

Wednesday, April 25, 2018

Mr. David Cronin, City Engineer
City of Lawrence Public Works Department

Re: PW1502: East 9th Street Design Memo

Mr. Cronin,

The purpose of this memo is to define the design guidelines and design scope Bartlett & West used to establish the construction document package that will be released for bid in May 2018.

In 2014 the City of Lawrence, KS issued an RFQ (#1402) for Artistic and Engineering Design Services for the 9th Street Corridor project in East Lawrence. This RFQ was in conjunction with the Lawrence Arts Center acquiring \$500,000 from the Artplace America grant for additional community enhancements. The City of Lawrence selected El Dorado Architects to facilitate and lead a streetscape design process, which consisted of numerous meetings, design charrettes and community presentations. In 2016 the process concluded with a variety of opinions on the new streetscape plan, which ultimately led to the proposed design not being approved to move ahead for full design by the City Commission. In early 2017 Public Works compiled various preliminary design cost estimates for a “basic street design and rehabilitation” project and presented those back to city staff, community members and the city commission. In the fall of 2017, Bartlett & West was hired by the City of Lawrence and instructed by Public Works via direction from the City Commission to proceed with design of the “basic street design and rehabilitation” project.

Bartlett & West, Inc. designed the street and stormwater system per the City of Lawrence’s Standard Specifications and Details. The utilities, street configuration and structures along each block are different and had to be designed in way that the proposed improvements could be tied into the existing conditions. Following the design details noted below, is a block by block design for the entire project.

Design Details:

Street Pavement Section:

Concrete: 8” Concrete Pavement (NRDJ) with a 6” AB-1 Aggregate Base on 9” Flyash treated subgrade

Brick: Reused Brick on 1” of sand, 6” of Concrete Pavement (NRDJ) and 9” Flyash Treated Subgrade

Sidewalk Pavement Section: 4” Concrete and brick on sand and aggregate base where noted.

Stormwater Design Criteria: City Standard Rational Method based on the KDOT’s rainfall intensities with a 10 Year Event being captured by the enclosed stormwater system and the 100 Year Event staying within the Right of Way.



Street Width: Varies

Stone Curb: Stone Curb removed and salvaged for E. 9th Street Neighborhood Association use.

Parking: The existing number of striped parking stalls will remain except for the non-conforming perpendicular stalls 512 E. 9th Street. The four non-conforming stalls will be replaced with one parallel parking stall.

Street Trees:

Current number of trees:	39
Trees to be Removed:	11
Trees being planted in place of removed trees:	8
Proposed new trees:	38
Number of trees being planted for the project:	46
Number of trees at completion of construction:	74 (Additional 35 trees compared to existing conditions)

Street Lighting:

Street lighting was designed in two sections. The first section being from New Hampshire to the intersection of 9th and Connecticut. This section was designed to the Illuminating Engineering Society's minimum standard for pedestrian street lighting. Light poles are approximately 70' apart and are on both sides of the street. The second section of the street lighting is from Connecticut to Pennsylvania. The amount of lighting along this portion of the street was lessened as it is a more residential area. Light poles are approximately every 70' but are on alternating sides of the street. There are no proposed light poles east of Pennsylvania as this portion of the 9th Street corridor has already been reconstructed and this design is only showing sidewalk being constructed in this area.

9th & New Hampshire Intersection, East to Rhode Island

This portion of the corridor was reconstructed when the intersection of New Hampshire and 9th was developed. This project is planned to not impact the newly completed intersection of 9th and New Hampshire besides making minor improvements to an existing stormwater pipe that runs under the intersection. That work will be accessed through the structure itself and should have minimal impact to the intersection. New sidewalk, curb and gutter, landscaping and street lighting was installed between the edge of right of way and the edge of pavement along 9th Street between New Hampshire and the alley just east of New Hampshire. Electrical and communication utilities were also installed to feed the hotel and lofts at the intersection of 9th and New Hampshire. These utilities were encased in a duct bank that runs from the alley to the hotel and across the street to the apartments.

The proposed design shows new curb and gutter along the entire north portion of this section of street and along the south side, east of the alley. New sidewalks will be constructed from the alley, east on both sides of the street.

The existing storm sewer RCB running parallel to 9th Street, on the north side of the street, will be removed and replaced from New Hampshire to the alley between Connecticut and New York streets.



After inspecting the existing RCB, it was found that the RCB is in poor condition and would need to be rehabilitated or removed and replaced. Since 9th Street is being reconstructed, it is most cost effective to remove the old structure and replace with adequately sized RCP. This cost is approximately \$230,000 and was not included in the original cost estimate.

Since the existing RCB will be removed and replaced, some of the improvements, curb and gutter, street lighting and landscaping, that were installed with the hotel and apartment development will be removed and replaced. The new sidewalk and utility duct bank will remain.

East of the alley, the street will be 54' in width and have parallel parking on both sides, as it does now. Per direction of the City Commission, the existing overhead utilities will remain, but some poles will be relocated. The sidewalk will be also replaced east of the alley. All trees are to remain with four additional trees being planted.

9th & Rhode Island, East to Connecticut

The intersection of 9th and Rhode Island has been designed to include bulb outs to give a shorter distances for pedestrians to cross the street. This will also form a natural end for the parallel parking. Multiple stormwater inlets are proposed at the intersection to collect runoff. Two inlets are proposed along Rhode Island on the south side of the intersection and will impact the existing brick street. This portion of the Rhode Island will be reconstructed with brick to match the existing pavement type.

This portion of 9th Street is 54' in width to account for two lanes of traffic and parallel parking on both sides of the street. Stormwater inlets will collect runoff from the street and downspouts and convey it to the new RCP running along the north side of the street. The sidewalks and ADA ramps will be replaced or added where they are needed.

All trees are to remain with 11 additional trees being planted.

9th & Connecticut, East to New York

The intersection of 9th and Connecticut has been designed to include bulb outs to give a shorter distance for pedestrians to cross the street on the west side of the intersection. Bulb outs were not necessary on the east side of the intersection because the street width is narrower.

9th Street is 39' wide east of Connecticut with parallel parking and angled parking along the street. The existing, unstriped, perpendicular parking on the north side of 9th Street, east of the alley, will be striped with 10, angled parking stalls. The design also shows grass islands on each end of the parking to help alleviate conflicts between pedestrian movements at the cross walks and traffic movements from the alley.

The sidewalk and sidewalk ramps will be replaced along the street and will keep the existing alignment. The existing portion of brick sidewalk east of the alley, on the south side of the street will be replaced with brick to match pavement types. The ADA ramps will be ADA approved concrete with detectible warning strips, to match the other existing ADA ramps.

Four trees are being removed along the south side of the street. All other trees will remain with eight new trees being planted.



9th & New York, East to New Jersey Street

The existing intersection of 9th & New York is brick and has multiple drainage issues. The proposed design shows the intersection being reconstructed with brick except for a valley gutter along the south side of the intersection. The valley gutter is to help convey runoff to the curb inlet at the southwest corner of the intersection. Crosswalks in the brick portion of the intersection will have a concrete ribbon to keep the brick in place and to help meet ADA compliance.

As 9th Street continues east, it will keep a width of 39'. The existing brick sidewalk on the north side of the street will be realigned to help with ADA access where the sidewalk crosses the alley. The sidewalk on the south portion of the street, west of the alley, will remain with a new sidewalk being constructed along the back of curb. The existing sidewalk and stairs in front of the St. Luke church on the southwest corner will remain in place. The sidewalk will tie in with existing grades before the alley. A short retaining wall is being shown to make up for the grade difference between the church and street. Pedestrians will have an ADA accessible route on the south side of 9th Street with these improvements. Any future construction at the church will be able to tie into the sidewalk being constructed with this project.

As mentioned earlier, there are four non-conforming perpendicular parking stalls located at 512 E. 9th Street that will be removed and replaced with one parallel parking stall. This is being done to allow for a sidewalk to be constructed between the building, which is at a higher elevation than the back of curb.

Four trees are being removed along the south and north sides of the street. All other trees will remain with six new trees being planted.

9th & New Jersey, East to Pennsylvania Street

The intersection of 9th and New Jersey has been designed to help convey runoff to the enclosed stormwater system along the street. ADA ramps were designed to tie into the new street elevations and transition into brick sidewalks at the northwest and southeast corners.

The street width will be 31' to match the existing street width. Parking will not be allowed along the south side of the street as to match the existing parking restrictions.

None of the sidewalk along this portion of 9th Street is being replaced. Some sidewalk along the north side of the street was reconstructed and meets ADA requirements. The sidewalk along the south side of the street will be reconstructed with brick to match the existing pavement type.

Two trees are being removed along the south and north sides of the street. All other trees will remain with five new trees being planted.

9th & Pennsylvania, East to Delaware Street

The street improvements end at the west edge of the 9th & Pennsylvania intersection because this intersection and the street to the east were previously improved as part of a different project. Sidewalk improvements are being completed to make the sidewalks ADA accessible along with utilities being moved so that they do not impact the new sidewalk.



The sidewalk along the north side of 9th Street, between Pennsylvania and the alley, will not be replaced. It was reconstructed previously and is in good shape. The sidewalk along the south side of the street will be realigned to provide ADA access. The stairs that access the properties at the southeast and southwest corners of 9th and Pennsylvania will be reconstructed to maintain the access that is there today. The sidewalk in this area will be built at the back of curb due to slope and utility constraints. As the sidewalk goes east, it will be offset from the back of curb. An ADA ramp will also be constructed at the southeast corner of 9th and Delaware to provide access along the south side of 9th Street to the sidewalk along the east side of Delaware street.

One tree is being removed along the south side of the street. All other trees will remain with 12 new trees being planted.

A handwritten signature in blue ink that reads "Casey Colbern". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Casey Colbern, PE

Project Engineer



Driving Community and Industry Forward, Together.