

Meeting: 6/16/2022
Applicant: Brian Pittman Johnson Architecture, Inc
Owner: Knollwood Historic Preservation, LLC

Property Information

Location: 150 Major Reynolds Place **Parcel ID** 121 A A 02807
District: Knollwood Individual H Landmark
Zoning: C-G (General Commercial)
Description: Neoclassical, c.1851 with modifications dating to 1890s and 1930s
See attached designation report and design guidelines for architectural description of house.

Description of Work

Level II Construction of Addition or Outbuilding, Major Repair or Replacement

Comprehensive exterior rehabilitation, new secondary structure, and modifications to site design.

Repair scopes include:

- Repair and restoration of existing double-hung, one-over-one windows. Window repair to meet Secretary of the Interiors Standards for window repair. Installation of new pre-finished aluminum storm windows, custom built to fit existing openings, with meeting rails to align with meeting rails of existing windows.
- Repair to existing wood lintels, sills, and decorative medallions, including replacement in-kind to those elements which are deteriorated.
- Removal of non-original wood louvered shutters on the façade (south elevation) and installation of new shutters. See application packet for materials and design of shutters and shutter dogs; applicant proposes custom-made, smooth-finished, V-groove panel shutters with a decorative cut-out (applicant notes the cut-out is optional) made of Boral composite material, featuring simple shutter dogs appropriate for era of house.
- Removal of asphalt shingle roof and installation of new slate roof with copper flashing, new copper half-round gutters, and downspouts. Due to weight of slate roofing materials, roof repair will also require reconstruction of the roof with a structural steel frame. Original roofline will be maintained.
- Repair to existing dentiled wood cornice.
- Repair and repointing to any compromised mortar joints. Masonry restoration will also include removal of salmon-colored paint/stain on exterior brick through dry ice blasting.
- Repair to wood front door, transom, and sidelights.
- Repair as needed to front porch columns. Column work also includes raising the column torus (decorative raised base) to add 2" to existing concrete base, to accommodate new Tennessee marble terrace.
- Brick chimneys to be repointed or rebuilt from the roofline up, pending conditions assessment. Salvageable original brick will be saved and reused to reconstruct the chimneys. The reconstructed chimneys will reuse the first line of existing corbelling and add three courses of simple brick corbels to the top.
- New copper chimney flue caps (see two options in page 9 of application packet - louvered, flat copper chimney caps or half-barrel chimney caps).

New elements on primary structure include:

- Installation of one new window on first story, right (east) elevation, towards rear. New window will be vertically and horizontally aligned with existing windows, and feature a design, materials, and dimensions to match the existing (including wood lintel and sill).
- Installation of new entry on right side (east) elevation (currently a window). Half-light door will feature a header aligned with the adjacent sunroom headers, a transom, and sidelights.
- Reconstruction/opening of east (right side) sunroom. Sunroom was originally an open air porch and enclosed with wood single-light windows and lap siding. Concrete plank flooring, round wood columns, and roof joists are deteriorating and declared unstable by a structural engineer. Porch will be reconstructed with matching footprint and new roofline, roof details, columns, and balustrade to match the existing.
- Modification to sunroom on right side (east) and rear (north) elevation. Sunroom was enclosed with glass storefronts and wood lap siding; non-historic glass and wall enclosures will be replaced with paired French doors alternating with sidelights and transom windows. Original posts, decorative brackets, and roofline will be retained and repaired.
- Installation of new balustrade on flat-roof section of primary roofline. "Maintenance mezzanine" will be created with Trex decking and a simple 48" tall black iron railing.
- Two new dormers on the façade roof slope. Dormers would flank the front portico and match the existing c.1851 dormers on the east and west roof slopes in design, window proportions, and materials.
- North (rear) second-story balcony to receive a new exterior door, with new balustrade to match existing original balusters elsewhere on the house. New Trex decking on balcony.
- Replacement of rotted wood louvered vent on west elevation dormer with a copper louvered vent to match existing in dimensions, placement, and design.
- Replacement of low-slope TPO roof on north sunporch with a copper roof.
- New exterior light fixtures (see specifications in application packet).

New secondary structure (carriage house):

- New carriage house to be located in the northeast corner of the property. Carriage house will feature a primary hipped-roof massing, with two smaller hipped-roof massings projecting to the sides. Carriage house will be clad in a brick complimentary to main house, featuring one-over-one windows and trim details compatible with the primary house. Carriage house project also features a security gate for vehicular entrance and small hipped-roof gatehouse structure.

Site work includes: new landscaping and garden areas, new Tennessee marble steps accessing the porte cochere area, and a new Tennessee pink marble terrace on the façade elevation. New ramps for accessibility. New masonry "grotto" structure near east site stairs, integrated with existing and new hardscaping. See landscape drawing (sheet 1) for new site design, parking area, and landscaping elements.

Applicable Design Guidelines

Secretary of the Interior's Standards for Rehabilitating Historic Buildings.

See attached design guideline document for Knollwood Individual H Landmark.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that

characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

9. New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Comments

N/A

Staff Findings

1. Knollwood is individually listed on the National Register of Historic Places and protected by a landmark H overlay.

REPAIR SCOPES

2. The application includes a significant amount of repair which clearly meets the design guidelines, including: repair and restoration of existing windows; repair and replacement in-kind to wood lintels, sills, and detailing; repair to the wood cornice; masonry repointing; repair to the front portico columns; and repair to the front door, transom, and sidelights.

3. The proposed new shutters replace non-original, deteriorated wood louvered shutters on the façade. The application includes a flat-panel design and a smooth-finished, Boral (composite) material for ease of maintenance and longevity of materials. In the opinion of staff, the proposed alternative material can sufficiently mimic the visual qualities of wood if it's smooth-finished and painted. The Commission should discuss the flat panel design and cut-outs versus louvered panels, taking into account SOI Standard 6.

4. Repair to, and reconstruction of, the brick masonry chimneys is appropriate within the guidelines. The proposed additional corbels of brick at the top are simple in design and will not detract from the overall design of the house. Both options of copper chimney caps (flat or half-barrel) shown in the application would be appropriate for the style of the house.

5. The applicants have researched methods to remove the salmon-colored paint/stain from the exterior brick "using the gentlest means possible" (SOI Standard 7) and selected the dry ice blasting process. Removal of the patchy/irregular stain is appropriate. Masonry repointing and paint removal should meet the standards of NPS Preservation Brief 2.

6. The applicant notes that the roof originally featured a slate tile roof; removing the asphalt shingles and installing a new slate roof meet the design guidelines. While the lower-slope copper roofing elements, flashing, and gutters may not have existed on the building originally, copper is a compatible material with slate and brick and appropriate for the periods of the house. The copper elements will be minimally visible from the public right-of-way and will patina to blend with the brick and slate.

NEW ELEMENTS ON PRIMARY BUILDING

7. The proposed installation of one new window on the first-story, right side elevation will not be visible from the

public right-of-way. The design features materials and placement to reflect the existing windows on that elevation, and is a relatively minimal change.

8. The proposed installation of a new entry door on the right side elevation, towards the rear, will also not be visible from the public right-of-way and will activate use of the site on all elevations. Other design guideline documents discourage modifying secondary entrances to make them appear to be more formal entrances by adding sidelights and transoms, and note that secondary entrances must be secondary in importance. Due to the substantial front portico and design of the house, the front entrance is clearly the primary entrance to the building. However, the Commission may choose to discuss the design of the side elevation door.

9. The application includes the reconstruction/opening of the right side sunroom - opening it back to an open air porch. The National Register nomination for the property notes that "one-story portico wings with balustraded deck roof were attached to the [side] elevations in 1919." Neither the nomination nor the design guidelines' architectural description attribute a date to the porch's enclosure. While the enclosed porch may have acquired significance in its own right, evaluations and investigatory demolition have shown the sunporch to be structurally unsound. Reconstructing the east sunroom as an open air porch will maintain the original design's transparency and use materials and details compatible with the original house.

10. The application also includes work on the rear sunroom. While the proposed repeating French doors and sidelights are distinct from the original design, the work is proposed for the rear elevation and will not be visible from the right-of-way. The design will retain the general amount of transparency, and the original wood posts, brackets, and roofline will be retained.

11. The proposed roofline balustrade for the "maintenance mezzanine" lacks a historic precedent from this house. While an iron railing is thin in profile and visually modest in design, the upper deck would be visible from the public right-of-way. The Commission should discuss the visual impact of the iron railing and if it meets SOI Standard 3.

12. The two dormers proposed for the façade roofline are conjectural features which do not meet the design guidelines, as there were never dormers installed on the front roof slope.

CARRIAGE HOUSE

13. The proposed carriage house meets the Knollwood Design Guidelines for placement, which encourage any new buildings built on the site maintain the visual connection between Knollwood and Kingston Pike, and be constructed to the rear of the house when possible to "frame the house and provide background texture for it." The carriage house will locate utilities and service functions outside of the primary house, allowing the main house to serve a function closer to its original use.

14. The proposed carriage house will be clearly secondary to the main house and feature complimentary materials and design. The accompanying fence and gate house are minor in size and will not be visible from the public right-of-way.

15. New construction to the rear "should be accompanied by tree plantings that shall further screen the buildings into the background." The landscaping plan includes the retention of numerous existing maple and crepe myrtle trees which will serve as screening for the carriage house.

16. The proposed site work elements, including the incorporation of new Tennessee marble terraces, garden walkways, and steps, are appropriate within the design guidelines and will further enhance the site.

Staff Recommendation

Staff recommends approval of Certificate 6-B-22-HZ; providing for Commission discussion and any additional conditions regarding: the proposed shutter design, the design of the proposed new side elevation door, and the

proposed roofline balustrade; AND subject to the following conditions:

- 1) Omission of the proposed front dormers;
- 2) All brick masonry repair and paint removal to meet standards of NPS Preservation Brief 2;
- 3) Meeting all relevant standards of the City zoning code for off-street parking and landscaping;
- 4) Final site plan to meet City Engineering standards, with minor revisions to be approved by staff
- 5) and providing final details on carriage house windows and doors to staff for approval.

(1) Download and fill out this form at your convenience. (2) Sign the application digitally (or print, sign, and scan). (3) Either print the completed form and bring it to the Knoxville-Knox County Planning offices or email it to applications@knoxplanning.org.

Reset Form



DESIGN REVIEW REQUEST

- DOWNTOWN DESIGN (DK)
- HISTORIC ZONING (H)
- INFILL HOUSING (IH)

Knollwood Historic Preservation LLC

Applicant

5/27/2022

6/16/2022

6-B-22-HZ

Date Filed

Meeting Date (if applicable)

File Number(s)

CORRESPONDENCE

All correspondence related to this application should be directed to the approved contact listed below.

- Owner
- Contractor
- Engineer
- Architect/Landscape Architect

Brain Pittman

Johnson Achitecture Inc.

Name

Company

2240 Sutherland Ave #105

Knoxville

TN

37919

Address

City

State

Zip

865-671-9060

bpittman@jainc.com

Phone

Email

CURRENT PROPERTY INFO

Knollwood Historic Preservation LLC

150 Major Reynolds Place

865-686-2661

Owner Name (if different from applicant)

Owner Address

Owner Phone

150 Major Reynolds Place

28.07

Property Address

Parcel ID

Knollwood Commercial Park / Bearden

H1 C-G-1

Neighborhood

Zoning

AUTHORIZATION

Lindsay Crockett
Staff Signature

Lindsay Crockett

5.31.22

Please Print

Date

[Signature]
Applicant Signature

Knollwood Historic Preservation, LLC
by Jordan Mollenhour
its Co-CEO
Please Print

May 27, 2022
Date

REQUEST

DOWNTOWN DESIGN

Level 1:

- Signs Alteration of an existing building/structure

Level 2:

- Addition to an existing building/structure

Level 3:

- Construction of new building/structure Site design, parking, plazas, landscape

See required Downtown Design attachment for more details.

- Brief description of work:

HISTORIC ZONING

Level 1:

- Signs Routine repair of siding, windows, roof, or other features, in-kind; Installation of gutters, storm windows/doors

Level 2:

- Major repair, removal, or replacement of architectural elements or materials Additions and accessory structures

Level 3:

- Construction of a new primary building

Level 4:

- Relocation of a contributing structure Demolition of a contributing structure

See required Historic Zoning attachment for more details.

- Brief description of work: *Please see attached description*

INFILL HOUSING

Level 1:

- Driveways, parking pads, access point, garages or similar facilities Subdivisions

Level 2:

- Additions visible from the primary street Changes to porches visible from the primary street

Level 3:

- New primary structure
 - Site built Modular Multi-Sectional

See required Infill Housing attachment for more details.

- Brief description of work:

STAFF USE ONLY

ATTACHMENTS

- Downtown Design Checklist
- Historic Zoning Design Checklist
- Infill Housing Design Checklist

ADDITIONAL REQUIREMENTS

- Property Owners / Option Holders

Level 1: \$50 • Level 2: \$100 • Level 3: \$250 • Level 4: \$500

FEE 1:

FEE 2:

FEE 3:

TOTAL:

Brief description of work:

We propose an articulate, thoughtful, & thorough restoration/renovation of a pre-Civil War house into a private companies office headquarters while sharing the more public spaces, including an expanded-cohesive new landscaped site, with community members and organizations. Structural remediation, maintenance savvy yet respectful details & finishes, new mechanical/electrical/plumbing/fire protection updates-will all be engaged in returning it back to it's original glory while simultaneously maintaining safer, more versatile modern expectations of day to day usage while conserving its overall historical integrity.

Summary Narratives:

Item 1: North-East Window Install

This is the only location on the original 1851 house that is missing an aligning window beneath another. All other upper windows share a mate immediately below it. Previous repairs on the brick exterior seem to suggest where a window could have been. We propose to install a compliant/complimentary/matching window in this location to match all currently existing windows.

Refer to page 5, 10 of this packet.

Item 2: Sunroom

Despite our best efforts, this space could not be opened back up to the exterior. Instead we opted to maintain this space as glass enclosed sunroom but suggest a redesign of all later added glass/wall enclosure that we feel fits the original intent of the porch as well as fit in with other complimentary 'narrow French door' applications along that easternmost wall. All original posts, Victorian brackets, & rooflines shall be protected and refinished for longevity.

Refer to page 4, 10, 17 of this packet.

Item 3: Maintenance Mezzanine

Adding a means for full & safe access to the roof to tend to repairs or upkeep at any time. We suggest a simple and/or innocuous black iron railing that will meet safety codes paired with removable floor decking panels, to protect the new membrane roof, adding a spiral stair for direct access. The base of the mezzanine will be skirted with a copper cornice to match original skirt with natural slate roof restored.

Refer to Trex attachment.

Refer to page 12 of this packet.

Item 4: North Balcony Upgrades

Installing a new door access in later-added stud wall, to existing inaccessible balcony. Replacing later-added railings to match existing original balustrade design from the Victorian era of the house, in keeping with the still extant original back porch vocabulary. New Trex decking to be installed for longevity over new EPDM roof. Refer to Allied Spec attachment.

Refer to page 7 of this packet.

Item 5: Windows

Restore all existing historic windows in full, to the Department of Interior standards, maintaining the later removal of the center mullions, keeping the one over one windows now extant. Adding new prefinished aluminum/glass storm windows from Allied Window Inc. shall be custom constructed to fit each existing opening allowing easy upkeep and protecting the newly updated and restored original windows. Windows to be constructed, supplied, and installed by "Double Hung, LLC". See attachment for specifications.

Refer to page 3, 4 of this packet.

Item 6: Dormers

We propose complementary dormers flanking the south (front) portico that would match the existing 1851 east and west dormers. There are no indications dormers were ever on the south elevation as evidenced by photos and on site discovery. But the addition would add much needed natural light as well as views from the newly engaged attic level that'll now be fully occupied. These new dormers shall match exactly that of the original, copper flashing, same window proportions & design, with slate on the roof of the dormer as well as the sides to match existing conditions.

Refer to page 11 of this packet.

Item 7: Carriage House

This will be a completely new structure set in the upper north-eastern corner of our site that'll incorporate a hidden dumpster/recycling area and house all site/safety/security upgrades. This building will be constructed of a matching brick with similar details commiserate of the original house. It'll house a secure mail room, a full bathroom, catering kitchen, and storage. We shall move as much power, fire safety, & anything else that would be ideal 'outside' the parameter of the historic structure in our effort to maintain that historicity around the house proper.

Refer to page 1, 2, 13, 14, 15 of this packet.

Item 8: New Back Door

We propose adding a new rear Entrance Hall (formerly the Service Hall) in order to engage the entire site with the house proper, and proposed expanded gardens. We propose to add a complimentary door/sidelights/transom ensemble along that east elevation replacing a small stair window there currently. This door assembly shall align with transom on the nearby Sunroom, with sidelights.

Refer to page 5 of this packet.

Item 9: Restore Slate Roof

Currently covered in later-added asphalt shingles, we propose to return the entire roof to slate with copper flashing, round gutters, & downspouts. However, upon discovery our structural engineer advised a full rebuilding of the failing roof to hold up that re-added weight by restructuring all the minimally sized original, compromised roof joists with a full structural steel frame to support and straighten the entire roof of the original 1851 portion of the house. The entire house, shy lower slopes, shall be reclad in a black, natural slate roof to match the original historic design with snow guards. Refer to Structural Narrative attachment.

Refer to page 7, 12 of this packet.

Item 10: Restructure/Rebuild Existing East Sunroom Into Open Air Porch

We propose the current east Sunroom to be reverted to the original open air porch. However, upon discovery, the current concrete planks, structural columns, & roof joists have all been severely over-compromised through years of construction changes rendering it 'unstable' by our structural engineer. This unsafe structure shall be fully replaced with sturdier applications throughout where hidden with all exposed elements shall match the existing historic appearance (1930+) & Porte Cochere. Refer to Structural Narrative attachment.

Refer to page 4, 5, 10 of this packet.

Item 11: Restore Exterior Window Trim

Repair all wood lintels, sills and medallions. Replace any parts that have degraded beyond restoration with Sapele and paint-as needed. Sapele.

Refer to page 8 of this packet.

Item 12: Shutters

Replace later added damaged shutters on the front facade with new custom made V groove panel design shutters. Boral material would be preferable to ensure the longevity and weather durability. Shutter dog selections shall match age appropriate design. Refer to Boral attachment.

Refer to page 8 of this packet.

Item 13: Dormer Louver

Replace rotted wood louver in 1919 dormer in attic on west elevation with new all copper louver to match what is existing proportions, dimensions, & design.

Refer to page 11 of this packet.

Item 14: Exterior Cornices

Patch and repair any missing or damaged cornice pieces along all elevations.

Refer to page 11 of this packet.

Item 15:

Replace low pitch TPO sunroom roof with copper roof left to patina.

Refer to page 7 of this packet.



Johnson Architecture Inc. 865.671.9060

2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919

Item 16:

Replace all later added aluminum gutters and downspouts with all copper half round gutters, flashing and downspouts.
Refer to page 7 of this packet.

Item 17:

Repoint all compromised mortar as needed.
Refer to page 4 of this packet.

Item 18:

Repoint and/or rebuild all compromised chimneys, roofline up - All salvageable original brick will be saved and reused to rebuild the chimneys. The first line of existing corbel-ing details will be maintained while adding back 3 corbel rows to the top.
Refer to page 6, 9 of this packet.

Item 19:

The north 1919 addition kitchen north chimney shall be repaired, repointed, and capped off with a secure copper lid.
Refer to page 7 of this packet.

Item 20:

Install new copper chimney flue caps with two options for design to choose from.
Refer to page 9 of this packet.

Item 21:

Install Tennessee Marble on all existing concrete slab terraces and under the east covered porch, including replacing wood thresholds at the front (South) and west doors with marble sloping entry aprons, making the western doorway ADA compliant.
Refer to page 4, 6, 17 of this packet.

Item 22:

Install new set of Tennessee marble steps from the Porte Cochere drive path to the elevated covered landing.
TBD - B.P.

Item 23:

Raise column "torus" (decorative raised base) to add 2" to existing concrete plinth (base) return and restore torus atop newly raised base on all columns. Caulk and seal all seams.
Refer to page 4 of this packet.

Item 24:

Construct an all new concrete and brick ADA compliant ramp leading to the accessible entrance on the west elevation at the Port Cochere.
Refer to page 1, 6 of this packet.

Item 25:

Replace later added exterior door leaf on the west elevation to match the east entrance door leaf.
Refer to page 5, 6 of this packet.

Item 26:

Add access control on new door on east elevation and at door on west elevation at the Porte Cochere. The reader will be inset in trim and as hidden as possible.
Refer to page 5, 6 of this packet.

Item 27:

Restore existing 1919 oak front door, sidelights and transom.
Refer to page 3, 4, 11 of this packet.

Item 28:

Install new hand made gas lanterns throughout. Bevolo London Street.
Refer to page 18 of this packet.

Item 29:

Redesign later-added unsafe cellar door entrance to rotate towards west access road. The entrance shall be parallel to the brick wall on the north elevation and leading to a standard, safer basement door access.
Refer to page 1, 7 of this packet.

Item 30:

Replace damaged louver over vent on north elevation with similar louver made of copper and allowed to age naturally.

Item 31:

Install flag pole with compliant up-lighting in the center of the island circling the Porte Cochere.
Refer to page 1 of this packet.

Item 32:

Install a masonry grotto next to the east site stairs. This will be integrated with existing and new hardscapes, providing needed privacy and sound attenuation from neighboring properties.
Refer to page 2, 16 of this packet.

Item 33:

Recessed eave lights will be installed within the eaves of the building on all elevations to assist in illuminating all faces of the house celebrating the texture of the brick, without blinding occupants enjoying the views.
See attachment at end of packet.

Item 34:

Tennessee marble 'cobblestone' pavers shall be installed as accent pavers to new asphalt driveways.
Refer to page 1 of this packet.



PROPOSED LANDSCAPE/SITE DESIGN



Johnson Architecture Inc. 865.671.9060
 2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919

SCALE: 1" = 40'



KEYED SITE PLAN

SCALE: 1" = 40'



IN REBUILDING EACH CHIMNEY, WE ARE RETURNING SOME OF THESE DETAILS, WHILE MAINTAINING STRUCTURAL SOUNDNESS

ALL WOOD LINTELS AND ROSETTS HAVE ALWAYS BEEN PAINTED - WE WILL CONTINUE THIS THROUGHOUT ALL REPAIRS AND ADDITIONS

ORIGINAL SHUTTERS

POST DETAILS MATCH EXISTING BACK PORCH POST DETAILING. WE SHALL MAINTAIN THIS 1919 VOCABULARY ON THE BACK PORCHES HONORING THESE 1919 DETAILS WHILE MAINTAINING THE LATER ADDED FRONT FACADE PORTICO (1930 - 1940). - REFER TO PAGE 5 OF THIS PACKET

ORIGINAL 1851 CONSTRUCTION WITH 1919 PORCH



REBUILD AND RECAP ALL CHIMNEYS - REFER TO PAGE 9 OF THIS PACKET

REOPEN ORIGINAL EAST PORCH - REFER TO PAGE 10 OF THIS PACKET

FRONT FACADE LANDSCAPING TO BE CLEARED FOR VIEWS TO AND FROM SITE - REFER TO PAGE 1 OF THIS PACKET

CURRENT - SOUTH ELEVATION: KINGSTON PIKE

HISTORIC VS CURRENT SOUTH ELEVATION



Johnson Architecture Inc. 865.671.9060

2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919



REMOVE PAINT OFF BRICK WALLS THROUGH DRY ICE BLASTING



REMOVE EXISTING LOWER TERRACE HARDSCAPE IN LIEU OF A NEW FLAT GREEN LAWN - REFER TO PAGE # 1



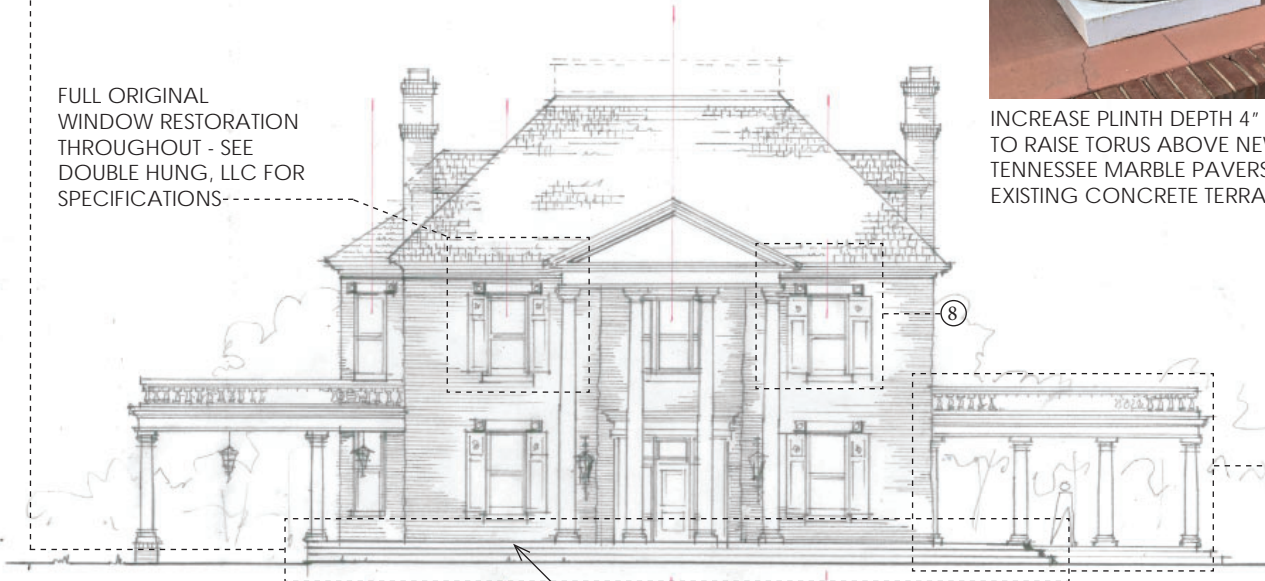
REMOVE ALL INTERIOR PARTITION WALLS, EXTERIOR ENVELOPE, AND REOPEN TO A COVERED PORCH WITH TENNESSEE MARBLE PAVERS - REFER TO PAGE # 17

RESURFACE CURRENT UPPER TERRACE WITH NEW TENNESSEE MARBLE PAVERS - REFER TO PAGE 1, 17 OF THIS PACKET



INCREASE PLINTH DEPTH 4" TO RAISE TORUS ABOVE NEW TENNESSEE MARBLE PAVERS ON EXISTING CONCRETE TERRACE

FULL ORIGINAL WINDOW RESTORATION THROUGHOUT - SEE DOUBLE HUNG, LLC FOR SPECIFICATIONS



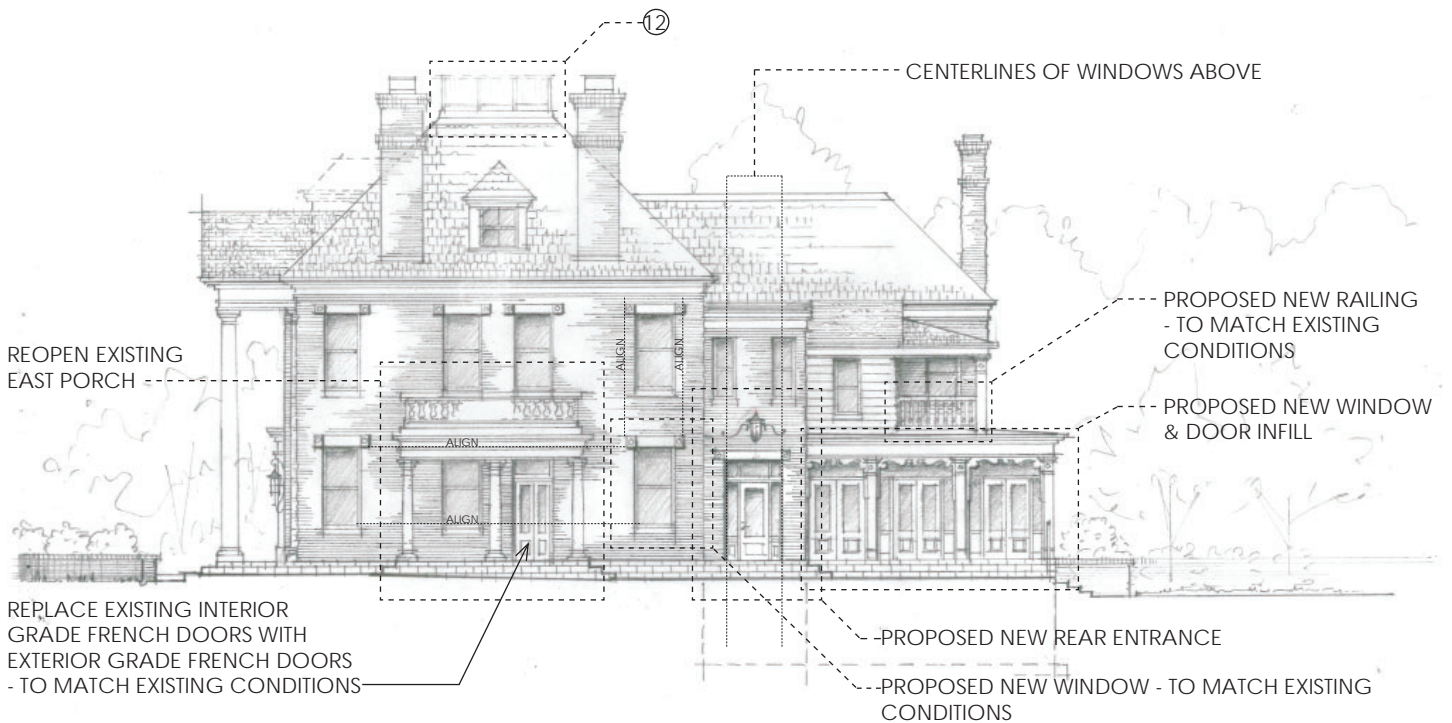
NEW TENNESSEE MARBLE UPPER TERRACE - SEE PAGE # 17

SOUTH ELEVATION: TOWARDS KINGSTON PIKE

SCALE: 1" = 20'



CURRENT - EAST ELEVATION



EAST ELEVATION: TOWARDS DOWNTOWN

SCALE: 1" = 20'



CURRENT - WEST ELEVATION



COPPER LOUVER LOOK INSPIRATION



COPPER FLASHING INSPIRATION DETAIL



WEST ELEVATION: TOWARDS FARRAGUT

SCALE: 1" = 20'



PROPOSED BLACK SLATE AND COPPER SNOW CLEATS



EXISTING BALCONY WALL WITHOUT ACCESS DOOR



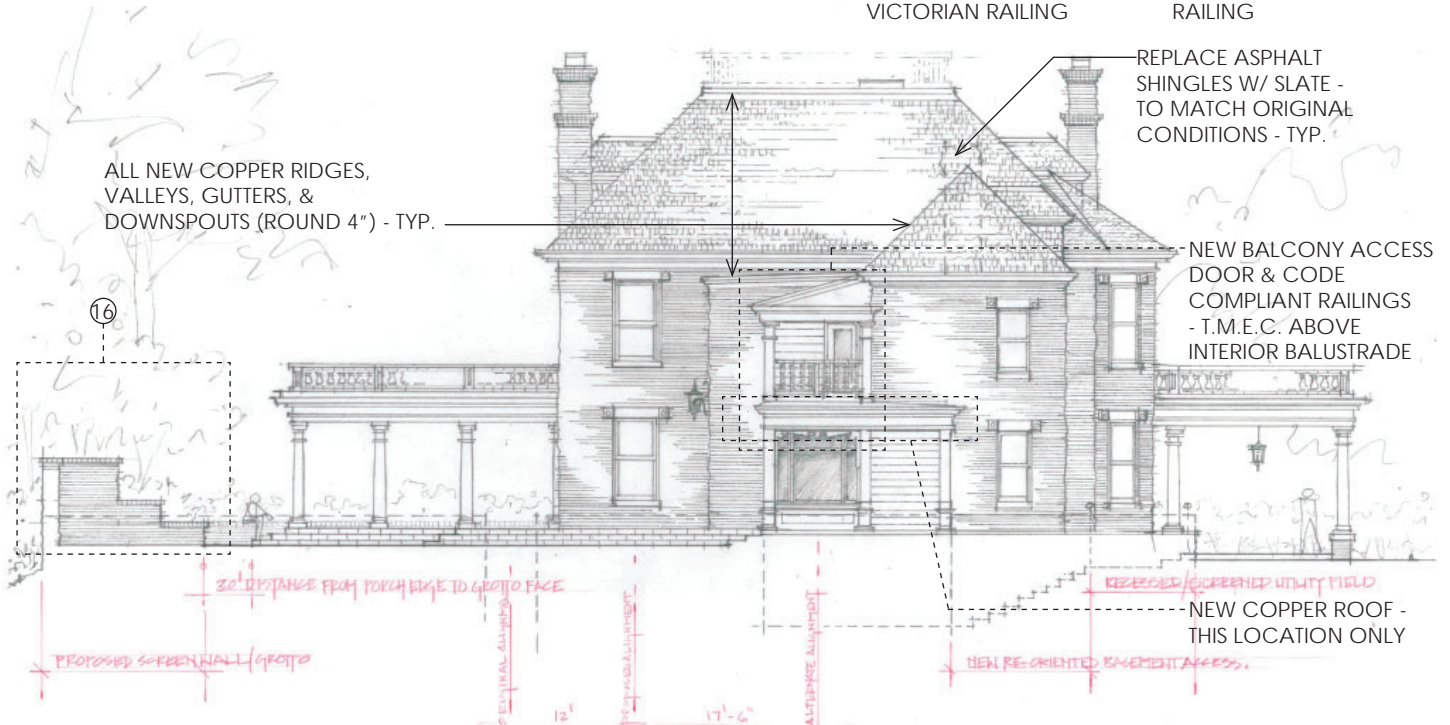
COPPER ROOF FOR LOW SLOPE APPLICATIONS



ORIGINAL INTERIOR VICTORIAN RAILING



ORIGINAL EXTERIOR RAILING



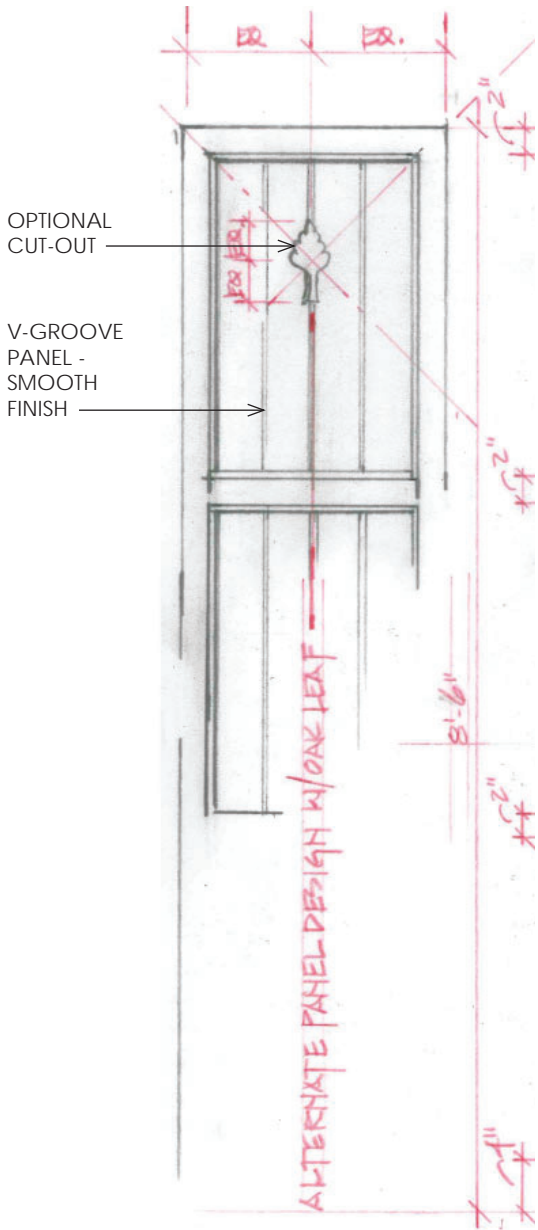
NORTH ELEVATION: TOWARDS I-40

SCALE: 1" = 20'



Johnson Architecture Inc. 865.671.9060

2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919



PROPOSED SHUTTER ALTERNATE MATERIAL FOR MAINTENACE LONGEVITY



SHUTTER DOG SUGGESTIONS

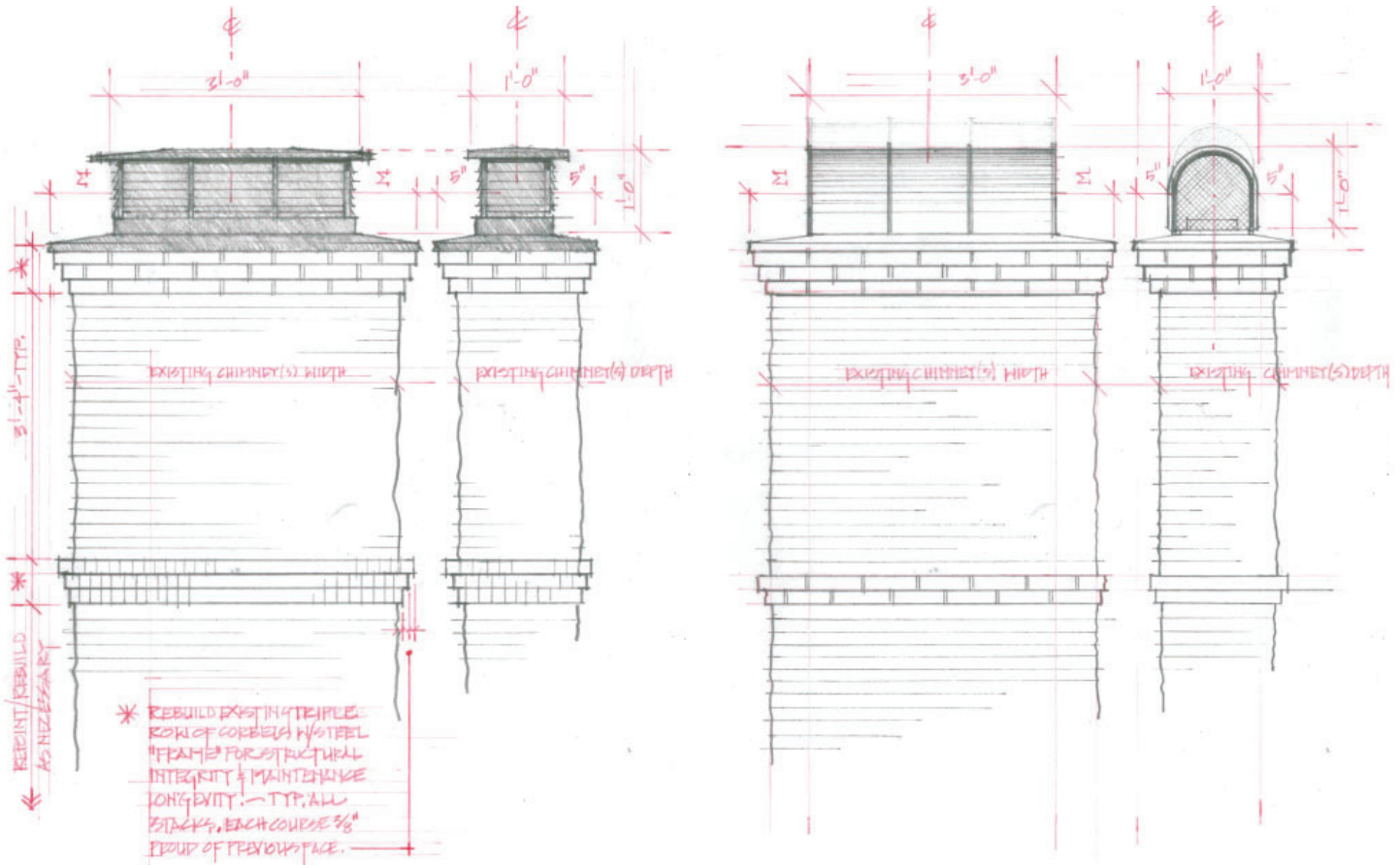


COMPROMISED WOOD (PINE) SILLS



COMPROMISED WOOD (PINE) LOUVERED SHUTTERS

SHUTTERS: SOUTH ELEVATION ONLY



PROPOSED COPPER CHIMNEY CAP OPTIONS WITH RECONSTRUCTION AND CORBELLING EXTENTS



CHIMNEY (SE) - CURRENT



CHIMNEY (SW) - CURRENT



CHIMNEY (KITCHEN)

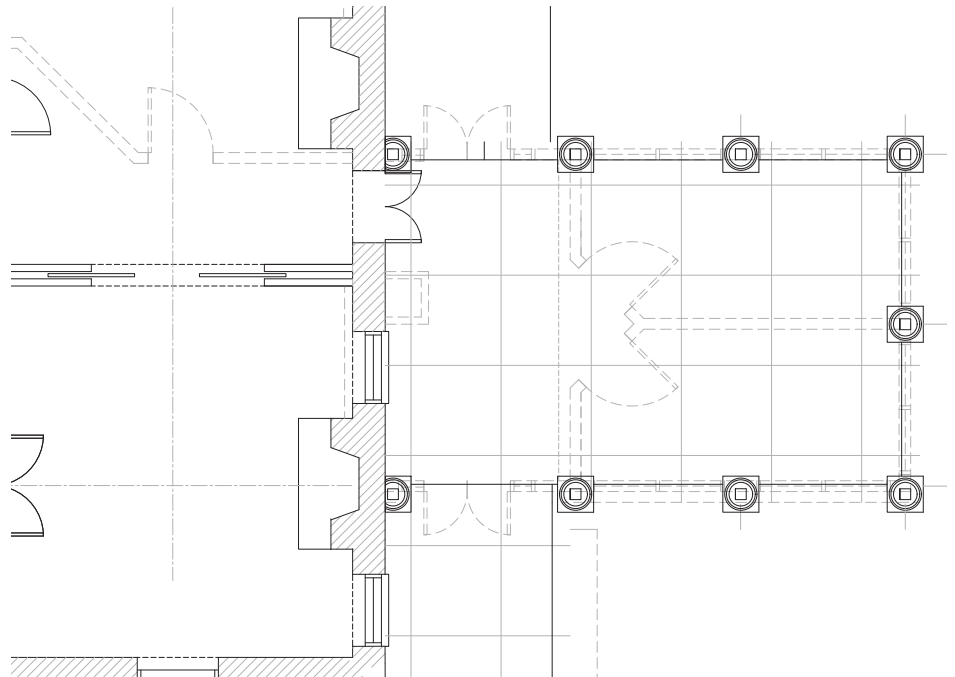
CHIMNEY



PROPOSED WOOD BEADBOARD CEILINGS
- TYPICAL ALL PORCHES AND SUNROOMS



COMPROMISED PORCH STRUCTURE



SUNROOM



Johnson Architecture Inc. 865.671.9060

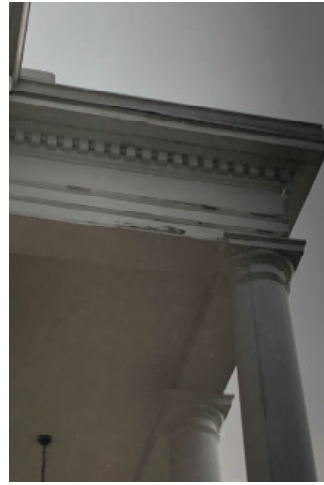
2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919



PROPOSED NEW DORMERS TO MATCH THESE EXISTING DORMERS



MATCH VERTICAL DORMER SLATE WITH NEW ROOF SLATE - TYPICAL



CORNICE REPAIRS - TYPICAL



FULLY RESTORED 1919 FRONT DOOR



PROPOSED NEW DORMERS - TO MATCH EXISTING CONDITIONS

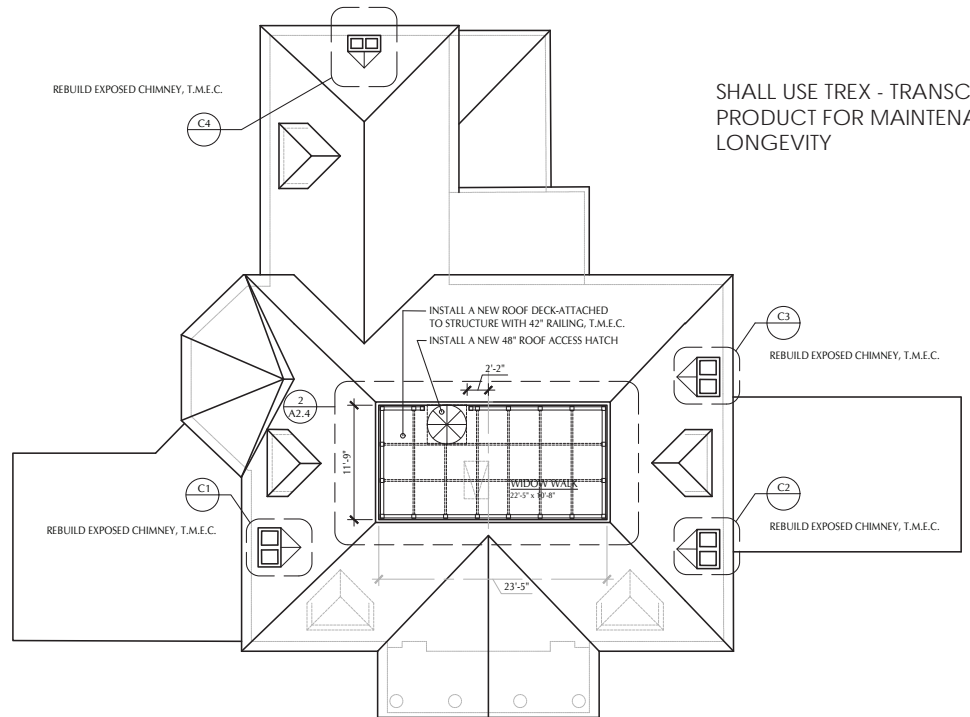
PROPOSED DORMERS: SOUTH ELEVATION ONLY



SEE STRUCTURAL NARRATIVE AT THE END OF PACKET



PROPOSED RAILING



MAINTENANCE MEZZANINE



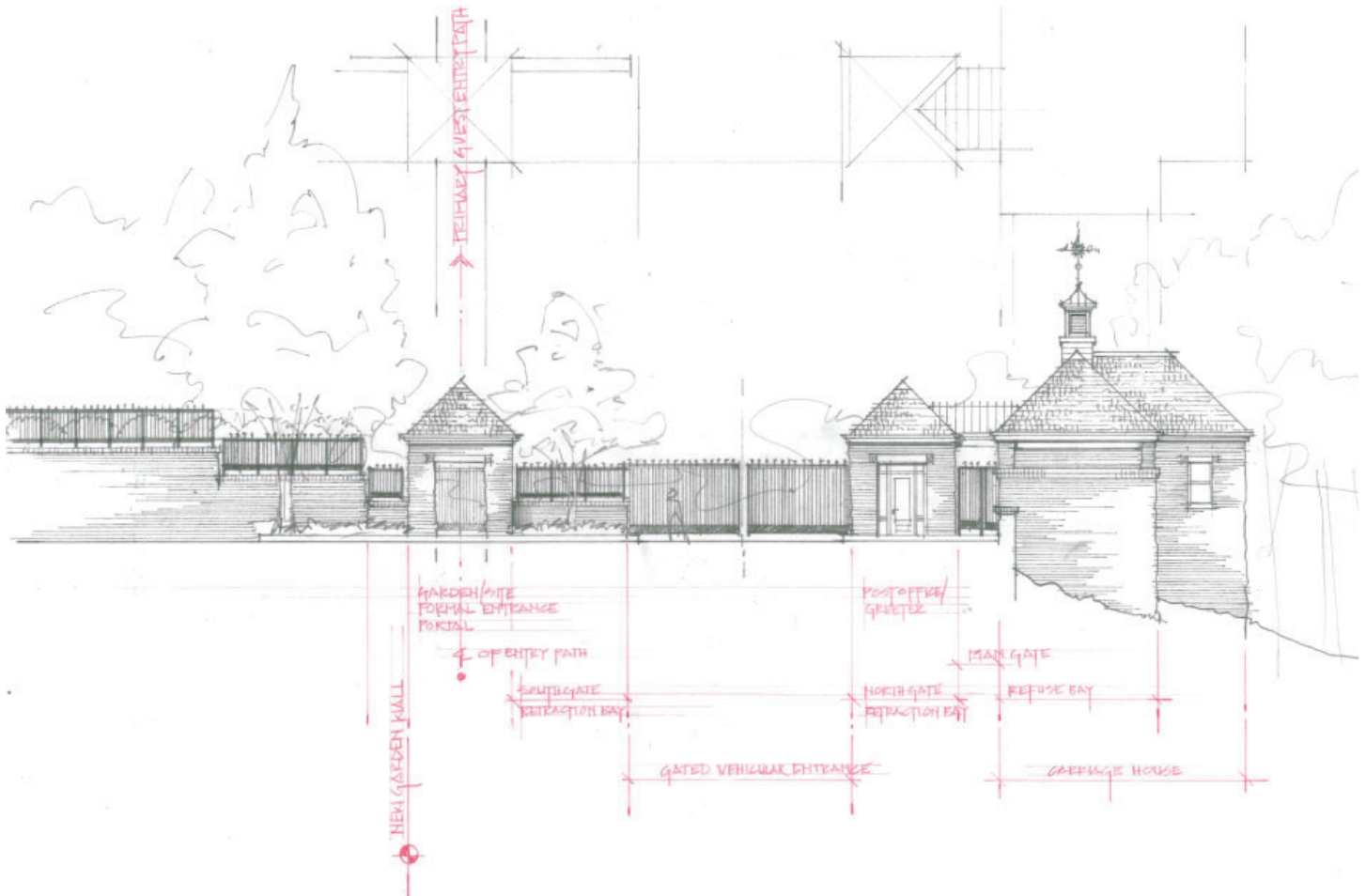
MATCHING GARDEN PAVILIONS INSPIRATION



GARDEN PAVILION INSPIRATION



GARDEN PAVILION MATERIALITY AND SCALE INSPIRATION



CARRIAGE HOUSE - EAST ELEVATION: FACING ENTRY DRIVE

SCALE: 1" = 20'



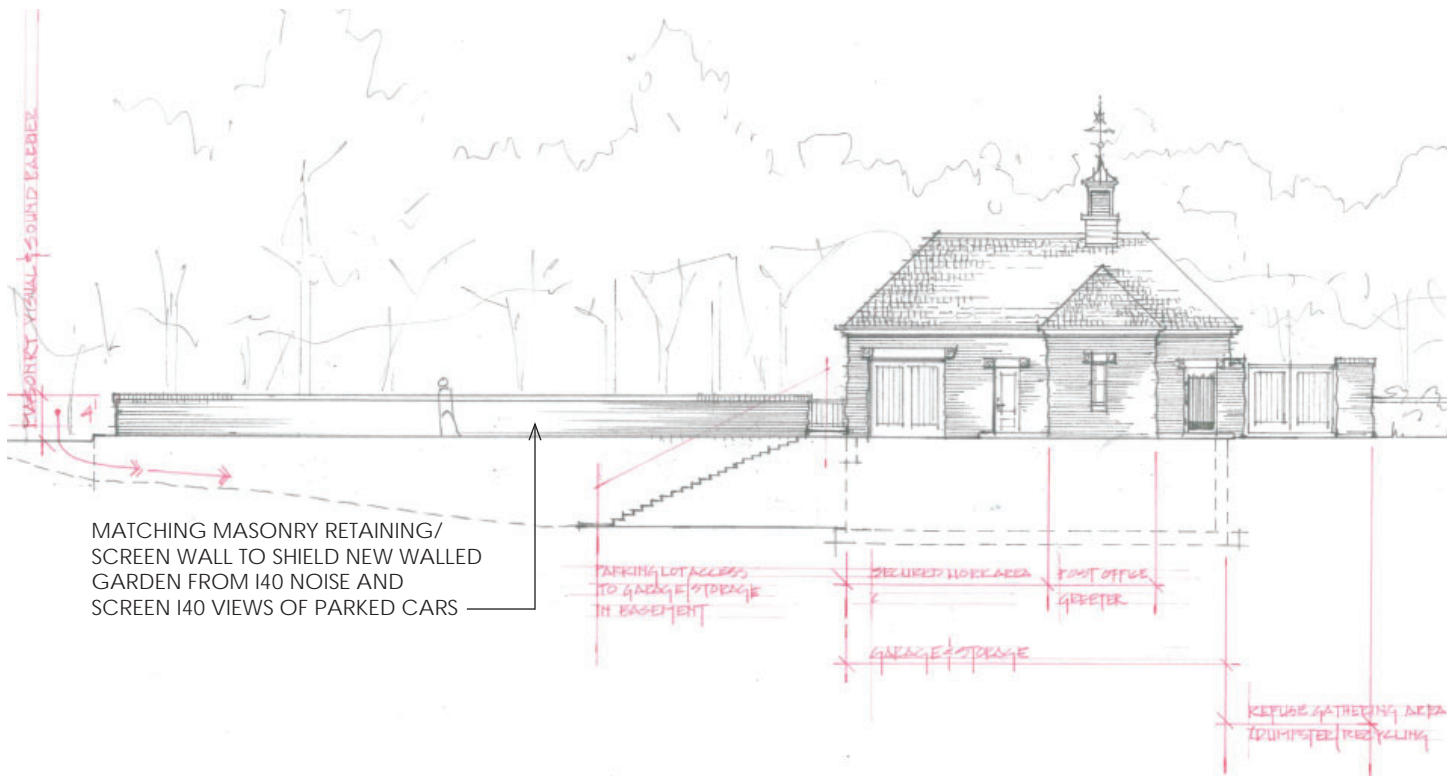
VIEW NORTH-EAST FROM EXISTING HOUSE TO PROPOSED LOCATION FOR THE 'CARRIAGE HOUSE' SUPPORT BUILDING



BLACK SLATE ROOF WITH COPPER TO BLEND WITH MAIN HOUSE

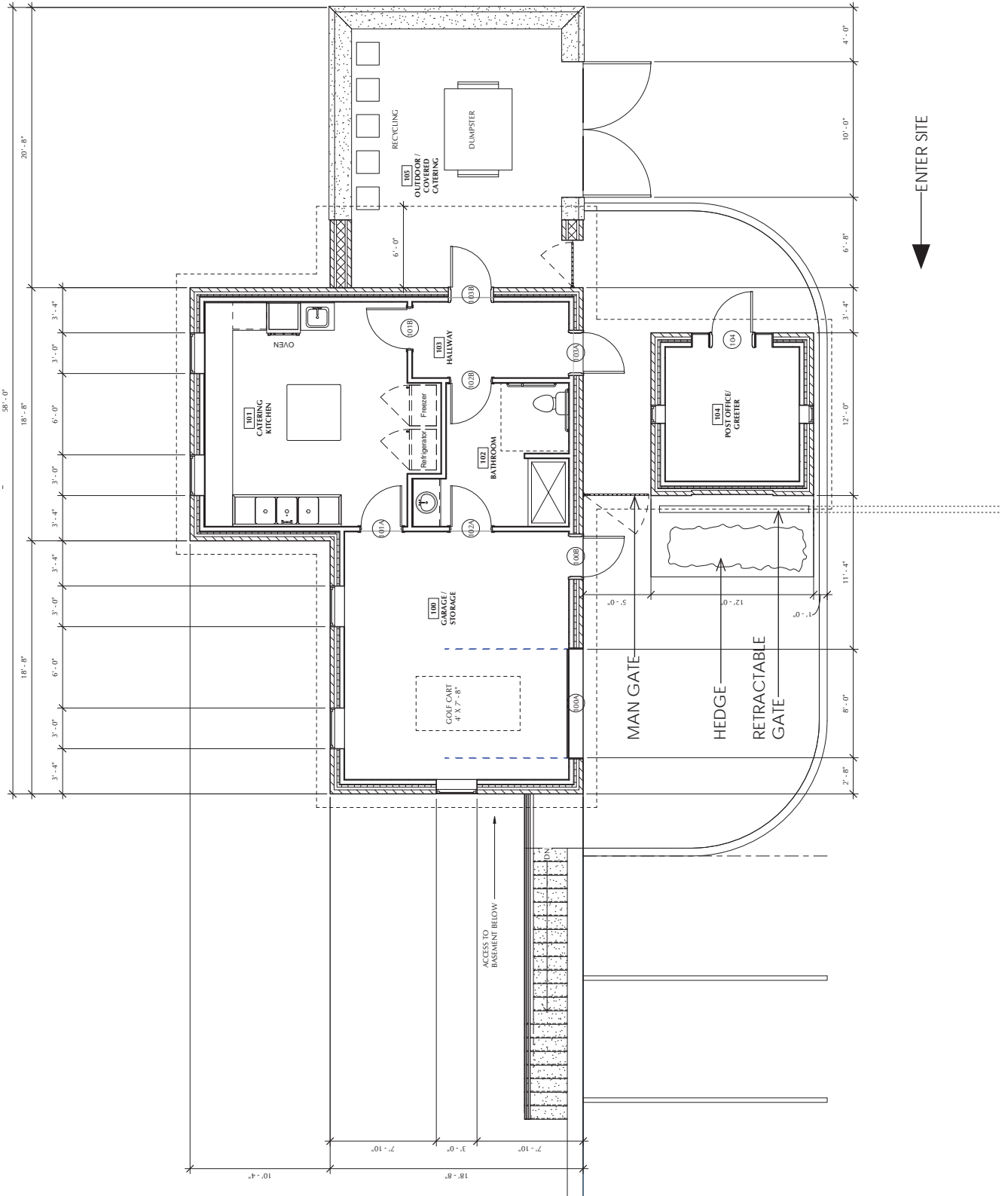


WINDOW HEADER, ROSETTE, AND SILL PROFILES TO MATCH EXISTING CONDITIONS



CARRIAGE HOUSE - SOUTH ELEVATION: FACING BACK OF HOUSE

SCALE: 1" = 20'



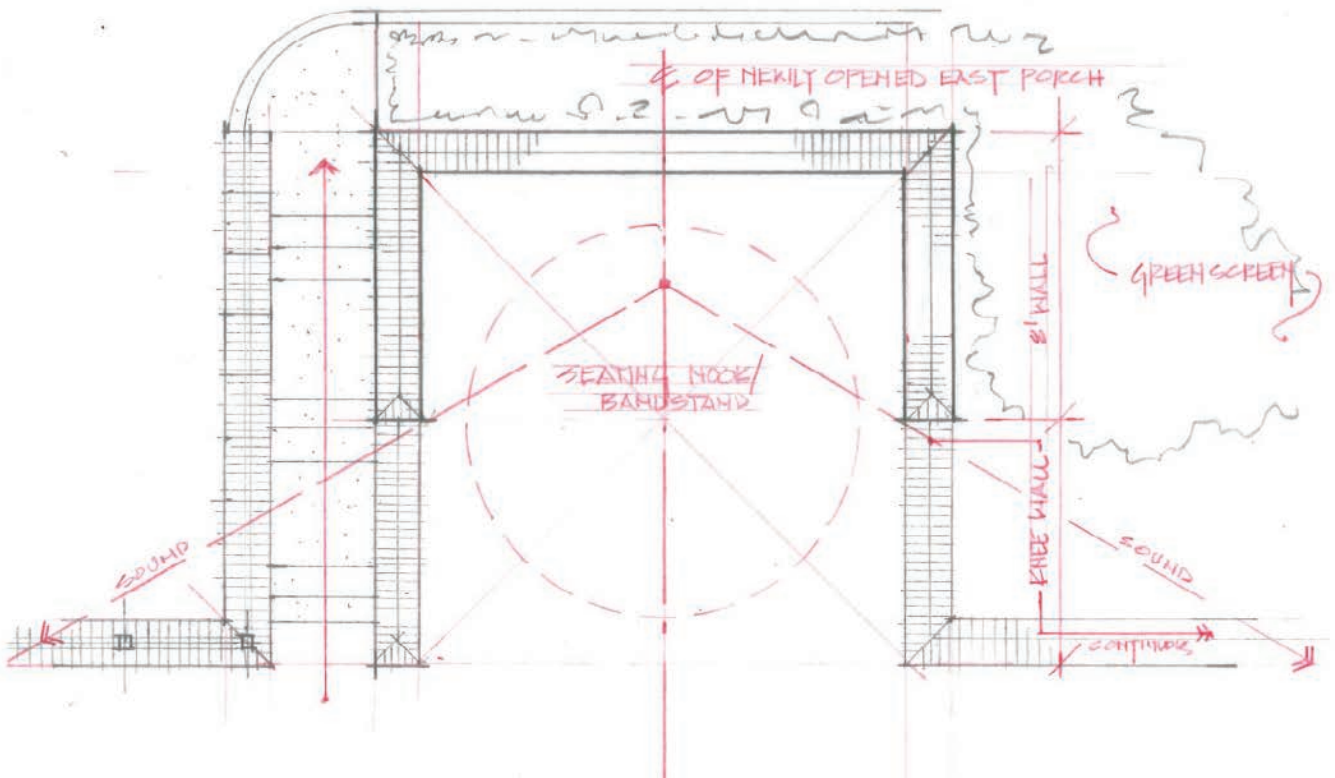
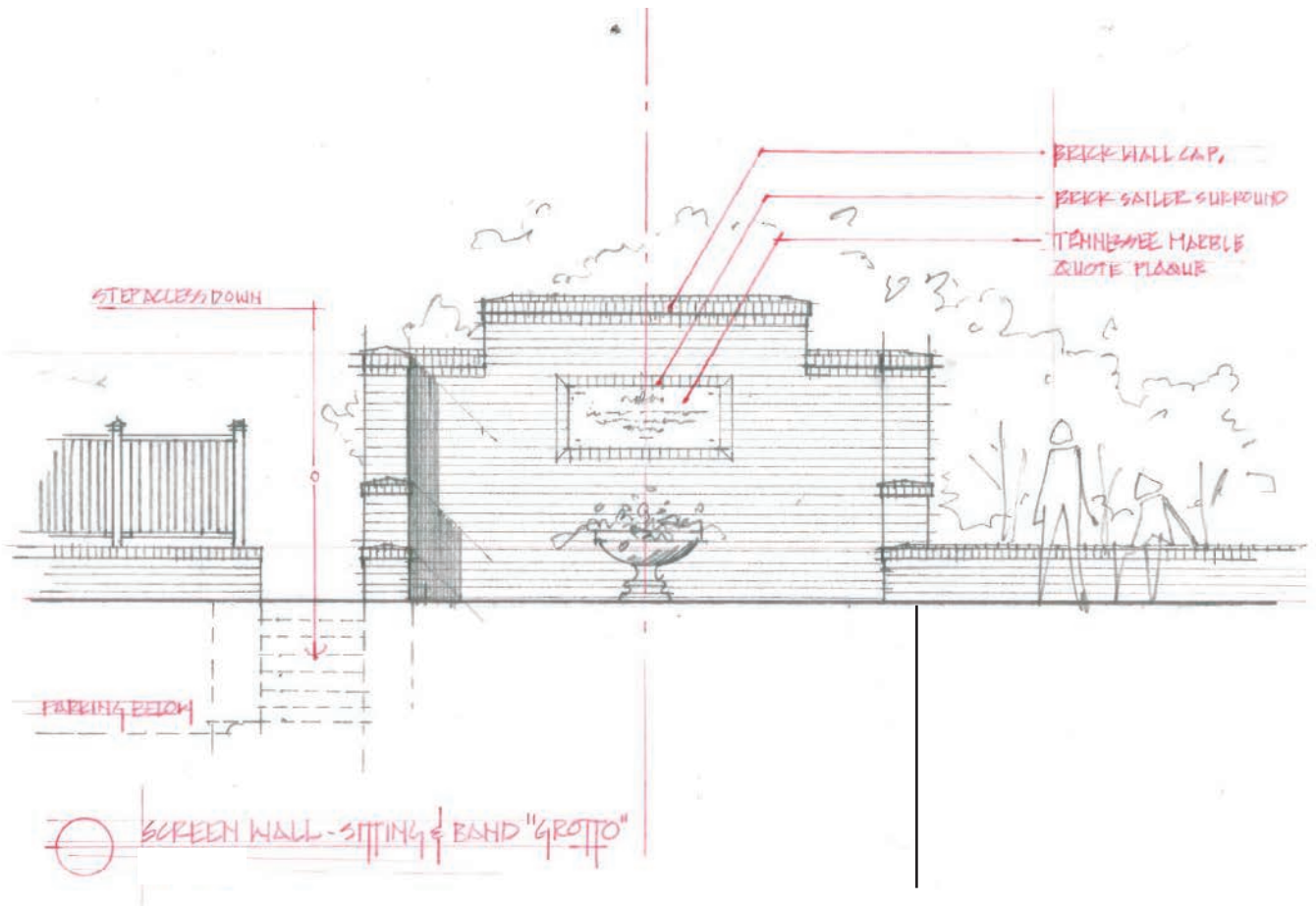
CARRIAGE HOUSE - PLAN

SCALE: 3/32" = 1'



Johnson Architecture Inc. 865.671.9060

2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919



WALLED GARDEN GROTTTO

SCALE: 3/16" = 1'

LOWER TERRACES AND PATHS



HERRINGBONE BRICK PAVERS - COLOR TBD



UPPER TERRACE



DAYTIME TENNESSEE MARBLE - 10 X 20
RUNNING BOND PATTERN



NIGHTTIME TENNESSEE MARBLE - 10 X 20
RUNNING BOND PATTERN



TENNESSEE MARBLE - 10X20 'RANGE FINISH'

SITE PAVERS

FRONT VIEW (NTS)

SIDE VIEW (NTS)

ISOMETRIC VIEW (NTS) - BRACKET ONLY

5" x 12" SCALLOPED BACK PLATE

NOTES:

1. MOUNTING HARDWARE SUPPLIED BY OTHERS
2. FIXTURES ARE HANDCRAFTED. DIMENSIONS MAY VARY PLUS OR MINUS 1/4"
3. ELECTRIC LIGHTS SUPPLIED WITH 18/2 WIRE WITH GROUND
4. GAS LIGHTS SUPPLIED WITH 3/16" COPPER GAS LINE AND 3/16" x 1/4" GAS LINE ADAPTOR

SIZE:	31" 25" LS	35" 28" LS	43" 35" LS
A:	45"	47"	52 7/8"
B:	12 1/2"	14 1/2"	17 7/8"
C:	21 5/8"	23 3/4"	25 1/2"
D:	5"	5"	5"
E:	13"	13 3/4"	16 3/4"
F:	18 1/4"	22 1/4"	26 8/8"
G:	8"	9 1/2"	9 1/2"

BEVOLO GAS & ELECTRIC LIGHTS		DRW BY:	JJG	<small>COPYRIGHT 2019, BEVOLO GAS & ELECTRIC LIGHTS. THIS DRAWING AND ANY DESIGN OR DATA CONTAINED THEREIN ARE CONSIDERED PROPERTY OF BEVOLO GAS AND ELECTRIC LIGHTS. NEITHER THE DRAWING NOR ITS CONTENT MAY BE COPIED, REPRODUCED, OR EDITED TO A LIKENESS WITHOUT THE WRITTEN CONSENT OF BEVOLO GAS AND ELECTRIC LIGHTS.</small>
LIGHT:	LONDON STREET w/ LONDON BOTTOM	DATE:	JJG	
BRACKET:	RODIN BRACKET	5-8-19	REVISION: 2	



LANTERNS



Johnson Architecture Inc. 865.671.9060
 2240 Sutherland Avenue, Suite 105 Knoxville, TN 37919



Double Hung, LLC

Historic Window Restoration

2801 Patterson Street

Greensboro, NC 27407

Phone: 888.235.8956

Fax: 866.681.1080

May 1st 2022

RE: Knollwood Bearden Hill Window Restoration

SCOPE OF WORK SUMMARY

- (35) - 1/1 Large Double Hung
- (2) - 1/1 Small Double Hung side lites
- (6) - 2/2 Dormer Double Hungs
- (4) - Front side lite windows, restore in place
- (2) - 1 -Lite Window well windows

Planned Site Labor Hours: 781.43

Planned Shop Labor Hours: 1241.14

Detailed Scope of Work

• Removal of wood sash

- The sash and interior stops will be carefully removed and staged in preparation to transporting to the DH shop in Greensboro.
- As the window sash and stops are removed, they will be ID tagged for their original location, based on DH's standard numbering protocol.
- Temporary plywood infill panels will be installed and made as weathertight as possible, maintenance by GC staff
- Clean up of debris/area daily included

• Restoration of window frames in situ

- On-site paint removal from the frames is limited to severely loose and flaking paint, inhibiting paint build-up, and where wood repairs are to be completed. *This does not include removing frame elements to bare wood.*
- Damaged or weathered wood will be repaired using a combination of liquid wood consolidation, wood epoxy fill and dutchman.
- Existing weatherstrip will be cleaned and left in place. Missing weatherstrip will be replaced with matching material (this bid assumes zinc t-track)
- Newly milled and fabricated components will be shop primed prior to installation.
- Bare wood will be primed only. On-site finish painting to be completed by others.
- Elements requiring complete replacement, may require a change order. (Complete frame replacement/complete sill replacement/threshold removal and replacement)

• Restoration of wood windows

- The sash will be placed in a steam box until the glazing compound and paint layers have been softened and released.
- The existing glass will be carefully removed, cleaned and salvaged for reinstallation. Broken glass will be replaced with matching wavy glass. This bid carries a \$900 allowance for glass material
- The existing paint will be removed down to sound substrate
- Repairs will be completed, including minor joinery adjustments, epoxy consolidation and fill, as well as limited selective wood replacement. Elements that are over 30% damaged will be replicated and replaced.
- The repaired sash will be sanded in preparation for primer. The moisture content will be checked to verify in compliance prior to prime and paint application.

- One coat of oil-based primer will be applied prior to re-glazing the sash where finish paint is required.
- The salvaged existing glass will be cleaned, protected and re-used. Broken glass both from process and existing will be replaced with historic replica wavy. We assume an 8% breakage of existing glass during restoration. We include a \$900 budget for glass replacement on the project.
- The sash will be re-glazed with Sarco Multi-Glaze Type M glazing putty. Hand-tooled to a smooth and consistent surface and allowed to cure prior to handling.
- Once glaze putty has set up for 7-10 days. Two coats of finish paint to be shop applied. This budget includes finish painting of sash in shop only. No finish coating on site of frame/stop/sash.
- The existing hardware will be cleaned, polished, clear coated and prepared for reinstallation. Missing hardware will be priced once cataloged. No custom casting is included at this time
- The glass will be shop cleaned.
- The restored sash will be carefully packed and loaded in preparation to be returned to the site.

● **Installation of restored wood windows**

- The sash will be carefully unloaded and staged for reinstallation. The units will be reinstalled to their original location based on the ID tags.
- The salvaged interior stop will be reinstalled. Damaged stop will be replaced with new that matches the existing and is pre-primed. Installed interior stop to be finished painted by others.
- Existing in place weatherstrip will be salvaged. New zinc T-track weatherstrip will be installed where damaged or missing. We include adding J-track at meeting rails in this bid
- Re-Install restored hardware
- Adjust operable sash for proper function.

● **Demobilization and Final Clean-up**

- Once the sash are installed, the work and function will be reviewed with the Contractor/Owner
- The access equipment, tools and protection will be loaded and removed from the site.
- Final clean up and leave the property as it was found.

Inclusions

1. Scope of work above as agreed, notes above supersede plan notes
2. Coordination of schedule and sequencing with GC
3. LBP safe practices, handling & disposal
4. Travel & Logistics
5. Basic OSB temporary infill panels.
6. One-year warranty on workmanship- commencing on the date of substantial completion of our scope of work.

Exclusions

1. Repair or finish work to exterior trim, interior casing, or exterior brick mold. We include repair of bottom 12" of existing brick mold
2. Perimeter sealant work or onsite finish coating
3. Modification of sash to return them back to their original 2/2 configuration
4. Modification of frames to return them back to their original condition.
5. We do not include any door/shutter/screen or architectural woodwork in this bid
6. Removal and reinstallation of window frames. Repair in place only.
7. Removal, storage, or installation of window treatments
8. Removal of interior/exterior storm windows.
9. Procurement or installation of new storm windows
10. Procurement or installation of screens or shutters
11. Procurement of custom matching hardware.
12. No Plaster/Masonry/Lintel Work
13. Installation of security treatments
14. Scaffolding, lifts, hoists or cranes. Non are anticipated for our scope of work
15. Overtime for accelerated schedules or after-hours work
16. Final punch list cleaning of glass
17. On-going maintenance of temp infill panels once installed and offsite

BENDER & ASSOCIATES
Structural Engineers, LLC

PROJECT MEMO

TO: Brian Pittman
Johnson Architecture

FROM: Rob Houser PE
President
Bender & Associates
Structural Engineers, LLC

DATE: April 28, 2022

SUBJECT:Knollwood House
Structural Narrative

Roof

The main roof structure appears to be original, and it is generally framed with 2x4 rafters at approximately 24" o.c with a "flat" (low slope) area in the center. The framing is basically leaning into itself with modest truss type ties across the attic. There is significant visible sag in the roof due to the undersized members used in construction of the original house.

Since the desire for the design is install true slate shingles and a maintenance platform, there are several facets of the structure that will not meet modern standards for the support of such a heavy roof. It is our recommendation that the roof be restructured.

This will require removal of existing roof structure to facilitate the installation of new framing material. The new framing will help mitigate sags and provide support for the slate shingles. The construction process will be done in stages to allow as much roof to remain as possible to help prevent water intrusion during the process.

East Porch

This area is mostly of modern construction with a precast floor and a wood roof structure. The wooden roof structure has been severely compromised as it has been cut repeatedly for ductwork through most of the members. With our client's desire to return this current Sunroom back into an original open-air porch, the floor will need to support a significantly heavy new floor finish, and since the precast design strength is not known, best practice should replace with a new slab on grade.

Since the roof framing and floor framing must be removed to repair, the design team has reached a consensus that the east porch should be removed and replaced with a new/safer structure that will architecturally match the existing look including the rails on the roof and columns.

Sunroom (North-East Side)

BENDER & ASSOCIATES

Structural Engineers, LLC

There will be few structural modifications as necessary to the sunroom. The interior finishes are to be removed such that we can review the existing structure, while the exterior look will not change other than what is being proposed to enclose the room. The 1982 infill design with new doors, sidelights, and transoms-maintaining the original 1919 porch posts and bracket design.

Basement

The area under the main house is to be excavated for a review of the framing and to improve crawl space air flow. Care will be taken by the contractor so as not to undermine the structure. An access opening will be cut in one wall to facilitate the coordinated removal of soil. Once visible, we will review the framing to determine its condition and address issues we may find.

General Interior Framing

We are doing a general review of the interior framing as it relates to office loading. Some areas that we have already seen will need some reinforcing. We will do this with wood/LVL wherever possible while all repairs here shall be hidden.

New Openings in Exterior Walls

Nominal new openings for a window and door on the east side will be supported by new galvanized steel angles yet detailed to match existing conditions otherwise.

As always, when restoring an old structure there are bound to be some unknowns found during the construction process that may need analysis/correction, and we will address these as they reveal themselves. We will work with you to plan ahead as much as practical.



2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE 2LEDTRIM G2 ADJ



Project: _____

Fixture Type: _____

Location: _____

Contact/Phone: _____

PRODUCT DESCRIPTION

2 inch aperture recessed downlight is IC rated for insulated or non-insulated applications • Luminaire produces up to 1000 lumens and is available with optical distributions approximating that of 75W MR16 halogen lamps • Low profile form factor allows luminaire to fit in 2 x 6 construction • Designed to provide 50,000 hours of life • 5 year limited warranty on LED Components.

ENVIRONMENTALLY FRIENDLY, ENERGY EFFICIENT

- No harmful ultraviolet or infrared wavelengths
- No lead or mercury, RoHS compliant
- Comparable light output up to a 75W MR16 halogen lamp

PRODUCT SPECIFICATIONS

LED Light Engine Exceptional fixture to fixture color consistency within a 3-step MacAdam ellipse • 2700K, 3000K, 3500K, and 4000K color temperatures are available with 80 CRI or 90 CRI minimum.

Modular Optics Available with field interchangeable optics in 18° Spot, 24° Narrow Flood, or 40° Flood distributions • Gimbals provides up to 35° vertical aiming and 360° horizontal aiming.

Aesthetic Trim Trim features die cast beveled knife edge trim ring for clean ceiling interface available in white, black, satin nickel, or brushed bronze • Die cast baffles are available in white, black, satin nickel, or brushed bronze

LED Driver Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) driver that accommodates input voltages from 120-277 volts AC at 50/60Hz • Power factor > 0.9 • Dedicated 120 volt driver (120) is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage dimmers • Universal voltage driver (MVOLT) is dimmable with the use of most 0-10V protocol dimmers • For a list of compatible dimmers, see [JUNO2ING2-DIM](#).

Life Rated for 50,000 hours at 70% lumen maintenance.

Labels ENERGY STAR® Certified • 90CRI fixtures are certified to the high efficacy requirements of California T24 JA8-2016 • Meets energy code Air Leakage requirements per ASTM E283 • UL and cUL listed for damp locations • 2NCHSG option is compatible with spray foam insulation with an R-value of 3.2 per inch or less.

Junction Box Includes (2) 1/2" knock-outs equipped with pryout slots • Push-in electrical connectors for field connections.

Mounting Remodel style plaster frame installs from below the ceiling and accommodates ceiling thicknesses from 1/2" to 1" • For thicker ceilings up to 1 1/2", order 2JCTA150 • New Construction mounting frame, 2NCMF, is also available with Patented (US Patent D552,969) Real Nail 3° telescoping bar hangers to position fixture and locate wiring prior to ceiling installation • Recommend a minimum of 5.5" cavity depth to install properly • Flexible supply is recommended and non-flexible supply requires top access.

Real Nail 3 Bar Hangers 2NCHSG new construction housing and new construction mounting frame, 2NCMF, available with telescoping Real Nail® 3 system which permits quick placement of housing anywhere within 24" O.C. joists or suspended ceilings • Includes removable nail for repositioning of fixture in wood joist construction • Integral T-bar notch and clip for suspended ceilings • Design covered under US Patent D552,969 • 2NCHSG requires 2x8 construction

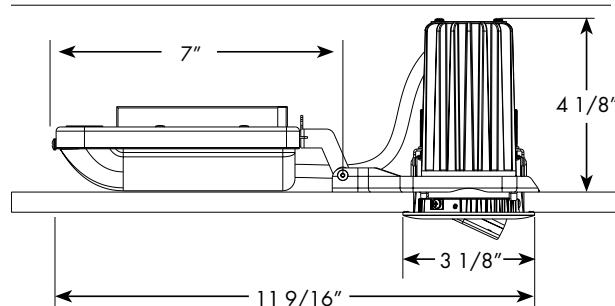
Specifications subject to change without notice.



Trim Finishes



DIMENSIONS



2 5/8" CEILING CUTOUT

ELECTRICAL DATA (600L)

	Dedicated 120V (120)	Universal Voltage (MVOLT)	
Voltage	120	120	277
Input Power	7.5 (±5%)	7.2	7.5 (±5%)
Input Current	.06	.06	.03
Frequency	50/60Hz	50/60Hz	
Power Factor	>0.9	>0.9	>0.9

ELECTRICAL DATA (1000L)

	Dedicated 120V (120)	Universal Voltage (MVOLT)	
Voltage	120	120	277
Input Power	11.5 (±5%)	10.9	11.4 (±5%)
Input Current	.10	.09	.04
Frequency	50/60Hz	50/60Hz	
Power Factor	>0.9	>0.9	>0.9

2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE 2LEDTRIM G2 ADJ

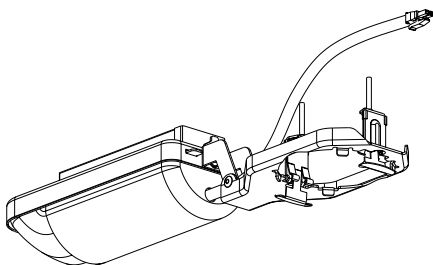
ORDERING INFORMATION DRIVER AND TRIM EACH ORDERED SEPARATELY.

DRIVER:

Example: 2LEDDRIVER G2 06LM 120 FRPC

Series	Generation	Lumens	Voltage	Driver
2LEDDRIVER Juno Recessed 2" Driver	G2 Generation 2	06LM 600 Nominal Lumens 10LM 1000 Nominal Lumens	120 120V MVOLT Multi-Volt (120-277V)	FRPC Forward/Reverse Phase Cut ZT 0-10V Dimming

Note: 120V must be ordered with FRPC.
MVOLT must be ordered with ZT



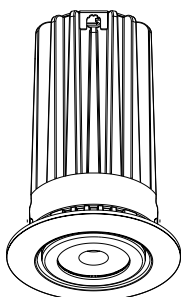
MOUNTING FRAME/DRIVER ASSEMBLY

Note: Driver assembly only intended for use with Gen2 LED trim modules. Not backward compatible with previous generation.

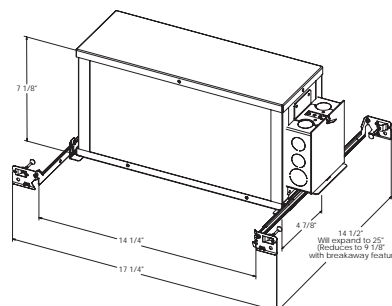
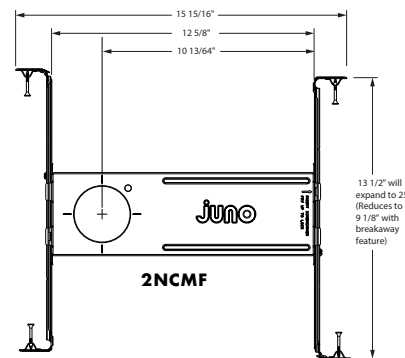
TRIM:

Example: 2LEDTRIM G2 ADJ 27K 80CRI FL BL

Series	Generation	Trim Designation	Color Temperature	CRI	Distribution	Trim Finish
2LEDTRIM Juno Recessed 2" LED Trim	G2 Generation 2	ADJ Round Adjustable	27K 2700K 30K 3000K 35K 3500K 40K 4000K	80CRI 80+ CRI 90CRI 90+ CRI	FL Flood NFL Narrow Flood SP Spot	BL Black BRZ Bronze SN Satin Nickel WH White

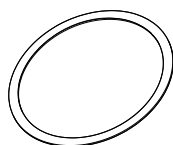


TRIM/LED ASSEMBLY

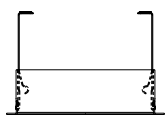


ACCESSORIES

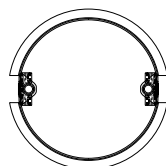
Catalog No.	Description
2NCMF	New Construction Mounting Frame with Real Nail® 3 bar hangers
2NCHSG	2" New Construction Housing for spray foam installation
2DTCA	2" LED Drop Tile Ceiling Adapter
2JCTA150	Thick Ceiling adapter for 1" - 1 1/2" thick ceiling
LEDOPTIC2 SP	18° Spot Optic
LEDOPTIC2 NFL	24° Narrow Flood Optic
LEDOPTIC2 FL	40° Flood Optic



2DTCA



2JCTA150



2NCHSG

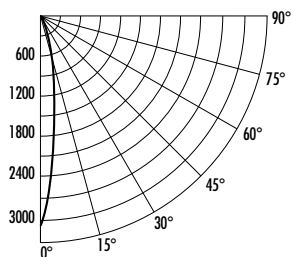
2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE 2LEDTRIM G2 ADJ

PHOTOMETRICS

PHOTOMETRIC REPORT

Test Report#: PT07161925
Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
SP WH (600L), Adj Gimbal
with Spot Optic

Luminaire Spacing Criteria: 0.32
Luminaire LPW: 95



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	3090
5	2523
15	816
25	275
35	127
45	51
55	17
65	10
75	6
85	2
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	49	44	39
5'	32	28	25
6'	22	19	17
7'	18	16	14
8'	14	12	11
9'	11	10	9
10'	8	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	560	N/A	78.5
0-40°	638	N/A	89.5
0-60°	695	N/A	97.5
0-90°	713	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 7.5W, 17.7° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	193.1	1.2
6'	85.8	1.9
8'	48.3	2.5
10'	30.9	3.1
12'	21.5	3.7

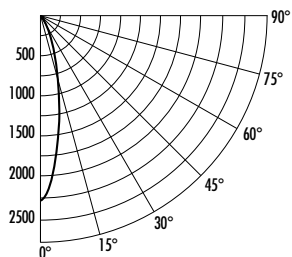
LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	81936
55°	34328
65°	26240
75°	24484
85°	27265

PHOTOMETRIC REPORT

Test Report#: PT07161926
Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
NFL WH (600L), Adj Gimbal
with Narrow Flood Optic

Luminaire Spacing Criteria: 0.42
Luminaire LPW: 95



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	2286
5	2009
15	840
25	304
35	127
45	51
55	21
65	11
75	6
85	2
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	50	44	39
5'	32	28	25
6'	22	19	17
7'	18	16	14
8'	14	12	11
9'	11	10	8
10'	8	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	552	N/A	77.4
0-40°	633	N/A	88.8
0-60°	694	N/A	97.2
0-90°	714	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 7.5W, 24.4° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	142.9	1.7
6'	63.5	2.6
8'	35.7	3.5
10'	22.9	4.3
12'	15.9	5.2

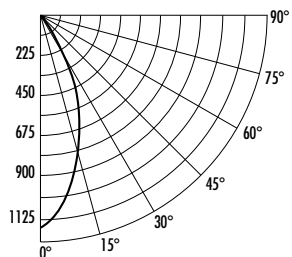
LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	81296
55°	41627
65°	29721
75°	27982
85°	27265

PHOTOMETRIC REPORT

Test Report#: PT07161927
Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
FL WH (600L), Adj Gimbal
with Flood Optic

Luminaire Spacing Criteria: 0.70
Luminaire LPW: 95



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	1141
5	1105
15	823
25	439
35	168
45	55
55	20
65	7
75	3
85	0
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)

Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	50	43	38
5'	32	27	24
6'	22	19	17
7'	18	15	14
8'	14	12	11
9'	11	9	8
10'	8	7	6

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixture
0-30°	531	N/A	74.3
0-40°	639	N/A	89.5
0-60°	702	N/A	98.4
0-90°	714	N/A	100.0

INITIAL FOOTCANDLES

(One Unit, 7.5W, 43.1° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	71.3	3.2
6'	31.7	4.7
8'	17.8	6.3
10'	11.4	7.9
12'	7.9	9.5

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	88657
55°	39852
65°	19814
75°	13116
85°	1298

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.

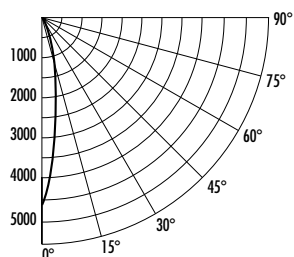
Multiplier:	80 CRI	90 CRI
	27K = .94	27K = .83
	30K = .97	30K = .86
	35K = 1.00	35K = .88
	40K = 1.03	40K = .90

2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE 2LEDTRIM G2 ADJ

PHOTOMETRICS

PHOTOMETRIC REPORT

Test Report#: PT07161928
 Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
 SP WH (1000L), Adj Gimbal
 with Spot Optic
 Luminaire Spacing Criteria: 0.32
 Luminaire LPW: 96



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	4605
5	3793
15	1256
25	427
35	190
45	78
55	27
65	15
75	9
85	4
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)
 Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	76	67	60
5'	49	43	38
6'	34	30	27
7'	27	24	22
8'	22	19	17
9'	17	15	13
10'	12	11	10

INITIAL FOOTCANDLES (One Unit, 11.4W, 18.2° Beam)

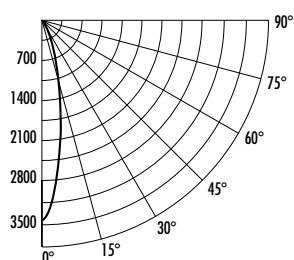
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	287.8	1.3
6'	127.9	1.9
8'	71.9	2.6
10'	46.0	3.2
12'	32.0	3.8

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	124984
55°	53267
65°	40163
75°	38475
85°	48039

PHOTOMETRIC REPORT

Test Report#: PT07161929
 Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
 NFL WH (1000L), Adj Gimbal
 with Narrow Flood Optic
 Luminaire Spacing Criteria: 0.42
 Luminaire LPW: 95



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	3480
5	3061
15	1280
25	462
35	192
45	77
55	32
65	17
75	10
85	4
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)
 Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	75	67	59
5'	48	43	38
6'	34	30	26
7'	27	24	21
8'	21	19	17
9'	16	14	13
10'	12	11	9

INITIAL FOOTCANDLES (One Unit, 11.4W, 24.4° Beam)

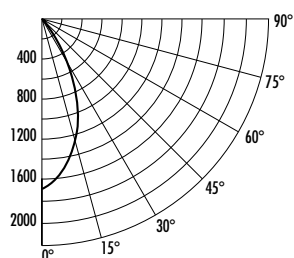
Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	217.5	1.7
6'	96.7	2.6
8'	54.4	3.5
10'	34.8	4.3
12'	24.2	5.2

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	123544
55°	63526
65°	46322
75°	44158
85°	48039

PHOTOMETRIC REPORT

Test Report#: PT07161930
 Catalog No: 2LEDTRIM G2 ADJ 35K 80CRI
 FL WH (1000L), Adj Gimbal
 with Flood Optic
 Luminaire Spacing Criteria: 0.70
 Luminaire LPW: 95



CANDLEPOWER DISTRIBUTION (Candelas)

Degrees Vertical	0°
0	1721
5	1665
15	1242
25	664
35	253
45	84
55	31
65	12
75	5
85	1
90	0

AVERAGE INITIAL FOOTCANDLES

Multiple Units (Square Array, 60'x60' room)
 Reflectances: Ceiling 80%, Wall 50%, Floor 20%

Spacing	RCR1	RCR3	RCR5
4'	75	65	57
5'	48	41	37
6'	33	29	25
7'	27	23	21
8'	21	18	16
9'	16	14	12
10'	12	10	9

INITIAL FOOTCANDLES (One Unit, 11.4W, 43.2° Beam)

Distance to Illuminated Plane (Feet)	Footcandles Beam Center	Beam Diameter
4'	107.6	3.2
6'	47.8	4.8
8'	26.9	6.3
10'	17.2	7.9
12'	12.0	9.5

LUMINANCE (Average cd/m²)

Degrees	Average Luminance
45°	133786
55°	60961
65°	31327
75°	21861
85°	9088

Fixtures tested to IES recommended standard for solid state lighting per LM-79-08. Photometric performance on a single unit represents a baseline of performance for the fixture. Results may vary in the field.

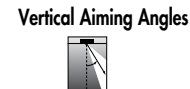
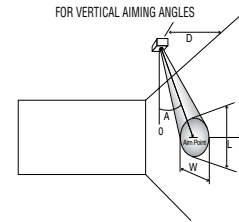
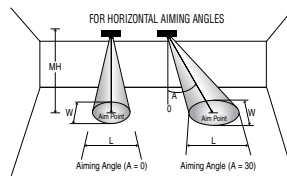
Multiplier:	80 CRI	90 CRI
	27K = .94	27K = .83
	30K = .97	30K = .86
	35K = 1.00	35K = .88
	40K = 1.03	40K = .90

2" IC 600 AND 1000 LUMENS LED ROUND ADJUSTABLE 2LEDTRIM G2 ADJ

PHOTOMETRICS

CBCP • Centerbeam candlepower
FC • Footcandles at beam center (aim point)

In vertical aiming applications, aim point (X) is determined by dividing distance from the wall (D) by the tangent of the desired aim angle (A) (0.5774 for 30°).



Fixture	Beam Spread	CBCP	0°				30°			30°				
			MH	FC	L	W	FC	L	W	D	FC	X	L	W
2LEDTRIM (600L) Flood Optic	40°	1141	3	127	2.2	2.2	82	3.0	2.5	1	143	1.7	4.8	1.5
			4	71	2.9	2.9	46	4.1	3.4	2	36	3.5	9.7	2.9
			5	46	3.6	3.6	30	5.1	4.2	3	16	5.2	14.5	4.4
			6	32	4.4	4.4	21	6.1	5.0	4	9	6.9	19.3	5.8
			7	23	5.1	5.1	15	7.1	5.9	5	6	8.7	24.2	7.3
2LEDTRIM (600L) Narrow Flood Optic	24°	2286	3	254	1.3	1.3	165	1.7	1.5	1	286	1.7	2.0	0.9
			4	143	1.7	1.7	93	2.3	2.0	2	71	3.5	3.9	1.7
			5	91	2.1	2.1	59	2.9	2.5	3	32	5.2	5.9	2.6
			6	64	2.6	2.6	41	3.5	2.9	4	18	6.9	7.9	3.4
			7	47	3.0	3.0	30	4.0	3.4	5	11	8.7	9.8	4.3
2LEDTRIM (600L) Spot Optic	18°	3445	4	215	1.3	1.3	140	1.7	1.5	2	108	3.5	2.7	1.3
			5	138	1.6	1.6	90	2.1	1.8	3	48	5.2	4.1	1.9
			6	96	1.9	1.9	62	2.6	2.2	4	27	6.9	5.5	2.5
			7	70	2.2	2.2	46	3.0	2.6	5	17	8.7	6.9	3.2
			8	54	2.5	2.5	35	3.4	2.9	6	12	10.4	8.2	3.8

For 2700K fixtures, use 0.96 multiplier; for 3000K fixtures, use 1.00 multiplier;
for 3500K fixtures, use 1.03 multiplier; for 4000K fixtures, use 1.06 multiplier.

Fixture	Beam Spread	CBCP	0°				30°			30°				
			MH	FC	L	W	FC	L	W	D	FC	X	L	W
2LEDTRIM (1000L) Flood Optic	40°	1721	3	191	2.2	2.2	124	3.0	2.5	1	215	1.7	4.8	1.5
			4	108	2.9	2.9	70	4.1	3.4	2	54	3.5	9.7	2.9
			5	69	3.6	3.6	45	5.1	4.2	3	24	5.2	14.5	4.4
			6	48	4.4	4.4	31	6.1	5.0	4	13	6.9	19.3	5.8
			7	35	5.1	5.1	23	7.1	5.9	5	9	8.7	24.2	7.3
2LEDTRIM (1000L) Narrow Flood Optic	24°	3480	3	387	1.3	1.3	251	1.7	1.5	1	435	1.7	2.0	0.9
			4	218	1.7	1.7	141	2.3	2.0	2	109	3.5	3.9	1.7
			5	139	2.1	2.1	90	2.9	2.5	3	48	5.2	5.9	2.6
			6	97	2.6	2.6	63	3.5	2.9	4	27	6.9	7.9	3.4
			7	71	3.0	3.0	46	4.0	3.4	5	17	8.7	9.8	4.3
2LEDTRIM (1000L) Spot Optic	18°	4604	4	288	1.3	1.3	187	1.7	1.5	2	144	3.5	2.7	1.3
			5	184	1.6	1.6	120	2.1	1.8	3	64	5.2	4.1	1.9
			6	128	1.9	1.9	83	2.6	2.2	4	36	6.9	5.5	2.5
			7	94	2.2	2.2	61	3.0	2.6	5	23	8.7	6.9	3.2
			8	72	2.5	2.5	47	3.4	2.9	6	16	10.4	8.2	3.8

For 2700K fixtures, use 0.96 multiplier; for 3000K fixtures, use 1.00 multiplier;
for 3500K fixtures, use 1.03 multiplier; for 4000K fixtures, use 1.06 multiplier.



ALLIED WINDOW, INC.
Manufacturer of Custom "Invisible" Storm Windows®

Allied Window, Inc.

11111 Canal Road
Cincinnati, OH 45241

Phone: 800.445.5411

Fax: 513.559.1863

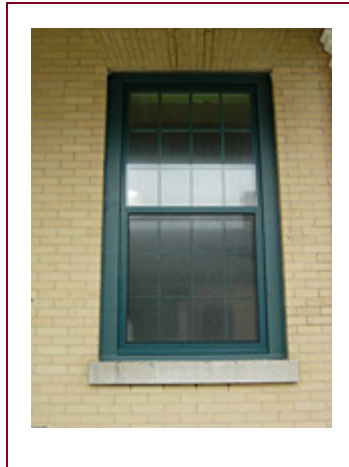
Residential Email: rsales@alliedwindow.com

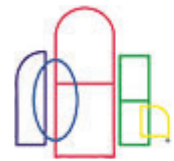
Commercial: csales@alliedwindow.com

Website: www.alliedwindow.com

Item # HOL-OP, Operable Historic One Lite - (HOL-OP) - With Screen

The Operable Historic One Lite (HOL-OP) series has the same "invisible" appearance as the (HOL) units, but the bottom sash is operable and removable. It also has a year-round screen.





ALLIED WINDOW, INC.
 Manufacturer of Custom "Invisible" Storm Windows®

Allied Window, Inc.

11111 Canal Road
 Cincinnati, OH 45241

Phone: 800.445.5411

Fax: 513.559.1863

Residential Email: rsales@alliedwindow.com

Commercial: csales@alliedwindow.com

Website: www.alliedwindow.com

Standard and Custom Colors

1 Items Available

Standard Colors - (5 Year Warranty)



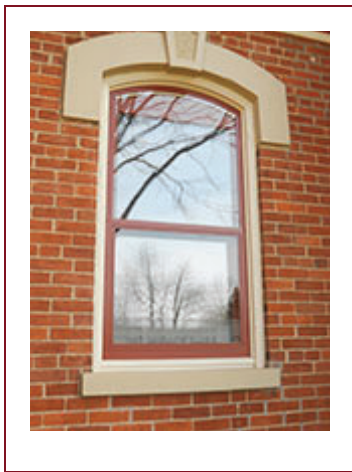
Colors shown are an approximation and will vary with monitor and printer settings. Samples of standard colors can be requested by [clicking here](#): (Standard Color Samples). Our standard colors are manufactured with a baked on enamel finish.

Class 1 clear anodize is included in our sample package and is available at a 5% additional charge.

Custom Color - (5 Year Warranty)

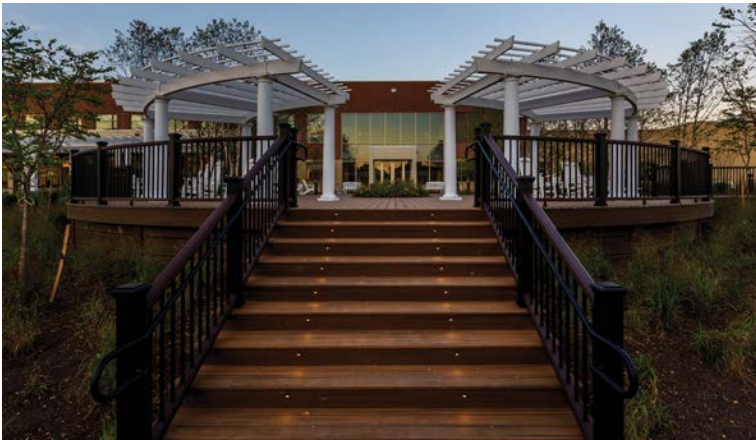
Our custom color projects are painted in our facility using a PPG (2) component polyurethane

[+ more](#)



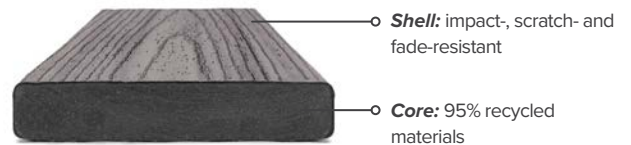
[View items](#)

Item #



PREMIUM HIGH-PERFORMANCE DECKING & FASCIA

Trex Transcend® decking and Trex® Fascia are wood thermoplastic composite lumber (WTCL) boards with an integrated shell that covers the boards on the top surface and sides. The integrated shell consists of a proprietary surface formulation that produces a natural, wood-like grain pattern finish. An alternative to naturally durable hardwood lumber, Transcend Decking and Fascia are ICC-ES SAVE-certified to be a minimum of 95.4% recycled content of wood fiber and polyethylene by weight.



DECKING



1" Grooved edge

1" Square edge

2" Square edge

FASCIA



8" or 12" Widths

FEATURES	DECKING BOARDS		FASCIA BOARDS	
	1" x 6"	2" x 6"	8"	12"
Actual Dimensions - Standard	.94" x 5.5"	1.3" x 5.5"	.56" x 7.25"	.56" x 11.375"
Actual Dimensions - Metric	24 mm x 140 mm	33 mm x 140 mm	14 mm x 184 mm	14 mm x 288 mm
Available Lengths - Standard	12', 16', 20'	12', 16', 20'	12'	12'
Available Lengths - Metric	365 cm, 487 cm, 609 cm	365 cm, 487 cm, 609 cm	365 cm	365 cm
Grooved Edge	X			
Square Edge	X	X	X	X
Transcend Tropicals	X	X	X	X
Transcend Earth Tones	X		X	X
Weight per Lineal Foot	2.4 lbs	3.6 lbs	2.0 lbs	3.3 lbs

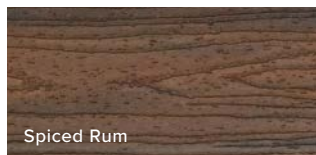
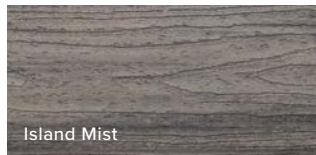
PHYSICAL & MECHANICAL PROPERTIES

TEST	TEST METHOD	VALUE
Flame Spread	ASTM E 84	70
Thermal Expansion	ASTM D 1037	1.9 × 10 ⁻⁵ in/in/°F
Moisture Absorption	ASTM D 1037	< 1%
Screw Head Pull-Through	ASTM D1761	161 lbf/screw*
Fungus Resistance	ASTM D1413	Rating – no decay
Termite Resistance	AWPAE1-72	Rating = 9.6

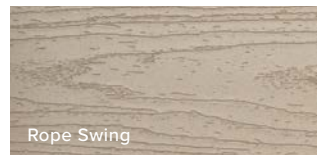
*Fastener used in testing: #8 x 2.5" HEADCOTE Stainless Steel Screw

COLORS

Tropicals (multi-tonal)



Earth Tones (monochromatic)



FASTENERS



Trex Hideaway® Hidden Fastening System

Self-gapping, glass-filled nylon fastener with 304 grade stainless steel, sharp point screw for wood framing



Other Approved Fasteners

Color-matched composite deck screw or matching composite plug

Color-coordinated fascia screw

Uncoated stainless steel fascia screw

For a full list of approved fasteners, download our Installation Guide at trex.com/literature

DESIGN GUIDELINES

Introduction

Knollwood, at 6411 Kingston Pike, is a historic house on a 13.8 acre site that has been maintained as a residence since its construction. The historic house and its site are listed on the National Register of Historic Places. A developer who intends to convert the site to commercial and office uses has optioned the property. Citizen interest in saving the house has been very strong. West Knoxville neighborhood associations, elected officials, Knoxville Heritage, the East Tennessee Historical Society and the Civil War Roundtable and many private citizens have all indicated a concern that the house be protected. This has encouraged the developer to seek a local historic zoning designation (H-1 overlay) which will guide development on the site and place restrictions on the eventual rehabilitation or reuse of the house itself. If the setting, which is a part of the National Register listing, is significantly altered, the property could be decertified and removed from the National Register. This could preclude the application of preservation tax incentives to assist in reusing the house.

These guidelines, which accompany and are a part of the designation, are intended to accomplish two things: 1) to allow a sensitive development of the site, providing space for commercial buildings, while preserving Knollwood and a suggestion of its environment; and, 2) to protect Knollwood itself, so that the exterior of the house will exhibit the architecture which has led to its National Register listing and which reflects the history of the eras in which it was built and later modified.

The site where Knollwood is located slopes steeply upward away from Kingston Pike. This slope, particularly in front of the house, has formed the prominent position of the house as viewed from Kingston Pike, and has allowed users of the historic house unparalleled views to the south and west. Views into the site are currently restricted to approximately forty percent of the frontage on Kingston Pike. This viewshed should be preserved by allowing open views of the house from Kingston Pike to continue. Those unobstructed views should total forty percent of the street frontage, but may be split into separate view corridors as provided in these design guidelines.

The architectural appearance of Knollwood is that of a late 19th century brick estate home. Even though the core of the house was constructed in 1851, the late 19th century addition of a porte cochere on the west elevation and a sun room on the east, as well as the two story front porch, have effectively dated the appearance of Knollwood to some 40 years after its original construction. These additions should be preserved as contributing to the significance of the building.

Guidelines

Maintain the appearance and materials of Knollwood, the historic house on the property:

- Any future alterations to the exterior of Knollwood shall be made in conformance with the Secretary of Interior's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*.

Maintain the prominence of the historic building on the site.

- Buildings in the commercial area to the sides of the site must be designed with articulated bays. The intent of including these articulations is to reduce the apparent size of the new construction on site.
- The design of new buildings constructed on site must be sympathetic in materials and construction to Knollwood.
- If new construction is carried out behind Knollwood, it shall frame the house and provide background texture for it. Any new construction to the rear should be accompanied by tree plantings that shall further screen the buildings into the background.
- Parking shall be terraced behind berms and landscaping so that the appearance of the slope in front of Knollwood and leading to it from Kingston Pike is retained. The intent is to utilize the berms and landscaping to carry a ribbon of green with minimal visual interruption to the historic house.
- New buildings or parking at the edges of the site must be partially screened with trees that will reach a mature height of 30 to 40 feet planted on 40 foot centers, and must be at least 8 feet high at installation. Consideration should be given to preserving existing mature trees.
- The visual connection between Knollwood and Kingston Pike shall be preserved. Approximately forty percent of the 900' frontage on Kingston Pike is now unobscured and provides an open view of a grassy slope leading to Knollwood. Future development shall be clustered to preserve forty percent of the Kingston Pike frontage as open, landscaped space, so that open areas continue from Knollwood to Kingston Pike at the property's edge. There may be no more than four open corridors leading from Kingston Pike to Knollwood; one of those should be a landscaped "boulevard" forming the central focus for viewing Knollwood, and providing access to development on the site. None of the vistas formed from Knollwood to Kingston Pike can be less than 80-100 feet in width, measured at the Kingston Pike edge of the property. Some of the vistas may be used as locations for parking to serve new buildings constructed on site. The combined width of the primary boulevard's pavement and landscaping shall be at least 80 feet without the inclusion of parking; if parking areas are to be provided off that boulevard, they should be provided outside the 80 foot dimension.

- A "yard" or open grassy area shall be preserved in front of Knollwood. This yard should have a minimum depth of 50 feet. The view corridors or vistas noted above shall connect visually the the "yard" or open grassy area to be preserved in front of Knollwood.
- As much as possible, new buildings constructed in front of Knollwood should be located near the sides of the parcel, to preserve the open character of the site in front of Knollwood.
- All new buildings at the front of the lot shall screen roof-mounted equipment from the view of Kingston Pike traffic by using parapets or screens.

New signage and lighting should respect the historic character of Knollwood and its site.

- Signage will be a necessary part of site development for Knollwood. Signs should be divided into four categories: 1) directional/identification signs appearing within the development; 2) a directory or information sign which fronts on Kingston Pike and directs users into the site; 3) Wall signs or banners on building walls; and 4) awnings or marquees that also contain signs.

- Directional/identification signs within the development may be permitted within required setbacks. The directional/identification signs may be no more than 3 feet high and may contain no more than nine square feet per tenant. If, in the alternative, identification for several tenants is combined on one directional/informational sign, the sign may not exceed a maximum of fifteen square feet and be no more than three feet high.

- There may be one identification or directory sign for the development, located at the entrance on Kingston Pike, which should not be more than 8 feet wide and 14 feet high.

- A wall sign or banner may be allowed for each building wall or articulated wall plane that faces into the site. It may not exceed a vertical height of 5 feet or a maximum area of 40 square feet. Buildings fronting on Kingston Pike may display an additional internally lit wall sign for each building that faces Kingston Pike, not to exceed a vertical height of 5 feet or a maximum area of 40 square feet.

- Awnings or marquees can also contain signs, provided the signed area falls within the 40 square foot. maximum allowed for wall signs or each building or articulated wall plane.

- All signs must conform with the provisions contained in the *Zoning Ordinance for Knoxville, Tennessee* and must be approved by Knoxville Engineering Department.

- New lighting standards on the site shall not exceed 22' in height.

A landscaped setting shall be maintained for Knollwood and its site.

- An attempt shall be made to preserve mature trees located on the site.
- Trees must frame Knollwood and be used as a backdrop, as well as partially screening views of new construction to the rear of Knollwood. A partial screen shall be planted with trees that will reach a mature height of 30 to 40 feet planted on 40 foot centers, and must be at least 8 feet high at installation.
- Views of new construction on Kingston Pike must be partially screened by trees and landscaping so that they do not interfere with the prominence of Knollwood.