

Structural Assessment Schroon Lake Bandstand



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1. Executive Summary

The Bandstand has been a central feature in town since 1936. It was preceded by a smaller one at the corner of Main Street and Dock Street. Over the years, various repairs and modifications have been performed, with the last major work being done in 1999.

This report uses terminology that may be unfamiliar. Some of those terms are shown in the Appendix.

The current condition of the Bandstand is fair to very poor. There are several safety issues with the concrete slab at the Park level and the roof structure. The masonry walls have cracking that must be addressed. Nearly every part of the Bandstand structure requires repairs, including the lowest level (Bathhouse), which is no longer used.

Four possible schemes are outlined for the Town Board’s consideration. The scope of work ranges from repair in place to a complete rebuild. There are benefits and limitations to each scheme that are also listed.

2. Background

The Town of Schroon Lake dates to 1804. Community music and bands have been key ingredients in the life and activities of the town. Former Town Historian Paul E. Stapley reported that there originally was a bandstand located at the corner of Main St and Dock St (the site of the current fountain).

The following photograph (Figure 1) from 1889 is on display at the Schoon-North Hudson Historical Society. It shows band members in front of the bandstand. Reportedly, there were also scales for weighing hay and grain and a pump for well water. At some point, the bandstand was demolished (date unknown) and a dummy put in its place; that too was demolished after World War II. In a May 1, 1936, news article in the Essex County Republican, the construction of the current bandstand had begun, and the original one was moved to the beach in the park for use as a summer house. There is no record of whether the one moved was the original bandstand or the dummy.



Figure 1 – Original Schroon Lake Bandstand (c.1910)

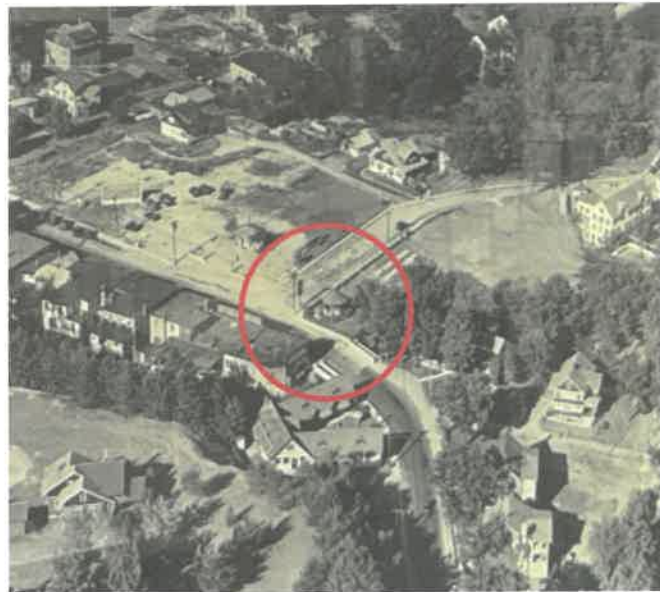


Figure 2 - June 1934 photo with bandstand on Main Street and Dock Street

The current bandstand, constructed in 1936, was supported by a Works Progress Administration (WPA) grant, part of the New Deal-era initiatives to boost public infrastructure and employment. The park development was also a WPA project to further enhance recreational opportunities.

The Bandstand building was designed by Charles T. Whitney, Architect, and Henry R. Bohrmann, Engineer, both from Schroon Lake. Harry B. Kendall, Architect from Glens Falls, was a consultant. The lowest level was designated the Bathhouse, the middle level was the Park level (sometimes referred to as the Terrace level or Ground Floor), and the Upper level was the Bandstand. The original drawings were provided for this study.



Figure 3 – View from southeast with Bathhouse at lowest level



Figure 4- View from the south



Figure 5 - View from southwest

The Bathhouse level contained shower facilities and some storage. The shower facilities were discontinued at some point, and the entire level has since been used for storage.

The Park (Terrace) level included toilet facilities, storage, an electrical panel, a staircase to the Bandstand level, and an outdoor terrace overlooking the lake. The toilet facilities were removed and converted to storage.

At the Bandstand level, the railings, column posts, ornamental trim, floor covering, and lighting have been changed. The flooring was originally canvas over a wood deck. Currently, there are some tiles around the perimeter and a deteriorated wood deck in the center.

On both sides of the Bandstand building, there are stairs to the Bathhouse level as well as retaining walls. The stairs were part of the Bandstand building; the retaining walls were a separate project.

3. Structure

Based on the original drawings, the exterior foundation walls, the Bathhouse level walls, and exterior building walls up to the Bandstand level are built of uncoursed rubble stone masonry with wide mortar joints that are unreinforced. The interior Bathhouse walls are unreinforced concrete. The foundation footings are not identified but are presumed to be concrete. The interior surface of the masonry walls is plaster-coated.

The Bathhouse level and the Park (Terrace) level floors are concrete. The drawings indicate they vary from 4 inches to 7 inches thick.

The interior walls at the Park level are wood framed. The Bandstand floor is supported by wood joists. The roof structure is wood framed as well. The roofing was originally wood shingles.

4. Previous Proposed Work

The Town provided documents from 1999 and 2007 for proposed renovations and repairs. What follows is what was proposed and not necessarily completed. It is intended to indicate the problems and concerns of the time.

1999 Plans by Peter E. Gibbs, PE

The following items were included in the documents we were provided. Indications are that some of the proposed repairs were implemented.

- a. Masonry repairs
 - i. The building walls were to be fully repointed, as were the retaining walls. Portions of the walls were partially collapsed and were to be rebuilt.
 - ii. The East and West stairways were to be replaced with concrete treads and concrete railing caps.
 - iii. The Park level masonry railing was to be replaced in areas, along with the concrete cap.

- b. Bathhouse repairs
 - i. Steel framing was to be added to support the Park level slab above.
 - ii. The windows were to be filled with masonry.

- c. Park level repairs
 - i. Wooden stairs to the Bandstand level were to be replaced with steel stairs.
 - ii. A ceiling was to be installed in the tunnel and side rooms.
 - iii. The concrete slab was to be patched and coated.

- d. Bandstand level repairs
 - i. The handrails were to be replaced with aluminum.
 - ii. New wood floor decking was to be added and covered with an epoxy coating.
 - iii. All painted surfaces were to be scraped and repainted.

- e. Roof repairs
 - i. The wood shakes were to be replaced, flashing was to be added, building paper was to be added under the shakes, and ice and water shield membrane was to be added in selected areas.
 - ii. Deteriorated ornamental wood trim was to be removed and replaced.

- f. Miscellaneous repairs
 - i. Lighting and wiring improvements were to be made.
 - ii. A hole in the ground outside the building for site piping was to be filled.

2007 Plans by AES

The drawings provided were dated January 17, 2007. They were marked Progress Print. No data was provided as to whether the Town contracted for the work to be done or if selected items were implemented. The proposed work included:

- a. Masonry repairs
 - i. None were proposed.
- b. Bathhouse repairs
 - i. Two Bathhouse piers were to be evaluated and underpinned with concrete, if needed.
 - ii. The steel framing supporting portions of the Park level concrete slab was to be removed, cleaned, painted, and reinstalled.
- c. Park level repairs
 - i. The concrete slab was to be replaced. Floor drains were to be added.
 - ii. The steel stairs were to be removed and reinstalled after the slab replacement.
 - iii. The wood partitions were to be replaced with pressure-treated framing.
 - iv. A ceiling was to be installed.
 - v. The masonry railing was to be replaced.
- d. Bandstand level repairs
 - i. The handrails were to be replaced with an aluminum system.
 - ii. The wood column posts were to be replaced with pressure-treated 8 x 8s, and metal connectors were to be added to the roof beams and column bases.
 - iii. New PVC column trim was to be added to the columns.
 - iv. The floor was to be replaced with two layers of ¾-inch plywood and vinyl flooring.
- e. Roof repairs
 - i. The valley rafters were to be reinforced.
 - ii. Four roof beams were to be reinforced.
 - iii. Rafter tie-down clips were to be added in the attic.
- f. Miscellaneous repairs
 - i. Additional ceiling vents were to be added to the Park level ceiling.

5. Site Observations and Comments

The following observations were made to identify current problems and to indicate changes not noted in the previous repair drawings.

a. Masonry Walls

- i. There are wall cracks over several openings due to rust jacking caused by corroded lintels and reinforcement. Rusted steel can expand up to nine times its original thickness, causing the mortar joint cracks. The lintels were to be repaired in 1999 to prevent the masonry from cracking further, but that wasn't done. Figures 6-9 show some heavily corroded steel lintels and the resulting wall cracks. Some of the cracks extend above to the concrete edge at the Bandstand level and have cracked that as well.



Figure 6 – SW corner of west wall, Bathhouse



Figure 7 – West wall, Park level



Figure 8 – East wall, Park level



Figure 9 – SE corner of east wall at Bathhouse level

There are some masonry and concrete wall cracks in the Bathhouse due to lateral pressure and movement. Two partial walls have been added to strengthen the foundation walls, but the remaining cracks in the walls and the underside of the Park level slab are significant. Figure 10 shows the partial concrete masonry wall that was installed to brace the north foundation wall; another exists at the south wall. Figure 11 shows a close-up of the interior crack in Figure 10 (oval).



Figure 10 – North bracing wall



Figure 11 – North Wall crack

Wall cracks and debonding at the previous repairs (Figures 12-13). These are the typical cracks that occur throughout the masonry walls. The cracks are likely caused by freeze-thaw effects on the previous repairs.



Figure 12 – NW pier at Park level



Figure 13 – SE Pier at Park level

- ii. The Park level has a masonry railing around the perimeter (arrow in Figure 14). Much of this was rebuilt in 1999. The remainder was repointed. There are no floor drains at the Park level. Runoff from the Park Level slab runs out through six arched openings and then drips off the slab. Figure 14 also shows representative cracking over the arched openings on the south wall. The cracking on the exterior is continuous along the south wall and is visible on the Terrace side also (Figure 15). No exterior cracking was evident on the east and west railings that have no arched openings.

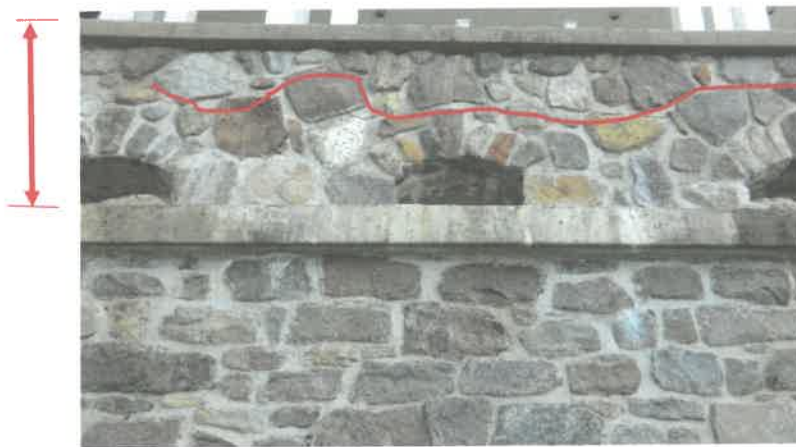


Figure 14 – South railing over Bathhouse

The interior side of the railing has cracking like the exterior. Figure 15 shows a portion of the south elevation. There is minimal cracking on the interior of the east and west walls where there are no arched openings.

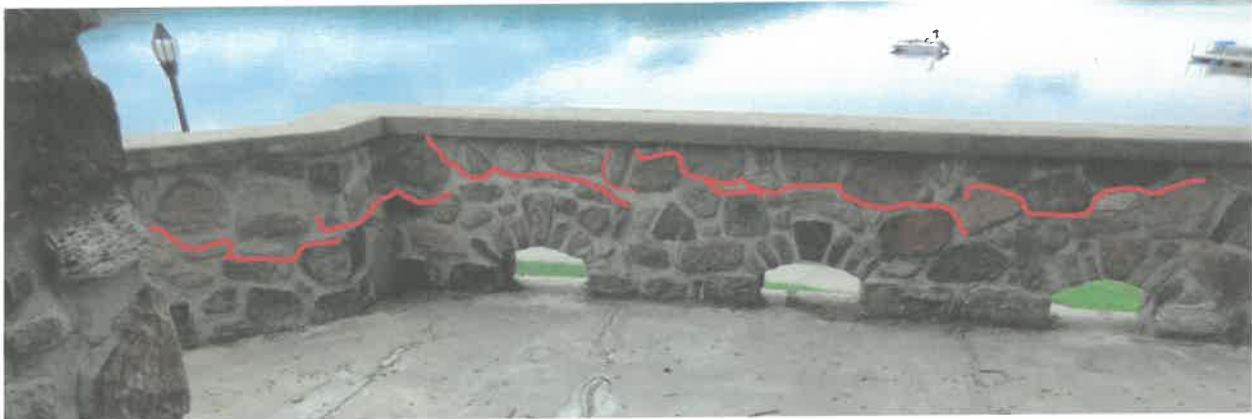


Figure 15 – Cracking at the south elevation railing

- iii. Comparing the masonry to the oldest photograph we could find for the Bandstand, it appears the masonry has been rebuilt in various areas with different stone and different patterning. Figure 15 shows an enlargement of the north wall from a historical photograph obtained from the Historical Society. Much of the stonework appears rectangular and coursed.



Figure 16 – Historic photograph (date unknown)

A photograph from 1999 (Figure 17) shows the masonry as rectangular coursed before the repairs. It appears stonework was significantly changed as we look at Figure 18 from 2025.



Figure 17 – Stonework before 1999 repairs

Figure 18 is a recent photograph. Much of the stone, except at the corners, is rounded, uncoursed, and has some larger joints. These are likely changes made in 1999.



Figure 18 – 2025 Photograph

iv. There is missing mortar in the southwest pier (Figure 19). The 1999 repointing mortar is visible as well as the original mortar inside. The repointing mortar did not bond to the stones well, and the joint cracked.

Samples of the mortar were tested qualitatively using acid digestion. The original mortar is a combination of Portland cement, lime, and aggregates. I estimate equal proportions of Portland cement and lime. The repointing mortar had mostly Portland cement and little lime. The repointing mortar is probably 50% to 100% stronger than the original mortar. This differential might be a factor in the cracking we see throughout the walls.

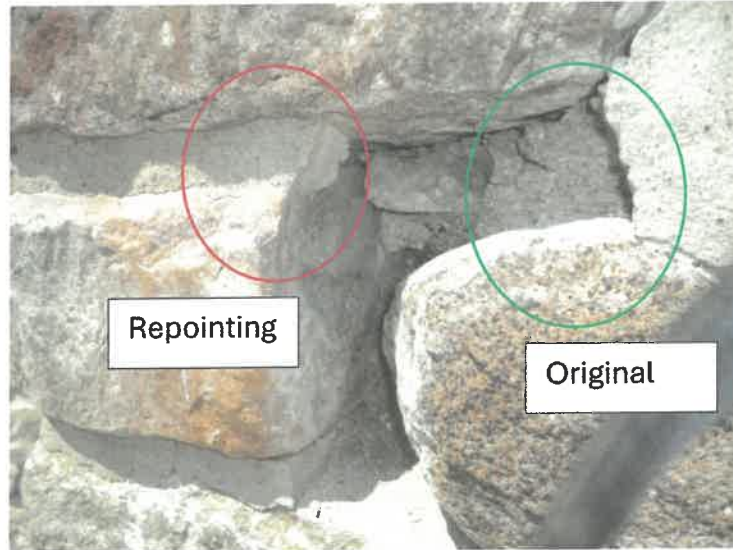


Figure 19 – Southwest pier with 1999 repointing and original mortars visible

- v. The 1999 masonry repairs are the last known performed on the Bandstand. The mason contractor was Ernest LaBarge of Labarge Masonry and Restoration, now based in Ticonderoga.

I spoke to Mr. LaBarge and was told:

- The masonry walls were repointed approximately 2 inches deep from the ground level up using a Type S mortar. They used grout bags to fill voids in the walls where they were found.
- The masonry railing at the Terrace and walkways was removed and rebuilt, and the concrete cap was replaced.
- The steel lintels over the windows were not replaced.
- The original windows were replaced with glass blocks.
- The masonry stairways were replaced.
- The four masonry piers at the Park level were repointed. Some stones were reset, and some new stones were installed. He said the source of the new stones was the Emerson Farm off Hoffman Road near the Town Garage.
- No masonry work was done inside.
- No water repellent sealer was used over the mortar joints.
- He installed the sidewalks at the bottom of the stairways and encountered no roots or clay soil.

b. Bathhouse

- i. As previously noted, two partial-height reinforced concrete masonry walls were added at the NE and SE corners of the Bathhouse level (Figure 10). We could not determine if the NE foundation crack is old or has opened further since the reinforcement was installed.

An interior concrete wall is also badly cracked (Figure 20). The crack extends through the Park Level slab above (Figure 21). This cracking is likely from the earth pressure on the north wall.



Figure 20 – Interior wall crack



Figure 21 – Wall crack in Figure 20 continues into the slab above

- ii. The underside of the Park level slab has 14 cracks that align with cracks on the top of the slab (Figure 22). In this one photograph, we see:
- Corroded reinforcing bars.
 - Corroded structural steel supports.
 - Cracks around embedded electrical boxes.
 - Evidence of water leaks from above.

The steel framing was installed in 1999, likely as a reaction to the cracks. In 2007, the framing was to be removed, repaired, and reinstalled. There is no evidence that was done.



Figure 22- Bathhouse ceiling

Figure 23 shows another example of cracking and spalling of embedded reinforcement and an electrical box. The light-colored material at the cracks is due to the water leaking through the concrete.



Figure 23 – Bathhouse ceiling

- iii. The original floor slab drains were not visible. The original drawings did not show any drainage piping under the floor. In some areas, the floor slab is cracked, while in other areas, it appears to have been replaced. On the east side of the

Bathroom level, an overpour of concrete was made (Figure 24, arrow). The reason for this is unclear; it may have covered a cracked floor.



Figure 24 – Overpoured concrete floor

One room in the center of the north wall was shown on the original as a shower room (Figure 25, highlighted yellow). The room was to be 8 feet wide, yet it is only 6 feet. The south wall of the room was to be concrete, but is constructed of stone like the perimeter walls. All the other original interior walls are concrete.

The floor slab itself sounds hollow underneath. That is unexpected and requires further investigation and probing.

Figure 25 also shows those walls that have been removed (red), those openings that have been filled in (green), a wall that was removed and replaced with a partial-height concrete masonry wall (blue), and the two partial-height walls that were added (purple).

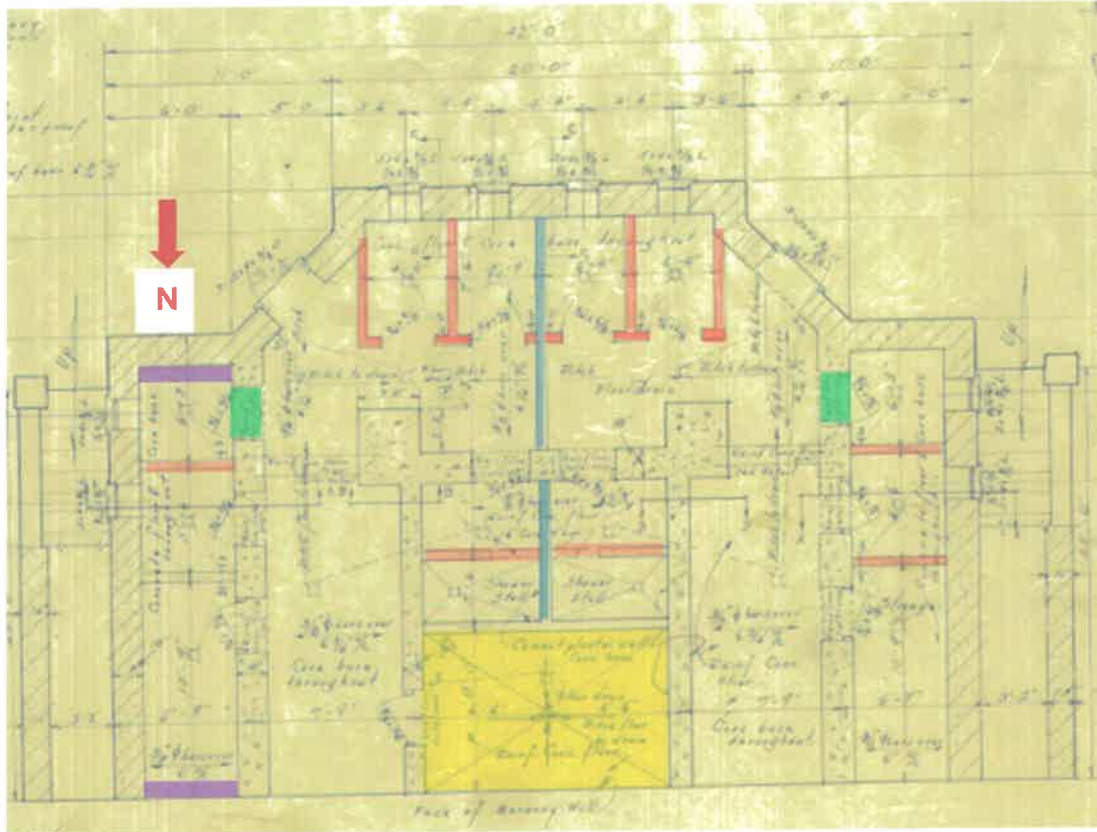


Figure 25 – Original Bathhouse floor plan

- iv. The exterior metal doors are rusted and don't close (Figures 26 and 27). They are screwed shut when not being used. "BOYS" is painted over the west door, and "GIRLS" on the east door, and are faintly visible. There are ornamental door gates on the exterior of both doors. These were not mentioned in any notes from 1999 or 2007.



Figure 26- West Door (BOYS)



Figure 27- East Door (GIRLS)

- v. The eight windows at this level have been covered with plywood (Figure 28). The original drawings indicated the windows were wire glass. These covers also appeared in a photograph from 1999. The windows were proposed to be infilled with masonry in 1999, but glass block was installed instead. About 50% of the glass blocks are broken. The intact glass blocks could be used as extras for the Park level windows.



Figure 28- Covered windows, North wall

c. Park Level

- i. The concrete slab was patched and coated in 1999. The 2007 design specified replacing the entire slab; this was not done. Figures 29-33 show the many cracks and the peeling coating that was probably installed in 1999. The cracks create trip hazards and allow leaking below.



Figure 29 - Floor cracks in Park level slab, looking south at the Terrace



Figure 30 – East walkway cracks



Figure 31 – West walkway



Figure 32 – Terrace cracks looking west



Figure 33- Floor cracks in Park level slab (tunnel) looking south

- ii. There are no floor drains at the Park level. The Terrace water is intended to drain to the wall openings in Figures 29-31. Figure 34 shows a typical opening at the south.



Figure 34 - Drainage opening for Park level slab

- iii. The original drawings list the Bandstand concrete to be a 1:2:4 mix (one part Portland cement, two parts sand, four parts gravel). This was a commonly used mix in 1936 and likely produced concrete with a strength of 3,000 psi or greater.
- iv. Three wooden doors were replaced with steel in 1999 (Figure 35), and one was infilled. The doors require some maintenance.



Figure 35 – Metal doors

- v. The four windows at this level (two on the east and two on the west) have glass blocks like was used at the Bathhouse windows. These appeared covered in a photograph from 1999 (Figure 36) and were proposed to be infilled with masonry. There are a couple of broken glass blocks on the East wall (Figure 37). Intact blocks from the bathhouse level could be used to replace these, and the jambs can be rebuilt.



Figure 36 – 1999 Photo with windows covered



Figure 37 – East wall, broken glass block

- vi. There is a stone niche on the east side of the entry at the Park level (Figure 38). It may have been used at one time and could be used again.



Figure 38 – Niche at entry

vii. The wall covering and the ceiling for the “tunnel” were installed in 1999 (Figure 39 and are generally in good condition. Additional vents were proposed in 2007 but were not installed, and there appears to be no need for them. There has been damage to a portion of the vents (Figure 40). We did not have access above the ceiling to check the framing. The flooring above needs to be removed to check it.



Figure 39 – Tunnel ceiling



Figure 40 – Missing and damaged vent

viii. The stairs to the Bandstand level were replaced in 1999 (Figures 41-43). They were to be removed, repaired, and reinstalled in 2007, but that did not occur. The Bandstand level opening allows rain, snow, leaves, birds, etc. to enter. There is no drainage; the water sits on the stairs and runs to the Park level. Figure 43 shows the corroded stair framing.

The stairs will be a forever maintenance issue until the stair opening can be modified to prevent water entry when not in use.



Figure 41 – Stair from Park level



Figure 42 – Stair looking at Bandstand level



Figure 43 – Stair support in west side room

viii. Two of the side rooms at this level were once toilet rooms. The east room was added to the electrical room when the toilets were removed. The east toilet room door was filled. The room now includes storage.

Figure 44 shows two views of the Bandstand structure above the electrical room. Several of the joists have been notched over the years without being strengthened; these can be repaired.

The green framing at the lower right (oval) is the infill framing for the previous door. The exterior walls are covered with concrete parging over the stone walls. There are cracks throughout.

The ceiling framing shows some water stains, but no active leaks were noticed.



Figure 44 – East room with electrical and storage

- ix. Figure 45 shows a window on the West wall of the west room. The interior surface of the exterior walls is coated in a cement plaster, like the Bathhouse walls. The horizontal crack from the left corner of the window goes to the corner and continues along the south wall. This crack is through the entire wall and is visible on the exterior. The lintel rust jacking has damaged the whole thickness of the wall.



Figure 45 – West room, west wall

Figure 46 was taken from the electrical room of the east room and shows corroded reinforcement protruding from the interior plaster over the stone wall.

The corroded lintel is visible just over the glass block window (arrow), and the cracks travel to the north wall.



Figure 46 – North wall of Electrical room

- x. The Terrace railing wall was taken down and rebuilt in 1999 with a concrete cap. The cap was originally stone, but in a 1998 photograph (Figure 47), it was concrete.



Figure 47 – 1998 Photograph of Terrace railing with concrete cap

There are shrinkage cracks along the entire railing cap. Figure 48 shows one of the larger cracks. Figure 49 shows a more typical crack. It seems there were pins placed in the cap on the stone wall below. These acted as restraints to the shrinkage. The cracks are repairable.



Figure 48 – Corner crack in Terrace railing



Figure 49- Crack in railing cap near the west stairs

d. Bandstand Level

- i. The wood deck is exposed and water-damaged (Figures 50-52). Originally, the deck was canvas-covered and painted. At some point, edge tile was added. Previous projects had proposed installing either vinyl flooring or fiberglass. Surprisingly, there isn't water damage to the ceiling below or to the side rooms (except at the stairs) where there is no ceiling.



Figure 50 – West end including stairs



Figure 51 – Center of Bandstand floor



Figure 52 – East end

- ii. The opening for the stairs (Figure 50) to the Park level allows snow and water onto the stairs, causing the deterioration. The stairs were replaced at least once before.
- iii. Figure 53 shows the railing configuration from the original drawings.



Figure 53 – Wood railing from 1936

In both 1999 and 2007, the railing was recommended to be replaced with an aluminum railing. At some point, it was replaced with plastic, not aluminum. It does not match the original design, and it is not safe, particularly at the stair opening (Figure 50).

A photograph from 1998 (Figure 54, oval) shows a post that appears to be near the stairs. This may have been to brace the railing around the opening and/or contained a plumbing stack from the toilets below. Apparently, it was removed in 1999.

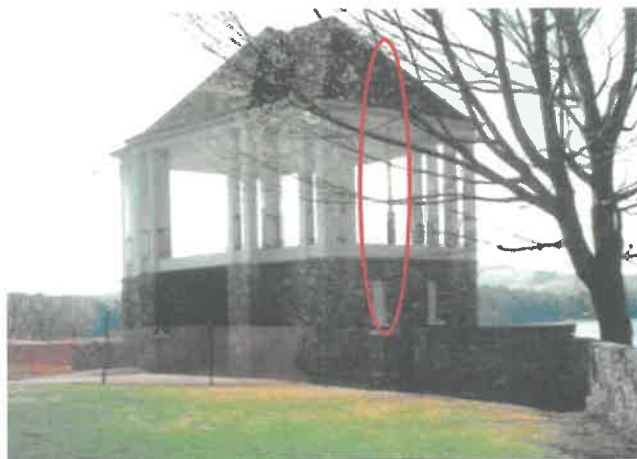


Figure 54 – 1998 Photograph showing a post near the stairs

iv. The original exterior columns were detailed as multiple 2 x members and covered with wood trim and ornamentation.

In 2007, each column post was replaced with a pressure-treated 8 x 8. There were no original details of how the columns were attached to the base or the roof, but new details were provided in 2007.

Ethan Thompson and crew removed one of the column post covers (Figure 55, arrow). Figure 56 shows the 2007 detail, which had a 2-inch wide 24-inch-long strap. There was no strap connector found (Figure 57).

No connectors were visible on the bottom, but to have seen them as detailed would have required removing a portion of the flooring and tile.



Figure 55 – Column post cover removed on a north column

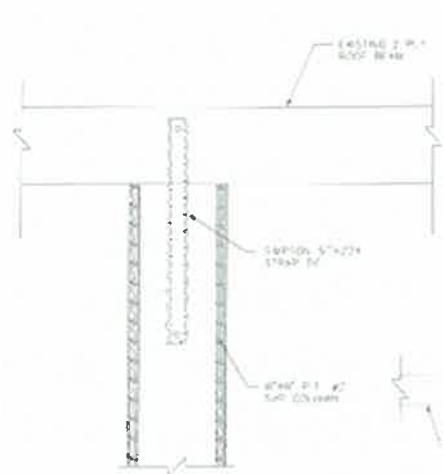


Figure 56 – From 2007 Design



Figure 57 – Removal showing no strap at top

Figure 58 shows the concrete at the top of a masonry pier supporting a column. The wood was not detailed on the original drawings, nor was the connection from the column.



Figure 58 – Concrete cap on masonry pier with wood on top

- v. We were able to shake the entire roof laterally by pushing on one column. This should not be possible. For safety reasons, I requested that the Town put up fencing to restrict access to the Bandstand or to install temporary bracing.

- vi. The ceiling and columns appear in generally good condition except for an insect infestation (Figure 59).



Figure 59- Bandstand ceiling with insects



Figure 60 – Insects on columns

e. Roof structure

- i. The roof framing above the ceiling is in good condition overall. The 2007 recommendations proposed strengthening the valley rafters and adding four beams to the existing (see red lines for the four proposed beams on Figure 61).

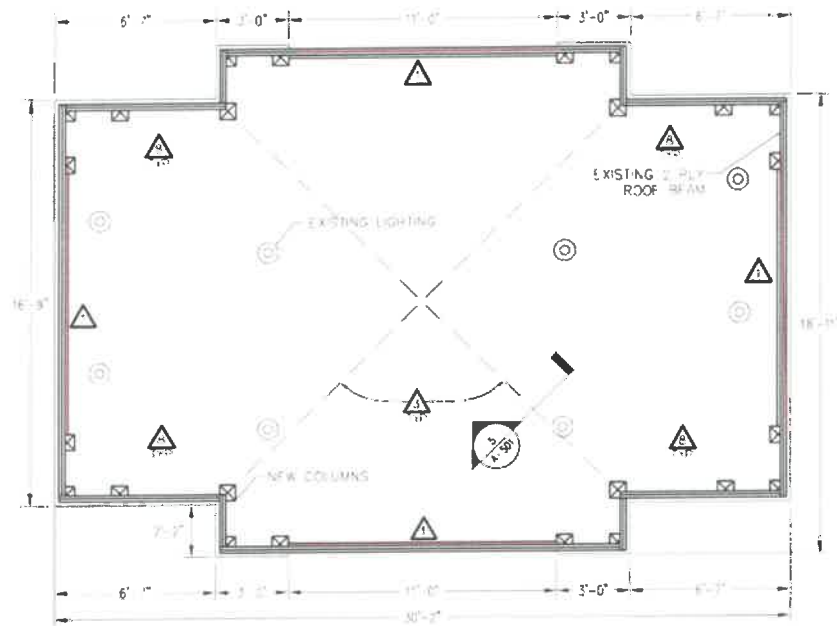


Figure 61 – Roof Plan from 2007 Repairs

From inside the attic, the notched top of a new column was visible as well as the original 2 -2x10 roof beams (red arrow and yellow arrow respectively (Figure 62). Thus, the 2007 proposed beams were not added. We agree they should be added as shown on Figure 61.



Figure 62 – Top of wood posts in the attic

- ii. The original exterior trim work that was original to the bandstand has nearly been stripped away. In its place, there is a synthetic (plastic) material that covers the columns and beams. This synthetic material is low maintenance, but it leaves the

surfaces flat without ornamentation (Figure 63), whereas the original drawings show some ornamentation of the columns with caps; the north, east, and west roof beams with medallions; and ornamental brackets on the north and south floor beams (Figures 64-66).



Figure 63 – Existing beams and columns without ornamentation

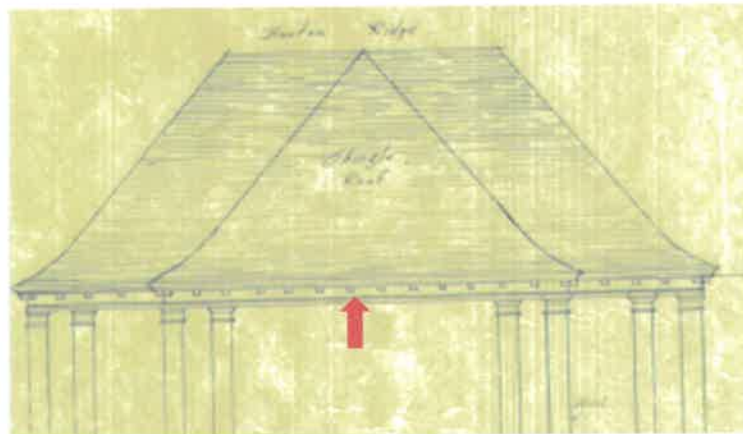


Figure 64 – Original drawings showing the medallions at the top

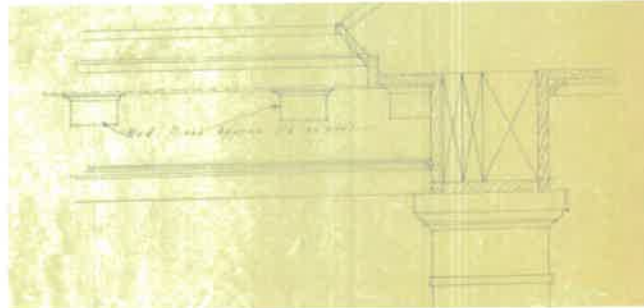


Figure 65 – Original detail of medallions and columns

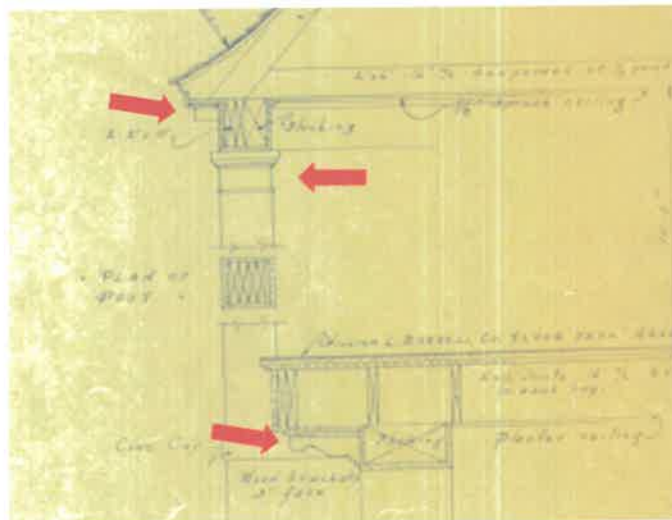


Figure 66 – Medallions, Post Caps and trim, and Brackets

- iii. The original shingle roofing was replaced with wood shingles (Figures 67-69). Much of the roof is covered with moss due to the adjacent tree. The valleys have copper flashing.



Figure 67 – West side roofing viewed from the north



Figure 68 – West side roofing viewed from the north



Figure 69 – West side roofing viewed from the north

Viewed from the interior, the wood shingles are supported on wood slats over a black membrane (Figure 70). The membrane provides waterproofing; however, it may not allow ventilation of the shingles. In addition, there are no soffit or ridge vents on the roof.

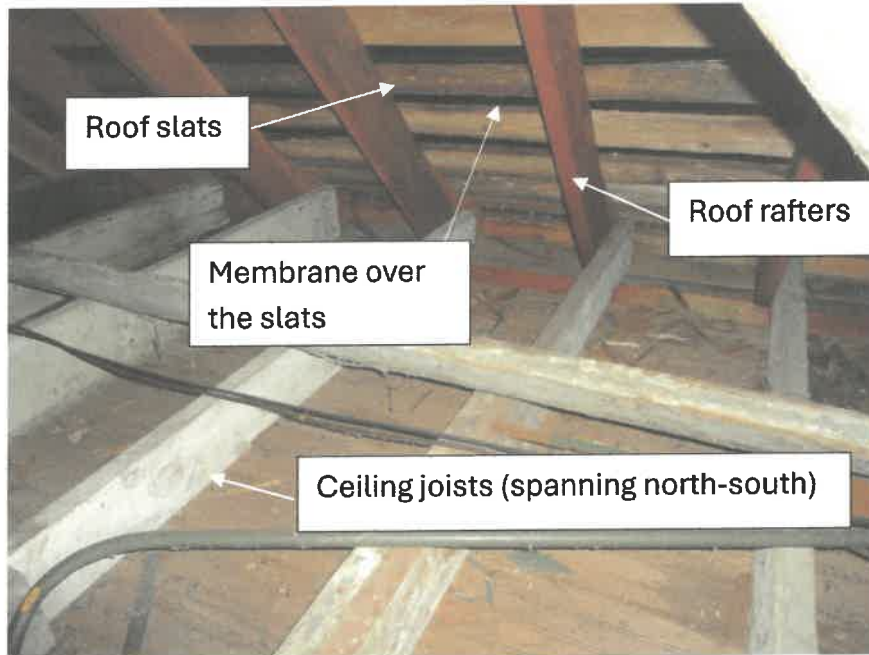


Figure 70 – Attic framing

- iv. The roof framing appears in good condition and is well-braced. (Figure 71). A few joists have been notched for running electrical lines, which weakens the wood, but that can be corrected. There is no evidence of distress.



Figure 71 – Attic framing

- vi. There are at least two old birds and insect nests to be cleaned out.

f. Miscellaneous

- i. The retaining walls are also stone masonry. They were fully repointed in 1999. They remain generally in good condition.
- ii. Figure 72 shows white efflorescence on the east wall. This is salt staining, likely due to water penetration from the garden side, dissolving the mortar.



Figure 72 – East retaining wall showing efflorescence.

- iii. There is a catch basin on the northeast corner of the building (Figure 73). It is filled with grass cuttings and soil and does not drain. This needs to be corrected.



Figure 73 – Shows the catch basin

- iv. The stairs to the Bathhouse level on the east and west were replaced in 1999 (Figures 74-76). Figure 76 shows a minor crack and separation at the west wall.



Figure 74 – West Stair



Figure 75 – East Stair



Figure 76 – West stair separation

- v. There are exposed tree roots near the southwest corner (Figure 77, arrow). These could be causing some of the wall and slab settlement in the Bathhouse. The photograph also shows the tree overhanging the roof.



Figure 77 – Tree roots adjacent to building

6. Assessment

The Bandstand is in poor condition, with some areas that are fair. Some of the issues are the result of a lack of maintenance, while some issues are likely to be due to a lack of funding to complete previously proposed work. Some issues are due to limitations on the original design, such as the lack of drainage on the Bandstand and the use of steel lintels over the openings. Correcting the drainage would require significant changes to the floor structure and adding drainage piping.

The stone masonry of the Bandstand building changed significantly in 1999.

- a. There are several critical issues to consider for restoration:
 - i. Structurally, the roof needs to be strengthened against lateral loads (wind and earthquake). This includes stiffening the existing columns and perimeter beam framing and adding connector brackets to the beams and columns. Four of the columns should be replaced with steel tubes, and two steel beams should be added for improved bracing. The architectural appearance of the Bandstand ceiling will be affected by the new beams; one is shown graphically on Figure 78.



Figure 78 – Possible dropped beam in the ceiling

- ii. The Bandstand floor has no drainage and no protective flooring; weathering has deteriorated the plywood deck. The center span of joists needs strengthening. The notched joists need reinforcement.
The flooring proposed in 1999 was an epoxy coating over plywood. In 2007, the proposal was for vinyl flooring.
The problems to be overcome include:
 - The flooring needs to be walkable, waterproof, durable, and low maintenance.
 - Compounding the problem is the lack of drainage. Rain and snow can blow in, puddle, and freeze in the winter. To add drains, the flooring needs to be modified to pitch.Several manufacturers offer products with varying degrees of warranty; one is Dex-O-Text. Their products can be used on both wood and concrete.
This topic needs to be evaluated because a reliable surface is necessary.
- iii. Bandstand stair opening is a continual problem, allowing water to damage the stairs and doorway below. It should have a removable cover.
- iv. The Bandstand railing is unsafe and needs replacement. The original design should be reinstated for aesthetics.

- v. The Park level concrete slab has numerous cracks and deterioration, with the area within the building being in fair condition and the exterior areas of the walkways and Terrace being in very poor condition.

Additional steel framing was installed in the Bathhouse to provide supplemental support for the slab. The steel framing under the Terrace is partially deteriorated; the framing under the tunnel is in fair condition. Both need some repairs.

Previous recommendations have been to coat the walkways and Terrace area concrete slabs and even replace them completely. They were subsequently coated, but that has failed, and water still leaks into the Bathhouse.

To repair the slab requires:

- For the slab area within the building, repair the slab by injecting the smaller cracks, strengthening two larger cracks, protecting the steel framing, and coating the floors for waterproofing. Coatings for exterior slabs require maintenance, but they are essential over enclosed spaces below.
- For the area including the east and west walkways and the Terrace, remove the corroded reinforcement, the embedded electrical boxes and conduit, patch the cracks and add reinforcement, and coat the slab again. This option requires so much repair that it has a high probability of requiring ongoing maintenance.

An alternative is to repair the slab within the building and replace the walkways and Terrace.

- vi. In 1999, the masonry walls received full repointing and partial rebuilding. Numerous cracks have reoccurred, exterior and interior.

- A primary problem is the cracking caused by the rusted steel lintels over the windows. These need to be removed and eliminated. To do this, the stonework above them needs to be removed also and reset or repaired in place.
- The continuous cracks (interior and exterior) along the south wall, as well as at the SW corner of the building, need to be repaired or rebuilt. It may be possible to inject the walls and repoint the mortar.
- The cracked exterior piers supporting the Bandstand framing need to be repaired or partially rebuilt and strengthened. These are integral to supporting the roof. Strengthen the masonry piers using embedded cable reinforcement in the joints.
- Inject the major cracks in the walls with a masonry grout.

- Remove and repoint the cracked mortar of the masonry walls throughout. The repointing mortar should be more compatible with the original mortar.
 - The cracked interior concrete walls of the Bathhouse need to be repaired and reinforced.
- vi. The Bathhouse floor presents several concerns.
- There has been some settlement, and portions of the floor have been replaced.
 - The east side of the bathhouse has an overpoured concrete slab, but the conditions that required this are unknown.
 - The hollow area under the floor near the north wall is unusual. Exploration is needed to determine why this has occurred.
- b. Secondary issues to be repaired:
- i. The roofing should be checked by a professional and cleaned of the moss.
 - ii. The adjacent trees should be evaluated by a professional and trimmed away for the Bandstand if necessary.
 - iii. The boarded-up windows at the Bathhouse level should be filled with masonry. The remaining glass blocks should be retained and used to replace the broken unit on the Terrace level and saved for future repairs.
 - iv. The cracks in the retaining walls should be repointed. The efflorescence on the east wall should be cleaned, and water entry into the wall from the garden side should be corrected.
 - v. The cracks in the east and west stairs should be patched.
 - vi. The windows, doors, and their heads and jambs should be repaired/rebuilt.
- c. Miscellaneous issues include:
- i. Clean the attic and add screened vents.
 - ii. Have a professional check and upgrade the electrical system.
 - iii. Replace the original architectural trim that has been removed over the years (medallions, brackets, and post caps).
 - iv. Clean the catch basin and piping at the Park level so that it drains adequately.
 - v. Minimal work on the retaining walls and stairs would be included.

7. Recommendations

Four separate schemes are presented to the Town for consideration. Each has its benefits and limitations.

Scheme 1 – Repair In Place

- a. Complete the safety issues:
 - i. Add roof strengthening.
 - ii. Replace the railing; match the original configuration.
 - iii. Repair and strengthen the Park level slab.
 - iv. Repair and strengthen the masonry piers.

- b. Complete the durability issues:
 - i. Reinforce the Bandstand floor and install protective flooring.
 - ii. Bandstand stair repair and install a removable cover to the opening.
 - iii. Remove the corroded steel lintels at the windows. Inject major cracks and rebuild portions of the wall.
 - iv. Strengthen masonry wall cracks and repoint the exterior mortar. Repair and patch the interior plaster cracks.
 - v. Repair the concrete wall cracks and steel framing in the Bathhouse level.
 - vi. Repair the windows and doors throughout.
 - vii. Add roof ventilation.

- c. Miscellaneous
 - i. Have the roofing assessed, repaired, and cleaned.
 - ii. Have the electrical wiring and lighting assessed and upgraded if needed.
 - iii. Clean out the catch basin and drainage piping.
 - iv. Investigate the Bathhouse floor slabs for settlement, cracking, and voids.

Benefits:

- Maintains the current Bandstand appearance except for the changes to the ceiling of the Bandstand.
- Restores the original appearance of the railing and ornamental trim.
- Restores the boarded-up windows.

Limitations:

- The repairs to the Park level slab will be extensive. Both concrete and masonry repairs require specialized contractor expertise.

- The magnitude of the repairs will require periodic maintenance for the Bandstand floor, the concrete slab and coating, and the mortar joints.
- Obtaining the replacement glass block for the windows may be a challenge. The manufacturer is out of business. Vintage units might be available for resale.
- The stone strengthening system for the masonry piers I would propose was developed and is available from Italy.
- Added assessments are required for the roofing, electrical, lighting, Bathhouse floors, adjacent tree, and tree roots.

Scheme 2 – Repair In Place (modified)

Same as Scheme 1 except:

- i. Infill the Bathhouse windows rather than repairing them.
- ii. Replace the exterior slabs (walkways and terrace) instead of repairing them.
- iii. Remove the Bathhouse doors and windows.
- iv. Make structural repairs to the interior of the Bathhouse level and bury (infill) it to eliminate its future maintenance.

Benefits:

- Maintains the current Bandstand appearance except for the changes to the ceiling of the Bandstand.
- Restores the original appearance of the railing and ornamental trim.
- Replaces the boarded-up windows with masonry. The remaining glass block can be used as a replacement for damaged units on the Park level.
- Replaces the exterior portions of the concrete slab (walkways and Terrace).
- Infilling the Bathhouse level will eliminate future maintenance and simplify the slab replacement.

Limitations:

- The repairs to the Park level slab and the masonry require specialized contractor expertise.
- The magnitude of the repairs will require periodic maintenance for the Bandstand floor, the concrete slab coating, and the mortar joints.
- The stone strengthening system for the masonry piers was developed and is available from Italy.
- Added assessments are required for the roofing, electrical, lighting, Bathhouse floors, adjacent tree, and tree roots.

Scheme 3 – Major Change

Same as Scheme 2, except implementing some additional major changes:

- i. Infill the Bathhouse so it is no longer accessible and eliminate future maintenance.
- ii. Expand the Park level Terrace area. Provide a larger public area for events.
- iii. Construct the Terrace slab with drainage.
- iv. Construct a new south wall for the Terrace that simulates the original.
- v. Improve the outdoor lighting for the Terrace.

Benefits:

- Maintains the current Bandstand appearance except for the changes to the ceiling of the Bandstand.
- Enlarges the Terrace area for public events.
- Restores the original appearance of the railing and ornamental trim.
- Replaces the boarded-up windows with masonry. The remaining glass blocks can be used as replacements for damaged units on the Park level.
- Infilling the Bathhouse level will eliminate future maintenance and simplify the new slab replacement.
- Terrace drainage can be added.
- The tree roots can be addressed with the construction of the new south wall.

Limitations:

- The repairs to the Park level slab and the masonry require specialized contractor expertise.
- The magnitude of the repairs will require periodic maintenance for the Bandstand floor, the concrete slab coating, and the mortar joints.
- The stone strengthening system for the masonry piers I would propose was developed and is available from Italy.
- Added assessments are required for the roofing, electrical, lighting, adjacent tree, and Bathhouse floors.
- Requires a geotechnical engineer to provide input for the new foundations and the repairs to the Bathhouse floors.

Scheme 4 – Reconstruction

This scheme entails full demolition of the Bandstand and stairways and rebuilding to replicate the original except that:

- i. The Bathhouse level would be eliminated.

- ii. The Terrace would be enlarged. The south wall would replicate the original design but delete the openings.
- iii. The roof structure would be considered for reuse.
- iv. The roofing would be replaced if necessary.

Benefits:

- Eliminates the Bathhouse level and reduces the size of the foundations.
- Eliminates the numerous repairs.
- Replicates the original appearance.
- Enlarges the Terrace area for public events.
- Recovers the glass block for reuse at the Park level.
- Drainage can be added to the Terrace and the Bandstand levels.
- The tree roots can be addressed.
- Updates electrical, lighting, and drainage.

Limitations:

- Requires an architect.
- Requires engineering consultants for lighting, electrical, and geotechnical services.
- Requires a geotechnical engineer to provide input for the new foundations.
- An added assessment is required for the adjacent tree.
- Requires construction protection for the remaining retaining walls.

From a repair standpoint, Scheme 1 is not recommended because it includes repairs to the badly cracked concrete slab at the walkways and Terrace. Repair Schemes 2 and 3 are preferred because they replace the exterior concrete and infill the Bathhouse level. Rebuild Scheme 4 is always an option and allows for drainage to the Bandstand level.

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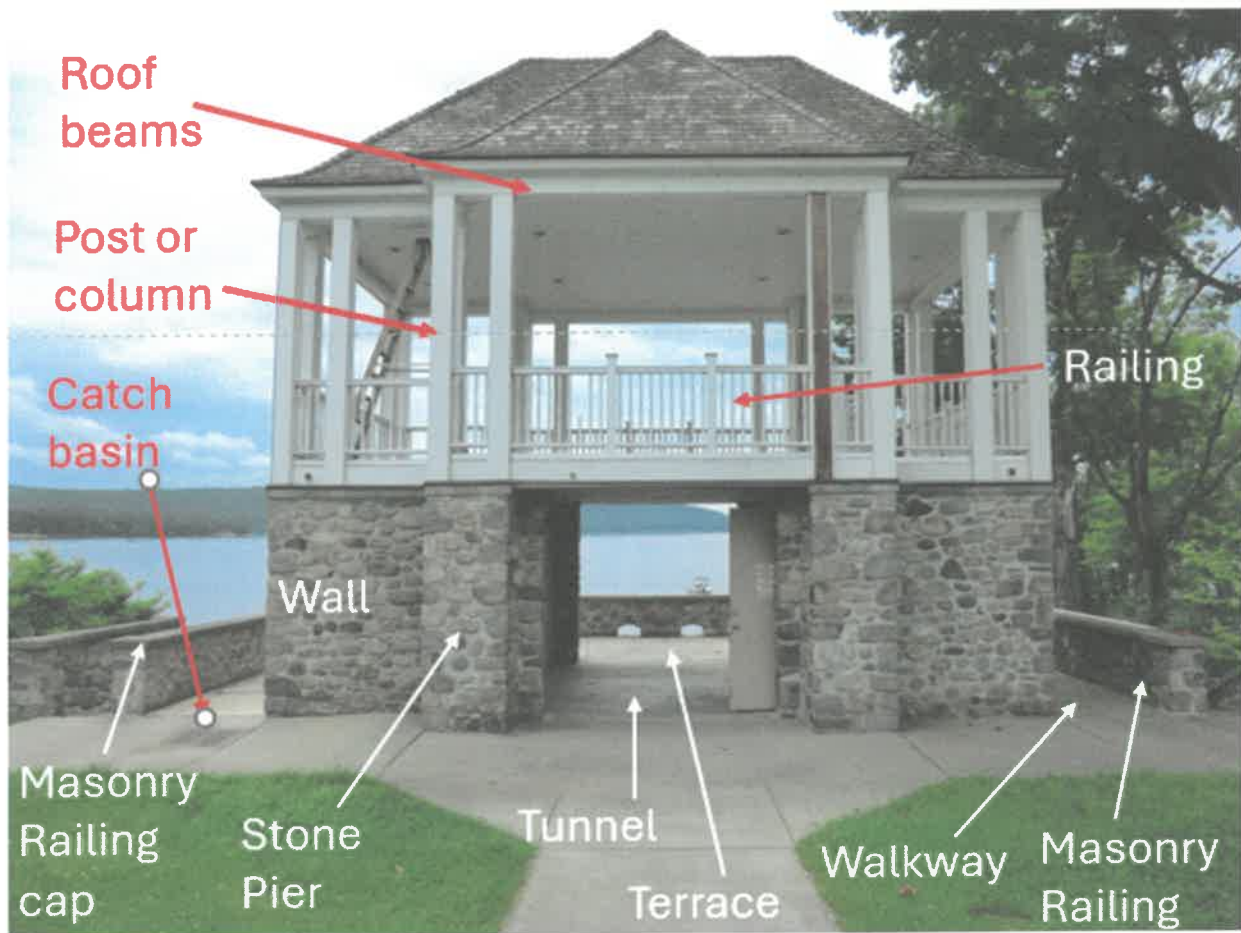
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Terminology





Steel lintel
(over window
openings)

Wall

Masonry
Railing