

MAXIMILLIAN HAYDEN

Architect

Via email

ACaputo@care-one.com

July 13, 2021

Mr. Angelo R. Caputo, AIA
CareOne Mgmt, LLC
173 Bridge Plaza North
Fort Lee, New Jersey
07024

Re: Feasibility Study to Move the Gulick House
Route 206 and Province Line Road
Lawrence Township, New Jersey

Dear Mr. Caputo:

It was a pleasure meeting you at the historic Gulick House on July 11, 2021 in order to tour the house and assess its feasibility to be moved to a new location. The study examines the following:

1. Existing condition of the house
2. Work necessary in order to stabilize the house
3. Work necessary on site to allow the moving of the house

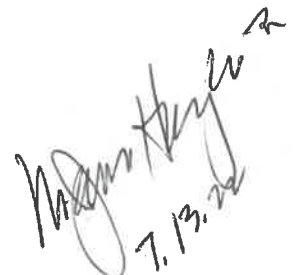
The house is not only significant with its high style Italianate architecture but also for its owners who were directly related to the Gulick family of Princeton who were prominent in the development of the region during the Colonial era. The house reflects their wealth and power with its size, design and location on an important road.

Please do not hesitate to contact me if you have any questions or concerns.

Sincerely,



M. James Hayden III, RA



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Moving the Gulick House Feasibility Study 7.13.21

Site Conditions

The site is relatively level and is heavily treed with a clearing to the east amongst the trees and clear lands to the south (front) and west. What was originally planted as shrubbery have become mature if not overgrown trees extremely close to the house and must be removed to gain access to all sides of the house. The move will require adequate tree removal to create a path to transport the house as well as room around the new location to facilitate the construction of the new foundation and relocation work. Site utilities will also require excavation for underground sewer, water, electrical and telecommunications. A new driveway off of Province Line and parking will also need to be constructed. There appear to be no insurmountable site conditions that would prohibit the moving of the house.



View of Side Yard Looking Toward Relocation Site



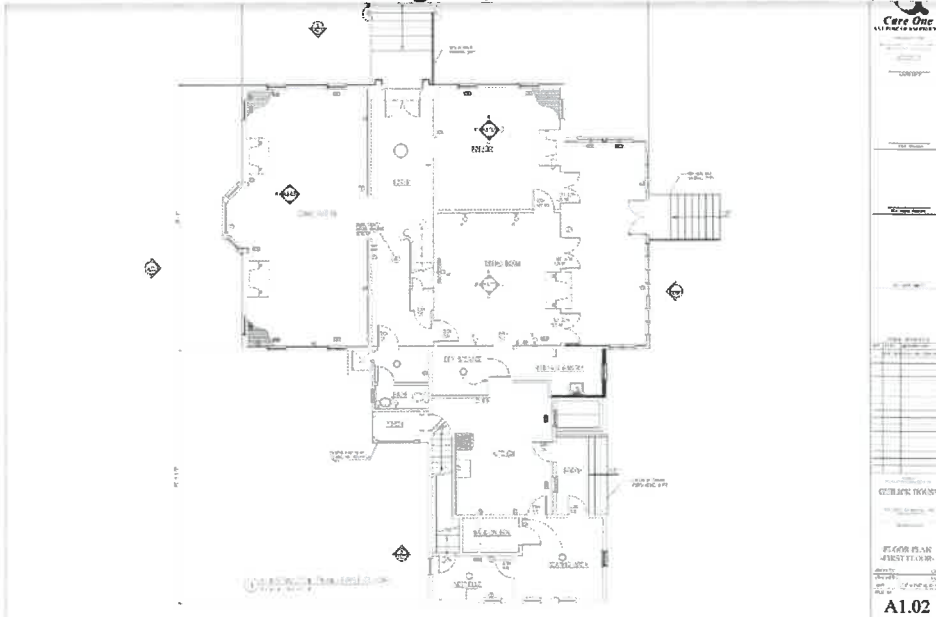
View of Front of the House Showing Overgrown Shrubbbery

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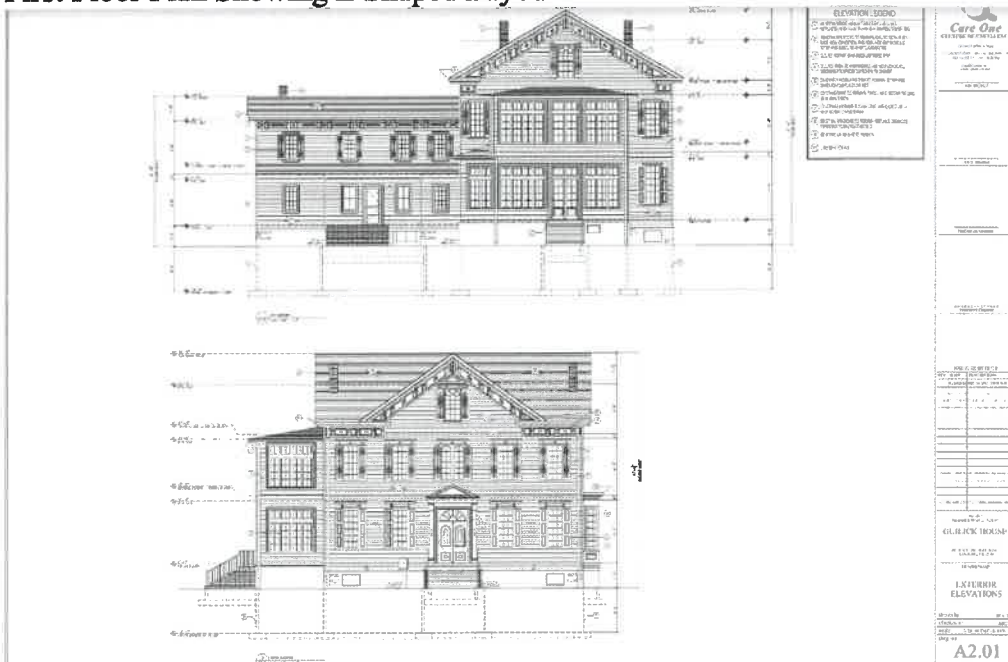
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House Layout

The house was built in the 1870's in the Italianate style. The house is a large L shaped building with a taller 2-1/2 story front section and a shorter two-story service wing to the rear. The left-hand side of the main house features a two-story glassed-in porch, the service wing features porches on both sides with the left side having two enclosed spaces under the porch roof. A central hall divides the front rooms of the house with the rear wing having a stair off to the right-hand side. The house is also built in two levels with the front section first floor 4'-6" off the finished grade, the rear section 8" lower.



First Floor Plan Showing L Shaped Layout



Exterior Elevation Showing Height above Grade and Step Down in Floors

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House Move Process

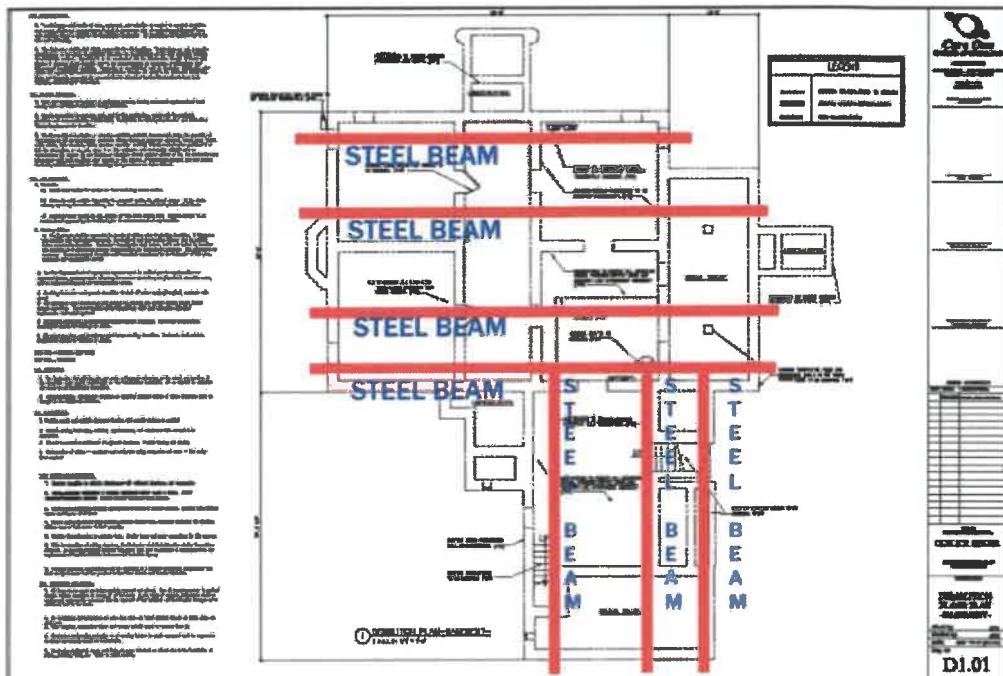
The area immediately surrounding the house will need to be cleared of all brush, debris and overgrowth for at least 20 feet. The basement will need to have all utilities and HVAC equipment/ductwork removed that is in the way of the placement of the steel beams required to carry the house. The elevated levels of the main floor with the numerous basement window openings allow the steel beams, that will carry the house, to be easily inserted under the first-floor framing. Several chimneys will need to be carried by the steel beams and these are located at the quarter points of the gable ends and may require additional openings to be made to insert steel beneath the hearths and fireboxes.



Ductwork to be Removed



Steel Pipe to be Removed



Plan Showing Approximate Location of Steel Beams – often a square lattice is made with cross beams to minimize the number of steel beams attached to dollies/wheels

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Hydraulic jacks which are centrally controlled are strategically placed and account for differing weights of the house and will lift the house off of the foundation. Dollies (wheel assemblies) will be fitted to the ends of the beams. Interior walls may need to be laterally braced in areas such as the sun room where the amount of glass far exceeds the solid wall surfaces to help minimize shifting. Once the weight of the house is borne by beam/wheel assemblies the foundation walls be collapsed into the basement and fill may be brought in to create a pathway for the wheels to travel over – wooden cribbing with steel plates may also be used to create a pathway. It is crucial to keep the hydraulic jack points consistent - a slight shift can cause major cracking if not structural damage.

Steel plates may have to be placed on the ground to ensure that the house has a stable path to its new location. The new foundation may or not be in place – in this case the house is a relatively simple configuration – and the house could be somewhat easily placed upon a new foundation. Cribbing may be placed within the new foundation to support the house prior to the installation of new beams to carry bearing walls in lieu of masonry bearing walls.

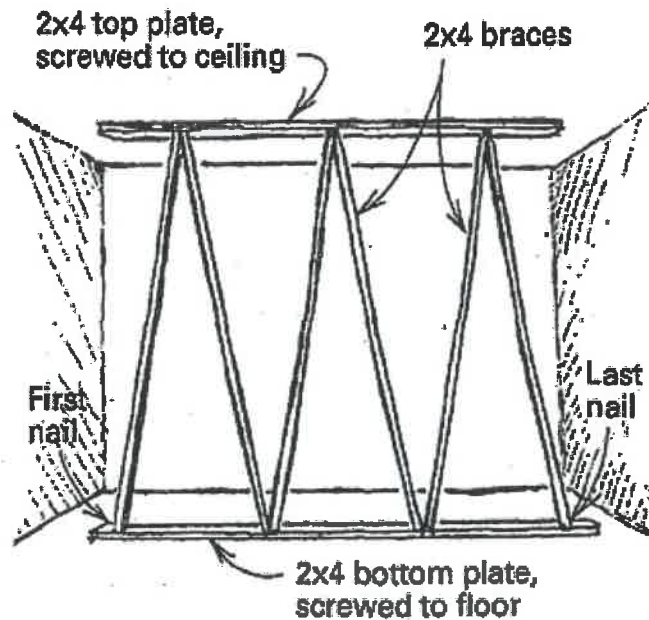
The house mover will make suggestions as to the bracing of the interior of the house – the rooms are large and the ceilings tall and there are few partitions walls on the first floor to keep the main house from racking; however the rear wing helps to anchor the main block and minimal bracing should be the order of the day if any. The mover will also walk through the house and help the owner to make a checklist of things to be done prior to the move. The nogging between the walls has to be confirmed as that adds significant weight and has to be accounted for with the hydraulic jacking system. Likewise the framing appears to be balloon framed and additional work may be required to tie the first flooring decking to the wood stud wall system and sill plate if it is not platform framed.



Cribbing stacks in foreground and dollies with steel beam atop

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Bracing Detail for Interior Walls



Gulick House 2005

Existing Conditions - Exterior

The time that the house has been vacant has not been kind. Vandals have entered the house, stolen its historic mantels, broken out its windows, stolen copper from its built in gutters and downspouts. All of this has led to further decay. Extreme plant growth near the building's perimeter and general lack of maintenance has also taken its toll on the building's exterior. Peeling paint, missing roof shingles, crumbling brick stoops, loose wrought iron handrails, rotting fascias and soffits all point to problems with the house on the exterior.

230 Hopewell-Princeton Road
Hopewell, New Jersey 08525
Tel (609) 466-6966 Fax (609) 333-0062

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Front South-West Corner of House



Rear North-East Corner of House



East Side of House

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Servant's Wing North West Corner



West Façade at Sun Room



Servant's Wing Porch Roof and Gutter



Servant's Wing Showing East Porch and Elevator

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Servant's Wing Enclosed Porch



Servant's Wing West Side Soffit and Fascia

Despite the readily seen decay the house is in surprisingly stable condition with most of the siding intact and the roof in fairly good condition excepting the big penetration in the right rear of the main wing and the built in gutters of the servants wing – the main house built in gutters were not visible at the time of the inspection. The west side enclosed porch of the servant's wing was possibly enclosed at a later date and its poorer means of construction, particularly at the foundation level, could give cause to its removal prior to the move – in the very least some reconstructive work would have to occur with removal of decayed areas and replacement of in-kind framing to facilitate the move. The elevator shaft is a later addition and is too small for today's standards and should be removed prior to the move. The decayed area of the left front of the main house should also be stabilized prior to the relocation with removal and replacement of decayed material – in the very least sheathing of the framing to remain.

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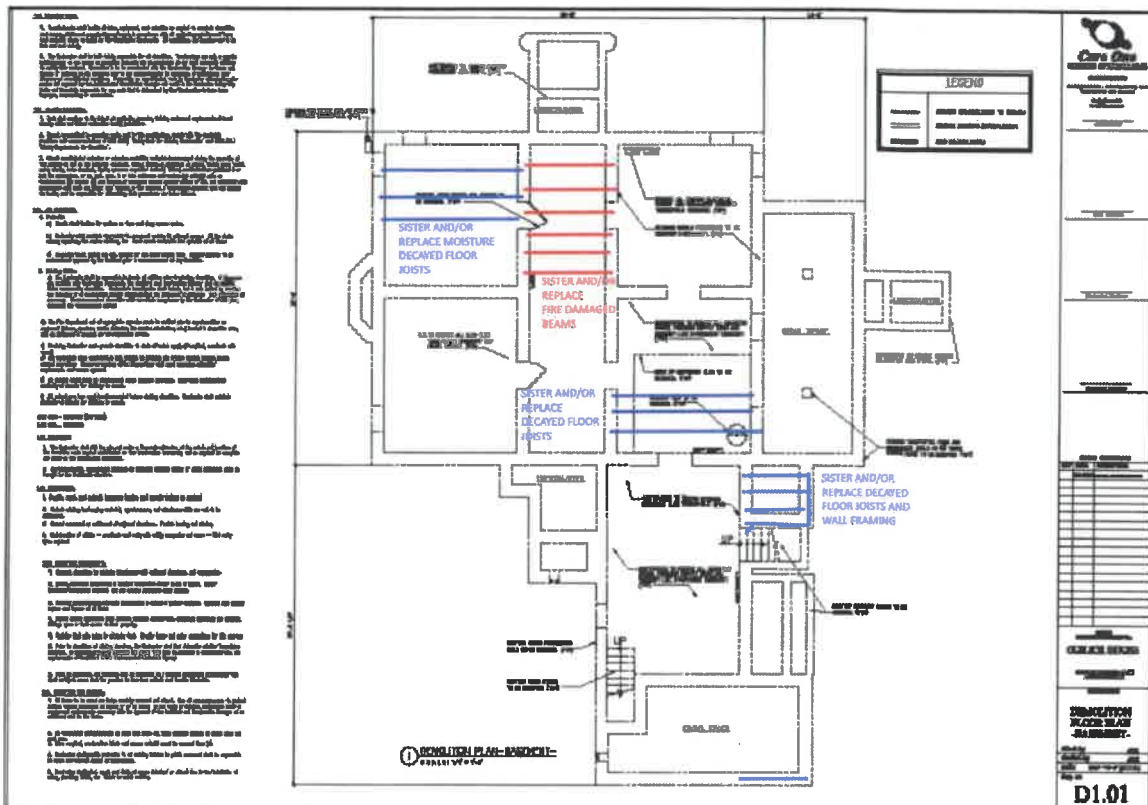
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Existing Conditions - Interior

The interior fairs somewhat better than the exterior largely still protected from the elements by the exterior envelope – but as the roof penetrations and windows continue to be damaged and exposed to the elements it is only a matter of time before the house becomes compromised to the point of no return. Decay has a habit of exponentially accelerating as time goes on and with several more years of status quo maintenance the house will be irretrievably compromised. At present it is not too late.

BASEMENT FLOOR

The floor joists in the basement are generally in serviceable condition. There are four main problem areas depicted in the photos above and can be remedied by placing another joist against the existing (best condition at the fire damaged floor joists under the front entry hallway) and or replaced in kind where joists are either insect or moisture damaged (dining, living and pantry areas). There are approximately a dozen or so joists that need to be addressed prior to the buildings removal and relocation. The sill plates/box beams at the buildings perimeter are most susceptible to insect damage as they are in direct contact with the stone foundation walls – that possible damage cannot be assessed until the house is lifted – the curative will be to replace in kind with pressure treated wood. The pantry located on the west side porch is as discussed previously above.



BASEMENT FLOOR JOIST REPAIRS

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Fire Damaged Basement Floor Joists at Front Entry Hall



Moisture Decayed Floor Joists under Dining Room

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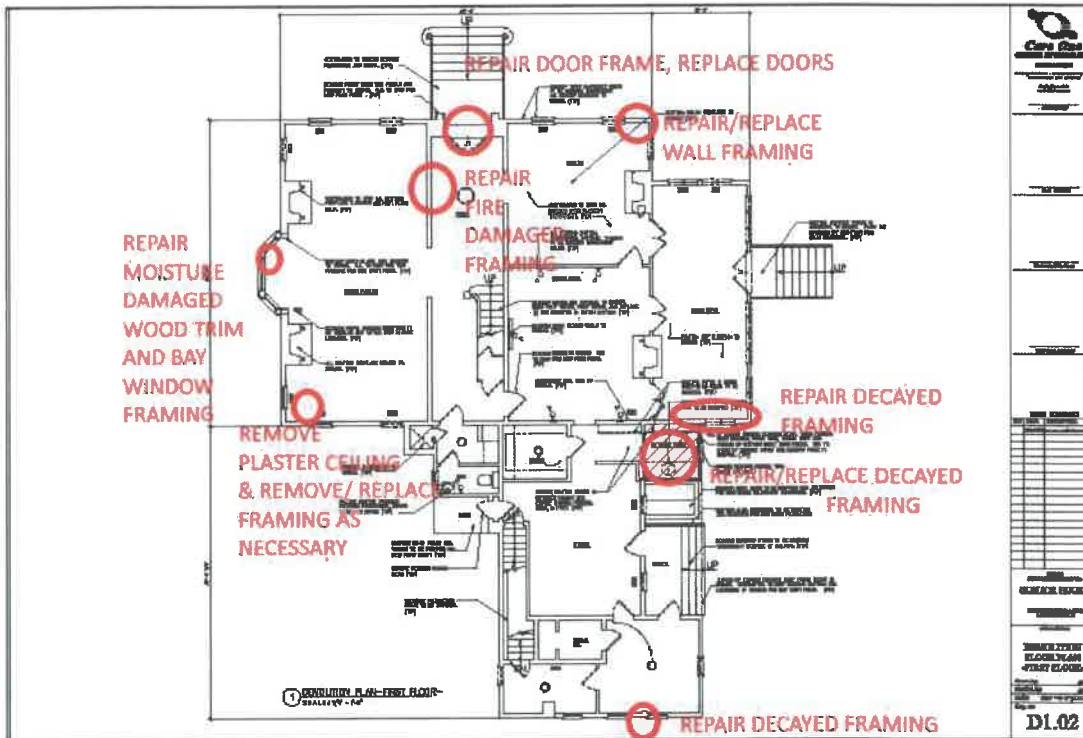
Moisture Decayed Floor Joists under Living Room



Floor Joist under Dining Room

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FIRST FLOOR REPAIRS

The first-floor repairs as depicted in the floor plan above are varied and range from relatively minor repairs to the bay window to more exhaustive repairs to the pantry flooring, walls and roofing. The living and dining room ceilings have damaged plaster due to roof leaks above. There is fire damage to the walls and floors of the entry hall. There is hole in the front wall due to siding damage at the front south-west corner of the house. The areas that most affect the structural integrity of the house are the front corner, the fire damage and the pantry areas. Additional damage may be discovered once the elevator shaft is removed and until areas are completely opened up to assess damage the full extent of the work is not known. Despite the aforementioned distressed areas the house is amazingly level and plumb and the plaster work is in reasonable condition save for the peeling paint. The sunroom is likewise in serviceable condition except the rear portion facing the servant's wing has water damage caused by roof leaks above – this area will need to be either reconstructed or braced prior to moving. The first floor is in structurally sound condition overall. Many of the repairs are cosmetic and do not affect the structure of the house. The three story staircase is in amazingly original condition and will be the major focal point of the house once restored.

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Damage at Bay Window



Front Entry Fire Damage

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Corner of Dining Room



Rear Corner of Dining Room

Front



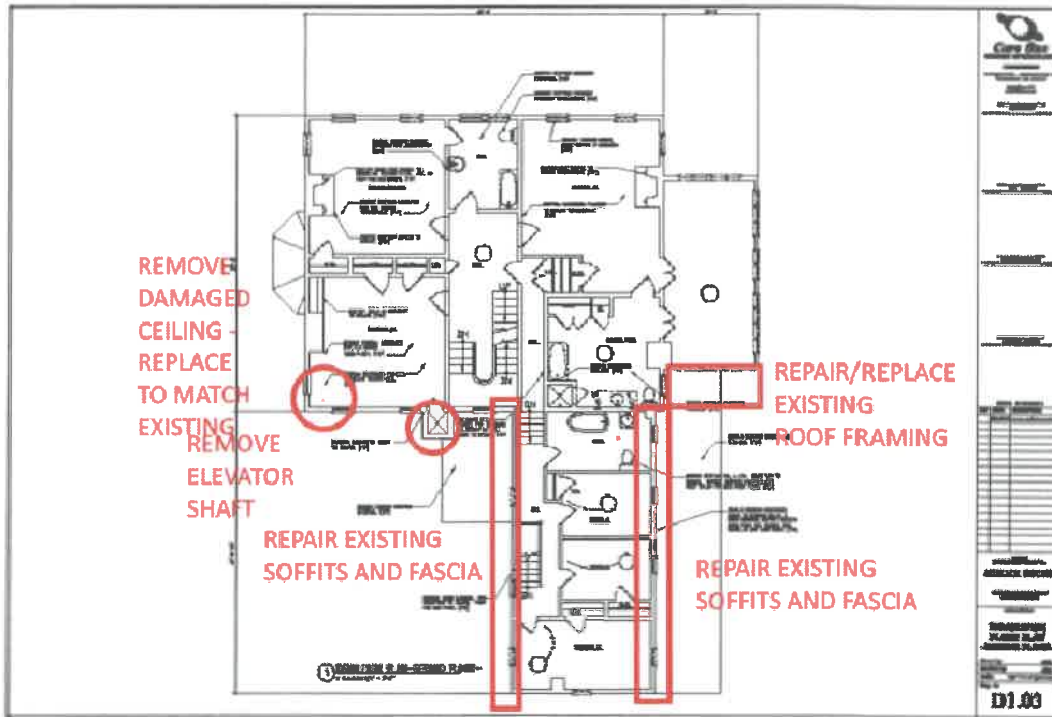
Main Stairway



Main Stair Hall

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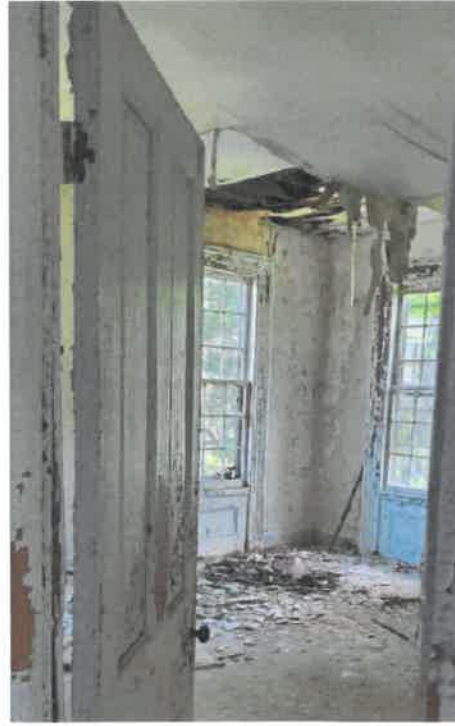


SECOND FLOOR REPAIRS

The second floor has several problems area that are mostly due to defects in the roof. The right rear bedroom of the main house has a large hole in he ceiling that opens up the attic eave above. Ceiling joists have some deterioration and the walls may have further decay and will have to be opened to determine the extent of the damage. This is the most significant damage that is apparent on the interior of the house – the other damage is evident on the exterior and consists of soffits, fascias and built in gutters. The majority of the damage is on the servant's wing but the rear of the first-floor sunroom/pantry roof is in very poor condition and will most probably need to be wholly reconstructed. There are several areas of holes within bathroom walls but these are largely cosmetic issues and do not affect the structural integrity of the house. Again, the floors are largely level, the walls plumb, the plaster work largely intact and this level is structurally sound. The house mover may again recommend internal temporary bracing especially at the sun room.

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Rear Bedroom – Main House

Rear Bedroom – Main House – View from Hallway



Main Stairway to Third Floor

Bedroom – Servant's Wing

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West Porch Roof at Rear of Sun Room



East Roof – Servant's Wing



Main Staircase

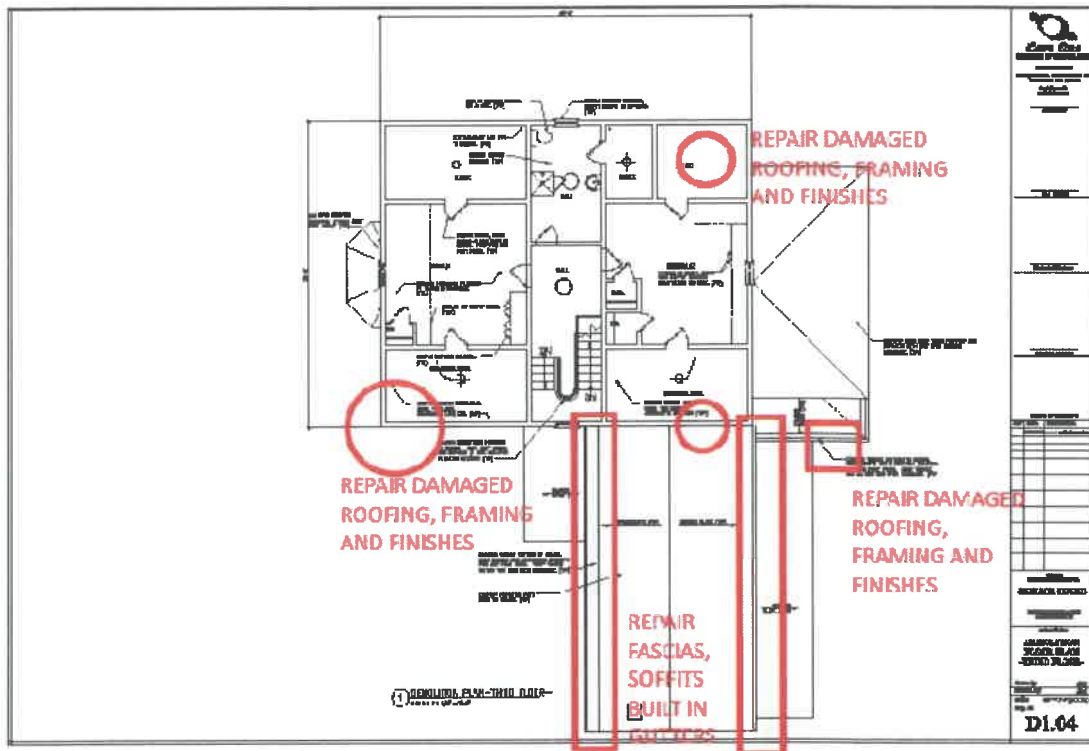


Front Bathroom through Main Stair Hall

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THIRD FLOOR REPAIRS

Third floor repairs are again due to penetrations in the roof and are manifest in the right rear eave of the east bedroom and front and rear eaves of the west bedroom. The right rear has caused the most damage. Again, built in gutters are shown on the servant's wing to emphasize that degree of decay. The third level is similarly plumb and level and other than the roof leaks the repairs are largely cosmetic in nature.

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Damage Within Eaves



Damage Within Eaves

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View from East Room to West Room



Third Floor Landing

SUMMATION

The house is capable of being moved with relatively minor repairs to the basement ceiling joists. Advanced repairs to the pantry area would include the floor, exterior walls and possibly roof areas and would allow for that to be moved – alternatively the roof could be braced removed the pantry floor and walls and those could be built anew at the relocated site. The front left corner and the right rear corner of the main house should be more closely examined to determine if additional bracing is required for the move – temporary sheathing either atop or after removing the siding could possibly be adequate for the move.

As Preservation New Jersey stated in 2007 “The Gulick House is one of the finest examples of Italianate high style domestic architecture in central New Jersey, and its preservation is important to the character of Lawrence Township.”