Archaeological Reconnaissance Survey for the Hampshire and Hampden Canal Documentation Project, Southwick, Westfield, Russell, Southampton, Easthampton, and Northampton, Massachusetts

DECEMBER 2022

REVISED JUNE 2023

PREPARED FOR

Pioneer Valley Planning Commission (PVPC)

PREPARED BY

SWCA Environmental Consultants

ARCHAEOLOGICAL RECONNAISSANCE SURVEY FOR THE HAMPSHIRE AND HAMPDEN CANAL DOCUMENTATION PROJECT, SOUTHWICK, WESTFIELD, RUSSELL, SOUTHAMPTON, EASTHAMPTON, AND NORTHAMPTON, MASSACHUSETTS

~~THIS REPORT CONTAINS CONFIDENTIAL INFORMATION NOT FOR PUBLIC DISTRIBUTION~~

Prepared for

Pioneer Valley Planning Commission (PVPC)
60 Congress Street
Springfield, Massachusetts 01104-3419
Attn: Shannon Walsh

Prepared by

Zachary Nason and Nadia Waski, M.A.

SWCA Environmental Consultants
15 Research Drive
Amherst, Massachusetts 01002
(413) 256-0202
www.swca.com

SWCA No. 70766

SWCA Cultural Resources Report No. 22-899

December 2022

Revised June 2023

ABSTRACT

SWCA Environmental Consultants (SWCA) conducted a background review and an archaeological reconnaissance survey on behalf of the Pioneer Valley Planning Commission as part of an ongoing, multi-town documentation and mapping effort of the approximately 30-mile-long Massachusetts portion of the Hampshire and Hampden Canal.

SWCA field staff were able to conduct a walkover reconnaissance of roughly 90 percent of the former Hampshire and Hampden Canal. SWCA geographic information system (GIS) personnel used this collected field data, in conjunction with historical mapping and references, to accurately depict the former canal's course, on parcel-level mapping, as it operated through Massachusetts. As part of this study, Massachusetts Historical Commission Area Forms were also completed describing the canal area within the bounds of each of the six townships, describing the route's impacts on the towns individually, as well as detailing the physical presence canal engineering had, and still has, on the land.

Following the completion of the GIS map review and field verification, 78 remnant canal segments and/or features were recorded and mapped, with others lacking any remaining surficial indications plotted using other means. In all, approximately 34 percent of the original canal prism contains surficial remnants still identifiable today, with the remaining 66 percent being a combination of altered or obscured by post-canal impacts (46%), repurposed by subsequent engineering (9%), or not field verified (11%). Of the original 32 canal locks and two guard locks, 12 still contain surficial, identifiable traces of the former engineering. Surficial evidence of the majority of the 12 original aqueducts and culverts constructed to ferry the canal over larger waterways have been completely removed, with much of the stone used in their construction repurposed for subsequent engineering efforts. In addition to the above-mentioned engineering features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Massachusetts, any surficial evidence of which has since been altered/obscured.

The Hampshire and Hampden Canal Area is significant on the local, state, and national level, being eligible for listing, in its entirety, on the National Register of Historic Places under Criteria A, C, and D. The present project includes extensive historical research and provides accurate mapping and field data on the present condition of the canal, with an initial statement of significance. We anticipate that additional work will be needed to complete the National Register nomination. This next step will need to explore the canal's impact and design within the context of the greater Canal Era of the northeastern United States, as well as describe the significance of the entire endeavor in both its engineering scope and socioeconomic impacts on the region.

This page intentionally left blank.

CONTENTS

Introduction **1**
Scope 3
Regulatory 4
Project Personnel 4
Report Organization 4
Methodology **4**
Background Research 4
GIS Mapping 5
Archaeological Reconnaissance Survey 6
Consultations **7**
Survey Results **8**
Background Research 8
The Hampshire and Hampden Canal 8
Southwick 10
Westfield 10
Russell 12
Southampton 12
Easthampton 13
Northampton 14
Previous Canal Documentation 15
Archaeological Reconnaissance Survey 18
Summary of Work **23**
Future Recommendations **25**
References Cited **26**

Appendices

Appendix A. The Hampshire and Hampden Canal Parcel-Level Map
Appendix B. Mapbook Parcel ID Key
Appendix C. MHC Area Forms (Form A)
Appendix D. ~~MHC Historic Archaeological Site Forms (HA Forms)~~Confidential- Redacted

Figures

Figure 1. Overview of Hampshire and Hampden Canal Area through Massachusetts. 2
Figure 2. Remnant canal prism in Segment 2, facing northeast 19

Tables

Table 1. Canal Features Previously Recorded with the MHC 17
Table 2. Remnant Canal Prism and Features Recorded During Reconnaissance 19

This page intentionally left blank.

INTRODUCTION

SWCA Environmental Consultants (SWCA) conducted a background review and an archaeological reconnaissance survey on behalf of the Pioneer Valley Planning Commission (PVPC) as part of an ongoing, multi-town documentation and mapping effort of the Hampshire and Hampden Canal. SWCA completed background research using historical sources, including mapping, previous research, past surveys, and personal communications with informed parties, among other sources, in order to develop a comprehensive documentation of the historic canal route and its associated features, as well as what developments/impacts may have altered its state since its abandonment. SWCA archaeologists conducted a walkover investigation of the length of the canal, excluding areas with restricted permissions and/or safety concerns, conducting surficial presence and condition documentation and GPS point mapping. No subsurface investigations were conducted as part of this effort. In addition, SWCA staff photographed segments of well-preserved canal prism and remnant engineering features as they exist today.

The project area consisted of a 75-foot wide linear corridor covering the historic route of the Hampshire and Hampden Canal. Upon completion, the canal ran approximately 30 miles through Hampshire and Hampden Counties, from the Connecticut border in Southwick to a meander of the Connecticut River in Northampton called "the honey pot" (Figure 1). Six cities and towns were part of this joint effort, all of which contain sections of the original canal route and/or associated feeders. The original route, from south to north, crossed into Southwick, Massachusetts, from Connecticut, before continuing north through Westfield and into Southampton, shifting slightly northeast. The canal route progressed through Easthampton and into Northampton prior to reaching its terminus at the Connecticut River, just north of Elwell Island. Additionally, three feeder canals were documented as they occurred within the state of Massachusetts: the Salmon Brook feeder, located in Southwick; the Little River Feeder, located in Westfield; and the Westfield River feeder, which begins in Russell before emptying into the mainline in Westfield.

This project is a regional, joint venture involving the cooperation and efforts of six cities and towns (Southwick, Westfield, Russell, Southampton, Easthampton, and Northampton) under the stewardship of the PVPC. The PVPC is a consortium of local governments, encompassing 43 cities and towns in Hampden and Hampshire Counties, who jointly, under the provisions of state law, serve to address problems and opportunities that are regional in scope. The Pioneer Valley Planning Commission (PVPC) has been the designated regional planning body for the Pioneer Valley region. SWCA conducted all documentation and recordation of the project area under the guidance of the PVPC Historic Preservation Planner, Shannon Walsh, with recommendations provided by historian Carl E. Walter.

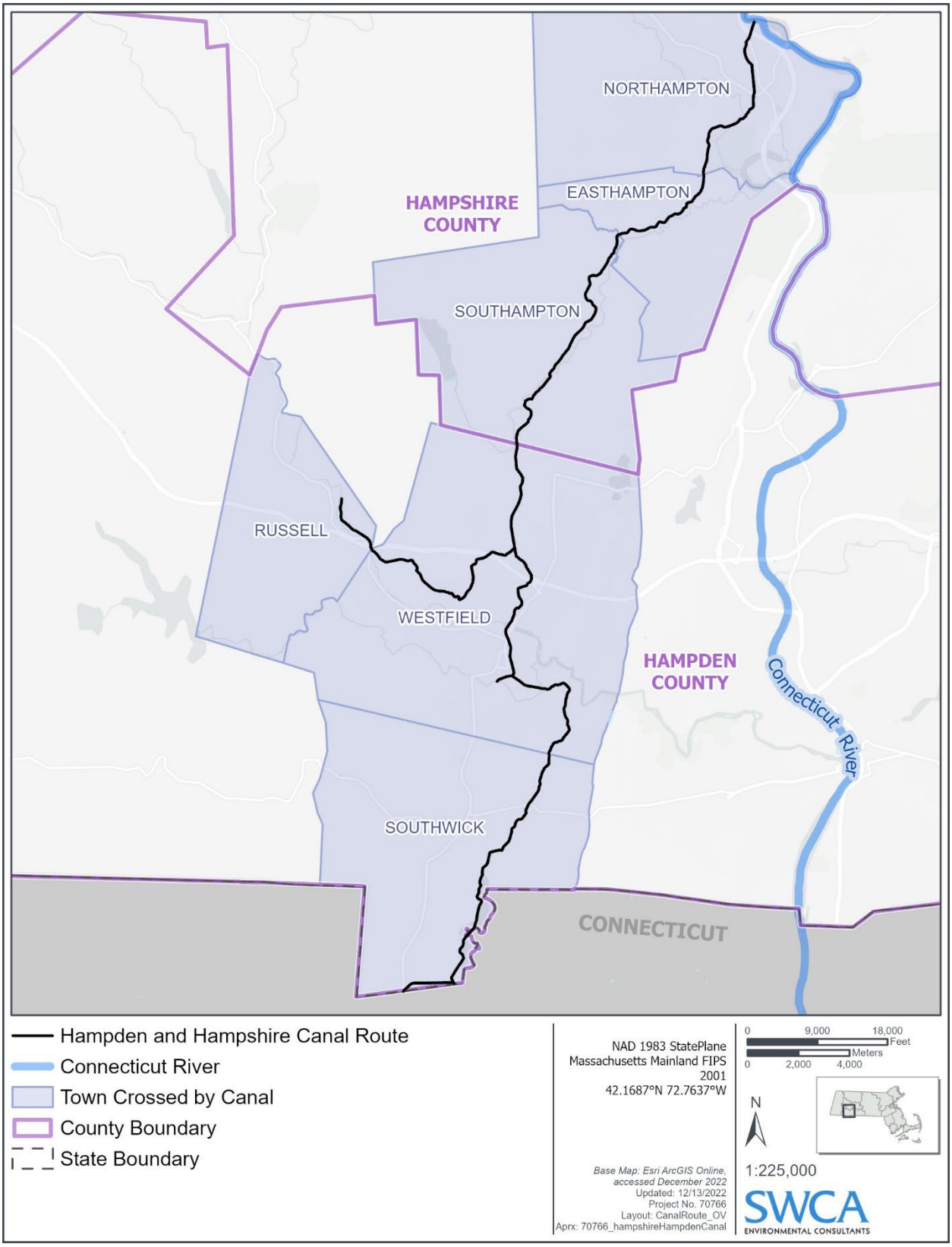


Figure 1. Overview of Hampshire and Hampden Canal Area through Massachusetts.

Scope

In 2003 the Massachusetts Historical Commission (MHC) prepared a comprehensive scope for a survey aimed at collecting information necessary to locate, document, describe, and evaluate NRHP eligibility of the Hampshire and Hampden Canal. MHC's comments were synthesized and incorporated into PVPC's request for a consultant in 2021, with the goal of restarting the documentation project with the tasks listed below.

The project goals for this phase of the Hampshire and Hampden Canal documentation effort were as follows:

- **Task 1**: Background Research and Development of Project Area
    - Using current mapping, historical mapping, LiDAR data, relevant histories and site data, and previously conducted reconnaissance work, develop digital mapping of the approximate, historic canal route (project area) to guide the archaeological reconnaissance survey, as well as determine private parcel ownership to address access permissions.
- **Task 2**: Conduct an Archaeological Reconnaissance Survey of the Designated Survey Areas
    - Conduct a targeted archaeological and structural reconnaissance survey of properties along the entire Hampshire and Hampden County portion of the canal. This runs from the state line south of the Congamond Ponds in Southwick to the Connecticut River in Northampton and includes a feeder line from the Westfield River in Russell. Record current GPS data, photographs, and integrity information.
- **Task 3**: Development of Final Assessor's Parcel Level Canal Mapping
    - Using the field collected data points, in conjunction with available historical resources and LiDAR data, develop a final digital canal map and related map book depicting the historic route of the Hampshire and Hampden Canal as it progresses through the modern landscape. Include current integrity data for reconned segments and engineering features, as well as approximate locations of canal features, plotted using available locational data.
- **Task 4**: Preparation of Area (Priority) and Archaeological Site Forms for Submission to the MHC
    - Based on data collected from the reconnaissance survey and relevant background research, complete six MHC Area Forms (Form A), detailing the canal as it exists in each of the cities/towns in Hampshire and Hampden Counties. Then prepare MHC Historic Archaeological Site Forms (Form D) for priority sites along the canal route. Priority is determined following the completion of the reconnaissance survey. Prepared forms will be submitted to the MHC for inclusion in the Inventory of Historic and Archaeological Assets of the Commonwealth, MACRIS and MHC MACRIS Maps, as applicable.
- **Task 5**: Completion of an Archaeological Survey Report to be provided to the PVPC, Participating Cities/Towns, and the MHC
    - Complete an archaeological survey report, providing a project description, methodologies, survey results, and recommendations related to listing the Hampshire and Hampden portion of the canal in the NRHP, as well as providing recommendations relevant to municipal and regional planning. Final report documents will be submitted to the MHC and PVPC and made available to related project cities and towns.

Project tasks were conducted in anticipation of a potential NRHP nomination, as well as to provide updated mapping and documentation of the remaining structural and archaeological features of the Hampshire and Hampden Canal to be utilized as a planning and development tool for local municipalities.

Regulatory

The Hampshire and Hampden Canal documentation project requires no permitting from local, state, or federal agencies. The project is being administered by the PVPC, in cooperation with the six towns involved, with funding provided at the local level. A portion of the funds supporting this project were received through the Massachusetts Community Preservation Act. The cities of Easthampton, Northampton and Westfield, and the town of Southampton, are funding this work through their Community Preservation Act funds. The project was reviewed by the MHC

SWCA conducts archaeological investigations in compliance with state regulations. State legislation dealing with the protection of historic and archaeological resources includes Massachusetts General Laws Chapter 9, Sections 26- 27C, and the Massachusetts Environmental Policy Act (M.G.L., Chapter 30, amended by Chapter 947 of the Acts of 1977). Projects involving the discovery of human remains or cemeteries are conducted in compliance with M.G.L. Chapter 7, Section 38A; Chapter 38, Section 6; Chapter 9, Sections 26A and 27C; and Chapter 114, Section 17, all as amended. Massachusetts archaeological permit regulations are outlined in 950 Code of Massachusetts Regulations (CMR) 70.00. The products of this project meet the Secretary of the Interior's Standards and Guidelines for Archaeology and Preservation (as amended and annotated). The archaeological reconnaissance survey was conducted under State Archaeologist's Permit No. 4167.

Project Personnel

Christopher Donta, Ph.D., served as Principal Investigator for this project and was the permittee from the MHC. Nadia Waski, M.A., and Zachary Nason completed the background review, archaeological reconnaissance survey, and coauthored the report. Julia Zorn developed the digital mapping, parcel-level map book and completed the graphics for the report. Shannon Walsh is the PVPC Historic Preservation Planner, providing guidance on project goals and facilitated communication with related parties. Carl E. Walter provided recommendations for the research design, contributed valuable background information, and participated in a portion of field reconnaissance. Municipal contacts for the participating towns were as follows: Lee Hamberg in Southwick, Cynthia Gaylord in Westfield, Bruce Cortis in Russell, Bob Kozub in Southampton, Jamie Webb and Michael Czerwiec in Easthampton, and Sarah LaValley in Northampton.

Report Organization

This report is divided into four main sections. Following this introduction is a discussion of the methodology used for this effort. The third section presents the survey results, including the background research and reconnaissance survey. The report concludes with a recommendations section and references cited. Final canal mapping and prepared MHC forms are included in the appendices.

METHODOLOGY

Background Research

A substantial bibliography of canal resources has been developed over the years based on the work of Carl Walter, Michael Raber (2002), PAL's pilot scope and results (PAL 2006, 2008), and interested stakeholders within the six Massachusetts communities. SWCA staff acquired, synthesized, and utilized these documents in preparation of completing the canal's documentation. The culmination of this research

provided the current canal documentation project with a starting point and subsequently assisted in establishing methods.

Prior to research conducted by Carl Walter, there was little documentation on the Massachusetts portion of the canal. The canal's Connecticut portion from Suffield to New Haven was listed in the NRHP in 1985. Walter has been researching the canal for 30 years, working with individuals and historic commissions in all six Massachusetts towns in which the canal was situated. In 2002, Michael Raber conducted a survey to identify and map canal resources in support of an NRHP nomination for the canal (Raber 2002), assisted by Walter. However, mapping of the canal length and its specific structural elements were insufficiently precise enough to support a nomination, leaving too much ambiguity in the location of the canal. In 2007, PAL conducted a pilot project of two small portions of the canal in Southwick and Westfield, to assess how to provide better mapping (PAL 2008). Since the projects of the 2000s, the six Massachusetts towns have worked to develop ways to combine knowledge and efforts to support a single cohesive study of the canal, with the ultimate goal of completing an NRHP nomination for the canal.

SWCA continued background research into nineteenth century historic maps (Walter 2006), photographs, USGS topographic data, GIS data including LiDAR and assessor's parcel information, town reconnaissance and regional reconnaissance information, town histories, and archaeological reports. Numerous reports in the MHC's Inventory discuss small portions of the Hampshire and Hampden Canal encountered during projects over the past 30 years. Most of these refer to small areas of the canal route intersected by a project. However, out of these reports, two focus specifically on the canal. Raber's report (2002) is an overall study aimed at assessing the canal's current condition and mapping its location in support of a National Register nomination. The PAL 2008 report deals with two very small portions of the canal to assess methods for documenting and mapping the canal. SWCA used data from these reports to provide more accurate, parcel-level mapping, and conditional information about the canal route and its associated infrastructure.

SWCA also conducted research at the MHC offices in Boston prior to fieldwork to obtain copies of relevant archaeological forms, reports, and Inventory files. The goal was to assimilate all relevant data to obtain the most accurate mapping possible for the canal route and its associated components, and to support a reconnaissance survey of the route. This research included a study of previous work along the Blackstone and Middlesex Canals to see what methods of recording were used and what proved most successful, and how such could be applied to this survey.

Historic archaeological sites in Massachusetts are numbered according to the town where they are located and the sequence of their inclusion in the state site files, using a three-letter code for the town name. The letter codes for the six towns in this project area are: SOU for Southwick, WSF for Westfield, STH for Southampton, RUS for Russell, EAH for Easthampton, and NTH For Northampton. The first historic archaeological site recorded in Northampton, for instance, is recorded as NTH.HA.1. Records for archaeological resources are available through MACRIS, but only to those approved consultants with research needs regarding archaeology in Massachusetts.

GIS Mapping

As a starting point, SWCA's GIS team used the canal centerline shapefile provided by the Northampton GIS Coordinator James Thompson. Then, using LiDAR-derived digital elevation models, the landscape in the vicinity of that original center line was examined for manmade ditch/canal topography. Following this review, SWCA adjusted the centerline to match the topography more accurately. After that stage, any gaps which remained likely indicated the absence of a distinct canal prism. To fill those gaps in data, SWCA used portions of the Carl Walters map for landscape context and waypoint indications. A

georeferenced version of that map was provided by the Northampton GIS coordinator. The GIS team further refined the missing prism areas by reviewing the aerial imagery for soil staining, which can indicate a filled waterway. In areas that had no geographical indication of the canal's existence, written historic descriptions of the canal's route were relied upon. SWCA then created a coded centerline file indicating the confidence level of each segment's location, which served as a guide for the on-site field reconnaissance.

The field reconnaissance team took on-site GPS data points and photographs to document presence, absence, variations from the estimated centerline, and prism integrity status along all accessible segments of the canal route. Using these GPS data points, in conjunction with the previous LiDAR imagery mapping, the centerline was refined. The 75-foot-wide project corridor was created by adding a 37.5-foot buffer around the established canal centerline, encompassing the width of the typical canal prism and towpath, along with associated engineering features. This corridor was separated into segments determined by the field reconnaissance team, and those segments were assigned status based on their condition at the time of survey, Spring 2022. Remnant or repurposed prism segments have accurate geographical placement. Segments which could not be field verified or contained no surficial traces of former canal engineering were approximated using historical references, topography, and general canal engineering practices, as they could neither be retraced in the field nor using GIS mapping resources.

The locations of specific engineering features integral to canal operations (i.e., locks, aqueducts, culverts, etc.) were approximated on the preliminary pre-field mapping, primarily using the Carl Walter Map (Walter 2006). Distinctions between remnant features, and features which lack surficial evidence, as seen in the parcel-level mapping, were determined by the field-reconnaissance team and were subsequently coded accordingly. Similar to the canal prism segments, remnant engineering features were able to be accurately placed geographically, while the features lacking any surficial indication were approximated using historical resources and the Carl Walter Map.

The Parcel-Level Mapbook (Appendix A) was generated within ESRI's ArcGIS Pro software using the abovementioned location information. Parcel and infrastructure data such as parcel boundaries, roads, and trails were acquired from the MassMapper Interactive Map (MassGIS 2022). For visual clarity, intersected parcels were assigned arbitrary numbers from 1 to 821, which correspond to a separate key indicating the original Parcel ID as it appears on the tax assessor's map (Appendix B).

Archaeological Reconnaissance Survey

Following background research and the development of an approximated canal centerline, SWCA conducted an archaeological reconnaissance survey along the project area from May 9 to 24, 2022. The purpose of this reconnaissance survey was to verify the canal centerline as represented on the original mapping completed by the GIS team, while also assessing the surficial conditions of the canal and determining the presence or absence of canal-related features. No archaeological subsurface testing strategy was implemented as part of this effort. During this field verification process, photographs would be taken representing present conditions of said features.

Field verification points were recorded on a handheld GPS unit and plotted in real-time on ArcGIS field maps. Photographs were also recorded in the field and georeferenced on the same mapping. In the field, only the physical engineering elements were evaluated. While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants may merit the integrity required for listing due to these other contributing aspects.

It was anticipated that portions of the canal would be inaccessible by field crews due to safety concerns and/or restricted access by property owners. Here, along with areas of the former prism lacking surviving surficial indications, the canal mapping utilized historical references, area topography, and a general understanding of the canal engineering to approximate the route between verified points.

Upon completion of the field reconnaissance, the GIS mapping was refined, and MHC Area Forms were completed describing the canal area as it exists within each of the six participating townships (Appendix C).

CONSULTATIONS

Documentation of the Hampshire and Hampden Canal began as a collaborative effort between the PVPC and individual communities of Easthampton, Northampton, Russell, Southampton, Southwick and Westfield, Massachusetts. Project contacts include: Shannon Walsh, PVPC; Carl Walter, lead Hampshire and Hampden Canal historian and expert; Lee Hamberg, Chair, Southwick Historical Commission; Cynthia Gaylord, Chair, Westfield Historical Commission; Bruce Cortis, Town of Russell Historian; Bob Kozub, Chair, Southampton Historical Commission; Jamie Webb, City of Easthampton Planner; Michael Czerwiec, Chair, Easthampton Historical Commission; Sarah LaValley, City of Northampton Conservation and Land Use Planner; and James Thompson, City of Northampton GIS Coordinator.

SWCA participated in numerous virtual calls held between PVPC and project contacts to discuss various stages of progress. Consultation was initiated with the MHC to discuss and develop the most informative, consistent, and thorough methods for documenting the canal. A kick-off meeting with MHC and members of the Hampshire and Hampden Canal team took place on May 3, 2022, to discuss goals of the project and expected deliverables. Information collected from consultation with MHC was incorporated into the canal documentation research design and methodology.

Permission to enter private properties believed to hold canal-related resources were obtained by PVPC on behalf of SWCA. All outreach to landowners was communicated in writing via postcards generated by PVPC and approved by Hampshire and Hampden Canal team members. Language in these mailers explained to property owners that SWCA would be conducting a walkover survey of the former Hampshire and Hampden Canal between the months of May and July 2022. Additional content included an explanation that certain individual's property may contain portions of the canal's path. The card asked for cooperation and allowance of SWCA staff access to the property to gather visual and photographic documentation related to the canal. A list was generated prior to fieldwork of accessible parcels and SWCA attempted to conduct documentation from adjacent public lands, for those individuals who opted out. Additionally, a press release was issued on PVPC's website in April 2022 to connect individuals interested in canal field work to future information about the canal and project.

Throughout the project, SWCA consulted with Carl Walter regarding his personal expertise on the canal's history and location. SWCA utilized his technical drawings and extrapolated surveyor data information to assist with building a field map. Walter joined archaeologists for their first day of canal documentation on May 9, 2022, in Southwick. He provided critical feedback on in-field data collection and facilitated the implementation of methods to enhance canal mapping.

SWCA submitted deliverables to stakeholders for comments, which were then integrated into the final report documents.

SURVEY RESULTS

Background Research

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. The canal operated in its entirety for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety, the Hampshire and Hampden Canal contained 32 lift locks, each measuring 80 feet by 12 feet in the clear, with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet, spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much smaller Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

In 1822, when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977). At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. This would then be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton.

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and drought left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank, with contributions from the surrounding Massachusetts towns, was able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August 30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the company and by the spring of 1841, succeeded Steven Staples as company president. The following 4 years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as company president and was replaced by Henry Farnum, which was the beginning of the end for the canal (Camposeo 1977).

The significant drought of the summer of 1845 rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended, with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

In Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, Connecticut, to Northampton, Massachusetts, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through

Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Southwick

The town of Southwick is located in the Westfield River watershed and was first incorporated as an independent town in 1770. First settled in the late-seventeenth century, the area was given the nickname "Poverty Plains" due to the lack of agricultural success throughout the region, leading settlers to believe the land was infertile. It was not until the early nineteenth century that the town saw an economic and population boom via the area's cultivation of tobacco and the construction of the Hampshire and Hampden Canal through the town (MHC 1982a). Additionally, the successful ice harvesting industry of the nineteenth and early-twentieth centuries provided refrigeration for food storage from New York to Boston. The location of the Hampshire and Hampden Canal through the Congamond Lakes area and along Great Brook had little impact on the town's settlement pattern other than the influx of Irish immigrants due to the necessity for canal diggers. After the abandonment of the canal operation and its replacement by the Canal Railroad, Southwick saw a steady population decline leading into the mid-twentieth century. Development and improvements to local autoroutes and the area's highways brought an influx of commercial business to the region, specifically along Route 10 and Route 202 (MHC 1982a). Despite the growth in commercial business in the twentieth century, the tobacco industry continued to be the town's principal economic staple. Today, Southwick is dominated by residential development and is classified as part of the Springfield, Massachusetts, Metropolitan Area.

The overall economic impact of the Hampshire and Hampden Canal on the town of Southwick is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns, which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. In Southwick, the construction of the canal did, in part, contribute to a period of population growth for the town, the likes of which would not be seen again until the 1920s. The canal's contribution to this growth can be observed through the influx of Irish immigrants into Southwick, many of whom settled in the area as canal builders in the late 1820s (MHC 1982a). The growth of the tobacco and cigar industry were likely beneficiaries of the canal route and subsequent railroad through Southwick in the first half of the nineteenth century. While soils in the area proved poor for growing staple crops, landowners began to realize at the turn of the nineteenth century that it was more than suitable for the growth of certain cash crops, primarily tobacco (MHC 1982a). Southwick and its neighbors soon had a resource with limited means of export. The Hampshire and Hampden Canal, followed by the Canal Railroad, served to facilitate this need and soon Southwick and Westfield had a thriving cigar-making industry and an in-demand commodity. The canal's closure impacted the ability of Southwick to trade and export goods, but only for a limited amount of time, as the Canal Railroad was completed through the town by 1855. Today, the route of the railroad has been converted into recreational trails and areas of the original canal prism can still be observed to the north and south of Congamond Lakes.

Westfield

The city of Westfield is located within the Westfield River watershed and Woronoco Valley. It was incorporated as an independent town in 1669. First settlement of the area occurred in the late-seventeenth century in the form of the Woronoco fur trading station (MHC 1982b). Eventually, the town developed into an important agricultural center during the Colonial Period with farmsteads on the fertile lowlands. Construction of the Hampshire and Hampden Canal in 1826 divided Main Street and reoriented the town center along Elm Street to the northside depot (NRHP 2013). The canal was the transportation innovation of the late eighteenth to early nineteenth century. Powder mills were added onto the previously

established ones from the seventeenth century to supply the blasting powder used for the canal's construction (MHC 1982b). Westfield's population grew as a result of worker needs for construction efforts. An expansion of Westfield Village attracted newcomers and the town saw an influx of Irish immigrants who became canal laborers. The town's thriving commerce was likely directly linked to the canal's opening in 1829. Agricultural traffic to New Haven and other towns along the canal route allowed farmers to deliver their great variety of market produce (NRHP 2013). Formation of the Hampden National Bank and the organization of docks and warehouses followed the canal's opening. The canal's most prosperous period was in the years surrounding 1840. The canal was abandoned by 1845, and following a flood in 1853, the canal company was reorganized as the New Haven and Northampton Canal Company. The canal's route was broadened and replaced by a railroad running north-south from the years of 1855 and 1856. Westfield's Lyman Lewis was closely connected to the canal's reorganization and oversaw freight and passenger traffic at the port (MHC 1982b). Lyman's successor was H.B. Smith, who raised funds for the Western Railroad and had interest in the new Canal Railroad. Smith was nationally recognized for his manufacturing of boilers and iron fences. The H.B. Smith Company is responsible for growing Westfield's industry during the mid-nineteenth century through the acquisition of Samuel F. Gold's patent for hot-air furnaces. Additional facets of Westfield's economy during this time included whipmaking and paper production (MHC 1982b). However, as early as 1855, Westfield led Hampden County in tobacco production, which was a title it retained for much of the remaining century. Whip production peaked in 1915 and new industries of bicycles, automobiles, and textile manufacturing continued to attract laborers. There was an increase in multi-family housing developments along the industrial belt (MHC 1982b).

The early twentieth century brought development and improvements to local autoroutes and the area's highways. After this, there was an influx of commercial business to the region, specifically along the Route 20 axis (MHC 1982b). Westfield has experienced rapid suburban expansion, especially in farmland areas along the Western Avenue axis to the State College campus. The town was re-incorporated into a city in 1920 and is classified as part of the Springfield, Massachusetts, Metropolitan Area. The city's north side primarily consists of warehousing centers for large corporations due to its proximity to interstate highways. South of the Westfield River represents intersecting trends of growth since it is home to Westfield State University and the old downtown business district.

In 1822, the town's citizens voted to approve the construction of the Hampshire and Hampden Canal's Westfield portion. Canal construction began in 1826, and by 1829, the Westfield to New Haven route was opened. The canal link between Westfield and Northampton had been completed by 1835 (MHC 1982b). The former canal route follows the level topography along Great Brook (Southwick), crossing Little River and through Westfield Center, cutting across Main Street, and running between the Mechanic Street Cemetery and Elm Street. It then crossed to the west side of Elm Street, meeting the Westfield River (NRHP 2013). A bridge existed to cross the Westfield River. Upon its divergence from the Westfield River, the canal follows the current route of Pochassic Road, where it spans Moose Meadow Brook via a stone-arch culvert. On the north side of the river, the canal shifts southeast, running roughly parallel to North Elm Street. It then follows northward along Powder Mill Brook to Brickyard Brook along the course of Lockhouse Road and off the canal's main route is an extensive feeder. The Westfield River Canal Feeder ran south along the edge of the Westfield River crossing from Westfield into the town of Russell (Raber 2002).

During construction of the canal, Westfield's population started to change as Irish immigrants were brought in to complete the intense, laborious tasks of digging and masonry work (NRHP 2013). Afterward, these individuals stayed and went on to work for new industries in the town. In the 1820s and 1830s, canal construction and operation in Westfield Center increased residential development on surrounding streets. The new canal introduced a cheaper means of transportation to the town and provided Westfield with a direct route to the coast.

The establishment of industry in the community changed the town's character, shaping it into an industrial hub in the latter part of the nineteenth century. The new industrial base evolved around three primary products: whips, cigars, and paper. Opening of the canal assisted in time to carry farm produce, whips, kegs, and muskets, among other goods, between Northampton and Connecticut, generating business in Westfield Center. A building boom simultaneously occurred in Westfield, with the construction of hotels, taverns, and warehouses. The canal's presence initiated a speculative anticipation that the canal would attract an increase in business. As a result of construction density, Westfield's first fire company and associated equipment were acquired in 1826. The canal's route was repurposed by the Westfield & Northampton Railroad, which passed through the town's center in 1865. The Railroad utilized the canal's route by eventually constructing an elevated berm next to the canal route ca. 1889. It generally followed the route but deviated north and south of the town's center.

Russell

The town of Russell is located in the Westfield River watershed and was incorporated as an independent town in 1792. Settlement of Russell occurred later than its surrounding towns, probably due to the rugged nature of the landscape and the ample farmlands of Westfield and the Connecticut River Valley to the east. Colonial settlers first began establishing roots in in the area by the late-eighteenth century, with the first meetinghouse being constructed at Russell Pond in 1792 (MHC 1982c). Russell saw slow population growth through the first half of the nineteenth century, with limited industrial development encouraging additional settlement. The 1820s saw the construction of the Westfield River Feeder through the eastern portion of Russell, with its headworks constructed just east of the village of Woronoco. By the latter part of the nineteenth century, Russell was becoming an important throughway with multiple turnpikes and highways establishing themselves through the town, connecting the Berkshires to the west to Springfield to the east. This improved transportation network, along with the arrival of the railroad and the paper industry, brought about a population surge not seen in the surrounding mountain towns during this period (MHC 1982c). This growth continued throughout the late industrial period with the construction of a tannery in Russell and the continued development of the areas thriving paper industry. The population boom of the early 1900s began to slow down following the end World War 2 (MHC 1982c). The paper industry continued to be the driving force of the economy through this period up until the closure of the Westfield River Paper Mill in 1994 and the Strathmore Paper Mill in 1999. Following the abandonment of the paper mills, Russell was left without any real industrial or commercial operations. Today, Russell contains mostly residential development and is classified as part of the Springfield, Massachusetts, Metropolitan Area.

In Russell, the construction of the canal had a minimal effect on population and economic growth. While the nearby location of a shipping route to the Long Island Sound probably had a small impact on the import and export of goods for the residents of Russell, the limited industry and agriculture taking place in the township at the time meant there was not a large market to take advantage of the route. The booming paper industry was not established until the second half of the nineteenth century and at that point was shipping goods along the Western Railroad, which was completed through Russell in 1841, and partially utilized the canal's original towpath to lay its tracks (MHC 1982c). Today, that rail line still exists along this route and areas of the original canal prism can still be observed to the east and north of the Westfield River.

Southampton

The town of Southampton is located in the Connecticut River Valley and was first incorporated as an independent town in 1775. It was first settled in the mid-eighteenth century by groups expanding out from the Northampton civic center. Early settlement was established on Town Hill along present-day College Highway, with agricultural development focused along the Manhan River (MHC 1982d). Industrial

development began in Southampton early on with mining operations occurring just west of Lead Mine Road and lumber being produced at multiple sawmills along the Manhan River throughout the eighteenth century, some even predating the establishment of a permanent settlement. Despite this early and rapid industrial development, agriculture within the Manhan River Valley continued to be the town's economic staple throughout the modern day. Mining operations in Southampton continued throughout the early part of the nineteenth century with the addition of sandstone and granite quarrying in the eastern and western parts of town, respectively (MHC 1982d). Sandstone, sourced from these quarries, was used in lock construction along the Hampshire and Hampden Canal (MHC 1982d). Improvement of the Manhan River transportation corridor came in the form of the aforementioned Hampshire and Hampden Canal, which was completed in 1835, subsequently abandoned in 1847, and replaced by the Westfield and Northampton Railroad in 1856. By the twentieth century, most of the town's industrial and manufacturing ventures were abandoned with the closure of the lead mine in 1865. The secondary industrial center in Russellville was also largely abandoned after the formation of three water supply reservoirs in Southampton, the formation of which dried up much of the Manhan watershed, and with it, water sources for many small mills along the river's tributaries (MHC 1982d). The end of manufacturing in Southampton was the primary factor in the town's population decline throughout early twentieth century. A trend that continued up through the 1950s, when suburban development caused an influx of new residents. Today, Southampton contains mostly residential development and agricultural lands, and is classified as part of the Springfield, Massachusetts, Metropolitan Area.

At its inception, the canal was believed to bring trade and market growth to participating towns. When fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. The town of Southampton did see its population spike in the 1830s following a period of canal construction and its initial operation. Similar to Southwick, the canal's contribution to this growth can be observed through the influx of Irish immigrants, many of whom settled in the area as canal builders in the late 1820s (MHC 1982d). During its operation, a secondary development of industrial activity began to establish itself along the route, specifically at East Street and College Highway. This settlement center took the name Lockville due to its location around a series of three canal locks near Lyman Pond (Roberts and Friedberg 2000). When in operation, the canal provided a means of exporting the region's raw materials down to New Haven, while also supplying this part of the interior with finished goods from the south. Regional agriculture, specifically the tobacco industry, was a likely beneficiary of the canal route and subsequent railroad through Southampton during the first half of the nineteenth century. From the development of an industrial village and shipping center around Lyman Pond to the evident expansion of tobacco production, it is clear the canal, at least for a short time, had a positive impact on Southampton. Though the financial burden, frequent delays and stoppages, and development of more efficient shipping/transportation methods likely limited its potential and overall impact. The canal's closure likely impacted the ability of Southampton to trade and export goods, but only for a limited amount of time, as the Canal Railroad was completed through the town by 1855. Today, the route of the former railroad has been largely abandoned and most of the former canal area is in a state of disuse. Lockville has been listed in the NRHP, with the locks and original canal prism still visible throughout this district.

Easthampton

Previously, the lands now comprising Easthampton were the traditional territory of the Nipmuc and their ancestors for many thousands of years. During the Contact Period, these Algonquin-speaking communities were subject to substantial impacts by the influx of European settlement which significantly affected the traditional indigenous lifeway. Historically, the town of Eastampton, originally a part of Northampton, was first settled by these European immigrants in the latter half of the seventeenth century. Situated within the Connecticut River Valley and bordered by Mount Tom, the town of Easthampton was

independently incorporated in 1809. Roughly bisected by the Manhan River, Easthampton had ample waterpower sites through the center of town and provided suitable agricultural land for cultivation. Industrial expansion occurred throughout the nineteenth century, especially around Upper and Lower Mill Ponds (MHC 1982e). The completion of the Hampshire and Hampden Canal and the subsequent railroad further contributed to the growth of industrial enterprises throughout Easthampton, creating an industrial corridor connecting Southampton Center to Northampton. However, following the turn of the twentieth century, manufacturing in the town began to decline, causing massive layoffs and wholesale closures that impacted the local community. Though buoyed slightly by both World Wars, manufacturing in Easthampton would never regain the prominence it had through the previous century. Small agricultural operations and commercial/mercantile business remained the preeminent enterprises in Easthampton. Settlement of the town was focused along Main Street, Union Street, and Cottage Street, the results of which are evident today (MHC 1982e). It was also through the latter portion of the twentieth century where suburban development began to increase, specifically along trolley routes. Increased residential development and urban expansion has caused a revitalization of Easthampton downtown, with agricultural activities still prominent around the Oxbow.

In Easthampton, the construction of the canal likely impacted the growth in regional industry seen during this period; however, no direct correlation could be identified. Button manufacturing was a prominent industry in Easthampton through the first half of the nineteenth century, with Williston Button Works employing a large section of its residents (MHC 1982e). These industrial enterprises likely saw benefits of operating in close proximity to shipping lanes such as the canal. With the operation of the Clapp Tavern during the years of canal activity, it is understood that at least some small mercantile industries grew around and benefited directly from this transportation route. One reason cited for the establishment of Williston Seminary School in Easthampton was its proximity to the canal and the ease of transportation for students (Carroll 1984). While the population of Easthampton grew throughout the first half of the nineteenth century, the gradual increase was likely more related to the industrial growth along the Manhan River and Mill Ponds, for which the canals contributions were likely minimal. Settlement through Easthampton continued to be focused along College Highway, south of the canal route, a trend that existed prior to the canal's construction. As seen in most of the towns through which the canal traveled, the abandonment of the Hampshire and Hampden Canal and subsequent construction of the Westfield and Northampton Railroad in its place proved far more beneficial. Easthampton saw a rapid growth in population and its industrial economy in the latter half of the nineteenth century, a direct result of the introduction of the railroad (MHC 1982e). Today, the former canal route through Easthampton has been largely impacted by erosion and development. Some trace remnants of the canal prism and towpath can still be observed in areas such as, just south of Highland Avenue, paralleling the west side of the Manhan River and north of O'Neill Street, extending to the Northampton border.

Northampton

Northampton is situated within the Connecticut River Valley, with the river itself serving as the town's eastern boundary. Originally part of the Nonotuck Plantation land grant in 1653, Northampton was independently incorporated in 1883. From its inception, Northampton's position on the Connecticut River and at the junction of regional transportation routes made the city an important civic and industrial center in western Massachusetts (MHC 1982f). The abundance of fertile meadowland along the Connecticut River floodplain further reinforced the city as prominent settlement in the valley. By the nineteenth century, the city was well established, having expanded commercial and industrial activity along main street and the Mill River, as well as the completion of the Hampshire and Hampden Canal shipping lane through the town. Northampton continued its expansion through the nineteenth century with the introduction of the railroad, repurposing much of the previous canal route, and the establishment of multiple factory village throughout the town, including at Leeds, Florence, and encompassing the Bay State paper mills (MHC 1982f). Civic and commercial growth would continue into the late nineteenth to

early twentieth century with commercial blocks, a courthouse, a concert hall, railroad stations, a library, hospitals, and Smith College all being constructed. The twentieth century saw continued commercial growth, and as transportation routes were improved and expanded, the introduction of suburban development throughout the city. Today, Northampton is still a cultural center of educational and commercial development, with expanded suburbanization as part of the Springfield, Massachusetts, Metropolitan Area.

In Northampton, the construction of the Hampshire and Hampden Canal did, in part, contribute to a period of population growth for the town, with the population growing by over 25 percent between 1820 and 1830, more than double either decade before or after (U.S. Census Bureau 2020). The expanded trade network allowed by the operation of the Hampshire and Hampden Canal opening exports in the Long Island Sound, likely benefitted the growing tobacco industry in Northampton as well as the burgeoning silk production of the 1830s (MHC 1982f). Northampton silk production was considered one of the most extensive in the union during this period (MHC 1982f). Numerous other industries also grew during this time; however, these other manufacturers expanded significantly more following the closure of the canal and the introduction of the railroad. It was also during the years of canal operation that the factory village at Florence was established, likely in part due to the expanded trade network provided by the canal. The canal's closure impacted the ability of Northampton to trade and export goods, but only for a limited amount of time, as the Westfield and Northampton Railroad was completed through the town by 1856 (MHC 1982f). During the period between the canal's abandonment and the establishment of the railroad, stagnant water in the open prism increased the spread of disease among the residents of town, with groups raising funds to fill watered sections for sanitary reasons, such as near King Street and State Street. Today, the route through Northampton has been largely filled and built over, with much of the former route now home to commercial blocks or city streets. Areas of the original canal prism and locks can still be observed to the north near the route's intersection with the Connecticut River.

Previous Canal Documentation

Prior targeted efforts have been made to document segments of the canal. These include the 2002 Michael S. Raber survey in advance of a proposed NRHP nomination (Raber 2002). A pilot study was conducted in 2008 by PAL, on sections of the canal in Southwick and Westfield (PAL 2008). Extensive research and documentation has been completed by independent scholar, Carl E. Walter, culminating in the production of the Walter Hampshire and Hampden Canal Map (Walter 2006). These previous documentation efforts have been mainly completed independently, either within certain townships or concentrated on specific features or areas.

Summary of Carl E. Walter Research

Independent scholar Carl. E Walter has extensively studied the New Haven and Northampton Canal over a period of more than 20 years. During his research, Walter has walked the former canal route in its entirety on multiple occasions. In doing so, he has not only accumulated a comprehensive knowledge of the canal's history, design, and course, but also a framework of resources and references to which all future nominations should refer.

From this research, Walter has generated hand-drafted technical drawings depicting the canal's course and speculative historic property boundaries (not available to the public at this time); a map of the Hampshire and Hampden Canal on USGS topographic quadrangles, including symbology representing present surficial indication of the canal prism and features (Walter 2006); and a digital program that compiles the documentary items collected over years of study via links embedded in a comprehensive canal map (C. Walters, personal communication, 2022) (not available to the public at this time).

Summary of Raber Associates Report

In 2002, Raber Associates prepared a *Survey and Inventory of the Hampshire and Hampden Canal for a Proposed National Register of Historic Places Nomination* (Raber 2002). Included in this report were a brief engineering and construction summary; a description of the canal route and features; study methodology; mapping, photographs, and descriptions of surficial canal features; and an overview of the proposed historic district boundary and its contents. Survey methodology for this effort relied heavily on previous procedures utilized for the successful nomination of the Farmington Canal in Connecticut to the NRHP.

Completed with the assistance of Carl E. Walter, the Raber study attempted to map the entirety of the canal route and evaluate its eligibility for inclusion in the NRHP district, using the previously successful methodology of the Farmington Canal NRHP nomination. The proposed New Haven and Northampton District was defined in the Raber report as a series of discontinuous canal sections, where "both sides of the prism are substantially intact, visually indicating the full profile as well as the course of the canal; and no later intrusions significantly detract from this visual indication" (Raber 2002:4).

Following the completion of his survey, Raber identified 51 discontinuous sections of canal that conformed to the previously described criteria. Within these sections, Raber also describes 21 remnant engineering features or other structures directly affiliated with canal operation still present along the route.

Summary of PAL Pilot Study

The Public Archaeology Laboratory, Inc. (PAL), drafted a technical memorandum reviewing what would be required to complete a potential NRHP nomination. In this memorandum, PAL reviewed previous canal studies, presented survey methodologies, and divided the scope of work into four phases, of which only Phases I and II were ever completed (PAL 2006). Following this, PAL completed a pilot study of two areas of the former canal route, one approximately 1,300-foot section in Southwick and another approximately 2,100-foot section in Westfield (PAL 2008). This study was conducted with the goal of providing a reliable means for generating parcel-level mapping of the former canal route, as required for an NRHP nomination. Field documentation of visible historic and archaeological features within each of the Pilot Study Areas was conducted in 2007. Alternative survey and mapping approaches were completed at the two study areas.

Summary of Other Contributing Research

A collection of historic maps depicting the Hampshire and Hampden Canal were consulted at various stages of the study to both refine the route mapping and to better contextualize the canal's location, locally and regionally. Some historical resources served to fill gaps in the mapping where surficial traces of the route no longer exist. Some of the referenced maps include Bailey's map of Westfield (Bailey 1875), Beers' Atlases of Hampshire and Hampden Counties (Beers 1870, 1873), Dwight's plan map of Southampton (Dwight 1830), Jocelyn's combined map of the Farmington, and Hampshire and Hampden Canals (Jocelyn 1828), aerial imagery of the Congamond Lakes from 1934, and the plan of Congamond Lakes (Parks 1904).

Additionally, SWCA consulted other regional canal-related NRHP documents to assist in formulating a framework of how to approach this study. These included the *Blackstone Canal Historic District National Register of Historic Places Nomination, Massachusetts* (Adams 1995), the *Middlesex Canal*

Comprehensive Survey Phase IV Survey Report (Adams and Kierstead 1999), and the *Farmington Canal National Register of Historic Places Inventory-Nomination Form* (Raber and Clouette 1984).

Previously Documented Canal Features

The MHC maintains records of these previously documented segments; however, due to the limited details in many of these forms, and/or significant post-recordation alterations to these segments, they serve as only a baseline from which further research was conducted. After review of MHC's Inventory of Historic and Archaeological Assets of the Commonwealth, it was evident that little of the Hampshire and Hampden Canal has been recorded in the form of archaeological sites.

In total, 10 remnant features of the canal are presently on record at the MHC, in the form of Historic Archaeological sites (HA forms), Buildings (numbers below 900), Structures (900 numbers), and Districts (letters) (Table 1). Inconsistency in what type of form should be used for what type of canal feature was an issue addressed during the present survey.

There are three recorded archaeological sites associated with the Hampshire and Hampden Canal. These are the Hampden and Hampshire County Canal site (SOU.HA.5), a 2.4-mile (3.9-km) segment of visible canal prism in northern Southwick; the Feeder Canal site (WSF.HA.4) in Westfield; and the New Haven and Northampton Canal (NTH.HA.14), an isolated segment of canal prism in Northampton. A fourth archaeological site, the New Haven and Northampton Canal, is recorded as a structure (EAH.900) and is a 0.5-mile segment of canal in Easthampton.

Three additional canal engineering features have been recorded as structures. One of the feature locks associated with the canal has been documented as STH.907 (New Haven-Northampton Canal Lock #22 Remnant). Stonework associated with the South Manhan River Aqueduct of the Hampshire and Hampden Canal were repurposed for usage by the railroad and have been documented as the Northampton and Westfield Railroad Bridge (STH.906). A marker was established in 1960 on Main Street in Westfield to commemorate the former site of the Westfield Basin of the New Haven and Northampton Canal (WSF.914).

The Connecticut portion of the New Haven and Northampton Canal was listed in the NRHP in 1985. Part of the intent of Raber's work in 2002 was to develop an NRHP nomination for the Massachusetts portion, but there were some insufficiencies in this data, particularly with reference to the level of accuracy of the mapping. None of the individual components of the Massachusetts portion of the canal are presently listed in the NRHP, although some components have been included as contributing elements in other NRHP districts (STH.90 [New Haven Northampton Canal Storehouse] and STH.907 as part of STH.B [Lockville Historic District], listed in 2001).

Table 1. Canal Features Previously Recorded with the MHC

MHC ID Number	Site Name	Location	Recordation Date	Description	NR Evaluation
SOU.HA.5	Hampden and Hampshire County Canal	Southwick	1981	Approx. 2.5 mi of abandoned canal prism, paralleling Great Brook; recorded as having fair integrity.	Not evaluated
WSF.HA.4	Feeder Canal *(misnomer)*	Westfield	1978	Approx. .6 km of abandoned canal prism with adjacent towpath. Stone abutments from former Little River Aqueduct were also observed.	Not evaluated

MHC ID Number	Site Name	Location	Recordation Date	Description	NR Evaluation
WSF.914	New Haven and Northampton Canal Marker	Westfield	1960	Bronze plaque indicating the former site of the South Basin.	Not evaluated
STH.90	New Haven – Northampton Canal Storehouse	Southampton	1987	Vernacular-style storehouse constructed in 1832 to facilitate the transfer of freight to and from canal boats; converted to residences.	Listed as part of STH.B (Lockville Historic District) in 2001
STH.907	New Haven – Northampton Canal Lock # 22 Remnant	Southampton	1987	Approx. 5 feet by 20 feet of surficial eastern wall from the rebuilt stone-lined chamber of Lock 22; later repurposed as railroad embankment (now abandoned).	Listed as part of STH.B (Lockville Historic District) in 2001
STH.906	Northampton and Westfield Railroad Bridge	Southampton	1987	Railroad trestle supported by dressed stone abutments; stone abutments were repurposed from South Manhan River Aqueduct.	Listed as part of STH.B (Lockville Historic District) in 2001
STH.B	Lockville Historic District	Southampton	1998	Historic district encompassing the area of canal Locks 20, 21, and 22; District includes STH.90, STH.907, STH.906, and a canal prism remnant.	Listed in 2001
EAH.593	n.d. (*Clapp's Tavern & Warehouse*)	Easthampton	1986	Wood-framed, two-story Federal style structure, c. 1810; operated as warehouse and toll collection during canal years.	Not evaluated
EAH.900	New Haven and Northampton Canal	Easthampton/ Northampton	1984	Approx. 1.2 km of abandoned canal prism and towpath stretching into Northampton.	Not evaluated
NTH.HA.14	New Haven and Northampton Canal	Northampton	1974	Approx. 400 m of canal prism including the remnants of Lock 31 and 32.	Not evaluated

Source: MHC (2022).
Note: n.d. = no data

Archaeological Reconnaissance Survey

In May of 2022, SWCA conducted the field reconnaissance survey, during which the majority of the former canal route, from the Connecticut border in Southwick to the Connecticut River in Northampton, was traversed on foot and documented.

During this effort, the canal area was divided into segments based on presence or absence of surficial canal remnants (Figure 2). A third distinction, "Repurposed," was allotted for areas of prism and towpath that have been mostly obscured by subsequent development but where the original design, orientation, and/or course remains discernable. The appearance, approximate dimensions, and present surficial conditions of the canal segments and all canal-related features were recorded, on mapping, in narrative notes, and in tabular format. Representative photographs were also recorded during the effort, the locations of which were also mapped.

Figure 2. Remnant canal prism in Segment 2, facing northeast.

Access to parcels intersected by the expected canal area, as determined by the GIS team's review, was coordinated by the PVPC on behalf of SWCA, with permission notices disseminated specifically in each township by town representatives. Areas in which SWCA was not permitted access, or otherwise posed a safety risk to the field crew, were not field verified and existing centerline mapping was utilized.

In total, 78 remnant canal features were identified during the reconnaissance, 69 along the main line and an additional nine along the three feeder canal routes (Table 2). The present physical condition of these features varies dramatically, with surficial identification of large sections impossible due to numerous factors including but not limited to, erosion, development, filling and leveling, natural phenomena, and removal/destruction. The canal corridor, as depicted, represents the locations of the former canal and its associated features as best can be determined using the available resources and methods. Detailed descriptions of all recorded segments were completed for each town and are located in their corresponding Area Form (Appendix C).

Table 2. Remnant Canal Prism and Features Recorded During Reconnaissance

Feature Name	Segment ID	Location	Description
		Main Line	
Canal Prism and Towpath	1	Southwick	Well-preserved, rail trail occupies former western towpath; prism is watered
Guard Lock	1	Southwick	Visible earthworks with approximately 15 feet of remnant stonework along eastern chamber wall

Feature Name	Segment ID	Location	Description
Canal Prism and Towpath	2	Southwick	Western towpath is identifiable along southern portion of segment, prism is visible, though moderately eroded, watered
Canal Prism and Towpath	4	Southwick	Towpath along western side, visible prism, though partially altered by modern landscaping and erosion
Canal Prism and Towpath	6	Southwick	Section repurposed by modern culvert for Point Grove Road, towpath exists along western bank, but only north of Point Grove Road
Canal Prism and Towpath	10	Southwick	Visible prism segment with western towpath
Lock 2	10	Southwick	Surficial earthworks from original chamber and southern gate sill
Lock 3	10	Southwick	Surficial earthworks from original chamber
Lock 4	10	Southwick	Only southern half of original lock earthworks is visible; northern portion altered by landscaping efforts
Canal Prism and Towpath	12	Southwick	Towpath extant along western embankment heading north to location of change-over bridge where it shifts to the eastern embankment, relatively well-preserved
Lock 6	12	Southwick	Surficial earthworks with some areas (approximately 50 feet) of visible stonework from original canal chamber repairs; northern gate and end of lock has been moderately eroded by Great Brook associated wetland
Change-over bridge	12/13	Southwick	Bridge abutment earthworks remain extant, with spilled stone in prism center from original stone construction
Canal Prism and Towpath	13	Southwick	Towpath extant along eastern embankment heading north, relatively well-preserved
Lock 7	13	Southwick	Well-preserved lock features, last remaining lock feature reflecting original timber-lined chamber construction; earthwork remained visible throughout, original stone headers can also be observed, with some timber preservation
Canal Prism and Towpath	15	Southwick	Meandering segment with evidence of embankments and eastern towpath; well-preserved
Canal Prism and Towpath	17	Southwick	Original eastern towpath presently utilized as Department of Public Works (DPW) access road (Canal Road)
Canal Prism and Towpath	19	Southwick	Original eastern towpath presently utilized as DPW access road (Canal Road)
Canal Prism and Towpath	20	Southwick	Partially altered, western portion of prism has seen filling from adjacent residential development; original eastern towpath presently utilized as DPW access road (Canal Road)
Canal Prism and Towpath	22	Southwick	Towpath identifiable, shifts from eastern embankment to western embankment in the vicinity of aqueduct, no evidence of a change-over bridge.
South Great Brook Aqueduct	22	Southwick	Originally spanned approximately 30 feet, remnant stonework from abutments is visible, spilled stone original piers can also be seen deposited in waterway
Potential Basin	22	Southwick	Possible turn-around basin location, semi-circle earthworks can be seen just outside southern gate of Lock 8

Feature Name	Segment ID	Location	Description
Lock 8	22	Southwick	Chamber earthworks remain, some degradation along the chambers eastern wall; no visual evidence of stonework or timbers and neither do the northern and southern sills
Canal Prism and Towpath	24	Southwick	Repurposed by DPW road; roadway runs within former prism with towpath along western embankment
Canal Prism and Towpath	26	Southwick/ Westfield	Repurposed by DPW road; roadway runs within former prism with towpath along western embankment
Canal Prism and Towpath	28	Westfield	Repurposed as roadside drainage with Shaker Road running along western embankment; towpath now to the east, former change-over bridge probably existed in Segment 27; however, no surficial evidence was located
Canal Prism and Towpath	29	Westfield	Altered portions of the eastern towpath cut out for trail access; modern two-track runs through the prism
Canal Prism and Towpath	30	Westfield	Well-preserved, two-track runs through prism
Canal Prism	31	Westfield	Partially altered segment, eastern towpath removed by residential development, but remainder of original prism is identifiable
Canal Prism and Towpath	33	Westfield	Partially altered segment, eastern towpath removed, remainder of original prism identifiable; Small section within Segment 33 was Not Field Verified due to access restrictions
Canal Prism and Towpath	34	Westfield	Towpath along eastern embankment
Canal Prism and Towpath	36	Westfield	ATV trail along interior of prism; towpath remains visible along northern side of prism
Little River Aqueduct	36	Westfield	Some stonework from the original eastern abutment remains, western landing not visible; very little surficial evidence of this feature remains
Canal Prism and Towpath	37	Westfield	Partially altered, prism is significantly wider than original dimensions due to erosion
Canal Prism and Towpath	42	Westfield	West embanking cut into natural hillslope, with visible eastern towpath, moderate erosion has widened original channel
Canal Prism and Towpath	44	Westfield	Surficial evidence of eastern towpath; section is watered from Arm Brook Reservoir
Lock 15	44	Westfield	Earthworks remain, narrowed chamber visible; northern and southern sill have been eroded by small stream which flows through the canal. Some spilled stone can be seen in stream, unsure if related to original chamber stonework
Canal Prism and Towpath	45	Westfield	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed; partially filled, with sections of the western embankment likely removed by railroad construction
Canal Prism and Towpath	46	Westfield	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed
Canal Prism and Towpath	47	Westfield	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed; some sections of the western embankment not visible

Feature Name	Segment ID	Location	Description
Canal Prism and Towpath	48	Westfield	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed; partially filled, with sections of the western embankment not visible
Canal Prism and Towpath	50	Westfield	Surficial evidence of embankments and channel; some erosion from adjacent agricultural activities
Canal Prism and Towpath	52	Westfield/ Southampton	Repurposed by subsequent railroad (now abandoned), Root Road built upon original eastern towpath
Canal Prism and Towpath	53	Southampton	Repurposed by subsequent railroad, towpath switches from eastern bank to western bank most likely within this segment
Canal Prism and Towpath	54	Southampton	Relatively well preserved, western towpath observable.
Canal Prism and Towpath	56	Southampton	Visual evidence of prism, north end has railroad along original western towpath
Lock 21	57/58	Southampton	Partially altered earthworks, southern portion has been washed-out but northern half and northern sill earthworks remain identifiable
Canal Prism and Towpath	58	Southampton	Railroad transitions from western towpath into original prism
Canal Prism and Towpath	59	Southampton	Repurposed subsequent railroad, with tracks running through original prism and lock feature
Lock 22	59	Southampton	Well-preserved, visible stonework chambers eastern wall; original chamber was timber construction later rebuilt with stone
Canal Storehouse	59	Southampton	Constructed in 1832 to operate as a goods storehouse and tolls collection; Presently utilized as apartments
Canal Prism and Towpath	60	Southampton	Visible canal prism and towpath
South Manhan River Aqueduct	60	Southampton	Stone abutments were repurposed for railroad trestle (now abandoned), evidence of stonework remains
Canal Prism and Towpath	61	Southampton	Repurposed by subsequent railroad, towpath along eastern embankment
Canal Prism and Towpath	63	Southampton	Railroad along former eastern towpath
Canal Prism and Towpath	65	Southampton	Identifiable eastern towpath
Canal Prism and Towpath	67	Southampton	High banks through this stretch, visible eastern towpath
Canal Prism and Towpath	69	Southampton	Some minor impacts from agricultural usage, prism and towpath remain discernable
Canal Prism and Towpath	71	Southampton	Reclaimed by natural drainage, original earthworks remain identifiable
Canal Prism and Towpath	73	Southampton	Some erosion, channel has high banks through section; eastern towpath
Canal Prism and Towpath	75	Easthampton	Approximately 210 feet of remnant prism surrounded by areas of significant washout
Canal Prism and Towpath	77	Eastampton	Fragmented prism, agricultural activities has significantly impacted former channel and western embankment, eastern embankment remains prominent through most of segment

Feature Name	Segment ID	Location	Description
Clapp's Tavern and Warehouse	77	Easthampton	Wood-framed, two-story Federal style structure, c. 1810
Canal Prism and Towpath	78	Easthampton	Eastern towpath visible
Canal Prism and Towpath	80	Easthampton/ Northampton	Eastern towpath now utilized as walking trail
Canal Prism and Towpath	84	Northampton	Former eastern towpath contains rail trail
Canal Prism and Towpath	90	Northampton	Visible canal prism and towpath
Lock 31	91	Northampton	Stonework from original construction can be observed here, although surrounding earthworks have largely eroded
Canal Prism and Towpath	92	Northampton	Watered; reclaimed by Slough Brook
Lock 32	92	Northampton	Stonework along eastern and western walls can be observed, with earthworks remaining around most of the chamber, northern and southern sills also partially visible.
Salmon Brook Feeder			
Feeder Canal Prism	A-2	Southwick	Constructed in 1830, segment contains visible prism with east and west embankment
Little River Feeder			
Feeder Canal Prism	B-2	Westfield	Small segment; moderately eroded, but remains identifiable
Westfield River Feeder			
Feeder Canal Prism	C-1	Russell	Evidence of original northern terminus altered by Westfield River; parallel railroad
Feeder Canal Prism	C-4	Westfield	Prism presently utilized by logging access road
Feeder Canal Prism	C-6	Westfield	Runs along hilltop, partially visible prism with both embankments
Moose Meadow Brook Culvert	C-6	Westfield	Discernable stone abutment at eastern landing, with additional scattered stone along the brook's western bank
Feeder Canal Prism	C-7	Westfield	Altered segment, western embankment has been impacted by residential development
Feeder Canal Prism	C-9	Westfield	Relatively well-preserved segment
Feeder Canal Prism	C-11	Westfield	Surficial evidence of prism

SUMMARY OF WORK

In all, SWCA field staff were able to conduct a walkover reconnaissance of roughly 90 percent of the former Hampshire and Hampden Canal. SWCA GIS personnel used this collected field data, in conjunction with historical mapping and references, as well as the Walter Map (Walter 2006) to accurately depict the former canal's course, on parcel-level mapping, as it operated through

Massachusetts. During this effort, SWCA staff assessed the surficial conditions of the canal as it exists on the landscape today. MHC Area Forms were also completed as part of this study, describing the canal area within the bounds of each of the six townships, the route's impacts on the towns individually, as well as detailing the physical presence canal engineering had, and still has, on the land (MHC ID# RUS.H, STH.F, SOU.C, EAH.T, NTH.AL, and WSF.O). Segments and features lacking any present surficial indications were plotted as best could be determined using the available resources and methods, including historical resources, previously conducted studies, Carl E. Walter's extensive canal research, and a general understanding of canal engineering practices.

One thing that was evident following the field reconnaissance was the amount of degradation that has occurred since the Raber Associates survey. Areas of canal prism described in the Raber report as being relatively well-preserved or clearly identifiable upon walkover were either significantly altered by erosion and natural phenomena or, in some instance, obscured. Newer developments have been constructed along major transportation routes through many of the participating townships as populations grow and urban centers expand, with many of these routes located on the periphery of the former canal area, directly or indirectly effecting its preservation.

Following the completion of the GIS map review and field verification, 78 remnant canal segments and/or features were recorded and mapped, with others lacking any remaining surficial remnants plotted using other means. In all, approximately 34 percent of the original canal prism contains surficial remnants still identifiable today, with the remaining 66 percent being a combination of altered or obscured by post-canal impacts (46%), repurposed by subsequent engineering (9%), or not field verified (11%). Of the original 32 canal locks and two guard locks, 12 still contain surficial, identifiable traces of the former engineering. Surficial evidence of the majority of the 12 original aqueducts and culverts constructed to ferry the canal over larger waterways have been completely removed, with much of the stone used in their construction repurposed for subsequent engineering efforts. In terms of other remnant canal-related features documented during the course of this survey, only abutments of a former towpath change-over bridge and the eroded earthworks of a potential basin in Southwick were observed. In addition to the above-mentioned engineering features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Massachusetts, any surficial evidence of which has since been altered/obscured.

The Hampshire and Hampden Canal Area is significant on the local, state, and national level, being eligible for listing, in its entirety, in the NRHP under criteria A, C, and D. Under Criteria A and C, the Hampshire and Hampden Canal Area reflects engineering design, economic efforts, and industrial and transportation improvements undertaken during the Canal Era (c. 1800–1850) of the northeastern United States and further exacerbated by the success of the Erie Canal, completed in 1825. The canal area embodies the entirety of the engineering endeavor that was the Hampshire and Hampden Canal whose individual components may lack distinction independent of the whole. The area also reflects the widespread enthusiasm for canal construction seen during the titular Canal Era. Under Criteria D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and as of yet unrecorded archaeological components extant below the ground surface. These undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

FUTURE RECOMMENDATIONS

While this effort assessed the surficial presence, or lack thereof, of canal engineering features along the former route, further research will be required to ascertain the integrity of certain segments or features as defined by the National Park Service in *How to Apply the National Register Criteria for* Evaluation (National Park Service 1990). The present project includes extensive historical research and provides accurate mapping and field data on the present condition of the canal, with an initial statement of significance. We anticipate that additional work will be needed to complete the NRHP nomination. This next step will need to explore the canal's impact and design within the context of the greater Canal Era of the northeastern United States, as well as describe the significance of the entire endeavor in both its engineering scope and socioeconomic impacts on the region. It is also recommended that a finalized list of all potential areas, properties, and archaeological sites contributing to the proposed district be compiled and evaluated using defined NRHP selection criteria.

REFERENCES CITED

Adams, Virginia H.
1995 *Blackstone Canal Historic District National Register of Historic Places Nomination, Blackstone, Millville, Uxbridge, Worcester, Massachusetts.* On file, MHC, Boston.

Adams, Virginia H., and Matthew A. Kierstead
1999 *Middlesex Canal Comprehensive Survey Phase IV Survey Report. PAL Report No. 0989 submitted to the Middlesex Canal Association.* On file, MHC, Boston.

Bailey, O. H.
1875 *Westfield 1875.* O.H. Bailey & Co., Boston, Massachusetts.

Beers, F.W.
1870 *Atlas of Hampden County, Massachusetts.* F.W. Beers and Company, New York, New York.

1873 *Atlas of Hampshire County, Massachusetts.* F.W. Beers and Company, New York, New York.

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Carroll, William F.
1984 Documentation of the New Haven and Northampton Canal in Easthampton EAH.900. *Form F – Structure*. On file with the MHC, Boston.

Dwight, Justus
1830 *A Plan of Southampton, Hampshire County, Massachusetts.* Massachusetts Historical Survey.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Jocelyn, Nathaniel
1828 *Map Exhibiting the Farmington, and Hampshire & Hampden Canals: together with the line of their proposed continuation through the Valley of the Connecticut River to Canada.* N. & J. J. Jocelyn, New Haven.

Massachusetts Historical Commission (MHC)
1982a *MHC Reconnaissance Survey Town Report: Southwick.* MHC, Boston.

1982b *MHC Reconnaissance Survey Town Report: Westfield.* MHC, Boston.

1982c *MHC Reconnaissance Survey Town Report: Russell.* MHC, Boston.

1982d *MHC Reconnaissance Survey Town Report: Southampton.* MHC, Boston.

1982e *MHC Reconnaissance Survey Town Reports: Easthampton.* MHC, Boston.

1982f *MHC Reconnaissance Survey Town Reports: Northampton.* MHC, Boston.

2021 *Bibliography of Archaeological Survey & Mitigation Reports: Massachusetts.* Massachusetts Historical Commission, Boston, Massachusetts.

2022 *Inventory of Historic and Archaeological Assets of the Commonwealth*. On file, Massachusetts Historical Commission, Massachusetts Archives Building, Boston. Also available at: http://maps.mhc-macris.net/. Accessed 2022.

MassGIS (Bureau of Geographic Information)
2022 MassGIS Data: Property Tax Parcels. Available at: https://www.mass.gov/info-details/massgis-data-property-tax-parcels#downloads-. Accessed August 2022.

National Park Service
1990 *National Register Bulletin—How to Apply the National Register Criteria for Evaluation.* U.S. Department of the Interior, National Park Service, Cultural Resources, National Register of Historic Places, History and Education, Washington, D.C.

National Register of Historic Places (NRHP)
2013 Westfield Center Historic District, Westfield, Hampden County, Massachusetts. National Register #13000441.

Parks, Oren E.
1904 *Plan of Congamond Lakes & Vicinity, Southwick, Mass., & Suffield, Conn. showing properties of The Congamond Ice Company of New York City.* Westfield, Massachusetts.

Public Archaeology Laboratory, Inc. (PAL)
2006 Technical Memorandum: New Haven and Northampton Canal, Southwick, Westfield, Southampton, Easthampton, Northampton, and Russell, *Preliminary Scoping for Pilot Study*. PAL NO. 2017. On file, MHC, Boston, Massachusetts.

2008 *Phase I and II Products – Pilot Study Areas, New Haven and Northampton Canal, Southwick and Westfield, Massachusetts*. On file, MHC, Boston, Massachusetts.

Raber, Michael S.
2002 *Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination*. On file MHC, Boston.

Raber, Michael S., and Bruce Clouette
1984 *Farmington Canal National Register of Historic Places Inventory–Nomination Form*. On file Connecticut Historical Commission, Hartford.

Roberts, Norene A., and Betsy Friedberg
2000 *Lockville Historic District National Register Nomination.* On file, MHC, Boston.

U.S. Census Bureau
2020 U.S. Decennial Census Data. Available at: https://data.census.gov/cedsci/table. Accessed November 2022.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file, Connecticut Historical Society, Hartford.

APPENDIX A

The Hampshire and Hampden Canal Parcel-Level Map

COLLEGE HIGHWAY

HAMPDEN COUNTY

SOUTHWICK

Palmer Brook

277

279

280

278

265

267

266

Page 2

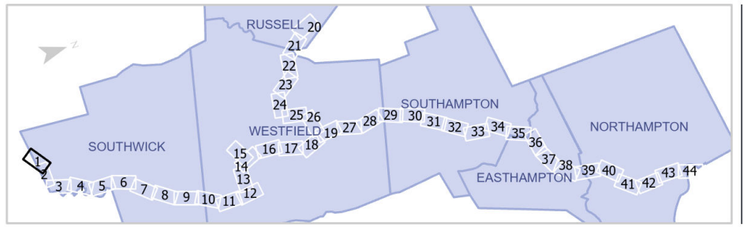
Segment A-1

Segment A-2

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0015°N 72.7922°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet

0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Palmer Brook

Palmer Brook

265

266

267

264

263

262

261

Segment 2

Segment 1

Page 3

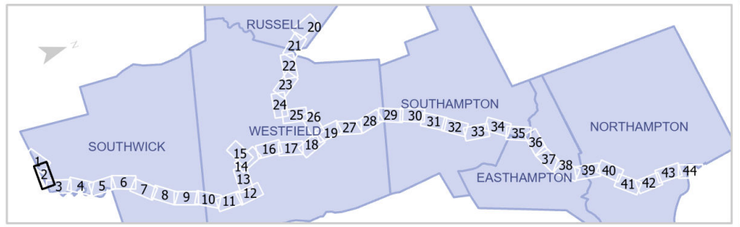
Page 1

SOUTHWICK HAMPDEN COUNTY

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.003°N 72.7802°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

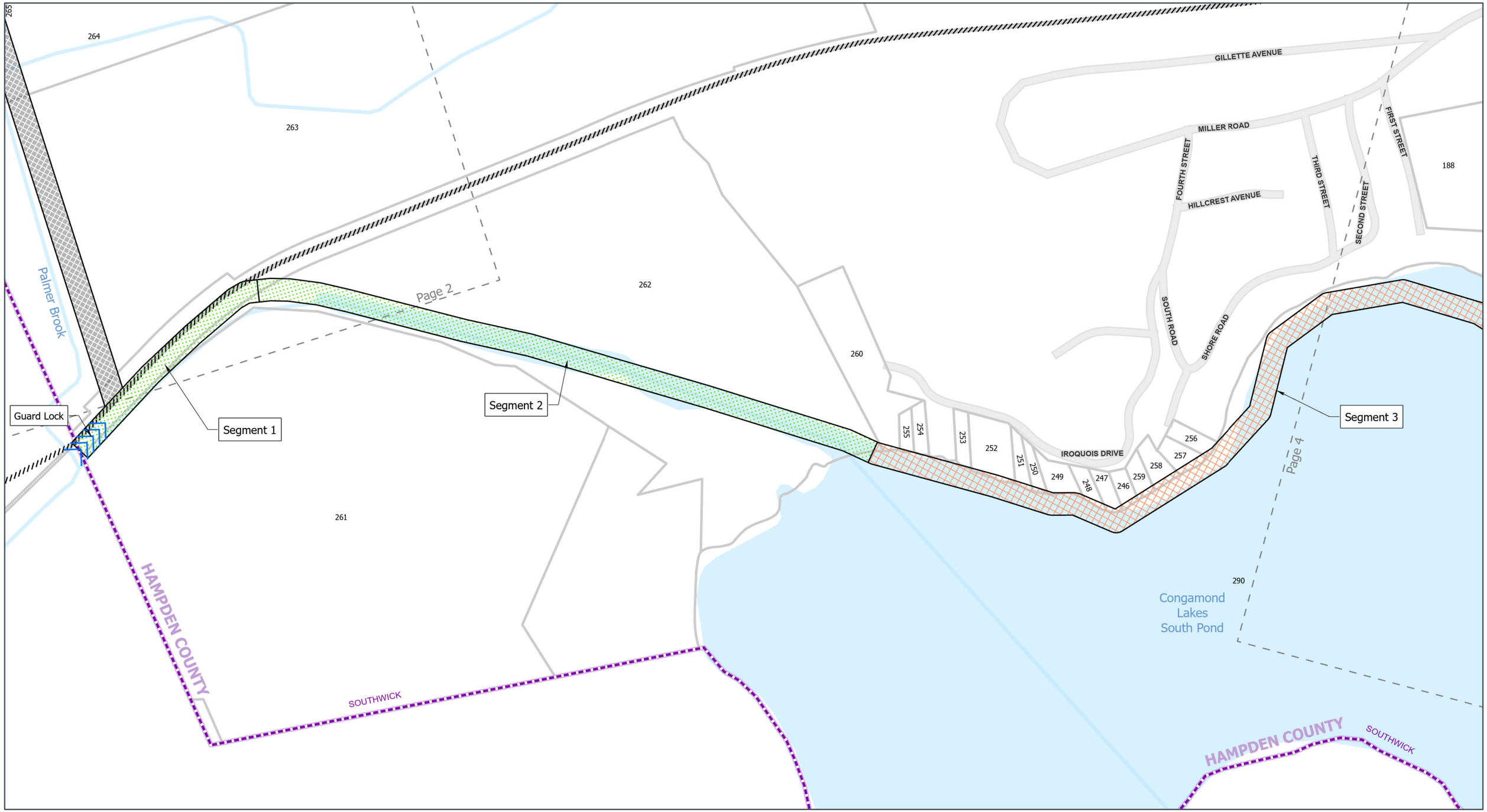
0 140 280 Feet

0 30 60 Meters

1:3,600

N

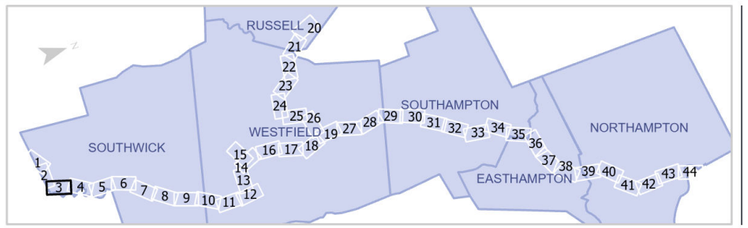
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane
Massachusetts Mainland FIPS
2001
42.0088°N 72.769°W

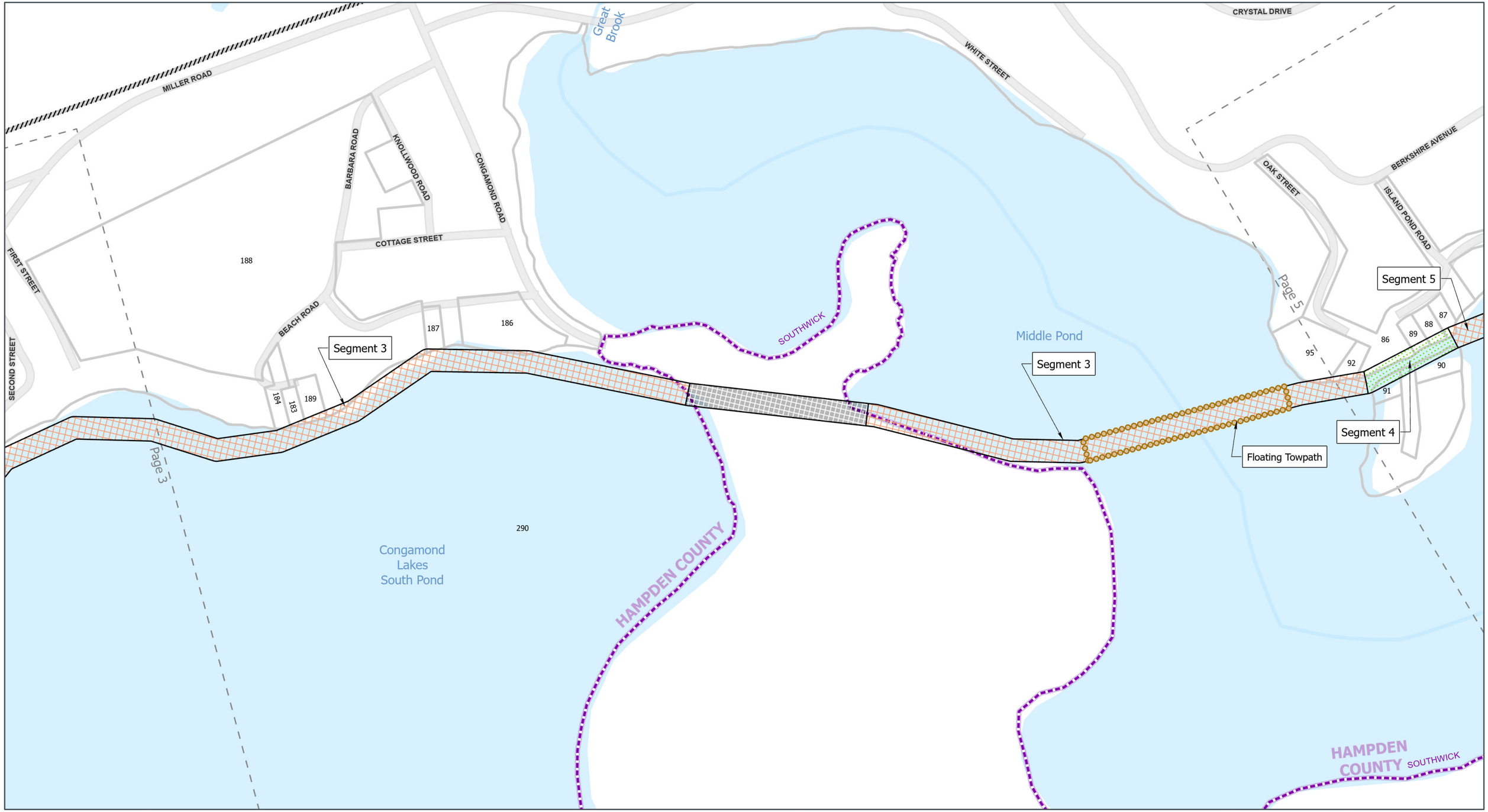
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

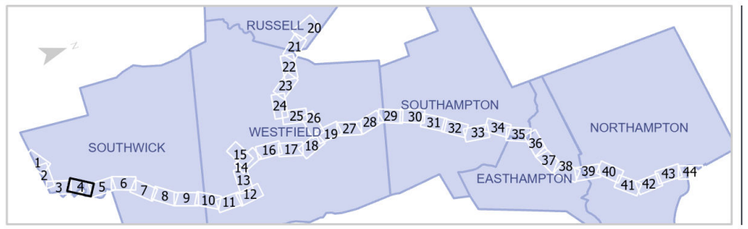
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0203°N 72.7642°W

1 inch equals 300 feet

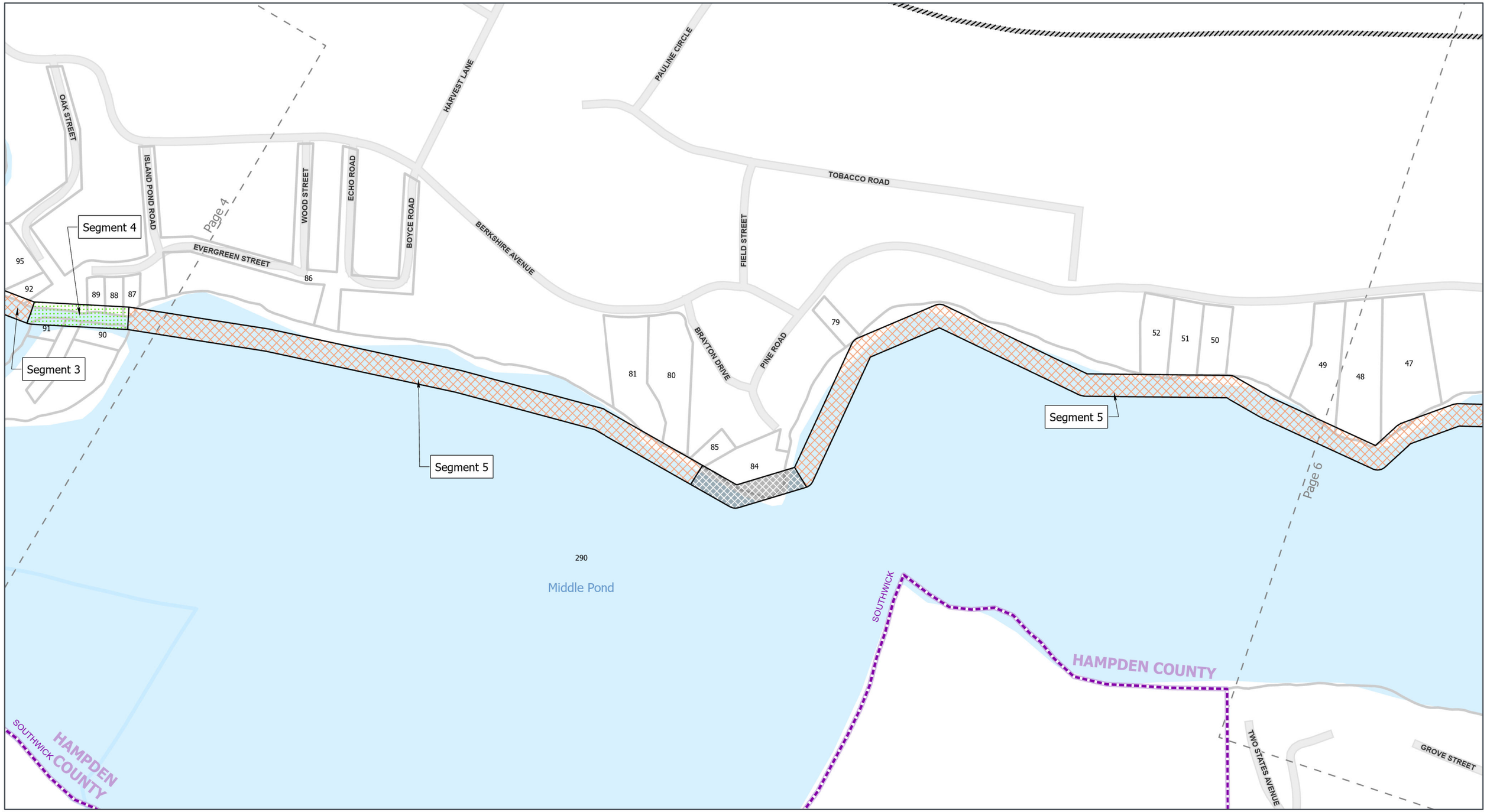
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

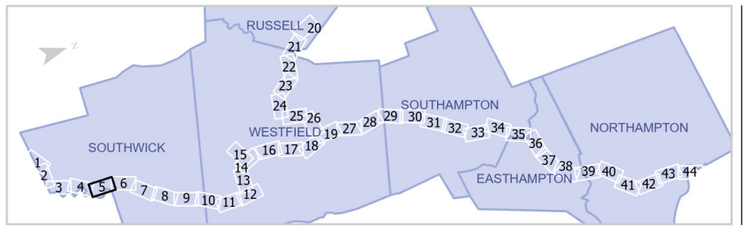
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0319°N 72.7594°W

1 inch equals 300 feet

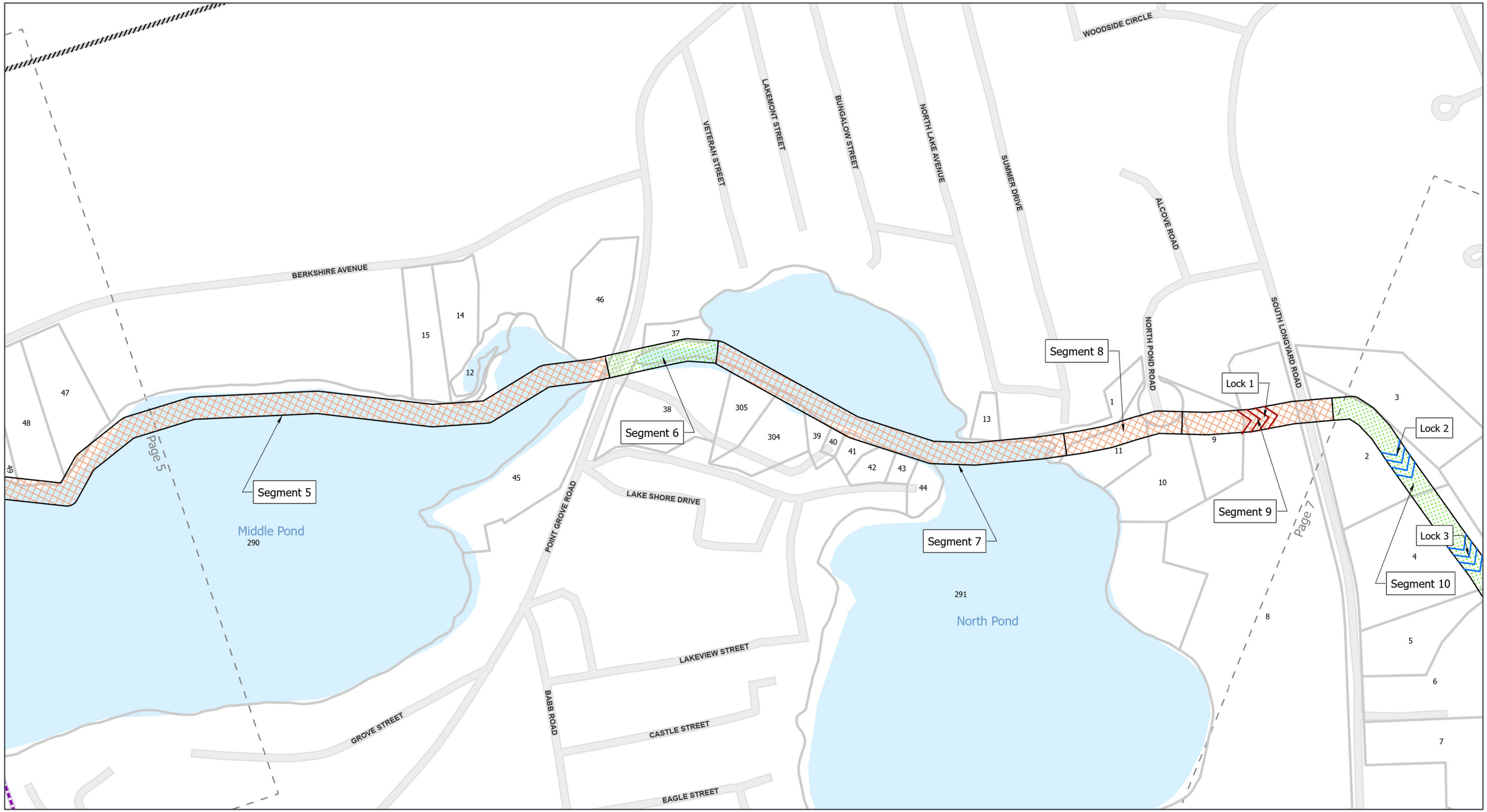
0 140 280 Feet

0 30 60 Meters

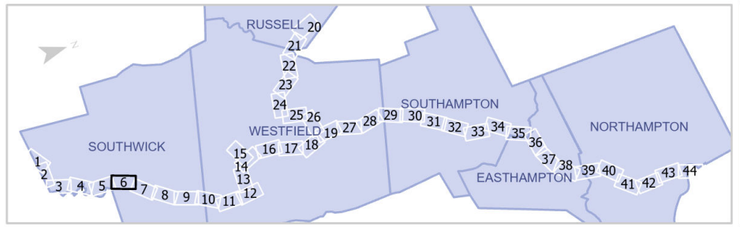
1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

SWCA ENVIRONMENTAL CONSULTANTS



- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



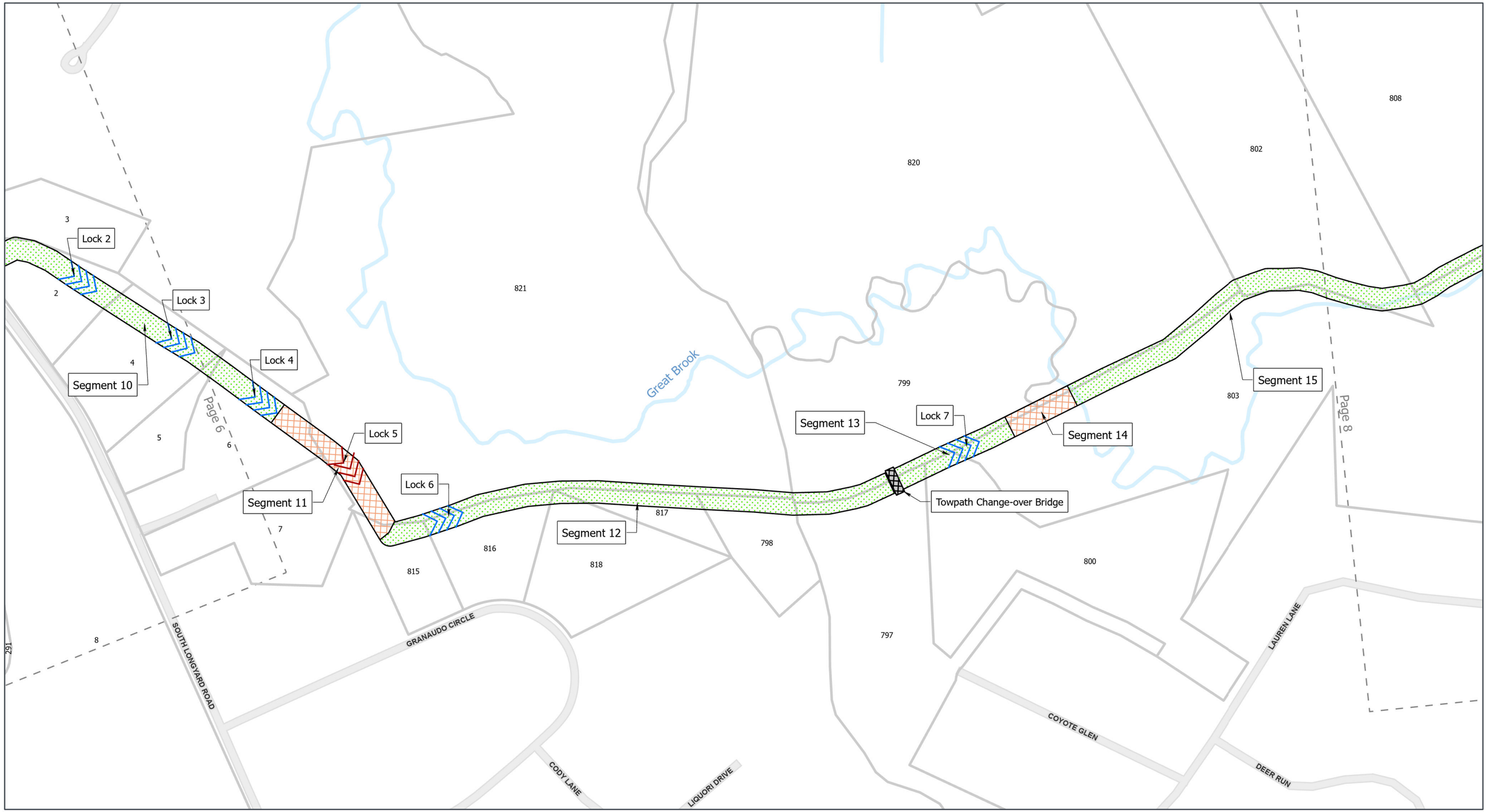
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0439°N 72.7571°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

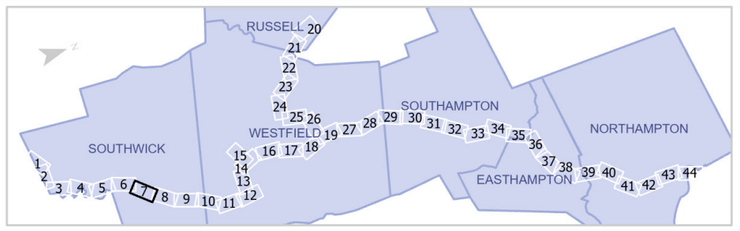
1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS



- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



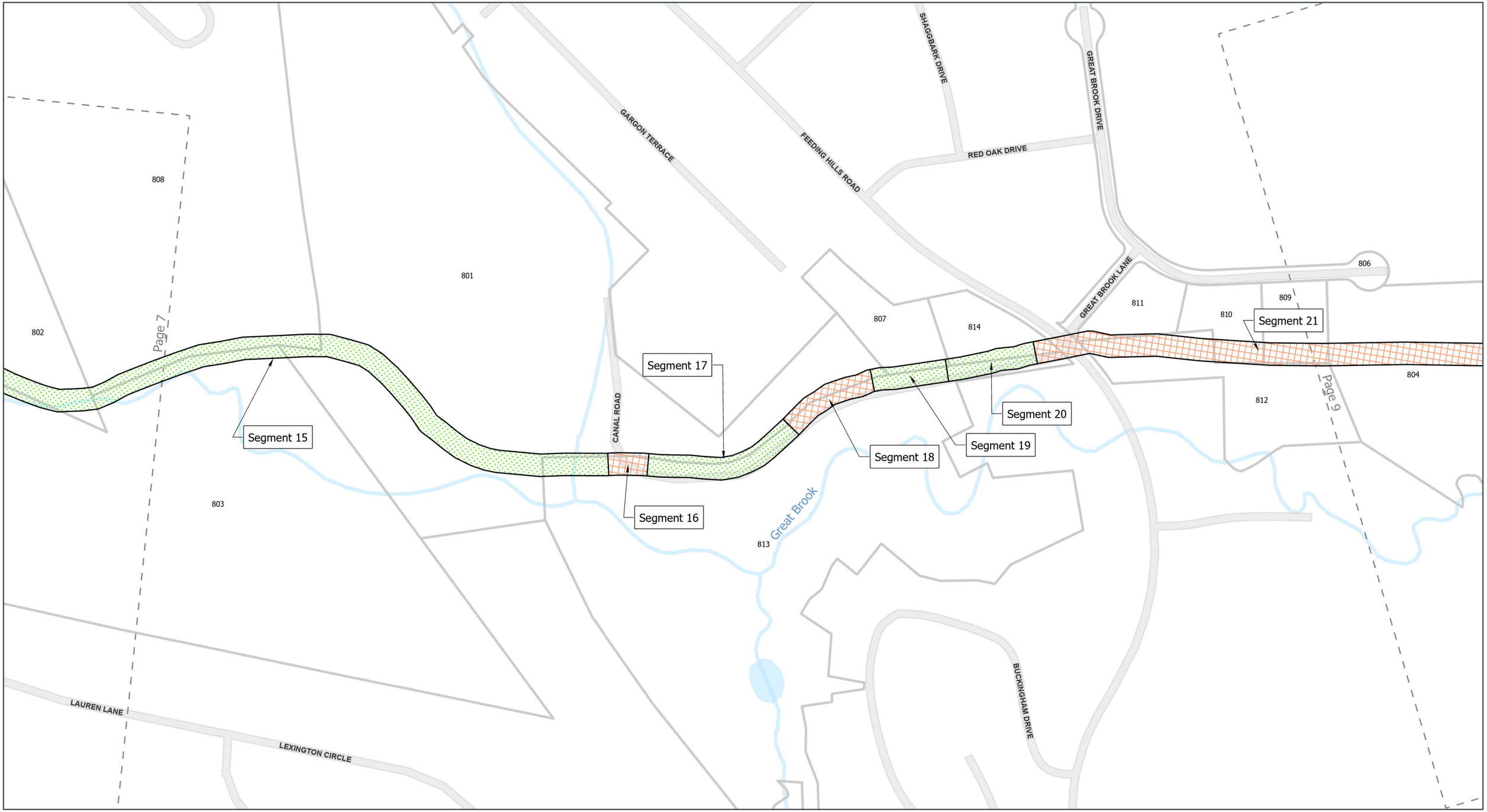
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0533°N 72.7474°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

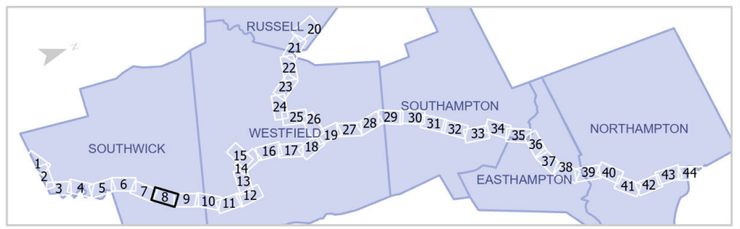
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0636°N 72.7385°W

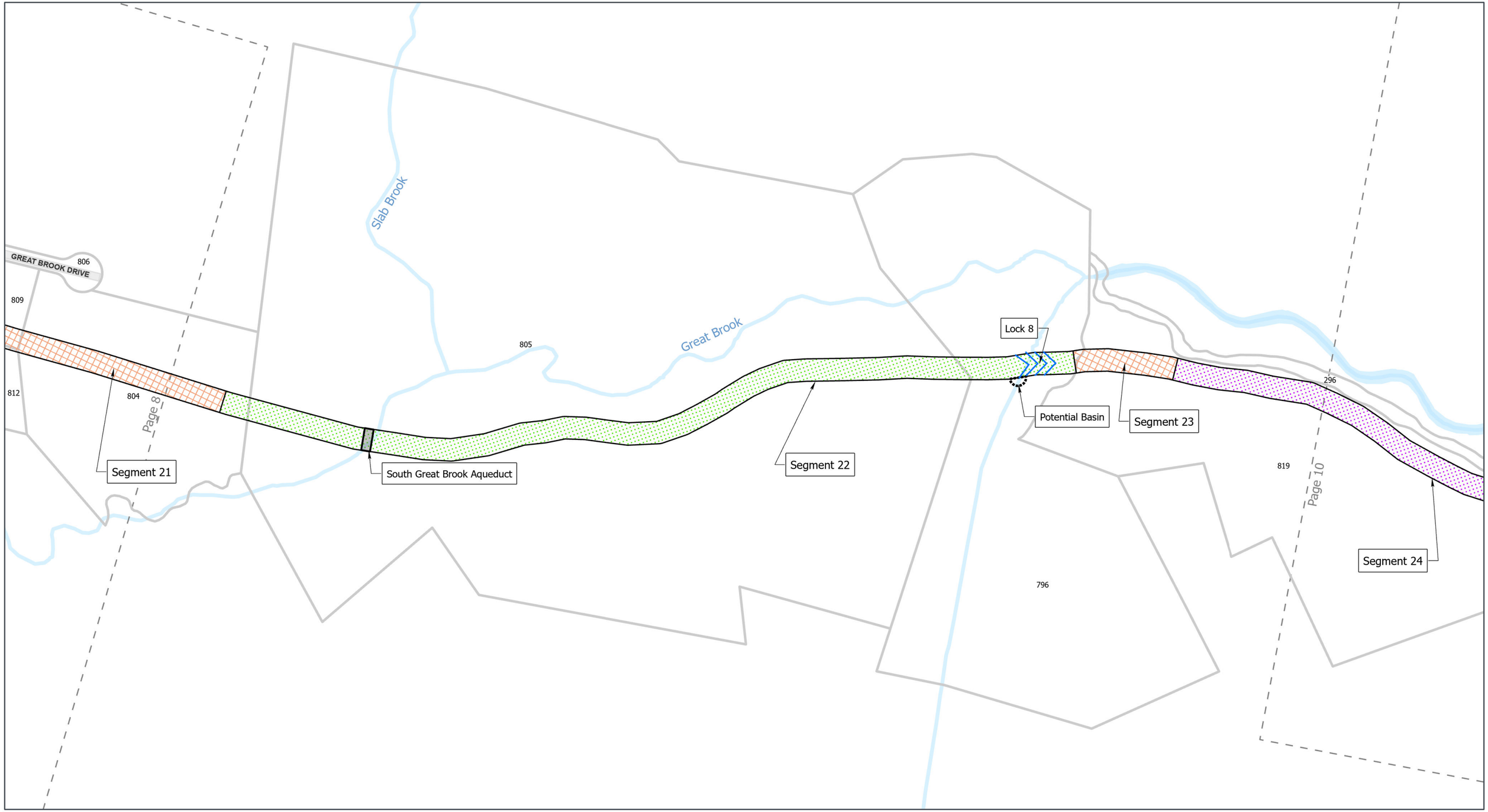
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

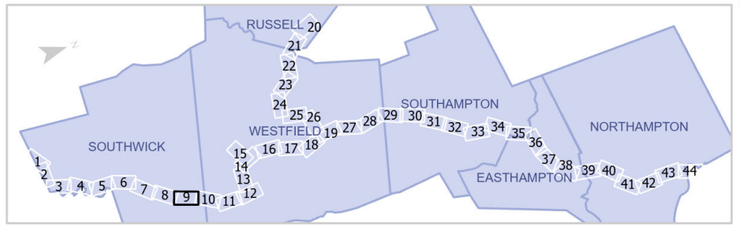
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0744°N 72.7314°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Kellog Brook

Kellog Brook

Great Brook

SHAKER ROAD

ZEPHYR DRIVE

GLENWOOD DRIVE

Segment 27

Lock 9

Segment 26

Segment 24

Segment 25

Segment 28

North Great Brook Aqueduct

Segment 29

Segment 30

Page 9

Page 11

WESTFIELD

SOUTHWICK

CANAL DRIVE

LARO ROAD

LARO CIRCLE

CRESCENT CIRCLE

296

819

24

26

22

19

27

23

25

16

17

33

18

21

30

31

28

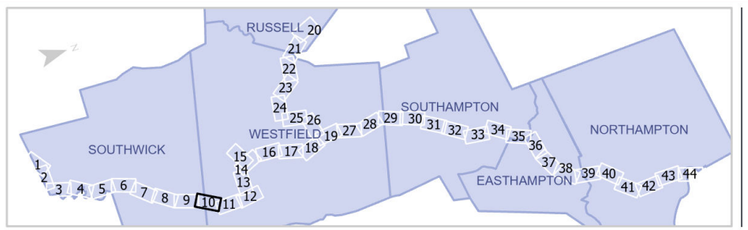
20

29

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0857°N 72.7254°W

1 inch equals 300 feet

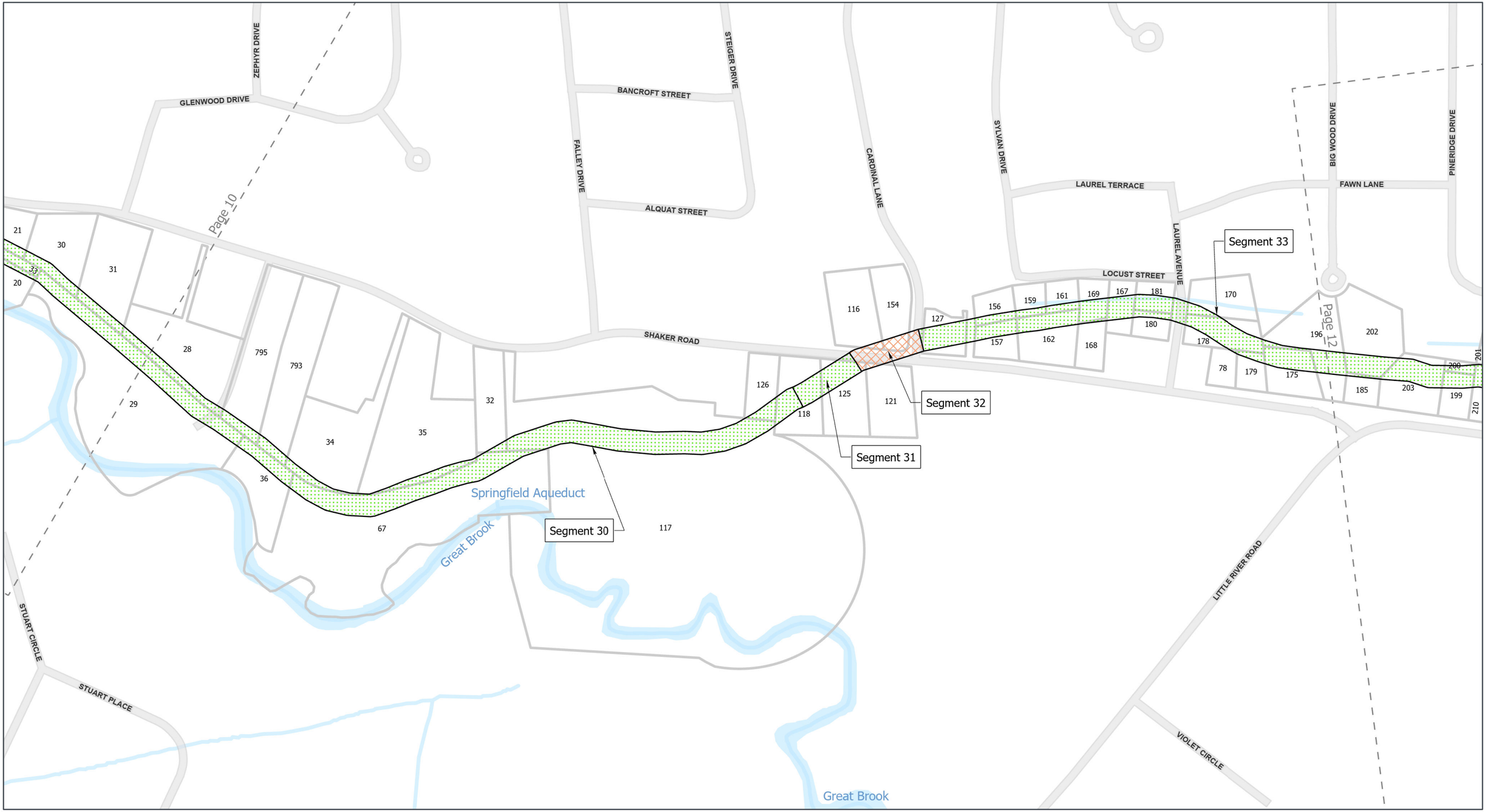
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

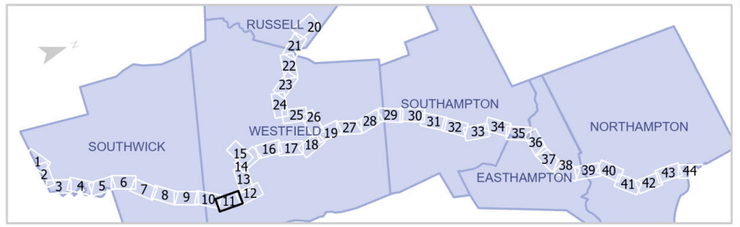
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0966°N 72.7192°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

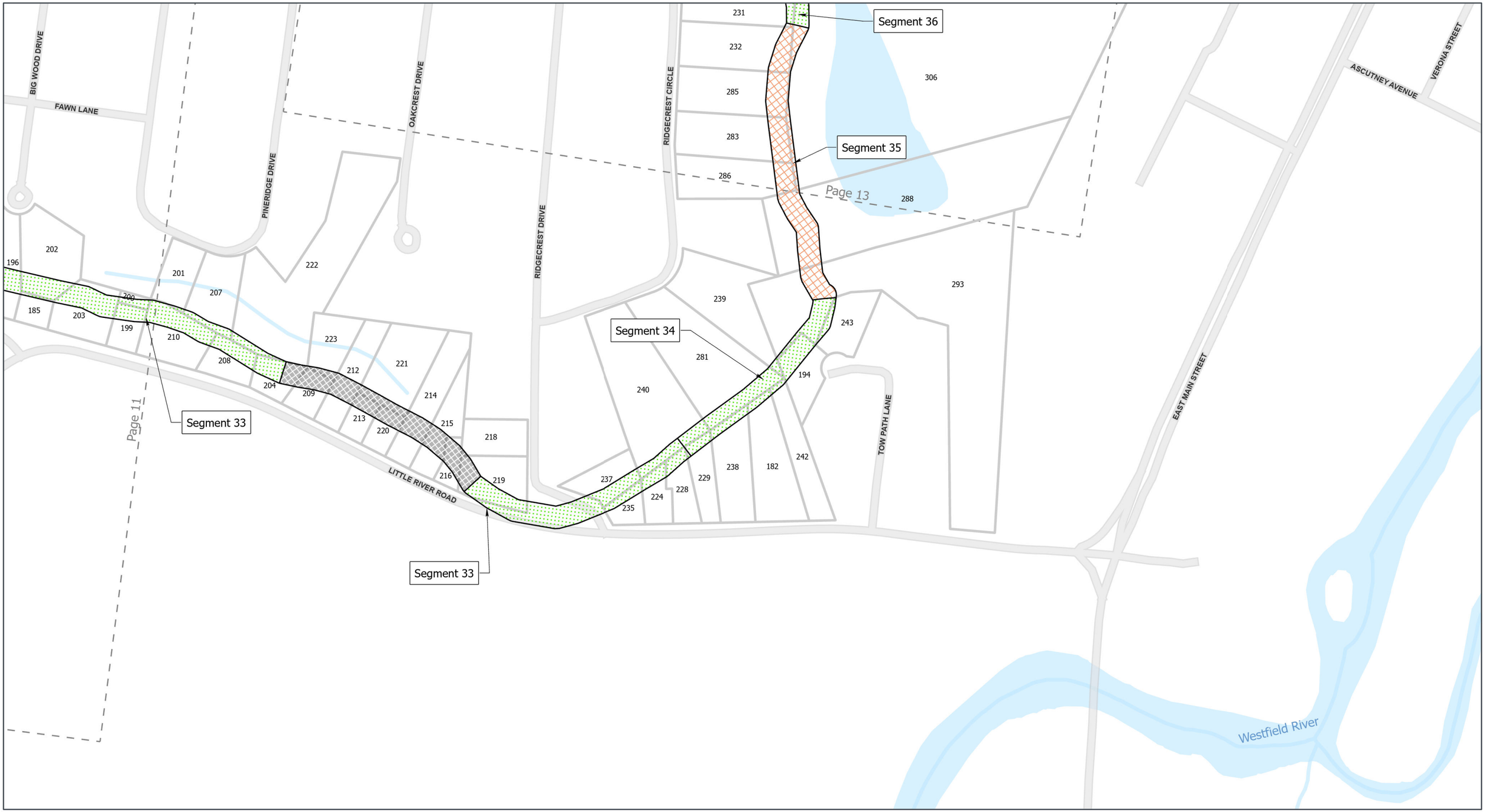
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

N

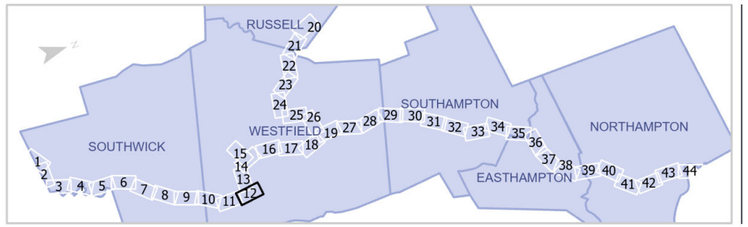
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1088°N 72.7198°W

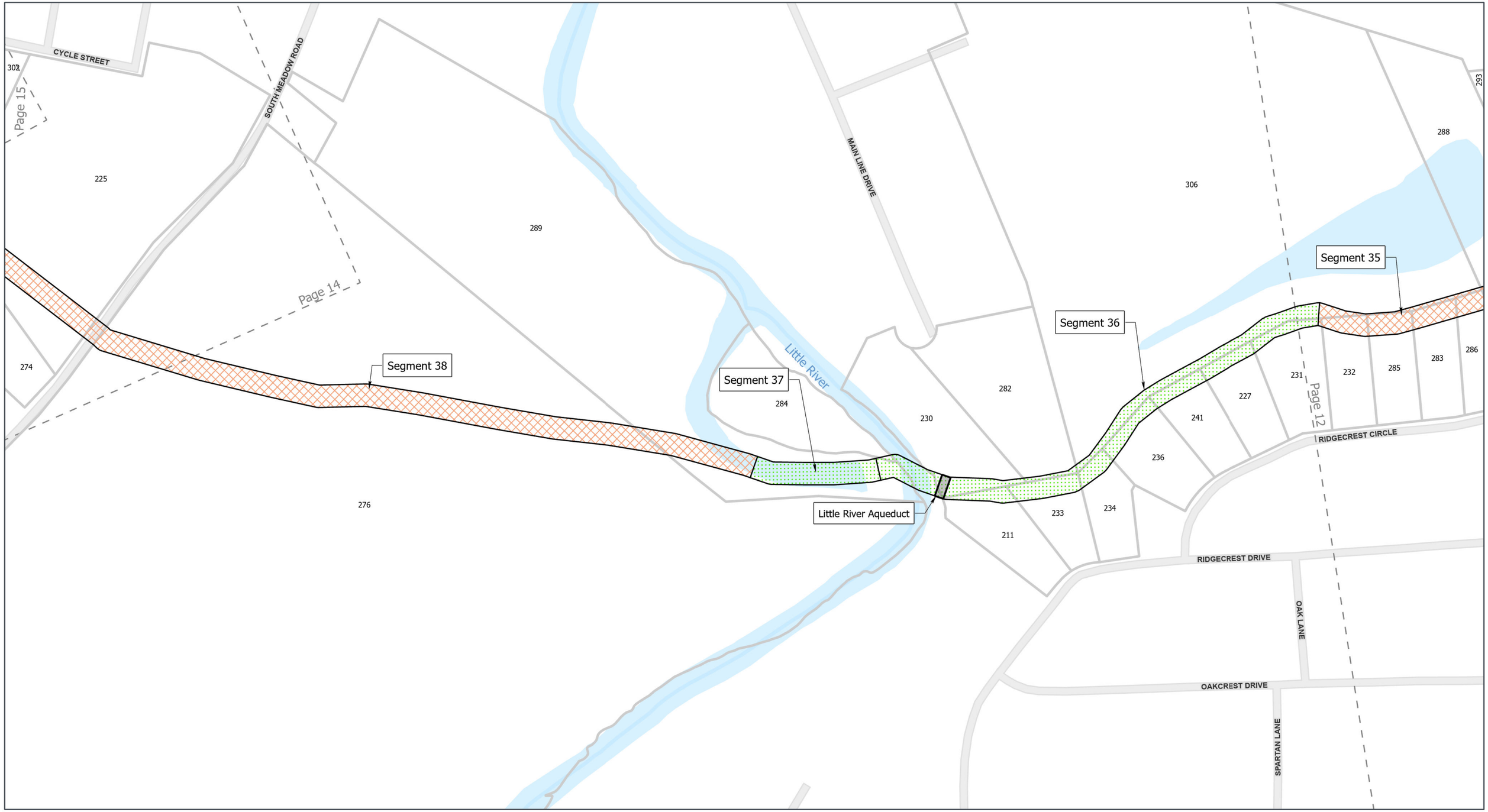
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

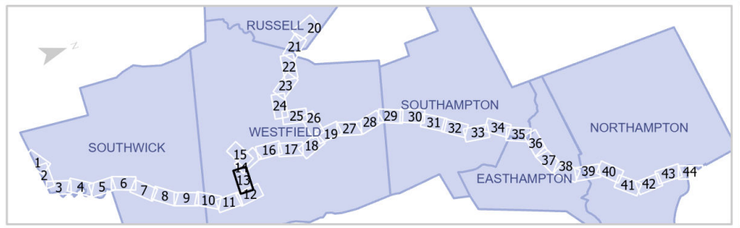
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1079°N 72.7316°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

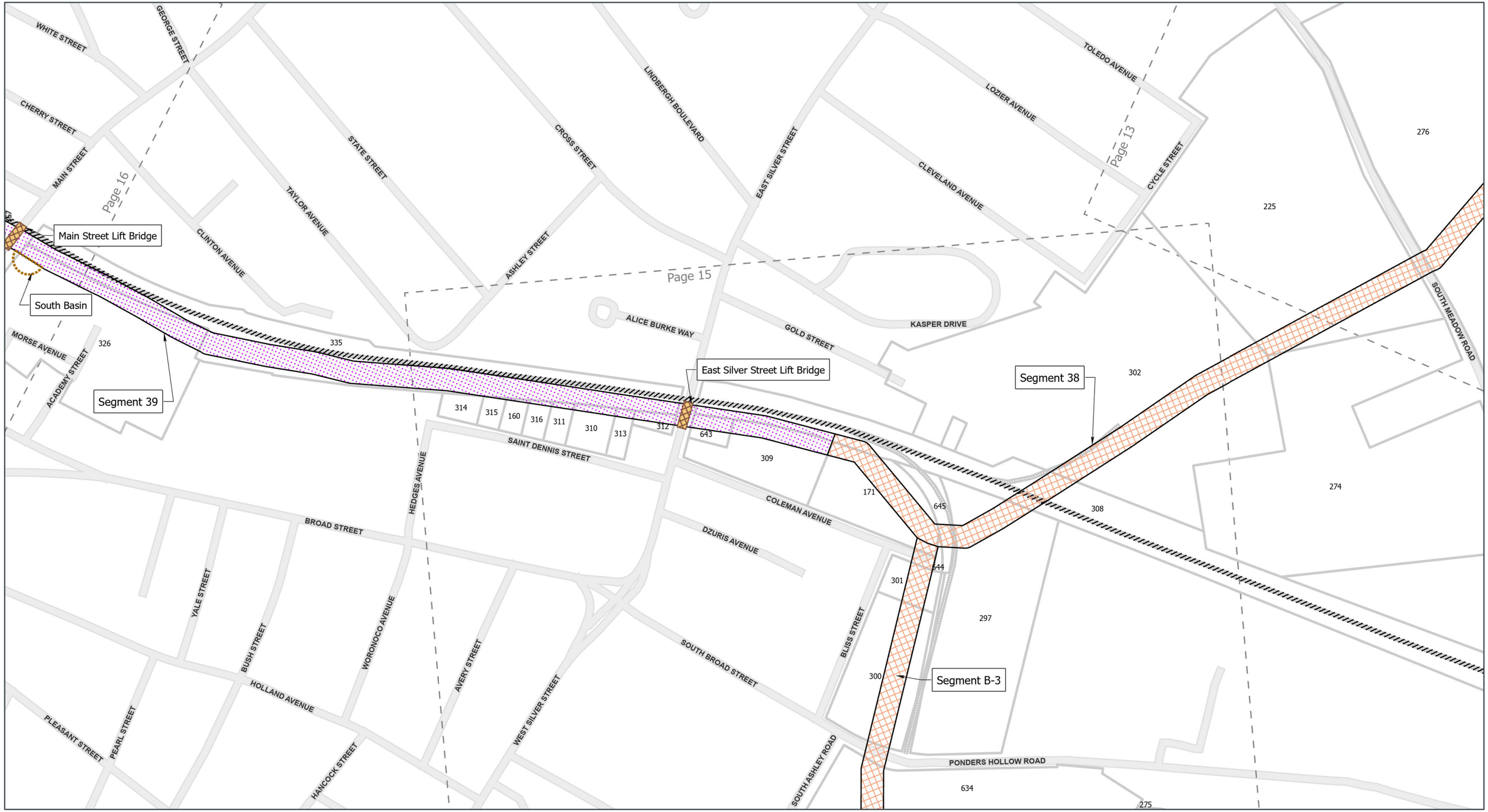
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

N

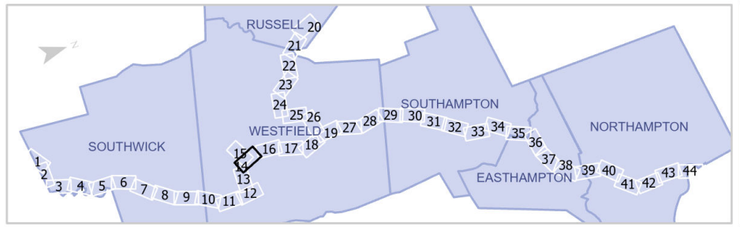
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1138°N 72.7446°W

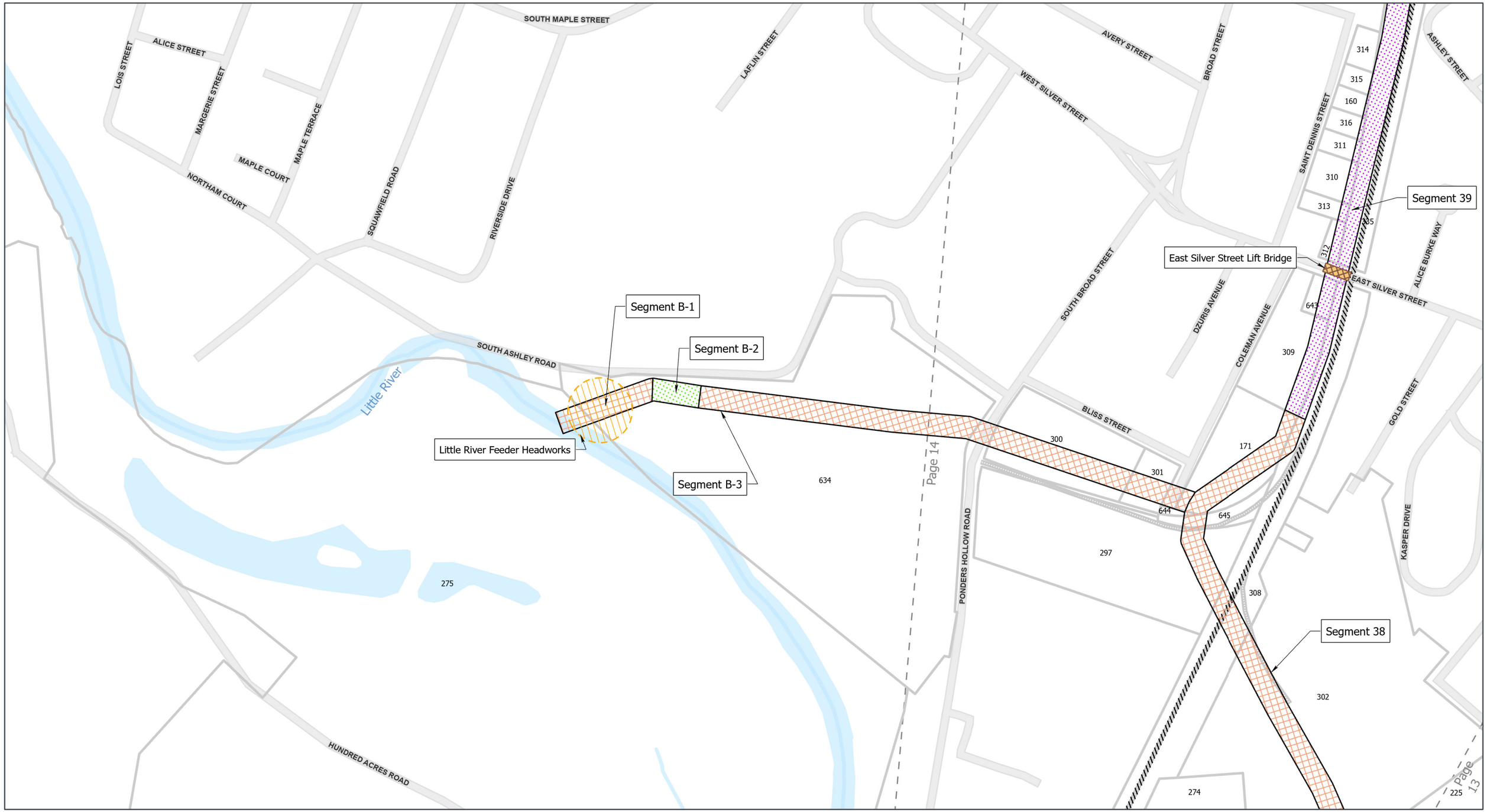
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

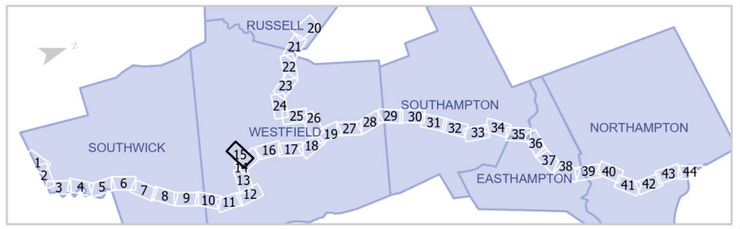
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1106°N 72.7506°W

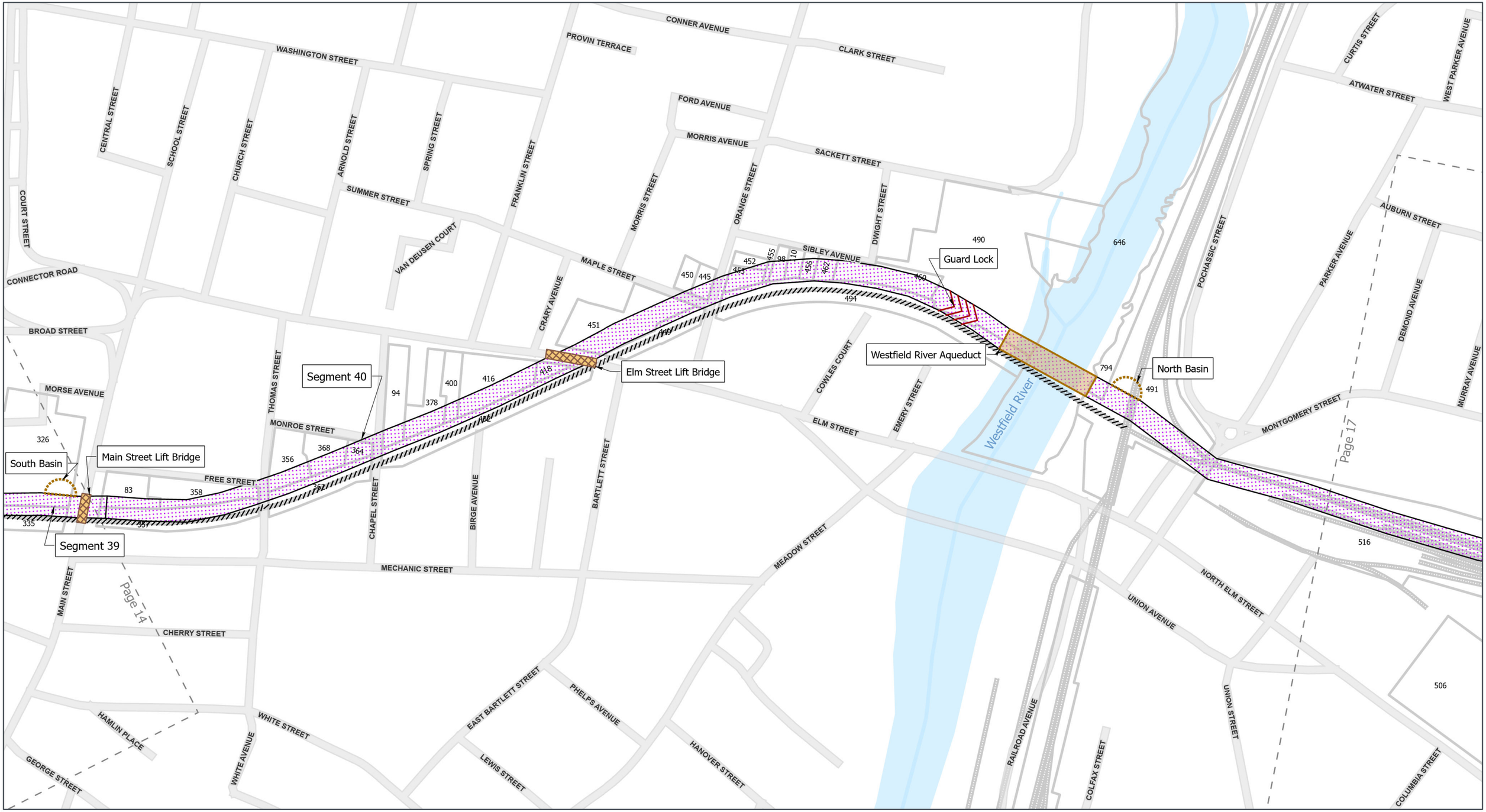
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

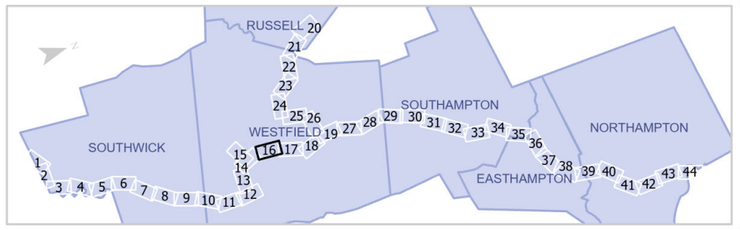
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



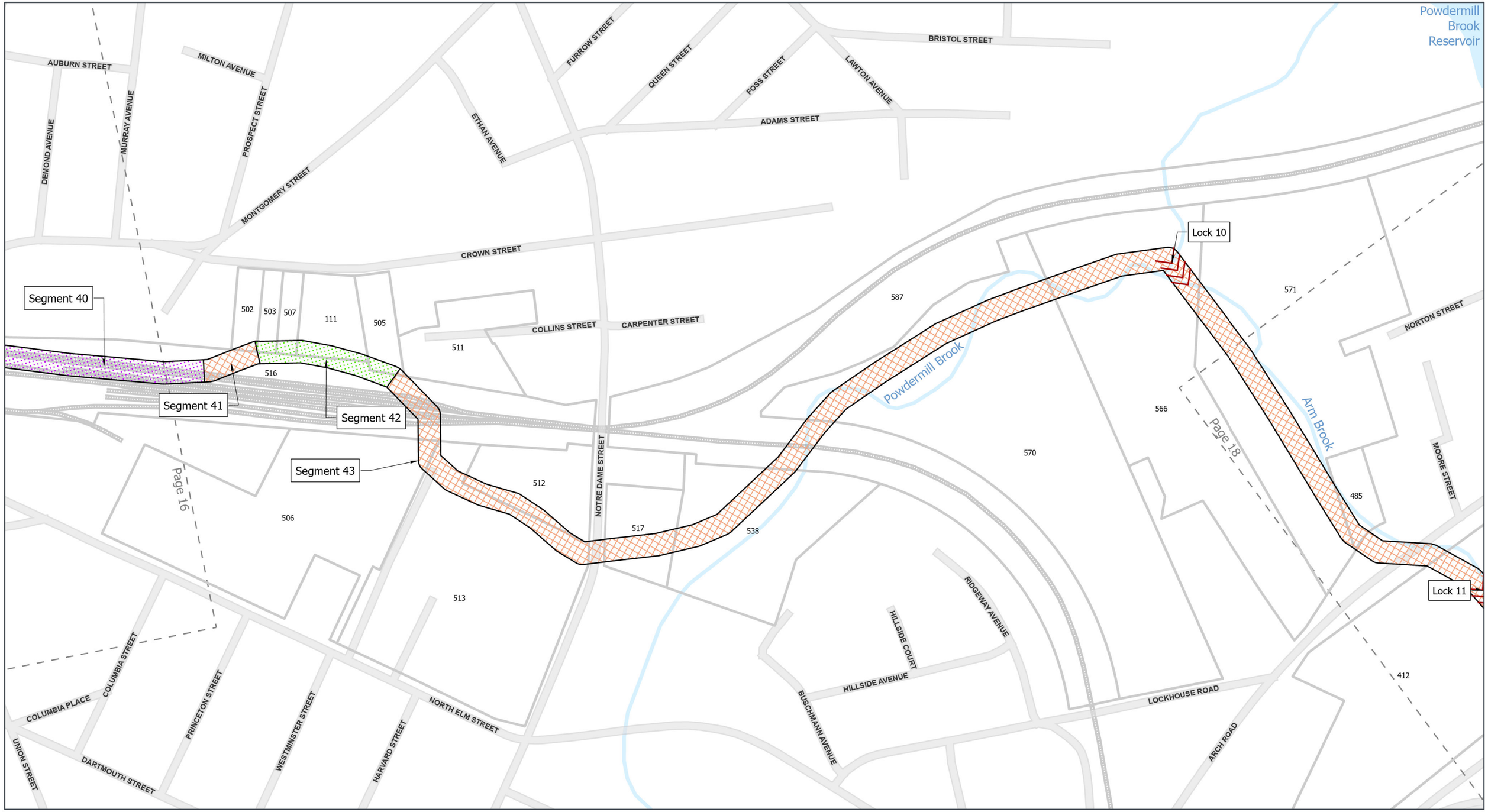
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1267°N 72.7471°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

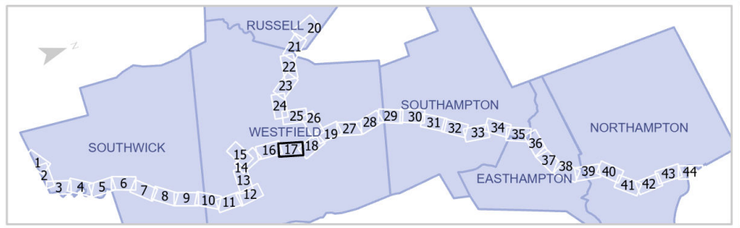
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

SWCA ENVIRONMENTAL CONSULTANTS



Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



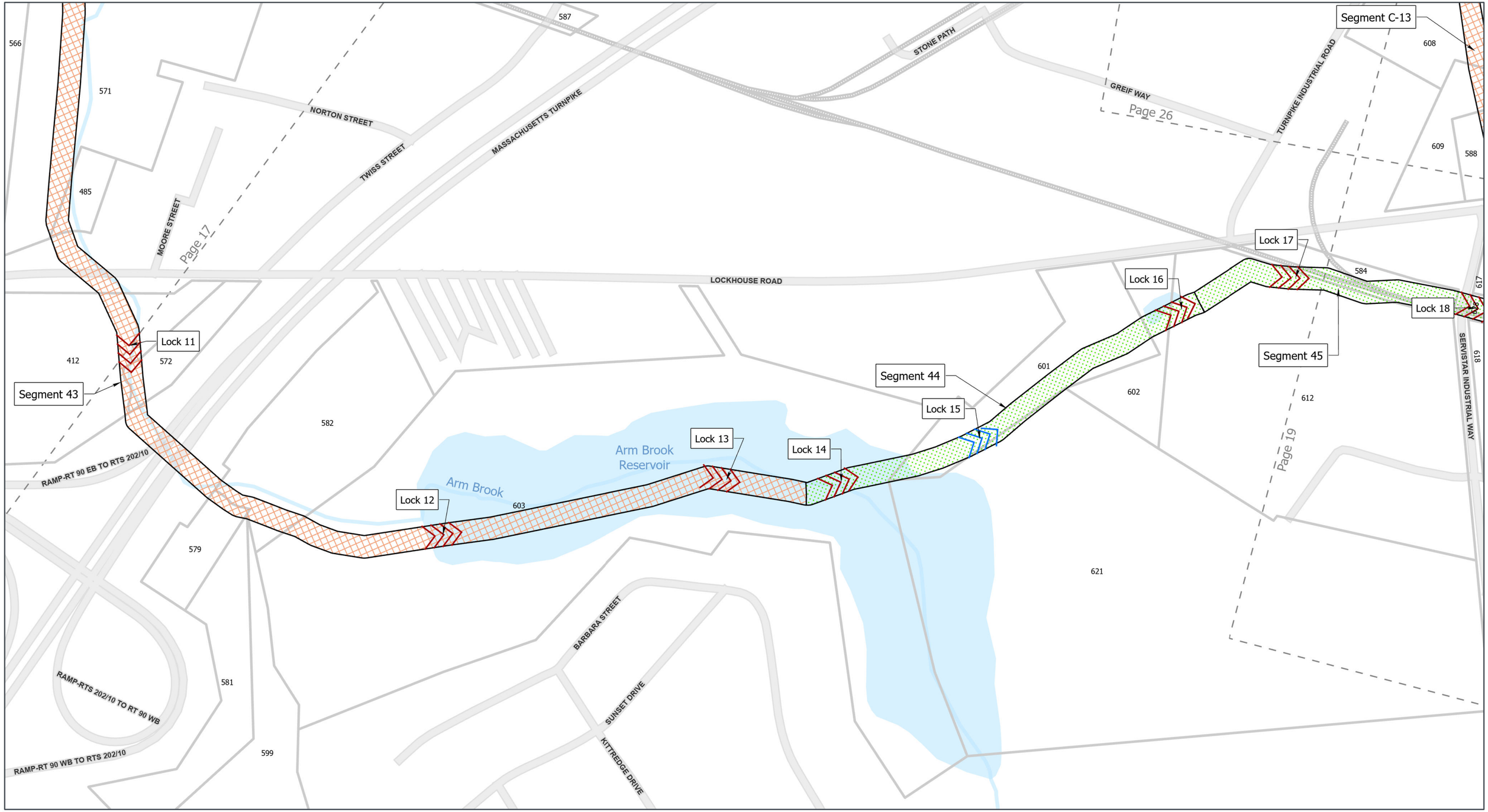
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1384°N 72.7427°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

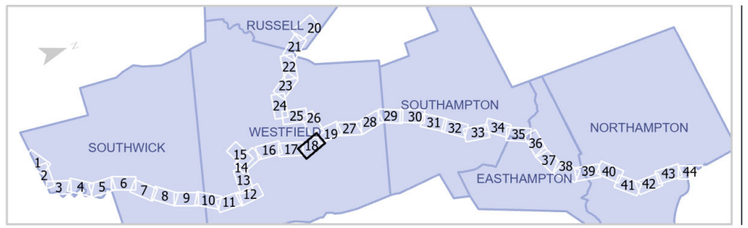
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.15°N 72.7404°W

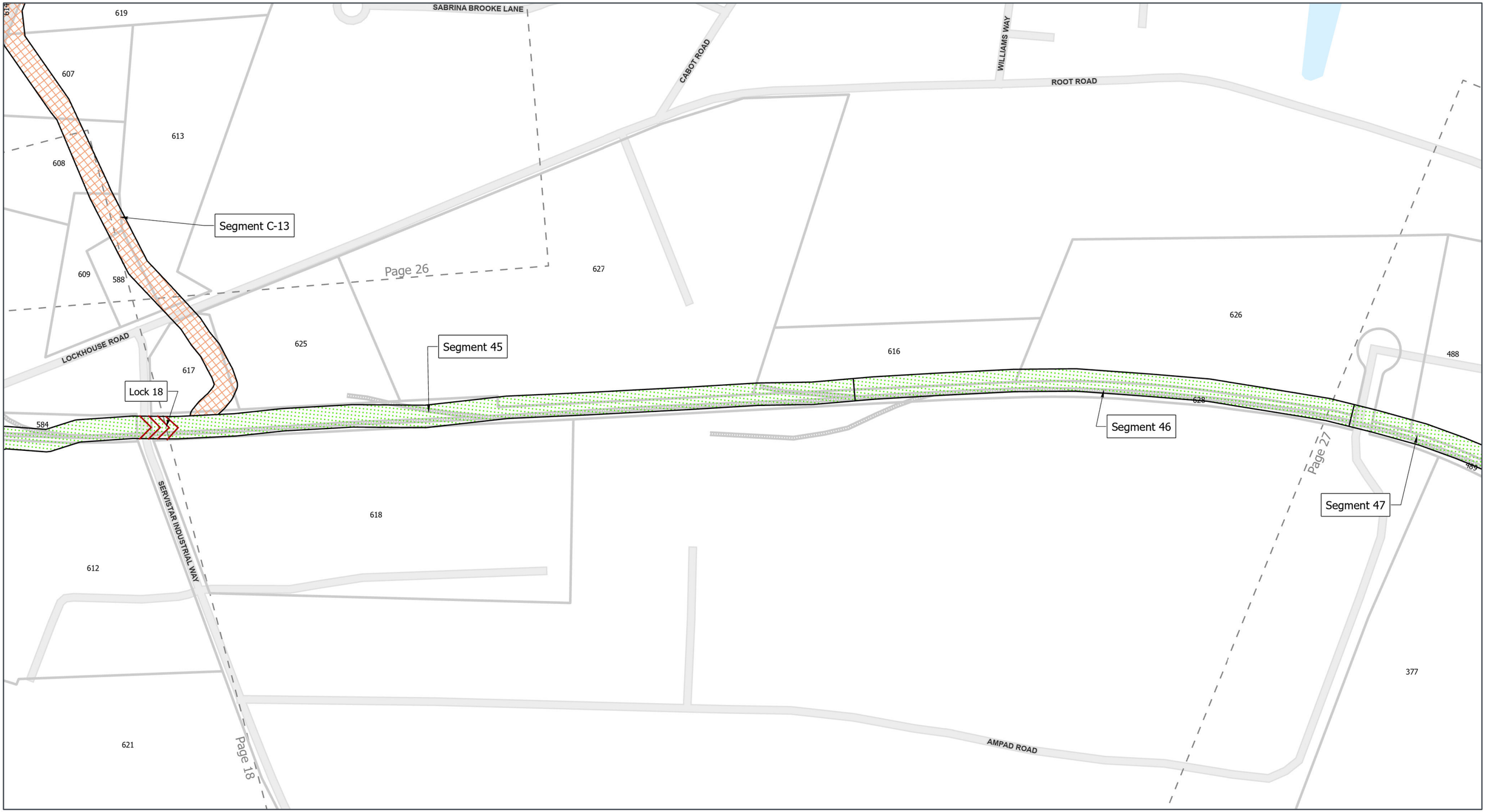
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

N

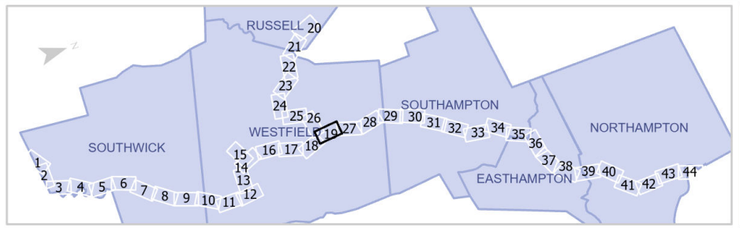
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1612°N 72.746°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Original Westfield River Feeder Headworks

Segment C-1

Segment C-2

Westfield River

POCHASSIC ROAD

TEKOA AVENUE

VALLEY VIEW AVENUE

BRIDGE STREET

WESTFIELD ROAD

WORONOCO ROAD

HILL STREET

LAUREL ROAD

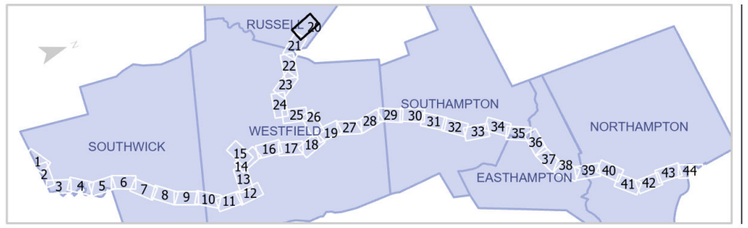
MASSACHUSETTS TURNPIKE

522 524 525 526 527 530 532 533 535 536 540 542 544

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1671°N 72.826°W

1 inch equals 300 feet

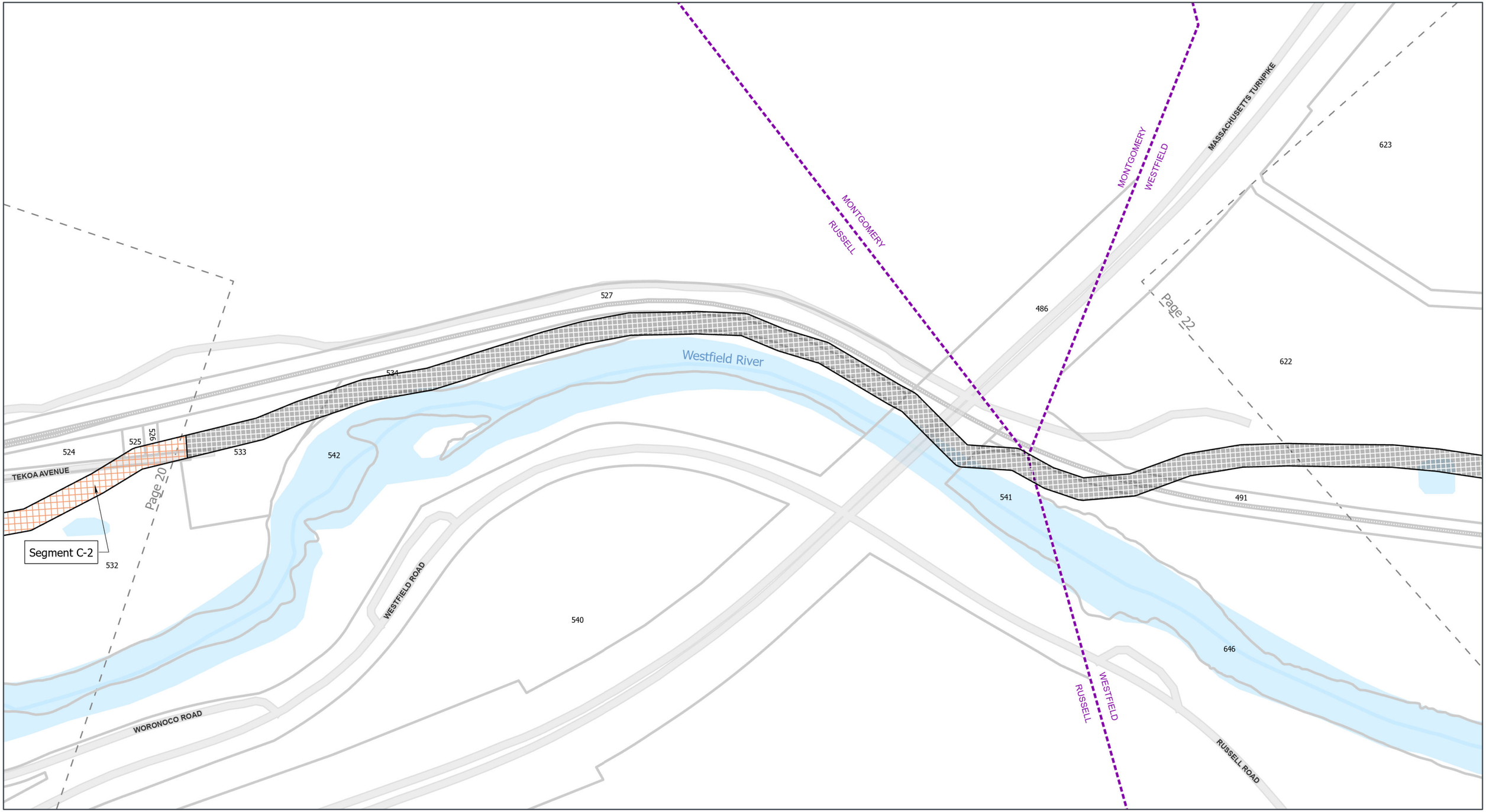
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

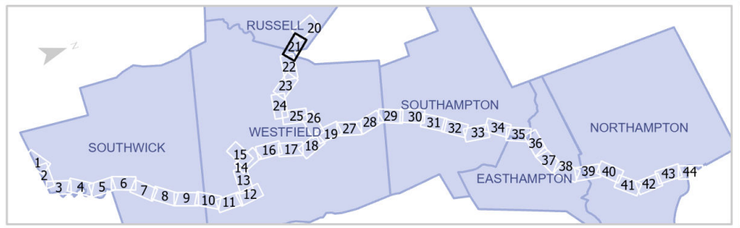
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



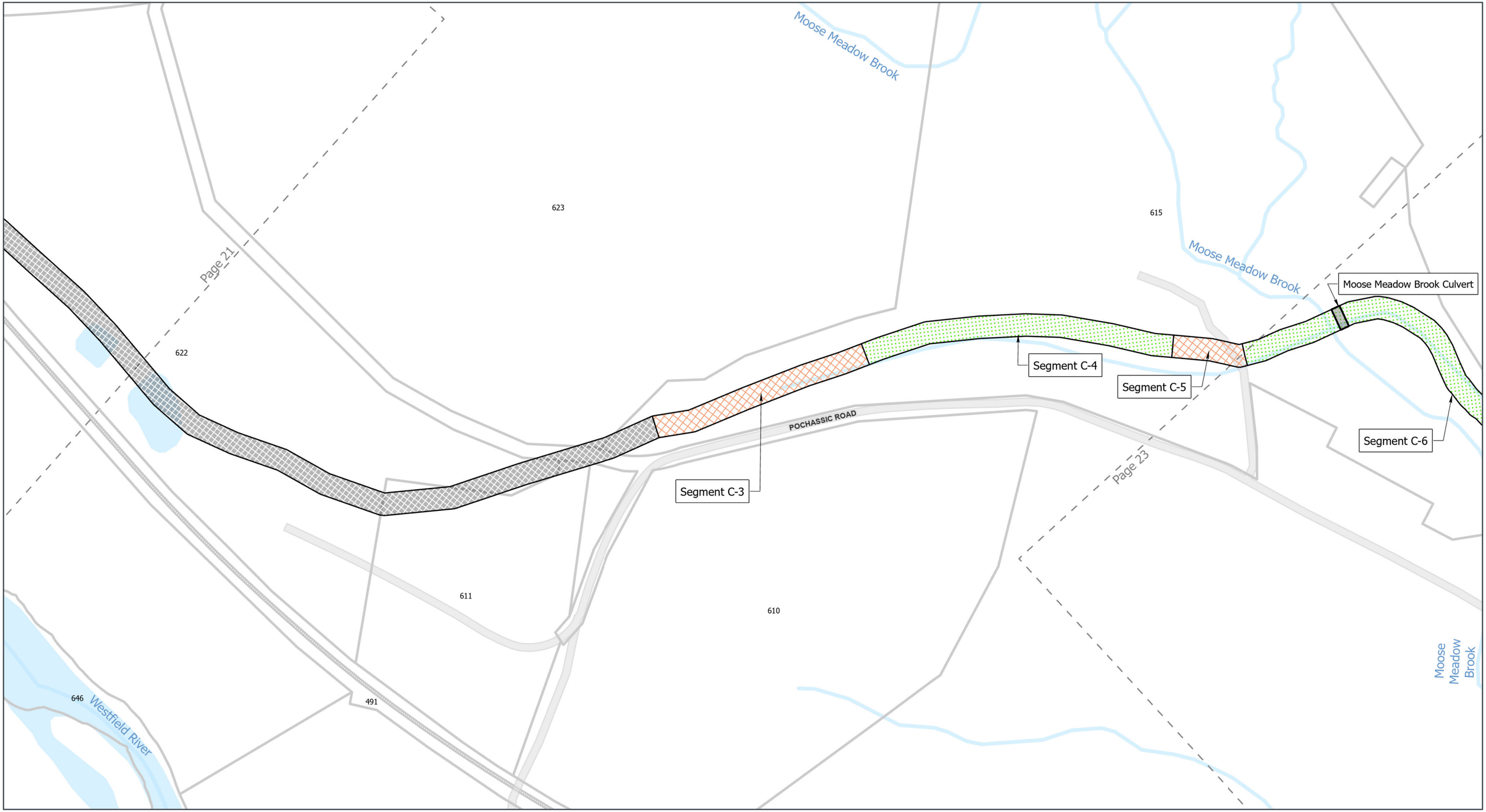
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1581°N 72.8148°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

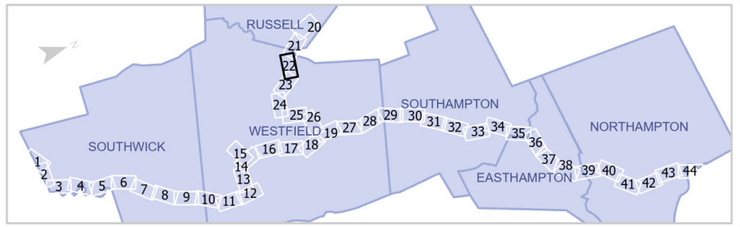
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1517°N 72.8018°W

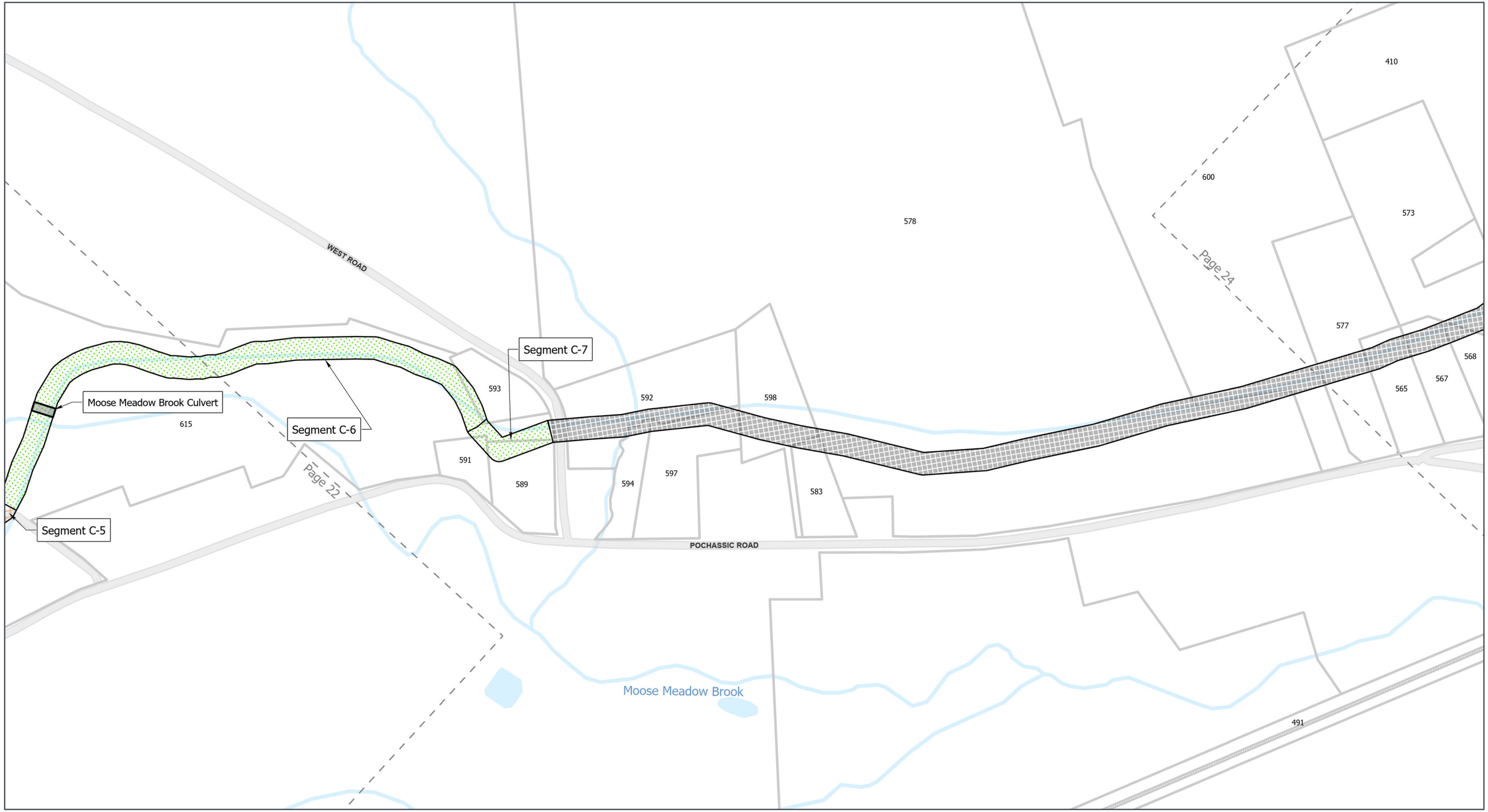
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

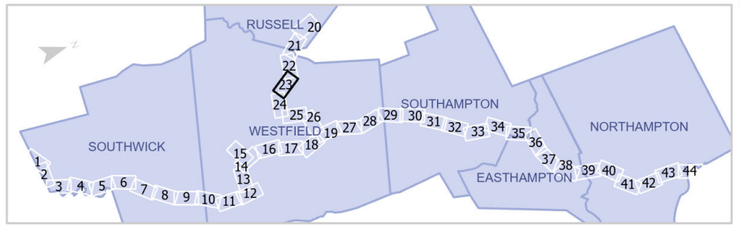
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1467°N 72.7893°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

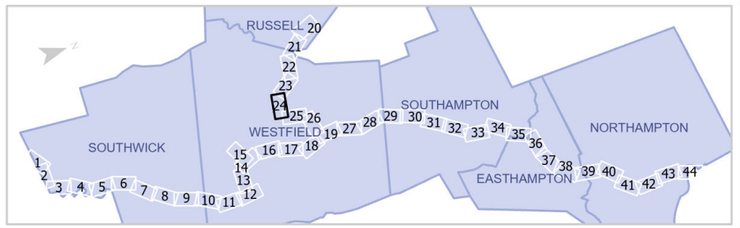
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.14°N 72.7761°W

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

N

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1:3,600

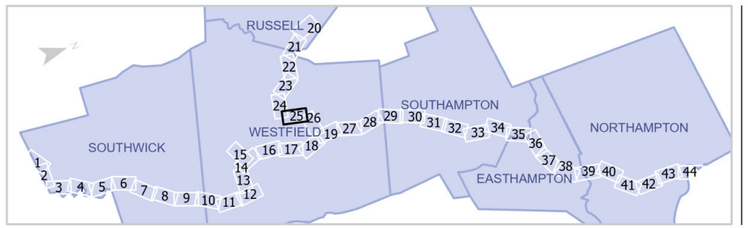
SWCA ENVIRONMENTAL CONSULTANTS

574
560
576
547
413
585
791
596
411
595
586
550
559
575
FURROWTOWN ROAD
SIMMONS BROOK DRIVE
FARLAINE DRIVE
KANE BROTHERS CIRCLE
WILLOW BROOK LANE
GIFFORD AVENUE
WIND PATH LANE
EDWARD STREET
GARDEN AVENUE
HAGAN AVENUE
SAINT PIERRES LANE
MONTGOMERY ROAD
Page 24
Page 26
Segment C-9
Segment C-10
Segment C-11

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1462°N 72.7653°W

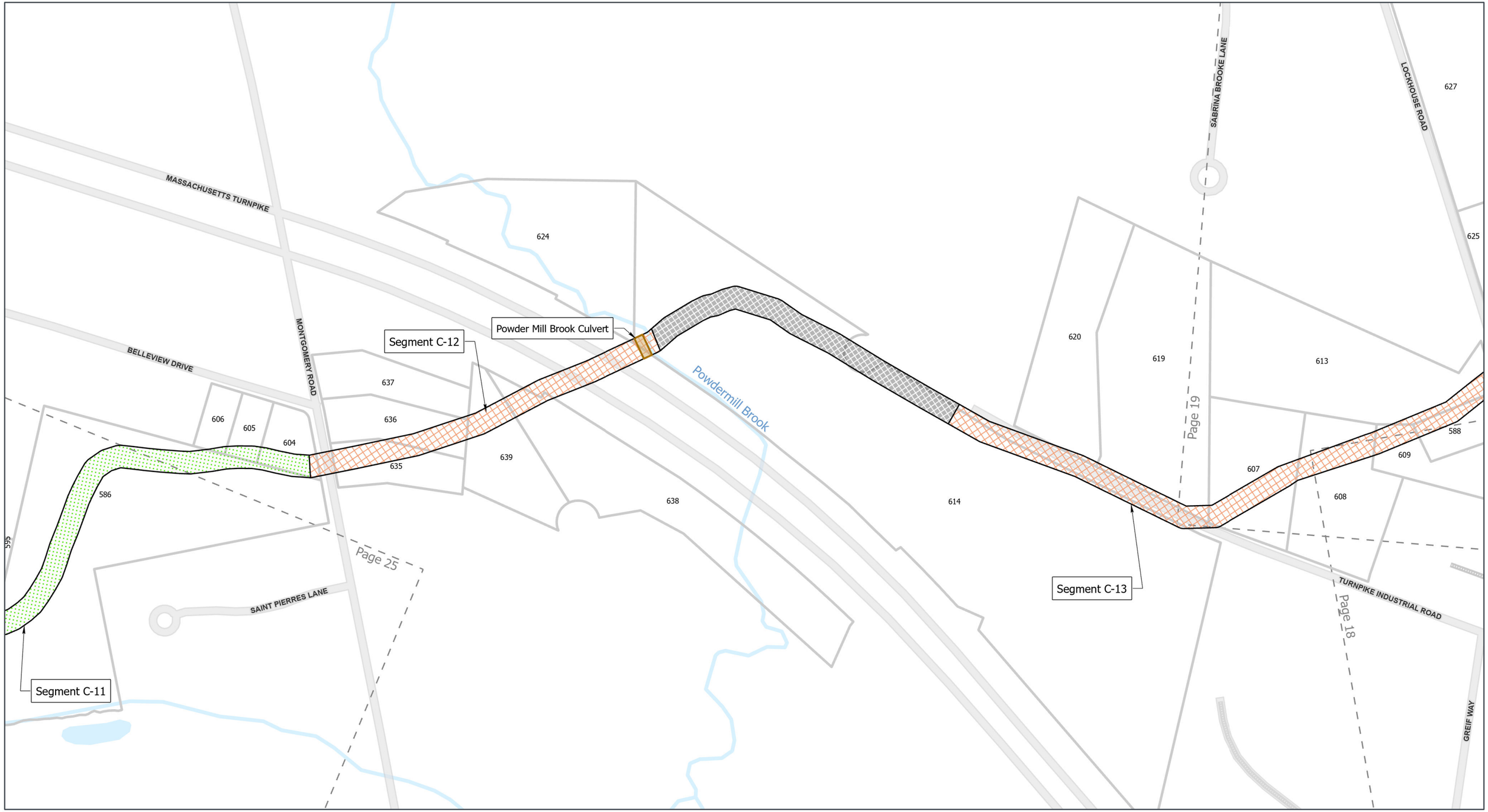
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

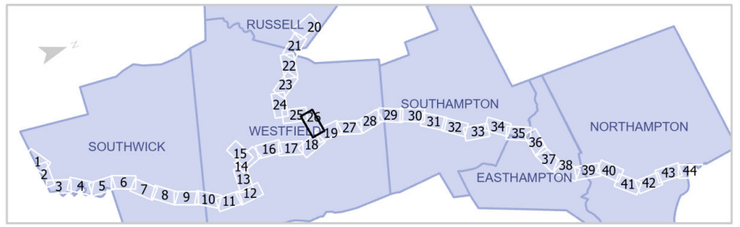
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1543°N 72.7553°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

N

SWCA ENVIRONMENTAL CONSULTANTS

WARFIELD DRIVE

ROOT ROAD

BENNETT ROAD

626

488

629

529

650

Segment 46

628

489

487

Segment 47

Segment 48

Brickyard Brook

631

AMPAD ROAD

Page 19

Page 28

SUMMIT LOCK ROAD

531

630

Segment 49

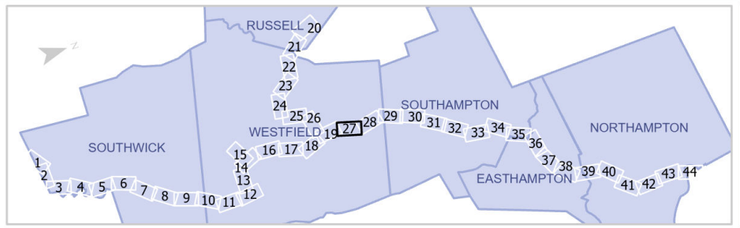
TIMBERSWAMP ROAD

377

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.173°N 72.744°W

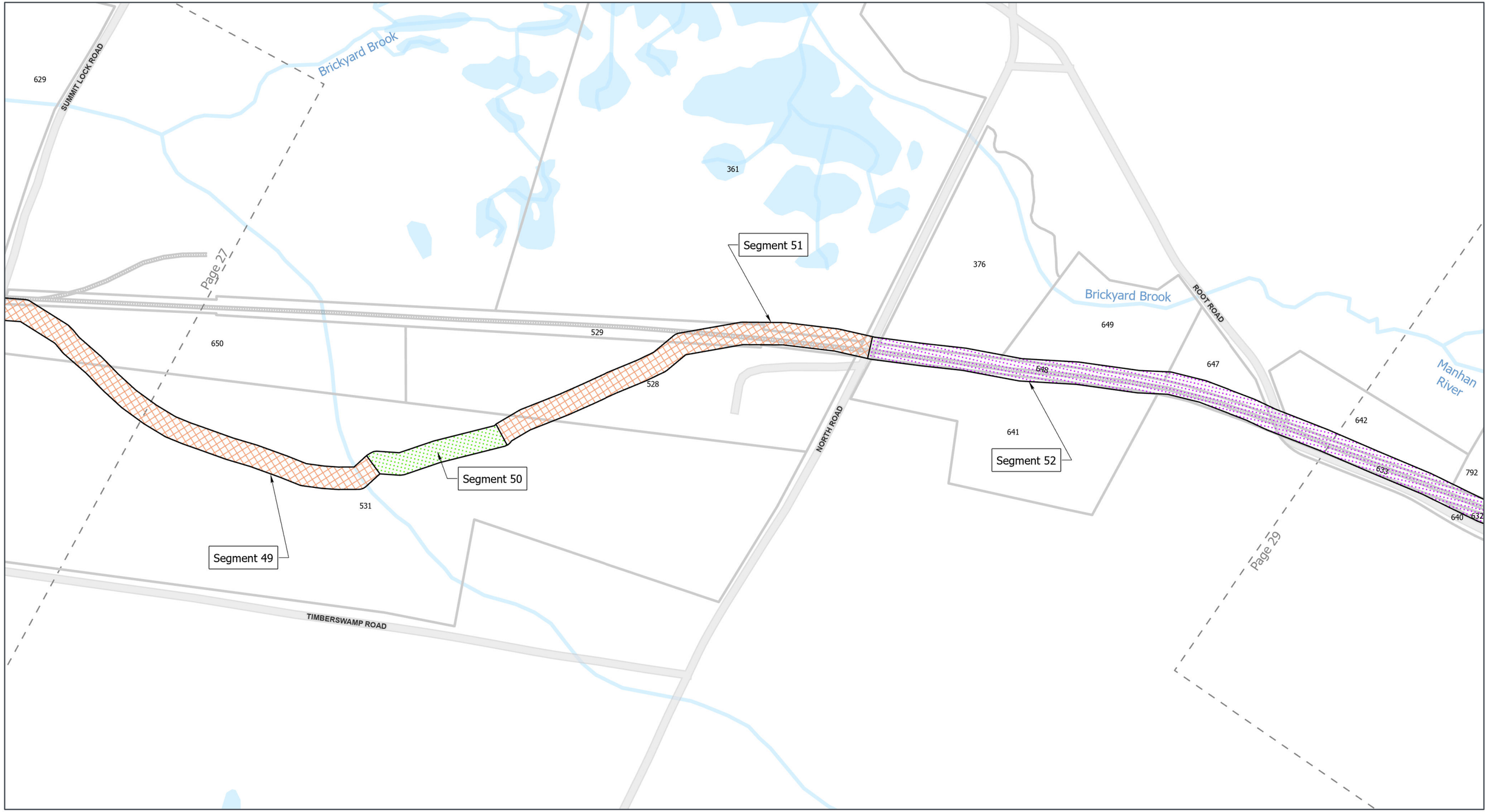
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

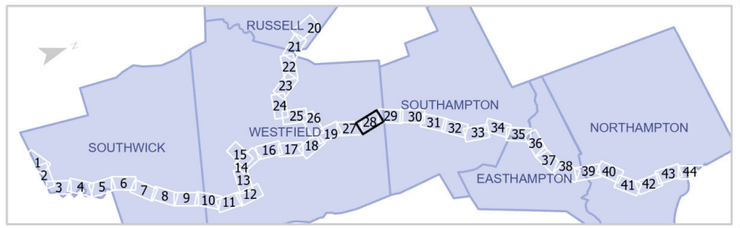
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.185°N 72.7438°W

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

SWCA ENVIRONMENTAL CONSULTANTS

Segment 52

Segment 53

Segment 54

SOUTHAMPTON
WESTFIELD

HAMPSHIRE COUNTY
HAMPDEN COUNTY

Manhan River

Brickyard Brook

BRICKYARD ROAD

ROOT ROAD

GILBERT ROAD

BUCHANAN CIRCLE

MADISON AVENUE

VALLEY ROAD

65
97
62
64
96
93
792
63
652
60
771
737
642
633
640
164
152
163
82
66
61
244

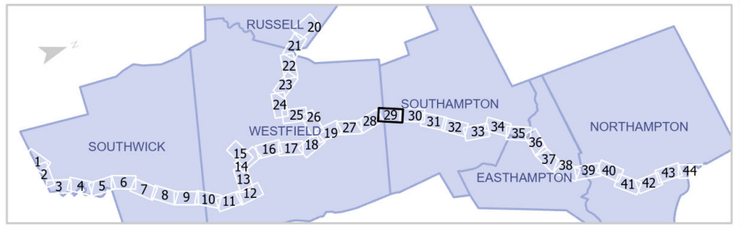
Page 28

Page 30

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



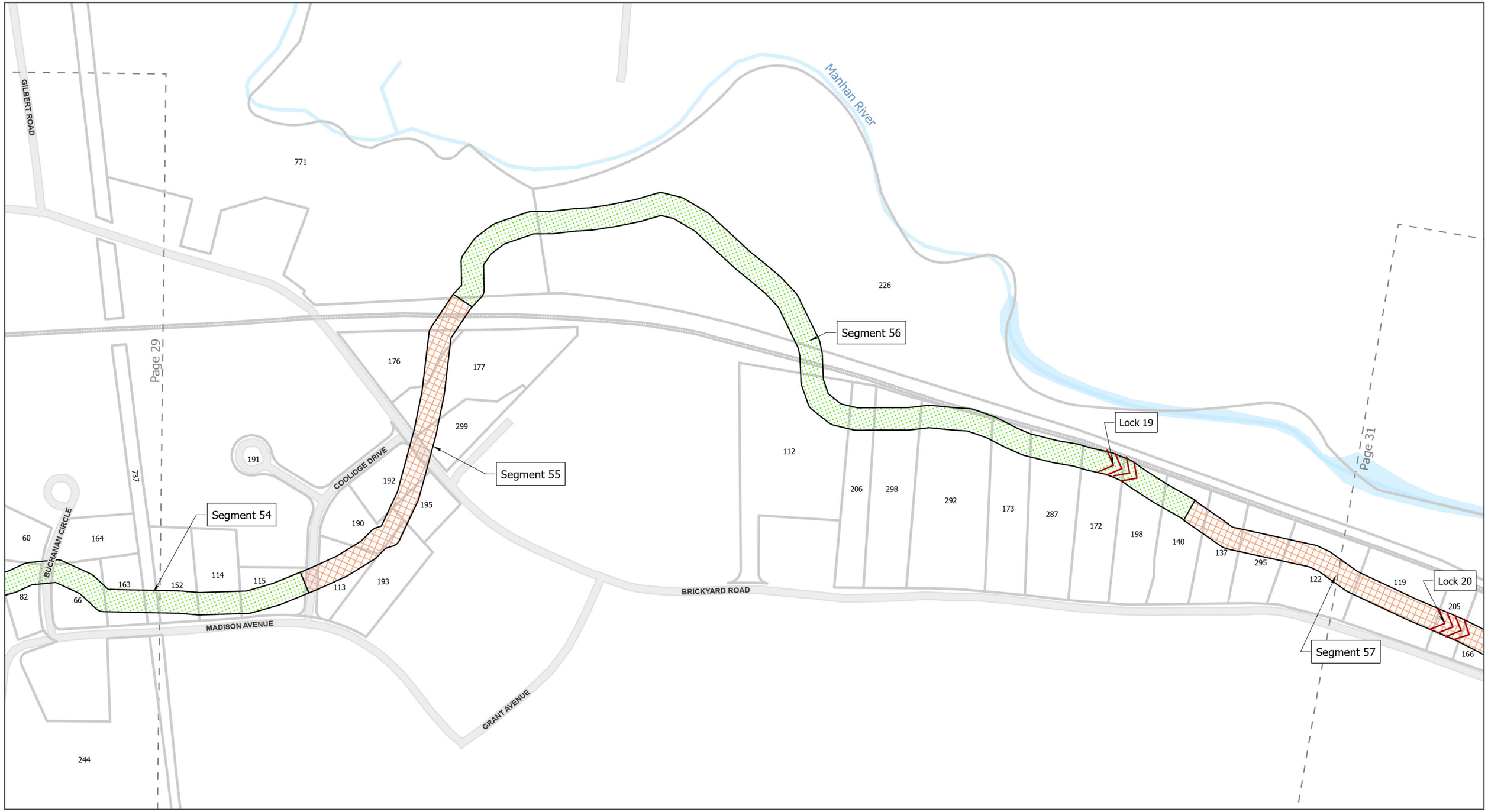
NAD 1983 StatePlane
Massachusetts Mainland FIPS
2001
42.1971°N 72.7433°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

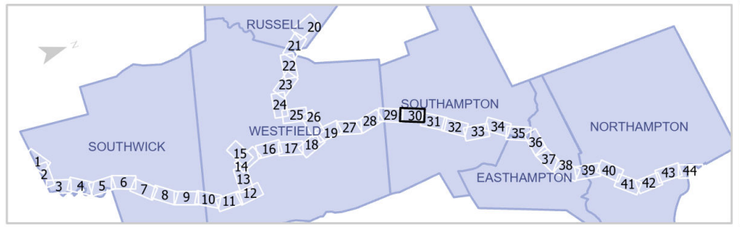
SWCA
ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2087°N 72.7383°W

1 inch equals 300 feet

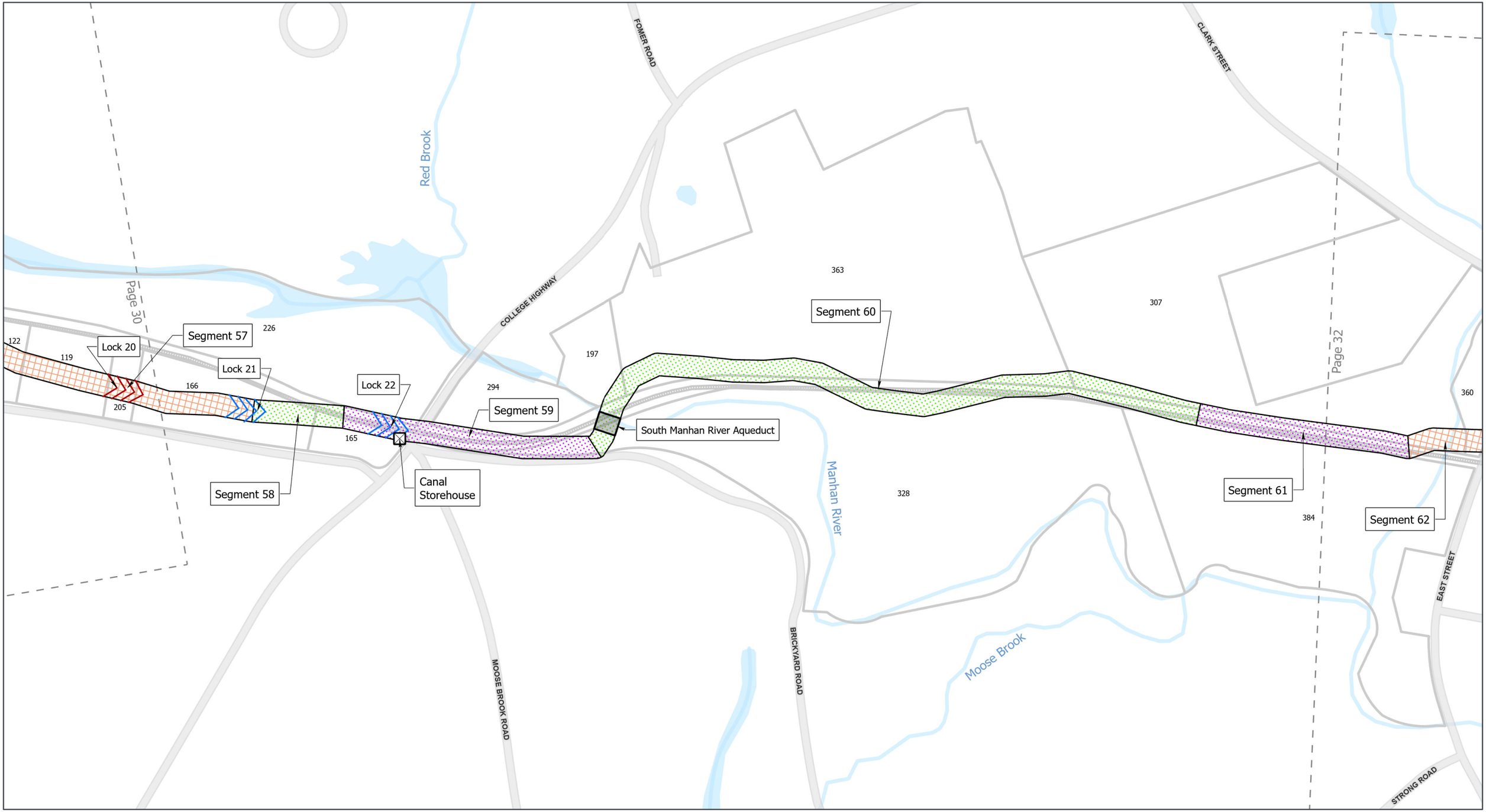
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

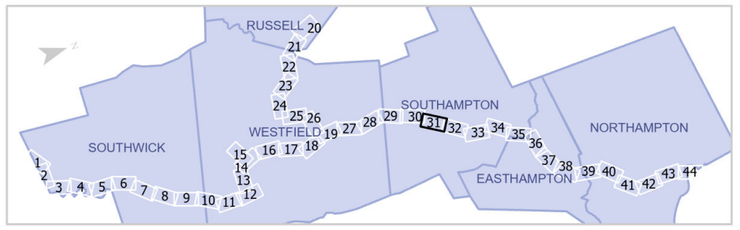
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2189°N 72.7287°W

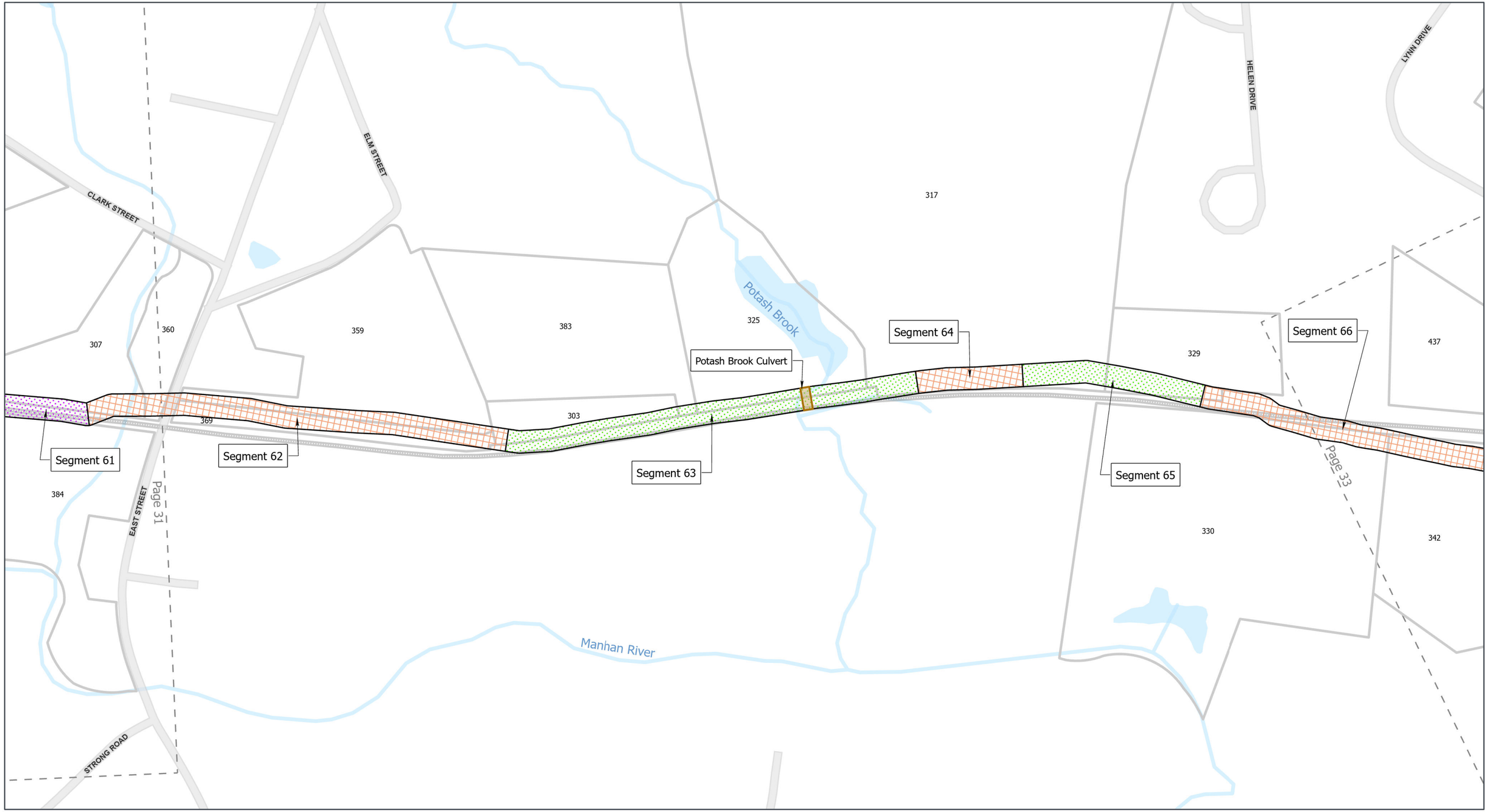
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

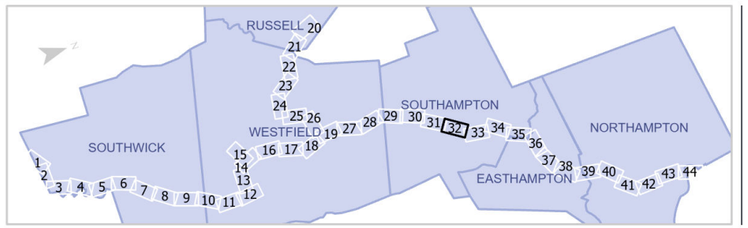
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2291°N 72.7199°W

1 inch equals 300 feet

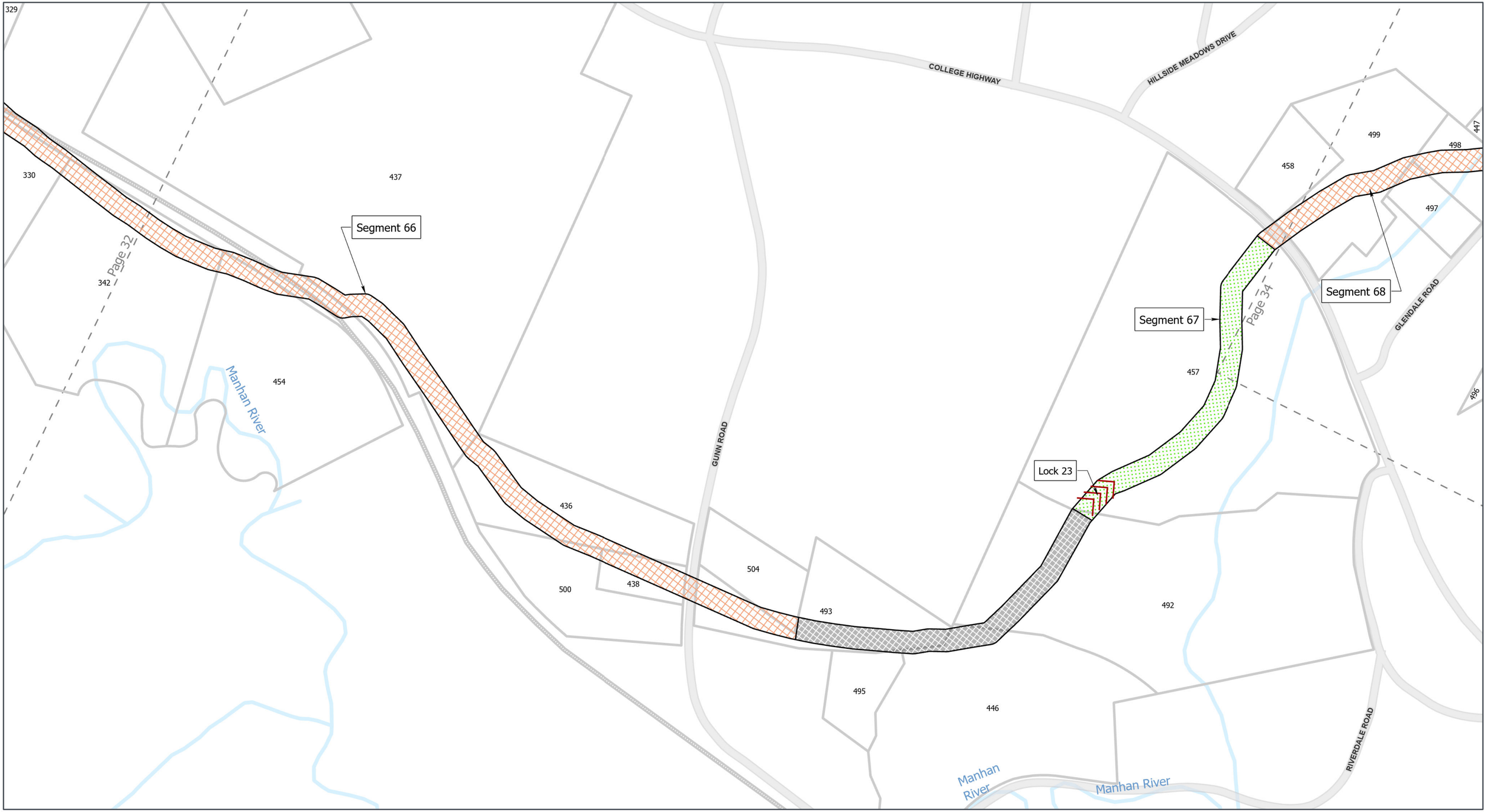
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

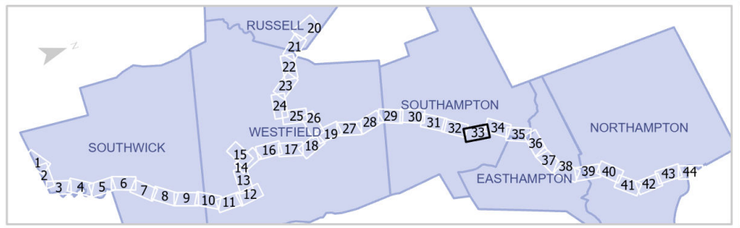
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2398°N 72.7113°W

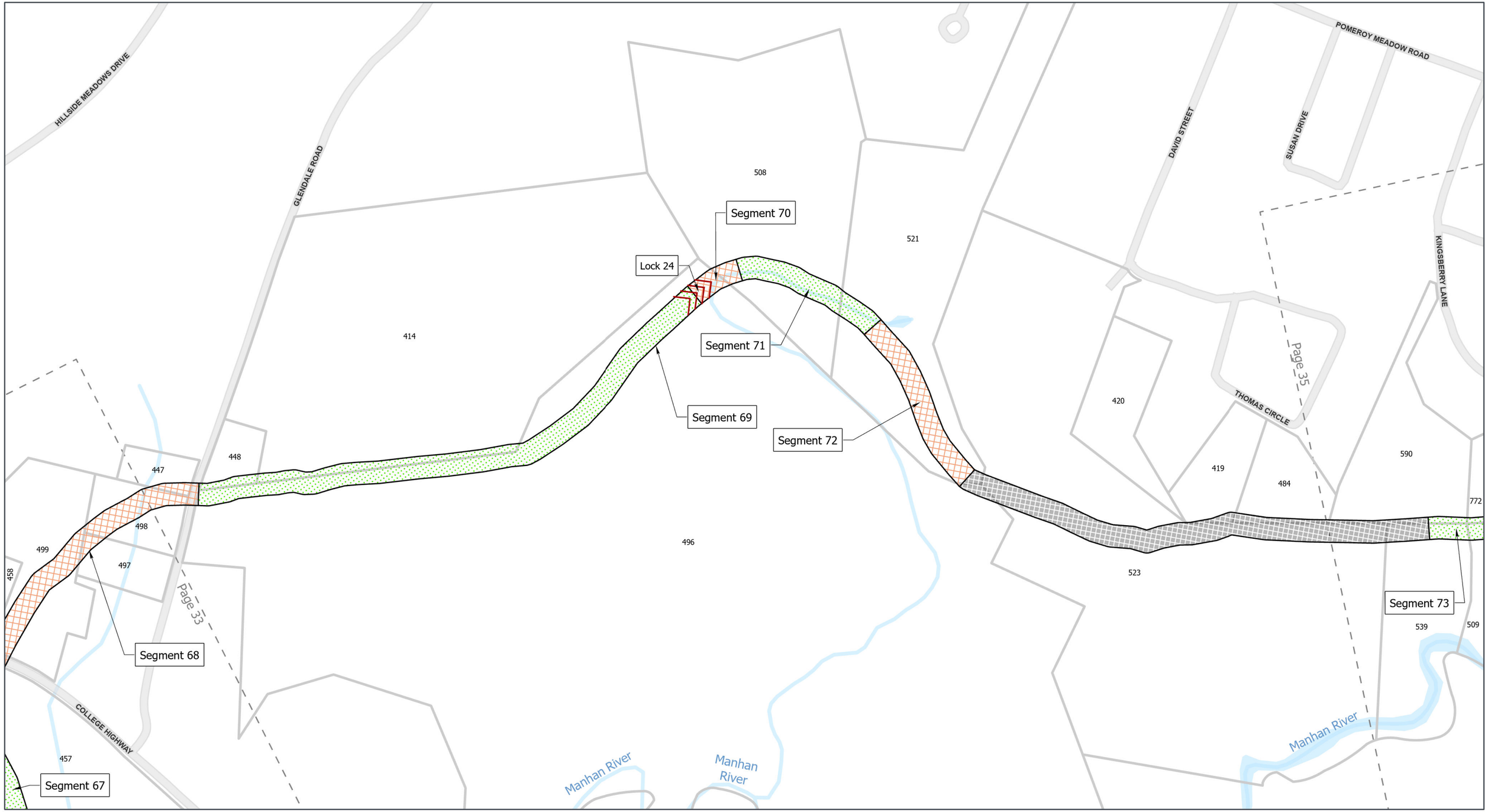
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

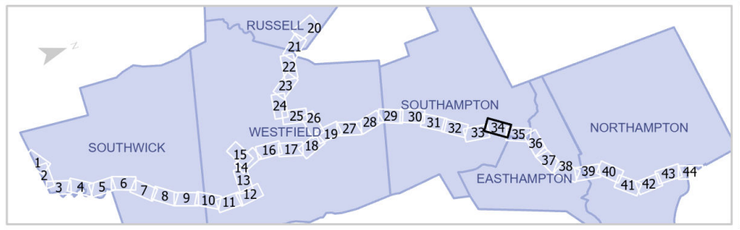
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2519°N 72.7101°W

1 inch equals 300 feet

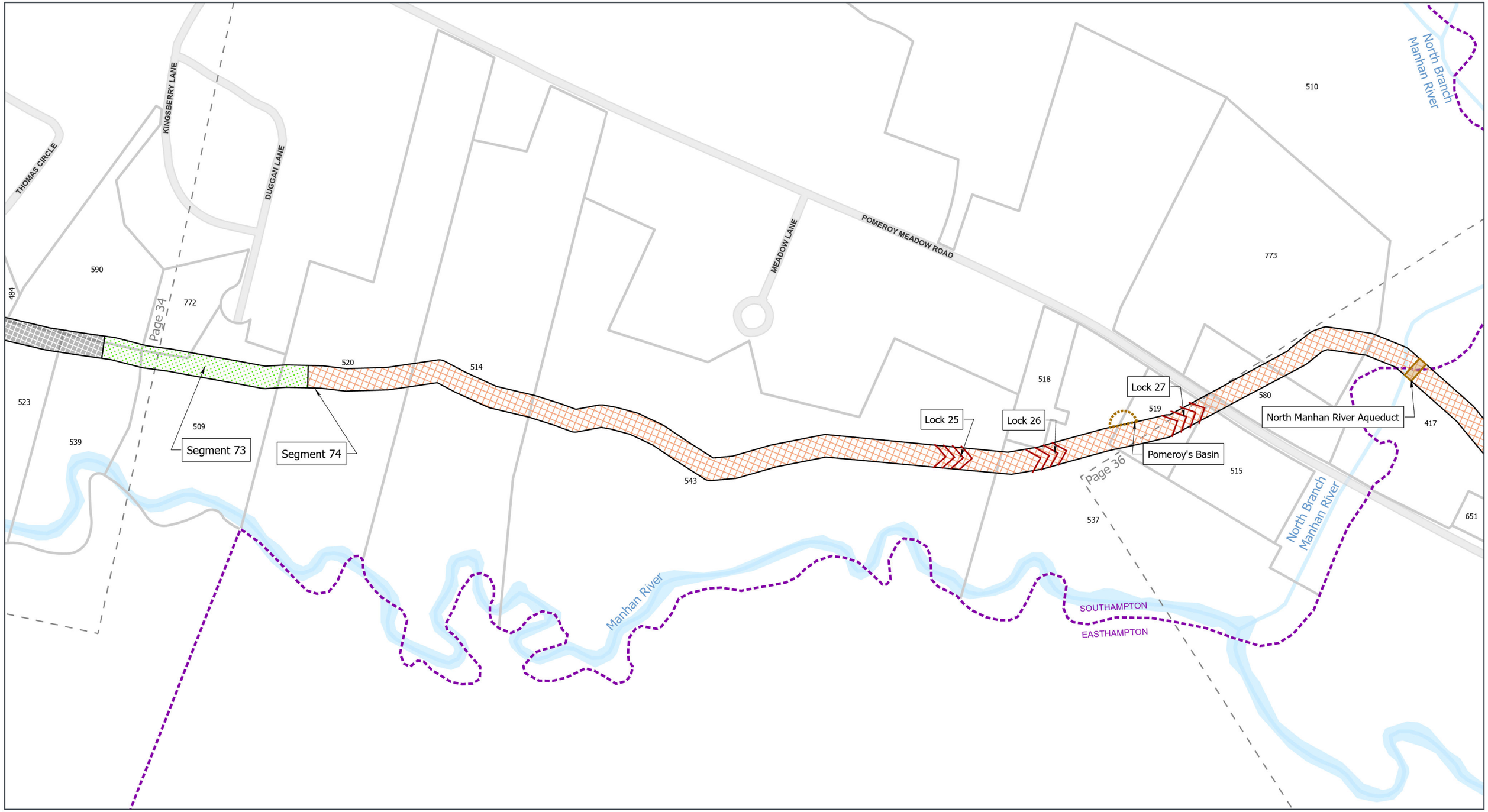
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

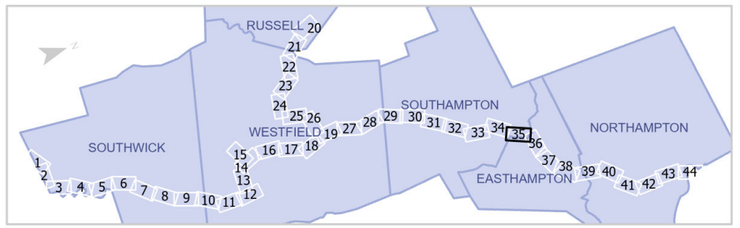
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2618°N 72.7006°W

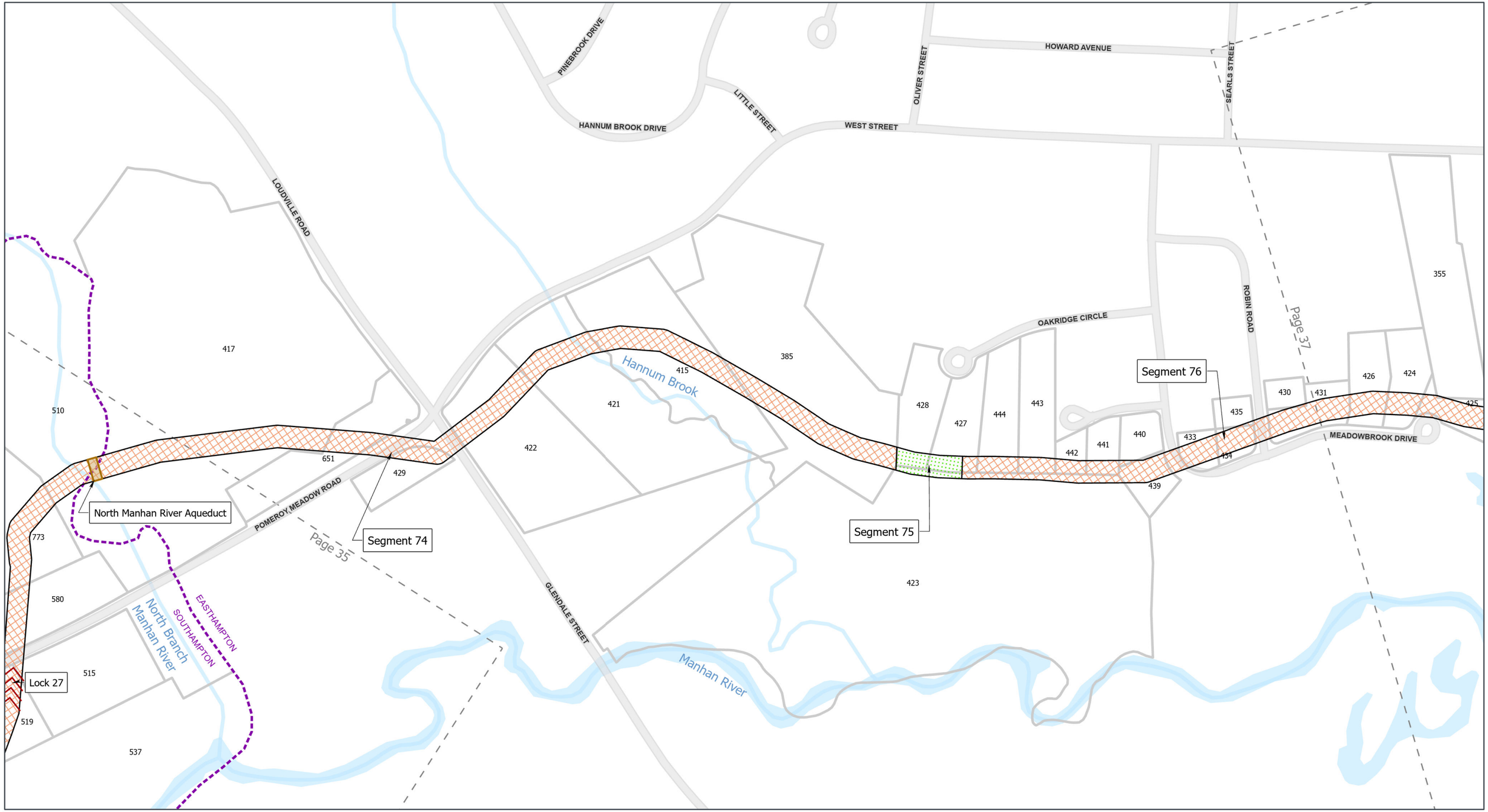
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

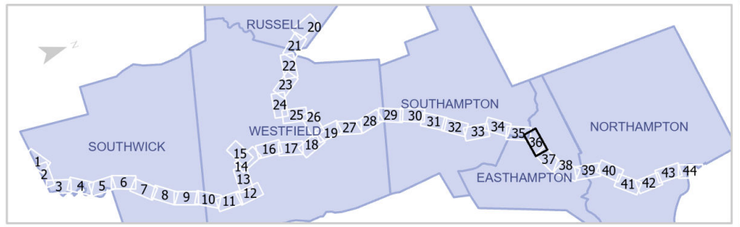
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2694°N 72.6903°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

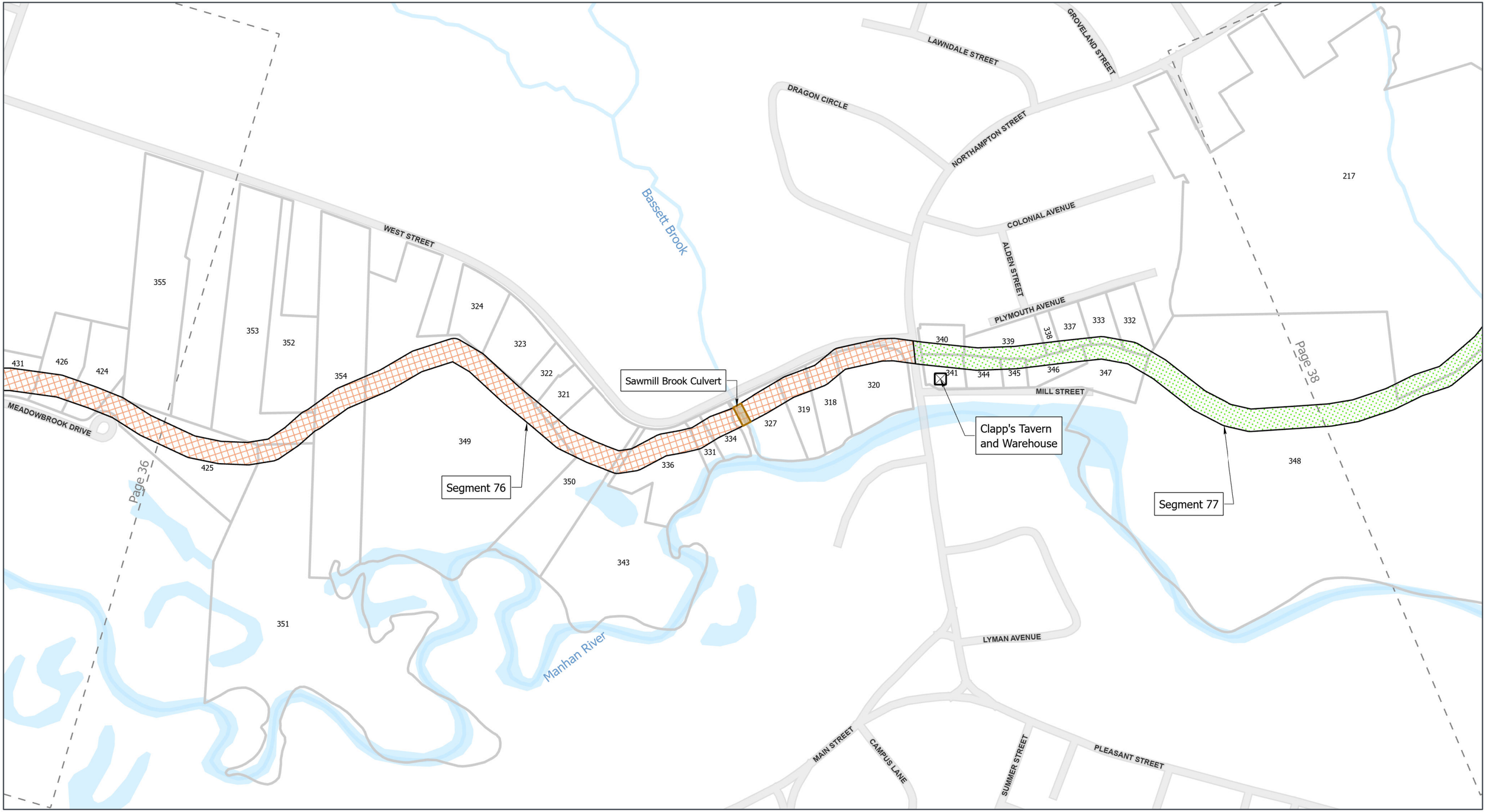
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

N

1:3,600

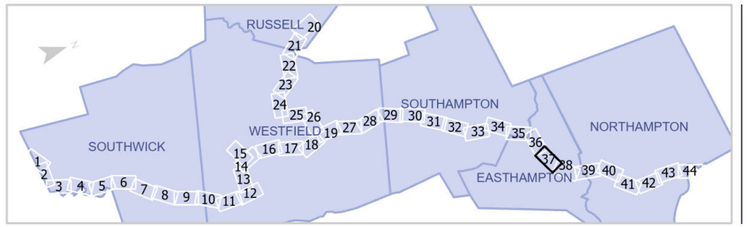
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2733°N 72.6751°W

1 inch equals 300 feet

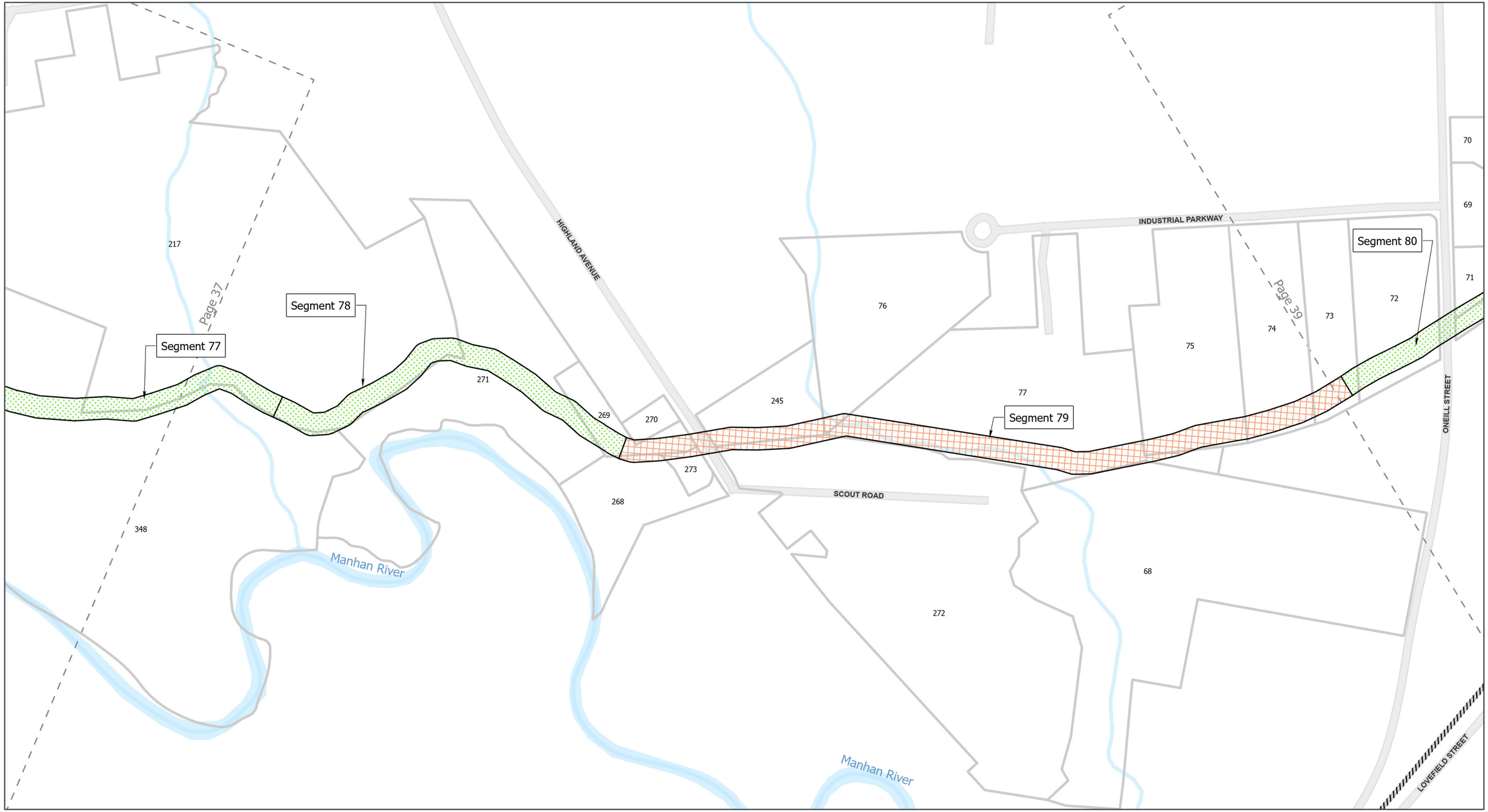
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

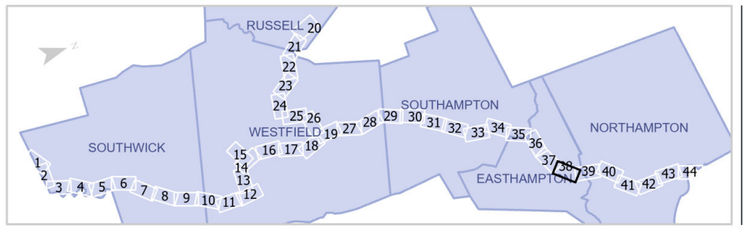
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2809°N 72.6628°W

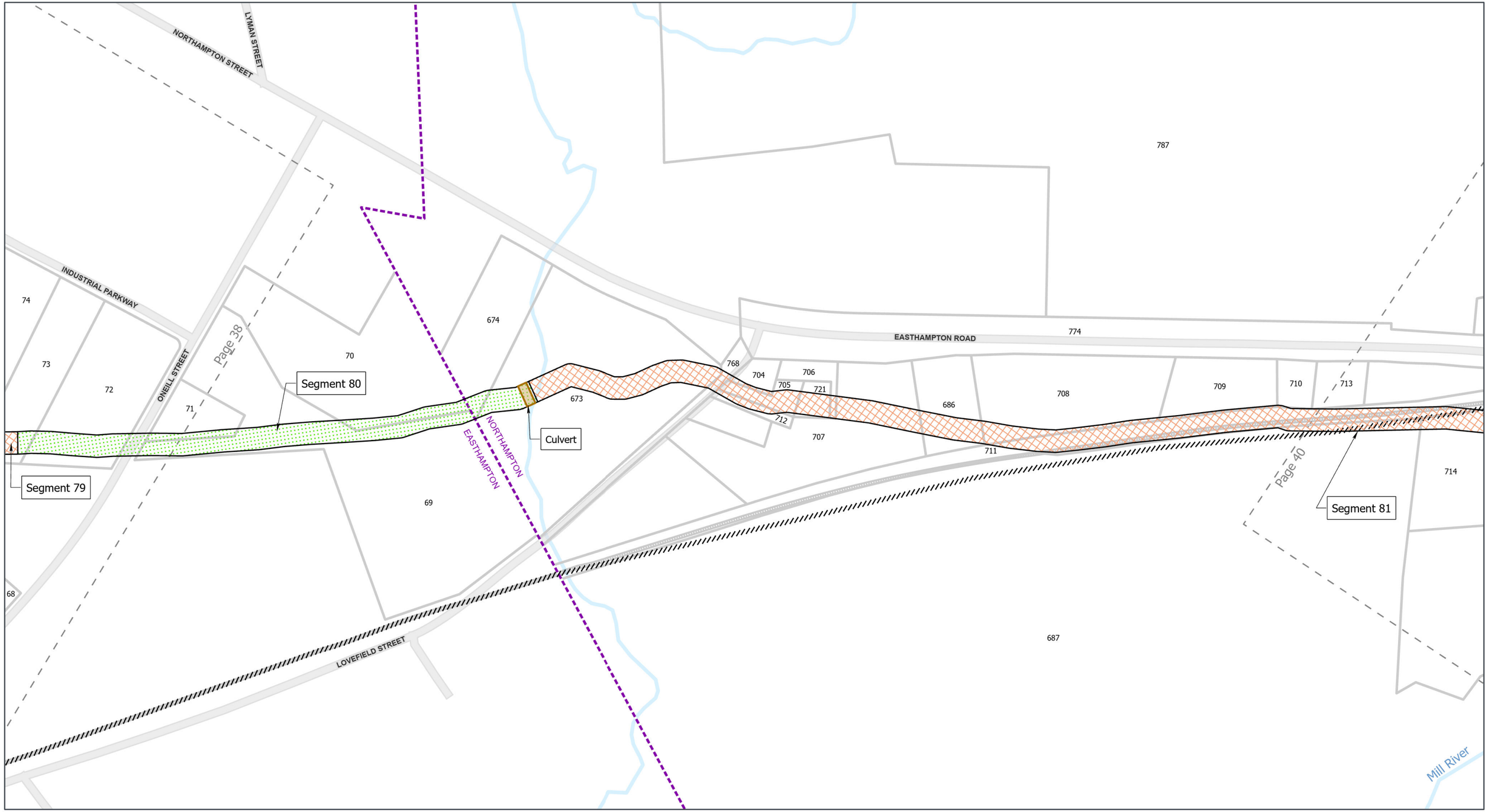
1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1:3,600

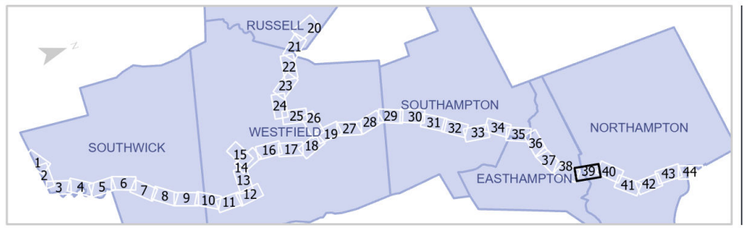
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2919°N 72.6573°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Segment 83

Rocky Hill Basin

Segment 84

Segment 82

Segment 85

Segment 81

746

787

725

731

701

732

676

747

774

700

702

675

775

711

714

687

769

782

713

Page 39

Page 41

CHAPEL STREET

RUST AVENUE

PRINCE STREET

LAUREL STREET

GROVE STREET

EASTHAMPTON ROAD

EARLE STREET

483

Mill River

PYNCHON MEADOW ROAD

SOUTH STREET

677

678

SOUTH PARK TERRACE

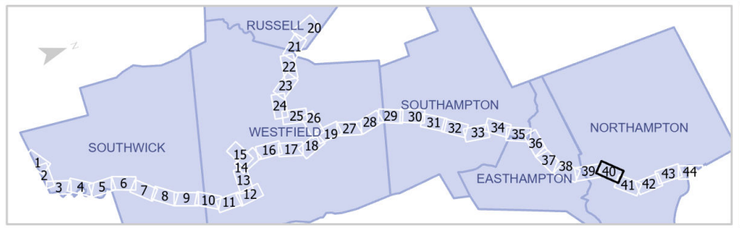
CURTIS NOOK ROAD

Mill River

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3038°N 72.6526°W

1 inch equals 300 feet

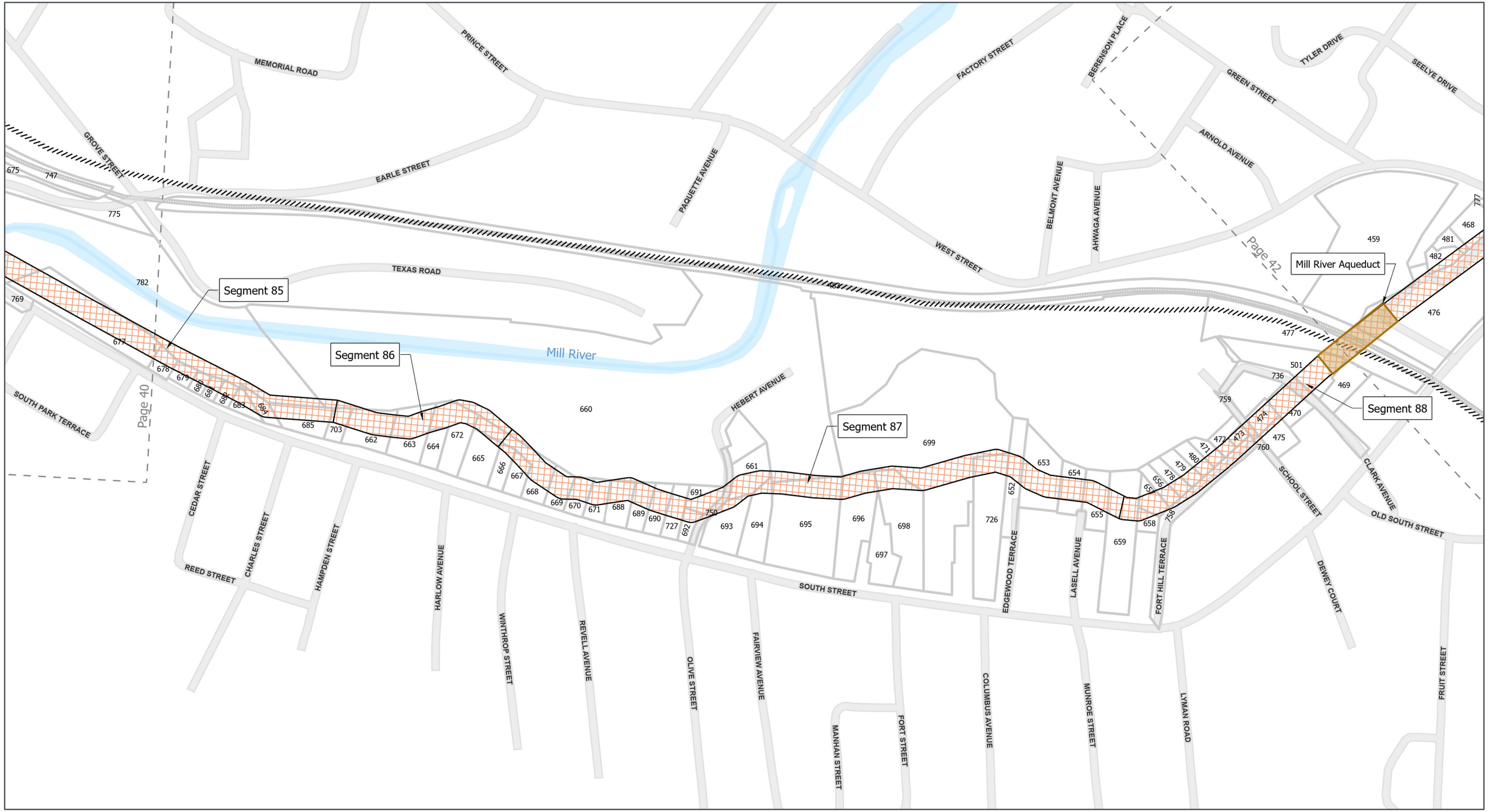
0 140 280 Feet

0 30 60 Meters

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1:3,600

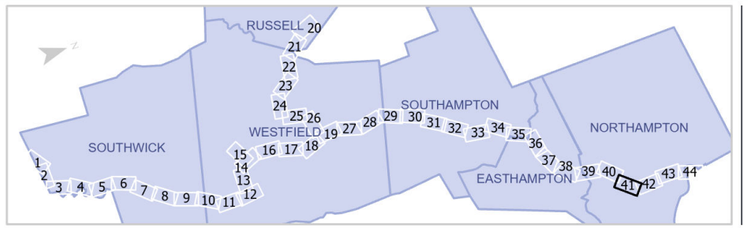
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane
Massachusetts Mainland FIPS
2001
42.3111°N 72.6388°W

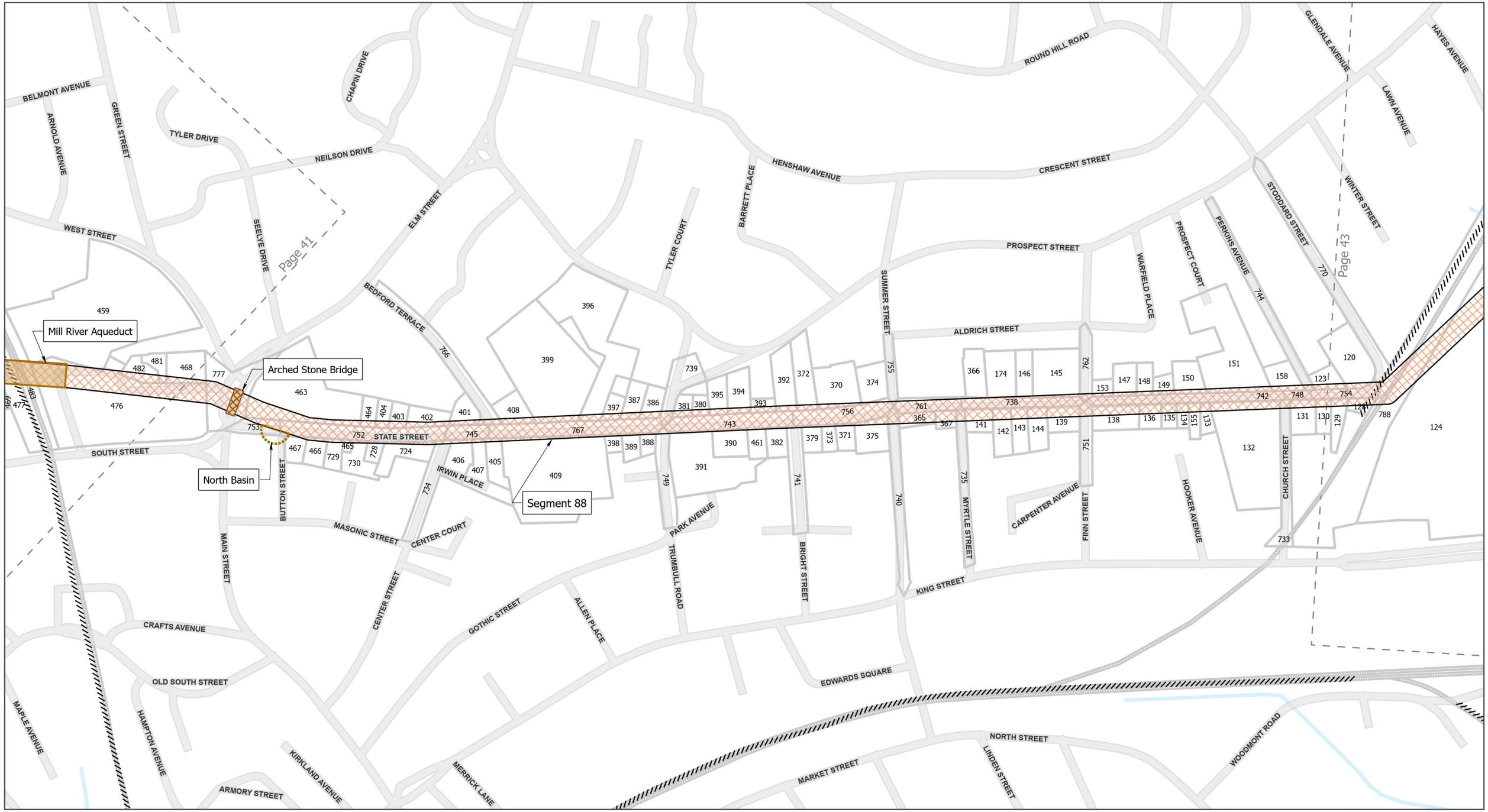
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

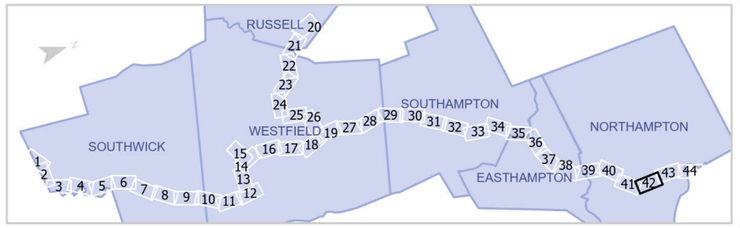
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



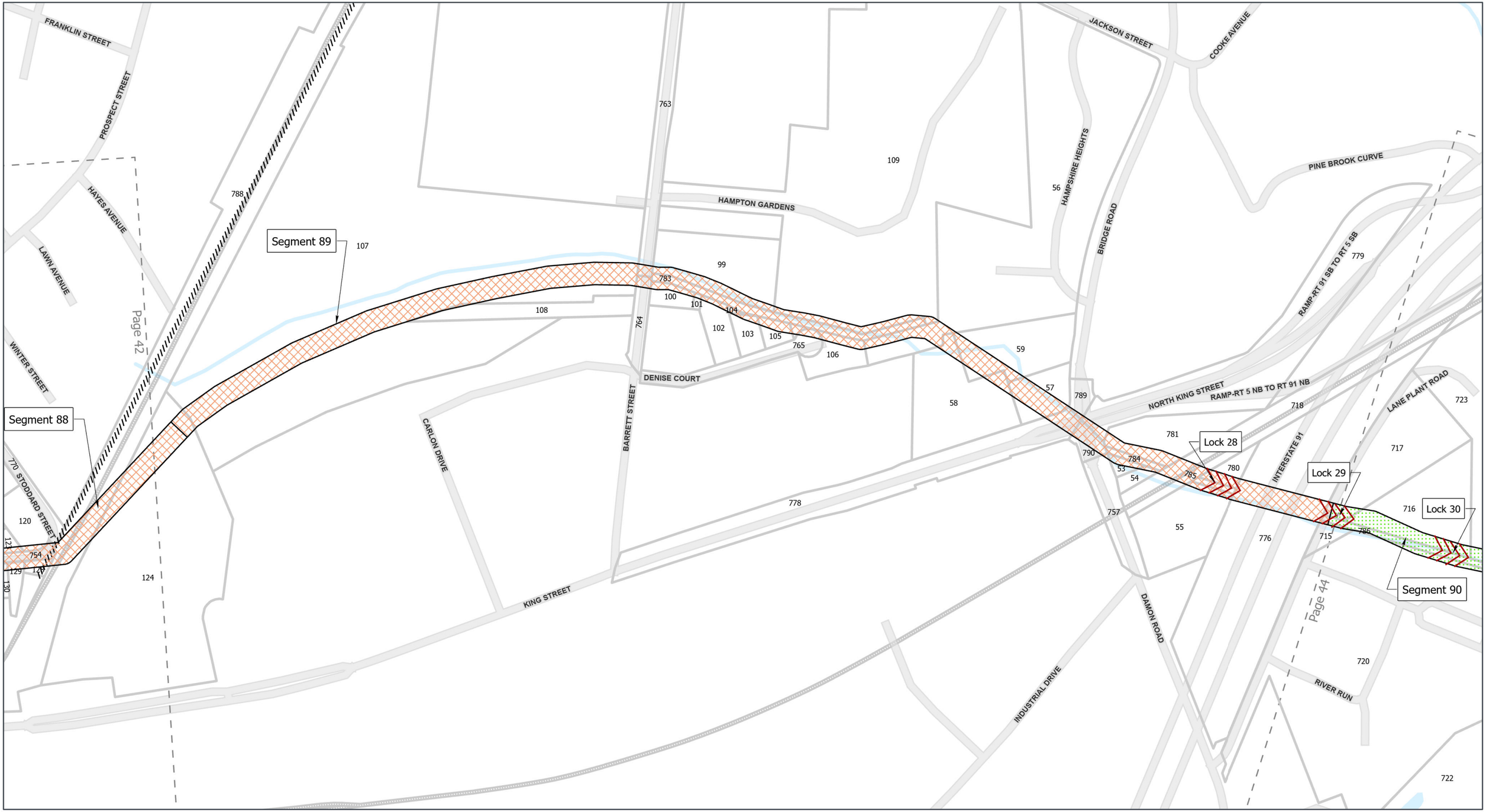
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3225°N 72.6349°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1:3,600

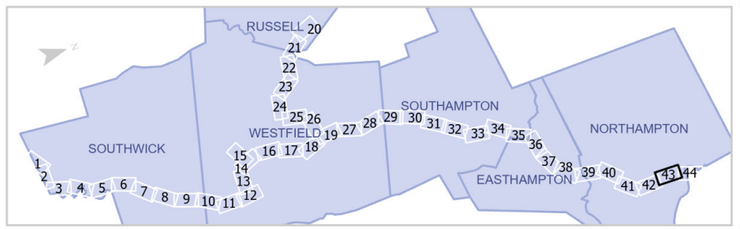
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3346°N 72.6375°W

1 inch equals 300 feet

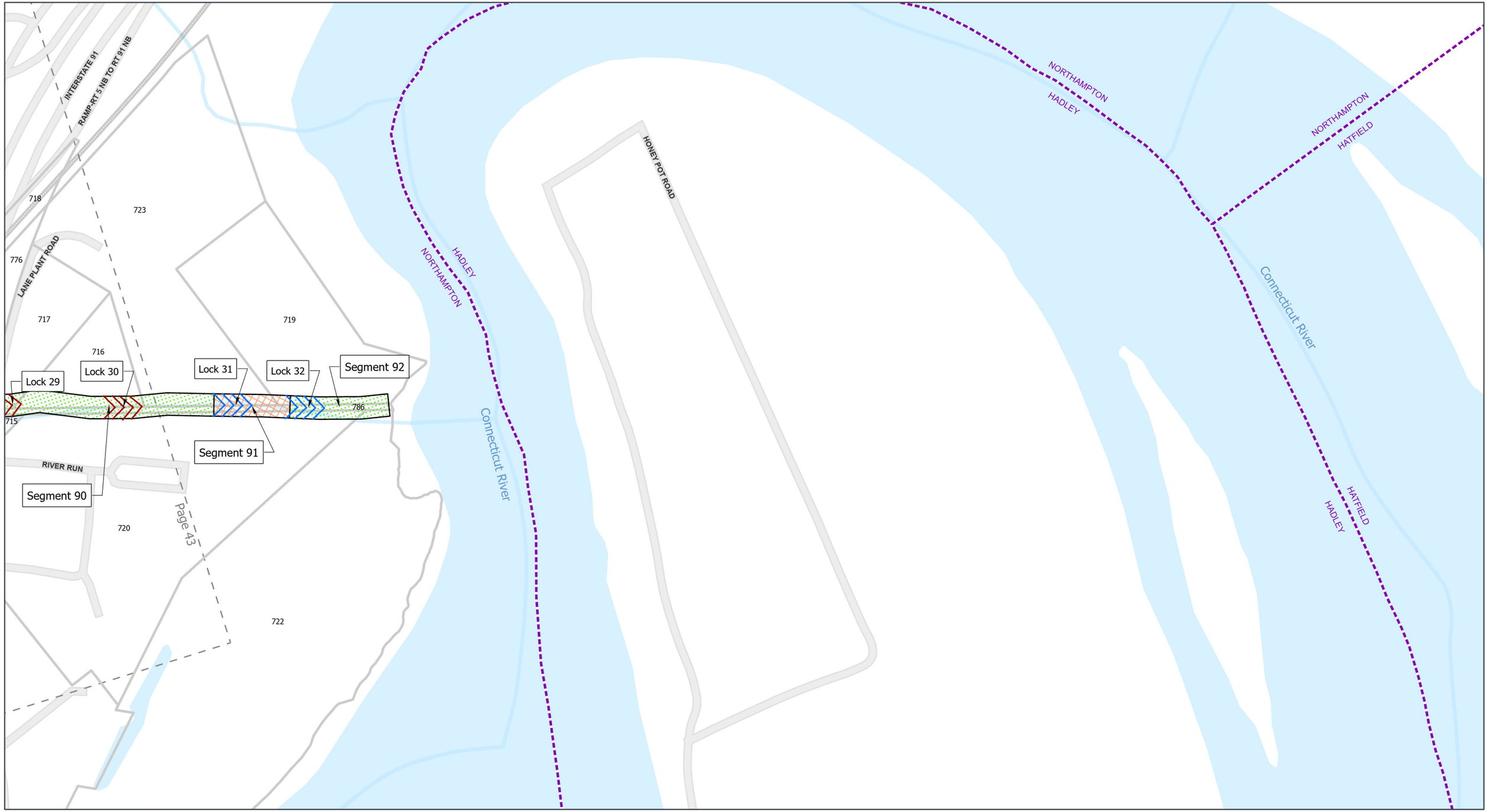
0 140 280 Feet

0 30 60 Meters

1:3,600

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

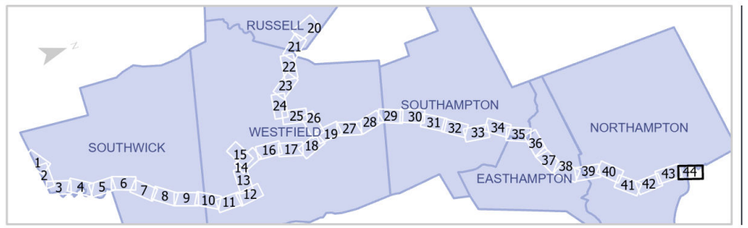
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3466°N 72.6335°W

Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1 inch equals 300 feet

0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

APPENDIX B

Mapbook Parcel ID Key

PageNumber	Map_LABEL	MAP_PAR_ID	LOC_ID		
1	265	162_004_000_000_000	M_93937_862511		
1	266	163_001_000_000_000	M_93679_862236		
1	267	163_002_000_000_000	M_93310_862170		
1	277	169_003_000_000_000	M_92979_862100		
1	278	169_003_001_000_000	M_93028_862127		
1	279	169_004_000_000_000	M_92788_861999		
1	280	169_005_000_000_000	M_92774_861939		
2	261	161_007_000_000_000	M_94877_862405		
2	262	162_001_000_000_000	M_94762_862734		
2	263	162_002_000_000_000	M_94476_862573		
2	264	162_003_000_000_000	M_94286_862361		
2	265	162_004_000_000_000	M_93937_862511		
2	266	163_001_000_000_000	M_93679_862236		
2	267	163_002_000_000_000	M_93310_862170		
3	188	149_004_000_000_000	M_94914_863745		
3	246	160_018_000_000_000	M_95073_863179		
3	247	160_019_000_000_000	M_95072_863161		
3	248	160_020_000_000_000	M_95062_863144		
3	249	160_021_000_000_000	M_95045_863117		
3	250	160_022_000_000_000	M_95030_863096		
3	251	160_023_000_000_000	M_95019_863085		
3	252	160_025_000_000_000	M_94998_863061		
3	253	160_027_000_000_000	M_94980_863035		
3	254	160_030_000_000_000	M_94958_862997		
3	255	160_031_000_000_000	M_94957_862982		
3	256	160_014_000_000_000	M_95047_863259		
3	257	160_015_000_000_000	M_95061_863243		
3	258	160_016_000_000_000	M_95063_863217		
3	259	160_017_000_000_000	M_95068_863197		
3	260	160_032_000_000_000	M_94867_862957		
3	261	161_007_000_000_000	M_94877_862405		
3	262	162_001_000_000_000	M_94762_862734		
3	263	162_002_000_000_000	M_94476_862573		
3	264	162_003_000_000_000	M_94286_862361		
3	265	162_004_000_000_000	M_93937_862511		
3	290	<Null>	M_95968_864992		
4	86	138_048_000_000_000	M_95499_864682		
4	87	138_049_000_000_000	M_95595_864760		
4	88	138_050_000_000_000	M_95596_864743		
4	89	138_051_000_000_000	M_95595_864724		
4	90	138_052_000_000_000	M_95636_864730		
4	91	138_061_000_000_000	M_95628_864674		
4	92	138_062_000_000_000	M_95587_864655		
4	95	138_079_000_000_000	M_95555_864629		
4	183	149_006_000_000_000	M_95061_863711		
4	184	149_007_000_000_000	M_95058_863696		

4	186	149_001_000_000_000	M_95106_863939		
4	187	149_003_000_000_000	M_95068_863875		
4	188	149_004_000_000_000	M_94914_863745		
4	189	149_005_000_000_000	M_95064_863730		
4	290	<Null>	M_95968_864992		
5	47	124_010_000_000_000	M_95685_866061		
5	48	124_011_000_000_000	M_95694_866014		
5	49	124_012_000_000_000	M_95686_865975		
5	50	124_016_000_000_000	M_95658_865865		
5	51	124_017_000_000_000	M_95656_865835		
5	52	124_018_000_000_000	M_95652_865805		
5	79	135_015_000_000_000	M_95634_865479		
5	80	135_027_000_000_000	M_95686_865311		
5	81	135_028_000_000_000	M_95690_865267		
5	84	136_002_000_000_000	M_95780_865394		
5	85	136_004_000_000_000	M_95762_865353		
5	86	138_048_000_000_000	M_95499_864682		
5	87	138_049_000_000_000	M_95595_864760		
5	88	138_050_000_000_000	M_95596_864743		
5	89	138_051_000_000_000	M_95595_864724		
5	90	138_052_000_000_000	M_95636_864730		
5	91	138_061_000_000_000	M_95628_864674		
5	92	138_062_000_000_000	M_95587_864655		
5	95	138_079_000_000_000	M_95555_864629		
5	290	<Null>	M_95968_864992		
6	1	099_050_000_000_000	M_96050_867075		
6	2	099_030_001_000_000	M_96185_867294		
6	3	099_031_000_000_000	M_96138_867349		
6	4	099_031_002_000_000	M_96269_867306		
6	5	099_031_003_000_000	M_96375_867280		
6	6	099_033_000_000_000	M_96428_867328		
6	7	099_034_000_000_000	M_96517_867301		
6	8	099_038_000_000_000	M_96423_866582		
6	9	099_042_000_000_000	M_96117_867153		
6	10	099_047_000_000_000	M_96136_867088		
6	11	099_048_000_000_000	M_96092_867051		
6	12	UNKNOWN	M_95774_866496		
6	13	114_020_000_000_000	M_96021_866941		
6	14	113_057_000_000_000	M_95744_866467		
6	15	113_058_000_000_000	M_95751_866428		
6	37	114_077_000_000_000	M_95833_866670		
6	38	114_078_000_000_000	M_95899_866640		
6	39	114_083_000_000_000	M_95984_866771		
6	40	114_083_001_000_000	M_95991_866785		
6	41	114_084_000_000_000	M_96006_866801		
6	42	114_085_000_000_000	M_96028_866814		
6	43	114_086_000_000_000	M_96039_866842		

6	44	114_087_000_000_000	M_96065_866856		
6	45	114_175_000_000_000	M_95918_866468		
6	46	114_176_000_000_000	M_95775_866609		
6	47	124_010_000_000_000	M_95685_866061		
6	48	124_011_000_000_000	M_95694_866014		
6	49	124_012_000_000_000	M_95686_865975		
6	290	<Null>	M_95968_864992		
6	291	<Null>	M_96243_866839		
6	304	114_080_000_000_000	M_95951_866719		
6	305	114_080_002_000_000	M_95929_866707		
7	2	099_030_001_000_000	M_96185_867294		
7	3	099_031_000_000_000	M_96138_867349		
7	4	099_031_002_000_000	M_96269_867306		
7	5	099_031_003_000_000	M_96375_867280		
7	6	099_033_000_000_000	M_96428_867328		
7	7	099_034_000_000_000	M_96517_867301		
7	8	099_038_000_000_000	M_96423_866582		
7	291	<Null>	M_96243_866839		
7	797	091_012_000_000_000	M_96964_867740		
7	798	091_013_000_000_000	M_96866_867672		
7	799	091_014_000_000_000	M_96845_867900		
7	800	091_021_000_000_000	M_97089_867901		
7	802	074_006_000_000_000	M_96813_868331		
7	803	091_027_000_000_000	M_97285_868370		
7	808	067_132_000_000_000	M_96791_868628		
7	815	098_004_000_000_000	M_96648_867383		
7	816	098_005_000_000_000	M_96683_867461		
7	817	098_006_000_000_000	M_96769_867612		
7	818	098_007_000_000_000	M_96773_867537		
7	820	090_011_000_000_000	M_96642_868086		
7	821	090_014_000_000_000	M_96417_867714		
8	801	074_005_000_000_000	M_97206_868741		
8	802	074_006_000_000_000	M_96813_868331		
8	803	091_027_000_000_000	M_97285_868370		
8	804	048_004_000_000_000	M_97895_869485		
8	806	067_048_000_000_000	M_97567_869295		
8	807	067_101_000_000_000	M_97507_869037		
8	808	067_132_000_000_000	M_96791_868628		
8	809	068_006_000_000_000	M_97758_869386		
8	810	068_007_000_000_000	M_97718_869341		
8	811	068_008_000_000_000	M_97652_869263		
8	812	068_009_000_000_000	M_97783_869297		
8	813	068_054_000_000_000	M_97709_868715		
8	814	068_055_000_000_000	M_97581_869121		
9	296	<Null>	M_98257_870622		
9	796	043_002_000_000_000	M_98380_870275		
9	804	048_004_000_000_000	M_97895_869485		

9	805	048_005_000_000_000	M_98013_869926		
9	806	067_048_000_000_000	M_97567_869295		
9	809	068_006_000_000_000	M_97758_869386		
9	812	068_009_000_000_000	M_97783_869297		
9	819	023_002_000_000_000	M_98439_870671		
10	16	143-9	F_323751_2859528		
10	17	143-10	F_323842_2859566		
10	18	143-11	F_324005_2859582		
10	19	143-3	F_323495_2859198		
10	20	7R-3	F_324577_2859906		
10	21	7R-4	F_324708_2860101		
10	22	143-2	F_323445_2859110		
10	23	143-7	F_323623_2859414		
10	24	7R-1	F_323268_2858443		
10	25	143-8	F_323676_2859475		
10	26	143-1	F_323387_2859026		
10	27	143-4	F_323546_2859290		
10	28	7R-53	F_325102_2860706		
10	29	147-44	F_325295_2860539		
10	30	7R-5	F_324772_2860294		
10	31	7R-6	F_324845_2860466		
10	33	W SPRINGFIELD WATER LINE	F_324393_2859783		
10	296	<Null>	M_98257_870622		
10	819	023_002_000_000_000	M_98439_870671		
11	20	7R-3	F_324577_2859906		
11	21	7R-4	F_324708_2860101		
11	28	7R-53	F_325102_2860706		
11	29	147-44	F_325295_2860539		
11	30	7R-5	F_324772_2860294		
11	31	7R-6	F_324845_2860466		
11	32	<Null>	F_325269_2861732		
11	33	W SPRINGFIELD WATER LINE	F_324393_2859783		
11	34	7R-51	F_325438_2861199		
11	35	7R-28	F_325346_2861493		
11	36	147-45	F_325590_2860992		
11	67	7R-11	F_325716_2861330		
11	78	122-45	F_325133_2864183		
11	116	122-4	F_324950_2862946		
11	117	19R-33	F_325701_2862366		
11	118	19R-43	F_325247_2862768		
11	121	19R-45	F_325256_2863074		
11	125	19R-44	F_325250_2862919		
11	126	123-48	F_325213_2862643		
11	127	122-5	F_325030_2863250		
11	154	122-58	F_324934_2863077		
11	156	122-17	F_324936_2863417		
11	157	122-6	F_325050_2863428		

11	159	122-16	F_324911_2863535		
11	161	122-15	F_324897_2863642		
11	162	122-7	F_325040_2863600		
11	167	122-13	F_324932_2863839		
11	168	122-8	F_325062_2863741		
11	169	122-14	F_324908_2863746		
11	170	122-42	F_324899_2864181		
11	175	119-4	F_325147_2864414		
11	178	122-43	F_325017_2864184		
11	179	122-46	F_325144_2864278		
11	180	122-11	F_324990_2863942		
11	181	122-12	F_324895_2863952		
11	185	119-5	F_325201_2864650		
11	196	153-57	F_324964_2864481		
11	199	119-22	F_325216_2864966		
11	200	119-6-1A	F_325120_2864977		
11	201	153-22	F_325015_2865112		
11	202	153-56	F_325008_2864673		
11	203	119-6	F_325182_2864821		
11	210	119-7	F_325224_2865125		
11	793	7R-8	F_325161_2861082		
11	795	7R-8-1	F_325118_2860965		
12	182	116-2	F_325373_2867172		
12	185	119-5	F_325201_2864650		
12	194	116-9	F_325051_2867229		
12	196	153-57	F_324964_2864481		
12	199	119-22	F_325216_2864966		
12	200	119-6-1A	F_325120_2864977		
12	201	153-22	F_325015_2865112		
12	202	153-56	F_325008_2864673		
12	203	119-6	F_325182_2864821		
12	204	119-9	F_325310_2865480		
12	207	153-21	F_325058_2865247		
12	208	119-8	F_325279_2865319		
12	209	119-10	F_325348_2865599		
12	210	119-7	F_325224_2865125		
12	212	119-11	F_325266_2865733		
12	213	119-12	F_325407_2865779		
12	214	119-14	F_325308_2866003		
12	215	119-15	F_325394_2866063		
12	216	119-16	F_325515_2866103		
12	218	117-2	F_325408_2866238		
12	219	117-1	F_325548_2866259		
12	220	119-13	F_325437_2865863		
12	221	119-19	F_325214_2865895		
12	222	153-9	F_325078_2865450		
12	223	119-21	F_325168_2865652		

12	224	117-28	F_325530_2866805		
12	228	117-29	F_325492_2866883		
12	229	117-30	F_325443_2866951		
12	231	118-13	F_323823_2866847		
12	232	118-14	F_323999_2866854		
12	235	117-27	F_325577_2866711		
12	237	117-26	F_325493_2866628		
12	238	116-1	F_325398_2867045		
12	239	117-20	F_324845_2866939		
12	240	117-22	F_325180_2866708		
12	242	116-3	F_325326_2867262		
12	243	116-10	F_324862_2867352		
12	281	117-21	F_325043_2866888		
12	283	118-16	F_324299_2866886		
12	285	118-15	F_324150_2866865		
12	286	117-18	F_324437_2866902		
12	288	29R-13	F_324420_2867500		
12	293	116-23	F_324683_2867552		
12	306	28R-7	F_323432_2867559		
13	211	118-33	F_322847_2866327		
13	225	21-32	F_319813_2867561		
13	227	118-12	F_323653_2866768		
13	230	28R-33	F_322582_2866722		
13	231	118-13	F_323823_2866847		
13	232	118-14	F_323999_2866854		
13	233	118-32	F_323023_2866386		
13	234	118-31	F_323189_2866411		
13	236	118-10	F_323353_2866579		
13	241	118-11	F_323502_2866693		
13	274	17R-28	F_319122_2866967		
13	276	17R-22	F_320479_2866164		
13	282	28R-32	F_322846_2866818		
13	283	118-16	F_324299_2866886		
13	284	28R-8	F_322098_2866779		
13	285	118-15	F_324150_2866865		
13	286	117-18	F_324437_2866902		
13	288	29R-13	F_324420_2867500		
13	289	28R-6	F_321373_2867264		
13	293	116-23	F_324683_2867552		
13	302	21-32-1A	F_319030_2867878		
13	306	28R-7	F_323432_2867559		
14	160	16-23	F_318154_2869657		
14	171	19-2	F_318371_2868437		
14	225	21-32	F_319813_2867561		
14	274	17R-28	F_319122_2866967		
14	275	15R-3-1B	F_316999_2865861		
14	276	17R-22	F_320479_2866164		

14	297	19-15	F_318120_2867931		
14	300	19-14	F_317843_2868181		
14	301	19-13	F_318165_2868210		
14	302	21-32-1A	F_319030_2867878		
14	308	<Null>	F_318593_2867592		
14	309	19-17	F_318354_2868821		
14	310	16-19	F_318217_2869403		
14	311	16-21	F_318191_2869509		
14	312	16-17	F_318322_2869214		
14	313	16-18	F_318239_2869304		
14	314	16-25	F_318111_2869831		
14	315	16-24	F_318136_2869731		
14	316	16-22	F_318173_2869582		
14	326	12-1	F_317850_2871062		
14	335	16R-48	F_318190_2869947		
14	357	<Null>	F_318105_2871750		
14	634	25-1	F_317235_2867734		
14	643	19-1	F_318370_2869030		
14	644	19-13-1A	F_318263_2868162		
14	645	19-15-2B	F_318434_2868222		
15	160	16-23	F_318154_2869657		
15	171	19-2	F_318371_2868437		
15	225	21-32	F_319813_2867561		
15	274	17R-28	F_319122_2866967		
15	275	15R-3-1B	F_316999_2865861		
15	297	19-15	F_318120_2867931		
15	300	19-14	F_317843_2868181		
15	301	19-13	F_318165_2868210		
15	302	21-32-1A	F_319030_2867878		
15	308	<Null>	F_318593_2867592		
15	309	19-17	F_318354_2868821		
15	310	16-19	F_318217_2869403		
15	311	16-21	F_318191_2869509		
15	312	16-17	F_318322_2869214		
15	313	16-18	F_318239_2869304		
15	314	16-25	F_318111_2869831		
15	315	16-24	F_318136_2869731		
15	316	16-22	F_318173_2869582		
15	335	16R-48	F_318190_2869947		
15	634	25-1	F_317235_2867734		
15	643	19-1	F_318370_2869030		
15	644	19-13-1A	F_318263_2868162		
15	645	19-15-2B	F_318434_2868222		
16	83	9-101	F_318011_2871582		
16	94	9-36	F_317749_2872499		
16	98	57-85	F_317403_2873813		
16	110	57-86	F_317404_2873862		

16	326	12-1	F_317850_2871062		
16	335	16R-48	F_318190_2869947		
16	356	9-78	F_317940_2872123		
16	357	<Null>	F_318105_2871750		
16	358	9-103	F_318029_2871810		
16	362	<Null>	F_318036_2872221		
16	364	9-81	F_317928_2872359		
16	368	9-80	F_317926_2872247		
16	378	9-39	F_317753_2872622		
16	400	9-40	F_317726_2872688		
16	416	9-41	F_317723_2872823		
16	418	9-44	F_317703_2873012		
16	432	<Null>	F_317848_2872780		
16	445	56-59	F_317445_2873555		
16	449	<Null>	F_317608_2873400		
16	450	56-60	F_317418_2873502		
16	451	56-77	F_317607_2873202		
16	452	57-83	F_317387_2873713		
16	453	57-81	F_317441_2873687		
16	455	57-82	F_317424_2873773		
16	456	57-87	F_317415_2873910		
16	460	57-58	F_317471_2874170		
16	462	57-88	F_317427_2873965		
16	490	57-35	F_317427_2874539		
16	491	RR	F_327242_2868597		
16	494	<Null>	F_317779_2874569		
16	506	221-4	F_319139_2876355		
16	516	<Null>	F_318624_2876255		
16	646	<Null>	F_304425_2877256		
16	794	41R-9	F_317364_2875122		
17	111	202-73	F_318492_2876673		
17	412	244-4	F_320652_2879802		
17	485	247-24-1A	F_319961_2879828		
17	502	202-70	F_318388_2876412		
17	503	202-71	F_318415_2876483		
17	505	202-74	F_318549_2876826		
17	506	221-4	F_319139_2876355		
17	507	202-72	F_318437_2876546		
17	511	202-91	F_318690_2877094		
17	512	221-6	F_319207_2877200		
17	513	221-31	F_319502_2876877		
17	516	<Null>	F_318624_2876255		
17	517	229-1	F_319451_2877489		
17	538	229-94	F_319551_2877849		
17	566	246-3	F_319215_2879266		
17	570	245-1	F_319542_2878811		
17	571	247-24	F_319577_2879733		

17	587	<Null>	F_319555_2878489		
18	412	244-4	F_320652_2879802		
18	485	247-24-1A	F_319961_2879828		
18	566	246-3	F_319215_2879266		
18	571	247-24	F_319577_2879733		
18	572	247-25	F_320310_2880320		
18	579	250-24	F_320946_2880604		
18	581	250-23-1A	F_321075_2880756		
18	582	50R-3	F_320388_2880865		
18	584	<Null>	F_318689_2883887		
18	587	<Null>	F_319555_2878489		
18	588	49R-12	F_318165_2884142		
18	599	251-68	F_321834_2881010		
18	601	50R-8	F_319174_2883204		
18	602	50R-11	F_319307_2883331		
18	603	50R-5	F_320446_2881495		
18	608	49R-30	F_317807_2883835		
18	609	49R-31	F_318165_2883993		
18	612	50R-12	F_319127_2883928		
18	617	56R-4	F_318440_2884396		
18	618	56R-8	F_318840_2885088		
18	621	50R-23	F_319930_2883695		
18	628	<Null>	F_318548_2884879		
19	377	63R-2	F_319871_2889830		
19	488	55R-43	F_318016_2889005		
19	489	<Null>	F_318454_2889085		
19	584	<Null>	F_318689_2883887		
19	588	49R-12	F_318165_2884142		
19	607	49R-32	F_317504_2883869		
19	608	49R-30	F_317807_2883835		
19	609	49R-31	F_318165_2883993		
19	612	50R-12	F_319127_2883928		
19	613	49R-11	F_317651_2884267		
19	614	49R-8	F_316521_2883578		
19	616	56R-100	F_318130_2886736		
19	617	56R-4	F_318440_2884396		
19	618	56R-8	F_318840_2885088		
19	619	49R-37	F_317127_2884123		
19	621	50R-23	F_319930_2883695		
19	625	56R-99	F_318311_2884756		
19	626	55R-42	F_317872_2887881		
19	627	56R-3	F_317940_2885750		
19	628	<Null>	F_318548_2884879		
20	522	27_9_3	M_90288_880621		
20	524	32_2_9	M_90570_880164		
20	525	32_2_10	M_90912_879911		
20	526	32_2_11	M_90926_879900		

20	527	32_2_12	M_89991_881910		
20	530	32_4_5	M_90566_880037		
20	532	32_4_4	M_90751_879895		
20	533	33_1_1	M_90976_879823		
20	535	32_3_10	M_90410_880238		
20	536	32_3_9	M_90332_880507		
20	540	<Null>	M_88257_877565		
20	542	<Null>	M_90879_879704		
20	544	<Null>	M_89176_881890		
21	486	<Null>	M_91573_879289		
21	491	RR	F_327242_2868597		
21	524	32_2_9	M_90570_880164		
21	525	32_2_10	M_90912_879911		
21	526	32_2_11	M_90926_879900		
21	527	32_2_12	M_89991_881910		
21	532	32_4_4	M_90751_879895		
21	533	33_1_1	M_90976_879823		
21	534	33_1_2	M_91247_879672		
21	540	<Null>	M_88257_877565		
21	541	<Null>	M_91455_879204		
21	542	<Null>	M_90879_879704		
21	622	38R-2	F_301101_2883379		
21	623	38R-4	F_302745_2883926		
21	646	<Null>	F_304425_2877256		
22	491	RR	F_327242_2868597		
22	610	38R-22	F_302645_2882705		
22	611	38R-23	F_302191_2882460		
22	615	38R-5	F_304714_2883322		
22	622	38R-2	F_301101_2883379		
22	623	38R-4	F_302745_2883926		
22	646	<Null>	F_304425_2877256		
23	410	39R-41	F_308629_2879409		
23	491	RR	F_327242_2868597		
23	565	39R-34	F_307845_2879343		
23	567	39R-33	F_307955_2879249		
23	568	39R-32	F_308053_2879123		
23	573	39R-40	F_308510_2879755		
23	577	39R-35	F_307912_2879630		
23	578	39R-17	F_307940_2881993		
23	583	39R-28	F_306449_2880744		
23	589	38R-15	F_305910_2881571		
23	591	38R-29	F_305856_2881770		
23	592	39R-2	F_306382_2881398		
23	593	38R-14	F_306116_2881828		
23	594	39R-3	F_306109_2881286		
23	597	39R-26	F_306252_2881203		
23	598	39R-5	F_306619_2881061		

23	600	39R-18	F_308570_2880703		
23	615	38R-5	F_304714_2883322		
24	410	39R-41	F_308629_2879409		
24	413	40R-110	F_312539_2879641		
24	491	RR	F_327242_2868597		
24	545	40R-48	F_311660_2877799		
24	546	40R-145	F_310629_2878456		
24	547	40R-97	F_312327_2878366		
24	548	40R-144	F_310763_2878457		
24	549	40R-157	F_310393_2878862		
24	550	40R-178	F_313051_2879152		
24	551	40R-159	F_310494_2878673		
24	552	40R-161	F_310630_2878712		
24	553	40R-160	F_310504_2878810		
24	554	40R-154	F_310141_2878878		
24	555	40R-158	F_310340_2878689		
24	556	40R-162	F_310741_2878688		
24	557	40R-155	F_310226_2878755		
24	558	40R-143	F_310906_2878458		
24	559	40R-179	F_313118_2878935		
24	560	40R-108	F_312038_2878672		
24	561	40R-127	F_309792_2878986		
24	562	40R-27	F_308770_2878935		
24	563	40R-152	F_310071_2879055		
24	564	40R-156	F_310298_2878916		
24	565	39R-34	F_307845_2879343		
24	567	39R-33	F_307955_2879249		
24	568	39R-32	F_308053_2879123		
24	569	40R-165	F_309190_2878841		
24	573	39R-40	F_308510_2879755		
24	574	OPEN SPACE	F_310931_2877979		
24	576	40R-109	F_312189_2879173		
24	577	39R-35	F_307912_2879630		
24	585	47R-4	F_311233_2881936		
24	600	39R-18	F_308570_2880703		
24	646	<Null>	F_304425_2877256		
25	411	40R-21	F_313111_2879962		
25	413	40R-110	F_312539_2879641		
25	547	40R-97	F_312327_2878366		
25	550	40R-178	F_313051_2879152		
25	559	40R-179	F_313118_2878935		
25	560	40R-108	F_312038_2878672		
25	574	OPEN SPACE	F_310931_2877979		
25	575	40R-177	F_313229_2879464		
25	576	40R-109	F_312189_2879173		
25	585	47R-4	F_311233_2881936		
25	586	48R-78	F_313964_2883071		

25	595	48R-52	F_313360_2882684		
25	596	48R-1	F_313019_2880896		
25	791	48R-1-1	F_312615_2881106		
26	586	48R-78	F_313964_2883071		
26	588	49R-12	F_318165_2884142		
26	595	48R-52	F_313360_2882684		
26	604	48R-5	F_314322_2883334		
26	605	48R-6	F_314180_2883357		
26	606	48R-7	F_314072_2883366		
26	607	49R-32	F_317504_2883869		
26	608	49R-30	F_317807_2883835		
26	609	49R-31	F_318165_2883993		
26	613	49R-11	F_317651_2884267		
26	614	49R-8	F_316521_2883578		
26	619	49R-37	F_317127_2884123		
26	620	49R-38	F_316831_2884188		
26	624	48R-29	F_315021_2884175		
26	625	56R-99	F_318311_2884756		
26	627	56R-3	F_317940_2885750		
26	635	48R-30-1D	F_314687_2883326		
26	636	48R-30-1C	F_314655_2883463		
26	637	48R-30-1B	F_314607_2883596		
26	638	48R-30-5E	F_315602_2883396		
26	639	48R-30-4D	F_315042_2883426		
27	377	63R-2	F_319871_2889830		
27	487	62R-23	F_318593_2889698		
27	488	55R-43	F_318016_2889005		
27	489	<Null>	F_318454_2889085		
27	529	<Null>	F_319020_2893892		
27	531	69R-20	F_319674_2893560		
27	626	55R-42	F_317872_2887881		
27	628	<Null>	F_318548_2884879		
27	629	62R-24	F_318674_2891284		
27	630	63R-1	F_319606_2891502		
27	631	<Null>	F_319248_2890706		
27	650	69R-29	F_319288_2893128		
28	361	69R-1	F_318206_2894653		
28	376	69R-12	F_318451_2895561		
28	528	69R-21	F_319100_2894507		
28	529	<Null>	F_319020_2893892		
28	531	69R-20	F_319674_2893560		
28	629	62R-24	F_318674_2891284		
28	632	69R-9	F_318924_2897684		
28	633	<Null>	F_318817_2897026		
28	640	<Null>	F_318899_2897232		
28	641	69R-30	F_318958_2895812		
28	642	69R-7	F_318677_2896924		

28	647	69R-10	F_318610_2896404		
28	648	<Null>	F_318765_2895729		
28	649	69R-11	F_318553_2896024		
28	650	69R-29	F_319288_2893128		
28	792	69R-22	F_318634_2897711		
29	60	39_37	F_320108_2900917		
29	61	39_16_A	F_320393_2899764		
29	62	39_7_A	F_319132_2900229		
29	63	39_29_A	F_318888_2898314		
29	64	39_29_B	F_318630_2898446		
29	65	39_101	F_318616_2899562		
29	66	39_34	F_320483_2901195		
29	82	39_38	F_320413_2901019		
29	93	39_8	F_319499_2900319		
29	96	39_29	F_318921_2898890		
29	97	39_99	F_318812_2899343		
29	152	34_61	F_320529_2901515		
29	163	39_32	F_320522_2901342		
29	164	39_33	F_320328_2901322		
29	244	39_86	F_321150_2900704		
29	632	69R-9	F_318924_2897684		
29	633	<Null>	F_318817_2897026		
29	640	<Null>	F_318899_2897232		
29	642	69R-7	F_318677_2896924		
29	737	16_3	F_308410_2911163		
29	771	34_179	F_319214_2902056		
29	792	69R-22	F_318634_2897711		
30	60	39_37	F_320108_2900917		
30	66	39_34	F_320483_2901195		
30	82	39_38	F_320413_2901019		
30	112	34_11_B	F_320888_2903588		
30	113	34_66	F_320729_2902033		
30	114	34_62	F_320581_2901653		
30	115	34_64	F_320703_2901805		
30	119	34_19	F_322082_2905308		
30	122	34_3	F_321904_2905095		
30	137	34_5	F_321714_2904808		
30	140	34_6	F_321640_2904690		
30	152	34_61	F_320529_2901515		
30	163	39_32	F_320522_2901342		
30	164	39_33	F_320328_2901322		
30	166	28_94	F_322437_2905684		
30	172	34_8	F_321491_2904454		
30	173	34_139	F_321332_2904201		
30	176	34_141	F_320130_2902484		
30	177	34_150	F_320266_2902738		
30	190	34_65	F_320594_2902153		

30	191	<Null>	F_320512_2902047		
30	192	34_46	F_320498_2902302		
30	193	34_67	F_320806_2902162		
30	195	34_47	F_320625_2902389		
30	198	34_7	F_321563_2904571		
30	205	28_115	F_322211_2905453		
30	206	34_13	F_321087_2903752		
30	226	28_82	F_320452_2903925		
30	244	39_86	F_321150_2900704		
30	287	34_9	F_321402_2904331		
30	292	34_10	F_321236_2904032		
30	295	34_4	F_321781_2904931		
30	298	34_12	F_321131_2903862		
30	299	34_151	F_320421_2902593		
30	737	16_3	F_308410_2911163		
30	771	34_179	F_319214_2902056		
31	119	34_19	F_322082_2905308		
31	122	34_3	F_321904_2905095		
31	165	28_24	F_322774_2906018		
31	166	28_94	F_322437_2905684		
31	197	28_20_A	F_322953_2906835		
31	205	28_115	F_322211_2905453		
31	226	28_82	F_320452_2903925		
31	294	28_21_A	F_322938_2906504		
31	307	28_22	F_323703_2908747		
31	328	29_31	F_323849_2907531		
31	360	24_47	F_324517_2909414		
31	363	28_18_B	F_323141_2907715		
31	384	29_13	F_324662_2908605		
32	303	24_38	F_325504_2910387		
32	307	28_22	F_323703_2908747		
32	317	24_5_A	F_325115_2912127		
32	325	24_32	F_325570_2911067		
32	329	24_20_P	F_326473_2912235		
32	330	24_21_A	F_327030_2911971		
32	342	24_21_B	F_327530_2912695		
32	359	24_39	F_324926_2909941		
32	360	24_47	F_324517_2909414		
32	369	24_50	F_325086_2909684		
32	383	24_37	F_325240_2910529		
32	384	29_13	F_324662_2908605		
32	437	19_141	F_327207_2913715		
33	329	24_20_P	F_326473_2912235		
33	330	24_21_A	F_327030_2911971		
33	342	24_21_B	F_327530_2912695		
33	436	19_67_A	F_328429_2914117		
33	437	19_141	F_327207_2913715		

33	438	19_68	F_328701_2914341		
33	446	19_42	F_329345_2915429		
33	447	13_155	F_327630_2917403		
33	454	19_144	F_327891_2913226		
33	457	19_35	F_328281_2916286		
33	458	19_7_A	F_327626_2916668		
33	492	19_13_A	F_328972_2916116		
33	493	19_184	F_328896_2914937		
33	495	19_188	F_329176_2915012		
33	496	13_157	F_329111_2918625		
33	497	19_9_A	F_327835_2917131		
33	498	19_10	F_327713_2917259		
33	499	19_7_B	F_327519_2916997		
33	500	19_67_B	F_328696_2914064		
33	504	19_47	F_328726_2914716		
34	414	13_76	F_327757_2918478		
34	419	13_49	F_329633_2920340		
34	420	13_122	F_329185_2920268		
34	447	13_155	F_327630_2917403		
34	448	13_85	F_327739_2917641		
34	457	19_35	F_328281_2916286		
34	458	19_7_A	F_327626_2916668		
34	484	13_48	F_329794_2920492		
34	496	13_157	F_329111_2918625		
34	497	19_9_A	F_327835_2917131		
34	498	19_10	F_327713_2917259		
34	499	19_7_B	F_327519_2916997		
34	508	13_18	F_327945_2919630		
34	509	14_26	F_330557_2921003		
34	521	13_21	F_328522_2919822		
34	523	13_78	F_330123_2920056		
34	539	14_27	F_330448_2920600		
34	590	13_37	F_329941_2920885		
34	772	14_25	F_330161_2921132		
35	417	142_14	M_101274_891620		
35	484	13_48	F_329794_2920492		
35	509	14_26	F_330557_2921003		
35	510	8_1	F_329999_2924520		
35	514	8_8	F_330764_2921927		
35	515	8_13	F_332023_2924169		
35	518	8_10	F_331482_2923675		
35	519	8_12	F_331759_2923977		
35	520	7_33	F_330520_2921611		
35	523	13_78	F_330123_2920056		
35	537	8_11	F_332030_2923732		
35	539	14_27	F_330448_2920600		
35	543	8_36	F_331350_2922558		

35	580	8_2	F_331843_2924364		
35	590	13_37	F_329941_2920885		
35	651	142_14_2	M_101349_891512		
35	772	14_25	F_330161_2921132		
35	773	8_3	F_331424_2924507		
36	355	138_7	M_102482_891937		
36	385	139_166	M_101846_891736		
36	415	142_2	M_101724_891716		
36	417	142_14	M_101274_891620		
36	421	142_3	M_101690_891637		
36	422	142_4	M_101602_891596		
36	423	142_6	M_102009_891530		
36	424	143_16	M_102467_891829		
36	425	143_17	M_102588_891797		
36	426	143_15	M_102430_891820		
36	427	143_40	M_102029_891699		
36	428	143_41	M_101985_891709		
36	429	142_9_1	M_101474_891545		
36	430	143_13	M_102349_891789		
36	431	143_14	M_102396_891787		
36	433	143_5	M_102272_891717		
36	434	143_6	M_102308_891730		
36	435	143_7	M_102300_891761		
36	439	143_28	M_102228_891676		
36	440	143_29	M_102211_891719		
36	441	143_30	M_102177_891702		
36	442	143_31	M_102146_891689		
36	443	143_38	M_102102_891734		
36	444	143_39	M_102067_891718		
36	510	8_1	F_329999_2924520		
36	515	8_13	F_332023_2924169		
36	519	8_12	F_331759_2923977		
36	537	8_11	F_332030_2923732		
36	580	8_2	F_331843_2924364		
36	651	142_14_2	M_101349_891512		
36	773	8_3	F_331424_2924507		
37	217	128_113	M_103593_892592		
37	318	137_2	M_103147_892137		
37	319	137_3	M_103127_892116		
37	320	137_1	M_103179_892174		
37	321	137_10	M_102901_892021		
37	322	137_11	M_102876_892032		
37	323	137_12	M_102835_892048		
37	324	137_13	M_102782_892060		
37	327	137_4	M_103103_892090		
37	331	137_6	M_103052_892042		
37	332	137_68	M_103384_892350		

37	333	137_69	M_103356_892334		
37	334	137_5	M_103067_892061		
37	336	137_7	M_103029_892006		
37	337	137_70	M_103331_892315		
37	338	137_71	M_103314_892300		
37	339	137_72	M_103281_892274		
37	340	137_78	M_103220_892245		
37	341	137_79	M_103237_892217		
37	343	137_8	M_103034_891896		
37	344	137_80	M_103273_892234		
37	345	137_81	M_103301_892248		
37	346	137_82	M_103335_892271		
37	347	137_83	M_103384_892287		
37	348	137_84	M_103614_892295		
37	349	138_1	M_102810_891928		
37	350	137_9	M_102946_891944		
37	351	138_4_1	M_102789_891690		
37	352	138_4_2	M_102627_891941		
37	353	138_5	M_102603_891886		
37	354	138_3	M_102699_891915		
37	355	138_7	M_102482_891937		
37	424	143_16	M_102467_891829		
37	425	143_17	M_102588_891797		
37	426	143_15	M_102430_891820		
37	431	143_14	M_102396_891787		
38	68	113_5	M_104435_893120		
38	69	114_13	M_104525_893752		
38	70	114_13_1	M_104474_893768		
38	71	114_14	M_104481_893585		
38	72	114_18	M_104440_893497		
38	73	114_19	M_104411_893435		
38	74	114_20	M_104383_893382		
38	75	114_21	M_104342_893306		
38	76	114_25	M_104109_893094		
38	77	114_23	M_104268_893146		
38	217	128_113	M_103593_892592		
38	245	129_19_2	M_104111_892942		
38	268	129_24_1	M_104097_892761		
38	269	129_25	M_104021_892798		
38	270	129_26	M_104045_892839		
38	271	129_39	M_103895_892716		
38	272	129_22	M_104362_892946		
38	273	129_24	M_104109_892837		
38	348	137_84	M_103614_892295		
39	68	113_5	M_104435_893120		
39	69	114_13	M_104525_893752		
39	70	114_13_1	M_104474_893768		

39	71	114_14	M_104481_893585		
39	72	114_18	M_104440_893497		
39	73	114_19	M_104411_893435		
39	74	114_20	M_104383_893382		
39	673	51 -010-001	M_104521_893981		
39	674	51 -014-001	M_104431_893901		
39	686	44 -132-001	M_104591_894345		
39	687	45 -010-001	M_105267_894559		
39	704	44 -033-001	M_104531_894159		
39	705	44 -034-001	M_104566_894180		
39	706	44 -036-001	M_104536_894209		
39	707	44 -037-001	M_104603_894209		
39	708	44 -039-001	M_104599_894466		
39	709	44 -040-001	M_104617_894621		
39	710	44 -056-001	M_104627_894699		
39	711	44 -057-001	M_104671_894098		
39	712	44 -060-001	M_104563_894149		
39	713	44 -087-001	M_104635_894743		
39	714	44 -044-001	M_104742_894936		
39	721	44 -117-001	M_104565_894211		
39	768	999-999-766	M_104578_894045		
39	774	999-998-079	M_104694_895111		
39	787	<Null>	M_104187_894779		
40	483	31D-245-001	M_106057_896379		
40	675	38C-012-001	M_105349_895759		
40	676	38C-013-001	M_105139_895679		
40	677	38C-020-001	M_105616_895793		
40	678	38C-021-001	M_105703_895819		
40	687	45 -010-001	M_105267_894559		
40	700	38C-070-001	M_105269_895760		
40	701	38C-078-001	M_105151_895822		
40	702	38C-082-001	M_105294_895737		
40	711	44 -057-001	M_104671_894098		
40	713	44 -087-001	M_104635_894743		
40	714	44 -044-001	M_104742_894936		
40	725	<Null>	M_105028_895768		
40	731	38C-003-001	M_105115_895819		
40	732	38C-004-001	M_105181_895828		
40	746	37 -051-001	M_104613_895623		
40	747	38C-076-001	M_105318_895816		
40	769	999-999-775	M_105499_895730		
40	774	999-998-079	M_104694_895111		
40	775	999-999-952	M_105500_895840		
40	782	38C-016-001	M_105641_895855		
40	787	<Null>	M_104187_894779		
41	459	31D-096-001	M_106393_896852		
41	468	31D-098-001	M_106446_896939		

41	469	31D-186-001	M_106488_896733		
41	470	31D-191-001	M_106469_896677		
41	471	31D-176-001	M_106451_896583		
41	472	31D-177-001	M_106454_896600		
41	473	31D-178-001	M_106460_896618		
41	474	31D-193-001	M_106460_896648		
41	475	31D-194-001	M_106487_896648		
41	476	<Null>	M_106489_896871		
41	477	31D-170-001	M_106418_896724		
41	478	31D-172-001	M_106447_896537		
41	479	31D-174-001	M_106447_896552		
41	480	31D-175-001	M_106448_896568		
41	481	31D-243-001	M_106444_896910		
41	482	31D-244-001	M_106452_896893		
41	483	31D-245-001	M_106057_896379		
41	501	<Null>	M_106455_896721		
41	652	38B-014-001	M_106346_896414		
41	653	38B-015-001	M_106361_896436		
41	654	38B-016-001	M_106393_896451		
41	655	38B-017-001	M_106417_896464		
41	656	38B-018-001	M_106447_896523		
41	657	38B-021-001	M_106452_896507		
41	658	38B-024-001	M_106468_896490		
41	659	38B-032-001	M_106466_896455		
41	660	38B-053-001	M_105997_896146		
41	661	38B-055-001	M_106171_896210		
41	662	38B-056-001	M_105890_895939		
41	663	38B-057-001	M_105919_895969		
41	664	38B-058-001	M_105946_895977		
41	665	38B-060-001	M_105984_896006		
41	666	38B-061-001	M_106005_896017		
41	667	38B-062-001	M_106022_896024		
41	668	38B-063-001	M_106034_896043		
41	669	38B-064-001	M_106060_896049		
41	670	38B-065-001	M_106078_896059		
41	671	38B-066-001	M_106094_896072		
41	672	38B-059-001	M_105948_896011		
41	675	38C-012-001	M_105349_895759		
41	677	38C-020-001	M_105616_895793		
41	678	38C-021-001	M_105703_895819		
41	679	38C-022-001	M_105725_895828		
41	680	38C-023-001	M_105743_895835		
41	681	38C-024-001	M_105755_895842		
41	682	38C-025-001	M_105769_895849		
41	683	38C-026-001	M_105789_895856		
41	684	38C-027-001	M_105804_895868		
41	685	38C-028-001	M_105838_895894		

41	688	38B-067-001	M_106110_896087		
41	689	38B-068-001	M_106126_896102		
41	690	38B-069-001	M_106140_896114		
41	691	38B-071-001	M_106160_896157		
41	692	38B-072-001	M_106172_896127		
41	693	38B-073-001	M_106198_896157		
41	694	38B-074-001	M_106217_896181		
41	695	38B-075-001	M_106248_896218		
41	696	38B-076-001	M_106278_896260		
41	697	38B-078-001	M_106319_896262		
41	698	38B-079-001	M_106313_896296		
41	699	38B-080-001	M_106264_896370		
41	703	38D-001-001	M_105865_895917		
41	726	<Null>	M_106364_896365		
41	727	<Null>	M_106153_896125		
41	736	999-999-622	M_106479_896699		
41	747	38C-076-001	M_105318_895816		
41	750	999-999-189	M_106163_896189		
41	758	999-999-101	M_106490_896492		
41	759	999-999-102	M_106443_896630		
41	760	999-999-103	M_106519_896630		
41	769	999-999-775	M_105499_895730		
41	775	999-999-952	M_105500_895840		
41	777	999-998-117	M_106467_896985		
41	782	38C-016-001	M_105641_895855		
42	120	24D-050-001	M_106369_898123		
42	123	24D-069-001	M_106393_898102		
42	124	24D-070-001	M_106422_898252		
42	128	24D-110-001	M_106417_898138		
42	129	24D-111-001	M_106435_898115		
42	130	24D-112-001	M_106431_898100		
42	131	24D-113-001	M_106433_898080		
42	132	24D-120-001	M_106470_898029		
42	133	24D-126-001	M_106441_897981		
42	134	24D-127-001	M_106438_897957		
42	135	24D-128-001	M_106439_897943		
42	136	24D-129-001	M_106441_897924		
42	138	24D-145-001	M_106444_897888		
42	139	24D-146-001	M_106449_897835		
42	141	24D-167-001	M_106455_897750		
42	142	24D-168-001	M_106465_897774		
42	143	24D-169-001	M_106463_897792		
42	144	24D-170-001	M_106460_897810		
42	145	24D-171-001	M_106402_897825		
42	146	24D-172-001	M_106404_897793		
42	147	24D-206-001	M_106405_897896		
42	148	24D-207-001	M_106403_897916		

42	149	24D-209-001	M_106408_897935		
42	150	24D-210-001	M_106400_897960		
42	151	24D-212-001	M_106386_898003		
42	153	24D-204-001	M_106415_897874		
42	155	24D-322-001	M_106442_897969		
42	158	24D-327-001	M_106394_898057		
42	174	<Null>	M_106406_897769		
42	365	31B-039-001	M_106457_897686		
42	366	31B-024-001	M_106407_897743		
42	367	31B-031-001	M_106456_897716		
42	370	31B-089-001	M_106428_897603		
42	371	31B-090-001	M_106479_897615		
42	372	31B-102-001	M_106417_897568		
42	373	31B-103-001	M_106482_897598		
42	374	31B-072-001	M_106422_897639		
42	375	31B-073-001	M_106477_897642		
42	379	31B-104-001	M_106483_897581		
42	380	31B-134-001	M_106456_897465		
42	381	31B-135-001	M_106457_897448		
42	382	31B-136-001	M_106489_897545		
42	386	31B-182-001	M_106455_897417		
42	387	31B-183-001	M_106454_897398		
42	388	31B-184-001	M_106497_897414		
42	389	31B-185-001	M_106501_897397		
42	390	31B-148-001	M_106492_897498		
42	391	31B-149-001	M_106516_897474		
42	392	31B-128-001	M_106424_897549		
42	393	31B-130-001	M_106452_897529		
42	394	31B-131-001	M_106439_897504		
42	395	31B-132-001	M_106444_897483		
42	396	31B-204-001	M_106383_897351		
42	397	31B-207-001	M_106462_897377		
42	398	31B-208-001	M_106499_897379		
42	399	31B-223-001	M_106423_897304		
42	401	31B-254-001	M_106476_897225		
42	402	31B-255-001	M_106483_897187		
42	403	31B-256-001	M_106483_897158		
42	404	31B-257-001	M_106482_897143		
42	405	31B-258-001	M_106526_897260		
42	406	31B-259-001	M_106525_897221		
42	407	31B-265-001	M_106535_897242		
42	408	31B-229-001	M_106471_897275		
42	409	31B-310-001	M_106535_897322		
42	459	31D-096-001	M_106393_896852		
42	461	<Null>	M_106491_897525		
42	463	31D-103-001	M_106465_897058		
42	464	31D-104-001	M_106480_897128		

42	465	31D-108-001	M_106517_897108		
42	466	31D-110-001	M_106524_897075		
42	467	31D-111-001	M_106523_897054		
42	468	31D-098-001	M_106446_896939		
42	469	31D-186-001	M_106488_896733		
42	476	<Null>	M_106489_896871		
42	477	31D-170-001	M_106418_896724		
42	481	31D-243-001	M_106444_896910		
42	482	31D-244-001	M_106452_896893		
42	483	31D-245-001	M_106057_896379		
42	724	31B-277-001	M_106516_897170		
42	728	31D-105-001	M_106521_897135		
42	729	31D-109-001	M_106526_897095		
42	730	<Null>	M_106530_897114		
42	733	999-999-527	M_106491_898066		
42	734	999-999-533	M_106558_897191		
42	735	999-999-467	M_106525_897739		
42	738	999-999-413	M_106434_897789		
42	739	999-999-497	M_106421_897450		
42	740	999-999-567	M_106540_897672		
42	741	999-999-569	M_106526_897568		
42	742	999-999-576	M_106420_897961		
42	743	999-999-647	M_106470_897497		
42	744	999-999-649	M_106310_898028		
42	745	999-999-153	M_106496_897229		
42	748	999-999-037	M_106411_898073		
42	749	999-999-053	M_106533_897434		
42	751	999-999-062	M_106473_897860		
42	752	999-999-066	M_106502_897123		
42	753	999-999-067	M_106502_897014		
42	754	999-999-205	M_106405_898124		
42	755	999-999-203	M_106407_897657		
42	756	999-999-605	M_106456_897611		
42	761	999-999-319	M_106442_897696		
42	762	999-999-321	M_106390_897855		
42	766	999-999-723	M_106417_897203		
42	767	999-999-724	M_106486_897340		
42	770	999-999-799	M_106282_898091		
42	777	999-998-117	M_106467_896985		
42	788	24A-237-001	M_106099_898326		
43	53	18D-031-001	M_106322_899245		
43	54	18D-032-001	M_106335_899257		
43	55	18D-034-001	M_106386_899303		
43	56	18D-038-001	M_106124_899131		
43	57	18D-039-001	M_106248_899163		
43	58	18D-047-001	M_106256_899076		
43	59	18D-070-001	M_106201_899139		

43	99	24B-008-001	M_106114_898838		
43	100	24B-009-001	M_106146_898786		
43	101	24B-010-001	M_106152_898813		
43	102	24B-015-001	M_106182_898835		
43	103	24B-016-001	M_106185_898864		
43	104	24B-017-001	M_106162_898852		
43	105	24B-018-001	M_106184_898892		
43	106	24B-019-001	M_106207_898951		
43	107	24B-042-001	M_106096_898491		
43	108	24B-044-001	M_106159_898649		
43	109	24B-079-001	M_105995_899016		
43	120	24D-050-001	M_106369_898123		
43	123	24D-069-001	M_106393_898102		
43	124	24D-070-001	M_106422_898252		
43	128	24D-110-001	M_106417_898138		
43	129	24D-111-001	M_106435_898115		
43	130	24D-112-001	M_106431_898100		
43	715	18D-018-001	M_106396_899452		
43	716	18D-054-001	M_106366_899557		
43	717	18D-003-001	M_106307_899525		
43	718	18D-056-001	M_106263_899422		
43	720	<Null>	M_106523_899542		
43	722	19 -001-001	M_106725_899622		
43	723	18 -009-001	M_106257_899673		
43	754	999-999-205	M_106405_898124		
43	757	999-999-100	M_106371_899237		
43	763	999-999-683	M_105919_898785		
43	764	999-999-685	M_106172_898754		
43	765	999-999-706	M_106195_898920		
43	770	999-999-799	M_106282_898091		
43	776	999-998-103	M_106402_899386		
43	778	999-998-022	M_106350_898965		
43	779	999-998-083	M_106168_899438		
43	780	18D-029-001	M_106327_899356		
43	781	18D-029-001	M_106291_899296		
43	783	18D-052-001	M_106175_898925		
43	784	18D-052-001	M_106316_899258		
43	785	18D-052-001	M_106343_899339		
43	786	18D-052-001	M_106437_899646		
43	788	24A-237-001	M_106099_898326		
43	789	999-999-135	M_106251_899203		
43	790	999-999-005	M_106299_899210		
44	715	18D-018-001	M_106396_899452		
44	716	18D-054-001	M_106366_899557		
44	717	18D-003-001	M_106307_899525		
44	718	18D-056-001	M_106263_899422		
44	719	18 -045-001	M_106381_899767		

44	720	<Null>	M_106523_899542		
44	722	19 -001-001	M_106725_899622		
44	723	18 -009-001	M_106257_899673		
44	776	999-998-103	M_106402_899386		
44	786	18D-052-001	M_106437_899646		

APPENDIX C

MHC Area Forms (Form A)

FORM A - AREA

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
023, 043, 048, 067, 068, 074, 090, 091, 098, 099, 113, 114, 124, 135, 136, 138, 149, 160, 161, 162, 163, 169	Southwick, MA	SOU. C	See Data Sheet

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

Remnant canal prism in Segment 2, facing northeast.

Town/City: Southwick

Place *(neighborhood or village)*:

Name of Area: Hampshire and Hampden Canal

Present Use: Former canal route with varied modern-day land use (residential, recreational, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Varied- some areas of remnant prism and Lock features with other areas obscured or washed out by flooding episodes.

Major Intrusions and Alterations: Altered or obscured by railroad construction and residential development

Acreage: Complete- *71.04 acres*, Remnant segments- *25.85 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc.

Organization: PVPC and Southwick Historical Commission

Date *(month/year):* 11/2022

Locus Map

[See continuation sheet pages 27-36.]

☒ *see continuation sheet*

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU.C	See Data Sheet

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The canal route ran from a guard lock at the state line in Southwick, MA, south of Congamond Ponds, to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety, the Hampshire and Hampden Canal contained 32 lift locks, each measuring 80 feet by 12 feet in the clear, with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much smaller Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Southwick (**SOU.C**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Southwick, the Hampshire and Hampden Canal Area is an approximately 71.04-acre, 7.83-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal, as it exists/existed within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Southwick portion of the canal route varies, with surficial identification of substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor as described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on the physical characteristics of the surficial canal remnants. Following is a brief description of these sections proceeding from south to north, beginning at the Connecticut-Southwick, MA border and ending at the Southwick-Westfield town line. A section of the canal through Southwick has been previously recorded in the MHC database as SOU.HA.5, and approximately encompasses Segment 11 through 24, though the included descriptions and details are limited.

Canal Prism Segment 1 (**MHC ID)** of the canal route begins at the guard lock located at the CT-MA border controlling the water flow between the states (**Photo 1**). The prism and **guard lock** (**MHC ID)** through this section are identifiable, with the former location of the towpath being repurposed by the subsequent railroad and then again by the modern-day rail trail along the prism's western bank (**Photos 2 to 3**). A small portion of the original guard lock masonry can still be observed along its eastern bank. Segment 1 continues to the north to the point of curve (POC), where the prism diverges from the established rail trail and proceeds northeast into the southern portion of Congamond Lake. The quarry adjacent to this segment likely produced most of the stone utilized in the construction of the southern portion of the canal.

Canal Prism Segment 2 (**MHC ID)** (**Photo 4**) of the canal route begins to widen as the prism opens into Congamond Lake. Here, the original earthworks can still be observed, but flooding episodes have impacted the condition of the prism, altering the original dimensions. Throughout this section, the western towpath can still be observed up to the point where it is lost into the lake. Once the route enters the lake, all evidence of the canal is obscured, and Segment 2 ends. A modern double-box concrete culvert crossed the canal from east to west facilitating access to the adjacent agricultural field.

Segment 3 opens in the South Pond of Congamond Lakes. From the shoreline, linear surficial current disturbances can be observed, suggesting some remnants of the submerged towpath remain, causing disruptions to the natural flow. These remnants though submerged, represent the former man-made, earthen towpath which was constructed a short distance from the actual shoreline and traversed the majority of the Congamond Lakes. Segment 3 also crosses back over a small peninsula within the state of Connecticut, which was not surveyed as part of this study. However, before being filled in the 1970s to facilitate residential development, the canal created an island separating this former peninsula from the mainland. Throughout the twentieth century this was referred to as Miller's Island. Just north of this present-day peninsula, approximately 700 feet of floating towpath would have crossed Middle Pond. This segment terminates at the southern point of another peninsula at the end of Island Pond Road.

Canal Prism Segment 4 (**MHC ID)** (**Photo 5**) begins as a small, partially visible segment of the canal route that bisects a small peninsula from the mainland at the end of Island Pond Road. Similarly, the original earthworks can still be observed, but flooding episodes have impacted the condition of the prism, altering the original dimensions. After approximately 340 feet, the canal route runs back into the open water of the Middle Pond of Congamond Lakes and begins Segment 5.

Segment 5 of the canal route contains no surficial evidence and is located within the Middle Pond. This stretch terminates at the crossing between the Middle and North ponds of the Congamond Lakes at Point Grove Road.

Segment 6 is a remnant prism segment beginning at the crossing where the original route runs through a modern stone-lined culvert for Point Grove Road (**Photo 6**). This partially visible segment continues to the north roughly 350 feet before heading back into the lake. A small segment of the western towpath can be observed along this section but only to the north of the road before it is again lost into the lake.

Segment 7 of the canal route contains no surficial evidence and would have historically traversed the North Pond of Congamond Lakes. Here, the canal historically split the North Pond into two bodies of water, likely with a culvert(s) being the only location(s) linking the then separate waterbodies. The smaller southwesterly section was referred to as the "Lilly Pond," at least during the twentieth century. A significant portion of the towpath survived into the 1950's and while the towpath survived the 1955 flood, it was subsequently removed in 1956 (Hamberg 1997:119).

Segments 8 and 9 contain no surficial evidence of canal prism or features. Segment 8 begins at the northern intersection of Congamond Lake and the end of Summer Drive. Here, the canal has been infilled and leveled to facilitate residential development. Segment 9 runs just to the north of South Longyard Road and contains the probable location of Lock 1, but the entire area was devastated by the 1955 flood, and no trace of the lock or the original prism are discernible.

Canal Prism Segment 10 (MHC ID) (Photos 7 to 9) contains remnant canal features beginning at a POC just north of South Longyard Road and continuing northeast. Segment 10 contains well-preserved prism and the remnants of **Lock 2 (MHC ID)**, **Lock 3 (MHC ID),** and **Lock 4 (MHC ID)**, with the towpath visible along the prism's western bank. Only earthworks remain of Locks 2 and 3, with all original timber and masonry having been removed or otherwise obscured. Earthworks for the southern sill remain visible in Lock 2; however, the northern sill and the sills for Locks 3 and 4 are completely eroded. Only the southern portion of the Lock 4 earthworks remain, with the northern half bulldozed and the area now occupied by two artificial ponds and manicured landscaping. Where the remnants of Lock 4 intersect with this artificial landscape is the termination point of Segment 10.

Segment 11 is a segment of the canal route that was bulldozed to create the aforementioned manicured landscape area. Probable location of Lock 5. This section ends at a sharp POC where the canal route shifts from its easterly heading, turning to a north-northeast direction.

Canal Prism Segments 12 & 13 (MHC ID) Segments 12 and 13 contains remnant canal prism and features where the canal route parallels Great Brook. From here, through a portion of Segment 24, has been recorded as a historic site (**SOU.HA.5**; **Photo 12**) and is on file with the MHC. The western towpath is visible along the southern portion of Segment 12, at which point it shifts to the east side of the prism at the location of a historic **change-over bridge** (**MHC ID)** and continues along the eastern bank to the north. Remnants of this change-over bridge include earthwork embankments on both the east and west sides as well as remnant masonry spilled into the prism at the base of these embankments. Segment 12 contains the remnants of **Lock 6 (MHC ID)** (**Photos 10 to 11**). Lock 6 contains visible stonework and earthworks. Segment 13 proceeds north to the intersection with wetlands associated with Great Brook (**Photo 13**). This segment contains the remnants of **Lock 7 (MHC ID)** (**Photos 14 to 15**), one of the most well-preserved lock features remaining along the Hampshire and Hampden Canal. Lock 7 contains evidence of stonework and earthworks along the eastern and western banks as well as at the upper and lower gate sills. The very northern portion of Lock 7 is inundated by waters from Great Brook.

Segment 14 of the canal has been completely inundated by Great Brook and its associated wetlands. Flooding events have completely removed any surficial indication of the former prism through this segment of the canal.

Canal Prism Segment 15 (MHC ID) (**Photo 16**) is a well-preserved canal segment that runs parallel to Great Brook to the east. Prism earthworks can be observed throughout this section with minimal erosion. The towpath remains visible through this section on the canal's eastern bank. Section meanders gently through this segment to the north, where it intersects with a Department of Public Works (DPW) roadway.

Segment 16 is a small segment of the canal route where the DPW access road runs right through the canal, removing any surficial indication of canal engineering in this section. To the north of this intersection, Segment 17 which contains traces of remnant canal prism begins and proceeds north. Along Segment 17, the former eastern towpath has been widened and repurposed to facilitate the DPW access road.

Segment 18 is an eroded segment of the canal route along the base of a small hill. Any evidence of the original prism has been obscured by erosion episodes. Only the area of the eastern towpath, which continues to be utilized as the DPW access road is definable.

Segments 19 and 20 are altered prism segments following the DPW access road occupying the original eastern towpath route containing identifiable eastern and western embankments, and channel. The northernmost portion of Segment 20 has been partially filled by adjacent residential development. This section ends just south of Feeding Hills Road, where the road disturbances have completely obscured any surficial evidence of the canal route.

Segment 21 of the route contains very minimal surficial indication of the former canal, beginning at the Feeding Hills Road disturbance and continuing north through the Great Brook Drive residential development. One of the canal embankments

can be observed very sporadically throughout the rear to the residential development; however, no evidence of an opposite bank, channel, or towpath could be located.

Canal Prism Segment 22 (MHC ID) (Photo 17) is a canal prism segment containing the remnants of **Lock 8** (**MHC ID) (Photo 20)** and the **South Great Brook Aqueduct** (**MHC ID) (Photos 18 to 19**). Somewhere in the vicinity of the aqueduct, a historic crossover bridge once existed, as seen by the shift of the towpath from the eastern bank south of Great Brook to the western bank north of Great Brook. No evidence of this bridge remains visible today. Originally, the South Great Brook Aqueduct spanned approximately 30 feet across Great Brook. Today, only some remnant masonry can be observed along the banks of Great Brook shifted from its original location. Lock 8 is visible at the northern end of Segment 22. Earthworks exist along the lock's west bank and along some of the lock's east bank. All masonry has been eroded/obscured, with the original timbers and sills having been eroded away. Just south of Lock 8, a small semi-circle cut into the prism's east bank was observed, hypothesized to be the location of an original turn-around **basin (MHC ID)**.

Segment 23 begins at the intersection of the canal route with an unnamed tributary of Great Brook. Any evidence of the original prism has been washed away and/or otherwise obscured by flooding events. Segment 23 runs into Segment 24 directly to the north of the washout channel. **Canal Prism Segment 24 (MHC ID)** is a repurposed prism segment with remnant eastern and western embankments with the prism itself being utilized as a DPW access route. Along the prisms western bank, the towpath is still clearly visible throughout this section.

Segment 25 contains no surficial indication of the former canal route where the DPW building and road construction have removed/obscured any evidence of the original route. Just past this stretch, the repurposed canal prism can be observed again throughout **Canal Prism Segment 26 (MHC ID) (Photo 21)** running north into the town of Westfield. Segment 26 is identical to Segment 24.

Within Southwick, the northernmost portion of the Salmon Brook Feeder also occurs flowing into the canal route just north of the guard locks northern gate. The route of this feeder enters Massachusetts just east Route 10 and proceeds northeast. Segment A-1 is the first feeder canal segment in Southwick and is an eroded section containing a large washout channel and two large berms; however, it is unknown if either of these berms are related to original canal construction. Segment A-1 transitions to Segment A-2 at a modern culvert used to access an adjacent gravel/sand quarry to the southeast. Section A-2 is a preserved feeder canal segment with both visible embankments. This section continues to the northeast approximately 1,000 feet, where it terminates at an arbitrary property boundary. From this point to the feeder's intersection with the main canal route, field verification was not possible due to access restrictions; however, visually, from this location, the canal appears to enter into a large wetland which has likely obscured any surficial evidence of the feeder.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Southwick

The town of Southwick is located in the Westfield River watershed and was first incorporated as an independent town in 1770. First settled in the late-seventeenth century, the area was given the nickname "Poverty Plains" due to the lack of agricultural success throughout the region, leading settlers to believe the land was infertile. It was not until the early nineteenth century that the town saw an economic and population boom via the area's cultivation of tobacco and the construction of the H&H Canal through the town (MHC 1982). Additionally, the successful ice harvesting industry of the nineteenth and early-twentieth centuries provided refrigeration for food storage from New York to Boston. The location of the Hampshire and Hampden Canal through the Congamond Lakes area and along Great Brook had little impact on the town's settlement pattern other than the influx of Irish immigrants due to the necessity for canal diggers. After the abandonment of the canal operation and its replacement by the Canal Railroad, Southwick saw a steady population decline leading into the mid-twentieth century. Development and improvements to local autoroutes and the area's

highways brought an influx of commercial business to the region, specifically along Route 10 and Route 202 (MHC 1982). Despite the growth in commercial business in the twentieth century, the tobacco industry continued to be the town's principal economic staple. Today, Southwick is dominated by residential development and is classified as part of the Springfield, Massachusetts Metropolitan Area.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August

30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Southwick

As the canal entered Massachusetts through the guard lock on the border of Suffield, CT and Southwick, MA, it carved a path north where it intersected with the South Pond of Congamond Lake. While traversing the shallower segments of Congamond Lake, an earthen towpath was constructed in the form of a man-made dike a short distance from the shoreline, from which, draft animals could tow canal boats through the lake. One approximately 700-foot segment through the Middle Pond utilized a floating towpath where the water proved too deep for the earthen towpath to be laid and as a measure to not dam the pond (Walter 2006). Along this stretch, wooded rafts moored to either bank served as the towpath allowing the crossing of the draft animals. In the North Pond, the earthen towpath split the pond into separate waterbodies likely only linking them via culverts under the towpath. From here, the canal continued through the remainder of Middle and North Ponds, where it again was carved into dry land just south of South Longyard Road. Here was the first lift lock location along the Hampshire and Hampden Canal, Lock 1. Originally constructed of dry-laid masonry inlaid with chestnut and oak to create a watertight chamber, Lock 1 has since been removed by the flood of 1955 (Raber 2002). A lockhouse, in the vicinity of Lock 1, survived the initial abandonment of the canal and was relocated farther inland in 1894 by Frank Jarry (Davis 1951:283). Here, the former lockhouse was converted into a private residence before being destroyed by the 1955 flood. Over the next 4/10 of a mile, 5 additional locks, constructed in a similar fashion to Lock 1, lowered the canal into the Westfield River Valley (Walter 2006). After proceeding past Lock 6, the canal parallels Great Brook through the remainder of the town of Southwick into Westfield. Along this stretch, the canal is lowered approximately another 7-10 feet

at Lock 7 and again at Lock 8. Today, Lock 7 remains the best example of a timber-lined lock design along the Hampshire and Hampden Canal due to the swamp preserving the timbers and the remoteness of its location, discouraging later reuse of the stone. Just south of Lock 7, the only surviving, surficial remnant of the unknown number of change-over bridges along the canal can be observed at which the towpath shifted from the prisms west to east banking. The last confirmed engineering feature along the canal in Southwick was the South Great Brook Aqueduct. Aqueducts along the canal were constructed using two stone abutments located at the ends of the earthen prisms, with a timber aqueduct truck spanning the distance between the abutments supported by stone piers seated on bedrock where possible. A wooden towpath bridge was also constructed along one side of the trunk spanning the distance between abutments (Raber 2002). Along with the above-mentioned canal features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Southwick, any surficial evidence of which has since been eroded/obscured.

The overall economic impact of the Hampshire and Hampden Canal on the town of Southwick is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns. Which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. In Southwick, the construction of the canal did, in part, contribute to a period of population growth for the town, the likes of which would not be seen again until the 1920s. The canal's contribution to this growth can be observed through the influx of Irish immigrants into Southwick, many of whom settled in the area as canal builders in the late 1820s (MHC 1982). The growth of the tobacco and cigar industry were likely beneficiaries of the canal route and subsequent railroad through Southwick in the first half of the nineteenth century. While soils in the area proved poor for growing staple crops, landowners began to realize at the turn of the nineteenth century that it was more than suitable for the growth of certain cash crops, primarily tobacco. Southwick and its neighbors soon had a resource with limited means of export. The Hampshire and Hampden Canal, followed by the Canal Railroad, served to facilitate this need and soon Southwick and Westfield had a thriving cigar-making industry and an in-demand commodity. The canal's closure impacted the ability of Southwick to trade and export goods, but only for a limited amount of time, as the Canal Railroad was completed through the town by 1855. Today, the route of the railroad has been converted into recreational trails and areas of the original canal prism can still be observed to the north and south of Congamond Lakes.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Davis, Maud E.
1951 *Historical Facts and Stories About Southwick*. Southwick, Massachusetts.

Hamberg, Lee David
1997 *Southwick Revisited*. Arcadia Publishing, Mount Pleasant, South Carolina.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 *MHC Reconnaissance Survey Town Report: Southwick.* MHC, Boston.

Raber, Michael S.

2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Geological Survey (USGS)
2021 Southwick Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
1		Canal Prism	From Connecticut border to where route diverges from rail trail	Y	Well-preserved, rail trail occupies former western towpath; prism is watered	1
1		Guard Lock	At Massachusetts-Connecticut border	Y	Surficial earthworks with approx. 15 ft of remnant stonework along eastern chamber wall	2, 3
2		Canal Prism	From rail trail to the south pond of Congamond Lake	Y	Western towpath is preserved along southern portion of segment, prism is visible, though moderately eroded, watered	4
3		Canal Prism	Through the South Pond of Congamond Lake into southern portion of Middle Pond; crossing small portion of Connecticut	N	Obscured by Congamond Lake	
3		Floating Towpath	Traversing an approx. 700 ft section of Middle Pond	N	No surficial evidence remains	
4		Canal Prism	End of Island Pond Road peninsula	Y	Towpath along western side, visible, though partially altered by modern landscaping and erosion	5
5		Canal Prism	Through Middle Pond	N	Obscured by Congamond Lake	
6		Canal Prism	At crossing from Middle Pond to North Pond	Y	Repurposed by modern culvert for Point Grove Road, towpath exists along western bank, but only north of Point Grove Rd.	6
7		Canal Prism	Crossing North Pond	N	Obscured by Congamond Lake	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
8		Canal Prism	From north of North Pond to North Pond Road	N	Filled and leveled by residential development	
9		Canal Prism	From North Pond Rd. to north side of South Longyard Rd.	N	Eroded/obscured by 1955 flood	
9		Lock 1	South of South Longyard Rd.	N	Eroded/obscured by 1955 flood	
10		Canal Prism	North of South Longyard Rd.	Y	remnant prism segment with western towpath	
10		Lock 2	Southern portion of Segment 10	Y	Surficial earthworks from original chamber and southern gate sill	7
10		Lock 3	Approx 100 m east of Lock 2	Y	Identifiable earthworks from original chamber	8
10		Lock 4	Northern end of Segment 10	Y (partially)	Only southern half of original lock earthworks remain; northern portion removed by landscaping efforts	9
11	SOU.HA.5 (partially)	Canal Prism	West of sharp turn, west of Granaudo Circle	N	Altered/removed by landscaping efforts	
11		Lock 5	Approx. located near center of Segment 11	N	Altered/removed by landscaping efforts	
12	SOU.HA.5	Canal Prism	From west of Granaudo Circle to south of Great Brook	Y	Towpath extant along western embankment heading north to location of change-over bridge where it shifts to the eastern embankment, relatively well-preserved	12
12		Lock 6	Southern end of Segment 12	Y	Intact earthworks with some areas (50 ft approx.) of intact stonework from original canal chamber repairs; northern gate and end of lock has been	10, 11

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
					moderately eroded by Great Brook associated wetland	
12/13		Change-over bridge	At the boundary between Segment 12 and 13	Y	Bridge abutment earthworks remain extant, with spilled stone in prism center from original stonework construction	13
13	SOU.HA.5	Canal Prism	From change-over bridge to large Great Brook associated wetland	Y	Towpath extant along eastern embankment heading north, relatively well-preserved	
13		Lock 7	Approx. 60 m north of change-over bridge	Y	Once of the most well-preserved lock features, last remaining lock feature reflecting original timber-lined chamber construction (at ground surface); earthwork remains throughout, original stone headers can also be observed, with some timber preservation	14, 15
14	SOU.HA.5	Canal Prism	Within large, Great Brook wetland	N	Eroded due to proximity to Great Brook; probable site of former waste weir	
15	SOU.HA.5	Canal Prism	From Great Crossing to Canal Road	Y	Meandering segment with intact embankments and eastern towpath; well-preserved	16
16	SOU.HA.5	Canal Prism	Southern end of Canal Road	N	No surficial evidence remains due to DPW access road and water supply	
17	SOU.HA.5	Canal Prism	Along Canal Road	Y	Original eastern towpath presently utilized as DPW	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
					access road (Canal Road)	
18	SOU.HA.5	Canal Prism	Along Canal Road	N	Obscured by erosion, DPW road, likely eastern towpath, remains (Canal Road)	
19	SOU.HA.5	Canal Prism	Along Canal Road	Y	Original eastern towpath presently utilized as DPW access road (Canal Road)	
20	SOU.HA.5	Canal Prism	Northern end of Canal Road	Y	Partially visible, western portion of prism has seen filling from adjacent residential development; original eastern towpath presently utilized as DPW access road (Canal Road)	
21	SOU.HA.5	Canal Prism	From Feeding Hills Road to north of Great Brook Drive	N	Mostly removed/obscured by road construction and residential development; western embankment visible very sporadically, minimal	
22	SOU.HA.5	Canal Prism	From south of Great Brook crossing to unnamed Great Brook tributary	Y	Towpath identifiable, shifts from eastern embankment to western embankment in the vicinity of aqueduct, no surficial evidence of a change-over bridge.	17
22		South Great Brook Aqueduct	At Great Brook crossing	Y	Originally spanned approx. 30 ft, remnant stonework from abutments is visible, spilled stone from original piers can also be seen deposited in waterway	18, 19

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
22		Potential Basin	At southern end of Lock 8	Y	Possible turn-around basin location, semi-circle earthworks can be seen just outside southern gate of Lock 8	
22		Lock 8	Northern end of Segment 22	Y	Chamber earthworks remain, some degradation along the chambers eastern wall; no stonework or timbers exist at ground surface and neither do the northern and southern sills	20
23	SOU.HA.5	Canal Prism	Eastern side of Great Brook	N	Eroded due to flooding	
24	SOU.HA.5 (partially)	Canal Prism	Along DPW road, paralleling Great Brook	Y	Repurposed by DPW road; roadway runs within former prism with towpath along western embankment	
25		Canal Prism	Just south of Westfield border	N	Removed/obscured by DPW outbuildings and roadway; canal was cut into natural hillslope along eastern side	
26		Canal Prism	From just south of Westfield border, extending into Westfield	Y	Repurposed by DPW road; roadway runs within former prism with towpath along western embankment	21
A-1		Salmon Brook Feeder Prism	From Connecticut border along rear of residential and commercial parcels	N	Constructed in 1830, this segment has been completely eroded/obscured by flooding	
A-2		Salmon Brook Feeder Prism	Adjacent to agricultural fields just north of Connecticut border	Y	Constructed in 1830, segment contains visible prism with east and west embankment	

Photo 1: Remnant canal prism in Segment 1, facing southeast.

Photo 2: Narrowed chamber of guard lock, facing southeast.

Photo 3: Remnant stone from original guard lock chamber, facing east.

Photo 4: Remnant canal prism in Segment 2, facing northeast.

Photo 5: Remnant canal prism in Segment 4, facing north.

Photo 6: Remnant canal prism in Segment 6, facing north.

Photo 7: Remnant earthworks of Lock 2, facing northeast.

Photo 8: Remnant earthworks of Lock 3, facing northeast.

Photo 9: Remnant earthworks of Lock 4, facing southwest.

Photo 10: Remnant earthworks and stonework of Lock 6, facing northeast.

Photo 11: Remnant stonework from Lock 6 chamber headers, facing east.

Photo 12: Remnant canal prism in Segment 12, facing south.

Photo 13: Earthworks from change-over bridge abutments, facing east.

Photo 14: Remnant earthworks and stonework of Lock 7, facing north.

Photo 15: Stonework headers of Lock 7, facing northwest.

Photo 16: Remnant canal prism and towpath in Segment 15, facing north.

Photo 17: Remnant canal prism in Segment 22, facing north.

Photo 18: Earthworks of South Great Brook Aqueduct chute, facing northeast.

Photo 19: Stone from original southern abutment of aqueduct, facing east.

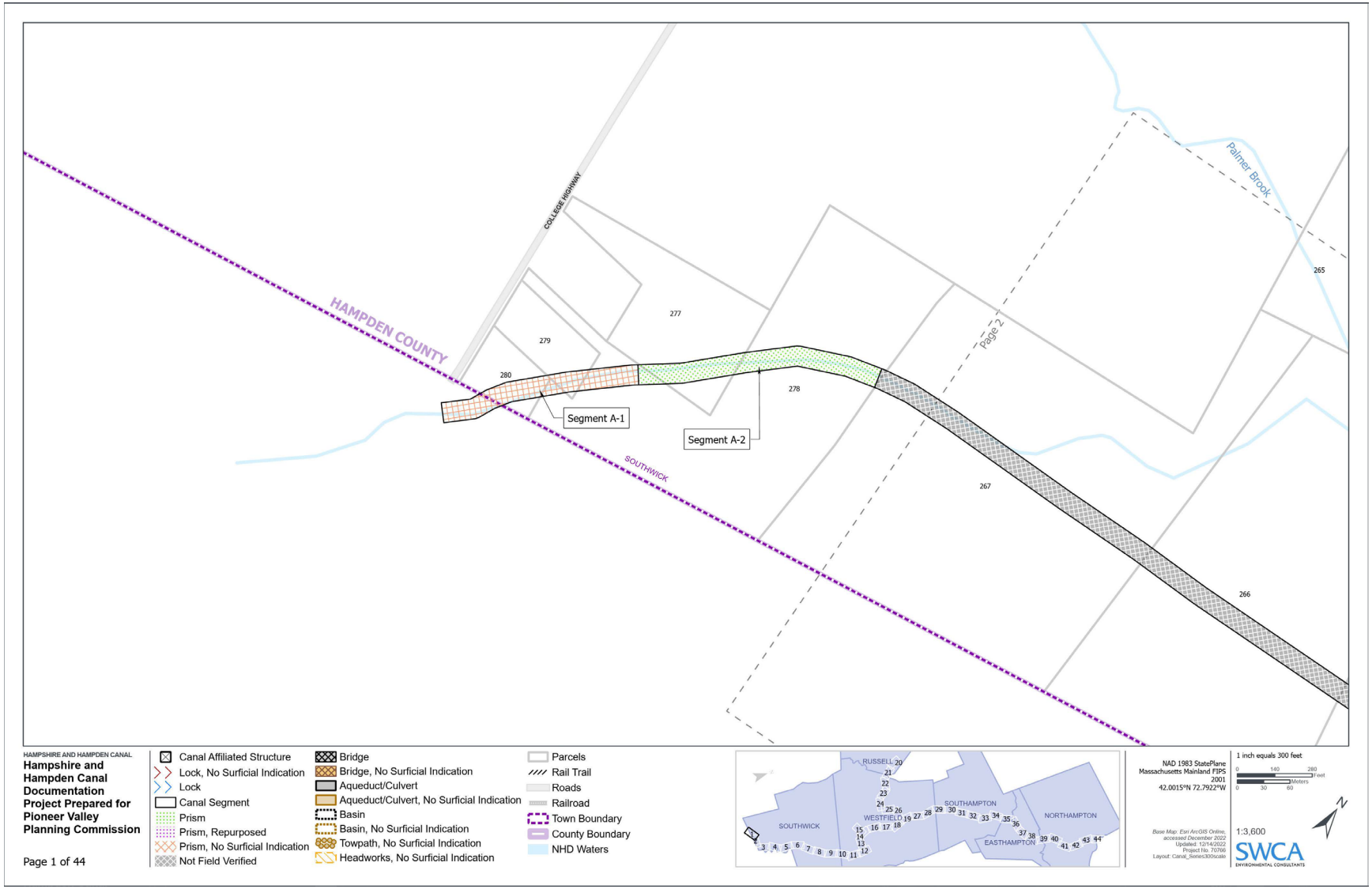
Photo 20: Earthworks of Lock 8 (modern trail occupies base of original chamber), facing north.

Photo 21: Remnant canal prism repurposed by DPW access road in Segment 26, facing north.

Photo 22: Remnant feeder canal prism in Segment A-2, facing northeast.

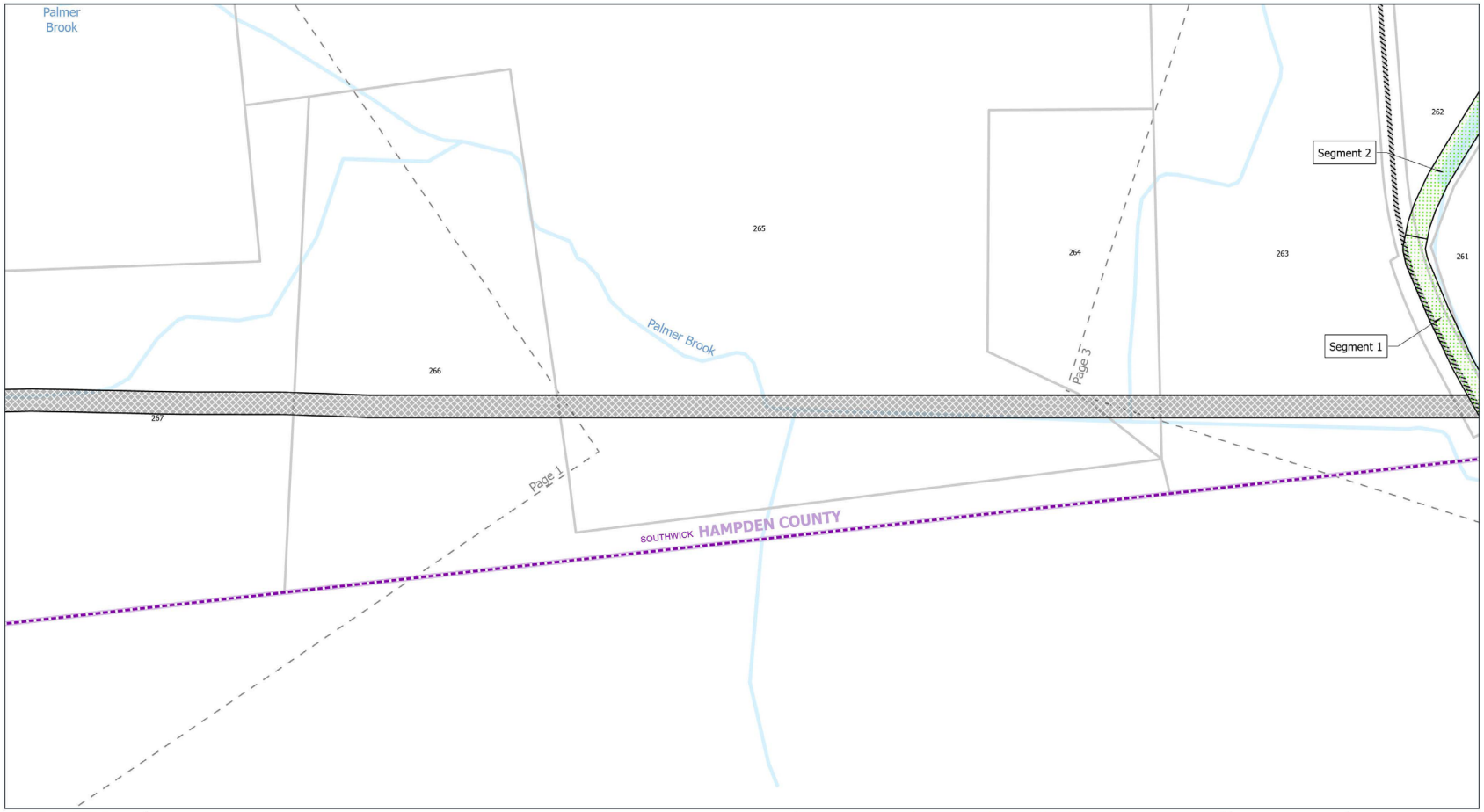
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU.C	See Data Sheet



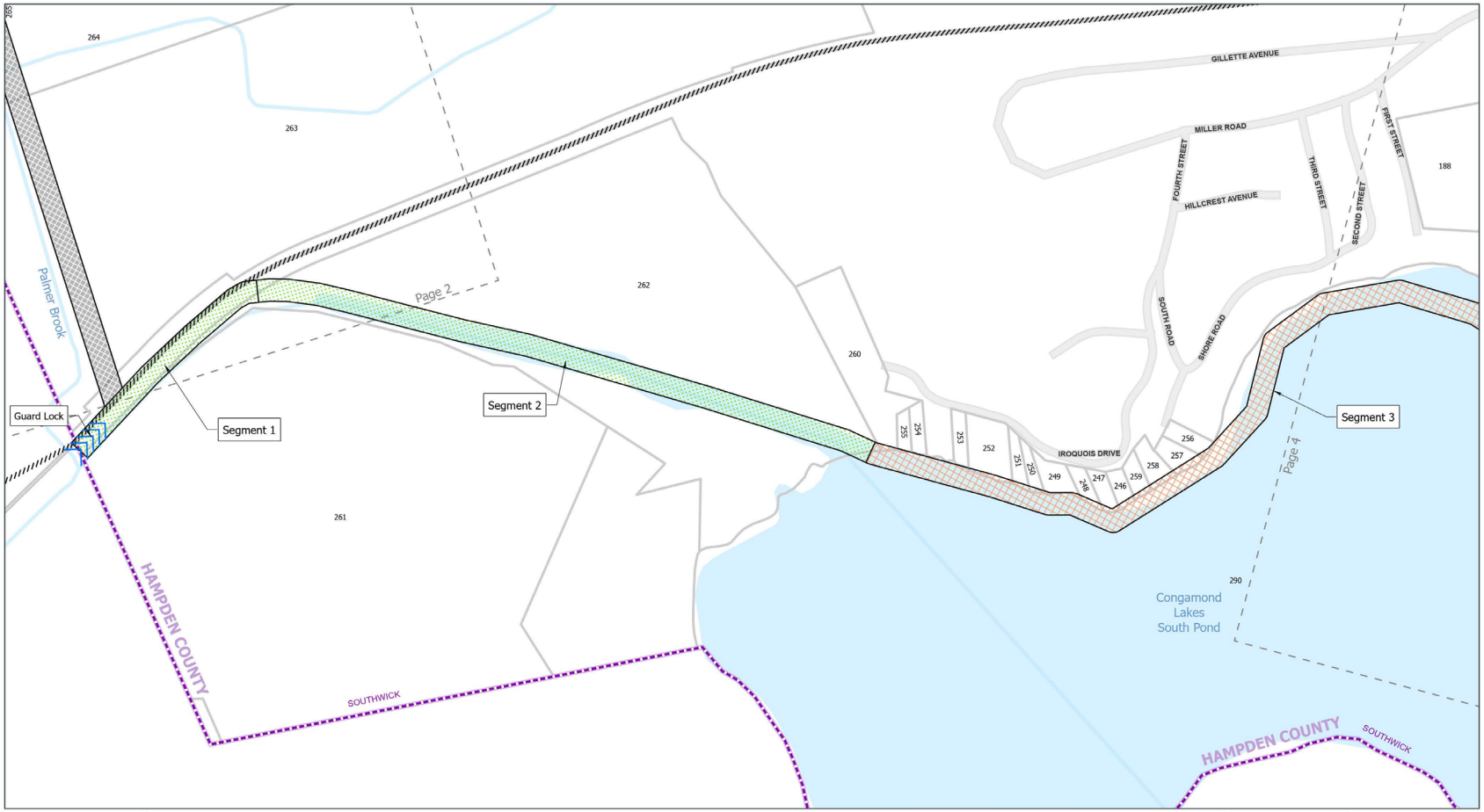
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU. C	See Data Sheet



MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU. C	See Data Sheet

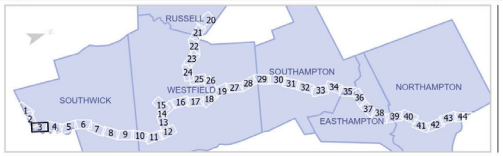


HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 3 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0088°N 72.769°W

1 inch equals 300 feet

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

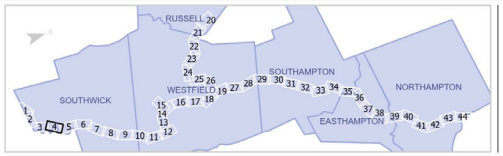
Area Letter	Form Nos.
SOU. C	See Data Sheet

HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 4 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0203°N 72.7642°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

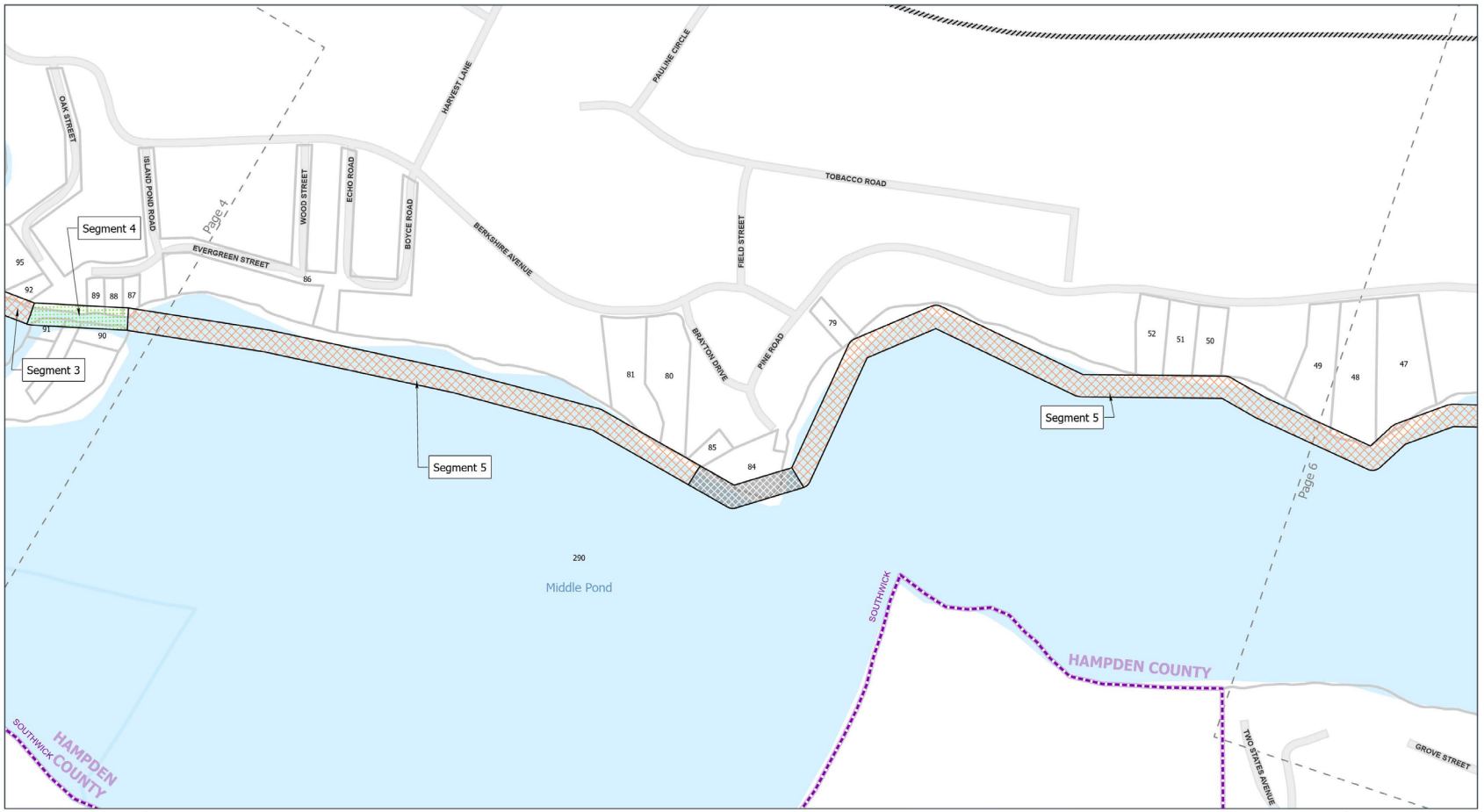
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Continuation sheet 30

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU. C	See Data Sheet

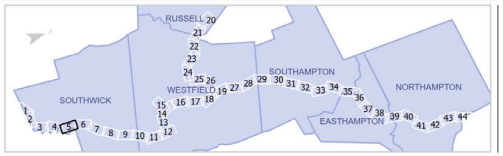


HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 5 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



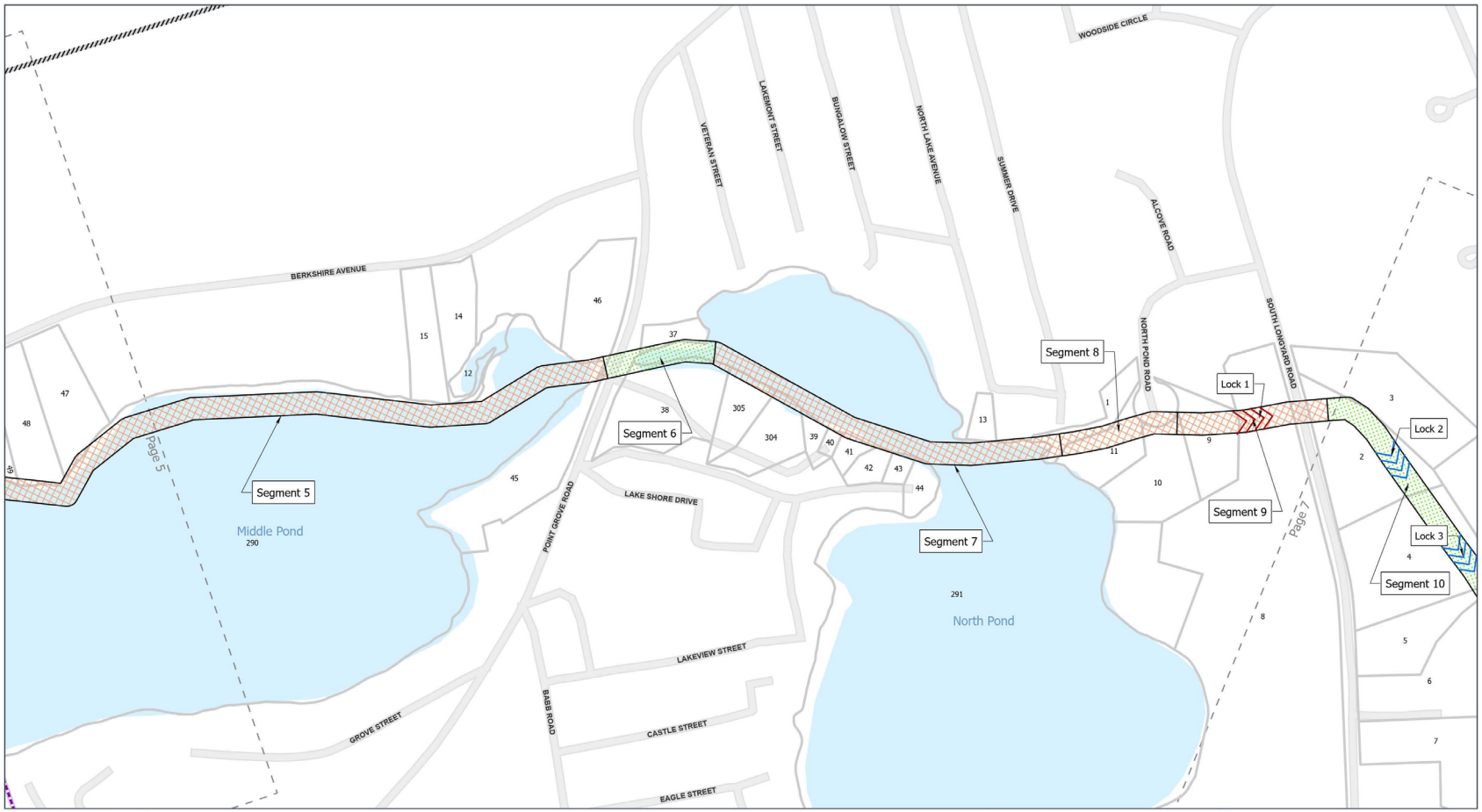
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0319°N 72.7594°W

1 inch equals 300 feet
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

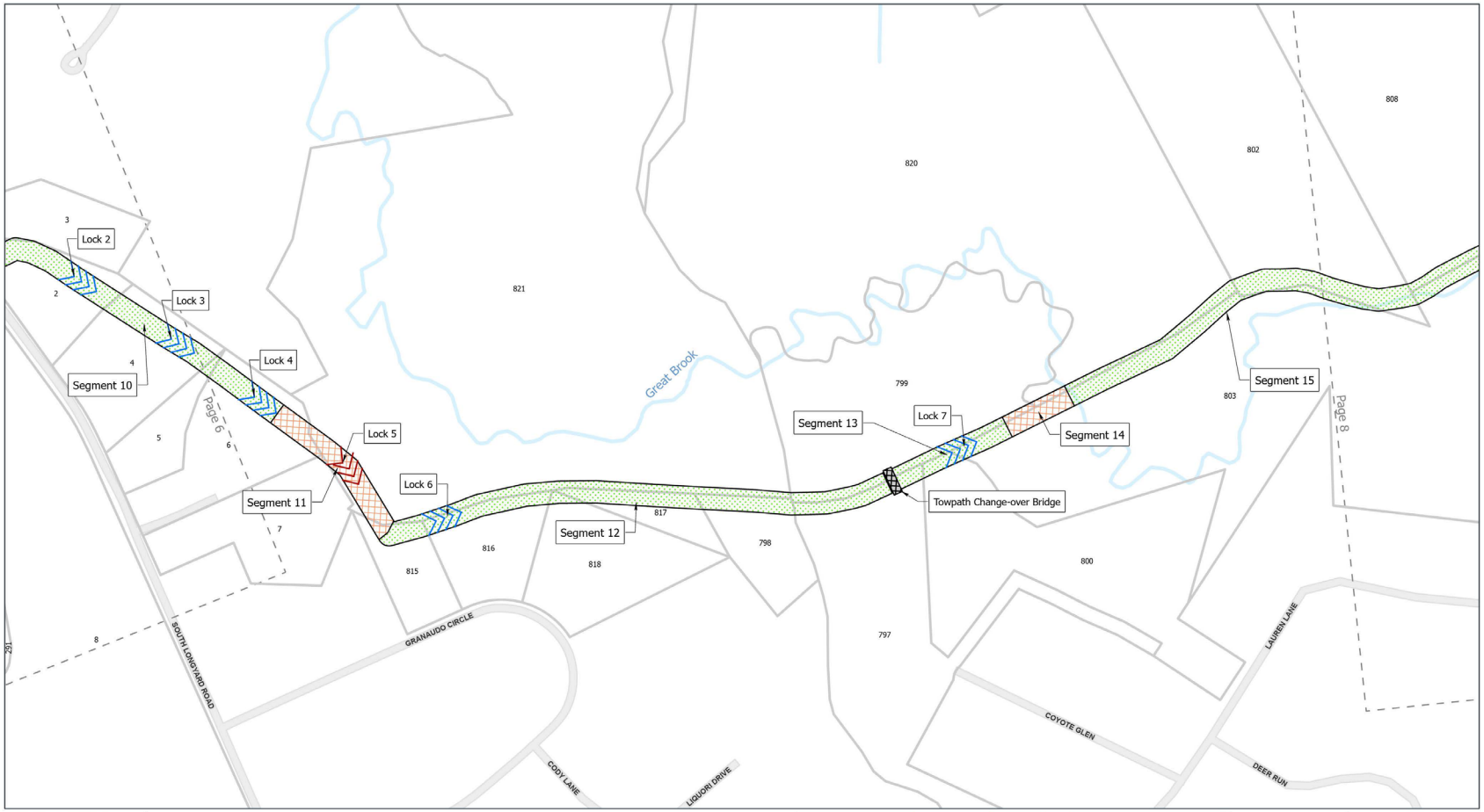
Area Letter	Form Nos.
SOU. C	See Data Sheet



Continuation sheet 32

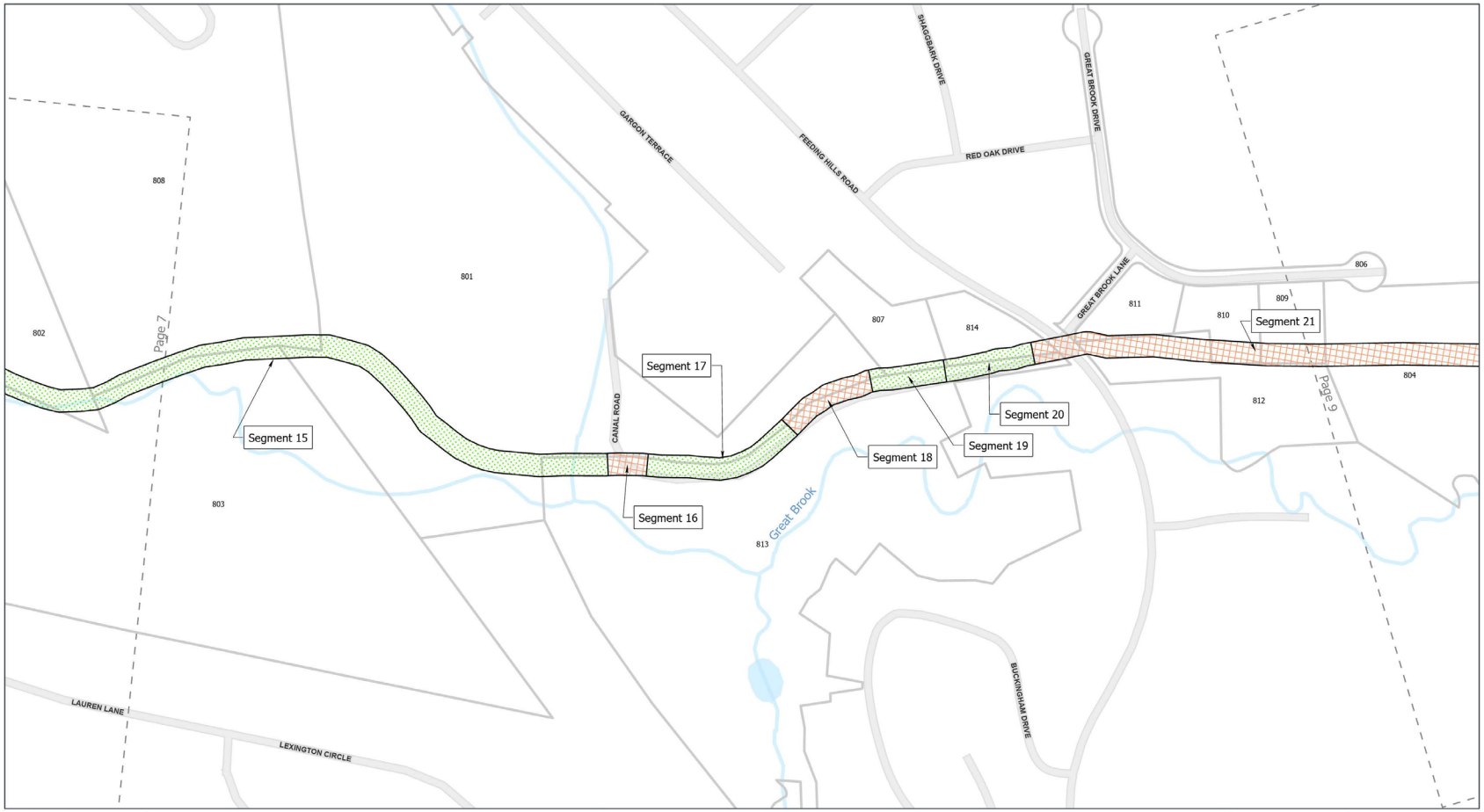
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU. C	See Data Sheet



MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

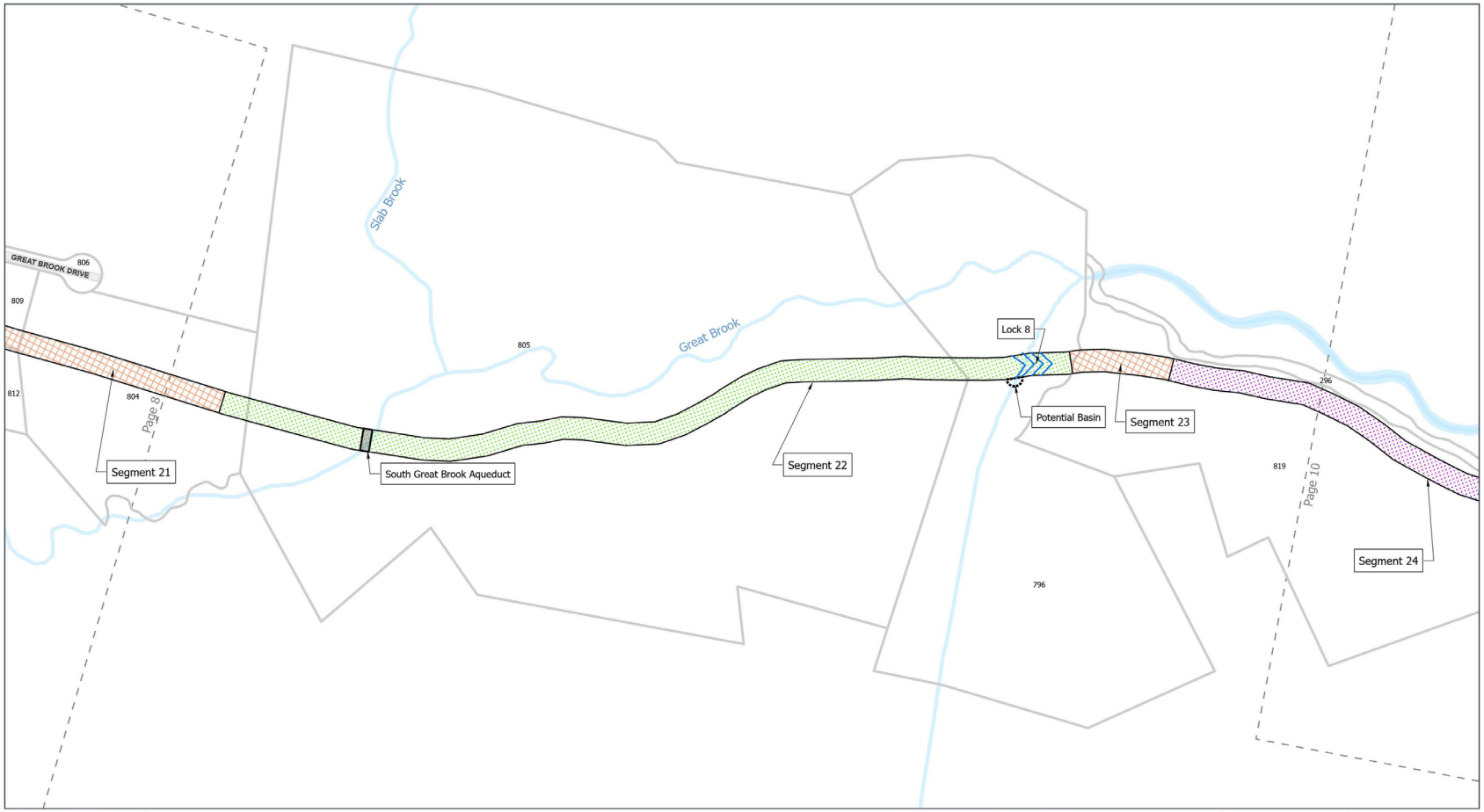
Area Letter	Form Nos.
SOU.C	See Data Sheet



Continuation sheet 34

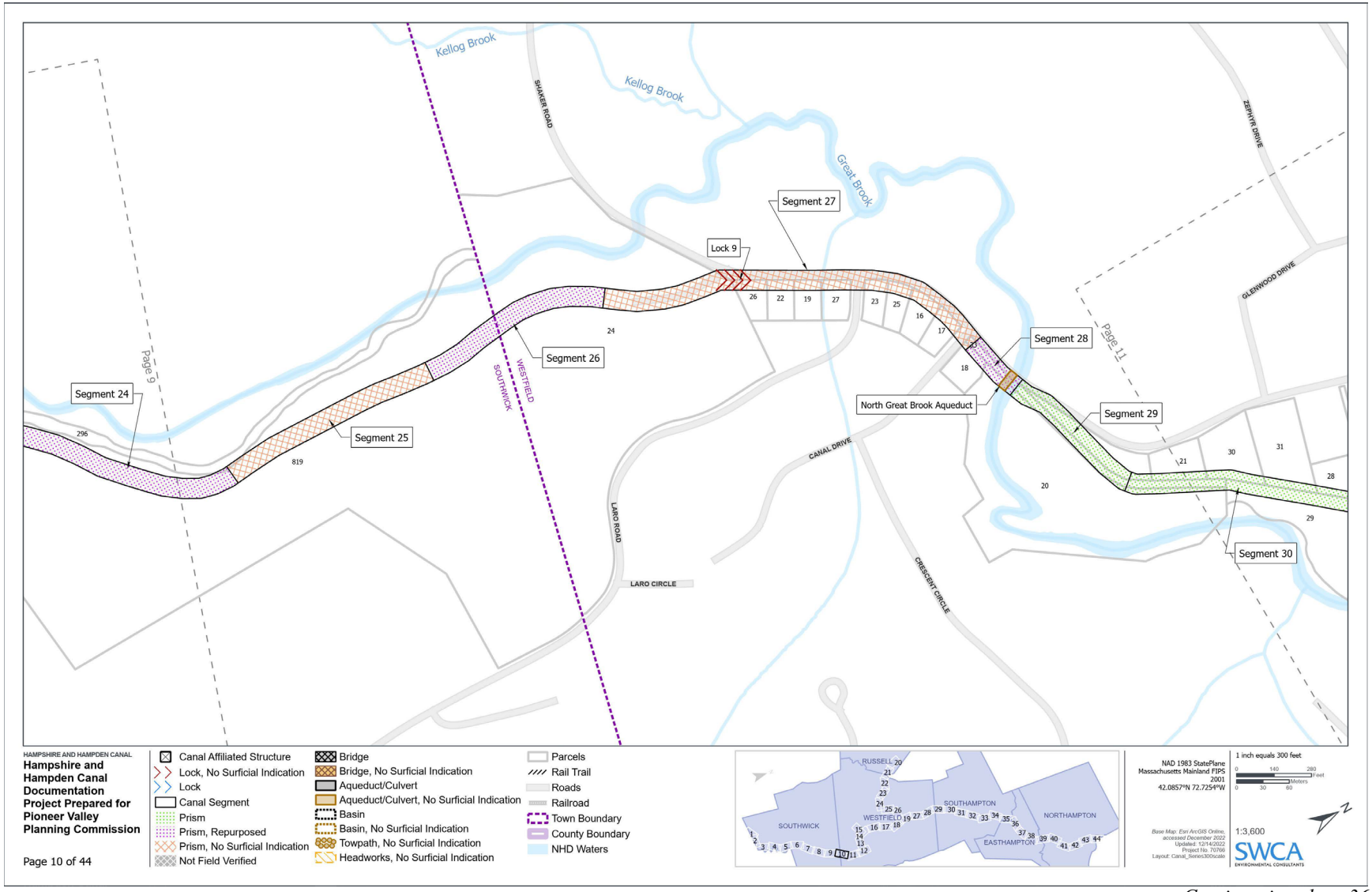
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU.C	See Data Sheet



MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
SOU. C	See Data Sheet



FORM A - AREA

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
9, 12, 16, 19, 21, 25, 56, 57, 116, 117, 118, 119, 122, 123, 143, 147, 153, 202, 221, 229, 244, 245, 246, 247, 250, 251, 7R, 15R, 16R, 17R, 19R, 28R, 29R, 38R, 39R, 40R, 41R, 47R, 48R, 49R, 50R, 55R, 56R, 62R, 63R, 69R	West Springfield, MA & Mount Tom, MA & Woronoco, MA	**WSF. O**	See Data Sheet

Photograph

Remnant canal prism in Segment 46, facing south.

Town/City: Westfield

Place *(neighborhood or village)*:
Name of Area: Hampshire and Hampden Canal
Present Use: Former canal route with varied modern-day land use (residential, recreational, agricultural, industrial, commercial, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Varied- some areas of remnant prism and Lock features with other areas obscured or altered by commercial development.

Major Intrusions and Alterations: Altered, obscured, or repurposed by railroad construction, residential and commercial development

Acreage: Complete-*138.75 acres*, Remnant segments-*53.90 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc.

Organization: PVPC and Westfield Historical Commission

Date *(month/year):* 11/2022

Locus Map

[See continuation sheet pages 25-42.]

☒ *see continuation sheet*

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism oriented generally north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath and, in places, embankments. The canal route ran from a guard lock at the state line located in Southwick, MA south of Congamond Ponds to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122-foot elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much smaller Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Westfield (**WSF.O**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Westfield, the Hampshire and Hampden Canal Area is an approximately 138.75-acres, 15.27-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Westfield portion of the canal route varies, with surficial identification of substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor as described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on the physical characteristics of the surficial canal remnants. Following is a brief description of these sections proceeding from south to north, beginning at the Southwick-Westfield border and ending at the Westfield-Southampton town line. Within the town of Westfield exists the eastern portion of the Westfield River Feeder, which is described from west to east as the feeder enters Westfield from Russell to where it empties into the Main Line.

Canal Prism Segment 26 (**MHC ID)** (**Photo 1**). is a repurposed canal segment with visible eastern and western embankments with the prism itself being utilized as a DPW access route. This segment is partially within the Town of Southwick, running northward into Westfield.

Segment 27 is the first segment of the canal entirely within Westfield. Here surficial evidence of the former route has been altered/obscured by the DPW access road and buildings, Shaker Road, and the surrounding residential development. The site of Lock 9 formerly existed in this segment but has been removed/obscured by the construction of Shaker Road and residential lots along this road. The segment ends at Canal Drive.

Canal Prism Segment 28 (**MHC ID)** is a small section of repurposed canal that now serves as roadside drainage that begins at Canal Drive and ends after crossing Great Brook. This segment contains no surficial evidence of the former North Great Brook Aqueduct, either washed out along Great Brook or removed by residential construction along Shaker Road. The towpath shifts to the east side of the canal just south of Great Brook, no evidence of a cross-over bridge was located.

Canal Prism Segments 29, 30, and 31 (**MHC ID)** (**Photos 2 to 3**) encompass a continuous, uniform canal segment that extends east of Shaker Road, curving to follow in the rear of residential lots that parallel Great Brook and Springfield Aqueduct to the canal's east. Through these segments surficial remnants of the prism and towpath can be observed. Here, canal meanders northwest, where the prism contains a modern culvert and tightly built development before meeting Shaker Road. A two-track trail currently utilizes the canal prism as a right-of-way, here the prism is well-preserved. The eastern towpath is mostly visible, with evidence of erosion and construction activities sporadically obscuring it in sections. A small 230-foot segment (Segment 32) of the canal was altered/obscured by Shaker Road construction, before traces of the prism pick back up and continue for another 0.74 miles (Segment 33, 34), finally terminating just west of Tow Path Lane.

Segment 33 cuts in the rear of multiple homes in a tightly built residential area that has altered/obscured the majority of the canal's eastern embankment and towpath. The western embankment is visible and cut out of the natural slope side. Multiple road crossings and additional small disturbances are noted in this area, with 0.14 miles between 583 and 595 Little River Road (Map) not field verified due to access related restrictions. Surficial evidence of the prism picks back up, crossing Ridgecrest Drive, and the eastern towpath is visible in the rear of residential house lots on the land bounded by Little River Road and Ridgecrest Circle (Segment 34).

Canal Prism Segment 35 (MHC ID) is a 959-foot altered/obscured section of canal in an area that has experienced significant washout events. Significant erosion of the former prism location is evident.

Canal Prism Segment 36 (MHC ID) (**Photo 5**) contains a well-preserved prism and northern towpath, with a modern ATV trail utilizing the former canal route. This segment contains remnants of the **Little River Aqueduct (MHC ID).** Although the aqueduct is mostly washed out, with its western end not surficially identified in the field, its eastern abutment stonework was observed along the eastern bank of Little River. On the western side of Little River is another 420 feet of remnant canal prism. While much of the prism channel has experienced significant washout and erosion, the evidence of the towpath still exists. This segment ends at the edge of a large agricultural field. This segment of the canal, also including Segments 35 and 34, has been previously recorded in the MHC database as **WSF.HA.4**, though the included descriptions and details are limited (**Photos 6 to 7**).

Segments 38 is an approximately 0.88-mile stretch of the former canal route altered/obscured by agricultural activities and the infrastructural development of Westfield. After crossing active agricultural lands (Segment 38), the route runs through an industrial park south of the Westfield town center. No surficial remnants of the canal were located.

The former location of the Little River Feeder would have emptied into Segment 38. Segment B-1 begins at the intersection with the Little River and extends to the transmission ROW, no surficial evidence of the route remains, washed out by storms and flooding events and/or otherwise obscured. No surficial evidence of the former headworks of the Little

River Feeder were located, likely impacted by flooding, erosion, and transmission line construction. A short, 160-foot Segment B-2 contains a partially visible prism with a remnant of the northern embankment. The western bank was altered/obscured by the transmission line right-of-way construction. The remaining 0.3 miles of feeder (B-3) crosses over Ponders Hollow Road and through an industrial park, no surficial evidence of the route remains.
Segments 39 and 40 contain 1.5 miles of repurposed canal route that was first utilized by the New Haven and Northampton Railroad as their railbed corridor and then later, was again transformed into the Mass Central Rail Trail. No surficial evidence of the East Silver Street Lift Bridge (Segment 39), South Basin (Segment 39), Main Street Lift Bridge (Segment 39), Elm Street Lift Bridge (Segment 40), Guard Lock (Segment 40), and North Basin (Segment 40) were located. However, the location of the South Basin is immortalized by a canal marker (**WSF.914**) just off Main Street. Any surficial evidence of the former Westfield River Aqueduct has also since been removed/obscured. With its former location in the center of town, stone was likely removed and repurposed for later engineering efforts as a cost saving measure. Historic mapping of Westfield shows the former canal channel paralleling the railbed, which ran along the eastern embankment and towpath after the rail company purchased the canal ROW. While the channel has since been filled and built over, the former railbeds have been converted to recreational trails and still occupy that original embankment/towpath through these segments.

A 190-foot section of the former canal containing no surficial remnants (Segment 41) exists between the repurposed Segment 40 and a surficial 470-foot **Canal Prism Segment 42 (MHC ID)** (**Photo 8**). Remnant features in Segment 42 include the prism and east towpath; however, erosion has significantly widened the canal prism. After this small section, no surficial evidence of the canal remains for about 1.41 miles (Segment 43). Within Segment 43, railroad and road construction, and flooding events, including the creation of the Arm Brook Reservoir, have altered/obscured Locks 10 and 11. A portion of Arm Brook, north of the Massachusetts Turnpike and south of the dam, is hypothesized to have been diverted into the former canal channel, away from its natural drainage during reservoir construction, based on the flat surface to the east likely being the former towpath. There is no surficial evidence of Locks 12 and 13 due to inundation by the establishment of the dam.

Canal Prism Segment 44 (MHC ID) is a stretch of approximately 0.28 miles of remnant canal prism filled with water from the damming of Arm Brook. Here, the east towpath exists, and earthworks from Lock 15 remains partially visible. The lock's earthworks remain along the west bank, while to the east, they are visible near the northern and southern locations of the former gates. However, surficial remnants of these sills or gates are no longer present. There was no surficial evidence of Lock 16.

Canal Prism Segments 45, 46, and 47 (MHC ID) comprise approximately 1.2 miles of remnant canal. The canal's east towpath was utilized by the New Haven and Northampton Railroad bed (now Pioneer Valley Railroad), with construction of the railroad filling large portions of the canal prism. Only the eastern embankment and towpath, and very sporadic prism sections are identifiable through Segment 45. Both east and west banks are visible (Segment 46; **Photo 9**) for about 1,675 feet until the west bank disappears for the remainder of the Segment 47 (**Photo 10**). In Segment 45 no surficial evidence of Locks 17 and 18 was located, though through historic mapping and documentation it is understood these were their approximate locations.

Canal Prism Segment 48 (MHC ID) is a section of remnant canal that begins on the north side of Bennett Road, extending to just across Summit Lock Road. Similar, to the previous three sections, the railroad continues to occupy the former towpath. Through here the prism has been partially filled and is currently utilized as a railbed drainage channel.

Surficial evidence of the canal is lost for approximately 1,100 feet (Segment 49) and the former route crosses wetlands, likely exacerbating erosion. Segment 49 extends north to just after crossing an unnamed tributary of Brickyard Brook.

Segment 50 is a 446-foot-long canal section with visible evidence of the prism and east and west embankments. Impacts related to agricultural activities, such as field drainage, are evident. Following this, Segment 51 contains no surficial evidence of the canal north to North Road.

For the next approximately 0.87 miles (**Canal Prism Segments 52 and 53 [MHC ID]**), the former canal prism was repurposed by the railroad. The railroad first parallels the canal for 0.3 miles placing the tracks on the former east towpath in Segment 52 (**Photo 11**). As it crosses over Root Road, the tracks drop into the original prism and continue into Southampton. The former towpath was likely itself repurposed by Root Road through this stretch.

The northernmost portion of the Westfield River Feeder exists in the Town of Russell before flowing south towards the main canal route. The original 1834 Westfield River Feeder Headworks that controlled water flow into the canal was washed out by a flood in 1836. The prism remains visible for 0.36 miles (Segment C-1) before ending at Valley View Road. The embankments along this section are not continuous; the western end of the prism, near its confluence with Westfield River, contains a scattering of cut stone, but it is undetermined whether this is associated with the former dam and headworks or with the adjacent railroad running along the prism's northern embanking. Segment C-1 continues south to the point where the canal is bisected by Valley View Avenue.

Segment C-2 begins at Valley View Avenue and continues to parallel the Westfield River through Russell. This section has been altered/obscured by erosion along the Westfield River, industrial development along with road, and railroad construction. Throughout Segment C-2, only minimal traces of prism and embankment remain visible, too discontinuous to merit consideration. This section continues east to the end of Tekoa Avenue. Due to access restriction and safety concerns, field verification was not conducted from here to the end of Pochassic Road in the town of Westfield. Instead, LiDAR and historic mapping were relied upon to confirm the canal route from Tekoa Avenue to Pochassic Road. The route of the feeder continues east as it enters Westfield.

No surficial remnants of the canal were observed in Segment C-3, likely having been altered/obscured agricultural activities that leveled the prism and towpath. Only the natural northern hillslope remains, which would have served as an embanking.

A section of the canal way remains visible (Segment C-4; **Photo 12**) before a road for logging operations removed 245 feet of the prism (Segment C-5). These segments stretch from the beginning of the quarry/sand pit access road to a small lumber operation to the east, just before Moose Meadow Brook. A two-track road occupies the center of the prism through this stretch.

Feeder Canal Prism Segment C-6 (MHC ID) traverses the hilltops adjacent to Moose Meadow Brook (**Photo 13**) before transitioning into C-7, as the route approaches a residential area. Surficial evidence of both embankments through Segment C-6 remains, with only the far western section partially filled by agricultural compost. At the crossing of Moose Meadow Brook, remnants of the original stone arch culvert (**Moose Meadow Brook Culvert [MHC ID])** can be seen in the form of stonework along the brook's eastern bank, as well as other scattered stone in the waterway from the original culvert feature.

Segment C-7 is a small, remnant prism section crossing through the rear of the residential area. Small sections of the western and southern embanking have been cut out by residential development. C-7 terminates at the intersection of West Road.

Between Segments C-7 and C-8, the route could not be field verified due to access related restriction. Segment C-8 is a small section of canal removed by the Hawks Circle development. No surficial evidence of the canal was identified in this segment.

Feeder Canal Prism Segment C-9 (MHC ID) (**Photo 14**) is a long, continuous segment of the canal prism extending from the end of the Hawks Circle development to just south of Furrowtown Road. This meandering section passes through the rear of the Kane Brothers Circle development and possesses preserved embankments and prism.

Segment C-10 is a section of the canal running from Furrowtown Road to approximately 75 meters north of the Fish and Game Pond. Large sections of Segment 10 have been washed out with others having been altered by the artificial pond construction. No surficial remnants of the canal were identified in this segment.

Beginning just north of the pond and continuing to Montgomery Road, **Feeder Canal Prism Segment C-11 (MHC ID)** remains visible.

Segment C-12 encompasses the former feeder canal route from Montgomery Road to the crossing of Powdermill Brook. No surficial indications of the canal were noted through this section, likely due to residential development and the construction of I-90. Just north of present-day I-90 would have been the location of the Powder Mill Brook Culvert, a single stone arch culvert, traversing Powder Mill Brook, of which no surficial evidence was identified. Due to safety concerns and access restrictions, the canal area from the eastern side of Powdermill Brook to the western end of Turnpike Industrial Road was not field verified.

The final section of the Westfield River Feeder, Segment C-13, has been obscured by infrastructure improvement and the development of Westfield. Beginning at the end of Turnpike Industrial Road, this segment continues to where the feeder would have emptied into the main canal, which has also been completely leveled and built over by the development of Westfield. No surficial indications of the former feeder canal route were identified in Segment C-13.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Westfield

The Town of Westfield is located in the Westfield River watershed and Woronoco Valley. It was incorporated as an independent town in 1669. First settlement of the area occurred in the late-seventeenth century in the form of the Woronoco fur trading station (MHC 1982). Eventually, the town developed into an important agricultural center during the Colonial period with farmsteads on the fertile lowlands. Construction of the Hampshire and Hampden Canal in 1826 divided Main Street and reoriented the town center along Elm Street to the northside depot (NRHP 2013). The canal was the transportation innovation of the late-eighteenth to early-nineteenth century. Powder mills were added onto the previously established ones from the seventeenth century to supply the blasting powder used for the canal's construction (MHC 1982). Westfield's population grew as a result of worker needs for construction efforts. An expansion of Westfield Village attracted newcomers and the town saw an influx of Irish immigrants who became canal laborers. The town's thriving commerce was likely directly linked to the canal's opening in 1829. Agricultural traffic to New Haven and other towns along the canal route allowed farmers to deliver their great variety of market produce (NRHP 2013). Formation of the Hampden National Bank and the organization of docks and warehouses followed the canal's opening. The canal's most prosperous period was in the years surrounding 1840. The canal was abandoned by 1845, and following a flood in 1853, the canal company was reorganized as the New Haven and Northampton Canal Company. The canal's route was broadened and replaced by a railroad running north-south from the years of 1855/56. Westfield's Lyman Lewis was closely connected to the canal's reorganization and oversaw freight and passenger traffic at the port (MHC 1982). Lyman's successor was H.B. Smith, who raised funds for the Western Railroad and had interest in the new Canal Railroad. Smith was nationally recognized for his manufacturing of boilers and iron fences. The H.B. Smith Company is responsible for growing Westfield's industry during the mid-nineteenth century through the acquisition of Samuel F. Gold's patent for hot-air furnaces. Additional facets of Westfield's economy during this time included whipmaking and paper production (MHC 1982). However, as early as 1855, Westfield led Hampden County in tobacco production, which was a title it retained for much of the remaining century. Whip production peaked in 1915 and new industries of bicycles, automobiles, and textile manufacturing continued to attract laborers. There was an increase in multi-family housing developments along the industrial belt (MHC 1982).

The early twentieth century brought development and improvements to local autoroutes and the area's highways. After this, there was an influx of commercial business to the region, specifically along the Route 20 axis (MHC 1982). Westfield has experienced rapid suburban expansion, especially in farmland areas along the Western Avenue axis to the State College campus. The town was re-incorporated into a city in 1920 and is classified as part of the Springfield, Massachusetts Metropolitan Area. The City's north side primarily consists of warehousing centers for large corporations due to its proximity to interstate highways. South of the Westfield River represents intersecting trends of growth since it is home to Westfield State University and the old downtown business district.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank

with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August 30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Westfield

In 1822, the town's citizens voted to approve the construction of the Hampshire and Hampden Canal's Westfield portion. Canal construction began in 1826 and by 1829, the Westfield to New Haven route was opened. The canal link between Westfield and Northampton had been completed by 1835 (MHC 1982). The former canal route follows the level topography along Great Brook (Southwick), crossing Little River and through Westfield Center, cutting across Main Street, and running between the Mechanic Street Cemetery and Elm Street. It then crossed to the west side of Elm Street, meeting the Westfield River (NRHP 2013). A bridge existed to cross the Westfield River. Upon its divergence from the Westfield River, the canal follows the current route of Pochassic Road where it spans Moose Meadow Brook via a stone-arch culvert. On the north side of the river, the canal shifts southeast, running roughly parallel to North Elm Street. It then follows northward along Powder Mill Brook to Brickyard Brook along the course of Lockhouse Road and off the canal's main route is an extensive feeder. The Westfield River Canal Feeder ran south along the edge of the Westfield River crossing from Westfield into the town of Russell (Raber 2002).

During construction of the canal, Westfield's population started to change, as Irish immigrants were brought in to complete the intense, laborious tasks of digging and masonry work (NRHP 2013). Afterward, these individuals stayed and went on

to work for new industries in the town. In the 1820s and 1830s, canal construction and operation in Westfield Center increased residential development on surrounding streets. The new canal introduced a cheaper means of transportation to the town and provided Westfield with a direct route to the coast.

The establishment of industry in the community changed the town's character, shaping it into an industrial hub in the latter part of the nineteenth century. The new industrial base evolved around three primary products: whips, cigars, and paper. Opening of the canal assisted in time to carry farm produce, whips, kegs, and muskets, among other goods, between Northampton and Connecticut, generating business in Westfield Center. A building boom simultaneously occurred in Westfield, with the construction of hotels, taverns, and warehouses. The canal's presence initiated a speculative anticipation that the canal would attract an increase in business. As a result of construction density, Westfield's first fire company and associated equipment were acquired in 1826. The canal's route was repurposed by the Westfield & Northampton Railroad, which passed through the town's center in 1865. The Railroad utilized the canal's route by eventually constructing an elevated berm next to the canal route ca. 1889. It generally followed the route but deviated north and south of the town's center.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 *MHC Reconnaissance Survey Town Report: Westfield.* MHC, Boston.

National Register of Historic Places
2013 Westfield Center Historic District, Westfield, Hampden County, Massachusetts. National Register #13000441.

Raber, Michael S.
2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Geological Survey (USGS)
2021 Mount Tom Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

2021 West Springfield Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

2021 Woronoco Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as

the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
26		Canal Prism	From Southwick Border to DPW facility	Y	Repurposed by DPW road; roadway runs within former prism with towpath along western embankment	1
27		Canal Prism	From DPW facility to Canal Drive	N	Filled and leveled by road construction	
27		Lock 9	Approx. located at intersection of Shaker Rd.	N	Filled and leveled by road construction	
28		Canal Prism	From Canal Drive to Great Brook crossing	Y	Repurposed as roadside drainage with Shaker Road running along western embankment; towpath now to the east, former change-over bridge probably existed in, the now destroyed, Segment 27	
28		North Great Brook Aqueduct	At Great Brook crossing	N	Removed/obscured by road construction and utilities	
29		Canal Prism	From Great Brook to where route diverges from Shaker Rd.	Y	Mostly identifiable, with the exception of a few portions of the eastern towpath being cut out for trail access; modern two-track runs through the prism	
30		Canal Prism	Running through the rear of Shaker Road parcels, ending at modern culvert	Y	Well-preserved, two-track runs through prism	2, 3
31		Canal Prism	From culvert to Shaker Road	Y	Partially altered segment, eastern towpath removed by residential development, but remainder of original prism is	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
					identifiable	
32		Canal Prism	From Shaker Rd. to Cardinal Ln.	N	Removed/obscured by road and development construction	
33		Canal Prism	From Cardinal Ln., paralleling Little River Road	Y	Partially visible segment, eastern towpath removed, remainder of original prism identifiable; Small section within Segment 33 was Not Field Verified due to access restrictions	
34	WSF.HA.4	Canal Prism	West of Little River Road, near Towpath Lane	Y	Towpath along eastern embankment	4
35	WSF.HA.4	Canal Prism	Paralleling Ridgecrest Circle	N	Eroded; significant washout events	
36	WSF.HA.4	Canal Prism	Paralleling Ridgecrest Circle to the Little River	Y	ATV trail along interior of prism; towpath remains visible along northern side of prism	5
36	WSF.HA.4	Little River Aqueduct	At the Little River crossing	Y	Some stonework from the original eastern abutment remains, western landing not identified; very little evidence of this feature remains	6, 7
37		Canal Prism	From the Little River to the avicultural fields	Y	Partially altered, prism is significantly wider than original dimensions due to erosion	
38		Canal Prism	Through agricultural fields to South Meadow Road	N	Filled and plowed by agricultural fields and otherwise obscured by infrastructure and industrial park	
39		Canal Prism	From South Meadow Road to Main Street	N	Repurposed originally by railroad, now used as a	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
					recreational rail trail; area is heavily developed, original design completely obscured	
39		East Silver Street Lift Bridge	At Silver Street crossing	N	No surficial evidence remains	
39	WSF.914	South Basin	Immediately south of Main Street	N	No surficial evidence remains	
39		Main Street Lift Bridge	At Main Street crossing	N	No surficial evidence remains	
40		Canal Prism	From Main Street to east of Crown Street	N	Repurposed originally by railroad, now used as a recreational rail trail; area is heavily developed, original design completely obscured	
40		Elm Street Lift Bridge	At Elm Street crossing	N	No surficial evidence remains	
40		Guard Lock	Just south of Westfield River	N	No surficial evidence remains	
40		Westfield River Aqueduct	At Westfield River crossing	N	No surficial evidence of original feature remains; however, original stone was likely repurposed for other local efforts	
40		North Basin	Just north of Westfield River	N	No surficial evidence remains	
41		Canal Prism	East of Crown Street	N	Eroded, with section leveled by railyard	
42		Canal Prism	East of Crown Street	Y	West embanking cut into natural hillslope, intact eastern towpath, moderate erosion has widened original channel	8
43		Canal Prism	From south of Notre Dame	N	Removed/obscured, partially by	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
			Street to the Arm Brook Reservoir		railroad construction with most of the original prism removed by significant flooding events	
43		Lock 10	Approx. near confluence of Powder Mill Brook and Arm Brook	N	No surficial evidence remains	
43		Lock 11	Approx. just north of Lockhouse Road	N	No surficial evidence remains	
43		Lock 12	Within, what is now, Arm Brook Reservoir	N	Inundated by the damming of Arm Brook	
43		Lock 13	Within, what is now, Arm Brook Reservoir	N	Inundated by the damming of Arm Brook	
44		Canal Prism	From Arm Brook Reservoir to east of Lockhouse Road	Y	Intact, with eastern towpath; section is watered from Arm Brook Reservoir	
44		Lock 14	Approx. located at southern end of Segment 44	N	No surficial evidence remains	
44		Lock 15	Northwest of Arm Brook Reservoir	Y	Earthworks remain, narrowed chamber visible; northern and southern sill have been eroded by small stream which flows through the canal. Some spilled stone can be seen in stream, unsure if related to original chamber stonework	
44		Lock 16	Northern end of Segment 44	N	No surficial evidence remains	
45		Canal Prism	Along railroad tracks to the north and south of Servistar Industrial Way	Y	Railroad likely along former eastern towpath, former prism has been largely filled through section	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
45		Lock 17	Approx. located near southern intersection with railroad	N	No surficial evidence remains, altered/obscured by railroad	
45		Lock 18	Approx. located at intersection with Servistar Industrial Way	N	No surficial evidence remains, altered/obscured by railroad	
46		Canal Prism	Along railroad, south of Ampad Road	Y	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed	9
47		Canal Prism	From Ampad Road to Bennett Road	Y	Railroad likely along former eastern towpath, former prism has been utilized as drainage along railbed; some sections of the western embankment have been removed	10
48		Canal Prism	From Bennett Road to north of Summit Lock Road	Y	Significantly impacted by railroad construction and operation; former prism is mostly filled and used as shallow drainage	
49		Canal Prism	From north of Summit Lock Road to intersection with Brickyard Brook tributary	N	Prism eroded into wetland	
50		Canal Prism	Northwest of Brickyard Brook tributary	Y	Visible embankments and channel; some erosion from adjacent agricultural activities	
51		Canal Prism	South of North Road	N	Filled and leveled by commercial business and railroad	
52		Canal Prism	From North Road into Southampton	Y	Repurposed by subsequent railroad (now abandoned), Root Road built upon original	11

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
					eastern towpath	
B-1		Feeder Canal Prism	From Little River to near South Ashley Road	N	No surficial evidence of where the feeder route encounters the Little River remains, washed-out or otherwise obscured	
B-1		Little River Feeder Headworks	At intersection of feeder prism and Little River	N	No surficial evidence remains	
B-2		Feeder Canal Prism	South of South Ashley Road	Y	Moderately eroded, but remains identifiable	
B-3		Feeder Canal Prism	South of South Ashley Road to intersection with main line canal	N	Removed/obscured by industrial park development	
C-3		Feeder Canal Prism	Immediately north of Pochassic Road	N	Leveled by agricultural field, northern bank was cut into a natural hillslope and can still be identified	
C-4		Feeder Canal Prism	Paralleling the northern side of Pochassic Road	Y	Prism visible, presently contains logging access road	12
C-5		Feeder Canal Prism	West of unnamed farm road off Pochassic	N	Area altered by farm road and logging operation	
C-6		Feeder Canal Prism	From unnamed farm road to northwest of West Road	Y	Runs along hilltop, partially intact prism with both embankments	
C-6		Moose Meadow Brook Culvert	At Moose Meadow Brook crossing	Y	Visible stone abutment at eastern landing, with additional scattered stone along the brook's western bank	13

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
C-7		Feeder Canal Prism	Immediately west of West Road	Y	Partially altered, western embankment has been impacted by residential development	
C-8		Feeder Canal Prism	Along the Hawks Circle Development	N	Removed/obscured by Hawks Circle development	
C-9		Feeder Canal Prism	From the Hawks Circle Development to south of Furrowtown Road	Y	Relatively well-preserved segment	14
C-10		Feeder Canal Prism	South of Furrowtown Road to north of Fish and Game Pond	N	Filled and leveled by Fish and Game Club and creation of game pond	
C-11		Feeder Canal Prism	North of pond to Montgomery Road	Y	Surficial evidence of prism	
C-12		Feeder Canal Prism	From Montgomery Road to Powdermill Brook	N	Removed/obscured by residential development, agricultural activities, and the construction of the Mass Pike	
C-12		Powder Mill Brook Culvert	At Powermill Brook crossing	N	No surficial evidence remains; destroyed by Mass Pike	
C-13		Feeder Canal Prism	From end of Turnpike Industrial Road to the intersection with the main line canal route	N	Removed/obscured by industrial park development	

Photo 1: Repurposed canal prism in Segment 26, facing southwest.

Photo 2: Remnant canal prism in Segment 30, facing northeast.

Photo 3: Remnant canal prism in Segment 30, facing north.

Photo 4: Remnant canal prism in Segment 34, facing west.

Photo 5: Remnant canal prism in Segment 36, facing west.

Photo 6: Stonework from eastern abutment of the Little River Aqueduct, facing east.

Photo 7: Eastern landing of the Little River Aqueduct, facing west.

Photo 8: Remnant canal prism in Segment 42, facing north.

Photo 9: Remnant canal prism in Segment 46, facing south.

Photo 10: Remnant canal prism in Segment 47, facing south.

Photo 11: Former canal route repurposed by railroad (now abandoned) in Segment 52, facing north.

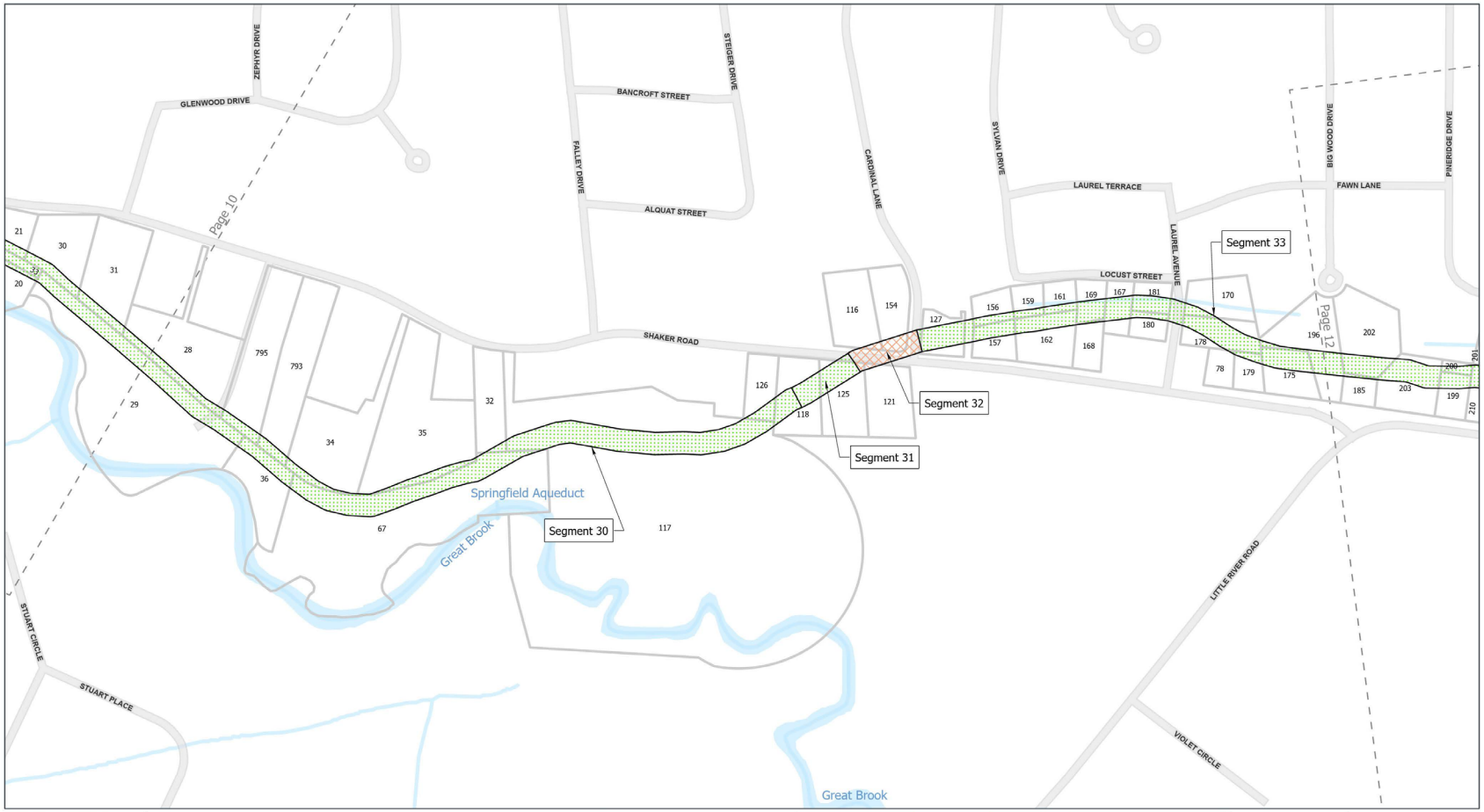
Photo 12: Remnant feeder canal prism in Segment C-4, facing east.

Photo 13: Intact stonework from original Moose Meadow Brook Culvert, facing northeast.

Photo 14: Remnant feeder canal prism in Segment C-9, facing southeast.

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet

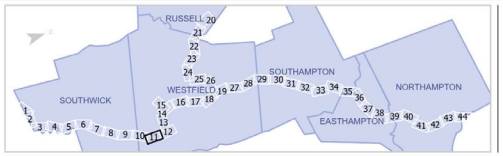


HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 11 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.0966°N 72.7192°W

1 inch equals 300 feet

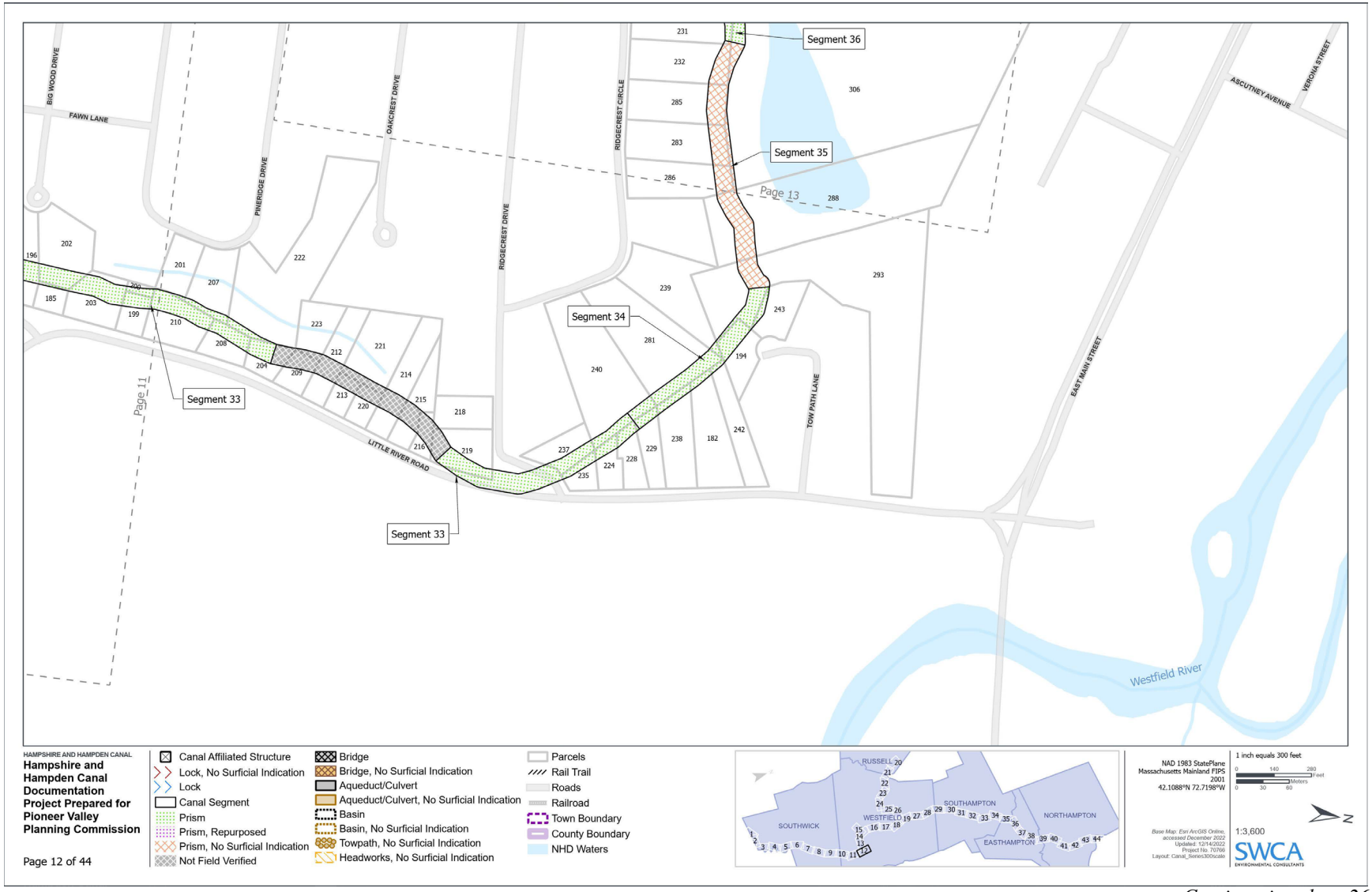
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Continuation sheet 25

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

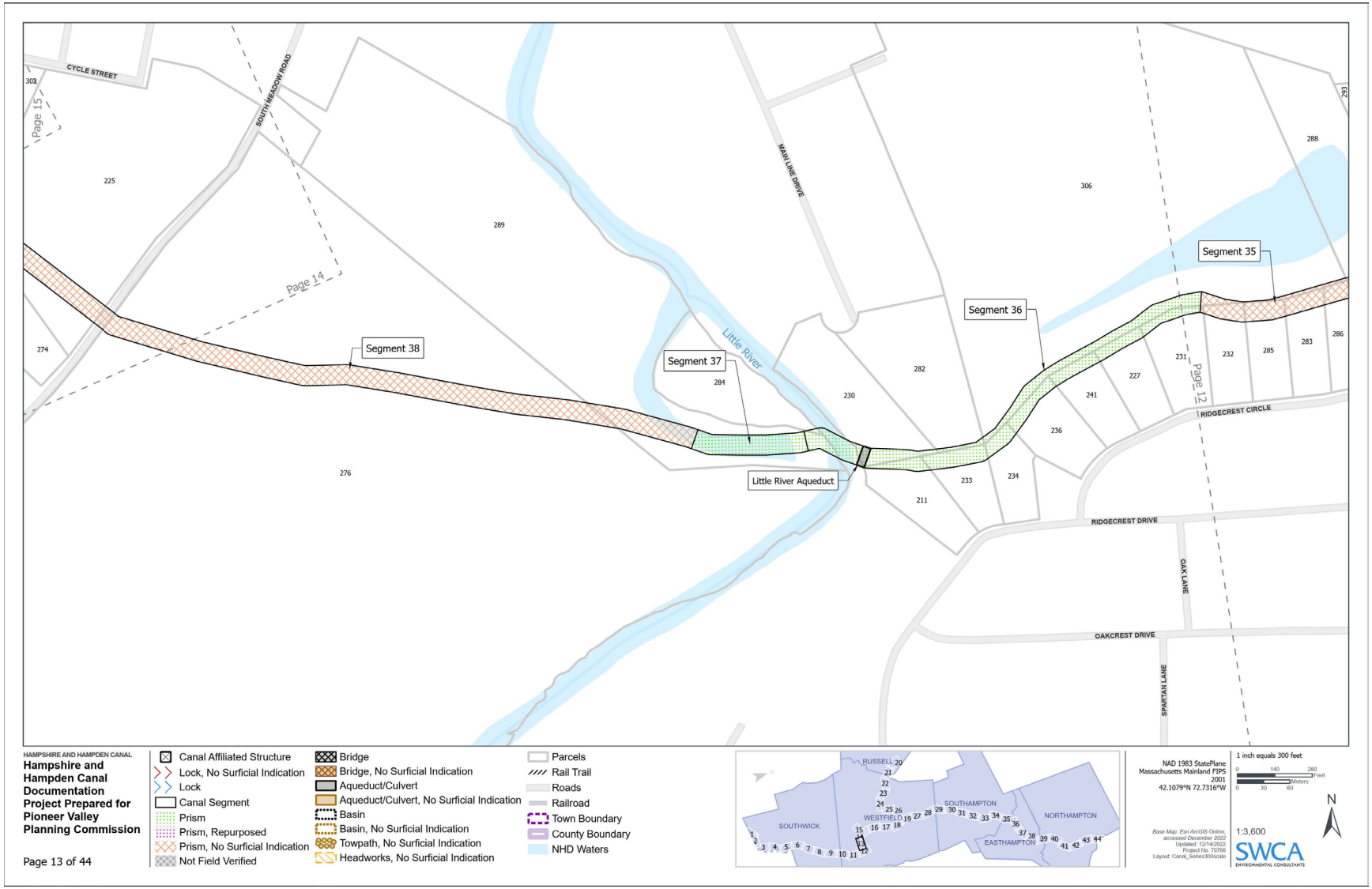
Area Letter	Form Nos.
WSF. O	See Data Sheet



Continuation sheet 26

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

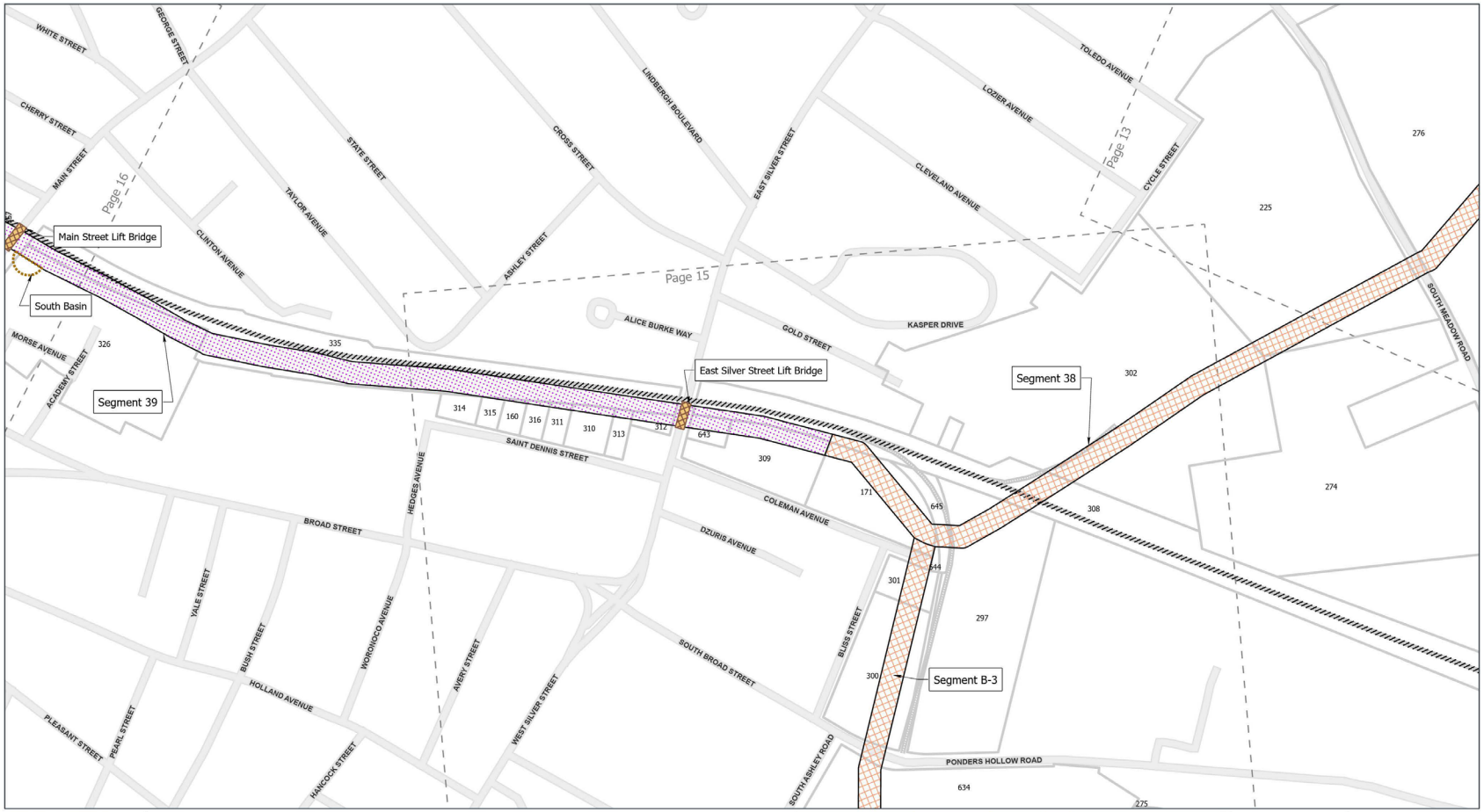
Area Letter	Form Nos.
WSF. O	See Data Sheet



Continuation sheet 27

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

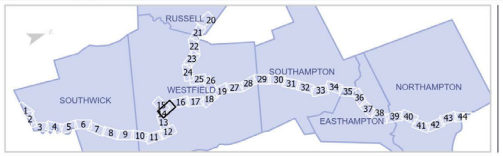
Area Letter	Form Nos.
WSF. O	See Data Sheet



HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 14 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1138°N 72.7446°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

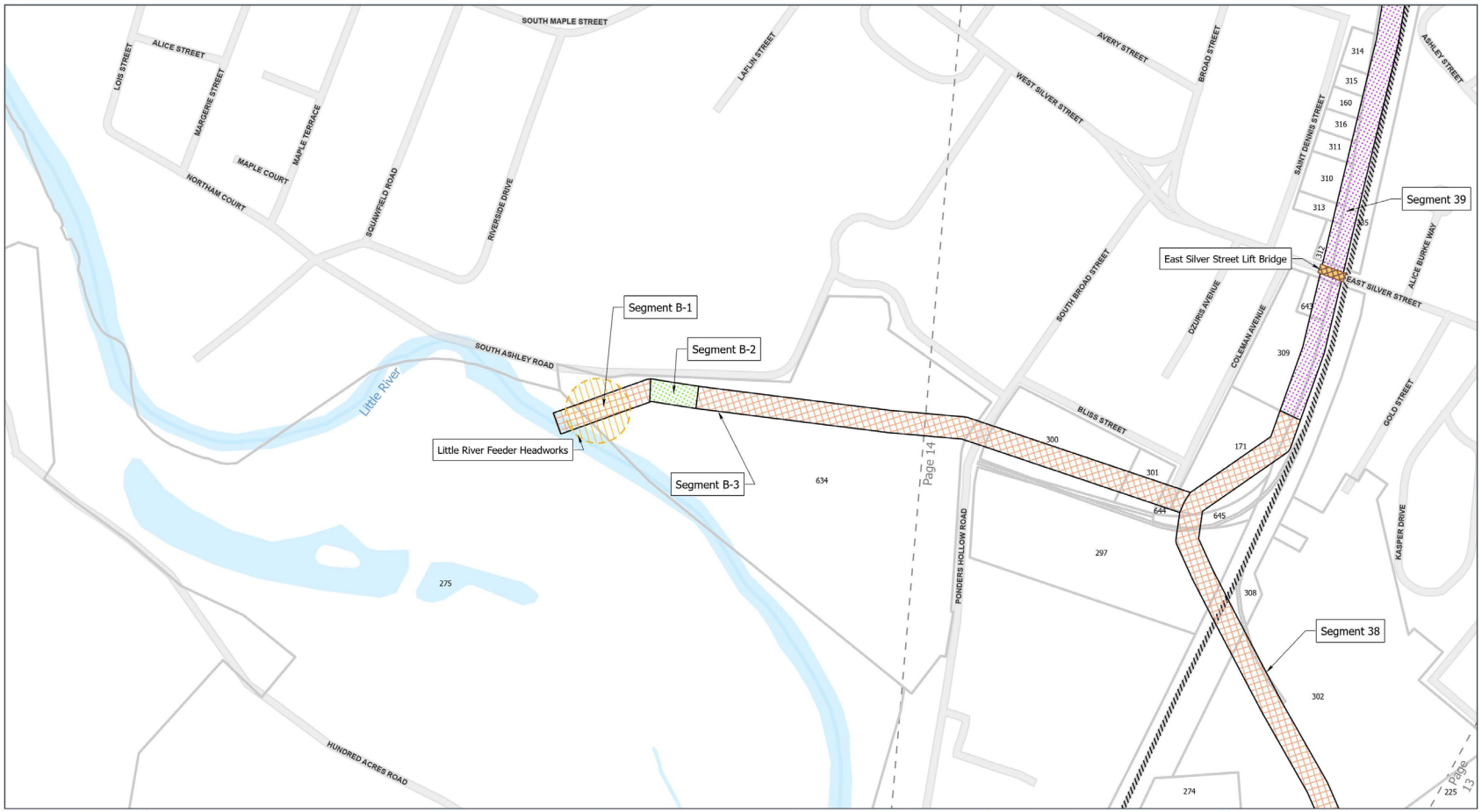
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Continuation sheet 28

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF.O	See Data Sheet

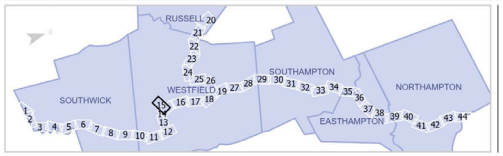


HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 15 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1106°N 72.7506°W

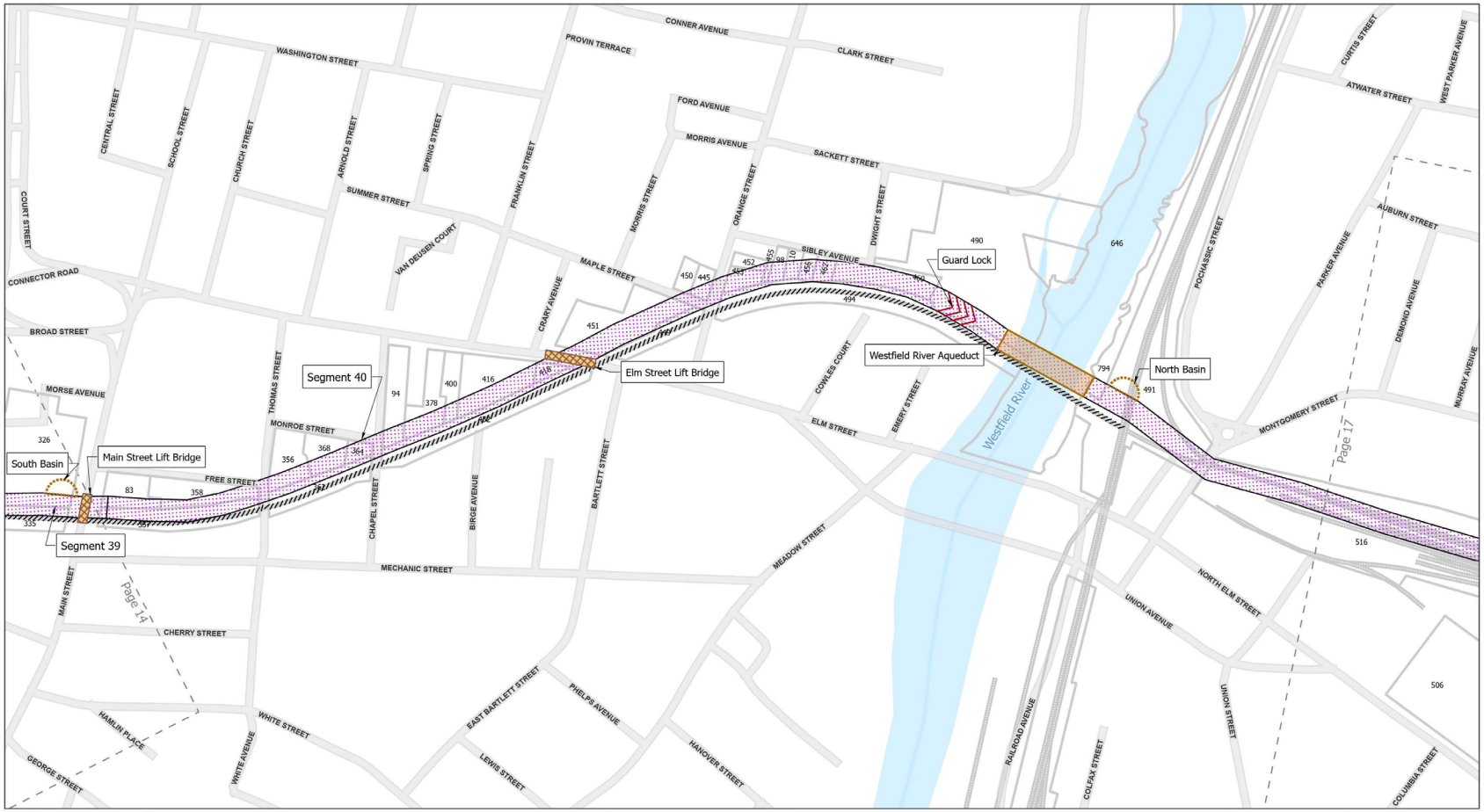
1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet

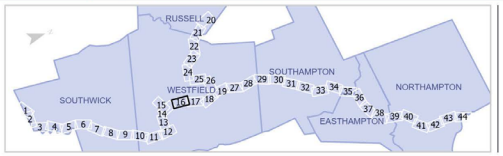


HAMPSHIRE AND HAMPDEN CANAL

Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 16 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1267°N 72.7471°W

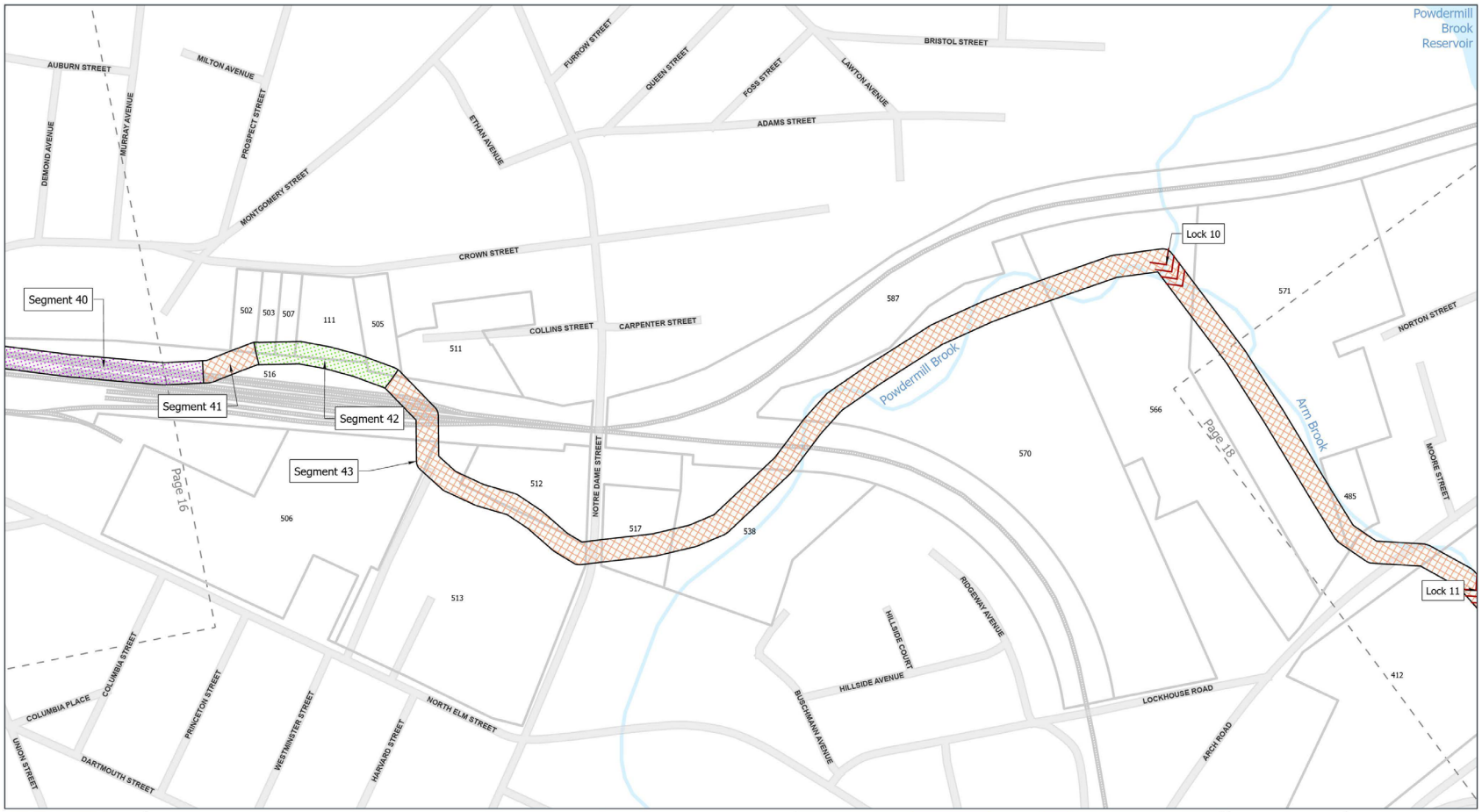
1 inch equals 300 feet
1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Continuation sheet 30

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

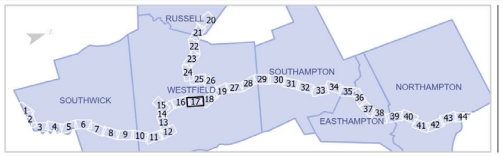
Area Letter	Form Nos.
WSF. O	See Data Sheet



HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 17 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1384°N 72.7427°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

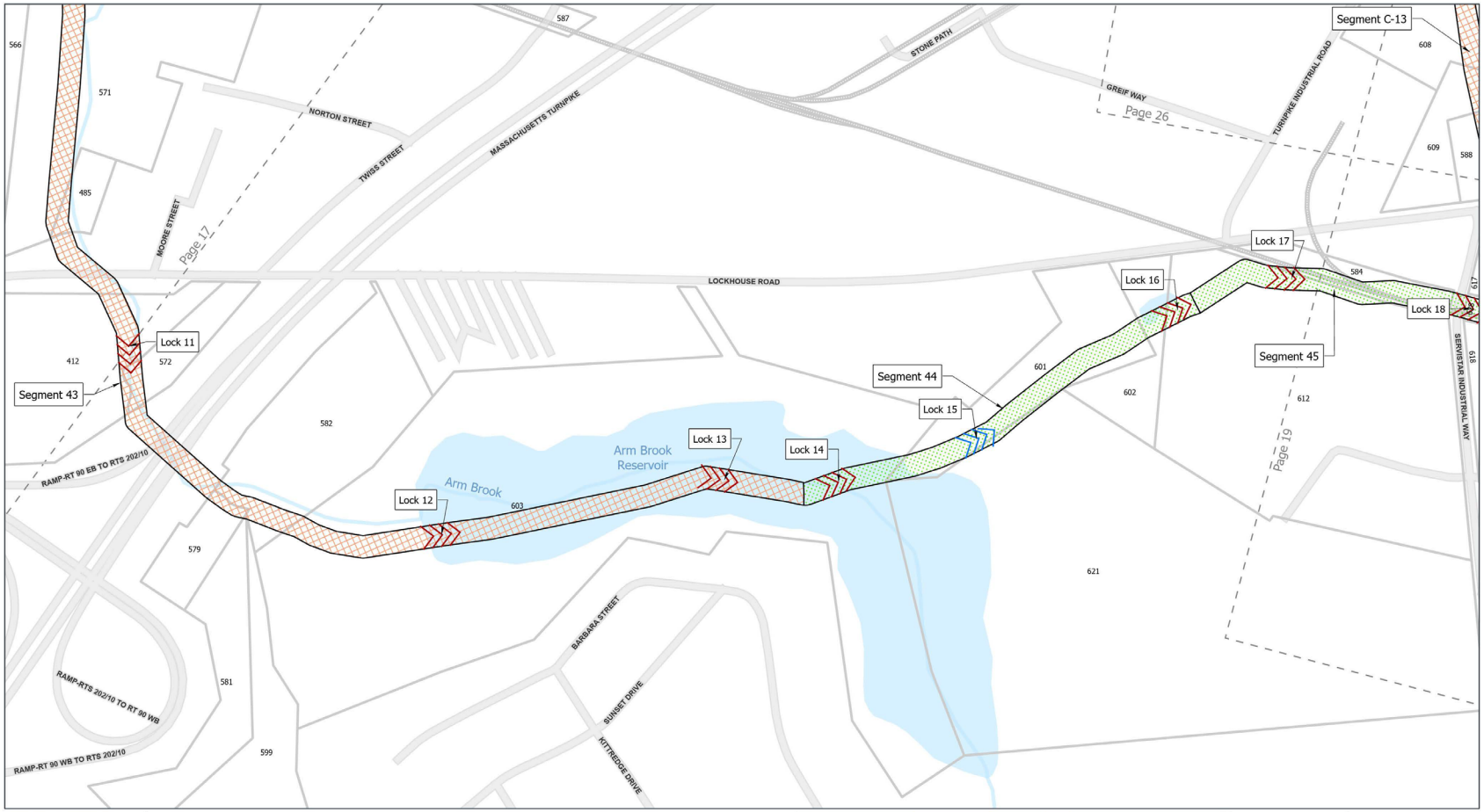
Base Map: Esri ArcGIS Online, accessed December 2022
Updated: 12/14/2022
Project No. 70766
Layout: Canal_Series300scale

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet



Continuation sheet 32

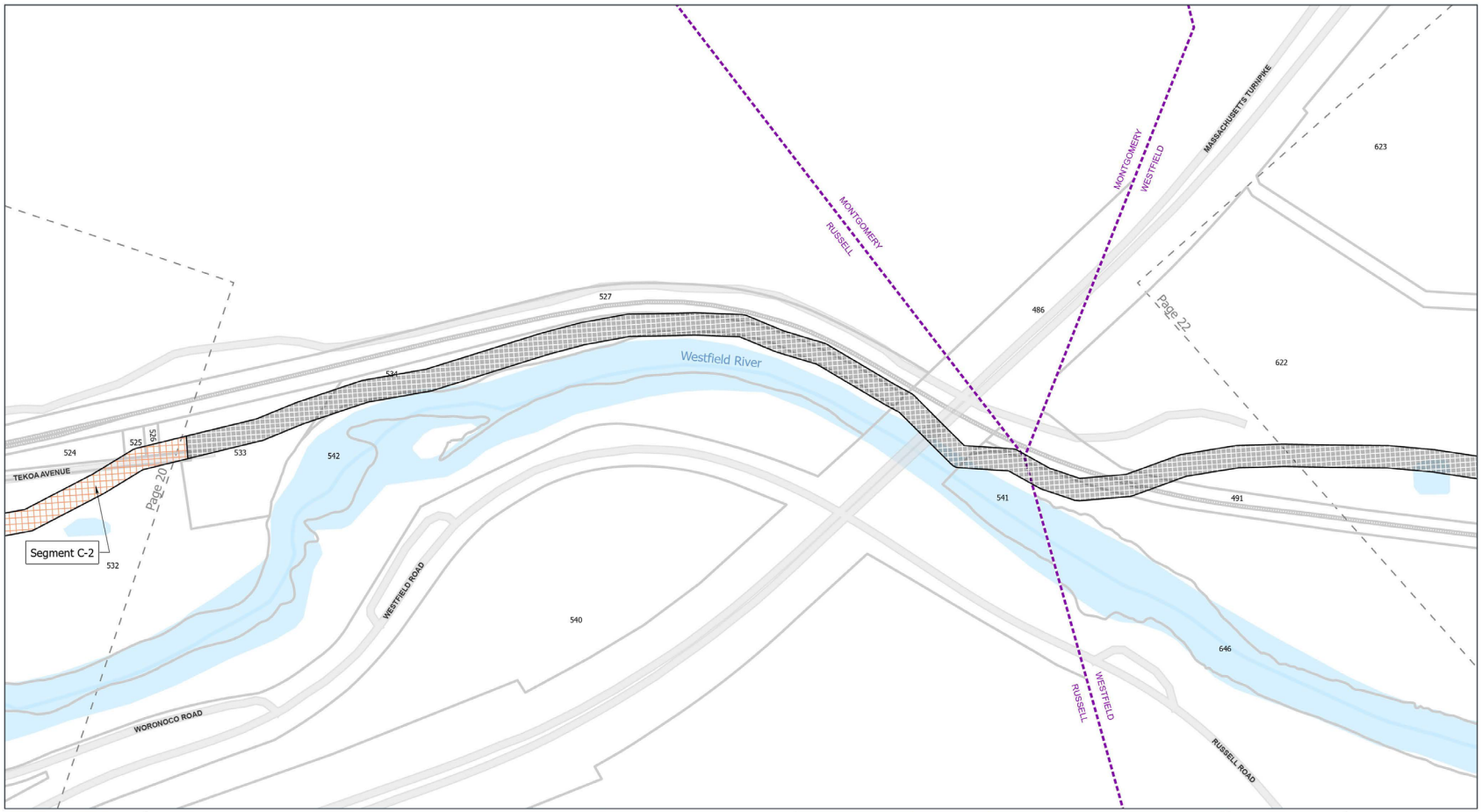
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF.O	See Data Sheet

Continuation sheet 33

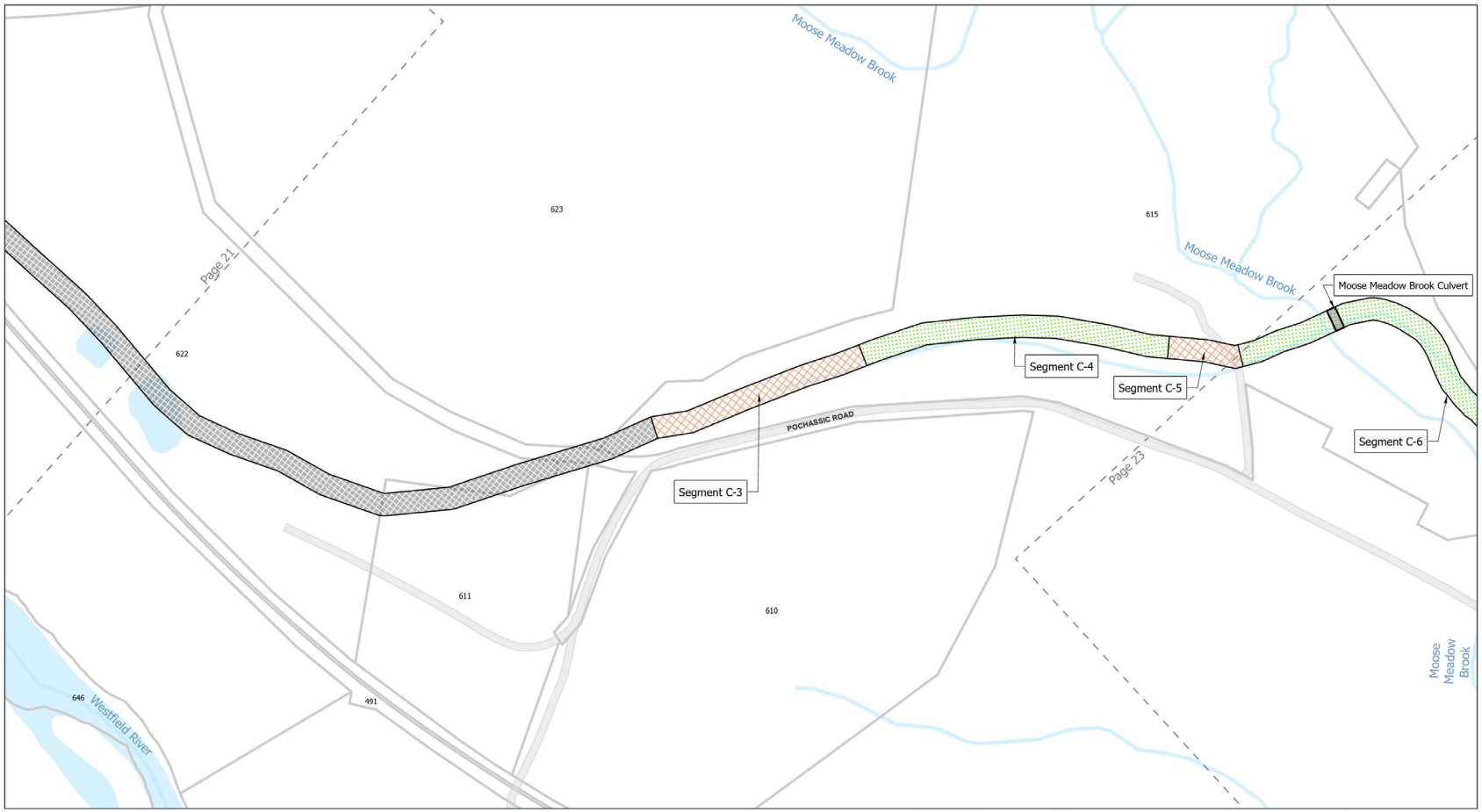
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet



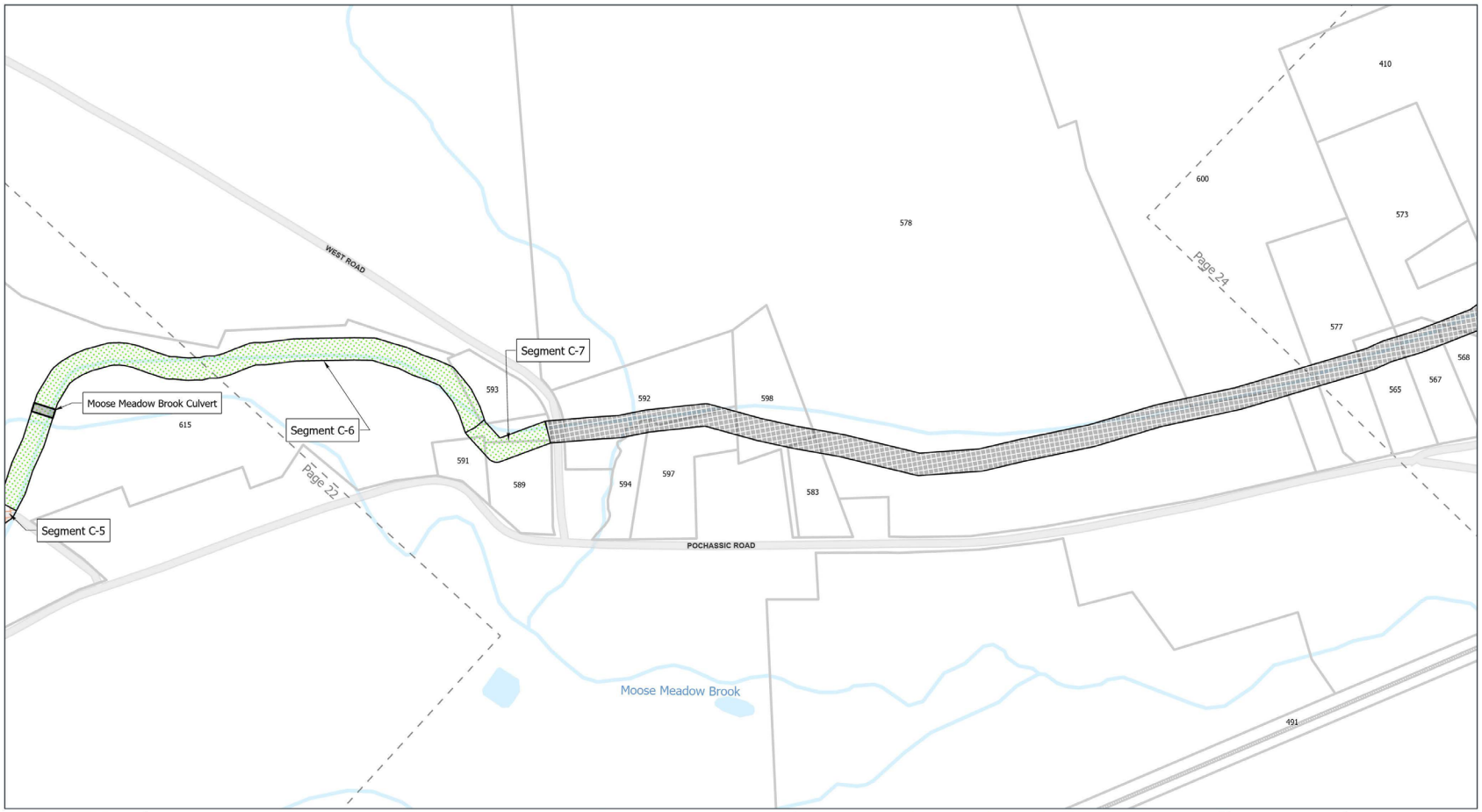
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet



MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet

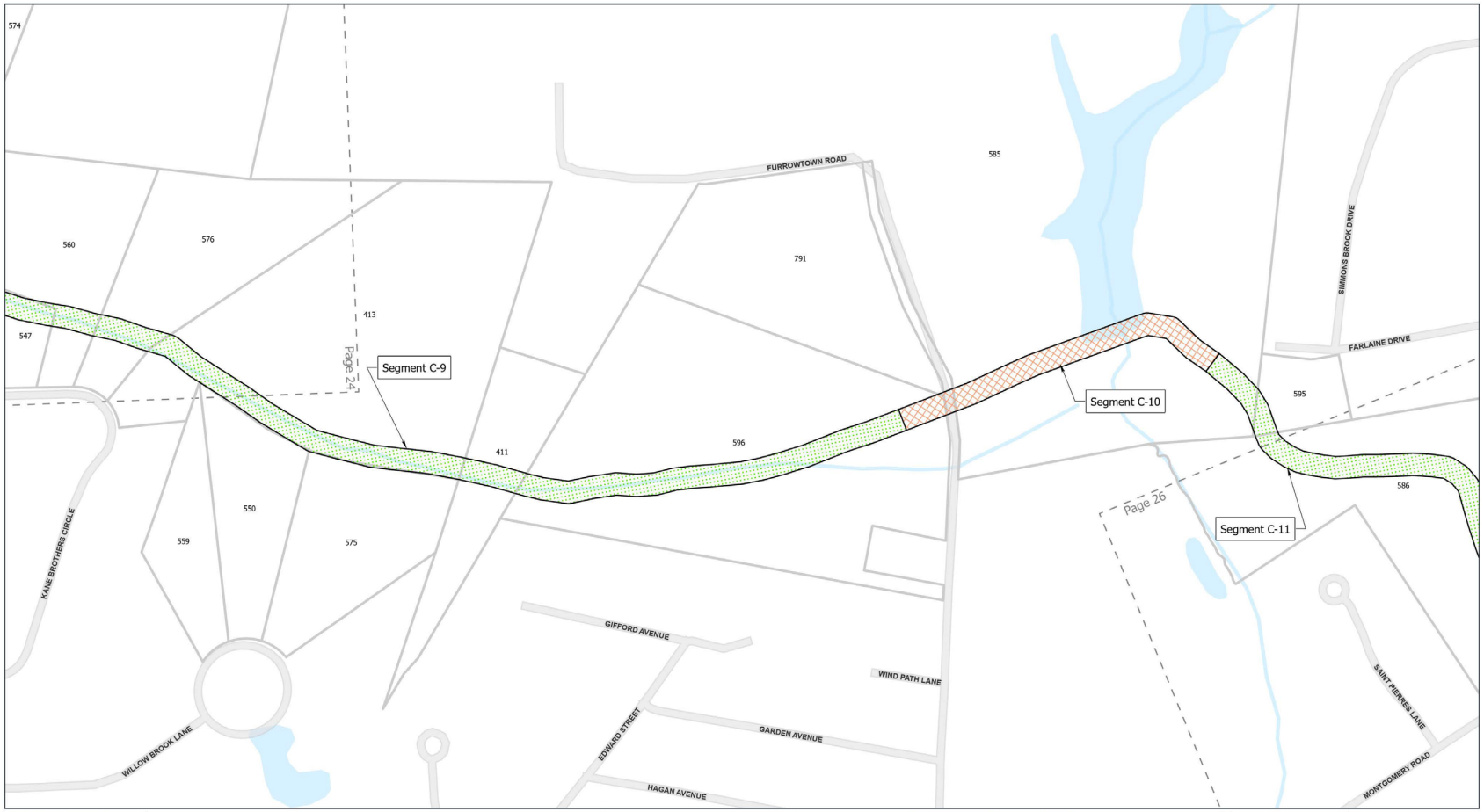


MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet

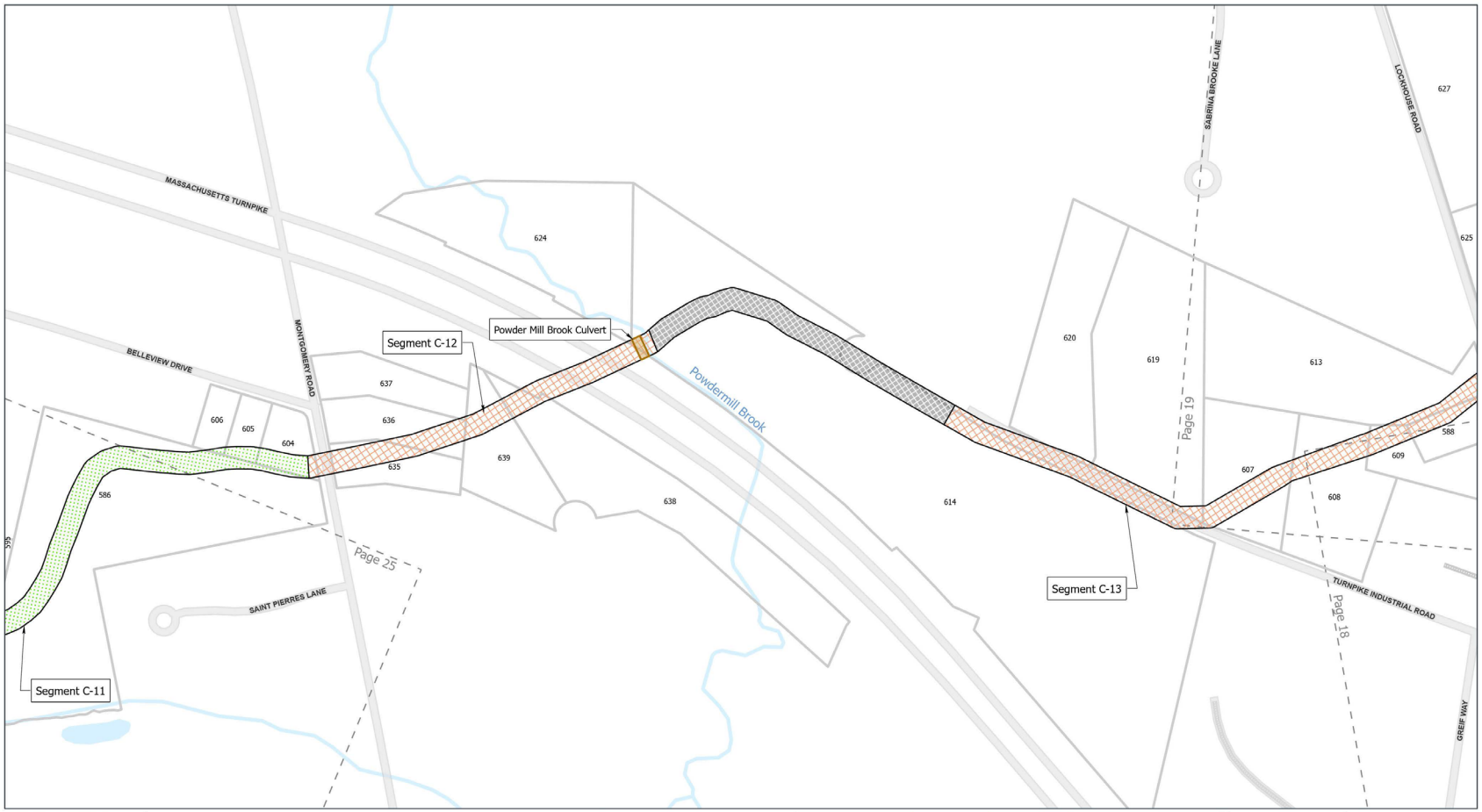
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF. O	See Data Sheet



MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

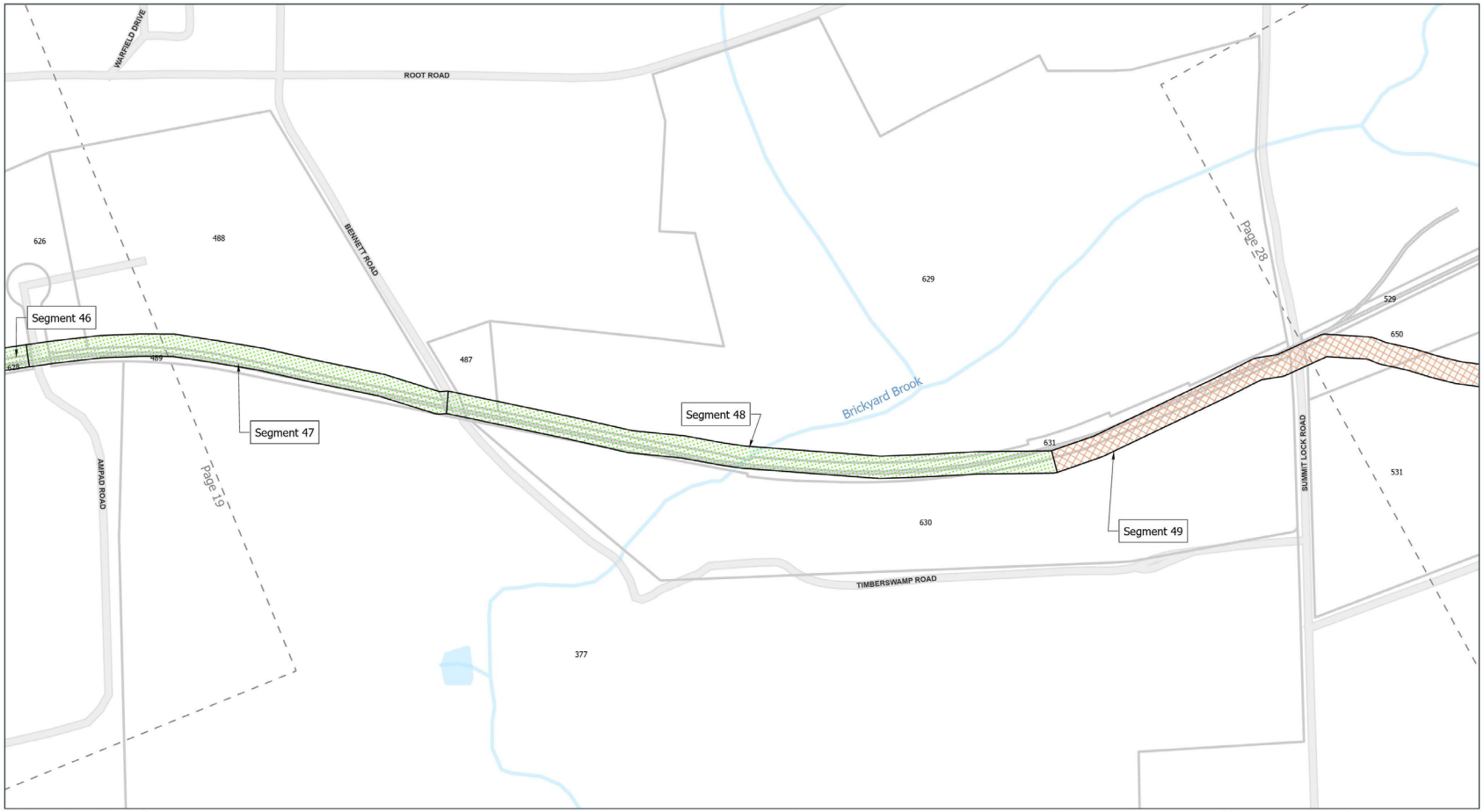
Area Letter	Form Nos.
WSF. O	See Data Sheet



Continuation sheet 39

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

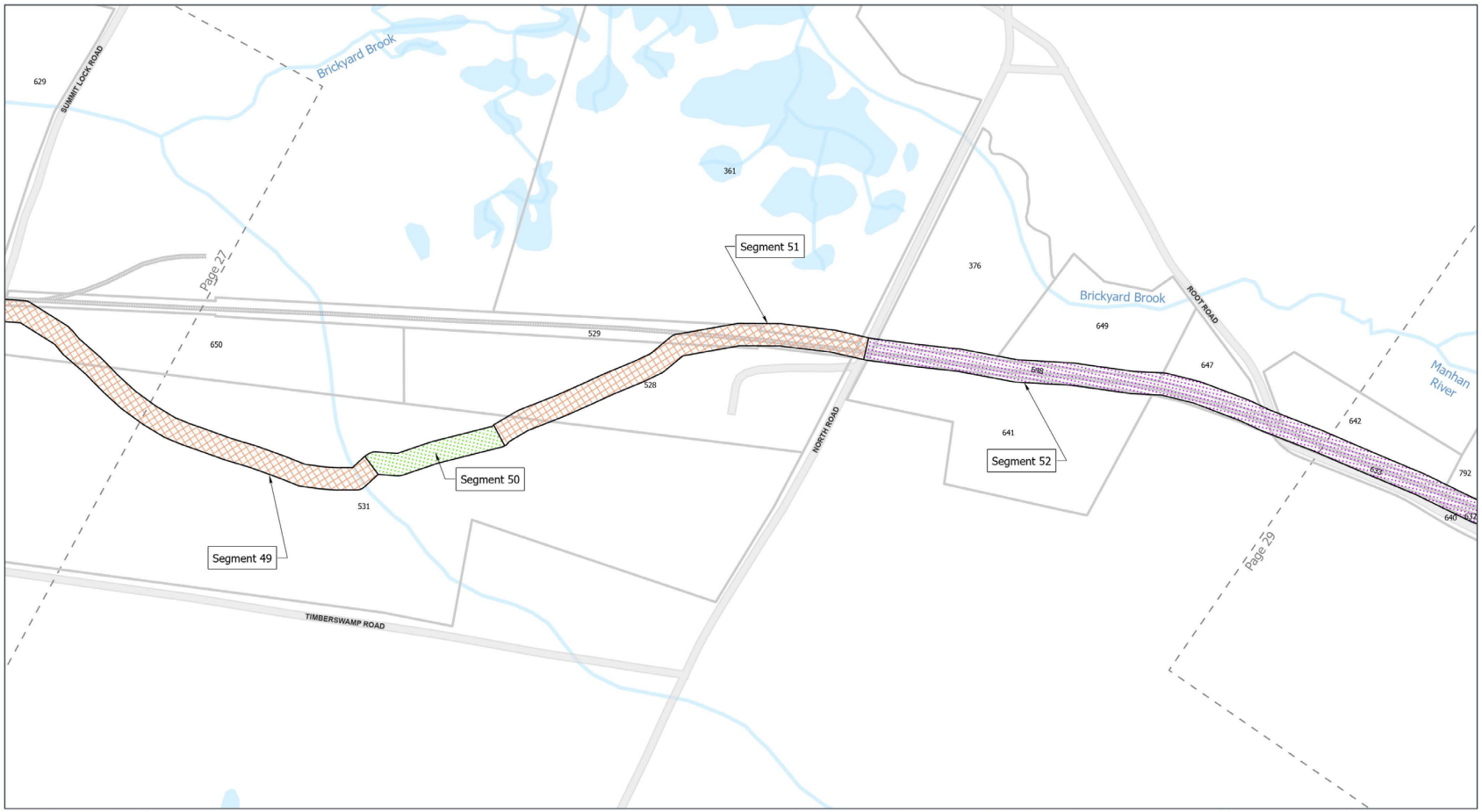
Area Letter	Form Nos.
WSF.O	See Data Sheet



Continuation sheet 40

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

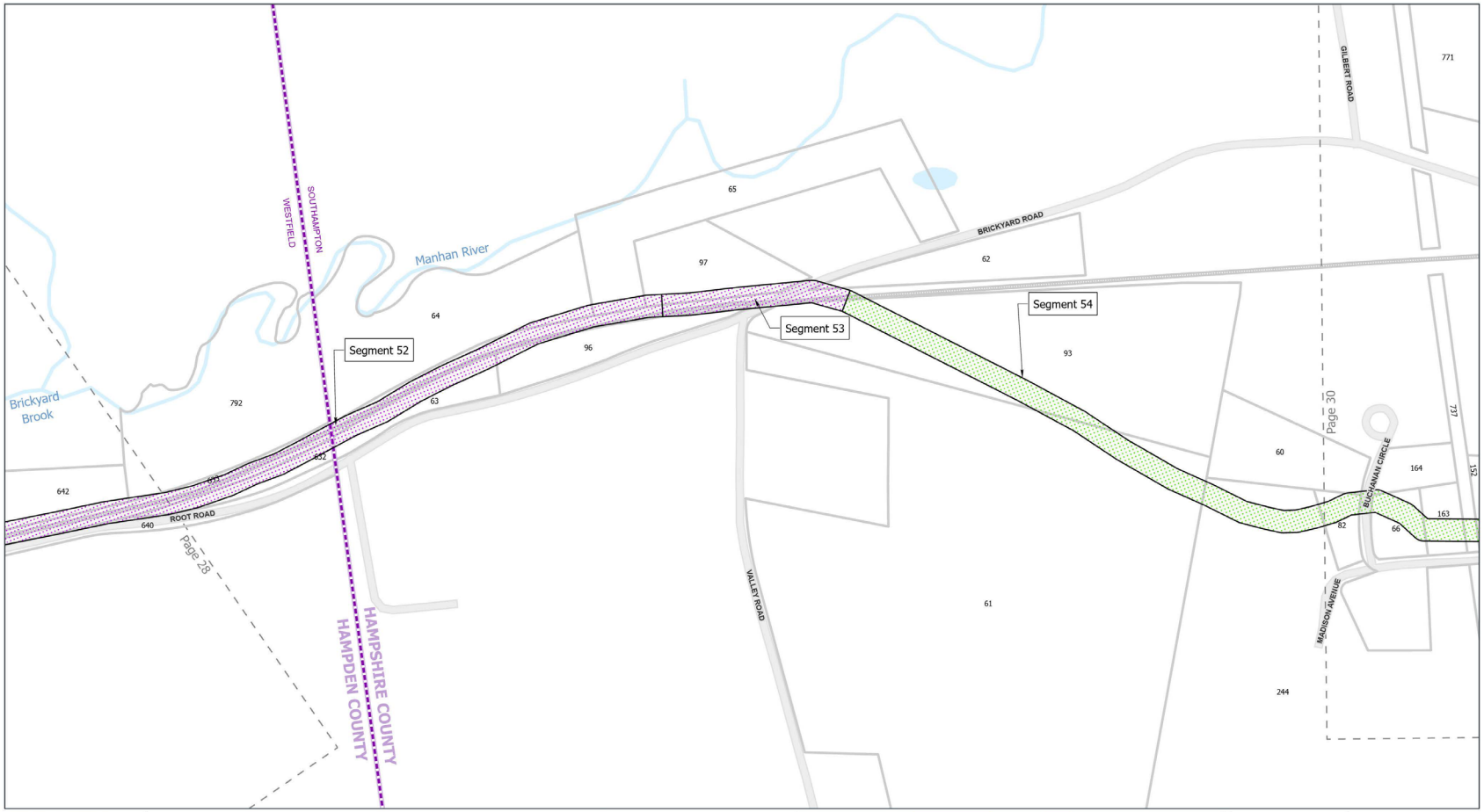
Area Letter	Form Nos.
WSF.O	See Data Sheet



Continuation sheet 41

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
WSF.O	See Data Sheet



Continuation sheet 42

FORM A - AREA

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
27, 32, 33	Woronoco, MA	RUS. H	See Data Sheet

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

Remnant feeder canal prism in Segment C-1, facing north.

Town/City: Russell

Place *(neighborhood or village)*:

Name of Area: Hampshire and Hampden Canal

Present Use: Former feeder canal route with varied modern-day land use (commercial, industrial, recreational, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Varied- minimal areas of remnant prism with other areas obscured or altered by flooding episodes and commercial development.

Major Intrusions and Alterations: Altered or obscured by railroad construction and commercial development

Acreage: Complete-*14.45 acres*, Remnant segments-*3.31 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc.

Organization: PVPC and Town of Russell

Date *(month/year):* 11/2022

Locus Map

[See continuation sheet pages 11-12.]

☒ *see continuation sheet*

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The canal route ran from a guard lock at the state line in Southwick, MA, south of Congamond Ponds, to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety, the Hampshire and Hampden Canal contained 32 lift locks, each measuring 80 feet by 12 feet in the clear, with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much smaller Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Russell (**RUS.H**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Russell, the Hampshire and Hampden Canal Area is an approximately 14.45-acre, 1.59-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Russell portion of the canal route varies, with surficial identification of substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor as described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on the physical characteristics of the surficial canal remnants. Following is a brief description of these segments proceeding from south to north, beginning at the Westfield River and ending at the Russell-Westfield town line.

The **Feeder Canal Prism Segment C-1 (MHC ID)** (**Photos 1 to 3**) of the Westfield River Feeder begins at the original location of the 1834 feeder headworks that controlled the water flow into the canal, which was washed out by a flood in 1836. Through this section, surficial remnants of the canal are present; however, the embankments are not continuous throughout. The western end of the prism, near its confluence with Westfield River, contains a scattering of cut stone, but it is undetermined whether this is associated with the former dam and headworks or with the adjacent railroad running along the prism's northern embanking. Segment C-1 continues south, paralleling the Westfield River, to the point where the canal is bisected by Valley View Avenue. The route through this area is heavily overgrown and difficult to access.

Segment C-2 begins at Valley View Avenue and continues to parallel the Westfield River to the end of Tekoa Avenue. This section has been largely altered/obscured by erosion along the Westfield River, industrial development along with road, and railroad construction. The Strathmore Paper Mill (now abandoned) occupies the majority of the former canal in Segment C-2, removing/obscuring any surficial indications of the former canal way. Throughout Segment C-2, only minimal traces of prism and embankment remain visible, too discontinuous to merit consideration. From the end of Tekoa Avenue to the border of Westfield, the route was not able to be field verified due to safety concerns and access related restrictions.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Russell

The town of Russell is located in the Westfield River watershed and was incorporated as an independent town in 1792. Settlement of Russell occurred later than its surrounding towns, probably due to the rugged nature of the landscape and the ample farmlands of Westfield and the Connecticut River Valley to the east. Colonial settlers first began establishing roots in in the area by the late-eighteenth century, with the first meetinghouse being constructed at Russell Pond in 1792 (MHC 1982). Russell saw slow population growth through the first half of the nineteenth century, with limited industrial development encouraging additional settlement. The 1820's saw the construction of the Westfield River Feeder through the eastern portion of Russell, with its headworks constructed just east of the village of Woronoco. By the latter part of the nineteenth century, Russell was becoming an important throughway with multiple turnpikes and highways establishing themselves through the town, connecting the Berkshires to the west to Springfield to the east. This improved transportation network, along with the arrival of the railroad and the paper industry, brought about a population surge not seen in the surrounding mountain towns during this period (MHC 1982). This growth continued throughout the late industrial period with the construction of a tannery in Russell Village and the continued development of the areas thriving paper industry. The population boom of the early 1900s began to slow down following the end World War 2 (MHC 1982). The paper industry continued to be the driving force of the economy through this period up until the closure of the Westfield River Paper Mill in 1994 and the Strathmore Paper Mill in 1999. Following the abandonment of the paper mills, Russell was left without any real industrial or commercial operations. Today, Russell contains mostly residential development and is classified as part of the Springfield, Massachusetts Metropolitan Area.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August 30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To

mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Russell

The feeder canal begins in Russell at the location of the dam and headworks on the Westfield River just north of the village of Woronoco. The dam and headworks for the Westfield River Feeder had to be moved and reconstructed multiple times during the relatively short lifespan of the Hampshire and Hampden Canal due to flooding damage and poor construction (Walter 2006). From this point, the canal paralleled the Westfield River to the southeast passing along the opposite bank of Woronoco. Just south of where the canal is presently bisected by the Massachusetts Turnpike, the route begins to diverge from the Westfield River in a more easterly direction as it crosses into the town of Westfield. Aside from the abovementioned dam and headworks, of which no surficial remnants were identified, no other known engineering features of the canal are located within the boundaries of Russell.

The overall economic impact of the Hampshire and Hampden Canal on the town of Russell is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns. Which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. In Russell, the construction of the canal had a minimal effect on population and economic growth. While the nearby location of a shipping route to the Long Island Sound probably had a small impact on the import and export of goods for the residents of Russell, the limited industry and agriculture taking place in the township at the time meant there was not a large market to take advantage of the route. The booming paper industry was not established until the second half of the nineteenth century and at that point was shipping goods along the Western Railroad, which was completed through Russell in 1841, and partially utilized the canal's original towpath to lay its tracks (MHC 1982). Today, that rail line still exists along this route and areas of the original canal prism can still be observed to the east and north of the Westfield River.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 *MHC Reconnaissance Survey Town Report: Russell.* MHC, Boston.

Raber, Michael S.
2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Geological Survey (USGS)
2021 Woronoco Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden

Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

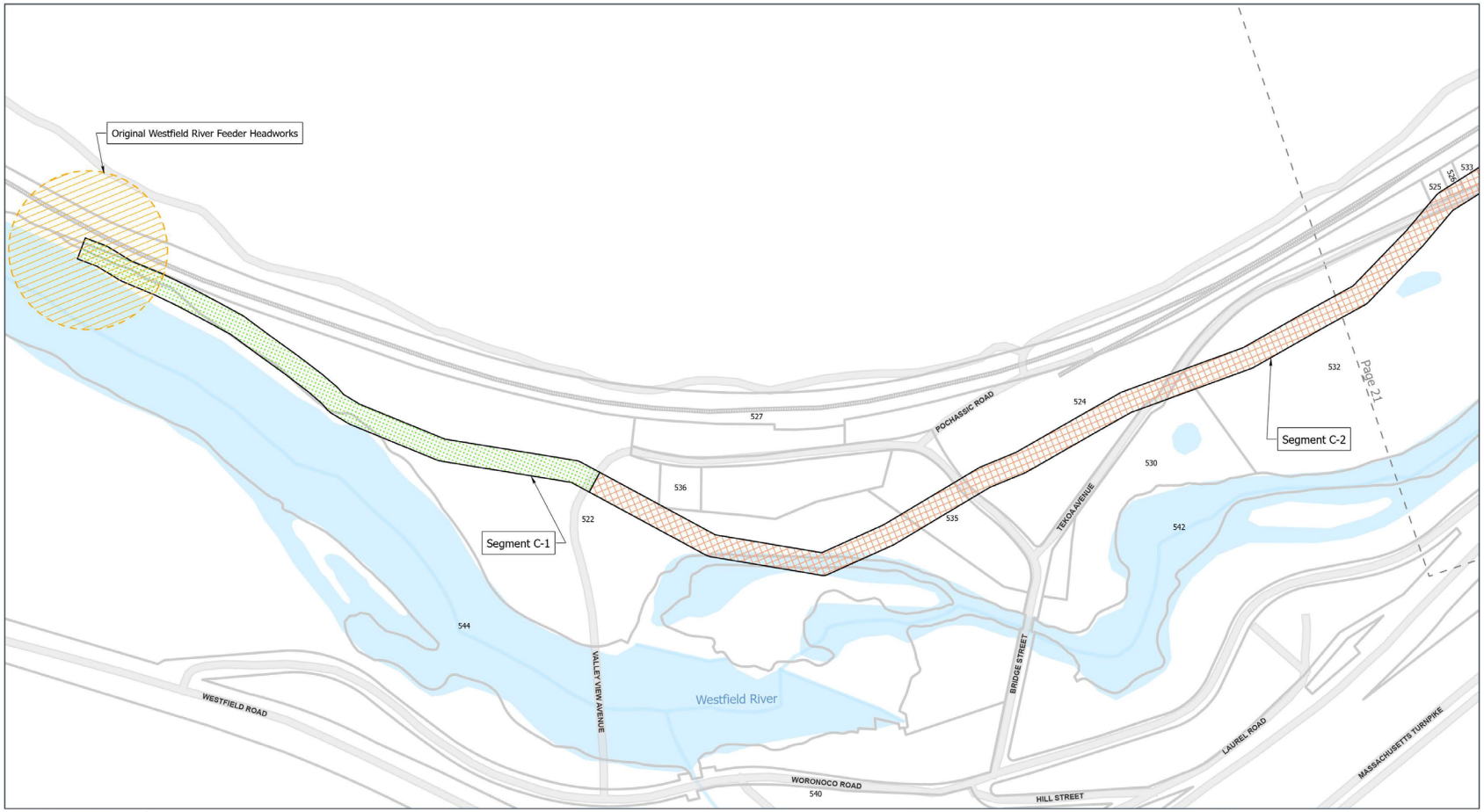
The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
C-1		Feeder Canal Prism	From Westfield River to Valley View Avenue	Y	Evidence of original northern terminus removed by Westfield River; parallel railroad	1, 2, 3
C-1		Original Westfield River Headworks	Approx. at location near where presently mapped canal route and the Westfield River intersect	N	Some spilled stone along prism; unsure if related to original canal feature or post-canal RR construction	
C-2		Feeder Canal Prism	From Valley View Ave. to the end of Tekoa Ave.	N	Impacted by significant development from the former paper mill and erosion from the West River	

Photo 1: Remnant feeder canal prism in Segment C-1, facing north.

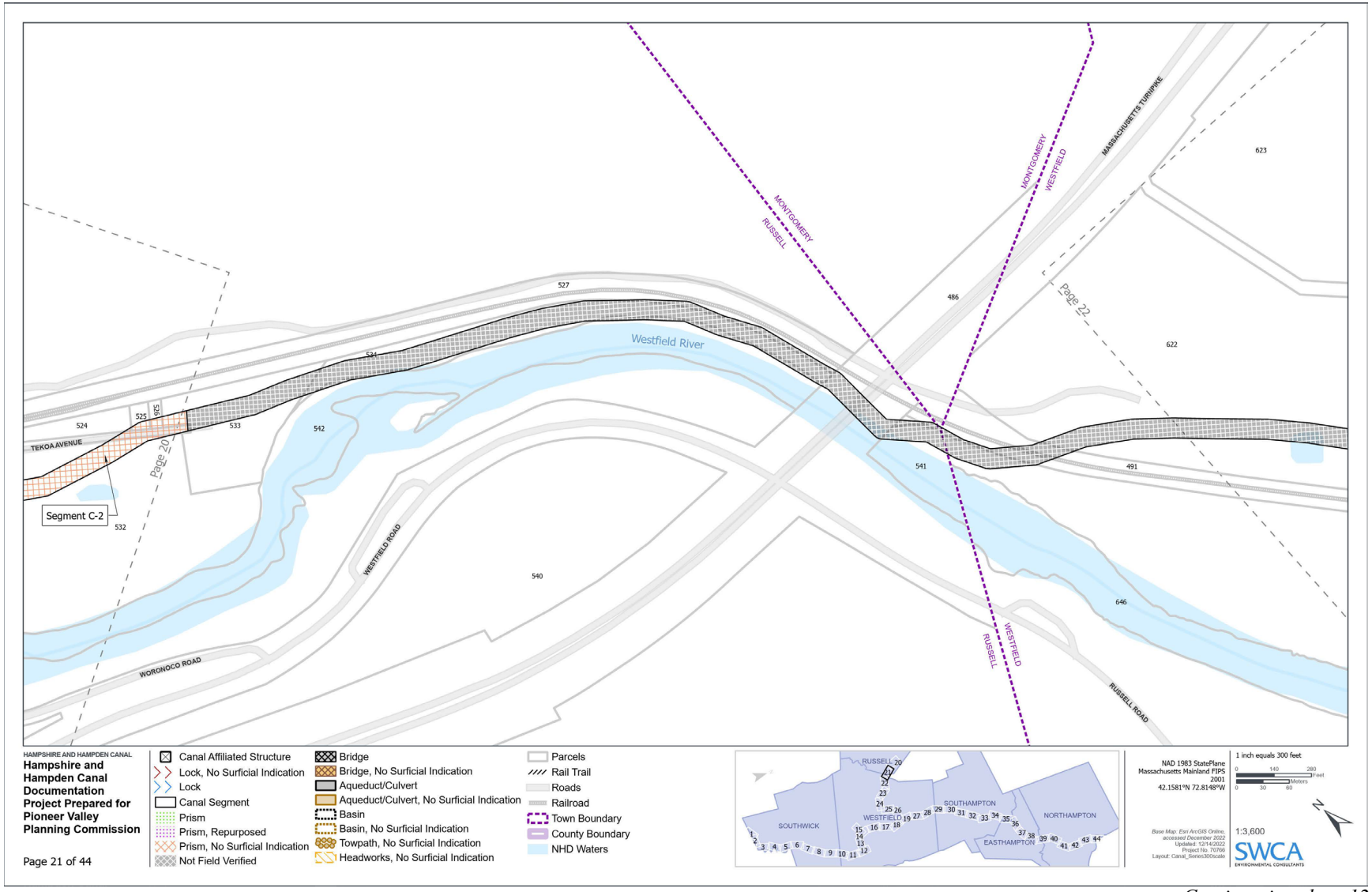
Photo 2: Where feeder canal prism encounters the Westfield River, facing southwest.

Photo 3: Remnant feeder canal prism (heavily overgrown), facing south.


Original Westfield River Feeder Headworks
Segment C-1
Segment C-2
Page 21
POCHASSIC ROAD
TEKOA AVENUE
BRIDGE STREET
VALLEY VIEW AVENUE
WESTFIELD ROAD
WORONOCO ROAD
HILL STREET
LAUREL ROAD
MASSACHUSETTS TURNPIKE
Westfield River
522
524
525
527
530
532
533
535
536
540
542
544
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 20 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1671°N 72.826°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
RUS. H	See Data Sheet



FORM A - AREA

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
7, 8, 13, 14, 16, 19, 24, 28, 29, 34, 39	Mount Tom, MA	STH. F	See Data Sheet

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

Intact canal prism in Segment 54, facing south.

Town/City: Southampton

Place *(neighborhood or village)*:

Name of Area: Hampshire and Hampden Canal

Present Use: Former canal route with varied modern-day land use (commercial, residential, recreational, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Varied- some areas of remnant prism and Lock features with other areas obscured or completely altered by development and erosion. Overall, the Southampton portion of the Hampshire and Hampden Canal has surficial evidence and includes the well-preserved Lock 22 located within the Lockville Historic District.

Major Intrusions and Alterations: Altered or obscured by railroad construction and residential development

Acreage: Complete- *59.25 acres*, Remnant segments- *25.28 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc.

Organization: PVPC and Southampton Historical Commission

Date *(month/year):* 11/2022

Locus Map

[See continuation sheet pages 18-25.]

☒ *see continuation sheet*

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The canal route ran from a guard lock at the state line located in Southwick, MA south of Congamond Ponds to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety the Hampshire and Hampden Canal contained 32 lift locks, each measuring 80 feet by 12 feet in the clear, with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much small Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Southampton (**STH.F**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Southampton, the Hampshire and Hampden Canal Area is an approximately 59.25-acre, 6.53-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Southampton portion of the canal route varies, with substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor, described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on of the physical characteristics of the surficial canal remnants. Following is a brief description of these sections proceeding from south to north, beginning at the Westfield-Southampton border and ending at the Southampton-Eastampton town line.

Canal Prism Segment 52 (MHC ID) is the first section of the Hampshire and Hampden Canal located in the town of Southampton. Partially occurring in both Westfield and Southampton, Segment 52 is a repurposed section of canal now occupied by abandoned tracks from the former New Haven & Northampton Railroad. The current route of Root Road now occupies a portion of the former eastern towpath. **Canal Prism Segment 53 (MHC ID)** (**Photo 1**) runs just west of Brickyard Road is identical to Segment 52; however, traces of the towpath remain invisible due construction related to the railroad.

Canal Prism Segment 54 (MHC ID) (**Photo 2**) begins at the point from which the former canal route and railbed diverge east of Brickyard Road. The southern portion of this segment contains sporadic embankments due to past agricultural efforts; however, the western towpath and the remainder of the section remain fairly unaltered. Crossing through the rear of a residential area, the canal route becomes obscured just south of Coolidge Drive, serving as the terminus of Segment 54.

Segment 55 is a segment of canal that has been heavily altered, making it difficult to discern specifics of the original banking. The residential development encompassing Coolidge Drive and north of Brickyard Road has mostly obscured all surficial indications to the former route. This segment comes to an end just west of the abandoned railbed.

Segment 56 represents a visible portion of the canal, stretching from the abandoned railbed to the rear of a residential area just west of Brickyard Road. This meandering segment contains the former location of Lock 19, of which no remnants were observed during field survey. Numerous large stones were located within this prism segment; however, no association with the former location of Lock 19 was evident. The western towpath was visible through this segment.

Segment 57 traverses the rear of a residential area along Brickyard Road. Here, the prism and embankments are not discernable among the very hummocky ground surface and washout areas. The abandoned railbed continues to parallel the route through Segment 57. The approximate location of Lock 20 occurs within this section; however, no surficial evidence of it remains.

Segment 58 begins at the remnants of **Lock 21 (MHC ID)**, of which only the northern sill and walls remain. A washout episode from the Manhan River has left no visible trace of the remaining portion of the Lock. Only the very northern earthworks remain of Lock 21, with some evidence of stonework visible spilled within the chamber. Railroad tracks run along the western towpath before transitioning into the prism in Segment 58's northern portion. Both prism embankments are visible within **Canal Prism Segment 58 (MHC ID)** and the towpath was evident along western side. This segment occurs within the **Lockville Historic District (STH.B).**

Canal Prism Segment 59 (MHC ID) is a repurposed section of prism, which housed the track for the New Haven and Northampton Railroad prior to its abandonment in the mid-twentieth century. Within this segment, the well-preserved **Lock 22** (**STH.907) (MHC ID) (Photo 3**) exists, which contains masonry along the eastern embankment, and abandoned railroad tracks running through the former lock chamber. Directly adjacent to Lock 22, along the eastern edge of the canal, lies the former **canal storehouse (STH.90**) that has been converted to apartments. The area is presently bisected by Route 10 and its associated drainage. The area has been neglected and is heavily overgrown, limiting the viewshed. This segment continues to just before the Manhan River crossing where the route diverges from the railbed. It is likely that a former crossover bridge existed in this segment, as the towpath changes from the west bank to the east in the vicinity of Lock 22; however, no surficial evidence remains of this feature. This segment occurs within the **Lockville Historic District (STH.B).**

Canal Prism Segment 60 (MHC ID) begins at the approximate location of the **South Manhan River Aqueduct** (**STH.906) (MHC ID)** (**Photo 4**), of which no visible remnants were discernible. However, directly adjacent to this location, the abandoned stone rail bridge can be seen traversing the river, and likely contains repurposed stone from the former aqueduct. Much of the former chute has been eroded by washout episodes, some large stone can be observed at the bottom of the ravine, though it is unknown if these are associated with the former aqueduct. Through this segment, the

eastern towpath has been largely repurposed to house the former railroad tracks. This segment continues to where the railroad again shifts into the canal prism and Segment 61 begins.

Canal Prism Segment 61 (MHC ID) is a small, repurposed segment similar to Segment 59. Here, the railroad tracks follow the canal prism, with the east and west embankments and towpath visible to the east. This portion only continues a short distance before areas of heavy storm damage have washed out portions of the canal.

Segment 62 is a segment of canal located within the Manhan Meadows Sanctuary area, which has been subject to recent, extensive storm damage and as a result, no surficial remnants of the historic canal route exist through this section. Adjacent agricultural fields, along with two-tracks and railroad construction, has also impacted the canal prior to the washout event.

Canal Prism Segment 63 (MHC ID) contains visible evidence of the canal prism and begins at the point where the route again parallels the abandoned railbed. Through this stretch, the railroad ran along the canal's eastern towpath, following the approximate route of the Manhan River. Agricultural field drainage has caused small washout areas within this segment. Segment 63 houses the historic location of the Potash Brook Culvert, which was most likely a single stone-arched culvert. Presently, this location contains a more modern steel culvert, which likely replaced the previous canal culvert during railroad operation. No evidence of the former was discernable in the field. A large agricultural field drainage has altered a section of canal just north of Potash Brook. This area is referred to as Segment 64.

Canal Prism Segment 65 (MHC ID) continues to the north of this agricultural drainage, in the rear of the Helen Drive cul-de-sac and contains surficial evidence of the canal prism, western embankment, and east towpath.

Segment 66 is a large stretch of the former canal route where any remnants of its exact course have been obscured. It is likely the prism through this section has been impacted significantly by railroad construction, residential development, agricultural practices, road construction, and general erosion by the Manhan River. This segment continues to just north of Gunn Road. Access restrictions limited the team's ability to field verify the next 0.25-mile of former canal.

Following this unverified section, **Canal Prism Segment 67 (MHC ID)** (**Photo 5**) begins a visible stretch of canal prism is noticeably wet in some portions. Through this section, canal banks are abnormally high, with the eastern towpath discernable. The canal runs through a tall grass field owned by the town. No remnants of Lock 23 are distinguishable, which would have been located within this segment, but the prism does narrow slightly towards the southern end of the section that may provide some indication of its original placement.

Segment 68 begins at the canal routes northern intersection with College Highway, development has obscured the canal from here to just past Glendale Road. The former west embankment is discernable, but visibly graded.

Proceeding north from Glendale Road, **Canal Prism Segment 69 (MHC ID)** begins and is a segment of prism and associated embankments visible as a depression, traversing former agricultural fields. As it enters the adjacent forested areas, the canal prism and towpath forms are discernable. The towpath is visible along the prism's east bank. Some small sections are visibly grated/eroded from land use. Presently the land is operated as the Szczypta Conservation Farm. Lock 24 most likely spanned from the northern end of Segment 69, into the southern end of Segment 70.

Segment 70 is a small area that encounters a tributary of the Manhan River, where significant erosion has occurred. Very high banks are extant but neither towpath nor channel can be discerned. An elevation change can be seen from the northern end of Segment 69 into the southern end of Segment 70, suggesting the probable location of Lock 24, though no surficial remnants exist.

Canal Prism Segment 71 (MHC ID) (**Photo 6**) contains a partially visible canal prism and eastern towpath. The channel has been reclaimed by a small Manhan River tributary, resulting in moderate erosion to the prism. Segment 71 continues to a modern culvert facilitating agricultural field access.

Segment 72 stretches from this agricultural field access to a restricted access parcel boundary. Erosion has removed visible evidence of the canal and its historic route is not discernable.

Canal Prism Segment 73 (MHC ID) (**Photo 7)** follows the end of a restricted access parcel located off Thomas Circle. It contains a small segment paralleling the Manhan River to the east. The eastern towpath continues through this section with a discernable prism.

The final segment of the canal in Southampton is Segment 74. Segment 74 has been severely impacted by washout episodes likely caused by the modern housing developments and their drainage, and its course paralleling the Manhan River. Through this segment, the eastern towpath is visible, with erosion obscuring any remnants of the prism. Similarly, the historic locations of Locks 25, 26, or 27 are not discernable, nor any remnants of Pomeroy's Basin, all of which would have been contained within this segment. Segment 74 continues in Southampton until its crossing of the North Branch of the Manhan River, at which point the route crosses into Easthampton.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Southampton

The town of Southampton is located in the Connecticut River Valley and was first incorporated as an independent town in 1775. First settled in the mid-eighteenth century by groups expanding out from the Northampton civic center. Early settlement was established on Town Hill along present-day College Highway, with agricultural development focused along the Manhan River (MHC 1982). Industrial development began in Southampton early on with mining operations occurring just west of Lead Mine Road and lumber being produced at multiple sawmills along the Manhan River throughout the eighteenth century, some even predating the establishment of a permanent settlement. Despite this early and rapid industrial development, agriculture within the Manhan River Valley continued to be the towns economic staple throughout the modern day. Mining operations in Southampton continued throughout the early part of the nineteenth century with the addition of sandstone and granite quarrying in the eastern and western parts of town, respectively (MHC 1982). Sandstone, sourced from these quarries, were used in lock construction along the Hampshire and Hampden Canal (MHC 1982). Improvement of the Manhan River transportation corridor came in the form of the, aforementioned, Hampshire and Hampden Canal, completed in 1835 and subsequently abandoned (1847) and replaced by the Westfield and Northampton Railroad in 1856. By the twentieth century, most of towns industrial and manufacturing ventures were abandoned with the closure of the lead mine in 1865. The secondary industrial center in Russellville was also largely abandoned after the formation of three water supply reservoirs in Southampton; the formation of which, dried up much of the Manhan watershed, and with it, water sources for many small mills along the river's tributaries (MHC 1982). The end of manufacturing in Southampton was the primary factor in the town's population decline throughout early twentieth century. A trend that continued up through the 1950's, when suburban development caused an influx of new residents. Today, Southampton contains mostly residential development and agricultural lands, and is classified as part of the Springfield, Massachusetts Metropolitan Area.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River

in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August 30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Southampton

Southampton contains numerous engineering features related to canal operation. As the canal crosses into Southampton from Westfield, it continues meandering north along the Manhan River, and what is today, Brickyard Road. From here, the route begins to descend from the northern Timberswamp summit, being lowered by four successive locks (19-22), southwest of Route 10 (College Highway). This section of the canal is located within the Lockville National Register Historic District (STH.B) and contains the chamber and masonry wall from Lock 22 (STH.907), The Lockville Hotel (STH.89) [a residence converted into a hotel, operated for people traversing the canal route], and New Haven and Northampton Canal Storehouse (STH.90). The Northampton Canal Storehouse, also referred to as the Lyman & Elder's Storehouse, likely functioned as a storehouse for transshipment of goods and as a collection point for canal related tolls and tariffs by Lyman, who acted as an agent for the canal company (Raber 2002). The canal crosses out of the Lockville District as it spans 60 feet across the Manhan River at the site of the former South Manhan River Aqueduct. No surficial remnants of the aqueduct are evident. Some of the original stone may have been repurposed for construction of the adjacent Northampton and Westfield Railroad Bridge (STH.906). As the canal continues to the northeast, it passes the location of a probable basin (Walters 2006), of which no there is no surficial evidence. At the crossing of Potash Brook, the original stone-arch culvert has been replaced by a more modern corrugated steel culvert during post-operation railroad maintenance. Most of the canal way through this stretch was converted to facilitate the Hampshire and Hampden Railroad, with the abandoned tracks still present along the former towpath. Just south of College Highway, Lock 23 would have operated, lowering the canal deeper into the Manhan River floodplain. No visible remnants of Lock 23 have survived. Similarly, just to the north Lock 24 operated, of which no visible evidence remains. Prior to its crossing of the North Branch of the Manhan River, a series of three locks (25-27) lowered the canal further to approximately 146 feet above sea level (Walter 2006). Within this series of locks is also the probable location of Pomeroy's Basin. No distinguishable evidence of these former canal features could be identified in the field. Where the canal route crosses into Easthampton over the North Branch of the Manhan River, lies the historic location of the North Manhan River Aqueduct. Surface remains of a former 60 feet by 24 feet stone aqueduct was unable to be located in the field (Raber 2002). Along with the above-mentioned canal features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Southampton, any visible evidence of which has not been identified.

The overall economic impact of the Hampshire and Hampden Canal on the town of Southampton is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns. Which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with

costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. The town of Southampton did see its population spike in the 1830s following a period of canal construction and its initial operation. Similar to Southwick, the canal's contribution to this growth can be observed through the influx of Irish immigrants, many of whom settled in the area as canal builders in the late 1820s (MHC 1982). During its operation, a secondary development of industrial activity began to establish itself along the route, specifically at East Street and College Highway. This settlement center took the name Lockville due to its location around a series of three canal locks near Lyman Pond. When in operation, the canal provided a means of exporting the region's raw materials down to New Haven, while also supplying this part of the interior with finished goods from the south. Regional agriculture, specifically the tobacco industry, were likely beneficiaries of the canal route and subsequent railroad through Southampton during the first half of the nineteenth century. From the development of an industrial village and shipping center around Lyman Pond to the evident expansion of tobacco production, its clear the canal, at least for a short time, had a positive impact on Southampton. Though the financial burden, frequent delays and stoppages, and development of more efficient shipping/transportation methods likely limited its potential and overall impact. The canal's closure likely impacted the ability of Southampton to trade and export goods, but only for a limited amount of time, as the Canal Railroad was completed through the town by 1855. Today, the route of the former railroad has been largely abandoned and most of the former canal area is in a state of disuse. Lockville has been listed on the National Register of Historic Places, with the locks and original canal prism still visible throughout this district.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 *MHC Reconnaissance Survey Town Report: Southampton.* MHC, Boston.

Raber, Michael S.
2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Geological Survey (USGS)
2021 Mount Tom Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Intact (Y/N)	Comments	Photo #
52		Canal Prism	From Westfield border to west of Brickyard Road	Y	Repurposed by subsequent railroad, Root Road built upon original eastern towpath	
53		Canal Prism	Crossing Brickyard Road	Y	Repurposed by subsequent railroad, towpath switches from eastern bank to western bank most likely within this segment	1
54		Canal Prism	From where route diverges from abandoned railbed east of Brickyard Road to south of Coolidge Drive	Y	Relatively well preserved, western towpath observable.	2
55		Canal Prism	From Coolidge Drive to railroad crossing	N	Segment largely repurposed by former railroad (now rail trail)	
56		Canal Prism	Paralleling east side of the Manhan River	Y	Visible prism, north end has railroad along original western towpath	
56		Lock 19	Probably at northern end of Segment 56	N	Substantial spilled stone within prism, unsure if related to original lock structure or subsequent railroad construction	
57	STH.B (partially)	Canal Prism	Paralleling west side of Brickyard Road	N	Heavily eroded, hummocky/uneven ground surface through area	
57	STH.B	Lock 20	Immediately west of Brickyard Road	N	Completely removed and/or washed-out	
57/58	STH.B	Lock 21	Approx. 80 m north of Lock 20	Y	Partially identifiable earthworks, southern portion has been washed-out but northern half	

Segment ID	MHC ID	Historic Name	Location	Intact (Y/N)	Comments	Photo #
					and northern sill earthworks remain visible	
58	STH.B	Canal Prism	South of College Highway	Y	Railroad transitions from western towpath into original prism	
59	STH.B	Canal Prism	From south of College Highway to just west of Brickyard Road	Y	Repurposed subsequent railroad, with tracks running through original prism and lock feature	
59	STH.907	Lock 22	From Fort Hill Terrace to northern end of State Street	Y	Most well-preserved, identifiable stonework chambers eastern wall; original chamber was timber construction later rebuilt with stone	3
59	STH.90	Canal Storehouse	100 Brickyard Rd.	Y	Constructed in 1832 to operate as a goods storehouse and tolls collection; Presently utilized as apartments	
60	STH.B (partially)	Canal Prism	From west of Brickyard Road paralleling abandoned railroad tracks	Y	Former chute eroded by wash out events; large stone observed in ravine; eastern towpath repurposed to house former railroad tracks	
60	STH.906	South Manhan River Aqueduct	At crossing of South Manhan River	Y	Stone abutments were repurposed for railroad trestle (now abandoned), intact stonework remains	4
61		Canal Prism	Along railroad tracks	Y	Repurposed by subsequent railroad, towpath along eastern embankment	
62		Canal Prism	Bisecting East Street,	N	Eroded; extensive storm	

Segment ID	MHC ID	Historic Name	Location	Intact (Y/N)	Comments	Photo #
			paralleling abandoned railroad		damage	
63		Canal Prism	Bisecting Potash Brook, paralleling abandoned railroad	Y	Railroad along former eastern towpath	
63		Potash Brook Culvert	Crossing Potash Brook	N	Original stone culvert removed, replaced by modern corrugated steel during railroad improvements	
64		Canal Prism	North of Potash Brook, paralleling abandoned railroad	N	Leveled for agricultural field, original prism utilized as field drainage	
65		Canal Prism	North of Potash Brook, paralleling abandoned railroad	Y	Eastern towpath	
66		Canal Prism	Paralleling abandoned railroad, ending north of Gunn Road	N	Eroded and leveled by residential development	
66/67		Lock 23	Approx. located at boundary between Segments 66 and 67	N	Prism narrow at boundary, possible indication of lock feature	
67		Canal Prism	Southeast of College Highway	Y	High banks through this stretch, eastern towpath	5
68		Canal Prism	From College Highway to Glendale Road	N	Residential development	
69		Canal Prism	From Glendale Road to crossing of Manhan River tributary	Y	Some minor impacts from agricultural usage, prism and towpath remain discernable	
69/70		Lock 24	At approx. boundary of Segment 69 and 70	N	No evidence remains	
70		Canal Prism	Along unnamed Manhan River tributary	N	Washed-out from flooding episodes	
71		Canal Prism	Along unnamed Manhan River tributary	Y	Reclaimed by natural drainage, original earthworks remain identifiable	6

Segment ID	MHC ID	Historic Name	Location	Intact (Y/N)	Comments	Photo #
72		Canal Prism	From unnamed Manhan River tributary to east of Thomas Circle	N	Wash-out episode have obscured original prism through this area	
73		Canal Prism	From east of Thomas Circle to east of Duggan Lane	Y	Some erosion, channel has high banks through section; eastern towpath	7
74		Canal Prism	From south of Pomeroy Meadow Road to Easthampton border	N	Impacted by significant erosion, likely due to alteration of natural drainage by extensive adjacent development; extends into Easthampton; only portions of eastern towpath remain	
74		Lock 25	Approx. south of Pomeroy Meadow Road	N	No evidence remains, significant erosion	
74		Lock 26	Approx. south of Pomeroy Meadow Road	N	No evidence remains, significant erosion	
74		Pomeroy's Basin	Approx. south of Pomeroy Meadow Road	N	No evidence remains, significant erosion	
74		Lock 27	Approx. just south of Pomeroy Meadow Road	N	No evidence remains, significant erosion	

Photo 1: Canal prism repurposed by railroad (now abandoned) in Segment 53, facing south.

Photo 2: Intact canal prism in Segment 54, facing south.

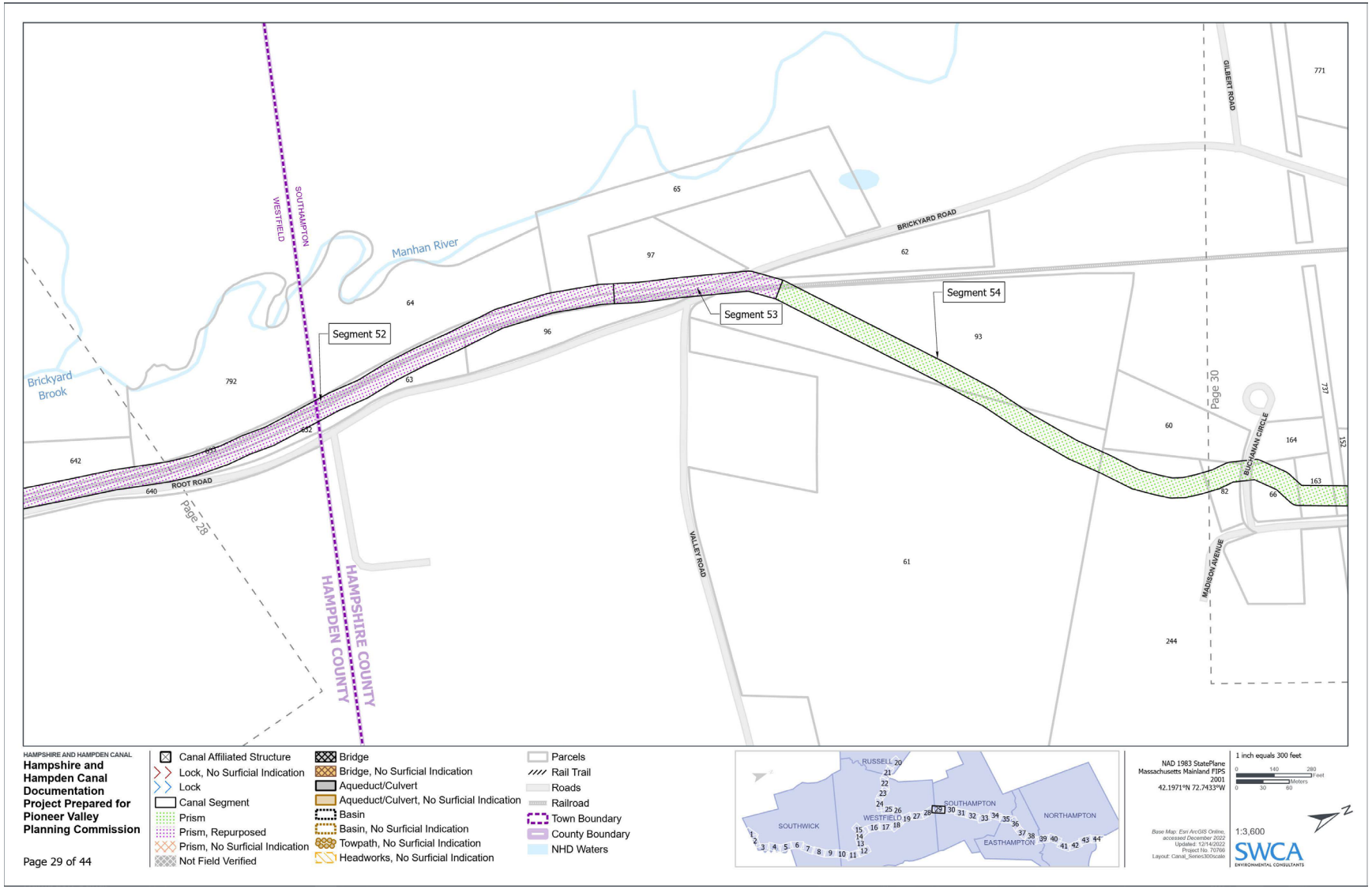
Photo 3: Intact stonework from Lock 22, facing south.

Photo 4: Stone abutments from South Manhan River Aqueduct (repurposed by railroad trestle), facing southwest.

Photo 5: Intact canal prism in Segment 67, facing northwest.

Photo 6: Intact canal prism in Segment 71, facing west.

Photo 7: Intact canal prism in Segment 73, facing north.

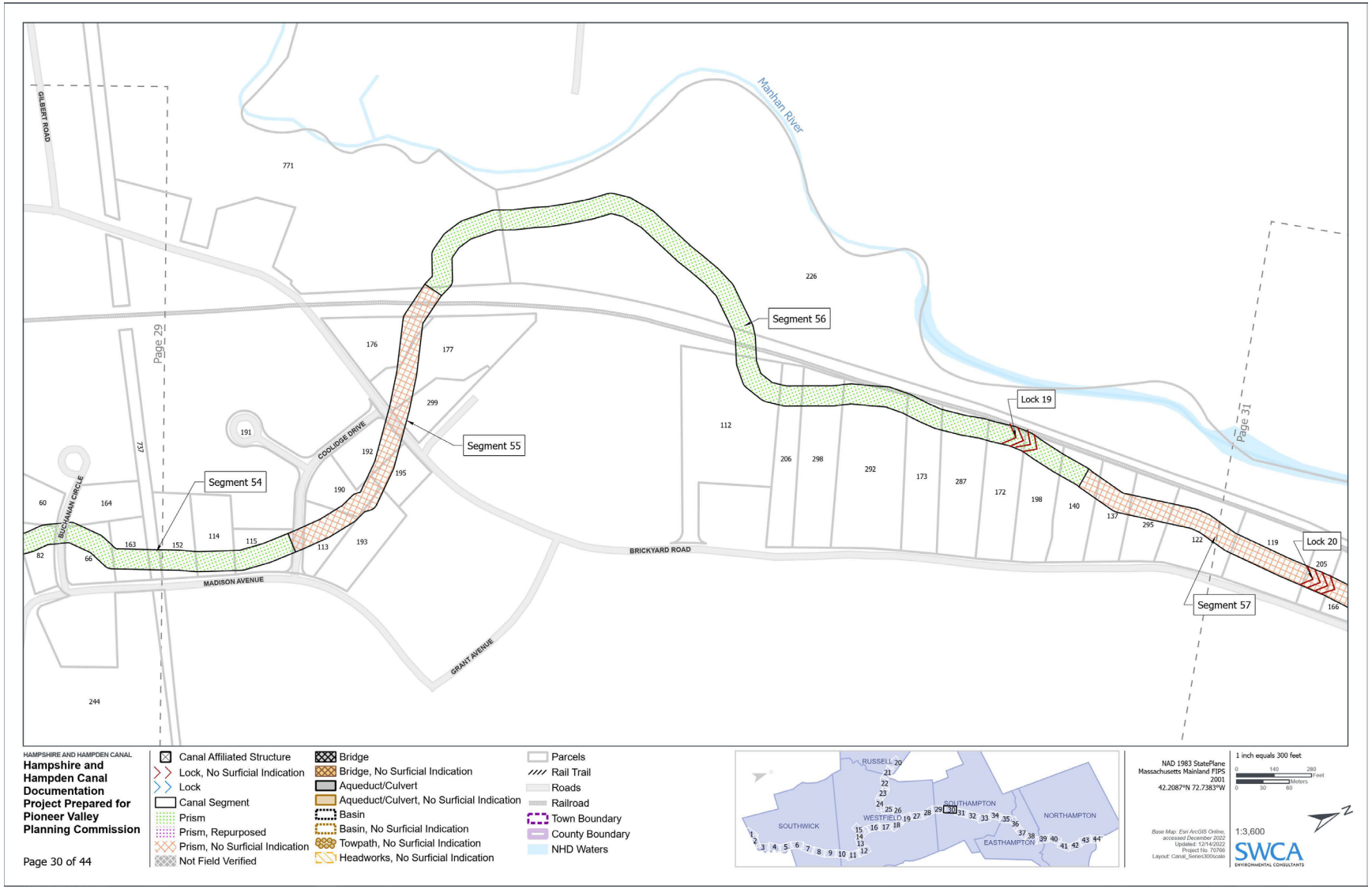

Segment 52
Segment 53
Segment 54
Manhan River
Brickyard Brook
BRICKYARD ROAD
ROOT ROAD
GILBERT ROAD
BUCHANAN CIRCLE
MADISON AVENUE
VALLEY ROAD
SOUTHAMPTON
WESTFIELD
HAMPSHIRE COUNTY
HAMPDEN COUNTY
Page 28
Page 30
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 29 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.1971°N 72.7433°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS

INVENTORY FORM A CONTINUATION SHEET

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter: STH.F

Form Nos.: See Data Sheet

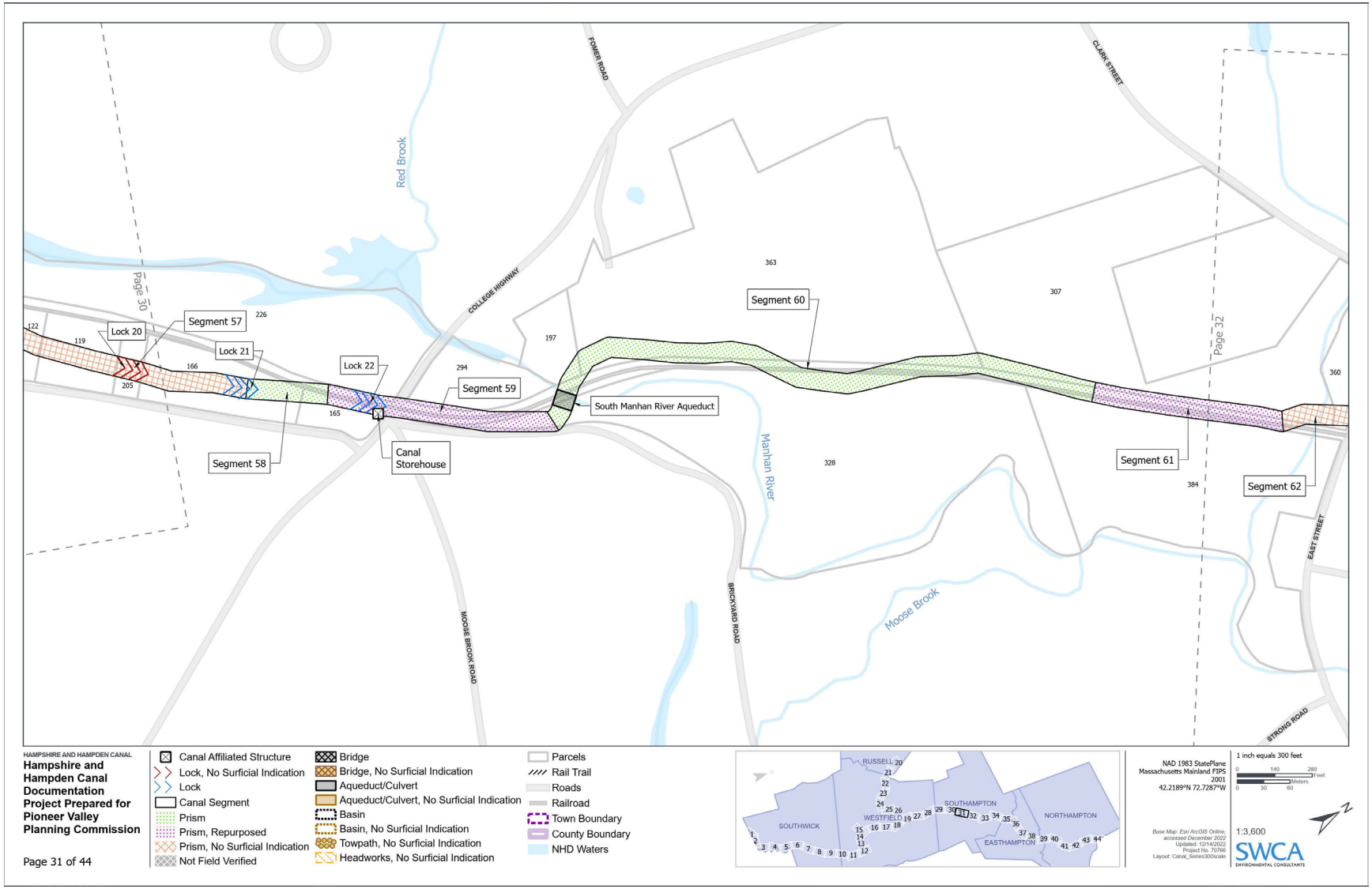


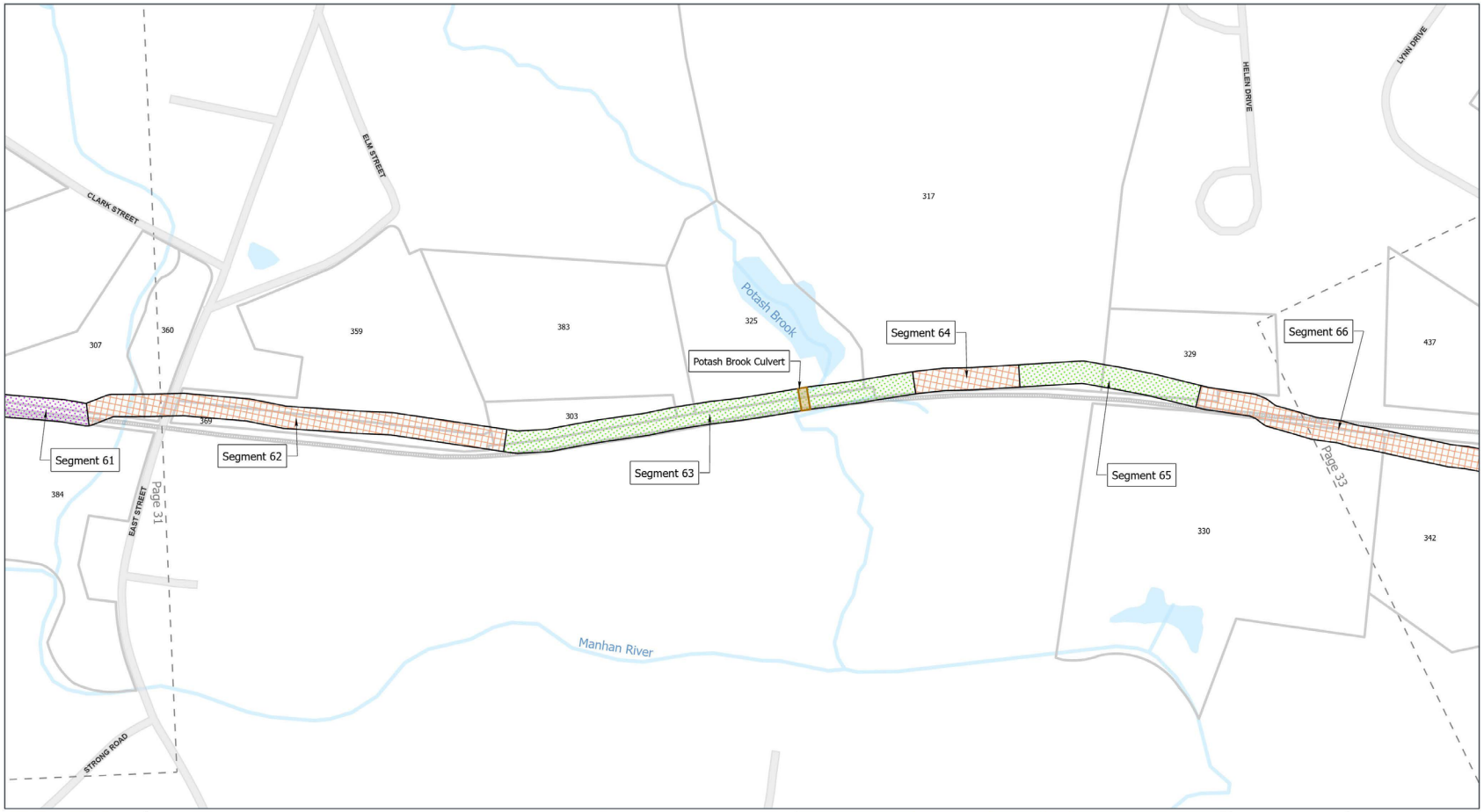
Continuation sheet 20

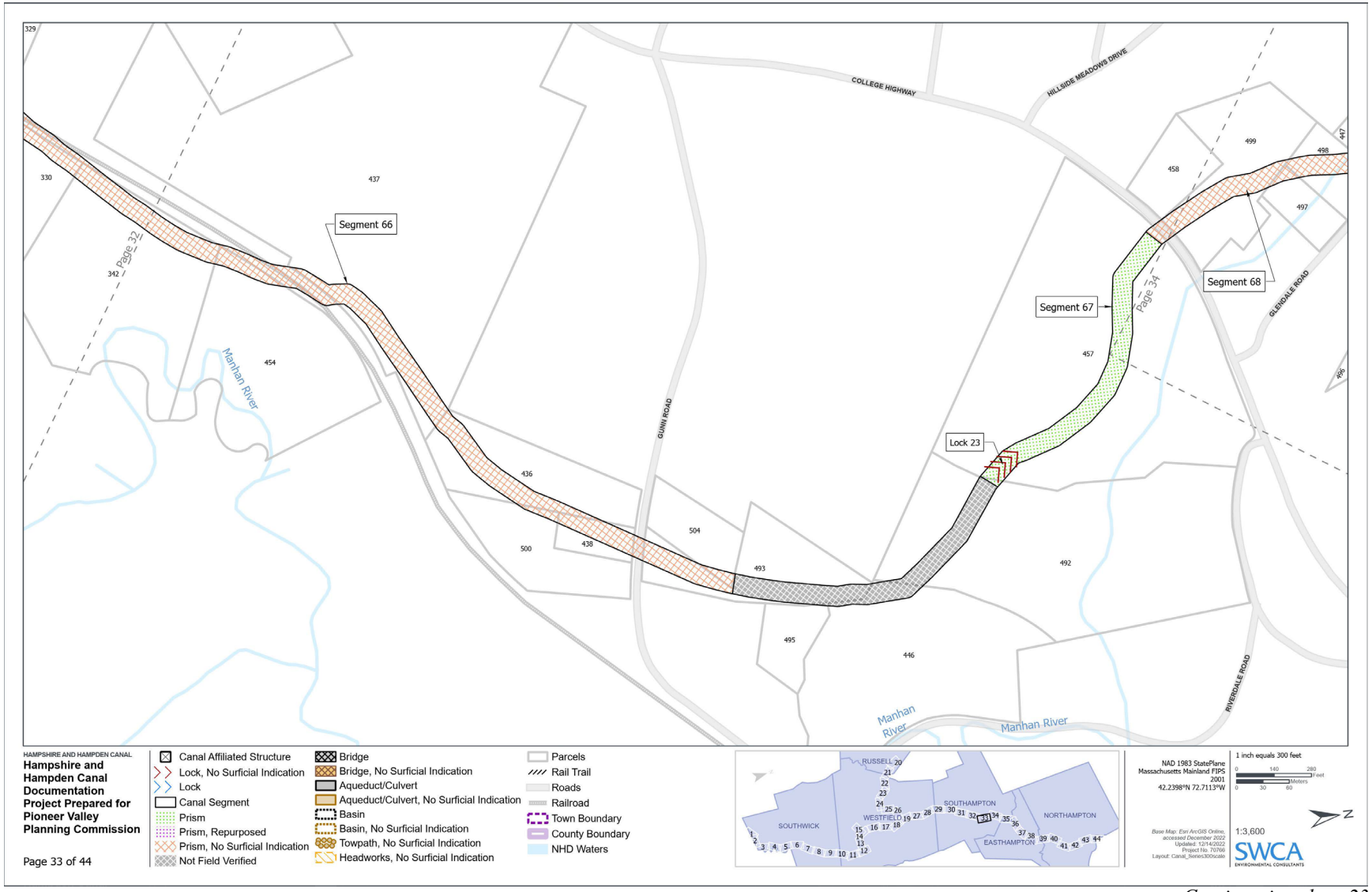
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter: STH.F

Form Nos.: See Data Sheet



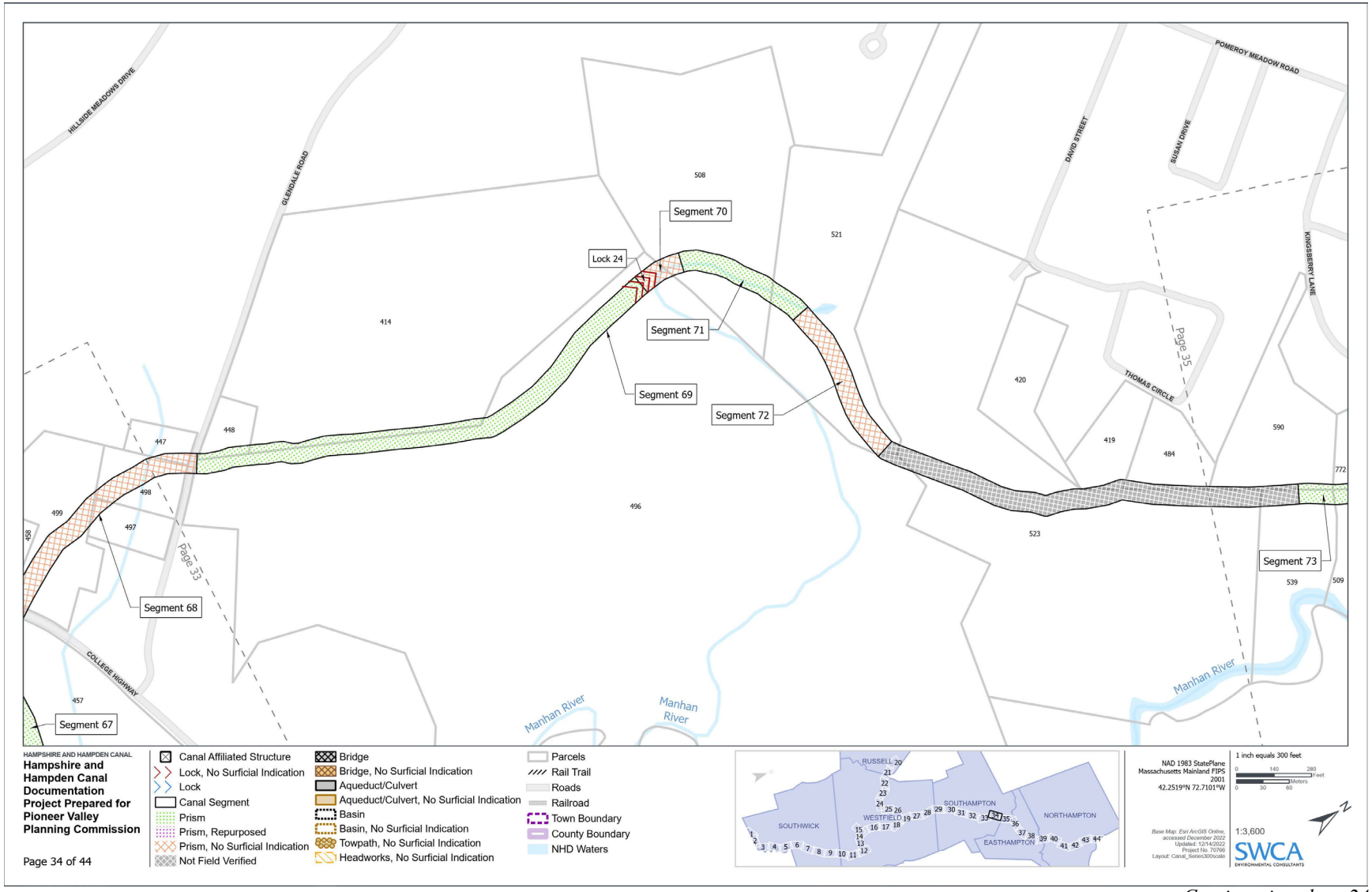

CLARK STREET
ELM STREET
HELEN DRIVE
LYNN DRIVE
EAST STREET
STRONG ROAD
Potash Brook
Potash Brook Culvert
Manhan River
Segment 61
Segment 62
Segment 63
Segment 64
Segment 65
Segment 66
Page 31
Page 33
307
360
359
383
325
317
329
437
369
303
384
330
342
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 32 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2291°N 72.7199°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS


Segment 66
Segment 67
Segment 68
Lock 23
Page 32
Page 34
COLLEGE HIGHWAY
HILL SIDE MEADOWS DRIVE
GUNN ROAD
GLENDALE ROAD
RIVERDALE ROAD
Manhan River
Manhan River
Manhan River
329
330
342
437
454
436
438
500
504
493
495
446
457
458
499
498
497
447
492
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 33 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2398°N 72.7113°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS

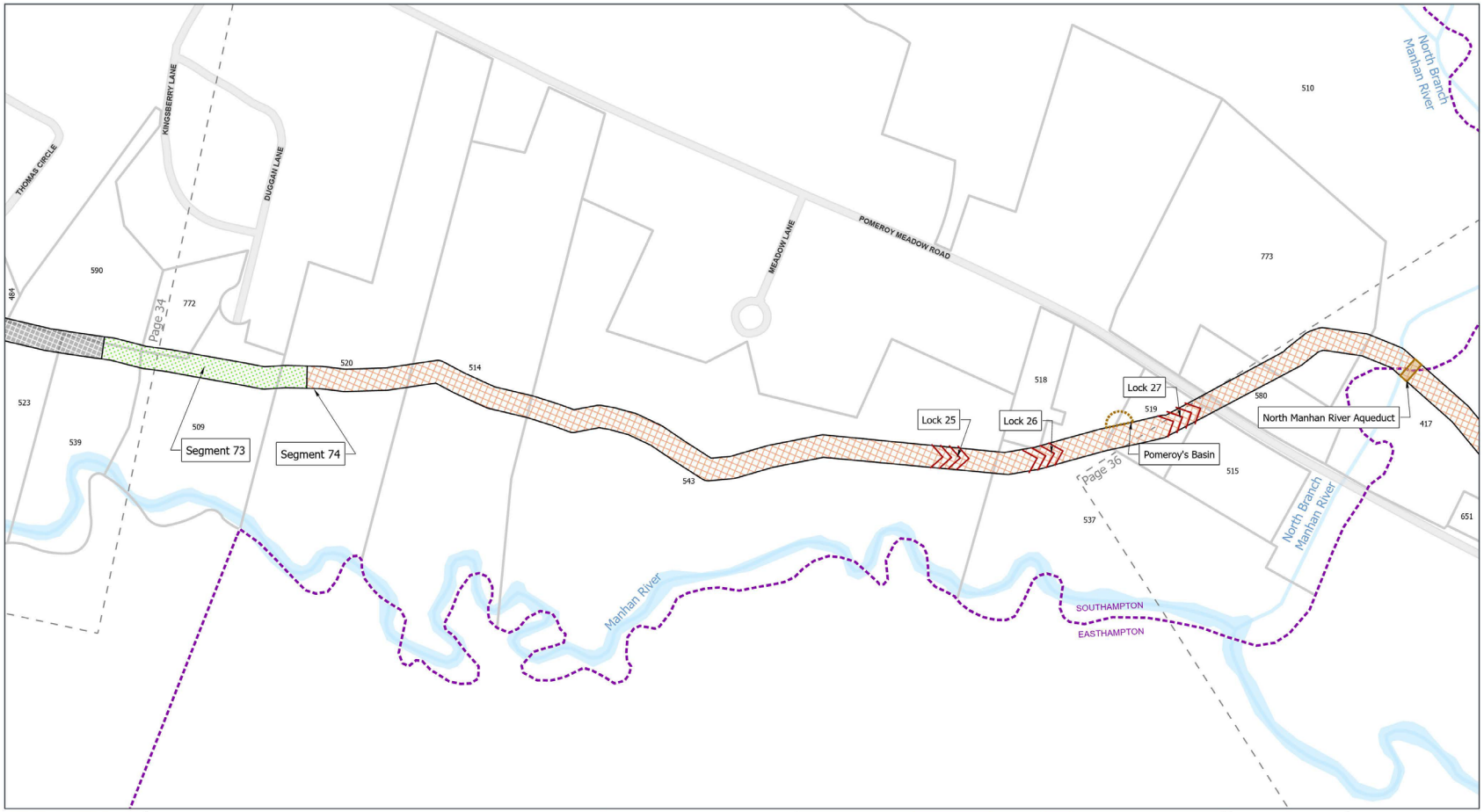
INVENTORY FORM A CONTINUATION SHEET

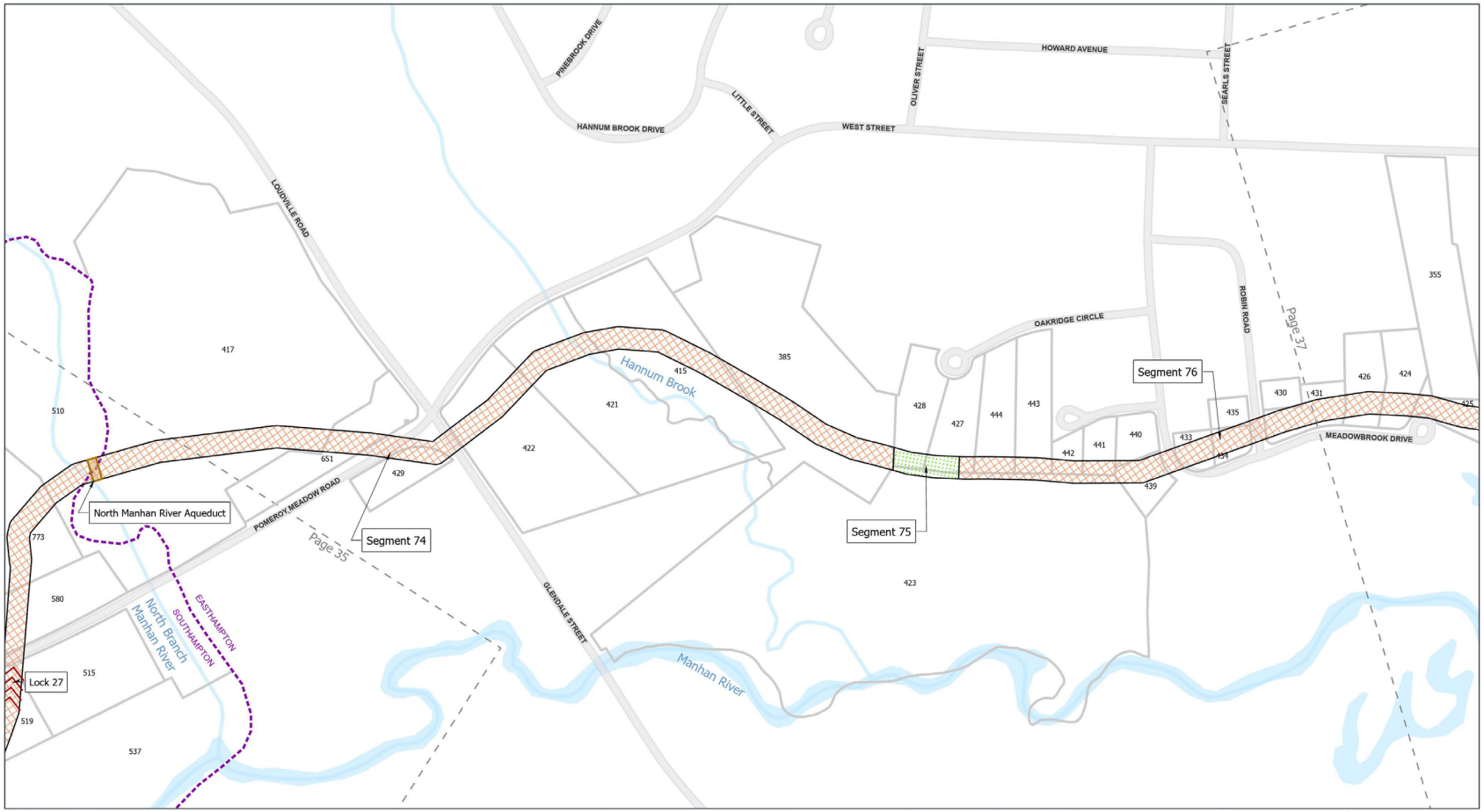
MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter: STH.F
Form Nos.: See Data Sheet



Continuation sheet 24

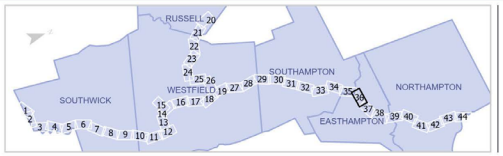

THOMAS CIRCLE
KINGSBERRY LANE
DUGGAN LANE
MEADOW LANE
POMEROY MEADOW ROAD
North Branch Manhan River
Page 34
Page 36
Segment 73
Segment 74
Lock 25
Lock 26
Lock 27
Pomeroy's Basin
North Manhan River Aqueduct
Manhan River
SOUTHAMPTON
EASTHAMPTON
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 35 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2618°N 72.7006°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 36 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters



NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2694°N 72.6903°W

1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS

Continuation sheet 26

FORM A - AREA

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
113, 114, 128, 129, 137, 138, 139, 142, 143	Easthampton, MA	EAH. T	See Data Sheet

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

Canal Prism remnant in Segment 80, facing north.

Town/City: Easthampton

Place *(neighborhood or village)*:

Name of Area: Hampshire and Hampden Canal

Present Use: Former canal route with varied modern-day land use (industrial, residential, recreational, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Poor- some areas with remnant prism and lock features; however, majority of former canal route has been obscured or completely altered by residential development and erosion.

Major Intrusions and Alterations: Altered or obscured by residential development

Acreage: Complete-*26.73 acres*, Remnant segments-*9.46 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc

Organization: PVPC and Easthampton Historical Commission

Date *(month/year):* 11/2022

Locus Map

[See continuation sheets Pages 16-20.]

☒ *see continuation sheet*

MASSACHUSETTS HISTORICAL COMMISSION
220 MORRISSEY BOULEVARD, BOSTON, MASSACHUSETTS 02125

Area Letter	Form Nos.
EAH.T	See Data Sheet

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The canal route ran from a guard lock at the state line located in Southwick, MA south of Congamond Ponds to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122-foot elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the much smaller Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Easthampton (**EAH.T**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Easthampton, the Hampshire and Hampden Canal Area is an approximately 26.73-acre, 2.94-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Easthampton portion of the canal route varies, with surficial identification of substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor as described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on the physical characteristics of the surficial canal remnants. Following is a brief description of these segments proceeding from south to north, beginning at the Southampton-Easthampton border and ending at the Easthampton-Northampton town line.

From the Southampton-Easthampton town line, at the crossing of the north branch of the Manhan River, to the intersection with Northampton Street, surficial evidence of the canal prism has been almost completely removed.

Encompassing the entirety of Segments 74, 75, and 76, only an approximately 210 ft stretch of prism remnant exists south of Oakridge Circle (Segment 75). The route through this section is fairly uniform, in so far as, the course of the canal exists in a fairly rural setting on the periphery of newer suburban development, keeping its historic setting and feeling consistent, with the exception of the intrusion of the Meadowbrook Drive development in Segment 76. **Canal Prism Segment 75 (MHC ID)** (**Photos 1 and 2**) specifically, contains remnants of the original eastern/southern towpath and embankment a discernable channel. The western/northern embankment through this section, and extending into both Segments 74 and 76, was likely dug into the natural terrace slope which exists but which has been heavily altered by erosion removing any resemblance to its original design. Just northeast of Glendale Street, in parcels 52, 53, and 54 on the mapping, the landowner informed field staff that as recently as the first decade of the 21st century the prism existed through this area but was removed, by him, in an effort to level the land for agricultural purposes. Just southeast of West Street, where the canal traverses Bassett Brook, formally Sawmill Brook, remnants of an arched culvert can be seen; however, the present feature likely represents episodes of infrastructural engineering post-canal operation. Stone may have been repurposed from the original culvert design in subsequent efforts, such as the West Street Culvert over Bassett Brook, but more detailed feature specific research would need to be conducted to state definitively.

Where the canal area crosses Northampton Street and proceeds northeast, surficial canal remnants exist, though in a fragmentary state. **Canal Prism Segment 77 (MHC ID)** (**Photos 3 to 6**) encompasses the area from said Northampton Street crossing to south of Highland Avenue. Although present, agricultural activities, erosional episodes, and the general expansion of residential development have significantly impacted the area leading to the fragmented nature of the prism through this section. Along Mill Street, surface depressions can be seen indicating the canals original route, with the eastern towpath becoming increasingly evident as one proceeds farther to the northeast. Through the copse of trees bisecting the agricultural fields, most of the prism has been obscured by either filling or leveling activities associated with agricultural practices, with the exception of the very prominent eastern embankment and towpath which has been adapted into a private walking path. The northern end of Segment 77 has seen extensive erosion due to its proximity to the Manhan River, but its course remains identifiable due to surficial depressions and terrace slope which served as the original canals western banking. Adjacent to this segment, at the intersection of Mill Street and Northampton Street also exists the former **Clapp's Tavern and Warehouse** (**EAH.593; Photo 7**), which operated as a warehouse and collection point along the canal.

Just past a small tributary of the Manhan River, south of Highland Ave, **Canal Prism Segment 78** (**MHC ID) (Photo 8)** comprises a prism section with an identifiable eastern towpath. This segment ends immediately south of where Highland Avenue bisects the route. A wooded area bounded by agricultural lands, the area of Segment 78 contains a relatively visible prism, visually representative of the canal's original construction in a physical and environmental context.

North of this segment, from near Highland Avenue to south of O'Neill Street, surficial remnants of the former canal prism have been completely obscured (Segment 79). A filled and graveled access road inhabits a large portion of the former route, with other sections having been completely washed-out, especially along the northern portion of this segment, where erosion and drainage impacts were likely exacerbated by commercial and industrial development along Industrial Parkway and O'Neill Street. Previous documentation of this section of canal was recorded in 1984 (**EAH.900)** and is on record at the MHC.

Canal Prism Segment 80 (**MHC ID**) (**Photos 9 to 11**)., the northernmost segment in Easthampton, extends from south of O'Neill Street to the border of Northampton (**Photos 9 to 11**). The canal area through this segment is easily identifiable, containing both embankments, east towpath, and channel. Passing through a small, wooded area amongst industrial parks and commercial properties, the eastern towpath now contains a walking path. The prism has experienced moderate weathering over the years and extends north crossing the border into Northampton.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Easthampton

Previously, the lands now comprising Easthampton were the traditional territory of the Nipmuc and their ancestors for many thousands of years. During the Contact Period, these Algonquin speaking communities were subject to substantial impacts by the influx of European settlement which significantly affected the traditional Native lifeway. Historically, the town of Eastampton, originally a part of Northampton, was first settled by these European immigrants in the latter half of the seventeenth century. Situated within the Connecticut River Valley and bordered by Mount Tom, the town of Easthampton was independently incorporated in 1809. Roughly bisected by the Manhan River, Easthampton had ample waterpower sites through the center of town and provided suitable agricultural land for cultivation. Industrial expansion occurred throughout the nineteenth century, especially around Upper and Lower Mill Ponds (MHC 1982). The completion of the Hampshire and Hampden Canal and the subsequent railroad further contributed to the growth of industrial enterprises throughout Easthampton creating an industrial corridor connecting Southampton Center to Northampton. However, following the turn of the twentieth century, manufacturing in town began to decline, massive layoffs and wholesale closures impacted the local community. Though buoyed slightly by both World Wars, manufacturing in Easthampton would never regain the prominence it had through the previous century. Small agricultural operations and commercial/mercantile business remained the preeminent enterprises in Easthampton. Settlement of the town was focused along Main Street, Union Street, and Cottage Street, the results of which are evident today (MHC 1982). It was also through the latter portion of the twentieth century where suburban development began to increase, specifically along trolley routes. Increased residential development and urban expansion, has caused a revitalization of Easthampton downtown with agricultural activities still prominent around the Oxbow.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a

charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August 30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through

Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Easthampton

In terms of engineering features along the Easthampton portion of canal, very little of interest exists. Aside from the canal prism itself, which overall is in poor physical condition, only a portion of the North Manhan River Aqueduct, which ferried the canal from Southampton into Easthampton, and the Sawmill Brook Culvert were constructed in the boundaries of Easthampton. Where the canal route crosses into Easthampton over the North Branch of the Manhan River, lies the historic location of the North Manhan River Aqueduct. A former 60 feet by 24 feet stone aqueduct, that has since been removed (Raber 2002), although stone from the former aqueduct, as well as Lock 27, were used in the footings of the Pomeroy Meadow Road bridge. From here the canal continued north, it traversed Sawmill Brook, now Bassett Brook, over a single stone arch culvert (Sawmill Brook Culvert). Remnants of an arched culvert can be seen at this location; however, the present structure likely represents episodes of infrastructural engineering post-canal operation. Traces of the original canal culvert feature have likely been removed, repurposed, or potentially obscured by later engineering features. Just northeast of the Sawmill Brook crossing, at the intersection with Northampton Street, the building that formerly operated as Clapp's Tavern and Warehouse (EAH.593) remains. During canal operation, this structure would have likely served as a storehouse for the transshipment of goods and as a collection point for canal related tolls and tariffs (Raber 2002). Along with the above-mentioned canal features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Easthampton, any surficial evidence of which has since been removed. The relatively level terrain and the short distance the canal traveled through Easthampton, limited the overall physical effect the canal had throughout the town.

Overall, the economic impact of the Hampshire and Hampden Canal on the town of Easthampton is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns. Which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. In Easthampton, the construction of the canal likely impacted the growth in regional industry seen during this period; however, no direct correlation could be identified. Button manufacturing was a prominent industry in Easthampton through the first half of the nineteenth century, with Williston Button Works employing a large section of its residents (MHC 1982). These industrial enterprises likely saw benefits of operating near shipping lanes such as the canal. With the operation of the Clapp Tavern during the years of canal activity, it is understood at least some small mercantile industries grew around and benefited directly from this transportation route. One reason cited for the establishment of Williston Seminary School in Easthampton was its proximity to the canal and the ease of transportation for students (Carroll 1984)). While the population of Easthampton grew throughout the first half of the nineteenth century, the gradual increase was likely more related to the industrial growth along the Manhan River and Mill Ponds, for which the canals contributions were likely minimal. Settlement through Easthampton continued to be focused along College Highway, south of the canal route, a trend that existed prior to the canal's construction. As seen in most of the towns through which the canal traveled, the abandonment of the Hampshire and Hampden Canal and subsequent construction of the Westfield and Northampton Railroad in its place, proved far more beneficial. Easthampton saw a rapid growth in population and its industrial economy in the latter half of the nineteenth century, a direct result of the introduction of the railroad (MHC 1982). Today, the former canal route through Easthampton has been largely impacted by erosion and development. Some trace remnants of the canal prism and towpath can still be observed in areas such as, just south of Highland Avenue, paralleling the west side of the Manhan River and north of O'Neill Street, extending to the Northampton border.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). *Historical Journal of Massachusetts* 1(6):37-53.

Carroll, William F.
1984 Documentation of the New Haven and Northampton Canal in Easthampton EAH.900. *Form F – Structure*. On file with the MHC, Boston.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 *MHC Reconnaissance Survey Town Report: Easthampton.* MHC, Boston.

Raber, Michael S.
2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Geological Survey (USGS)
2021 Southwick Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole

with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
74		Canal Prism	From Southampton border to west of Meadowbrook Drive	N	Segment lacks surficial evidence; extends into Southampton	
74		North Manhan River Aqueduct	Crossing North Branch of the Manhan River	N	Spans border of Southampton and Easthampton, no surficial evidence remains	
75		Canal Prism	South of Oakridge Circle	Y	Approx. 210 ft	1, 2
76		Canal Prism	From west of Meadowbrook Drive to Northampton Street	N	Developed	
77		Canal Prism	From Northampton Street to crossing of unnamed Manhan River tributary	Y	Eroded; eastern towpath still extant and well-preserved; channel visible along portions of segment	3, 4, 5, 6
77		Sawmill Brook Culvert	Spanning Bassett Brook	N	Original culvert feature obscured/removed	
77	EAH.593	Clapp's Tavern and Warehouse	Intersection of Mill Street and Northampton Street	Y	Wood-framed 2-story Federal style structure, c. 1810	7
78		Canal Prism	From unnamed tributary to south of Highland Ave.	Y	Prism section with an identifiable eastern towpath	8
79	EAH.900	Canal Prism	From south of Highland Ave. to south of O'Neill St.	N	Through industrial park. Filled and graveled with areas of severe washouts	
80	EAH.900 (partially)	Canal Prism	From south of O'Neill St. to unnamed Mill River tributary	Y	Extends into Northampton; contains both embankments, east towpath, and channel	9, 10, 11

Photo 1: Canal prism remnant in Segment 75, facing west.

Photo 2: Canal prism remnant in Segment 75, facing east.

Photo 3: Eastern towpath remnant in Segment 77, facing southwest.

Photo: Eastern towpath remnant in Segment 77, facing northeast.

Photo 4: Eastern towpath remnant in Segment 77, facing northeast.

Photo 5: Canal prism remnant in Segment 77, facing northeast.

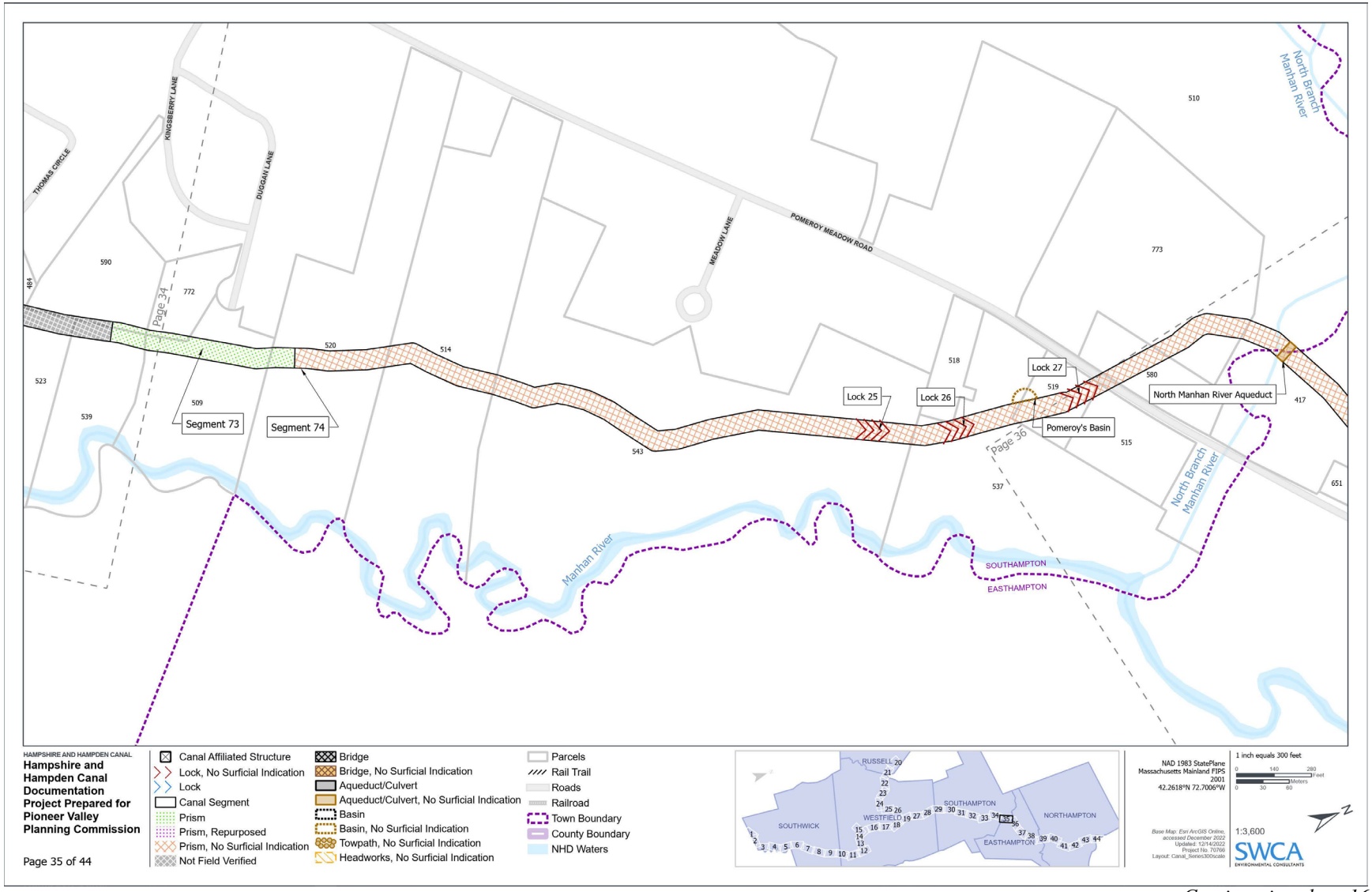
Photo 6: Structure formerly operated as Clapp's Tavern and Warehouse, facing northeast.

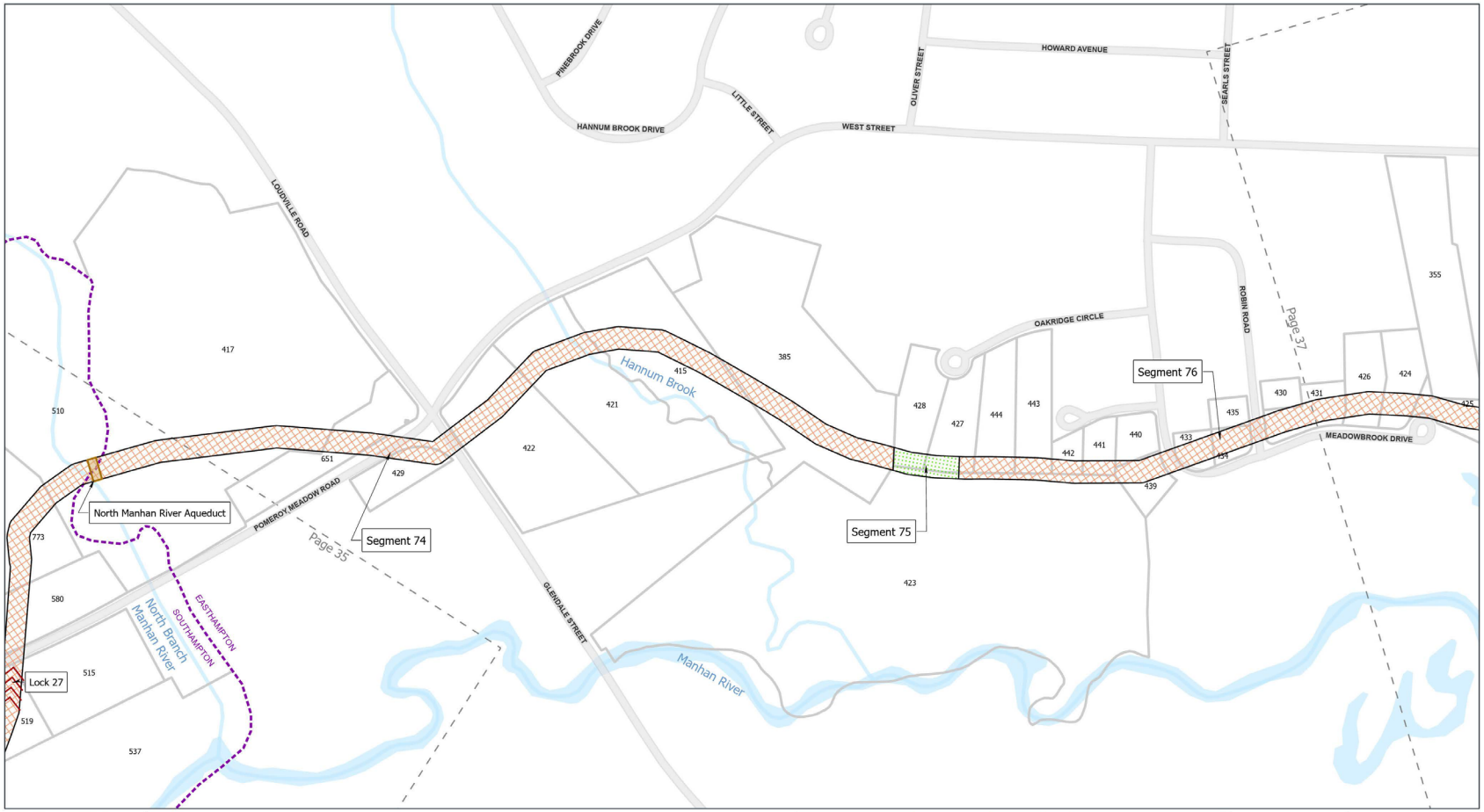
Photo 7: Canal prism remnant in Segment 78, facing southwest.

Photo 8: Canal prism remnant in Segment 80, facing north.

Photo 9: Eastern towpath remnant in Segment 80, facing southwest.

Photo 10: Canal prism remnant in Segment 80, facing northeast.

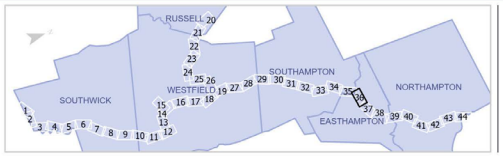

KINGSBERRY LANE
THOMAS CIRCLE
DUGGAN LANE
MEADOW LANE
POMEROY MEADOW ROAD
North Branch Manhan River
Page 34
Page 36
Segment 73
Segment 74
Lock 25
Lock 26
Lock 27
Pomeroy's Basin
North Manhan River Aqueduct
Manhan River
SOUTHAMPTON
EASTHAMPTON
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 35 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2618°N 72.7006°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS



HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission

Page 36 of 44

- Canal Affiliated Structure
- Lock, No Surficial Indication
- Lock
- Canal Segment
- Prism
- Prism, Repurposed
- Prism, No Surficial Indication
- Not Field Verified
- Bridge
- Bridge, No Surficial Indication
- Aqueduct/Culvert
- Aqueduct/Culvert, No Surficial Indication
- Basin
- Basin, No Surficial Indication
- Towpath, No Surficial Indication
- Headworks, No Surficial Indication
- Parcels
- Rail Trail
- Roads
- Railroad
- Town Boundary
- County Boundary
- NHD Waters

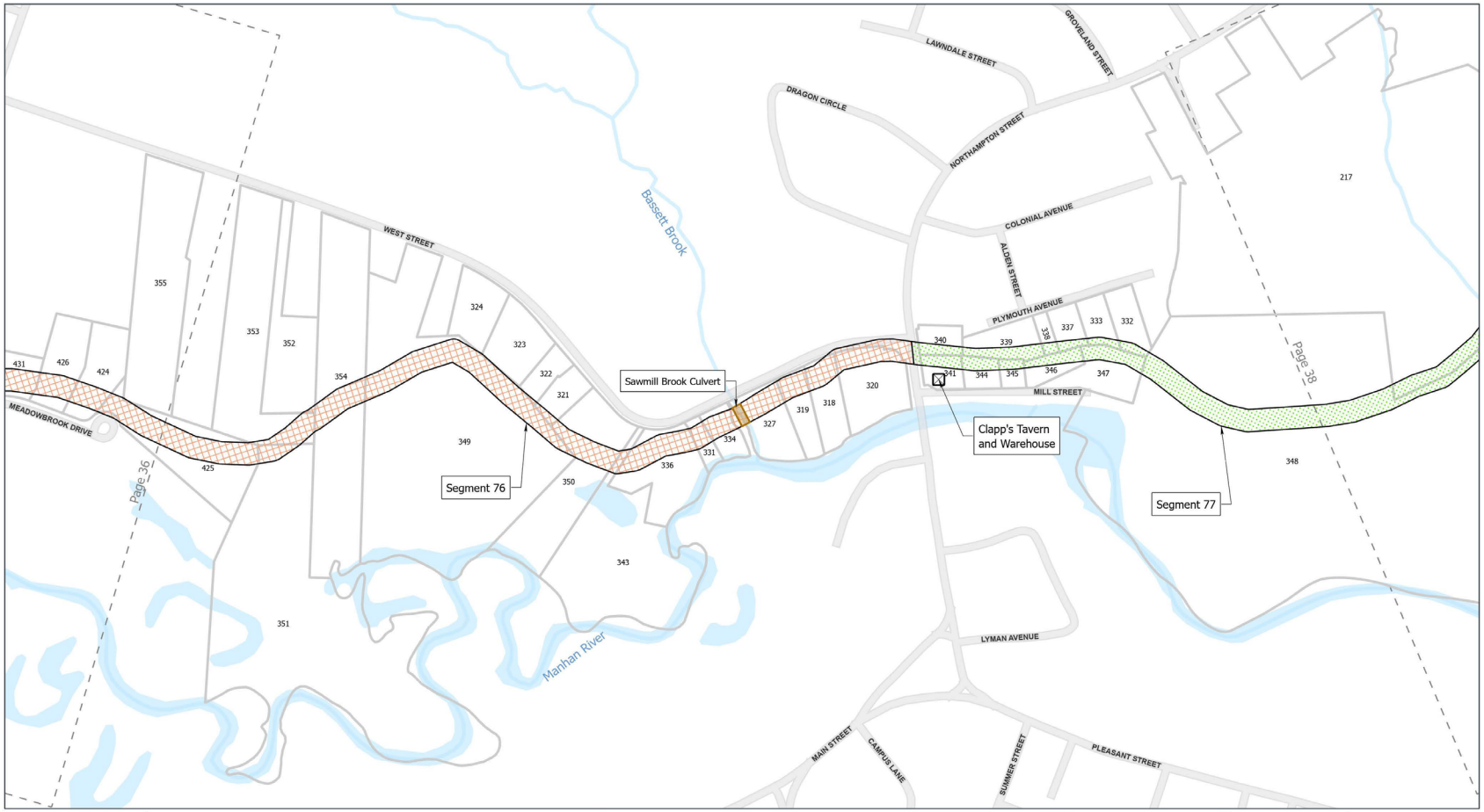


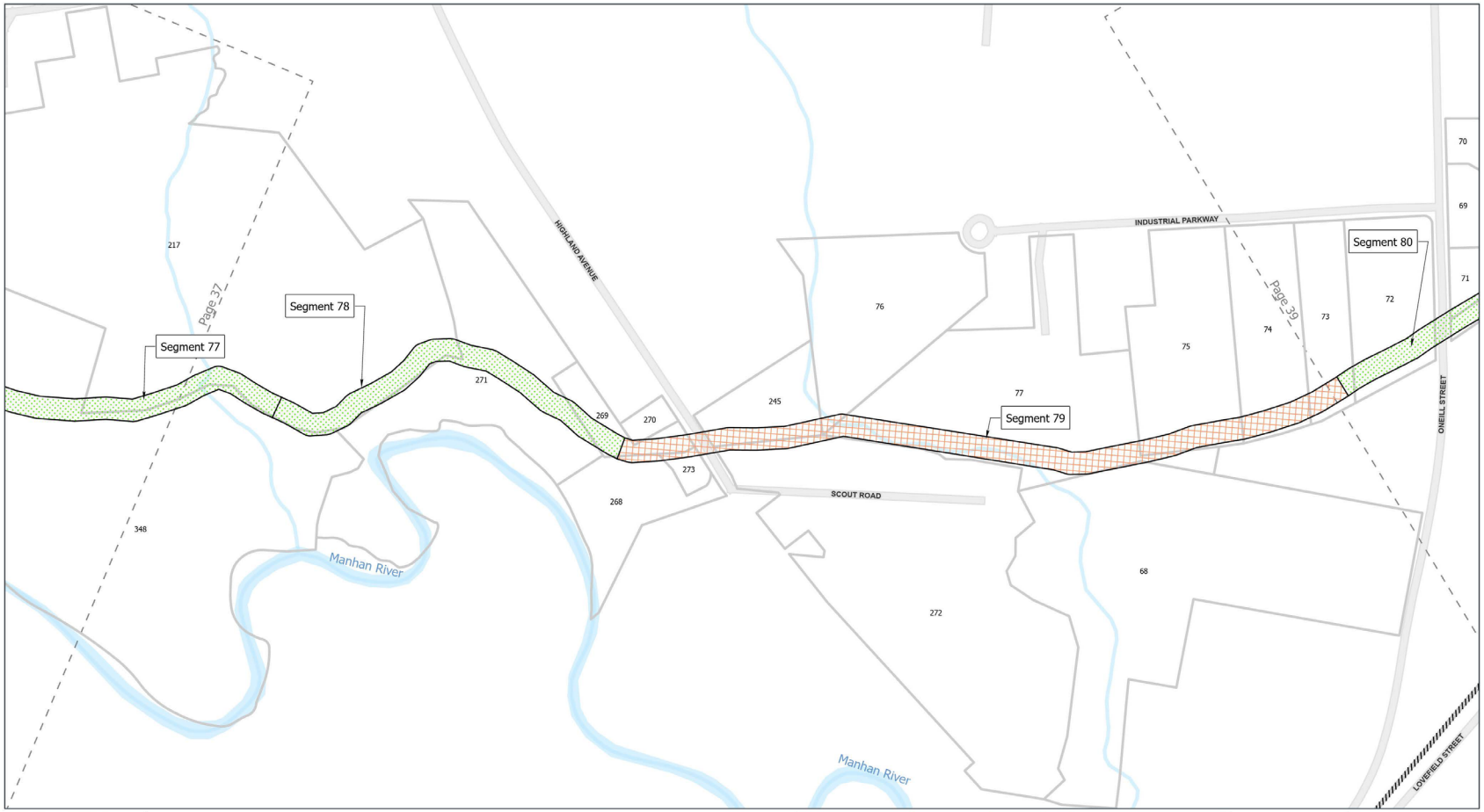
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2694°N 72.6903°W

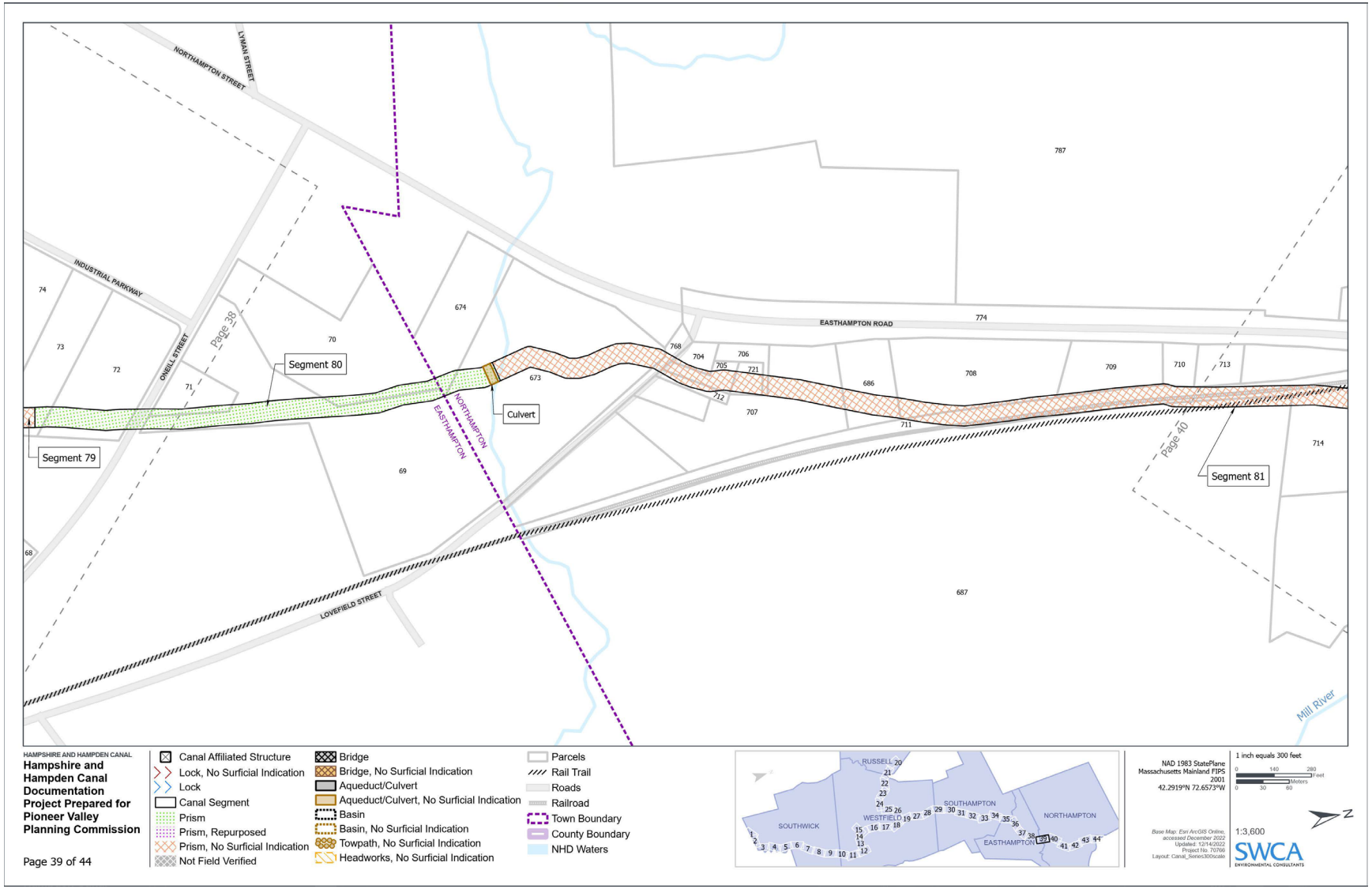
1 inch equals 300 feet
0 140 280 Feet
0 30 60 Meters

1:3,600

SWCA ENVIRONMENTAL CONSULTANTS


LAWNDALE STREET
GROVELAND STREET
DRAGON CIRCLE
NORTHAMPTON STREET
COLONIAL AVENUE
ALDEN STREET
PLYMOUTH AVENUE
WEST STREET
Bassett Brook
MEADOWBROOK DRIVE
Sawmill Brook Culvert
Clapp's Tavern and Warehouse
MILL STREET
Segment 76
Segment 77
Page 36
Page 38
Manhan River
LYMAN AVENUE
MAIN STREET
CAMPUS LANE
SUMMER STREET
PLEASANT STREET
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 37 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2733°N 72.6751°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS


Segment 77
Segment 78
Segment 79
Segment 80
Page 37
Page 39
HIGHLAND AVENUE
INDUSTRIAL PARKWAY
SCOUT ROAD
ONEILL STREET
LOVEFIELD STREET
Manhan River
Manhan River
217
348
271
269
270
273
268
245
76
77
75
74
73
72
71
70
69
68
272
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 38 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2809°N 72.6628°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS



Continuation sheet 20

FORM A - AREA

Assessor's Sheets	USGS Quad	Area Letter	Form Numbers in Area
18, 19, 37, 44, 45, 51, 18D, 24A, 24B, 24D, 31B, 38B, 38C, 31D, 38D	Easthampton, MA	NTH. AL	See Data Sheet

MASSACHUSETTS HISTORICAL COMMISSION
MASSACHUSETTS ARCHIVES BUILDING
220 MORRISSEY BOULEVARD
BOSTON, MASSACHUSETTS 02125

Photograph

Intact canal prism in Segment 92, facing north.

Town/City: Northampton

Place *(neighborhood or village)*:

Name of Area: Hampshire and Hampden Canal

Present Use: Former canal route with varied modern-day land use (commercial, residential, recreational, undeveloped)

Construction Dates or Period: Built 1826-1834, operated until 1847

Overall Condition: Poor- some areas of remnant prism and lock features with majority of former canal route obscured or largely not visible due to land development.

Major Intrusions and Alterations: Altered or obscured by railroad construction and downtown Northampton expansion and development

Acreage: Complete- *41.85 acres*, Remnant segments- *2.76 acres* (discontinuous)

Recorded by: Zachary Nason and Nadia Waski, SWCA Environmental Consultants, Inc.

Organization: PVPC and Northampton Office of Planning & Sustainability

Date *(month/year):* 11/2022

Locus Map

[See continuation sheets pages 16-21.]

☒ *see continuation sheet*

☒ Recommended for listing in the National Register of Historic Places.
If checked, you must attach a completed National Register Criteria Statement form.

Use as much space as necessary to complete the following entries, allowing text to flow onto additional continuation sheets.

ARCHITECTURAL DESCRIPTION

Describe architectural, structural and landscape features and evaluate in terms of other areas within the community.

Upon completing construction in 1834, the Hampshire and Hampden Canal was an approximate 30-mile linear prism generally oriented north to south with associated crossover bridges, aqueducts, culverts, masonry drains, basins, towpath, and in places, embankments. The canal route ran from a guard lock at the state line in Southwick, MA, south of Congamond Ponds, to where it connects to the Connecticut River in Northampton, MA. The original engineering specifications dictated the canal prism be 35 feet wide at the surface with the capacity to hold 4 feet of water. Generally, this prism was earthen and unlined. In its entirety, the Hampshire and Hampden Canal contained 32 lift locks, each measuring 80 feet by 12 feet in the clear, with an unknown number of associated lockkeepers' houses (Raber 2002). These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds (Raber 2002). Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small, Little River Feeder in 1830. These feeder canals were of a similar but narrower design.

The following description documents the physical characteristics of the existing canal route within Northampton (**NTH.AL**). While much of the canal route maintains its original location, setting, feeling, and association, the presence or absence of surficial structural remnants was the determining factor as to whether a segment was considered present or lacking surficial indication. Using the seven aspects of integrity as defined by the NRHP, some segments described as having no surficial remnants, may merit the integrity required for listing due to these other contributing aspects.

The existing physical condition of these features varies, with some segments having been substantially altered and to others containing small trace features of the canal's original construction and design. A portion of the original canal route was repurposed to facilitate the tracks of the New Haven and Northampton Railroad, which much of today has been again repurposed as the New Haven and Northampton Canal Greenway (Rail Trail).

In Northampton, the Hampshire and Hampden Canal Area is an approximately 41.85-acre, 4.6-mile, 75-foot-wide linear corridor tracing the historic route of the Hampshire and Hampden Canal within the town's borders. The route was determined using historical mapping, modern technological data, field verification, oral accounts, and archival research. This corridor includes the route of the linear canal prism and towpath, along with any other engineering infrastructure directly associated with canal operation. The physical condition of the Northampton portion of the canal route varies, with surficial identification of substantial sections of the former canal modified by erosion, building development, infill, natural phenomena, and other alterations. Segments/features which were not able to be field verified, either due to access related restrictions or the lack of any surficial indication, may require further, more detailed documentary research and/or subsurface archaeological testing to better ascertain their exact locations. The canal corridor as described below, represents the route of the canal as determined using the available resources and methods. During field verification, the canal was divided into segments based on the physical characteristics of the surficial canal remnants. Following is a brief description of these sections proceeding from south to north, beginning at the Easthampton-Northampton border and ending at the Connecticut River.

The northern end of **Canal Prism Segment 80** is the first section of canal in Northampton, beginning just south of the intersection with a Manhan River tributary (**MHC ID)**. Segment 80 contains remnant canal prism with a discernable

eastern towpath, terminating at the historic location of a culvert crossing said tributary, no surficial evidence of original culvert engineering remains.

Extending from the tributary crossing to north of Easthampton Road, Segment 81 contains no surficial remnants of the original canal engineering. Some areas of small berms can be identified through the residential properties along Easthampton Road; however, it is unknown if these are from original canal construction or post-canal development. The railroad likely repurposed a small section of the eastern towpath when laying tracks along this stretch of canal. Presently, the railroad berm continues away from the canal obscuring any design of the original towpath on which it likely sits. Development and railroad construction have removed surficial remnants of the former canal through this segment.

Canal Prism Segment 82 (**MHC ID**) contains approximately 400 feet of repurposed canal route that was first utilized by the New Haven and Northampton Railroad as their railbed corridor and then later, transformed into the New Haven and Northampton Canal Greenway that follows the historic canal route north, to the intersection with a tributary of the Mill River. Remnants of the east and west embankments can be observed interspersed through this small segment, with the railroad, now rail trail, first occupying the towpath before shifting into the prism itself for a short time.

At this tributary crossing, Segment 83 begins as the route deviates slightly away from the former railbed and present rail trail. Segment 83 contains no surficial remnants of the canal, having likely been eroded and obscured by the wetland the presently occupies the area. The original site of the Rocky Hill Basin was most likely within this segment; however, no surficial evidence of the feature remains.

Canal Prism Segment 84 (MHC ID) (**Photo 1**) is a small, visible prism segment beginning where the canal route nears the location of the former railroad. Here the railbed runs along the former eastern towpath of the canal. Containing both embankments and a watered channel, the prism is relatively well-preserved here. The segment ends at a large washout area, which exists all the way to the intersection of Easthampton Road.

Segment 85 is a large, obscured segment of former canal, which includes the large washout near the northern terminus of Segment 84, the crossing of the modern route of the Mill River, and a portion of the commercial and residential area paralleling South Street. This segment deviates from the existing rail trail, opting for a more southerly route following the course of present-day South Street. The diversion of Mill River, expansion of Northampton, and general infrastructure development and erosion have removed all surficial traces of the from canal through this segment

Segment 86 is a segment of canal that has been heavily altered to facilitate residential lawn space. Some semblances of the original banking can still be observed; however, the significant alterations make discerning the specifics of the former prism difficult. The residential development encompassing South Street has mostly obscured all surficial indications to the former route.

Segment 87 occurs along the base of a large terrace that has been completely eroded. Recreational and residential development have also played a role in obscuring the original canal route through this segment. The canal originally utilized this terrace slope as a natural prism embankment; however, its historic form has seen significant erosional impacts. No defined channel or western embankment was discernable at ground surface.

Segment 88 begins a large section of the former canal route that has been built over, removed, or otherwise obscured to facilitate the creation and expansion of the Northampton Downtown area. Beginning at approximately Fort Hill Terrace, Segment 88 follows the northern end of South Street and the then the entirety of State Street to the northwestern edge, of what is now the Stop & Shop Plaza off King Street. State Street was constructed directly atop the Hampshire and Hampden Canal. Within this segment, the former locations of the Mill River Aqueduct (crossing the original route of the Mill River which has since been rerouted), an arched stone bridge, and North Basin all occur; however, no surficial evidence remains of these former engineering features.

Similarly, Segment 89 is another large segment traversing the urban area of Northampton. Here, all surficial evidence of the former canal route has been removed, by erosion near the southern terminus and by development to north. Extending approximately from the rail trail to the crossing of Lane Plant Road, the southern portion of the segment exists within a wetland area which has removed all traces of the former prism. It was also along this stretch where a former railroad bed existed parallel to the canal; however, like the prism itself, evidence of this former railroad has also been removed. From Barrett Street to the end of Denise Court, a small, repurposed drainage can be observed, most likely utilizing the remnants of the previous canal prism; however, this is only hypothesized as the current drainage does not resemble the original engineering design of the Hampshire and Hampden Canal. Upon encountering King Street, commercial and industrial development has removed any visual evidence of the canal prism. The location of Lock 28 and part of Lock 29 would have most likely occurred within this segment; however, no surficial evidence remains of these features.

Canal Prism Segment 90 (MHC ID) (Photo 2) is an identifiable canal prism segment beginning at the crossing of Lane Plant Road and extending to the southern end of Lock 31. The canal was carved into the natural slope to the east. Sporadic evidence of the western towpath remains, although the majority has been washed away. Part of Lock 29 and the entirety of Lock 30 occurred within this segment; however, no surficial evidence remains of these features.

Segment 91 is a, eroded prism segment located just northwest of the River Run residential development. The original prism through this section has been reclaimed by Slough Brook, which has caused significant erosion to the former earthworks of the canal. The prism through this section has been widened considerably by the flow of water from Slough Brook flooding episodes. Within this segment, visible evidence of stonework from the **Lock 31 (MHC ID)** (**Photo 3**) chamber wall can be observed, although the surrounding earthworks have been completely eroded. A small, modern traversal bridge crosses the canal within this segment along an abandoned former roadway, with the concrete bridge remaining overgrown and in disrepair. The significant alterations to the channel have obscured any surficial evidence of the former prism design through this segment.

The northern terminus and final segment of the Hampshire and Hampden Canal is **Canal Prism Segment 92 (MHC ID)** (**Photos 4 and 7**). Segment 92 is a visible canal segment stretching from the southern end of Lock 32, to where the prism empties into the Connecticut River in the area referred to as the “Honey Pot”. This section contains water from Slough Brook and is watered to the present-day Connecticut River level. No towpath is visible, probably having been washed away during previous flooding episodes. **Lock 32 (MHC ID)** (**Photos 5 and 6**) remain relatively well preserved with masonry visible along the eastern and western walls and surficial earthworks surrounding most of the channel, with both sills also partially visible. This segment, as well as portions of Segments 91 and 90 were previously recorded in MACRIS as **NTH.HA.14** in 1974. However, much of the surrounding landscape has been altered since this section of canal was documented.

HISTORICAL NARRATIVE

Explain historical development of the area. Discuss how this relates to the historical development of the community.

History of Northampton

Northampton is situated within the Connecticut River Valley, with the river itself serving as the town’s eastern boundary. Originally part of the Nonotuck Plantation land grant in 1653, Northampton was independently incorporated in 1883. From its inception, Northampton’s position on the Connecticut River and at the junction of regional transportation routes, made the city an important civic and industrial center in western Massachusetts (MHC 1982). The abundance of fertile meadowland along the Connecticut River floodplain further reinforced the city as prominent settlement in the valley. By the nineteenth century, the city was well established, having expanded commercial and industrial activity along main street and the Mill River, as well as the completion of the Hampshire and Hampden Canal shipping lane through town. Northampton continued its expansion through the nineteenth century with the introduction of the railroad, repurposing much of the previous canal route, and the establishment of multiple factory village throughout the town, including at Leeds, Florence, and encompassing the Bay State paper mills (MHC 1982). Civic and commercial growth would continue

into the late nineteenth-early twentieth century with commercial blocks, a courthouse, a concert hall, railroad stations, a library, hospitals, and Smith College all being constructed. The twentieth century saw continued commercial growth, and as transportation routes were improved and expanded, the introduction of suburban development throughout the city. Today, Northampton is still a cultural center of educational and commercial development, with expanded suburbanization as part of the Springfield, Massachusetts Metropolitan Area.

The Hampshire and Hampden Canal

The widespread enthusiasm for, and promotion of, canals that spread across the eastern United States in the early nineteenth century was not missed by entrepreneurs in New Haven and the upper Connecticut River Valley. First conceived by local businessmen in New Haven in 1822, the Hampshire and Hampden Canal was constructed between 1826 and 1834 with the purpose of transporting goods from the upper Connecticut River Valley to the tidewaters of New Haven, Connecticut (Camposeo 1977). When fully operational, the canal route connected with the Farmington Canal at a guard lock in Southwick, Massachusetts, and continued approximately 30 miles north, emptying into the Connecticut River in Northampton, Massachusetts. Operating, in its entirety, for roughly 13 years before officially closing the waterway due to financial strain on January 18, 1848, prior to the navigational season of that year.

At its conception, the grand plan for this venture had the route linking the tidewaters of Long Island Sound to the St. Lawrence River, connecting the Western New England Interior to Canada and the Atlantic Ocean (Harte 1933). This original undertaking was to be constructed in stages, with the first stage to be the completion of a canal way from New Haven to the border of Massachusetts in Southwick. Which then would be followed by entrepreneurs in western Massachusetts picking up the route from that point and linking it to a bend on the Connecticut River in Northampton. These lofty ideas were birthed in 1822 when businessmen in New Haven hired Benjamin Wright, chief engineer of the Erie Canal, for a preliminary survey of the predicted canal route. Wright returned with the conclusion that the terrain in the area was very favorable to canal construction and that per mile expenses would be less than that of canals being constructed in New York at that time. Following this assessment, a charter was granted to the Farmington Canal Company to build a canal from New Haven to the northern border of the state (Harte 1933). Members of the Farmington Canal Company then traveled into Western Massachusetts to garner support from local entrepreneurs for the Massachusetts branch of the route. A committee was formed, and funds were raised for a survey of the Massachusetts segment from Southwick into Northampton. Holmes Hutchinson and Benjamin Wright's son Henry, civil engineers with experience on the Erie Canal, were commissioned to conduct the land survey. Upon receiving a favorable report, a charter was granted to the Hampshire and Hampden Canal Company to "construct and operate a canal from the northern boundary line of Connecticut to the Great Bend in the Connecticut river in Northampton" (Camposeo 1977).

Following a more detailed survey and cost projection conducted by Henry Wright under the direction of his father in 1823, commission members voted for construction to begin as soon as possible. David Hurd, another veteran of the Erie Canal, was appointed chief engineer for the project (Camposeo 1977). Financial strains slowed the construction of the Farmington Canal, leaving the members of the Hampshire and Hampden Canal Company concerned for the Massachusetts branch of the canal, which would be a familiar theme throughout the venture. The Hampshire and Hampden Canal Company hired Jarvis Hurd, the brother of Davis, to conduct a final survey of their segment of the canal route. By the spring of 1826, the majority of the Farmington Canal route had been completed and Jarvis Hurd was able to complete his final survey and cost projection (Camposeo 1977).

With the impending completion of the Farmington Canal and the requisite funds raised, groundbreaking on the Hampshire and Hampden Canal took place on November 1, 1826. By 1829, weather difficulties related to heavy rains and the drought of the summer of that year left the canal company in bad shape. In addition to this, both Davis and Jarvis Hurd resigned from the project that year, being replaced by William Butler as Chief Engineer (Camposeo 1977). Construction on the Hampshire and Hampden Canal again came to a standstill in 1831 when the company lacked the funds to finish the construction and were subsequently denied federal assistance. This problem was solved when a New Haven bank with contributions from the surrounding Massachusetts towns were able to provide the funds necessary for the completion of the canal. With this new influx of capital, construction of the Hampshire and Hampden Canal was completed on August

30, 1834. However, the first boat did not traverse the entire route until July 29 of the next year, which was declared the official opening of the entire canal (Camposeo 1977).

While there was a steady growth of business along the canal following its completion, constant repairs and delays began to severely compromise both companies' ability to operate and maintain the route. Due to these growing financial strains, the Farmington Canal Company and the Hampshire and Hampden Canal Company merged to create The New Haven and Northampton Canal Company in 1836 to operate and maintain the entire route of the canal (Camposeo 1977). Financial woes continued through the early portion of the 1840s with the company operating annually in the red, and the need for new capital to maintain operation was dire. Late in that year, a successful businessman by the name of Joseph Sheffield purchased controlling interest in the Company and by the spring of 1841, succeeded Steven Staples as company president. The following four years proved to be the canal's most successful, with tens of thousands of pounds of goods transported along the waterway with minimal delay and interruption. In January of 1845, Sheffield stepped down as Company president and was replaced by Henry Farnum, which would signal the beginning of the end for the canal (Camposeo 1977).

The summer of 1845 brought with it a significant drought that had rendered the canal unnavigable. By the time the canal returned to operation, a large break in the Connecticut portion of the route caused service to be delayed once again. To mitigate rising costs of repairs and service delays, Henry Farnum commissioned a report to the practicability of constructing a railroad along the canal route. With the increased popularity and profitability of railroads across the nation, a plan was developed in Connecticut to operate a railroad along the canal's towpath concurrently with regular canal operation. By 1847, work had begun on the New Haven and Collinsville Railroad (nicknamed the Canal Line), and by the winter of that year, canal transportation between New Haven and Northampton ended with the official closing of the canal taking place on January 18, 1848 (Camposeo 1977).

While in Massachusetts, the towns were left with an abandoned canal and no plans to convert or monetize the route. However, proponents of the Canal Line were determined to continue the rail line north to Northampton despite strong opposition from several railroads in the state. By 1853, the Hampshire and Hampden Railroad was formed with service from Granby, CT to Northampton, MA, beginning in 1856. This line followed on or near the canal route from Southwick to Northampton. The railroad changed hands numerous times over the next century until the latter half of the twentieth century when much of the Canal Line began to be abandoned. Much of the abandoned right-of-way through Massachusetts has been railbanked and today has been converted to multiple rail trails running along the former canal route.

Canal Impacts on Northampton

Being the northern terminus of the Hampshire and Hampden Canal, Northampton played a very significant role in canal operations and contained numerous engineering features related to the canal. Just over the border from Easthampton, a stone-constructed single arch culvert was built to cross a small tributary of the Manhan River. As the canal continued north, a turnaround basin (Rocky Hill Basin) was constructed along the drainage from Rocky Hill Pond. These basins would have facilitated loading and unloading, turnarounds, and other canal boats passage in the opposite direction. When the canal was constructed, Mill River had not yet been diverted to its modern course, forcing the historic route to traverse the original river flow via the Mill River aqueduct near the present-day intersection of Main Street and South Street. Upon construction, the Mill River Aqueduct was a 24-foot wide, 280 feet long stone aqueduct structure crossing the river. Just to the north of the aqueduct, the canal was crossed over by an arched stone bridge facilitating traversal along what is today main Street. Near this same location, the North Basin would have also likely existed. The expansion of Northampton, including residential, municipal, commercial, and industrial development, has removed all surficial traces of these former canal features, leaving only some small sections of discernable prism behind. At the canal's northern end, where the route empties into the Connecticut River, a series of five locks lowered boats down to the Connecticut River water level. Locks 28-32 existed over an approximately 0.25-mile stretch from what is today just south of Interstate 91 to near its intersection with Connecticut. This series of locks would have lowered boats approximately 48 feet down to roughly 98 feet asl. Surficial evidence of the three southernmost locks in this series (28, 29, 30) has been completely removed by modern

road construction and erosional events. Lock 31 and 32 are relatively well preserved with remnants of the original masonry still visible. These final two locks on the Hampshire and Hampden Canal also are the only examples of locks constructed originally with all stone chambers as the other locks along the route were originally of a timber construction and only later replaced with stone due to rot and leakage (Raber 2002). Along with the above-mentioned canal features, an unknown number of basins, waste weirs, dams, masonry drains, and traversal bridges may have been present along the route through Northampton, any surficial indications of which has since been removed.

The overall economic impact of the Hampshire and Hampden Canal on the town of Northampton is difficult to determine. At its inception, the canal was believed to bring trade and market growth to participating towns. Which when fully operating, the canal indeed did for short periods. However, with significant engineering mistakes and shortcuts, along with costly repairs, seasonal closure, and weather-related stoppages, the canal never was able to establish itself as the prominent interior New England trade route that it was envisioned to be. In Northampton, the construction of the canal did, in part, contribute to a period of population growth for the town, with the population growing by over 25% between 1820 and 1830, more than double either decade before or after (USCB 2020). The expanded trade network allowed by the operation of the Hampshire and Hampden Canal opening exports in the Long Island Sound, likely benefitted the growing tobacco industry in Northampton as well as the burgeoning silk production of the 1830s (MHC 1982). Northampton silk production was considered one of the most extensive in the union during this period (MHC 1982). Numerous other industries also grew during this time; however, these other manufacturers expanded significantly more following the closure of the canal and the introduction of the railroad. It was also during the years of canal operation that the factory village at Florence was established, likely in part due to the expanded trade network provided by the canal. The canal's closure impacted the ability of Northampton to trade and export goods, but only for a limited amount of time as the Westfield and Northampton Railroad was completed through the town by 1856 (MHC 1982). During the period between the canal's abandonment and the establishment of the railroad, stagnant water in the open prism increased the spread of disease among the residents of town, with groups raising funds to fill watered sections for sanitary reasons, such as near King Street and State Street. Today, the route through Northampton has been largely filled and built over, with much of the former route now home to commercial blocks or city streets. Areas of the original canal prism and locks can still be observed to the north near the route's intersection with the Connecticut River.

BIBLIOGRAPHY and/or REFERENCES

Camposeo, James Mark
1977 The History of the Canal System between New Haven and Northampton (1822-1847). Historical Journal of Massachusetts 1(6):37-53.

Harte, Charles Rufus
1933 Some Engineering Features of the Old Northampton Canal. Paper presented at the 49th Annual Meeting of the Connecticut Society of Civil Engineers, Hartford, Connecticut.

Massachusetts Historical Commission (MHC)
1982 MHC Reconnaissance Survey Town Report: Northampton. MHC, Boston.

Raber, Michael S.
2002 Survey and Inventory of the Hampshire and Hampden Canal (New Haven and Northampton Canal) for Proposed National Register of Historic Places Nomination. On file with the MHC, Boston.

U.S. Census Bureau (USCB)
2020 U.S. Decennial Census Data. Available at: https://data.census.gov/cedsci/table. Accessed November 2022.

U.S. Geological Survey (USGS)
2021 Southwick Quadrangle topographic map, 1:24,000 scale. United States Department of the Interior, Washington.

Walter, Carl E.
2006 Hampshire & Hampden Canal, 1829-1847. Map. On file with the Connecticut Historical Society, Hartford.

National Register of Historic Places Criteria Statement Form

Check all that apply:

☐ Individually eligible ☒ Eligible **only** in a historic district

☒ Contributing to a potential historic district ☐ Potential historic district

Criteria: ☒ **A** ☐ **B** ☒ **C** ☒ **D**

Criteria Considerations: ☐ **A** ☐ **B** ☐ **C** ☐ **D** ☐ **E** ☐ **F** ☐ **G**

Statement of Significance by _____Zachary Nason_____
The criteria that are checked in the above sections must be justified here.

The Hampshire and Hampden Canal, otherwise known as the Massachusetts portion of the New Haven and Northampton Canal, meets the criteria for listing, in its entirety, on the National Register of Historic Places (NRHP) under Criteria A, C, and D.

The Hampshire and Hampden Canal Area is nationally significant under Criterion A for its associations with the Canal Era (c. 1800-1850) of the northeastern United States, illustrating the movement to improve industry and transportation with a canal network, and led by the opening of the Erie Canal in 1825. The area reflects the widespread and nationwide enthusiasm for canal construction during this era. The Canal Area is also significant under Criterion C as representing a distinct engineering endeavor and embodying the full extent of the Hampshire and Hampden Canal.

Under Criterion D, the Hampshire and Hampden Canal Area embodies not only what surficial features remain present on the landscape but also the features, associated structures, and unrecorded archaeological components that are likely to be yielded extant below the ground surface. These as of yet undocumented components may contribute to the greater understanding of canal engineering practices of the day, as well as the wider implications canal construction, operation, and subsequent closure had on the local communities, their settlement patterns, and its use/disuse post-abandonment.

Covering the approximate 30-mile extent of the original Hampshire and Hampden Canal through Southwick, Westfield, Southampton, Easthampton, and Northampton, with a feeder route also coming into the mainline from Russell, the Hampshire and Hampden Canal Area is significant at the local, state, and national level for its role in the history of not just the Canal Era, but for its contributions to the industrial expansion of New England and transportation engineering as a whole. With the Farmington Canal, the Connecticut portion of the New Haven and Northampton Canal, having already been listed on the NRHP, the Hampshire and Hampden

Canal represents the northern half of the greatest undertaking of its kind in New England, an approximately 80-mile manmade waterway connecting the Connecticut River Valley and western New England as a whole with a seaport on the Long Island Sound. Along the Hampshire and Hampden Canal, a variety of engineering features and structures were incorporated into its design and function, utilizing an array of construction techniques. In its entirety the Hampshire and Hampden Canal contained 32 lift locks each measuring 80 feet by 12 feet in the clear with an unknown number of associated lockkeepers' houses. These locks raised or lowered boats by approximately 298 feet spanning the about 122 feet elevation difference between the Connecticut River and the Congamond Ponds. Two feeder canals were also constructed to provide the main prism with water, the 6.6-mile-long Westfield River Feeder, and the 3.4-mile-long Salmon Brook Feeder (most of which is located in Connecticut), with the addition of the small Little River Feeder in 1830. These feeder canals were of a similar but narrower design. Additional operational components include headworks, boat basins, aqueducts, culverts, masonry drains, a 700-foot floating towpath, Lockkeepers houses, stores, warehouses, toll and tariff collection structures, hotels, waste weirs, traversal bridges, towpaths, towpath cross-over bridges, along with an unknown amount of additional architectural resources. A number of other sites associated with canal construction may include quarries, excavation pits, worker housing, among others.

The canal's construction and operation directly and indirectly affected change and growth in the participating communities as well as the larger region, contributing to local and regional economic growth and expansion, influencing the development of transportation networks and modes, shifting settlement patterns, and enabling more population movement. The canal's abbreviated lifespan and subsequent absorption by newer technological advancements such as the railroad also contribute to the greater record of industrial expansion of New England. The major engineering feat alone, and its remnant presence still extant on the landscape, further reinforces the endeavor that was the construction of the Hampshire and Hampden Canal. Further undocumented/not fully documented archaeological resources within the proposed area may also have the potential to contribute to the potential district's significance, should subsurface testing be conducted.

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
80		Canal Prism	From Easthampton border to small brook crossing	Y	Segments extends into Easthampton	
80		Culvert	Crossing small Manhan River tributary	N		
81		Canal Prism	From small Manhan River tributary to just north of Easthampton Road	N	Small section likely repurposed by former railroad (now rail trail)	
82		Canal Prism	Along rail trail north of Easthampton Road	Y	Segment largely repurposed by former railroad (now rail trail)	
83		Canal Prism	Along rail trail paralleling west side of Easthampton Road	N	Eroded	
83		Rocky Hill Basin	Western side of canal, along drainage from Rocky Hill Pond	N		
84		Canal Prism	Along rail trail paralleling west side of Easthampton Road	Y	Former eastern towpath contains rail trail; well-preserved	1
85		Canal Prism	From north of Easthampton Road to along South Street	N		
86		Canal Prism	Along west side of South Street	N		
87		Canal Prism	Along west side of South Street, bisecting Herbert Ave.	N		
88		Canal Prism	From Fort Hill Terrace to northern end of State Street	N	Built over/Developed	
89		Canal Prism	From Fort Hill Terrace to northern end of State Street	N	Along wetlands	
89		Lock 28	Approx. south of I 91 near present day railroad crossing	N	No surficial evidence remains	

Segment ID	MHC ID	Historic Name	Location	Surficial Evidence (Y/N)	Comments	Photo #
90	NTH.HA.14	Canal Prism	From Lane Plant Road to south of Lock 31	Y	Intact	2
90	NTH.HA.14	Lock 29	Approx. at Lane Plant Road Crossing	N	No surficial evidence remains	
90	NTH.HA.14	Lock 30	Approx. 80 m north of Lock 29	N	No surficial evidence remains	
91	NTH.HA.14	Canal Prism	Between southern end of Lock 31 and Lock 32	N	Eroded; reclaimed by natural drainage	
91	NTH.HA.14	Lock 31	Southern end of Segment 91	Y	Intact stonework from original construction can be observed here, although surrounding earthworks have largely eroded	3
92	NTH.HA.14	Canal Prism	Northern terminus	Y	Watered; reclaimed by Slough Brook	4, 7
92	NTH.HA.14	Lock 32	Southern end of Segment 92	Y	Intact stonework along eastern and western walls, with earthworks remaining around most of the chamber, northern and southern sills also partially visible.	5, 6

Photo 1: Remnant canal prism in Segment 84, facing northeast.

Photo 2: Intact canal prism in Segment 90, facing north.

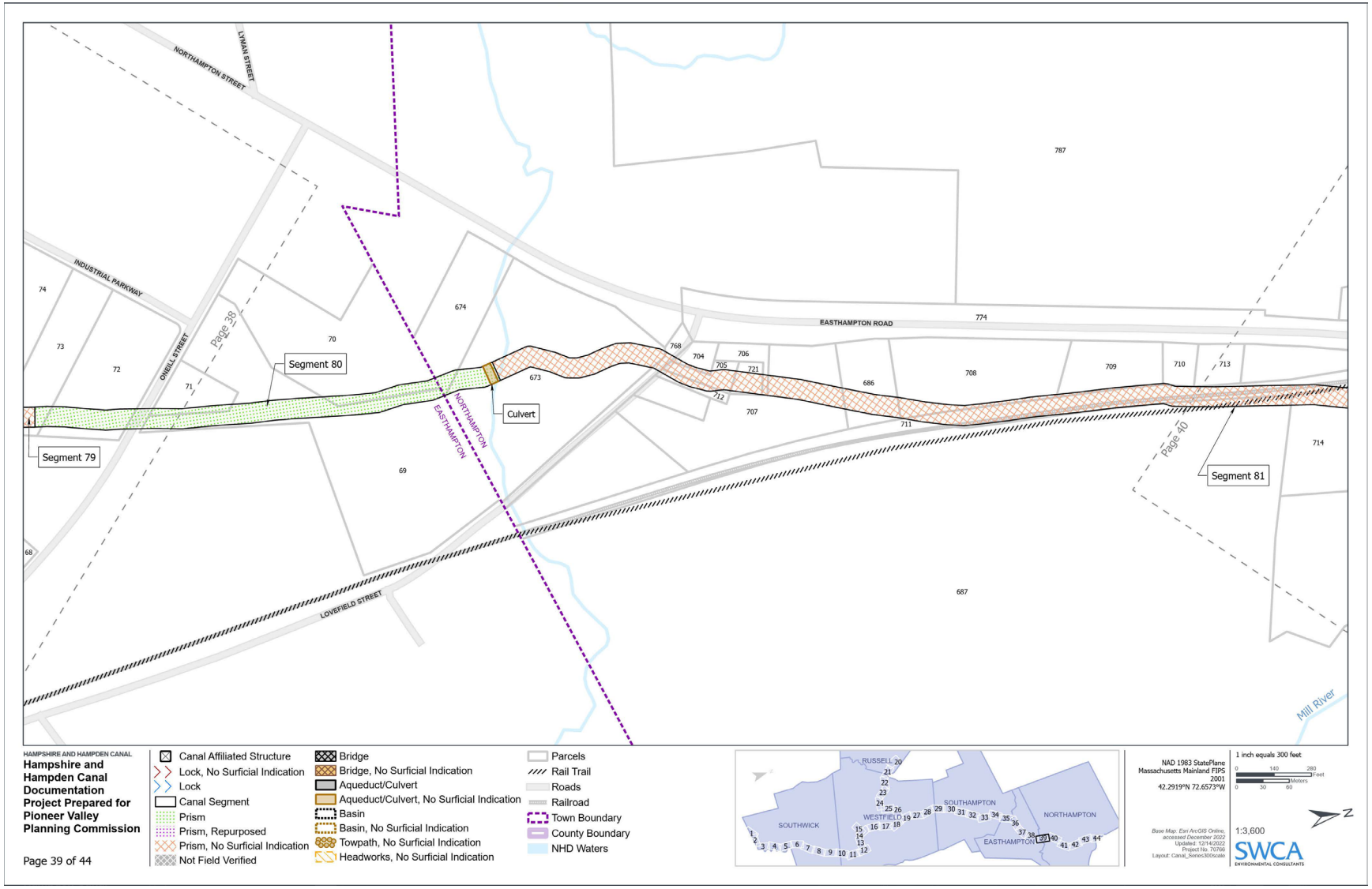
Photo 3: Stonework from original Lock 31 chamber, facing north.

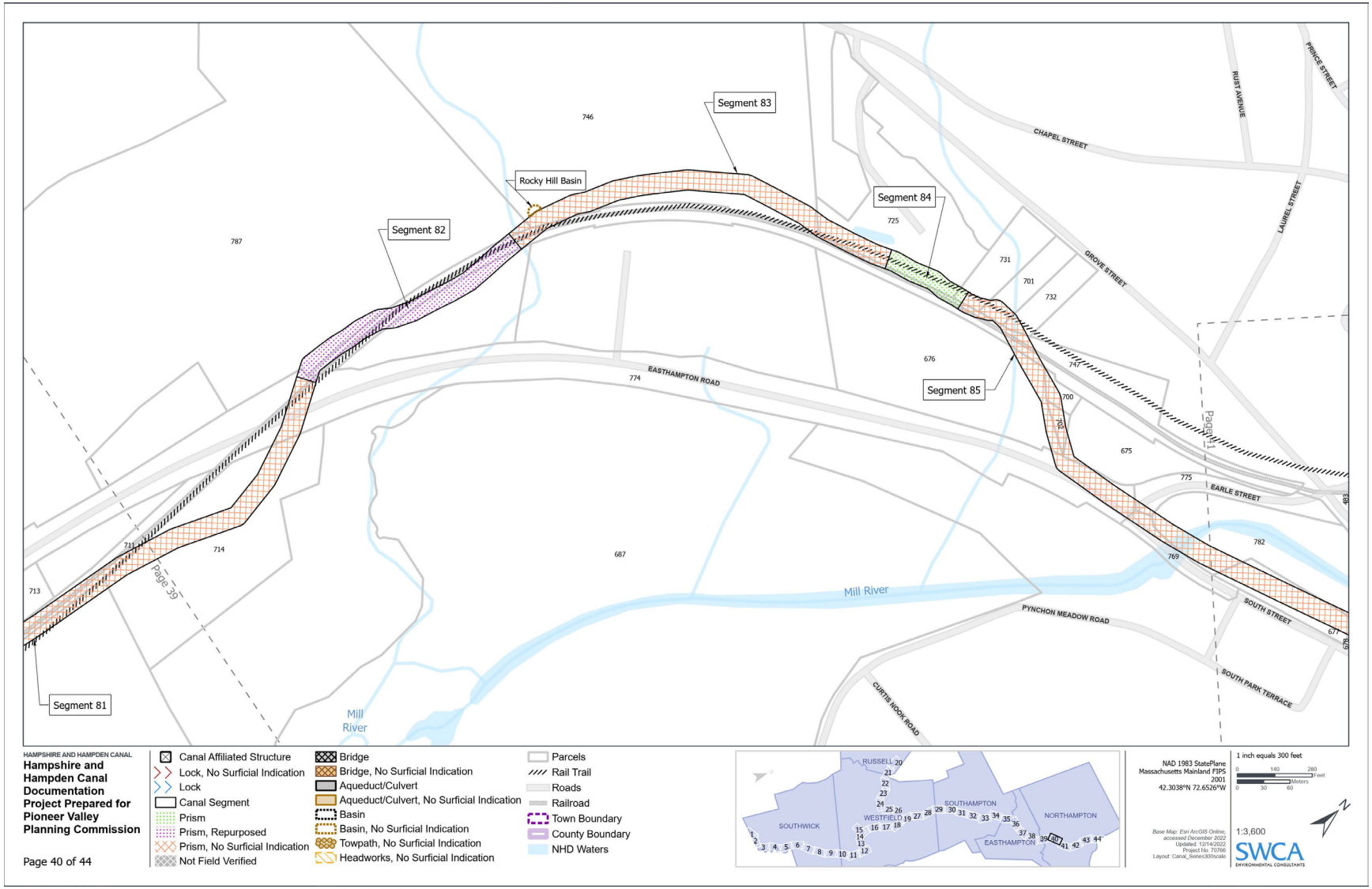
Photo 4: Intact canal prism in Segment 92, facing south.

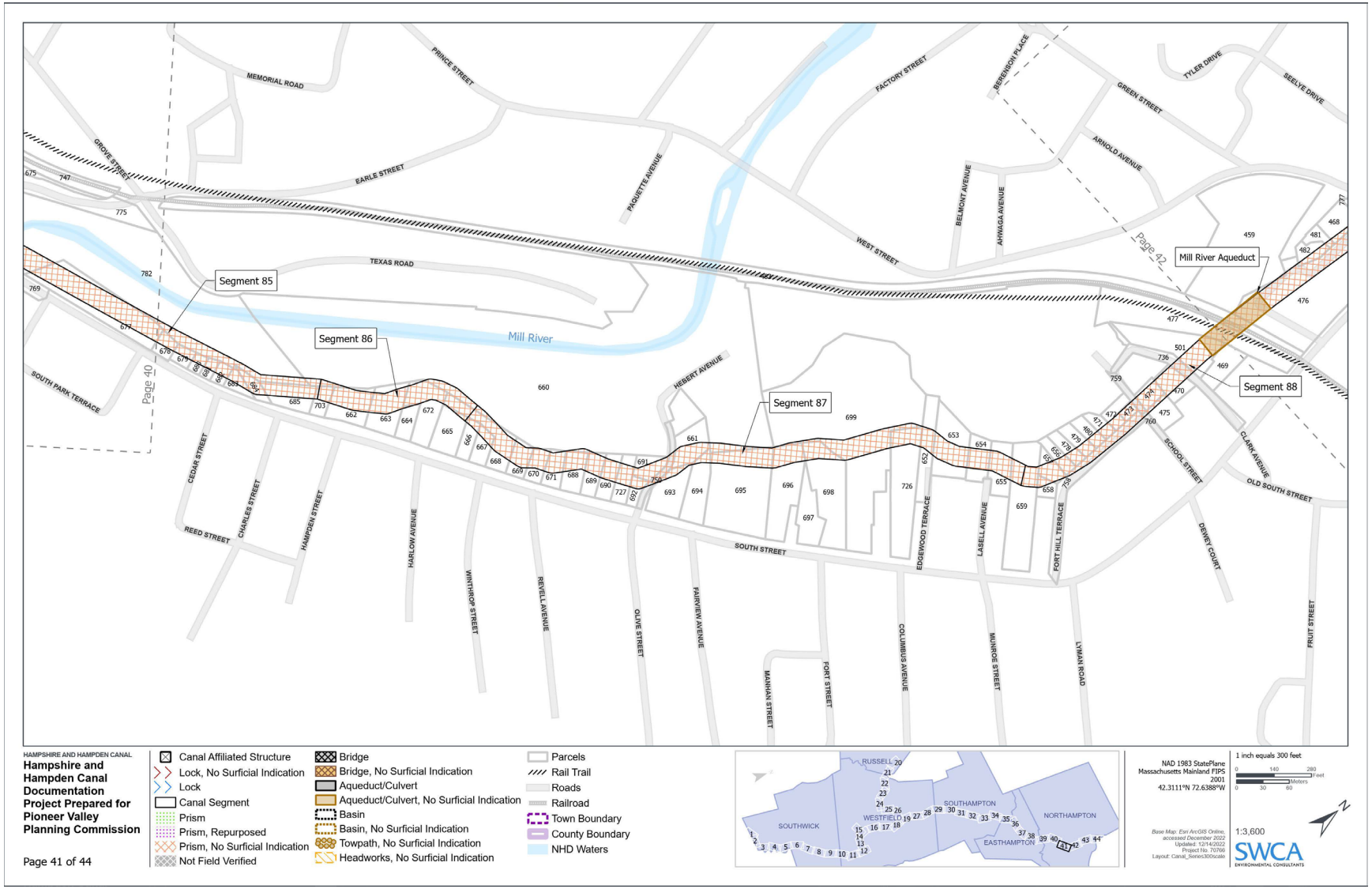
Photo 5: Stonework from original Lock 32 chamber, facing south.

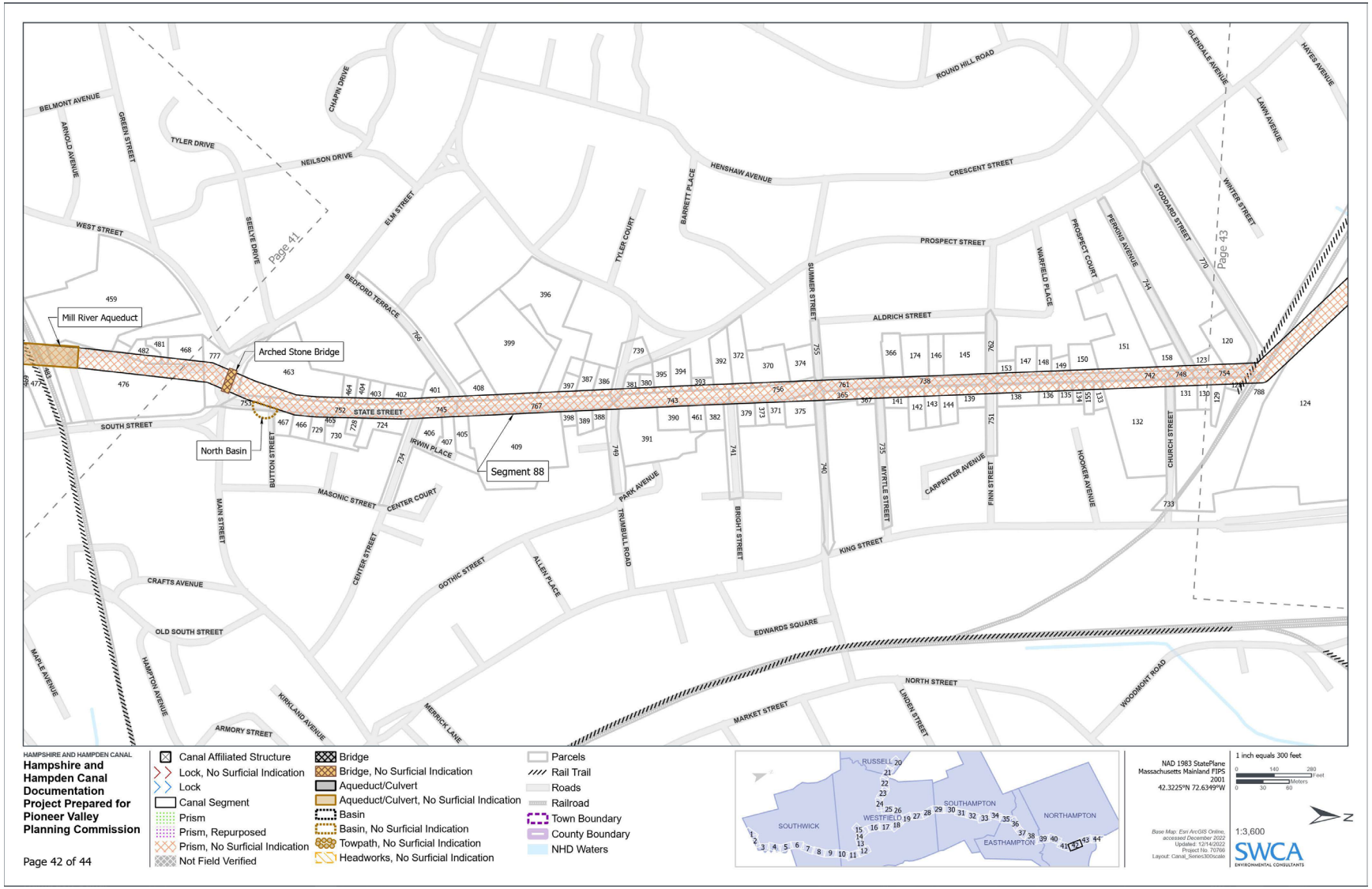
Photo 6: Lock 32 earthworks, facing south.

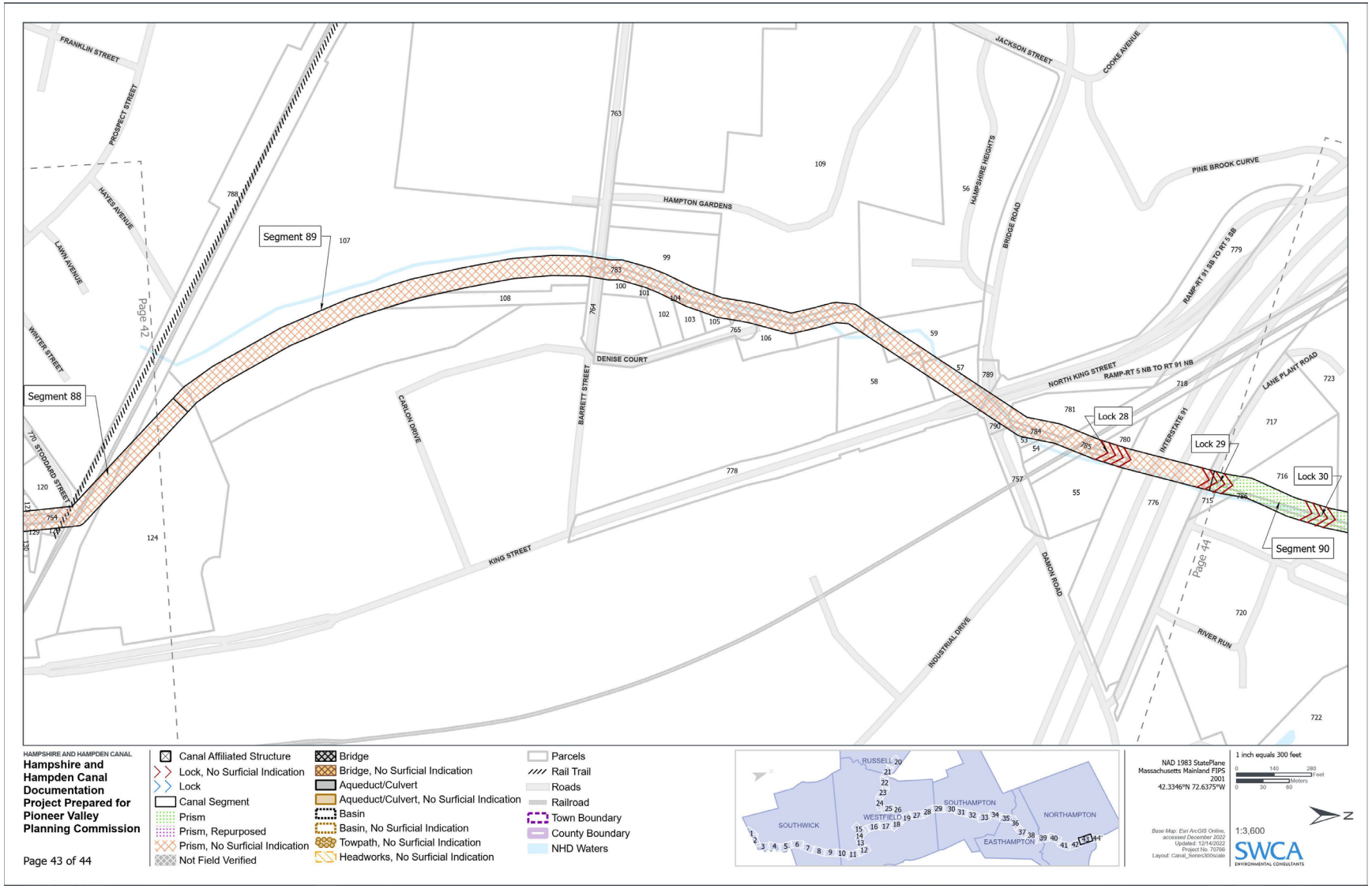
Photo 7: Intact canal prism in Segment 92, facing north.

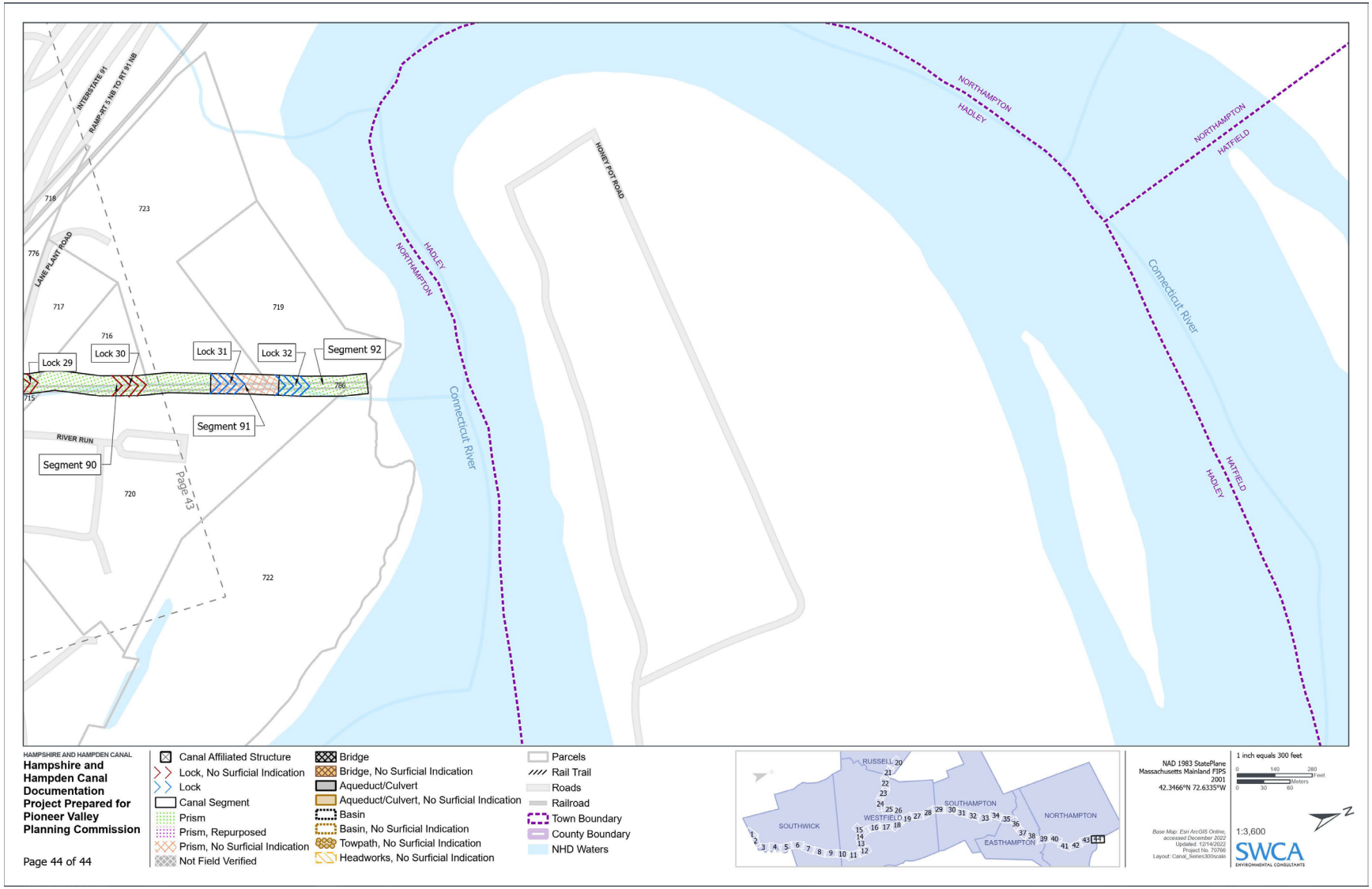

NORTHAMPTON STREET
LYMAN STREET
INDUSTRIAL PARKWAY
ONEILL STREET
EASTHAMPTON ROAD
LOVEFIELD STREET
Page 38
Page 40
Segment 79
Segment 80
Segment 81
Culvert
NORTHAMPTON
EASTHAMPTON
Mill River
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 39 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.2919°N 72.6573°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS


Segment 81
Segment 82
Segment 83
Segment 84
Segment 85
Rocky Hill Basin
EASTHAMPTON ROAD
CHAPEL STREET
GROVE STREET
EARLE STREET
SOUTH STREET
PYNCHON MEADOW ROAD
SOUTH PARK TERRACE
CURTIS NOOK ROAD
RUST AVENUE
PRINCE STREET
LAUREL STREET
Mill River
Page 39
Page 41
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 40 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3038°N 72.6526°W
1 inch equals 300 feet
1:3,600
SWCA
ENVIRONMENTAL CONSULTANTS


Segment 85
Segment 86
Segment 87
Segment 88
Mill River Aqueduct
Mill River
Page 40
Page 42
MEMORIAL ROAD
PRINCE STREET
FACTORY STREET
BERENSON PLACE
TYLER DRIVE
SEELYE DRIVE
GREEN STREET
ARNOLD AVENUE
GROVE STREET
EARLE STREET
PAQUETTE AVENUE
BELMONT AVENUE
ARHAGGA AVENUE
WEST STREET
TEXAS ROAD
HEBERT AVENUE
SOUTH PARK TERRACE
CEDAR STREET
CHARLES STREET
HAMPDEN STREET
HARLOW AVENUE
WINTHROP STREET
REVELL AVENUE
OLIVE STREET
FAIRVIEW AVENUE
MAINHAN STREET
FORT STREET
COLUMBUS AVENUE
MUNROE STREET
LYMAN ROAD
FRUIT STREET
REED STREET
SOUTH STREET
EDGEWOOD TERRACE
LASELL AVENUE
FORT HILL TERRACE
DENEY COURT
SCHOOL STREET
CLARK AVENUE
OLD SOUTH STREET
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 41 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3111°N 72.6388°W
1 inch equals 300 feet
1:3,600
SWCA ENVIRONMENTAL CONSULTANTS


Mill River Aqueduct
Arched Stone Bridge
North Basin
Segment 88
Page 41
Page 43
BELMONT AVENUE
ARNOLD AVENUE
GREEN STREET
TYLER DRIVE
CHAPIN DRIVE
NEILSON DRIVE
WEST STREET
SEELYE DRIVE
ELM STREET
BEDFORD TERRACE
TYLER COURT
BARRETT PLACE
HENSHAW AVENUE
ROUND HILL ROAD
CRESCENT STREET
GLENDALE AVENUE
HAYES AVENUE
LAWN AVENUE
WINTER STREET
STODDARD STREET
PROSPECT STREET
PROSPECT COURT
FERRINS AVENUE
WARFIELD PLACE
SUMMER STREET
ALDRICH STREET
STATE STREET
SOUTH STREET
BUTTON STREET
IRWIN PLACE
MASONIC STREET
CENTER COURT
MAIN STREET
CENTER STREET
GOTHIC STREET
ALLEN PLACE
PARK AVENUE
TRUMBULL ROAD
BRIGHT STREET
MYRTLE STREET
CARPENTER AVENUE
FINN STREET
HOOKER AVENUE
CHURCH STREET
KING STREET
CRAFTS AVENUE
OLD SOUTH STREET
EDWARDS SQUARE
NORTH STREET
MARKET STREET
LINDEN STREET
WOODMONT ROAD
MAPLE AVENUE
HAMPTON AVENUE
KIRKLAND AVENUE
ARMORY STREET
MERRICK LANE
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 42 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3225°N 72.6349°W
1 inch equals 300 feet
1:3,600
SWCA
ENVIRONMENTAL CONSULTANTS


FRANKLIN STREET
PROSPECT STREET
HAYES AVENUE
LAWN AVENUE
WINTER STREET
STODDARD STREET
JACKSON STREET
COOKE AVENUE
HAMPTON GARDENS
HAMPSHIRE HEIGHTS
BRIDGE ROAD
PINE BROOK CURVE
RAMP-RT 91 SB TO RT 5 SB
DENISE COURT
BARRETT STREET
CARLON DRIVE
NORTH KING STREET
RAMP-RT 5 NB TO RT 91 NB
LANE PLANT ROAD
INTERSTATE 91
KING STREET
DAMON ROAD
INDUSTRIAL DRIVE
RIVER RUN
Segment 88
Segment 89
Segment 90
Lock 28
Lock 29
Lock 30
Page 42
Page 44
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 43 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3346°N 72.6375°W
1 inch equals 300 feet
1:3,600
SWCA
ENVIRONMENTAL CONSULTANTS


INTERSTATE 91
RAMP-PT 5 NB TO RT 91 NB
LANE PLANT ROAD
HONEY POT ROAD
RIVER RUN
Lock 29
Lock 30
Lock 31
Lock 32
Segment 92
Segment 91
Segment 90
Page 43
NORTHAMPTON
HADLEY
HATFIELD
Connecticut River
718
723
776
717
719
716
715
786
720
722
HAMPSHIRE AND HAMPDEN CANAL
Hampshire and Hampden Canal Documentation Project Prepared for Pioneer Valley Planning Commission
Page 44 of 44
Canal Affiliated Structure
Lock, No Surficial Indication
Lock
Canal Segment
Prism
Prism, Repurposed
Prism, No Surficial Indication
Not Field Verified
Bridge
Bridge, No Surficial Indication
Aqueduct/Culvert
Aqueduct/Culvert, No Surficial Indication
Basin
Basin, No Surficial Indication
Towpath, No Surficial Indication
Headworks, No Surficial Indication
Parcels
Rail Trail
Roads
Railroad
Town Boundary
County Boundary
NHD Waters
RUSSELL
SOUTHWICK
WESTFIELD
SOUTHAMPTON
EASTHAMPTON
NORTHAMPTON
NAD 1983 StatePlane Massachusetts Mainland FIPS 2001
42.3466°N 72.6335°W
1 inch equals 300 feet
1:3,600
SWCA
ENVIRONMENTAL CONSULTANTS

APPENDIX D

~~MHC Historic Archaeological Site Forms (HA Forms)~~

CONFIDENTIAL- REDACTED