

**Community Planning & Economic Development  
Planning Division**

250 South 4<sup>th</sup> Street, Room 110  
Minneapolis, MN 55415-1385



**City of Minneapolis**  
*Department of Community Planning  
& Economic Development - CPED*

**MEMORANDUM**

TO: Heritage Preservation Commission  
FROM: Aaron Hanauer, Senior City Planner, 612.673.2494  
DATE: December 14, 2010  
RE: Minnehaha Falls and Glen Restoration Project follow-up (BZH 25653)

---

**Minnehaha Park Background:** Minnehaha Park is locally designated (Minnehaha Historic District) and listed on the National Register of Historic Places. The park boundary coincides with the Minnehaha Historic District boundaries (see Attachment A1). The park's historic sites illustrate commercial, transportation, pioneering, and architectural themes and is itself an expression of inspired foresight into urban and park planning. Minnehaha Park's contributing features are both natural and manmade. The natural elements include the Falls and Glen (see Attachment A2). The four contributing manmade structures include the following: Godfrey Mill (1853/1854) the Minnehaha Station (1870s), the John H. Stevens House (built in 1849 moved to the park in 1896) and the Longfellow House (1906).

**2008/2009 Certificate of Appropriateness Background:** In 2004, the Minnehaha Creek Watershed District (MCWD) in a collaborate effort with the U.S. Army Corps of Engineers (USACE) and the Minneapolis Park and Recreation Board identified issues of erosion to the streambanks near the WPA walls, and erosion of streambanks due to the presence of footpaths. In the fall of 2005 a major storm rainfall resulted in streambank failure just below the falls and near the Minnesota Veterans Home property line. In 2007 and 2008 the MCWD and the Minneapolis Park and Recreation Board (MPRB) created a plan to address structural failures, erosion problems, and stormwater management issues.

In October 2008, the Minnehaha Creek Watershed District (MCWD) applied for a Certificate of Appropriateness (COA) application with three main parts (see Attachment C):

1. Restoration work to the Works Progress Administration (WPA) retaining walls that line Minnehaha Creek (see Attachment A2-A3 for aerials of work location and A4 for images of WPA wall prior to 2009 work);
2. Minnehaha Creek stream bank improvements along Minnesota Veterans Home Property Line (see Attachment A2 for work location);
3. Minnehaha Falls Park and Glen stream bank erosion and bluff erosion mitigation. This section has three subparts:
  - a. Riparian Wading Pool Area (see Attachment A2 for work location)
  - b. Pathway alterations (see Attachment A4 for work location)
  - c. New retaining wall along pathway adjacent to the creek (see Attachment A4 and A8 for work location)

At the December 14, 2010 Heritage Preservation Commission (HPC) meeting, CPED recommended that the Heritage Preservation Commission approve the COA application with the following conditions:

1. CPED-Planning review and approve final site plan, floor plans, and elevations.
2. The applicant repairs the W.P.A. retaining walls per the Secretary of Interior Standards and the following SHPO comments:
  - All new mortar used in the project should match the historic mortar in terms of color, texture, composition, hardness, and joint profile. Samples of the historic mortar should be tested as a basis for the specification of the new mortar. The results of the testing and the new specifications should be submitted to our office for review and concurrence.
  - If any [archaeological] sites are identified, we [SHPO] should be consulted with regard to evaluation and treatments. Please ensure that there are adequate provisions in the construction contract to accommodate adequate time for this construction, should it be necessary.
3. The construction of the new pathway with elevated boardwalk built into the bluff is not approved.
4. The construction of a six-foot plastic timber walkway nearest the creek between the second and third pedestrian bridges is not approved.
5. The construction of a new eight-foot high retaining wall between the second and third pedestrian bridges is not approved.

The HPC unanimously (7-0) approved the MCWD Certificate of Appropriateness with the CPED recommended conditions of approval.

MCWD appealed conditions 3-5 of the HPC decision to the Zoning and Planning Committee of the City Council. At the January 15, 2009 Zoning and Planning Committee meeting the Z&P Committee granted the MCWD appeal with the following conditions:

1. The material for the new walkway above the southern bluff shall be approved by the Heritage Preservation Commission;
2. The materials for the proposed six-foot walkway nearest the creek between the two lower creek bridges shall be approved by the Heritage Preservation Commission; and
3. That the final design for a new eight-foot retaining wall between the second and third creek bridges shall be approved by the Heritage Preservation Commission.

For the February 10 HPC meeting, the MCWD presented the material and design information for the pathway, walkway, and retaining wall. CPED reviewed the submitted information and recommended that the HPC approve the COA application with the following conditions:

1. The bluff boardwalk planks are constructed with true timber that compliments the historic district.
2. The walkway shall be constructed as shown in the reconstructed path detail.
3. The [pathway] retaining wall shall continue the design of the existing retaining wall to the west with varying limestone sizes.
4. Precautionary measures are taken to ensure that graffiti applied on the retaining wall is easy to remove.
5. All workmanship is conducted in accordance with the Secretary of Interior Standards for Rehabilitation

6. Proposed work is subject to a successful completion of the 106 process of SHPO if required.

The HPC approved the MCWD proposal with the following conditions:

1. The bluff boardwalk planks are constructed with FiberForce material that compliments the historic district.
2. The walkway shall be constructed as shown in the reconstructed path detail.
3. The retaining wall shall contain varying limestone sizes compatible with the existing retaining wall to the west.
4. Precautionary measures are taken to ensure that graffiti applied on the retaining wall is easy to remove.
5. All workmanship is conducted in accordance with the Secretary of Interior Standards for Rehabilitation
6. Proposed work is subject to a successful completion of the 106 process of SHPO if required.

The February 10 HPC decision on the Certificate of Appropriateness was not appealed.

**MCWD 2009 Completed Work:** MCWD with the assistance with the Army Corp of Engineers completed the stabilization work to the WPA walls and the Creek in the winter of 2009. In addition, they completed work to the pathway retaining wall and the wading pool in 2009. The Applicant states that as part of the winter 2009 work, the USACE constructed new concrete footings beneath the WPA retaining walls along both sides of the creek between the falls and the “wading pool” area. The new concrete footings are more visible and extended forward compared to the previous footings (see Attachment A7 for image comparison and B16 for work detail). The USACE also rebuilt sections of the WPA walls that were in disrepair or had fallen over. As part of the work to construct the new concrete footings, the USACE contractor excavated the creek bed. The loose, sandy excess material was placed up against the new footings as “riprap.” The Applicant states that the USACE contractor work was deficient in two ways.

1. “The use of excavated materials as “riprap” on the wall footings was not consistent with the plans approved under the 2009 Certificate of Appropriateness, which specified “large clean rock” riprap. The existing loose material has an average size of less than three (3) inches and is washing downstream, leaving a concrete-lined creek channel (see photo 2, Attachment A7). The purpose of the proposed repair is to remove the remaining loose excavated material and to conform the walls and footings to the plans approved by the HPC by placing proper riprap on the footings. The rock size and type, cross-sections and hydraulic profiles will conform to the plans approved by the HPC and authorized under the 2009 Certificate of Appropriateness (Attachment B2).”
2. During construction of the new concrete footings, each side of the creek channel was excavated to a depth of some three (3) feet. The creek bed materials consist of St. Peter Sandstone, which on excavation becomes unconsolidated, loose sandy material. The disturbance of the creek bed has initiated a process causing the creek to incise (down-cut) at an accelerated rate. The Applicant states that according to pre and post project surveys of the creek channel in this area, the creek bottom has dropped (incised/eroded) two (2) to four (4) feet and the rock underneath the restored WPA walls is being eroded (Appendix B3 and B9-B12).

On September 23, 2010 the MCWD sent a letter to CPED informing that additional work was needed to be completed to correct these two deficiencies. CPED met with the MCWD at the area of proposed work on October 25. On November 5, CPED informed the MCWD of the Planning Director's decision to have the HPC review the proposed additional work as an informational item in order to gain feedback on whether the proposed work can be approved administratively by CPED or if the Commission would like to review the additional work as part of a Certificate of Appropriateness addendum to the 2009 application. The MCWD submitted a complete packet of information on November 30 to have the HPC review at their December 14 meeting.

**MWCD Proposed Work:** The Applicant states that, "the solution to the USACE work is to install seven concrete/limestone hard points below the creek bed to prevent hydraulic forces in the creek from continuing to cut down into the sandstone, referred to as "grade control" (see Attachment B14 for proposed location of hardpoints). The work is necessitated by the USACE's contractor's inappropriate disturbance of the competent sandstone creek bed, and therefore was not included in the plans approved by the HPC. However, the proposed concrete is placed entirely below the creek bed and there will be no change once work is completed (see top left picture on Attachment B16)."

The Applicant states that, "the "grade control" consists of rock strips spanning the channel at seven locations along a 500-foot stretch (see Attachment B14). Each strip will consist of poured concrete, one-foot wide and with an upper surface terminating six inches below the creek bed (see Attachment B12). The strip will support limestone rock six inches in width installed vertically into the creek bed; the upper edge of the limestone, six inches wide, will be flush with the bed (see top left picture on Attachment B16)." The addition of the limestone blocks and reinforced concrete will raise the elevation of the bed in the seven locations by approximately two feet above current conditions and 1.5 feet above 2008 conditions (see Attachment B9-B12).

MCWD states, that "large boulders, partially buried, will be used to reduce the energy of the water and prevent erosion (see bottom right picture on Attachment B16)." The reinforced concrete is proposed to be installed at a height below the limestone blocks (see top picture on Attachment B16). The Applicant also states that, "the volume above the concrete and below the creek bed elevation will quickly fill with sediments and loose cobble. The boulders and thin limestone edge also will quickly blend with sediments and cobble (see Attachment B2-B3)."

**CPED-Preservation Analysis:** In reviewing the 2009 MCWD proposed work to what is built today, the wading pool, walkway retaining wall, and the planting between the creek and the walkway were not completed as presented (compare Attachment A8 and A9 and compare A9.1 and A9.2). The wading pool was supposed to have limited areas of limestone pavers on the Creek's north bank. What was built was an entire collar of limestone along the northern portion of the Creek (compare Attachment A9.1 and A9.2). The retaining wall along the pathway was approved in 2008 to step up from approximately two feet to eight feet. The built retaining wall maintains a height of two feet in height as it connects to the crib walls to the east (see Attachment A9 for photo from October 25, 2010). However, the Applicant appealed this decision. It is noted that CPED recommended and the HPC denied an eight-foot retaining wall

at this location at the December 14, 2008 meeting. In addition the proposed planting between the creek walkway and the creek that was presented was never built (compare Attachment A8 and A9). The Applicant **did not** inform CPED about these changes to the approved Certificate of Appropriateness application.

As for the WPA retaining walls, the Applicant did state in their 2008 Certificate of Appropriateness application that a steel and cement footing will be reconstructed underneath the WPA walls in their existing location to provide this needed support to maintain the structural integrity of the walls (see Attachment C54). However in closer examination, the 2008 drawings were not consistent (see Attachment A10-A11 or C118 and C161). The retaining wall repair that was presented in one drawing had a new concrete footing that started below the existing concrete footing (see bottom left picture Attachment A10 and C118). MCWD also submitted a drawing for their 2008 COA application with a WPA retaining wall section detail that has the approximate profile of what is built; however, the greater exposed concrete footing is not called out in the section drawing (see Attachment A11 and C161).

For the proposed 2010/2011 Creek bed work, CPED has concerns about how the proposed creek bed work will impact the Creek from a visual and structural standpoint. CPED realizes the importance of needing to improve the erosion to protect the WPA retaining walls. However, the proposed concrete portions of the grade control work has the potential to be visible during low water times of the creek (see top picture of Attachment B16). The visibility of a concrete bed would have an adverse impact on the Creek and Falls. In addition, CPED has concerns from the structural standpoint with the Applicant's proposal to insert limestone slabs and reinforced concrete. CPED is concerned that modifications may be detrimental to the WPA retaining walls, adjacent land, and creek bed during high water times. It is uncertain whether the insertion of seven limestone walls across the creek will achieve the intended result or if it may further compound the erosion problem created in the 2009 project.

**Discussion:** CPED requests that the MCWD update the Commissioners on the completion of the 2009 project, the relationship of the as-built work with the approved COA granted by the Heritage Preservation Commission and Zoning and Planning Committee, and an assessment of the as-built project in both appearance and function. Further, CPED requests a detailed presentation by MCWD as to what corrective solutions have been considered and what the rationale is for the proposed solution (see Attachment B3-B5).

## **Attachments**

A1-A11: CPED Supplied Information

B1-B19: Applicant Supplied Information

C1-C194: 2008/2009 Certificate of Appropriateness Information