



**CITY OF URBANA, ILLINOIS
DEPARTMENT OF PUBLIC WORKS**

ENGINEERING

MEMORANDUM

TO: Mayor Laurel Prussing and Members of the City Council

**FROM: William R. Gray, Public Works Director
Craig E. Shonkwiler, Assistant City Engineer - Transportation
Jacob D. McCoy, Civil Engineer II**

DATE: February 5, 2015

**RE: Brick Street Reconstruction with Concrete
North Broadway Avenue – Stebbins Drive to Oakland Avenue**

Introduction/Issues

The brick street section on Broadway Avenue between Stebbins Drive and Oakland Avenue has deteriorated and is in serious need of repair/reconstruction. Over the years, heavy traffic, including regular bus route travel, has caused the pavement section to become uneven and rutted, which has impaired adequate drainage. Portions of the pavement have been patched with asphalt to correct the deep rutting of the pavement structure. (Pictures of the failed pavement are attached to this memo.) In 1992, the City performed brick pavement patching on approximately 25% of the section along with some curb and gutter repair. Some of the areas that were patched are in need of repair again.

The adjoining pavements on Broadway Avenue to the north and south of the brick pavement section are both asphalt pavements. The only brick pavement section on Broadway Avenue from University Avenue to Country Club Road is between Stebbins Drive and Oakland Avenue.

Alternatives for Consideration

The Engineering Division took several cores of the pavement and sub-base, evaluated the pavement section, and developed several pavement repair/reconstruction alternatives for the Mayor and City Council to consider.

Alternate 1 – Keep Brick Pavement, Repair Only Deteriorated Locations

Repairing only the deteriorated locations of the pavement with brick would include brick pavement removal, excavation of existing base material, installation of a concrete base, placement of leveling sand, and relaying of the bricks. The existing bricks would be salvaged, cleaned, stockpiled, and reused when possible. City staff has determined that approximately 60% of the existing brick pavement area would need to be repaired due to its deteriorated condition. Repairing the existing pavement is not recommended since this option exceeds typical pavement repair guidelines of limiting those areas to less than 25% of the total pavement area. Full reconstruction is usually recommended when the area to be repaired exceeds 25% of the total pavement area.

Alternate 2 – Keep Brick Pavement, Remove and Replace Brick Pavement In-Kind

Brick reconstruction of the total pavement would include brick pavement removal, excavation of existing base material, installation of an aggregate and concrete base, placement of leveling sand, and relaying brick. Bricks would be salvaged, cleaned, stockpiled, and reused when possible. Using recent bid information for similar work, the estimated cost to reconstruct the entire pavement using brick would be on the order of two to two and one-half times higher than replacing the pavement entirely with concrete.

Alternate 3 – Remove Brick Pavement, Replace with Concrete Pavement

Concrete reconstruction of the total pavement would include brick pavement removal, excavation of existing base material, and installation of a new concrete pavement on an aggregate base. Using recent bid information, the estimated cost to reconstruct the pavement system using concrete would be in the range of \$350,000 to \$400,000.

Because of limited funding availability and the significant backlog of street maintenance, it is recommended that the least costly Alternate 3, the reconstruction of Broadway Avenue from Stebbins Drive to Oakland Avenue as a concrete pavement, be approved.

Public Input

Residents and/or property owners immediately adjacent to Broadway Avenue from Park Street to Country Club Road, including the Urbana Park District and the Urbana School District were invited via hand delivered notification letters to provide input at the February 9, 2015 Committee of the Whole meeting. The resident/property owner notification letter is attached to this memo.

Fiscal Impact

Adequate funds are currently available to reconstruct Broadway Avenue with a new concrete pavement in 2015 using General Revenue Funds. The additional funds necessary to reconstruct the street with bricks has not been identified.

Council Action

Because the recommended reconstruction is counter to the declared City policy that the City's remaining brick streets and sidewalks be preserved and maintained, staff is asking that the Council endorse the proposed reconstruction with a new concrete pavement by motion.

Attachments: Pictures of Brick Pavement on Broadway Avenue
 Letter to Residents
 Broadway Avenue Reconstruction Location Map

Brick Street Reconstruction with Concrete
North Broadway Avenue – Stebbins Drive to Oakland Avenue

Photographs of Existing Pavement



Photo 1: Asphalt Patch Used To Correct Rutting



Photo 2: High Severity Rutting



Photo 3: Rutting Depth $\pm 4.5''$



**Photo 4: High Severity Rutting & Low Areas
Patched With Asphalt**



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February 2, 2015

Dear Resident and/or Property Owner:

City staff will present a plan for street improvements on Broadway Avenue from north of Stebbins Drive to Oakland Avenue at the next meeting of the City of Urbana Committee of the Whole. As part of the plan, staff is seeking approval from City Council to remove the brick pavement and replace it with a concrete pavement. Tentative plans are to perform street improvements on Broadway Avenue this year.

Discussion of the planned improvements will occur at the Committee of the Whole meeting on Monday, February 9, 2015 in the Urbana City Council Chambers, 400 South Vine Street, Urbana. The meeting will begin at 7:00 p.m. The agenda and committee report for this meeting will be available on Friday, February 6, 2015 (before the meeting) on the City's website, www.urbanailinois.us.

We appreciate all of the input provided during this process. If you would like to provide input at the meeting, you may complete a form available at the meeting to request an opportunity to address the Committee and give the form to the City Clerk.

If you have questions for city staff, please contact me at 217/384-2385 or ceshonkwiler@urbanailinois.us.

Sincerely,

Craig E. Shonkwiler, P.E.
Assistant City Engineer

xc: Laurel Lunt Prussing, Mayor
Aaron Ammons, Council Member, Ward 3
William R. Gray, Public Works Director

