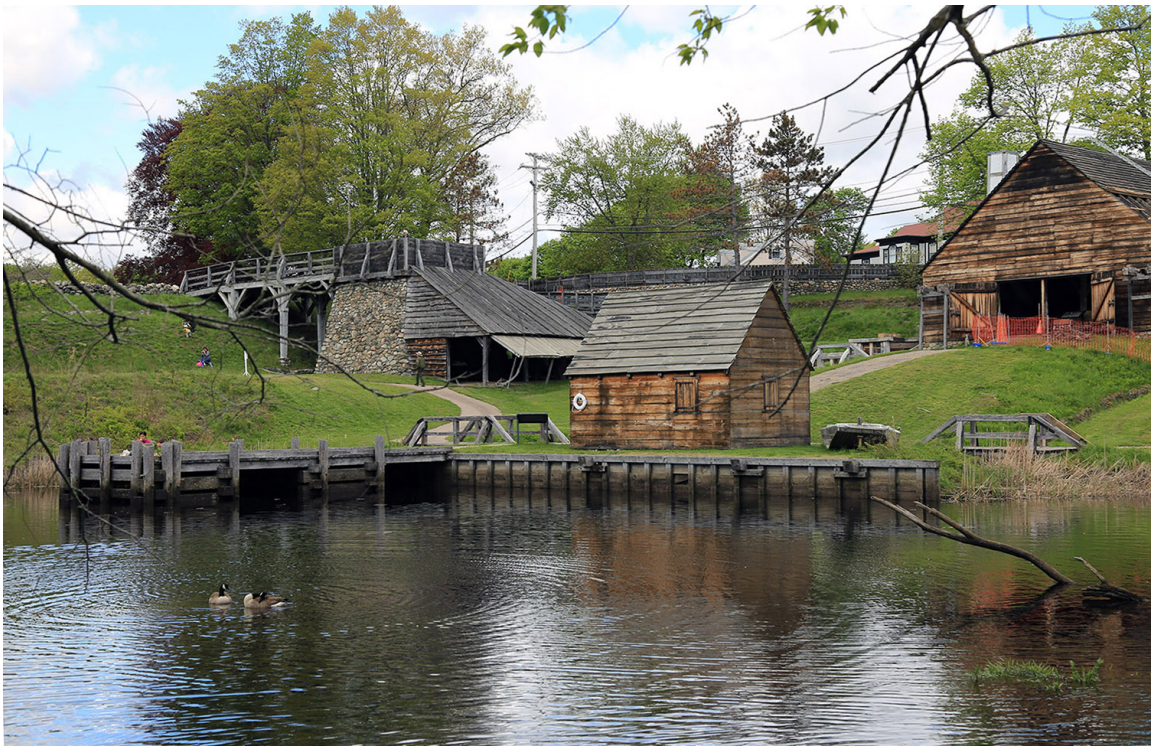
National Park Service
Cultural Landscapes Inventory

2019



Saugus Iron Works NHS Landscape

Saugus Iron Works National Historic Site

Table of Contents

Introduction

General Information

Concurrence Information

Geographic Information and Location Map

Management Information

National Register Information

Chronology & Physical History

Analysis & Evaluation of Integrity

Uses

Condition

Treatment

Bibliography & Supplemental Information

Introduction

The Cultural Landscape Inventory (CLI)

The Cultural Landscape Inventory (CLI) is a comprehensive inventory of all cultural landscapes in the National Park System. Landscapes that are listed, or eligible for listing, on the National Register of Historic Places, or are otherwise managed as cultural resources and in which the National Park Service has, or plans to acquire, legal interest are included in the inventory. The CLI identifies and documents each landscape's location, size, physical development, landscape characteristics, character-defining features, and condition. Cultural landscapes have approved CLIs when concurrence with the findings is obtained from the park superintendent and all required data fields are entered into the Cultural Resources Information System (CRIS-CL) database. In addition, for landscapes not currently listed on the National Register and/or without adequate documentation, concurrence is required from the State Historic Preservation Officer, Tribal Historic Preservation Officer, or the Keeper of the National Register.

Scope of the CLI

The information contained within the CLI is compiled from primary and secondary sources and through on-site surveys of the landscape. The level of investigation is dependent upon scoping the need for information. The baseline information collected provides a comprehensive look at the historical development and significance of the landscape. Documentation and analysis of the existing landscape identifies character-defining characteristics and features and allows for an evaluation of the landscape's integrity and an assessment of the landscape's condition. The CLI also includes historic maps, drawings, and images; photographs of existing conditions; and a site plan that indicates major features. The CLI documents the existing condition of park landscape resources and identifies impacts, threats, and measures to stabilize condition. This information can be used to develop strategies for improved stewardship. Unlike a Cultural Landscape Report (CLR), the CLI does not provide management recommendations or treatment guidelines for the cultural landscape, but it may identify stabilization measures.

The Cultural Resources Information System (CRIS)

CRIS is the National Park Service's database of cultural resources on its lands, consisting of archeological sites, historic structures, ethnographic resources, and cultural landscapes. Cultural Resources Inventory System (CRIS) replaces three legacy inventory systems: ASMIS (archeology), CLI (cultural landscapes), and LCS (historic structures); and it reinstates the former ERI (ethnographic resources). This Cultural Landscape Inventory document reflects the information in a corresponding CRIS Cultural Landscape record.

Statutory and Regulatory Foundation

The legislative, regulatory, and policy directives for conducting and maintaining the CLI within CRIS are:

- National Historic Preservation Act (NHPA) of 1966 (16 USC 470h-2(a)(1)) Sec. 110
- Executive Order 13287: Preserve America, 2003. Sec. 3 (a and c)
- Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs
- Pursuant to the National Historic Preservation Act, 1998. Std. 2
- Cultural Resource Management Guideline, 1997, Release No. 5, page 22; issued pursuant to Director's Order #28 (DO-28)

The NHPA requires the identification, evaluation, and nomination of historic properties to the National Register of Historic Places and the maintenance and expansion of an inventory of cultural resources. DO-28 requires a cyclic assessment of the current condition of cultural landscapes based on an assessment interval, with a default of six years.

Use

Beyond fulfilling legal and policy requirements, park staff can use the Cultural Landscape Inventory in the following ways:

- To learn about park cultural landscapes (all staff)
- To inform management decisions (park managers)
- To inform project planning and development (park managers, facility managers, project managers, compliance specialists)
- To monitor the condition of the cultural landscape and take measures to protect its significance and integrity (cultural resource managers, facility managers)
- To recognize the stabilization and treatment needs of landscape features and plan work within cultural landscapes to address the needs (facility managers, cultural resource managers)
- To understand the cultural value of natural systems in a cultural landscape (natural resource managers)
- To create programming and educational materials based on site history (interpretation and education specialists)
- To recognize impacts within cultural landscapes and enforce protection measures (visitor and resources protection staff)

General Information

Property Level and CLI Numbers

Inventory Unit Name: Saugus Iron Works NHS Landscape

Resource Classification: Cultural Landscape

CLI Identification Number: 650055

Parent Landscape: 650055

Inventory Status: Complete

Park Information

Park Name: Saugus Iron Works National Historic Site

Alpha Code: SAIR

Park Organization Code: 1920

Park District: SAIR

Region: Northeast

Restricted: No

Landscape Description:

The Saugus Iron Works National Historic Site (NHS) is located in Essex County in the Town of Saugus, Massachusetts, approximately ten miles north of Boston. The 12.58-acre park preserves the archaeological remains of the first integrated iron works in America, operational from 1646 until ca.1670; the Iron Works House constructed by a gentleman farmer in ca.1689 and restored by antiquarian Wallace Nutting in 1915; a museum building that originally served as Nutting's workshop; and the reconstructed iron works plant that was completed in the early 1950s. The park is situated on the east and west banks of a fall in the Saugus River at the upper end of the Saugus River estuary.

The iron works industrial complex (originally developed in 1646) features five reconstructed stone and wood industrial buildings – a blast furnace, forge, rolling and slitting mill, wharf, and warehouse – and a pile of slag, itself a legacy of early industrial waste products, extending into the river. Paths and footbridges pass alongside the sluiceways and tailraces that power functioning waterwheels, which along with a blacksmith forge, complement the interpretation of the reconstructed industrial core. On a bluff above the river is the Iron Works House and museum, set within lawns dotted with shade trees and shrubs. The house reflects Nutting's conjectural reconstruction of the First Period style, while the museum includes a collection of 60,000 items includes pre-contact and contact items, as well as major collections related to the Colonial era of the iron works and the 20th-century Colonial Revival and preservation movements. The park is also a critical archeological resource, having not only further potential to provide evidence of the beginnings of the American iron industry, but also an understanding of colonial society and Native American-related settlements.

Annual visitation is about 20,000-25,000 per year within the months of May-October when the waterwheels can be operated. The visitor center is located in the Iron Works House, and visitors can take a guided tour of the grounds, though self-guided exploration is also possible (without viewing machinery in operation). Overall, visitation has been increasing with the park's role as the southern gateway to the Essex National Heritage Area.

SIGNIFICANCE SUMMARY

The Saugus Iron Works NHS is significant at the national level under National Register of Historic Places Criteria A, B, C, and D. The park derives its primary significance under Criterion A in the area of Industry as the site of the first

sustained integrated iron works in the British North American Colonies. The park is also significant under Criterion A in the areas of Conservation and Commemoration for its association with the early and mid-20th century Colonial Revival movement and the efforts to restore, recreate, and preserve the site, including the restoration of the Iron Works House in 1915-1917 by Wallace Nutting. In particular, the park is significant as the first concerted attempt by a national industry to reclaim their earliest industrial past by working with and through the citizens of a local community. The park has additional significance under Criterion A in the area of Archeology for its association with the origins of industrial archeology. Under Criterion B, the park possesses significance for its association with the archeology career of Roland Wells Robbins. Under Criterion C in the area of Architecture, the Iron Works House is a significant example of a First Period dwelling in eastern Massachusetts that exhibits a regional framing variant. Under Criterion D, the park possesses significance in the area of Archeology (Historic, Non-Aboriginal) for its demonstrated and potential ability to yield substantive information about the colonial iron works founded on the site and the earlier and later occupations. The park also possesses significance under Criterion D in the area of Archeology (Prehistoric) for its demonstrated and potential ability to yield substantive information about lithic procurement and distribution patterns throughout the Saugus River basin and greater North Shore region, and as an illustration of 8,000 years of cultural continuity in one location based on stable and highly favorable environmental factors.

The period of significance for Saugus Iron Works NHS is 1646 to 1968, beginning the earliest date associated with an extant historic resource within the park and ending when the Saugus Iron Works NHS was incorporated into the National Park System. The period covers the years 1646 to ca.1670 when the iron works plant was in operation, 1915 to 1917 when Wallace Nutting restored the Iron Works House, and 1948 to 1954 when archeological investigations were performed at the site and when resources were reconstructed based on archeological and historical data. The period for pre-contact Native American occupation of the park dates from the Middle Archaic through Late Woodland periods (8000–450 BCE).

ANALYSIS AND EVALUATION SUMMARY AND CONDITION

The physical integrity of Saugus Iron Works NHS is evaluated by comparing the landscape characteristics and features present during the overall period of significance (1646-1968) with those of the existing landscape as assessed in 2018. Many landscape characteristics and features remain today. The relationship between the iron works site nestled between the west bluff and the east bank along the Saugus River is still visible. The slag pile and a few remnant stone foundations are all that remain from the original iron works period. However, the Iron Works House built in ca.1689 and restored in 1915-1917, and the museum dating to 1915 and altered in 1954, are extant. Also present are the museum annex and reconstructions of the iron works buildings and structures completed in 1952-1954. These features, along with various waterwheels, sluiceways, tailraces, a wharf, and a turning basin continue to represent the Colonial Revival period interpretation of the once busy Colonial-period iron works plant. Also dating to the 1950s are circulation features comprised of paths, stairs, footbridges, and a section of corduroy road that extend from the visitor parking lot and throughout the site. Lawn areas planned throughout the park in the 1950s still provide open views to and from the industrial area and river, while scattered trees and rows of shrubs help screen land uses beyond the park's boundaries.

Since 1968, the park's historic buildings and structures have undergone routine maintenance and have been kept in good condition. The Iron Works House now serves as the park's visitor center. The construction of the blacksmith forge on the east bank for live demonstrations complements the reconstructed features at the industrial site. The additions of park maintenance facilities and rehabilitation of two homes for park offices and storage are partially screened from visitor use areas of the park. Recent improvements and additions to the historic circulation system have made the buildings and grounds more accessible. Perhaps the biggest change has been the recent restoration of the wharf, bulkheads, and turning basin to their 1950s conditions after decades of deterioration and vegetation growth.

Condition:
Based on the condition assessment categories in the CLI Professional Procedures Guide, the Saugus Iron Works NHS landscape is in "Good" condition. This assessment indicates the park's landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The park's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Landscape Hierarchy Description:

Saugus Iron Works NHS consists of one landscape.

Landscape Type:

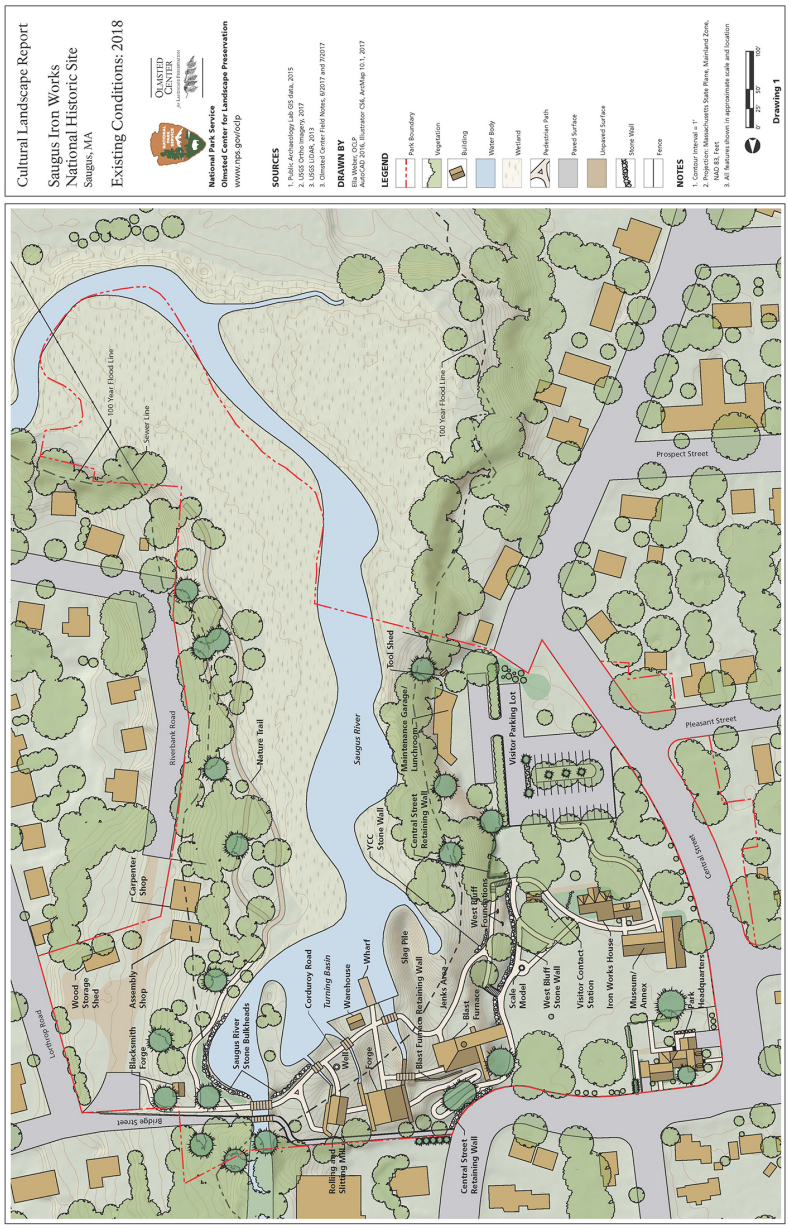
Historic Designed Landscape

Historic Site

Other Names:

Other Name:	Hammersmith	**Other Name Type:**	Historic
Other Name:	Iron Works at Lynn	**Other Name Type:**	Historic
Other Name:	First Iron Works	**Other Name Type:**	Historic
Other Name:	Saugus Iron Works National Historic Site	**Other Name Type:**	Current

Site Plan



Site plan for Saugus Iron Works NHS, 2019.

Concurrence Information

Concurrence Status:

Park Superintendent Concurrence: Yes

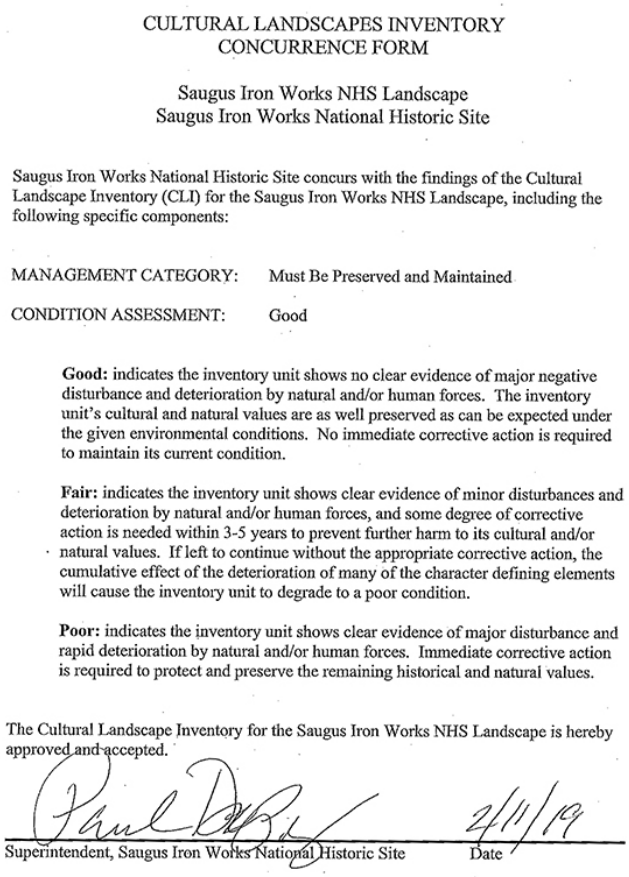
Park Superintendent Date of Concurrence: 02/11/2019

Completion Status Explanatory Narrative:

This CLI is based on the 2003 “Cultural Landscape Report–Saugus Iron Works National Historic Site: Twentieth–Century Pedestrian Circulation” by Jeff Killion and Eliot Foulds, and the 2017 draft “Cultural Landscape Report for Saugus Iron Works National Historic Site” by Ella Weber. Historical research and field work for the 2017 draft was completed by Ella Weber in 2016-2017. Jeff Killion converted the CLRs into this CLI in 2018.

Concurrence Graphic Information:

Attachment File Path



CULTURAL LANDSCAPES INVENTORY
CONCURRENCE FORM

Saugus Iron Works NHS Landscape
Saugus Iron Works National Historic Site

Saugus Iron Works National Historic Site concurs with the findings of the Cultural Landscape Inventory (CLI) for the Saugus Iron Works NHS Landscape, including the following specific components:

MANAGEMENT CATEGORY: Must Be Preserved and Maintained

CONDITION ASSESSMENT: Good

Good: indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character defining elements will cause the inventory unit to degrade to a poor condition.

Poor: indicates the inventory unit shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

The Cultural Landscape Inventory for the Saugus Iron Works NHS Landscape is hereby approved and accepted.

Superintendent, Saugus Iron Works National Historic Site — Date 2/11/19

Park Concurrence Form, February 11, 2019.

Geographic Information

State and County:

State	County
Massachusetts	Essex County

Size (Acres): 12.58

Land Tract Number(s)

01-101 (0.12 acres), 01-102 (0.13 acres), 01-103 (12.33 acres)

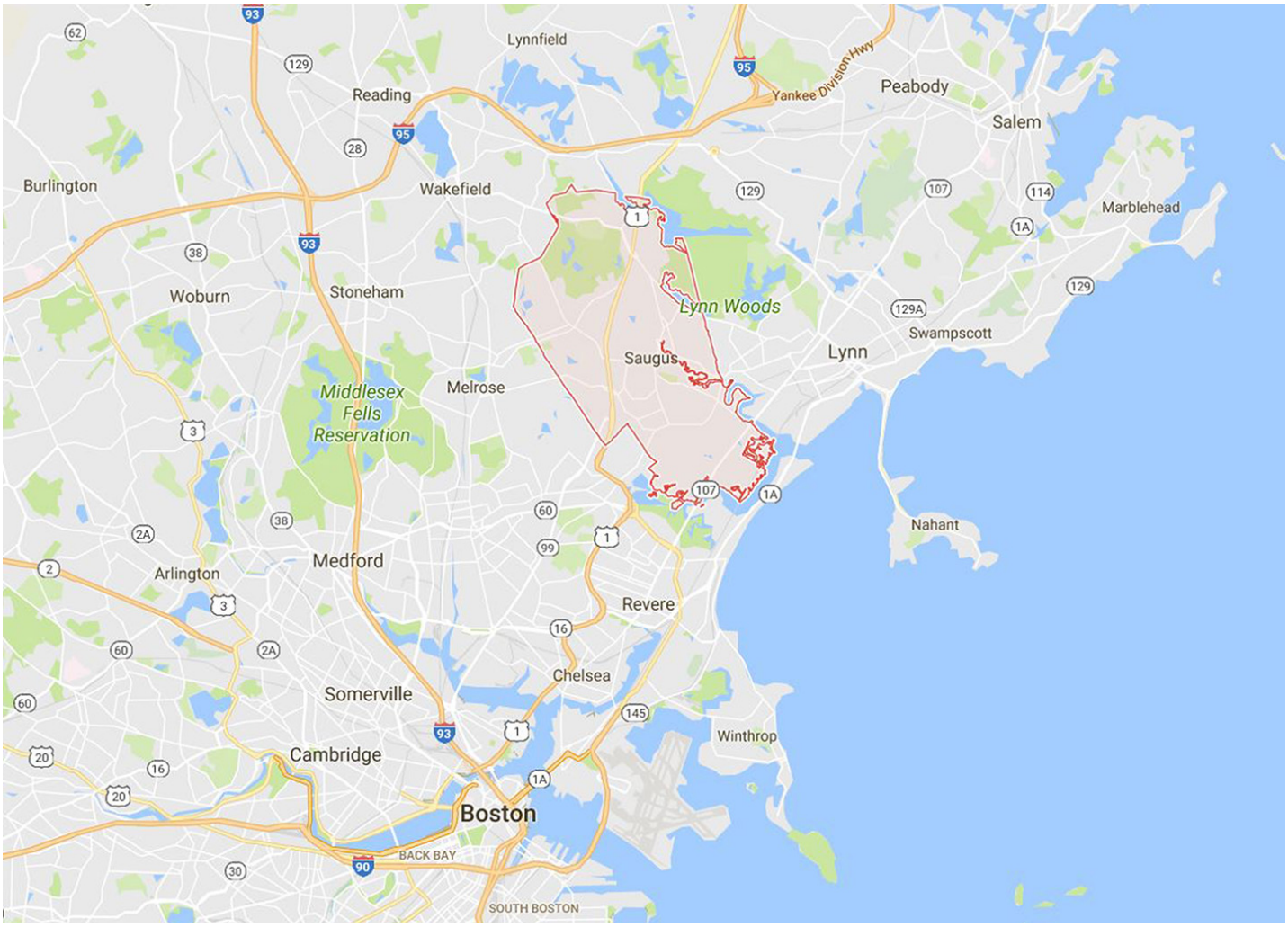
Boundary Description:

The boundary of the CLI corresponds to the authorized boundary of Saugus Iron Works NHS and the district boundaries for the Saugus Iron Works National Historic Site Historic District. Located on the east and west banks of the Saugus River, the park bordered by Central Street on the west; Riverbank Road on the east; portions of Bridge Street, Central Street, and private property on the north; and private property and commercial development on the south. Two small, discontiguous parcels on the west side of Central Street are also within the park boundary.

Boundary Coordinates

Source	Type of Point	Latitude	Longitude	Narrative
	Area	42.469295	-71.006304	
	Area	42.469206	-71.009404	
	Area	42.469587	-71.006797	
	Area	42.468762	-71.006094	
	Area	42.468623	-71.006694	
	Area	42.467075	-71.006815	
	Area	42.46696	-71.006128	
	Area	42.466602	-71.006132	
	Area	42.466353	-71.006663	
	Area	42.467117	-71.007579	
	Area	42.467522	-71.007565	
	Area	42.467759	-71.008495	
	Area	42.467639	-71.008564	
	Area	42.467766	-71.009138	
	Area	42.467985	-71.009372	
	Area	42.468219	-71.009583	
	Area	42.468701	-71.009558	

Location Map:



Map showing the location of the City of Saugus in relation to the Greater Boston Area. (Google, 2017)



Map showing site boundary and park location within Saugus Center. (USGS, 2013)



Regional Landscape Contexts:

Type of Context: Physiographic

Description:

Saugus Iron Works NHS is entirely contained within the Avalon terrane of eastern Massachusetts, a rock body primarily composed of Proterozoic granite, granite gneiss, and metamorphosed volcanic and sedimentary rocks that is bounded by faults. The park straddles the eastern and western banks of the Saugus River, which originates to the northwest at Lake Quannapowitt in neighboring Wakefield. Flowing over a fall line just as it enters the park boundary, the river bisects the park from north to south before continuing southeast into Broad Sound in the Atlantic Ocean. Within the park the river channel is flanked by a brackish water estuary and wetland, created by moderate tides reaching the southern edge of the turning basin. Formed by a natural eddy in the river, the turning basin defines the aquatic character of the site, and is the repository for runoff from the waterwheels in the reconstructed iron works buildings. To the west of the turning basin, the riverbank rises sharply, roughly 21 feet, to form a bluff while the eastern bank forms a gentle slope. Beyond the park boundary are three prominent conservation areas: Breakheart Reservation lies to the northwest, Lynn Woods to the northeast, and Rumney Marshes to the southeast (see Regional Landscape Context graphic). (CLR 2017: 109)

Type of Context: Cultural

Description:

Human activity in the Town of Saugus, formerly incorporated with the City of Lynn, developed primarily as a result of its proximity to diverse natural resources. The hydraulic power potential of the Saugus River due to the fall line provided an ideal location for fish weirs and grist mills, which gave way to the iron works complex, and later industrial manufacturing from lumber to textiles. The high demand for coal to fuel the iron works led to the deforestation of at least 600 acres of land surrounding the iron works site, leaving behind cleared land for agricultural development in the decades after the plant's closure. The division of the James Taylor farmland in 1724, which encompassed most of the original iron works property, created the plan for modern day Saugus Center. (CLR 2017: 110)

Early transport to and from Saugus was restricted primarily to the Saugus River, as well as informal foot and cart paths. In concert with the waves of agricultural, domestic, and industrial development, circulation routes were extended over land connecting Saugus to city centers including Salem and Boston, first by road and later by train. U.S. Route 1 transects the Town of Saugus, lying west of the park and running from Boston north to the international border with Canada. The park is within the service area of the Massachusetts Bay Transit Authority, connecting it by bus to the Greater Boston Area. The expansion of transportation modes and routes facilitated in part the transformation of Saugus from industrial center to residential suburb, allowing residents increased flexibility to work in the Greater Boston Area. (CLR 2017: 110)

The park is integrated in the larger community through a series of cultural and natural resource partnerships. The inclusion of the park within the Essex National Heritage Area – a network of historic structures, farms, and landmarks, museums, and state and national parks – has served to strengthen the interpretive and physical connection of Saugus Iron Works within the broader context of Essex County. In concert with biological monitoring efforts in the region, including at Breakheart and Rumney Marsh reservations and Lynn Woods, flora, fauna, and water quality monitoring takes place regularly at the park. Visitors drawn to the park's rich biodiversity can assist in monitoring by reporting observations to park staff. (CLR 2017: 110)

Type of Context: Political

Description:

The Town of Saugus consists of 11.8 square miles and is located in Essex County, 11 miles northwest of Boston. The population of Saugus has experienced an estimated 5.1% growth since the 2010 census, representing roughly 28,000 people as of July 2016. Saugus Iron Works NHS is located centrally within the Town of Saugus, and is surrounded primarily by residential development with light industrial development interspersed to the north and south. The town hall is located directly south of the historic site. (CLR 2017: 110-111)

Management Information

General Management Information

Management Category: Must be Preserved and Maintained

Management Category Date: 02/11/2019

Management Category Explanatory Narrative:

Saugus Iron Works NHS meets the criteria for the “Must be Preserved and Maintained” management category because it is nationally significant as defined by National Historic Landmark (NHL) criteria. Saugus Iron Works was designated a NHL on November 27, 1963. Additionally, Congress formally established Saugus Iron Works NHS under Public Law 90-282 on April 5, 1968 “to preserve and interpret the archaeological sites and features, the historic and reconstructed structures and scene, and the museum collections associated with America’s first sustained, integrated, and successful iron works venture, which operated at this site on the Saugus River from 1646 to about 1670.”

Management Agreements:

Type of Agreement: None

Management Agreement Expiration Date:

Management Agreement Explanatory Narrative:

Legal Interests:

Type of Interest: Fee Simple

Narrative: Note: NPS legal ownership of the pedestrian bridge is not 100% confirmed.

Located in managed wilderness?: No

Adjacent Lands Information

Do Adjacent Lands Contribute? Yes

Adjacent Lands Narrative:

Adjacent lands are lands outside the cultural landscape boundary, including lands inside or outside the park. Surrounding lands once included the worker village called Hammersmith, as well as ample supplies of bog iron, gabbro flux, and timber needed for colonial iron manufacturing. Despite development in these areas, vestiges of the canal, bogs, Pranker's Pond, and the Charcoal House exist. (Review comments from Park and Griswold, August 2018)

National Register Information

National Register of Historic Places

Documentation Status: Entered Documented

Documentation Narrative Description:

On April 5, 1968, an Act of Congress (PL 90-282) established Saugus Iron Works as a unit of the National Park Service. Prior to this date, Saugus Iron Works was designated a National Historic Landmark (NHL) on November 27, 1963. The accompanying NHL documentation noted that the 1954 reconstructions of the 17th century site served as unique educational representations of early iron production that was critical in the development of the colonies. Specific resources described included the Iron Master's House (now Iron Works House), blast furnace, forge, and the rolling and slitting mill. In a July 29, 2011 correspondence between the NHL Program and the NER History Program, it was determined that the 1950s-era reconstructed resources that were determined to have integrity when the NHL was designated in 1963, contribute to the significance of the NHL.

The site was administratively listed on the National Register of Historic Places without documentation on October 15, 1966 (NRIS #66000047). On October 20, 1976, National Register documentation was accepted by the Keeper of the National Register. The documentation identified significance in the areas of Architecture, Engineering, and Industry for the 17th through 20th century period (no specific dates given). The documentation described the overall setting and condition of the 8.5-acre district and several specific features: Ironmaster House (now Iron Works House), slag pile, blast furnace (and charging bridge, sluiceway and tailrace), forge (sluiceways and tailraces), rolling and slitting mill (sluiceway and tailrace), and warehouse/ironhouse.

On April 20, 1994, the Massachusetts Historical Commission (SHPO) replied to a NPS letter seeking determinations of eligibility for potential List of Classified Structures resources. The SHPO reaffirmed the contributing status of the Iron Works House and slag pile, but not the furnace, forge, rolling and slitting mill, and warehouse due to insufficient context. The SHPO concurred with the NPS that the museum was a contributing resource and the following features were non-contributing: YCC stone wall, blacksmith forge, carpenter shop, maintenance garage/rest room, toolshed at 230 Central St., house at 230 Central St., house at 232 Central St., wood storage shed, and picnic shelter. The SHPO did not evaluate the following resources due insufficient documentation: contact station, museum annex, corduroy road, Saugus River stone bulkhead, stone wall at west bluff, well, bridges over Saugus River, furnace sluiceway and tailrace, retaining wall, slitting mill sluiceway and tailrace, small bridge over tailrace, wood retaining wall, and wharf. The SHPO recommended developing a historic context for the reconstructions at the site in 1947-1954, and stated that the site had a high potential for archeological resources.

On March 9, 1990 the Iron Works House, listed under the name Appleton-Taylor-Marshfield House, was identified in the National Register documentation "First Period Buildings of Eastern Massachusetts Thematic Resource Nomination." In 1996 Saugus Iron Works NHS was included in the Essex National Heritage Area as part of the Omnibus Parks and Public Lands Management Act (PL 104-333). Focusing primarily on the connectivity of human inhabitants, landscape, and industry since Essex County's earliest inhabitants, the iron works site provides a reconstructed picture of a colonial iron works and Puritan industrialism. The iron works site is one of two National Park units included in the heritage area, alongside Salem Maritime NHS.

On April 19, 2018, updated National Register documentation for the park was accepted by the Keeper. The documentation identified national-level significance in the areas of Industry, Conservation, Other (Commemoration), Architecture, Archeology (Prehistoric), Archeology (Historic-Non Aboriginal), and for archeologist Roland Wells Robbins. The periods of significance were listed as 8000-450 B.P., representing the pre-contact Native American occupation from the Middle Archaic through Late Woodland periods, and 1646-1968, beginning when the iron works began operating and ending when Saugus Iron

Works NHS was established. The documentation identified 25 contributing resources: Saugus Iron Works site, slag pile, West Bluff stabilized foundations, Jenks Area foundations, Iron Works House, visitor contact station, museum and museum annex, forge, rolling and slitting mill, warehouse, blast furnace, blast furnace sluiceway and tailrace, forge sluiceways and tailraces, rolling and slitting mill sluiceway and tailrace, system of paths, Saugus Iron Works nature trail, well, wharf, tailrace bridges, corduroy road, bridges over Saugus River, Saugus River stone bulkheads, Central Street retaining walls, west bluff stone wall, and blast furnace retaining wall. The documentation identified 9 non-contributing resources: park headquarters, carpenter shop, assembly shop, blacksmith forge, maintenance garage/lunchroom, wood storage shed, tool shed, YCC stone wall, and the Saugus Iron Works scale model.

According to research conducted for this CLI and the categories of National Register documentation outlined in the "CLI Professional Procedures Guide," resources that contribute to the significance of the Saugus Iron Works NHS landscape have been listed through the 2018 National Register update. Additionally, the site's areas and periods of significance are adequately documented in the National Register. Therefore, for purposes of the CLI, Saugus Iron Works NHS is considered "Entered-Documented."

Eligibility: Eligible -- Keeper

Concurrence Eligibility Date: 04/19/2018

Concurrence Narrative:

On April 19, 2018, updated National Register documentation for the park was accepted by the Keeper.

Significance Level: National

Contributing: Contributing

Classification: District

Statement of Significance for National Register of Historic Places:

The Saugus Iron Works NHS is nationally significant under National Register Criteria A, B, C, and D. The park's primary significance under Criterion A is in the area of Industry as the site of the first sustained integrated iron works in the American colonies and in the areas of Conservation and Commemoration for its association with the early and mid-20th century Colonial Revival movement and the efforts to restore, recreate, and preserve the site, including the restoration of the Iron Works House in 1915 by Wallace Nutting. The park is also significant under Criterion A in the area of Archeology for its association with the origins of industrial archeology. Under Criterion B, the park possesses significance for its association with the archeology career of Roland Wells Robbins. Under Criterion C in the area of Architecture, the Iron Works House is a significant example of a First Period dwelling in eastern Massachusetts that exhibits a regional framing variant. Under Criterion D, the park possesses significance in the area of Archeology (Historic, Non-Aboriginal) for its demonstrated and potential ability to yield substantive information about the colonial iron works founded on the site and the earlier and later occupations. The park is also significant under Criterion D in the area of Archeology (Prehistoric) for its demonstrated and potential ability to yield substantive information about lithic procurement and distribution patterns throughout the Saugus River basin and greater North Shore region, and as an illustration of 8,000 years of cultural continuity in one location based on stable and highly favorable environmental factors. (NR 2018 Sec.8: 21)

The park's reconstructed buildings and structures meet Criteria Consideration E because they have achieved significance in their own right for their association with important trends and events in the history of the United States. The reconstructed buildings and structures also meet Criteria Consideration F, as the

significance of these resources arises from their value as expressions of the Colonial Revival movement and the commemoration and interpretation of the American past embodied in that movement. The park retains integrity and clearly conveys its significance as a re-creation of the colonial iron works on the banks of the Saugus River. (NR 2018 Sec.8: 21)

The primary period of significance for Saugus Iron Works NHS is 1646-1968, starting when the iron works plant was established and ending when the Saugus Iron Works NHS was established by the U.S. Congress and incorporated into the National Park System. The period covers the years of iron works production from 1646 to ca.1670, the restoration of the Iron Works House by Wallace Nutting from 1915 to 1917, and reconstructions of resources based on archeological and historical data from 1948 to 1954. The period of significance for pre-contact Native American occupation of the park dates from the Middle Archaic through Late Woodland periods (8000–450 BCE). (NR 2018 Sec.8: 21)

CRITERION A

Industry:
The park is significant under Criterion A in the area of Industry for its influence on the development of the colonial American iron industry in the 17th and early 18th centuries. Established in 1646 and operated until about 1670, the Saugus Iron Works (historically known as “Hammersmith”) was among the first integrated iron works developed in Britain’s North American colonies. As such, it helped to launch the iron industry that became an important contributor to the early American economy and decreased reliance on imported iron goods from Great Britain. The iron works combined the production output of a blast furnace with that of a forge and rolling and slitting mills within a single site (thereby making it an integrated iron works) to manufacture a range of finished and semi-finished goods such as cast iron hollowware, wrought iron merchant bar, and rods for the manufacture of nails. Although the operation of the Saugus plant was brief, it demonstrated the feasibility of manufacturing a variety of metal products in the American colonies, and the men involved in the business ultimately used the knowledge they had gained at Saugus to establish other ironmaking establishments and influence succeeding generations of American ironmakers. Among them were Joseph Jenks’ sons and the brothers Henry and James Leonard, who went on to establish successful forges and furnaces in Massachusetts, Rhode Island, and New Jersey from the 1650s to 1670s that their descendants continued to operate well into the 18th century. By the mid-18th century American ironmakers were able to compete on relatively even terms with their European counterparts and had established an industry that proved critical to the Revolutionary War effort and the post-war economy. (NR 2018 Sec.8: 22,27)

Conservation and Commemoration:
The park is significant under Criterion A in the areas of Conservation and Commemoration as a property that represents trends toward the preservation and restoration of colonial buildings during the years of the Colonial Revival movement of the late 19th and early 20th centuries. The movement was manifested in the park by the preservation and restoration of the Iron Works House by Wallace Nutting and Henry Charles Dean from 1915 to 1917 and the application of the outdoor living history museum concept, which became a popular interpretive tool that arose out the historic preservation movement of the 20th century. The park is also significant as an embodiment of the so-called “Corporate Roots” movement, which was expressed by the efforts of the iron and steel industry to commemorate their origins by sponsoring the reconstruction of the Saugus Iron Works. (NR 2018 Sec.8: 28)

Archeology (Historic: Non-Aboriginal):
The park is significant under Criterion A in the area of Archeology for its role in the development of industrial archeology in the 1960s and 1970s as a legitimate subdiscipline of American historical archeology. The work undertaken by Roland W. Robbins at the Saugus Iron Works from 1948 to 1953 was the first extensive and sustained archeological study of a large American industrial site, and demonstrated the applicability of historical archeological research methods to the study of industrial sites. Robbins’ work at Saugus was unsystematic by today’s standards, and undoubtedly resulted in the destruction of important data, his work was advanced in many respects (Griswold 2011: 106; Griswold review comments, August 2018). Robbins was instrumental in establishing basic research, excavation, and recordation methods that would prove the value of industrial sites archaeology to the field of archaeology as a whole, and inform generations of professional industrial archaeologists to come. (NR 2018 Sec.8: 39)

CRITERION B

Archeology and Conservation (Roland Wells Robbins):
The park is significant for its association with the early archeology career of Roland Wells Robbins (1908-1988). Robbins was a pioneer in industrial archeology who worked as a self-taught archeologist, or "pick and shovel historian," at a time when historical archeology was only beginning to be regarded as a separate discipline from pre-contact archeology in the United States. Robbins' Saugus excavations set the standard for industrial archeology and its role the in public interpretation and preservation of America's industrial past. (NR 2018 Sec.8: 42-43)

CRITERION C

Architecture:
The Iron Works House is significant under Criterion C in the area of Architecture for its timber framed structural system and as conjectural reconstruction of a Post-Medieval-style house executed during America's Colonial Revival period of the early 20th century. Constructed around 1689 as part of the original house, the timber framed structural system is a rare example of its type dating from Massachusetts' First Colonial period (First Period, 1625–1725). The reconstruction of the house was undertaken 1915-1917 by Wallace Nutting and Henry Charles Dean who used available structural evidence, precedents set by other Colonial restorations, and personal supposition as inspiration for their Post-Medieval-style design of the building. (NR 2018 Sec.8: 45)

CRITERION D

Archeology (Historic: Non-Aboriginal and Prehistoric):
Twelve archeological projects were conducted at the Saugus Iron Works site from 1948 to 2007. The investigations carried out by Roland Robbins from 1948 to 1954 in support of the FIWA reconstruction of the Saugus Iron Works were the most extensive and provided the most data about the construction and use of the original 17th-century iron works. Since 1953, the archeological profile of the site has been expanded and refined through research excavations at the Iron Works House and carpenter shop; two archeological collections assessments; Section 106 compliance surveys and excavations in support of park infrastructure and accessibility upgrades; and an archeological overview and assessment. (NR 2018 Sec.8: 48)

Archeological resources with the demonstrated and potential ability to address the park's primary significance as the first sustained integrated iron works in America include the entire Saugus Iron Works Site (ASMIS #SAIR00011.000), which includes the industrial area where archeological excavations conducted by local archeologist Roland Wells Robbins in the late 1940s and early 1950s informed the recreation of the industrial landscape, and the west bluff where the Iron Works House is located. Within the larger site are the Slag Pile (ASMIS #SAIR00002.000), Jenks Area Foundations (ASMIS #SAIR00009.000), and the West Bluff Stabilized Foundations (ASMIS #SAIR00003.000). (NR 2018 Sec.7: 5 and Sec.8: 48-52)

The same environmental and topographic characteristics that made the Saugus Iron Works Site so valuable to 17th-century English entrepreneurs – an elevated bluff adjacent to steep falls, wetlands, a natural harbor, and dense woodlands – also made it a prime location for pre-contact settlement. More than 31 pre-contact sites have been identified within a 1-mile radius of the park. A review of the documentation for these sites in combination with regional cultural chronologies has been used to develop a context within which to interpret and assess the pre-contact significance of the Saugus Iron Works Site (ASMIS #SAIR00011.000) from the PaleoIndian to Late Woodland periods. (NR 2018 Sec.8: 52)

National Register Significance Criteria:

A - Associated with events significant to broad patterns of our history

B - Associated with lives of persons significant in our past

C - Embodies distinctive construction, work of master, or high artistic values

D - Has yielded, or is likely to yield, information important to prehistory or history

National Register Criteria Consideration:

E -- A reconstructed building, object, or structure

F -- A commemorative property

National Register Periods of Significance (with Historic Context Themes):

Time Period: BCE 8000 - BCE 450

Historic Context Theme	Subtheme	Facet	Other Facet
Peopling Places	The Earliest Inhabitants:	The Early Peopling Of North America	
Peopling Places	Prehistoric Archeology: Topical Facets	Prehistoric Settlements And Settlement Patterns	

Time Period: CE 1646 - CE 1968

Historic Context Theme	Subtheme	Facet	Other Facet
Creating Social Institutions and Movements	Recreation	Tourism	
Creating Social Institutions and Movements	Social and Humanitarian Movements	Historic Preservation Movement	
Developing the American Economy	Extraction or Mining Industries	Iron And Ferro Alloys	
Developing the American Economy	Extraction or Mining Industries	Timber And Lumber	
Developing the American Economy	Shipping and Transportation by Water	Ships, Boats, Lighthouses, And Other Structures	
Developing the American Economy	Trade (Modern)	Export-Import	
Expanding Science and Technology	Technology (Engineering and Invention)	Extraction And Conversion Of Industrial Raw Materials	
Expanding Science and Technology	Technology (Engineering and Invention)	Tools And Machines	
Expressing Cultural Values	Architecture	Colonial (1600-1730)	
Expressing Cultural Values	Architecture	Period Revivals (1870-1940)	
Peopling Places	Colonial Exploration and Settlement	American Exploration and Settlement	
Peopling Places	Colonial Exploration and Settlement	English Exploration And Settlement	
Peopling Places	Development of the Colonies	Physical Development	
Peopling Places	Development of the Colonies	Social And Economic Affairs	

Area of Significance:

Area of Significance Category: Architecture

Area of Significance Subcategory:

Explanatory Narrative:

Area of Significance Category: Archeology

Area of Significance Subcategory: Historic-Non-Aboriginal

Explanatory Narrative:

Area of Significance Category: Archeology

Area of Significance Subcategory: Prehistoric

Explanatory Narrative:

Area of Significance Category: Conservation

Area of Significance Subcategory:

Explanatory Narrative:

Area of Significance Category: Industry

Area of Significance Subcategory:

Explanatory Narrative:

Area of Significance Category: Other

Area of Significance Subcategory:

Explanatory Narrative: Commemoration

NRIS Information:

NRIS Name:	Saugus Iron Works National Historic Site
NRIS ID:	66000047
Other Name:	Hammersmith
Primary Certification Date:	04/19/2018
NRIS Name:	Saugus Iron Works
NRIS ID:	66000047
Primary Certification Date:	10/20/1976

State Register Documentation:

Identification Number:	SAU.A
Name:	Saugus Iron Works National Historic Site

National Historic Landmarks:

National Historic Landmark? Yes

Theme:

Contributing:

NHL ID:

NHL URL:

Date: 11/27/1963

Statement of Significance for National Historic Landmark:

World Heritage Site:

Is Resource within a designated National Natural Landscape: No

Chronology and Physical History

Chronology:

Year	Event	Major Event Narrative
CE 1630	Colonized	By 1630 English colonization is well-established at Saugus and Lynn with farmsteads scattered along the Saugus River.
CE 1639	Built	By 1639 the future iron works site is part of a 600-acre tract owned by Thomas Dexter, of which some eighty acres is cleared and farmed. Dexter builds a dwelling, weir, and grist mill.
CE 1645	Established	The Company of Undertakers for Iron Works in New England is established and builds an iron works at Braintree, which closes this same year.
CE 1645	Purchased/Sold	Richard Leader, the agent for the Company of Undertakers, arranges for the purchase of Dexter's land.
CE 1646 - 1653	Built	Construction and full-scale iron production begins at the iron works in Saugus, known as Hammersmith. The three primary structures include a blast furnace (1646), forge (1646), and a rolling and slitting mill (1653).
CE 1658	Purchased/Sold	Assets of the Company of Undertakers are taken by creditors.
CE 1670	Abandoned	The iron works plant ceases operations due to mismanagement, high production costs, and a decline in sales.
CE 1676	Farmed/Harvested	By 1676 the iron works plant has been cleared of "utensils" and "stock" and much of the surrounding land is returned to agricultural and husbandry uses.
CE 1676	Purchased/Sold	Samuel Appleton, Jr. inherits and begins farming the 600-acre property, known as Ironworks Farm. Appleton may have built the residence now known as the Iron Works House, but it more likely dates to ca.1689.
CE 1682	Damaged	The iron works dam is breached by townspeople, silting in the Saugus River.
CE 1685	Purchased/Sold	Appleton sells 22 acres of the farm to John Burrell.
CE 1686 - 1687	Purchased/Sold	Appleton sells 25 acres of the farm to John Higgs.
CE 1688	Purchased/Sold	Appleton sells the remaining 553 acres of the farm to James Taylor.
CE 1689	Built	Probate records indicate that the Iron Works House was more likely constructed by Taylor than Appleton due to the significantly increased value of the property during his occupation. Taylor also builds barns, a brick kitchen, and a smith's shop but locations are not precisely known.
CE 1724	Purchased/Sold	After Taylor's death, the 600-acre Ironworks Farm is subdivided. The Iron Works House and associated structures become part of a 17-acre parcel while the iron works site is reserved for pasturage. Ownership of both properties changes in subsequent years, and includes the Thomas Mansfield family.

Year	Event	Major Event Narrative
CE 1745 - 1756	Built	Between 1745 and 1756 William Roby builds a barn southeast of the Iron Works House, along what would become Central Street.
CE 1793	Built	Around 1793 a shoemaker's shop is built on the Iron Works House property.
CE 1800 - 1850	Built	In the early 1800s a bridge is constructed to connect the west bluff near modern Marion Street and the east bank near modern Bridge Street.
CE 1809	Built	Around 1809 a workshop and corn barn is built somewhere near the Iron Works House.
CE 1820	Built	By 1820 Thomas Mansfield builds another house at or adjacent to the Roby barn. The Mansfield house stands until 1976.
CE 1830	Built	Around 1830 a barn is built northwest of the house and a shed south of the house.
CE 1837	Built	The north-south Central Street is established.
CE 1866	Built	The Rafferty house is constructed southeast of the Iron Works House.
CE 1868	Purchased/Sold	By 1868 local industrialist Andrew Scott buys the Iron Works House and converts it into a tenement for his factory workers.
CE 1884	Built	By 1884 Appleton, Pleasant, and Parker Streets are officially established. The east-west Pleasant Street lies just to the south of the Iron Works House.
CE 1900	Built	In ca.1900 the Arlington and Guerney houses are built southwest of the Iron Works House.
CE 1915	Purchased/Sold	Wallace Nutting purchases the Iron Works House from the Scott family.
CE 1915	Built	Nutting builds a blacksmith shop north of the Iron Works House.
CE 1915 - 1917	Restored	Nutting restores the Iron Works House to its presumed 17th century appearance.
CE 1920	Purchased/Sold	Nutting sells the Iron Works House parcel, and it passes to a variety of owners.
CE 1920 - 1946	Built	Between 1920-1946 Bridge Street is laid out over the northern part of the iron works site. The bridge is closed to vehicular traffic in the late 1940s.
CE 1938	Purchased/Sold	Parson Roby Chapter of the Daughters of the American Revolution (DAR) acquires the iron works site along the river.
CE 1941	Purchased/Sold	The Henry Ford Alumni Association purchases the Iron Works House with the intent of moving the house to Dearborn, Michigan.
CE 1943	Established	Local residents establish the First Iron Works Association (FIWA) and successfully prevent the relocation of the house to Michigan.
CE 1945	Purchased/Sold	FIWA purchases the Iron Works House and grounds and opens it to the public. The DAR donates the iron works site to FIWA this same year.

Year	Event	Major Event Narrative
CE 1948 - 1953	Excavated	FIWA hires archeologist Roland Wells Robbins to determine the extent of underground remains. Robbins uncovers remains of the blast furnace, forge, rolling and slitting mill, and several waterways. Archeological investigations continue alongside reconstruction work until Robbins resigns in 1953.
CE 1950	Moved	Central Street is rerouted to the west along Union Street and Marion Street. Greystone Road, running just north of the blacksmith shop, is removed.
CE 1951 - 1952	Platted	FIWA surveys the Saugus River, Pranker's Pond to the north, and areas adjacent to the iron works site to establish the historic water levels and determine how the waterwheels may have worked.
CE 1951 - 1952	Reconstructed	In 1951-1952 the blast furnace is reconstructed.
CE 1951 - 1952	Built	A parking lot is built south of the Mansfield house in 1951-1952. The entrance is on the east side of the lot, from a retained portion of Central Street.
CE 1952 - 1954	Reconstructed	In 1952-1954 the forge is reconstructed.
CE 1952	Altered	FIWA converts the Nutting blacksmith shop into a museum around 1952.
CE 1953	Reconstructed	The wooden wharf bulkhead is reconstructed.
CE 1953 - 1954	Reconstructed	In 1953-1954 the wharf is reconstructed as a 37-foot long wooden pier.
CE 1953 - 1954	Reconstructed	In 1953-1954 the two forge sluiceways and tailraces are reconstructed.
CE 1953 - 1954	Reconstructed	In 1953-1954 the blast furnace sluiceway and tailrace are reconstructed.
CE 1953 - 1954	Reconstructed	In 1953-1954 the blast furnace retaining wall, located between the blast furnace and forge, is reconstructed.
CE 1953 - 1954	Reconstructed	In 1953-1954 the rolling and slitting mill is reconstructed.
CE 1953 - 1954	Reconstructed	In 1953-1954 the rolling and slitting mill sluiceway and tailrace are reconstructed.
CE 1953 - 1954	Built	The Saugus River stone bulkheads are constructed in 1953-1954.
CE 1953 - 1954	Built	The west bluff stone wall is constructed in 1953-1954.
CE 1953 - 1954	Built	Three tailrace bridges are erected spanning the two tailraces associated with the forge and one tailrace with the rolling and slitting mill in 1953-1954.
CE 1953 - 1954	Reconstructed	A section of corduroy road is reconstructed between the rolling and slitting mill tailrace and the forge's eastern tailrace.
CE 1953 - 1954	Built	The pedestrian bridge over the Saugus River is relocated and reconstructed slightly to the north for continued use by the general public. A second wider bridge is built just to the south for park visitor and maintenance use.
CE 1953 - 1954	Built	A well is constructed as an interpretive element of an historical iron works.
CE 1954	Reconstructed	The warehouse is reconstructed.

Year	Event	Major Event Narrative
CE 1954	Built	A system of pedestrian paths is built throughout the Saugus Iron Works.
CE 1954	Built	A visitor contact station is built.
CE 1954 - 1955	Built	A single-story annex is constructed on the western elevation of the museum. A deck is added to the east side of the annex around the same time.
CE 1954	Built	Around 1954 the Saugus Iron Works Nature Trail is laid out by FIWA.
CE 1954	Planted	Maintained turf is installed throughout the park.
CE 1954	Established	On September 17, 1954, Saugus Iron Works opens to the public, with over 1,200 attendance.
CE 1957	Damaged	Pranker's Pond dam breaks, filling the turning basin with silt.
CE 1963	Established	Saugus Iron Works NHS is designated a National Historic Landmark on November 27, 1963.
CE 1968	Established	On April 5, 1968 the First Iron Works becomes the Saugus Iron Works National Historic Site. The NPS officially assumes stewardship on July 1, 1969.
CE 1968	Built	A carpenter shop is built on the east bank.
CE 1970 - 1975	Altered	In the early 1970s in the west bluff area, cobble paths around the Iron Works House are widened and converted to gravel, while the path from the house and museum is realigned to better guide visitors to the north stairway at the bluff edge.
CE 1970 - 1975	Reconstructed	In the early 1970s the granite stairs are reconstructed.
CE 1970 - 1975	Removed	In the early 1970s the Mansfield house is razed, removing the visual and physical obstacle between the parking lot and the Iron Works House. The park also removes the Rafferty house on the west bluff and a work shed on east bank.
CE 1975	Altered	Paths in the industrial area are resurfaced with scale, a waste product of local commercial forging operations.
CE 1970 - 1979	Rehabilitated	In the 1970s the corduroy road is rehabilitated.
CE 1970 - 1979	Altered	In the 1970s the park widens and fills the flagstone paths around the Iron Works House with gravel, realigns the path connecting the museum and northern stairway to the industrial site, and reconstructs both granite stairs.
CE 1972 - 1974	Built	In 1972-1974 a blacksmith forge is built on the east bank for demonstrations.
CE 1974	Altered	The former Rafferty house garage is converted to a maintenance garage.
CE 1975	Altered	In 1975 the NPS adds a second story to 230 Central Street to accommodate park staff.
CE 1975	Altered	In 1975 the paths winding through the industrial site are resurfaced with a local commercial forging waste product known as "scale."
CE 1976	Demolished	The carpenter shop on the east bank is demolished.
CE 1976 - 1977	Built	A new carpenter shop is built at the site of the previous carpentry shop. A picnic shelter is built nearby.

Year	Event	Major Event Narrative
CE 1977	Altered	The picnic shelter is partially enclosed in chain-link fencing and converted into a wood storage shed.
CE 1978	Built	In ca.1978 the Youth Conservation Corps (YCC) builds a retaining wall running from the southern Central Street retaining wall to the slag pile to stabilize the adjacent pedestrian path.
CE 1978 - 1980	Built	A lunchroom is added to the north elevation of the maintenance garage and expanded in 1980.
CE 1980	Altered	YCC extends the nature trail southward.
CE 1980	Altered	In ca.1980 the interior of the warehouse is modified to accommodate machinery associated with the water circulation system.
CE 1982	Built	A storage room is added to the south elevation of the maintenance garage/lunchroom by the YCC.
CE 1983 - 1984	Built	A restroom is added to the northeast corner of the carpenter shop.
CE 1983	Altered	The parking lot is expanded to the west. The entrance is moved to the west side of the lot, from Central Street.
CE 1984	Built	A small office is added north of the maintenance garage/lunchroom
CE 1984	Built	A restroom annex is constructed on the south end of the museum annex, coinciding with the removal of the restrooms from the Iron Works House annex.
CE 1984	Altered	The NPS encloses much of the visitor contact station porch.
CE 1988	Built	An assembly shop is built just north of the carpenter shop.
CE 1989	Established	The nature trail becomes part of the one-half mile long Saugus National Recreation Trail.
CE 1990 - 1995	Altered	In the early 1990s trail material is removed and resurfaced with crushed stone and stone dust. The paths are also widened to an average width of sixty inches and bordered with wood boards.
CE 1990 - 1995	Planted	In the early 1990s the park installs a 17th-century interpretive garden around the Iron Works House, bisected by a stepping stone path.
CE 1996	Established	The park becomes the southern gateway for the Essex National Heritage Area.
CE 1998	Planted	Due to the discovery of contaminates, annual vegetation and forbs are allowed to establish on the slag pile.
CE 2001	Rehabilitated	The corduroy road is rehabilitated.
CE 2003 - 2013	Removed	Over a ten year period from 2003-2013, overgrown vegetation throughout the site is removed to restore the open lawn concept of the 1950s.
CE 2004	Rehabilitated	The corduroy road is rehabilitated again as part of park-wide accessibility improvements.
CE 2005	Altered	Footpaths are widened and hardened, and ramps are added behind the blast furnace and at the building entrances between the forge and rolling and slitting mill.

Year	Event	Major Event Narrative
CE 2005	Built	A gradually sloping accessible path is built between the blast furnace and forge to provide accessible route from the west bluff to the industrial site.
CE 2005 - 2007	Altered	In 2005-2007 a climate-controlled addition is connected to the south elevation of 230 Central Street for park archives and library storage. It is extended to connect to 232 Central Street via a short hyphen.
CE 2007	Altered	ADA-accessible ramps are added to the southern elevation of the hyphen and eastern elevation of the 232 Central Street garage.
CE 2007	Moved	The main entrance to the park is relocated to the center of the visitor parking lot which creates a direct view to the Iron Works House.
CE 2007	Rehabilitated	The Iron Works House annex is rehabilitated for use as a visitor center.
CE 2007	Rehabilitated	Paths are rehabilitated and consist of a smooth, chip-sealed material bounded by wooden curbing.
CE 2007 - 2008	Restored	In 2007-2008 the turning basin, wharf, and wharf bulkhead are restored. Marsh sediment is removed from the river and a cobble berm is constructed just south of the Saugus River bridge.
CE 2008	Built	The Saugus Iron Works scale model depicting the primary buildings and structure is installed on the pedestrian walk north of the visitor contact station.
CE 2008 - 2010	Planted	In 2008 and 2010 invasive species are selectively removed and native species are reintroduced.
CE 2009	Removed	The Hamilton Street rock weir is removed to restore tidal conditions and encourage growth of native riparian plants.
CE 2017	Planted	The Branching Out field team plants native herbaceous and woody plants along the east bank stone retaining wall.

Physical History:

INTRODUCTION

The following section provides information on the physical development and evolution of the site, organized by time periods, drawn from secondary sources. The narrative is extracted primarily from the 2003 “Cultural Landscape Report–Saugus Iron Works National Historic Site: Twentieth–Century Pedestrian Circulation” and the 2017 draft “Cultural Landscape Report for Saugus Iron Works National Historic Site.”

PRE-COLONIAL PERIOD, to 1646

The Saugus area has been home to humans for at least 10,000 years, and of those ten millennia, only the last four centuries are documented through written records. The earliest people, called Paleoindians, congregated in small groups and hunted and gathered the resources of the forests, wetlands, and waterways. Archeological evidence suggests that the area's Native American inhabitants moved often and that site locations responded to seasonal resources, sea level changes, and increases in population. Sites were usually located along coasts and rivers, and in particular, near waterfalls and fall lines, indicating the importance of migratory fish. This is corroborated by the discovery of Native American materials along the Saugus River at the iron works site. (Johnson 1997: 9,12-13)

Prior to European contact in the 17th century, the area's Native Americans lived in small communities with well-defined communal lands, within which people migrated between summer agricultural fields, fall and winter hunting camps, winter settlements, and spring fishing grounds. Seventeenth-century English accounts refer to this local population as the Pawtuckets. Important Pawtucket settlements were located downstream from the iron works site around present-day Lynn, Cliftondale, and East Saugus. Burial grounds have been recorded in the latter and an individual grave has also been reported at the iron works site. (Johnson 1997: 14-15, citing MacMahon 1988 and MHC n.d.)

In the early part of the 17th century, the Pawtucket community was displaced by the combination of disease, warfare, and new English settlements at Plymouth (1620), Salem (1626), Boston (1630), and Saugus (1630, part of Lynn at this time). Alliances were forged with the English in the form of land sales, labor, and trade to better survive the increasing threat of raids from rival Native American groups. After a devastating smallpox epidemic in 1633, and throughout the remainder of the 17th century, many Pawtuckets moved inland to join other Native American groups. (Johnson 1997: 15; Park review comments, August 2018)

By 1630, English colonization was well-established at Saugus and Lynn with farmsteads scattered along the Saugus River. Much like the Pawtuckets, who had for millennia gathered local wetland resources for food and shelter, the settlers cut hay for livestock in the coastal salt marshes and harvested shellfish and fish from the Saugus River and its wetlands. By 1639, the future iron works site was part of a 600-acre tract owned by Thomas Dexter, of which some eighty acres were cleared and farmed. Dexter made numerous improvements to the land, constructing a weir, dwelling, and grist mill. (Johnson 1997: 18, citing Cummings 1975, SHC 1986, and Hartley 1957)

Written documentation speaks of a dynamic system of Native American footpaths and trails that were later used by English settlers. One of the most important trails followed the coast, linking Massachusetts Bay with Cape Ann, and it is thought to have forded the Saugus River not far downstream from the iron works site, at present-day Lincoln Avenue. There is also documentary evidence of a path that paralleled the river along what are now Central and Winter Streets. (Johnson 1997: 15, citing MHC 1985)

IRON WORKS PLANT, 1646-1670

During the 17th century, iron was commonly used to manufacture nails, tools, cookware, and weapons, but such goods had to be imported from Britain, an expensive and time-consuming process. In 1641 the Massachusetts General Court passed legislation to encourage the establishment of iron ore mines in Massachusetts. John Winthrop Jr., son of the founding governor of the Massachusetts Bay Colony, sailed to London and secured investors who saw great potential in New England's quality bog ore and seemingly endless supply of timber. In 1645 the Company of Undertakers for Iron Works in New England was formed and established an iron works at Braintree following a 3,000 acre land grant by the Massachusetts General Court. However, the site was soon abandoned due to inadequate water power and the lack of quality iron ore.

Looking elsewhere, the Company of Undertakers for Iron Works found Thomas Dexter's expansive farm along the Saugus River ideal for a new iron production plant. Spread out on both sides of the navigable river, the woods and marshes of the 600-acre property encompassed the present day Saugus town center and reached southward at least as far as East Saugus. In addition to a vast supply of natural resources, the farm was well-positioned between the colony's two largest towns, Boston and Salem. Beginning in 1645, the company's agent, Richard Leader, arranged for the lease of Dexter's land (purchased in 1647). Full scale iron production began in 1646 at what was known as Hammersmith and now the present site of the Saugus Iron Works NHS. (Johnson 1997: 17; Hohmann 1993: 4, citing Albright et.al 1977)

According to E.N. Hartley, the plant at Saugus was the first integrated iron works in America conceived and built on a grand scale (Figure 1). The three primary structures included a blast furnace (1646), forge (1646), and a rolling and slitting mill (1653). Enormous machinery such as bellows, a triphammer, and rollers and slitters were powered by water from the Saugus River impounded upstream by a massive dam and fed to the buildings through a network of collection basins, canals, and sluices. The complex was built along a natural escarpment on the fall line of the river:
"a bank of glacial origin shaped vaguely like an amphitheater [that] rose above and somewhat back from the swampy banks of the Saugus River. Though it would take clearing and filling in some portions, the amphitheater offered a means of setting up the three main units in such a way that all would have adequate water power and yet permit materials to be moved from furnace to forge and slitting mill on level or downward sloping surfaces." (Johnson 1997: 18 and Hohmann 1993: 4-5, both citing Hartley 1957)

Archeological investigations in the late 1940s and early 1950s throughout the former iron works site by Roland Wells Robbins revealed numerous deposits of bog ore, charcoal, and gabbro - the three main ingredients in the production of iron. During the iron works operation, bog iron ore was mined from local low-lying meadows and marshes and charcoal was made in pits and mounds in wooded areas of the property and hauled to a coal house for storage (the remains of the coal house were found on Marion Road). Gabbro was shipped up the Saugus River from a nearby mine in Nahant and likely stored around the blast furnace (Figure 2). Stony waste material from the iron-making process – called slag – was dumped into the Saugus River, creating a pile still extant today. (Wormser 1946: 190,204-205,214,218; GMP-EA 2002: 52; Park review comments, August 2018)

In addition to the main buildings, the iron works plant included a blacksmith shop operated by Joseph Jenks, a wharf and warehouse from which raw materials and finished products were unloaded and loaded, and a worker housing area also known as Hammersmith. Documentary evidence suggests the village consisted of farm buildings, gardens, orchards, grasslands, and houses for the rank and file workmen. The workforce included part-time workers from the surrounding farms, skilled artisans, Native Americans, indentured servants from England, and even a group of Scottish prisoners of war who arrived in 1650 to work off seven year terms of indenture. The exact location of Hammersmith is unknown, but researchers suggest it was northeast of the river's fall line and the plant itself. This location would have provided the settlers fresh water unsullied by industrial by-product for drinking and washing, allowing used water and waste to be carried away downstream. (Johnson 1997: 8, citing Hartley 1957; Hohmann 1993: 6, citing Carlson 1973; Cummings 1975: 10)

The iron works landscape was likely an extraordinarily gritty industrial work yard characterized by a dynamic arrangement of paths and roads, piles of raw material and industrial waste, and containers of finished iron products awaiting shipment. The materials that fed the iron works were hauled around in carts, wheelbarrows, and baskets by workers and animals. Although alignments of specific circulation features are unclear, there was presumably a crossing over the Saugus River close to the iron works plant to allow workers to haul materials from surrounding areas and to provide travel between the plant and the workers village. The Native American path or road that paralleled the west side of the river was likely used for iron works activities as well as connecting traders and trade to local markets and to the main road between Boston and Salem. The river was also a major transportation corridor. In addition to shipping raw material to the plant, boats shipped finished products to Boston where the iron works operated a wharf and warehouse. From here, products were shipped to other American colonies and to England. (Wormser 1946: 188; CLR 2003: 9)

The site's raw materials, river water power, natural harbor and bluff, and imported labor force initially combined to produce a successful operation; as much as eight tons of bar iron were produced per week. In 1651 John Gifford replaced Leader and the iron works plant continued to produce large amounts of cast and wrought iron. However, mismanagement by Gifford and subsequent managers, and litigation that followed, strained the business and forced the company to hand over its assets to local creditors in 1658. High production costs and a decline in sales eventually closed down the plant by around 1670, and within six years the site had been cleared of "utensils" and "stock," with much of the surrounding land returned to agricultural and husbandry uses. (Johnson 1997: 18-19, citing Carlson 1973, Hartley 1957, SHC 1986)

Some of the ironmakers who lost their jobs after the Saugus Iron Works failed found their skills in demand at other ironmaking operations in Massachusetts or went on to establish new ironmaking enterprises in other colonies. Among them were Joseph Jenks' sons and the brothers Henry and James Leonard, who went on to establish successful forges and furnaces in Massachusetts, Rhode Island, and New Jersey from the 1650s to 1670s that their descendants continued to operate well into the 18th century. (NR 2018 Sec.8: 27)

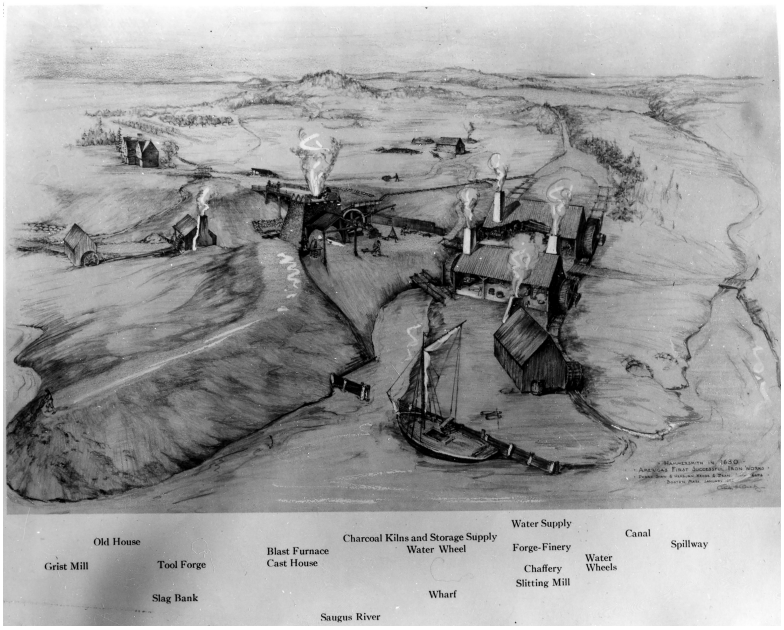


Figure 1. Artist's illustrative rendition of the iron works plant during the Colonial era. (SAIR, #3460, 1952)

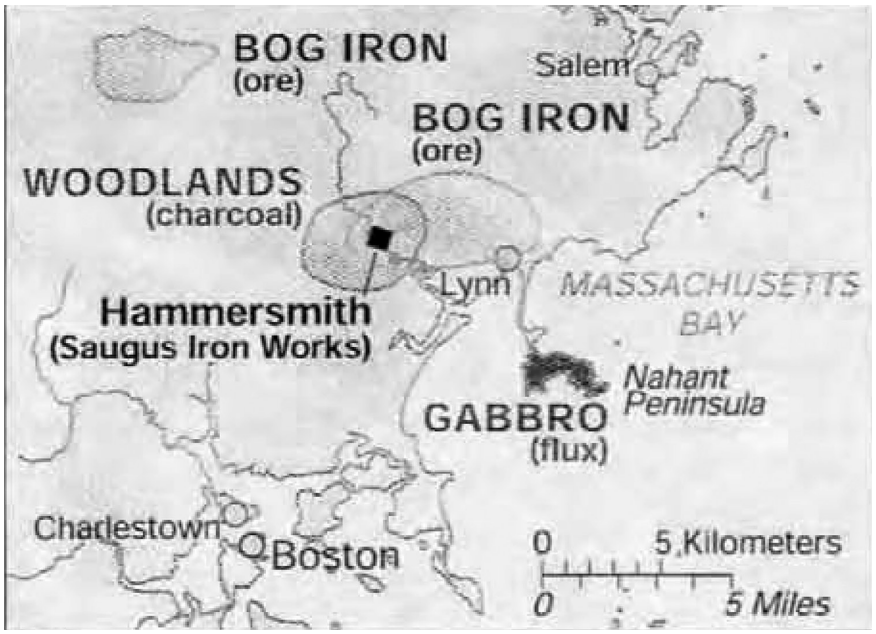


Figure 2. Map showing the locations of raw materials that supplied the iron works plant. (CLR 2003: 18)

IRONWORKS FARM, 1670-1915

With the closing of the iron works plant, the Saugus area returned to a predominantly agricultural economy and dispersed rural settlement pattern that persisted for over one hundred years. Industrial development was limited during this time, although the river's water power continued to attract a variety of mills and a small iron works venture upstream from the abandoned iron works site. In 1676 Samuel Appleton, Jr. inherited and began farming the mostly cleared 600-acre iron works property, which became known as Ironworks Farm. Around this time Appleton may have built the residence now referred to as the Iron Works House, although the exact construction date is still debated. (Johnson 1997: 19, citing Cummings 1977; NR 2018 Sec.8: 29)

In 1682 the iron works dam was breached by local townspeople, possibly because of long-standing complaints that the dam had restricted access to the ocean and reduced migrating fish populations. However, the resulting flood made their situation worse as it inundated fields and pastures, and so clogged the river with soil that boats could no longer navigate the channel as before, except to a mile downstream. What remained of the crumbling iron works plant was likely buried by sediment following the breach, leaving only the slag pile as visual evidence of the industry that had once operated on the site. Subsequent dams were later built along this part of the Saugus River to power new mills and factories, a testament of the river's valuable waterpower. (Hohmann 1993: 7, citing Cummings 1977; NR 2018 Sec.8: 27)

With his lands flooded and the river blocked, Appleton began selling portions of the Ironworks Farm, conveying 22 acres of meadow land straddling the river on the northwest corner of the study area to John Burrell, a local farmer, in 1685 and 25 acres of riverfront land "beginning at ye great dam belonging to ye old ironworkes" to John Higgs, a cloth worker from Boston, in 1686-1687. The remaining Ironworks Farm acreage was sold in 1688 to James Taylor, a Boston merchant and later the treasurer of the Massachusetts Bay Colony. Probate records suggest that Taylor, rather than Appleton, likely built the Iron Works House – a two-and-a-half-story home with a central chimney and two-story porch – around 1689 due to the significantly increased value of the property during his occupation (Figure 3). Taylor farmed and constructed barns, a brick kitchen, and a smith's shop, although none of these structures have been precisely located. The remainder of the land remained undeveloped as salt marsh, fresh water marsh, pasture, and woodland. (CLR 2017: 31-32)

Subdivision of Ironworks Farm:
After Taylor's death, the Ironworks Farm was subdivided in probate court in 1724, which in effect created the layout of present day Saugus when the town split from Lynn in 1815 (Figure 4). The iron works site was part of the "The Neck," while the Iron Works House was within one of five 17-acre parcels in the "First Division of the Homestead." The Neck and the First Division areas were separated by a "two pole way," today's Central Street. (CLR 2017: 33, citing Cummings 1975)

The future Central Street was clearly a main road in the 1724 plan, as it was drawn as the widest road and was the only north-south route to the meeting house established a few years earlier. The road featured conspicuous "kinks" in its alignment in and around the iron works site. These may have been influenced by whatever road or path was present at that time, as well as locations of the edge of the bluff, extant property and fence lines, dwellings, outbuildings, pastures, and fields. The iron works structures, apparently, were not among these constraints. Roland Robbins' archeological investigations placed the blast furnace's water wheel and charging bridge directly under Central Street and its associated retaining wall. This suggests that by 1724, the structure was in such ruin that the road was simply aligned over it. The retaining wall, constructed along the river-side part of the road sometime in the middle of the 19th century, itself featured the conspicuous "kinks." The remains of the water wheel were located under some twenty vertical feet of fill, suggesting that massive amounts of fill were brought in to create a level grade for the road. While it seems likely that most of the above ground elements of the blast furnace were gone by the mid-1800s, portions of the structure's foundation may have influenced the siting of the retaining wall. According to local officials, the "…curve in the retaining wall just above the furnace was built that way to go around something." (CLR 2003: 11, citing Robbins 1950)

The 1724 probate records described the past and future use of the iron works site: "all the land where the old iron works stood…is to lie open as a way and for the benefit of creatures to go down to the river as has been usual." Ownership of the site changed in subsequent years but use of the land did

not. As such, the iron works site remained relatively undisturbed, reverting to pasture and use as a public route and wayside for farmers bringing livestock to the river and to markets in town. This contrasted with land uses surrounding the former iron works site. After 1724 the Iron Works House parcel was owned by a number of families, including Taylor's heirs, the Mansfields, and the Scotts. Several barns and outbuildings were built around the Iron Works House: a barn southeast of the house by William Roby, along what would become Central Street (1745-1756); a shoemaker's shop (ca.1793); a workshop and corn barn somewhere near the house (ca.1809); and a barn northwest of the house and a shed south of the house (ca.1830). Residences were also built nearby: the Mansfield house at or adjacent to the Roby barn between 1810-1820, and the Rafferty House southeast of the Iron Works House on the west bluff in 1866. (NR 2018 Sec.8: 29; Johnson 1997: 19; Hohmann 1993: 8, citing Cummings 1975)

These developments coincided with the return of factories and brickyards to the riverbanks in the East Saugus neighborhood by the first half of the 19th century, signaling a shift towards a pattern of concentrated urban settlements centered around industrial sites. Two important complexes emerged just upstream from the former iron works site that today still bear their names: Scotts Mill, which began as a leather-processing plant, and Pranker's Mill, which diversified from chocolate to fabrics. Between 1830 and 1870, the population of Saugus boomed from 960 to 2,247 citizens, expediting development around Saugus center. New roads were constructed to accommodate the residential developments, including the official establishment of the north-south Central Street in 1837, followed later by Appleton, Pleasant, and Parker streets transecting the former iron works property to the west (Figure 5). In 1853, a rail line was constructed between Saugus and Boston, increasing the mobility of families and workers. (CLR 2017: 45-46)

By 1868 local industrialist Andrew Scott bought the Iron Works House and converted the building into a tenement for his factory workers. He gradually sold off portions of the 17-acre Iron Works House property and acquired other adjacent parcels, including the iron works site. The house and site are both visible in a photograph dating to 1899 that shows the slag pile, the only remaining visible legacy of the 17th-century iron works plant (Figure 6). (Johnson 1997: 19-20; CLR 2003: 11)

The residential boom that characterized Saugus in the late 19th century extended into the 20th century. Manufacturing, commerce, and agriculture remained the principal occupations, but more and more residents worked in nearby towns and cities. The construction of new streets and houses around the town's enclaves in Saugus Center, Cliftondale, and East Saugus were a testament to its population growth. Along Central Street, several previously undeveloped areas south and west of the Iron Works House were subdivided for new homes, including the Arlington house and adjacent Guernsey house ca.1900. In 1910 the Scott family placed the Iron Works House up for sale, and by 1915 the house was confined to a parcel of approximately 100 feet (fronting Central Street) by 300 feet. (Johnson 1997: 22-23, citing MHC 1995 and SHC 1986; Hohmann 1993: 10)

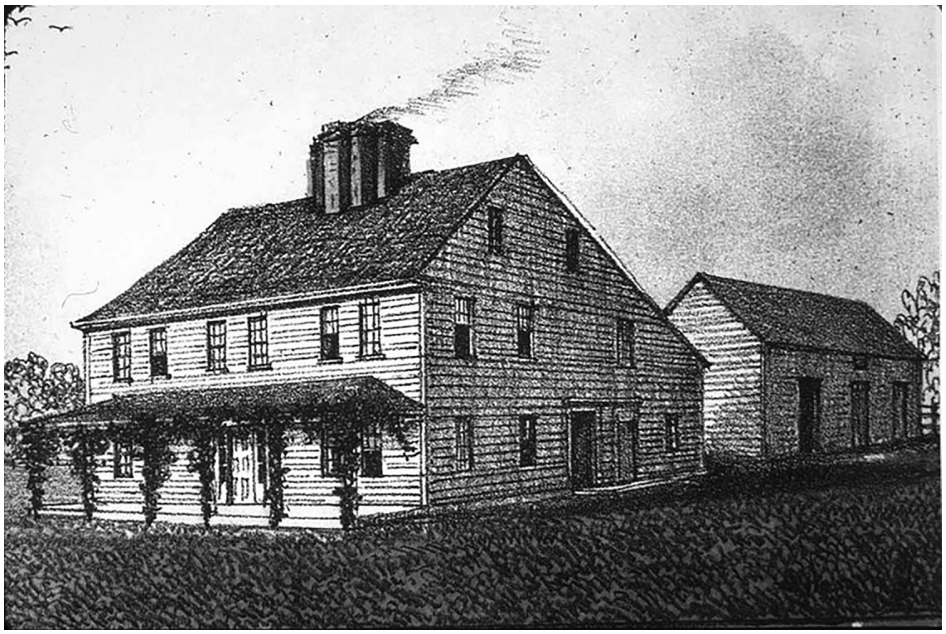


Figure 3. Woodcut by Edwin Whitefield in 1879 of the Iron Works House as it may have existed in Colonial times. (Albright et.al 1977: 87, from Whitefield 1880)

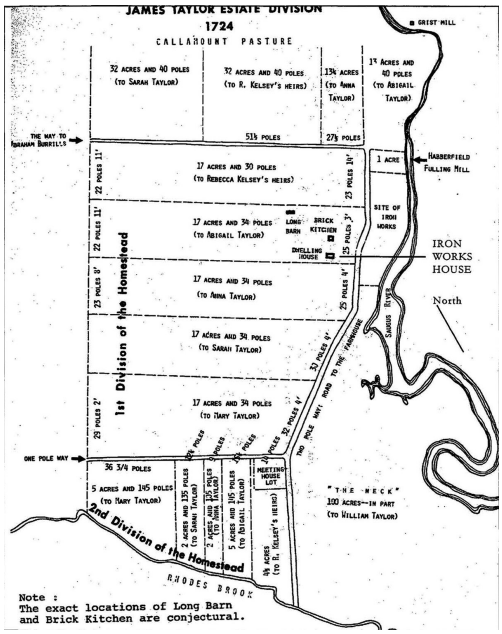


Figure 4. This tracing of a 1724 map of the subdivided Ironworks Farm shows the location and width of the main road paralleling the river, which will become the future Central Street. The location of the meeting house lot is now the Saugus town center. (Albright et.al 1977: 417)

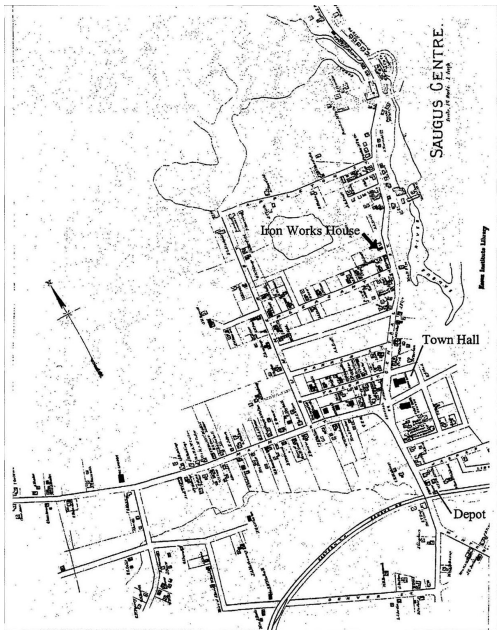


Figure 5. In this 1884 map, Central Street is shown as a main thoroughfare. The railroad spur and depot south of the town center, and the increased number of streets, individual lots, and structures illustrate the growth of Saugus. (CLR 2003: 20, from Walker 1884)

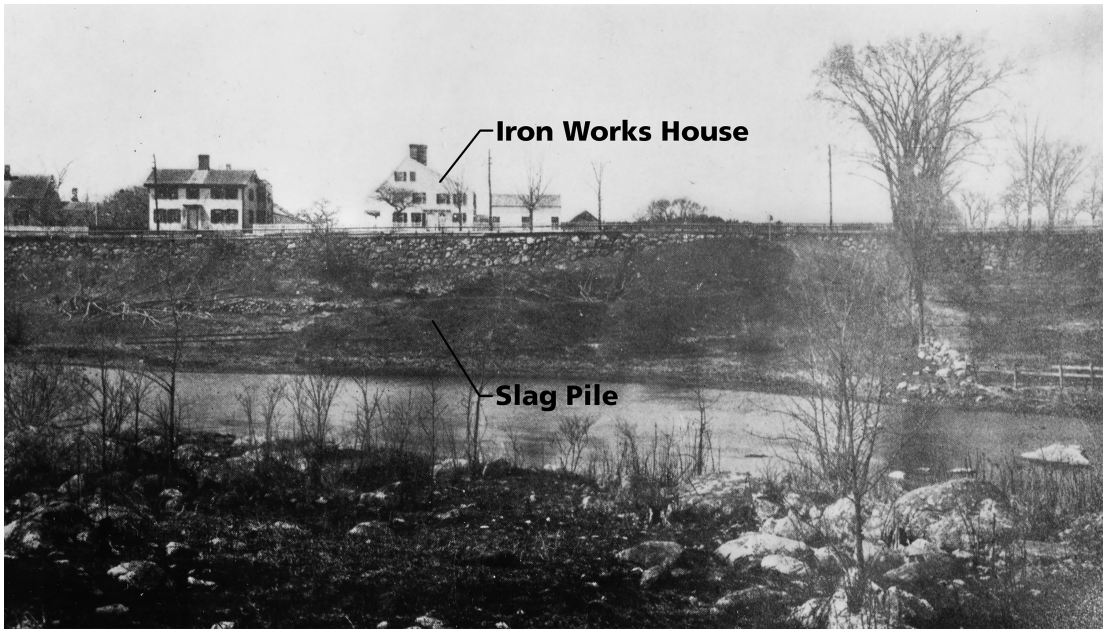


Figure 6. View of the Mansfield house, Iron Works House, Central Street retaining wall, and slag pile in 1899. (View west, SAIR #2951)

NUTTING OWNERSHIP, 1915-1920

The sale of the Iron Works House coincided with the rise of the Colonial Revival movement in architectural and decorative arts, creating increased interest in the building that had previously been relegated to tenement housing. The Colonial Revival movement centered on preserving and sharing the significance of America's historic places, spearheaded primarily by organizations of wealthy, white citizens who often were experiencing a degree of anxiety in a world of increasing modernization, industrialization and immigration. They sought to define an American identity through an often romanticized understanding of Colonial history. Among the leading figures of the movement was William Sumner Appleton, who founded the Society of Preservation of New England Antiquities in 1910. Upon hearing of the sale of the Iron Works House, the Society concluded it was culturally significant for its association with the colonial iron works, believing it to have served as the iron master's home at one time. Despite Appleton's hopes, the Society itself could not finance the purchase and restoration, so he undertook search for an appropriate private owner. (CLR 2017: 47)

In 1915 the house was purchased by Wallace Nutting, a retired minister and antiquarian, who demolished several outbuildings and built a blacksmith shop directly north of the house. Nutting restored the house to its presumed 17th-century appearance, and owing to his interest in photography, documented the process with dozens of photographs, although little written documentation is known to survive (Figure 7). With the assistance of architect Henry Charles Dean, Nutting added a projecting front porch, three gables, clapboards, and historic doors and windows, and restored the pitch of the roof to what was believed to have been its original condition. Exterior photographs show the grounds immediately around the house as flat and covered mostly in grass. Some fences and a stone wall are visible, but their exact locations are unclear. The pasture that was the former iron works plant was hemmed in by Central Street and an increasingly suburban neighborhood (Figure 8). In 1920, Nutting sold the Iron Works House parcel and it passed to a variety of owners. The iron works site, by contrast, continued to remain undeveloped. (Hohmann 1993: 10)



Figure 7. The Iron Works House and blacksmith shop in 1915, after Wallace Nutting's restoration. Central Street is in the foreground. (View southwest, SAIR #0056)



Figure 8. Postcard from 1920 of the iron works site and surrounding development. (View northeast, SAIR #2786)

POST-NUTTING PERIOD, 1920-1945

Residential development in Saugus continued to expand during the 1920s through the early 1940s, particularly in parcels separating the town's three major centers. Many agricultural areas in the north and west parts of town were subdivided and developed, and houses were built in the Lynnhurst area on the east side of the Saugus River near the iron works site. Commercial development accelerated to serve the needs of a large population increasingly using the automobile as transportation. In particular, development along Route 1 on the west side of town increased while some of the older town centers away from the busiest roads subsequently declined. Industrial production also fell during this period as most of the town's work force was employed in other towns. By the end of period, and up to the present time, Saugus could be described as primarily a residential enclave with limited industrial and agricultural activity. (CLR 2003: 12)

Areas surrounding the Iron Works House became increasingly residential in character as new houses were built and new roads were platted, among them Greystone Road, and east-west street laid out directly north of Nutting's blacksmith shop. During this period a bridge over the Saugus River was constructed between Marion Street on the west bluff and Riverbank Road on the east bank. Just as the construction of Central Street had done previously, the new Bridge Street passed directly over the iron works site. This road was short-lived, however, as it was apparently closed to vehicular traffic by the late 1940s. The bridge's stone abutments are still in place. (Hohmann 1993: 20)

Perhaps because of the rapidly changing landscape and the loss of industry, interest in the former iron works site increased during this time. In 1938, the Parson Roby Chapter of the Daughters of the American Revolution (DAR) acquired the site of the iron works plant along the river (it is unclear who owned it previously). In 1941 the Henry Ford Alumni Association purchased the Iron Works House with the intent of moving the building to Dearborn, Michigan to become part of an outdoor museum of historic buildings. Local residents rallied to form the First Iron Works Association (FIWA) in 1943 and successfully prevented the move. (CLR 2003: 12; CLR 2017: 62)

In 1945 FIWA secured local and state funds and private donations to purchase the Iron Works House and grounds. The DAR donated the iron works site to FIWA that same year, which at this time had returned to meadow, turf, and sparse forest, an indication that its use as pasture had been on the decline. The slag pile was still visible, and nearby was a line of stone rubble and a footpath that likely connected Central Street and the bridge over the Saugus River (Figure 9). (CLR 2017: 62)

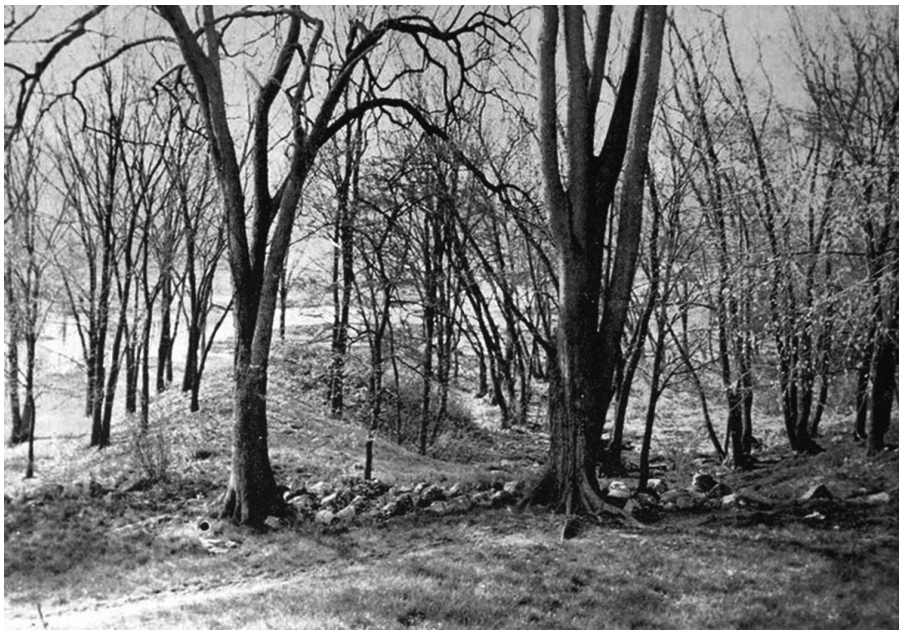


Figure 9. The slag pile in the mid-1940s. Some remnants of stone wall and a possible footpath can be seen in the foreground. (View southeast, Saugus Public Library)

FIRST IRON WORKS ASSOCIATION, 1945-1968

In 1946 Louise Dupont Crowninshield, the founder of the National Trust for Historic Preservation and one of the FIWA board of directors, invited the Bethlehem Steel Corporation to tour the site as a potential benefactor. The Corporation's vice-president, Quincy Bent, showed little interest in the Iron Works House, but the slag pile drew his attention and sparked support in excavating for the potential remains of the iron works. By 1947 a committee of iron industry professionals assembled by FIWA approached the American Iron and Steel Institute (AISI) in New York to fund an excavation. The AISI made a tentative agreement with the group; if they could provide tangible evidence that remains of the iron works still existed at the site, AISI would assist in funding the project. (CLR 2017: 62-63, citing Griswold and Linebaugh 2011: 58,60)

Iron Works Site Excavations and Reconstructions:
In August 1948 FIWA enlisted the services of archeologist Roland Wells Robbins to determine the extent of underground remains, and in the following month he found the stone foundation of the blast furnace "buried three feet deep and some fifty feet north of the slag heap which runs north and south." By mid-October Robbins uncovered the "outline of the furnace foundation, the heavy timbered base for the bellows, and the crucible cavity." He also found wooden beams at the northwest corner of the foundation hypothesized to be the sluiceway (Figure 10). Robbins' discovery of a waterwheel pit under about twenty feet of fill just behind the Central Street retaining wall in late 1948 encouraged FIWA to ask the town to abandon a portion of Central Street to permit further excavation, and in 1950 the street was rerouted to the west, along Union Street and Marion Street. This event set the stage for the development of the iron works site for public visitation and interpretation and altered the relationship of the Iron Works House with Central Street that had been in place since at least 1724. (CLR 2017: 63-64, citing Griswold and Linebaugh 2011: 62; Hohmann 1993: 12)

With the financial support of AISI, archeological field work continued for four more years, during which period Robbins also uncovered the remains of the forge, rolling and slitting mill, and several

waterways. These discoveries stimulated great interest in reconstructing some of the iron works' major structures. A Reconstruction Committee comprised of members of AISI and FIWA was formed and selected the Boston architectural firm that designed much of Colonial Williamsburg – Perry, Shaw, Hepburn, Kehoe, and Dean (PSHKD) – to execute the restoration. In a 1951 report to the committee, Bent laid out his plan for the order of reconstruction: blast furnace and all associated elements, including bellows and sand pit for casting sow bars; the forge with its two hammers and twin furnaces; the rolling and slitting mill; and finally the water courses that would turn the waterwheels. Construction was executed by the W.M. Bogart Company of Charlestown, Massachusetts, between 1950 and 1954. (NR 2018 Sec.8: 33-34, citing Wallace 1986: 147; FIWA 1951; and Pineo 2013: 45; CLR 2017: 64)

Archeological investigations and research continued alongside the reconstruction work. In 1951-1952, FIWA surveyed the Saugus River, Pranker's Pond to the north, and areas adjacent to the iron works site to establish the historic water levels and determine how the waterwheels may have worked. It was determined that the river's water level had risen three feet since the 17th century, meaning elevations for the reconstructed buildings had to be set "essentially floating over their respective excavation sites." FIWA was mindful of visitor impressions and the site's aesthetics, and early on they decided to construct a small stone dam downstream with tidal gates to "prevent the unsightly condition of mud flats at low tide and ensure a continuous existence of water in the iron works area." Other reconstructions at the site based on the work of Robbins and others included a warehouse, wharf, well, and a section of corduroy road. The final layout of the plant was based on a complex decision-making process that resolved sometimes conflicting archeological findings, documentary evidence, and advice from iron making experts from around the world. Plans from 1952 and 1954 illustrate the evolution of thoughts for the iron works site (Figures 11 and 12). (CLR 2003: 25, citing Hohmann 1993: 20; FIWA letter 1954; and Carlson 1991: 21,27; NR 2018 Sec.8: 34)

It should be noted that not all resources found were reconstructed. Bent often made unilateral decisions about what would and would not be reconstructed without consulting the members of the Reconstruction Committee, causing at least one member to resign in protest. Among the critical decisions that Bent made on his own was the rejection of proposals to reconstruct workers' housing and the Joseph Jenks blacksmith forge. Although the Jenks forge was the original industrial feature of the site, Bent saw it as peripheral to the theme of the reconstruction. The location of the workers' housing might have been too speculative to make for an accurate reconstruction. (NR 2018 Sec.8: 34 -35; Griswold review comments, August 2018)

FIWA Site Improvements:
The 1952 and 1954 plans also show development beyond the iron works site. Beginning around 1950, FIWA began acquiring and developing parcels surrounding the Iron Works House, the former plant site, and along the east bank of the Saugus River. FIWA was apparently aware of the encroaching suburbs, as both plans identified buffer properties already purchased and parcels desirable for future acquisition. Some properties, such as the Rafferty lot on the west bluff and several parcels between Greystone Road and Marion Road, were eventually obtained, but others were not because of homeowners' refusal to sell. The abandonment and rerouting of Central Street made possible the closure of Greystone Road immediately north of the Nutting blacksmith shop. The road bed was regraded and planted with grass, establishing the spatial relationship between the Iron Works House and the reconstructions still extant today. (CLR 2003: 26)

FIWA also relocated, demolished, or converted several residences and outbuildings into park uses. Two private residences were relocated from the west bluff (facing Central Street), while private residences on the east bank, and the Arlington and Guernsey houses and the Walker Store on the west bluff, were demolished. The houses located on the discontiguous parcels west of Central Street were razed in 1952, and the lots were converted to greenspace rather than integrated into the site. Although Bent had wanted to remove the Nutting-era blacksmith shop and western addition on the Iron Works House, both were ultimately retained for use as a museum and restroom/caretaker's residence, respectively. In ca.1951-1952 a parking lot for twenty cars was constructed south of the Mansfield house, which was also retained. (CLR 2003: 26; CLR 2017: 67)

Robbins' Resignation and Opening Day:

In July 1953 Robbins resigned as the archaeologist and a member of the Reconstruction Committee, a final result of the strained relationship that had developed between Robbins, the workers and contractors, and others on the Reconstruction Committee. His former civil engineer Steve Whittlesey took over for what would be the final year of the project. By the end of 1953, reconstructions of the blast furnace and forge were completed and work was underway on the rolling and slitting mill, warehouse, and dock (Figure 13). (CLR 2017: 66)

The finished landscape extant today began to take shape around this time (Figure 14). While his primary focus was to locate evidence of the iron works plant, Robbins had hoped to discover the original contours of the natural ravine. In the process, large amounts of fill were removed and hauled off from the roadbeds beneath Central and Bridge Streets. According to archeologist Marley Roberts Brown, "restoration work also involved the back-filling and 'shaping' of areas which had already been excavated…Some areas were filled and re-excavated several times over in the course of the four years Robbins worked at the iron works site." To date, no overall PSHDK planting or grading plans have been located, although there are many park specific plans and sections - an indication that the buildings were integrated into the existing landscape. Documents between FIWA and PSHKD provide directions for grading, seeding, planting, and landscaping. The slag heap, for example, was regraded and "restored to original contours," though it is unclear whether this means the pre-excavation or 17th-century contours. The significant topographic modifications of the site required FIWA to erect a number of stone and timber retaining walls. (Hohmann 1993: 12-13, citing Brown 1975; CLR 2017: 67)

Since the Mansfield house remained southeast of the Iron Works House, FIWA constructed a visitor contact station near the northeast corner of the parking lot to orient visitors. From here a series of stone paths, stairs, footbridges, and a section of corduroy road were built throughout the west bluff, reconstructed industrial site, and the east bank (see Figure 14). Two bridges were constructed to cross the Saugus River, which rested on mortared stone abutments and were separated by a boundary fence; one of the spans provided a pedestrian crossing just outside the boundary fence while the other was intended for visitor use. (CLR 2003: 26; NR 2018 Sec.8: 34, citing FIWA 1951 and Pineo 2013: 45)

With the reconstructions and landscape improvements complete, the Saugus Iron Works opened to the public on September 17, 1954 with a ceremony that drew over 1,200 attendants (Figures 15 and 16). The iron works reconstruction had been executed as planned. The team reassembled nearly all the former buildings and structures for which evidence could be found, except for Jenks' forge which was deemed to be outside the scope of the project. The effort had returned the area to a crowded waterfront of interconnected industrial buildings reliant on topography and the Saugus River. (CLR 2017: 66-67, citing Griswold and Linebaugh 2011: 362)

Post-Reconstruction Site Management:
FIWA established a Board of Management to steward the property, led by a site custodian and curator and aided by funds from AISI. Both organizations hoped to tap into the growing tourism industry tied to the Colonial Revival movement, and initially the number of visitors grew steadily, peaking at 8,000 people in 1957. That same year a failed attempt to harvest gravel and silt from Pranker's Pond breached the dam. As was the case in the 1682 dam breach, the released silt wreaked havoc downstream, this time filling in most of the reconstructed wharf area. (CLR 2017: 67-68; CLR 2003: 25)

The high volume of visitors and the recurring costs associated with maintaining the site placed a financial strain on FIWA, and by the early 1960s it was struggling with routine maintenance and upkeep of the functioning waterwheels, bellows, trip hammers, and slitting mill. Plagued by their own financial hardships, the AISI announced in 1961 that it would no longer be able to subsidize continued reconstruction of the iron works. Members of the FIWA board then began a dialogue with the National Park Service regarding a donation of the reconstructed iron works buildings, Iron Works House, and surrounding lands, and in 1963 the NPS agreed to have the property surveyed by the Advisory Board on National Parks, Historic Sites, Buildings and Monuments. The Advisory Board found that the iron works was nationally significant and recommended that it be designated as a National Historic Landmark. It also recommended that the site be accepted as a unit of the National

Park System, provided issues involving boundary, water supply, and other concerns were addressed. (CLR 2017: 68; CLR 2003: 25; NR 2018 Sec.8: 38)



Figure 10. Robbins excavating the blast furnace in 1948. At the center of the photo, the drainage structure can be seen. (SAIR #2809)

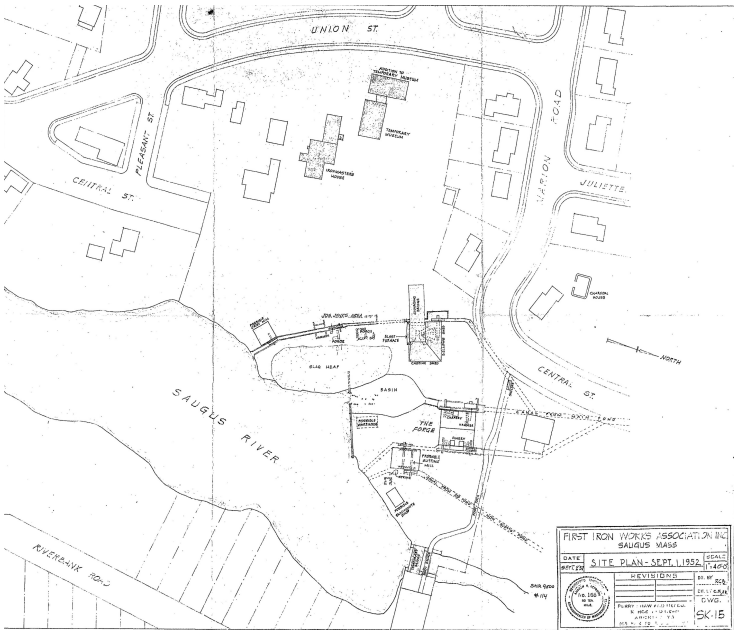


Figure 11. Plan dating to January 1952 showing an early configuration of the reconstructed iron works plant. (SAIR 4500, #54)



Figure 12. Plan dating to July 1954 showing the current configuration of the reconstructed iron works plant. (SAIR 9300, #85)



Figure 13. The finished setting of the reconstructed iron works buildings in 1953 contrasts with the archeological work underway on the hillside. (View north, SAIR #1062)



Figure 14. By 1954 the path subbase, regraded hillside, and stone wall were complete. Two of the trees shown on the hillside in Figure 13 have been removed. (View north, SAIR #1174)

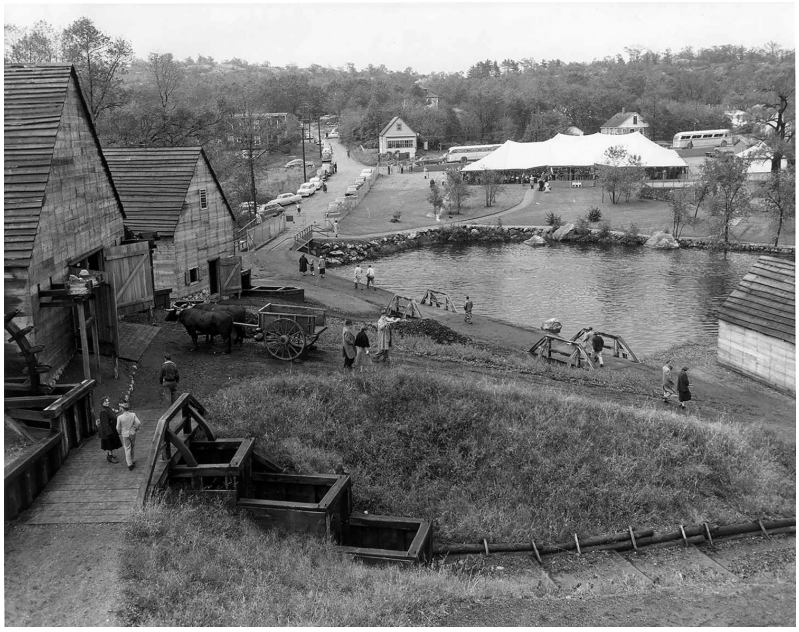


Figure 15. Photograph on opening day of the reconstructed iron works, September 1954, from the blast furnace charging bridge. (View east, SAIR #1269)

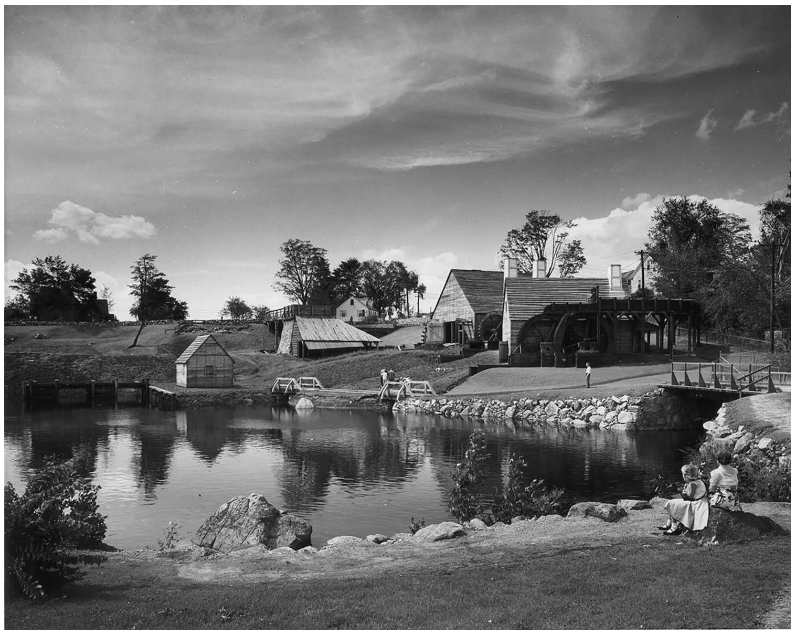


Figure 16. Opening day of the site, showing the turning basin and reconstructed iron works from the east bank. (View west, SAIR #1281)

NATIONAL PARK SERVICE MANAGEMENT, 1968-2018

On April 5, 1968 President Lyndon Johnson signed the law establishing the Saugus Iron Works National Historic Site. NPS stewardship officially began on July 1, 1969, and by this time the new national park had acquired the two residences at the northwest corner of the park for staff housing as well as the Rafferty property along the west bluff. The First Iron Works site had not changed significantly since its opening in 1954, with one major exception; the turning basin – so important to interpreting why the original iron works plant had been located here and how it operated – was now mostly filled in with silt initiated by the 1957 dam breach. The presence of the weir at Hamilton Street also made matters worse, creating an ideal environment for invasive riparian and aquatic species. Years of unmanaged vegetation had also altered views and vistas, surrounding the primary reconstructed buildings with patches of trees and shrubs rather than open turf. The slag pile and west bluff were obscured in overgrown vegetation that threatened pedestrian circulation (Figure 17). (CLR 2003: 27; CLR 2017: 83)

Projects, 1970s-1990s:
During the 1970s through 1990s the NPS completed a variety of improvements, but the overall FIWA/PSHKD site plan remained essentially intact and unchanged mainly to avoid the park's many known and potential archeological areas. The NPS initially focused its efforts on improving visitor access and cohesiveness. In the west bluff area, cobble paths around the Iron Works House were widened and converted to gravel, while the path from the house and museum was realigned to better guide visitors to the north stairway at the edge of the bluff. The latter change may have been made to avoid impacting the remains of a 19th-century barn noted on an archeological base map. The NPS razed the Mansfield house in the early 1970s, thus removing the visual and physical obstacle between the parking lot and the Iron Works House that had prompted FIWA to construct the visitor contact station. Other improvements included reconstructing the granite stairs (early 1970s), rehabilitating the corduroy road (1970s), and expanding the parking lot to the west (1983). The park also removed the Rafferty house on the west bluff and a work shed on east bank in the early 1970s.

Around 1975, the park resurfaced the paths in the industrial area with scale, a waste product of local commercial forging operations. This loose, dense, silvery material was intended to blend with the historic scene, but erosion from visitor use, poor drainage, and weather caused accessibility problems and threatened to damage archeological sites. In 1978, the Youth Conservation Corps

(YCC) built a retaining wall running from the southern Central Street retaining wall to the slag pile to help stabilize the pedestrian path and soil running along the edge of the west bluff. Nonetheless, in the early 1990s the trail material was removed and the paths were then widened to an average width of sixty inches, bordered with wood boards, and resurfaced with crushed stone and stone dust. The latest surface improvements have included the installation of a recycled wood/plastic trex border along the paths and new crushed stone. (CLR 2003: 28; CLR 2017: 84-85)

Park maintenance facilities expanded as well. On the east bank of the river, the park demolished the carpenter shop and replaced it with a new building at the same location and a picnic shelter to the northeast in 1976. In 1977 the picnic shelter was partially enclosed in chain-link fencing and converted into a wood storage shed. In 1983 a restroom was added to the northeast corner of the carpenter shop and in 1988 an assembly shop was created just north of the carpenter shop. On the west bluff and just east of the visitor parking lot, the park adapted the former Rafferty single-story garage into a maintenance garage in 1974. In 1978, a lunchroom was added to the north elevation and was expanded in 1980. A storage room was added to the south elevation by the YCC in 1982, and a small office was added north of the lunchroom in 1984. Another major change occurred in 1984 when a restroom annex was constructed on the south end of the museum annex, coinciding with the removal of the restrooms from the Iron Works House annex. A tool shed was built just south of the park headquarters in 1992. The park also instituted a new water recirculation system to supply the reconstructed sluiceways from the river, replacing the old system that relied exclusively on town water. (CLR 2003: 27; CLR 2017: 84-86; NR 2018 Sec.7: 14)

The park introduced several interpretive programs. One of these included the construction of a blacksmith forge on the east bank in 1975 for demonstrations. In 1980 the YCC extended the nature trail southward and in 1989 it became part of the one-half mile long Saugus National Recreation Trail. The trail extends from the south stair on the west bluff, follows the path that passes by the dock, and crosses the bridge to the loop nature trail on the east bank. In the early 1990s the park installed a 17th-century interpretive garden around the Iron Works House, bisected by a stepping stone path. It was populated with period appropriate herbs and medicinal plants, including chamomile (Anthemis nobilis), feverfew (Chrysanthemum parthenium), and sneezewort (Achillea ptarmica). In 1996, to enhance the larger regional story told at Saugus, the park became the southern gateway for the Essex National Heritage Area, a collection of local, state, and federal parks significant to the region's early settlement, maritime trade, and early industrialization. (CLR 2003: 27-28; CLR 2017: 85,88)

Vegetation treatment in the early years of park ownership was detailed in a plan from 1974 (Figure 18). Except for a note that reads, "Planting around the Ironmaster's House [sic] should reflect a 17th century scene," the plan focused on screening the iron works site from the surrounding suburban and industrial development. Decisions on appropriate species appear to have related more to natural resource concerns than re-creation of the cultural landscape. Low-maintenance native species were selected, such as sugar maple (Acer saccharum), summer sweet (Clethra alnifolia), and gray dogwood (Cornus racemosa), accompanied by the directive that "similar plants can be used for screening on other parts of the site." A 1987 planting plan indicates most of this design was not implemented beyond the presence of recommended species throughout the site (Figure 19). Subsequent consultation between the park and the NPS Regional Office have proposed plantings to screen residential development on Hamilton Street, but to date no action has been taken. (CLR 2017: 85; Drawing #s 566 and 444-80000C)

Collaboration between the park and the Massachusetts Department of Environmental Protection in 1998 found that a "varying concentration of priority pollutant metals and polycyclic aromatic hydrocarbons (PAHs) were detected in the sediments and slag pile soils on the site." The metal contaminants were likely introduced in the 17th century when slag accumulated in the marshlands, while the PAHs were the result of industrially contaminated soil from upstream being deposited at the site following the two dam breaches. Although the findings showed no significant risk to human health, the area was restricted from public access and disturbance. To dissuade visitors from accessing the slag pile, annual vegetation and forbs were allowed to establish. While effective, self-guided visitors were often unaware of the historical significance of the slag pile due to a lack of interpretive signage. (CLR 2017: 86-87, citing Massachusetts DEP 1998)

Projects, 2000s-2010s:
Three major projects have preoccupied the park's management since 2000: providing better accessibility, improving visitor orientation and park facilities, and restoring the turning basin. The 1950s-era pedestrian pathways connecting the west bluff area to the lower industrial site required visitors to either navigate the granite stairs or descend a steep slope. This forced visitors with mobility issues to access the east bank and industrial site with the assistance of staff-operated golf carts, or by driving to the maintenance area parking lot on the east bank in order to gain access to the industrial site via the Saugus River bridge. The crushed stone and stone dust surface of the pathways also created mobility issues, as the fill was uneven and poorly contained and created an unnavigable surface. In 2007, the park began implementing changes to the circulation system to improve accessibility while preserving the 1950s path system and potential archeological sites. On the west bluff, the earlier removal of the Mansfield house allowed the park to locate the main entrance to the center of the visitor parking lot since there was no longer a need to orient visitors at the visitor contact station. In the industrial area, a section of switchback was built just north of the blast furnace, connecting the path along the edge of the west bluff to the west side of the forge (Figure 20). The new pedestrian pathways consist of a smooth, chip-sealed material bounded by wooden curbing. The tailrace bridges and corduroy road were left largely unaltered, with the latter having been rehabilitated in 2001 and 2004 and the upper forge tailrace bridge and handrails modified and rehabilitated as part of the accessibility project. (CLR 2017: 87, citing Peterson 2008)

Repositioning the entrance pathway coincided with the relocation of the visitor center to the Iron Works House annex, which was rehabilitated in 2007. Although the visitor contact station was slated for removal to improve views from the front entrance to the industrial site, this was never completed. The curatorial offices and archives were transferred from the house annex to the 20th-century homes comprising the park headquarters. As part of a combined effort to improve museum collections management and expand archival storage, the two free-standing homes were then connected by a hyphen and modified to expand archival storage. A ramp was added on the south side of the garage, facilitating access from the Central Street sidewalk and driveway to the park headquarters. (CLR 2017: 87, citing Peterson 2008)

The turning basin restoration began in 2007 as a major undertaking to restore the historic character of the Saugus River and create healthy aquatic and riparian ecosystems. Marsh sediment was removed from the river, and a cobble berm was constructed just south of the Saugus River bridge to maintain a fast-water spawning area for rainbow smelt. Concurrently, the wharf and bulkhead were rehabilitated. A large team selectively removed invasive species and reintroduced native species, with a round of plantings in 2008 and again in 2010. The Hamilton Street rock weir was removed in 2009 to improve the flow of water and decrease future sedimentation. In total, 2.75 acres of mudflat and marsh were reclaimed as a result of the turning basin restoration, and the percentage of non-native plant species fell from over 50% to less than 2%. Moreover, the historic open character of the turning basin was reestablished, allowing visitors to better understand the operation of the iron works (Figures 21 and 22). (CLR 2017: 88, citing State of the Park 2013 and James-Pirri 2012)

Several smaller-scale projects and additions have also been undertaken in the park since 2000. In 2007, the Saugus Iron Works scale model depicting the primary buildings and structure present during the historic period was installed on the pedestrian walkway north of the visitor contact station. Around this time, the west bluff stabilized foundations and Jenks area were cleared of overgrown vegetation to improve interpretation and preservation. In 2008, the park rehabilitated the blast furnace charging bridge, replaced the sluiceways for the rolling and slitting mill and blast furnace, and relocated the tool shed south of the maintenance garage. While vegetation surrounding the Iron Works House remained largely unchanged, a sweet cherry tree allegedly planted by Wallace Nutting's sons was removed in 2007, with the intention of securing a replacement. Much of the overgrown vegetation throughout the site was removed to restore the open lawn concept of the mid-century, including the removal of over 100 Norway maples between 2003 and 2013. Screen plantings, primarily consisting of native shrubs, have been replaced with compatible substitutions as prescribed by the 1974 planting plan. In 2017, the Branching Out field team planted native herbaceous and woody plants along the east bank stone retaining wall to discourage geese from entering the park from the Saugus River. (CLR 2017: 88)



Figure 17. The wharf and warehouse became entirely enclosed in vegetation in 1969, and growth on the western riverbank slope blocks views between the structures. (View west, SAIR #2407)

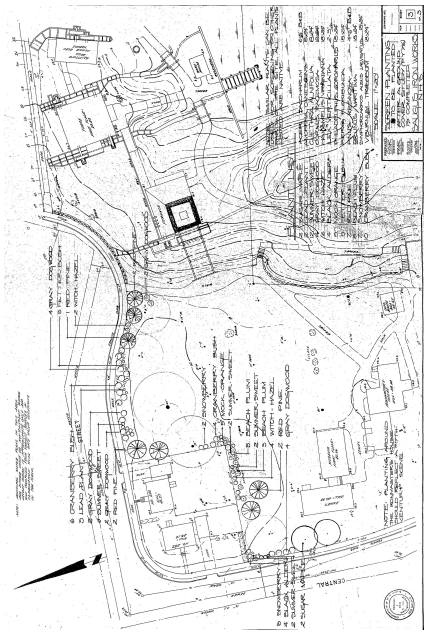


Figure 18. Part of a plan of proposed screen plantings separating the park from the neighborhood subdivisions, 1974. (SAIR, Dwg.# 566)

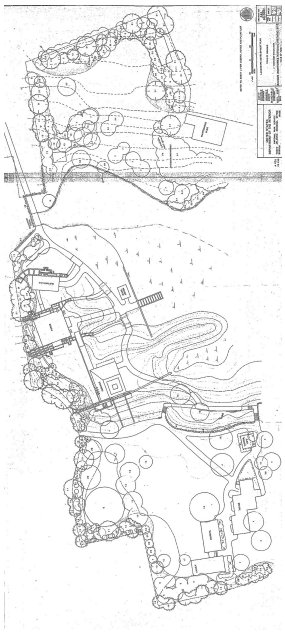


Figure 19. Plan of proposed screen plantings separating the park from the neighborhood subdivisions, 1987. (Denver Service Center, Dwg.# 444-80000C)



Figure 20. A 2007 view of the gently sloping section of pedestrian footpath constructed north of the blast furnace to improve accessibility. (View east, SAIR #PB276205)



Figure 21. View of the vegetated turning basin in 2004. (View south, SAIR #2004101)



Figure 22. Extensive rehabilitation efforts have returned the turning basin to its historic character. (View south, OCLP 2017)

Uses

Functions and Uses:

Major Category	Category	Use/Function	Historic	Current	Primary
Domestic (Residential)	Single Family Dwelling	Single Family House	Yes	No	No
Domestic (Residential)	Secondary Structure (Garage)	Secondary Structure (Garage)	Yes	No	No
Domestic (Residential)	Village Site	Village Site	Yes	No	No
Recreation/Culture	Museum (Exhibition Hall)	Museum (Exhibition Hall)	Yes	Yes	No
Recreation/Culture	Museum (Exhibition Hall)	Museum (Curatorial) Storage	Yes	Yes	No
Recreation/Culture	Outdoor Recreation	Outdoor Recreation	Yes	Yes	No
Industrial/Processing/Extraction	Processing Site	Processing Site	Yes	No	No
Industrial/Processing/Extraction	Dam	Dam - Rockfill	Yes	No	No
Landscape	Scenic Landscape	Overlook	Yes	No	Yes
Transportation	Water-Related	Marina	Yes	Yes	No
Transportation	Pedestrian-Related	Interpretive Trail	Yes	No	No
Industrial/Processing/Extraction	Manufacturing Facility (Mill)	Shot Furnace	Yes	No	Yes

Public Access:

Public Access: Other Restrictions

Public Access Narrative:

Visitor services are available to the public from 9am to 5pm daily, from May 1 until October 31. There is no park admission fee and all programs are free to the public. The park landscape, reconstructed industrial site, and non-historic structures are open to self-guided visitor access during normal park operating hours, supported by interpretive signage throughout the site. Visitors can view two films in the museum, the official park film documenting the creation and significance of Saugus Iron Works, and a documentary of the site reconstruction and excavation produced by the American Iron and Steel institute in the 1950s. A self-paced 36-minute audio tour is also available to visitors, which consists of eight stops, including the Iron Works House, museum building, industrial complex buildings, and blacksmith forge. Optional guided tours of the industrial site are offered daily, where visitors may have the opportunity to view the waterwheels in motion, the operation of the 500-pound forge hammer, and blacksmithing demonstrations. Special programming, such as an iron pour demonstration, is offered throughout the park's operating season. (CLR 2018: 111)

Associated Ethnographic Group

Ethnographic Study Status: No Survey Conducted

Ethnographic Narrative:

Analysis & Evaluation of Integrity

Analysis and Evaluation of Integrity Narrative Summary:

Landscape characteristics identified for Saugus Iron Works NHS include spatial organization and land use, buildings and structures, topography and natural systems, circulation, small-scale features, archeological sites, vegetation, and views and vistas. Many of the landscape characteristics have associated features that contribute to the site's overall integrity and significance, as well as features that do not contribute.

INTEGRITY

The physical integrity of Saugus Iron Works NHS is evaluated by comparing the landscape characteristics and features present during the overall period of significance (1646-1968) with those of the existing landscape as assessed in 2018. The National Register of Historic Places defines integrity as the ability of a property to convey its significance through physical resources. This is evaluated through seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Retention of these qualities is necessary for a property to convey its significance, however, not all seven aspects must be present for a property to retain integrity. Analysis reveals that the overall landscape retains sufficient integrity of location, design, materials, workmanship, feeling, and association, but has diminished integrity of setting. (CLR 2017: 143-146)

Location:
Location is the place where the cultural landscape was constructed or the landscape where the historic event occurred. The core elements of the iron works plant and the Iron Works House remain in their original Colonial era locations. While the primary iron works buildings – the blast furnace, forge, and rolling and slitting mill – were reconstructed during the Colonial Revival period, their location and relationship to topography and the Saugus River has been maintained. Circulation features constructed in the 1950s generally remain in their original locations, although some routes have been altered to improve accessibility. The site represents only 12.58 acres of the original 600 acre property, and associated features such as the holding pond, dam, and Hammersmith village are no longer extant and their original locations have not been confirmed.

Design:
Design is the combination of elements that create form, plan, space, structure, and style of a cultural landscape. No design elements of the Colonial period iron works remain, and the ca.1689 Iron Works House retains only minimal design elements associated with the original frame and interior. By the mid-1700s, Central Street was laid directly over the blast furnace, indicating the structures were in severe decline or non-existent. As a result, the restoration and reconstruction of the iron works in the early 1950s relied on archeological and documentary evidence. The reconstructed buildings and structures are relatively unaltered, with replacement in kind of waterwheels, roofs, and siding as necessary due to deterioration, and changes related to accessibility improvements. The Colonial period design of the Iron Works House is unknown, but alterations were documented in association with changes such as shared ownership and the creation of tenement housing. In 1915-1917 Wallace Nutting significantly altered the design of the house to reflect a Colonial Revival period interpretation of a 17th-century home. Circulation features and lawn areas added throughout the site in the 1950s remain in intact, although some have been altered for accessibility improvements.

Setting:
Setting is the physical environment of the cultural landscape. The Colonial period iron works complex was encompassed by 600 acres of largely unencumbered land. A significant portion of the landscape was flooded when the Saugus River was dammed north of the iron works, and the remaining acres were deforested for coal or used for small-scale agriculture to support the Hammersmith village. By the time of the excavation and reconstruction of the iron works in the 20th century, most of the surrounding area consisted of residential and industrial development. FIWA secured as much land as possible adjacent to the iron works site and Iron Works House, but because suburban development the park retains little connection to the surrounding area. Within the park, the landscape retains its Colonial Revival era museum setting established in the 1950s, but is nonetheless markedly different than the intense industrial activity and barren landscape that characterized the site during the Colonial era in the mid-1600s.

Materials:
Materials are the physical elements that were combined or deposited during the particular period(s) of time and in a particular pattern or configuration to form the cultural landscape. Archeological excavations in the late 1940s and early 1950s unearthed remains of the wooden waterwheels, hammer structure, sluiceways and tailraces, as well as stone-laid foundations and a sandstone bed beneath the blast furnace. A few above-ground foundations remains are visible, but the most significant remnant iron works feature is the slag pile, comprised of waste material resulting from the iron production process at the site in 1646 to ca.1670. Other materials present at the iron works site today primarily reflect the Colonial Revival era interpretation of Colonial period construction. Similarly, the Iron Works House retains its core Colonial period infrastructure, but was modified heavily by Wallace Nutting in 1915. Routine maintenance conducted at the park maintains a palette of materials compatible with the Colonial Revival era reconstruction. Contemporary non-contributing features, including benches and picnic tables, chip-sealed pathways, waysides, and fences and railings are inconspicuous and do not detract from the overall character of the cultural landscape.

Workmanship:
Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. The integrity of workmanship retained from the Colonial period is primarily constrained to archaeological evidence not included in the modern day cultural landscape. This includes the construction of the excavated industrial structures, such as the blast furnace waterwheel and bellows, which informed the Colonial Revival period reconstruction. The reconstructed iron works buildings and structures reflect Colonial Revival period workmanship consistent with the aesthetic of contemporaneous open air museums such as Greenfield Village and Colonial Williamsburg. Similarly the Iron Works House retains integrity of workmanship primarily in relation to interior design and framing, while the façade and associated landscape reflect the Colonial Revival period interpretation.

Feeling:
Feeling is a cultural landscape's expression of the aesthetic or historic sense of a particular period of time. The current suburban, open-air museum feeling established in the 1950s is markedly different than the working industrial landscape from the Colonial period. The functioning iron works would have been a noisy industrial site, and the landscape would likely have been filled with piles of raw goods and resources transported by men and animals. Circulation routes would have developed and shifted based on utility rather than existing as fixed elements in the landscape. The Colonial Revival period restoration introduced curvilinear footpaths, manicured lawns, and a non-industrial soundscape of visitors and riparian wildlife. The Colonial period pastoral feeling associated with the Iron Works House, built after the iron works closed, has been superseded by the same Colonial Revival period feeling.

Association:
Association is the direct link between an important historic event or person and a cultural landscape. While the aesthetic elements of the cultural landscape retain greater integrity of association to the Colonial Revival period, the iron works site remains undeniably associated with the Colonial period iron works at Saugus. The reconstruction of the primary buildings directly above their original foundations and in proximity to the Saugus River conveys the spirit of the original iron works plant. The Iron Works House, due to its name and proximity to the iron works primary structures, is often incorrectly associated with the iron works itself. However, the house retains its association with Wallace Nutting, who during the Colonial Revival period restored the house to its presumed 17th-century appearance.

The next section presents an analysis of landscape characteristics and their associated features and corresponding Historic Structures Inventory names and numbers, if applicable. It also includes an evaluation of whether the feature is contributes to the property's National Register eligibility and historic character for the primary historic period (1646-1968), or if it is non-contributing, undetermined, or managed as a cultural resource. If a feature is non-contributing, it is evaluated as "compatible" (visually congruent with the historic character of the landscape) or "incompatible" (visually incongruent with the historic character of the landscape).

Landscape Characteristic: Buildings and Structures

Buildings are elements constructed primarily for sheltering any form of human activity in a landscape. Structures are elements constructed for functional purposes other than sheltering human activity. Engineering systems are also structures. Buildings and structures at Saugus Iron Works NHS primarily represent the Colonial Revival period, reflecting a mid-century interpretation of the 17th-century iron works plant based on an extensive archaeological excavations completed from 1948-1953, historical research, and speculation. The Iron Works House is the only 17th-century building on the property, although its appearance was heavily altered in the 1910s. Other buildings and structures support visitor interpretation and services, and park operations.

Historic Condition (to 1968):
Iron Works House.
The Iron Works House was constructed ca.1689, most likely by James Taylor, a Boston merchant and later the treasurer of the Massachusetts Bay Colony. The house rested on a fieldstone foundation, and was a typical First Period building with two stories, a hall-and-parlor plan, and massive central stone chimney. Ownership changed frequently following Taylor's death, which also led to the parceling of the surrounding landscape in 1724. Deeds indicate outbuildings were constructed in association with the Iron Works House, including several barns, a brick kitchen, shed, and workshop. The infrequent mention of associated orchards and farmland in deeds indicates the land was not maintained consistently for large-scale agriculture. (CLR 2017: 149)

Between 1884 and 1915, when the house was primarily used as tenement housing for the Scott Mill located just north of the former iron works site, a single-story ell was added to the western elevation. Wallace Nutting altered the house significantly in 1915-1917, restoring the house to its hypothesized original appearance and converting the ell into a six room caretaker's cottage. Modifications included the addition of a two-story front porch projecting over the entrance and lean-to along the west wall, and altering the southern roof by adjusting the elevation and adding three peaked gables. The exterior was clad in clapboard with a wood single roof. Much of the surrounding vegetation, primarily consisting of ornamental shrubs and specimen trees, was removed during the reconstruction. (CLR 2017: 149)

Under FIWA's stewardship, former site blacksmith Edward Guy and his family moved into the annex quarters in 1925, and remained in residence until 1951. Few alterations were made under FIWA ownership except for the addition of visitor restrooms on the northern elevation.

Museum and Museum Annex.
Wallace Nutting erected a blacksmith shop north of the Iron Works House in 1915, intended to reflect a 17th-century industrial building. The blacksmith shop sat on a concrete foundation and was allegedly composed of recycled timbers from two 19th-century breweries formerly located in Newburyport. Under FIWA ownership, the building was converted into a museum around 1952 and a single-story annex was constructed on the western elevation, perpendicular to the museum building in 1954-1955. A wooden deck was added to the east side of the annex around the same time. (CLR 2017: 150)

Visitor Contact Station.
The visitor contact station was constructed by FIWA in 1954, southeast of the Iron Works House. It was designed as a single-story open engaged porch, sitting on a concrete foundation. The structure was constructed as the first point of interaction for visitors, with a pedestrian footpath running directly between it and the visitor parking lot located south of the Mansfield house. (CLR 2017: 150)

Central Street Retaining Walls.
Prior to the Roland Robbins excavation, a stone retaining wall supported Central Street along the west bluff. In concert with the excavation and the relocation of Central Street, two stone retaining walls were constructed around 1953 to support the new alignments and elevations. A wooden privacy fence was constructed along the top of the dry-laid stone walls. The northern wall ran along the curve of Central Street, and the southern wall formed a right-angled barrier near the

southernmost granite staircase leading from the west bluff to the industrial site. (CLR 2017: 151)

Park Headquarters.
Two residential houses were constructed ca.1945 at 230 and 232 Central Street, concurrent with the increasing suburbanization of the Town of Saugus in the post-war era. Both houses reflected typical mid-century suburban architecture. 230 Central Street was a single-story, three-bay-by-two-bay Cape seated on the south border of Central Street. A garage was built on the east elevation with an adjoining concrete driveway. 232 Central Street was constructed on the southwest corner of Marion and Central streets, and consisted of one-and-one-half stories. The three-bay-by-two-bay Cape home was abutted by a one-car garage off the south elevation. Both buildings featured vinyl siding and asphalt-shingled roofs. (CLR 2017: 151)

Blast Furnace.
Sited on the steep northwestern embankment of the Saugus River just below the natural fall line, the original blast furnace was erected in 1646 by a team of iron workers led by Richard Leader. The blast furnace sat on a twenty-six square foot dry-laid stone foundation, over a clay and sandstone crucible pit and stone drainage system emptying out the northern and western elevations. The furnace was constructed primarily of granite, and lined in sedimentary sandstone. A protective covering, likely constructed of timber, extended from the eastern side of the furnace over the casting bed area. The charging bridge extended from the western elevation and was likely supported by a twenty-eight foot stone wall. An overshot, sixteen-foot waterwheel on the west side of the furnace powered two eighteen-foot bellows, with a thirty-seven inch channel running from the bellows to conduct air into the furnace. After the iron works ceased production in1670, the blast furnace fell into disrepair and the above-ground structure was almost entirely dismantled for parts or deteriorated in the elements due to lack of maintenance. (CLR 2017: 152-153)

Roland Robbins unearthed the remains of the blast furnace in 1948, and it was reconstructed in 1951-1952. While the sub-structure retained most of its original construction, the superstructure was based largely on contemporaneous blast furnace designs from the United States and England. The furnace stack was constructed twenty-three feet high, decreasing in circumference proportionate to height. Cast-iron plates were laid over the charging hole, accessible from the west bluff area by the wooden charging bridge. The reconstructed bellows were supported by two north-south supports, and driven by the waterwheel and counter-weights. The waterwheel was reconstructed to its estimated original dimensions of sixteen feet in diameter and thirty inches wide, resting in an associated wheel pit that connected the tailrace and sluiceway. (CLR 2017: 153)

Blast Furnace Sluiceway and Tailrace.
The Colonial era tailrace was constructed of wood on the base and sides, and ran north from the wheel pit on the west side of the blast furnace toward the Saugus River above the fall line. It was roughly four feet deep and three feet wide. The blast furnace sluiceway and tailrace was reconstructed in 1953-1954. The sluiceway was reconstructed with timber planks and extended from the Central Street retaining wall to the wheel pit on the west side of the furnace. The tailrace was built of wooden planks and cement, and extended from the wheel pit toward the river, a portion of it running under the pedestrian path before emerging just west of the slag pile. Two metal pipes conducted water from the river to the top of the sluiceway, providing power for the water wheel. (CLR 2017: 153)

Forge.
The forge was likely located east of the blast furnace due to the existence of a stone foundation in proximity to archaeological discoveries of slag fill, a wooden anvil base, and a trip hammer head. The curious location of iron and other waste materials in the area suggested it may have been intentionally cleared at some point, possibly when the landscape transitioned to agricultural use or early industry. Three wheel pits that would have accommodated the waterwheels powering the forge structures – the refinery and chaffery hearths and the trip hammer – were located on the east and west sides of the forge. (CLR 2017: 154)

When the forge was reconstructed in 1952-1954, it was designed as a single-hammer forge despite evidence of a two-hammer setup. The forge was designed as a single-story, timber frame building

clad with drop-board. Three wooden chimneys punctured the roof, one on the western elevation and two on the eastern elevation. The forge featured two pairs of waterwheels, a mid-breast wheel near the northern elevation and an undershot wheel near the southern elevation, and associated wheel pits. Two entrances were added on the east and west side of the building for park operations, and a public entrance on the south side led to a wooden ramp leading to the wharf and warehouse area. (CLR 2017: 154)

Forge Sluiceways and Tailraces.
No material evidence of the forge sluiceways and tailraces dating to the Colonial period was recovered during the Robbins excavation. The forge sluiceways and tailraces were reconstructed in 1953-1954 based on soil stratigraphy, indicating two channels running across Central Street to the wheel pits located on the east and west walls of the forge. Roughly seven-feet wide and located fifty feet apart, the western waterways flowed through two adjacent wheel pits, while the eastern waterways flowed through one. Both sluiceways featured wooden plank construction and were serviced by two water pipes located on the northernmost elevation. The west sluiceway followed the steep slope of the bluff to the western wheel pit, from which water emptied into the cobblestone and wooden west tailrace. The similarly designed east sluiceway and wheel pit emptied into the east tailrace, constructed without walls as a stone-lined trough. (CLR 2017: 154)

Rolling and Slitting Mill.
No information exists pertaining to the Colonial era location or appearance of the rolling and slitting mill, as all structural evidence was likely destroyed during the construction of Bridge and Central streets. The rolling and slitting mill was constructed in its hypothetical original location, based on knowledge of similar iron works structures and archaeological findings. These included a waterway running over Central Street leading to a wheel pit, and tools known to be associated with a rolling and slitting mill. However, a charcoal bed at the south edge of the site, semi-circular stone arrangement south of the charcoal bed that served as a possible hearth, and clay mound north of the hearth complicated the team's ability to confirm the structure was a rolling and slitting mill. (CLR 2017: 155)

Between 1953-1954 the rolling and slitting mill was built east of the forge, and sat on a granite foundations. The one-story building was clad in drop-board, with a wooden chimney extending from a dry-laid stone base through the northern end of the clapboard clad roof. On the east side of the building, two overshot waterwheels were constructed to power the roll trains. The waterwheels were staggered, with one located near the center of the building and the second near the south end. (CLR 2017: 155)

Rolling and Slitting Mill Sluiceway and Tailrace.
No information exists pertaining to the Colonial era character of the rolling and slitting mill sluiceways and tailraces beyond a waterway running over Central Street leading to soil stratigraphy evidence of a wheel pit. Furthermore, the archaeological and historical research conducted prior to the reconstruction could not prove this waterway and wheel pit serviced the rolling and slitting mill, or some other unspecified iron works structure. Nonetheless, between 1953-1954 two wooden-plank sluiceways were constructed running north of the Rolling and Slitting Mill waterwheels. Their design was staggered in concert with the waterwheels, with both culminating in a wooden wheel pit. A wooden-plank tailrace extended from the wheel pit south toward the Saugus River, emptying into a stone-lined chamber. Two pipes located at the northern end of the sluiceways provided water from a reservoir located near the wharf. (CLR 2017: 155)

Warehouse.
In conjunction with the wharf reconstruction, the warehouse was built in 1954 on the western bank of the Saugus River oriented northeast to southwest. It was designed as a small, one-bay-by-one-bay drop-board clad building. (CLR 2017: 156)

Wharf.
Between 1646 and 1650, the wharf was constructed south of the forge, extending roughly 141 feet, seven feet high, and running from east to west. The wharf was constructed of oak timbers, braced

in a peat-filled trench later covered in dirt, gravel, and slag. Evidence suggests a dock extended from the southern side of the wharf to accommodate boats transporting goods on the Saugus River. Stone remnants on the eastern end of the wharf suggest it may have been reinforced by a stone wall structure, however, the archaeological evidence was not conclusive. In 1953-1954, the wharf was reconstructed as a 37-foot long wooden pier. (CLR 2017: 156)

Wharf Bulkhead.
The wharf bulkhead was constructed of timber planks running north-south along the western bank of the Saugus River, perpendicular to the wharf structures. The elevation behind the bulkhead was likely raised to allow the transfer of materials between the wharf and the mainland even at high tide. In 1953, the wooden wharf bulkhead was reconstructed based largely on speculation. It ran from the eastern edge of the western forge tailrace, rising five feet tall and extending along the river bank for 110 feet. (CLR 2017: 156)

West Bluff Stone Wall.
The west bluff stone wall was constructed in 1953-1954 in conjunction with the Robbins excavation. It featured dry-laid stones roughly two feet high and one to two stones in width, running south along the west bluff from the blast furnace charging bridge to the visitor contact station. (CLR 2017: 152)

Blast Furnace Retaining Wall.
The original blast furnace retaining wall was constructed north of the blast furnace and likely served to prevent the movement of soil and divert storm water around the furnace. It was constructed of wood, and likely joined a second wall at a perpendicular angle. The only remnant of the original blast furnace retaining wall was a single wooden beam. The blast furnace retaining wall was reconstructed based on its speculated location between the blast furnace and forge in 1953-1954. The wall was comprised of two sections adjoined at roughly a 160 degree angle, and made of concrete covered by wood planks. The wall was between two and three feet high, and ran parallel to the pedestrian path connecting the blast furnace and forge. (CLR 2017: 157)

Saugus River Stone Bulkheads.
The Saugus River stone bulkheads were constructed in 1953-1954 during the iron works reconstruction. They ran along the northern edge of the turning basin, extending south from the Saugus River bridges along both riverbanks. The dry-laid stone walls were part of a larger interpretation of the original site contours defined by the mid-century excavation. (CLR 2017: 159)

The following extant buildings and structures were not present during the historic period: maintenance garage/lunchroom, tool shed, Youth Conservation Corps stone wall, blacksmith forge, carpenter shop, assembly shop, and wood storage shed. (CLR 2017: 152,157-159)

Post-Historic and Existing Conditions:
Iron Works House.
The interior and exterior of the Iron Works House remain largely unchanged since the Nutting restoration (Figure 27). The park added a new entrance on the western wall of the ell, which was converted to a visitors center and gift shop. The entrance walkway guides visitors to the western entrance, and the house is only accessible by ranger-led tour. A 17th-century interpretive herb garden encircles the Iron Works House, but all other associated vegetation is functional and does not interpret the historic character of the house. Under NPS ownership, many post-historic buildings standing in proximity to the Iron Works House were removed. (CLR 2017: 149-150)

Museum and Museum Annex.
In 1978 the NPS constructed a lean-to on the southern elevation of the museum annex to house visitor restrooms. The museum was renovated and consists of one and a half stories, with public exhibits on the first floor, and museum storage on the half floor above. Both the museum and museum annex are clad in clapboard, and are connected by a hyphen (Figure 28, see also Figure 24). The museum is publicly accessible from the southern elevation of the hyphen. (CLR 2017: 150)

Visitor Contact Station.

The NPS enclosed two-thirds of the visitor contact station porch in 1984, and added a two panel door on the north elevation with an adjacent window (Figure 29). The western third of the porch overhang was left in-tact to protect the building entrance. The visitor contact station is no longer the first point of contact for visitors due to relocation of the main pedestrian footpath leading from the visitor parking lot to the visitor center in the Iron Works House. (CLR 2017: 150-151)

Central Street Retaining Walls.
No major alterations have been made to the Central Street retaining walls excepting routine maintenance (Figure 30). (CLR 2017: 151)

Park Headquarters.
In 1975 the NPS added a second story to 230 Central Street to accommodate park staff. A climate-controlled addition was connected to the south elevation of 230 Central Street in 2005 for park archives and library storage. This addition was extended to connect to 232 Central Street via a short hyphen. Accessible ramps were added to the property in 2007, and are located on the southern elevation of the hyphen and eastern elevation of the 232 Central Street garage. Wood fencing separates the park headquarters from the surrounding west bluff area, but a brick path runs from the fence to allow staff access (Figure 31). (CLR 2017: 151)

Maintenance Garage/Lunchroom.
The NPS constructed the center portion of the maintenance garage in 1974 above the western embankment of the Saugus River, directly east of the visitor parking lot. In 1978 a lunchroom was constructed on the north elevation and expanded in 1980. The YCC added a storage room to the south elevation in 1982. The final addition was a small office north of the lunchroom added in 1984. The building is single-story structure clad in vertical board siting with a rolled-rubber-membrane roof, and sits on a concrete block foundation (Figure 32). An American holly hedge planted between the building and the visitor parking lot partially screens the building from view. (CLR 2017: 152)

Tool Shed.
Constructed by the NPS in 1992, the tool shed originally sat south of 230 Central Street, now the park headquarters. In 2005 the structure was relocated to the western slope of the Saugus River, south of the maintenance garage/lunchroom to accommodate the library addition at the headquarters. The tool shed is a diminutive wooden-frame building clad in drop-board siding. (CLR 2017: 152)

Blast Furnace.
No major alterations have been made to the blast furnace except for routine maintenance and the addition of an accessible ramp in 2005 (Figure 33). (CLR 2017: 153)

Blast Furnace Sluiceway and Tailrace.
Few alterations have been made to the blast furnace sluiceway and tailrace beyond routine maintenance since 1968 (Figure 34). (CLR 2017: 153)

Forge.
Routine maintenance has been performed on the forge since 1968 (Figure 35). In 2005 modifications were made to provide accessible entrances and exists. (CLR 2017: 154)

Forge Sluiceways and Tailraces.
Few alterations have been made to the forge sluiceways and tailraces beyond routine maintenance since 1968 (see Figure 35). (CLR 2017: 154)

Rolling and Slitting Mill.
Few alterations have been made to the rolling and slitting mill beyond routine maintenance since 1968, except for accessibility improvements in 2005 (Figure 36). (CLR 2017: 155)

Rolling and Slitting Mill Sluiceway and Tailrace.
Few alterations have been made to the rolling and slitting mill sluiceway and tailrace beyond routine

maintenance (see Figure 36). (CLR 2017: 155-156)

Warehouse.
In ca.1980 the interior of the warehouse was modified to accommodate machinery associated with the water circulation system and now functions as a pump house and storage area (Figure 37). (CLR 2017: 156)

Wharf.
As part of the turning basin restoration project, the wharf was reconstructed in 2007-2008. Wood pilings support a timber plank deck that extends 37 feet southeast from the Saugus River bulkhead (see Figure 37). (CLR 2017: 156)

Wharf Bulkhead.
Following the turning basin restoration project, the wharf bulkhead was reconstructed in 2007. The original dimensions and character of the wharf bulkhead were duplicated (see Figure 37). (CLR 2017: 156-157)

West Bluff Stone Wall.
Few alterations have been made to the west bluff stone wall beyond routine maintenance since 1968 (Figure 38). (CLR 2017: 157)

Blast Furnace Retaining Wall.
Few alterations have been made to the blast furnace retaining wall beyond routine maintenance (Figure 39). (CLR 2017: 157)

Saugus River Stone Bulkheads.
In 2010 the NPS rehabilitated and reset the bulkheads as part of the turning basin restoration project (see Figure 25). (CLR 2017: 159)

Youth Conservation Corps Stone Wall.
The Youth Conservation Corps (YCC) retaining wall was constructed by YCC volunteers in 1978. Assembled with dry-laid stones, it runs on the east edge of the pedestrian path extending along the slope of the west bluff. The retaining wall has become heavily vegetated and obscured, and many stones need to be reset. (CLR 2017: 157)

Blacksmith Forge.
The blacksmith forge was added in 1972-1974 just east of the Saugus River bridges, and sits directly south of Bridge Street. Under NPS ownership, the blacksmith forge was designed for blacksmithing demonstrations. The original open-sided wooden building was enclosed with drop board siding in 1974, and equipped with large wooden doors that allow the western side to be almost entirely exposed. A fieldstone hearth sits within the eastern side of the building, from which a wood chimney extends through the side-gable, clap-board roof (Figure 40). (CLR 2017: 158)

Carpenter Shop.
In 1968 the NPS erected a carpentry shop in the east bank area, lying along the park boundary. This building was subsequently demolished in 1976 and the extant carpenter shop was constructed on its footprint. In 1983-1984 a restroom was added to the northeast corner of the building. The west elevation of the carpenter shop stands on wooden piers above grade, allowing for storage of maintenance equipment and materials below. The building consists of a single story clad in vertical wooden boards and capped with a rolled rubber membrane shed-style roof. A metal garage door and small personnel entrance provide access to the building from the east (Figure 41). (CLR 2017: 158)

Assembly Shop.
The NPS created the assembly shop in 1988 directly north of the carpenter shop and west of Riverbank Road, in a location formerly occupied by a wood storage shed that was originally constructed as an open-sided shed and then enclosed to accommodate this new use. The western elevation is supported by wooden piers above grade to allow for sub-structure storage. The exterior

of the building is clad in vertical-board with a rolled rubber membrane shed-style roof. (CLR 2017: 158-159)

Wood Storage Shed.
In 1976 the NPS constructed a wooden post-and-beam picnic shelter with an asphalt shingle roof east of the Saugus River, bounded by Riverbank Road and Lothrop Street. This was later semi-enclosed with chain-link fence to serve as the wood storage shed. (CLR 2017: 159)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
Iron Works House	197007	Contributing	005426		Location	65442	Yes
Museum and Museum Annex	197008	Contributing	040301		Location	65444	Yes
Visitor Contact Station	197009	Contributing	040300				No
Central Street Retaining Walls	197010	Contributing	040310				No
Park Headquarters	197011	Noncontributing – Compatible			Location	104209	Yes
Maintenance Garage/ Lunchroom	197012	Noncontributing – Compatible			Location	65463	Yes
Tool Shed	197013	Noncontributing – Compatible					No
Blast Furnace	197014	Contributing	005428		Location	65459	Yes
Blast Furnace Sluiceway and Tailrace	197015	Contributing	040306		Location	65449	Yes
Forge	197016	Contributing	005429		Location	65460	Yes
Forge Sluiceways and Tailraces	197017	Contributing	040307		Location	65449	Yes
Rolling and Slitting Mill	197018	Contributing	005430		Location	65461	Yes
Rolling and Slitting Mill Sluiceway and Tailrace	197019	Contributing	040308		Location	65449	Yes
Warehouse	197020	Contributing	005431		Location	65462	Yes
Wharf	197021	Contributing	040302		Location	65457	Yes
Wharf Bulkhead	197022	Contributing					No
West Bluff Stone Wall	197023	Contributing	040309				No
Blast Furnace Retaining Wall	197024	Contributing	040313				No
Saugus River Stone Bulkheads	197025	Contributing	040312		Location	65467	Yes
Youth Conservation Corps Stone Wall	197026	Noncontributing – Compatible					No
Blacksmith Forge	197027	Noncontributing – Compatible			Location	65465	Yes
Carpenter Shop	197028	Noncontributing – Compatible			Location	65464	Yes
Assembly Shop	197029	Noncontributing – Compatible					No
Wood Storage Shed	197030	Noncontributing – Compatible					No

Landscape Characteristic Graphics:



Figure 27. The Iron Works House remains largely unchanged beyond routine maintenance. Visitors access the house from the western ell rather than the red front door. (View northwest, OCLP 2017)



Figure 28. Under NPS ownership, the visitor restrooms were relocated to the museum annex from the Iron Works House. The museum building is at image right. (View northwest, OCLP 2017)



Figure 29. The visitor contact station is no longer used by the park since the relocation of the visitor center to the Iron Works House (image left). (View northwest, OCLP 2017)



Figure 30. View of the reconstructed Central Street retaining wall that follows the bend of the street north of the blast furnace. The switchback path was built in 2005 to improve accessibility. (View north-northeast, OCLP 2017)



Figure 31. The park headquarters complex is separated from the rest of the site by a low wooden fence. (View north, OCLP 2017)



Figure 32. The maintenance building/lunchroom on the west bluff is at the site of the former Rafferty house garage, between the visitor parking lot and the Saugus River. (View north, OCLP 2017)



Figure 33. The blast furnace remains largely unchanged beyond routine maintenance. (View southeast, OCLP 2017)



Figure 34. The watered sluiceway on the north side of the blast furnace powers the water wheel. (View north, OCLP 2017)



Figure 35. View of the forge and one of the two tailraces. (View northwest, OCLP 2017)



Figure 36. Few alterations have been made to the rolling and slitting mill or the associated sluice and tailrace beyond routine maintenance. (View north, OCLP 2017)



Figure 37. In 2007 the wharf and wharf bulkhead were reconstructed as part of the turning basin restoration. These structures and the warehouse retain their historic character. (View southeast, OCLP 2017)



Figure 38. The west bluff stone wall remains in good condition. The Saugus Iron Works scale model was installed in 2008. (View north, OCLP 2017)



Figure 39. The blast furnace retaining wall has not been altered beyond routine maintenance. (View west, OCLP 2017)



Figure 40. The blacksmith forge on the east bank dates to 1972-1974. Note the wayside sign along the path. (View east, OCLP 2017)



Figure 41. The assembly shop (image right) and carpenter shop represent two of the three maintenance buildings on the east bank. (View southwest, OCLP 2017)

Landscape Characteristic: Spatial Organization

Spatial organization is the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces. Land use describes the principal activities in a landscape that form, shape, and organize the landscape as a result of human interaction. There are four distinct areas in the park: West Bluff, Industrial Site, East Bank, and the Riparian Zone (Figure 23).

Historic Condition (to 1968):
West Bluff.
During the Colonial period, the west bluff area was most likely used to store natural resources gathered from the surrounding area for the industrial complex. The top of the charging hole for the blast furnace, requiring stockpiles of gabbro flux, iron ore, and charcoal, was likely accessed from the west bluff. After the iron works ceased production around 1670, the area was transitioned to agricultural land by a series of gentleman farmers. One, James Taylor, likely built the Iron Works House on the west bluff in ca.1689, and Thomas Mansfield erected a house directly southeast of the Iron Works House by 1753. The subdivision of the former Ironworks Farm in 1724 created lot lines that in the 1800s became streets, including the north-south Central Street. In the immediate Iron Works House area, a series of minor outbuildings were added and removed in association with a transition from agricultural to tenement housing in the late 19th century, but no major alterations were made to the spatial organization or land use until it was purchased by Wallace Nutting in 1915. Nutting added a blacksmith shop to the north of the Iron Works House, a stone wall and turnstile, and likely removed vegetation so the house was visible as a tourist destination from Central Street. Nutting restored the house to serve as a backdrop in his production of hand-tinted photographs of staged views of historic New England.

In 1941 the Henry Ford Trade School identified the Iron Works House as an appropriate gift to Greenfield Village, an outdoor living museum in Detroit. The sale of the house occurred but the move did not, and in 1945 the newly formed First Iron Works Association (FIWA) acquired the

building from the school. Archeological excavations associated with the iron works site began in 1948, and with discovery of the blast furnace waterwheel, FIWA convinced the town to relocate Central Street to west of the Iron Works House, thus creating a continuity between the west bluff area and industrial site area. In the 1950s FIWA developed the west bluff area as the primary visitor entrance to the site, constructing a parking lot south of the Iron Works House, a visitor contact station off of the abandoned Central Street, and a system of paths throughout. In the process FIWA removed several homes and a store, closed a section of Greystone Road that bisected the area, and converted and expanded the blacksmith shop for use as a museum. Houses on two discontiguous parcels of land west of Central Street were demolished and converted to lawns. (CLR 2017: 147; NR 2018 Sec.8: 29-30)

Industrial Site.
The industrial site area was selected as the location for the original iron works structures – the blast furnace, forge, and rolling and slitting mill – because its steep topography and proximity to the Saugus River was ideal for water powered industry and boat transportation. The industrial buildings were clustered together along a series of hand-dug sluiceways to improve the movement of workers and resources between worksites. Complementing this integrated complex were a wharf and warehouse providing easy access to the river for transportation. Over time, an accumulation of slag developed into a pile in the river, south of the blast furnace. After the iron works closed, the structures fell into disrepair and the industrial site served primarily as a grazing and watering area for livestock.

In 1945 the Daughters of the American Revolution (DAR) donated the old iron works site to FIWA. Beyond the construction of Central Street directly over the blast furnace remains, this area had remained largely open until archeologist Roland Robbins began excavations in 1948. Over the next six years reconstructed industrial buildings were sited in their original locations and connected with a network of paths, while the historic topography was restored to its approximate grade. Successional riparian vegetation that populated much of this area was converted to mown lawn under FIWA's ownership. (CLR 2017: 148)

East Bank.
Little documentary or physical evidence exists to illustrate the spatial organization or land use of the east bank area. It is hypothesized that the working housing areas known as Hammersmith was located northeast of the Saugus River, however, it is not known if it fell within the current park boundary. In 1948-1954 the east bank area served as a staging area for archeological field work and construction of the iron works buildings. A large tent was erected here on the site's opening day, but other than a riverside trail the area remained largely undeveloped until after 1968. (CLR 2017: 148)

Riparian Zone.
The riparian zone encompasses the Saugus River and its adjacent brackish marshland. See the "Topography and Natural Systems" later in this section.

Post-Historic and Existing Conditions:
West Bluff.
The west bluff area encompasses the terrace above the industrial site area, bounded by Central Street to the north and west. Spatial organization and land use represent the complete transformation from residential to open-air museum since 1968 (Figure 24). All but two of the non-contributing residential buildings that remained on the west bluff at the end of the historic period were removed by the mid-1970s, including the Mansfield house, to improve the association between the Iron Works House and surrounding landscape. The original purpose of the visitor contact station to orient and inform visitors was altered by the park when the main visitor entrance was shifted westward in the 2000s, thus taking visitors directly from the parking lot to the Iron Works House. The two former residences at the intersection of Central and Appleton Streets were initially used for park housing and now serve as park headquarters and curatorial storage. This area is visually separated from the rest of the area by fencing. The park developed maintenance facilities at the site of the former Rafferty house in the 1970s, and relocated visitor restrooms from the Iron Works House annex to a new structure on the south end of the museum annex in 1984. The west

bluff landscape is currently characterized by mown lawn, scattered successional trees and some shrubs, and an herb garden encircling the Iron Works House. The two discontiguous parcels west of Central Street are also maintained as lawn. (CLR 2017: 113,147)

Industrial Site.
The industrial site area encompasses the reconstructed iron works structures, bounded on the east by the Saugus River, the north by the park boundary and Central Street, and the south and west by the slope of the west bluff. Since 1968, the spatial organization and land use of the industrial site area has remained largely unchanged except for the addition of an accessible path between the blast furnace and forge (Figure 25). The industrial buildings, warehouse, and wharf maintain their association to each other as an integrated iron works, and the landscape and curvilinear pedestrian paths provide continuity as an open air museum. (CLR 2017: 148)

East Bank.
The east bank area is circumscribed by the Saugus River to the west and south, Bridge Street to the north, and Lothrop and Riverbank streets to the east. Since 1968, the east bank area has developed into a mix of park infrastructure and undeveloped natural land. The NPS constructed a blacksmith forge in 1975 for demonstrations, but its use associates more closely with the industrial site area than the east bank area (Figure 26). The park also built a carpenter shop in 1976, restroom in 1983, and an assembly shop in 1988. These buildings are located near Lothrop and Riverbank streets and are largely screened from the broader cultural landscape. The Youth Conservation Corps extended the nature trail in 1980, and in 1989 the trail was designated a National Recreation Trail. (CLR 2017: 148-149)

Riparian Zone.
See the “Topography and Natural Systems” later in this section.

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
West Bluff	197003	Contributing			Location	65440	Yes
Industrial Site	197004	Contributing			Location	65441	Yes
East Bank	197005	Noncontributing – Compatible					No
Riparian Zone	197006	Contributing					No

Landscape Characteristic Graphics:



Figure 23. Aerial imagery delineating the four landscape study areas within Saugus Iron Works National Historic Site. (USGS 2013)



Figure 24. View of the west bluff spatial organization, reflecting a typical mid-century open-air museum. Pictured are the Iron Works House and museum/museum annex. (View west-southwest, OCLP 2017)



Figure 25. The spatial organization of the industrial site remains largely unchanged. Buildings (l. to r.) include the warehouse, blast furnace, forge, and rolling and slitting mill. At image right, stone bulkheads are visible on either side of the bridges. (View west, OCLP 2017)



Figure 26. The spatial organization of the east bank has changed dramatically to accommodate the blacksmith forge, maintenance complex, and Saugus Iron Works Nature Trail. (View east-southeast, OCLP 2017)

Landscape Characteristic: **Topography**

Topography is the three dimensional configuration of the landscape surface characterized by slope and elevation. Natural systems and features are the natural aspects that have influenced the development and physical form of the landscape. Two historic features represent these two landscape characteristics: the slag pile, the only above ground evidence of the colonial iron works, and the turning basin, formed by a natural eddy in the Saugus River.

Historic Condition (to 1968):
Slag Pile.
Extending roughly 140 feet into the Saugus River from the industrial site, the slag pile is the only in-situ evidence of the colonial iron works. Molten slag was created as an iron manufacturing by-product, disposed of downhill from the blast furnace by workers, where it accumulated along the riverbank. This formed a fifteen- to eighteen-foot high pile, easily distinguished from the surrounding landscape. After the plant closed, the slag pile was undisturbed and became largely obscured with vegetation over time, likely due to the prohibitively steep topography of the former industrial site as well as an ordinance that the land be left free for grazing animals to access the river. By the early 1900s, the slag pile was entirely covered in grass and young deciduous trees. During the mid-century restoration, FIWA cleared away woody vegetation from the slag pile and covered it with turf, which soon transitioned to exposed dirt and gravel on the slopes and top of the slag pile. After the Pranker's Pond dam was breached, the resulting siltation of the turning basin allowed riparian vegetation to grow along the water's edge, while small shrubs grew near the adjacent pedestrian footpath. (CLR 2017: 160)

Turning Basin.
While no documentary evidence exists supporting the Colonial era character of the turning basin, it is likely the colonial iron workers modified the natural eddy in the Saugus River to accommodate a fully laden boat at low tide. Archaeological excavations did not posit signs of historical dredging; however, Robbins believed the soil stratigraphy supported the human alteration of the turning basin. The Saugus River was estimated to be three feet higher by the 1950s than during the Colonial era, which was accomplished by constructing a stone weir south of the iron works, at Hamilton Street. The weir reduced the impact of tidal fluctuations on the turning basin, stabilizing the water level at high tide and slowing drainage during low tide. In 1957 the upstream Pranker's Pond dam was destroyed, causing severe sedimentation in the turning basin and allowing it to become heavily vegetated with invasive species, including common reed (Phragmites australis) and purple loosestrife (Lythrum salicaria). (CLR 2017: 159-160)

Post-Historic and Existing Conditions:
Slag Pile.
When the NPS assumed ownership of the site, the slag pile was characterized by exposed earth and surrounded by dense invasive riparian vegetation. During the 2007 turning basin restoration, the area around the slag pile was restored to open water conditions and native wetland species. The park currently manages the slag pile with turf and small-scale vegetation to prevent erosion and mitigate contamination of the Saugus River, while small shrubs on the western end dissuade visitors from climbing the feature (Figure 42). Today the slag pile rises roughly eighteen feet and extends 140 feet into the river. (CLR 2017: 160)

Turning Basin.
The turning basin restoration began in 2007 as a major undertaking to restore both the historic character of the Saugus River and the healthy aquatic and riparian ecosystems (see Figure 42). Invasive species were removed to allow the reintroduction of tidal mud flats, which were colonized with native species such as dwarf spike rush (Eleocharis parvula) and horned pondweed (Zannichella palustris) that encourage the open conditions established in the 1950s. A berm was constructed directly southwest of the two Saugus River bridges to direct the flow of the Saugus River, provide a suitable breeding ground for fish, and reduce erosion and sedimentation. In 2009 the NPS removed the downstream Hamilton Street weir to improve the flow of water and decrease future sedimentation. (CLR 2017: 88,160)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
Slag Pile	197031	Contributing	005427		Location	65451	Yes
Turning Basin	197032	Contributing			Location	99535	Yes

Landscape Characteristic Graphics:



Figure 42. The turning basin has been returned to its open character following a major restoration in 2007-2009. The historic slag pile, in the foreground, has once again become a prominent landscape feature. (View southeast, OCLP 2017)

Landscape Characteristic: Circulation

Circulation is the spaces, features, and applied material finishes that constitute systems of movement in a landscape. Circulation throughout Saugus Iron Works NHS reflects the Colonial Revival period design amended by the NPS in 2004 to address accessibility. Only one feature, the corduroy road, represents historical iron works-era circulation.

Historic Condition (to 1968):
System of Paths.
Although the Colonial era iron works plant was likely crisscrossed with pedestrian and cart paths, no evidence of their existence was documented or discovered during the Robbins excavation. To provide a means for visitors to navigate through the site, a system of pedestrian paths was incorporated into the reconstructed iron works site in 1954. The paths were built with compacted

earth and gravel and demarcated by turf on either side. On the west bluff, footpaths surrounding the Iron Works House consisted of flagstones dry-laid in the lawn in a single line. A path ran east from the museum and intersected the path paralleling edge of the bluff from the visitor contact station to the Central Street retaining wall. Two sets of granite stairs led visitors from the west bluff to the footpath heading to the industrial area and three tailrace bridges and a section of corduroy road. The path system continued to the east bank via southern Saugus River bridge and then followed the natural curvature of the river, terminating near the end of the Saugus River stone bulkhead. Two short footpaths were constructed running perpendicular from the river path toward the open lawn area bounded by Bridge and Lothrop Streets to the north and east, and the site boundary to the south. (CLR 2017: 162)

Tailrace Bridges.
While a series of makeshift bridges may likely have existed at the iron works site during the Colonial era, no surviving evidence confirms their existence or physical character. In 1953-1954, three tailrace bridges were erected spanning the two tailraces associated with the forge and one tailrace with the rolling and slitting mill. Timber planks spanned the width of the bridges, adjoined by heavy timber railings. (CLR 2017: 161)

Corduroy Road.
Constructed of rounded wooden beams laid side-by-side, corduroy roads provided a hardened surface to ease the movement of workers and goods across the frequently muddy landscape. Longer stretches of corduroy road were likely constructed and deconstructed throughout the iron works landscape based on necessity, but no physical or written documentation of such locations has been found. However, based on archaeological evidence discovered in 1952, a section of corduroy road was reconstructed in 1953-1954 by laying wooden fence poles in the soil. The section ran between the rolling and slitting mill tailrace and the eastern forge tailrace, and spanned thirty-three feet and was nine feet wide. (CLR 2017: 161; NR 2018 Sec.7: 11-12)

Bridges over Saugus River.
The locations of the bridges over the Saugus River in the 17th and 18th centuries, likely in proximity to the iron works plant and later Ironworks Farm, are largely unknown. The first documented bridge was constructed near modern day Lincoln Avenue in 1639 (over a mile downstream); however, during the iron works operation it is likely a bridge would have been present at or near the location of the park's current bridges over the Saugus River to facilitate transport between the east bank and west bluff. Any historical bridges in this location would likely have been destroyed when the iron works dam was breached in 1682. In the early 1800s, a bridge was constructed connecting the west bluff near modern Marion Street and the east bank near modern Bridge Street. This was likely utilized for industrial purposes with the advent of the Scotts Mill Complex in 1847, as well as providing a pedestrian crossing. This bridge became a public vehicular crossing when Bridge Street was developed in the 1930s, however, by the late 1940s it had reverted to a pedestrian-only crossing. (CLR 2017: 161-162)

In 1953-1954 the pedestrian bridge was relocated and reconstructed slightly to the north for continued use by the general public. It consisted of a wooden plank deck with metal handrails and was located on the north side of the boundary fence. A second bridge with steel I-beams supporting a wood plank deck was constructed just to the south, on the south side of the boundary fence. Wider than the northern bridge, it provided access between the east bank and west bluff for site visitors and maintenance vehicles. Both bridges sat on mortared stone abutments. (CLR 2017: 162)

Visitor Parking Lot.
A gravel visitor parking lot was constructed in 1951-1952 on the west bluff, bordered by the Mansfield house to the north, the Arlington residence to the west, and Pleasant Street to the south. The entrance was on the east side of the lot, providing access from the old section of Central Street that was retained after the street was relocated. A 1954 photograph from the FIWA dedication of the Saugus Iron Works site shows visitors were also allowed to park along Lothrop and Bridge streets, which provided an entrance from the east bank. (CLR 2017: 163)

Saugus Iron Works Nature Trail.
This trail was laid out by FIWA ca.1954. The trail began at the visitor contact station, utilized the system of paths as it ran through the industrial site and crossed the river, and then turned south to run along the bank of the Saugus River. (CLR 2017: 163; NR 2018 Sec.7: 6)

Post-Historic and Existing Conditions:
System of Paths.
Upon taking ownership, FIWA widened and filled the flagstone paths around the Iron Works House with gravel. The path connecting the museum and northern stairway to the industrial site was realigned to improve visitor wayfinding and avoid potential below-ground archaeological resources. Both granite stairs were reconstructed in the early 1970s. In 1975 the paths winding through the industrial site were resurfaced with a local commercial forging waste product known as “scale.” In the early 1990s the park widened pedestrian path to sixty inches and resurfaced them with crushed stone and stonedust lined with wood boards, followed by a plastic trex border. A major circulation reconstruction was undertaken in 2005 to address accessibility at the park (Figure 43). The footpaths were widened and hardened, and ramps were added to the park headquarters, behind the blast furnace, and at the building entrances between the forge and rolling and slitting mill. Additionally, a switchback path was constructed in the hillside between the blast furnace and forge to provide an alternative means to access the industrial site (see Figure 30). (CLR 2017: 162-163)

Tailrace Bridges.
Few alterations have been made to the tailrace bridges beyond routine maintenance (Figure 44). (CLR 2017: 161)

Corduroy Road.
Due to pedestrian traffic and exposure to weather, the corduroy road has been rehabilitated under NPS ownership several times since 1968. This occurred in the 1970s, following the transfer of the property from the First Iron Works Association, in 2001, and in 2004 as part of the accessibility project (see Figure 44). (CLR 2017: 161)

Bridges over Saugus River.
Few alterations have been made to the two bridges over the Saugus River beyond routine maintenance since 1968 (see Figures 25 and 26). Separated by a chain link fence, the south bridge is used by park visitors while the north bridge is used by the general public. The north bridge is outside the park grounds but within the authorized boundary. Note: NPS legal ownership of the north pedestrian bridge is not 100% confirmed. (CLR 2017: 162; NR 2018 Sec.7: 12; Park review comments, August 2018 and February 2019)

Visitor Parking Lots.
In 1983, the visitor parking lot was extended westward to accommodate more vehicles and busses. The sections of Central Street and Pleasant Street that had been retained were incorporated into the parking lot and the entrance was relocated to the west side of the lot to allow access from the realigned Central Street (Figure 45). Today the paved visitor parking lot accommodates twenty-eight vehicles and two busses, and includes two parking spaces for visitors with disabilities. The portion of former Central Street that extends south of the visitor parking lot continues to be used as parking for park staff and maintenance vehicles. (CLR 2017: 163)

By 1968 to park staff were permitted to enter the park from the east bank via Lothrop and Bridge streets. Today there is a small parking lot available for visitors who require access to the park from the east bank. The paved lot accommodates three vehicles and includes two additional spaces for visitors with disabilities.

Saugus Iron Works Nature Trail.
The Youth Conservation Corps (YCC) improved the trail in 1980, and extended the path southward along the curvature of the eastern bank. A photograph from 1981 shows the east riverbank was sparsely wooded, and the pedestrian footpath was composed of compressed dirt and lined with small stones. An observation deck was constructed around 1981, but later removed. The extension of the trail increased its total length to one-half mile, allowing it to be designated as a

National Recreational Trail in 1989. Incorporating the pedestrian footpaths on the west bluff and in the industrial area, the trail consists of two connected loops and provides a closed-circuit path that begins and ends directly west of the northern wall of the wood shed. It varies in width from 12-48'' and dense growth flanks the path in various sections. A makeshift grape arbor was constructed near the midway point, and a wooden bench sits on the eastern curve of the first trail loop. (CLR 2017: 164; NR 2018 Sec.7: 6; CLR 2003: 27-28)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
System of Paths	197033	Contributing			Location	65445	Yes
Tailrace Bridges	197034	Contributing	040304		Location	65454	Yes
Corduroy Road	197035	Contributing	040305		Location	65450	Yes
Bridges over Saugus River (North)	197036	Undetermined					No
Bridges over Saugus River (South)	197037	Contributing	040311		Location	65443	Yes
Visitor Parking Lots	197038	Noncontributing – Compatible			Location	65448	Yes
Saugus Iron Works Nature Trail	197039	Contributing					No

Landscape Characteristic Graphics:



Figure 43. The overall character of the system of paths remains largely unchanged despite alterations to materials, grade, and orientation that have improved visitor accessibility. (View northeast, OCLP 2017)



Figure 44. View of one of the three tailrace bridges. The corduroy road has been rehabilitated several times and retains its historic character. (View southwest, OCLP 2017)



Figure 45. View of the visitor parking lot facing north toward the park entrance and Iron Works House. A gate on the north side of lot opposite the house marks the main park entrance. (View north, OCLP 2017)

Landscape Characteristic: Small Scale Features

Small-scale features are the elements that provide detail and diversity combined with function and aesthetics. At Saugus Iron Works NHS such features include a well, fences, scale model, waysides, benches, and trash cans. With the exception of the reconstructed well, all small-scale features located within the park boundary are non-historic.

Historic Condition (to 1968):
Well.
A well was constructed in 1953-1954 as an interpretive element of an historical iron works. Sited south of the rolling and slitting mill, the well was constructed as a six-foot wide stone circle. The stones varied in size, and featured a mix of dry-laid and mortared construction. (CLR 2017: 164)

Fences.
In the 1960s the visitor parking lot was defined by a chain link fence on its south and east sides, a low wooden railing on the west side, and a wood privacy fence on the north side that continued west toward the Arlington house. A wood post-and-beam fence directed visitors to enter the park via the pedestrian pathway connected to the northeast corner of the visitor parking lot, sited in-line with the visitor contact station. A low wooden railing circumscribed the discontiguous parcel of land just south of the visitor parking lot bounded by Central, Union, and Pleasant streets.

Scale Model.
This feature did not exist historically.

Signage, Trash Receptacles, and Benches.
Following the mid-century reconstruction, several small benches, trash cans, and signs were added to the site landscape. A wooden bench seat with a tall back was placed on the north side of the Iron Works House, flush against the building. An identically designed bench sat under a tree just east of the museum building, and near the junction of the pedestrian footpath and blast furnace charging bridge. A small interpretive sign was affixed to a metal pole at the intersection of the footpaths leading from the museum and visitor contact station toward the charging bridge. (CLR 2017: 164)

Post-Historic and Existing Conditions:
Well.
Few alterations have been made to the well beyond routine maintenance since 1968 (see Figure 44). A pipe at the base of the well feeds water from the well into the park's water circulation system. (CLR 2017: 164; NR 2018 Sec.7: 12)

Fences.
Vertical wood board fencing can be found throughout much of the park today. One of the longest continuous runs of fencing begins on the east side of the visitor parking lot, continues along the north side of the parking lot where a gate marks the park's main entrance, along the east side of Central Street, around the south and east sides of the park headquarters buildings, and along the south side of Central Street to the Central Street retaining wall where it continues along the top of the wall to the end of the wall (see Figure 45). In the industrial area a chain link fence marks the park's northern boundary, extending from the Central Street retaining wall and between the two bridges over the Saugus River. The chain link fence continues to the east bank along the park boundary, extending along Bridge Street, to a gate opening at the corner of Bridge and Lothrop streets, along part of Lothrop Street, and then into the wooded area. Vertical board fencing also marks the western park boundaries on the two parcels on the west side of Central Street.

Scale Model.
The Saugus Iron Works scale model was added to the historic site in 2008, and depicts the industrial site and associated natural features. The bronze-cast model sits on the edge of the west bluff, encircled by the path tracing the west bluff stone wall (see Figure 38). (CLR 2017: 164)

Signage, Trash Receptacles, Benches, Flagpole.
Under NPS stewardship, interpretive wayside signs have been installed throughout the site (see

Figure 40). Trash receptacles and benches are located along the paths for the convenience of visitors (see Figure 38). A flag pole is located in the parking lot median, next to the main park sign that faces the entrance to the visitor parking lot (see Figure 45). All of these features are inconspicuous and designed with compatible materials that do not detract from the site's historic character. (CLR 2017: 164)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
Well	197040	Contributing	040303				No
Fences	197041	Noncontributing – Compatible			Location	65443	Yes
Scale Model	197042	Noncontributing – Compatible					No
Signage, Trash Receptacles, and Benches	197043	Noncontributing – Compatible					No
Flag Pole	197044	Noncontributing – Compatible			Location	65443	Yes
Park Entrance Sign	197045	Noncontributing – Compatible			Location	65443	Yes

Landscape Characteristic: Archeological Sites

Archeological sites contain surface and subsurface remnants related to historic or prehistoric land uses. Archaeological sites within the park boundary pertain to pre-European contact settlements and sites related to the Iron Works period. Many of the pre-European contact sites have been irreparably compromised due to the heavy disruption of the land during the Iron Works period, 19th and 20th century suburban development including the construction of Central Street and private residences, and the 20th century excavation by Roland Robbins. A 1976 NPS excavation, however, recovered pre-contact artifacts from nearly the entire site including both river banks, near the Iron Works House, and near the park headquarters. These included lithic tools, detritus, and pottery, as well as evidence of pit features and a possible burial site. Although heavily disturbed, the findings show the site experienced significant use from the Middle Archaic through the Woodlands period in a manner comparable to other estuary head sites throughout southern New England. In addition to the slag pile, the 2018 National Register documentation identifies two archeological sites, described below. (CLR 2017: 115; NR 2018 Sec.7: 17)

Historic Condition (to 1968):
West Bluff Stabilized Foundations.
The west bluff stabilized foundations were uncovered during site excavations in the early 1950s, although their origins are unknown. The foundations sit on the slope of the west bluff just east of the visitor contact station and consist of dry-laid stone, one in a linear formation and one in an L-shape. When the pedestrian pathways were built by FIWA, the linear foundation was utilized as a retaining wall. (CLR 2017: 165)

Jenks Area Foundations.
Joseph Jenks is known to have operated a blacksmith shop and a grist mill downhill from the blast furnace. The stone foundations discovered along the western slope of the slag pile, sited in-line with the blast furnace tailrace, were hypothesized to be the location of Jenks' forge. They are marked by several stone remnant features, as well as a shallow rock lined pit with an iron plate floor. (CLR 2017: 115,166)

Post-Historic and Existing Conditions:
West Bluff Stabilized Foundations.
Few alterations have been made to the west bluff stabilized foundations beyond routine maintenance since 1968 (Figure 46). (CLR 2017: 165)

Jenks Area Foundations.
Few alterations have been made to the Jenks area foundations beyond routine maintenance. Riparian vegetation has become established in this area, largely obscuring evidence of the archaeological site (Figure 47). (CLR 2017: 166)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
West Bluff Stabilized Foundations	197046	Contributing	040314				No
Jenks Area Foundations	197047	Contributing	040315				No

Landscape Characteristic Graphics:



Figure 46. The west bluff stabilized foundations remain in good condition. (View southwest, OCLP 2017)



Figure 47. The Jenks area was never reconstructed and the possible remnants have become obscured in vegetation. The blast furnace tailrace along which he allegedly built his mill is still visible. (View southeast, OCLP 2017)

Landscape Characteristic: Vegetation

Vegetation includes deciduous and evergreen trees, shrubs, vines, groundcovers, and herbaceous plants and plant communities, whether indigenous or introduced in the landscape. Vegetation at Saugus Iron Works NHS includes mown turf, scattered trees and shrubs, riparian woodlands, tidal marshes, and an herb garden. This reflects both the Colonial Revival period efforts to interpret the Colonial period landscape, and park ecological restoration efforts. No extant vegetation dates to the Iron Works period.

Historic Condition (to 1968):
Lawn Areas.
During the 17th century the spaces between the iron works buildings were likely characterized by open conditions due to the heavy industrial activity and clearcutting of the site, creating a barren and worn landscape that was variably dusty and muddy. After its closure the former industrial site was used for grazing and then became the location of major archeological work. Maintained turf was installed throughout the industrial site after reconstruction efforts were completed in 1954. Historic photographs show lawns were also present throughout the west bluff and the northern portions of the east bank.

Ornamental Trees and Shrubs.
The heavy use of the landscape in and around the iron works plant likely stifled the growth of trees and shrubs during the Colonial period, but after its closure some plants may have taken hold despite the area's use for grazing livestock. After the Ironworks Farm was subdivided in 1724, ornamental woody vegetation began to appear as homes were built in areas around the former iron works site. During Wallace Nutting's ownership in the 1910s, flower beds were planted around the foundation of the Iron Works House, and a sweet cherry tree and a lilac hedge were planted to the east of the blacksmith shop (now the museum). Historic photographs from FIWA's ownership in the 1950s show this tree and other scattered trees and shrubs. (CLR 2017: 48-49,166)

Woodlands and Marshes.
Historic aerial photographs show that the southern portions of the east bank were a mix of woodlands and tidal marshes at the end of the historic period.

Post-Historic and Existing Conditions:
Lawn Areas.
Lawns dominate most visitor use areas of the park (see Figures 24, 25, and 26). The industrial site landscape is defined by maintained turf, allowing clear views between buildings and structures. Mown lawn is also maintained on the west bluff landscape encircling the Iron Works House, on the east bank surrounding the blacksmith shop, and in the park's two parcels on the west side of Central Street.

Ornamental Trees and Shrubs.
The cherry tree and lilacs east of the museum are no longer present. Scattered ornamental trees and shrubs dot many of the lawn areas today. An impressive copper beech (Fagus sylvatica 'purpurea') stands near the park headquarters. Ornamental plantings exist in proximity to the Iron Works House, most noticeably a smoke tree (Cotinus sp.) to the southeast. (CLR 2017: 116-117)

Boundary and Screen Vegetation.
Under NPS stewardship, several planting plans and vegetation surveys were developed to improve screening of the park from the surrounding neighborhood. Examples include American holly (Ilex opaca) along the eastern edge of the visitor parking lot to screen the maintenance complex and white pine (Pinus strobus) east of the blacksmith forge to limit views to the maintenance area. A variety of shrubs line the fence demarcating the park boundary, including gray dogwood (Cornus racemosa), mountain andromeda (Pieris floribunda), bayberry (Myrica pensylvatica), and rhododendrons (Rhododendron sp.) reducing views and traffic noise from Central Street. To increase the sense of separation from the surrounding neighborhood, two discontiguous parcels

west of Central Street are maintained as mown lawn bordered by shade trees and a wooden fence. (CLR 2017: 116-117,166)

Woodlands and Marshes.
Bordering the east and west sides of the Saugus River is marshland, defined primarily by native brackish and freshwater species introduced after the 2007 turning basin restoration project. The marshland gives way to riparian woodlands extending the length of the Saugus Iron Works nature trail on the eastern embankment, and from the Jenks area foundations to the park boundary on the western embankment. The woodlands are comprised of successional and weedy species, such as Norway maple (Acer platanoides), black cherry (Prunus serotina), American beech (Fagus grandifolia), multiflora rose (Rosa multiflora), and southern arrowwood (Viburnum dentatum) (see Figure 42). (CLR 2017: 116-117)

17th Century Interpretive Herb Garden.
The 17th century interpretive herb garden was established by the NPS in the early 1990s to create the character of a Colonial period kitchen garden. Each plant is individually labeled, and a small flagstone path transects the eastern portion (Figure 48). (CLR 2017: 166)

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
Lawn Areas	197048	Contributing					No
Ornamental Trees and Shrubs	197049	Noncontributing – Compatible					No
Boundary and Screen Vegetation	197050	Noncontributing – Compatible					No
Woodlands and Marshes	197051	Noncontributing – Compatible					No
17th Century Interpretive Herb Garden	197052	Noncontributing – Compatible			Location	65443	Yes

Landscape Characteristic Graphics:



Figure 48. The garden bordering the Iron Works House has been converted to an herb garden reminiscent of a typical 17th century Colonial-period kitchen garden. (View west, OCLP 2017)

Landscape Characteristic: Views and Vistas

Views and vistas are the features that create or allow a range of vision that can be natural or designed and controlled. Three of the most important views at Saugus Iron Works NHS are an overview of the industrial site from the blast furnace charging bridge; a long view of the Saugus River and the turning basin from the wharf area, and a view of the industrial site from the east bank.

Historic Condition (to 1968):
View from the Blast Furnace Charging Bridge.
Located at the highest point in the industrial site, the view from the blast furnace charging bridge has likely always been prominent. Photographs from the site following the Robbins excavation show the charging bridge provided an unencumbered view toward the Saugus River, wharf, and warehouse, as well as to the other reconstructed buildings and structures. This view provided visitors a critical understanding of the spatial organization and relationship to topography and natural features that allowed the iron works to function. (CLR 2017: 167)

View of the Saugus River from the Wharf.
The original location of the wharf and character of the turning basin is unknown, rendering the Colonial period view a mystery. Following the reconstruction of the iron works site, the Hamilton Street weir was erected downstream to stabilize water levels in the turning basin, providing a long view of the river and surrounding landscape from the wharf. The view of the water began to change after 1957 when the breach of the Pranker's Pond dam filled the river with silt and vegetation began to take hold in former open water areas. (CLR 2017: 167)

View of the Industrial Site from the East Bank.
Some of the most dramatic photographs of the reconstructed Saugus Iron Works were taken from the east bank looking west, showing the entire industrial site complex nestled along the river's edge.

Post-Historic and Existing Conditions:
View from the Blast Furnace Charging Bridge.
While the view itself has changed over time, including the siltation of the turning basin and the overgrowth of vegetation in the industrial site, the charging bridge has always provided a panoramic view of the iron works site. Vegetation management projects by the NPS in recent years has restored much of the mid-century character of the landscape, largely recreating the view as it appeared following the reconstruction (Figure 49). The surrounding suburban development can be seen from the charging bridge and does not reflect the historic view. (CLR 2017: 167)

View of the Saugus River from the Wharf.
The view of the Saugus River from the wharf continued to change as vegetation became established in the silted in river. Such conditions were reversed as part of the 2007 turning basin restoration project and removal of the Hamilton Street weir in 2009, which restored the open water character that was created by FIWA in 1954. Residential development to the south, near Hamilton Street, detracts from the view, but is partially screened by vegetation (Figure 50). (CLR 2017: 167)

View of the Industrial Site from the East Bank.
This view remains intact and has been enhanced by the 2007 turning basin restoration project and recent plantings along the river's edge intended to deter geese from entering the park from the turning basin (see Figure 25).

Landscape Features:

Feature Name	CLI Feature ID	Feature Contribution	CRIS-HS Resource ID	Associated CRIS-AR ID	FMSS Record Type	FMSS Record Number	FMSS Exact Match
View from the Blast Furnace Charging Bridge	197053	Contributing					No
View of the Saugus River from the Wharf	197054	Contributing					No
View of the Industrial Site from the East Bank	197055	Contributing					No

Landscape Characteristic Graphics:



Figure 49. The view from the blast furnace charging bridge remains largely unchanged. (View east, OCLP 2017)



Figure 50. The view across the Saugus River from the wharf has been restored, but the commercial and residential complex south of the park still impacts the view. (View south, OCLP 2017)

Condition

Assessment Interval (Years): 9

Next Assessment Due Date: 02/11/2028

Condition Assessment and Impacts

Condition Assessment: Good

Assessment Date: 02/11/2019

Condition Assessment Explanatory Narrative:

Based on the condition assessment categories in the CLI Professional Procedures Guide, the Saugus Iron Works NHS landscape is in “Good” condition. The property shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The property’s cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Impacts

Type of Impact: Adjacent Lands

Other Impact:

External or Internal: External

Impact Narrative: Suburban development on adjacent lands continues to impact views from the site.

Date Identified: 05/15/2019

Type of Impact: Inundation (Flooding)

Other Impact:

External or Internal: Both Internal and External

Impact Narrative: Flooding associated with storm events may impact site resources.

Date Identified: 05/15/2019

Type of Impact: Inundation/Sea Level Rise

Other Impact:

External or Internal: Both Internal and External

Impact Narrative: The effects of climate change on park natural and cultural resources should be monitored.

Date Identified: 05/15/2019

Type of Impact: Vegetation/Invasive Plants

Other Impact:

External or Internal: Internal

Impact Narrative: Future accretion of silt in the river may result in a return of invasive vegetation

Date Identified: 05/15/2019

Type of Impact: Inundation/Storm Surge

Other Impact:

External or Internal: Both Internal and External

Impact Narrative: Storm surge associated with storm events may impact site resources.

Date Identified: 05/15/2019

Treatment

Stabilization Measures

Treatment Documents

Treatment Type: Preservation

Treatment Completed: Yes

Document Type: General Management Plan

Document Date: 2002-04-01

Title:

IRMA Link:

Narrative:

The park's 2002 "General Management Plan/Environmental Assessment" states that "the historic and cultural resources of Saugus Iron Works will be preserved, protected, and maintained to the highest degree of historical integrity…The park's natural resources, the Saugus River, and adjacent wetlands will be managed as part of the cultural landscape to complement the historical significance of the site. (GMP-EA 2002: 2)

Approved Treatment Costs

Cost Narrative:

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Supplemental Information Narrative:

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