WAKE FOREST

HISTORIC PRESERVATION COMMISSION

REGULAR MEETING AGENDA
WEDNESDAY, DECEMBER 9, 2020 6:30 PM

VIRTUAL MEETING VIA ZOOM https://zoom.us/j/97798749497
Webinar ID: 977 9874 9497

Contact Historic Preservation Staff at mmichael@wakeforestnc.gov or 919-435-9516 for information or visit the Planning Department Webpage under Meetings and Agendas at www.wakeforestnc.gov/planning

6:30 Regular Business

1. Call to Order/Roll Call

2. Order of business for virtual meeting – Chairperson/Town Attorney

3. Approval of the Agenda

4. Approval of Minutes of the November 18, 2020 Regular Meeting.

5. Public Comment (limited to 3 minutes per person) Online sign-up is encouraged at https://www.cognitoforms.com/TownOfWakeForest3/HistoricPreservationCommissionPublicHearingCommentForm . The HPC is interested in hearing your concerns, however, speakers should not expect Commission action or deliberation on subject matter brought up during the Public Comment segment. Topics requiring further investigation will be referred to the appropriate Town Staff and may be scheduled for a future agenda.

6. Treasurer's Report

7. **Public Hearing**: COA 20-19, A proposal by the Town of Wake Forest to paint the exterior of the Ailey Young House at 320 N. White Street, Wake Forest, NC being Wake County PIN1841526894.

8. Old Business
   A. Appreciation of outgoing members

9. New Business and Announcements
   A. Staff Update
   B. Other Updates, Business and Announcements

10. Adjourn

TOWN *of*
WAKE FOREST

301 S. Brooks Street
Wake Forest, NC 27587
t 919.435.9400

www.wakeforestnc.gov

HISTORIC PRESERVATION COMMISSION MINUTES

VIA ZOOM

WEDNESDAY, NOVEMBER 18, 2020

6:30 PM

Commission Members Present: Ellen Turco (Chair), Andrea Radford (Vice-Chair), Jennifer Smart, Beverly Whisnant, Paige Bivens, Sandy Smart, David Bennett

Commission Members Absent: Cathy Jamison, Darina Bender

Staff Present: Michelle Michael (HPC Staff Liaison), Sam Slater (Town Attorney)

Guests: Cory Connell, Ginger Taylor

1. CALL TO ORDER/ROLL CALL - Chairperson Turco called the meeting to order at 6:36 pm and went over some general guidance for the virtual meeting. She asked everyone to identify themselves before they speak and to please speak clearly. Ms. Turco asked for everyone to respond to the roll to establish a quorum. Seven members were present for the meeting. Staff liaison, Michelle Michael shared her screen so that the agenda could be followed by the group. Town Attorney, Sam Slater introduced the virtual meeting and explained that all votes must be conducted by roll call, and that any member with standing can object to the proceedings taking place virtually. He asked if there were any objections, he turned it back over to the chair. Staff Liaison, Michelle Michael, asked for the record to show that Sandy Smart had rejoined the meeting and Commissioner Wall-Lennon had also joined the call.

2. **AGENDA.** Chairperson Turco asked if there were any changes to the agenda, David Bennett moved to approve the agenda. Sandy Smart seconded the motion. There was no discussion. Ms. Turco called each member present and the motion passed unanimously (7-0).

3. MINUTES. Chairperson Turco asked if there were any changes to the October 14, 2020, minutes as submitted. Paige Bivens moved to approve the minutes as submitted, Andrea Radford seconded. There was no discussion. Ms. Turco called each member present, the motion passed unanimously (7 -0).

4. PUBLIC COMMENT (limited to 3 minutes per person) Chairperson Turco asked if there was anyone who wished to make public comments and asked them to use the "raise hand" icon or chat box. There were no

public comments. Mr. Connell stated that he is looking at home in the historic district and wanted to join and observe. Ms. Turco thanked him for joining the meeting.

6. TREASURERS REPORT. The Treasurer's Report was submitted by the Finance Department showing a beginning balance on October 1, 2020 of $40,025.47 with interest added in the amount of $10.20 for an ending balance of $40,035.67. David Bennett moved to approve the Treasurers Report, Andrea Radford seconded. There was no discussion and the motion passed unanimously by roll call vote (7-0)

7. Public Hearing, Review and Approval of Required and Recommended Changes to the Design Guidelines for Local Historic Districts and Local Landmarks and Review and Approve Amended Rules of Procedure.

Sam Slater offered that the HPC will review and approve the changes to the Design Guidelines and Rules of Procedure. Michelle Michael introduced the updates and changes to the General Statute known as GS 160D. Under those changes We are required to adopt "Design Standards" rather than "Design Guidelines". Therefore, the Historic Property Handbook with Design Guidelines for the Local Historic District and Local Landmarks" will be changed to "Historic Property Handbook with Design Standards for the Local Historic District and Local Landmarks." Guidelines will be changed to Standards throughout the document. The following other changes and corrections are recommended.

#	Page	Section	Paragraph/Line	Proposed Change	Reason
1	ALL	ALL	ALL	Change the word "Guideline(s)" to "Standard(s)"	General Statute 160D requires that municipalities change this language
2	8	Historic Preservation Enabling Legislation in North Carolina	At the end of the paragraph	The NC Legislature amended 160A in 2019. The amendment is GS 160D.	General Statute 160D
3	11	Table	9 "Dormers"	Change the language to read "Alteration/Construction/Removal of DORMERS visible from the Public Right-of-Way	Streamline Process
4	11	Table	10 "Dormers"	Delete "Construction of DORMERS	Incorporated above
5	11	Table	20 "Hedges"	Removal of existing hedges or other screen plantings greater than 42" in height – Change from Major Work to Minor Work	Streamline Process
6	12	Table	17 "Signs"	Change the language to read "Alteration/Removal of SIGNS"	Process Consistency

7	12	Table	17 “Signs”	Add new row to read “Installation of SIGNS” and make this Major Work	Process Consistency
8	13	Table	7 “Trees”	Delete “Removal of TREES with a combined stem girth of 8” and greater in diameter, measure 4’-6” above ground level” as a MAJOR work	Process Consistency
8	25	Wake Forest Local Historic District	Paragraph 1, last sentence	Change 1953 to 1956, the Period of Significance for the district ends when the College moved to Winston-Salem	Process Consistency
9	41	Site Features and Materials	Paragraph 2, Line 5	Delete “also”	Redundant
9	41	Site Features and Materials	Paragraph 2, Line 9	Insert the word “special” before character.	Consistent with General Statute
10	44	Parks and Public Spaces	Paragraph 2, after the last line	Insert “The following guidelines will ensure that alterations to parks and public spaces are congruous to the special character of the historic district.”	Consistency within the document
11	51	Signs	Last two guidelines	Incorrect number, change the last two to 14 and 15	Correction
12	55	Cemeteries	Last guidelines	Incorrect number, change to 8	Correction
13	57-58	Roofs	Last three guidelines	Incorrect numbering, change to 8, 9, 10.	Correction
14	61-62	Exterior Wood, Walls, Trim and Ornamentation	Last seven guidelines	Incorrect numbering, change to 8, 9, 10, 11, 12, 13, 14	Correction
15	63	Brick and Other Masonry	Last 3 guidelines	Incorrect numbering, change to 9, 10, 11.	Correction
16	82	New Construction	Guideline 2, line 4	Insert “a” between “planning” and “new”	Correction
17	82	New Construction	Guidelines 4b, line 1	Insert an “s” after “building” to read “buildings”	Correction
18	121	Appendices	General Statute	Insert 160D Information	General Statute 160D
19	48	Guidelines for Fences and Walls	After guideline 6	Insert a new guideline 7 “All fences shall be constructed so that the finished side is facing outward to the public right of way and adjacent properties.”	Based on COA’s heard in the last year.
20	48	Guidelines for Fences and Walls	Guidelines 7-12	Renumber all guidelines following the new guideline 7 above so that sequence is correct.	Correction

Staff pointed out that there are two that warrant additional discussion, the first is on the Table for trees that are larger than 8 inches in diameter at DBH that is currently a Major work. Staff stated that most trees are removed because they are diseased or distressed. She continued that the process for tree removal starts with the Urban Forestry Coordinator and if the recommendation is removal, staff approves it administratively. Staff continued that it seems like 8 inches is not very large and that the HPC may want to only protect trees that are potential heritage trees. Paige Bivens asked if there is language in the document about the requirements for heritage tree. Staff responded that it would need to be drafted and approved.

The second item for discussion is the last one that was added by staff for fences. Insert a new guideline that "all fences shall be constructed so that the finished side is facing outward to the public right of way and adjacent properties." She reminded the group that this came up with a previous COA.

Staff asked if there were any questions regarding the design guidelines. Chairperson Turco asked Attorney Slater if there aren't any questions then we will need to make a recommendation to the Board of Commissioners to adopt. Staff Liaison, Michelle Michael interjected that this is an HPC action, they are the adopting board in the case of the standards.

Mr. Connell, guest, asked if invisible fences for dogs require approval. Staff responded that invisible fences are just that, invisible, and as such do not require approval.

Ellen Turco asked if there were any questions. Sandy Smart asked about the trees that the Fords recently took down and if those would have been impacted by the change to the tree section. Staff responded that the Fords contacted staff immediately after the storm and staff investigated and approved it administratively. Safety was the issue in that case, and no one was happy about removing the red oak, but it had to come out. Mr. Smart agreed.

Staff added that staff can investigate the heritage tree requirements and bring it back later. Paige Bivens stated that she felt that it is good business to do more research. Chairperson Turco asked if they could just remove that guideline from the approved guidelines. Attorney Slater responded that yes, they can approve the guidelines as presented except for the deletion to the tree section and staff will bring that back for approval at a later date. Staff added that the approval should include making the standards effective on January 1, 2021.

Chairperson Turco asked if there were additional questions or a motion. David Bennett stated that it seems best to not delete that standard at this time and bring it back at a later date for consideration. Staff asked if he would like to put that in the form of a motion. David Bennett moved to adopt these recommended and required changes with the removal of page 13, paragraph 7, trees. Andrea Radford seconded the motion. There was no additional discussion and the motion passed unanimously.

Staff introduced the next item, the Commission's Rules of Procedure which were originally adopted in 1980 and amended in 1991 and 1996. There will be no changes to Section 1, Purpose. Section II General Rules will include a reference to 160D. No changes are needed for Section III Jurisdiction. The bulk of the changes are in section IV. Members, Officers, and Duties. Change under General to read, The Commission shall be composed of 9

members, a minimum of 7 members shall be residents of the Town of Wake Forest and a minimum of one (1) member shall reside within the extraterritorial jurisdiction of the Town. A minimum of 1 member shall reside within a locally designated historic property or district. A majority of members shall have a demonstrated special interest, experience, or education in history, architecture, archaeology or related fields.

The following sections will be added for ex-officio members:

A. The Commission may appoint one (1) and no more than two (2) ex-officio (non-voting) expert members as they deem appropriate. Such members are not required to live within the jurisdiction of the Town. The Commission will determine the length of term at the time of appointment, not to exceed two years.

B. The Board of Commissioners may appoint no more than two youth ex-officio (non-voting) members as they deem appropriate. Such members are not required to live within the Town limits but are required to attend high school within the Town limits. Youth ex-officio members will serve two-to-four- year terms or when they graduate from high school, whichever comes first.

Under officers change throughout "man" to "person".

The Treasurer section will be changed to reflect the Town's Finance Director as Treasurer.

A Treasurer shall be the Town's Finance Director or Designee. The Treasurer shall keep an account of all receipts and disbursements in a ledger. The ledger shall detail all sources of income or disbursement, the dates if the transactions, the authorization under which the disbursement is made and the current balance of funds. No disbursement of Commission funds may be made without the consent of the voting members of the Commission. The Treasurer shall be responsible for maintaining the ledger of accounts, for receiving and reconciling all bank statements with the ledger accounts, and for the proper filing and maintenance of all financial records. These records include the ledger, bank statements, cancelled checks, receipts and bills. The Treasurer and/or Secretary shall present a report of the status of funds to the Commission at each regular monthly meeting of the Commission and shall prepare an annual report of financial activities for the Town Board of Commissioners.

No changes are needed for the remainder of IV Members, Officer, and Duties

Under Section V. Meetings, change the meeting time to 6:30 pm. And under item E. The order of business changed Unfinished Business to Old Business. Strike item F in its entirety. Under item G. Add the Commission shall disclose such activities at the public hearing if they view the premises and obtain additional facts concerning an application.

Changes to section VI. Application Procedures include changing the filing date to 30 calendar days prior to the meeting and that applications must be filed via Electronic Plan Review. Under item C of that section add that the 180 days starts from filing a "completed" application.

There are no changes proposed for section VII. Amendments.

The attachment 1 to the Rules of Procedure includes the procedure for considering applications for COA and the Public Hearing process. Changes were made to include the Town Attorney who now attends public hearing

meetings. Staff's procedure for presenting the application, clarification for closing the public hearing, and additional language regarding findings of fact. Lastly, that staff will provide documentation of the hearing to the applicant and relevant town departments and strike in its entirety the Preparation and Entry of Order as that is the documentation mentioned in the previous section.

The last item under the Rules of Procedure is the motion. Staff combined the Secretary of Interiors Standards and Design Standards for one motion and the approval of the COA for the second motion. Staff added that these changes would be effective January 1, 2021 and asked for any questions, suggestions, changes.

Beverly Whisnant moved to approve the amended Rules of Procedure effective January 1, 2021. Sandy Smart seconded the motion. There was no additional discussion and the motion passed unanimously (7-0).

8. Old Business

A. Ordinance Changes GS 160A-400.1-400.14 for Legislative Update

Chapter 160D – General Statute Changes for Historic Preservation Ordinance. Staff provided an overview of the upcoming changes to the Historic Preservation Ordinance to go to the Planning Board and Board of Commissioners in December.

The changes required by GS 160D and/or as a result of GS 160D are:

- Change design guidelines to design standards
- ETJ representation is required if there is a local historic landmark or district in the ETJ

In addition to those requirements, also change the following:

- The membership of the HPC to include one member who resides in a locally designated landmark or local historic district.
- The ex-officio language to include the HPC will determine the term at time of appointment not to exceed two years.
- The Youth in Government membership as required by the Board of Commissioners.
- Additional requirements for applications and submittals.

Staff asked if there were any questions and reminded the group that the motion will recommend to the Planning Board and Board of Commissioners for Adoption effective January 1, 2021. Chairperson Turco asked if there were any additional questions. David Bennett moved to recommend the UDO text amendments for approval effective January 1, 2021 to the Planning Board and Board of Commissioners. Paige Bivens seconded the motion. There was no additional discussion and the motion passed unanimously (7-0).

8. New Business and Announcements

A. Introduction of Applicants for HPC

Ellen Turco, current Chairperson's term expires on December 31, 2020 and she has served her full two terms. Cathy Jamison and Paige Bivens have completed their first terms. They are eligible for a second three-year term and have both indicated they would like to serve. In addition, Jennifer Smart is stepping down and her partial term expiring in 2022 will need to be filled. Staff reminded the group that we need to reserve one seat for a resident of the ETJ. Sandy Smart will be staying on until summer.

Two of our applicants are present and can be introduced. Paige Bivens is here as is Nancy Taylor Ginger. Nancy Ginger introduced herself. She stated that her mother was born in a house on N. Main Street and her grandfather gave land to Forestville Baptist Church. She lived in Raleigh for many years but decided to return to Wake Forest for retirement. Active in Daughters of American Revolution and passion for history. Her career was in Human Resources and is highly organized and an experienced public speaker. She has also served on local boards and on the architectural review board for a homeowner's association. She expressed her desire to serve the community and be more involved in the community and its history.

Paige Bivens stated that she has enjoyed serving on the Commission and working on different projects. It has been a valuable experience and she has enjoyed learning more about historic preservation and the architecture of Wake Forest. She would like to continue and hope they will recommend her appointment.

David Bennett suggested that we fill the three full terms with the current appointments and leave the partial term for the ETJ member. David moved that we will the three full terms and hold the partial term for an ETJ member. Sandy Smart seconded the motion. There was no additional discussion and the motion passed unanimously (7-0).

Chairperson Turco asked how the vote will be conducted. Ms. Michael explained that a link was copied into the chat. They should all click on the link and complete the survey. She asked each member if they had voted, once all were complete, she explained that the results would be sent to the Administration Department for recommendation to the Board of Commissioners.

B. Staff Update. The Planning Board made recommendations for revisions before approving the overlay for the Mill Village. Staff has revised the language and will take it back to them on December 1, 2020 for recommendation to the Board of Commissioners. The Board of Commissioners will meet on December 15 for a decision.

Staff reminded the group of the recent study list properties and asked if the group wants to provide any incentives for National Register Listing. Chairperson Turco asked if we would want them to do a local landmark nomination instead of National Register. Staff stated that usually National Register Nomination usually takes more time and is more expensive and can serve as the basis for the Local Landmark Designation. Staff did send information to both churches with the consultants list and general information associated with National Register listing. After much discussion, the commission decided that due to budgetary constraints, they would not provide incentives for National Register nominations at this time.

C. Other Business and Announcements. Staff informed the group that the NE Community Coalition is holding a children's coat giveaway on Saturday, December 5th at Olive Branch Church from 12-3 pm. If

anyone is interested, please reach out to Shynese Hockaday at the email or phone number provided. Staff will email the flyer and asked the group to share it with their other community organizations.

Beverly Whisnant asked to make an announcement. She continued that Wake Forest Baptist Church has published its history and it is now available for sale on the church's website. It is a thorough history and professional written and edited. Jennifer Smart added that Beverly and the committee have been working on this publication for over six years.

Beverly added that she is really going to miss Jennifer and Sandy and just thinks they are the best and that they will be happy in Florida. Jennifer thanked Bev and said she is going to miss everyone. Sandy echoed the same sentiment and added that they are moving into a historic, 1917 house in Fort Myers. Ms. Michael thanked the Smarts for their contribution and impact on the entire community and told them they would be greatly missed.

Sandy Smart moved to adjourn, Paige Bivens seconded the motion and it passed unanimously (7-0) without discussion by a roll call vote. The meeting adjourned at 8:23 PM.

Respectfully submitted,

_____ _____

Ellen Turco, Chairperson Michelle Michael, Secretary

COA 20-19

A request from the Town of Wake Forest to paint the exterior of the Ailey Young House at 320 N. White Street

Wake County PIN 1841-52-6894

AIley Young House, 320 N White Street

N

0 25 50 100 ft

1 inch = 50 feet

Disclaimer
*iMaps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are **NOT** surveys. No warranties, expressed or implied ,are provided for the data therein, its use,or its interpretation.*

Certificate of Appropriateness

Major Work

Town of Wake Forest, NC
301 S. Brooks St.
Wake Forest, NC 27587-2932
TEL (919) 435-9510 | FAX (919) 435-9539

Project Overview #468376

Project Title: Alley Young House
Application Type: Certificate of Appropriateness
Workflow: Major Work

Jurisdiction: Town of Wake Forest (Wake County)
State: NC
County: Wake

GENERAL INFORMATION

Project Contact - Property Owner
Mickey Rochelle
Town of Wake Forest
301 S. Brooks Street
Wake Forest, NC 27587
P:919-435-9455
mrochelle@wakeforestnc.gov

Project Contact - Applicant
Michelle Michael
Town of Wake Forest
401 Elm Avenue
Wake Forest, NC 27587
P:(919) 5546100
mmichael@wakeforestnc.gov

PROJECT INFORMATION

Project Address: 320 N. WHITE STREET (Unverified)
Current Zoning: UR, Urban Residential
Description of Work: The Ailey Young House is a Locally Designated Landmark and significant African American historic resource. The house is being rehabilitated for use as an African American heritage site. The Town of Wake Forest recently completed the rehabilitation of the building.

Paint analysis was completed in Spring of 2020. Dr. Susan Buck, Architectural Conservator, completed an analysis of the paint remnants from the extant siding and window/door frames on the house. The report is attached. Results indicated that the first time the house was painted was around 1895-1900 when Ailey Young became the owner of the house. The original color was a very pale yellow that closely matches Benjamin Moore color Linen Sand. The second time the house was painted was probably around 1950 and was white. Those are the only two colors evident in the historic paint remnants.

The current project proposes to consolidate all historic remnant paint, prepare all surfaces, and paint the siding, window trim, windows, doors and shutters, to match the Linen Sand color as closely as possible.

The new standing seam metal roof will be cleaned, primed, and painted a dark grey.

Tax PIN: 1841526894 (Unverified)
Land Use Type (General): Exempt

Optical Microscopy Exterior Paint Analysis

Ailey Young House
Wake Forest, North Carolina 27587-2932

For: Michelle A. Michael, MHP
Senior Planner (Historic Preservation)
Town of Wake Forest
301 S. Brooks Street
Wake Forest, NC 27587

By: Susan L. Buck, Ph.D. Conservator and Paint Analyst
303 Griffin Avenue
Williamsburg, VA 23185

Date: April 20, 2020

www.wakeforestnc.gov/planning/historic-preservation/aileyyoung-house

Purpose:

The goal of this project is to identify the weathered, chalky coatings remaining on the front door frame, the siding, and a window frame of the ca.1875 Ailey Young House. If the original paints survive and can be identified through paint analysis, the colors will be matched with a colorimeter/microscope for documentation and possible replication, and recommendations will be made for preservation of the fragmentary evidence.

Procedures:

Four samples from the door frame, siding and window frame were sent to Susan Buck for analysis. Before casting, the samples were examined at 45X magnification under a binocular microscope to screen them for duplicates. The samples that retained the most complete stratigraphies were cast into polyester resin cubes for permanent mounting. The cubes were ground and polished for cross-section microscopy analysis and photography. The sample preparation methods and analytical procedures are described in the reference section of this report.

The cast samples were analyzed with a Nikon Eclipse 80i epi-fluorescence microscope equipped with an EXFO X-Cite 120 Fluorescence Illumination System fiberoptic halogen light source and a polarizing light base using SPOT Advanced software (v. 5.1) for digital image capture and Adobe Photoshop CS for digital image management. Digital images of the best representative cross-sections are included in this report. Please note that the colors in the digital images are affected by the variability of color capture and rendering, and do not accurately represent the actual colors.

Background:

Michelle Michael provided an overview of the house and its history: "The Town owns the Ailey Young House, a Reconstruction-era, African American house that is being rehabilitated to interpret African American history in Wake Forest. The house suffered a fire sometime in the 1970s which caused a lot of damage. The entire attic was mostly destroyed as was the roof structure and the majority of the west pen interior. We have recently replaced the roof structure, standing seam metal roof, and interior finishes that were deteriorated beyond repair. The exterior is board-and-batten and has remnants of a paint or limewash on the boards that remain. Photos of the building are attached from 2009 when its significance was documented, 2020 with the roof 90 % complete and the front and back of one of the boards."[1] It was hoped that paint analysis could document the surviving evidence and offer recommendations for appropriate treatment. The following photographs were provided for context and reference.

Ailey Young House in 2009

South Elevation Roof in 2020

[1] Michelle Michael, email communication, February 4, 2020.

Board with paint remnants

Back of board with paint remnants

Paint Analysis Results:

When the wood fragments were examined at 45X magnification prior to cross-section microscopy analysis, it was apparent that there are at least two generations of deeply cracked, grimy paints remaining in samples 1 and 2 from the east side door frame and the south elevation siding, respectively. The wood surface of sample 3 from the window frame is deeply worn and weathered, with only tiny whitish spots of paint, and almost no paint can be seen on the surface of sample 4, from the south elevation siding.

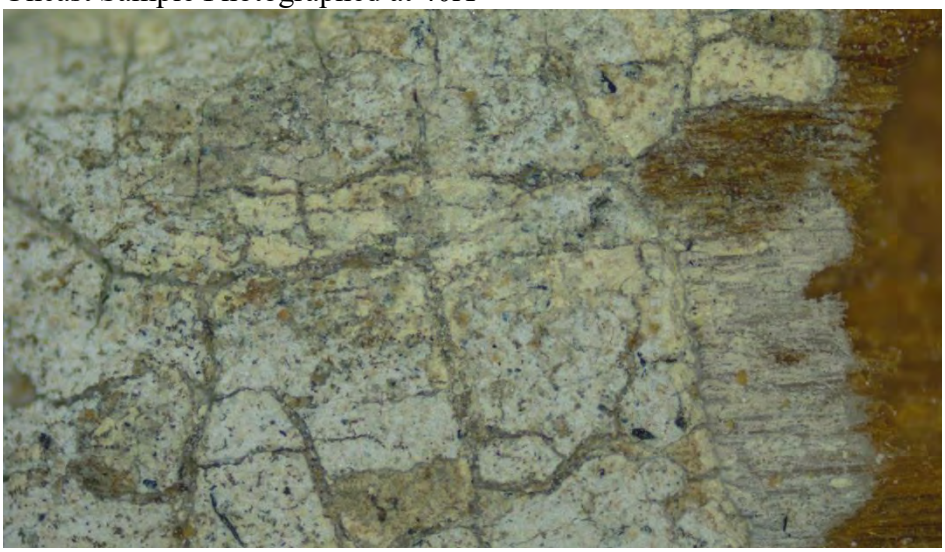
Paint Sample Locations
1. East side door frame.
2. South elevation siding.
3. Window frame north elevation.
4. South elevation siding (board removed from house).

The most intact paint evidence was found in sample 1 from the door frame and sample 2 from the south elevation siding. In cross-section it is apparent that there are gritty accumulations of grime, mold and soot on the surfaces of the wood substrate. This suggests that either these elements were initially left unpainted, or the earliest paints were allowed to completely weather away before repainting. There are two generations of paint on top of the grimy wood substrate. The first generation is an opaque pale yellow paint. This pale yellow paint was allowed to become cracked and grimy before it was painted over with one layer of off-white paint.

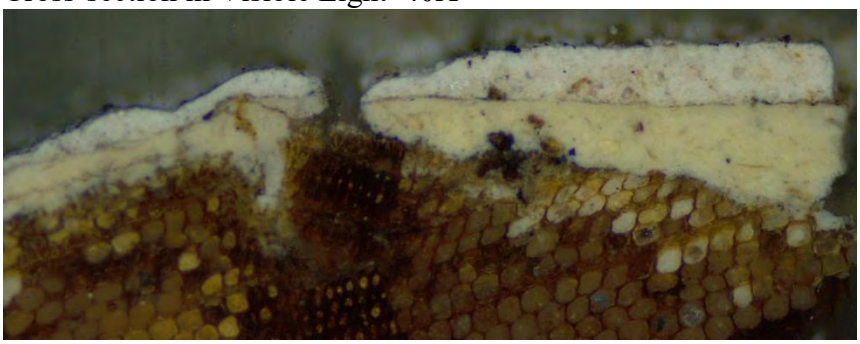
Binding media characterization of the paints in sample 1 shows that both contain strong oil components (with the biological fluorochrome DCF), and there is oil in the wood. This oily material might have been applied separately as a preservative, or it might have soaked into the

wood when the first pale yellow oil paint was applied. There are weak carbohydrate components in the off-white paint (with the fluorochrome TTC) which could be a natural gum additive to the paint. Neither paint layer reacted positively for the presence of proteins. Generation 1 may contain zinc white and white lead, and generation 2 may contain titanium white (a pigment available after about 1920) based on their autofluorescence characteristics.

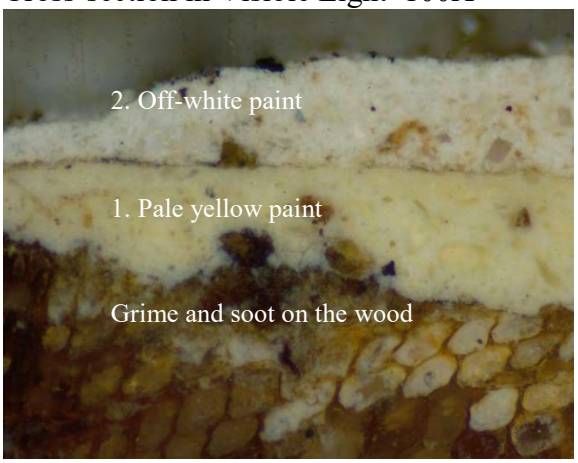
1. East side door frame. Uncast sample with degraded paints on the wood.
Uncast Sample Photographed at 40X



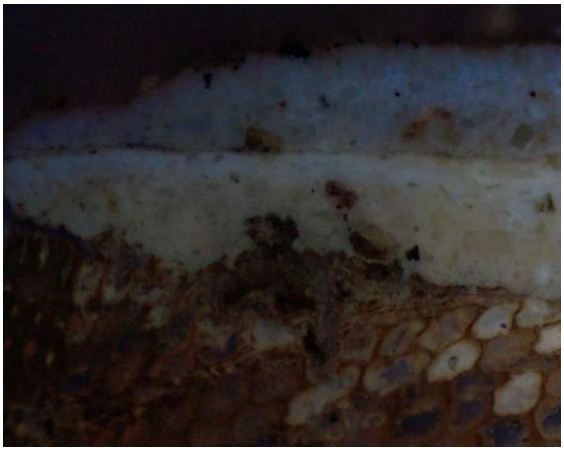
Cross-section in Visible Light 40X



Cross-section in Visible Light 100X

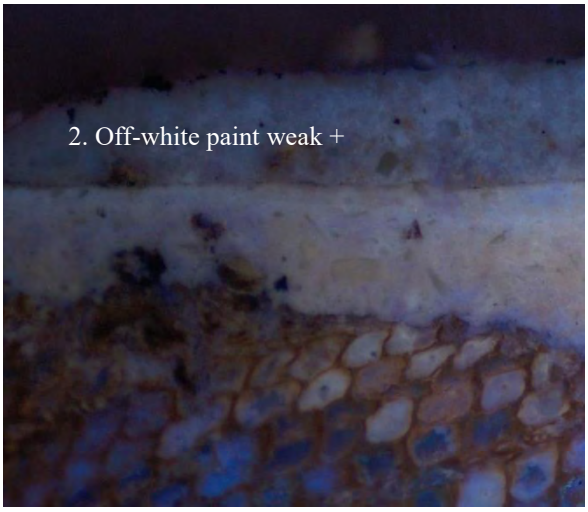


Ultraviolet Light 100X



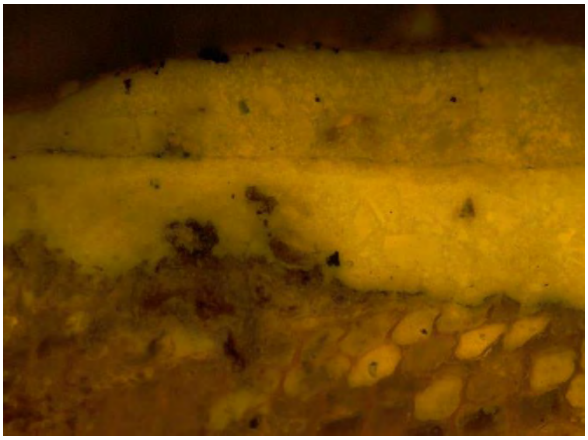
1. East side door frame.

UV Light & TTC for carbohydrates 100X
Weak + reactions for oils in generation 2

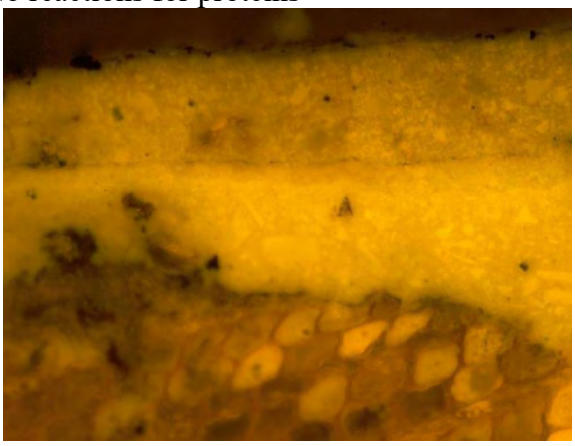


UV & DCF for oils 100X
Strong + reactions for oils in the paints and in the wood

B-2A filter 100X



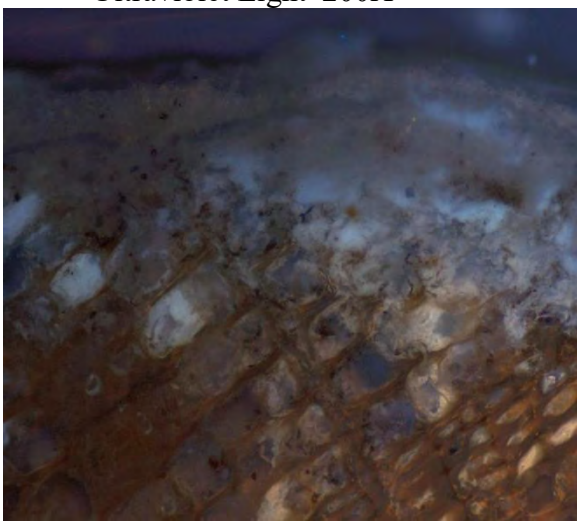
B-2A filter & Alexafluor 488 for proteins 100X
No reactions for proteins



2. South elevation siding. Uncast sample with degraded paints on the wood.
Uncast Sample Photographed at 40X

Cross-section in Visible Light 200X

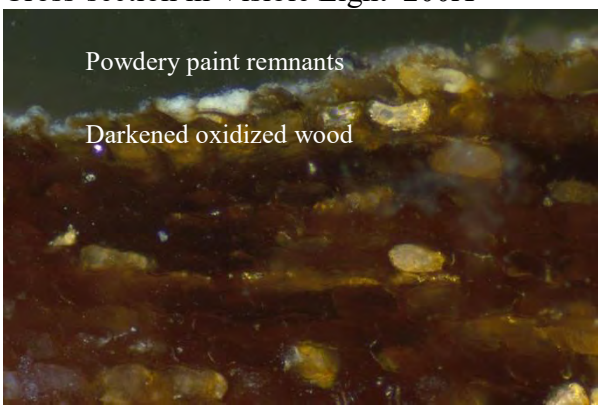
Ultraviolet Light 200X



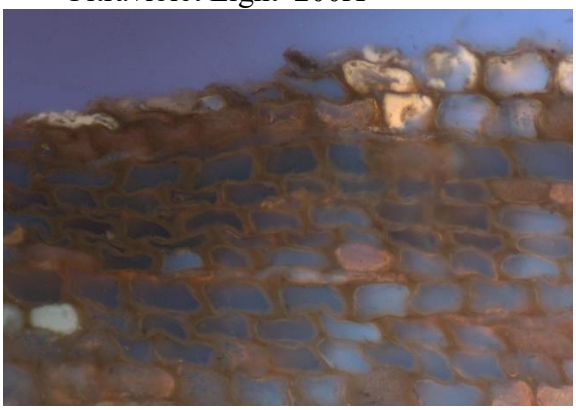
The wood surface of sample 3 is deeply fissured and fibrous, and there are only chalky remnants of off-white paint remaining in the depressions in the wood surface. In cross-section there are small pockets of paint trapped in the wood fibers, but the paints here are particularly fragile and ephemeral.

3. Window frame north elevation. Uncast sample with degraded paints on the wood.
Uncast Sample Photographed at 40X

Cross-section in Visible Light 200X



Ultraviolet Light 200X

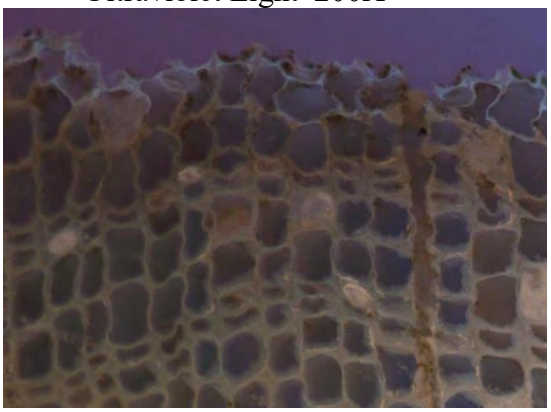


The paints have been almost completely lost in some areas of south elevation siding, based on the evidence in sample 4. The surface of the wood is powdery and fibrous, suggesting decades of exposure with no protective paint covering. In cross-section the wood surface is darkened and oxidized, with soot embedded in the wood fibers.

4. South elevation siding (board removed from house).
Uncast sample with degraded, fibrous wood.
Uncast Sample Photographed at 40X

Cross-section in Visible Light 200X

Ultraviolet Light 200X



Conclusion:

The four paint samples submitted for analysis show the range of conditions of the exterior wood surfaces. The evidence in samples 1 and 2 is compelling as two coherent layers of oil-bound paint survive on top of grimy, gritty wood substrates. It is possible that the exterior was initially left unpainted, or was coated with oil at one point, before the first layer of opaque pale yellow oil paint was applied. This paint was left exposed for many years, and became deeply cracked and grimy, before it was repainted with an off-white oil-bound paint.

There is fragmentary evidence of these paints in sample 3, but the wood is deeply fissured and damaged in this sample from the window frame. There is almost no paint evidence remaining in sample 4 from the south elevation siding, but sample 2 from another area of the siding confirms that the siding was painted in the same manner as the door and window frame.

No evidence of limewash was found in any of the samples. Rather, this modest analysis project confirms that when the building was first painted one layer of a durable oil-bound, pale yellow paint was applied. It was repainted only one more time with a durable oil-bound off-white paint, which now is chalky, discolored and deeply cracked. It is not possible to confidently date the application of either paint layer based on composition and physical characteristics, but the most recent off-white paint must date to after 1920 because of the presence of titanium white.

There are several alternatives for preserving the paint evidence, but none are ideal as consolidated damaged paints on exteriors will continue to be vulnerable to damage from sun, heat, moisture, and mold. Some possible approaches are listed below:

1. Use a conservation-grade, non-yellowing consolidant like 10% Acryloid B-72 in xylene or ethanol applied with an airbrush and/or low-pressure spray gun to consolidate the flaking paints and provide a protective coating. The disadvantage is that this consolidant will slightly saturate and darken the wood and the paint remnants, and leave a sheen on all surfaces.
2. Use a conservation-grade, non-yellowing consolidant like 50:50 Aquazol 50 and Aquazol 500 in ethanol and water applied with an airbrush and/or low-pressure spray gun to consolidate the flaking paints and provide a protective coating. The disadvantage is that this consolidant is not particularly durable for exterior surfaces, but if applied carefully it will not increase the gloss or saturation of the aged surfaces.
3. Spray on a barrier coat of 10% Acryloid B-72 in xylene or ethanol to protect the paint evidence, and then repaint the building with a pale yellow acrylic or oil paint that has been color-matched to the first generation of paint identified in samples 1 and 2.
4. Erect a shed roof over the building to protect the exterior surfaces and leave the exterior untouched.

COLOR MEASUREMENT PROCEDURES

The most intact, representative areas of the earliest pale yellow paint on the siding and door frame were matched using a Minolta Chroma Meter CR-241, a tristimulus color analyzer/microscope with color measurement area of 0.3mm. This instrument has an internal, 360-degree pulsed xenon arc lamp and provides an accurate color measurement in a choice of five different three-coordinate color systems. The color matches were also rechecked at 30X magnification using a color-corrected light source.

The measurements were first generated in the Munsell color system (a color standard used in the architectural preservation field), and after the measurements were taken the closest Munsell color swatches from a standard Munsell Book of Color (gloss paint standards) were compared under 30X magnification to the actual samples. The measurements were also generated in the CIE L*a*b* color space system, which is currently one of the most widely accepted industry color space measuring systems. The most appropriate commercial match is included for reference.

Ailey Young House – Earliest Yellow Paint

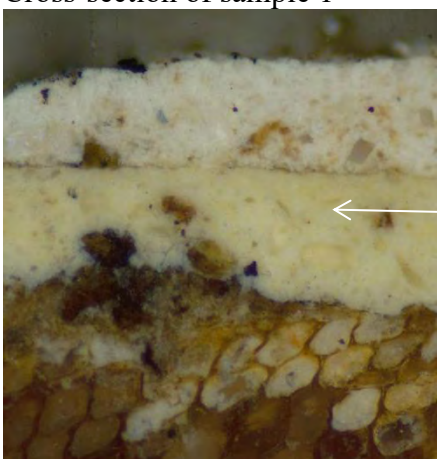
Color Match – April 20, 2020[2]

Samples 1 and 2

Benjamin Moore #2151-60 "Linen sand"

Color System*			Coordinates
Munsell	Hue	Value	Chroma
	0.7GY	9.0	2.9
CIE L*a*b*	Black to White	Green to Red	Blue to Yellow
	L90.83	a-6.44	b+20.81

Cross-section of sample 1



The Benjamin Moore match #2151-60 is an excellent visual match to the best preserved areas of the earliest pale yellow oil-bound paint when examined in full spectrum light both at 30X magnification and unmagnified. The evidence suggests that that this layer was somewhat glossy and could be replicated in an eggshell or satin gloss level.

[2] Color matching conducted after cross-section microscopy analysis by Susan L. Buck, Ph.D., Conservator and Paint Analyst, with a Minolta Colorimeter CR-241.

* Chroma Meter CR-241 offers five different color systems for measuring absolute chromaticity: CIE Yxy (1931), L*a*b* (1976), and L*C*H* (1976) colorimetric densities DxDyDz; Munsell notation and four systems for measuring color differences.

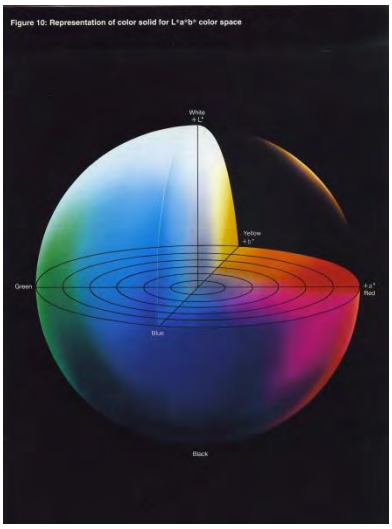
For two colors to match, three quantities defining color must be identical. These three quantities are called tristimulus values X, Y, and Z as determined by CIE (Commission Internationale de l'Eclairage) in 1931.

Color as perceived has three dimensions: hue, chroma and lightness. Chromaticity includes hue and chroma (saturation), specified by two chromaticity coordinates. Since these two coordinates cannot describe a color completely, a lightness factor must also be included to identify a specimen color precisely.

Munsell Color System: The Munsell color system consists of a series of color charts which are intended to be used for visual comparison with the specimen. Colors are defined in terms of the Munsell Hues (H; indicates hue), Munsell Value (V; indicates lightness), and Munsell Chroma (C; indicates saturation) and written as H V/C.

CIE Yxy (CIE 1931): In the Yxy (CIE 1931) color system, Y is a lightness factor expressed as a percentage based on a perfect reflectance of 100%, x and y are the chromaticity coordinates of the CIE x, y Chromaticity Diagram.

CIE L*a*b*: Equal distances in the CIE x,y Chromaticity Diagram do not represent equal differences in color as perceived. The CIE L*a*b* color system, however, more closely represents human sensitivity to color … Equal distances in this system approximately equal perceived color differences. L* is the lightness variable; a* and b* are the chromaticity coordinates.



ΔE (Delta E) is the industry measure used to determine how closely two colors match in the CIE L*a*b*. The symbol Δ means "the change in". It is based on calculating the sum of the differences between each measure. The calculation is: $\Delta E = \sqrt{(L^*)^2 + (a^*)^2 + (b^*)^2}$, or, the color difference equals the square root of the squared sums of the differences between each of

the three L* a* b* tristimulus values. Industry color standards indicate a ΔE of 1 is barely perceptible to the human eye, and ΔE of 6 to 7 is acceptable for color matches in the printing industry.

REFERENCES

Cross-section Preparation Procedures:

The samples were cast into mini-cubes of polyester resin (Excel Technologies, Inc., Enfield, CT). The resin was allowed to cure for 24 hours at room temperature and under ambient light. The cubes were then ground to expose the cross-sections, and dry polished with 400 and 600 grit wet-dry papers and Micro-Mesh polishing cloths, with grits from 1500 to 12,000.

Cross-section microscopy analysis was conducted with a Nikon Eclipse 80i epi-fluorescence microscope equipped with an EXFO X-Cite 120 Fluorescence Illumination System fiberoptic halogen light source and a polarizing light base using SPOT Advanced software (v. 4.6) for digital image capture and Adobe Photoshop CS for digital image management. Photographs and digital images of the best representative cross-sections are included in this report. UV photographs were taken with the UV-2A filter in place (330-380 nanometers excitation with a 400 nm dichroic mirror and a 420 nm. barrier filter). Please note that the colors in the printed photomicrographs may not accurately reflect the actual color of the samples because the colors in the digital images are affected by the variability of color printing.

The following fluorescent stains were used for examination of the samples:

> Triphenyl tetrazolium chloride (TTC) 4.0% in ethanol to identify the presence of carbohydrates (starches, gums, sugars). Positive reaction color is dark red or brown.
>
> Fluorescein isothiocyanate (FITC) 0.2% in anhydrous acetone to identify the presence of proteins. A yellow or yellowish-green colors indicates a positive reaction.
>
> 2, 7 Dichlorofluorescein (DCF) 0.2% in ethanol to identify the presence of saturated and unsaturated lipids (oils). Positive reaction for saturated lipids is pink and unsaturated lipids is yellow.

The best cross-section photographs for each area were mounted and labeled and are included with this report. Photographs were taken at 100X, 200X and 400X magnifications.

Information Provided by Ultraviolet Light Microscopy:

When viewed under visible light, cross-sections which contain ground, paint and varnish may often be difficult to interpret, particularly because clear finish layers look uniformly brown or tan. It may be impossible using only visible light to distinguish between multiple varnish layers. Illumination with ultraviolet light provides considerably more information about the layers present in a sample because different organic, and some inorganic, materials autofluoresce (or glow) with characteristic colors.

There are certain fluorescence colors which indicate the presence of specific types of materials. For example: shellac fluoresces orange (or yellow-orange) when exposed to ultraviolet light, while plant resin varnishes (typically amber, copal, sandarac and mastic) fluoresce bright white. Wax does not usually fluoresce; in fact, in the ultraviolet it tends to appear almost the same color as the polyester casting resin. In visible light wax appears as a somewhat translucent white layer. Paints and glaze layers which contain resins as part of the binding medium will also fluoresce under ultraviolet light at high magnifications. Other materials such as lead white, titanium white and hide glue also have a whitish autofluorescence.

There are other indicators which show that a surface has aged, such as cracks which extend through finish layers, accumulations of dirt between layers, and sometimes diminished fluorescence intensity, especially along the top edge of a surface which has been exposed to light and air for a long period of time.

COA 20-19

Proposal to Paint the Ailey Young House

Photographs

Benjamin Moore Linen Sand – Color Match for Paint Analysis Findings

for Board and Batten Siding, Door and Window Surrounds

Sherwin Williams Peppercorn

Color for Metal Roof

Wake Forest Local Historic District
Certificate of Appropriateness (COA) Application
Staff Report

To: Wake Forest Historic Preservation Commission
Date: December 1, 2020
Case: COA-20-19
Prepared By: Michelle Michael

General Information

Applicant/
Property Owner: Michelle Michael
Mickey Rochelle/Town of Wake Forest
301 S. Brooks Street
Wake Forest, NC 27587

Tax PIN: **1841-52-6894**
Location: 320 N. White Street
Lot Size: .33 acres +/-
Current Zoning: UR

Property Description: Paint the Exterior of the Ailey Young House

Special Information (from the Wake Forest Historic District Walking Tour Brochure

History and Significance: The Ailey Young House is a circa 1875 African American historic resource. The house has recently undergone a full rehabilitation. Paint Analysis was completed by Dr. Susan Buck, Architectural Conservator in Spring of 2020 (Report attached to the Application). The Paint Analysis was conducted on samples taken from the extant window and door surrounds and siding. The analysis determined that the house was painted twice in its history. The first time it was painted was around 1890-1900 and it was a pale cream/yellow color that closely matches Benjamin Moore Linen Sand. The second time it was painted was around 1945-1950 in white.

COA 20-19 Proposed Action/Exterior Changes: The applicant is proposing to paint the exterior of the house a pale cream/yellow per the paint analysis. The historic remnant paint will be consolidated using the method and materials recommended in the paint analysis report. Once the old paint is consolidated. The old and new wood will be painted to match the Benjamin Moore Linen Sand. The standing seam metal roof was replaced in January and this project proposed to paint the roof a dark grey.

For the purposes of analysis of this project staff believes the following standards and guidelines have relevance:

The Secretary of Interiors Standards for Rehabilitation

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
Staff Analysis: The proposed project will not remove or alter historic features and spaces. No historic fabric will be removed during the painting project. The project proposes to conserve the historic paint through consolidation following the recommendations of a professional architectural conservator.

5. Distinctive features, finishes, and construction techniques or examples of craftsmanship that characterize a property shall be preserved.
Staff Analysis: The project proposes to conserve the historic features as part of the project therefore providing that the evidence of historic paint will remain under the new paint.

Wake Forest Local Historic District Design Guidelines

Exterior Paint and Stain

1) Identify, retain, and preserve a sound paint film on all painted surfaces to preserve historic building fabric and details.
Staff Analysis: The project has identified the historic paint films and will consolidate them for future protection prior to painting the building. The house recently underwent full rehabilitation, paint will protect all wood elements.

2) Protect and maintain a sound paint film on all painted surfaces to preserve the historic building fabric and details.
Staff Analysis: The proposed project will consolidate to protect all historic paint films and will provide a new paint film on all wood surfaces to preserve the historic building fabric and details.

8) It is appropriate to select color schemes that are drawn from the wide range available during the period of construction in the neighborhood.
Staff Analysis: The paint analysis provided the match for the original color of the house. A color closely resembling Benjamin Moore Linen Sand was found on the siding and window/door surrounds. A color to match Sherwin Williams Peppercorn is recommended for the roof which will closely resemble the color of the extant metal standing seam roof.

Proposed Findings of Facts

Staff offers the following findings for the Commission's consideration

1. **Based upon the information contained in the application, specifications, and staff report, the Commission finds that the paint project does/does not meet the Secretary of Interior Standards for Rehabilitation.**

2. **Based upon the information contained in the application, specifications, and staff report, the Commission finds that the paint project does/does not substantially meet the Wake Forest Historic District Design Guidelines.**

Proposed Conditions

Changes to the proposed project will require additional review and approval.