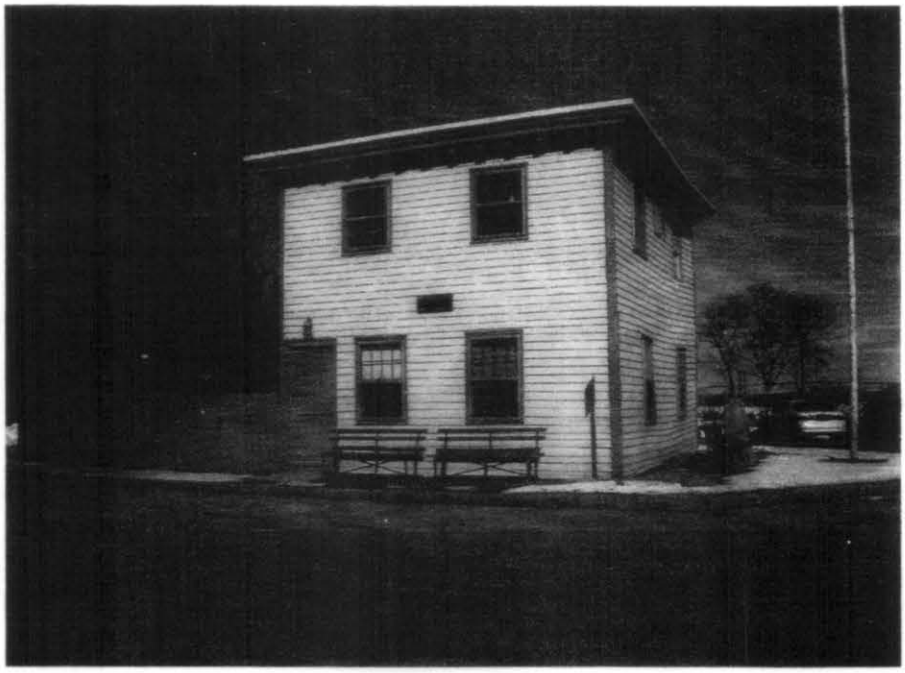
BANKS BUILDING
NEW CASTLE, DELAWARE

OCTOBER 10, 2011 INSPECTION
&
CONDITION REPORT



Prepared for the

Mayor and Council of New Castle, Delaware

Richard O. Byrne
Architectural Conservator
Staunton, Virginia

THE REPORT

BUILDING INSPECTION – A building to be successful must first of all shed water, and if it is to be worthy of restoration a use must be found for it…and the driving force behind the restoration will show find some "delight" in the building even if part of its delight has been lost through neglect. The Banks Building has all three surmountable challenges.

SHEDDING WATER – The past few years has been hard on the Banks Building. A diminutive 20x24 foot building, it started out in the 1870s as a coal delivery firm's office, and then a telegraph office, and an on-again-off-again residence with its final years as a city office. Now it has problems.

ROOF DAMAGE – The roof has a curse associated with it in that it has built-in box rain gutters that allowed the building to have a handsome cornice. The trouble with almost all early built-in box gutters is they were lined with terne plated steel sheets that had flat seams soldered together. Over the thousands of cool nights and hot days the metal expanded and contracted to where the seams gave up and opened allowing water into the wooden box and then into the structure of the cornice itself.

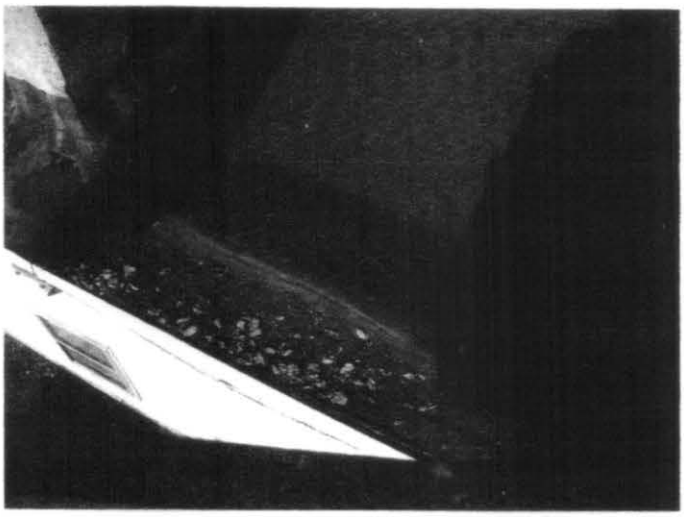
Various attempts have been made to overcome its leaking. And also the original hip roof was almost certainly a standing seam terne plate covering as there is no nail pattern showing on the underside of the roof boards on the second floor where wooden shingles would have been nailed in 5" wide rows.

General view of the roof from the east side.

Using the city's lift bucket we were able to get a clear picture of the roof's condition. The roof is covered now with a built-up felt and tar fabric that is itself starting to crack open from expansion-contraction in the heat and cold…being a black roof one can imagine temperatures ranging from of -30°F to 150°F.

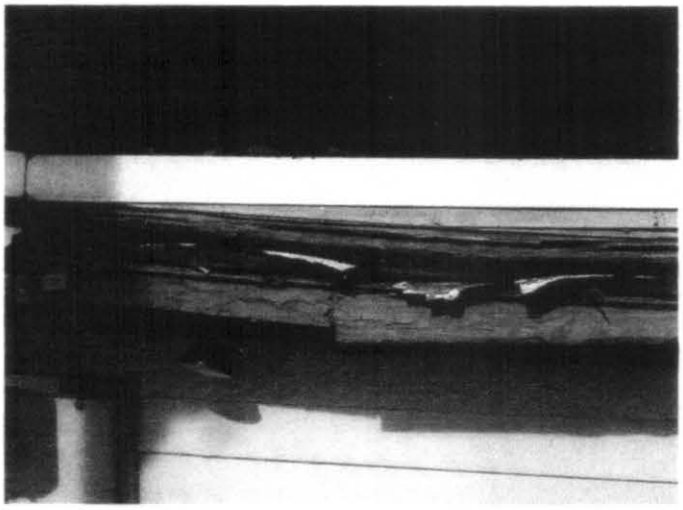
The diminutive chimney that once worked with an iron stove in the office has been smeared over with a concrete stucco and its flashing (or what is left of it) lie buried beneath a layer of pasted on tar.

Debris in sagging gutters



The west and east sides of the building's box gutters have been covered over with tar and sag rather dramatically. The resultant swale on both sides is about 3-4" deep with old leaves and dirt. Making matters worse the downpipes have fallen away (stolen?) and water has all but destroyed the timber frame of the NE corner of the structure. It is a blessing that something is being considered about repairing the building as it can not suffer damage much longer.

Rotted cornice and warped crown molding



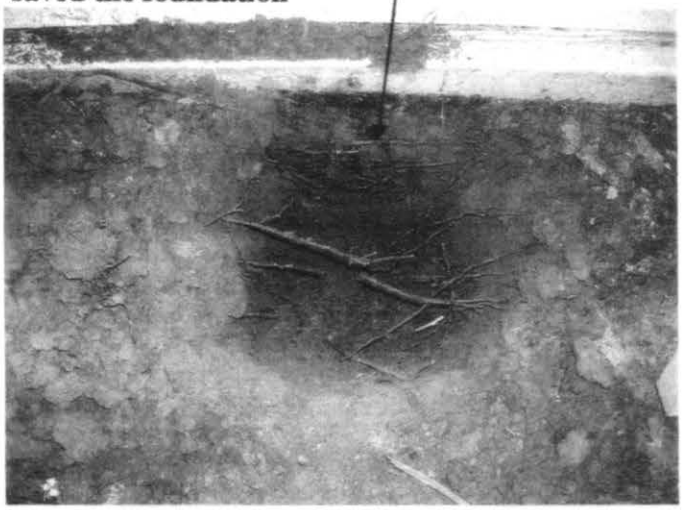
Lowering over the edge of the roof one finds a cornice in near collapse. Its large crown moldings are still there albeit twisted and loose. One can expect opening these cornices to find structural failure and rot with extensive carpentry needed to rebuild them.

The work is not for 'Ol Jim Bob" and his paint splattered hammer. However around the cornice remain all of the original decorative brackets asking for help by removing layers of detail obstructing lead paint. Removing the lead will be a problem as OSHA now requires the contractor and the men involved to be trained in its removal, with care being taken not to allow the paint chips and scrapings to fly off around town. Failure to have the proper training certificate for lead abatement can, and has, resulted in fines over $20,000 ...enough to put a contractor out of business.

Coming further down the wall one sees new clapboard siding with a rather meager modern paint coating...at least no lead...one hopes. The clapboard must be checked for lead just to be certain. With care most of the clapboard can be left in place and reused. Since we don't know exactly what the original clapboard looked like and because of budget restrictions, and staying away from guess work...the existing clapboard can remain.

Going further down the wall one encounters a building where its bottom clapboards is right on the earth. For what happened, as the area around the building was "gentrified" with a nice street and a plaza in front of the building overlooking the river, the building suffered by loosing its foot or more elevation above the soils.

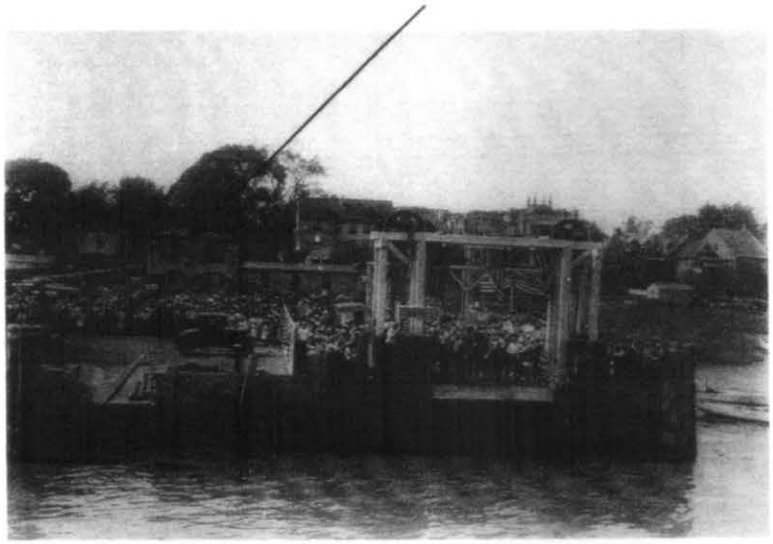
The creosoted 2x10" protective plank mostly saved the foundation



In order to build up the area around the house, fill was dumped right next to the building covering the original brick foundation. In an attempt to protect the sill and ends of wall studs and timbers a 2x10" pressure treated plank was nailed around the house at grade and below. The planking appears to have been bathed in creosote. The saving grace in this sad plot is the back fill is such that water drains away from rather rapidly. In order to bring good health to the building, the building needs to be jacked up, the existing brick foundation repaired and extended up 18 to 24 inches to bring the building up out of the mud.

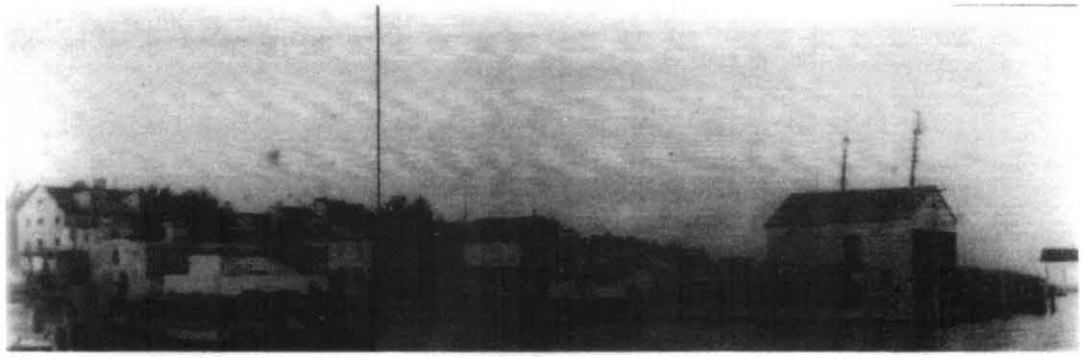
The shed on the back of the house is not original, does not sit on a proper foundation and is in rather sad condition. It needs to come down and be re-thought as part of a new design effort.

2/2 sash and shutters show at the new ferry landing opening



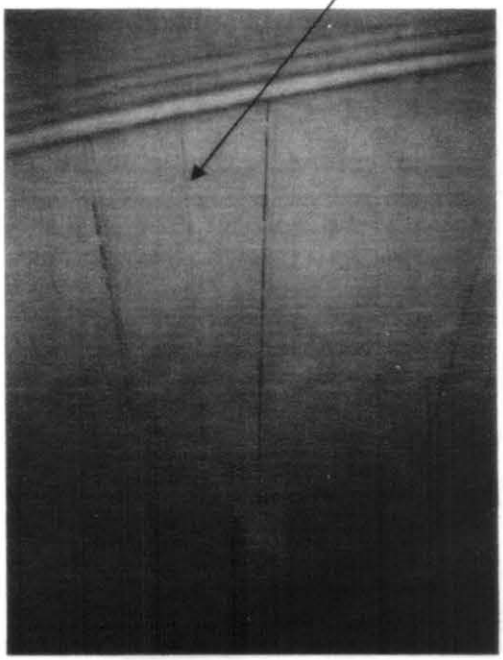
Before going inside one is struck by the eight-over-eight new sashes on the building. Simply put they were an attempt at gentrifying the building. The original sashes were two-over-two sashes and reflected industry's technology at the time of being able to make and transport larger pieces of glass, thus the fashion for two-over-two sash. They

An entrance door also is shown on the south end of the east side. One can assume this missing entrance door was of the same size and design as the present south side entrance door that led to the staircase on the west side of the building. This alone might suggest that the building was being used originally downstairs as an office and a set of rooms for a clerk upstairs. This will be clarified as work progresses



Note the east side entry door and dark shutters andCornice

Wainscoting in staircase at knee wall height with quirk beading.

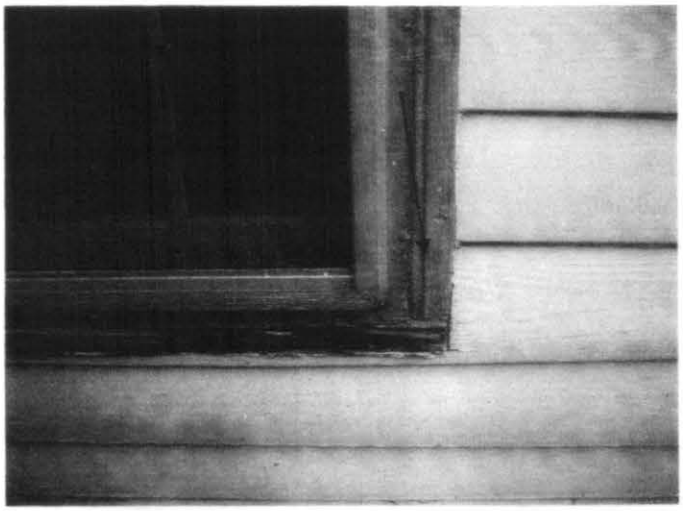


One should note that at the top of the staircase there is a wainscoted knee wall suggesting the top of the stairs was open to the entire first room of the second floor, which would suggest an office use. Once new floor rugs etc. are removed from the second floor the original wall placement outlines will reveal themselves along with probable openings where heat registers were, and if the chimney had an opening in it for a stove on the second floor.

showed one was up to date. The glass that was probably present was surely blown cylinder glass, but not hand blown. The glass was probably the new machine blown cylinder glass that was coming on line...mostly from Pittsburg, PA or Wheeling, WV. Similar glass is still available, and for the ten windows needing it...one would think doable in terms of bringing back the visual delight the building once had.

Of curious note these rather recent new gentrified sash show a common failure of today's window makers in that their glass panes were not "back puttied"...that is to say there was no putty put between the glass and wood muntins against which they sat. The result was, and still is, that condensation on the inside of the glass runs down into the muntin as there is no putty to seal it out. Once the wood is soaked, the paint comes off and the sashes start to rot, and with the rot the screws in the window locks become worthless and the windows are no longer secure (hence storm windows

Showing a window sill in need of replacement.

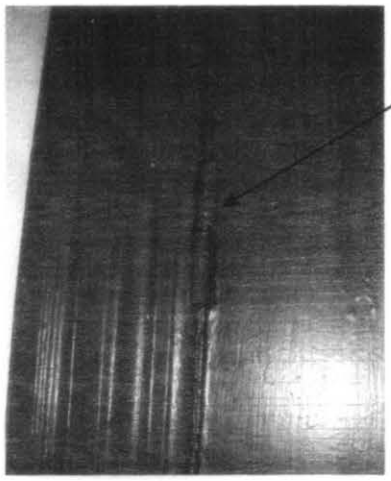


Note the quirk beaded casing. Currently the original window casings and jambs are for the most part still present and repairable. All of the exterior casings have quirk beaded molding profiles. Some windows have rotted sills. The window's blessing from the weather and lack of care has been their aluminum storms which need to be removed.

While on windows a look at three early undated photograph supplied by the New Castle Historical Society (one is on p.4) one can see the Banks Building, albeit not that clearly, but well enough to see the double hung two-over-two sash, a darkly painted cornice and dark painted (probably green as was the custom in the late 19th century) shutters. The color of the shutters and the cornice should reveal itself as the aluminum storms are removed and the cornice and window jambs are cleaned up.

On the first floor we have an original entry door, and two interior doors…one with bolection moldings on both sides of its panels and one door with bolection moldings on only one side of its four panels. There appears to be an original chair rail in the south 1st floor room near its entrance door that bows out 2 inches from the width of the stair wall so as to give a slightly larger entryway at the side door.

There is sufficient door hardware present to detail a surface mounted 4"x 5" vertically mounted surface locks and keepers. One keeper is still present, as is an escutcheon for the door knob and shaft, and a cast iron escutcheon for the key hole. Also present on this interior entrance door is a pair of cast iron "lift-off" hinges and their original screws. When the screws are removed during their cleaning one will probably find screws with a tapered pointed end and not blunt ends that were replaced in the 1840s. The doors themselves would easily be re-made.



We also have good original samples of casings around the doors, 10 "high baseboards on the first floor with 1" radius quirk beaded molding profiles on its top and a three inch high beaded baseboard on the second floor that may or may not be original. There also is in place on many of the ten window openings inside restorable interior casings, sills and aprons around the windows.

The original 1st floor floorboards on the interior seems to have been removed completely except under the staircase and a ¾" plywood floor installed with modern plastic tiles adhered to it. A large 1 x 2 foot hole has been cut through it by someone investigating the interior condition of the joist system and the foundation that has been covered over on the outside. The soils under this opening are powdery dry, there appears little efflorescent of salts on the side of the exposed inner foundation brick wall which indicates little if any rising damp, and a soil under the building (and probably around the building since it was built) that drains water away rather rapidly,

Numerous ½"holes were drilled around the interior perimeter on the 1st floor and a fiber optic scope inserted so that other areas of the foundation walls and the condition of the joist could be observed. Little if any rising damp was observed and little if any fungal outbreak is present.

At the same time in the recent past the bottom four or five exterior clapboards were removed from the building so that the original sill and stud/timber ends could be observed. It was reported verbally that some rot was found, and the clapboards re-nailed in place.

With all that is said so far there is little about the building's original appearance that we don't know with solid proof. More will reveal itself as the building is cleaned out; drop ceilings and floor coverings removed, and wall board taken out. There is nothing missing from the historic aspect of the building that cannot be rapidly reproduced or purchased new on the open market. Historic hardware is easy to come by...be it new or original salvage materials. The existing clapboard siding is worth saving. New sash with proper glass, and new shutters are all available.

REPARIING AND RESTORING THE BUILDING:

One has to establish some priorities to approach the restoration of the Banks Building. A use for the building has to be established that is acceptable to New Castle's political climate. These factors are:

- The expected cost of the restoration which will depend to some extent on the use of the structure.
- Design considerations of not only the building's use but the streetscape, the building's yard, parking and access and use of the plaza in front of the building. To establish these design considerations the current ongoing Riverfront Development improvements study will play a significant role.
- **Perhaps the overriding design consideration is how does the city make the whole re-development more people friendly**...what is it going to do to allow

citizens to come and enjoy this area. At the moment it is largely ignored, used for parking that blocks the view of the plaza and the river from the Banks Building, and is afternoon home for a few retired men, called the Senators, who gather on the south side of the building for part of the day. Perhaps the current condition of the American flag pole is symbolic of the area ...run down, rusty and seldom looked at or admired.

- Something that should be considered in the design effort of the building's use is considering **moving it forward to the edge of the plaza** with the traffic and parking behind it. This will immediately make a delightful view of the river from the building that is impossible now because of parked cars in front of the building.
- Since the building has to be jacked up anyway to enhance its foundation it would not be that much more effort to roll it forward onto a new foundation with buried wires and other services to it and a public rest room made part of the complex on its bask side. The Executive Director of Preservation Delaware said she thought moving the building such a short distance would fall within current preservation guidelines.

If the political and design questions can be answered favorably (with this report's help) then the immediate task is to establish and prioritize the repairs and restoration. Since shedding water is critical first on this list is:

SCAFFOLD THE BUILDING AND REPAIR AND REFURBISH THE CORNICE, BOX GUTTER AND ROOF:

1. Install temporary downpipes immediately even before other work begins. They are critical to holding back any more damage.
2. The skill of the attending carpenters must be at the highest level.
3. The existing crown moldings are badly distorted and sections of them may need being re-milled for replacement.
4. The box gutter needs being rebuilt. One can expect considerable rot in its two middle side areas.
5. Rather than lining the new box gutter with tin plate (terne is no longer used as it contained lead) the gutter can be designed and built with 60 mil thick EPDM (**ethylene propylene diene Monomer (M-class) rubber**) rubber roofing materials well lapped and brought up under the lead edge of a new standing seam roof. It should have a life expectancy of 25 years if cared for and then it can be taken up and replaced with relative ease...where as tin soldered seams are almost impossible to repair because of oxidation and rust.
6. The reason tin sheeting is not a good choice is because of the intense daily heating and cooling it goes through with its flat soldered seam joints with no expansion allowances. The joints work harden and then crack open starting the leaking all over again.
7. Depending on who does the work and if there needs to be a bidding process, then a detailed specification needs to be written detailing the work so the city knows what it is buying and contractors know what they are selling; and by whom and when the work will be inspected and judged before progress payments are made.

8. Budget permitting, the entire cornice needs to be carefully gone over and loose paint removed with the test being the use of a knife point to see if the cleaning and scraping are well done. This work will require lead training certification of anyone who does the work that disturbs 20 or more square feet of exterior lead surfaces. Failure to comply can result in staggering fines.
9. It may be simpler to remove and reinstall the cornice brackets for their paint work and repairs. Their very removal with require lead certification.

CLEANING OUT THE BUILDING:

Parallel with the roof and cornice work the interior needs to be emptied under supervision. Three men for two weeks should be able to accomplice the work. Care needs to be taken with existing electrical services and water pipes which will have to be turned off. It may prove useful to have a temporary electrical service locked box mounted on a pole so that the entire current electrical, heating and water systems can be removed.

- Remove all the desks, chairs, cupboards etc. to be salvaged or discarded.
- Remove all drop ceiling tiles and their support grids on the first and second floor taking care to do as littler damage as possible to the original plaster on the ceiling. When restored the house should show its age…not be an old lady dressed up in hot pants, that determination goes somewhat to the use of the building. Too often the best part of the "old" of a building is carted off to the dump.
- Take down newer none load bearing partition walls, if there are any, and also jettison the drywall elsewhere in the building on exterior walls and ceilings if any is present.
- This removal will reveal the location of original walls and where the missing east side entrance was and its dimensions.
- DO NOT REMOVE ANY ORIGINAL LATH even if the plaster is missing. These areas can be repaired and re-plastered.
- Do not mar original flooring or moldings or plaster.
- Remove the rug and leveling plywood on the second floor. Use extreme care not to mar the existing original 2nd floor…additional damage is the wrong direction to be going and will only entail more costly repairs.
- Remove and store existing two original doors and pad them for safe keeping.
- Remove the existing 8/8 window sashes but leave the storm windows in place. They might be saleable.
- It appears the original 1st floor boards are gone with only a plywood deck in place. Leave it as a work surface until one is ready to jack up or move the house.
- When the house has been completely cleaned out and jacking is in order then the plywood floor can be removed.
- Remove the existing storms only after new sashes have been made and are ready to be installed. Then on a window by window basis the storms can be removed, repairs made as necessary to the exterior casings, jambs and other trim elements and the new sash installed with appropriate locks.

ADDITIONAL EXTERIOR REPAIRS:

- The northwest corner timber framing post has badly rotted at least half way up the wall because of missing down pipes, and ice lens have built up in the wall and caused some bulging outward. Other ice bulging has occurred next to a 1st floor window on the east side south end. This is the result of the leaking cornice box gutters. Previous repairs have been half hearted amateur attempts at best.

  The saving grace of the rotted post is it tells a story of neglect, not one of poor workmanship. The brace to the 2nd floor timber is still in place and indicates that most of the corner post, now hidden behind clapboard, is still sound. What is needed now is a skilled timber framer to cut out the old rotted piece and scarf in a new piece…not an overwhelming challenge. Siding will have to be carefully removed to reveal the entire rotted area and work on it.
- Another place on the east wall that will have to have siding removed is at its south end where an entrance door once was. Cleaning out the inside should pretty much reveal where this opening was and its size. At the moment it has some bulging from an ice lens next to the window from the leaking cornice that probably soaked the insulation in the wall and it expanded by the window to bulge out by ¾".
- Take down and rebuild the chimney. The bricks above the roof line are a total loss as to get the cement parging off them without great damage to the brick is next to impossible. However, the chimney that extends down into the building needn't be rebuilt if the building's use doesn't require it. Thus there should be ample replacement bricks to make a stub chimney above the roof opening sitting on a wooden platform below the roof opening. The chimney can be sealed at the top, but the chimney should have a rounded copper rain-cover and a diminutive corbelled course of brick one row down from the top so that water sheds of it better, as most chimneys in New Castle have and which this chimney probably had originally. The chimney becomes only a non-functioning architectural detail.
- However since a sewer vent pipe probably will be needed in the building it can be incorporated into the fake chimney without the copper cap.

NEW MILLWORK and HARDWARE:

The following new millwork will be needed for the building:

- 10" high quirk beaded baseboards on the 1st floor…approx. 100 ft
- 4" high quirk beaded baseboards on the 2nd floor….approx. 100 ft.
- Chair rails if the new design needs them ….100 ft/floor
- Ten new sets of 2/2 sash with lockable closing rails made from Spanish cedar…an ideal milling and rot resistant wood. **All sash to be primed and back puttied**.
- Glass to be hand blown German cylinder glass from Bendheim in New York or French glass from St. Juste in France.
- Two solid brass window locks per opening. Solid brass fittings will not have plating come off and they will not only lock the window but also pull the meeting rail tightly together whereas one lock will bow the sash over time allowing air and insects infiltration.

- Ten sets of primed and painted two coats shutters with Acme style cast iron hinges.
- New clear white pine casings for windows and doors as needed for repair or replacement…to be milled in a local shop. Exterior mill work to be run from clear Spanish cedar.
- New interior/exterior casings for windows and doors as needed for repair or replacement…to be milled in a local shop.
- Existing original mill work that can be salvaged will need its paint removed by skilled and lead licensed craftspeople. Most of it can be removed and done off site.
- New interior/exterior casings for windows and doors as needed for repair or replacement…to be milled in a local shop.
- New handrail for east side of staircase with appropriate cast iron or brass mounting brackets.
- One new exterior door to match the existing exterior door with appropriate moldings. New hardware hinges, locks and escutcheons shall match the ones pictured or now in place…either new or from antique salvage suppliers.
- Modern mortised in dead bolts into exterior doors. No surface mounted dead bolts.
- Ten new one glass storm windows with colored metal frames to be set inside or outside against the window jambs.

NOTE: It is suggested that the restoration part of the building (as opposed to those finishes and systems that will meet the needs of today's determined use) offers an excellent opportunity for students to learn these vanishing skills. Preservation Delaware may have sources for candidates. One should also consider interns from the American College of the Building Arts (ACBA) in Charleston during their required summer internships.

ACBA can also make the sashes and millwork by students as class projects which I am certain the school would be willing to bid on at a very competitive rate. Their senior professor is Ken Nuttle who was a master cabinet maker at Colonial Williamsburg before joining ACBA.

JACKING UP THE BUILDING:

Before the building is jacked up to repair and extend upward the original brick foundation the decision has to be made to keep it in its current location or move it forward to the edge of the plaza in front of it. The answer will determine whether the building is jacked-up from the inside or from the outside where wheels can be attached and the whole of it rolled forward 75 feet or so.

In either case the plywood floor can be taken up along with the original joists which appear to be sitting on a brick ledge on the foundation and not attached to the sill plate or timber. An exception to this will be under the south entryway and under the staircase

where original flooring may be in place. A determination then will have to be made to save this area of flooring under the stairs and the entry room wall or not. It is best that it be saved.

The nature of the jacking is beyond the scope of this report and should be left to a house moving company and their engineers working with the city's design team that takes into account the land behind the building, its shed requirements and possible public toilet facilities.

RESTORATION BUDGET (N0T INCLUDING MODERN USEAGE ITEMS)

• Cornice carpentry repairs – 2 men and helper three weeks…	$10,000
• Scaffolding rental – one elevation at a time – 3 months	3.000
• Cornice lead paint removal – 2 men and helper two weeks	10,000
• New stub chimney and cap	1,000
• Boxed in gutter repair and new EPDM liner with downspouts	6,000
• New standing seam tin plated roof	15,000
SUB-TOTAL ON CORNICE, GUTTERS & NEW ROOF	**$45,000**

• Cleaning out the debris and junk from the building - 3 men 1 week including shed removal and dumpster fees.	$5,000
SUB-TOTAL CLEAN OUT	**$5,000**

• Original window casing, jamb and trim repair and lead removal	$8,.000
• Ten sets of new sash and primed with hardware & hand blown glass	10,000
• Ten storm windows @ $350 each installed	3,500
• Ten sets of new shutters factory finished	5,000
• New entrance door custom made	1,000
• Replacement of missing antique hardware & new door hardware	500
• Restoration carpentry inside-and-out on main body of the house 2 men 6 weeks – trim, doors, windows, repair clapboards etc	12,000
• 2nd floor floor repairs	5,000
• Repair of existing original plaster work	5,000
• Painting clapboards, doors, all trim, cornice, shutters interior painting	8,000
SUB-TOTAL ON CARPENTRY & PAINTING	**$58,000**

• Jacking up the house from inside and setting back down	$10,000
• Foundation repair and 2 feet of new brick work 90 lin. Feet	8,000
• Sill and timber frame repair/replacement…rotted ends/corner post	$10,000
• Vapor barrier in crawl space	500
• 1st floor new joists/sub floor for occupancy code requirements	3,000
• New stone entry steps to two exterior doors	2,000
SUB-TOTAL ON JACKING AND NEW JOIST/FLOORING	**$33,500**

RESTORATION WORK TOTAL	**$141,000**
SUPERVISION FEES	**14,000**
10% CONTINGENCY FUND	**14,000**
TOTAL RESTORATION ESTIMATE	**$169,000**

NEW MODERN FACILITIES

• Exterior toilets & shed addition	$25,000
• Interior plumbing and bathroom	10,000
• HVAC & Electricals	25,000
• Security system installation	3,000
• New wall boarded partition walls & extra insulation	6,000
• Landscaping	10,000
• New Plaster infill work	4,000
SUB-TOTAL ESTIMATE FOR NEW WORK	**$83,000**
10% CONTINGENCY FUND	**8,300**
TOTAL NEW WORK	**$91,300**

NEW DESIGN AND ENGINEERING SERVICES	**$10,000**
TOTAL PROJECT COST	**$270,300**

The above costs estimates are at best elastic because of many unknown conditions in the building. However they are reasonable assumptions based on other restorations within the past 5 years. The current depressed housing market might make contractors available at lower costs as well as the availability of good architects and engineers who are largely idled at the moment.

The success of the project will depend, not so much on cost, but the quality of workmanship and how that effort is applied to the project, be it through a general contractor (few of whom have the overall skills and knowledge) or on a project by project approach of the above scope of work that has been set out with skilled carpenters leading the way under supervision.

I trust the above observations on the condition of the building, its needed repairs, and their costs will allow a meaningful discussion amongst interested parties. Other than roof repair and gutters much of the other work can be put on hold or done piecemeal as funding permits. Please call with any questions.

Richard O. Byrne
Architectural Conservator
Staunton, Virginia

Please see next page for a skeleton of a timber framed house that resembles the original construction of the Banks Building

THIS TIMBER FRAME SKELETON RESEMBLES PRETTY MUCH HOW THE BANKS BUILDING'S FRAME APPEARED WHEN IT WAS BEING BUILT. BRACES WERE AT THE TOP OF THE POST NOT AT THE BOTTOM.