Pond Dam, Taunton, Massachusetts*. UMass Archaeological Services Report UM-704. Prepared for Save the Bay, Providence, RI.

Massachusetts Historical Commission (MHC)

1979a *Public Planning and Environmental Review: Archaeology and Historic Preservation*. Massachusetts Historical Commission, Boston, MA.

1979b Inventory of Historic Assets of the Commonwealth, Form TAU.592, Dean-Barstow House. On file, Massachusetts Historical Commission, Boston, MA.

National Park Service (NPS)

1983 *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (48 FR 44716–44742). National Park Service, U.S. Department of the Interior, Washington, D.C.

Stiles and Hart Brick Company

2018      The Stiles and Hart Brick Company. Electronic document,  
<http://www.stilesandhart.com/aboutus.html>, accessed April 3, 2018.

Tisdale, James

1795      *Plan of the town of Taunton in the county of Bristol*. On file, Massachusetts State Archives, Boston, MA.

United States Geological Survey (USGS)

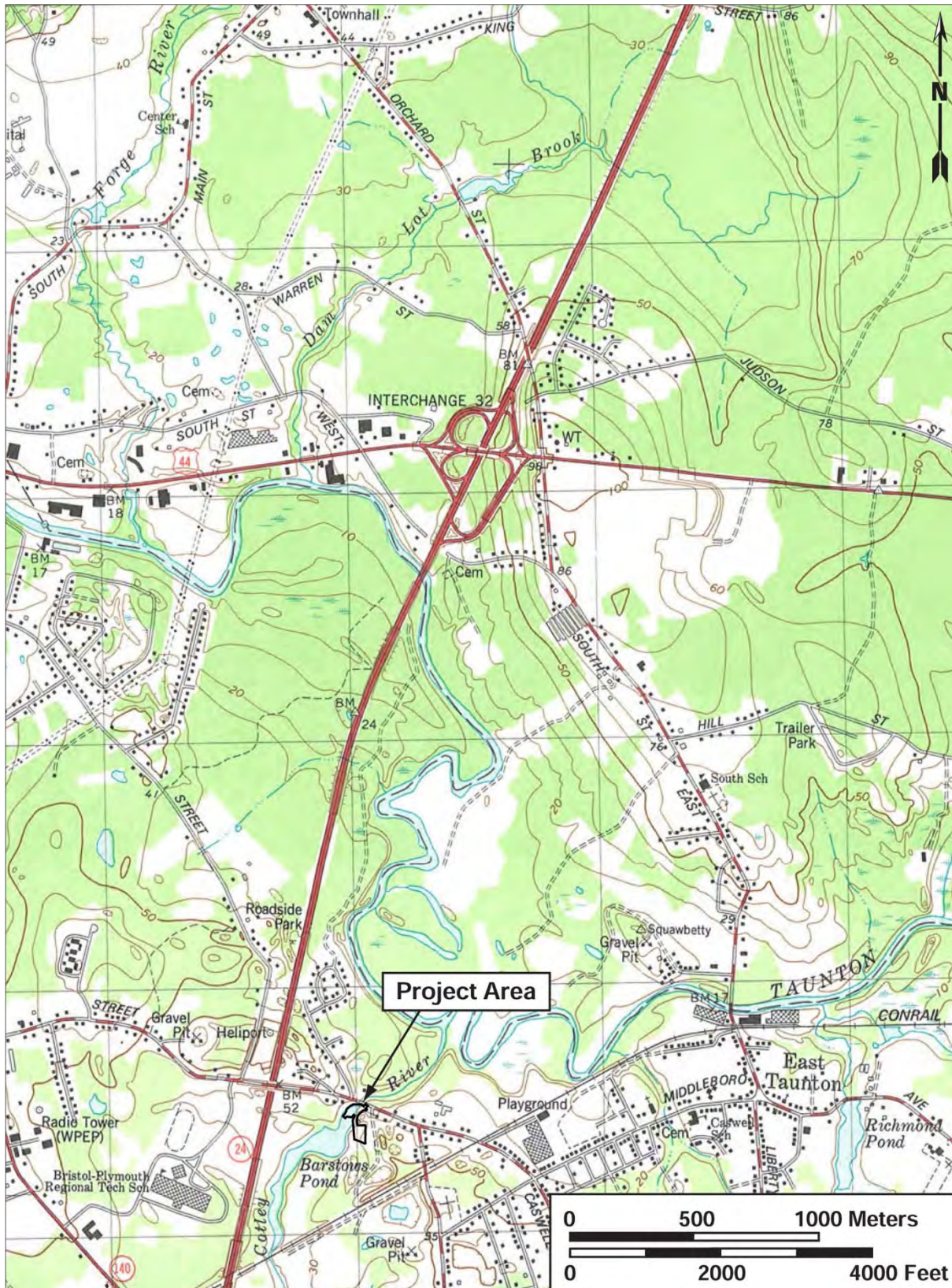
1944      *Taunton, Mass.* Topographical Quadrangle, 7.5-minute series. Washington, D.C.

Walling, Henry F.

1858      *Map of Bristol County, Massachusetts*. On file, State Library of Massachusetts, Boston, MA.

Walker, George H.

1881      *Atlas of Bristol County*. On file, Massachusetts State Archives, Boston, MA



**Figure 1. Location of the Cotley River Restoration/Barstow's Pond Dam Removal Project on the USGS Taunton, MA, topographic quadrangle, 7.5-minute series.**



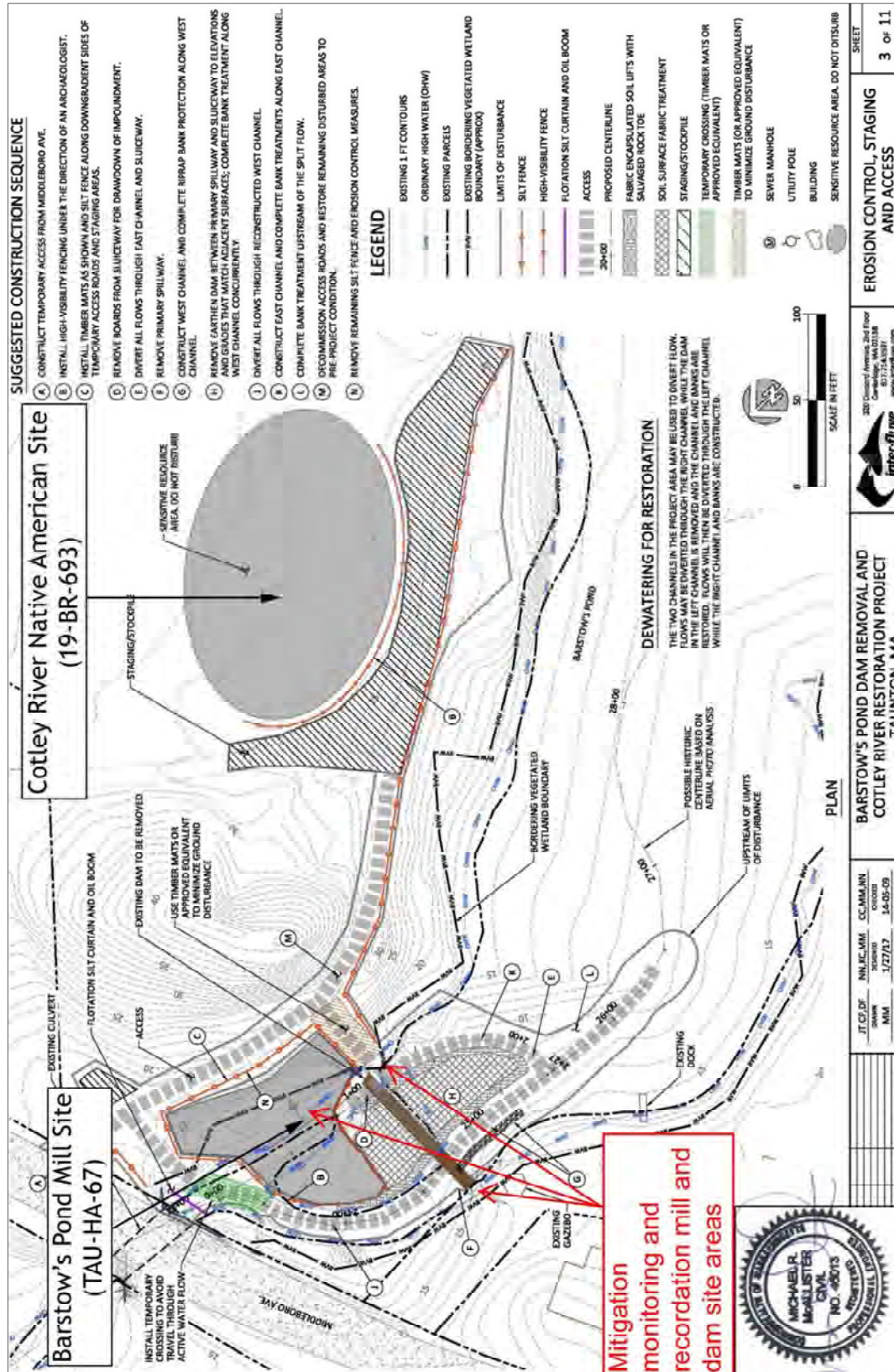


Figure 2. Construction plan showing archaeological site avoidance and fencing areas, timber mat area, and dam removal work areas, Cotley River Restoration Project and Barstow's Pond Dam Removal, Taunton, MA.





**Figure 3. Dry-laid fieldstone foundation wall with timber sill east of dam, view northwest.**



**Figure 4. East channel (spillway) between sawmill foundation and earthen dam, view southwest.**





**Figure 5. Cellar hole of mill building with interior wheel pit, view northeast.**



**Figure 6. Detail of wooden water wheel remains inside cellar hole of mill building, view northwest.**





**Figure 7. Mortared fieldstone pier for western (exterior) water wheel, view northeast.**





**Figure 8. Fieldstone channel wall northeast of the spillway through east channel and mill foundation remains, view southeast.**



**Figure 9. Detail of square hole in foundation wall between two wheel pits, view northwest.**





**Figure 10. Possible granite millstone fragment identified near eastern wheel pit in the mill foundation.**



**Figure 11. Curved dry-laid fieldstone foundation wall section not documented during 2013 survey, view southwest.**



a.



b.



**Figure 12. Mill foundation wall sections composed of parged concrete over fieldstone foundation wall not documented during 2013 intensive survey, view south: a) wall section under former wood plank deck; and b) wall section lining upstream eastern channel (spillway) at west side of former wood plank deck.**





**Figure 13. High visibility construction fencing around Barstow's Pond Mill archaeological site avoidance and protection area, view northwest.**



**Figure 14. High visibility construction fencing around Cotley River Native American archaeological site avoidance and protection area, view southeast.**





**Figure 15. No trespassing signage on high visibility construction fencing around Cotley River Native American archaeological site avoidance and protection area, view southeast.**



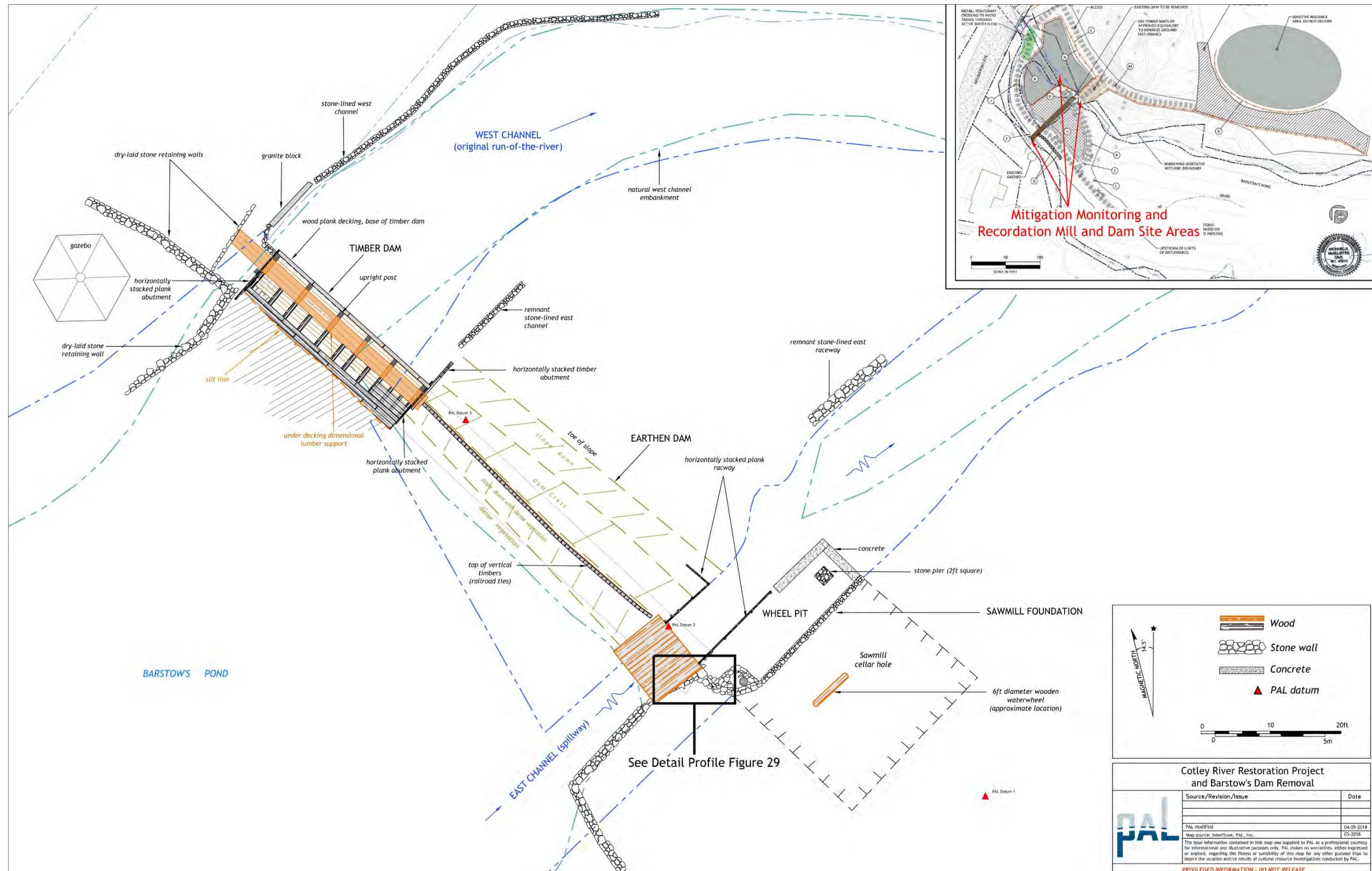
**Figure 16. Installation of timber matting on west side of the east channel (spillway), view northwest.**





**Figure 17. Removal of timber matting following completion of dam removal and river restoration machine work, view southeast.**





**Figure 18. Plan drawing of mapped earthen and timber dam elements, including wood plank deck across the east channel (spillway) and adjacent mill foundation remains.**



**Figure 19. Earthen berm component of Barstow's Pond Dam structure, view southwest.**





**Figure 20. Vertical wood timbers along upstream side of earthen berm component of the dam, view southeast.**





**Figure 21. Iron S-shaped pin embedded in short end of vertical wood timbers in earthen berm component of the dam.**



**Figure 22. Downstream side of timber dam, view southwest.**

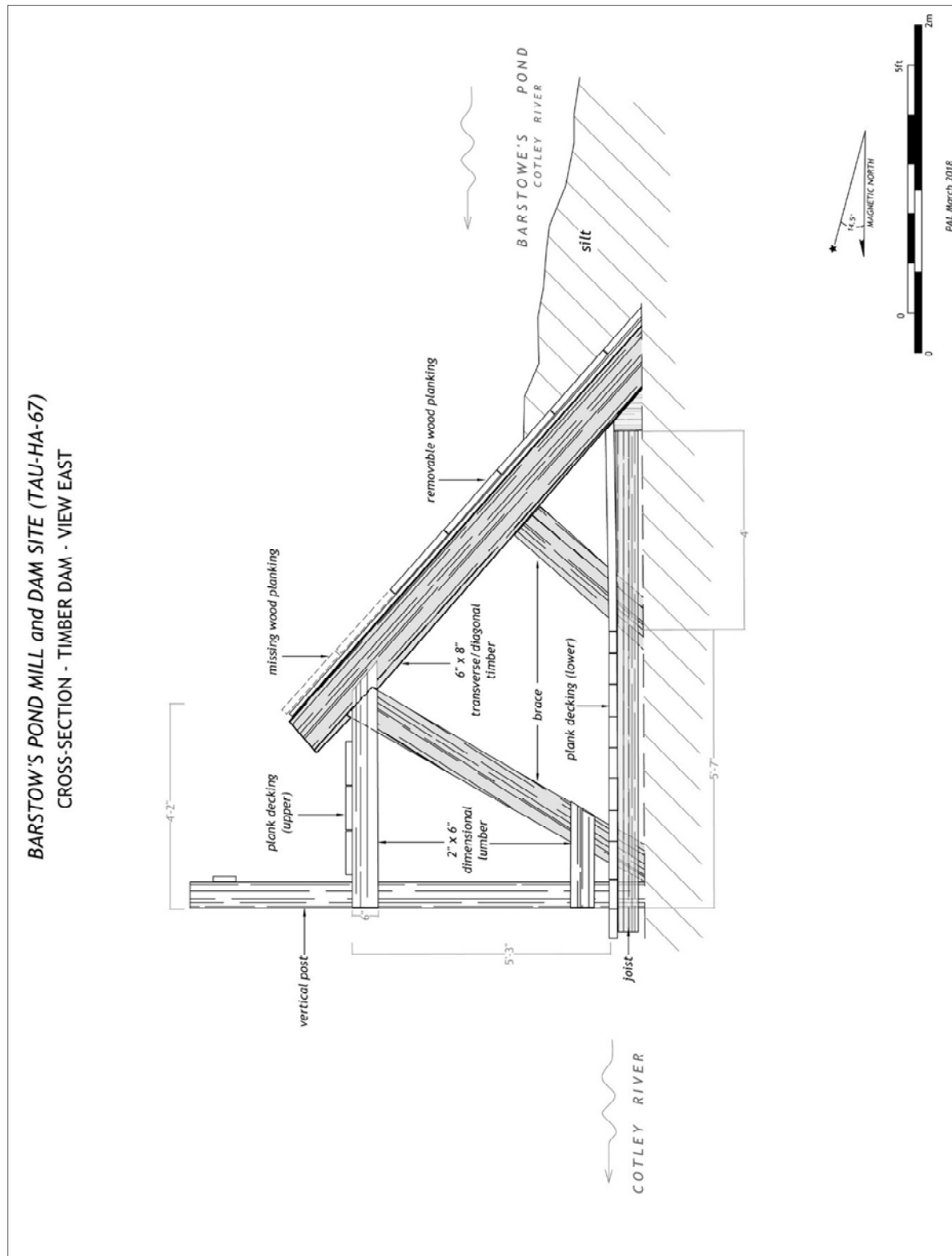
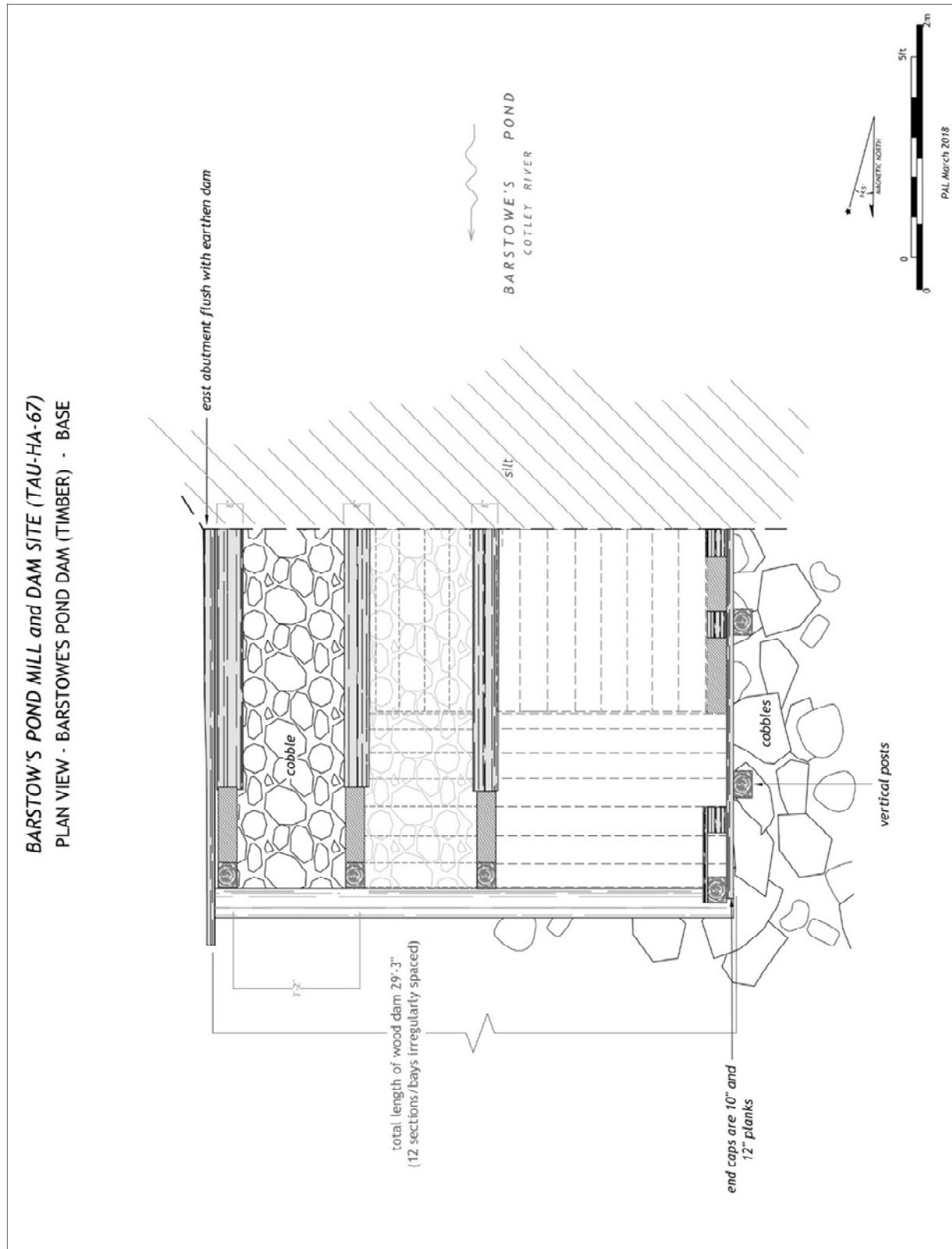


Figure 23. Cross-section drawing of timber dam section components.



**Figure 24. Plan drawing of base of timber dam.**





**Figure 25. Upstream face of dam with removable wood planking, view southeast.**



**Figure 26. Western wood abutment of timber dam section and dry-laid stone retaining wall, view northwest.**





**Figure 27. Vertical wood posts and wood plank deck over top of timber dam section, view southeast.**



**Figure 28. Timber dam section, cobble river bed, and stone-lined west channel, view southwest.**





**Figure 29. Timber dam section, cobble river bed, and stone-lined east channel, view southeast.**



**Figure 30. Removal of modern wood decking and boards lining the east channel through spillway section, with earthen berm dam component in the background, view northwest.**





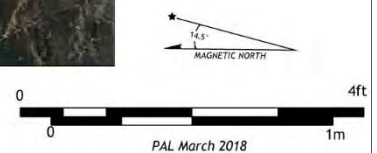
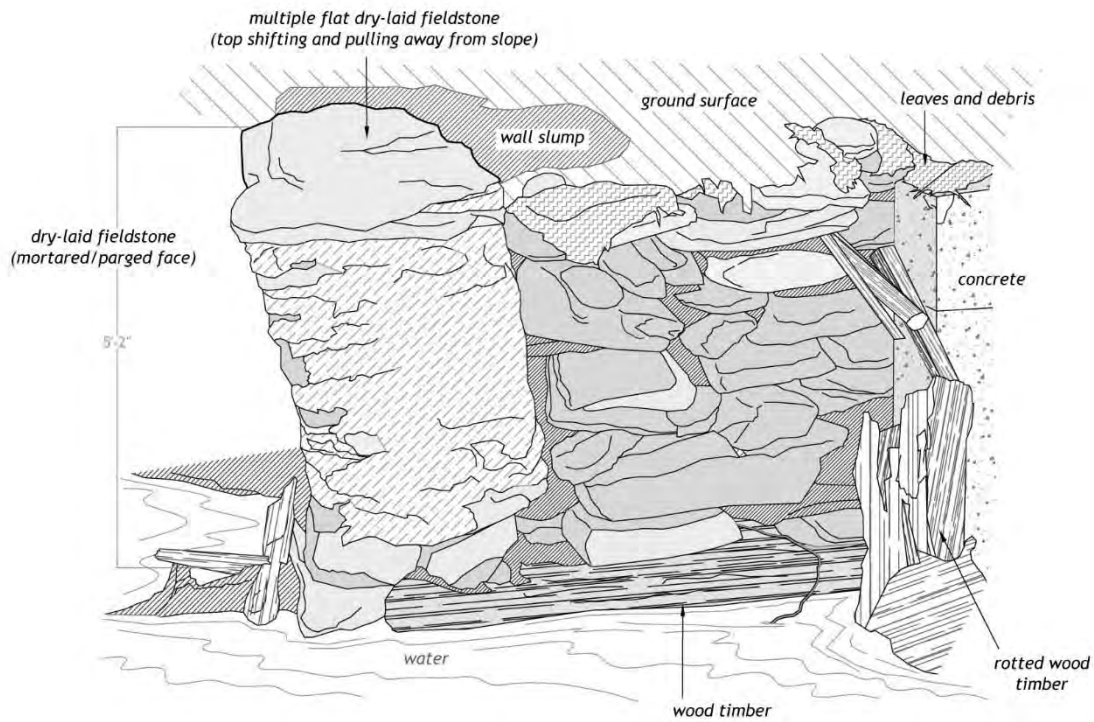
**Figure 31. Destabilized corner stones of mill foundation at spillway in east channel, view southeast.**



**Figure 32. Destabilized corner stones of mill foundation in relation to timber matting and dam removal access road extension to east channel, view west.**



**BARSTOW'S POND MILL SITE (TAU-HA-67)**  
**PROFILE - EAST SIDE OF EAST CHANNEL SPILLWAY**



**Figure 33. Profile drawing and detailed photograph of destabilized mill foundation “cornerstone” wall section.**





**Figure 34. Realigned timber mats and construction access across east channel (spillway), view southeast.**



**Figure 35. Finished sloped grade of east side of realigned eastern channel along mill foundation fieldstone wall, view southwest.**





**Figure 36. Contractor excavations in east channel (spillway) to facilitate upstream pond drainage, view east).**



**Figure 37. Concrete slab with embedded timber removed from across river bottom in east channel (spillway).**



a.



b.



**Figure 38. Iron pulley with line shaft found in western wheel pit of mill foundation: a) interior assembly view; and b) exterior lengthwise view with shaft at both ends.**





**Figure 39. Contractor excavations in east end of earthen dam at east channel, view northwest.**



**Figure 40. Removal of timber dam from the east on remaining upstream portion of earthen dam fill, view east.**





**Figure 41. Reconstruction of west channel and riverbank in the area of former timber dam component, view northeast.**



**Figure 42. Excavation of west portion of earthen dam component to construction grade, view southeast.**





**Figure 43. Excavation of the earthen dam component and west channel bank treatment, view southwest.**





**Figure 44. Excavation of earthen dam component and eastern channel bank treatment, view southwest.**



**Figure 45. Realigned east channel, view northeast.**





**Figure 46. “S & H” stamped brick noted in earthen dam fill.**



**Figure 47. Barstow's Pond impoundment after drawdown, view south.**





**Figure 48. Eastern bank of impoundment after drawdown, view southeast.**



**Figure 49. Vegetation in center of impoundment, view south.**

**APPENDIX A**  
**CORRESPONDENCE AND ARCHAEOLOGICAL PERMITS**







## **The Commonwealth of Massachusetts**

William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

March 3, 2017

James G. Turek  
Restoration Ecologist  
National Oceanic and Atmospheric Administration  
28 Tarzwell Drive  
Narragansett, RI 02882

RE: Barstowe's Dam Removal, Cotley River, Taunton, MA. MHC #RC.50785.

Dear Mr. Turek:

Thank you for providing the additional project information for the project referenced above. Staff of the Massachusetts Historical Commission (MHC), the office of the State Historic Preservation Officer, have reviewed the information that you provided, received by the MHC on February 8, 2017.

The MHC has no comments on the proposed Memorandum of Agreement (MOA).

Prior to finalizing the MOA, the MHC would appreciate receiving copies of any written comments on the draft MOA by other consulting parties.

These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (36 CFR 800). Please contact me if you have any questions or require further information at this time.

Sincerely,

  
Edward L. Bell  
Deputy State Historic Preservation Officer  
Massachusetts Historical Commission

xc:  
Ramona Peters, Mashpee Wampanoag Tribe  
Leonard Rawlings, Bureau of Indian Affairs, Eastern Regional Office  
Nick Wildman, Mass. Division of Ecological Restoration  
Victor T. Mastone, Mass. Board of Underwater Archaeological Resources  
Taunton Historical Commission







The COMMONWEALTH OF MASSACHUSETTS  
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES  
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
Tel. (617) 626-1141 Fax (617) 626-1240 Web Site: [www.mass.gov/eea/agencies/czm/buar/](http://www.mass.gov/eea/agencies/czm/buar/)

February 17, 2017

Mr. John Turek, Restoration Ecologist  
NOAA Restoration Center  
28 Tarzwell Drive  
Narragansett, RI 02882

RE: Barstowe's Dam Removal, Cotley River, Taunton, MA

Dear Mr. Turek,

The Massachusetts Board of Underwater Archaeological Resources (BUAR) is in receipt of your letter of 8 February 2017 and the accompanying final design plans and draft Memorandum of Agreement (MOA) prepared by National Oceanic and Atmospheric Administration (NOAA) regarding the above referenced project. Please accept BUAR's apology for inadvertently failing to respond to previous correspondence and its delay in responding to your recent letter. The Board accepts the NOAA's invitation to become a consulting party for this project and a signatory to the MOA.

With respect to the recommended archaeological investigations under Stipulation II, BUAR requests this investigation also be conducted under a BUAR Special Use Permit (312 CMR 2.04, 2.06.1c) and receive copies of the reports.

The Board appreciates this opportunity to participate the section 106 review process. Should you have any questions, please do not hesitate to contact me at the address above, by email at [victor.mastone@state.ma.us](mailto:victor.mastone@state.ma.us), or by telephone at (617) 626-1141.

Sincerely,

A handwritten signature in black ink, appearing to read "V. Mastone".

Victor T. Mastone  
Director

/vtm







UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Narragansett Laboratory  
Restoration Center  
28 Tarzwell Drive  
Narragansett, RI 02882  
Phone: +1 401-782-3338  
Fax: +1 401-782-3201

February 28, 2018

Brona Simon  
Executive Director  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, Massachusetts 02125

Re: Barstow's Dam Removal and Cotley River Restoration Project  
Taunton #HC-17-003

Dear Ms. Simon:

On behalf of the National Oceanic and Atmospheric Administration (NOAA) serving as lead federal agency for the Section 106 consultation for the above referenced project, I am notifying the Massachusetts Historical Commission (MHC) of an unintended effect on an on-site historic wall feature during ongoing construction at the project site in Taunton, Massachusetts. During recent site construction as part of the dam removal, the corner of a retaining wall supporting the sluiceway was destabilized and several large stones shifted during the controlled removal of the wooden portion of the sluiceway (Refer to attached photos). Dam removal work in this project area was immediately halted while NOAA conferred with historic archaeological staff from the consulting Public Archeology Laboratory (PAL), the Mashpee Wampanoag Tribe (the landowner), and project partners on the feature disturbance and proposed measures to avoid further effect.

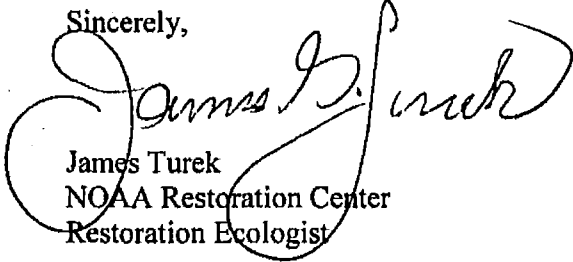
It was determined that, while the stones had moved and the mortared masonry corner piece had moved toward the raceway channel, the wall was not under threat of imminent collapse. We requested the contractor to realign the equipment accessway across the raceway slightly south and away from the wall corner to avoid further disturbance. After consulting with the PAL archaeologist and the project engineer of record from Inter-Fluve, we collectively concluded that protection of the wall from any further disturbance could be achieved by realigning the proposed channel at this locale to the west and installing native stone material, sloping materials to protect the wall. We concluded this protection measure to be the best approach given the relatively stable condition of the wall stones and in consideration of the fact that the raceway (east) channel will no longer receive normal river flows. This approach is also expected to avoid a potential safety hazard along that portion of the wall, and to address the concerns of the Tribe.

Our approach is detailed and depicted in the attached plan sheets with captions. The treatment is not intended to repair or realign the wall stones or provide a structural support for the wall, but to protect the structure from further disturbance. This treatment will be installed by the contractor during the first week in March, as the contractor is advancing the final work at the site and completing activities in this portion of the project area.

As a stipulation of the signed Section 106 Memorandum of Agreement, NOAA with assistance from PAL will be submitting full documentation at the end of the project.

Please do not hesitate to contact me (401-782-3338; [James.G.Turek@noaa.gov](mailto:James.G.Turek@noaa.gov)) should you have any questions or concerns regarding this project.

Sincerely,



James Turek  
NOAA Restoration Center  
Restoration Ecologist

cc:

N. Wildman, K. Houle – MA DER

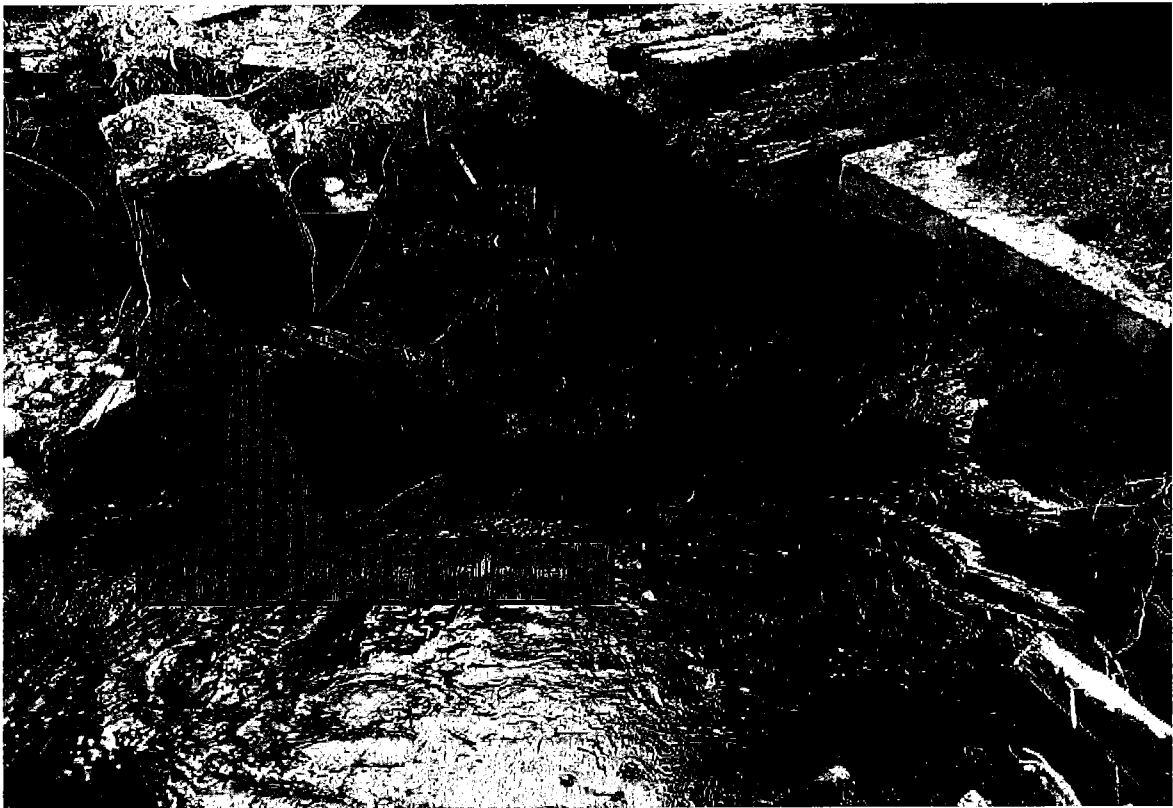
N. Nelson – Interfluve

D. Schaefer – TDC

D. Greene, D. Weeden – Mashpee Wampanoag Tribe

S. Chereau – PAL

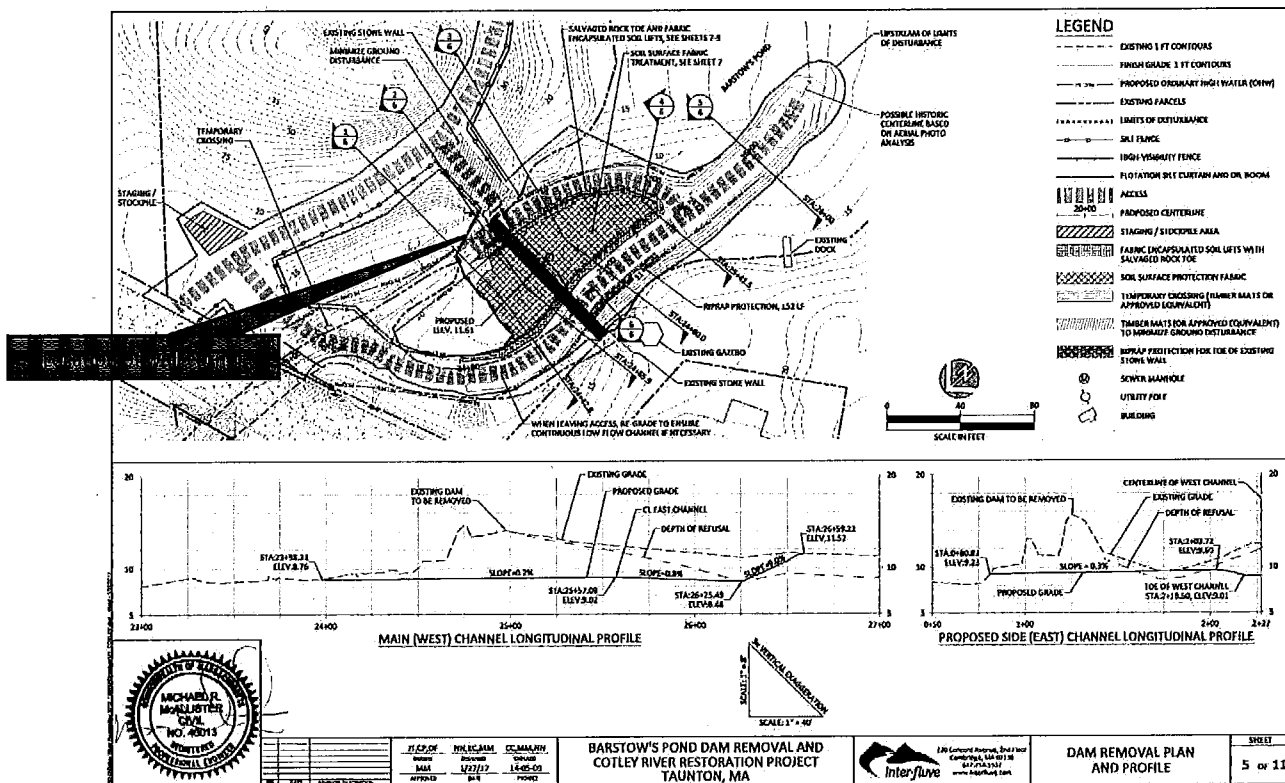




View of destabilized retaining wall corner; view is from the west.

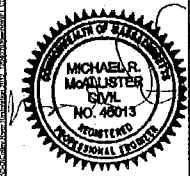
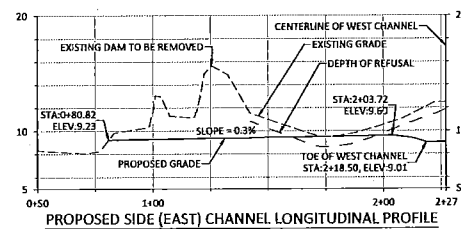
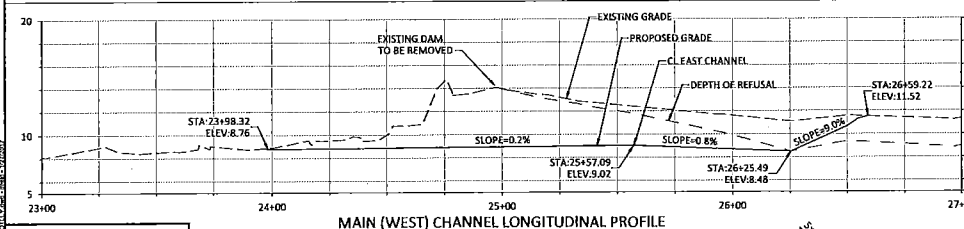
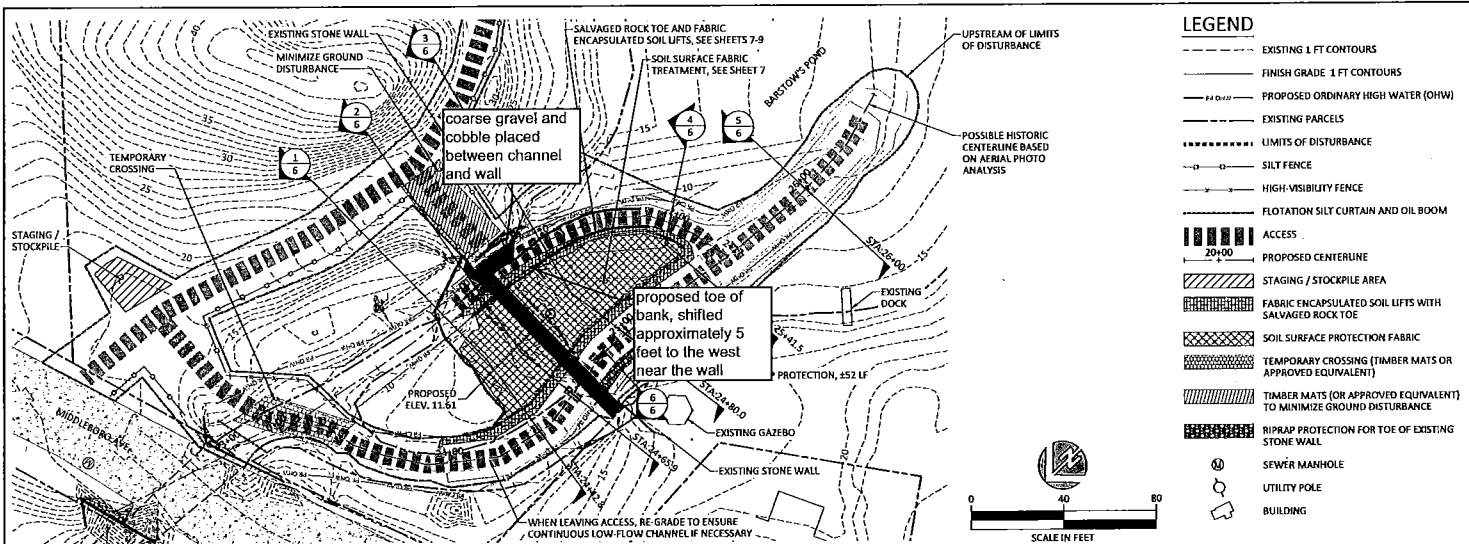


View of the destabilized retaining wall corner; view from the north.



Plans sheet showing location of the destabilized retaining wall corner.





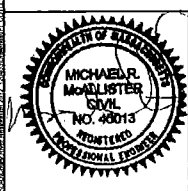
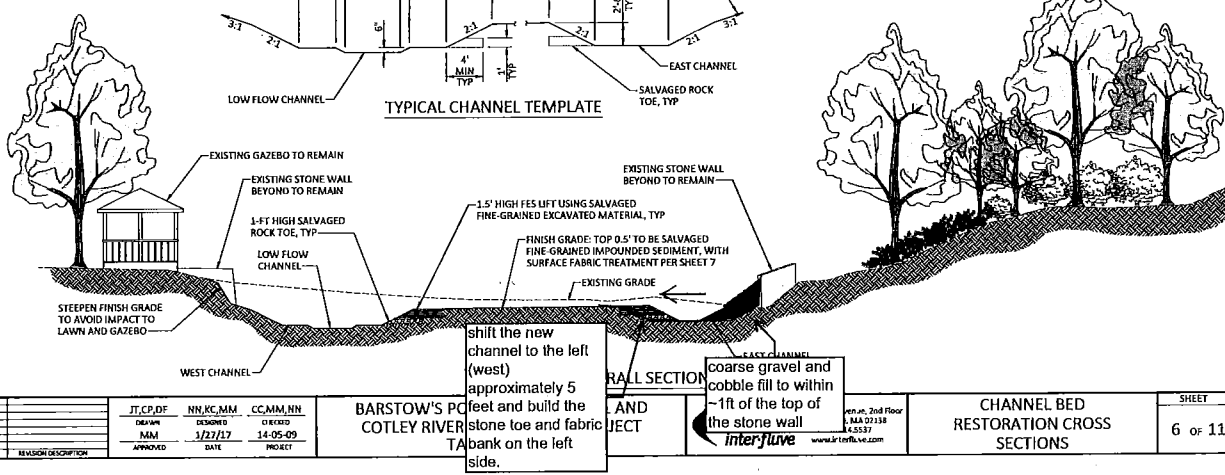
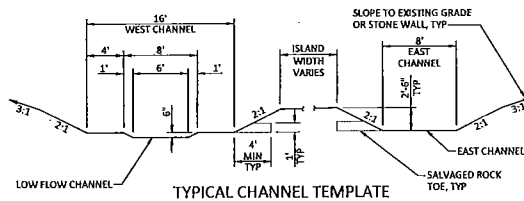
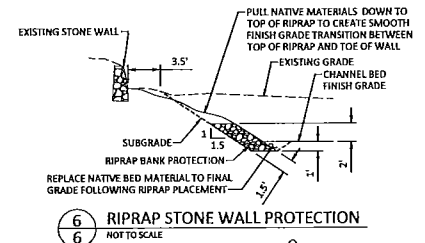
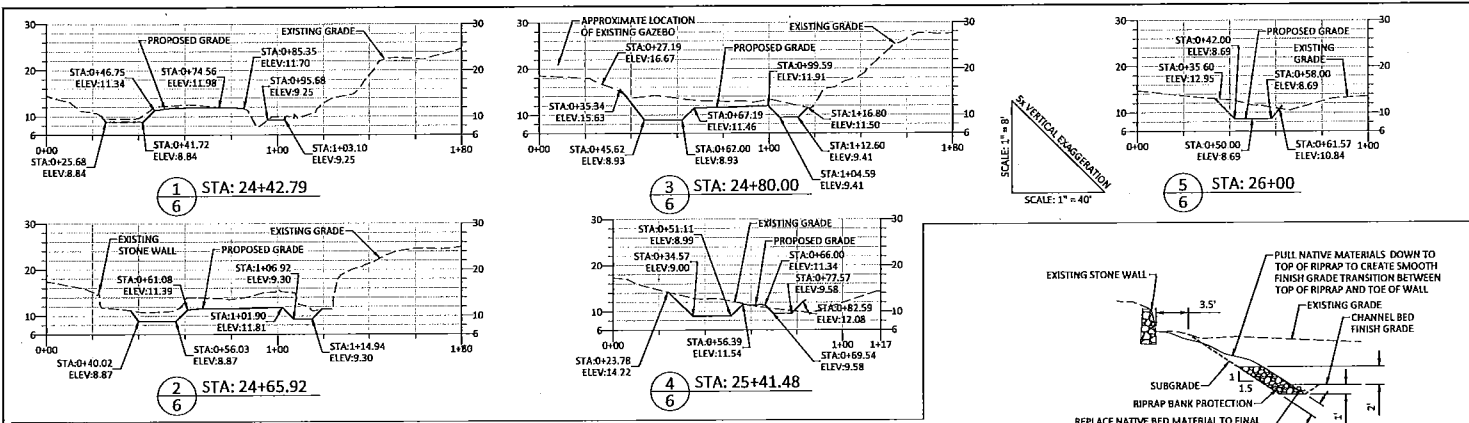
DATE	REVISION DESCRIPTION
1/27/17	DESIGNED
14-05-09	DRAWN
	APPROVED
	PROJECT

**BARSTOW'S POND DAM REMOVAL AND COTLEY RIVER RESTORATION PROJECT**  
TAUNTON, MA



**DAM REMOVAL PLAN AND PROFILE**

SHEET  
5 of 11



DATE	REVISION DESCRIPTION	JT, C.P.D.F.	NN, K.C.M.M.	CC, M.M.N.N.	BARSTOW'S PC	AND	JECT	CHANNEL BED RESTORATION CROSS SECTIONS	SHEET
3/22/17		DESIGNED	14-05-09	PROJECT					6 of 11





Public Archaeology Laboratory

December 1, 2017

Brona Simon  
State Historic Preservation Officer  
Executive Director  
State Archaeologist  
Massachusetts Historical Commission  
220 Morrissey Boulevard  
Boston, Massachusetts 02125


Re: Cotley River Restoration Project and Barstow's Pond Dam Removal, Taunton, MA  
Archaeological Mitigation  
PAL #3092.01, MHC #RC.50785

Dear Ms. Simon:

Enclosed please find an application for a permit to conduct archaeological mitigation including dam removal monitoring and reconnaissance/walkover survey of pond drawdown in accordance with Stipulations I and II of the Memorandum of Agreement (MOA) for the removal of the Barstow's Pond Dam in Taunton, Massachusetts. The project area is located on the Taunton, Massachusetts topographic quadrangle. The Massachusetts Board of Underwater Archaeological Resources (MBUAR) has requested that the archaeological monitoring of the dam removal excavations and the reconnaissance/walkover survey of the pond drawdown be conducted under a MBUAR Special Use Permit (312 CMR 2), and an application has been submitted under separate cover to Victor Mastone, MBUAR Director.

The construction work is anticipated to start in early January 2018, although we would like to complete the archaeological mapping of aboveground mill and dam site elements in December 2017 before snowfall. If you have any questions or concerns, please do not hesitate to contact Suzanne Cherau, Principal Investigator, or me, at your convenience.

Sincerely,

  
Deborah C. Cox, RPA  
President

Enclosures

cc: James Turek, NOAA (w/encl.)  
Nick Wildman, MA DER (w/encl.)  
Victor Mastone, MBUAR (w/encl.)





950 CMR: DEPARTMENT OF THE STATE SECRETARY

APPENDIX B  
COMMONWEALTH OF MASSACHUSETTS

SECRETARY OF STATE: MASSACHUSETTS HISTORICAL COMMISSION

PERMIT APPLICATION: ARCHAEOLOGICAL FIELD INVESTIGATION

A. General Information

Pursuant to Section 27C of Chapter 9 of the General Laws and according to the regulations outlined in 950 CMR 70.00, a permit to conduct a field investigation is hereby requested.

1. Name(s): Suzanne Cherau
2. Institution: The Public Archaeology Laboratory, Inc.  
Address: 26 Main Street  
Pawtucket, Rhode Island 02860
3. Project Location: Barstow's Pond Dam Removal  
*see attached proposal*
4. Town(s): Taunton
5. Attach a copy of a USGS quadrangle with the project area clearly marked.  
*see attached*
6. Property Owner(s): Taunton Development Corporation
7. The applicant affirms that the owner has been notified and has agreed that the applicant may perform the proposed field investigation.
8. The proposed field investigation is for a(n):
  - a. **Reconnaissance Survey/Walkover of Pond Drawdown**
  - b. Intensive Survey
  - c. Site Examination
  - d. Data Recovery
  - e. **Mitigation – Monitoring/Recordation**

## B. Professional Qualifications

1. Attach a personnel chart and project schedule as described in 950 CMR 70.11 (b).

### a. Personnel

Principal Investigator: Suzanne Cherau  
Project Archaeologist(s): Jennifer Banister  
Field Crew: Ted Dattillo

### b. Schedule

Fieldwork: December 2017 – March 2018  
Laboratory: March 2018  
Report: April – May 2018

2. Include copies of curriculum vitae of key personnel (unless already on file with the State Archaeologist).

## C. Research Design

1. Attach a narrative description of the proposed Research Design according to the requirements of 950 CMR 70.11.
2. The Applicant agrees to perform the field investigations according to the standards outlined in 950 CMR 70.13.
3. The Applicant agrees to submit a Summary Report, prepared according to the standards outlined in 950 CMR 70.14 by: May 31, 2018
4. The specimens recovered during performance of the proposed field investigation will be curated at:

The Public Archaeology Laboratory, Inc.  
26 Main Street  
Pawtucket, Rhode Island 02860

SIGNATURE

*Suzanne J. Cherau*  
APPLICANT (S)

DATE

*12/1/17*





Public Archaeology Laboratory

December 1, 2017

Victor T. Mastone  
Director  
Massachusetts Board of Underwater Archaeological Resources  
251 Causeway Street, Suite 800  
Boston, Massachusetts 02114-2136

Re: Cotley River Restoration Project and Barstow's Pond Dam Removal, Taunton, MA  
Archaeological Mitigation  
PAL #3092.01, MHC #RC.50785

Dear Mr. Mastone:

Enclosed please find an application for a Special Use Permit to conduct archaeological mitigation including dam removal monitoring and reconnaissance/walkover survey of pond drawdown in accordance with Stipulations I and II of the Memorandum of Agreement (MOA) for the removal of the Barstow's Pond Dam in Taunton, Massachusetts. The project area is located on the Taunton, Massachusetts topographic quadrangle. We have also submitted a permit application to conduct the archaeological mitigation work under State Archaeologist's Permit (950 CMR 70-71).

The construction work is anticipated to start in early January 2018, although we would like to complete the archaeological mapping of aboveground mill and dam site elements in December 2017 before snowfall. If you have any questions or concerns, please do not hesitate to contact Suzanne Cherau, Principal Investigator, or me, at your convenience.

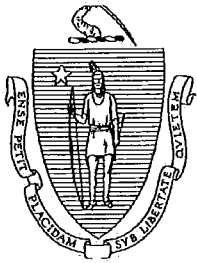
Sincerely,

Deborah C. Cox, RPA  
President

Enclosures

cc: James Turek, NOAA (w/permit application only)  
Nick Wildman, MA DER (w/permit application)  
Brona Simon, MHC (w/permit application only)





THE COMMONWEALTH OF MASSACHUSETTS BOARD OF  
UNDERWATER ARCHAEOLOGICAL RESOURCES  
251 Causeway Street, Suite 800, Boston, MA 02114

## SPECIAL USE PERMIT APPLICATION

In accordance with 312 CMR 2, rules and regulations established by the Board of Underwater Archaeological Resources under MGL C. 91, s. 63, as amended, the undersigned herewith makes application for a permit to conduct archaeological research activities to identify and/or examine underwater archaeological resources located within the inland and coastal waters of the Commonwealth.

**PLEASE TYPE OR PRINT LEGIBLY**

**NAME(S):** Suzanne Cherau

**ORGANIZATION:** The Public Archaeology Laboratory, Inc. (PAL Inc.)

(Applicant must be a qualified archaeologist or archaeological organization meeting the minimum qualifications under 312 CMR 2.09(4)(d); if multiple applicants, provide information for all parties and each must sign. If a corporation, include a copy of the certificate of incorporation with this application, and write both corporate name and contact information.)

**ADDRESS:** 26 Main Street, Pawtucket, Rhode Island 02860

**TELEPHONE NUMBER:** 401-728-8780

**FAX NUMBER:** 401-728-8784

**EMAIL ADDRESS:** scherau@palinc.com

**PROJECT NAME:** Cotley River Restoration and Barstow's Pond Dam Removal

**LOCATION OF PROPOSED ACTIVITY**

Nearest City or Town: Taunton

Name of Water Body: Cotley River

Depth of Water: to be drained; less than 5 ft

Total Acreage of the Project Area: less than 1 acre

Longitude and Latitude of Proposed Project Area  
(Project area of potential effect):

NE \_\_\_\_\_ NW \_\_\_\_\_  
SE \_\_\_\_\_ SW \_\_\_\_\_

Description of Proposed Permit Area (narrative): removal of earthen and timber dam structures; pond drawdown; excavation of 6 ft of sediment directly behind (upstream of) the dam; riverbank stabilization treatments and planting of new vegetation at the dam site and along the restored riverbanks.

Please attach a copy of the section of the NOAA nautical chart(s) or USGS topographic map(s).

(Clearly indicate the exact location of and the extent of the requested permit area on attached NOAA nautical chart or USGS topographic Map, specifying marker buoys, longitude and latitude, loran bearings and/or any other identifying features which define the requested Permit area. Use the space provided or attach additional sheets if necessary to complete this section.)

**PROJECT PROPONENT** (if not applicant)

**CONTACT NAME/ORGANIZATION:** James Turek / NOAA

**ADDRESS:** 28 Tarzwell Drive, Narragansett, RI 02882

**TELEPHONE NUMBER:** 401-782-3338

**FAX NUMBER:** 401-782-3201

**EMAIL ADDRESS:** james.g.turek@noaa.gov

**PROJECT DESCRIPTION WHICH INCLUDES THE PURPOSE AND GOALS** (attach additional sheets as needed):  
See attached Technical Proposal dated November 30, 2017 prepared by PAL.

**DESCRIPTION OF ANY KNOWN UNDERWATER ARCHAEOLOGICAL RESOURCE IN THE PROJECT AREA**  
No known underwater archaeological resources in the project area.

Continued on page 2

Applicant Initial: JTC and date 12/1/17 to indicate concurrence with 312 CMR 2.

Non



PLEASE INDICATE THE TYPE OF INVESTIGATION BEING UNDERTAKEN FOR THIS PROJECT (check one):

X Reconnaissance Survey/Walkover Pond Drawdown D Site Examination  
 D Intensive Survey X Data Recovery (MOA mitigation)

PLEASE ATTACH A COPY OF YOUR RESEARCH DESIGN AND DESCRIBE IN AS MUCH DETAIL AS POSSIBLE WHAT YOU PLAN TO DO, INCLUDING DOCUMENTARY RESEARCH, REMOTE SENSING, ON-SITE ACTIVITIES, INCLUDING TESTING, EXCAVATION, RESOURCES RECOVERY, CONSERVATION AND CURATION, ETC. (attach additional sheets as needed): See attached Technical Proposal

(This work plan should include, but not limited to, a description of: 1.) the plans to document activities and finds; 2. the inventory and catalogue which shall be maintained for all recovered artifacts; 3.) the artifact conservation program; and 4. the artifact repository)

WHAT IS YOUR PROPOSED WORK SCHEDULE (attach additional sheets as needed)?

See attached Technical Proposal – schedule on p. 7

PROFESSIONAL QUALIFICATIONS OF APPLICANT: (1) ON A SEPARATE SHEET, PROVIDE A PERSONNEL OR ORGANIZATION CHART INDICATING THE NAMES, DUTIES AND RESPONSIBILITIES OF KEY PERSONNEL; (2) INCLUDE COPIES OF THE CURRICULA VITAE FOR THE PROJECT DIRECTOR/PRINCIPAL INVESTIGATOR, PROJECT ARCHAEOLOGIST, AND OTHER KEY STAFF AS NECESSARY.

See PAL Technical Proposal, Personnel on p. 7 and key staff resumes (Cherau and Banister) on file at MBUAR.

WHAT ARE YOUR PUBLIC BENEFIT PLANS, SUCH AS PUBLIC DISPLAYS, PUBLIC PRESENTATIONS, AND/OR PUBLICATION OF THE RESULTS OF YOUR WORK (Attach additional sheets as needed)?

see Project MOA, Stipulation II, PAL will prepare a technical report describing the mitigation findings.

YOU MAY INCLUDE ANY OTHER INFORMATION YOU BELIEVE MAY ASSIST THE BOARD IN ASSESSING YOUR APPLICATION (Attach additional sheets as needed)

The undersigned understands and acknowledges that all underwater archaeological resources recovered under a special use permit remain the property of the Commonwealth of Massachusetts.

The undersigned understands and acknowledges that this permit does not authorize the excavation of human remains.

The undersigned understands and acknowledges that the Board may deny this permit application or revoke a permit granted whenever the Board determines that there is substantial fraud, deceit, corruption, or misrepresentation in the information or filing of this permit application.

Suzanne G. Cherau  
 (Signature of Principal Investigator/Project Director)

Suzanne G. Cherau  
 (Type or Print Name)

same  
 (Signature of Project Archaeologist)

same  
 (Type or Print Name)

12/1/17  
 (Date)

12/1/17  
 (Date)

FOR OFFICIAL USE ONLY (DO NOT COMPLETE THIS SECTION)

Date and Time Received:

By:



**The Commonwealth of Massachusetts**  
William Francis Galvin, Secretary of the Commonwealth  
Massachusetts Historical Commission

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PERMIT TO CONDUCT ARCHAEOLOGICAL FIELD INVESTIGATION

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Permit Number 3796 Date of Issue December 18, 2017  
Expiration Date December 18, 2018

PAL is hereby  
authorized to conduct an archaeological field investigation pursuant to  
Section 27C of Chapter 9 of General Laws and according to the regulations  
outlined in 950 CMR 70.00.

Cotley River Restoration Project & Barstow's Pond Dam Removal, Taunton

Project Location

Brona Simon  
Brona Simon, State Archaeologist  
Massachusetts Historical Commission







The COMMONWEALTH OF MASSACHUSETTS  
BOARD OF UNDERWATER ARCHAEOLOGICAL RESOURCES  
EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFAIRS  
251 Causeway Street, Suite 800, Boston, MA 02114-2136  
Tel. (617) 626-1141 Fax (617) 626-1240 Web Site: [www.mass.gov/eea/agencies/czm/buar/](http://www.mass.gov/eea/agencies/czm/buar/)

December 5, 2017

Deborah C. Cox, President.  
Public Archaeology Laboratory  
26 Main Street  
Pawtucket, RI 02860

RE: Cotley River Restoration Project and Barstow's Pond Dam Removal, Taunton  
Archaeological Monitoring and Walkover Survey (PAL#3092.01)  
Provisional Special Use Permit 17-010

Dear Ms. Cox:

This letter confirms the acceptance and provisional approval of Public Archaeology Laboratory's (PAL) Special Use Permit application by the Massachusetts Board of Underwater Archaeological Resources. This permit (17-010) is for archaeological reconnaissance (walkover) and mitigation monitoring/recordation as part of the Cotley River Restoration Project and Barstow's Pond Dam Removal in Taunton as detailed in the technical proposal accompanying the application. The permit is effective upon issuance, 5 December 2017, for the duration of one year, but a formal approval of this permit will be considered by the Board at its next regularly scheduled meeting. This meeting is scheduled for 25 January 2018.

This permit is herein granted dependent upon PAL's compliance with the Board's Regulations (312 CMR 2.00). All work must be conducted in accordance with Board directives, standard conditions and the Scope of Services included in the application. Activities allowed under this permit include remote sensing, archaeological reconnaissance, site examination, monitoring and recovery, and undertake any necessary recovery and documentation of these resources in the permit area. For projects subject to Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800), permittees are directed to consult with and provide their proposed research design and methodology to the State Historic Preservation Office/Massachusetts Historical Commission and the lead federal agency in accordance with 36 CFR 800.4, prior to conducting the field investigation. This permit does not relieve the permittee or any other person of the necessity of complying with all other federal, state and local statutes, regulations, by-laws and ordinances.

Review by the full Board of your provisional permit has been scheduled for Thursday, 25 January 2018 at 1:30 PM in the CZM Conference Room located on the 8<sup>th</sup> floor of 251 Causeway Street in Boston.

If you should have any questions or need further assistance, do not hesitate to contact the Board at the address above or by telephone at (617) 626-1141.

Sincerely,

A handwritten signature in black ink, appearing to read "Victor T. Mastone".

Victor T. Mastone  
Director

/vtm

Cc: Brona Simon, MHC  
Nick Wildman, MDER (via email attachment)  
James Turek, NOAA (via email attachment)  
Suzanne Cherau, PAL (via email attachment)



## **APPENDIX B**

### **UPDATED MHC SITE FORM – BARSTOW’S POND MILL SITE (MHC #TAU-HA-67)**





FORM D ARCHAEOLOGICAL SURVEY  
HISTORIC ARCHAEOLOGICAL SITES

Massachusetts Historical Commission  
Office of the Secretary  
State House, Boston

FOR MHC  
OFFICE  
USE ONLY

Town

UTM

QUAD

NR

☐

ACT

☐

ELIG.

☐

NO

DISTRICT

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YES

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MHC NO.

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1. SITE NAME(S) Barstow's Pond Mill and Dam

MAS NO.

OTHER NO.

2. TOWN/CITY Taunton

COUNTY Bristol

3. STREET AND NUMBER (IF NOT AVAILABLE, GIVE DETAILED DESCRIPTION OF HOW TO REACH SITE)

23 Middleborough Avenue, nearly opposite Hart Street intersection

4. OWNER(S) AND ADDRESS(ES) Mashpee Wampanoag Tribe, 483 Great Neck Road South, Mashpee, MA, 02649

☐ Public

☒ Private

5. SITE LOCATED BY

☒ CRM Survey

☐ Avocational Collector

☐ Field School

☐ Other (Specify)

Describe Sampling Strategy used to Locate Site Mitigation for dam removal - aboveground survey (mapping and photography) focused on the dam component

6a. PERIOD(S) (Check all applicable boxes)

☐ 17th C.

☐ 18th C.

☒ 19th C.

☒ 20th C.

☐ Unknown

6b. Estimated Occupation Range ca. 1880s to 2000 (dam function only)

7. DATING  
METHODS

MAPS

TITLE SEARCH

☐ Yes ☐ No

ADDITIONAL DOCUMENTS

Comparative Materials structural elements, artifacts

OTHER

8a. SITE TYPE

☐ Agrarian

☐ Residential

☒ Industrial

☒ Commercial

☐ Military

☐ Unknown

☐ Other (Specify)

8b. DESCRIBE local sawmill, also sold lumber and ice

9. DESCRIBE SIZE AND HORIZONTAL AND VERTICAL BOUNDARIES

Dam remains only: approximately 78 ft (23.7 m) total length, with earthen berm component measuring approximately 48 ft (14.6 m) long and timber structure component measuring 30 ft (9.1 m)

10. STRATIGRAPHY

Surface Indicators

Stratigraphy

☒ Standing Ruins

☐ Stratified

☐ Surface Finds

☐ NOT Stratified

☐ Markers

☐ Below Ground

☐ Cellar Hole

Structural Remains

11. SOIL

USDA Soil Series

Hinckley sandy loam

Contour Elevation

50 ft amsl

% Slope of Ground

☒ 0 - 5

☐ 5 - 15

☐ 15 - 25

☐ Over 25

Acidity

1 \_\_\_\_\_ 7 \_\_\_\_\_ 14

(Acid)

(Base)

12. TOPOGRAPHY

☐ Flat

☒ Gentle undulation

☐ Other

☐ Rolling Hills

☐ Mountains

13. WATER

NEAREST WATER SOURCE

Cotley River

SIZE AND SPEED

DISTANCE FROM SITE

at the site

SEASONAL AVAILABILITY

year-round

14. VEGETATION

PRESENT

mixed deciduous and coniferous second growth

PAST

probably open fields

15. SITE INTEGRITY

☐ Undisturbed

☐ Good

☒ Fair

☐ Destroyed

IF DISTURBED, DESCRIBE DISTURBANCE

natural decay and neglect from mill abandonment in the 1950s

16. SURROUNDING ENVIRONMENT

☐ Open Land

☒ Woodland

☐ Eroded Soils

☐ Residential

☐ Scattered Buildings

☐ Commercial

☐ Industrial

☐ Rural

Visible from Site

☐ Coastal

☐ Isolated

17. ANY THREATS TO SITE

DESCRIBE POTENTIAL THREATS

☒ Yes ☐ No

dam removal project

18. ACCESSIBILITY TO PUBLIC

☐ Free Access

☒ Need Owner Permission

☒ Restricted

☐ No Access

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FORM D-HISTORIC RESOURCES SURVEY  
HISTORIC ARCHAEOLOGICAL SITES

Massachusetts Historical Commission

CONTINUATION SHEET

PAGE 1 OF 1

22. Archaeological Data (newly recorded data during the 2018 dam removal process):

The earthen berm component was approximately 48 ft (14.6 m) long, 4 ft (1.2 m) high, with a flat crest approximately 6 ft (1.8 m) wide. The upstream side (southern edge) of the earthen berm was lined with vertical timbers that rose above the crest of the dam approximately 3 ft (0.9 m). The timbers were set tightly abutting one another, and were reinforced with horizontal wood boards nailed to the upstream (southern) side. The timbers were similar in size and shape to railroad ties with creosote residue on the exterior surfaces and iron S pins embedded in the short ends to prevent rotting and splitting.

On the west side of the earthen berm was the timber section of the dam; it was approximately 30 ft (9 m) long and 7 ft (2.1 m) high. This section of the dam was constructed of 12, 6-x-8-in (15-x-20-cm) evenly spaced (every 3 ft (0.9 m) diagonal timbers supported by braces and horizontal joists that rested on a dense cobble substrate in the river bed. Removable wood planking with iron handles created the upstream face of the dam and could be easily adjusted based on the height of the Barstow's pond. The timber dam was anchored to the earthen dam to the east and stone retaining walls to the west by horizontally laid timber planking abutments. The timber structure had both lower and upper plank decking made of sawn 2x4s. The upper deck had evenly spaced 3 ft (0.9 m) on center vertical posts to allow access across the crest of the structure. Dry-laid stone retaining walls are present along the upstream west bank of the west channel on both sides of the timber section of the dam. The west channel is also lined with a dry-laid fieldstones on both sides below the timber dam section.

During the dam removal process, the contractor's machine excavations in the east spillway channel and adjacent berm section removed loose timbers and wood boards measuring 4–8 ft (1.2–2.4 m) in length. The timbers and boards were not attached or anchored to the spillway sidewalls, and were most likely remnants of flashboards and/or earlier spillway and sluiceway gate components. One larger structural element of note removed from the river bed in the channel was an approximate 4-ft (1.2-m) long section of formed concrete and conglomerate cement embedded with a wood timber. The formed concrete on the top side was approximately 8-in (20-cm) thick and the conglomerate cement on the bottom side was approximately 5-in (13-cm) thick and contained embedded fieldstones that were face down in the river channel sediments. The wood timber in the center was about 7-in (18-cm) thick and there were no nails or other hardware indicating that it was fastened to other wood or concrete parts. The entire composite element appears to have been lain horizontally across the width of the channel close to the top of the sediments. It likely functioned as the base of former sluiceway gate(s) originally made of timber(s) and then improved with the formed concrete on top.

The excavation of sediment in the spillway channel also uncovered an iron pulley just below the top of the river bed sediments at the southwest side of the western wheel pit. The pulley is about 10 in (25 cm) in diameter and 7 in (18 cm) wide and is fixed on the iron line shaft still present at both ends. The pulley would have been driven by belt from the power source (water wheels) to turn the saws that operated in the mill. The only cultural materials noted in the upper earthen berm fill soils were a few scattered bricks stamped "S & H", which stands for Stiles and Hart, a brick manufacturer located in Bridgewater, Massachusetts established in 1886.









