



IDENTIFICATION AND HISTORICAL ASSESSMENT
OF "TARGET 31a" 4th STREET BASIN
GOWANUS CANAL SUPERFUND SITE
BROOKLYN, NEW YORK
Site Number 04701.019115

PREPARED FOR:

Gowanus Canal Environmental
Remediation Trust (GCERT)

AND

Geosyntec Consultants
1255 Roberts Blvd.,
Suite 200
Kennesaw, GA 30144

FOR REVIEW BY:

The United States Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

AND

New York State Office of Parks Recreation and Historic Preservation
Pebbles Island
Delaware Ave.
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PREPARED BY:

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14 March 2016

ABSTRACT

The 63-foot shipwreck in the 4th Street Basin of Gowanus Canal is readily identifiable as the wrecked remains of the hull of a World War II era American 63-foot “crash boat”—the dimensions of the wreck and its construction materials are a conclusive match. The New York State Office of Parks, Recreation and Historic Preservation (SHPO) assigned Unique Site Number 04701.019115 to this sonar target. Online information is also available to provide an overview of this particular boat’s history. This boat was built in 1943 by the Miami Shipbuilding Corporation and was active with the U.S. military until around 1963. From 1963 until 1985 the boat was owned by the Point O’Woods Association and, following a major topside conversion, operated as the *Point O’Woods V*, a Fire Island Ferry. From around 1989 until 2003 the renamed *Kokkomokko* was used as a houseboat in the Bronx. After being holed by ice, the boat was salvaged and, in 2005, towed to Gowanus Canal to become the *Empty Vessel Project*, an unpowered floating arts and community services space. By the winter of 2006 that project came to a close and the boat was sold to its final owners. As the *Green Anchor Yacht* (more commonly called the *SS GAY*) the boat continued to serve as a houseboat, an arts area, and a “queer and trans-friendly space”. Online resources indicate that the boat sank in 2009.

In its current wrecked and deteriorated state, the boat lacks integrity as an example of a World War II era “crash boat”. The removal of the original superstructure at the time of its conversion to a ferry and the later removal of its engines and machinery further weaken the boat’s historic integrity. The current absence of any deckhouse, the defining characteristic unique to its conversion to a ferry, also results in a lack of historic integrity as a potential example of a Fire Island Ferry. Numerous other examples of 63-foot Miami-built crash boats are known to exist, and the techniques for constructing these vessels are relatively well documented. As a result, the wreck has no archaeological value, nor is it eligible for listing in the National Register of Historic Places.

TABLE OF CONTENTS

ABSTRACT	ii
TABLE OF CONTENTS.....	iii
1.0 INTRODUCTION.....	1
2.0 METHODOLOGY	1
3.0 RESULTS	4
4.0 CONCLUSION	15
5.0 REFERENCES	16

DRAWINGS

Drawing 1 Sheet 5 120 Scale Area of Potential Effect Known Resources and Investigations

LIST OF FIGURES

Figure 1 - Recent photograph of the shipwreck Target 31a.....	1
Figure 2 - Recent photograph of the transom of Target 31a.....	3
Figure 3 - Sidescan sonar image (Cox, 2010) of Target 31a.....	4
Figure 4 - Model 152 Aircraft Rescue Boats being built (Davis, 1997).	5
Figure 5 - Miami Shipbuilding Corporation photo with Aircraft Rescue Boats (Davis, 1997).	6
Figure 6 - Deck Plan View of a 63' Aircraft Rescue Boat (Davis, 1997).....	7
Figure 7 - Outboard Profile of a 63' Aircraft Rescue Boat (Davis, 1997).	7
Figure 8 - Inboard Profile and Plan Views of a 63' Aircraft Rescue Boat (Davis, 1997).....	8
Figure 9 - A 63' Aircraft Rescue Boat operating at high speed (Buhler, 2008).	8
Figure 10 - Postcard of the Point O'Woods V (Cardcow.com).....	9
Figure 11 - Bow view of the Empty Vessel Project (Kelly, 2010).	10
Figure 12 - Stern view of the Empty Vessel Project (Gomez, 2006).	11
Figure 13 - Bow of the Empty Vessel Project (Guskind, 2006).....	11
Figure 14 - Bow detail of the Empty Vessel Project (Guskind, 2006).	12
Figure 15 - Interior view of the Empty Vessel Project (Gomez, 2006).....	12
Figure 16 - Interior view of the SS GAY as posted on eBay (O'Hare, 2008).....	13
Figure 17 - Interior view of the SS GAY as posted on eBay (O'Hare, 2008).....	13
Figure 18 - The Scuttling of the S.S. Gay (Riley, 2009).	13
Figure 19 - Wreck of the SS GAY in 4 th Street Basin in 2010 (Kelly, 2010).....	14
Figure 20 - Harvest Dome and the wreck of the SS GAY (Santiago, 2015).	14

APPENDICES

APPENDIX A Resumes of Key Staff

1.0 INTRODUCTION

In 2010 the U.S. Environmental Protection Agency (EPA) designated the Gowanus Canal as a Superfund cleanup site. A subsequent side scan sonar survey of the Gowanus Canal (Cox, 2010) identified a number of obstructions in the canal, including "Target 31a", a sunken boat hull roughly 63 feet in length, situated near the middle of the length of the southwest dock wall in the 4th Street Basin. The wreck's location is depicted on sheet 5 of the 120 Scale Area of Potential Effect Known Resources and Investigations drawings for the Gowanus Canal Superfund Site provided by AHRS in January 2016 (Drawing 1). The wreck's transom is nearly in contact with the southwest dock wall, and the boat's longitudinal axis extends roughly perpendicular to the dock wall.

As progress is made towards implementing a cleanup of the Gowanus Canal, it is first necessary to identify any items of potential historic or cultural significance that will be impacted by the project. To that end, this study has been prepared to identify and assess the significance of Target 31a. This wreck had not been conclusively identified in previous EPA reports, so its significance has not yet been assessed.

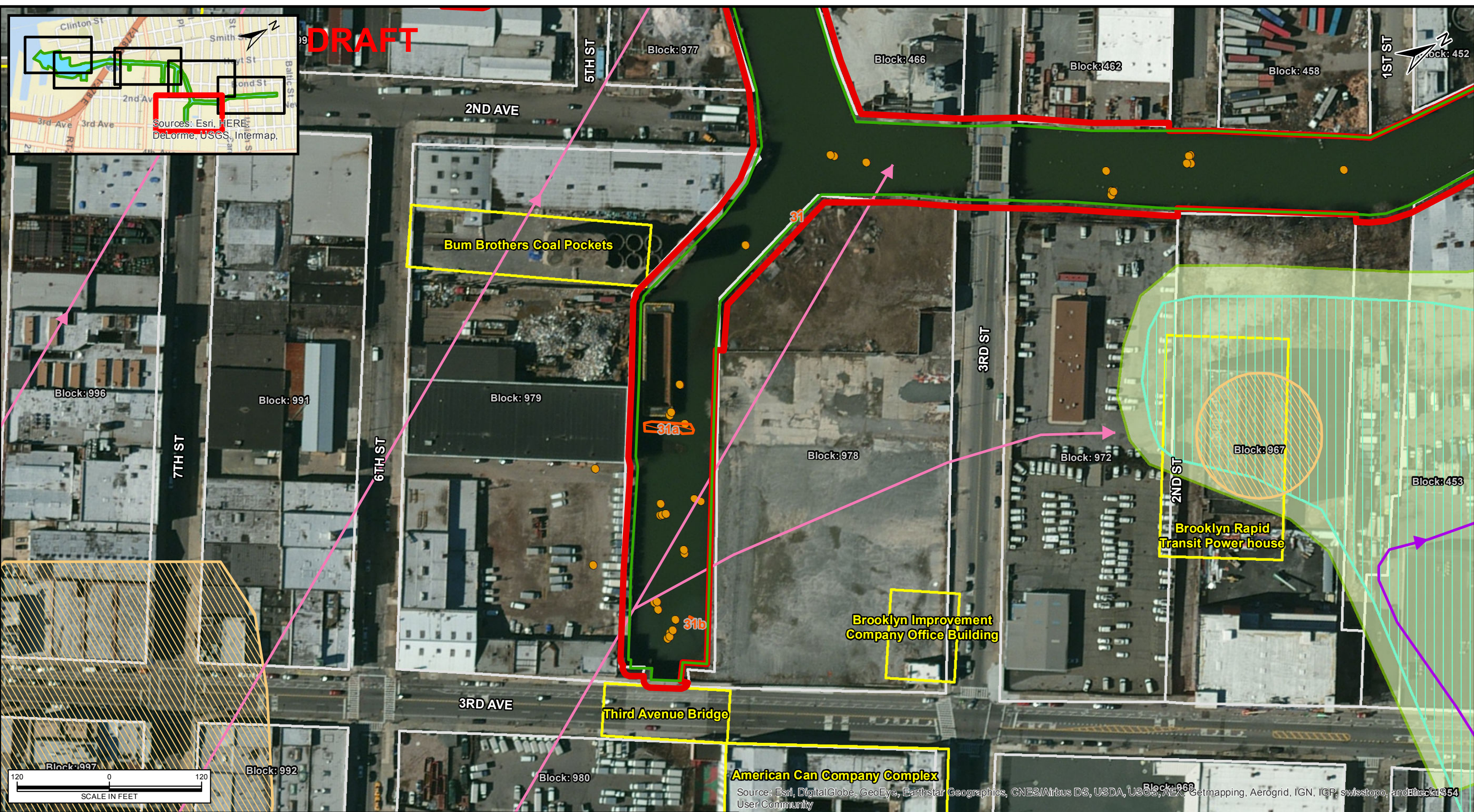
2.0 METHODOLOGY

Research on the subject wreck focused on recent photographs provided of the current wreck (Fig. 1 & 2). Professional expertise in naval architecture and maritime history then provided a context for further research. Information readily available online allowed for a conclusive identification of the wreck as well as a general operational history for the vessel.



Figure 1 - Recent photograph of the shipwreck Target 31a.

DRAFT



Sources: Esri, HERE, DeLorme, USGS, Intermap,

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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 ARCHAEOLOGY & HISTORIC RESOURCE SERVICES
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Project
GOWANUS CANAL SUPERFUND SITE
 BOROUGH OF BROOKLYN
 NEW YORK CITY NEW YORK

Title
AREA OF POTENTIAL EFFECT KNOWN RESOURCES AND INVESTIGATIONS

Project No.
 Date 12/27/15
 Scale 1" = 120'
 Drawn By DF

Figure
 Sheet 5 of 6

Legend

- Area of Potential Effect (APE)
- Bulkhead
- Tax Blocks
- Geosyntec Boring Locations
- Gowanus Historic District Areas
- Sonar Potential Resource
- Stirling's Avenue of Retreat
- Sullivan's Avenue of Retreat
- Potential Burial Grounds
- Colonial Farmsteads
- Historic Mill Complexes
- Prehistoric Sensitivity Areas



Figure 2 - Recent photograph of the transom of Target 31a.

The recent photographs of the wreck show the hull of a wooden motorboat with a form similar in general appearance to workboats, fishing boats, and military boats from a time beginning around World War II. The wreck's length of approximately 63 feet, as scaled from the side scan sonar (Cox) imagery taken in 2010 (Fig. 3), along with a characteristic elliptical transom and somewhat familiar manhole near the bow, suggests that the wreck might have been a "Miami" boat built by the Miami Shipbuilding Corporation during World War II. With this in mind, a search of online photographs of the Gowanus Canal in the last decade revealed the presence of a wooden houseboat matching this appearance that had been towed to the area in 2005. Comparison of photographs of that houseboat, the wreckage, and builders' plans for the 63-foot Miami "crash boats" provided sufficient information for further research, resulting in a fairly complete operational history of the subject vessel.

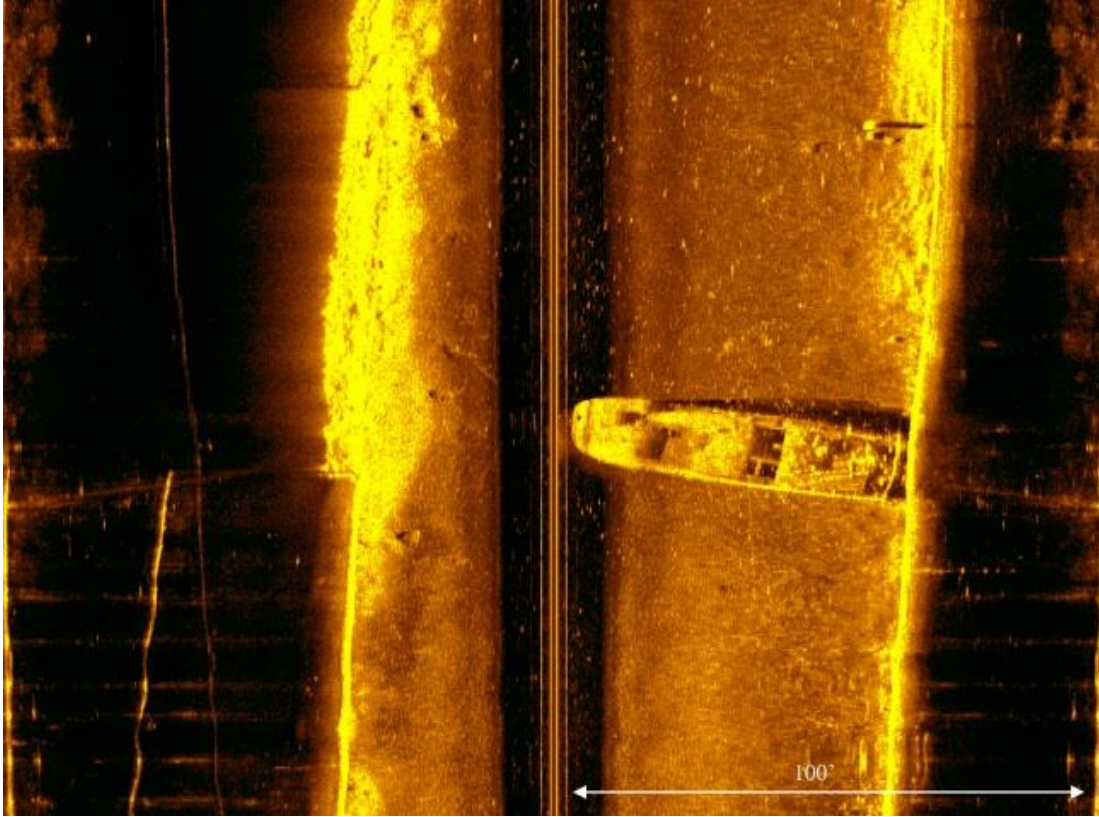


Figure 3 - Sidescan sonar image (Cox, 2010) of Target 31a.

3.0 RESULTS

Sufficient information is readily available online to allow for the identification of the 63-foot-long shipwreck located in the 4th Street Basin. No single online resource provides a complete history of the vessel, but a fairly complete operational history of the vessel can be compiled from a number of different online resources.

The 63-foot long wreck in the 4th Street Basin retains the characteristic deck outline of a Miami 63-foot Aircraft Rescue Boat. The Miami Shipbuilding Corporation, organized in 1939 as the successor to Fogal Boats, developed these “Miami” boats specifically for the task of rescuing downed pilots and air crew at sea. These “crash boats”, as they were commonly called, were also known by a number of acronyms, including ASR (Air-Sea Rescue) and AVR (Air Vehicle Rescue). More than 500 of these 63-foot wooden boats were reportedly produced during World War II for service with the United States, Great Britain, Holland, South Africa, Australia, and the Soviet Union (Colton, 2011). Furthermore, seven other boat yards were licensed to build Miami crash boats during the war (Buhler, 2008).

The Miami Shipbuilding Corporation’s 63-foot Aircraft Rescue Boats were designed for high-speed offshore running and were particularly effective in coastal and offshore operations. Their hydroplaning hulls were stepless, with a warped vee-shape bottom, a deep forefoot, and an elliptical transom (Buhler, 2008). These boats were generally similar to contemporary Patrol-Torpedo (PT) boats, but they were significantly lighter, in part due to their relatively modest armament. The 63-foot crash boats were one of five relatively standard types developed in the

U.S. Two larger types, the 104s and 85s (named to reflect their lengths), had greater range and were better suited to deep offshore work than the 63s. The shorter 45s and 25s were well suited for near-shore and inland waterways (Anonymous, 2009).

Miami Shipbuilding built six different models of their 63-foot crash boat design. Hull 127, the first 63-foot crash boat and namesake of the Model 127, was christened on January 14, 1941. All eight of the Model 127s were built for the Union of South Africa. Seven subsequent Model 152s were built for Great Britain under the Lend-Lease program (Fig. 4 & 5). The Model 168s were built for the U.S. Navy Bureau of Aeronautics, which ordered fifteen boats. The Model 252s constituted an additional eleven boats for South Africa. The Model 314s were ordered by the U.S. Navy, and it was this model that was subsequently licensed to seven other boat yards. The Model 293s were an order of thirty boats for the Soviet Union (Buhler, 2008). Of the 500 or more 63-foot crash boats believed to have been built, Miami Shipbuilding was responsible for building over 140 boats that saw service with the United States, 91 with Great Britain, 50 with the Soviet Union, 20 with South Africa, 20 with Australia, and an unknown quantity intended for Holland (Colton, 2011).

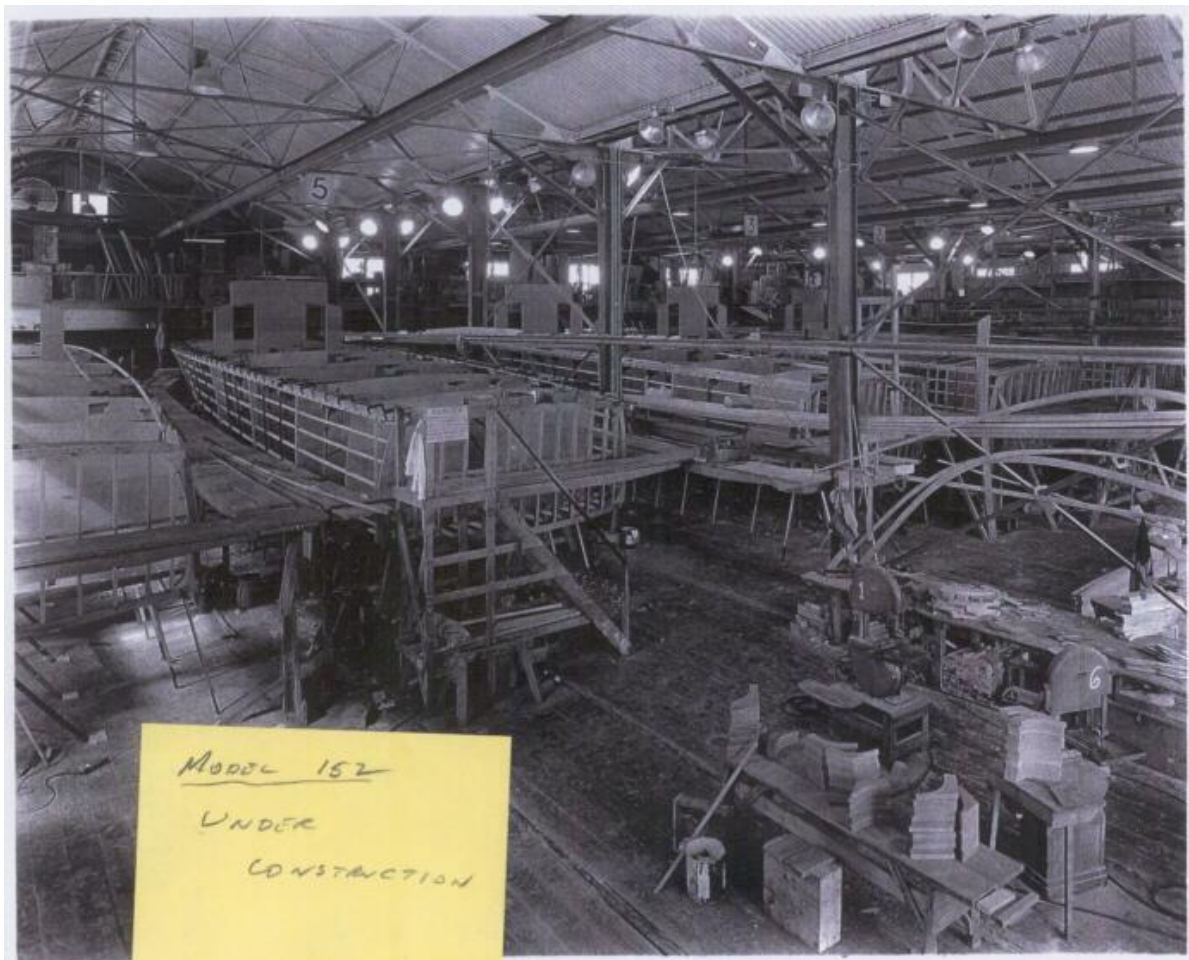


Figure 4 - Model 152 Aircraft Rescue Boats being built (Davis, 1997).

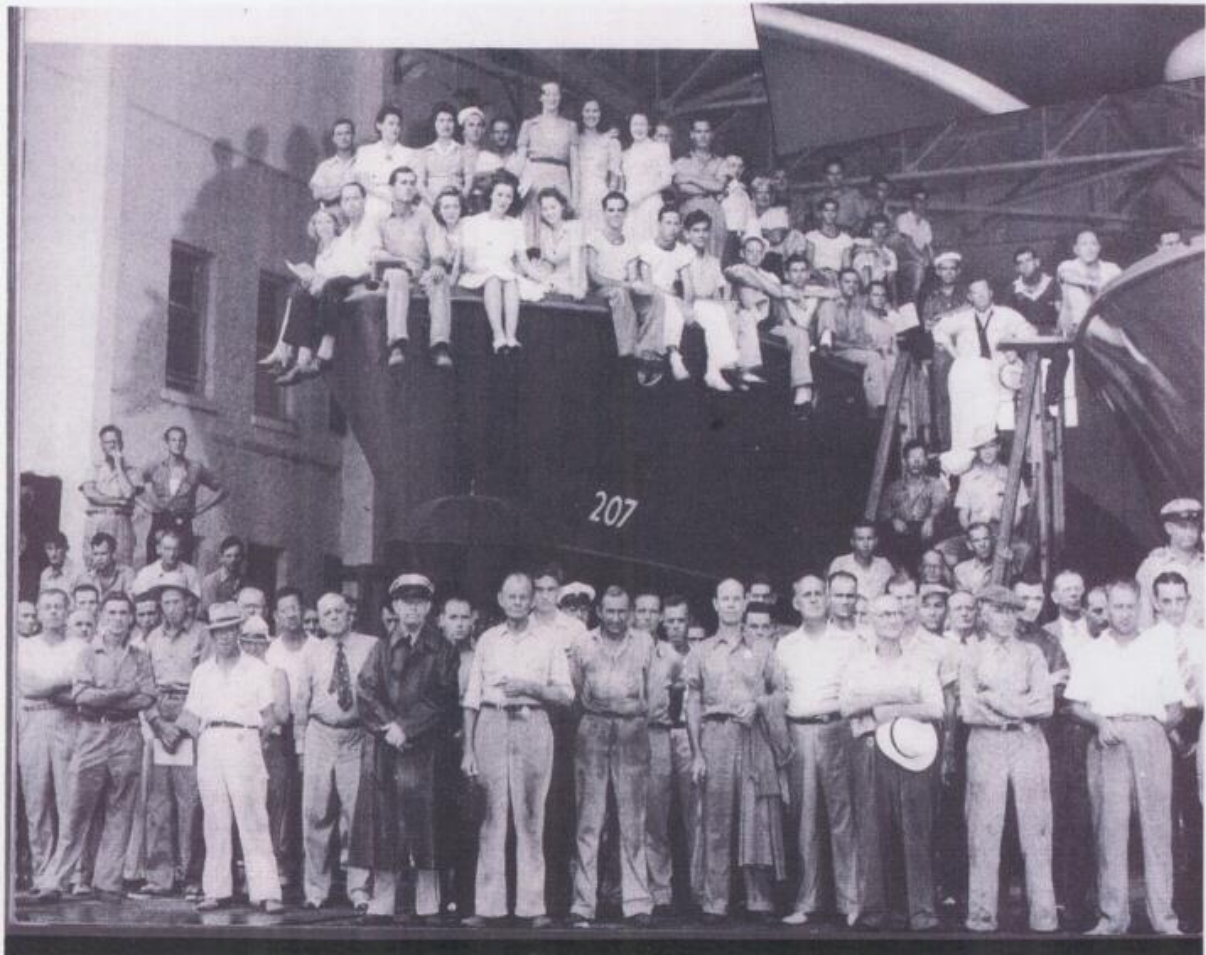


Figure 5 - Miami Shipbuilding Corporation photo with Aircraft Rescue Boats (Davis, 1997).

All models had the same general appearance, differing primarily in internal arrangements, engine manufacturers, displacement, and, subsequently, vessel performance. Principal characteristics for these twin-screw vessels included an overall length of 63'-0", maximum beam 15'-6", and depth amidships 8'-9" (Fig. 6, 7, 8, & 9). The stem, keel, chines, transom stiffeners, boundary framing, and outer hull planking were all made of Honduras mahogany. The inner planking of the double-planked hull was made of cedar, run 45 degrees diagonally, whereas the outer layer of mahogany ran horizontally. The two layers of hull planking were separated by cotton duck laid up in marine adhesive. Decking was made of fir plywood, covered in canvas, and painted. The deckhouse was constructed of fir plywood with mahogany trim (Buhler, 2008).

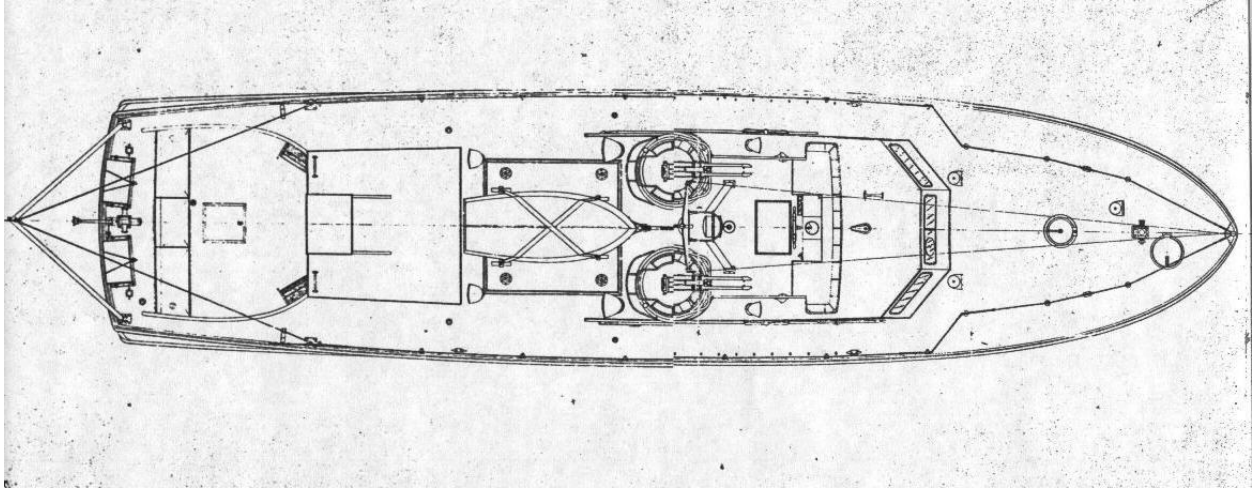


Figure 6 - Deck Plan View of a 63' Aircraft Rescue Boat (Davis, 1997).
(Note: elliptical transom and manhole near bow, starboard side)

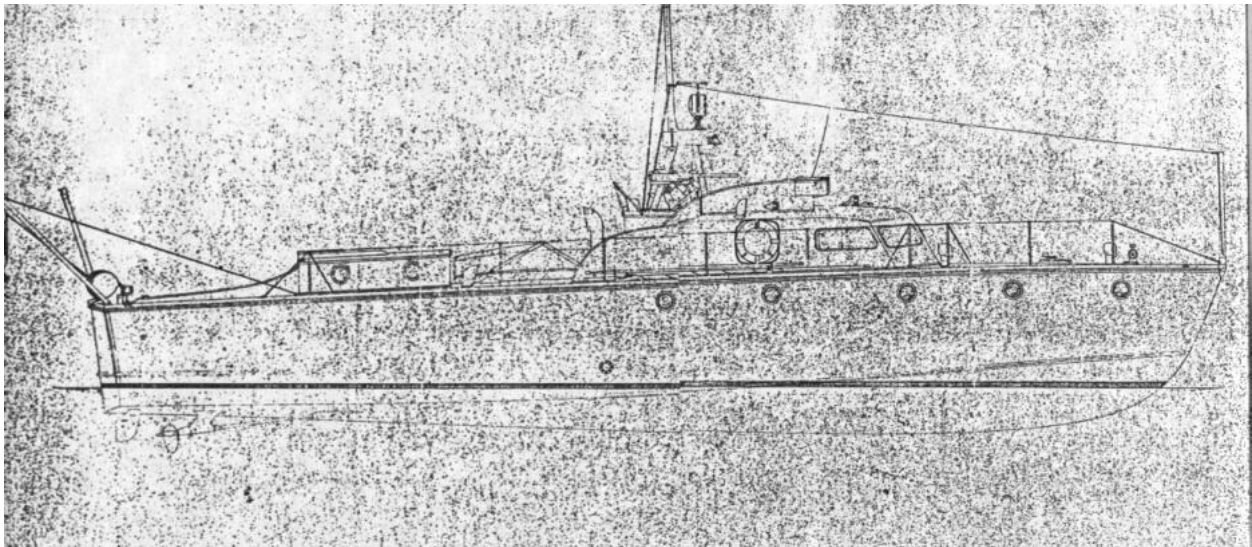


Figure 7 - Outboard Profile of a 63' Aircraft Rescue Boat (Davis, 1997).

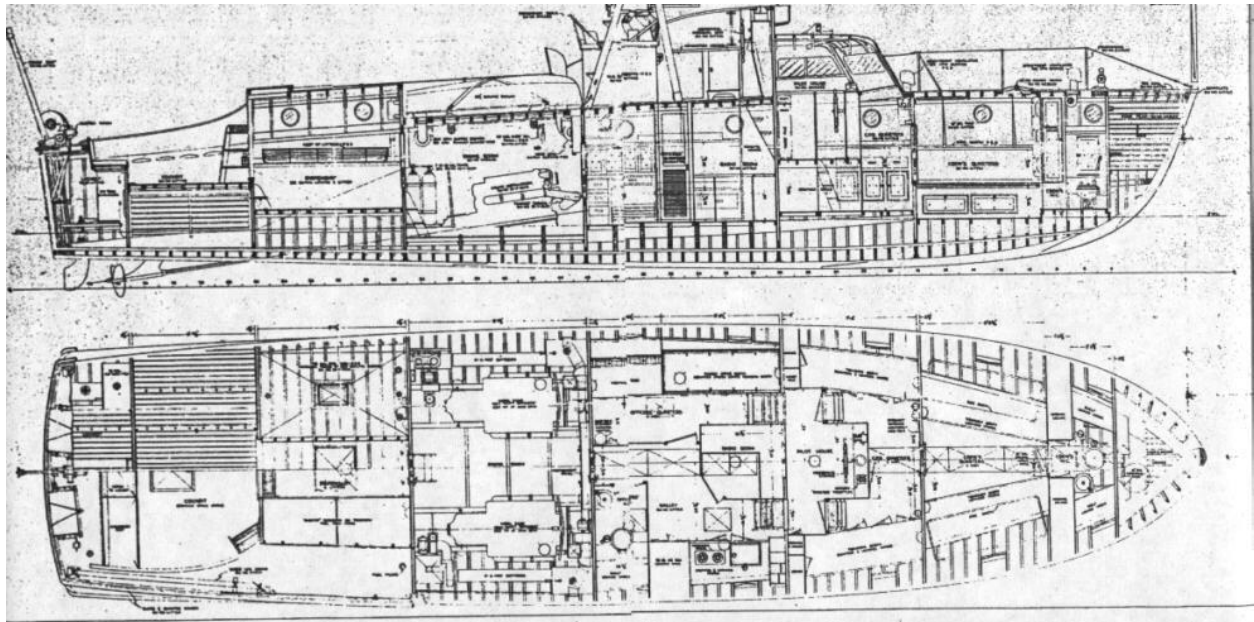


Figure 8 - Inboard Profile and Plan Views of a 63' Aircraft Rescue Boat (Davis, 1997).



Figure 9 - A 63' Aircraft Rescue Boat operating at high speed (Buhler, 2008).

Several online sources claim that the subject shipwreck in the 4th Street Basin was originally a crash boat built in 1943 by the Miami Shipbuilding Corporation. One source goes so far as to identify it as “Navy Rescue Ship No. 294257”, but research done to date has been unable to corroborate whether or not this was an actual Navy identification number (Bernstein, 2005). Many of the American crash boats served in both World War II and the Korean War; some were not decommissioned until the late 1960s or early 1970s (Anonymous, 2009). No military service record conclusively related to this boat has been identified, but a number of online sources claim that this boat remained in active service until sometime after the end of hostilities in the Korean War.

This boat was purchased by Point O’Woods Association and reconfigured for use as a ferry before being placed in service between Bay Shore, on the south shore of Long Island, and Fire Island (Fig. 10). In order to serve as a “Fire Island Ferry”, the superstructure was completely rebuilt, giving the vessel a significantly altered appearance. The *Point O’Woods V* operated in this capacity from 1963 or 1964 until 1985 when her wooden hull was judged to be no longer fit for such service. Notably, this ferry assisted in evacuating people from Fire Island in advance of Hurricane Belle in 1976 (O’Hare, 2008).



Figure 10 - Postcard of the Point O’Woods V (Cardcow.com).

In 1989 the *Point O’Woods V* was adapted for use as a houseboat and given the name *Kokkomokko*. The houseboat was moored on Westchester Creek in the Bronx. It is certainly possible, if not likely, that the engines were removed prior to becoming a houseboat in 1989. In 2003 the houseboat was crippled by an ice sheet and abandoned. Marina owner Francois Guillet claimed the vessel and, for lack of finding a buyer, intended to scrap her (Bernstein, 2005).

In 2005 the empty hull of the unpowered *Kokkomoko* had been sold for \$1 to a group of Brooklyn artists (Guskind, 2006). Those artists were Paula Zaslavsky, Tianna Kennedy, and Michael McCanne. Alex Scrimgeour, an Associate Editor at *Harper’s Magazine*, was added as a

fourth owner (Bernstein, 2005). Guillet towed the boat to the Gowanus canal on July 8, 2005, where the boat became the *Empty Vessel Project* (Fig.11, 12, 13, & 14).

As the *Empty Vessel Project*, the boat served as a floating nonprofit arts space and community center. In this role the boat acquired some cultural significance among the local arts community as well as some notoriety as one of the first houseboats to dock on a permanent basis in Gowanus Canal. The *EVP* came to an end in the winter of 2006 in the face of challenges associated with docking and maintaining an unpowered houseboat in an urban waterway. The boat was sold once again, for \$1, that winter.



Figure 11 - Bow view of the Empty Vessel Project (Kelly, 2010).



Figure 12 - Stern view of the Empty Vessel Project (Gomez, 2006).



Figure 13 - Bow of the Empty Vessel Project (Guskind, 2006).



Figure 14 - Bow detail of the Empty Vessel Project (Guskind, 2006).



Figure 15 - Interior view of the Empty Vessel Project (Gomez, 2006).

The last owners of the boat endeavored to make the boat a “queer and trans-friendly space” and to operate the vessel as an artist and community space (Grant, 2009). The boat, moored near the Carroll Street Bridge, was re-named the *Green Anchor Yacht*, but it was more commonly known as the *S.S. Gay* or *SS GAY* (Fig. 16 & 17). Maintenance issues and a severely deteriorated hull led to additional fundraising efforts, but by October 2008 the boat was listed for sale on eBay (O’Hare, 2008).



Figure 16 - Interior view of the SS GAY as posted on eBay (O’Hare, 2008).



Figure 17 - Interior view of the SS GAY as posted on eBay (O’Hare, 2008).

Apparently the boat did not sell. Online sources do not describe the details of the vessel’s demise. One source mentions that the boat may have been set on fire during a party (Albrecht, 2015), but no definitive account has been found in the course of this research. The boat’s connection to the artistic community is, however, evident in an intaglio print by Duke Riley that appears to commemorate the scuttling of the boat on July 25, 2009, with the Carroll Street Bridge shown in the background (Fig. 18).



Figure 18 - The Scuttling of the S.S. Gay (Riley, 2009).

Sometime after the sinking of the SS GAY the superstructure was removed. The wreck is now located in the 4th Street Basin of the Gowanus Canal (Fig. 19).



Figure 19 - Wreck of the SS GAY in 4th Street Basin in 2010 (Kelly, 2010).

At low tide the deck of the boat emerges from the water. In the summer of 2015, the Harvest Dome, a floating art installation, became caught up on the wreck of the SS GAY, thereby maintaining the boat's close association with the local artistic community (Fig. 20).



Figure 20 - Harvest Dome and the wreck of the SS GAY (Santiago, 2015).

Today the wreck of the SS GAY is still identifiable as the wrecked remains of the hull of a World War II era crash boat. The dimensions and materials of the hull, as well as details such as the elliptical transom and the manhole opening in the bow, match the documented plans related to the 63-foot Miami AVRs.

At the time of her sinking, there were no fewer than eight other 65-foot AVR crash boats built by the Miami Shipbuilding Corporation still in serviceable condition (Colton, 2011). The number of comparable extant 65-foot AVRs increases if boats built by other yards using the same plans are taken into account. The number of existing boats increases further if the longer (85' & 104') and shorter (45' & 25') versions of AVRs are considered.

4.0 CONCLUSION

The wreck of the *SS Gay* does not retain sufficient integrity to allow for a meaningful association with its origins as a 63-foot Miami crash boat. The original superstructure was removed around 1963, and the original engines and machinery were probably removed by 1989 (but certainly no later than 2005). The loss of integrity owing to these changes, combined with the deteriorated state of the submerged wreck, makes this boat ineligible for listing in the National Register of Historic Places as an example of a 63-foot Miami crash boat. Similarly, the boat no longer retains sufficient integrity to allow for a meaningful association with its use as a Fire Island Ferry. The current absence of its deckhouse, the defining characteristic unique to its conversion to a ferry, is sufficient to make the boat ineligible for listing in the National Register of Historic Places as a passenger ferry. The availability of comparable Miami-built crash boats, combined with the relatively well documented manner in which they were produced, suggests that the archaeological value of this wreck in the Gowanus Canal is negligible. The lack of archaeological value, combined with the boat's relatively recent period of time as a shipwreck, makes Target 31a ineligible for listing in the National Register of Historic Places as a shipwreck.

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APPENDIX A

Qualifications of Preparers

EDUCATION

M.A. in Historic Preservation, 2014
Goucher College

M.B.A., with Emphasis in Project Management, 2011
University of Wisconsin Oshkosh (AACSB-accredited)

M.S. in Ocean Technology and Commerce, 1999
Webb Institute of Naval Architecture

B.S. in Naval Architecture and Marine Engineering, 1998
Webb Institute of Naval Architecture

Licensed Professional Engineer (Wisconsin PE License # 41240)

EXPERIENCE

Fairchild & Flatt Consulting, Principal, 2013-present

Principal & owner of a historic preservation and engineering consulting company. Recent projects include the successful National Register of Historic Places nomination for the Mary & Harry Brown House, Marinette, Wisconsin. Contractor to the City of Green Bay, WI, as the city's Historic Preservation Specialist (April 2015 to present).

University of Wisconsin-Marinette, Instructor, 2008-present

Instructor of Math 081 "Topics in Geometry", "Introduction to Shipbuilding", and "Applications of Modern Shipbuilding Design", the last being a 60-hour course developed in conjunction with the US Navy's NSRP intended to provide practical skills and knowledge required for entry-level designers in shipyards or design offices, including basic instruction in the use of ShipConstructor software. The shipbuilding courses have been taught both via distance learning modalities and through face-to-face instruction, the most recent of which having been a three-day intensive course offered on-site in Washington, D.C., for NAVSEA students (in 2013).

Marinette Marine Corp., Naval Architect, 1999-2011

Lead Naval Architect on U.S. Coast Guard WLM & WLB buoy tenders, NYC Staten Island Ferry, U.S. Coast Guard Great Lakes Icebreaker (GLIB), U.S. Navy Improved Navy Lighterage System (INLS), U.S. Navy Littoral Combat Ship, research vessels for both National Oceanic and Atmospheric Administration and University of Alaska-Fairbanks, and assorted commercial tugboat programs. Responsible for stability analyses, module handling construction procedures, vessel launch, writing bid proposals, conducting tests during sea trials, and other naval architecture drawings & functions. Obtained U.S. Navy certification as "Facility Operations Supervisor for Marinette Marine Corporation, Ship Transfer and Side Launch System" in 2007. Trained in Earned Value Management and assigned as Cost Account Manager for accounts totaling in excess of \$2-million.

William Jason Flatt, P.E., MA
Professional Engineer / Cultural Resource Specialist

Internships:

Stolt Parcel Tankers - Winter 1998

Houston, Texas

Developed thermodynamic analysis of energy requirements for different classes of parcel tankers. Analyzed victual rates for each ship of the Stolt fleet.

American Bureau of Shipping - Winter 1997

Houston, Texas

Reviewed shipyard construction drawings for compliance with ABS rules with emphasis on the *Bob Hope* T-AKR class vessels.

Matson Navigation Company - Winter 1996

Cadet, *S.S. Ewa*, off the Pacific Coast

Served as cadet aboard a Matson container ship servicing Los Angeles, Seattle, and Vancouver. Maintained logs of container locations. Performed basic welding and maintenance tasks.

Westport Shipyard - Winter 1995

Westport, Washington

Worked as laborer fabricating large fiberglass yachts. Learned fiberglass lamination skills as member of hull group.

COMPUTER SKILLS

Proficient with MS-Word, Excel, PowerPoint, AutoCAD, and GHS.

Familiar with NavCad, SHCP, HECSALV, and ShipConstructor.

LANGUAGES

Conversational Portuguese and Spanish

PROFESSIONAL MEMBERSHIPS

SNAME (Society of Naval Architects and Marine Engineers)

COMMUNITY INVOLVEMENT

Aldersperson, City of Marinette, Ward 8, 2015-present

Wisconsin Association of Historic Preservation Commissions, Board Member, 2015-present

Marinette Lions Club, Member, 2000-present (President 2004-2005 & 2009-2010)

Marinette County Historical Society, Board Member, 2004-present

City of Marinette Historical Preservation Committee, Member, 2003-present

Marinette County Historical Society Museum, Volunteer, 2001-2005

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Field Crew Management
Phase I, II and III Excavation
Human Remains/Burial Excavation
Site Preparation and Survey
Historic Research
Photographer
Laboratory Analysis
Field Illustration
Report Writing and Editing
Historic American Building Surveys

EDUCATION

Hunter College: M.A. Anthropology
William Paterson University: B.A. Anthropology
Archaeological Field School: Lenape Meadows, Somerset
County Parks Commission, New Jersey

YEARS EXPERIENCE: 13

SUMMARY QUALIFICATIONS

Mr. Audin is a Registered Professional Archaeologist (RPA) who meets the Secretary of the Interiors Professional standards as an archaeologist and has been reviewed by several State Historic Preservation Offices as a Principal Investigator. Mr. Audin has over 12 years of professional experience in cultural resource management. Skills include extensive problem solving, management, analytical, evaluating, and creative resolutions. Management experience includes extensive customer relations, employee development, training, scheduling and mentoring staffs up to 115 members in size.

Work experience includes coordination and implementation of environmental and cultural resource assessments include NEPA Documentation, Environmental Assessments, Environmental Impact Statements, Section 106 Assessments, Phase I, II and III Historic and Archaeological Assessments and Historic American Building Survey (HABS) photography and documentation. Created and implemented Archaeological Monitoring Plans, Scopes of Work, Research and Field Testing Plans, Programmatic Agreements, Memorandums of Agreement (MOA) and Memorandums of Understanding (MOU).

RELEVANT EXPERIENCE

Pavilion at Locust Manor, Phase I Archaeological Survey, Jamaica, Queens, NY

Principal Investigator for prehistoric/historic site investigation for city housing development. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of report, edited and produced report for submission.

Interstate Blvd. Development Project, Phase I Archaeological Survey, South Brunswick, NJ

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit for warehouse development. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.

Princeton Pike Roadway Project, Phase I & II Archaeological Survey, Lawrence, NJ

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Prasville Mill Restroom Project, Archaeological Monitoring, New Jersey

Principal Investigator for historic site investigation for NJ State Park improvements. Conducted research, assessed prehistoric/historic archaeological potential, conducted field monitoring, artifact analysis, writing and preparation of report, edited and produced report for submission.

St. Marks AME Church Cemetery Project, Queens, New York

Principal Investigator for former African American cemetery on residential development site. Designed archaeological monitoring plan and scope of work, conducted archaeological monitoring and human remains excavation for mid-19th- to mid-20th-century cemetery in Queens.

Gloucester Premium Outlets, Phase I Cultural Resource Survey, Gloucester Township, NJ

Principal Investigator for prehistoric/historic site investigation for NJDEP Freshwater Wetlands Permit for 65 acre property (36 acres shovel tested). Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, directed artifact analysis, writing and preparation of report, edited and produced report for submission.

Old St. Patrick's Cathedral Mausoleum Project, Archaeological Monitoring, New York

Principal Investigator for and archeological monitor for human remains during excavation for new mausoleum in southern part of a historic cemetery in New York City. Designed Monitoring plan, conducted monitoring for human remains during backhoe excavation, supervision of two archaeological assistants, determined method of avoidance or removal of human remains encountered and eventual reburial of disinterred remains, report writing and preparation

Washington Crossing Historic Park, Phase IB, Washington Crossing, Pennsylvania

Principal Investigator for prehistoric/historic site investigation for PHMC historic site drainage improvements. Conducted research, subsurface field testing, artifact analysis, writing and preparation of report, edited and produced report for submission.

Hallets Court Senior Housing Project, Phase I Archaeological Investigation, Queens, NY

Principal Investigator for prehistoric/historic site investigation for city housing development. Conducted research, subsurface field testing, writing and preparation of report, edited and produced report for submission.

Johnson Veterans Hospital Parking Garage Project, Phase IB Cultural Resource Investigation, Clarksburg, West Virginia

Principal Investigator for prehistoric/historic site investigation for Section 106 Compliance and NEPA checklist. Conducted field testing of APE for prehistoric/historic archaeological sites, writing and preparation of report, edited and produced report for submission

Gowanus Canal Historic Bulkhead Documentation, Brooklyn, NY

Principal Investigator for documentation of a historic bulkhead at two sites on the Gowanus Canal. Conducted field testing, photographic documentation, measured drawing, writing and preparation of report for submission.

Amtrak, High Speed Rail Improvements Project, Trenton to New Brunswick, NJ

Principal Investigator produced an archaeological sensitivity assessment and monitoring for Section 106 review of rail improvements for 23 mile section of the Northeast Corridor. Conducted research, site visits, writing and preparation of report.

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Verizon Wireless Cell Tower Upgrades, Various Sites in NJ

Researcher/site reviewer for Section 106 reviews to upgrade cell tower antennas. Conducted research, site reconnaissance, writing and preparation of report.

Gowanus Canal Bulkhead Stabilization Project, Brooklyn, NY

Principal Investigator for preliminary bulkhead documentation on the Gowanus Canal. Conducted research and monitored for archaeological materials and bulkhead features during a geotechnical investigation in order to design a thorough documentation plan and investigation.

NJ Transit, Phase IA Investigation, Train Station Upgrades, Elizabeth, NJ

Principal Investigator for Phase IA Investigation. Evaluation of handicap and other facility upgrades for NJ TRANSIT train station. Conducted research, site reconnaissance, writing and preparation of report, edited and produced letter report for submission NJ SHPO.

NJ Transit, Phase IA Investigation, Train Station Upgrades, Perth Amboy, NJ

Principal Investigator for Phase IA Investigation. Evaluation of handicap and other facility upgrades for NJ TRANSIT train station. Conducted research, site reconnaissance, writing and preparation of report, edited and produced letter report for submission NJ SHPO.

St. Marks AME Church Cemetery Project, Queens, New York

Field director for unanticipated discovery of human remains during construction activities in former African American cemetery. Conducted archaeological monitoring and human remains excavation for mid-19th- to mid-20th-century cemetery in Queens..

Old St. Patrick's Cathedral Stabilization Project, Archaeological Monitoring, New York

Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the north part of a historic cemetery in New York City. Conducted research, monitoring for human remains during backhoe excavation for new concrete supports, supervision of two archaeological assistants, determined method of avoidance or removal of human remains encountered and eventual reburial of disinterred remains, report writing and preparation.

Johnson Veterans Hospital Parking Garage Project, Phase IA Cultural Resource Investigation, Clarksburg, West Virginia

Principal Investigator for prehistoric/historic site investigation for Section 106 Compliance and NEPA checklist. Conducted research, assessed prehistoric/historic archaeological potential, conducted site visit, writing and preparation of report, edited and produced report for submission.

Standard Chlorine Chemical Company, Archaeological Monitoring, Kearny, New Jersey

Principal Investigator for archaeological monitoring during construction of a 7,000 foot slurry wall as part of the Interim Action Work Plan for NJDEP and USEPA Superfund site. Conducted monitoring during backhoe trenching and screened samples for prehistoric lithic materials, writing and preparation of report, edited and produced report for submission.

Renaissance Plaza Project, Phase I, Egg Harbor City, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJ Pinelands Commission. Conducted research, conducted subsurface field testing for historic features, writing and preparation of report, edited and produced report for submission.

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Alpha Water Works Upgrades Project, Phase II, Alpha, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, excavation of shovel test pits and units, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

State University of New York, Ulster Campus, Phase I, Marbletown, New York

Principal Investigator for prehistoric/historic site investigation for NYS SEQR reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, field testing, writing and preparation of report, edited and produced report for submission.

NJ Transit, Unanticipated Discovery Investigation, Market Street Garage, Paterson, NJ

Principal Investigator for unanticipated historic structure uncovered during excavation for a drainage pipe. Field work consisted of the excavation and documentation of a historic industrial feature partially exposed during excavation work. Recommended preservation in place with appropriate fill materials and submitted a technical memo to NJDEP SHPO.

EZ Automotive Services, Phase IA & IB, Robbinsville, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP. Conducted research, assessed prehistoric/historic archaeological potential, conducted field testing, writing and preparation of reports, edited and produced report for submission.

Old St. Patrick's Cathedral Stabilization Project, Archaeological Monitoring, New York

Principal Investigator for and archeological monitor for Landmarks Preservation Commission permit for brick wall stabilization around the south part of a historic cemetery in New York City. Conducted limited research, monitoring for human remains during backhoe excavation for new concrete supports, supervision of one archaeological assistant, determined method of avoidance or removal of human remains encountered and eventual reburial, report writing and preparation.

Former Koppers Superfund Site, Additional Phase IB, Newport, Delaware

Co-Author of Memorandum of Agreement between all interested parties for the property.

Pennsauken Country Club Water Reuse Project, Phase I, Pennsauken, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing, preparation, editing and producing report for submission.

NYS Route 440 Pole Relocation Project, Phase IA, Staten Island, New York

Principal Investigator for prehistoric/historic site investigation for Department of Transportation NEPA documentation and Section 106 reviewed project. Conducted research, assessed prehistoric/historic archaeological potential, writing and preparation of report, edited and produced report for submission.

World Trade Center, Phase III, Potential Human Remains Recovery, Staten Island, New York

Field crew for recovery of potential human remains for the New York City Office of the Chief Medical Examiner. Conducted materials screening for human remains and artifacts relating to the 2001 attacks on the World Trade Center.

SCCC, Phase IB Cultural Resource Investigation, Kearny, New Jersey

Principal Investigator for historic investigations for NJDEP and USEPA Superfund site. Conducted additional research to prove the Jersey City Water Works was located outside of the project area and conducted

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

backhoe trenching for historic drainage features related to the Hackensack Meadowlands, writing and preparation of report, edited and produced report for submission.

Lanning Square Elementary School, Level III HABS, Camden, New Jersey

Complier/Photographer for EO215 compliance for NJ Schools Development Authority. Conducted level III Historic American Building Survey (HABS) including photographic documentation of the Broadway Episcopal Methodist Church Parsonage to mitigate the proposed demolition of this building. The HABS was requested by the NJ HPO to satisfy the EO215 review.

Access to Regional Core (ARC), 3-D Laser Scanning, New York, New York

Field crew for documentation of historic and non-historic buildings for Section 106. Conducted 3-D laser scanning of all buildings in the project area. Collected field data of varying resolutions for buildings in project area, historic buildings were recorded at higher resolution.

Jersey City Walkway and DMAVA Park, Phase IA, Jersey City, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP and Section 106. Conducted research, assessed prehistoric/historic archaeological potential, monitored geotechnical sub surface investigation for archaeological remains, writing and preparation of report, edited and produced report for submission.

Route 33 Interchange Improvements, Phase I, Palmer Township, Pennsylvania

Principal Investigator for prehistoric/historic site investigation for Pennsylvania Department of Transportation and Section 106 reviewed project. Conducted research, site excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, and editing report for submission.

USDA, Health-Based Plant Genomics Facility, Phase IB, Cornell University, Ithaca, New York

Co-Principal Investigator for prehistoric/historic site investigation as part of a Section 106 Assessment for the addition to the Plant Genomics Laboratory Building site. Conducted research, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

SCCC, Phase IA Cultural Resource Investigation, Kearny, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP and USEPA Superfund site. Conducted research, assessed prehistoric/historic archaeological potential, writing and preparation of report, edited and produced report for submission.

GAC Adsorption Plant, Phase I, Pennsauken, New Jersey

Principal Investigator for prehistoric/historic site investigation for NJDEP Environmental Infrastructure Trust funding program. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

Penn Regional Business Center III, Phase I, Smithfield, Pennsylvania

Principal Investigator for prehistoric/historic site investigation for Pennsylvania Funding Grant Application. Conducted research, preparation of site, excavation of shovel test pits, laboratory analysis of artifacts, writing and preparation of report, edited and produced report for submission.

Montauk Theater, Level III HABS and Architectural Salvage Plan, Passaic, New Jersey

Principal Investigator for EO215 compliance for NJ Schools Development Authority. Conducted level III Historic American Building Survey (HABS) including photographic documentation and an architectural

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Salvage Plan of the Montauk Theater to mitigate the proposed demolition of this building. The HABS and Salvage Plan were requested by the NJ HPO to satisfy the EO215 review.

Former Koppers Superfund Site, Additional Phase IB, Newport, Delaware

Crew chief and OSHA Site Safety Officer for prehistoric/historic site investigation for EPA compliance for superfund site during three month phase IB auger testing conducted by 13 archaeologists. Teamed with John Milner and Associates. Work included over 1,700 phase IB augers in a tidal marsh. Additional work included field tech training, and safety oversight.

Dredge Stockpile Site, Phase I, Harmony, New Jersey

Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for Section 106 review of stockpile site for dredge materials from FEMA. Field duties include preparation of site, excavation of 32 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Lowes, Phase I, Mansfield, Pennsylvania

Field director, research coordinator, lab director and photographer for prehistoric site investigation for review for big box retail store. Field duties include site preparation, excavation 60 shovel test pits of site and survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Former Jacobs Aircraft Engine Factory, HABS, Lower Pottsgrove, Pennsylvania

Principal Investigator/photographer for NPDES permit compliance. Conducted low level Historic American Building Survey (HABS) including photographic documenting of the former Jacobs Aircraft Engine Factory and Administrative Building to mitigate the proposed demolition of these buildings. The photographic documentation was requested by PHMC to satisfy the NPDES permit review.

Queensboro Plaza, Phase I, Long Island City, New York

Field director, research coordinator, lab director and photographer for historic site investigation for cultural resources section 106 for a NEPA assessment and LPC review for bike path in the Queensboro Plaza. Includes an archaeological assessment, field testing and architectural evaluation of the current property. Field work included site preparation, the excavation of a two meter by two meter test pit and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report and prepared, edited and produced report for submission.

Lowes, Phase IB, Montgomery, New York

Field director, research coordinator, lab director and photographer for prehistoric/historic site investigation for SEQRA review for retail store. Field work included the preparation of site, excavation of 60 shovel test pits and site survey. Post field work included laboratory analysis of artifacts, writing of sections of report, prepared, edited and produced report for submission.

Green Brook Trail, Application for Project Authorization/Preliminary Assessment, Plainfield, Green Brook, and North Plainfield, New Jersey

Principal Investigator for New Jersey Historic Preservation Act and Freshwater Wetland Permit compliance. Completed and submitted an Application for Project Authorization for Green Brook Park and Washington Park Historic District for a multi-use recreational trail. Additionally, completed a preliminary archaeological assessment for the proposed seven-mile trail, including research, analysis, and report writing.

Public School #3, Archaeological Monitoring, West New York, New Jersey

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Archaeological Monitor/researcher for NJ Executive Order 215 Compliance for 1 day of archaeological monitoring for human remains and research on school site that found headstone during excavation. Post field activities included report writing for submission to state.

Former Koppers Superfund Site, Phase IB and II, Newport, Delaware

Crew chief and OSHA Site Safety Officer for EPA compliance for superfund site during six month phase IB and II field excavations conducted by 20 archaeologists, teamed with John Milner and Associates. Work included setting of testing grid and field testing of over 3000 phase IB auguring and STP units and over 180 phase II units. Additional work included lab work, field tech training, and safety oversight.

Bronx River Park, Phase IA, Bronx, New York

Research coordinator, researcher and report production for New York City Landmarks Preservation Commission Compliance. Assessed park land for prehistoric and historic archaeological potential.

USDA, Health-Based Plant Genomics Facility, Cornell University, Ithaca, NY.

Research coordinator, researcher and report production for archaeological resources Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site.

Weeksville Village, Phase IB testing, Brooklyn, New York

Archaeological Monitor for SEQRA review for village cultural center. Performed 1 day of field duties, with Joan Geismar. Work included monitoring of back hoe trenching for foundations and artifact deposits associated with the Huntely Houses.

Edgewater Colony, Phase II, Edgewater, New Jersey

Field director and lab director for or EIT storm water improvements loan consisting of the preparation of a Phase II prehistoric/historic site investigation. Included the direction of two field technicians excavating a total of 8 standard test units, photographer and the coordination of lab work. Other post-field responsibilities include writing sections, preparation and production of the final report for submittal to New Jersey DEP Municipal Finance and Technical Services.

Portion of the Northeast Business Park, Phase IA, Washington Township, New Jersey

Research coordinator, researcher, and report production for New Jersey Wetlands Permit. Assessed site for prehistoric and historic archaeological sensitivity.

Creighton Farm Bridge Crossing, Phase I, Willistown, Pennsylvania

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Camp Laughing Water, Phase I, New Hanover and Upper Fredrick, Pennsylvania

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Camp Hidden Falls, Phase I, Delaware and Lehman Townships, Pennsylvania

Field director, research coordinator, lab director, photographer and report preparation for Army Corps of Engineers Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Select Sires, Phase I, Eaton, Pennsylvania

Field director, research coordinator, lab director, photographer and report preparation for Pennsylvania section 105 Permit. Post field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Tournament World, Phase IB, Montgomery, New York

Field director, research coordinator, lab director, and photographer for SEQRA review. Field assessment for prehistoric and historic archaeological sites. Post-field work included laboratory analysis of artifacts, assisting with the writing, prepared, edited and produced report.

Former Old First Presbyterian Church Cemetery, Phase III Data Recovery, Newark, New Jersey

Project Manager/Field Director

Responsibilities included:

- Over sight of all field activities for 2.2 acre cemetery excavation
- Preparation and implementation of a comprehensive field plan for the locating human remains and associated artifacts
- Hiring and managing a field staff of 35
- Directing and coordinating sub contractor with field staff of 30
- Directing and coordinating 4 backhoes on site to move overburden and back fill site
- Over sight of cataloging all burials and artifacts
- Laboratory analysis of artifacts
- Writing, coordinating and editing of final report

Circulations Improvement Project, Phase IA and IB, Newark, New Jersey

Field director, research coordinator, photographer and lab director for NJ Executive Order 215 Compliance. Phase I background investigation and Phase IB field testing. Work included coordinating conducting research, conducting photographic pedestrian survey site, and conducting field testing. Post field work included laboratory analysis of artifacts and preparation of the final reports. Report preparation included writing sections of the report, preparation and production of final report for submittal.

Edgewater Colony, Phase IB, Edgewater, New Jersey

Field director, research coordinator, and photographer for Environmental Infrastructure Trust Financing Program (EIT). Preparation of a Phase IB prehistoric/historic site investigation. Included the direction of three field technicians digging a total of 139 standard test pits, project coordination with the principal investigator, photographer and the coordination of lab work. Other post-field responsibilities include assisting with the writing, preparation and production of the final report.

Former Central Railroad Terminal, Archaeological Monitoring, Newark, New Jersey

Crew Chief/Project Coordinator Application for project authorization compliance of 6 week archaeological monitoring during demolition of former railroad terminal for SHPO resolution on application for project authorization. Monitor for human remains associated with the Old First Presbyterian Church cemetery, identifying, excavating, cataloging and turn over to mortician for reburial. Post field work included lab analysis of artifacts.

Regional Biocontainment Laboratory – Newark Center, University of Medicine and Dentistry of New Jersey, Newark, New Jersey – Researcher and report writer for cultural resources section of Environmental Assessment in accordance with the requirements of NEPA for the construction of a new Regional Biocontainment Laboratory under a grant from the National Institutes of Health.

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

USDA, Health-Based Plant Genomics Facility, Phase IA, Cornell University, Ithaca, New York

Researcher and site inspector for cultural resources section of a Section 106 Assessment as part of a NEPA Screening on the Plant Genomics Laboratory Building site. Includes an archaeological assessment and architectural evaluation of the current facility and property.

Newark Downtown Core Redevelopment and Circulations Improvement Plan, Newark, New Jersey

Responsibilities included:

- Preparing a multi-phased strategy for investigating, testing and mitigating the project area
- Conducting preliminary research regarding various aspects of the project area, including possible intact remains within the former First Presbyterian Church cemetery
- Supervising research
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Contributing to the Application for Project Authorization regarding the proposed demolition of five historic structures located within the Four Corners Historic District

NJSCC School Development Program, New Jersey

Crew Chief, researcher, photographer and report writing and production for NJ Executive Order 215 Compliance and NJSCC Guidelines. Participated in the development and redevelopment of 20 new and existing school sites located throughout New Jersey. Responsibilities included:

- Conducting and overseeing background research at the New Jersey Historic Preservation Office, the New Jersey State Museum and local archives
- Conducting field photo reconnaissance and preliminary visual assessment of all properties potentially eligible for listing on the State and National Register of Historic Places that may be impacted by the proposed project
- Preparation and assistance in writing of the Cultural and Historical Resource Assessment section of Environmental Assessment and Environmental Impact Statement Reports and Phase IA background investigations
- Overseeing report production and preparing maps and figures
- Producing for internal departments/clients memos, letters and other documentation outlining potential issues and possible recommendations.

Pen Del Development, Phase IB and II, Pemberton, New Jersey

Field/Laboratory Technician of a Phase I & II prehistoric site investigation/excavation. Field responsibilities also included photographer and mapping excavation locations using GPS equipment. Laboratory Technician responsibilities included; cleaning, cataloging and photographing all artifacts. Other post-field responsibilities included assisting with the preparation and production of the final cultural resource report for submittal to New Jersey HPO.

Field School, Lenape Meadows, Phase II, Basking Ridge, New Jersey

Field and Laboratory Technician for phase II prehistoric excavation. Field work included daily preparation of site, field excavations, documentation of artifact finds, field crew management and the closing up the site for the winter. Laboratory work included cleaning, identifying, cataloging and photographic documentation of all artifacts.

Lithics Identification Project, William Paterson University, New Jersey

MICHAEL AUDIN, RPA

Archaeologist / Cultural Resource Specialist

Volunteer. Conducted laboratory analysis, identification and cataloging, of over 5,000 stone fragments from the Wallkill River basin in Northern New Jersey, submitted to Dr. Janet Pollak. Research included identifying and cataloging human produced stone flakes and tools vs. naturally altered stone.

SELECTED PUBLICATIONS

Phase IA Cultural Resource Survey, Standard Chlorine Chemical Company Site, Interim Response Action Workplan, Town of Kearny, Hudson County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.

Phase I Cultural Resource Investigation GAC Adsorption Plant, Pennsauken, Camden County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. MS on file at NJSHPO, Trenton, NJ.

Historic American Building Survey for the Montauk Theater, Passaic, Passaic County, New Jersey. Michael Audin, RPA, Principal Investigator, 2009. Submitted to the NJ HPO, Trenton, NJ.

Phase I Archaeological Investigation Montgomery Towne Square, Montgomery, Orange County, New York. Ludomir Lozny Principal Investigator, Michael Audin, and Sarah Hlubik, 2007. MS on file at OPRHP, Pebbles Island, NY.

Phase II Archaeological Investigation of the Edgewater Colony, Edgewater, Bergen County, New Jersey. Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file at NJSHPO, Trenton, NJ.

Phase IA Archaeological Investigation Bronx River Park, Bronx, Bronx County, New York. Ludomir Lozny PI, Michael Audin, and Sarah Hlubik, 2007. MS on file NYC LPC, New York, NY.

Phase I Archaeological Survey Camp Hidden Falls, Lehman Township, Pike County, Pennsylvania. Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

Phase I Archaeological Investigation Eaton, Wyoming County, Pennsylvania. Ludomir Lozny PI, Michael Audin, and Erol Kavountzis, 2006. Ms on file at PHMC, Harrisburg, Pa.

Phase III Cemetery Excavation, Old First Presbyterian Church, Newark Downtown Core Redevelopment, Newark, Essex County, New Jersey. Michael Audin, Erol Kavountzis, and Sarah Hlubik, 2005. Manuscript on file at NJSHPO, Trenton NJ.

AWARDS

NJ Historic Preservation Award, Innovative Techniques in Archaeology, May 2013

PRESENTATIONS

2011 "New Jersey's Iron Coffins" presented at the Archaeological Society of New Jersey Meeting.

2009 "The Montauk Theater: Last of the Seven Passaic Theaters" presented to a William Paterson University, Class on Material Culture.

2007 "Excavations at the Old First Presbyterian Cemetery in Newark, NJ" presented to William Paterson University's Anthropology Club.

SUMMARY OF PROFESSIONAL ACTIVITIES

MICHAEL AUDIN, RPA
Archaeologist / Cultural Resource Specialist

Mr. Audin has conducted field work in New Jersey, New York, Pennsylvania, Connecticut, Delaware and West Virginia. He is the author or co-author of over one hundred ten (110) cultural resource reports in New Jersey, New York, Pennsylvania and West Virginia. Also contributed to over 4 Environmental Impact Statements and 30 Environmental Assessments.

PROFESSIONAL DEVELOPMENT

Historic Preservation Research Course, Drew University, February 2005

OSHA 40 Hour Certified HAZWOPER Training (December, 2005) and refreshers

OSHA Site Supervisor Certified (June, 2007) and refreshers

OSHA 10-Hour Construction Certified for New York City, 2012

NJSHPO Cultural Resources Best Practices Workshop, October 2006

Preservation Planning in the Highlands, Drew University, March 2007

Section 106 Essentials Class with ACHP, July 2007

Pennsylvania Department of Transportation, Cultural Resource Handbook Class, April 2010

Federal Communications Training, Washington D.C. June 2011

Cultural Resource Essentials Series, Pennsylvania Historical & Museum Commission, July 2013

PROFESSIONAL AFFILIATIONS

Archaeological Society of New Jersey

Council for Northeast Historical Archaeology

Eastern States Archaeological Federation

Lambda Alpha National Collegiate Honors Society for Anthropology

Middle Atlantic Archaeological Conference

National Trust for Historic Preservation

New York State Archaeological Association (Lifetime Member)

Register of Professional Archaeologists

Society of American Archaeology

Society for Historical Archaeology

Society for Industrial Archaeology

The Society for Pennsylvania Archaeology