

BADIN-ROQUE HOUSE PRESERVATION STUDY

Prepared for the National Center for Preservation Technology & Training, the Cane River
Creole National Historic Park, and the St. Augustine Historical Society

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ACKNOWLEDGMENTS

This study on the preservation of the Badin-Roque House was commissioned by the National Center for Preservation Technology and Training in partnership with the Cane River Creole National Historical Park and the St. Augustine Historical Society. Funds for the project were provided by the Lower Mississippi Delta Initiative.

SCOPE AND LIMITATIONS

SCOPE OF THE PRESERVATION STUDY

This study was focused on providing the St. Augustine Historical Society with conceptual planning options for rehabilitation of the historic homestead. Our approach included limited historical research, investigation and preliminary analysis of the structural condition and materials testing.

LIMITATIONS

Conditions may exist or develop over time that were not identified in the study. The recommendations and scope of rehabilitation outlined herein are necessarily general. These recommendations do not represent a final design or specification and are not intended for construction.

EXECUTIVE SUMMARY

This report offers recommendations, a scope of work, and related opinion of cost for the structural restoration of the Badin-Roque House. In addition to the structural component of our assessment, we have provided holistic guidance for architectural preservation.

We found that the house has retained its character and function, despite the normal processes of deterioration. No doubt the integrity of the building is owed to the continuing stewardship of the St. Augustine Historical Society. Nevertheless, some critical vulnerabilities exist that must be addressed soon.

Decay of the replacement posts, a lack of lateral bracing of the roof framing, roof leaks, poor site drainage, and bousillage infill deterioration pose serious risks to the structure and historic materials.

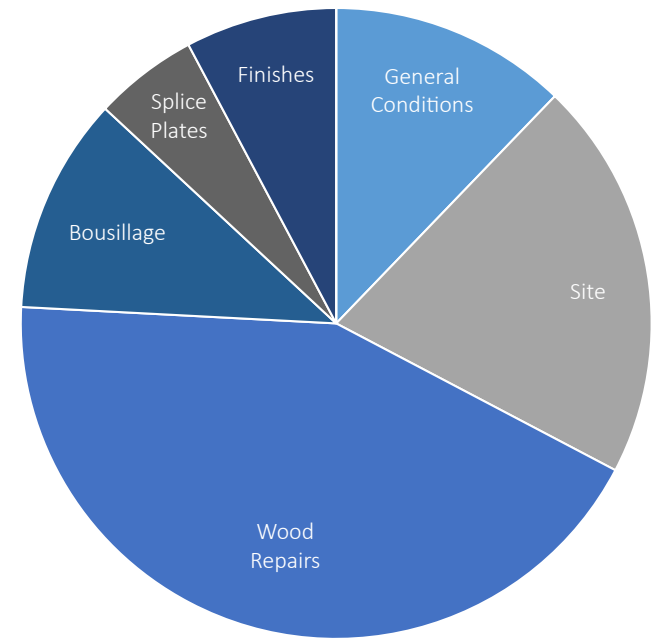
Based on the scope of work we identified in our preservation study, we recommend the following budget allocations for the restoration work.

Our main recommendations regarding the structural restoration of the historic homestead are:

- Site grading to lower the ground elevation and assure positive drainage away from the house.
- Addition of a catch basin and storm drain to the adjacent highway drainage ditch.
- Replacement of the gutters and adding a downspout that flows to the cistern.
- Replacement of the treated pine post ends with timber treated for ground contact or with sinker cypress.
- Replacement of the porch columns.
- Supplemental attic bracing (lateral ties).
- Siding replacement and painting.

This preservation study report is based on our review of any available documents, assessment of the condition of the existing structure, limited testing and preliminary analysis. The design elements, recommendations, and scope of construction outlined herein are necessarily general. They are not intended for construction.

Construction Cost Budget Allocations



General Conditions	\$	11,000
Site	\$	18,500
Wood Repairs	\$	38,900
Bousillage	\$	10,000
Splice Plates	\$	4,800
Finishes	\$	7,000
Construction Cost	\$	90,000
Fees & Contingency	\$	53,000
Total Project Cost	\$	143,000



STUDY PHILOSOPHY

Because of the important historic significance of the Badin-Roque House, we have based our approach to the preservation study and structural evaluation on the following principles of structural conservation¹:

1. Structural evaluation and an understanding of the significance of the structure should be the basis for preservation and reinforcement measures.
2. Keeping intervention to the minimum to guarantee safety and durability with the least harm to heritage values.
3. The characteristics of materials used in preservation work (in particular new materials) and their compatibility with existing materials should be fully established.
4. The distinguishing qualities of the structure and its environment, in their original or earlier states, should not be destroyed.
5. The removal or alteration of any historic material or distinctive architectural features should be avoided whenever possible.
6. Imperfections and alterations, when they have become part of the history of the structure, should be maintained so far as they do not compromise the safety of the structure.

To meet the goals of these principles, the constraints of the project must be addressed in a thoughtful and deliberate manner. The recommended preservation scope will also assure compatibility with the structure's historic character, in accordance with The Secretary of the Interior's Standards for Preservation (36 CFR §68.3(a)).

1 Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage, ISCARSAH Scientific Committee, International Council on Monuments and Sites, 2003. www.iscarsah.com

HISTORICAL SIGNIFICANCE

The Badin-Roque House, located on the west bank of the Cane River, is a late eighteenth century to early nineteenth century¹ Creole construction type called poteaux-en-terre (post-in-ground). It is a simple one-story cottage with bousillage infill (a mixture of mud and Spanish moss), and a separate kitchen building which is a somewhat later construction and consists of braced timber-framing on sills, rather than post-in-ground.

Surviving examples of poteaux-en-terre style are very rare due to the rate of decay in the buried ends of the posts. There are only four known poteaux-en-terre French Creole style buildings still extant in the United States: three located in Ste. Genevieve Missouri and the Badin-Roque House in Louisiana.

The house is also important in its association with the prominent Metoyer family, its later use as the first convent and school of St. Augustine Catholic Church and ultimately the Badin-Roque family.

St. Augustine Historical Society has owned the house since 1979 and operates it as an historic site, open by appointment only.

The Badin-Roque House is located on Hwy. 484, several miles south of Natchitoches in Natchez. The house is open to the public only by appointment with the Creole Heritage Center at 318-357-6685. The Badin-Roque House was documented in 2000 by the Historic American Buildings Survey (HABS LA-1294).



Above and Below: Badin-Roque House prior to the most recent restoration work (photos courtesy of the National Park Service).



1 The date of construction is not known. It has been variously reported as 1770 to 1840.

SITE, SOILS AND FOUNDATION

The site is located along the Cane River, about ten miles south of Natchez, Louisiana on a parcel of land now owned by the St. Augustine Historical Society. A geotechnical report of the site was not available, but the NRCS soil survey report indicates that the house is founded on sandy clay.

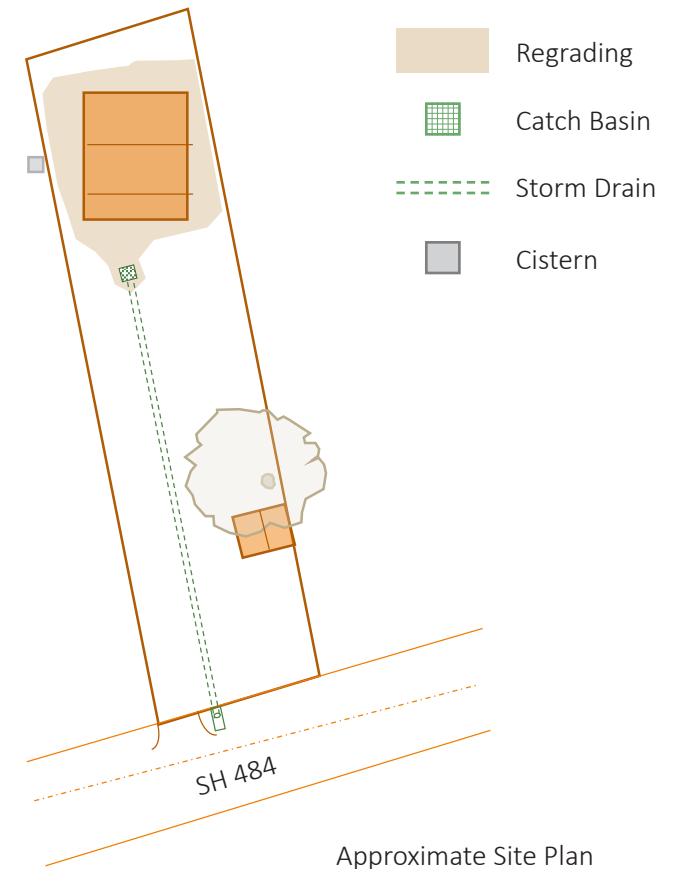
Our structural assessment included a visual survey of the foundation system. The house is supported on posts-in-ground (poteaux-en-terre).

The storm water control around the building is poor. The elevation of the current soil berm and relative site location is insufficient for proper sheeting of storm water. This causes water to collect at the foundation and is conducive to decay of the post foundation system.

We recommend re-grading the site, adding a catch basin and storm drain as depicted in the adjacent figure. Extensive replacement of the pine ends of the spliced posts is necessary for badly decayed members, along with localized re-leveling.



Below: New storm water control should include a below-grade trench drain to alleviate the problematic drainage encircling the house.



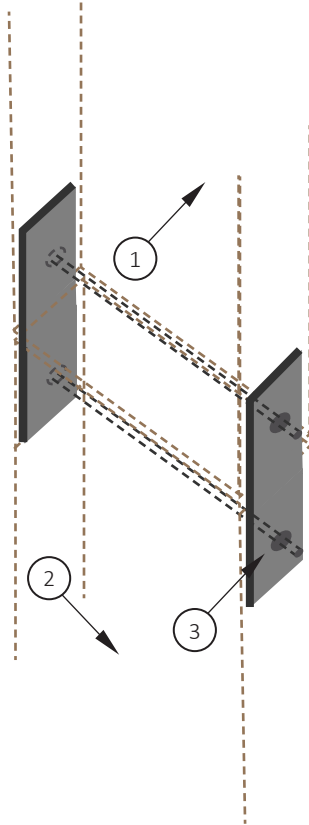
WALLS AND FRAMING

As mentioned, the principal defect in the structure is the decay of the post ends. Apparently, all of the posts were spliced in the c. 1990 restoration using treated southern pine. The splice lengths vary from two feet to six feet above ground level.

We performed limited testing of the timber using a Resistograph instrument, which gives a graphical indication of the extent of sound wood vs decayed wood, based on the wood's resistance to drilling. Representative test results are shown on the next page. In general, we found that the c. 1990 post ends are decayed below ground level, and that the original cypress posts are not decayed above the splice location.

At the rear wall, in Room "D", we did find that several posts were fully decayed and will require complete replacement. These posts were subject to years of water infiltration due to defective gutters.

Additionally, we noted that the c. 1990 splices have no mechanical connection; the posts are simply butt-jointed. We recommend a retrofit splice detail similar to the concept sketch shown at right. Furthermore, care should be taken to grade the existing site surface level away from the post ends to promote healthy drainage.



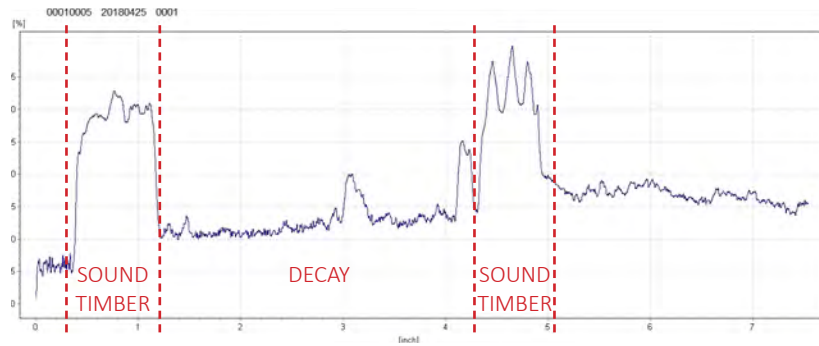
Right: A typical post splice. The upper part is original cypress, the lower part is c. 1990 southern pine.

Keynotes

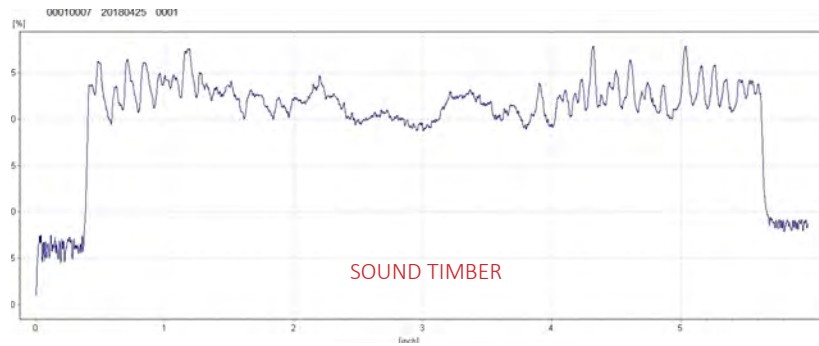
- ① Original cypress post.
- ② c. 1990 southern pine post splice.
- ③ Recommended concealed splice plate.



WALLS AND FRAMING



Above: Typical post decay below ground level.



Above: Typical cypress post above existing splices.



Above: Typical post splices shown at grade. We recommend installing concealed stainless steel side plates at these types of splices (splice plates are diagramed on previous page).



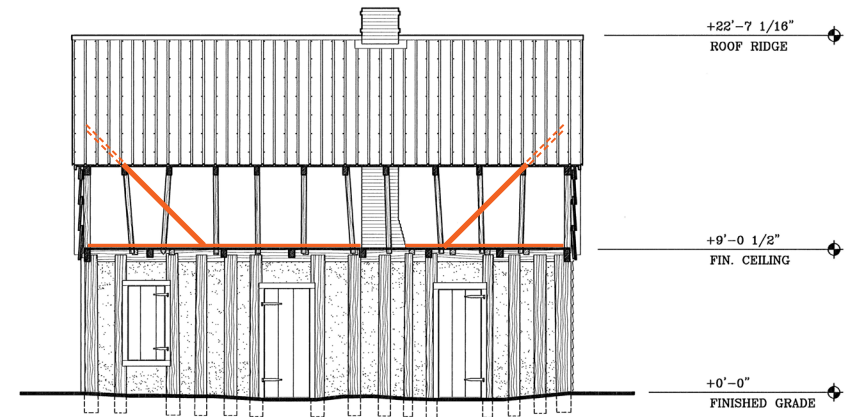
Right: Deterioration of the posts and bousillage walls in the rear of Room "D". These posts must be fully replaced.



Left: The gutters on the house are causing decay of the framing. They should be removed and replaced with appropriate new gutters.

WALLS AND FRAMING

We also found that the attic framing lacks sufficient lateral bracing. We recommend adding supplemental bracing in the manner indicated in the accompanying concept sketch below.



Below: Where the rear gutter has been leaking, several of the vertical posts are completely rotten.



Below: The attic framing lacks sufficient lateral bracing.



Badin-Roque House

Engineer's Opinion of Probable Cost

Category	Item	Quantity	Unit	Unit Price	Amount
General Conditions	Mobilization & Contractor's General Requirements	1	LS	\$ 10,000.00	\$ 10,000.00
General Conditions	Temporary Erosion Controls, Tree Protection	1	LS	\$ 1,000.00	\$ 1,000.00
Site	Landscaping	1	LS	\$ 1,500.00	\$ 1,500.00
Site	Catch basin, 12" storm drain to road, end treatment	1	LS	\$ 11,000.00	\$ 11,000.00
Site	Site grading for drainage	100	CY	\$ 40.00	\$ 4,000.00
Site	Replace gutters, add downspout to cistern	50	LF	\$ 40.00	\$ 2,000.00
Bousillage	Bousillage replacement	1,000	SF	\$ 10.00	\$ 10,000.00
Splice plates	Retrofit timber splices with stainless steel side plates	80	EA	\$ 60.00	\$ 4,800.00
Wood Repairs	Timber post repairs	300	LF	\$ 64.00	\$ 19,200.00
Wood Repairs	Replace porch columns	4	EA	\$ 300.00	\$ 1,200.00
Wood Repairs	Attic bracing	1	LS	\$ 1,000.00	\$ 1,000.00
Wood Repairs	Shingle siding repairs	30	SF	\$ 50.00	\$ 1,500.00
Wood Repairs	Clapboard siding replacement	700	SF	\$ 20.00	\$ 14,000.00
Wood Repairs	Borate treatment	1	LS	\$ 2,000.00	\$ 2,000.00
Finishes	Painting	700	SF	\$ 10.00	\$ 7,000.00
Total Construction Cost					\$ 90,000.00
	Design Fees	25%			\$ 23,000.00
	Permitting				\$ -
	Testing & Inspection	2%			\$ 2,000.00
	Archeology monitoring	1	MOS		\$ 8,000.00
	Contingency	15%			\$ 20,000.00
Total Project Cost					\$ 143,000.00

This opinion of cost is for planning purposes and is intended only to provide information on the general magnitude of costs. Costs are based on our engineering judgment and experience with similar projects. The opinion of cost is not a quotation or guarantee of actual costs. We have no control over the actual cost or availability of labor, equipment or materials, market conditions or a contractor's method of pricing. Further, no detailed design documents have been developed on which to base the cost of a specific project. As with any preservation work, an appropriate contingency should be maintained in the project budget.

END OF REPORT