CITY OF
Bloomington
ILLINOIS

DOWNTOWN STREETSCAPE LIGHTING MASTER PLAN

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Farnsworth GROUP

ACKNOWLEDGMENTS

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1.0 Overview

1.1 Executive Summary

The City of Bloomington Downtown Streetscape Lighting Master Plan report is intended to establish overall guiding principles that address future development, including incremental changes, to the Downtown lighting in a consistent and cohesive manner. With the desired growth and revitalization of the Downtown, lighting plays a central role in its overall perception and attraction.

The planning process involves overall concepts, general strategies and conceptual illustrations specific to the public right of way. The overarching principle is to have the lighting create appealing spaces where people can feel safe and secure, which supports and promotes the mission, value, goals and objectives of the City of Bloomington.

The master plan addresses illumination of pedestrian and vehicular paths through a qualitative standard. The plan encompasses the appearance and location of the light fixtures, the color of light, light levels, pedestrian path conditions and other amenity enhancement opportunities. The base maps illustrate potential improvement locations by block.

Methods of analysis included reviews of existing documentation, on-site observations, input from City staff, and technical and public input. Recommendations are included for implementation either now or in future years.

The master plan also recognizes that the analysis conducted has some limitations, including:

- Opinions of probable cost reflect the best information available at the point in time they were created and should be reviewed and/or updated before the commencement of any work.
- Changing market conditions, perceptions and other unforeseen future conditions will affect the opinion of probable cost.
- Detailed investigation and construction-related documents were not part of this master plan.
- Additional investigation is required regarding potential vault locations and individual mitigation strategies.
- Additional traffic and parking studies may be required to verify locations of potential bump out locations.
- Not all existing conditions (i.e., sidewalk conditions, potential vault locations, controller locations, etc.) were able to be observed or recorded due to record-setting extreme winter weather conditions.
- Background street views obtained from other sources may not reflect all existing or current conditions.
- Final locations of lights, site amenities, signs and landscaping should be based on field conditions and/or the design process at the time of project execution.

This master plan presents the City with a logical roadmap for future lighting and streetscape amenity enhancements as capital becomes available.

1.2 Introduction

Bloomington, Illinois, is considered one of McLean County's greatest assets with rich historic features and character. The centralized position within the community also gives the Downtown and surrounding area an advantage over other urban centers.

The boundary for this master plan – stretching from Lee Street to Prairie Street and Locust Street to Olive Street – was established by the City of Bloomington as part of a concerted effort of both public and private stakeholders specifically related to the activities of the City's Downtown.

Figure 1.2a – Vintage photo of Bloomington

Within this boundary is the Downtown central district or "buckle" bounded by IDOT right of ways Madison and East Streets. Adjacent to the Downtown are the Cultural District to the north and Coliseum district to the south. To the east and west are primarily general business and residential districts.

Because each district is comprised of unique urban conditions and pedestrian environments, each presents an opportunity to apply distinctive treatments.

1.3 Goals of the Master Plan

The fundamental purpose of making streetscape improvements is to enhance the overall appeal of the target area. Decorative lighting and pedestrian-friendly amenities further enhance the overall experience in the perception and attraction, whether day or night.

The City of Bloomington's established goals for the master plan include:

1. *Review the existing lighting installations in the Downtown areas, including the City's conceptual lighting layout.*
2. *Review the general site conditions, including sidewalk/curb conditions, existing utility locations and potential underground vault locations.*
3. *Identify potential new service feed locations.*
4. *Incorporate decorative lighting to match as close as possible to what was installed in previous streetscape improvement projects.*
5. *Consider opportunities for future trees and other plantings.*
6. *Include performance data on recommended fixtures and other amenities such as benches and trash receptacles.*
7. *Identify opportunities for phasing.*
8. *Develop guiding principles to build upon in the future.*

1.4 Streetscape Lighting Design Objectives

Within the overall inspiration of creating a Downtown that is pedestrian-friendly, the lighting design opportunities presented will provide direction that achieve specific objectives, including the following:

- *Identity creation.*
- *Enhanced safety by increasing visibility with additional lighting.*
- *Celebrate the rich history.*
- *Attract visitors.*
- *Encourage increased use of businesses and amenities.*
- *Identify special areas or districts.*
- *Cleaner, more attractive Downtown.*
- *Cohesive approach.*
- *Build upon existing infrastructure.*

1.5 Pedestrian Environment

Good street environments are safe and comfortable with a sense of human scale and a distinctive character or sense of identity.

- Environment is a basic condition by which a street is perceived as comfortable or approachable. Key elements that contribute to a feeling of comfort are shade trees, plantings, informational signage, seating areas and inviting lighting. Existing lighting typically focuses on street lighting and not pedestrians.

Figure 1.5a - typical street condition.

Figure 1.5b – Pedestrian level lighting example.

- Human scale or intimacy refers to the scale of items that support pedestrians. The sidewalk is the main pedestrian experience, and lower-pedestrian level lighting contributes to a positive view of the pedestrian pathway.

- Character further refers to that which makes a place different from other places. The style and look of various amenities and lighting help to define what makes the downtown area different.

Throughout the master plan, these basic concepts have been applied to ensure the pedestrian environment is not lost with any new improvements.

Figures 1.5c and 1.5d – Example of downtown (Old Town) Fort Collins, Colorado, with buildings, amenities and light that help set character perception.

2.0 Community Involvement

2.1 Historic

The City of Bloomington has a rich and vibrant history. The Downtown was a vibrant bustling arena of business and commerce, with streetcars ferrying residents and workers. Downtown Bloomington was considered a destination for many, and activity was centered on various areas including the courthouse.

Figure 2.1a – Vintage photo of Bloomington around Courthouse.

Because of the history and ornate features of various structures scattered through the district, Downtown Bloomington is designated as a historic district by the Bloomington Historic Preservation Commission, as well as the Illinois Historic Preservation Agency.

Figure 2.1b

Globe-style fixtures had flanked the streets of the Downtown areas in the early 1900s, so new fixtures installed mimicked the globe-style fixtures seen flanking the steps of the old courthouse (now McLean County Museum of History, at left).

2.2 Past Projects / Accomplishments

In the late 1980s, the City of Bloomington created a Downtown Tax Increment Financing (TIF) District to provide funding for renewal of the Downtown area. Even though the TIF expired at the end of 2009, the City continues its commitment to improving the Downtown area through other sources. The City also created a long-term capital improvement plan in collaboration with Downtown residents, businesses, Downtown Business Association (DBA) and property owners.

Funds from grants, the TIF District and capital improvement funds were utilized for recent improvement projects, including:

- 2003 – Downtown Courthouse Square Streetscape Project
- 2007 – 100 Block of Main Street
- 2009 – Main Street TIF Improvement Project (300-500 Main)
- 2012 – 600 Block of Main Street (from capital improvement funds).

In addition to the major streetscape projects, the City has assisted various Downtown-area property owners through the Harriett Fuller Rust Grant Program. The program allows property owners or business owners to receive grants for up to 50 percent of the total cost of work on facade and aesthetic rehabilitation.

In 2012, City Manager David Hales assigned Deputy City Manager Barbara Adkins to create and direct a 5-year improvement plan. In December of the same year, the staff formed an internal team consisting of a select group from the Public Works and Parks, Recreation and Cultural Arts Departments. This report:

- Aims to guide the City Council and City leaders in their continued involvement in rejuvenating the heart of the City.
- Highlights past improvements.
- Discusses City-installed cameras and potential future locations.
- Identifies existing decorative lights.
- Other special considerations for future improvements (vault mitigation).

Recommendations from this report include:

- Create a decorative lighting Master Plan.
- Block-by-block approach to infrastructure rehabilitation.
- Conduct a under-sidewalk vault inventory plan and mitigation approach.
- Identify future safety camera locations.
- Tree removal/replanting.
- Amenity improvements such as benches, waste receptacles, bike racks, etc.
- Sidewalk replacement program.

In September 2013, the Council work sessions revised the report to be a long-term plan. Other refinements included:

- Submit to Council for discussion: Vaults and the unknown.
- Address / adopt existing tree grates.
- Address planters that are vandalized.
- Highlight infrastructure needs block-by-block.
- Add murals and other artistic features.
- Emphasize tourism more in the plan.
- Continue to work on solving the “bar scene,” which could go a long way toward improving the appeal of Downtown for tourists and citizens.

2.3 Public Forums

Community involvement is a key to successful project planning. From the direction outlined by the Council, the City conducted several public forums, starting in late 2013. Both the City and Farnsworth Group continued those efforts in 2014.

All forums allowed participants to voice their opinions concerning various issues focused on how to improve the overall appearance of the Downtown.

Following is a summary of the public forums and paraphrased comments from the participants:

1. *October 1, 2013: COB Led - Downtown Bloomington Association and Downtown Property Owners:*

    - *Can evergreen trees be planted in the large flower pots during the fall and winter, and then recycled in City parks?*
    - *Uniform signage throughout the city.*
    - *Better garbage program throughout downtown. Look at Bryan, Texas, what they are doing.*
    - *Turn the top surface of Market Street parking garage into green space.*
    - *Recycling is needed downtown. Can garbage containers be retrofitted as recycle containers?*
    - *Don’t put minor budget issues into the plan.*
    - *There are no trash receptacles in the 500 block of North Main. The plan does not show any additional trash receptacles for that block. It would seem to me that there is a great need for sufficient trash and cigarette receptacles along that very block.*
    - *Happy to see that cigarette disposal receptacles are included in the plan. Ideally a cigarette receptacle should be one in which cigarettes can be disposed of without having to extinguish them.*

2. *October 15, 2013: COB Led - Downtown Property Owners:*

    - *People on Front Street feel left out of the plan.*
    - *City needs to maintain all downtown alleys.*
    - *A public toilet is needed.*
    - *Add a kiosk at the Coliseum on the southwest corner of Front and Madison.*
    - *Garbage/recycling is needed.*

3. *November 6, 2013: COB Led - Downtown Bar Association:*

- *Convert streets in the downtown to brick.*
- *If not the entire street, convert the sidewalks to brick (stamped concrete).*
- *Parking needed for businesses and people living in apartments.*
- *Don't put parking decks outside of couplet.*
- *Utilize the parking lot across from Fat Jacks.*

4. *January 29, 2014, Morning: COB / Farnsworth Group Led – Public Meeting:*

- *WMBD, WJBC, WGLT, Pantagraph present.*
- *Consider electrical outlets at trees.*
- *Turn alleys into downtown walkways.*
- *What vegetation improvements can be done?*
- *Stakeholders could take stewardship to plantings-establish program/adopt a block concept.*
- *Lee/Front high traffic from interstate, the route GPS takes them to get to Coliseum. Would like better trash access and expanded parking near Coliseum.*
- *Focus on "gateways" to create welcoming environment.*
- *Recover parking from wide sidewalks / bump outs.*
- *Post Office downtown lacking landscape care and improvements.*
- *Better maintenance program for Downtown-dedicated staff.*
- *Bare ground areas should not be allowed.*
- *Enforcement of smoking regulations and other loitering that is a barrier to welcoming environment.*
- *Rebranding of "Courthouse" to "Museum Square." Museum will be improving landscape.*
- *Will charge stations be considered as part of the master plan?*
- *Tourism opportunities, with Route 66 corridor tie-in.*
- *Additional lighting needed for darker areas.*
- *41 spaces available for murals; promote more space for murals.*

5. *January 29, 2014, Evening: COB / Farnsworth Group Led – Public Meeting:*

- *Why was study area shown chosen? What about looking at larger area. Warehouse district?*
- *What were the criteria to determine the study area?*
- *Lighting of areas outside immediate study area for people parking and walking several blocks to their venue.*
- *Lack of bike parking, bike path enhancement.*
- *Existing bike racks not installed correctly. Bike lockers for work commuters.*
- *Will the same lighting currently installed be extended or will there be different lighting fixtures?*
- *What sustainability options are being incorporated into plan – solar compactors?*
- *Meeting with Police needed.*
- *Use poles that have matching sign holders, stainless steel bands unattractive.*
- *Design on historic basis.*
- *More friendly planters that do not degrade or are movable. Replacement program needed.*
- *Add power sources near trees.*
- *Bike rack plan available from bike user input to be provided.*
- *Add public art to controller boxes and garbage receptacles.*
- *Dumpster locations more hidden, not on sidewalks.*
- *Create portals/gateways into town.*
- *Incorporate better standards for camera locations or gunshot detectors.*
- *Is it possible to attach lights to buildings instead of poles?*
- *Add brick/pavers to certain locations such as borders, sidewalks, street crossings. Colored, stamped concrete.*
- *Wireless access for potential meter automation, incorporate into pole design.*
- *Set minimum standards for lumen levels*

6. *Additional comments from residents after public meetings:*

- *Eliminate cars to facilitate pedestrians, modify one way/two way streets (Fort Worth, Texas)*
- *Flowers and bushes don't bring families to downtown. Need events, brands, destinations to bring families.*
- *More events in Withers Park.*
- *Look at what Town of Normal has done to improve its uptown area.*
- *Current downtown revolves around bars and restaurants.*
- *Need something different to set us apart.*
- *Downtown area of improvements does not need to be as large as proposed.*
- *Incorporate playground equipment into the museum landscape redesign – attract children to the downtown.*
- *Add code for vacant lots regarding maintenance.*
- *Close off alleys on Thursdays to Sunday to foot and car travel to mitigate noise and other nuisances from bar patrons.*
- *Provide raised planters or low seat walls around landscaped areas.*
- *Support properly planted trees, must also have proper maintenance.*
- *Support City supervised adopt-a-pot program.*
- *Replace five-globe fixtures with globes by local glass blowers.*
- *More murals in downtown. Utilize corn statues around courthouse. Use more imagination and local artist in the development of the fixtures.*
- *Amenities need to match the "old downtown" feel.*
- *Current pots/flowers on the light poles are mounted too high.*
- *Competing interests in downtown-day versus night usage.*
- *Proper bike rack placement and incentives for placement of additional bike racks.*
- *Explore creating alley structures to make them inviting and part of a pedestrian experience (reach out to regional architecture schools).*

7. *February 27, 2014 Bloomington Beautification Committee Meeting*

- *More bike racks are needed.*
- *Planters should be included in plan, must be maintained.*
- *Accentuate crosswalks.*
- *Consider changes that tie into warehouse district.*
- *Consider impact of street lighting on existing murals.*
- *Alleys are underutilized.*
- *City to address trash downtown and increase security at night.*
- *Picnic tables attract panhandling.*

2.4 Comment Summary

We have combined the various comments into six main touch points that are addressed within the master plan.

- *Create identity. Include special areas/districts. Showcase local artisans.*
- *Create a destination. Attract more visitors /users and increase tourism.*
- *Improvements that encourage increased use of businesses.*
- *Improvements that focus on the pedestrian element.*
- *Cleaner, safer, more attractive Downtown.*
- *Better enhanced lighting.*

Additional touch points that are outside of the scope of this master plan but should be considered by the City of Bloomington include:

- *Resolve competing day versus night interests.*
- *Supplemental ground plane plantings.*
- *Parking.*
- *Courthouse Square Museum future improvement plans.*
- *Downtown refuse collection services.*
- *Potential new festivals and Downtown events.*
- *Traffic studies, including number and location of parking spaces.*

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3.0 Vision

3.1 General Overview

Downtown Bloomington contains many of the elements necessary for a vibrant and successful urban environment. These include well-preserved architecture, pedestrian-friendly streetscapes, prominent gathering spaces, and the beginnings of a unified and historically appropriate streetscape.

The proposed Downtown Streetscape Lighting Master Plan is intended to align with these elements and reinforce the historical legacy of Downtown Bloomington. The plan, while specifically focused on street lighting, also takes into account future streetscape enhancements and opportunities that also might enhance Downtown Bloomington.

This plan will provide the City with a logical roadmap to make historically appropriate enhancements as funding becomes available.

3.2 Opportunities

In conjunction with strategic lighting enhancement master planning, there are many broad opportunities to enhance Downtown with other streetscape enhancements and design. Properly identified and planned for, these opportunities will assist Downtown Bloomington in establishing itself as a memorable and iconic place. The following opportunities are present and should be leveraged for the overall enhancement of Downtown. These seven opportunities are shown graphically on pages following these descriptions:

1. ***Articulation of key gateways into Downtown.*** Gateways should play an important role in letting people know they are arriving or departing Downtown Bloomington. While gateways often include monument signs, arches that span roads, or other significant architectural features, they can also be more subtle yet just as effective. If possible, prominent street lighting with distinctive metal banners and site amenities (litter bins, planters, benches), which are strongly focused in high-visibility areas, will create strong gateways for people arriving or departing downtown.

Figure 3.2a - Typical gateway treatment of tall light fixtures with metal banners on Washington Street.

The intersections of Market Street and Lee Street, Washington Street and Lee Street, Washington Street and Prairie Street, East Street and Olive Street and Center Street just south of Locust Street, are high-visibility gateways into and out of Downtown and should receive a more visible and memorable streetscape.

2. ***Enhancement of gateway corridors into Downtown.*** In addition to the articulation of key gateway intersections, attention should be given to ensure gateway corridors also carry those same themes. Market Street from Lee Street to Center Street, Washington Street from Lee Street to Madison Street (U.S. Business 51 southbound), Center Street from Locust Street to Monroe Street, and Washington Street from Prairie Street to East Street (U.S. Business 51 northbound) provide great opportunities to extend prominent street lighting, landscaping and site amenities into the heart of Downtown.

3. ***High visibility streetscapes.*** In addition to the key gateways and corridors, several other corridors provide the opportunity for high-visibility streetscapes. Front Street from Lee Street to Prairie Street, Roosevelt Avenue from Front Street to Washington Street, and Market Street from Center Street to East Street (U.S. Business 51 northbound) are highly traveled streets that should contain prominent street lighting, landscaping and site amenities.

4. ***Enhancements to Downtown streets.*** The Downtown core generally is the area between Locust Street on the north, Olive Street on the south, U.S. Business 51 northbound on the east, and U.S. Business 51 southbound on the west. Streetscape enhancements to this area, including site lighting, landscaping, site amenities and other features should occur to match the patterns and design intensities of previous streetscape enhancements on Main Street and around the McLean County Museum of History (the old courthouse).

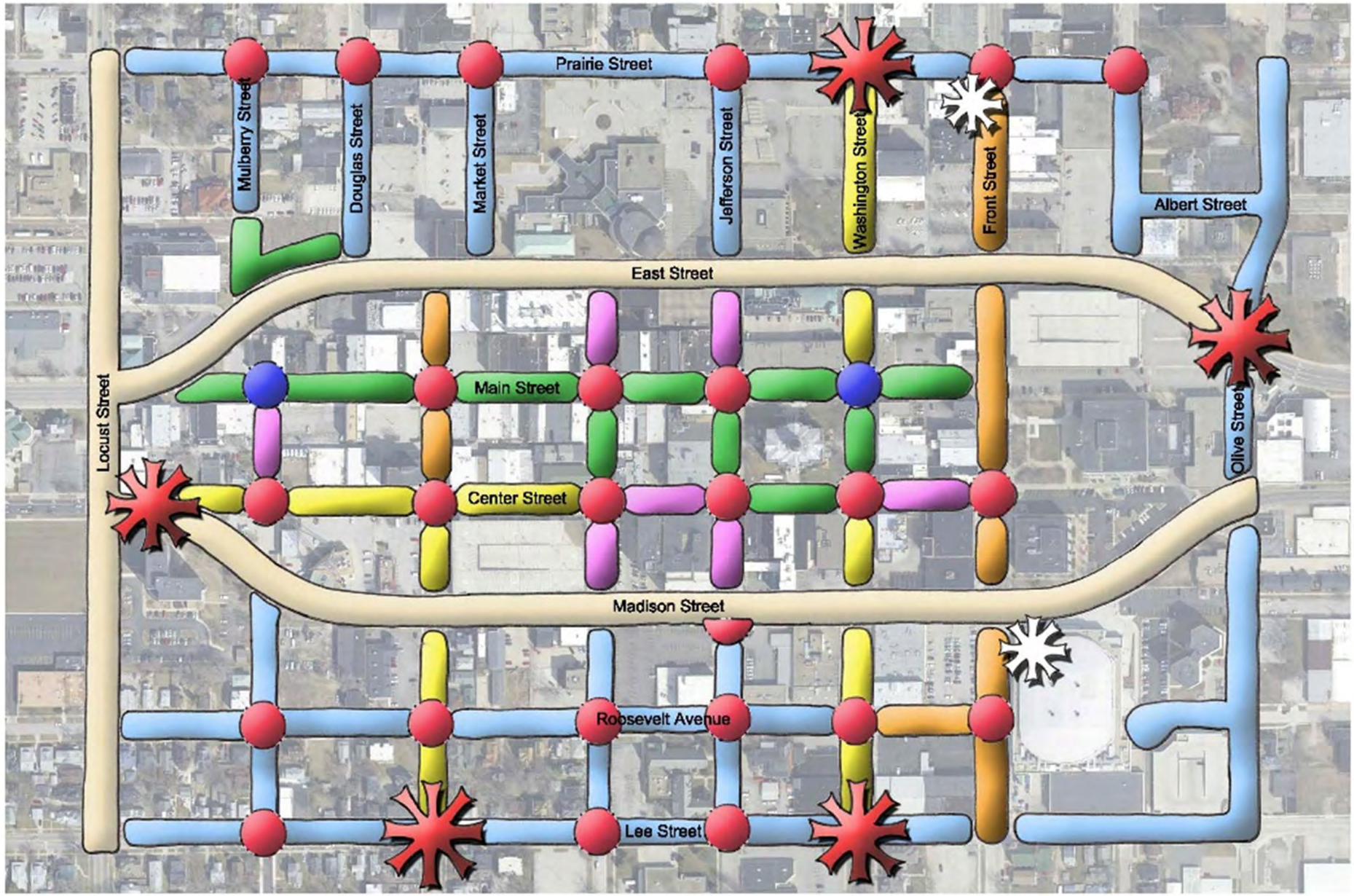
5. ***Enhancements to streets on the periphery of Downtown.*** The street grids on the east side of U.S. Business 51 northbound and on the west side of U.S. Business 51 southbound should have a less intense streetscape than the core of Downtown, yet still share the same design vocabulary. Appropriately placed street lights, landscaping and site amenities will ensure a subtle transition between Downtown and adjacent neighborhoods.

6. ***Hardscape enhancements at intersections.*** To enhance the pedestrian experience, strong consideration should be given to expanding pedestrian “bump outs” throughout the Downtown core. Bump outs shorten the distance across intersections for pedestrians, provide traffic calming for automobiles and provide key spots to locate street lights and utilities. In addition, bump outs provide unique spaces for site amenities, landscaping, public art and other critical urban features. While the core of Downtown includes some bump outs, it is strongly recommended that all Downtown core intersections contain them. This recommendation is critical in providing a pedestrian-friendly Downtown that is visually consistent from block to block. It should be noted that future bump outs will need to take into consideration the needs of emergency vehicles and delivery trucks.

Figure 3.2b - Proposed “bump out” in Downtown with landscape pots, benches and litter bins.

7. ***Security cameras.*** A security camera priority enhancement zone has been recommended on Front Street from Lee Street to Main Street, and on Main Street from Front Street to Locust Street. In addition, immediate action security camera priorities have been identified along Main Street at Front Street, Washington Street, and Mulberry Street. Security cameras, along with expanded street lighting, will provide another layer of comfort in creating a welcoming Downtown environment.

Map 3.2 – Downtown Opportunities



Legend

- Downtown Gateway Opportunities
- IDOT R.O.W.
- Gateway Streetscape
- High-Visibility Streetscape
- Existing Downtown Streetscape
- Proposed Downtown Streetscape
- Proposed Downtown Periphery Streetscape
- Existing Intersection "Bump Outs"
- Potential Intersection "Bump Outs"
- Proposed Kiosk Sign

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Figure 3.2c – Conceptual view looking west on Jefferson Street at Center Street. Letters correspond to amenities highlighted on Page 13.

Figure 3.2d – Conceptual view looking west on Washington Street at Prairie Street. Letters correspond to amenities highlighted on Page 13.

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A Roadway Pendant Fixture with Pedestrian Globe

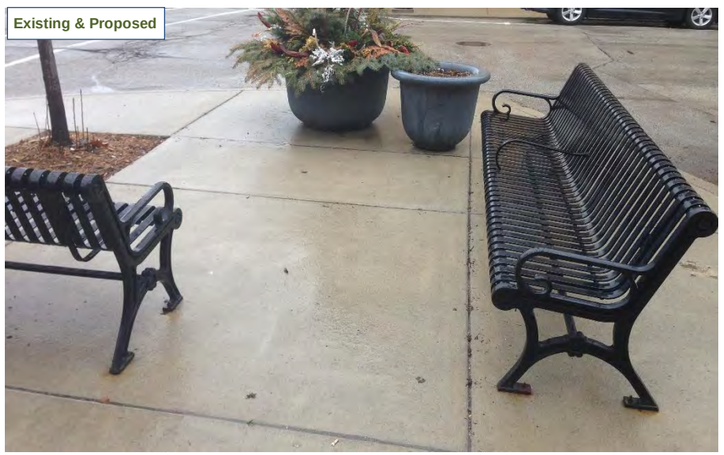
B Single-Globe Fixture

C Five-Globe Fixture

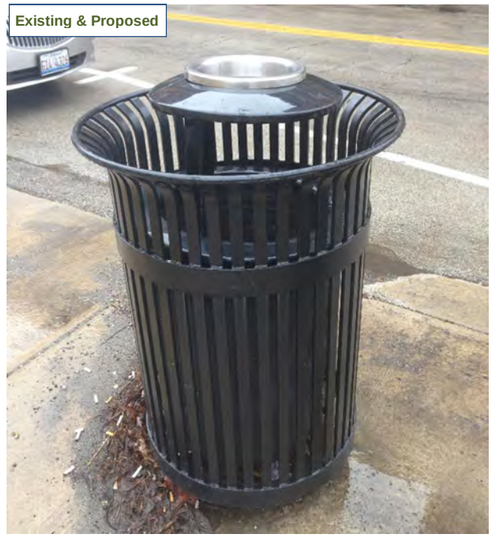
D Signature Metal Banners

E Murals on Facades

F Landscape Pots with Historic Banding



G Bench



H Litter Bin

I Bicycle Racks

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4.0 Lighting

4.1 General Overview

One of the key components to a successful downtown streetscape is the implementation of decorative pedestrian and roadway lighting. Decorative lighting can reflect the atmosphere of a downtown area and provide a sense of character for a space meant for gathering, shopping, entertainment and living.

The City of Bloomington has begun implementing decorative lighting in its core Downtown area within U.S. Business 51 between Locust Street and Front Street. A streetscape lighting master plan will examine how to incorporate both the remaining core Downtown streets and the periphery Downtown streets into the City's vision. The plan will provide recommendations for lighting patterns, lighting control pedestal locations, phasing options and the benefits of any new technologies now available today.

4.2 Existing Conditions

As of January 2014, there are 45 five-globe, 1 four-globe, 1 two-globe and 37 single-globe decorative light poles maintained by the City's Public Works Department.

There have been four notable streetscape improvement projects in the Downtown area in which decorative street lighting and lighting control pedestals were installed.

1. ***2003 – Old Courthouse Square.*** This project focused on the enhancement of the four streets surrounding the block of what is now the McLean County Museum of History. A total of 26 five-globe decorative light fixtures were installed around the streets outside of the museum. A 200 amp lighting control pedestal was installed at the southeast corner of Jefferson Street and Main Street with a spare capacity of at least 12 single-pole circuit breakers. A

Figure 4.2a - Example of Main Street streetscape improvements across from the McLean County Museum of History.

maximum amperage load reading of 47.6 amps was taken on December 13, 2013.

2. ***2007 – 100 Block of N. Main Street.*** This was a single-block streetscape improvement project in which 2 five-globe and 5 single-globe decorative light poles were installed. A 100 amp lighting control pedestal was installed just south of the Front Street and Main Street intersection for these lights with a spare capacity of at least 16 single-pole circuit breakers. Using the electric utility bills for this service, it is estimated an average of 5 amps is currently being utilized on this controller.

3. ***2009 – Main and Monroe Streetscape Project.*** This project was the largest in size, including Main Street from Jefferson Street to Mulberry Street and Monroe Street from Main to Center Street. In total, 27 single-globe, 14 five-globe and 1 two-globe light poles were installed. The two-globe pole includes camera arms to install City-owned security cameras (currently not in use). A 200 amp lighting control pedestal was installed at the southeast corner of Main Street and Market Street to provide power and control to these lights. An amperage reading of 36.4 amps was observed at this controller on December 13, 2013. Also observed were 11 single-

Figure 4.2b - Main Street illuminated at night after the 2009 streetscape project.

pole, 20 amp spare circuit breakers with 2 spare lighting contacts and 6 spare receptacle contacts.

4. ***2012 – 600 Block of N. Main Street.*** This was a single-block upgrade project completed by the City. Installed decorative lighting included 3 single-globe, 1 five-globe and 1 four-globe decorative light fixtures. The four-globe decorative pole includes camera arms to install City-owned security cameras. All lights were circuited to the previous lighting control pedestal installed in the 2009 upgrades project, utilizing existing underground conduits.

The Pantagraph also has installed 2 single-globe and 2 five-globe decorative light poles in front of its building on the north side of Washington Street. The City maintains these lamps, and therefore they are included as a part of the Downtown decorative street lighting master plan.

In addition to the streetscape upgrades mentioned above, two other facilities have installed decorative lighting in the Downtown area. The **Bloomington Center for the Performing Arts** installed 5 three-globe and 2 five-globe light poles during a recent Parks and Recreation Department upgrade of the facility grounds, and **Bloomington City Hall's** main entrance lights were replaced with seven single-globe light poles. These poles in both locations differ slightly in design than that of the City standard poles and are not maintained by the City electricians.

Each of the city's Downtown improvement phases utilized the same decorative single and five-globe light poles provided by Sternberg Lighting in Roselle, Illinois. The light poles are cast aluminum with a black powder coat finish and mounted on a 24" circular concrete base. The optics for each globe is a vertical, medium base E26 socket. The City has standardized on a 4100 degree kelvin, 85-watt Eiko compact fluorescent lamp.

At the start of each streetscape improvement phase, the project area was surveyed, and locations of underground utilities and vaults were identified and shown on the construction documents. In a downtown area as historic as Bloomington's, these were important steps in determining the spacing and locations of the new decorative light poles due to the extensive existing underground infrastructure, electric utility vaults and coal/delivery vaults in the sidewalks.

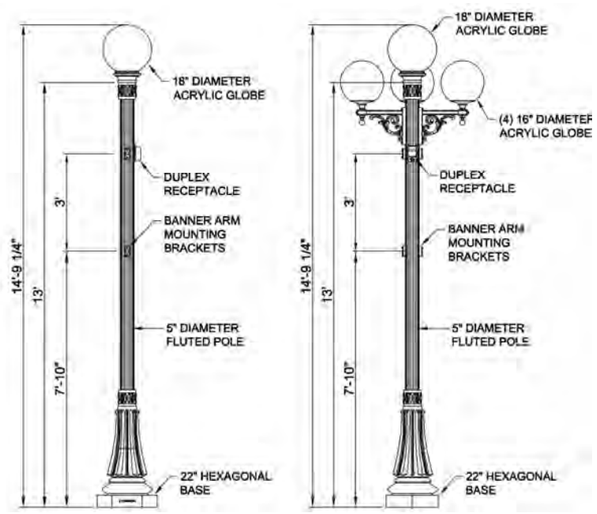


Figure 4.2c - Typical single and five-globe decorative light fixtures used throughout Downtown in prior streetscape phases.

4.3 Layout and Light Quality

Overview
The decorative lighting in Downtown Bloomington will serve as an important unifying component of the streetscape. At the same time, it must provide a historic and memorable visual appearance while providing adequate illumination for pedestrian and roadway traffic. It is important to review fixture types and the delivered pedestrian and roadway light quality in order to identify areas of potential improvements before expanding the lighting to the rest of the Downtown area.

Existing Utility Illumination
Other than the completed areas described in Section 4.2, the Downtown area is currently illuminated at night with 250-watt high-pressure sodium cobra head lights mounted at 25 to 30 feet. The cobra head lights are typically spaced 100-110 feet apart, with 3-5 lights on a business block, 2-4 lights at high traffic and high pedestrian areas, and 1-2 lights at the intersections in residential areas. Ameren, the serving electric utility, owns and maintains these lights and in turn, charges the City a monthly usage fee per each unit.

Existing Decorative Lighting illumination
With the completion of the previously summarized streetscape improvements projects, two typical patterns for the 13-foot-tall decorative light poles have emerged. The first is visible around the Museum Square block in which all five-globe decorative light fixtures (yellow dots in the below image) were installed around the opposite sides of the surrounding streets and adjacent corners. These fixtures were spaced approximately 40-50 feet apart.

The second pattern extends outside of the downtown Museum Square and begins a pattern of single-globe fixtures spaced approximately 50-60 feet with five-globe fixtures installed opposite each other at each end of the streets. If this pattern is fully implemented, 8 five-globe fixtures would be installed around each intersection.

Figure 4.3a - Center Street roadway from Mulberry to Market uniformly illuminated by existing utility lights. This roadway is a high-traffic gateway into the Downtown area.

Areas for Improvement
The decorative globes in Downtown Bloomington provide excellent vertical illumination of the surrounding architecturally historic buildings. In fact, most of the horizontal illumination of the sidewalk is actually from the vertical reflectance of the adjacent buildings. The outward and upward lighting distribution is combination of the natural effect of the globe fixture and the presently installed compact fluorescent (CFL) lamps, which are unable to provide directional illumination to the pavement. Figure 4.4c shows the illumination of the sidewalk and the vertical building facades.

Preliminary foot-candle (fc) measurements were taken at several points along the pedestrian pathway yielding approximately 1.1 fc around the base of the single-globe fixtures and 0.5 fc at the center point between two single-globe fixtures. The ANSI/IESNA (American National Standards Institute / Illuminating Engineering Society of North America) RP-8 “Roadway Lighting” document – an industry standard for roadway and pedestrian lighting illuminance recommendations – suggests an acceptable average of 1 fc in high-traffic pedestrian areas. At intersections, approximately 0.8-1.1 fc was

Figure 4.3b – Typical existing layout patterns between the decorative five-globe fixtures (yellow dots) and the single-globe fixtures (red dots).

measured at the center point of a crosswalk between two five-globe fixtures. This is compared to the approximately 1.5–2.8 fc measured at the crosswalk of an intersection lit by the existing utility light fixtures. For high pedestrian conflict areas, RP-8 recommends a minimum of 1.8 fc at the intersections of local streets and a minimum of 2.1 fc at the intersections of local and collector streets. The decorative globe fixtures seem to provide adequate illumination along the sidewalks, but insufficiently illuminate the crosswalk areas in alignment with the ANSI/IESNA recommendations.

Foot-candle measurements were also observed in the roadways on streets illuminated by the decorative globe lights as well as those illuminated by the utility cobra head fixtures. At the center of the globe-lit roadways at midpoint between the light fixtures (worst-case position), an illuminance of approximately 0.3-0.5 fc was found on the surface on the pavement. This is compared to the approximate 0.8-1.0 fc on streets illuminated by the utility cobra heads. RP-8 recommends a minimum of 0.9 fc on local roads with a high pedestrian conflict area. These measurements conclude that the decorative globe lighting does not provide similar horizontal illuminance of the roadway compared to that of the Ameren overhead light fixtures. The measurements also indicate that the decorative globe lighting falls shy of adequately illuminating the roadway in

Figure 4.3c – Market and Mulberry intersection looking south.

alignment with ANSI/IESNA recommendations. This can be visually observed when comparing Figure 4.4a to Figure 4.4c. Figure 4.4c shows the shadow that is cast over the roadway compared to that of the pedestrian areas. This shadow is maximized further when vehicle parking lines both sides of the Downtown streets, as well as during the spring and summer months when the foliage returns to the streetscape trees. See appendix for a table view of RP-8 recommended illuminance values.

Glare is another topic of consideration as the City looks at expanding its decorative lighting. IESNA defines glare as *“the sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted, which causes annoyance, discomfort, or loss in visual performance and visibility. The magnitude of the sensation of the glare depends on such factors as the size, position, and luminance of a source, the number of sources, and the luminance to which the eyes are adapted.”*

Decorative globe fixtures provide significant glare in all directions due to the general nature of their design. The five-globe decorative fixtures produce significantly more glare than the single-globe option, and if the current pattern of five-globe fixtures is continued, 40 globes would be present at an intersection. This arrangement would contribute to

Figure 4.3d – A look west at the intersection of Monroe and Main streets.

significant light glare for vehicle drivers and could potentially result in a loss of visual performance. This arrangement would also greatly contribute to light pollution and require a significant amount of energy. A total of 3,400 watts would be used with the 85-watt CFL globe fixtures compared to the approximately 1,000 watts that the existing utility lights consume.

Recommendations

It is recommended that the City continue the use of the globe-style lights spaced 45 to 60 feet for the illumination of pedestrian areas and vertical building facades with the consideration of using an alternative lamp source as described in the next section of this report. In addition, a taller, dedicated LED roadway fixture approximately 25-30 feet in height combined with a pedestrian globe fixture should then be used with a spacing of 80-120 feet. Closer spacing of this fixture would be required in "high visibility" streetscapes. This pendant down light will more efficiently illuminate intersections and roadways to ensure adequate visibility for drivers. The attached single-globe pedestrian fixture allows for seamless integration and continuation of the globe theme that already exists in Downtown Bloomington. An example of this fixture is shown in Figure 4.4e. This pole installed in Oak Park, Illinois, shows the same Hamilton style pole and 22" pole base from Sternberg Lighting as currently being used in Downtown Bloomington. Using a 22" pole base is important to ensuring uniformity as well as utilizing as little sidewalk space as possible. It is possible, however, that the factory may require a larger light pole decorative base in order to support the weight of any pole accessories or City security cameras. The City should take this into consideration during the planning process to ensure all clearances described in section 4.8 of this report are met. Intersections with high pedestrian traffic or downtown gateways could then be illuminated with two to four of these combination poles, and residential areas with lower pedestrian traffic could be illuminated with one or two. This pattern is similar to that of the existing utility street lights. The dedicated roadway fixtures will provide directional light to the pavement surface to properly illuminate the downtown streets and crosswalks. The taller, directional fixture will also help create optimal lighting conditions for drivers with minimal glare while still utilizing globe pedestrian fixtures. Proper illumination of both the sidewalks and roadways is important in ensuring a welcoming environment for Downtown visitors and increasing pedestrian safety and security. More details on the exact fixture placements are available in the street-by-street analyses in this report's Section 7.0 - Implementation.

Figure 4.3e – Oak Park, Illinois. A Sternberg Hamilton style decorative pole with a pedestrian globe and LED Libertyville roadway fixture with RLM shade. Source: Sternberg Lighting

The decorative five-globe fixtures are only recommended to be used in areas where a continuation of the existing lighting pattern is required. An example of these areas includes the intersections of Monroe Street and Center Street; Main Street and Front Street; and Washington Street and Center Street. Consideration for the use of the five-globe fixtures could also be made for prominent, historically significant buildings such as the McBarnes Memorial Building on Grove Street. Areas in which a majority of the surrounding properties are residential are recommended to have 13-foot, single-globe fixtures spaced approximately 60-80 feet in a staggered pattern, similar to that of the recently upgraded Harwood Place in Bloomington. In addition, consideration for using a 65 watt CFL lamp in these areas should also be made.

It is also recommended that the City continue to provide a duplex receptacle on each pole. This receptacle can be utilized for additional seasonal lighting or any temporary security cameras. Furthermore, consideration for additional pole features such as banner arms, banners, street sign decorative trim, security camera arms, or pole planter baskets should be done before ordering any new pole. See Section 6.0 - Amenit7ies of this report for additional information. Also see Section 4.6 of this report for recommendations on the use of red-colored lamps during the holiday seasons.

Figure 4.3f – Downtown Champaign utilizing globe lights for pedestrian lighting in combination with tall, down light fixtures for intersections.

Due to vandalism events over the past years, banner arms for the 13-foot decorative poles are not recommended. The lower banner arms have been damaged on many occasions due to its close proximity to the pedestrians below, at approximately 7'10". The recommended taller decorative poles should include means for mounting larger decorative banners than the 36" x 18" banners previously used on the 13-foot decorative poles. The lower banner arm on the taller poles should be mounted above the 14'-9-1/4" top-of-globe height.

4.4 Alternative Lamp Sources

Overview
As the City looks to expand its Downtown decorative lighting, it is important to consider other possible lighting sources in an effort not only to conserve energy, but to provide a more reliable lighting solution in such a high-traffic area. The Downtown decorative lighting consists of 268 lamps that are maintained by the City's electricians. A more reliable lamp would mean less lamp burn outs and more time illuminating the Downtown streets without not only sacrificing aesthetic appeal and uniformity but more importantly, safety and security.

As noted in the previous section, the City has standardized on an Eiko 85-watt compact fluorescent lamp for the Downtown decorative globes. Each globe is equipped with a medium base (E26) socket. Utilizing a compact fluorescent lamp is already an energy conscious decision for street lighting; providing 15-20% energy savings over equivalent arc style lamps (metal halide or high pressure sodium). The market share of LED technology is increasing at a rapid rate due to their ability of providing additional energy savings of up to 50% over compact fluorescent lamps and as much as 7-times longer life.

LED Technologies
Use of LED technologies in lighting retrofit projects is expected to increase from 5% in 2013 to 40% in 2017, predicts Navigant Research. In 2013, the City of Los Angeles completed the largest LED street light replacement project in the world, switching out more than 140,000 city-owned high-pressure sodium street lights.

While Downtown Bloomington is not comparable in size to the City of Los Angeles, it is important to compare the long-term advantages of the LED option for their decorative lighting versus the upfront capital costs.

Table 4.4a – Lamp Specification Comparison

Specification Item	Manufacturer			
	Eiko (Baseline)	Light Efficient Designs	Eiko	Sternberg
Part #:	SP85/41/MED	LED-8024E42	C0820-PT-45W-40K-W	4S62TLFA-MDL03
Lamp Type:	CFL	LED	LED	LED
Socket Type:	Medium (E26)	Medium (E26)	Medium (E26)	Hardwired
Color Temp:	4100 deg. K	4200 deg K	4000 deg. K	4500 deg. K
Wattage:	85	45[5]	45[5]	29
Lamp Initial Lumens:	5,700	4,978	4,500	2,030 (Absolute)[1]
Efficacy (lm/w):	68	111	100	70
Lifespan:	10,000 hrs.	50,000 hrs. @ L70[2]	60,000 hrs. @ L90[3]	70,000 hrs @ L70[2]
Price per Unit:	$28	$190	$230	$450
Yearly Energy Savings:	-	≈ 47%	≈ 47%	≈ 66%
Estimated Yearly Energy Costs[4]:	$5,089	$2,697	$2,697	$1,730

Estimates rounded to the nearest integer.
[1] Delivered fixture lumens measured through the acrylic globe.
[2] Equivalent to 70% initial lumen loss over listed lifespan.
[3] Equivalent to 90% initial lumen loss over listed lifespan.
[4] Based upon the Main/Market and Main/Front St controllers. Main/Jefferson lighting is unmetered. Lighting costs based on 2-year utility average.
[5] Lower wattage/lumen model available

LED technologies are improving every year at a very rapid rate, already exceeding 100 lumens per watt. As the use of the light source becomes more widespread, the market price is expected to steadily decline.

According to Forbes, in Los Angeles in 2009, a LED fixture average cost was $432, illuminated at 42 lumens per watt, lasted 80,000 hours and came with a 5-year warranty. By the end of 2012, that same LED fixture had an average cost of $245, illuminated at 81 lumens per watt, had a lifespan of 150,000 hours and came with a 7-year warranty. In other words, a higher quality LED product was available after 3 years at a 43% lower cost. This comparison is one example of how LED technology is rapidly improving in quality, while also decreasing in cost.

Lamp Comparison
LEDs are recommended as an investment for any new decorative street light lighting purchased in the future. Retrofitting the existing 269 CFL lamps to LED would also be a possible solution for additional energy savings and reduced maintenance costs to the City. For retrofit cost analysis, we compare two brands of medium base LED lamps and one Sternberg retrofit kit to the existing City standard Eiko 85-watt lamp (baseline).

Table 4.4a shows an energy savings of almost 50 percent when switching to an LED lamp with a similar lumen output of the baseline CFL. The LED retrofit lamps have 5-6 times longer lifespan than the CFLs currently in use. This means 5-6 times fewer work orders for the electricians to replace burn outs and as a result, a more consistently lit Downtown area. Minimizing lamp changes is critical when attempting to achieve the maximum lifespan of the decorative globe fixtures. Wear and tear damages occur to the globes and their set screws each time a lamp change occurs.

LED retrofit lamps also have a more effective light distribution pattern due to the horizontally mounted directional LEDs. This would be effective in minimizing directional up-lighting and could possibly permit an even lower wattage lamp to be used than those listed in Table 4.4a. Light Efficient Design offers a lower 35-watt, 3,765 lumen option, and Eiko offers a lower 30-watt, 3,000 lumen option. To determine which lamp works best for the City, a field comparison test is highly recommended. If it is determined that a lower lumen LED lamp is acceptable, energy savings greater than the 47% listed in Table 4.4a will be observed.

A Sternberg LED retrofit option was included in the comparison due to Sternberg being the manufacturer of all the decorative poles in the Downtown area. The kit would be hardwired to the incoming power to the light pole and would result in the removal of the medium base sockets. Replacements for this proprietary kit could only come from Sternberg, unlike the LED retrofit lamps available from a variety of manufacturers. Because of this variety, it is believed that the price of the LED medium base retrofit lamps would decrease faster in the future due to competition. It is also believed that the rated lumen output of the Sternberg retrofits would be inadequate for illuminating the downtown pedestrian and streets. If considered, a field test for the kits is recommended to ensure that the 2,030 absolute lumen rating would provide adequate illumination.

Due to its longer expected life of 60,000 hours at L90 and its more advanced optics, it is recommended that the City consider adopting the Eiko LED post top lamp as its new standard for future medium base globe lamps. Exact lamp wattage used should be determined by field tests. It is also recommended, however, that the available

LED lamp products and technologies available at the time of the streetscape enhancement project be re-evaluated to ensure the best, long-lasting lamp solution.

Long-Term Analysis

A long-term cost analysis will compare the capital investment costs of an LED retrofit lamp to the expenses of the continuing use of the baseline CFL lamp. A cost effective decision on lamp type could then be made while considering factors such as maintenance costs, quantity of lamp changes and energy costs. Table 4.4b presents a running total of estimated capital costs at a variety of future dates.

All 268 lamps in the Downtown streetscape area are maintained and purchased by City. In addition to the cost of the lamp, an estimated labor fee of $37 per lamp change was used to cover electrician labor and equipment costs. This value was confirmed by City staff. An LED retrofit lamp would provide a life span 6-times that of the existing CFL lamps presently being used. The longer lamp life will reduce the fixture wear and tear from excessive lamp replacements, ensure a more reliably illuminated Downtown, and reduce traffic disruptions due to lamp replacements by the electricians.

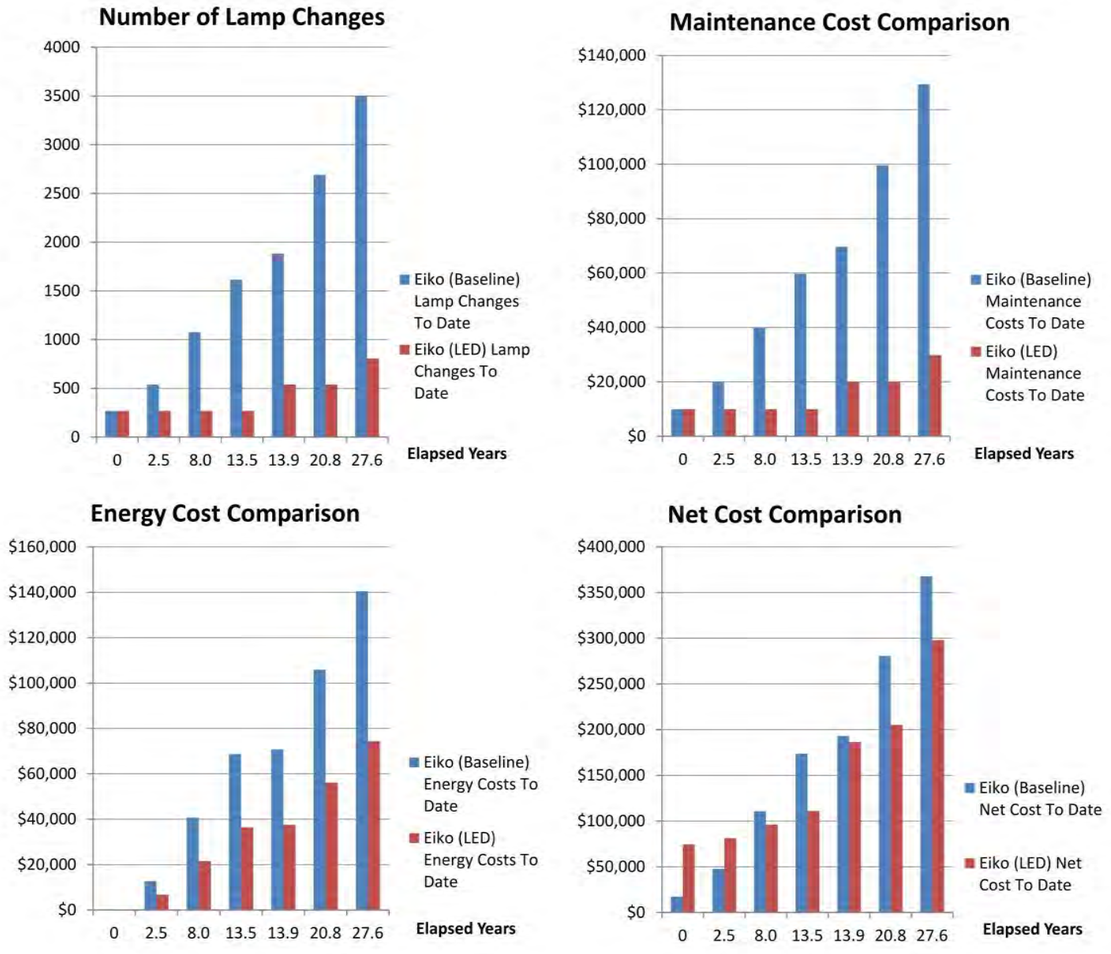


Figure 4.4a – Comparison charts highlighting the key differences between various costs and the quantity of lamp changes. These charts are a visual representation of the detailed quantities shown in Table 4.4b.

Table 4.4b – CFL vs. LED Long-Term Cost Analysis

Elapsed Time	Measurement	Manufacturer	
		Eiko (Baseline)	Eiko (LED)
0 hrs.	Initial Lamp Cost:	$7,504	$64,320
	Estimated Energy Costs to Date:	-	-
	Total Lamp Changes:	268	268
	Total Maintenance Costs to Date:	$9,916	$9,916
	Net Costs to Date:	$17,420	$74,236
11,000 hrs.[1] (2.5 yrs.)[2]	Total Lamp Costs to Date:	$15,008	$64,320
	Estimated Energy Costs to Date[3]:	$12,723	$6,743
	Total Lamp Changes to Date:	536	268
	Total Maintenance Costs to Date:	$19,832	$9,916
	Net Costs to Date:	$47,563	$80,979
35,000 hrs.[1] (8.0 yrs.)[2]	Total Lamp Costs to Date:	$30,016	$64,320
	Estimated Energy Costs to Date[3]:	$40,712	$21,577
	Total Lamp Changes to Date:	1,072	268
	Total Maintenance Costs to Date:	$39,664	$9,916
	Net Costs to Date:	$110,392	$95,813
59,000 hrs.[1] (13.5 yrs.)[2]	Total Lamp Costs to Date:	$45,024	$64,320
	Estimated Energy Costs to Date[3]:	$68,702	$36,412
	Total Lamp Changes to Date:	1,608	268
	Total Maintenance Costs to Date:	$59,496	$9,916
	Net Costs to Date:	$173,222	$110,648
61,000 hrs.[1] (13.9 yrs.)[2]	Total Lamp Costs to Date:	$52,528	$128,640
	Estimated Energy Costs to Date[3]:	$70,737	$37,491
	Total Lamp Changes to Date:	1,876	536
	Total Maintenance Costs to Date:	$69,412	$19,832
	Net Costs to Date:	$192,677	$185,963
91,000 hrs.[1] (20.8 yrs.)[2]	Total Lamp Costs to Date:	$75,040	$128,640
	Estimated Energy Costs to Date[3]:	$105,851	$56,101
	Total Lamp Changes to Date:	2,680	536
	Total Maintenance Costs to Date:	$99,160	$19,832
	Net Costs to Date:	$280,051	$204,573
121,000 hrs.[1] (27.6 yrs.)[2]	Total Lamp Costs to Date:	$97,552	$192,960
	Estimated Energy Costs to Date[3]:	$140,456	$74,442
	Total Lamp Changes to Date:	3,484	804
	Total Maintenance Costs to Date:	$128,908	$29,748
	Net Costs to Date:	$366,916	$297,150

Estimates rounded to the nearest dollar.

Assumes lamp costs remain constant.

Prices do not account for inflation, or potential future market value. Estimate based on 2014 prices.

[1] Assumes all 268 lamps replaced after lifespan shown in table (worst-case).

[2] Assumes 4,380 hours of run time during the year.

[3] Based upon the Main/Market and Main/Front Street controllers. Main/Jefferson lighting is unmetered. Lighting costs based upon two-year utility average.

Energy costs for the downtown street lights are estimated to be 47% less for the LED lamps than that of the existing CFL lamps. This is because the LED lamp provides a higher lumen-per-watt ratio than that of the CFL lamp.

Total net costs to date for the existing CFL lamps can be seen surpassing the LED net costs at approximately 7 years. Even after the LED lamps must be replaced for the first time at 61,000 hours, the net costs are still lower than the net costs-to-date of the CFL lamps. At 27.6 years, it is estimated that the net costs-to-date of the LED lamps could be approximately $70,000 less than that of the CFL lamp costs-to-date.

Recommendation

From this analysis, it is recommended that the City begin replacing its Downtown decorative street lights with compatible LED retrofit lamps within the next 1 to 2 years to take advantage of the

energy savings, 6 times fewer required lamp replacements and more controlled lamp optics to increase lighting efficiency. To preserve light uniformity, the compact fluorescent lamps should be replaced with the LED retrofit one street at a time. This will reduce the initial investment costs and allow the City to take advantage of the falling prices in the LED market. Consideration should also be made to install a surge suppression device at the electric service to each of the lighting control pedestals in an effort to protect the investment of the LED retrofit lamps.

4.5 Security

Overview

During the 2009 streetscape improvements project, considerations for infrastructure to support future security cameras were installed in two versions. The first was a separate 22' camera pole mounted at the intersections adjacent to a five-globe fixture. The second was the same pole, but with four decorative globes mounted lower on the pole. This allows the pole to serve a dual purpose, eliminating the need for multiple poles at a street corner.

Of the two variations installed, feedback from the Bloomington Police Department (BPD) indicated that the stand-alone camera poles mounted adjacent to the five-globe fixture interfere with the images much more than the combined globe/camera pole. The image was said to be much more washed out and can produce a glaring effect on the PTZ (Pan-Tilt-Zoom) camera image. The separate camera pole also requires a larger pole base than the adjacent light fixture, which can crowd an intersection and may not be able to be utilized at some of the smaller street corners. Another feedback item from the BPD was that a few of the streets Downtown seemed dimmer than before the decorative lighting was installed than with the previous utility lighting.

Recommendations

The addition of a dedicated roadway fixture as recommended in section 4.3 will help brighten

Figure 4.5a – A comparison between the two camera pole variations currently installed.

the streets and in turn, the images visible on the security cameras. Due to the nature of the globe fixtures, it will be impossible to eliminate all glares from the camera image. However, the addition of the directional down lighting will help reduce the contrast between the sidewalks and pavement, provide better uniformity and thereby increase visibility for the cameras.

In the completed areas, it is recommended that the City also experiment with lowering the PTZ camera to approximately 12 feet, or about 1 foot below the top of the globe. If the image is acceptable to the BPD, the City could then consider a wireless (or wired) PTZ camera that could be remotely mounted on any light pole in the downtown area once the infrastructure for the antennas and the wireless network is in place. Flexibility will then exist for security monitoring on an as-needed location basis.

In addition to the PTZ cameras, a wide angle fixed camera is also being utilized at the corner of Mulberry and Main Streets. This camera appears to handle the glare from the globe fixtures much better and has a clearer picture than the PTZ cameras. This fixed-type camera should continue to be utilized where an entire intersection needs to be monitored.

Finally, the City is using a third type of security camera that relies on the cell data network for connection to the City's computer system. This camera option does not require a hardwired connection to the City network and could prove to be a more flexible option. A hardwired network connection to a security camera, on the other hand, may prove to be more reliable and produce a better quality image. The type of camera needed at each location should be determined by the security needs of the BPD in coordination with the City Information Systems (IS) staff.

After coordinating with BPD, this study indicates instances where mounting arms will be needed for future security cameras. All camera locations will require a minimum 22-foot pole for the antenna to receive adequate signal. Coordination with Bloomington Information Services should be completed before each phase to determine if a wireless infrastructure will be required to each camera, or if a hardwired connection can be made at the lighting controller pedestal to service the cameras. According to the City IS staff, a hardwired connection is ideal as it is the more reliable of the two. Specific locations for security camera locations should also be made with the BPD prior to any construction phase to verify that the recommended locations remain accurate.

4.6 Lighting Special Effects

Overview

As lighting technologies improve, the ability for the end user to control the lighting system both manually and automatically is becoming a more standard feature. This is mainly due to the advances made with LED lighting. Section 4.4 recommends the replacement of the globe CFL lamps to the LED retrofits within 1 to 2 years, and in Section 4.3, the dedicated roadway luminaire is highly recommended to be LED. Controllable effects options include fixture dimming, timed fixture shutoff and RGB (Red Green Blue) color changing technology.

The activities in any given space and all safety concerns must first be weighed to determine if lighting controls will contribute a positive effect on the environment and occupants. The City of Bloomington Downtown area is a 24-hour area in which residents live, shop, dine and visit for entertainment. Extinguishing or dimming Downtown lighting would not only deter traffic, but would raise safety and security concerns for the residents who may be out on the sidewalks during the night.

The City occasionally installs red colored lamps in the five-globe fixtures around the Museum Square for Christmas and Valentine's Day. Many activities and concert events are also held Downtown in which color changing technology may provide additional aesthetic benefits. Many startup companies have just recently released RGB LED lamps that are controllable wirelessly via Internet routers or a Bluetooth mesh network. The only installation required is to simply install the medium base lamp. All color control and communication is done wirelessly through a smart phone application. This could be a simple, low cost option for future color changing effects and allows the City to take advantage due to the medium base sockets in the existing decorative globes. Hardwired DMX controllers and RGB retrofit optics are very costly and would most likely require a rack-mounted controller inside a nearby building.

Recommendations

Maintaining a 24-hour environment in a Downtown area means that both pedestrian and roadway areas should remain well lit throughout the night. Timer controlled shut-offs or dimmer controlled globe lights or pendant lights is not recommended for this reason. It would be possible for a brighter LED pendant light than required to be installed with a 0-10V dimming driver, thereby allowing the City to dim these fixtures, via a dimmer mounted in the lighting control pedestal, down to an appropriate level. A benefit of this type of operation would result in a longer lifespan for the LED fixture. The City would then increase the dimming level for the fixtures as

the LEDs naturally degrade light throughout their lifespan. For simplicity, however, it is recommended that lighting calculations for each construction phase dictate the sizing of the LED roadway fixtures instead. Finally, the technology for secure wireless RGB lighting is not yet available at a reasonable cost or effective lumen output for consideration in this study. In addition, retrofitting existing decorative lighting with the RGB optics is not recommended as the existing fixtures serve as roadway illumination. It would be possible for RGB color optics to be ordered as an option from Sternberg for future installations of the decorative globes, but is only recommended for areas with a dedicated pedestrian globe fixture or where the changes in color could affect visibility of the roadway for drivers. In addition, annually substituting red colored lamps in the decorative fixtures around the Museum Square is not recommended due to excessive wear on the globe fixtures. It is recommended that the City pursue installing "smart" RGB LED lamps when the technology becomes available for any color changing effects.

4.7 Phasing Opportunities

Phasing

The decorative lighting in Downtown Bloomington is a continuous and unifying streetscape element. Because of the large area of Downtown Bloomington, this work must be planned out to be completed in smaller individual phases. On the following page, Map 4.7a, "Downtown Light Fixture Locations and Phasing Map," lays out the vision for the locations of future lighting control pedestals and the streets that will be served by these pedestals. Each street has been given a controller designation with the first letter corresponding to the serving lighting controller and a number. The proposed lights were assigned a background color purely as a visual aid in distinguishing which lights are to be fed from which controller. Controllers that utilize this same background color are not related in any way.

The actual project scope and budget available for future streetscape improvement projects will dictate how many street lighting phases are to be completed, however, a recommended prioritized list is shown in Table 4.7, "Decorative Lighting Phase Priority." Details and recommendations on a street-by-street level are available in Section 7.0 of this report.

Many factors were taken into consideration for the creation of the phase priority list including the continuation of any existing decorative lighting, under lit or high-pedestrian traffic areas that would benefit from additional lighting and existing utility street light circuiting. Although Ameren presently does not charge for street lighting re-circuiting or removal, it is best to coordinate street lighting phases to avoid the need for adding additional overhead wiring support poles to span any completed streetscape areas. The phasing pattern must always be a continuous and outward extension of the existing decorative lighting. The color of the light from the decorative option is whiter in color than that of the amber high pressure sodium utility street lights. It is recommended to maintain a single transition of color wherever possible in order to have the least impact on driver visibility. It is recommended that when it becomes available, the City consider the LED option for any remaining utility street lights within the Downtown area so that the variance in lighting colors remains minimal.

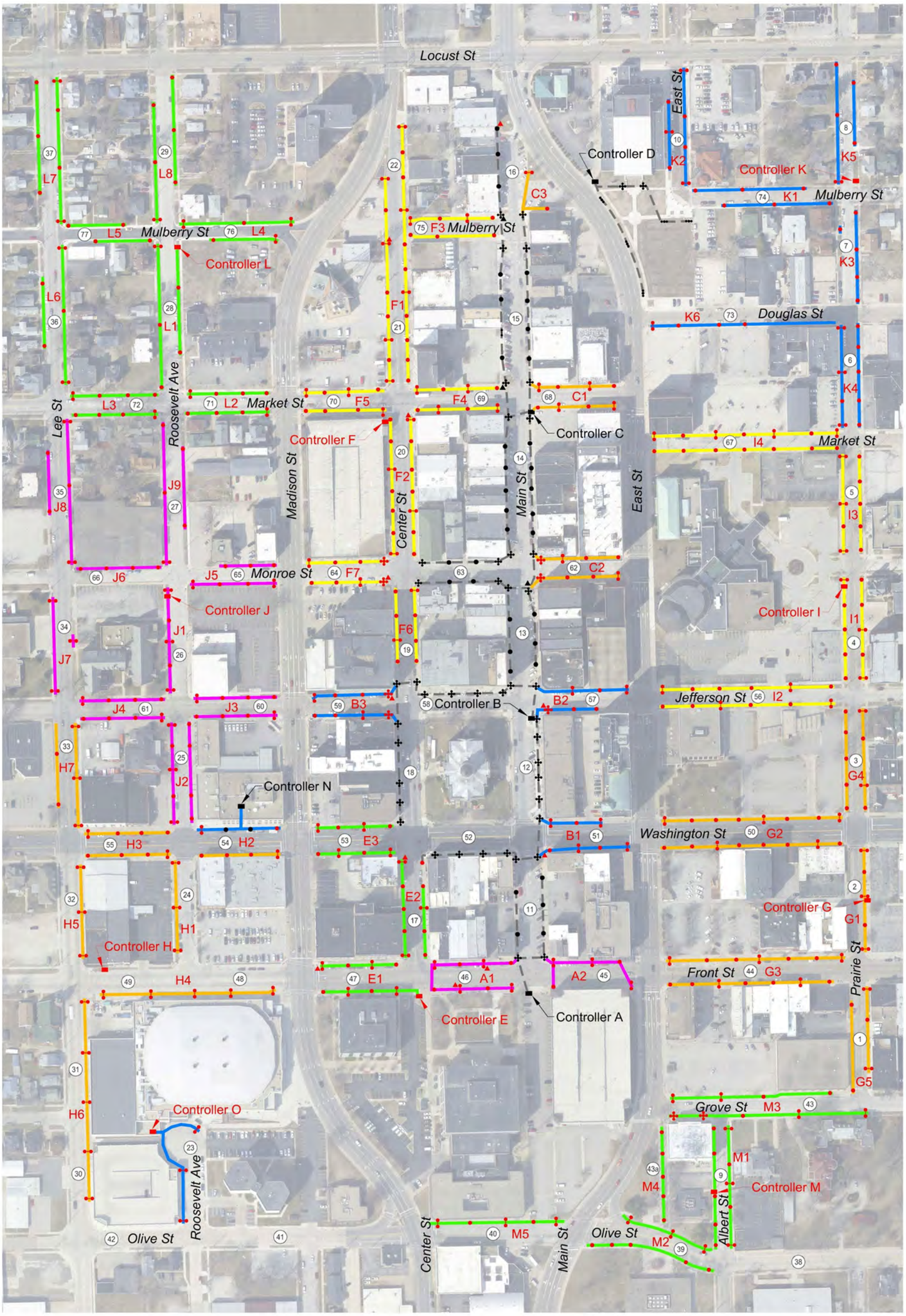
A separate lighting project is recommended to provide upgraded lighting on U.S. Business 51 northbound (East Street) and southbound (Madison Street) within the study area. This option is recommended to be completed at any point after all interior streets to U.S. Business 51 have been completed in decorative lighting. More information on this topic and its requirements are available in Section 4.9 of this report.

Table 4.7 – Decorative Lighting Phase Priority

Recommended prioritized list of future decorative lighting phases.

Phase Number	Controller Designation	Corresponding Street Number (per Section 7.0)	Used Controller
1	A1, A2	46, 45	Use Existing (A)
2	E1, E2 [1]	47, 17	Install New (E)
3	F1, F3	21,22,75	Install New (F)
4	F2, F4	20, 69	Use Existing (F)
5	F6	19	Use Existing (F)
6	C1, F5, C3	68, 70, 16	Use Existing (C) & (F)
7	B1, E3	51, 53	Use Existing (B) & (E)
8	B2, B3	57,59	Use Existing (B)
9	C2, F7	62, 64	Use Existing (C) & (F)
Interior of Business U.S. 51 Complete (Excluding Olive St.)			
10	G1, G2	2, 50	Install New (G)
11	G3	44	Use Existing (G)
12	H4, H1	49, 48, 24	Install New (H)
13	*US Business 51 and ILL Rt 9 Downtown Lighting Project* [2]		
14	H2, H3	54, 55	Use Existing (H)
15	G4, G5	3, 1	Use Existing (G)
16	I1, I2	4, 56	Install New (I)
17	I3, I4	5, 67	Use Existing (I)
18	H5, H6	32, 31, 30	Use Existing (H)
19	O1	23	Install New (O)
20	M1, M3	9, 43	Install New (M)
21	M2, M4	39, 43a	Use Existing (M)
22	H7, M5	33, 40	Use Existing (H) & (M)
23	J1, J2	26, 25	Install New (J)
24	J3, J4	60, 61	Use Existing (J)
25	J5, J6	65, 66	Use Existing (J)
26	J7, J8	34, 35	Use Existing (J)
27	J9	27	Use Existing (J)
28	L1, L2, L3	28, 71, 72	Install New (L)
29	K1, K2	74, 10	Install New (K)
30	K3, K4, K6	7, 6, 73	Use Existing (K)
31	L4, L5	76, 77	Use Existing (L)
32	L6, L7	36, 37	Use Existing (L)
33	K5, L8	8, 29	Use Existing (K) & (L)

[1] Must be completed during the same phase due to Utility street lighting circuiting.
[2] This project could occur at any time but is recommended to occur after all the interior streets have been completed.



City of Bloomington

Map 4.7a - Downtown Light Fixture Locations and Phasing Map

Legend:

- Existing Single Globe Fixture
- Existing Multi-Globe Fixture (2-5)
- Proposed Single Globe Fixture
- Proposed Roadway/Pedestrian Fixture
- Proposed Multi-Globe Fixture (4-5)
- Existing Lighting Controller Pedestal
- Proposed Lighting Controller Pedestal
- (#) Street Reference Number
- Existing / Proposed Camera Locations

Farnsworth GROUP

4.8 Typical Design Considerations

Lighting Control Pedestals
The service point for a lighting controller is recommended to be a stainless steel pedestal mounted on a 6" concrete pad. One 24" wide by 24" long by 18" deep in-grade junction boxes should be installed adjacent to each controller with conduits connecting the controller to the serviced decorative lights. It is recommended that the controller be supplied by a minimum 100 amp service and contain a 42-circuit panelboard with main breaker mounted behind a dead front panel door so that maintenance can toggle the branch breakers and control switches without being exposed to live electrical parts. Larger control pedestals serving more than five streets in high-traffic areas and six streets in low-traffic or residential areas should be provided with a 200 amp service and 60-circuit panelboard. Controllers should be sized accordingly based upon the City's needs for each area served. Other factors that may affect service size are potential electric vehicle charge stations, security control panels, outdoor convenience power for events or any other items the City wishes to power from their controller. These custom built controllers should also include a surge suppression device for the incoming electric service, separate contactors for lighting and receptacles, a photocell, hand-off-auto selector switch for lighting and receptacles, a ground bar, neutral bar and ground rod.

Figure 4.8a – A typical lighting control pedestal.

Existing controllers A (Front and Main streets), B (Jefferson and Main) and C (Market and Main) have spare capacity which will be utilized to service the adjacent side streets. The existing time clock in controller C is not being utilized and would need to be removed in order to make room for an additional 6 pole minimum lighting contactor. Controller N at The Pantagraph should be continued to be utilized for servicing the 4 decorative poles on the north side of Washington Street.

Circuiting
All circuiting requirements and loads to be serviced by each lighting controller shall be coordinated prior to sizing the controller. In general, it is recommended to estimate 2 circuits for lighting, 4 circuits for receptacles and 2 circuits for security requirements for each street. These numbers may be reduced in residential areas where light poles are fewer and spaced further apart. It is recommended that the lights on each side of the street be connected to their own dedicated circuit and that no more than 5 pole receptacles be connected to the same circuit.

Junction Boxes, Conduit and Poles
Each pole base installation should have an adjacent in-grade junction box installed in the sidewalk or grass for conduits and service to the light pole. The decorative lighting, pole receptacles and security equipment should be distributed via a minimum 3" PVC schedule 80 conduit buried 24" below grade with an additional 2" spare conduit for future needs. It is also recommended that the City connect adjacent junction boxes served by different controllers together for future flexibility in installing security cameras or to serve as an option for potential City fiber optic routes.

Table 4.8 – Utility Overhead Clearances

Type	Shield Wire; Neutral Conductors; Guys	Triplex or Quad Cables	Unguarded Rigid Live Parts 0 to 750V	Phase Conductors 0 to 750V; Shielded & Non-shielded cables w/ messenger over 750V	Unguarded Rigid Live Parts 750V to 22kV	Phase Conductors at 2.4 & 12kV
Horizontal Clearances	3 ft.	3.5 ft.	5 ft	5.5 ft.	7 ft.	7.5 ft.
Vertical Clearances	3 ft	3.5 ft.	5.5 ft.	6 ft.	7.5 ft.	8 ft.

A summary of overhead Utility clearances as provided by Ameren.

Figure 4.8b – A typical pole base installation with adjacent in-grade junction box.

Many previous decorative lighting phases have provided conduit stub outs from the last installed in-grade junction box for future lighting. It is recommended that the City utilize these stub outs when adding lighting to an existing controller. It is also recommended that all future lighting phases provide (2) 3" PVC conduit capped underneath the soil, sidewalk, or pavement of the adjacent streetscape improvement project to be completed so that the new areas will not be disturbed during the next phase. A locate cable should be installed in all conduits.

Road crossings should occur on the side of the street closest to the serving lighting controller. These crossings may be directionally bored or trenched and backfilled. Conduit routing should be planned in order to ensure the least amount of road crossings.

Existing pole bases for the 13-foot decorative poles may be utilized for the single or five-globe fixtures. A 26-foot combination pendant/pedestrian globe pole could not be installed on an existing 13-foot concrete base and would require a new base designed and installed due to greater wind loads of the taller pole and its accessories.

There are many instances in the downtown area where traffic signals are installed onto the existing Utility light poles. It is recommended that if the City identifies a signaled intersection in which a combination traffic signal and decorative light pole could be used, that they do so. This would ensure proper visibility of the traffic signal and help eliminate clutter of multiple poles and concrete pole bases at the street corners. Locations of where to use these combination traffic signal and street light decorative poles were not considered in this report and the City should have each pole reviewed for structural integrity in order to adequately support the weight of the traffic signal.

Clearances
The Illinois Department of Transportation (IDOT) requires a 1.5-foot horizontal setback for all roadway obstructions such as decorative light poles. In addition, the Public Right of Way Accessibility Guidelines (PROWAG) requires a minimum sidewalk clearance of 4 feet for public access ways (sidewalks). The City also has specific requirements for 6' sidewalks throughout the downtown area. Not all sidewalks in the study area were individually measured, and it would be the responsibility of the City to ensure that these clearances are maintained during future decorative lighting phases.

There are several areas in Downtown Bloomington where extensive overhead electric and communication distribution lines affect the layout and pattern of the recommended street light types and locations. In general, all locations of the recommended taller 26-foot decorative down light and single-globe fixture were not located underneath overhead Ameren electrical lines. Areas of suggested relocations of communications overhead wiring are available in the Street-by-Street analysis in Section 7.0 of this report. Table 4.8 shows the required clearances of overhead utility distribution wiring. Utility coordination is recommended before each lighting phase to ensure that these guidelines are met. Locations of the lighting controllers were acceptable to the local Ameren distribution engineer but should be confirmed before each construction phase. Utility supply voltage and phase will also need to be confirmed so that an adequate lighting control pedestal can be built.

4.9 IDOT Compliant Lighting Projects

Overview
Of the Downtown study area examined in this report, there are three instances of which the roadway rights-of-way (ROWs) fall under the requirements of the Illinois Department of Transportation (IDOT). New lighting systems installed in these areas must be approved by IDOT and designed per its lighting standards. These areas are Illinois 9 / U.S. 150 on Locust Street, southbound U.S. Business 51 on Madison Street and northbound U.S. Business 51 on East Street. IDOT requirements exist to ensure a uniform lighting design consistent with all U.S. and state routes throughout the state. The existing lighting on these routes consists of the standard Ameren high-pressure sodium, cobra head lighting on both sides of the street in a staggered pattern. Like all IDOT decorative lighting projects, the municipality would become the owners of the lighting system and would be required to perform any maintenance or repairs on it as necessary in the future.

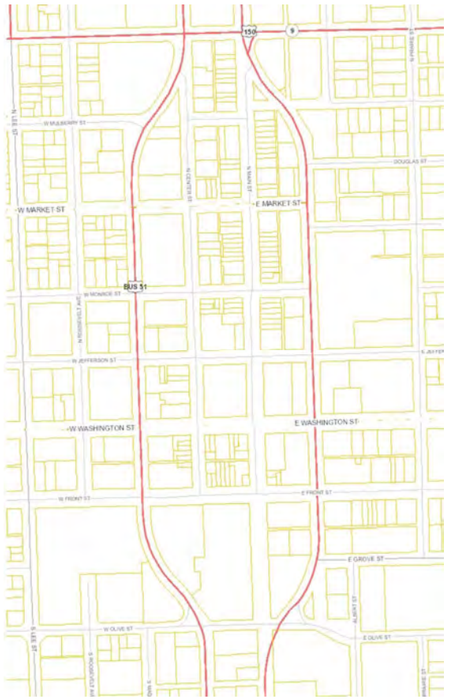


Figure 4.9a – U.S. and state route right-of-ways shown in red through the Downtown Bloomington area.

Design Requirements
A complete guide to lighting design requirements for roadways within IDOT ROWs is available in Chapter 56, "Highway Lighting," of the Bureau of Design and Environment Manual by IDOT. All installations must be approved by the IDOT authority having jurisdiction.

Section 56-2.15 states that "*ornamental lighting may be permitted by the Department on a State-maintained facility if the minimum requirements of the Department and ANSI/IESNA RP-8 are met and the local agency is 100% responsible for the construction, funding, ownership, electrical energy and maintenance of such lighting both during and after construction.*"

The recommended light source to install along these routes would be LED. However, IDOT has not yet approved this light source for use. Until such event happens, the installed light source would be high-pressure sodium.

For all IDOT lighting projects, a full set of plan sheets and electronic lighting calculations using AGi32 lighting software must be submitted for review. These plans must meet the requirements of section 56-6 "Lighting Design" of Chapter 56. In conjunction, all PROWAG and ADA requirements must also be satisfied. It is recommended that a staggered 30-foot decorative pole pattern be used along all IDOT ROWs utilizing decorative banners and a full cutoff pedestrian light fixture as well as a full cutoff roadway fixture. The decorative poles should be black in color to match the adjacent decorative poles recommended in this report.

Prior Studies
The "Main Street Transportation Improvement Feasibility Study" prepared for the McLean County Regional Planning Commission makes a few streetscape recommendations for the U.S. Business 51 northbound and southbound routes through the Downtown area. The report recommends pedestrian scale lighting as well as a conversion of one traffic lane along Madison and East Streets to a biking lane. The report also suggests opening up Locust Street from Lee Street to Main Street to two-way traffic and converting Locust Street east of Main Street into a 2-lane roadway with a parking/loading lane along the north side of the street. These recommendations should be considered and implemented as required before performing a streetscape improvements project. This would ensure that street lights and site amenities are placed in the appropriate locations.

5.0 Civil

5.1 General Overview

In addition to locations of decorative lighting and streetscape enhancements, we have identified opportunities for site improvements that are in part directly related to the work needed to install the lighting components or can be considered when budgeting for the overall streetscape improvements.

5.2 Opportunities

Each street segment within the study area was examined for appropriate placement of decorative lighting components and streetscape enhancements. Tools used to investigate each segment included aerial photographs, Google Earth™ imagery (dated 4/9/13), existing photographs and site visits.

A determination was made regarding condition of existing site improvements with regard to sidewalks, curbs, driveways and concrete removal. Components that appeared to be unsafe, not in compliance with ADA requirements or might otherwise qualify for maintenance were considered. Replacing these failed components will not only make the Downtown streets safer, but enhance the aesthetic quality as well.

Sidewalks considered for improvement should be evaluated from time to time against the City's PASER rating system and for updating changing sidewalk conditions before implementation.

Quantities of suggested improvements are represented in the cost estimates, and locations are shown in the street analysis section of this master planning report.

Examples for public street/sidewalk improvement opportunities may include:

1. ***Driveway removal and replacement.*** Figure 5.2a shows a deteriorated public alley driveway on the north side of Mulberry Street between Main and Center Streets. This plan only addresses public driveways such as this one. Private improvements within the public right-of-way that have been constructed by permit are not recommended for improvement under this master plan.

Figure 5.2a – Example of deteriorated driveway.

Figure 5.2b – Example of deteriorated sidewalk.

Figure 5.2c – Example of curb needing replacement.

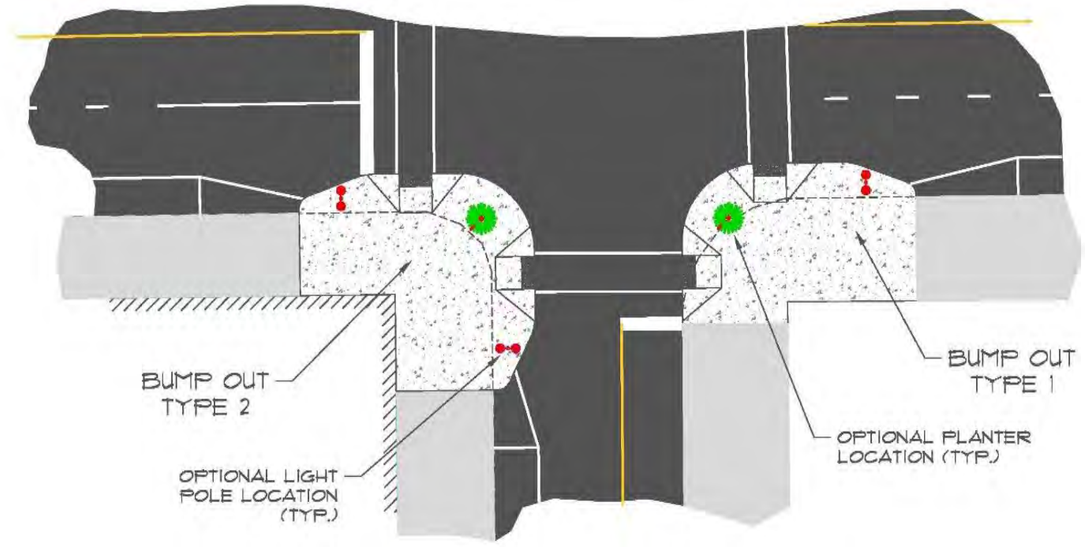


Figure 5.2d – Illustration of two different typical bump out designs.

2. ***Sidewalk removal and replacement.*** Figure 5.2b is representative of the typical condition of the sidewalk where recommendations have been made for removal and replacement, as part of the City's PASER rating.

3. ***Curb removal and replacement.*** The curb on Monroe Street from Madison Street to Roosevelt Avenue (Figure 5.2c) is virtually non-existent and represents typical curb improvements to be considered.

4. ***Bump Outs***. Figure 5.2d illustrates the two types of bump outs considered at intersections throughout the Downtown area. In addition, Figure 3.2d in Section 3.2 shows a rendered version of the Type 2 bump out. Opportunities for bump outs exist at an intersection when there is parallel parking on one or both sides of the street.

   Bump outs provide areas to expand light pole locations and planters and serve to shorten the crossing distance for pedestrians.

   Other items to consider for the bump out improvement include:

   - The amount of existing sidewalk and pavement to be removed will vary upon location as will the extent of the bump out improvement itself.
   - Most bump out locations may require additional storm inlets to drain pockets of pavement created where the bump out ties back into the existing curb.
   - Sight distance and turning movements.
   - Cost.

   Any bump outs considered should include a detailed analysis of turning movements for delivery and emergency vehicles.

   Costs presented for bump outs in Section 8.0 of this report assume a larger-than-average size with an allowance for storm drainage.

5. ***ADA Ramps***. Most ramp locations, although in compliance at the time of their installation, are not in compliance with the current ADA requirements. In areas where sidewalk removal and replacement are necessary it is required to bring curb ramps into compliance with new Public Rights of Way Accessibility Guide (PROWAG) guidelines.

Figure 5.2e – Example of deteriorated concrete.

6. ***Concrete removal.*** Several locations exist where areas between driveways were paved at one time and neglected for maintenance, as shown in Figure 5.2e. These areas can be removed and planted with grass seed or trees to help beautify the street. Consideration shall be given to parking needs where this condition exists. Also, areas with high foot traffic may warrant keeping the paved condition. This also would be an opportunity to establish a common policy for these areas to promote a common appearance throughout the Downtown.

Figure 5.2f – Example of brick pattern crosswalk.

7. ***Concrete imprinted crosswalks***. Brick pattern imprinted crosswalks (see Figure 5.2f) could add color and texture to the Downtown beautification. These features, which are discussed here in response to public input, could provide a cost-effective visual element that preserves the heritage of the downtown.

   However, these types of crossings generally also are more expensive to install, can be costly to maintain and can result in a rougher surface that could be an issue with accessibility.

5.3 Vaults

Sidewalk vaults were common in many downtown areas. They were created for street access for items such as coal, material delivery, mechanical rooms and storage. A common sidewalk vault structure consists of an approximately 4-inch-thick slab of sidewalk concrete on top of a waterproofing membrane, supported by a structural slab 4 to 6 inches thick.

The entire sidewalk structure itself is supported by either a metal deck (common in recently built or replaced vaults) or (in most older buildings) by a series of steel cross beams and columns spanning between the structural members along the building line and a brick or concrete foundation wall that separates the vault space from the ground underneath the street.

A vault generally is as high as the adjacent basement and as wide as the sidewalk. Some vaults, however, may extend only part of the width of the sidewalk, while others can extend beyond the sidewalk and partly underneath the street. Vault space is commonly used for housing mechanical equipment, such as boilers, tanks, heaters and pipes. Some vaults are vented and may have access hatches with steps or mechanical hoists.

Vaults originally were constructed to serve the adjacent building and as such are the responsibility of the building owner for maintenance. These vaults could have been constructed within public right-of-way by permit.

These vaults are not to be confused with power utility vaults that exist throughout the Downtown

Figure 5.3a – Example of an under-sidewalk vault space.

area. Ameren owns and maintains several such vaults in the Downtown area.

In addition to vaults, existing stairwells that provide access to lower level doorways or businesses (see Figure 5.3b) also can pose problems for lighting locations. Such businesses as restaurants, barbers shops and shoe repair services are typical owners of these stairwells.

New light pole locations in the vicinity of a known or unknown vault location will require further investigation to determine if the light can be located outside the confirmed vault limits, if the vault can be mitigated or if the light pole can be mounted on the vault ceiling.

Mitigation of vaults and/or stairwells can be costly, especially if removal of hazardous materials such as asbestos is required.

5.4 Priorities/Recommendations

Many of the opportunities for site enhancements should be considered when they can be constructed cost-effectively with other planned elements. Some of the items listed here may be part of an alternate City budget (50/50 Facade Program and 50/50 sidewalk programs) and when planned together with the lighting and streetscape improvements could help to keep costs down in addition to minimizing the disturbance of street segments.

Figure 5.3b – Example of a stairwell to a lower-level doorway.

Another approach for these enhancements may be a focused effort on certain aspects such as sidewalk replacement throughout the Downtown study area. Any time these enhancements are performed, the total streetscape improvements for the area must be considered to maximize efficiency and reduce duplication of efforts.

6.0 Amenities

6.1 General Overview

In addition to street lighting, successful streetscapes also incorporate a variety of site amenities and features that help to enhance the pedestrian experience and reinforce a sense of place. Downtown Bloomington already includes a wide variety of timeless site amenities, landscaping, signage and other features that should be utilized for future streetscape enhancement projects.

The proposed Downtown Streetscape Lighting Master Plan has been designed to allow future site amenities to be incorporated seamlessly, without disrupting the lighting design. These amenities can be incorporated into the streetscapes over time, as funding and resources become available.

6.2 Opportunities

There are many opportunities to incorporate site amenities into the Downtown streetscape. These amenities, along with the existing and proposed street lighting, will help to solidify the Downtown Bloomington "brand" and make it a memorable and vibrant place.

Some of these opportunities may include:

1. ***Signature metal banners at gateways and high-visibility corridors.*** The utilization of unique, colorful, weatherproof and permanent metal banners on taller streetlights at intersections could help to establish a unique and memorable identity to Downtown. The banners could incorporate a Downtown logo or distinctive artwork theme.

2. ***Fabric banners.*** Where metal banners are not used, fabric banners may be incorporated into the streetscape. These banners can include event information or sponsor names, or simply provide some color to help reinforce the brand of Downtown. It should be noted that some of the banner arms on the existing street lights have been removed due to vandalism. Final locations of any new banner arms should be reviewed on a block-by-block basis.

Figure 6.2a - Signature metal street banner on a historic light fixture.

3. ***Benches.*** Benches throughout the Downtown provide inviting spaces for people to gather. They also reinforce a unified streetscape appearance. Downtown currently utilizes a black bench manufactured by Victor Stanley. This bench would be utilized on all future phases of streetscape enhancements. Benches can be placed within future bump outs or in areas that do not impede the pedestrian zones of sidewalks and window displays. While benches should mainly populate the Downtown core, they also can be incorporated in high-visibility corridors and spaces around the U.S. Cellular Coliseum arena.

4. ***Litter bins.*** The provision of an adequate amount of litter bins in high-volume pedestrian locations and gathering spots plays a vital role in maintaining a clean Downtown. Downtown currently utilizes a black litter bin manufactured by Victor Stanley. This litter bin should be utilized on all future phases of streetscape enhancements. To reinforce corridors, litter bins also can be placed along key gateways and along high-visibility streets into the Downtown, including the spaces around the arena.

5. ***Bicycle Racks.*** A complete Downtown should ensure that there is an adequate amount of bicycle racks properly dispersed throughout the area. Downtown currently utilizes a black bicycle rack manufactured by Victor Stanley. This bicycle rack should be utilized on all future phases of streetscape enhancements.

   Racks should be located in areas of high demand and around key destinations, such as the Coliseum. Other areas of placement include street corners and midblock sites next to high-traffic locations.

   The local advocacy group Bike BloNo has created a master plan for bike paths and racks. This plan should be referenced as projects progress.

6. ***Ash trays.*** Providing an adequate amount of ash trays in areas that are prone to accommodate smokers is critical to ensuring a clean Downtown. The City should continue to utilize the ash trays that affix to the top of the existing litter bins. These should be located on a case-by-case basis. Private store owners can and will also provide their own ash trays. Efforts by the City should be made to ensure these private fixtures are black to match the Victor Stanley site amenity package.

7. ***Landscape pots.*** Landscape pots provide a unique opportunity to soften the urban environment with rotating seasonal plantings. Currently, there are a variety of pots in different shapes, sizes and materials in the Downtown area. These existing pots should begin being phased out to introduce a singular, durable pot that reflects the historic feel of Downtown. These replacement pots should be located at all intersections within the Downtown core, at key gateways, and along high-visibility corridors into Downtown.

Figure 6.2b - Precast landscape pots with historic banding.

8. ***Street trees.*** A proper amount of street trees is vital to complement the proposed street lights and existing architecture of Downtown. Street trees are generally recommended to occur on all streets within the Downtown core and between light fixtures when feasible. Proposed tree species shall provide an adequate canopy size without blocking views to stores and regulatory signs, or impeding the function of street lights and security cameras. In sidewalk situations, street trees will be "mulched in" and not include tree grates.

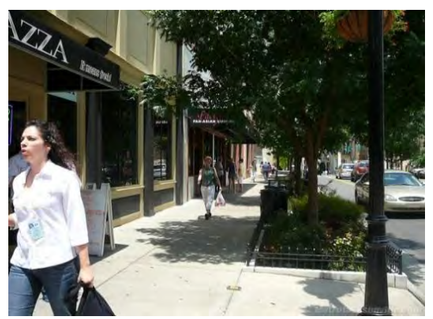


Figure 6.2c - Street trees help soften urban spaces.

Figure 6.2d - Murals on buildings can promote the history of Bloomington and play a vital role in tourism efforts.

9. ***Murals on facades.*** A simple way to add another layer of detail to the brand of Downtown is through the use of wall murals. Blank facades within the Downtown core, at key gateways, and along high-visibility corridors are ideal spots for murals. These murals could promote the history of Bloomington, complement tourism efforts or provide a bit of contemporary whimsy throughout downtown. Efforts to engage local artists and the public in the creation and implementation of murals are strongly encouraged.

Figure 6.2e - Logo incorporated into bicycle rack.

10. ***Downtown logos.*** The introduction of a Downtown or district logo could add another layer of detail to the overall branding effort of Downtown Bloomington. Logos can be incorporated into site amenities (benches and litter bins), on metal banners affixed to street lights, or sometimes as paving inlays at key intersections.

11. ***Signage***. Downtown currently utilizes a variety of directional and interpretive signage. Future informational signage (kiosks) should match the black signs found throughout various parts of Downtown.

    Some key signage elements to consider include the following:

    - Locate an informational kiosk sign at the Coliseum.
    - Parking regulation signage should be prominent and not be blocked by trees or other streetscape elements which may result in unforeseen fines and violations for motorists.
    - Directional signage for parking decks should be prominent to ensure motorists can find and utilize these facilities.

12. ***Traffic sign trim.*** A simple and inexpensive way to coordinate site amenities, street lights and street sign is to utilize traffic sign trim.

Figure 6.2f - Black trim can unify street lights, site amenities, and traffic signage.

13. ***Public art.*** In addition to murals, other forms of public art could be introduced throughout Downtown. Sculptures and other artistic elements easily can be added to bump outs, gathering spaces and other high-visibility areas in the Downtown core and the roads leading into Downtown. A sophisticated public art program could complement tourism and branding efforts.

14. ***Transit stops.*** Bus stops can provide unique opportunities to reinforce the Downtown brand while fulfilling the basic needs of the people utilizing them. Artwork, logos and even advertisements can be incorporated into them. If future bus stop replacements need to occur, or new bus stops are needed, the utilization of a black metal bus stop would complement the other site amenities.

6.3 Recommendations

As identified, there are many opportunities to enhance a Downtown environment with amenities that range from subtle to overt. We would encourage the City to consider these opportunities to begin a consistent theme utilizing these amenities. This will leave a memorable impression on visitors and daily users. A vision for these amenities should be part of the streetscape lighting planning.

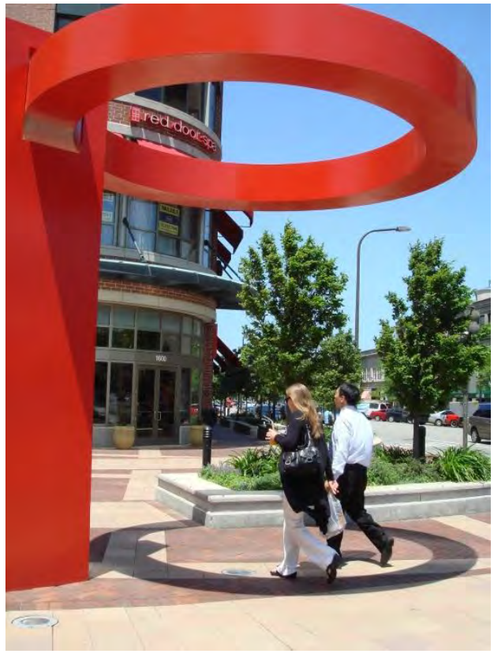
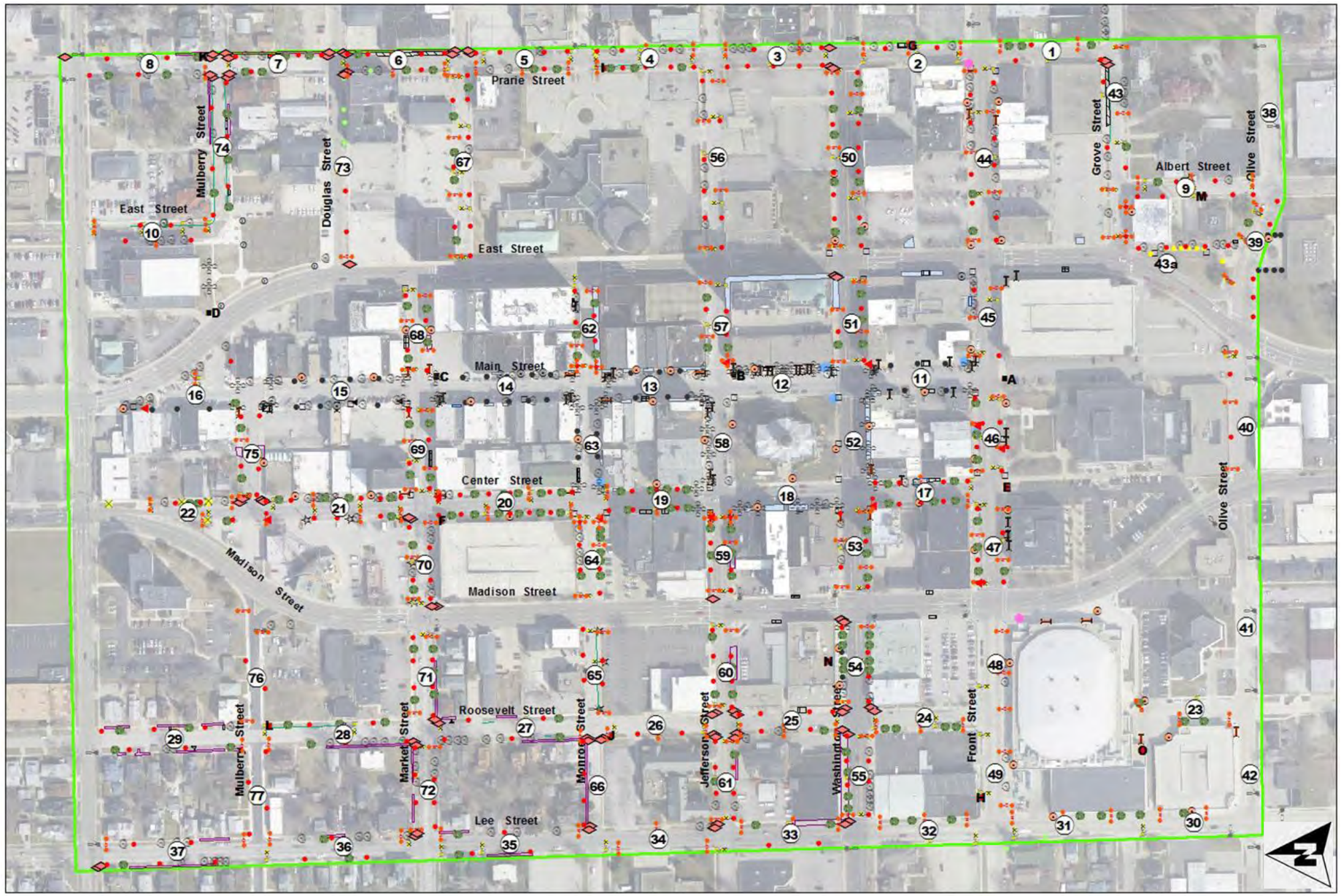


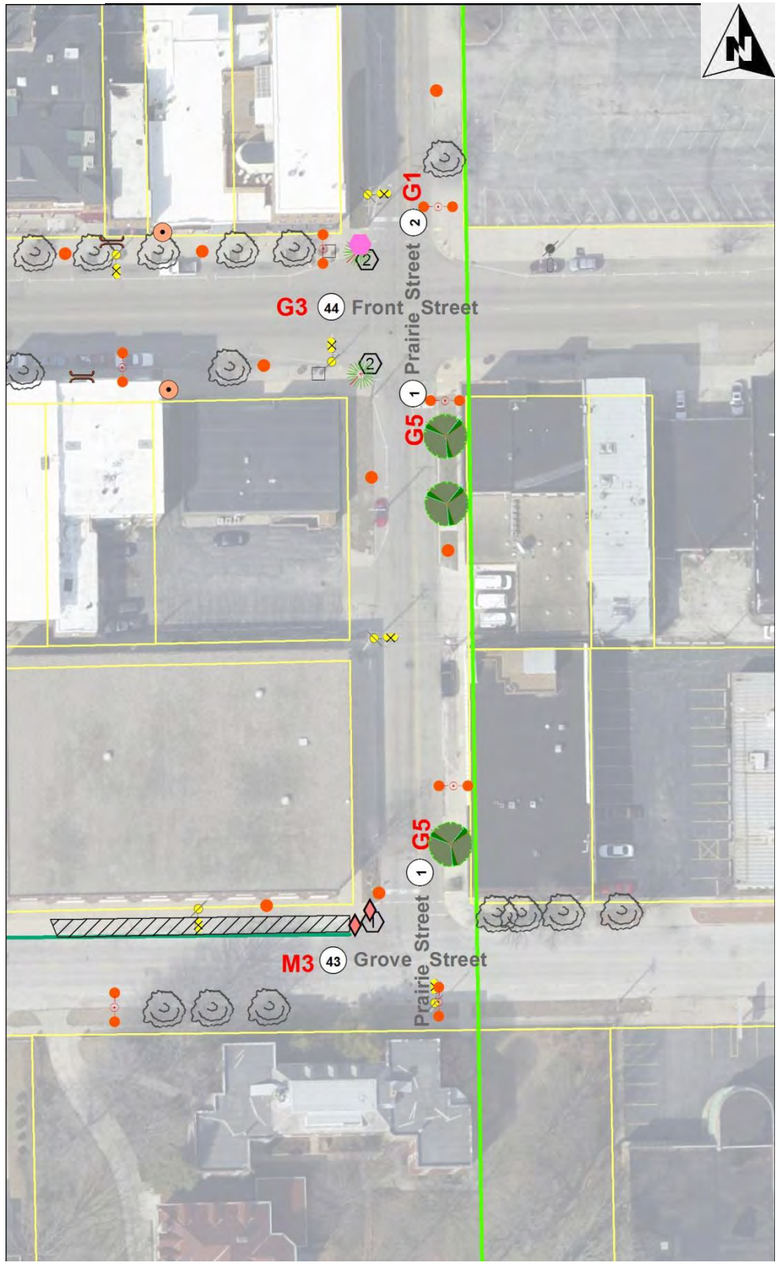
Figure 6.2g - Sculpture and other artwork can add another layer of visual interest to the streetscape experience.

7.0 Implementation – Street by Street

Map 7.0 – Summary of Street Segments



1 100 Block of S. Prairie Street (from Grove Street to Front Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the west side of this street, limiting the use of the taller decorative roadway fixtures to the east side. Multiple alley entrances and driveways prevent staggered or opposite light pole patterns.

Civil

Replace curb ramps on west side at Grove Street.

Landscape

Opportunities exist to provide parkway trees along the east side of Prairie Street. These may occur in existing grass parkways or in areas of existing sidewalks. Overhead electrical lines on the west side of the street will prohibit parkway trees in this area.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Intersection of Prairie Street and Grove Street, looking north.

Intersection of Prairie Street and Front Street looking south.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Grove to Front *Street Segment No.:* 1
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$55,700.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
461	LF	PVC Conduit & Wire	$17.00	$7,837.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$44,362.00
Landscaping					
1	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$1,500.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,900.00
				Street Segment Total=	**$104,962.00**

[1] Approximate quantity.

[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.

[3] Includes shipping, installation and contractor mark-up.

[4] Cost includes sidewalk/soil removal & replacement.

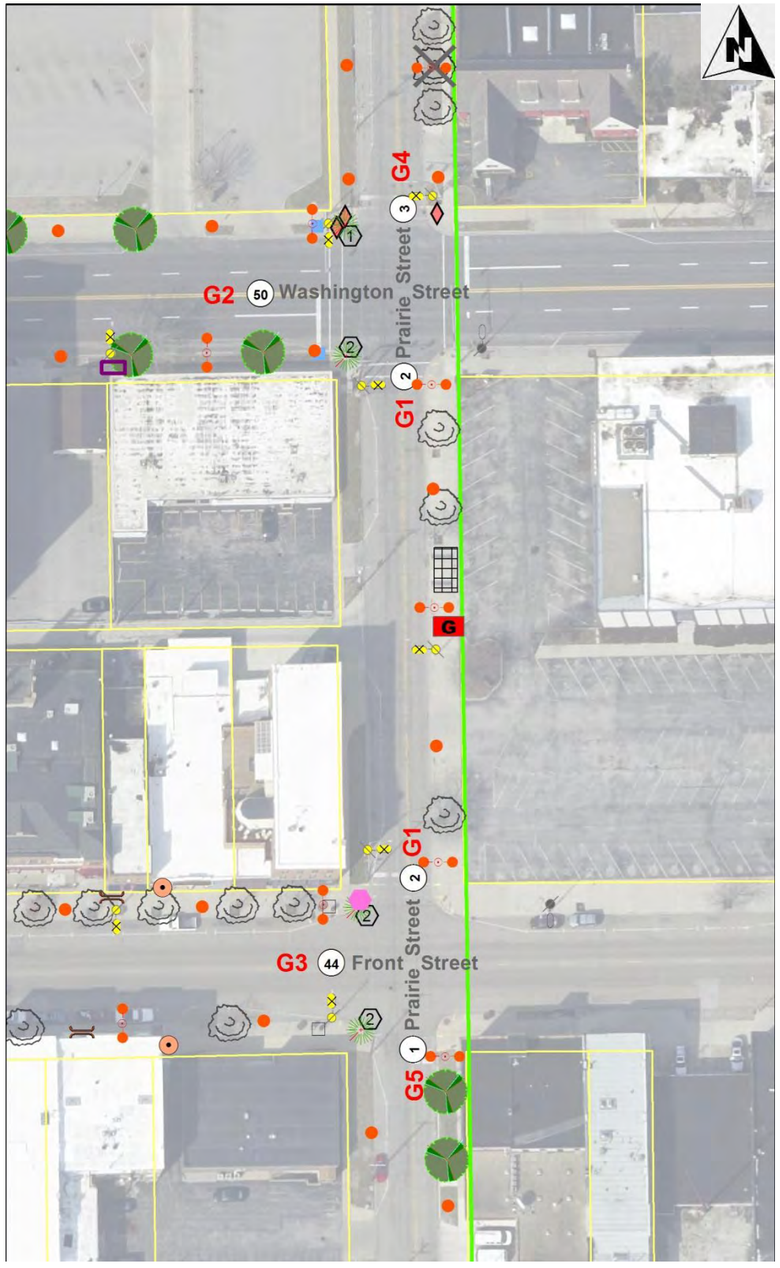
[5] Assumed route to obtain quantity. Location subject to change during construction.

[6] Assumed necessary for all Class D Patch, Type IV work.

[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

2 100 Block of N. Prairie Street (from Front Street to Washington Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the west side of this street, limiting the use of the taller decorative roadway fixtures to the east side. Multiple driveways and an alley entrance are also on the west. Fixtures are able to be evenly spaced on the open sidewalk on the east side of Prairie. Lighting controller G to be installed mid-block on the east side of Prairie Street parallel to the street with approximately a 1.5-foot setback from the face of the curb. Three dedicated roadway fixtures ensure even illumination of the street, which connects the higher traffic Washington Street to the businesses on Front Street.

Landscape

Existing trees on the east side of the street are sufficient to define the street. Overhead electrical lines on the west side of the street will prohibit parkway trees in this area.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Intersection of Prairie Street and Front Street, looking north.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Front to Washington *Street Segment No.:* 2
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$45,800.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
240	LF	PVC Conduit & Wire	$17.00	$4,080.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$62,690.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$2,000.00
				Street Segment Total=	**$110,490.00**

[1] Approximate quantity.

[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.

[3] Includes shipping, installation and contractor mark-up.

[4] Cost includes sidewalk/soil removal & replacement.

[5] Assumed route to obtain quantity. Location subject to change during construction.

[6] Assumed necessary for all Class D Patch, Type IV work.

[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

3 200 Block of N. Prairie Street (from Washington Street to Jefferson Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the west side of this street, limiting the use of the taller decorative roadway fixtures to the east side. Multiple driveway entrances affect the light pole layout along the east side of the street. The wider grass median to the west permits the poles to be mounted with a larger set back of 2 to 3 feet to allow additional room for parallel parking and plowed snow.

Civil

Replace curb ramps on east and west sides at Washington Street.

Landscape

Existing trees on the east side of the street are sufficient to define the street. One tree will need to be removed to locate a light fixture. Overhead electrical lines on the west side of the street will prohibit parkway trees in this area.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Southwest corner of Prairie Street, looking north. Wider grass median and overhead utilities are visible.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

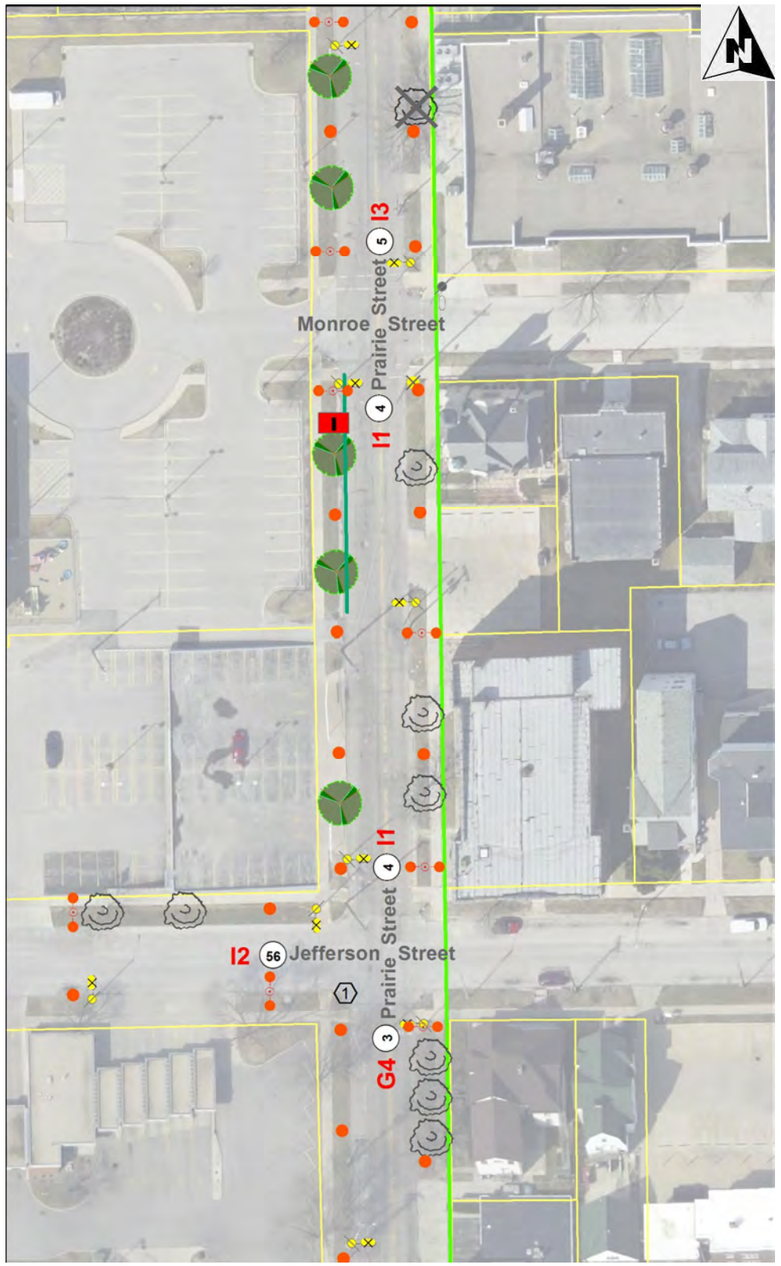
Street: **Prairie St.**
From: Washington to Jefferson *Street Segment No.:* 3
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
180	SY	Class D Patch, Type IV [5]	$200.00	$36,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
3	EA	Handicap Ramps	$1,200.00	$3,600.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
2	LS	Bump Out- Type 1	$3,500.00	$7,000.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$54,400.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
515	LF	PVC Conduit & Wire	$17.00	$8,755.00	
7	EA	13' Pole Concrete Base [4]	$1,000.00	$7,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
7	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$20,125.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
9	EA	Light Pole Installation and Connection	$1,000.00	$9,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$67,420.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$1,000.00
				Street Segment Total=	**$122,820.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

4 300 Block of N. Prairie Street (from Jefferson Street to Monroe Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the southwest side of this street and then shift to the east side approximately mid-block. This limits the use of the taller decorative roadway fixtures to the non-occupied space. The wider grass median to the east and west permit the poles to have a setback of 2 to 3 feet or approximately at the midpoint of the median. Three evenly spaced down lights ensure even illumination on this street, which serves as a main entryway to Second Presbyterian Church.

Civil

Recommend removal of existing walk/curb on the west side of the street and replacing it with curb and gutter.

Landscape

Existing trees on the east side of the street are sufficient to define the street. One tree will need to be removed to locate a light fixture. Trees are suggested for the west side of the street to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Southwest of Prairie Street, looking northeast, showing widened grass median and overhead utilities crossing the street to the east.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Jefferson to Monroe *Street Segment No.:* 4
Street Side: East/West

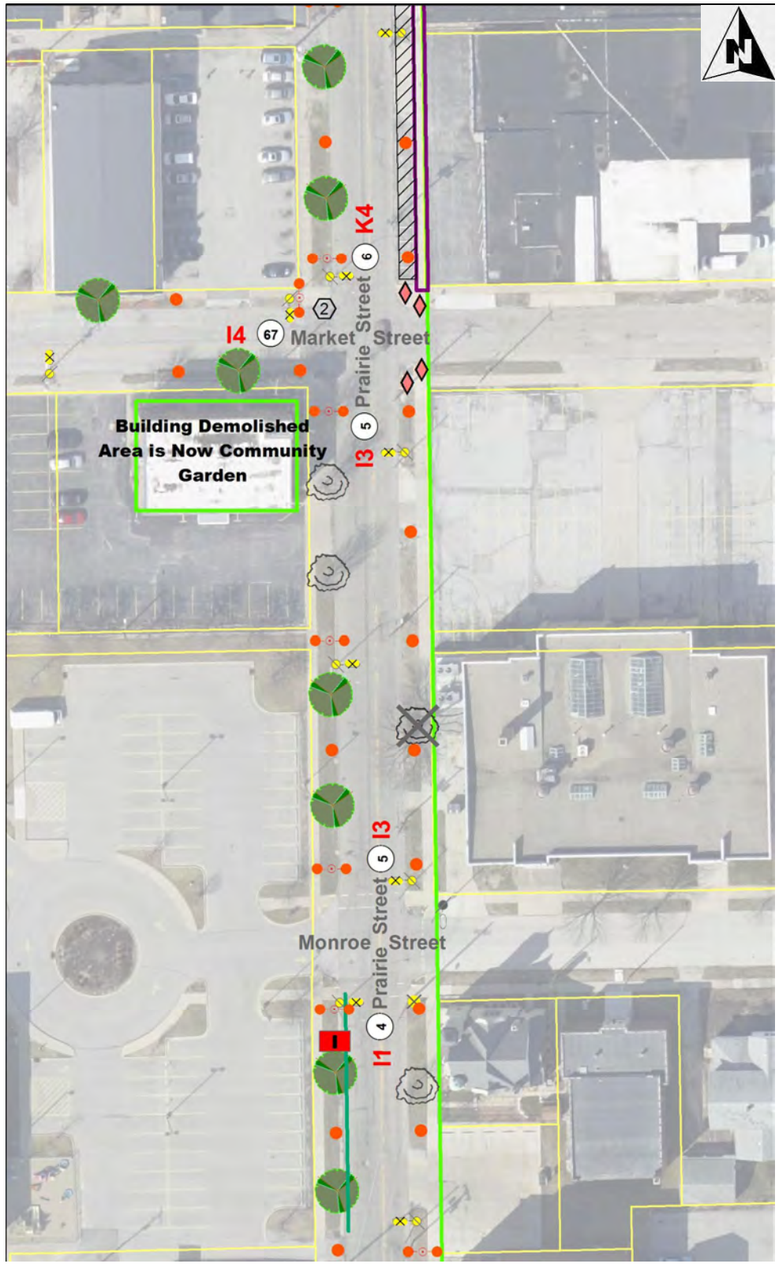
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
415	SF	Pavement Removal Seeded Restoration	$20.00	$8,300.00	
115	LF	Curb Removal & Replacement	$40.00	$4,600.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$48,700.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
500	LF	PVC Conduit & Wire	$17.00	$8,500.00	
7	EA	13' Pole Concrete Base [4]	$1,000.00	$7,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
11	EA	Ground Rod	$60.00	$660.00	
11	EA	In-Grade Junction Box	$600.00	$6,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
7	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$20,125.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
10	EA	Light Pole Installation and Connection	$1,000.00	$10,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$94,785.00
Landscaping					
1	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$1,500.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,900.00
				Street Segment Total=	**$147,385.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

5 Block 5 – 400 Block of N. Prairie Street (from Monroe Street to Market Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the east side of the street, limiting the use of the taller decorative roadway fixtures to the west side. The wider grass medians to the east and west permit the poles to have a setback of 2 to 3 feet or approximately at the midpoint of the median. A driveway entrance into the northwest parking lot prevents a continuous opposite pole pattern. Three evenly spaced roadway fixtures provide even illumination of this street, which borders Second Presbyterian Church to the northeast.

Civil

Replace curb ramps on east side at Market Street.

Landscape

One tree on the east side of the street will need to be removed to locate a light fixture. New trees are suggested for the west side of the street to better define the street corridor, along with the preservation of existing parkway trees.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

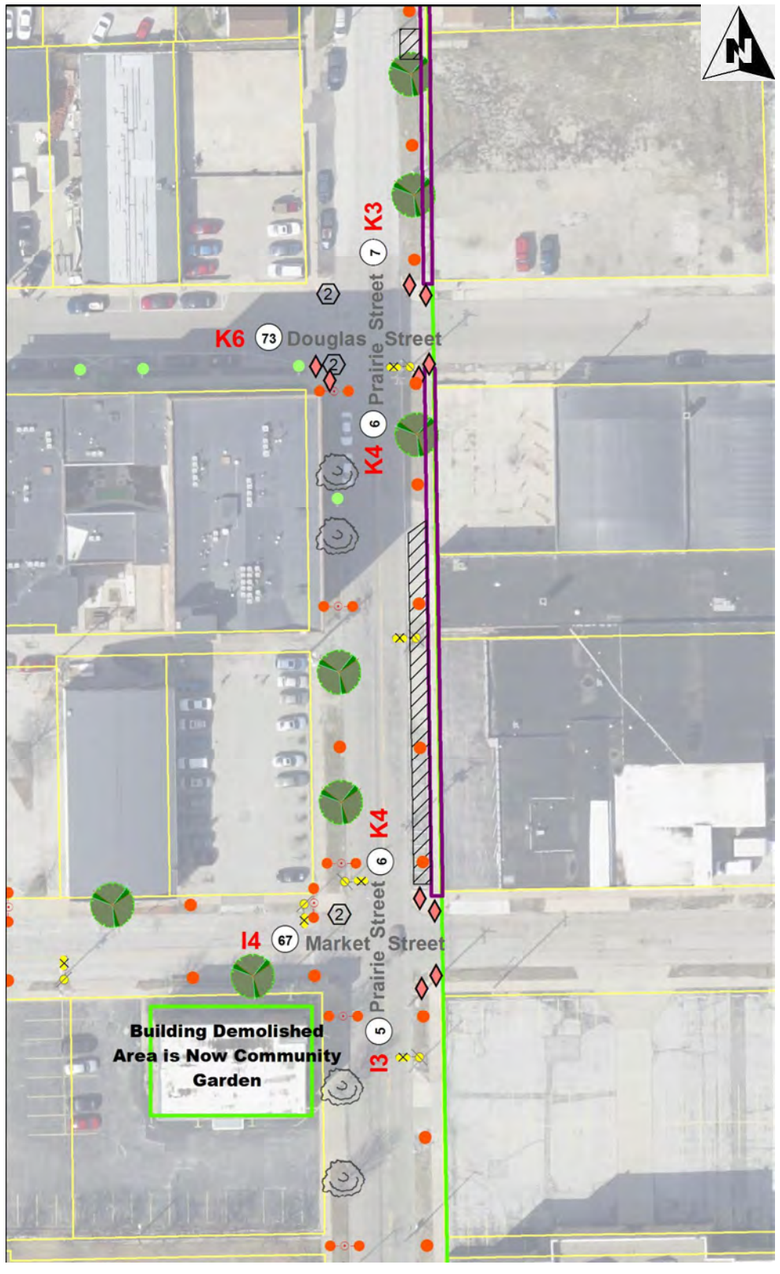
Street: **Prairie St.**
From: Monroe to Market *Street Segment No.:* 5
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
190	SY	Class D Patch, Type IV [5]	$200.00	$38,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$48,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
540	LF	PVC Conduit & Wire	$17.00	$9,180.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
9	EA	Light Pole Installation and Connection	$1,000.00	$9,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$72,270.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$2,400.00
				Street Segment Total=	**$122,870.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

6 500 Block of N. Prairie Street (from Market Street to Douglas Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the east side of the street, limiting use of the taller decorative roadway fixtures to the west side. Existing decorative lighting exists outside the Douglas Street Apartments. Field observations suggest they are non-functioning, and it is recommended that they be repaired or replaced and connected to the proposed decorative lights to ensure consistent pedestrian illumination. Single-globes and a taller decorative roadway pole complete the pattern around the existing light. A consistent opposite light pole arrangement ensures symmetry, and three dedicated roadway fixtures provide evenly distributed light onto this business park street.

Civil

Remove and replace sidewalk on east side and remove pavement between curb and face of walk. Replace curb ramps on both sides at Douglas Street and on east side at Market Street.

Landscape

Opportunities exist to incorporate new trees on both sides of the street. Existing trees on the west side of the street also should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing decorative light fixture in front of the Douglas Street Apartments building.

Northeast corner of Prairie, looking south, showing overhead utilities on the east side of the street and sidewalks in need of replacement.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Market to Douglas *Street Segment No.:* 6
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1300	SF	Sidewalk Removal & Replacement	$12.00	$15,600.00	
1500	SF	Pavement Removal Seeded Restoration	$20.00	$30,000.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
180	SY	Class D Patch, Type IV [5]	$200.00	$36,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
6	EA	Handicap Ramps	$1,200.00	$7,200.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$112,600.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
550	LF	PVC Conduit & Wire	$17.00	$9,350.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
10	EA	Light Pole Installation and Connection	$1,000.00	$10,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$73,440.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
3	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$3,600.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,600.00
				Street Segment Total=	**$189,640.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
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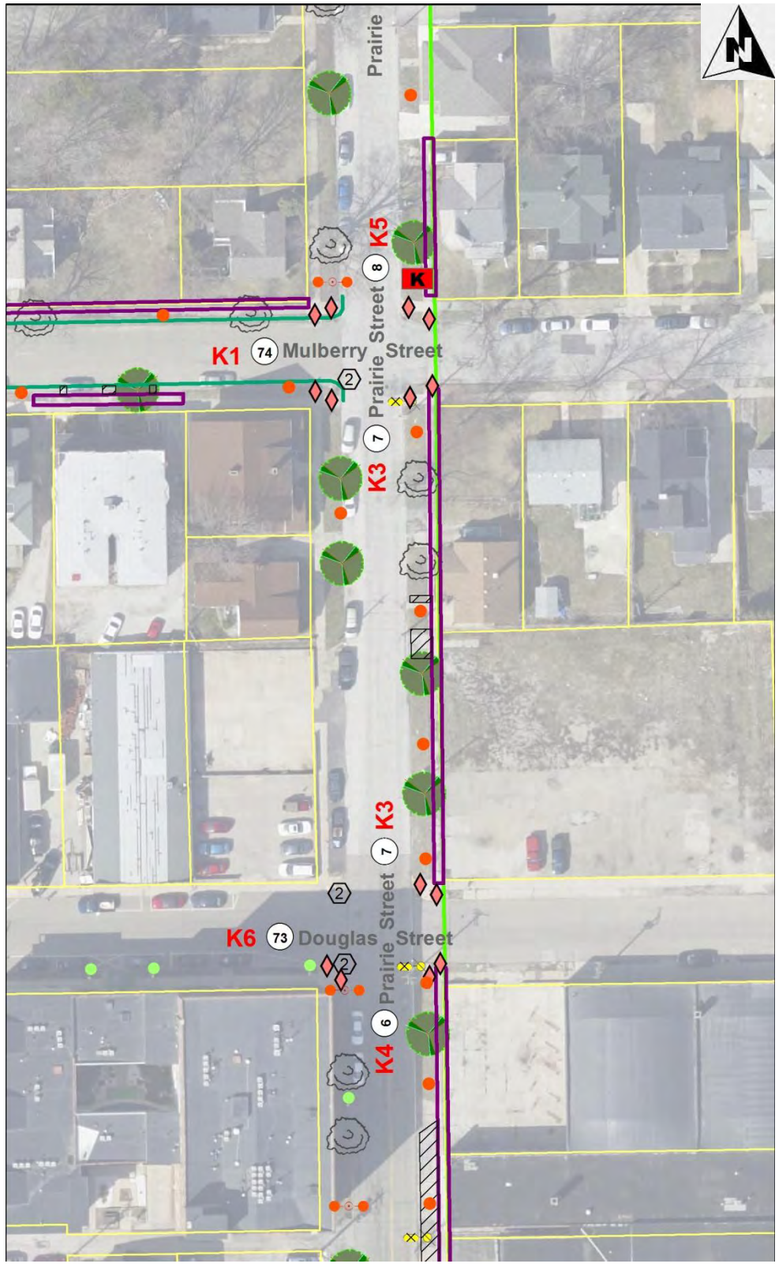
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

7 600 Block of N. Prairie Street (from Douglas Street to Mulberry Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the east side of the street, limiting use of the taller decorative roadway fixtures to the west side. A lack of sidewalk width and adjacent parallel parking restrict the ability to add lighting to the southwest sidewalk. The grass median between the sidewalk and street curb expands at approximately mid-block on the west side. The wider grass median to the east and west permit the poles to have a setback of 2 to 3 feet or approximately at the midpoint of the median. Single-globe poles are spaced farther apart than the streets to the south, and a staggered pattern begins as more residential properties occupy this street. A 65-watt compact fluorescent lamp or LED equivalent is recommended to be used here for the single globes as this street transitions into residential properties.

Civil

Remove and replace sidewalk on east side and remove section of pavement and sidewalk between curb and face of walk. Replace curb ramps on both sides at Mulberry Street and on the east side at Douglas Street.

Landscape

Opportunities exist to incorporate new trees on both sides of the street. Existing trees on the east side of the street also should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

North Prairie Street, looking southeast. Overhead utilities border the east side of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Douglas to Mullberry *Street Segment No.:* 7
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1100	SF	Sidewalk Removal & Replacement	$12.00	$13,200.00	
175	SF	Pavement Removal Seeded Restoration	$20.00	$3,500.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
100	SY	Class D Patch, Type IV [5]	$200.00	$20,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
6	EA	Handicap Ramps	$1,200.00	$7,200.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$67,700.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
370	LF	PVC Conduit & Wire	$17.00	$6,290.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$33,965.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
4	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$4,800.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,800.00
				Street Segment Total=	**$106,465.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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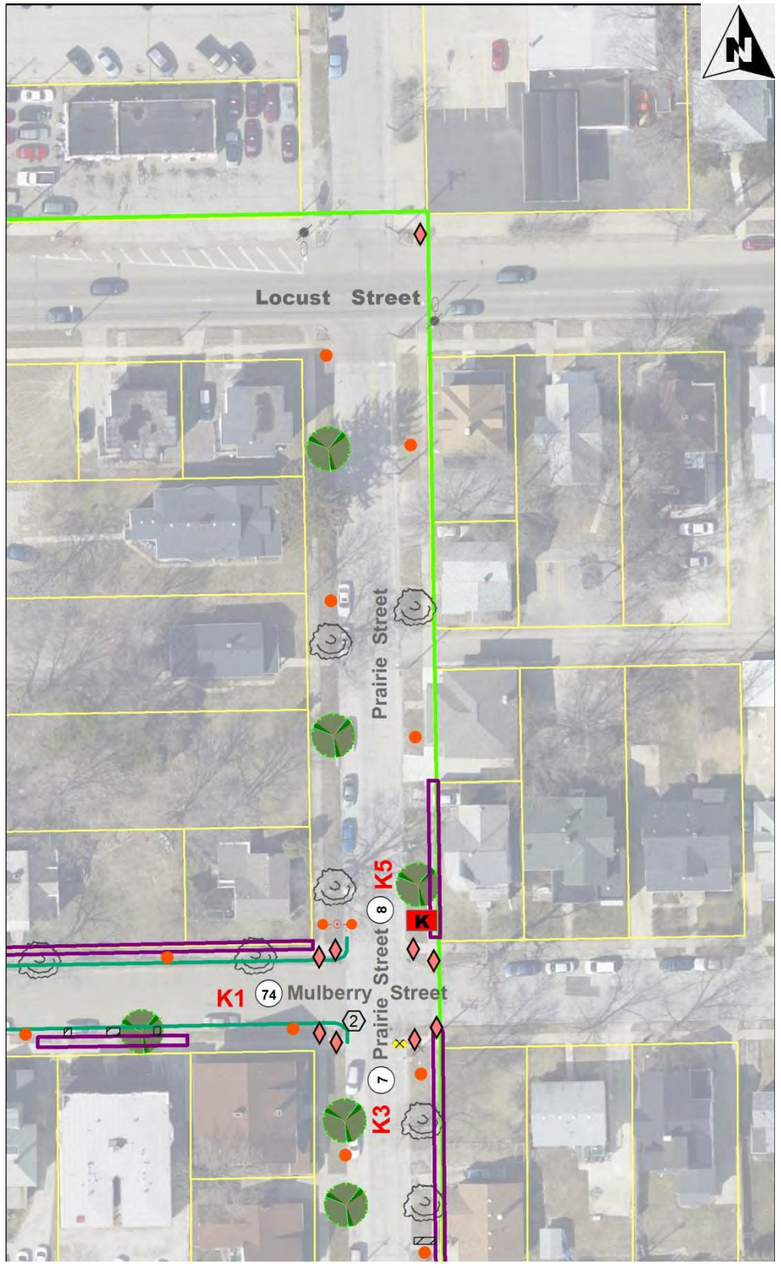
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

8 700 Block of N. Prairie Street (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- ① Proposed bump out - Style 1
- ② Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

A continuation of the 13-foot single-globe poles is recommended along this street, spaced in a staggered pattern approximately 60-80 feet apart. Overhead electric and communication utilities continue along the east side of the street limiting the single taller decorative roadway fixture to the west side. Wider grass medians permit a larger pole setback off the road if required. Since all properties in this area are residential, a 65-watt compact fluorescent lamp or LED equivalent is recommended to be used in this area. Controller K is suggested to be installed on this street to service the surrounding mixed residential and business properties.

Civil

Replace sidewalk on east side at Mulberry Street. Replace curb ramps on both sides at Mulberry Street.

Landscape

Opportunities exist to incorporate new trees on both sides of the street. Existing trees on the east and west sides of the street also should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Prairie St.**
From: Mulberry to Locust *Street Segment No.:* 8
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
360	SF	Sidewalk Removal & Replacement	$12.00	$4,320.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
190	SY	Class D Patch, Type IV [5]	$200.00	$38,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
4	EA	Handicap Ramps	$1,200.00	$4,800.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$54,920.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
590	LF	PVC Conduit & Wire	$17.00	$10,030.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$59,790.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
3	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$3,600.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,600.00
				Street Segment Total=	**$118,310.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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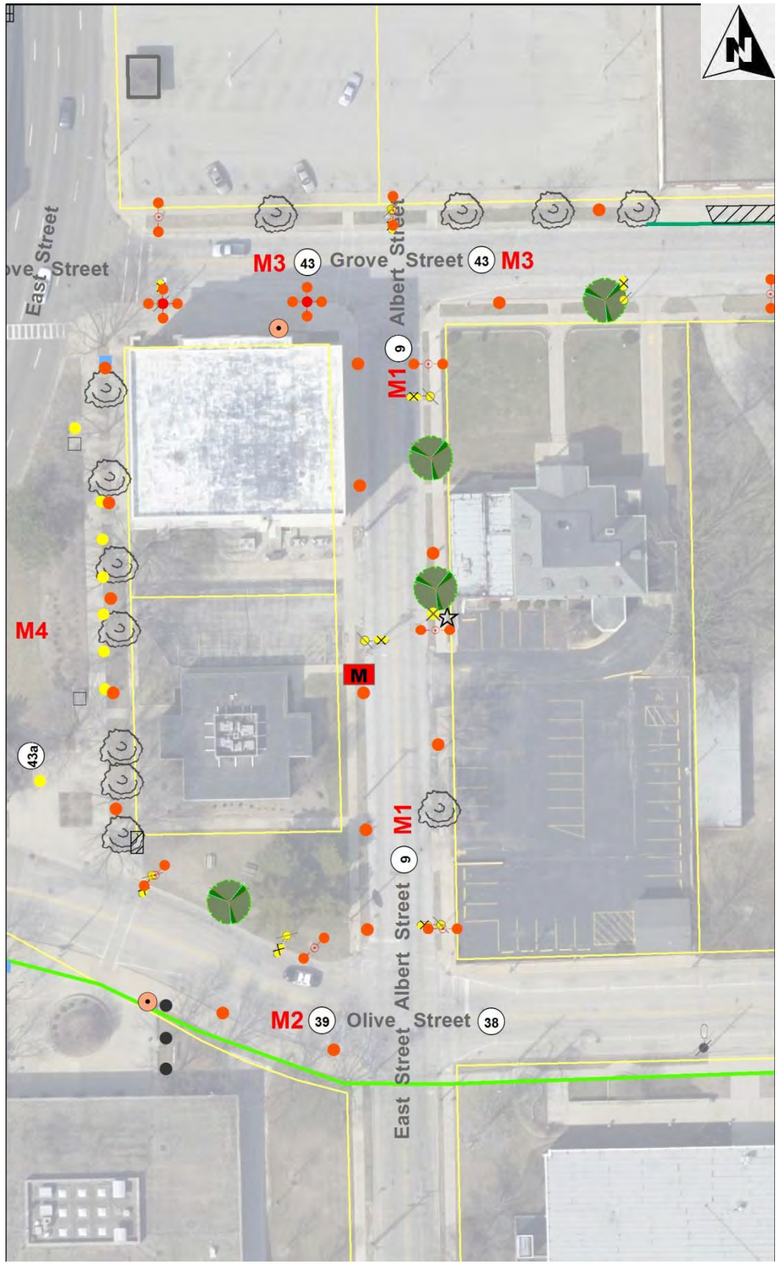
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

9 Albert Street (from Olive Street to Grove Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities occupy the west side of the street, and an overhead communications line extends over the southeast sidewalk and crosses to the west at approximately mid-block. Both the electric and communications serving Utility should trench these lines underground or have it relocated to the power poles on the west side of the street. This will open up the east for the taller decorative roadway fixtures. Drive entrances into the adjacent parking lots prompt a staggered pole pattern with one on each corner at the ends of the street in order to allow for two lights next to the McBarnes building to the northwest. Controller M is suggested to be installed on this street approximately mid-block to the west.

Landscape

Opportunities exist to incorporate new trees on the east side of the street. An existing tree on the east side of the street also should be preserved. The west side of the street is not conducive for parkway trees due to overhead power lines and tight setbacks.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

South Albert Street, looking north, shows the communications utility on the east (right) and the overhead power lines to the west.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

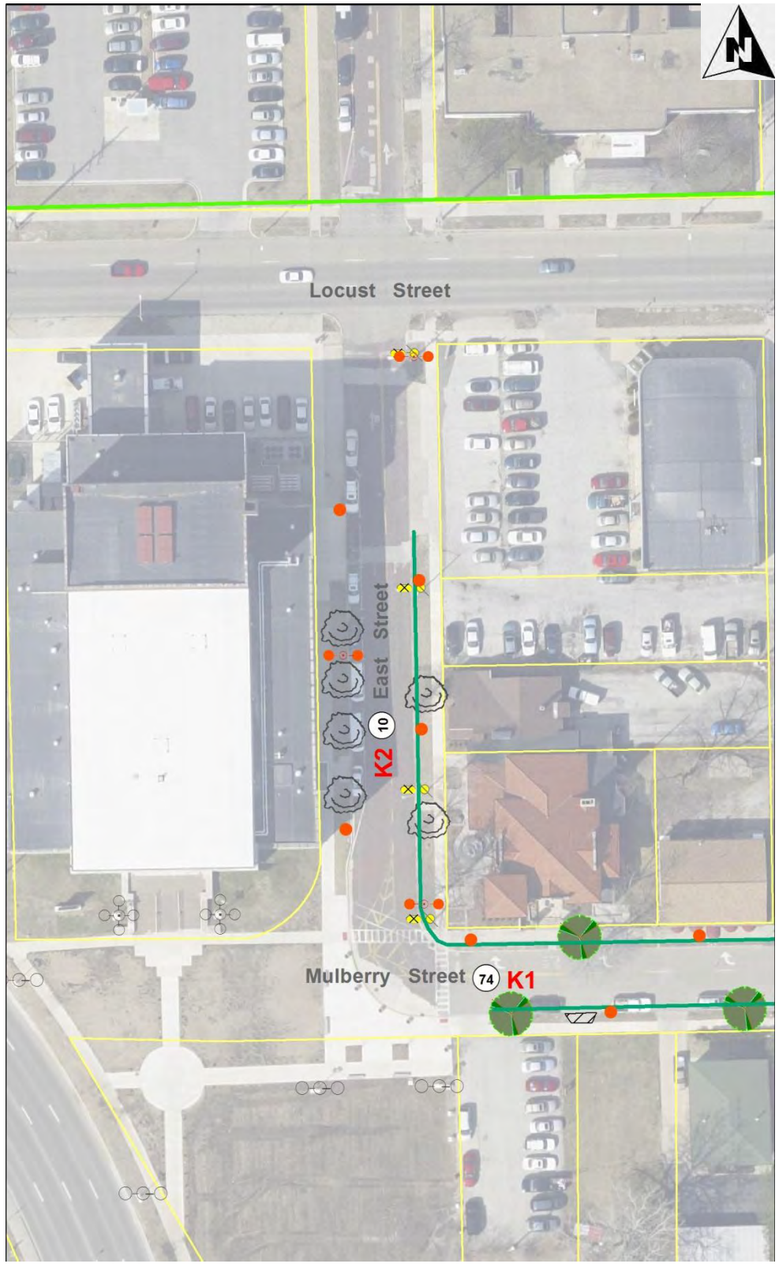
Street: **Albert St.**
From: Olive to Grove *Street Segment No.:* 9
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
235	SY	Class D Patch, Type IV [5]	$200.00	$47,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$54,800.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
585	LF	PVC Conduit & Wire	$17.00	$9,945.00	
7	EA	13' Pole Concrete Base [4]	$1,000.00	$7,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
11	EA	Ground Rod	$60.00	$660.00	
11	EA	In-Grade Junction Box	$600.00	$6,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
7	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$20,125.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
10	EA	Light Pole Installation and Connection	$1,000.00	$10,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
1	LS	Utility Relocation	$20,000.00	$20,000.00	$116,230.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$2,400.00
				Street Segment Total=	**$173,430.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

10 600 Block of N. East Street (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Three dedicated roadway down lights ensure even illumination of the brick paving, and four 13-foot single globe lights illuminate the surrounding walkways about the Bloomington Center for the Performing Arts (BCPA). A staggered spacing was required due to large drive entrances to the north. A 2- to 3-foot setback for the light poles on the west should be considered in anticipation for bus loading or large vehicle parking adjacent to the BCPA.

Civil

Replace curb on east side from south of large driveway.

Landscape

Existing trees on both sides of the street should be preserved and are sufficient to clearly define the street corridor.

East Street and Mulberry Street crosswalk, looking north. The tall building facade of the BCPA is to the west.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **East St.**
From: Mulberry to Locust *Street Segment No.:* 10
Street Side: East/West

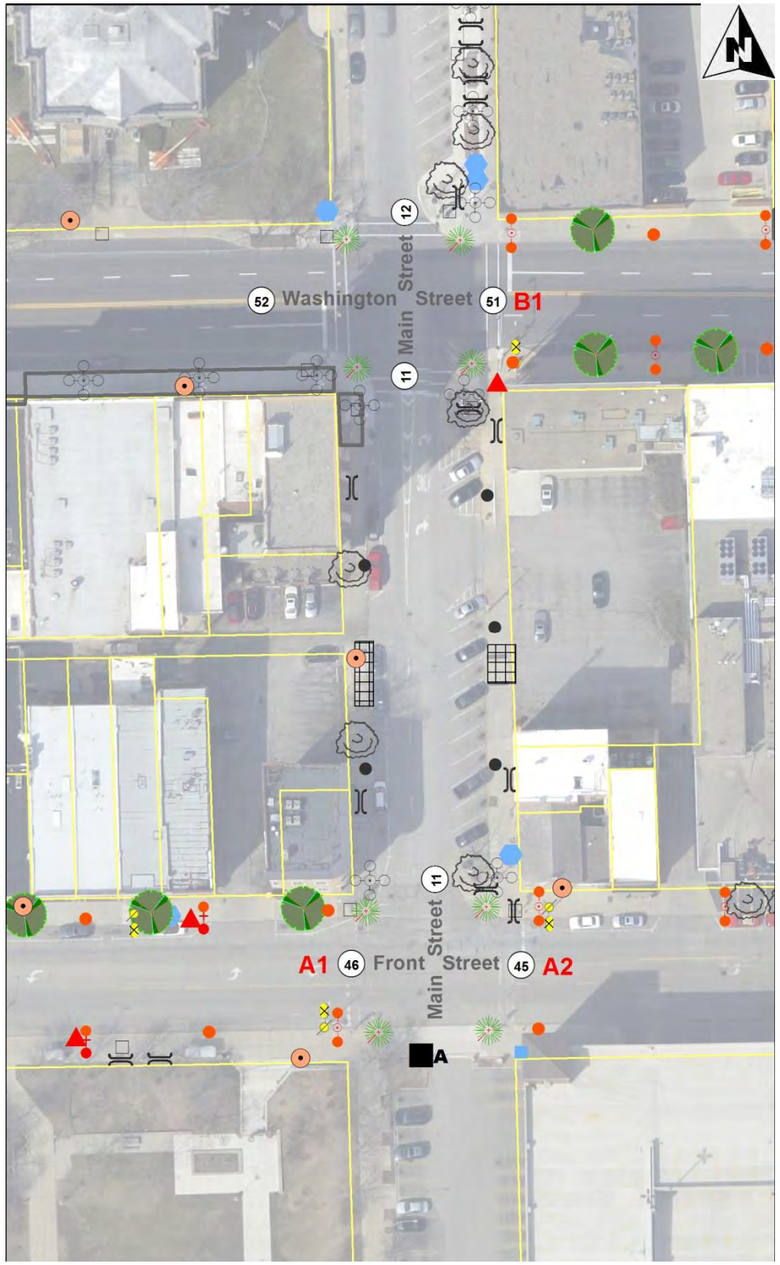
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
200	LF	Curb Removal & Replacement	$40.00	$8,000.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
160	SY	Class D Patch, Type IV [5]	$200.00	$32,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$47,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
500	LF	PVC Conduit & Wire	$17.00	$8,500.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
7	EA	Ground Rod	$60.00	$420.00	
7	EA	In-Grade Junction Box	$600.00	$4,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
7	EA	Light Pole Installation and Connection	$1,000.00	$7,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,520.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$108,320.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

11 100 Block of N. Main Street (from Front Street to Washington Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street was upgraded in 2007 with decorative lighting fed from the controller to the south across Front Street. No additional decorative lighting is recommended at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. A bike rack is proposed on the west side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Existing southeast corner of the 100 block of N. Main Street, showing a bump out, decorative bench and light fixtures.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

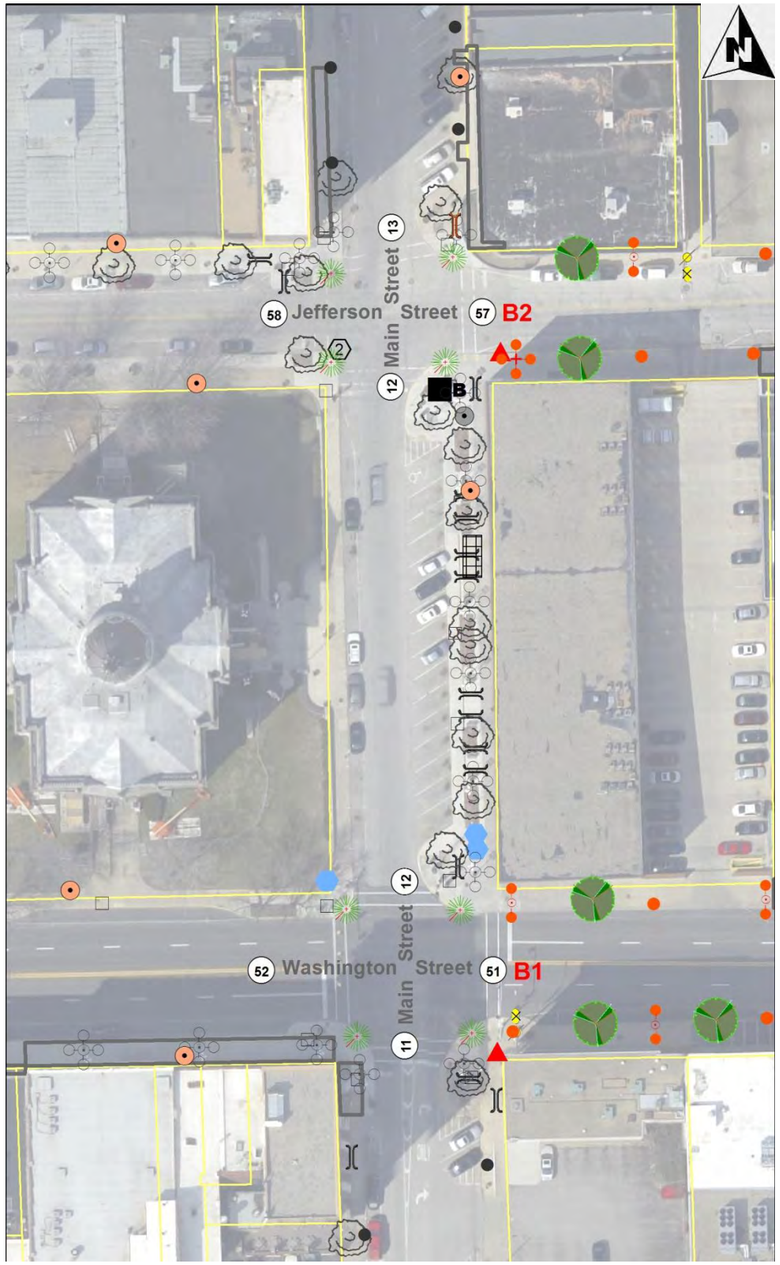
Street: **Main St.**
From: Front to Washington *Street Segment No.:* 11
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,800.00
				Street Segment Total=	**$4,800.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

200 Block of N. Main Street (from Washington Street to Jefferson Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

The 200 block of N. Main Street is one of four streets surrounding the Museum Square that was upgraded as a part of the 2003 streetscape improvements project. Six five-globe fixtures line the east side of Main Street. Existing lighting controller B is on the northeast corner. This controller is to be utilized for future lighting upgrades to the adjacent streets. No additional decorative lighting is recommended for this street at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. An additional bike rack is proposed on the east side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

This view shows the streetscape upgrades to east side of Main Street, including decorative lights, benches and planters.

The northeast intersection and the existing lighting controller.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Main St.**
From: Washington to Jefferson *Street Segment No.:* 12
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,800.00
				Street Segment Total=	**$4,800.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

13 300 Block of N. Main Street (from Jefferson Street to Monroe Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

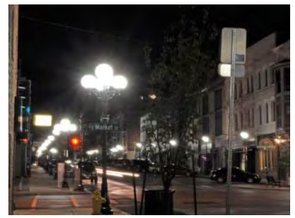
Lighting

This street was upgraded in 2009 during the Main and Monroe Streetscape Project. Five-globe fixtures were installed at the ends of the street on each side with single-globe fixtures spaced approximately 40 to 55 feet in-between. No additional decorative lighting is recommended at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. One new bike rack is proposed on the west side of the street, while two others are proposed on the east side. In addition, a new bench is proposed on the each side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.



An example of the illuminated five-globe fixture at night.

Photo of installed site amenities adjacent to a decorative pole base.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Main St.**
From: Jefferson to Monroe *Street Segment No.:* 13
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
3	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$2,400.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$6,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$12,400.00
				Street Segment Total=	**$12,400.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

400 Block of N. Main Street (from Monroe Street to Market Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street was upgraded in 2009 during the Main and Monroe Streetscape Project. Five-globe fixtures were installed at the ends of the street on each side with single-globe fixtures spaced approximately 40 to 55 feet in-between. Existing lighting controller C sits at the northeast corner of this street. This controller will be utilized for future lighting of adjacent streets. No additional decorative lighting is recommended at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. One new bike rack is proposed on the west side of the street. In addition, a new bench is proposed on the east side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing lighting controller at the northeast corner of the street.

Photo of the existing in-grade junction box in front of the lighting control pedestal. Connection into this box for lighting of the adjacent streets will be required.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Main St.**
From: Monroe to Market *Street Segment No.:* 14
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
2	LS	Bump Out- Type 1	$3,500.00	$7,000.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$9,500.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
1	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$3,000.00	
	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$7,800.00
				Street Segment Total=	**$17,300.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
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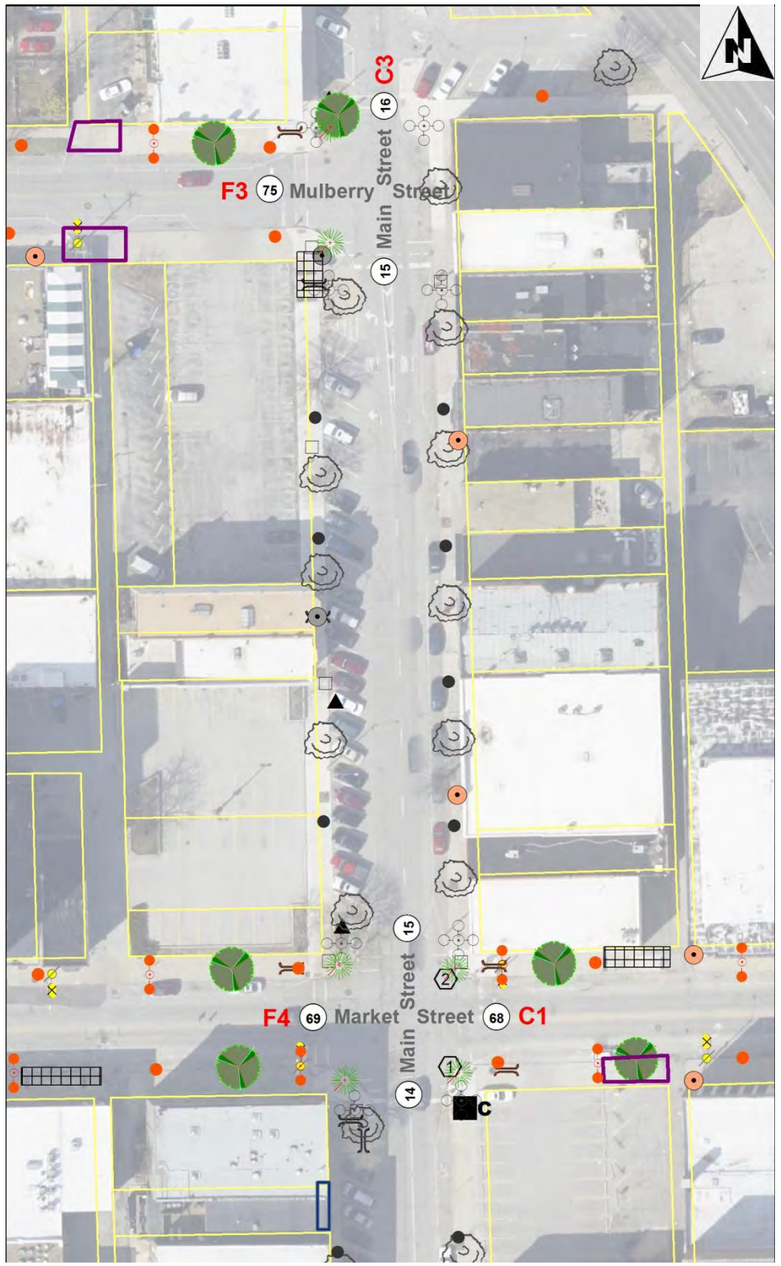
Farnsworth GROUP

15 500 Block of N. Main Street (from Market Street to Mulberry Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street was upgraded in 2009 during the Main and Monroe Streetscape Project. Five-globe fixtures were installed at the ends of the street on each side with single-globe fixtures spaced approximately 40 to 55 feet in-between. No additional decorative lighting is recommended at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. Two new bike racks are proposed on the east side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo showing the decorative light fixture and amenities at the northwest corner bump out on this street.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Main St.**
From: Market to Mulberry *Street Segment No.:* 15
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$10,500.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
3	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$3,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,600.00
				Street Segment Total=	**$15,100.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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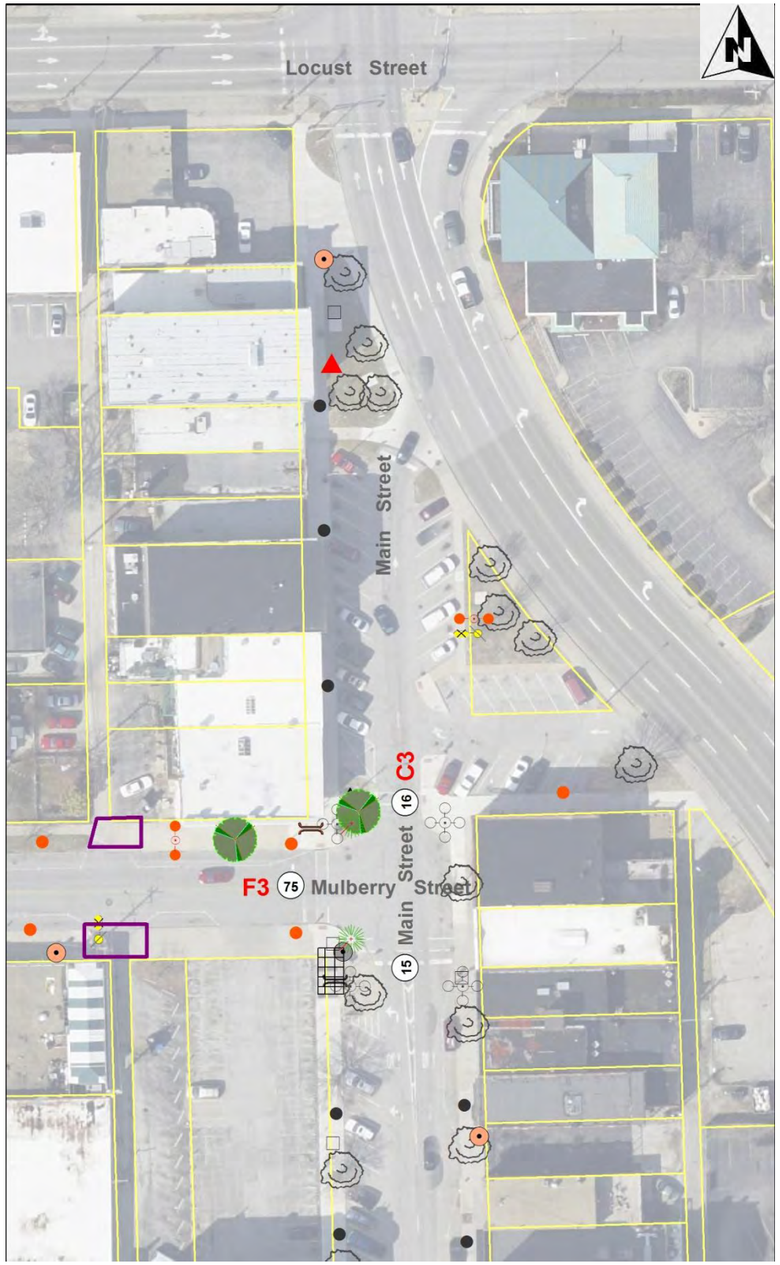
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

16 600 Block of N. Main Street (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street was upgraded by the City in 2012 as an extension of the Main and Monroe Streetscape Project. A five-globe fixture and a four-globe 22' camera pole were installed at the south end of the street, and single-globe fixtures were spaced approximately 40 to 55 feet extending to the north. An existing utility cobra head still exists in the island just east of the parking area. It is recommended to replace this utility light with a taller decorative roadway and single-globe fixture. An additional globe on the southeast sidewalk will brighten this walkway and help tie in the Downtown area with the pedestrian traffic leading to and from the Bloomington Center for the Performing Arts.

The Bloomington Police Department has requested a future camera location at the north end of this street due to the camera at the southwest corner being unable to see clearly past the existing globe fixtures. The best option would be a remote PTZ (pan-tilt-zoom) camera to the mounted just below the farthest single-globe fixture to the northwest. This camera could then be hardwired via existing conduits to the 22' four-globe / camera combination pole.

Landscape

Existing trees and site amenities should be maintained in their current locations. One new bike rack is proposed on the west side of the street. A new tree could be located near the bump out at the intersection with Mulberry Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

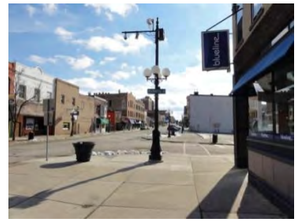


Photo showing the existing combination four-globe and camera pole at the southwest corner.

The southeast corner showing the decorative five-globe fixture and the sidewalk extending to the east towards the BCPA. This sidewalk is cast in a shadow due to the five-globe fixture being mounted around the corner of the building.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Main St.**
From: Mulberry to Locust *Street Segment No.:* 16
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
50	SY	Class D Patch, Type IV [5]	$200.00	$10,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$17,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
160	LF	PVC Conduit & Wire	$17.00	$2,720.00	
1	EA	13' Pole Concrete Base [4]	$1,000.00	$1,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
0	EA	Utility Cost	$5,000.00	$0.00	
2	EA	Ground Rod	$60.00	$120.00	
2	EA	In-Grade Junction Box	$600.00	$1,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
1	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$2,875.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
1	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$1,500.00	
2	EA	Light Pole Installation and Connection	$1,000.00	$2,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$19,715.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,000.00
				Street Segment Total=	**$40,515.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

17 100 Block of N. Center Street (from Front Street to Washington Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

The one-way Center Street from Front Street to Washington Street is key in connecting the two higher-traffic routes together. A taller decorative roadway and single-globe fixture is recommended for the northwest corner of this street. The existing five-globe fixture on the northeast corner is recommended to be moved elsewhere and replaced with a single-globe fixture. Additional single globes are installed every 45-60 feet, which is typical spacing in the Downtown core area. Two more dedicated roadway lights provide increased visibility to drivers.

The Bloomington Police Department has requested that the Washington Street and Center Street intersection be considered for a future camera location. A 22' four-globe camera pole should be mounted at the northwest corner of this street.

Civil

On the east side of the street, replace driveway at alley and adjacent sidewalk to the north.

Landscape

Existing trees and site amenities should be maintained in their current locations. Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A bike rack is proposed on the west side of the street, while a litter bin is recommended for the southeast corner of Center Street and Washington Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing decorative five-globe fixture at the northeast corner.

Center Street between Washington Street and Front Street provides a one-way connection route between these two high-traffic streets.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Front to Washington *Street Segment No.:* 17
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
320	SF	Sidewalk Removal & Replacement	$12.00	$3,840.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
200	SY	Class D Patch, Type IV [5]	$200.00	$40,000.00	
100	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$6,000.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
4	LS	Bump Out- Type 2	$8,000.00	$32,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$89,640.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
450	LF	PVC Conduit & Wire	$17.00	$7,650.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
1	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$7,475.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
10	EA	Light Pole Installation and Connection	$1,000.00	$10,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$72,315.00
Landscaping					
5	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$7,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$14,500.00
				Street Segment Total=	**$176,455.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
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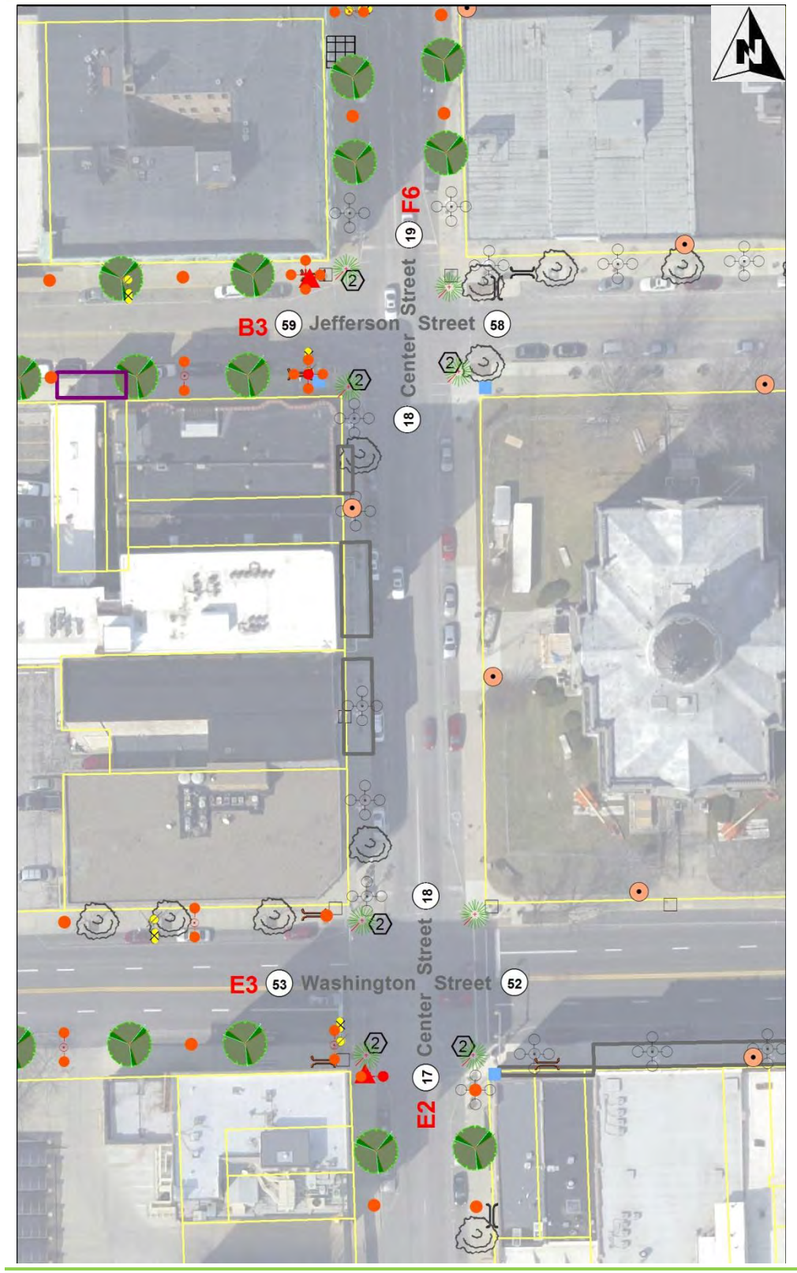
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

18 200 Block of N. Center Street (from Washington Street to Jefferson Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

The 200 block of North Center Street is one of four streets surrounding the Museum Square that was updated as a part of the 2003 streetscape improvements project. Five five-globe fixtures line the west side of Center Street. No additional decorative lighting is recommended at this time.

Landscape

Existing trees and site amenities should be maintained in their current locations. Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A bike rack is proposed on each side of the street, while a litter bin is recommended for the southeast corner of Center Street and Washington Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Washington to Jefferson *Street Segment No.:* 18
Street Side: East/West

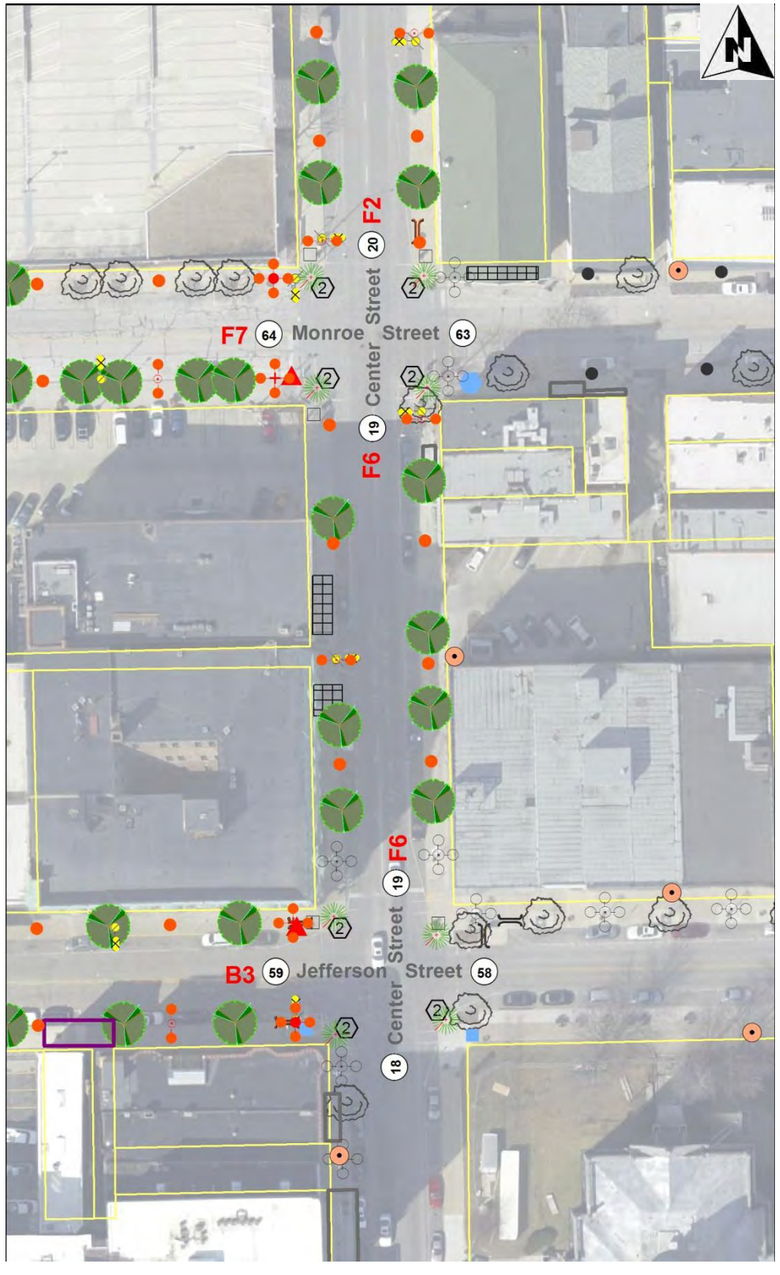
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
3	LS	Bump Out- Type 2	$8,000.00	$24,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$26,500.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$5,600.00
				Street Segment Total=	**$32,100.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

300 Block of N. Center Street (from Jefferson Street to Monroe Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion is a continuation of the southbound Center Street gateway into Downtown. A decorative overhead roadway fixture at the north intersection will help illuminate the Monroe Street and Center Street intersection and help mitigate the glare from the adjacent five-globe fixtures. An additional roadway fixture at mid-block will help transition the lighting atmosphere back to that of the five-globe fixtures surrounding the Museum Square. Multiple Ameren transformer vaults will need to be avoided on the west side of the street.

Installing a conduit connection into the existing in-grade junction boxes installed during the 2003 project at the south end of the street could be beneficial for future flexibility in routing City electrical, security or fiber optic cabling. If connected, an underground network of conduits would exist from all streets served by the proposed lighting controller F on Market Street and Center Street adjacent to the parking garage, to all streets served by the existing lighting controller B around the Museum Square.

Landscape

Existing site amenities should be maintained in their current locations. Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A bike rack is proposed on the east side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the sidewalk and the existing utility light pole along the west side of Center Street. Vaults exist on both the north and south side of this pole.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Jefferson to Monroe *Street Segment No.:* 19
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
3	LS	Bump Out- Type 2	$8,000.00	$24,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$59,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
420	LF	PVC Conduit & Wire	$17.00	$7,140.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
1	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$1,500.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$61,770.00
Landscaping					
7	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$10,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$18,300.00
				Street Segment Total=	**$139,870.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

20 400 Block of N. Center Street (from Monroe Street to Market Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Center Street serves as a gateway into the Downtown area. Higher pedestrian and vehicle traffic exists in these areas surrounding the parking structure. Four taller decorative roadway down lights spaced evenly along this street would provide uniform light distribution. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape. Single-globe pedestrian fixtures are spaced evenly between the taller poles.

Controller F would be installed in the northwest corner of this street adjacent to the parking structure but could also be installed in a corner bump out.

The Bloomington Police Department has requested that the Market Street and Center Street intersection be considered for a future camera location. It is recommended that the northeast decorative roadway fixture be equipped with mounting arms for any required security equipment.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A bike rack is proposed on the west side of the street, while a litter bin is recommended for the southwest corner of the Market Street intersection. Benches are also recommended for the southeast corner of the Market Street intersection and the northeast corner at Monroe Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the east side of Center Street viewing to the north.

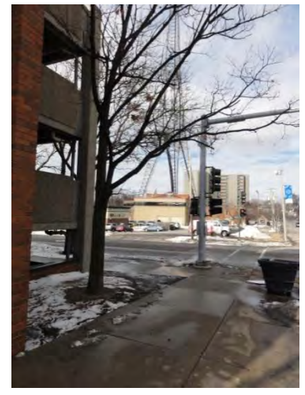


Photo of the northwest corner of Center Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Monroe to Market *Street Segment No.:* 20
Street Side: East/West

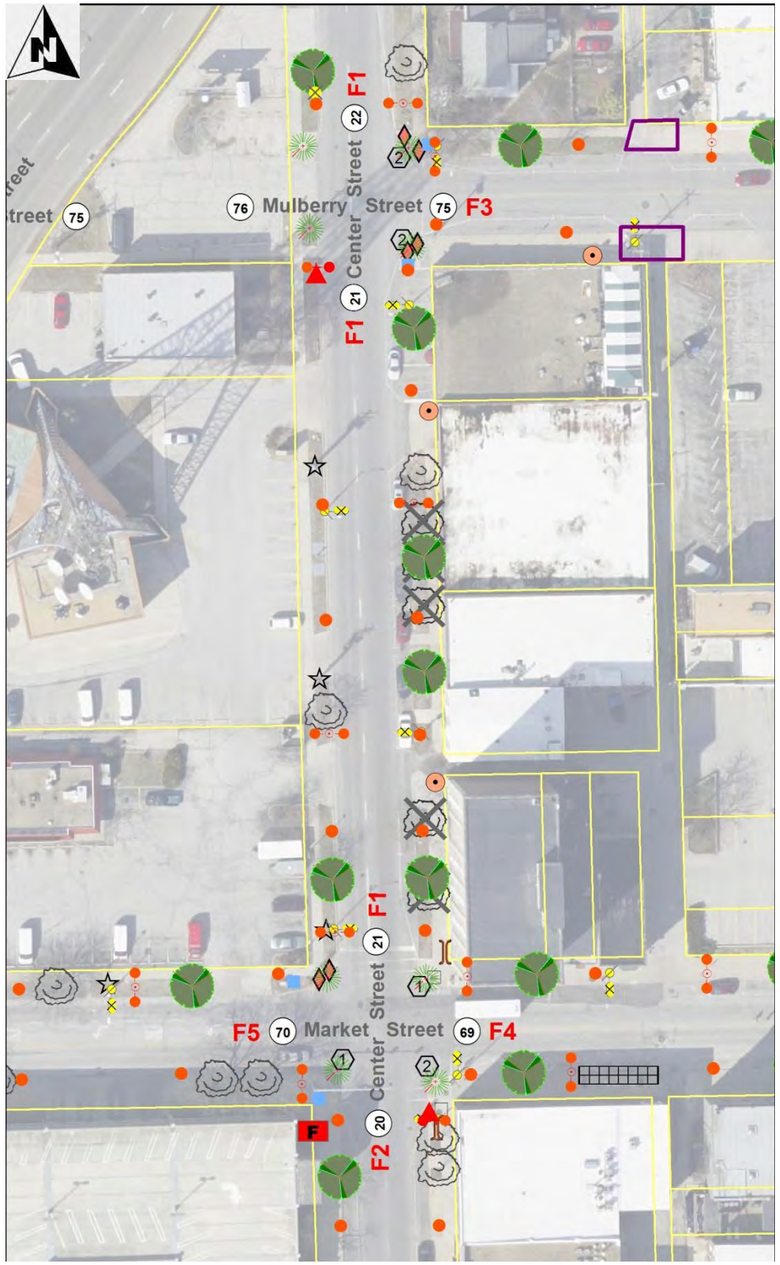
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
250	SY	Class D Patch, Type IV [5]	$200.00	$50,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
3	LS	Bump Out- Type 2	$8,000.00	$24,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$85,300.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
670	LF	PVC Conduit & Wire	$17.00	$11,390.00	
10	EA	13' Pole Concrete Base [4]	$1,000.00	$10,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
15	EA	Ground Rod	$60.00	$900.00	
15	EA	In-Grade Junction Box	$600.00	$9,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
10	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$28,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
1	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$9,200.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
14	EA	Light Pole Installation and Connection	$1,000.00	$14,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$126,540.00
Landscaping					
11	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$16,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$6,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
1	EA	Tree grate removal	$500.00	$500.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$33,800.00
				Street Segment Total=	**$245,640.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

500 Block of N. Center Street (from Market Street to Mulberry Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Center Street serves as a gateway into the Downtown area. Higher pedestrian and vehicle traffic exists in these areas surrounding the parking structure and neighboring businesses. Four roadway down lights spaced evenly along this street would provide uniform light distribution. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Ameren customer lighting exists for the business lots on the west side of Center Street. Two of the customer lights will remain on Ameren utility poles. However, it is required that the utility light pole at the southwest corner be removed to utilize the location for a decorative pole. One solution is to mount an additional LED fixture to the taller decorative pole to be installed in its place, but this would mean the City would be paying for site lighting of this property. Another solution would be for the property owner to refurbish their existing site lighting poles and supply their own site lighting solution. This would allow the City install the decorative lighting on this street. Two more instances of this occur on the south side of this property on Market Street.

The Bloomington Police Department has requested that the Center Street and Mulberry Street intersection be considered for a future camera location. It is recommended that the northwest decorative roadway fixture be equipped with mounting arms for any required security equipment.

Civil

Replace curb ramp on the west side of the street at Market Street and on the east side at Mulberry Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Two bike racks are proposed on the east side of the street, while a litter bin is recommended for the northwest corner of Center Street and Market Street. A bench is also recommended for the northeast corner at Market Street.

Photo of the existing utility street light with attached customer site lighting fixture.

Photo of Center Street, which serves as a gateway entrance into the Downtown area and Market Street parking structure.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Market to Mulberry *Street Segment No.:* 21
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
260	SY	Class D Patch, Type IV [5]	$200.00	$52,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$81,700.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
690	LF	PVC Conduit & Wire	$17.00	$11,730.00	
9	EA	13' Pole Concrete Base [4]	$1,000.00	$9,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
13	EA	Ground Rod	$60.00	$780.00	
13	EA	In-Grade Junction Box	$600.00	$7,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
9	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$25,875.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
13	EA	Light Pole Installation and Connection	$1,000.00	$13,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$101,385.00
Landscaping					
1	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$1,500.00	
4	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$4,800.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
1	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$3,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
4	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$4,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$20,900.00
				Street Segment Total=	**$203,985.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
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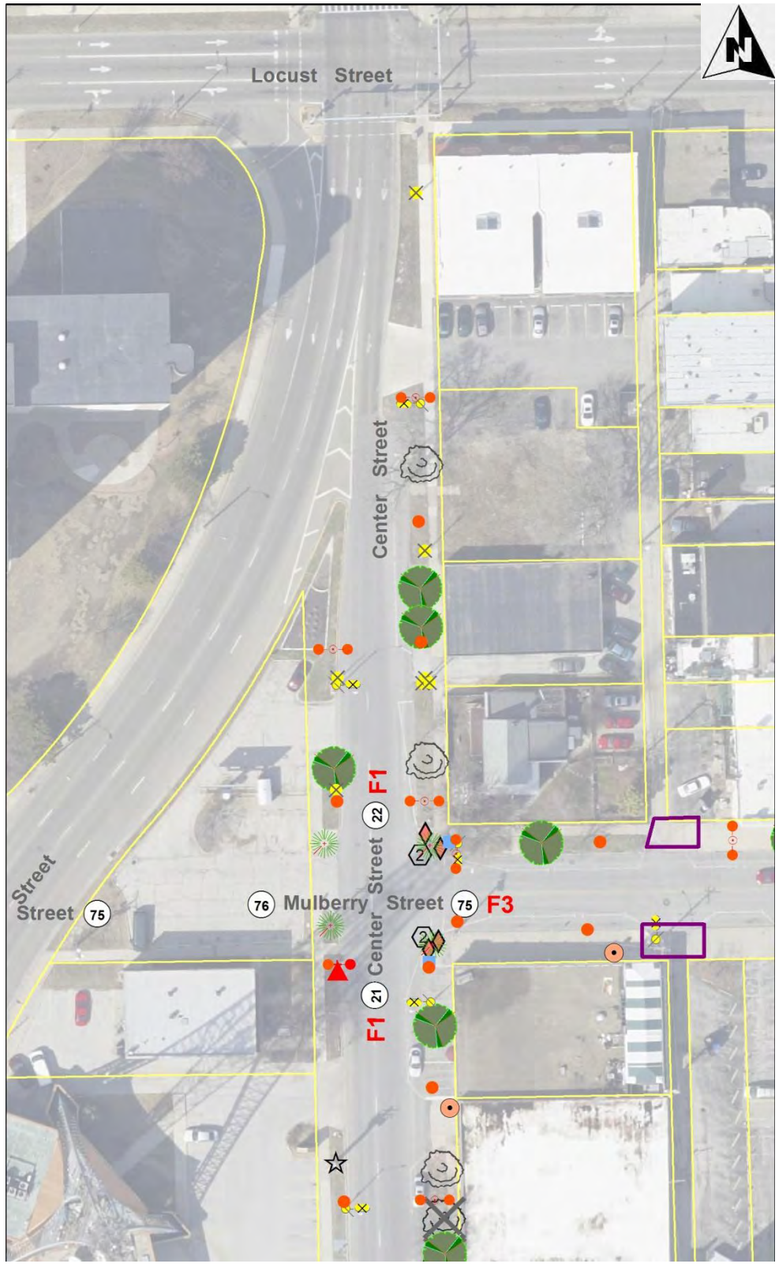
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

600 Block of N. Center Street (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Center Street serves as the main gateway entrance to the Downtown area. This half-block is illuminated with three decorative roadway fixtures, which will provide even and welcoming illumination for any vehicle traffic. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape. Higher pedestrian traffic at the Center Street and Mulberry Street intersection will be highly visible with several roadway fixtures to illuminate the area.

Several utility poles, including wooden poles used to support a communications service to the building at the northeast corner of this street, unused City sign poles, and wooden poles used to support banners should be removed to provide a cleaner and more attractive entrance into Downtown. The overhead communication line extends from a utility pole at the southeast corner of this street segment along the east side of the road to the building. It is recommended to trench this service underground to allow removal of the wooden utility poles. It is possible that the spare conduit to be installed by the City during the decorative lighting phase for this street could be used as a partial underground route for this service pending utility approval.

Civil

Replace curb ramps on east side of the street at Mulberry Street. Remove sidewalk on the east side.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing gateway entrance into Downtown with several overhead lines and wooden utility poles.

A northeast view of the overhead lighting circuit and communications line to the adjacent building.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Center St.**
From: Mulberry to Locust *Street Segment No.:* 22
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
60	SF	Pavement Removal Seeded Restoration	$20.00	$1,200.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
120	SY	Class D Patch, Type IV [5]	$200.00	$24,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$49,000.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
370	LF	PVC Conduit & Wire	$17.00	$6,290.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
6	EA	Light Pole Installation and Connection	$1,000.00	$6,000.00	
7	EA	Remove Utility Pole	$400.00	$2,800.00	
1	LS	Utility Relocation	$20,000.00	$20,000.00	$75,575.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
3	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$3,600.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
3	EA	Metal Street Banners (Tall Poles)	$1,500.00	$4,500.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$10,100.00
				Street Segment Total=	**$134,675.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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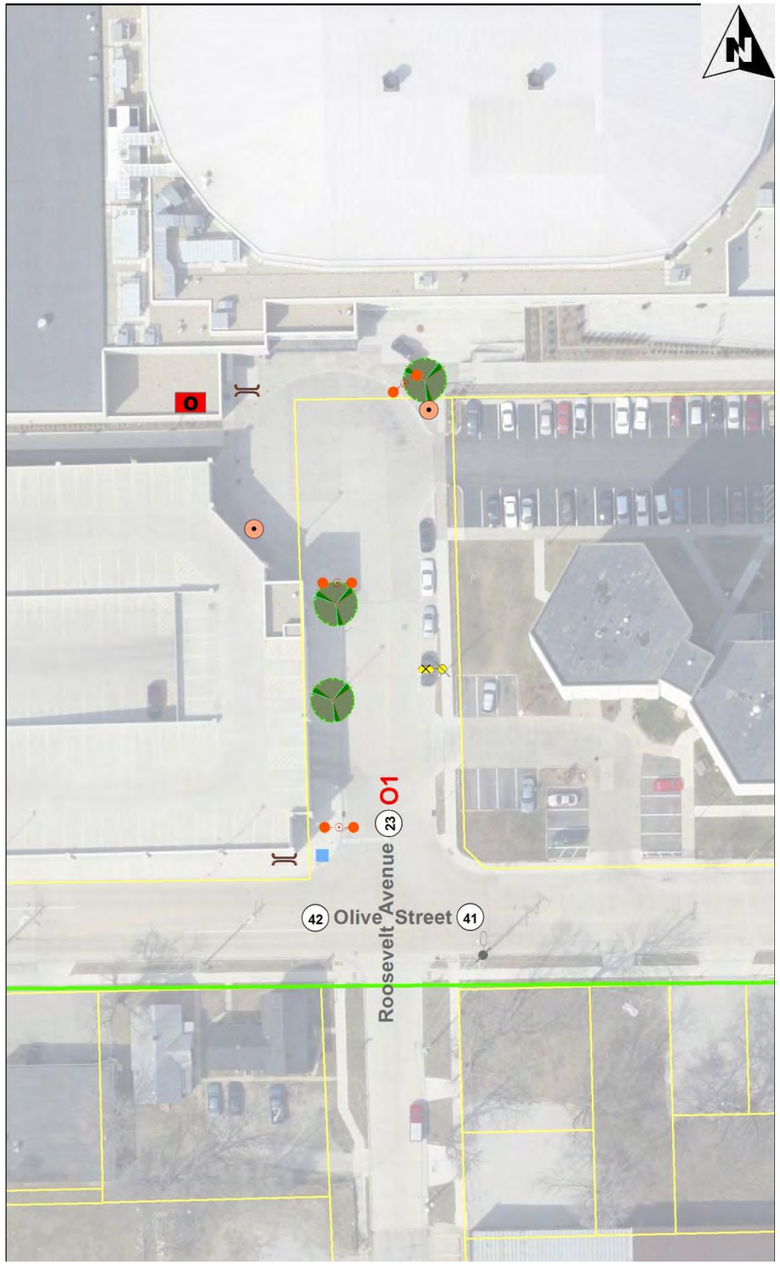
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

23 200 Block of S. Roosevelt Avenue (from Olive Street to U.S. Cellular Coliseum)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

One utility light pole is currently installed in this cul-de-sac for the Coliseum and Pepsi Ice Center. Pedestrian and facade lighting is currently installed along the exterior walls of the Coliseum. A 25- to 30-foot decorative pendant fixture and pole could be chosen for this street and the surrounding Coliseum streets. The existing utility light does not do justice in enhancing the iconic Coliseum structure, but the decorative globes would not complement the modern architecture of the building. Providing an alternate fixture for this area as opposed to that of the rest of the historic Downtown will still provide enhanced and welcoming illumination while setting the structure apart as a destination for visitors.

Building-mounted luminaires are found all around the Coliseum as well as the west side of the Pepsi Ice Center on Lee Street. These fixtures are unsealed, causing dirt and debris to build up internally and making the surrounding pedestrian areas to appear dark. These should be replaced with more illuminant, weatherproof fixtures. A combination up/down lighting similar to the existing is recommended as it enhances the modern architecture of the Coliseum.

Due to the secluded nature of this street from the City lighting controllers, the best alternative is to feed the new decorative light poles from a nearby building source such as the Coliseum, Pepsi Ice Center or the parking structure.

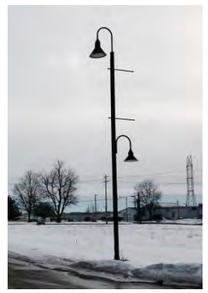
Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Two bike racks, a litter bin, and two benches are proposed in this area to better accommodate pedestrians.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the Roosevelt cul-de-sac and existing utility pole.

Sample of the existing building-mounted luminaires collecting dirt inside the unsealed fixture on the Coliseum.



Example of a possible modern roadway / pedestrian fixture for use around the Coliseum.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

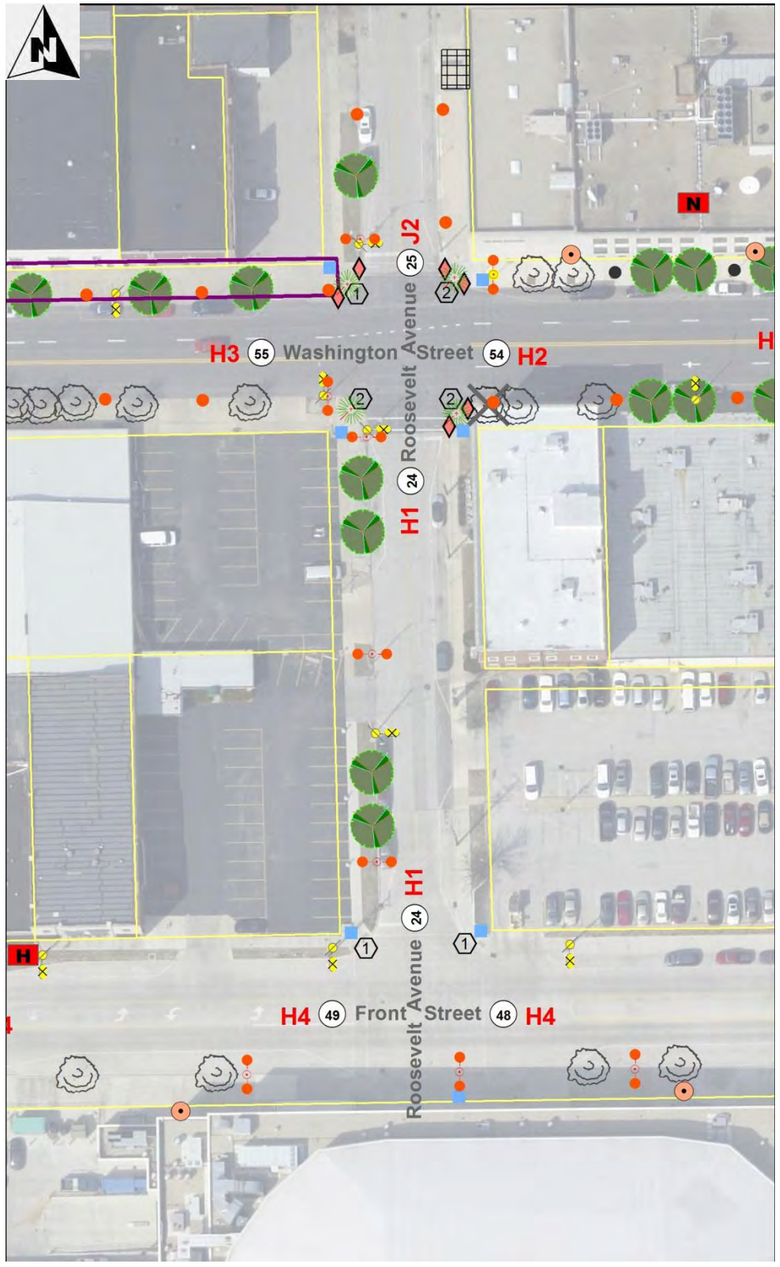
Street: **Roosevelt Ave.**
From: Olive to Coliseum *Street Segment No.:* 23
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$29,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
360	LF	PVC Conduit & Wire	$17.00	$6,120.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$41,000.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$8,300.00
				Street Segment Total=	**$79,100.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of N. Roosevelt Avenue (from Front Street to Washington Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This section of Roosevelt Avenue connects traffic from the arterial Washington Street to the Coliseum. Proper illumination is important due to heavy pedestrian and vehicle traffic during events. Overhead electric and narrow sidewalks to the east limit the use of the roadway and pedestrian fixtures to the west side of Roosevelt Avenue. Driveways and utility pole guy wires prevent a standard 45- to 60-foot spacing of the single-globe poles.

The alternate pendant poles to be used around the Coliseum as described on Street 23 also could be used on this street (as long as a pedestrian fixture is included) in order to set the Coliseum and its adjacent streets apart from the rest of the historic Downtown.

Civil

Replace curb ramps on the east side at Washington Street.

Landscape

Opportunities exist for adding parkway trees on the west side of the street to better define the street corridor. Overhead utility lines on the east side prevent parkway trees. Two litter bins are proposed at Roosevelt Avenue and Front Street, and two litter bins are suggested at Washington Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Roosevelt Street, looking south to the Coliseum. Overhead triplex cable is seen on the east side of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Roosevelt Ave.**
From: Front to Washington *Street Segment No.:* 24
Street Side: East/West

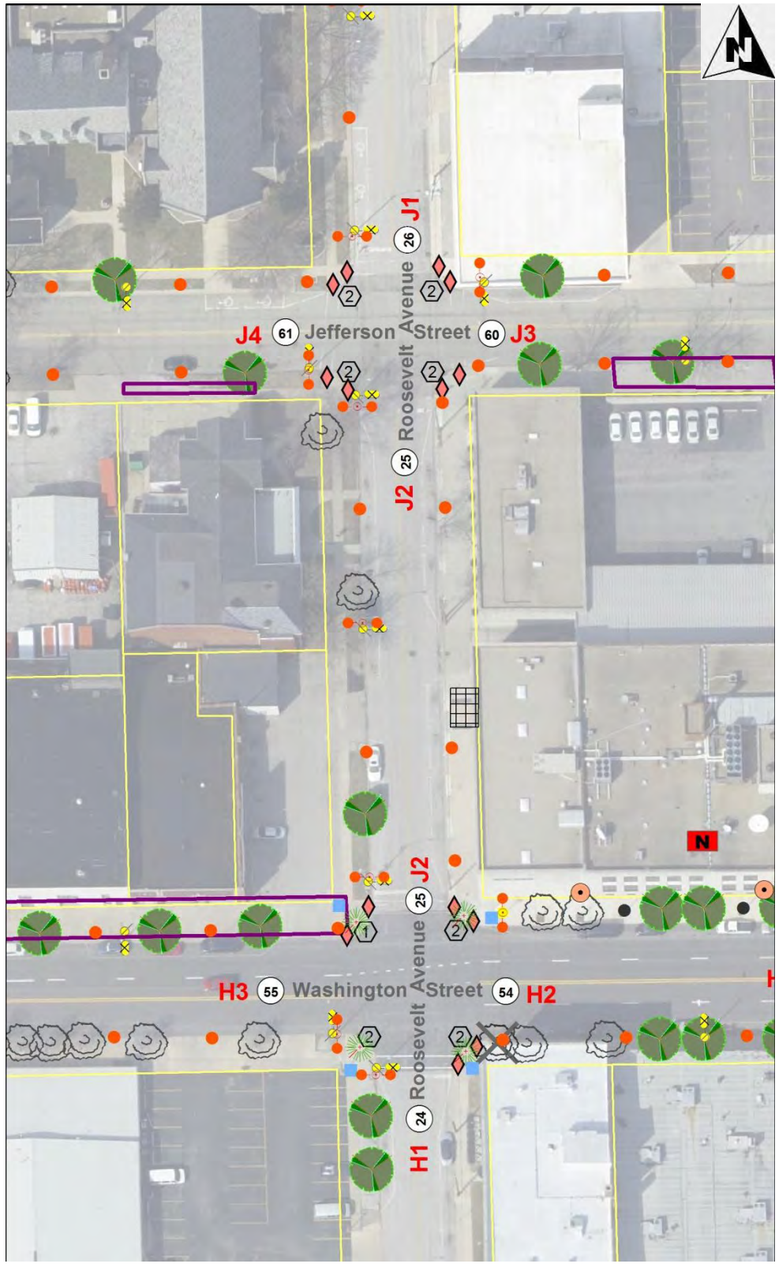
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
80	SY	Class D Patch, Type IV [5]	$200.00	$16,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
2	LS	Bump Out- Type 1	$3,500.00	$7,000.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$49,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
240	LF	PVC Conduit & Wire	$17.00	$4,080.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$33,960.00
Landscaping					
2	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$3,000.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
4	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$8,800.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$16,200.00
				Street Segment Total=	**$99,360.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

25 200 Block of N. Roosevelt Avenue (from Washington Street to Jefferson Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Roosevelt Avenue is adjacent to The Pantagraph building and connects the arterial Washington Street to First Christian Church one block north. A driveway entrance mid-block to the east prevents a continuous opposite pole pattern. An Ameren utility vault will need to be avoided approximately mid-block on the east sidewalk.

Civil

Replace curb ramps on both sides of the street at both ends of the block.

Landscape

Opportunities exist for adding a parkway tree on the east side of the street and preserving an existing tree. Two litter bins are proposed for the intersection of Roosevelt Avenue and Washington Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

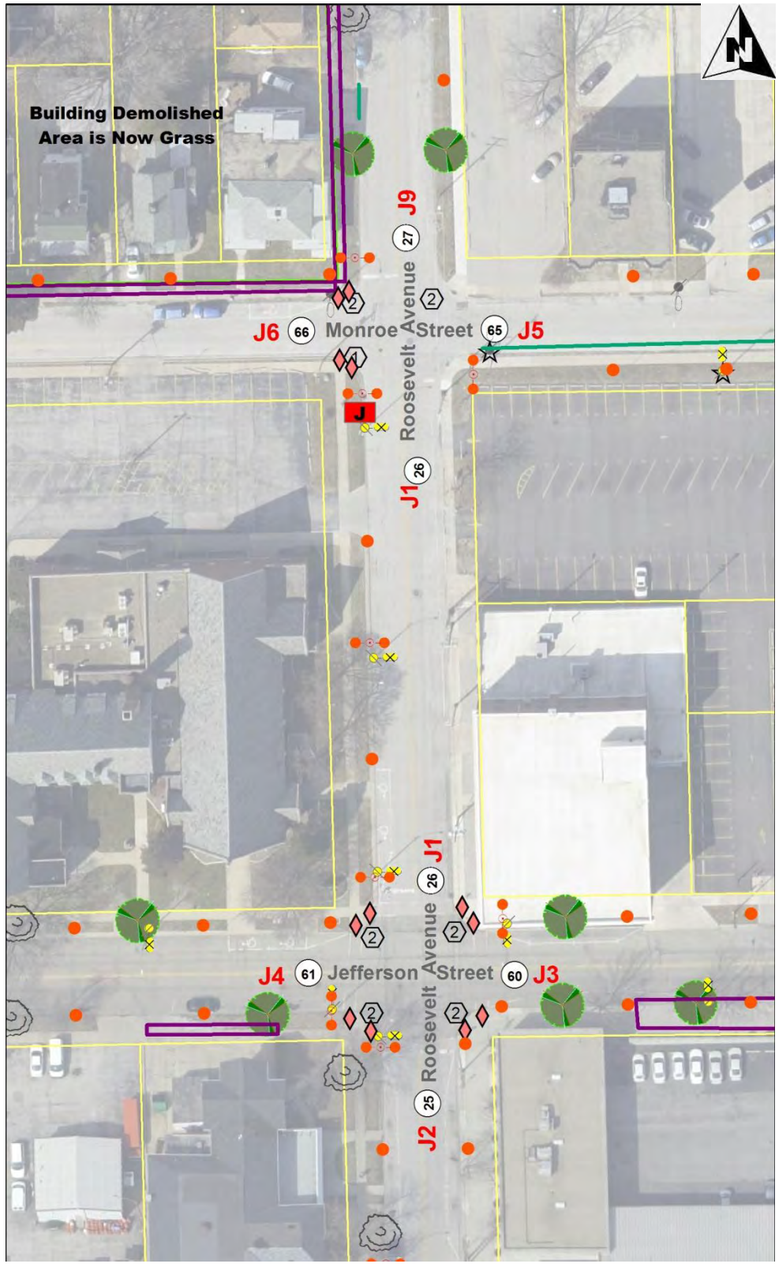
Street: **Roosevelt Ave.**
From: Washington to Jefferson *Street Segment No.:* 25
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
180	SY	Class D Patch, Type IV [5]	$200.00	$36,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
8	EA	Handicap Ramps	$1,200.00	$9,600.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
3	LS	Bump Out- Type 2	$8,000.00	$24,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$80,900.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
500	LF	PVC Conduit & Wire	$17.00	$8,500.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
9	EA	Light Pole Installation and Connection	$1,000.00	$9,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$71,590.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,200.00
				Street Segment Total=	**$155,690.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

26 300 Block of N. Roosevelt Avenue (from Jefferson Street to Monroe Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Roosevelt Avenue from Jefferson to Monroe Streets is adjacent to First Christian Church. Overhead utilities, narrow sidewalks and extensive driveways on the east side of the street limit the use of decorative light poles to the west side. Controller J is recommended to be installed on the northwest corner of this street in the right of way.

Civil

Replace curb ramps on both sides of the street at Jefferson Street and on the west side at Monroe Street.

Landscape

Existing parkway trees should be preserved.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Roosevelt Ave.**
From: Jefferson to Monroe *Street Segment No.:* 26
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
6	EA	Handicap Ramps	$1,200.00	$7,200.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$56,500.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
240	LF	PVC Conduit & Wire	$17.00	$4,080.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$62,690.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$119,190.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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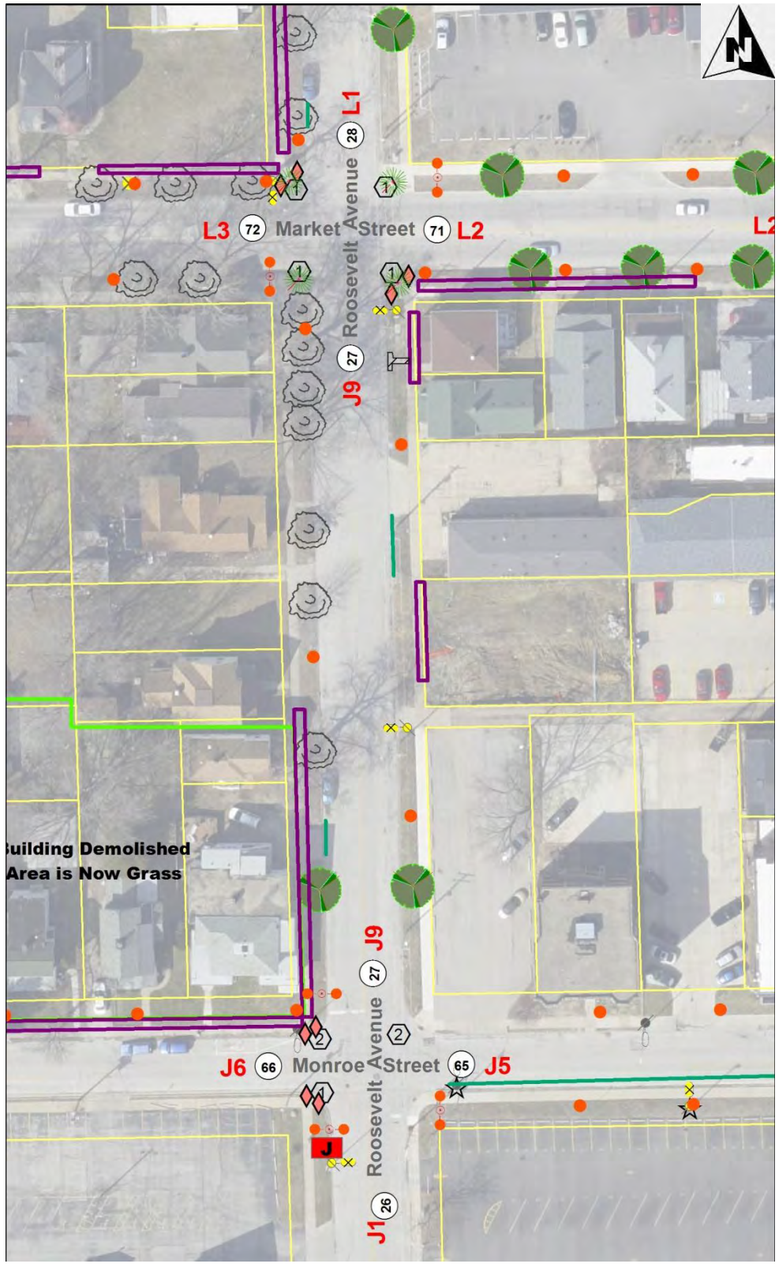
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

400 Block of N. Roosevelt Avenue (from Monroe Street to Market Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Roosevelt Avenue from Monroe Street to Market Street transitions into residential properties. The spacing of the single-globe poles is increased and moved into a staggered pattern.

Civil

Replace partial curb and sidewalk on east and west sides of the street. Replace curb ramps on the west side at Monroe Street and on the east side at Market Street. Remove partial sidewalk on east side.

Landscape

Opportunities exist for adding parkway trees on both sides of the street, and preserving existing parkway trees to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Roosevelt Street, looking northeast.

Consideration for tree removal may be needed at the northwest corner of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

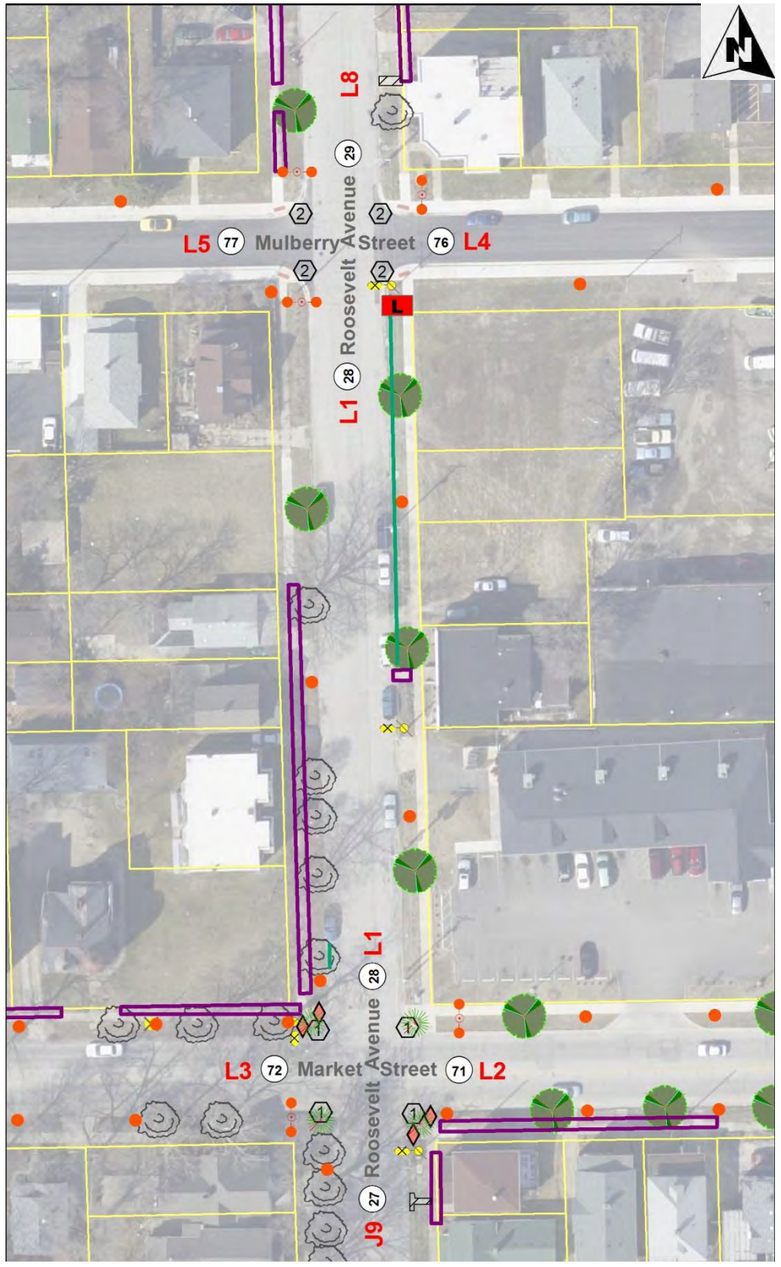
Street: **Roosevelt Ave.**
From: Monroe to Market *Street Segment No.:* 27
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1100	SF	Sidewalk Removal & Replacement	$12.00	$13,200.00	
50	SF	Pavement Removal Seeded Restoration	$20.00	$1,000.00	
30	LF	Curb Removal & Replacement	$40.00	$1,200.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
210	SY	Class D Patch, Type IV [5]	$200.00	$42,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
4	EA	Handicap Ramps	$1,200.00	$4,800.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
2	LS	Bump Out- Type 1	$3,500.00	$7,000.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$93,000.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
630	LF	PVC Conduit & Wire	$17.00	$10,710.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$42,810.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,400.00
				Street Segment Total=	**$140,210.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

500 Block of N. Roosevelt Avenue (from Market Street to Mulberry Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

A staggered pattern of single-globe fixtures spaced 60 to 80 feet apart is recommended for this residential area. Lighting controller L is recommended to be installed at the southeast corner to serve the lighting in the surrounding areas. There are overhead utilities along the east side of the street, and all utility clearance requirements will need to be satisfied. The wider grass right-of-way could be utilized between the curb and sidewalk to offset the 13-foot decorative poles from the overhead lines. Trenching the communication utility lines underground also may prove to be an effective solution to obtaining any required clearances.

Civil

Replace partial curb and sidewalk on east and west sides of the street. Replace curb ramps on the west side at Market Street. Remove partial sidewalk on the east side.

Landscape

Opportunities exist for adding parkway trees on both sides of the street, and preserving existing parkway trees to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Roosevelt Avenue, looking north, with overhead utilities to be cautious around on the east side of the road.

Adjustments to landscaping and an overhead communications service may be required to permit the roadway fixture at the northwest corner of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Roosevelt Ave.**
From: Market to Mulberry *Street Segment No.:* 28
Street Side: East/West

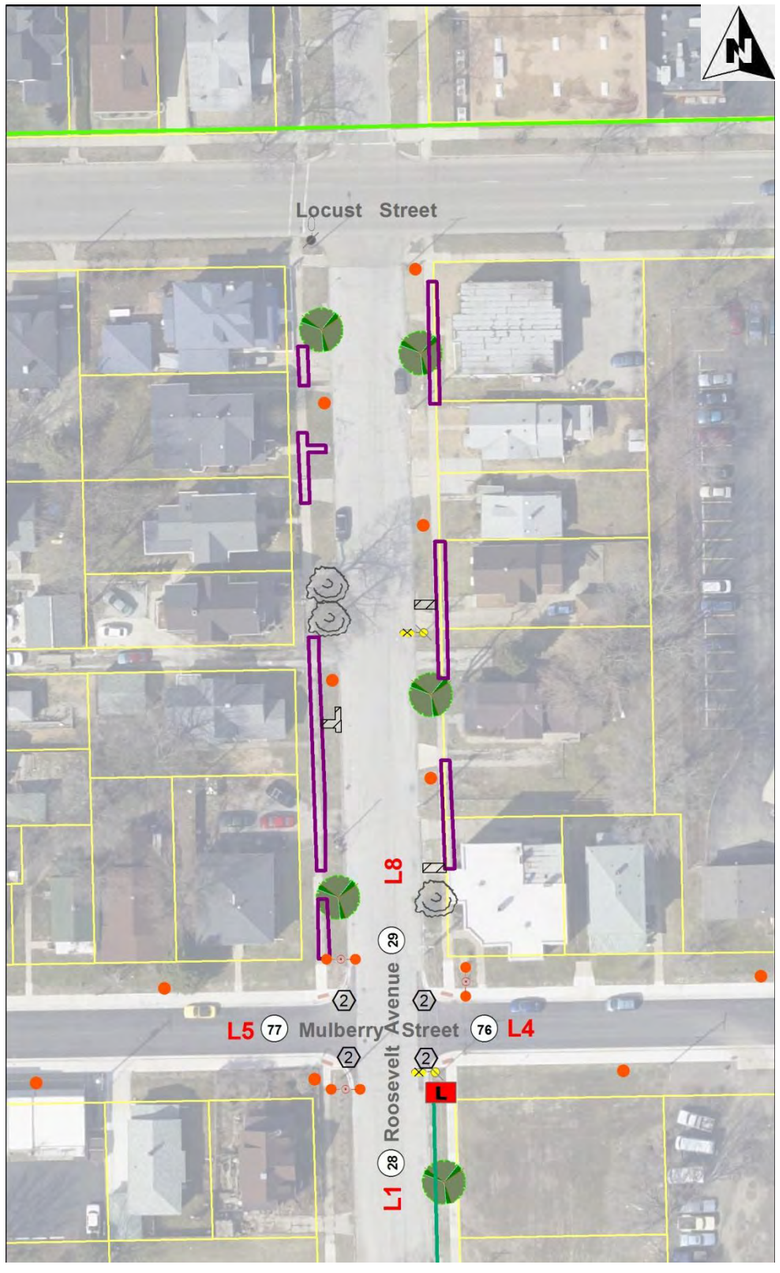
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1050	SF	Sidewalk Removal & Replacement	$12.00	$12,600.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
180	LF	Curb Removal & Replacement	$40.00	$7,200.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
230	SY	Class D Patch, Type IV [5]	$200.00	$46,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
2	LS	Bump Out- Type 1	$3,500.00	$7,000.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$99,000.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
625	LF	PVC Conduit & Wire	$17.00	$10,625.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,385.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
4	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$4,800.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$6,800.00
				Street Segment Total=	**$166,185.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

600 Block of N. Roosevelt Avenue (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Roosevelt Avenue is purely residential, and single-globe fixtures are recommended at a spacing of 60 to 80 feet. A decorative roadway luminaire is shown at the south intersection. The north intersection is with the well-lit Illinois Route 9 (Locust Street). Overhead utilities continue along the east side of the street, and the wider median would allow a deeper 2- to 3-foot setback of the poles, creating an offset from the overhead utility lines.

Civil

Replace partial sidewalks on both sides of the street. Remove partial sidewalks on both sides.

Landscape

Opportunities exist for adding parkway trees on both sides of the street, and preserving existing parkway trees to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

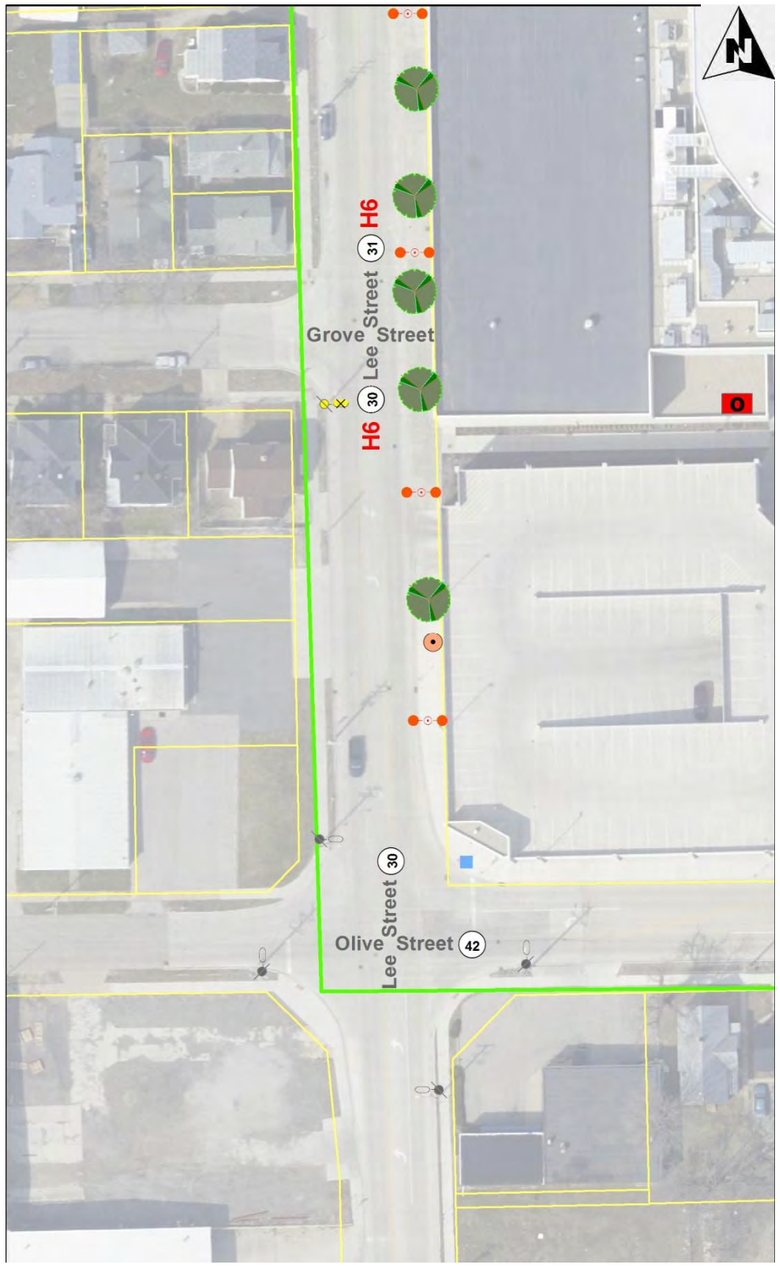
Street: **Roosevelt Ave.**
From: Mulberry to Locust *Street Segment No.:* 29
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1700	SF	Sidewalk Removal & Replacement	$12.00	$20,400.00	
150	SF	Pavement Removal Seeded Restoration	$20.00	$3,000.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
200	SY	Class D Patch, Type IV [5]	$200.00	$40,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
2	LS	Bump Out- Type 2	$8,000.00	$16,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$87,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
660	LF	PVC Conduit & Wire	$17.00	$11,220.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
0	EA	Utility Cost	$5,000.00	$0.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
6	EA	Light Pole Installation and Connection	$1,000.00	$6,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$48,855.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
4	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$4,800.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,800.00
				Street Segment Total=	**$140,855.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

30 200 Block of S. Lee Street (from Olive Street to Grove Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Lee Street a mix of residential and business properties, including the parking structure for the Pepsi Ice Center. Pedestrian and facade lighting is currently installed along the exterior walls of the Pepsi Ice Center but not the parking structure. Two 25- to 30-foot decorative pendant fixtures and poles could be installed along the east sidewalk for illuminating the street and sidewalk. The alternate pendant fixtures to be used around the Coliseum as described on Street 23 are also recommended to be used along this street to set the Coliseum and its adjacent streets apart from the rest of the historic Downtown. This roadway pendant would continue the full length of the Pepsi Ice Center on Lee Street. Providing an alternate fixture for this area as opposed to that of the rest of the historic Downtown still will provide enhanced and welcoming illumination while also setting the structure apart as a destination for visitors.

Landscape

Opportunities exist for adding parkway trees on the east side of the street to better define the street corridor and to enhance the pedestrian experience. A bike rack is also recommended for the east side of the street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

This view shows the widened sidewalk along the east side of the street adjacent to the parking structure.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Olive to Grove *Street Segment No.:* 30
Street Side: East/West

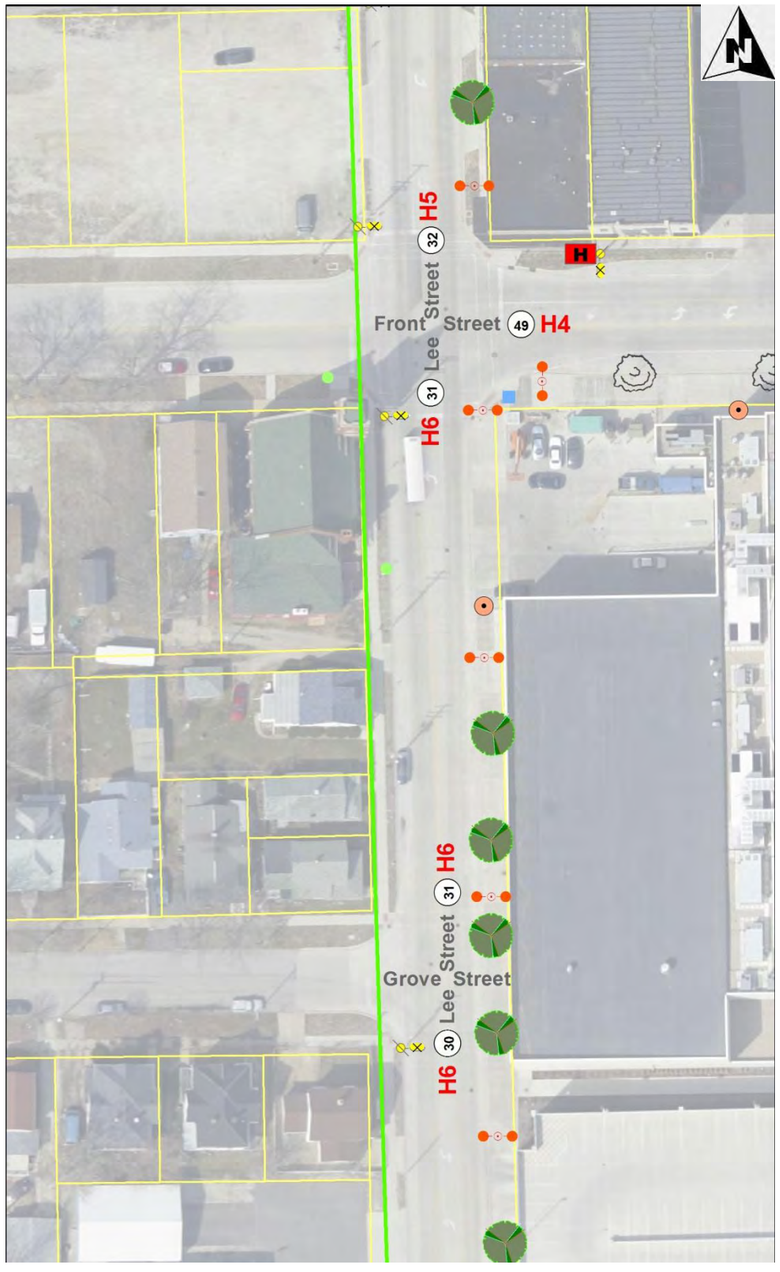
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
70	SY	Class D Patch, Type IV [5]	$200.00	$14,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$21,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
220	LF	PVC Conduit & Wire	$17.00	$3,740.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
2	EA	Ground Rod	$60.00	$120.00	
2	EA	In-Grade Junction Box	$600.00	$1,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
2	EA	Light Pole Installation and Connection	$1,000.00	$2,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$23,660.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$7,500.00
				Street Segment Total=	**$52,960.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

31 100 Block of S. Lee Street (from Grove Street to Front Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Lee Street a mix of residential and business properties, including the rear of the Pepsi Ice Center. Pedestrian and facade lighting is currently installed along the exterior walls of the Pepsi Ice Center. The decorative roadway pendants would continue along this street spaced approximately 100 to 120 feet. Providing an alternate fixture for this area as described on Street 23 would still provide enhanced and welcoming illumination but will also help set the structure apart as a destination for visitors. It is recommended to space the street lighting poles at the center point between the building-mounted luminaires as best as possible. Light intensity from these decorative roadway fixtures would need to be controlled to maintain a reasonable illumination for the residential properties across the street.

Building-mounted luminaires are found all around the Coliseum as well as the along the west side of the Pepsi Ice Center on Lee Street. These fixtures are unsealed, causing dirt and debris to build up internally and settle on the lower lens and making the surrounding pedestrian areas to appear dark. These should be replaced with more illuminant, weatherproof fixtures. A combination up/down lighting similar to the existing is recommended, as it enhances the modern architecture of the Coliseum.

These fixtures would be fed from the new controller H just around the corner on Front Street.

Landscape

Opportunities exist for adding parkway trees on the east side of the street to better define the street corridor and to enhance the pedestrian experience. A bike rack is also recommended for the east side of the street, along with a litter bin at the southeast corner of Front Street and Lee Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

The east sidewalk stands bare along the rear of the Pepsi Ice Center.

An existing unsealed building mounted luminaire almost completely blocked internally by dirt and debris.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Grove to Front *Street Segment No.:* 31
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$29,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
250	LF	PVC Conduit & Wire	$17.00	$4,250.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$34,130.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$7,500.00
				Street Segment Total=	**$71,430.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
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Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of N. Lee Street (from Front Street to Washington Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Lee Street brings the heavier traffic from the arterial Washington Street to the Coliseum and parking structure for events. Lee Street is also a collector street itself and brings traffic to the additional event parking lots located on this block. Three decorative roadway and pedestrian fixture combinations are suggested for the east side of the street due to narrow sidewalks and overhead utilities occupying the west side.

The alternate pendant poles to be used around the Coliseum as described on Street 23 could also be used on this street (as long as a pedestrian fixture is included) in order to set the Coliseum and its adjacent streets apart from the rest of the historic Downtown.

Landscape

Opportunities exist for adding parkway trees on the east side of the street to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Northeast corner of Lee Street, looking south.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Front to Washington *Street Segment No.:* 32
Street Side: East/West

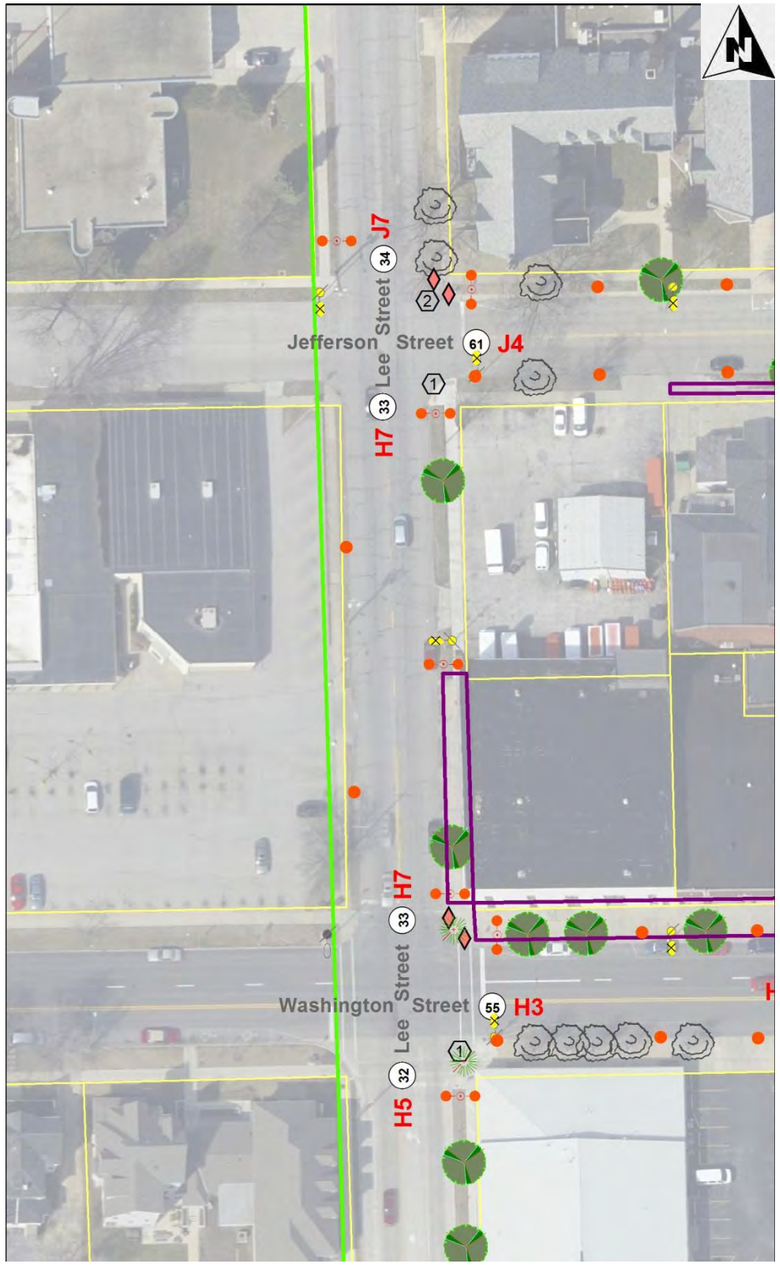
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$33,300.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
270	LF	PVC Conduit & Wire	$17.00	$4,590.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$34,470.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
3	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$3,600.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,600.00
				Street Segment Total=	**$72,370.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of N. Lee Street (from Washington Street to Jefferson Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead utilities along the west side of this street limit the use of the decorative roadway fixtures to the east side. A staggered spacing would be ideal for pedestrian illumination. However, a narrow right-of-way between the sidewalk and curb along the west side of Lee Street may require the two pedestrian fixtures to move to the east side. Three roadway luminaires would provide uniform pavement illumination for this street, which connects both First Christian Church and the Fire Headquarters Station to the arterial road of Washington Street.

Civil

Replace the partial sidewalk on the east side of the street. Replace curb ramps on the east side at Washington Street.

Landscape

Opportunities exist for adding parkway trees on the east side of the street to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the west side of Lee Street with overhead utilities and a narrow right-of-way.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Washington to Jefferson *Street Segment No.:* 33
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1300	SF	Sidewalk Removal & Replacement	$12.00	$15,600.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
180	SY	Class D Patch, Type IV [5]	$200.00	$36,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$61,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
460	LF	PVC Conduit & Wire	$17.00	$7,820.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$48,770.00
Landscaping					
1	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$1,500.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,700.00
				Street Segment Total=	**$114,270.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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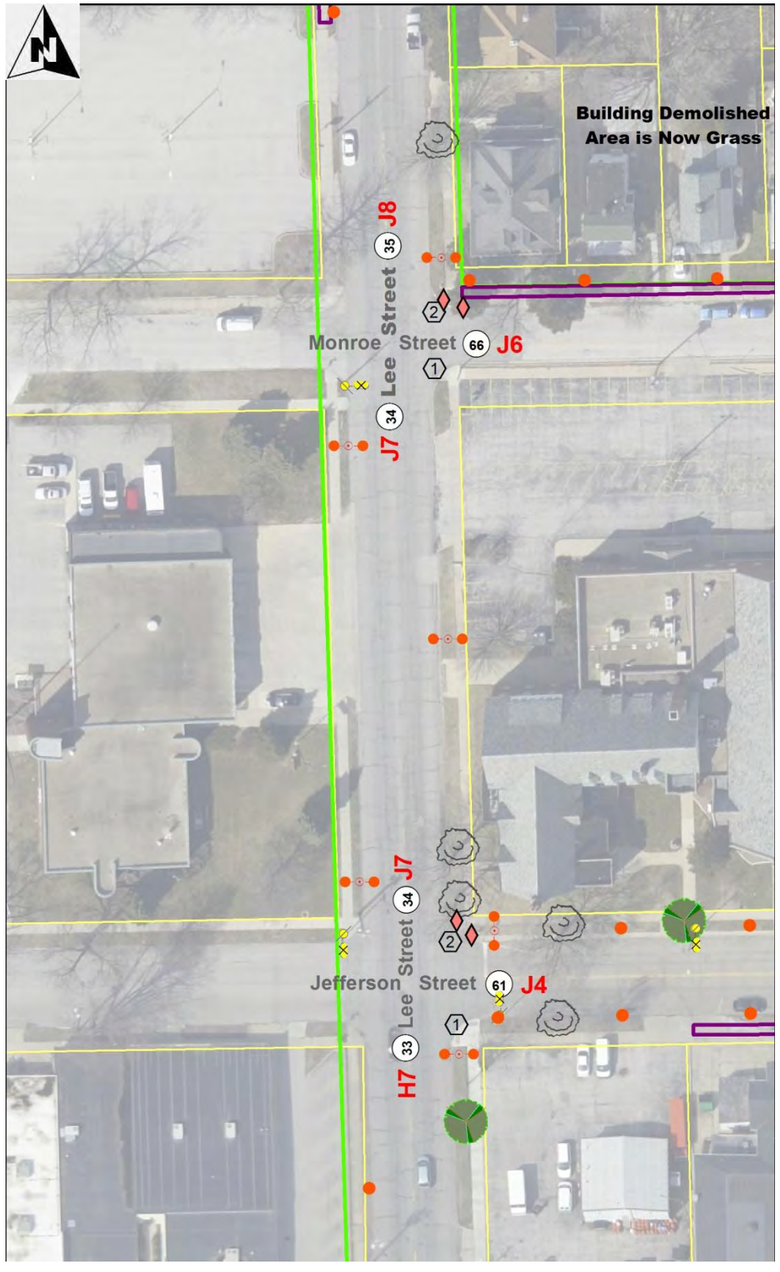
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

300 Block of N. Lee Street (from Jefferson Street to Monroe Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

The large driveway for the Fire Headquarters Station and two driveways for First Christian Church limit the spacing of the pedestrian fixtures to only three for this street. It is visible at both the northwest and southwest corners of this street that the overhead utilities are trenched underground for the fire station driveway. While a staggered space is recommended for the decorative roadway and pedestrian fixtures, the placement of these underground electric and communication lines may conflict with the pole bases of the 25- to 30-foot poles. Therefore, an alternative option would be to install all three fixtures along the east side of the street.

Civil

Replace curb ramps on the east side at Jefferson Street.

Landscape

Existing parkway trees on the east side of the road should be preserved.

Photo of the east side of Lee Street, looking south adjacent to First Christian Church.

The southwest corner of the street shows utility lines going underground to provide a clear overhead for the Fire Headquarters Station.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Jefferson to Monroe *Street Segment No.:* 34
Street Side: East/West

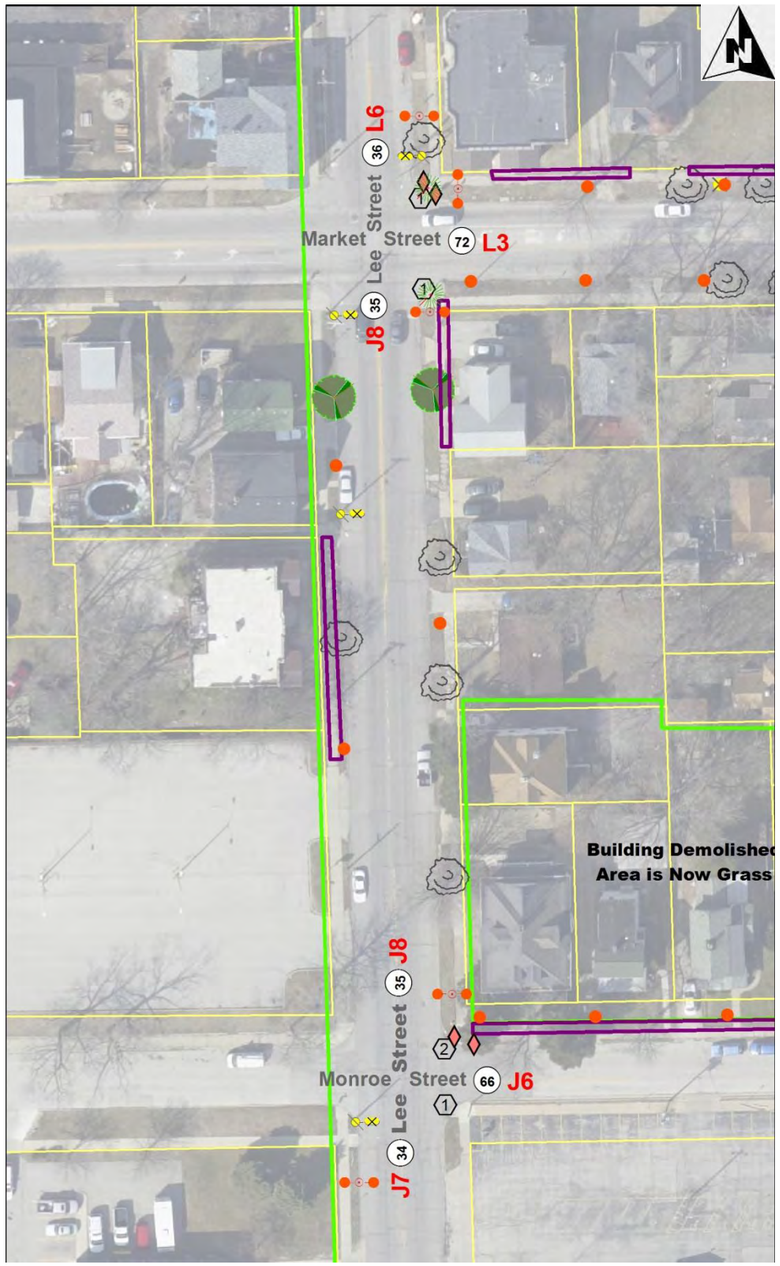
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$41,300.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
415	LF	PVC Conduit & Wire	$17.00	$7,055.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$36,935.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$78,235.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

35 400 Block of N. Lee Street (from Monroe Street to Market Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street contains mostly residential properties as well as a satellite parking lot for First Christian Church. Single-globe fixtures spaced 60 to 80 feet apart in a staggered pattern would be recommended. One roadway fixture at each intersection is also recommended due to Lee Street being a collector street. Overhead utilities to the west limit the use of taller decorative roadway fixtures to the east side of the street.

Civil

Replace partial sidewalks on both sides of the street. Replace curb ramps on the east side at Monroe Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. In addition, existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

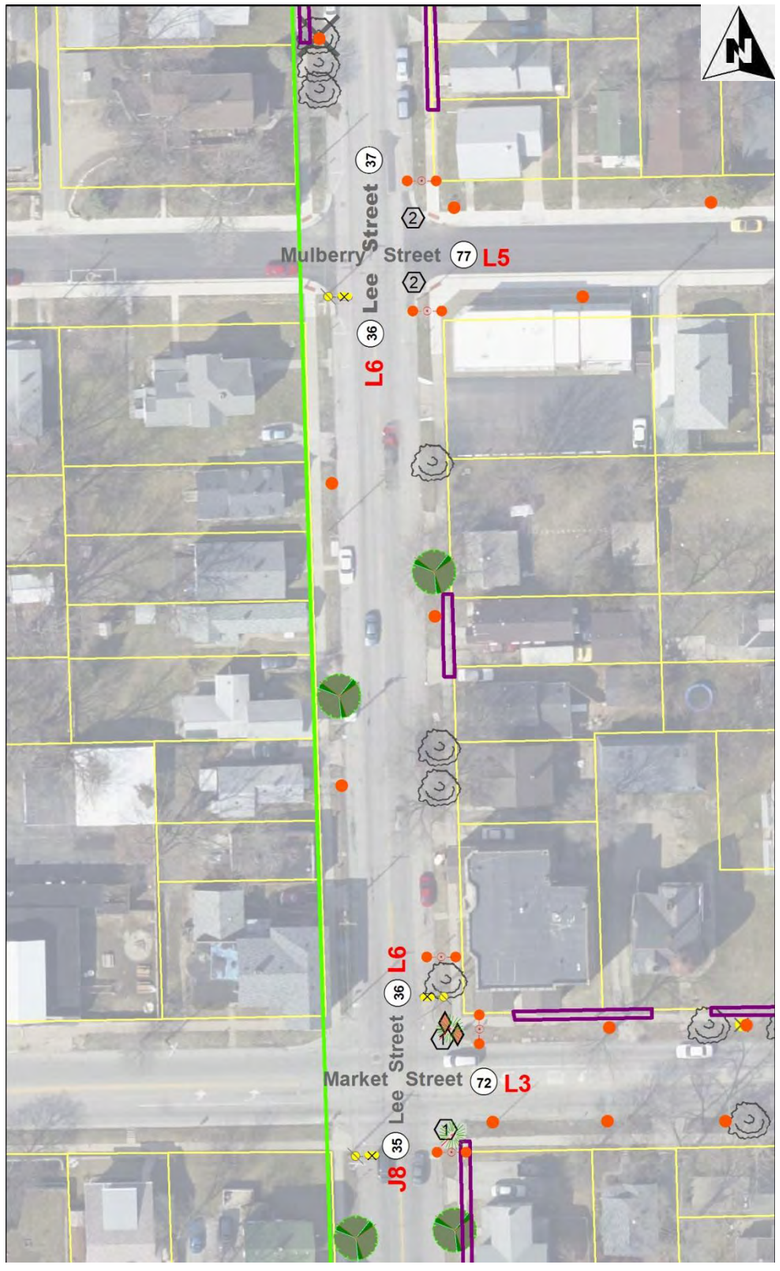
Street: **Lee St.**
From: Monroe to Market *Street Segment No.:* 35
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
550	SF	Sidewalk Removal & Replacement	$12.00	$6,600.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
180	SY	Class D Patch, Type IV [5]	$200.00	$36,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$61,900.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
650	LF	PVC Conduit & Wire	$17.00	$11,050.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$47,575.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,400.00
				Street Segment Total=	**$112,875.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

500 Block of N. Lee Street (from Market Street to Mulberry Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street contains residential and business properties. Single-globe fixtures spaced 60 to 80 feet in a staggered pattern would be recommended, as well as one roadway fixture at each intersection. Overhead utilities to the west limit the use of taller decorative roadway fixtures to the east side of the street.

Civil

Replace the partial sidewalk on the east side of the street. Replace curb ramps on the east side at Market Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. In addition, existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Grove St. to Front St. *Street Segment No.:* 36
Street Side: East/West

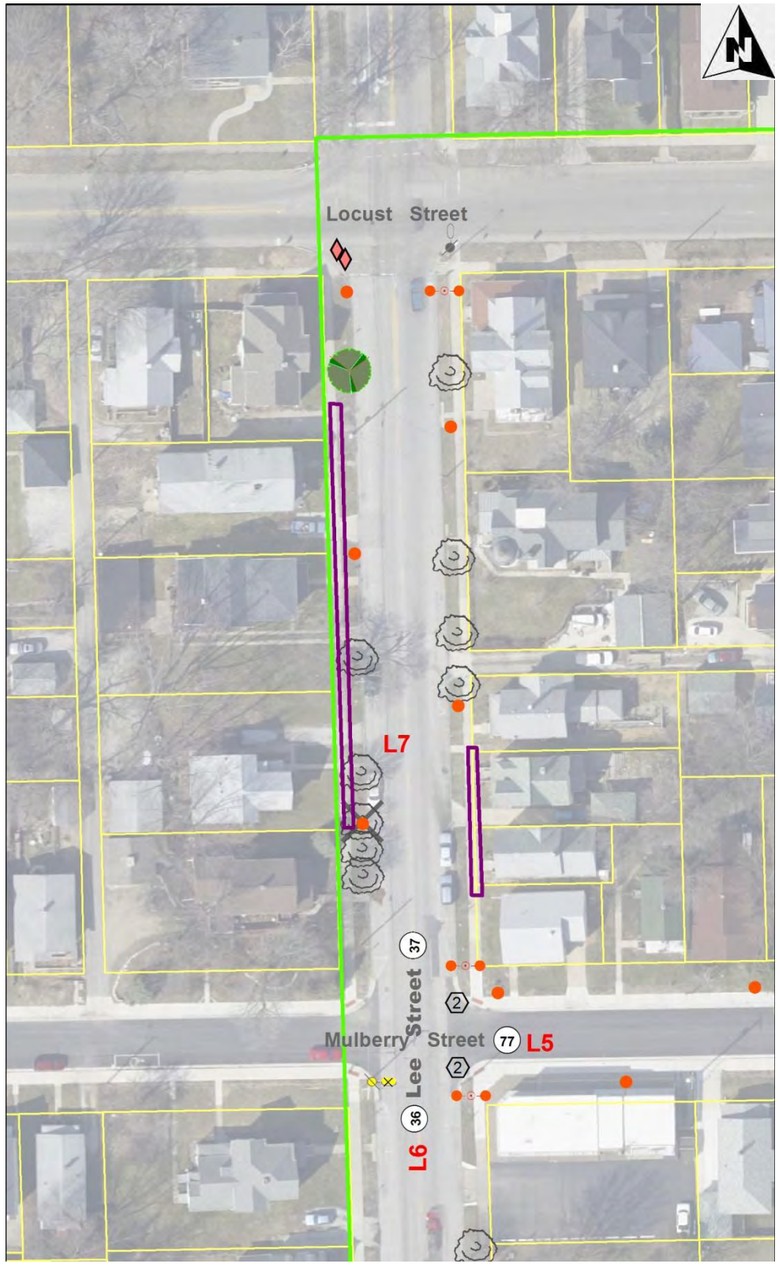
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
200	SF	Sidewalk Removal & Replacement	$12.00	$2,400.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
200	SY	Class D Patch, Type IV [5]	$200.00	$40,000.00	
230	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$13,800.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
1	LS	Bump Out- Type 1	$3,500.00	$3,500.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$75,500.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
600	LF	PVC Conduit & Wire	$17.00	$10,200.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$46,725.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	TRUE	
0	EA	Tree grate removal	$500.00	TRUE	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
1	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$1,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,400.00
				Street Segment Total=	**$125,625.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

37 600 Block of N. Lee Street (from Mulberry Street to Locust Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This street contains residential properties. Single-globe fixtures spaced 60 to 80 feet apart in a staggered pattern would be recommended. One roadway fixture at each intersection would also be recommended due to Lee Street being a collector street. This block intersects with Illinois Route 9 (Locust Street) on the north end. Overhead utilities to the west limit the use of taller decorative roadway fixtures to the east side of the street.

Civil

Replace partial sidewalks on both sides of the street. Replace curb ramps on the west side at Locust Street.

Landscape

An opportunity exists for adding a parkway tree on the west side of the street to better define the street corridor. In addition, existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Lee St.**
From: Mulberry to Locust *Street Segment No.:* 37
Street Side: East/West

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1400	SF	Sidewalk Removal & Replacement	$12.00	$16,800.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
200	SY	Class D Patch, Type IV [5]	$200.00	$40,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
1	LS	Bump Out- Type 2	$8,000.00	$8,000.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$75,000.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
655	LF	PVC Conduit & Wire	$17.00	$11,135.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
7	EA	Ground Rod	$60.00	$420.00	
7	EA	In-Grade Junction Box	$600.00	$4,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
7	EA	Light Pole Installation and Connection	$1,000.00	$7,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$58,730.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$1,200.00
				Street Segment Total=	**$134,930.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

38 200 Block of E. Olive Street (from Prairie Street to Albert Street / East Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Bloomington Public Library on the south side of Olive Street was recently renovated with modern, decorative light fixtures installed in the front courtyard area all along the south side of the block. These fixtures provide pedestrian illumination along the south sidewalk. Two overhead utility street lights mounted on overhead power poles provide illumination to this street. Overhead utilities run along both the north and south sides of this street. In order to properly illuminate a non-residential roadway such as this, a minimum of two 25- to 30-foot down lights are recommended. The current overhead utilities will not allow for the addition of any taller decorative light poles without violating clearance requirements. Additionally, the sidewalk along the north side of the street is approximately 4 feet wide and the installation of a pole base in this area would violate ADA requirements. This street is not a good candidate to be retrofit with decorative street lighting unless the overhead utilities are trenched underground.

East side of Olive Street, looking northwest. There are overhead utilities on both sides of the street.

Existing modern decorative lighting along the south side of the street provides illumination to the sidewalk.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Olive St.**
From: Prairie to Albert *Street Segment No.:* 38
Street Side: North/South

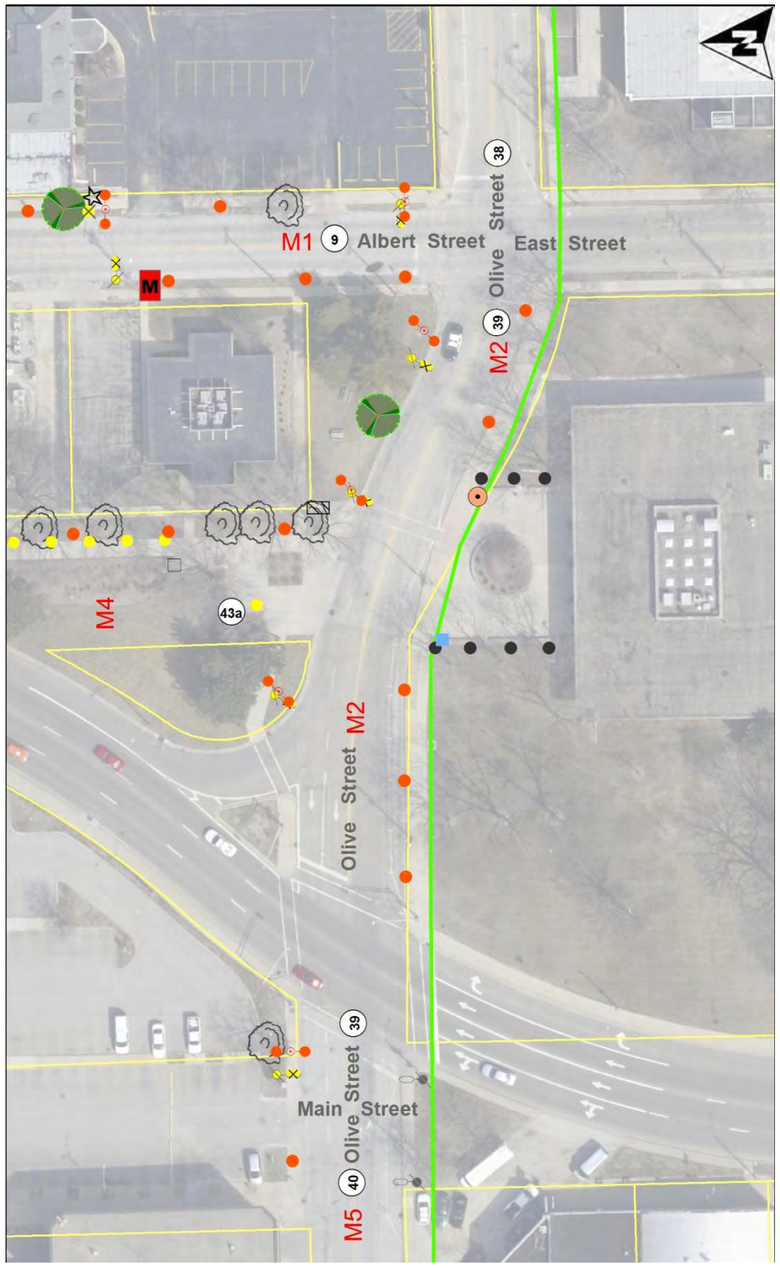
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$0.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of E. Olive Street (from Albert Street / East Street to Main Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead electric and communication utilities along the south side of the street limit the use of the taller decorative roadway fixtures to the north side. Three decorative roadway fixtures will replace the existing utility lights and the pedestrian globes will be expanded along the south sidewalk adjacent to City Hall.

Landscape

A parkway tree can be added on the north side of the street to better define the street corridor. In addition, existing parkway trees should be preserved. A bike rack is proposed in the plaza area at City Hall.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Olive Street, looking east. Roadway fixtures to be installed to the north will avoid overhead power lines, and additional pedestrian globes to the south will illuminate the sidewalk around City Hall.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Olive St.**
From: Albert to Main *Street Segment No.:* 39
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
190	SY	Class D Patch, Type IV [5]	$200.00	$38,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$45,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
560	LF	PVC Conduit & Wire	$17.00	$9,520.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$67,075.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,200.00
				Street Segment Total=	**$117,075.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
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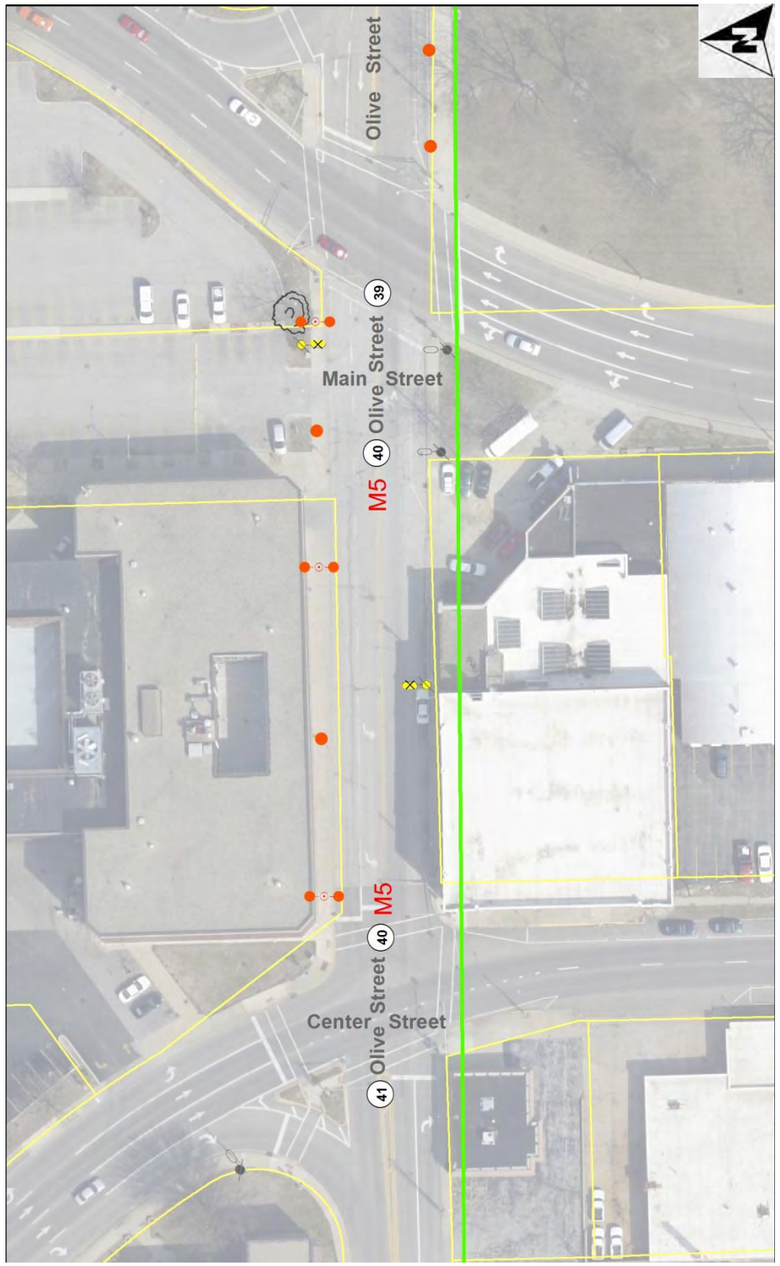
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

40 100 Block of W. Olive Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This section of Olive Street would require a wider sidewalk at the northeast corner for approximately 85 feet. When completed, three combination down light and pedestrian fixtures and two 13' pedestrian fixtures could be evenly spaced along the north side of the street. Overhead utilities and narrow sidewalks along the south side of the street would not allow the placement of any decorative light fixtures.

Due to the Downtown layout and location of this street, no adjacent streets are recommended for decorative lighting except to the east across East Street. If trenching under East Street is not preferred, another option is to trench a feeder from the existing controller A located at Front Street and Main Street. The trench would run through the McLean County Law and Justice Center parking area to provide power to these Olive Street light poles. However, since the Law and Justice Center parking area is also currently being lit by the amber-colored utility high-pressure sodium lamps, it would be more aesthetically pleasing to provide LED decorative lighting in these parking areas at the same time as Olive Street. This would maintain the white 4100 degree Kelvin lights throughout the area. Upgrading the lighting in the Front Street parking garage from high-pressure sodium to LED would also help maintain a constant color temperature in the area, as well as save energy costs.

Limited sidewalk widths and overhead utilities along the south side of Olive Street prevent decorative lighting to be placed here.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Olive St.**
From: Main to Center *Street Segment No.:* 40
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
1	LS	East Street Jack/Bore Conduit	$80,000.00	$80,000.00	$109,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
810	LF	PVC Conduit & Wire	$17.00	$13,770.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$54,720.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$164,520.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

41 200 and 300 Blocks of W. Olive Street (from Center Street to Roosevelt Avenue)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Narrow sidewalks to the north and overhead utilities to the south do not make this street a good candidate for retrofitting with decorative lighting. The north sidewalks would need to be widened to a minimum of 6 feet plus a 6-inch curb, or the overhead utilities to the south must be trenched, in order to maintain the proper clearance required per ADA and Ameren.

Photo of the south side of Olive Street showing the overhead utility lines.

Narrow sidewalks on the north side of Olive Street.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Olive St.**
From: Center to Roosevelt *Street Segment No.:* 41
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$0.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

400 Block of W. Olive Street (from Roosevelt Avenue to Lee Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Overhead utilities to the south limit the ability to add decorative roadway fixtures to this streetscape. The sidewalk to the north is a high pedestrian traffic area due to the adjacent parking structure to the Pepsi Ice Center and Coliseum. Light spillover from the first floor of the parking structure provides illumination for this sidewalk. It is recommended to keep this sidewalk clear for pedestrian traffic and not create bottleneck traffic areas in the sidewalk with light pole bases. This street is not recommended as a candidate for a decorative lighting retrofit.

Landscape

Litter bins are proposed along the north side of the street. In addition, a bench is proposed at the northwest corner of the intersection of Olive Street and Roosevelt Avenue.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Extensive overhead electric lines along the south side of Olive Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Olive St.**
From: Roosevelt to Lee *Street Segment No.:* 42
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$6,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$6,000.00
				Street Segment Total=	**$6,000.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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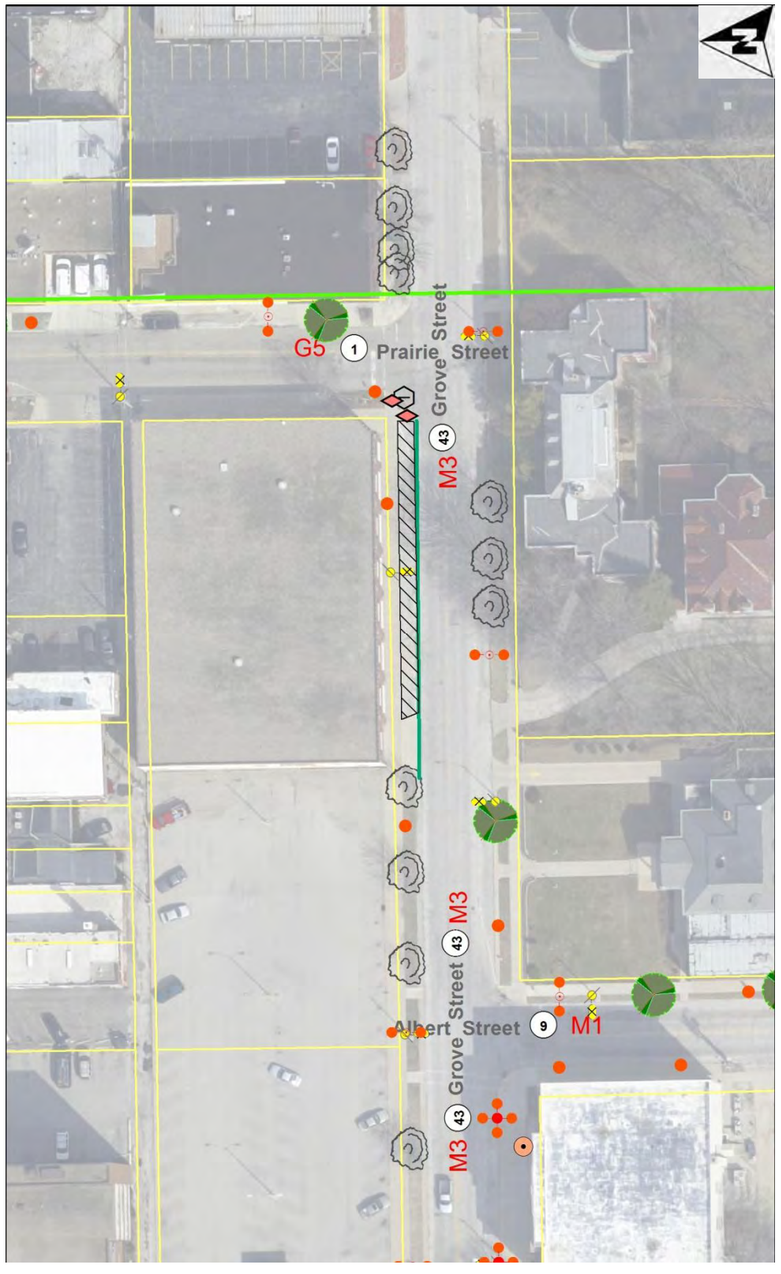
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of E. Grove Street (from Prairie Street to East Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Grove Street is a collector street that ties the residential and additional businesses to the east to U.S. Business 51. Down lighting and pedestrian globe lighting is recommended for this area in a staggered pattern.

The northeast corner of the McBarnes building along the south side of Grove Street is an ideal location for a five-globe fixture to illuminate this structure at night. The existing five-globe fixtures in front of The Pantagraph on Washington Street (Street 54) differ slightly from the City standard five-globes. Because this study calls for the removal of both of the five-globe fixtures at that location, it is recommended to reuse them here in front of the McBarnes Building.

Civil

Remove pavement on west side of Grove Street and restore with seeded turf.

Landscape

A parkway tree can be added on the south side of the road to better define the street corridor. In addition, existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of Grove Street, looking east. Curb enhancements and definitive parallel parking pavement are recommended for the protection of the decorative poles.

Photo of the McBarnes Building with a utility street light mounted in the front sidewalk.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Grove St.**
From: Prairie to East *Street Segment No.:* 43
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
1200	SF	Pavement Removal Seeded Restoration	$20.00	$24,000.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
150	LF	Combination Concrete Curb & Gutter	$25.00	$3,750.00	
290	SY	Class D Patch, Type IV [5]	$200.00	$58,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$93,550.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
935	LF	PVC Conduit & Wire	$17.00	$15,895.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
9	EA	Light Pole Installation and Connection	$1,000.00	$9,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$77,660.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$1,200.00
				Street Segment Total=	**$172,410.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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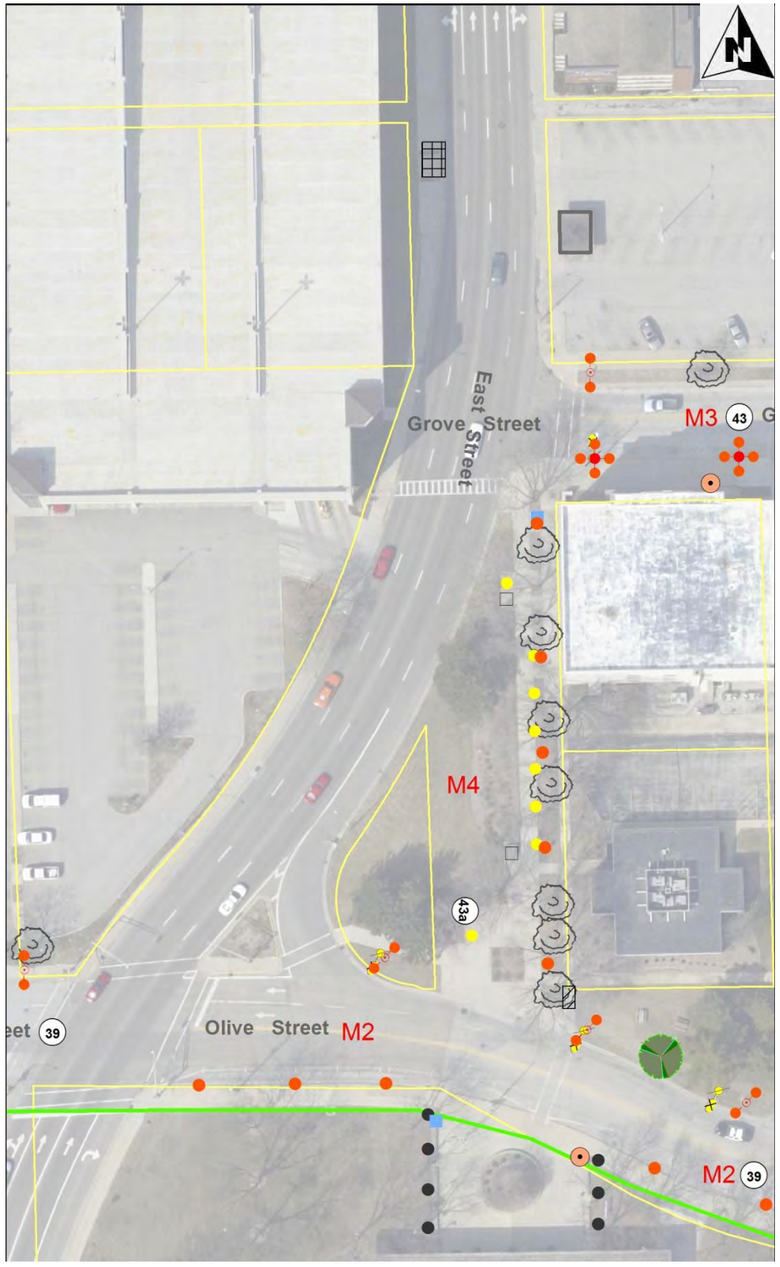
43a Area east of Main/East Street from Olive Street to Grove Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Street 43a is an extension of the landscape and walkway areas around the McBarnes Building. Existing sidewalk lighting is not functional. Matching the decorative lighting to that of the surrounding area would be recommended.

Five decorative single-globe fixtures will illuminate this area and allow for the removal of the older and damaged sidewalk lighting.

Landscape

Existing trees should be preserved in this key pedestrian corridor.

Photo of the existing south sidewalk lighting.

Existing sidewalk on the west side of the McBarnes Building.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Sidewalk**
From: West of Albert St. (Olive St to Grove St.) *Street Segment No.:* 43a
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$2,500.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
250	LF	PVC Conduit & Wire	$17.00	$4,250.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$31,925.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$34,425.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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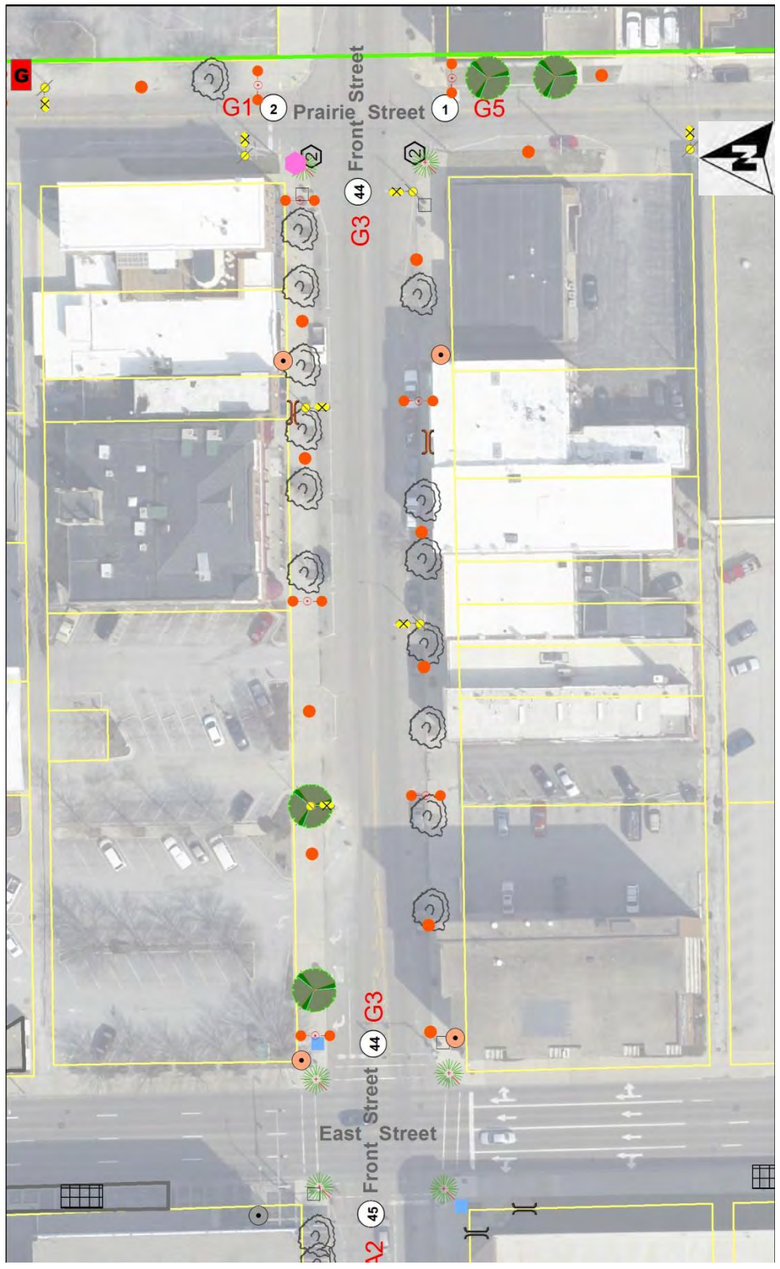
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of E. Front Street (from Prairie Street to East Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Front Street between Prairie and East Streets is a shopping and entertainment area similar to that of Downtown Main Street. Multiple driveways into private lots to the northwest of this street force a staggered pattern with the decorative fixtures. Combination roadway and pedestrian fixtures alternate with single-globe pedestrian fixtures. A down light is provided at each end of the street as well to illuminate the crosswalk and the stop stripes on the pavement. Decorative banners on the taller poles would be an inviting feature and would also help bring color to the streetscape.

Additional decorative street lighting could be provided 1 to 2 blocks farther east on Front Street to expand the decorative lighting corridor toward more existing businesses.

Landscape

Opportunities exist for adding parkway trees on the north side of the street to better define the street corridor. In addition, existing parkway trees should be preserved. Four bike racks are recommended (two per side), and two benches are recommended (one per side). An opportunity exists for informational signage at the northwest corner of Front Street and Prairie Street, and a litter bin at the northeast corner of Front Street and East Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Existing Front Street with historical storefronts and multiple existing streetscape trees.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

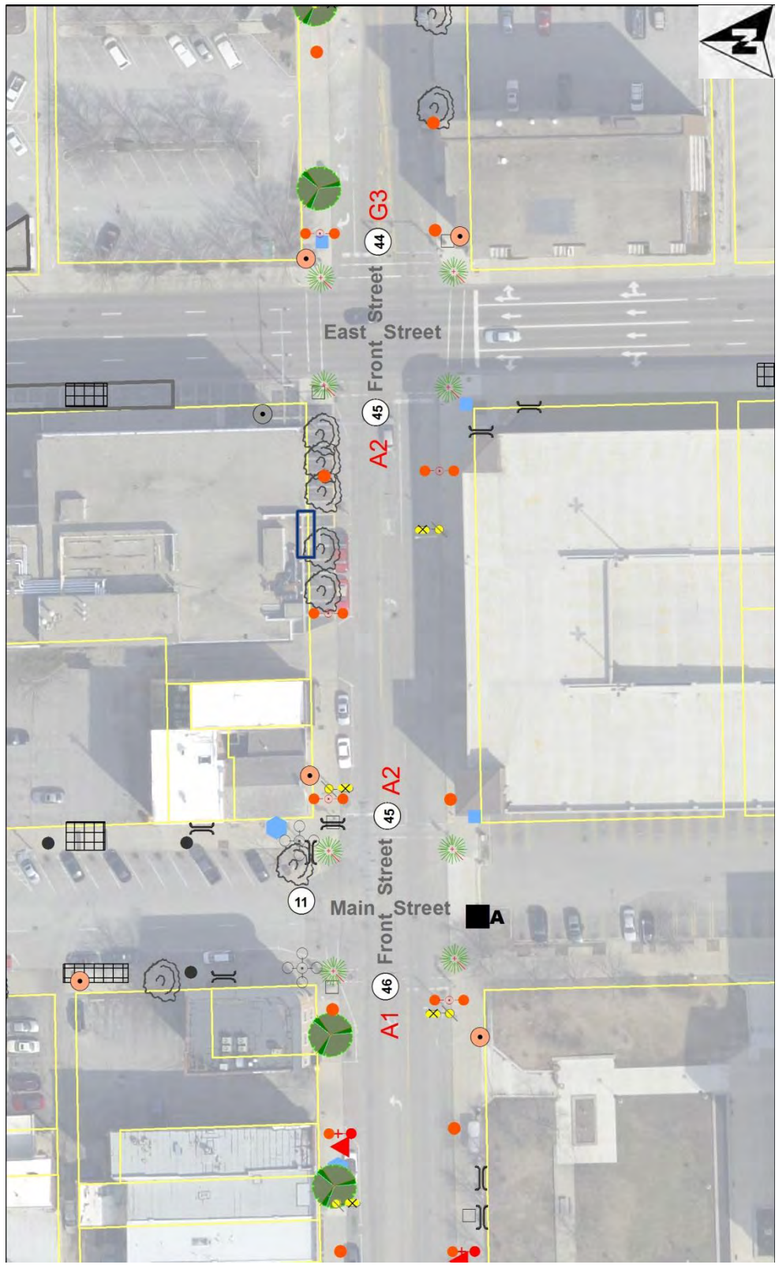
Street: **Front St.**
From: Prairie to East *Street Segment No.:* 44
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
310	SY	Class D Patch, Type IV [5]	$200.00	$62,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$69,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
870	LF	PVC Conduit & Wire	$17.00	$14,790.00	
9	EA	13' Pole Concrete Base [4]	$1,000.00	$9,000.00	
5	EA	26' Pole Concrete Base [4]	$1,400.00	$7,000.00	
0	EA	Utility Cost	$5,000.00	$0.00	
14	EA	Ground Rod	$60.00	$840.00	
14	EA	In-Grade Junction Box	$600.00	$8,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
9	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$25,875.00	
5	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$34,500.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
14	EA	Light Pole Installation and Connection	$1,000.00	$14,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$114,405.00
Landscaping					
2	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$3,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
4	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$3,200.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$6,000.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
5	EA	Tree grate removal	$500.00	$2,500.00	
5	EA	Metal Street Banners (Tall Poles)	$1,500.00	$7,500.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
1	EA	Kiosk Signs	$2,500.00	$2,500.00	$28,900.00
				Street Segment Total=	**$213,105.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of E. Front Street (from East Street to Main Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

The wide access drives in and out of the parking structure on the south side of this street does not allow for consistent opposite spacing of the decorative light poles. Three roadway fixtures are recommended to fully illuminate this high traffic conflict area. A down light at the west crosswalk will provide illumination for pedestrian traffic at this traffic signal intersection. Decorative banners on the taller poles would be an inviting feature and would bring color to the streetscape.

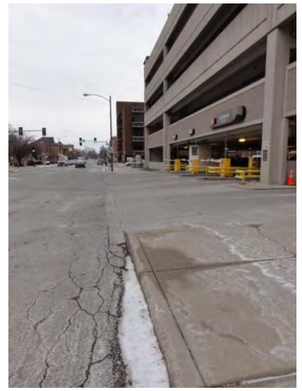
New decorative lighting fixtures could utilize spare conduits stubbed off the existing five-globe fixture at the northwest corner of this street or can be trenched into the existing in-grade junction box adjacent to the existing lighting controller A.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. In addition, existing parkway trees should be preserved. One bike rack is recommended on the south side of the street along with one litter bin.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Existing trees and water pipes create conflict areas for a decorative street light on the street's northeast corner.



The long entrance driveway to the parking structure on the south side of the street limits the decorative lighting spacing pattern.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Front St.**
From: East to Main *Street Segment No.:* 45
Street Side: North/South

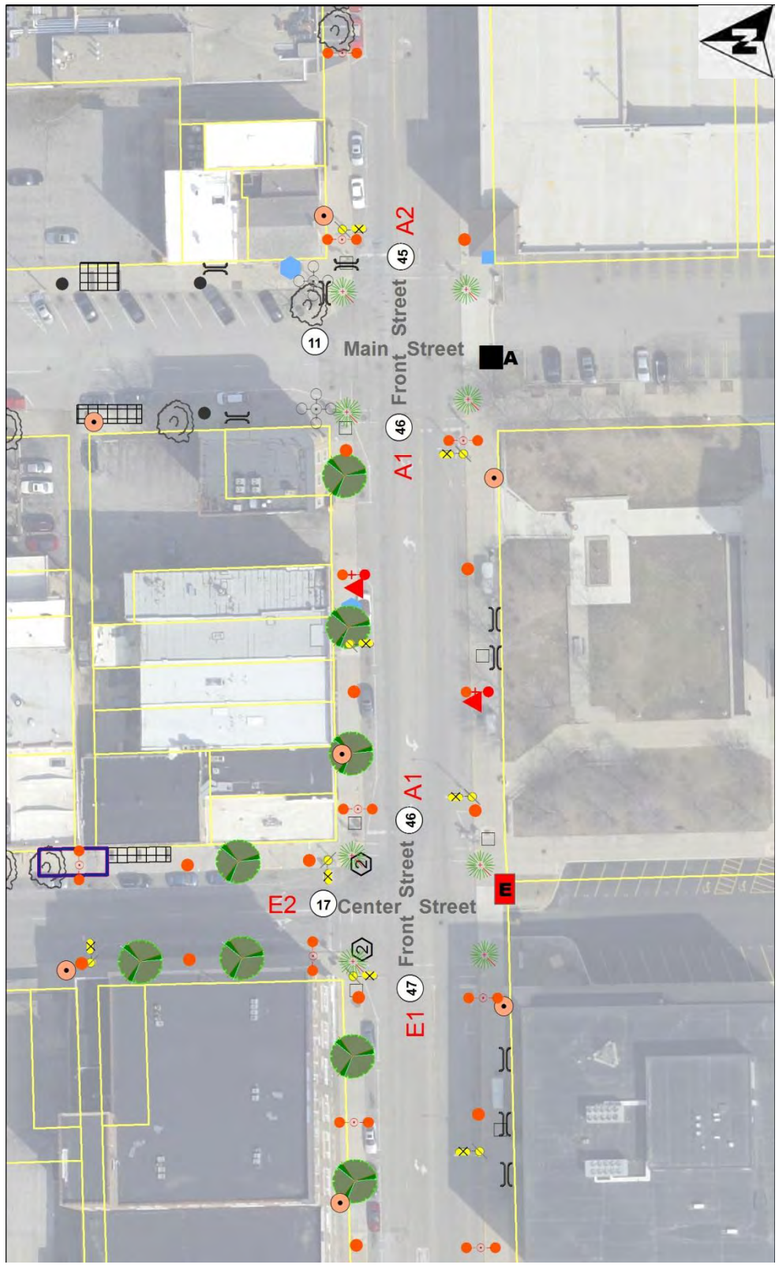
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
105	SY	Class D Patch, Type IV [5]	$200.00	$21,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$28,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
411	LF	PVC Conduit & Wire	$17.00	$6,987.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
1	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$1,500.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$49,437.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$4,400.00	
5	EA	Tree grate removal	$500.00	$2,500.00	
3	EA	Metal Street Banners (Tall Poles)	$1,500.00	$4,500.00	
3	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$3,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$19,700.00
				Street Segment Total=	**$97,937.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of W. Front Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Front Street between Main and Center serves as a center point of the Law and Justice Center green space and supports the high pedestrian, vehicle and public transportation traffic. During events at the Coliseum, this area is heavily populated with attendees who utilize the Front Street parking structure. High illumination is recommended for this area to maintain public safety and security. It also must serve as a decorative and welcoming street to attract visitors and event goers into the other areas of Downtown. Front Street from East Street to Madison Street should be one of the most decorated areas in the Downtown.

Four staggered roadway fixtures are recommended to fully illuminate this high traffic conflict area. A down light at each crosswalk will provide illumination for pedestrian traffic at these traffic signal intersections. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Decorative lighting fixtures could utilize spare conduits stubbed off the existing five-globe fixture at the northeast corner of this street or can be trenched into the existing in-grade junction box adjacent to the existing lighting controller A.

Landscape

Opportunities exist for adding parkway trees on the north side of the street to better define the street corridor. In addition, existing parkway trees on the south should be preserved. One bike rack is recommended on the south side of the street at the plaza in front of the McLean County Law and Justice Center.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of Front Street in front of the Law and Justice Center's green space.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Front St.**
From: Main to Center *Street Segment No.:* 46
Street Side: North/South

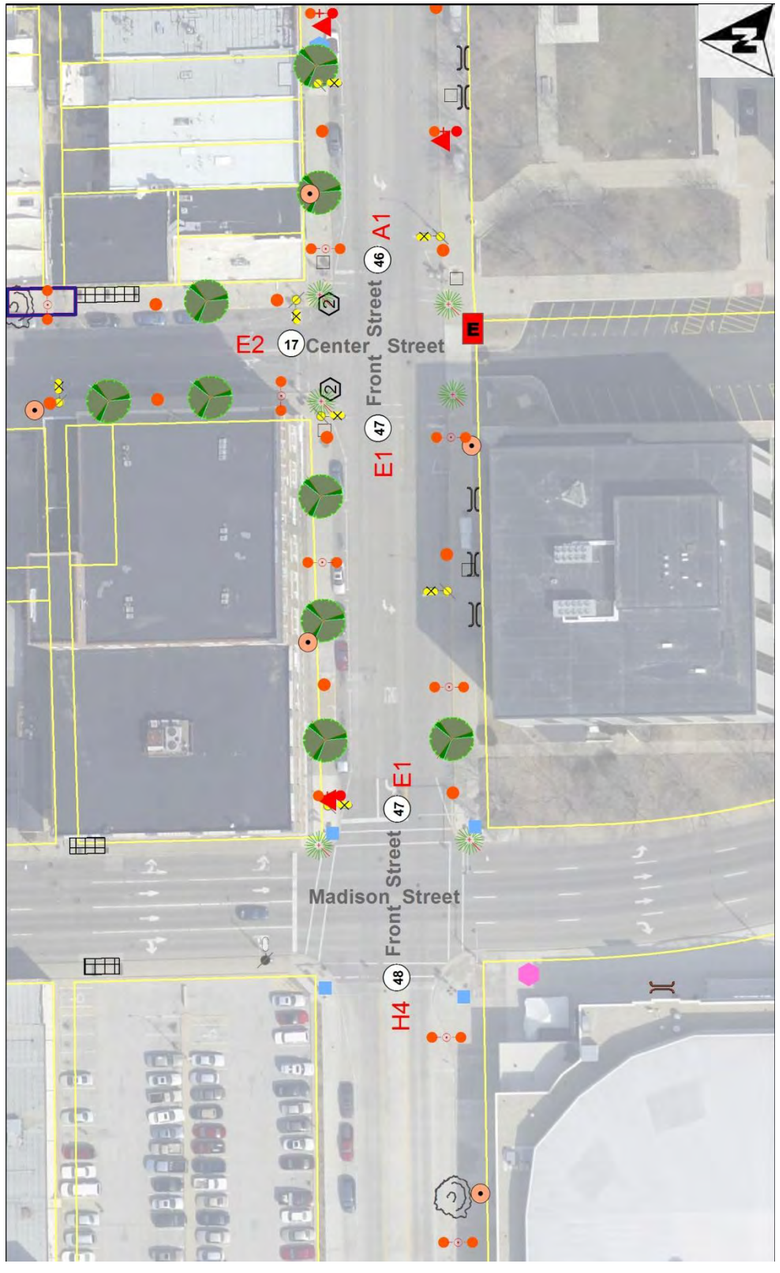
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$41,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
420	LF	PVC Conduit & Wire	$17.00	$7,140.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
2	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$18,400.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
1	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$1,500.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$75,220.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$13,300.00
				Street Segment Total=	**$130,320.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

47

200 Block of W. Front Street (from Center Street to Madison Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

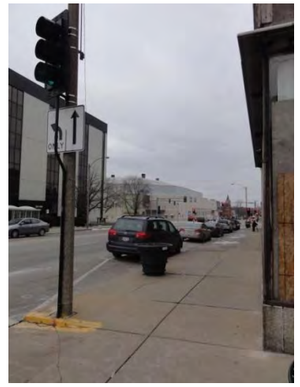
This portion of Front Street connects the heavy pedestrian traffic from the Coliseum events into the central Downtown area. High illumination is recommended for this area to maintain public safety and security. The street and pedestrian walkways must also serve as a decorative and welcoming feature to attract visitors and event goers into the other areas of Downtown. Front Street from East Street to Madison Street should be one of the most decorated areas in Downtown. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

A new controller E should be installed during this street's upgrades project with a minimum 100 amp capability. This controller will provide power distribution to three streets for decorative lighting.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. One bike rack is recommended on the south side of the street at the intersection of Front Street and Center Street, and one bike rack is recommended for the north side of the street. Litter bins are recommended for both corners of the intersection of Front Street and Madison Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.



Existing streetscape of Front Street showing the Coliseum in the background.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Front St.**
From: Center to Madison *Street Segment No.:* 47
Street Side: North/South

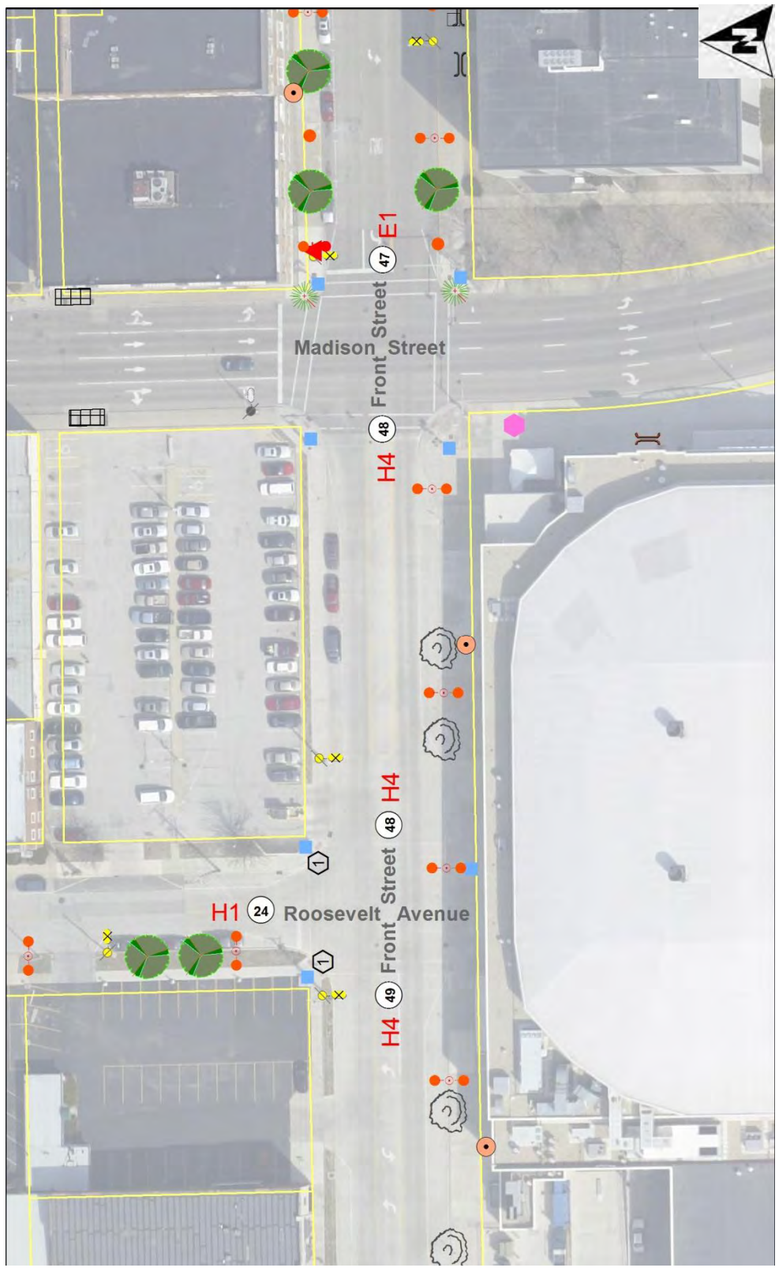
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$35,800.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
475	LF	PVC Conduit & Wire	$17.00	$8,075.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
9	EA	Ground Rod	$60.00	$540.00	
9	EA	In-Grade Junction Box	$600.00	$5,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
1	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$9,200.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$90,015.00
Landscaping					
6	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$9,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$4,400.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
3	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$3,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$24,000.00
				Street Segment Total=	**$149,815.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

300 Block of W. Front Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Front Street between Madison and Lee Streets serves as the welcoming street to the visitors to the Coliseum. Visitors to the Coliseum are not only local but also are from neighboring towns. Providing a prominent and attractive streetscape in this area and to the east across Madison Street is monumental in attracting visitors and residents to the other areas of Downtown. Pedestrian and facade lighting is currently installed along the exterior of the Coliseum. However, when no events are in progress, this lighting is turned off, leaving the adjacent sidewalks in non-welcoming shadow. These sidewalks need to be constantly illuminated as Front Street also serves to connect the pedestrian traffic from the west into Downtown.

A continuation of 5 to 7 decorative pendants and pedestrian fixtures along the front of the Coliseum as discussed on Lee Street from Olive to Front (Streets 30 and 31) spaced 80 to 100 feet should be prominent and provide a wide, even distribution of light to ensure pedestrian traffic remains safe and highly visible. Providing an alternate fixture, as mentioned on Street 23, for this area as opposed to that of the rest of the historic Downtown will still provide enhanced and welcoming illumination but will also help set the structure apart as a destination for visitors. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Building-mounted luminaires are found all around the Coliseum as well as the west side of the Pepsi Ice Center on Lee Street. These fixtures are unsealed, which allows dirt and debris to build up internally and settle on the lower lens, causing the surrounding pedestrian areas to appear dark. These should be replaced with more illuminant, weatherproof fixtures. A combination up/down lighting similar to the existing is recommended as it enhances the modern architecture of the Coliseum.

Landscape

See Street 49 for comments.

Photo displaying the lack of a decorative streetscape along the north side of the Coliseum. Overhead power lines are visible on the north side of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Front St.**
From: Madison to Roosevelt *Street Segment No.:* 48
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
70	SY	Class D Patch, Type IV [5]	$200.00	$14,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$21,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
285	LF	PVC Conduit & Wire	$17.00	$4,845.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
3	EA	Ground Rod	$60.00	$180.00	
3	EA	In-Grade Junction Box	$600.00	$1,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
3	EA	Light Pole Installation and Connection	$1,000.00	$3,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$34,725.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
4	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$8,800.00	
0	EA	Tree grate removal	$500.00	$0.00	
3	EA	Metal Street Banners (Tall Poles)	$1,500.00	$4,500.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
1	EA	Kiosk Signs	$2,500.00	$2,500.00	$16,600.00
				Street Segment Total=	**$73,125.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

49 400 Block of W. Front Street (from Roosevelt Avenue to Lee Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

See Street 48 for comments.

Landscape (Street 48)

Existing parkway trees should be preserved along the south side of the road. Future additional tree plantings also should be considered to enhance the pedestrian experience adjacent to the U.S. Cellular Coliseum. Two bike racks are recommended on the south side of the street along with one litter bin. In addition, two litter bins are recommended for the gateway intersection of Front Street and Madison Street. An informational kiosk sign and a bench could be place at the northeast corner of the arena.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Landscape (Street 49)

Existing parkway trees should be preserved along the south side of the road outside the U.S. Cellular Coliseum and Pepsi Ice Center. Future additional tree plantings also should be considered to enhance the pedestrian experience adjacent to the arena. One bike rack is recommended on the south side of the street. Litter bins are recommended on the south side of the street adjacent to the arena, on each corner of the intersection of Front Street and Roosevelt Avenue, and the southeast corner of the intersection of Front Street and Lee Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Front St.**
From: Roosevelt to Lee *Street Segment No.:* 49
Street Side: North/South

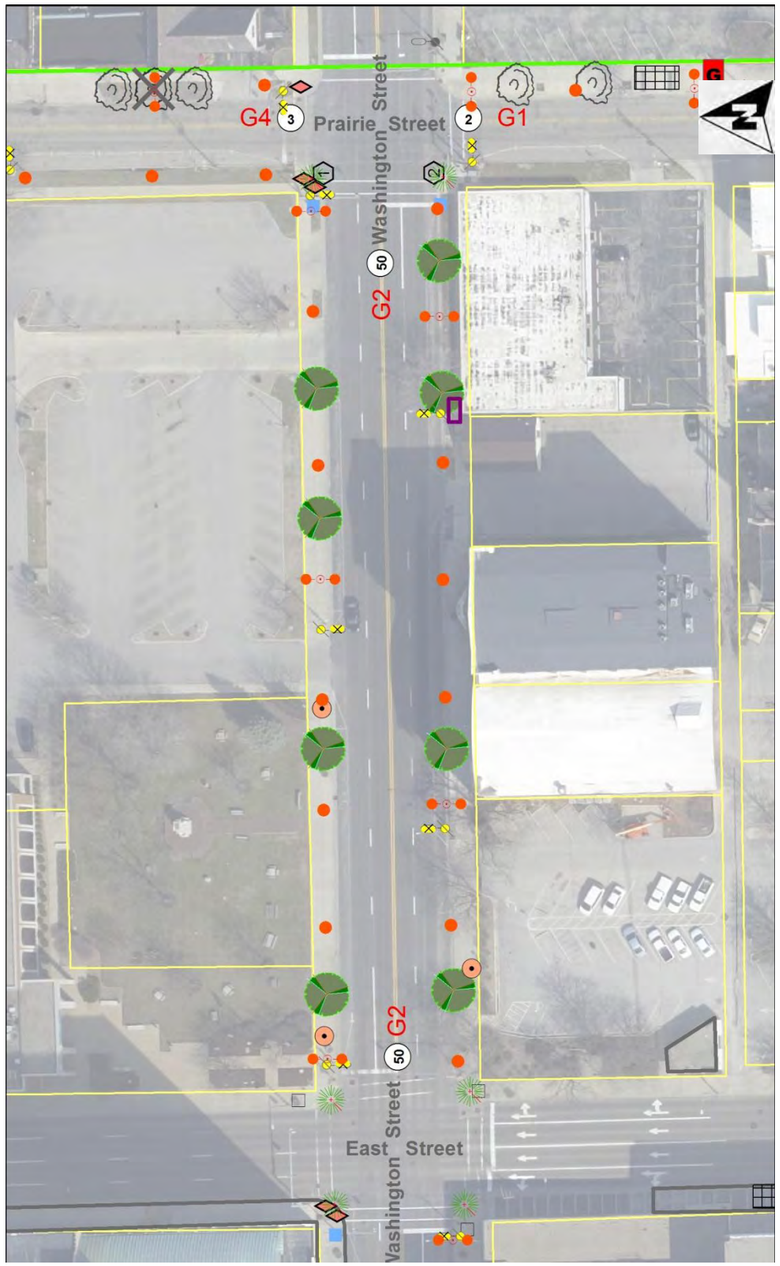
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
70	SY	Class D Patch, Type IV [5]	$200.00	$14,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$21,800.00
Electrical					
1	EA	Lighting Controller and Concrete Pad	$12,000.00	$12,000.00	
185	LF	PVC Conduit & Wire	$17.00	$3,145.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
1	EA	Utility Cost	$5,000.00	$5,000.00	
2	EA	Ground Rod	$60.00	$120.00	
2	EA	In-Grade Junction Box	$600.00	$1,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
2	EA	Light Pole Installation and Connection	$1,000.00	$2,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$40,065.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,800.00
				Street Segment Total=	**$65,665.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of E. Washington Street (from Prairie Street to East Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Washington Street serves as the primary east-side gateway into the Downtown area. Evenly spaced roadway and pedestrian lighting will prominently display the sidewalks, pavement and surrounding buildings. Light pole spacing should be a consistent opposite pattern. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape. It is recommended that Washington Street between Prairie and East Streets be the first streetscape improvement project outside of the U.S. Business 51 internal streets.

Additional decorative street lighting could be provided 1 to 2 blocks farther east on Washington Street to expand the decorative lighting gateway.

Civil

Replace partial sidewalk on the south side of the street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Three bike racks are recommended (two on the north and one on the south) and a litter bin at the northwest corner of the intersection of Washington Street and Prairie Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Existing Washington Street with Ameren street lighting and a lack of mature trees.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: Prairie to East *Street Segment No.:* 50
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
70	SF	Sidewalk Removal & Replacement	$12.00	$840.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
310	SY	Class D Patch, Type IV [5]	$200.00	$62,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$70,640.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
890	LF	PVC Conduit & Wire	$17.00	$15,130.00	
11	EA	13' Pole Concrete Base [4]	$1,000.00	$11,000.00	
5	EA	26' Pole Concrete Base [4]	$1,400.00	$7,000.00	
0	EA	Utility Cost	$5,000.00	$0.00	
16	EA	Ground Rod	$60.00	$960.00	
16	EA	In-Grade Junction Box	$600.00	$9,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
11	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$31,625.00	
5	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$34,500.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
16	EA	Light Pole Installation and Connection	$1,000.00	$16,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$125,815.00
Landscaping					
9	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$13,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
3	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$2,400.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
5	EA	Metal Street Banners (Tall Poles)	$1,500.00	$7,500.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$27,600.00
				Street Segment Total=	**$224,055.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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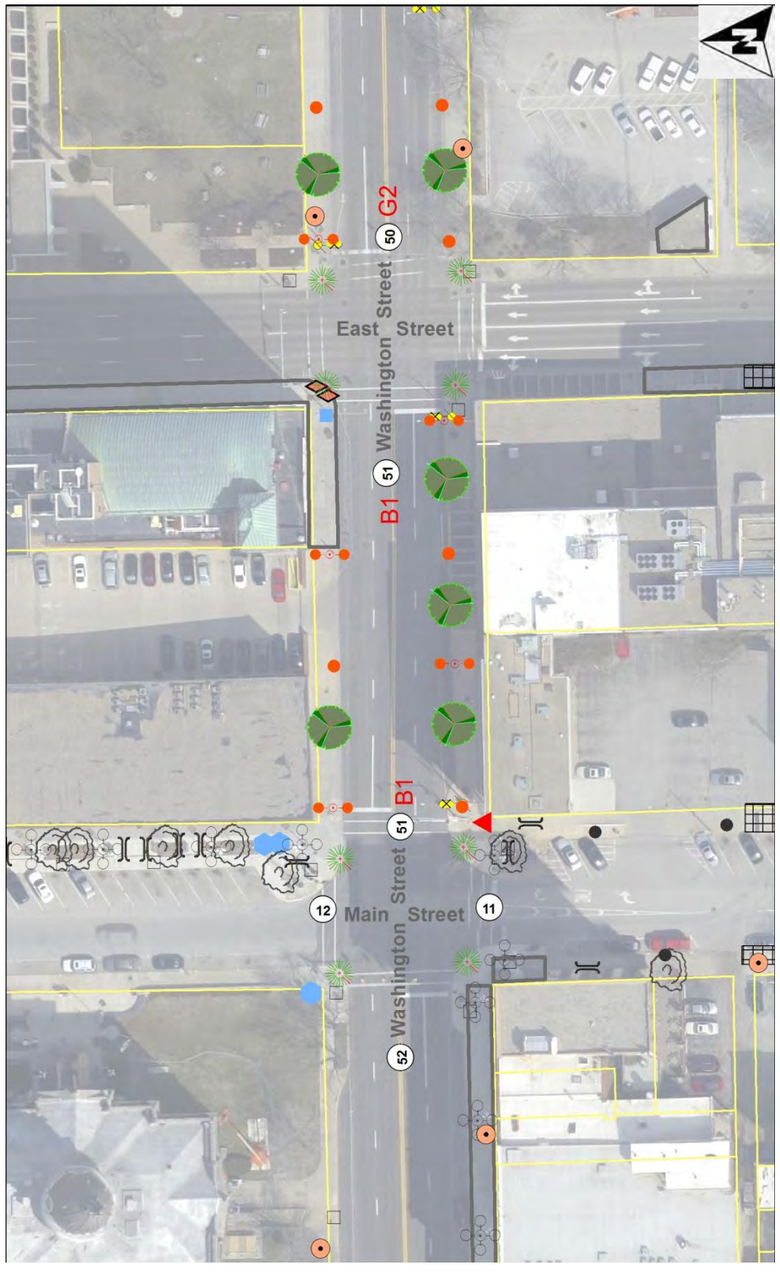
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of E. Washington Street (from East Street to Main Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Washington Street transitions from a gateway entrance into a high-traffic Downtown street with increased pedestrian traffic. Directional illumination to the pavement and crosswalks will provide a welcoming environment into the Downtown and will help ensure pedestrian safety when using the crosswalks. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

City staff is presently coordinating with a local building owner at the southwest corner of this street for a building mounted camera. If an alternate camera location is required, the roadway fixture on the northwest corner of the street could be changed to a camera compatible pole. Coordination items such as this would need to occur before each streetscape phase.

Civil

Replace curb ramps on the north side of the street at East Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing Washington Street, showing minimal utility lighting with one on each end of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: East to Main *Street Segment No.:* 51
Street Side: North/South

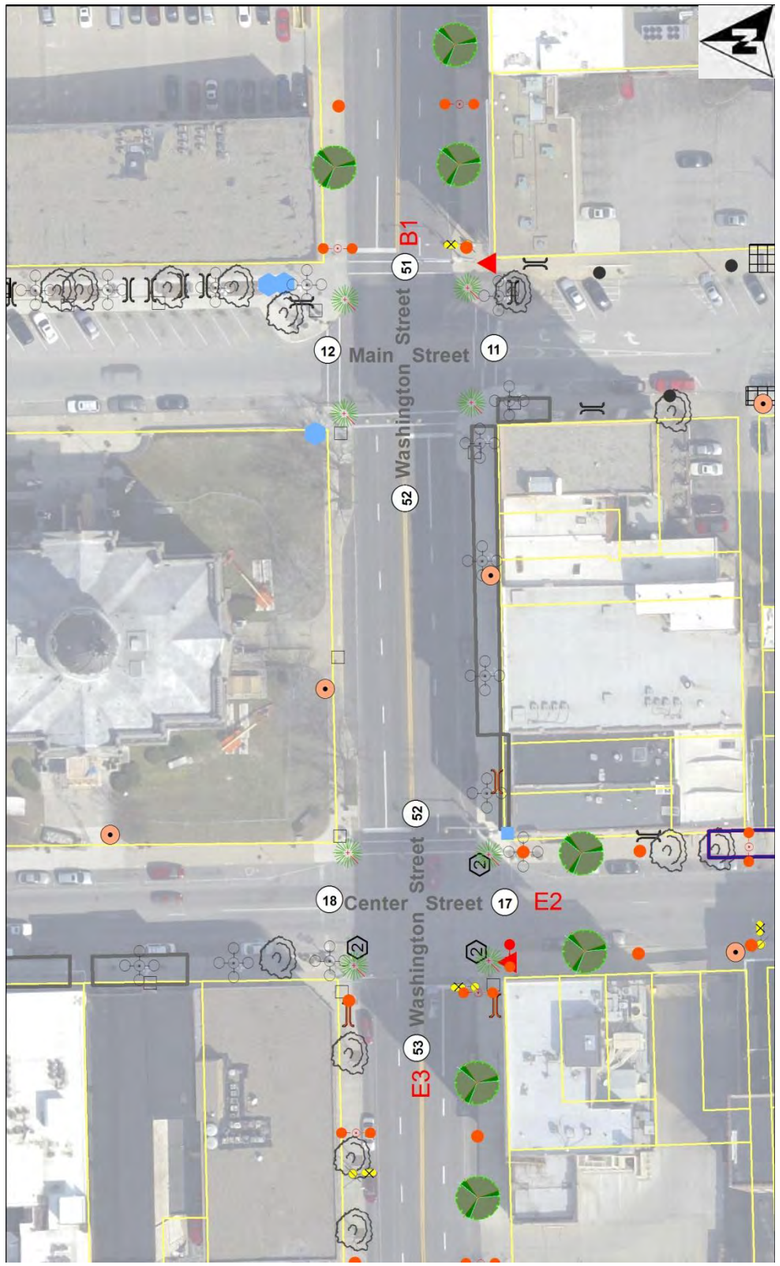
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
160	SY	Class D Patch, Type IV [5]	$200.00	$32,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
1	EA	Handicap Ramps	$1,200.00	$1,200.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$41,000.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
495	LF	PVC Conduit & Wire	$17.00	$8,415.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$69,520.00
Landscaping					
4	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$6,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$16,200.00
				Street Segment Total=	**$126,720.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of W. Washington Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Five-globe fixtures were installed along this section of Washington Street during the 2003 streetscape project. No additional decorative lighting is recommended at this time.

Landscape

Two bike racks are recommended (one on each side of the street). In addition, one bench and one litter bin are recommended for the southeast corner of the intersection of Washington Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: Main to Center *Street Segment No.:* 52
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
1	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$3,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,600.00
				Street Segment Total=	**$4,600.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
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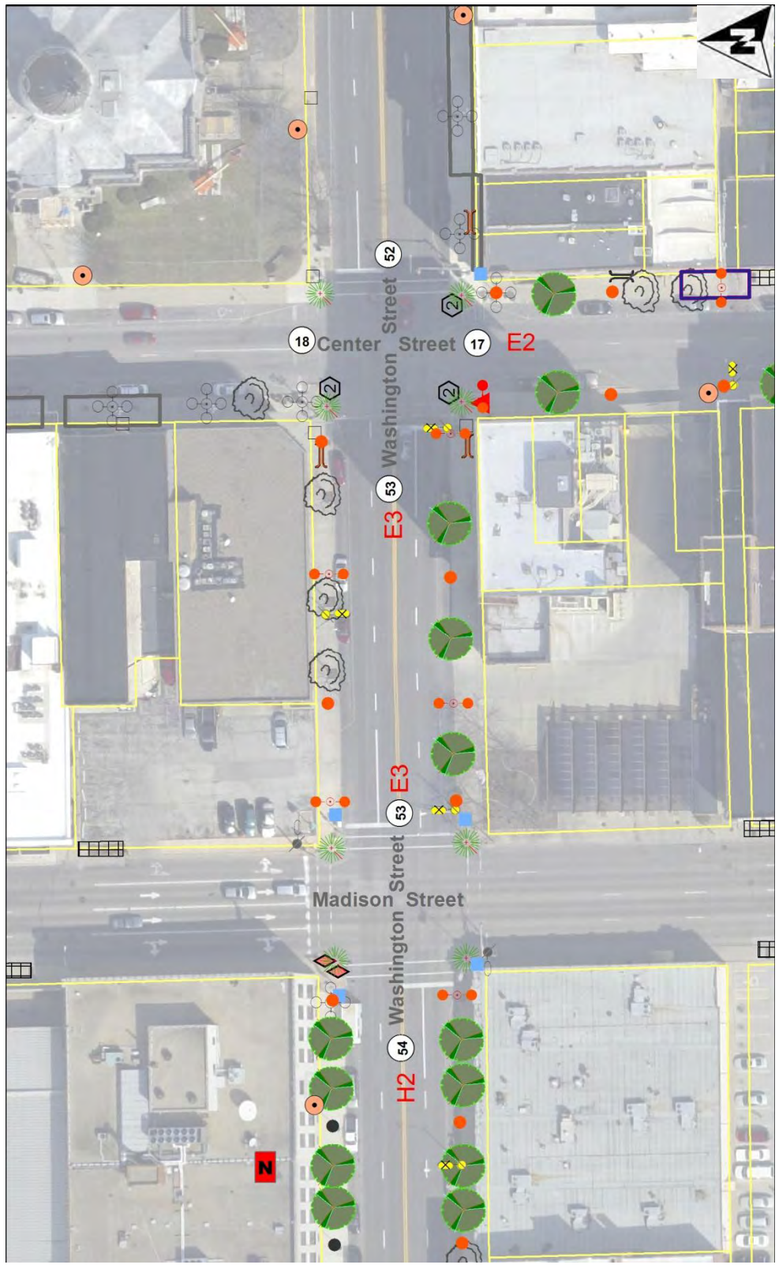
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

200 Block of W. Washington Street (from Center Street to Madison Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Washington Street transitions from a gateway to a high-traffic Downtown street with increased pedestrian traffic. Directional illumination to the pavement and crosswalks will provide a welcoming environment into the Downtown and will help ensure pedestrian safety when using the crosswalks. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Landscape

Opportunities exist for adding parkway trees on the south side of the street to better define the street corridor. In addition, existing parkway trees on the north side of the street should be preserved. Two litter bins are proposed at the gateway intersection of Washington Street and Madison Street. Benches are proposed on each side of the street at the intersection of Washington Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing streetscape on Washington Street from Center to Madison, looking east.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: Center to Madison *Street Segment No.:* 53
Street Side: North/South

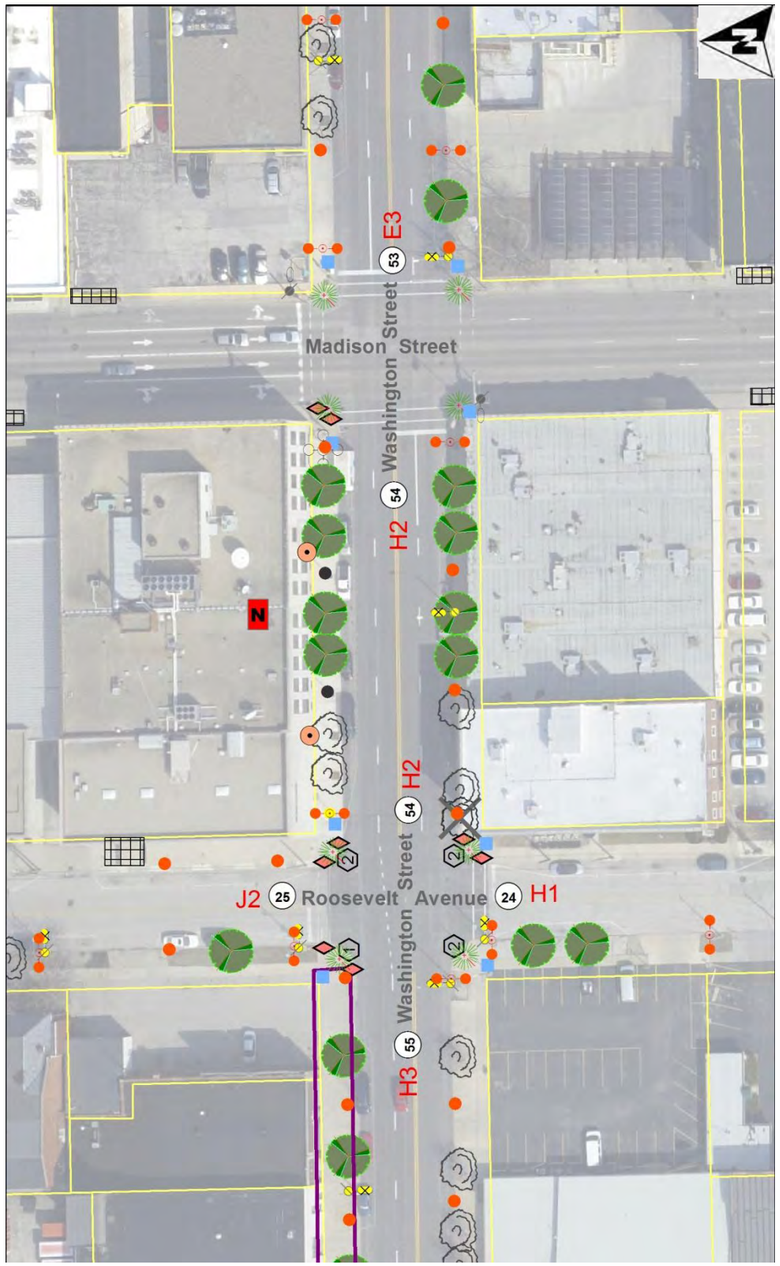
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$35,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
410	LF	PVC Conduit & Wire	$17.00	$6,970.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
1	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$1,500.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$70,450.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$6,000.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$4,400.00	
3	EA	Tree grate removal	$500.00	$1,500.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$24,400.00
				Street Segment Total=	**$130,650.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

300 Block of W. 'Washington Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Washington Street serves as a gateway into the Downtown. Combination roadway and pedestrian fixtures at each end of the street with single-globe fixtures completing the opposite pattern is recommended for this street. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Removal of the five-globe fixtures in front of The Pantagraph would be necessary to continue the typical gateway entrance pattern using the decorative combination pendant/single-globe fixtures and 13-foot single-globe fixtures. It is recommended that these two five-globe fixtures be relocated to the sidewalk in front of the McBarnes Building on Grove Street.

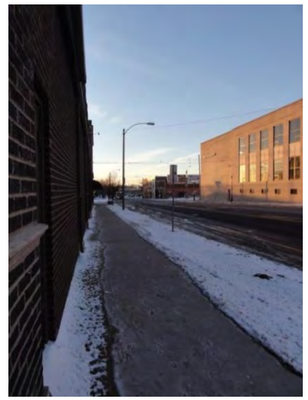
Civil

Replace curb ramps on the north side at Madison Street and on both sides at Roosevelt Avenue.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing parkway trees should be preserved, with the exception of one tree that conflicts with a proposed light near the intersection of Washington Street and Roosevelt Avenue. Two bike racks are recommended on the north side of the road. Two litter bins are proposed at the gateway intersection of Washington Street and Madison Street, and two are recommended at the gateway intersection of Washington Street and Roosevelt Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.



Decorative single globes shown along the north side of the street in front of The Pantagraph building.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: Madison to Roosevelt *Street Segment No.:* 54
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
150	SY	Class D Patch, Type IV [5]	$200.00	$30,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$40,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
241	LF	PVC Conduit & Wire	$17.00	$4,097.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
3	EA	Utility Cost	$5,000.00	$15,000.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$58,497.00
Landscaping					
8	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$12,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
3	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$6,600.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$25,200.00
				Street Segment Total=	**$123,897.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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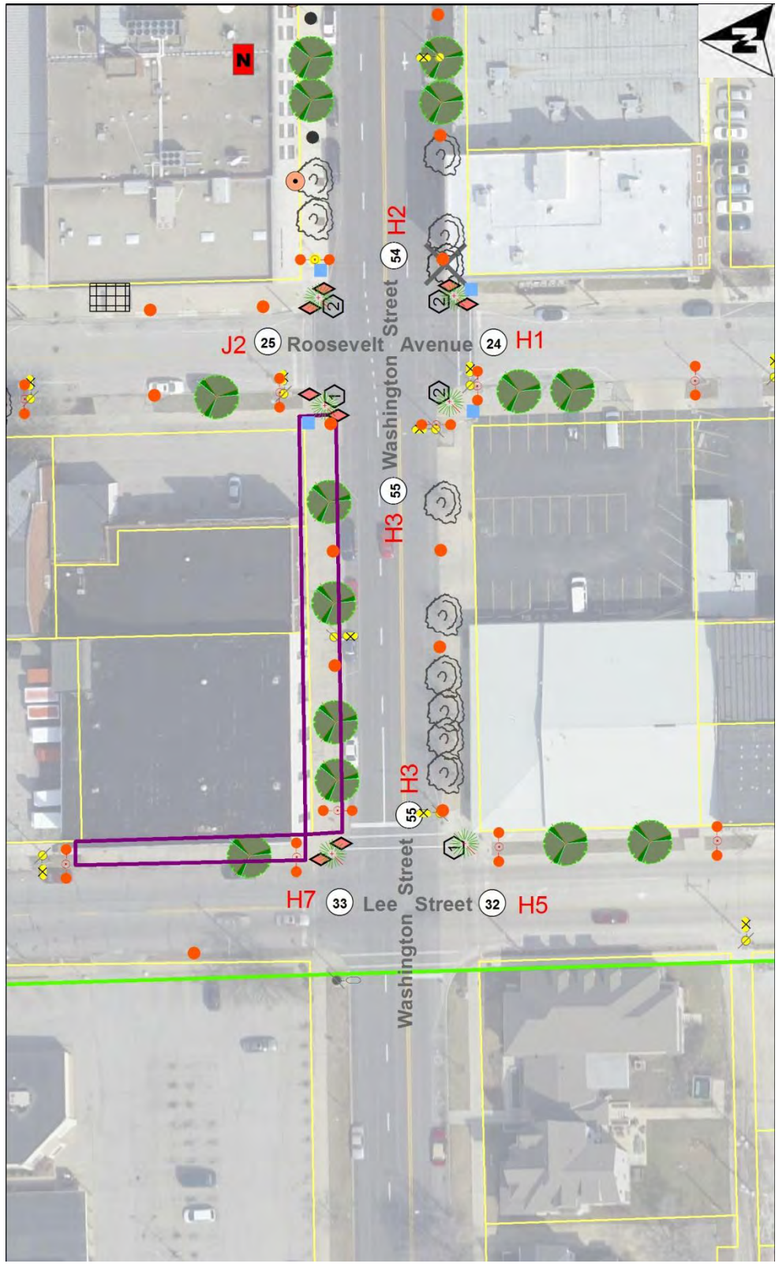
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

400 Block of W. Washington Street (from Roosevelt Avenue to Lee Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Washington Street serves as the beginning gateway into the Downtown area. Combination roadway/pedestrian fixtures at each end of the street with single-globe fixtures completing the opposite pattern is recommended for this street. An existing tree in the southeast area of this street may need to be removed to accommodate a decorative lighting pole due to the multiple drive entrances into the adjacent parking lot. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Additional streetscape upgrades, including decorative lighting, also could be extended an additional block to the west.

Civil

Replace sidewalk on the north side of the street. Replace curb ramps on the north side at both Roosevelt Avenue and Lee Street.

Landscape

Opportunities exist for adding parkway trees on the north side of the street to better define the street corridor. Existing parkway trees on the south side should be preserved. Two litter bins are proposed at the gateway intersection of Washington Street and Roosevelt Avenue.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Existing conditions of the south side of Washington Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Washington St.**
From: Roosevelt to Lee *Street Segment No.:* 55
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
3500	SF	Sidewalk Removal & Replacement	$12.00	$42,000.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$83,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
435	LF	PVC Conduit & Wire	$17.00	$7,395.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,525.00
Landscaping					
4	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$6,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$9,000.00
				Street Segment Total=	**$153,325.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of E. Jefferson Street (from Prairie Street to East Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Jefferson Street serves as a pedestrian route to parking lots for many businesses downtown. Illumination is recommended to be provided by an opposite pattern arrangement of decorative poles with taller roadway/pedestrian combination poles alternating with the 13-foot single-globe fixtures.

Landscape

Existing parkway trees should be preserved to continue to define the street corridor.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: Prairie to East *Street Segment No.:* 56
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
300	SY	Class D Patch, Type IV [5]	$200.00	$60,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$67,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
845	LF	PVC Conduit & Wire	$17.00	$14,365.00	
8	EA	13' Pole Concrete Base [4]	$1,000.00	$8,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
12	EA	Ground Rod	$60.00	$720.00	
12	EA	In-Grade Junction Box	$600.00	$7,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
8	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$23,000.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
12	EA	Light Pole Installation and Connection	$1,000.00	$12,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$98,485.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$166,285.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
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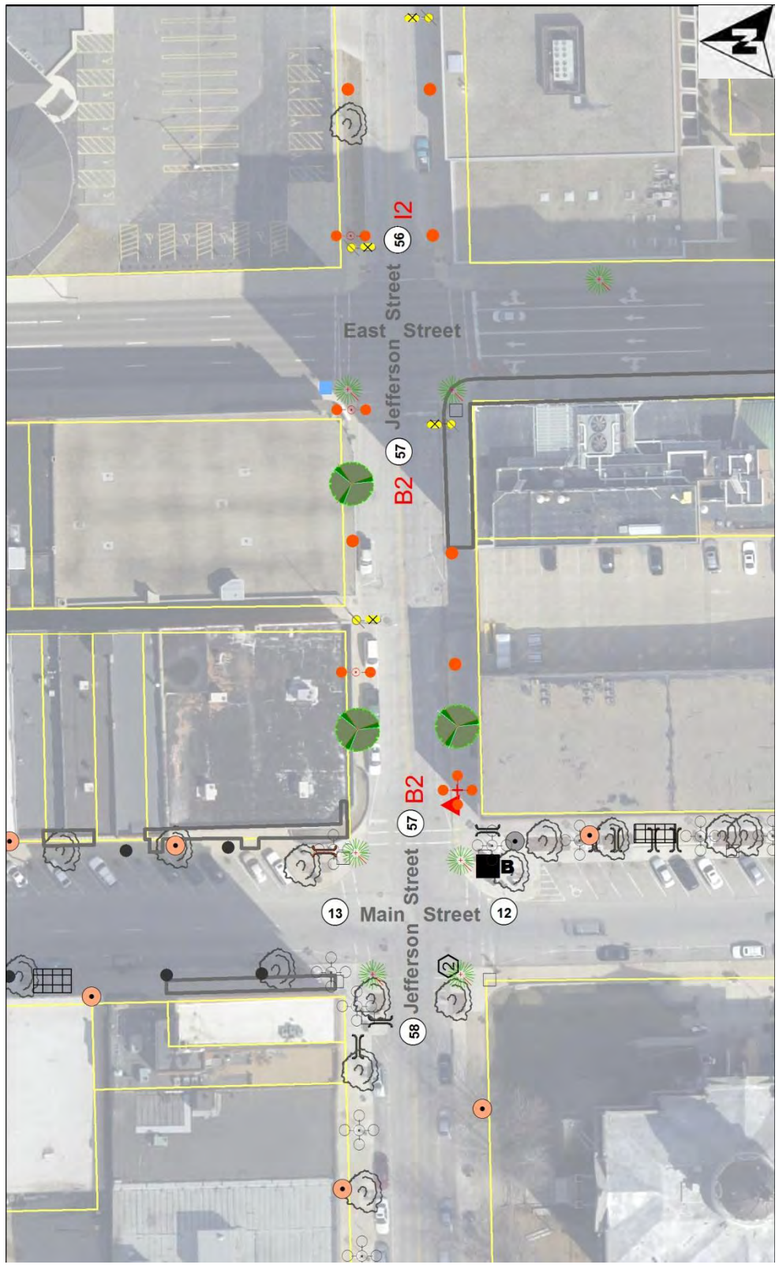
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of E. Jefferson Street (from East Street to Main Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This portion of Jefferson Street continues the pedestrian traffic inward to the Downtown area from the parking areas across East Street. A combination roadway/pedestrian fixture is recommended on the northeast end of the street due to the basement extension to the curb around the State Farm building. This will help brighten the crosswalk area so that pedestrians may be visible for any westbound vehicle traffic into Downtown. A decorative five-globe is suggested for the southwest corner of the street to match the adjacent five-globe fixtures around the Museum. A building overhang is present on northwest corner of the street, so no fixture is recommended here due to clearance limitations.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A litter bin is recommended for the northwest corner of the intersection of Jefferson Street and East Street. A bench is recommended for the northeast corner of the intersection of Jefferson Street and Main Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

View of the south sidewalk on Jefferson Street

Roof overhang could cause clearance issues with a decorative light fixture.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: East to Main *Street Segment No.:* 57
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
150	SY	Class D Patch, Type IV [5]	$200.00	$30,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$37,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
460	LF	PVC Conduit & Wire	$17.00	$7,820.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
1	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$7,475.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
7	EA	Light Pole Installation and Connection	$1,000.00	$7,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$56,820.00
Landscaping					
4	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$6,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$10,200.00
				Street Segment Total=	**$104,820.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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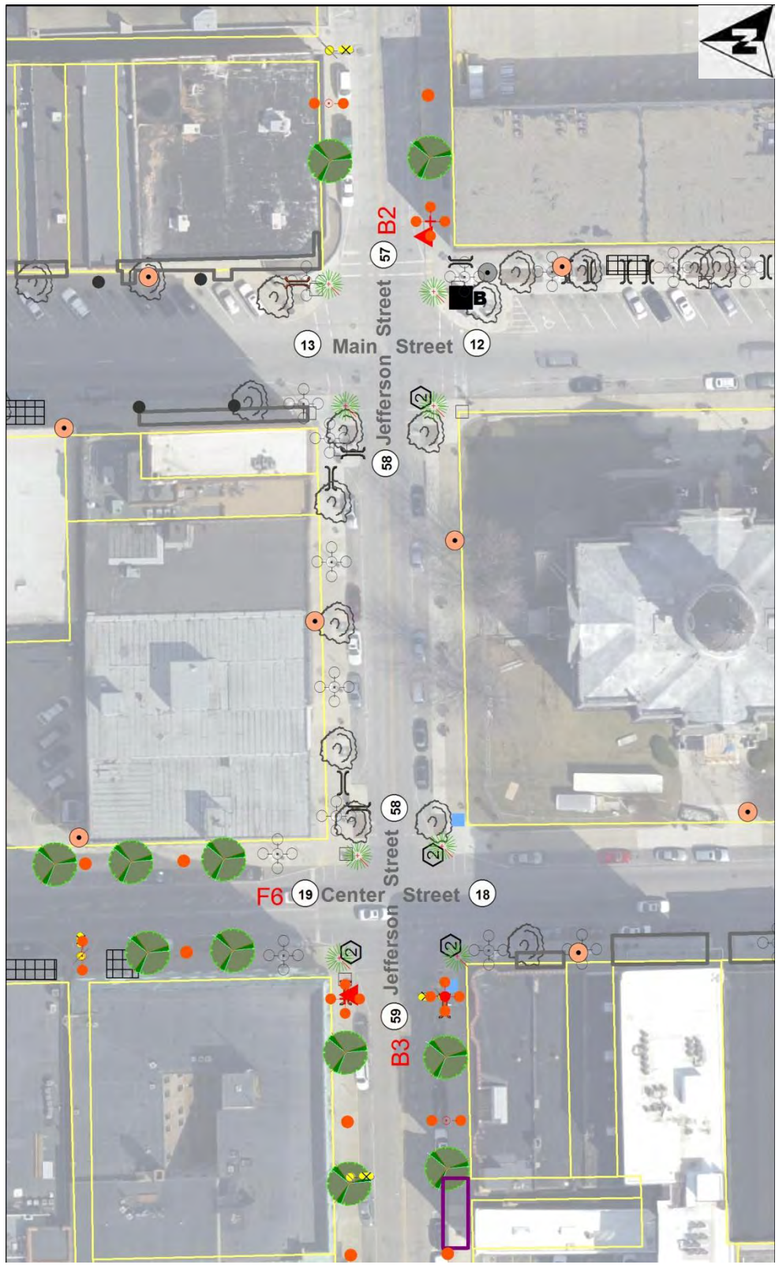
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of W. Jefferson Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Decorative five-globe fixtures were installed on the north side of Jefferson Street around the Museum Square during the 2003 streetscape improvements project. No additional decorative lighting is recommended at this time.

Landscape

Existing parkway trees should be preserved to continue to define the street corridor. Two bike racks are recommended (one on each side). A litter bin is proposed at the southeast corner of the intersection of Jefferson Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: Main to Center *Street Segment No.:* 58
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,800.00
				Street Segment Total=	**$3,800.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
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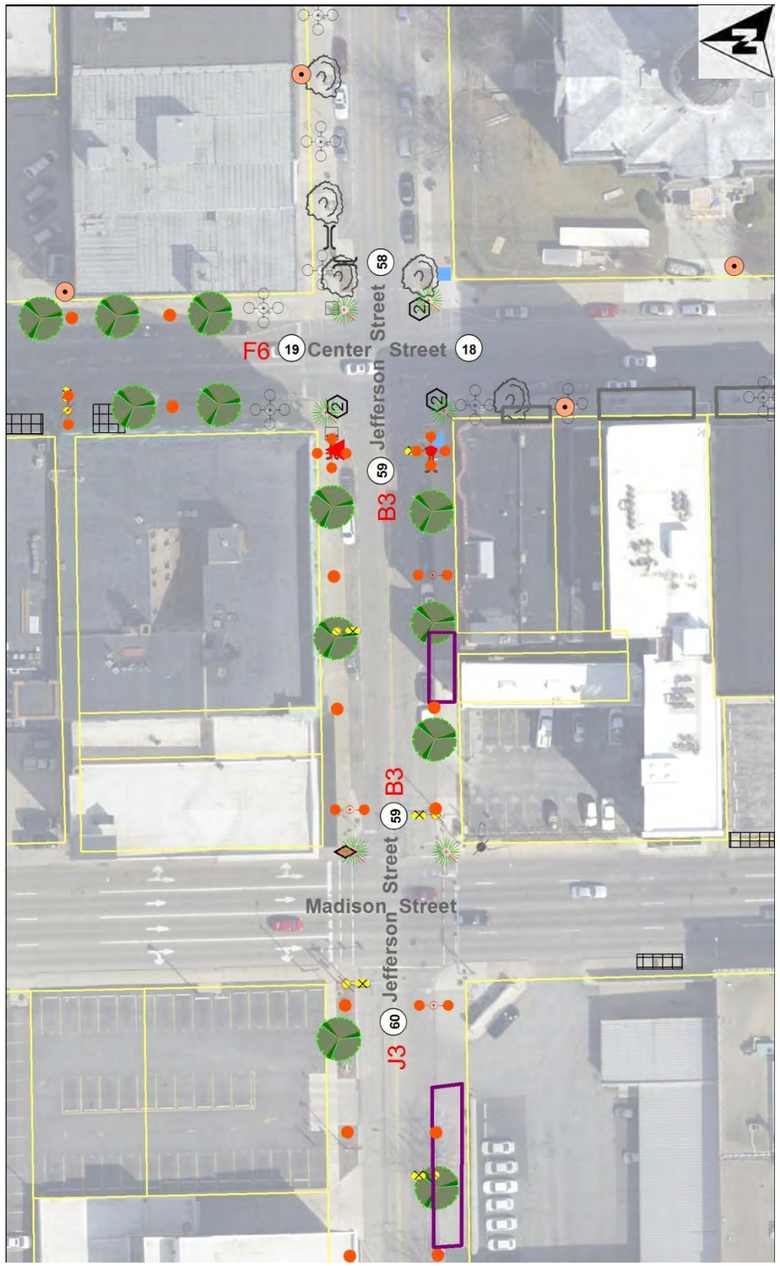
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

200 Block of W. Jefferson Street (from Center Street to Madison Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Multi-globe fixtures are suggested for the east side of the street to continue the five-globe pattern around the Museum Square. Two combination roadway/pedestrian fixtures will alternate between 13-foot single globe lights to finish the opposite pole pattern. At the southwest corner of this street, there is a traffic signal controller that will need to be re-fed during this lighting phase as it is currently being fed overhead from an existing street light. At the northwest corner, there is a bump out area that must be expanded in order to accommodate the decorative light fixture due to a roof overhang.

Civil

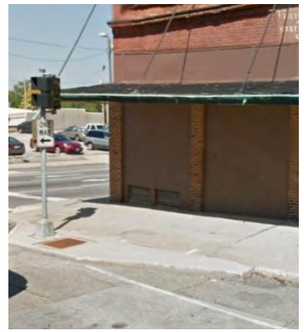
Replace partial sidewalk on the south side of the street. Replace curb ramps on the north side at Madison Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Two benches are proposed at the intersection of Jefferson Street and Center Street. A litter bin is also recommended for the southwest corner of the intersection of Jefferson Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the present Jefferson Street streetscape shows great potential for improvement.



An enhanced sidewalk bump out at Madison Street will allow additional clearance from a roof overhang for the decorative light pole.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: Center to Madison *Street Segment No.:* 59
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
410	SF	Sidewalk Removal & Replacement	$12.00	$4,920.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
160	SY	Class D Patch, Type IV [5]	$200.00	$32,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$44,720.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
400	LF	PVC Conduit & Wire	$17.00	$6,800.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
1	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$5,175.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
1	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$7,475.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$69,830.00
Landscaping					
5	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$7,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$6,000.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$17,700.00
				Street Segment Total=	**$132,250.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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All prices are an estimate and based upon the information available to the designer.
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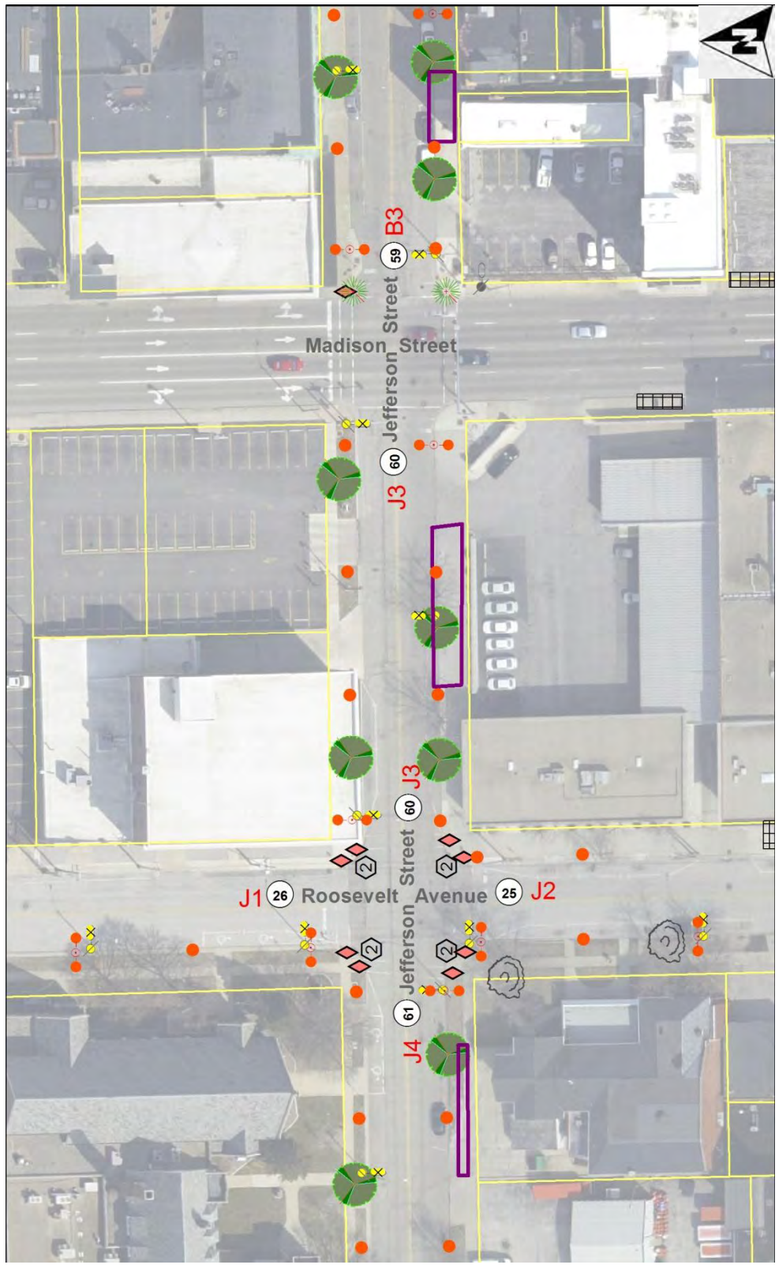
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

300 Block of W. Jefferson Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- Proposed bump out - Style 1
- Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

One roadway and pedestrian fixture is recommended for each end of the street on the traffic approach lanes. Single-globe 13-foot pedestrian fixtures will complete the pattern in between.

Civil

Replace partial sidewalk on south side of the street. Replace curb ramps on both sides at Roosevelt Avenue.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo of the existing Jefferson Street streetscape with utility street lights.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: Madison to Roosevelt *Street Segment No.:* 60
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1100	SF	Sidewalk Removal & Replacement	$12.00	$13,200.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
160	SY	Class D Patch, Type IV [5]	$200.00	$32,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$53,000.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
425	LF	PVC Conduit & Wire	$17.00	$7,225.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,355.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$5,700.00
				Street Segment Total=	**$119,055.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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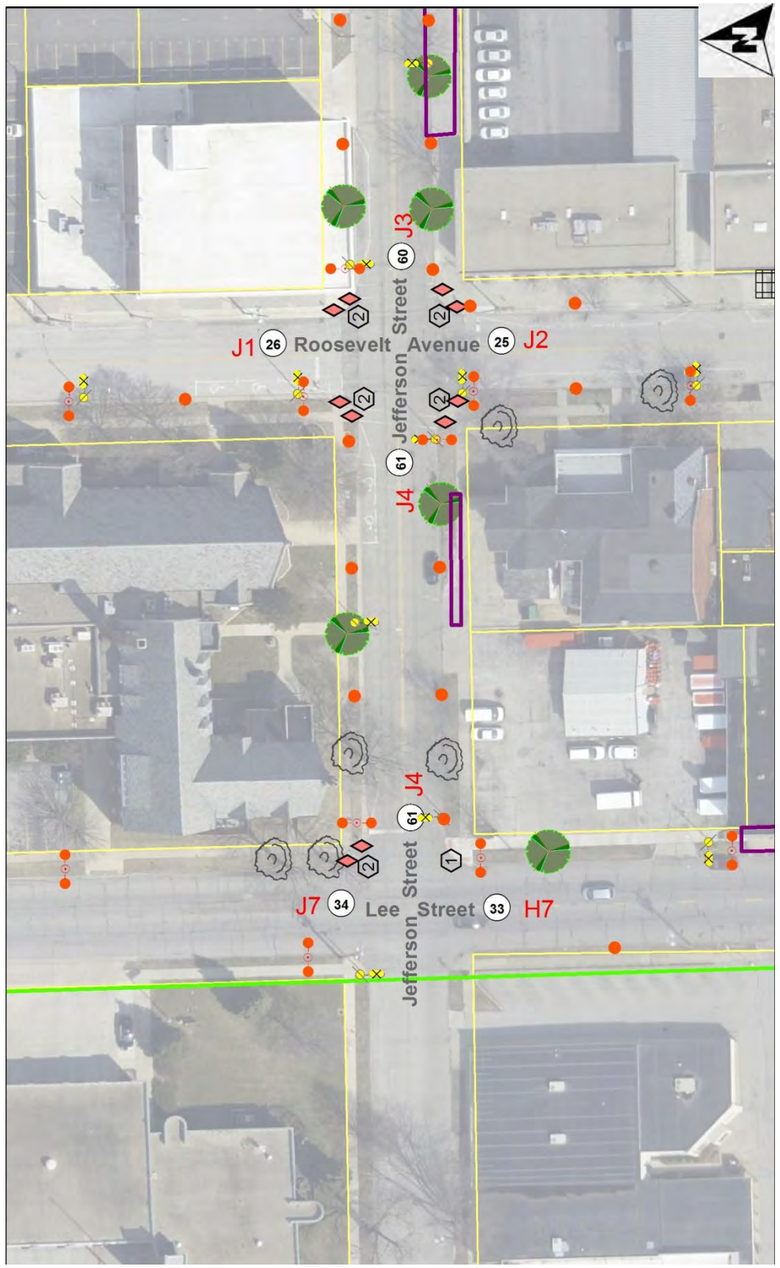
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

400 Block of W. Jefferson Street (from Roosevelt Avenue to Lee Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Jefferson Street alongside First Christian Church will have the same opposite lighting pattern as the block to the east. One roadway/pedestrian fixture is recommended for each end of the street on the traffic approach. Single-globe 13-foot pedestrian fixtures will complete the pattern in between.

Civil

Replace partial sidewalk on the south side of the street. Replace curb ramps on both sides at Roosevelt Avenue and on the north side at Lee Street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. In addition, existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Jefferson St.**
From: Roosevelt to Lee *Street Segment No.:* 61
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
300	SF	Sidewalk Removal & Replacement	$12.00	$3,600.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$47,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
418	LF	PVC Conduit & Wire	$17.00	$7,106.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,236.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$2,400.00
				Street Segment Total=	**$110,436.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of E. Monroe Street (from East Street to Main Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

An opposite pole pattern is recommended on this street. One combination roadway and pedestrian fixture at the southeast corner will illuminate the crosswalk and the pavement stop stripe for vehicle traffic and another should be installed on the opposite side of the street approximately 110' to the west. Single-globe 13-foot fixtures will complete the remaining pattern with five-globe fixtures recommended for the west end to maintain the current pattern.

Vault mitigation will be a concern along the south side of Monroe Street in areas where light fixture pole bases are required. Ameren transformer vaults will need to be avoided on the northeast sidewalk.

Civil

A vault mitigation will be required on the south side of the street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing parkway trees should be preserved. A bench is proposed at the northeast corner of the intersection of Monroe Street and Main Street. A litter bin is also recommended for the southwest corner of the intersection of Monroe Street and East Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Photo shows two existing decorative fixtures on the northeast sidewalk to be removed within the brick pavers. These fixtures have broken globes and are non-functional.

Recently poured sidewalk along the southeast side of the street.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

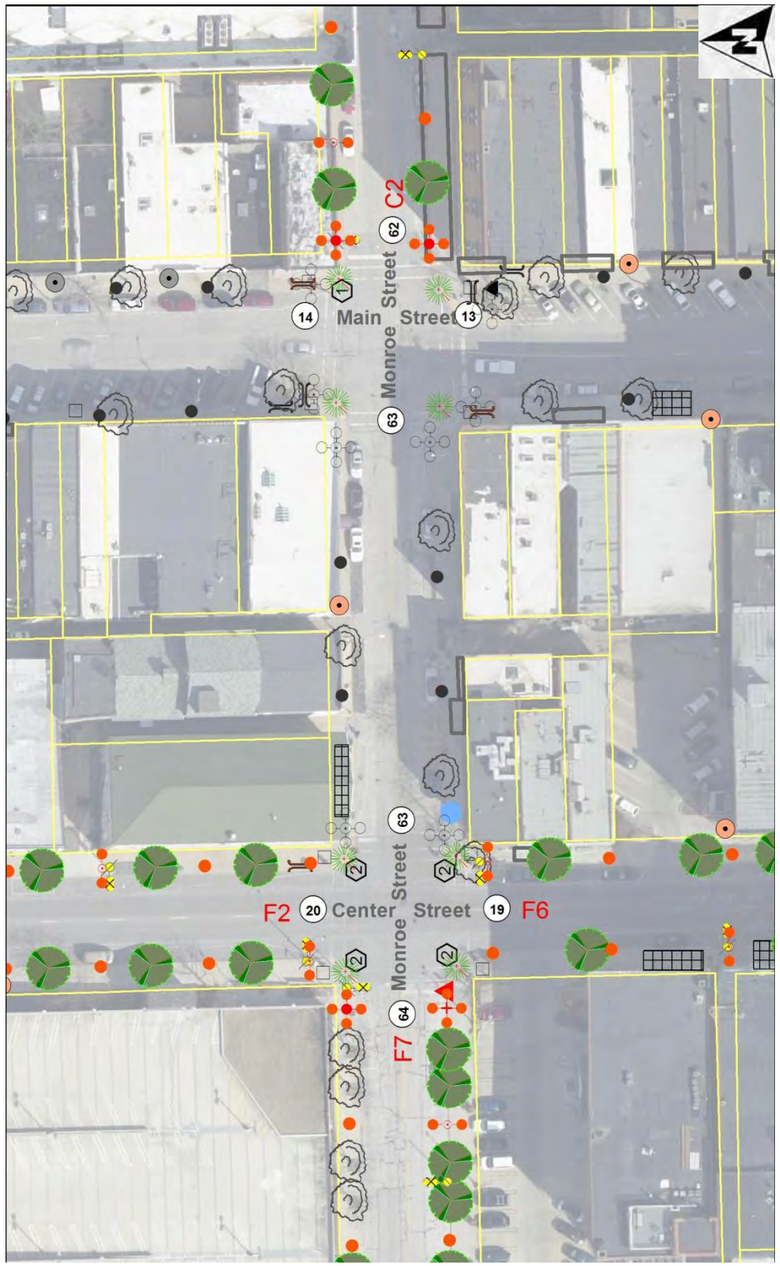
Street: **Monroe St.**
From: East to Main *Street Segment No.:* 62
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
320	CY	Vault Mitigation [1]	$500.00	$160,000.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$195,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
415	LF	PVC Conduit & Wire	$17.00	$7,055.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
2	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$10,350.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$67,785.00
Landscaping					
5	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$7,500.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$4,400.00	
2	EA	Tree grate removal	$500.00	$1,000.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$14,900.00
				Street Segment Total=	**$278,485.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of W. Monroe Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Existing decorative lighting was installed on this street during the 2009 streetscape improvement project. No additional decorative lighting is recommended at this time.

The City should verify that 85-watt lamps are installed in the five-globe fixtures around the east intersection. If 105-watt lamps are installed, they should be replaced with 85-watt lamps.

Landscape

Existing parkway trees should be preserved to define the street corridor. A bike rack is proposed on the north side of the street. Benches are recommended for the northeast corner of the intersection of Monroe Street and Center Street, and for the southwest corner of the intersection of Monroe Street and Main Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Monroe St.**
From: Main to Center *Street Segment No.:* 63
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
0	SY	Class D Patch, Type IV [5]	$200.00	$0.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
0	LS	Erosion Control [6]	$800.00	$0.00	
0	LS	Traffic Control Complete [6]	$4,500.00	$0.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
0	LS	Mobilization	$2,500.00	$0.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$0.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
0	LF	PVC Conduit & Wire	$17.00	$0.00	
0	EA	13' Pole Concrete Base [4]	$1,000.00	$0.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
0	EA	Ground Rod	$60.00	$0.00	
0	EA	In-Grade Junction Box	$600.00	$0.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
0	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
0	EA	Light Pole Installation and Connection	$1,000.00	$0.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$0.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$800.00
				Street Segment Total=	**$800.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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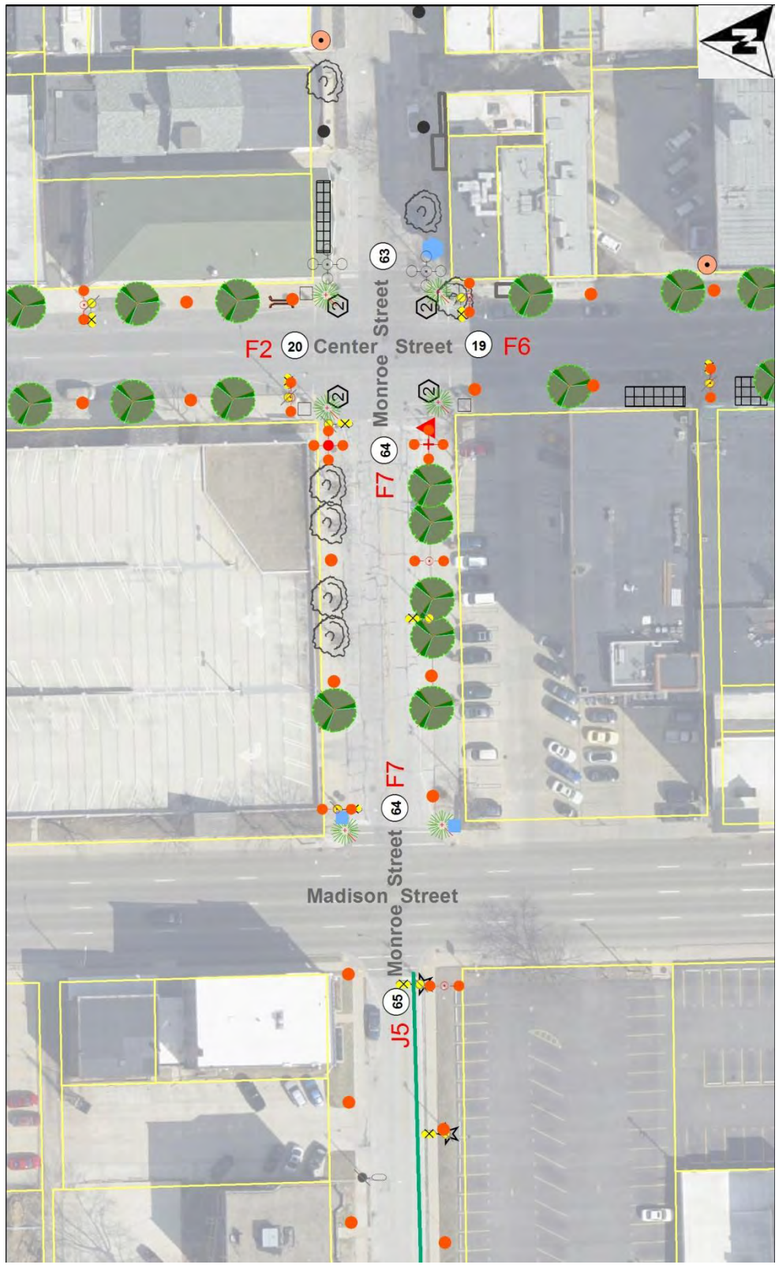
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of W. Monroe Street (from Center Street to Madison Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Five-globe fixtures are suggested for the east end of the street to create a symmetrical pattern with the existing fixtures on the opposite side of the street. The combination roadway and pedestrian fixture on the northwest corner will help illuminate the crosswalk and stop stripe on the approach to the intersection.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing parkway trees should be preserved. Litter bins are recommended for the both sides of the street at the intersection of Monroe Street and Madison Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

The existing streetscape of Monroe Street is open to the south and sheltered by trees to the north.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Monroe St.**
From: Center to Madison *Street Segment No.:* 64
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
140	SY	Class D Patch, Type IV [5]	$200.00	$28,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$35,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
400	LF	PVC Conduit & Wire	$17.00	$6,800.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
2	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$10,350.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$64,530.00
Landscaping					
6	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$9,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$4,400.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$15,400.00
				Street Segment Total=	**$115,730.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
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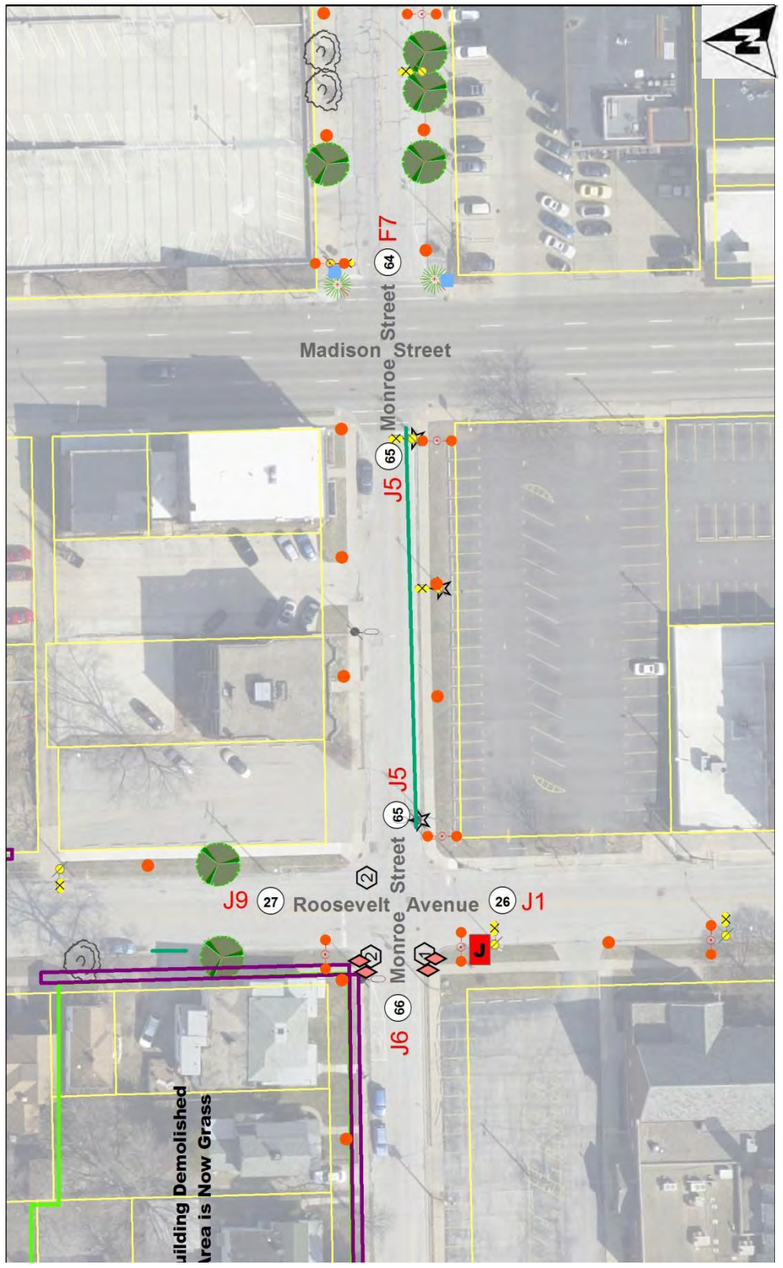
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

300 Block of W. Monroe Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Expanded right-of-way permits decorative lighting to be installed behind the sidewalk on this street. A driveway to the northwest prevents an end fixture from being installed.

Utility customer lighting also exists to the lot on the south side of the street. This customer lighting is mounted to the existing utility street light poles. An alternate solution for maintaining this service or permission from the owner to remove it will need to be coordinated with Ameren before removal of the existing utility street lighting can occur on this street.

Civil

Replace curb on the south side of the street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Monroe St.**
From: Madison to Roosevelt *Street Segment No.:* 65
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
200	LF	Curb Removal & Replacement	$40.00	$8,000.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
150	SY	Class D Patch, Type IV [5]	$200.00	$30,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$45,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
410	LF	PVC Conduit & Wire	$17.00	$6,970.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
7	EA	Ground Rod	$60.00	$420.00	
7	EA	In-Grade Junction Box	$600.00	$4,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
7	EA	Light Pole Installation and Connection	$1,000.00	$7,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$54,565.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$100,365.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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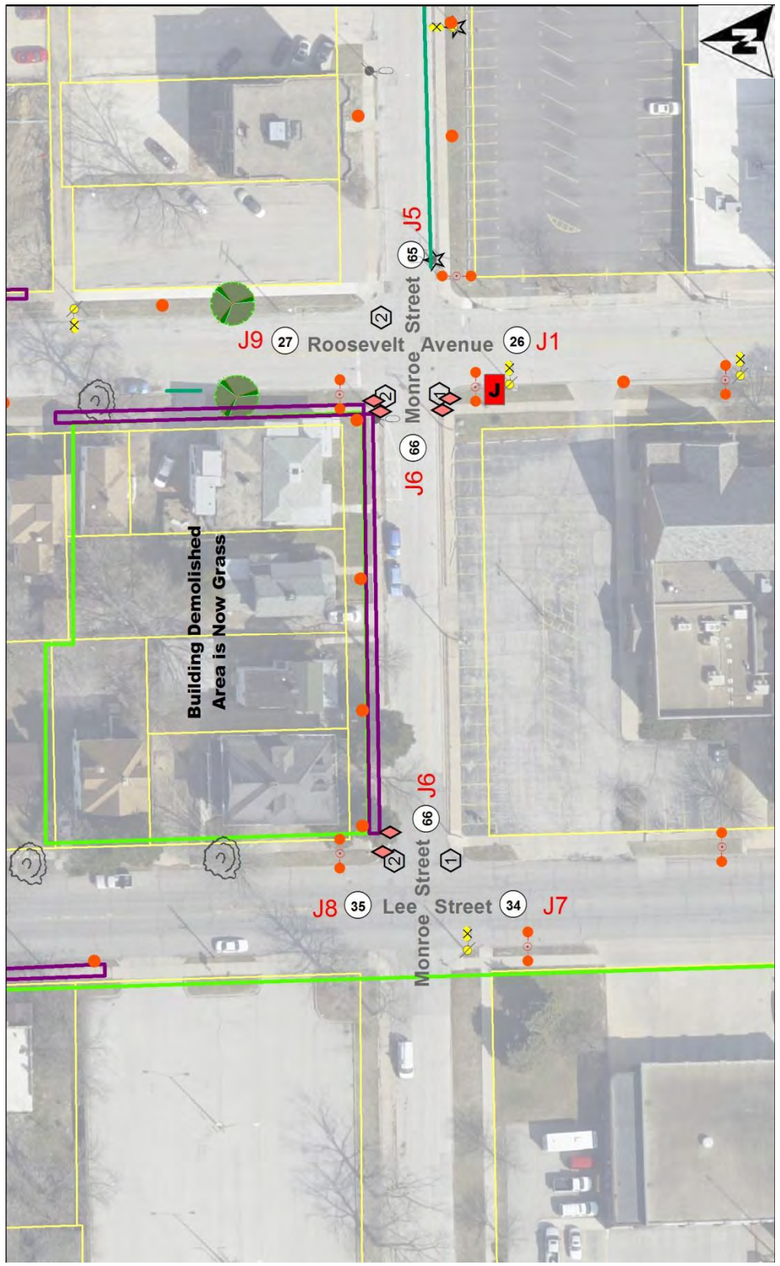
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

400 Block of W. Monroe Street (from Roosevelt Avenue to Lee Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Limited sidewalk width and lack of a grass right-of-way would not permit adequate ADA clearances if decorative lighting were installed on the south side of this street. Additional obstacles exist on the south side of the street such as overhead utilities, guy wires, and a lack of parking curbs for the First Christian Church parking lot. The right-of-way along the north side of the street is set back far enough so that lights could be installed along the inside of the sidewalk.

Civil

Replace sidewalk on the north side of the street. Replace curb ramps on both sides at Roosevelt Avenue and on the north side at Lee Street.

Photo of existing hazards to installed decorative lighting along the south side of Monroe Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

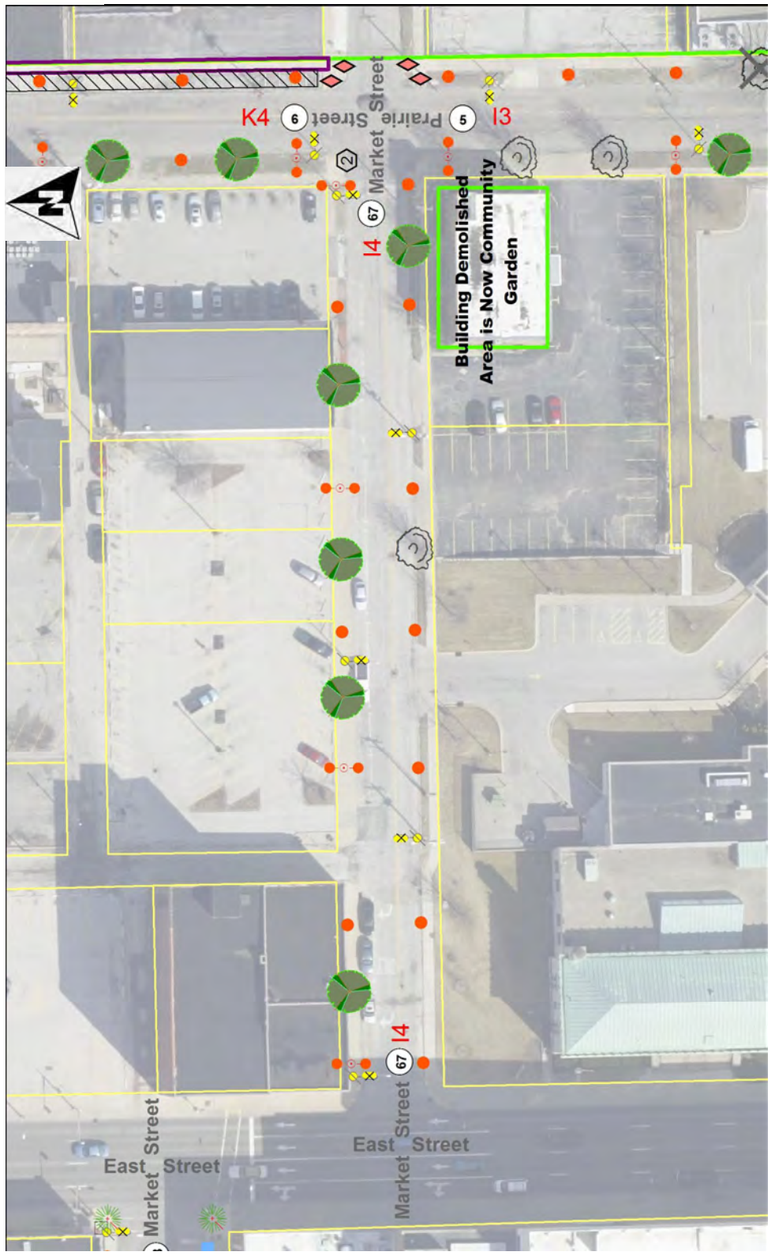
Street: **Monroe St.**
From: Grove St. to Front St. *Street Segment No.:* 66
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
1000	SF	Sidewalk Removal & Replacement	$12.00	$12,000.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
80	SY	Class D Patch, Type IV [5]	$200.00	$16,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$38,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
209	LF	PVC Conduit & Wire	$17.00	$3,553.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
4	EA	Ground Rod	$60.00	$240.00	
4	EA	In-Grade Junction Box	$600.00	$2,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
4	EA	Light Pole Installation and Connection	$1,000.00	$4,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$25,693.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$63,893.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

200 Block of E. Market Street (from Prairie Street to East Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This section of Market Street runs along the north side of the Second Presbyterian Church property. An opposite pole spacing pattern is recommended with roadway fixtures alternated in between 13-foot single globe fixtures. A widening of the sidewalk on the southwest portion will be required before providing decorative lighting in order to maintain ADA required clearances. Sidewalk widths should be verified along the remaining south sidewalk to ensure clearances are met. Sidewalks should be minimum 6 feet wide with a 6-inch curb to accommodate a 1.5-foot IDOT setback from a 2-foot diameter pole base. This would leave 3 feet of clearance, which satisfies the ADA requirements.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Southwest sidewalk requiring widening.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Market St.**
From: Prairie to East *Street Segment No.:* 67
Street Side: North/South

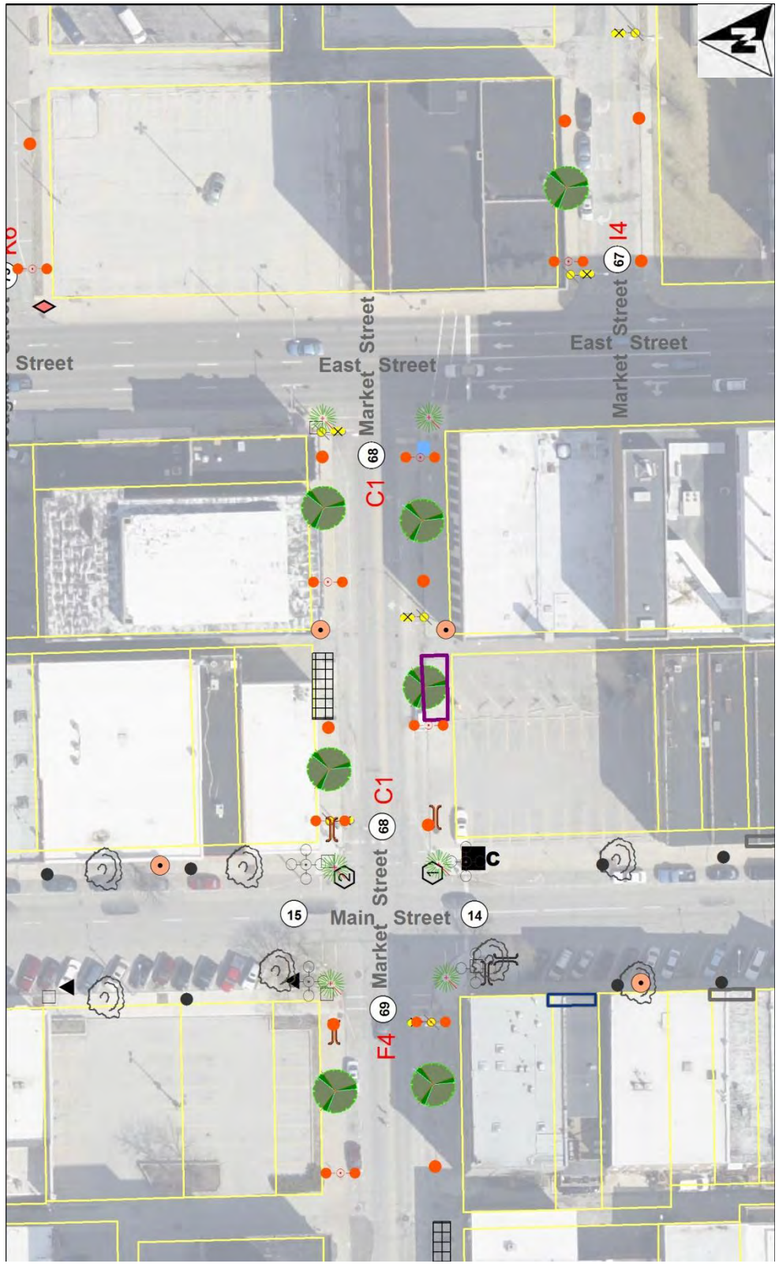
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
300	SY	Class D Patch, Type IV [5]	$200.00	$60,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$67,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
890	LF	PVC Conduit & Wire	$17.00	$15,130.00	
10	EA	13' Pole Concrete Base [4]	$1,000.00	$10,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
14	EA	Ground Rod	$60.00	$840.00	
14	EA	In-Grade Junction Box	$600.00	$8,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
10	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$28,750.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
14	EA	Light Pole Installation and Connection	$1,000.00	$14,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$110,320.00
Landscaping					
3	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$4,500.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$6,900.00
				Street Segment Total=	**$185,020.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

100 Block of E. Market Street (from East Street to Main Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Market Street is used by many as an access to Illinois 9 westbound beginning farther west of the Downtown area. Increased pedestrian traffic at night compared to other Downtown side streets is also a reason why this street requires a high-visibility streetscape. Four combination roadway and pedestrian fixtures are recommended in an alternating pattern with 13-foot single-globe pedestrian fixtures. An Ameren vault along the north sidewalk will need to be avoided. The decorative lights on either side of the street will need to connect to existing lighting junction boxes around their respective corners.

Civil

Replace partial sidewalk on the south side of the street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Bike racks are recommended on each side of the street (one per side). Two benches are suggested for the corners of the intersection of Market Street and Main Street. A litter bin is suggested for the southwest corner of the intersection of Market Street and East Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Current streetscape conditions along Market Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

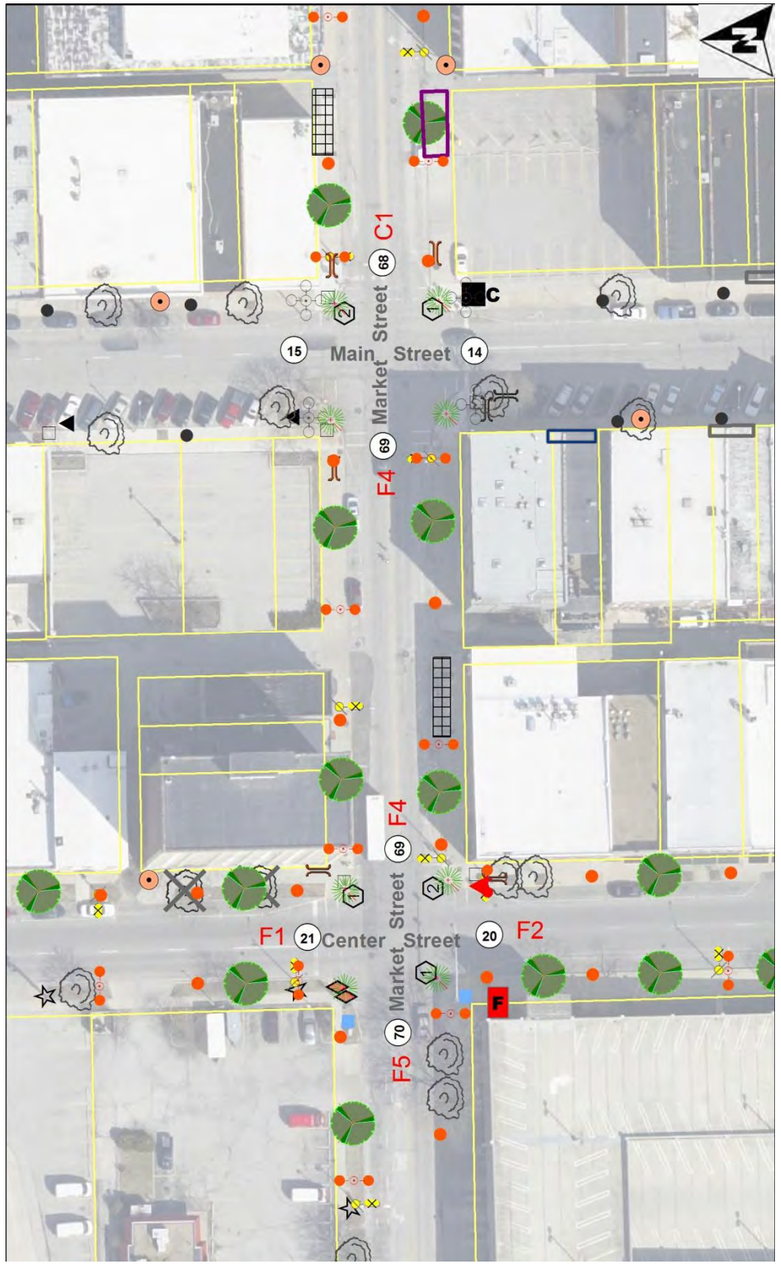
Street: **Market St.**
From: East to Main *Street Segment No.:* 68
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
470	SF	Sidewalk Removal & Replacement	$12.00	$5,640.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
135	SY	Class D Patch, Type IV [5]	$200.00	$27,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$40,440.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
412	LF	PVC Conduit & Wire	$17.00	$7,004.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
2	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$3,000.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$71,984.00
Landscaping					
4	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$6,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
2	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$1,600.00	
2	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$6,000.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$23,800.00
				Street Segment Total=	**$136,224.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of W. Market Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Market Street is used by many as an access to Illinois 9 westbound beginning farther west of the Downtown area. Increased pedestrian traffic at night compared to other Downtown side streets and proximity to the Market Street parking structure are additional reasons why this street requires a high-visibility streetscape. Four roadway/ pedestrian fixtures are recommended in an alternating pattern with 13-foot single globe pedestrian fixtures. An Ameren vault along the south sidewalk will need to be avoided.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. A bench is proposed at the northwest corner of the intersection of Market Street and Main Street. Two benches are also suggested for the corners of the gateway intersection of Market Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Market St.**
From: Main to Center *Street Segment No.:* 69
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
160	SY	Class D Patch, Type IV [5]	$200.00	$32,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$39,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
425	LF	PVC Conduit & Wire	$17.00	$7,225.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
4	EA	26' Pole Concrete Base [4]	$1,400.00	$5,600.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
4	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$27,600.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$69,205.00
Landscaping					
4	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$6,000.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
1	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$3,000.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
4	EA	Metal Street Banners (Tall Poles)	$1,500.00	$6,000.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$15,000.00
				Street Segment Total=	**$124,005.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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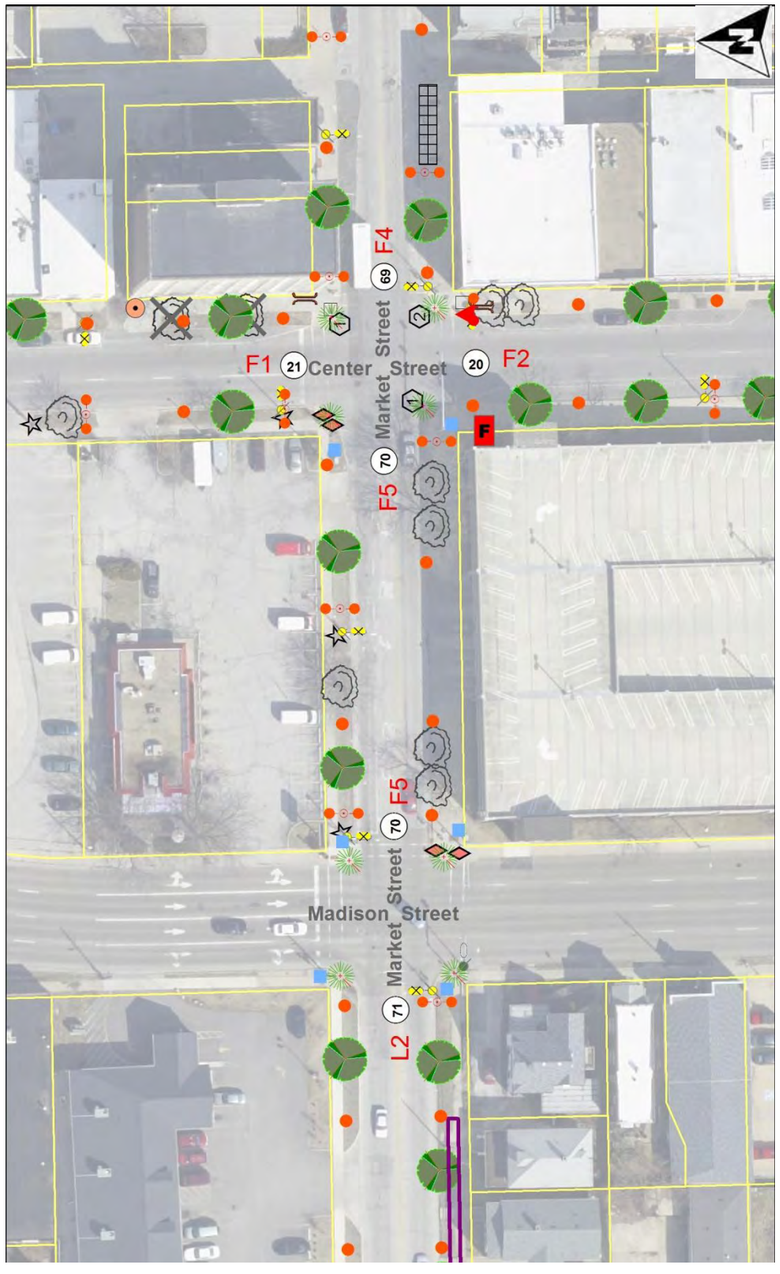
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of W. Market Street (from Center Street to Madison Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Market Street is used by many as an access to Illinois 9 westbound beginning farther west of the Downtown area. Increased pedestrian traffic at night compared to other Downtown side streets and proximity to the Market Street parking structure are additional reasons why this street requires a high-visibility streetscape. The typical opposite pole pattern was altered slightly to provide additional roadway lighting at the entrance to the parking structure. Ameren customer site lighting to the adjacent north lot is present on the existing utility street lighting poles. (See Street 21 for additional explanation and outline of options.) The arrangement of the decorative lighting depends on these utility poles and light poles being removed. Arrangements will have to be made with the property owner in coordination with Ameren prior to any lighting upgrades.

Existing Ameren customer lighting is visible for the north lot.

Civil

Replace curb ramps on the north side at Center Street and on the south side at Madison Street.

Landscape

Opportunities exist for adding parkway trees on the north side of the street to better define the street corridor. Existing parkway trees should be preserved on both sides of the street. Two litter bins are recommended for the corners at each of Market Street's gateway intersections at Center Street and Madison Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Farnsworth GROUP

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

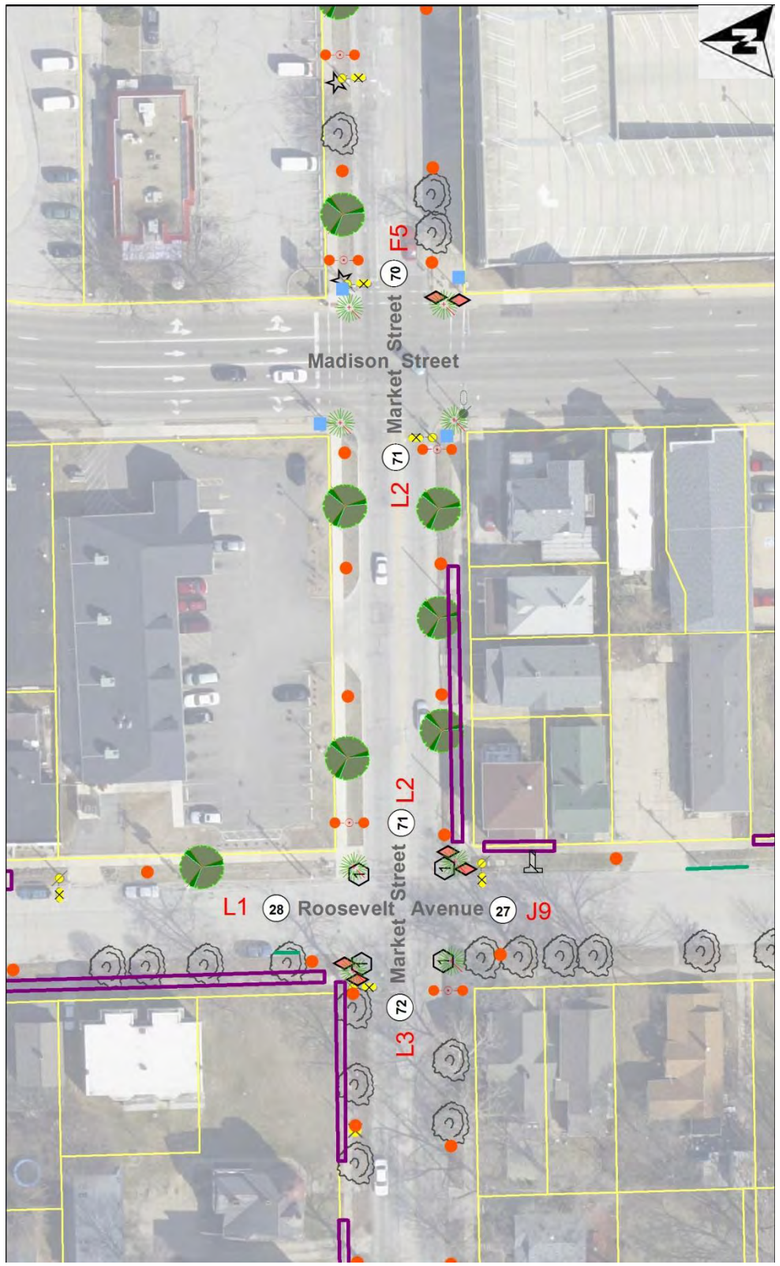
Street: **Market St.**
From: Center to Roosevelt *Street Segment No.:* 70
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
150	SY	Class D Patch, Type IV [5]	$200.00	$30,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$40,200.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
410	LF	PVC Conduit & Wire	$17.00	$6,970.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$64,525.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
3	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$6,600.00	
0	EA	Tree grate removal	$500.00	$0.00	
3	EA	Metal Street Banners (Tall Poles)	$1,500.00	$4,500.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$15,500.00
				Street Segment Total=	**$120,225.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

300 Block of W. Market Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Market Street serves as a gateway into the Downtown area. Roadway/pedestrian fixtures are recommended at the intersection approaches to the ends of the street with single-globe fixtures spaced evenly between. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape. Trenching the communication utility services underground along the south side of the road would provide a much more aesthetically pleasing gateway streetscape.

Civil

Replace partial sidewalk on the south side of the street. Replace curb ramps on the south side at Roosevelt Avenue.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Two litter bins are recommended for the gateway intersection of Market Street and Madison Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Overhead communication utility services recommended to be buried to improve the gateway streetscape.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Market St.**
From: Madison to Roosevelt *Street Segment No.:* 71
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
660	SF	Sidewalk Removal & Replacement	$12.00	$7,920.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$49,720.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
415	LF	PVC Conduit & Wire	$17.00	$7,055.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,185.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
5	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$6,000.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
2	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$4,400.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
2	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$2,000.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$15,400.00
				Street Segment Total=	**$125,305.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
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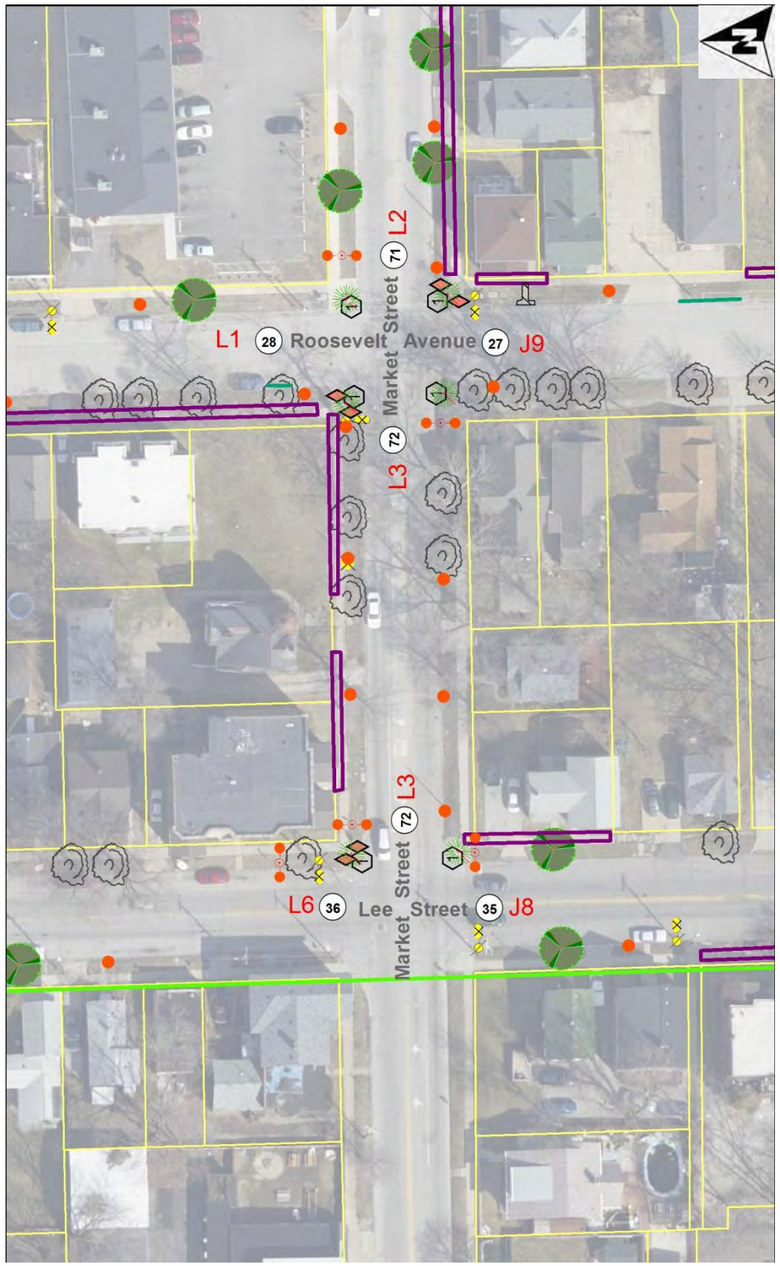
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

400 Block of W. Market Street (from Roosevelt Avenue to Lee Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Market Street serves as a gateway into the Downtown area. Roadway/pedestrian fixtures are recommended at the intersection approaches to the ends of the street with single-globe fixtures spaced evenly between. Decorative banners on the taller poles would be an inviting feature and would help bring color to the streetscape.

Civil

Replace partial sidewalk on the north side of the street. Replace curb ramps on the north side at both Roosevelt Avenue and Lee Street.

Landscape

Existing parkway trees should be preserved to continue to define the street corridor.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Market St.**
From: Grove St. to Front St. *Street Segment No.:* 72
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
620	SF	Sidewalk Removal & Replacement	$12.00	$7,440.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
2	EA	Handicap Ramps	$1,200.00	$2,400.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$51,640.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
425	LF	PVC Conduit & Wire	$17.00	$7,225.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
8	EA	Ground Rod	$60.00	$480.00	
8	EA	In-Grade Junction Box	$600.00	$4,800.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$60,355.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
2	EA	Metal Street Banners (Tall Poles)	$1,500.00	$3,000.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$3,000.00
				Street Segment Total=	**$114,995.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

200 Block of E. Douglas Street (from Prairie Street to East Street)

LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

A continuation of single-globes from the existing decorative fixtures in front of the Douglas Street apartments is recommended with a roadway/pedestrian fixture at the west end of the street. A 36-inch ADA clearance must be maintained along the south sidewalk. Field observations of the existing decorative globe lights suggest that they are non-functioning and should either be repaired or replaced to ensure evenly distributed pedestrian illumination. These lights should be re-circuited to the City's proposed lighting controller.

Civil

Replace curb ramp on the south side of the street at East Street.

Landscape

Two parkway trees are suggested on the north side of the head-in parking spaces adjacent to East Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

South sidewalk of Douglas Street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Douglas St**
From: Prairie to East *Street Segment No.:* 73
Street Side: North/South

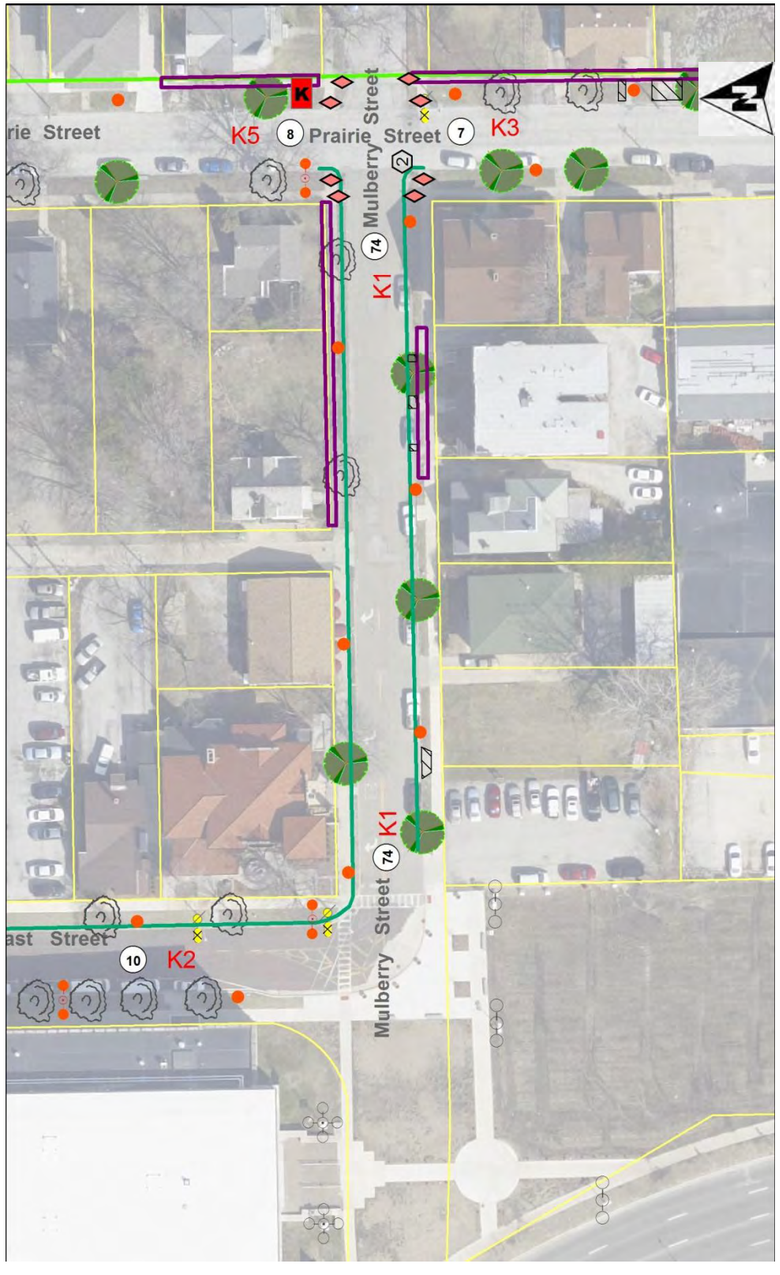
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
50	SF	Sidewalk Removal & Replacement	$12.00	$600.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
1	EA	Handicap Ramps	$1,200.00	$1,200.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$43,600.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
435	LF	PVC Conduit & Wire	$17.00	$7,395.00	
3	EA	13' Pole Concrete Base [4]	$1,000.00	$3,000.00	
1	EA	26' Pole Concrete Base [4]	$1,400.00	$1,400.00	
0	EA	Utility Cost	$5,000.00	$0.00	
4	EA	Ground Rod	$60.00	$240.00	
4	EA	In-Grade Junction Box	$600.00	$2,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
3	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$8,625.00	
1	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$6,900.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
8	EA	Light Pole Installation and Connection	$1,000.00	$8,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$37,960.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
2	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$2,400.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35)[3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196)[3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42)[3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$2,400.00
				Street Segment Total=	**$83,960.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

200 Block of E. Mulberry Street (from Prairie Street to East Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "x" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

This stretch of Mulberry Street contains residential properties along the south side and residential and commercial properties along the north. Being as it is mostly residential, a wider 60 to 80 foot spacing of single-globe fixtures is recommended.

Civil

Replace curb and partial sidewalk on both sides of the street. Remove partial sidewalk on the south side of the street.

Landscape

Opportunities exist for adding parkway trees on both sides of the street to better define the street corridor. Existing parkway trees should be preserved.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

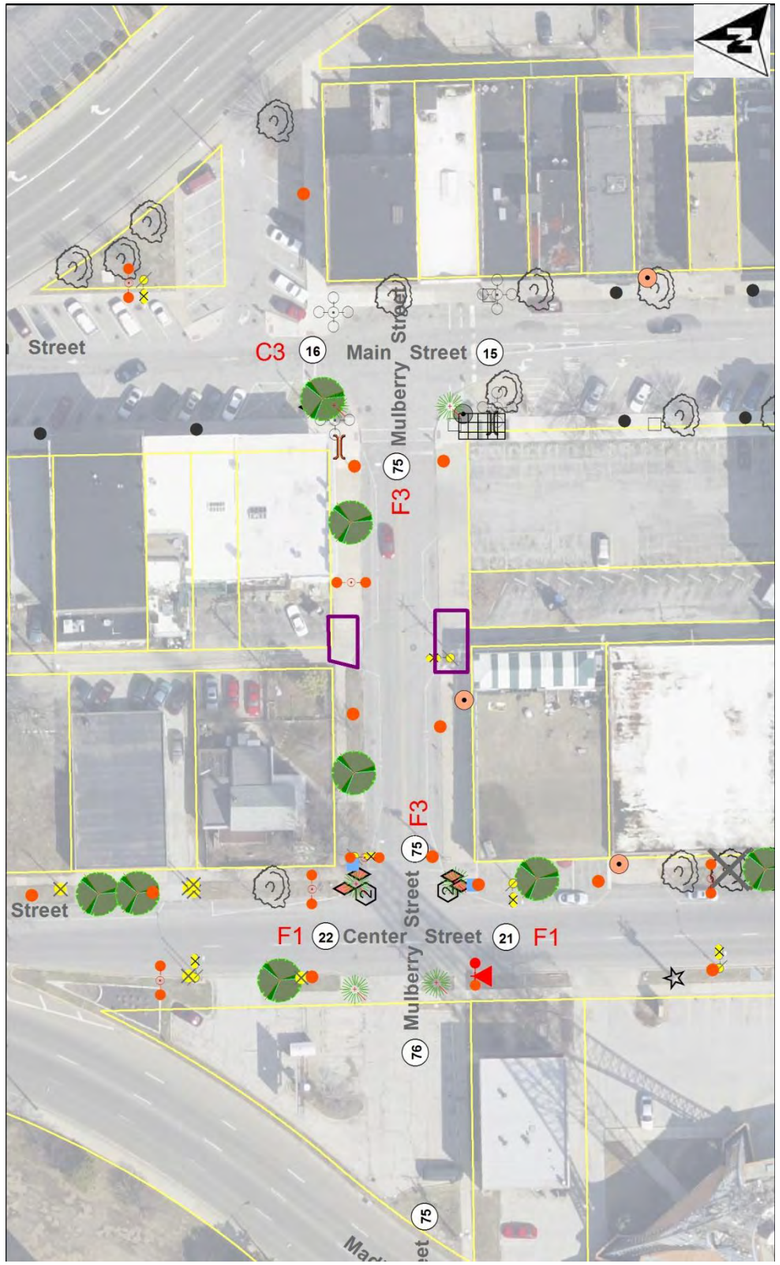
Street: **Mulberry St.**
From: Prairie to East *Street Segment No.:* 74
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
940	SF	Sidewalk Removal & Replacement	$12.00	$11,280.00	
110	SF	Pavement Removal Seeded Restoration	$20.00	$2,200.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
700	LF	Combination Concrete Curb & Gutter	$25.00	$17,500.00	
230	SY	Class D Patch, Type IV [5]	$200.00	$46,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$84,780.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
610	LF	PVC Conduit & Wire	$17.00	$10,370.00	
6	EA	13' Pole Concrete Base [4]	$1,000.00	$6,000.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
6	EA	Ground Rod	$60.00	$360.00	
6	EA	In-Grade Junction Box	$600.00	$3,600.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
6	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$17,250.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
6	EA	Light Pole Installation and Connection	$1,000.00	$6,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$43,580.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
4	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$4,800.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$4,800.00
				Street Segment Total=	**$133,160.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

100 Block of W. Mulberry Street (from Main Street to Center Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Clearance coordination will be required along the south sidewalk to ensure adequate clearance from communication utility lines. It is recommended that curb bump outs be installed at the southeast and northeast corners of the Center/Mulberry Street intersection to accommodate the proposed decorative light poles.

Civil

Replace public driveway and partial sidewalk at mid-block on both sides of the street.

Landscape

Opportunities exist for adding parkway trees on the north side of the street to better define the street corridor. A bike rack is recommended along the south side of the street. A bench is suggested for the northwest corner of the intersection of Mulberry Street and Main Street. A litter bin is recommended for the northeast corner of the intersection of Mulberry Street and Center Street.

General Note: Final locations of proposed trees and site amenities may require more detailed drawings / field coordination to ensure compatibility with buildings, utilities and other streetscape elements.

Verification of overhead utility clearances is required.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Mulberry St.**
From: Main to Center *Street Segment No.:* 75
Street Side: North/South

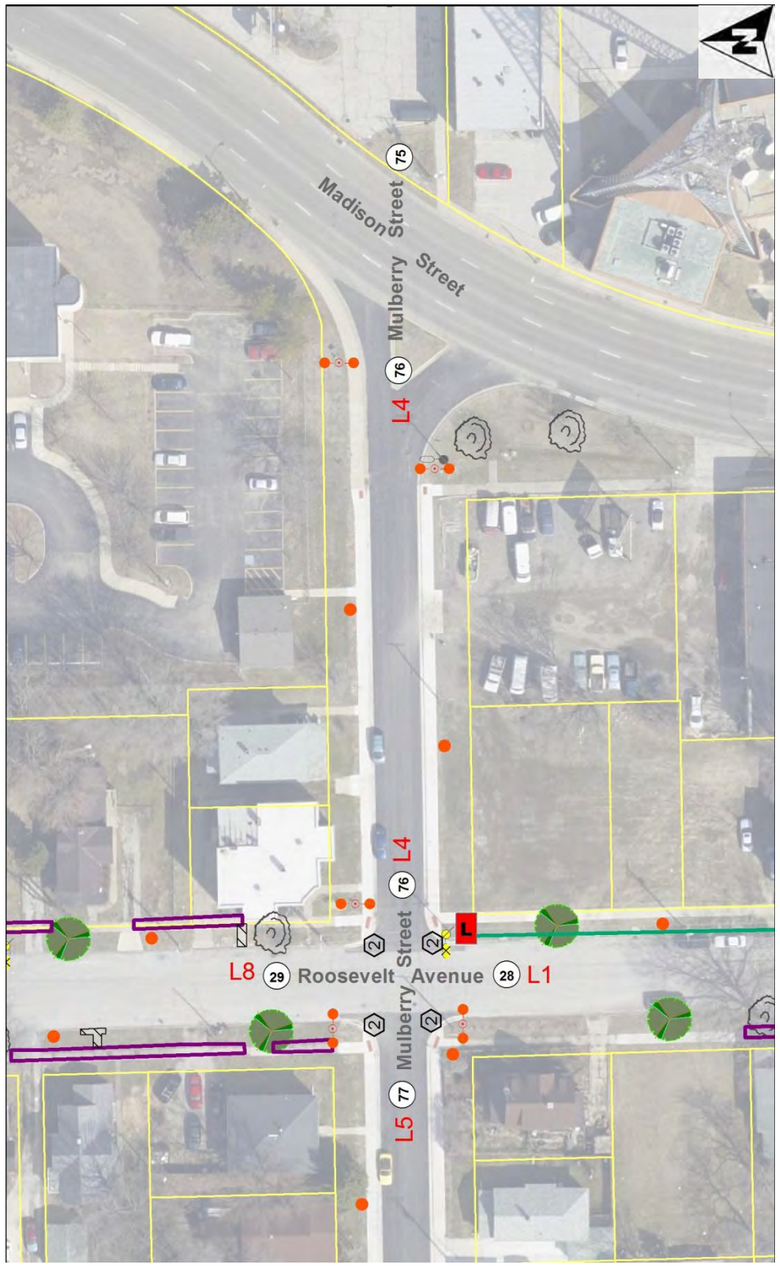
Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
150	SY	Class D Patch, Type IV [5]	$200.00	$30,000.00	
775	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$46,500.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
4	EA	Handicap Ramps	$1,200.00	$4,800.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$89,100.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
430	LF	PVC Conduit & Wire	$17.00	$7,310.00	
5	EA	13' Pole Concrete Base [4]	$1,000.00	$5,000.00	
2	EA	26' Pole Concrete Base [4]	$1,400.00	$2,800.00	
0	EA	Utility Cost	$5,000.00	$0.00	
7	EA	Ground Rod	$60.00	$420.00	
7	EA	In-Grade Junction Box	$600.00	$4,200.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
5	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$14,375.00	
2	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$13,800.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
7	EA	Light Pole Installation and Connection	$1,000.00	$7,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$54,905.00
Landscaping					
1	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$1,500.00	
1	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$1,200.00	
1	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$800.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
1	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$2,200.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$5,700.00
				Street Segment Total=	**$149,705.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

300 Block of W. Mulberry Street (from Madison Street to Roosevelt Avenue)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Deeper right-of-way setbacks allow for decorative lighting to be installed behind the sidewalks in order to maintain PROWAG 4-foot clearance requirements. Two roadway fixtures to the east will provide transition lighting from the U.S. Business 51 connection.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Mulberry St.**
From: Madison to Roosevelt *Street Segment No.:* 76
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
170	SY	Class D Patch, Type IV [5]	$200.00	$34,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$41,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
500	LF	PVC Conduit & Wire	$17.00	$8,500.00	
2	EA	13' Pole Concrete Base [4]	$1,000.00	$2,000.00	
3	EA	26' Pole Concrete Base [4]	$1,400.00	$4,200.00	
0	EA	Utility Cost	$5,000.00	$0.00	
5	EA	Ground Rod	$60.00	$300.00	
5	EA	In-Grade Junction Box	$600.00	$3,000.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
2	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$5,750.00	
3	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$20,700.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
5	EA	Light Pole Installation and Connection	$1,000.00	$5,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$49,450.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$91,250.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

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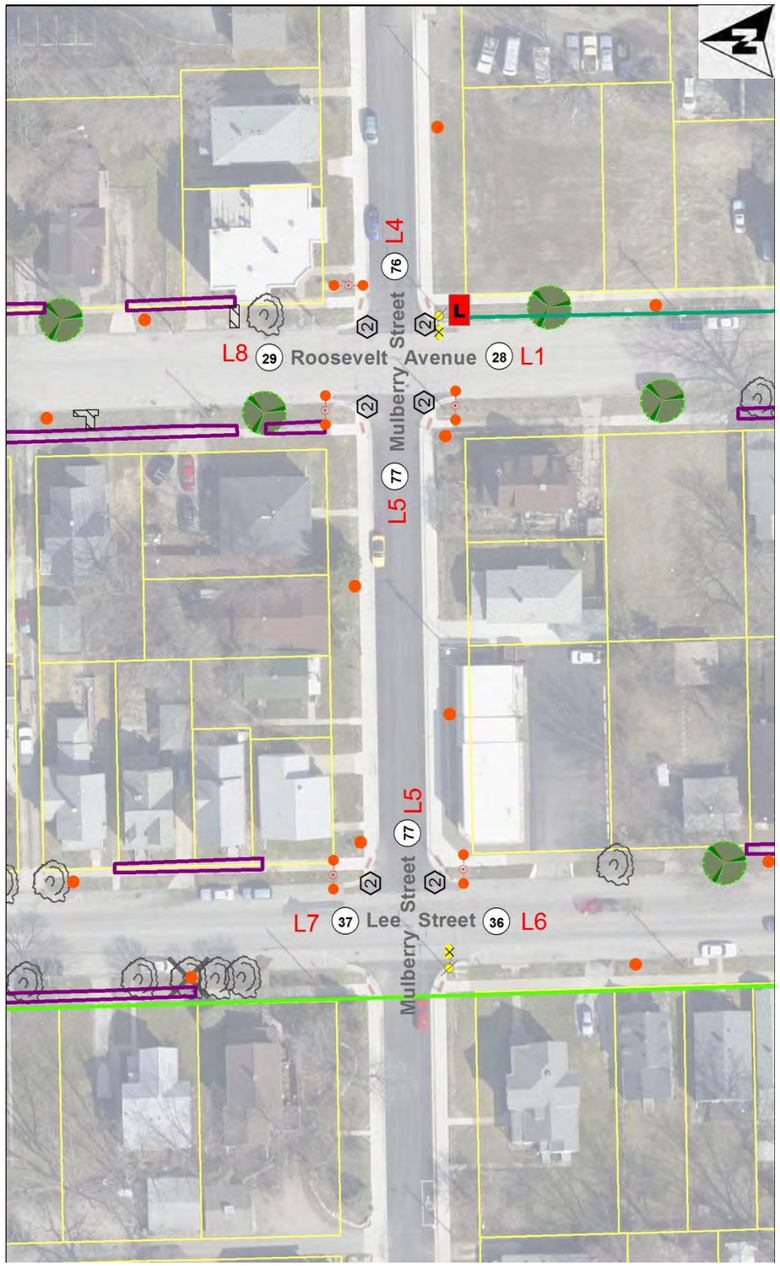
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

77 400 Block of W. Mulberry Street (from Roosevelt Avenue to Lee Street)



LEGEND

Lighting

- Proposed single globe light, 13 ft.
- Proposed 4-globe light with camera arms, 22 ft.
- Proposed 5-globe light, 13 ft.
- Proposed pendant light with single globe, 26 ft.
- Proposed pendant light with camera arms, 26 ft.
- Proposed camera location
- Existing camera location
- Existing 5-globe light, 13 ft.
- Existing 3-globe light, 13 ft.
- Existing single globe light, 13 ft.
- Existing decorative light pole
- Existing single globe removal
- Existing utility street light
- Utility light pole removal
- Utility light removal
- L8 Controller designation
- "X" Proposed lighting control pedestal
- Existing lighting control pedestal
- Existing Ameren customer lighting

General

- 36 Street segment number
- Property parcel lines
- Study boundary

Amenities

- Proposed tree
- Existing tree
- Existing tree removal
- Proposed litter bin
- Existing litter bin
- Proposed bench
- Existing bench
- Proposed bike rack
- Existing bike rack
- Proposed kiosk sign
- Existing sign
- Proposed planter

Civil

- 1 Proposed bump out - Style 1
- 2 Proposed bump out - Style 2
- Proposed ADA ramp
- Pavement removal/ seeding restoration
- Sidewalk or pavement removal and replacement
- Curb removal and replacement
- Existing electrical vault
- Existing sidewalk vault

Observations and Considerations

Lighting

Deeper right-of-way setbacks allow for decorative lighting to be installed behind the sidewalks in order to maintain PROWAG 4-foot clearance requirements. Four 13-foot single globe fixtures are recommended for this combination business and residential street.

Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Street: **Mulberry St.**
From: Roosevelt to Lee *Street Segment No.:* 77
Street Side: North/South

Qty.	Unit	Item Description	Unit Price	Unit Cost	Total Cost
Civil					
0	SF	Sidewalk Removal & Replacement	$12.00	$0.00	
0	SF	Pavement Removal Seeded Restoration	$20.00	$0.00	
0	LF	Curb Removal & Replacement	$40.00	$0.00	
0	LF	Combination Concrete Curb & Gutter	$25.00	$0.00	
110	SY	Class D Patch, Type IV [5]	$200.00	$22,000.00	
0	SF	PC Conc. Driveway Removal & Replacement [7]	$60.00	$0.00	
0	CY	Vault Mitigation [1]	$500.00	$0.00	
0	EA	Handicap Ramps	$1,200.00	$0.00	
1	LS	Erosion Control [6]	$800.00	$800.00	
1	LS	Traffic Control Complete [6]	$4,500.00	$4,500.00	
0	LS	Bump Out- Type 1	$3,500.00	$0.00	
0	LS	Bump Out- Type 2	$8,000.00	$0.00	
1	LS	Mobilization	$2,500.00	$2,500.00	
0	LS	East Street Jack/Bore Conduit	$80,000.00	$0.00	$29,800.00
Electrical					
0	EA	Lighting Controller and Concrete Pad	$12,000.00	$0.00	
200	LF	PVC Conduit & Wire	$17.00	$3,400.00	
4	EA	13' Pole Concrete Base [4]	$1,000.00	$4,000.00	
0	EA	26' Pole Concrete Base [4]	$1,400.00	$0.00	
0	EA	Utility Cost	$5,000.00	$0.00	
4	EA	Ground Rod	$60.00	$240.00	
4	EA	In-Grade Junction Box	$600.00	$2,400.00	
0	EA	13' Five Globe Light Fixtures & Pole	$5,175.00	$0.00	
4	EA	13' Single Globe Light Fixture & Pole	$2,875.00	$11,500.00	
0	EA	26' Down Light / Single Globe Fixture & Pole	$6,900.00	$0.00	
0	EA	26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	$0.00	
0	EA	22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	$0.00	
0	EA	Connect to Existing In-Pavement J-Box	$1,500.00	$0.00	
4	EA	Light Pole Installation and Connection	$1,000.00	$4,000.00	
0	EA	Remove Utility Pole	$400.00	$0.00	
0	LS	Utility Relocation	$20,000.00	$0.00	$25,540.00
Landscaping					
0	EA	2.5" cal. Tree in pavement [2]	$1,500.00	$0.00	
0	EA	2.5" cal. Tree in lawn area [2]	$1,200.00	$0.00	
0	EA	New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	$0.00	
0	EA	New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	$0.00	
0	EA	New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	$0.00	
0	EA	Tree grate removal	$500.00	$0.00	
0	EA	Metal Street Banners (Tall Poles)	$1,500.00	$0.00	
0	EA	Precast Planters (Does not include soil or plantings)	$1,000.00	$0.00	
0	EA	Kiosk Signs	$2,500.00	$0.00	$0.00
				Street Segment Total=	**$55,340.00**

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
[5] Assumed route to obtain quantity. Location subject to change during construction.
[6] Assumed necessary for all Class D Patch, Type IV work.
[7] Public driveways only.

Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas unless indicated otherwise.
Costs for Design Documents, Specifications, and Construction Inspection are not included.
All costs shown are as of 2014.

Farnsworth GROUP

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8.0 Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Summary

Segment No.	Street	From	Subtotal	Phase
1	Prairie St	Grove St. to Front St.	$104,962.00	15
2	Prairie St	Front St. to Washington St.	$110,490.00	10
3	Prairie St	Washington St. to Jefferson St.	$122,820.00	15
4	Prairie St	Jefferson St. to Monroe St.	$147,385.00	16
5	Prairie St	Monroe St. to Market St.	$122,870.00	17
6	Prairie St	Market St. to Douglas St.	$189,640.00	30
7	Prairie St	Douglas St. to Mulberry St.	$106,465.00	30
8	Prairie St	Mulberry St. to Locust St.	$118,310.00	33
9	Albert St	Olive St. to Grove St.	$173,430.00	20
10	East St	Mulberry St. to Locust St.	$108,320.00	29
11	Main St.	Front St. to Washington St.	$4,800.00	--
12	Main St.	Washington St. to Jefferson St.	$4,800.00	--
13	Main St.	Jefferson St. to Monroe St.	$12,400.00	--
14	Main St.	Monroe St. to Market St.	$17,300.00	--
15	Main St.	Market St. to Mulberry St.	$15,100.00	--
16	Main St.	Mulberry St. to Locust St.	$40,515.00	6
17	Center St.	Front St. to Washington St.	$176,455.00	2
18	Center St.	Washington St. to Jefferson St.	$32,100.00	--
19	Center St.	Jefferson St. to Monroe St.	$139,870.00	5
20	Center St.	Monroe St. to Market St.	$245,640.00	4
21	Center St.	Market St. to Mulberry St.	$203,985.00	3
22	Center St.	Mulberry St. to Locust St.	$134,675.00	3
23	Roosevelt Ave.	Olive St. to Coliseum	$79,100.00	19
24	Roosevelt Ave.	Front St. to Washington St.	$99,360.00	12
25	Roosevelt Ave.	Washington St. to Jefferson St.	$155,690.00	23
26	Roosevelt Ave.	Jefferson St. to Monroe St.	$119,190.00	23
27	Roosevelt Ave.	Monroe St. to Market St.	$140,210.00	27
28	Roosevelt Ave.	Market St. to Mulberry St.	$166,185.00	28
29	Roosevelt Ave.	Mulberry St. to Locust St.	$140,855.00	33
30	Lee St.	Olive St. to Grove St.	$52,960.00	18
31	Lee St.	Grove St. to Front St.	$71,430.00	18
32	Lee St.	Front St. to Washington St.	$72,370.00	18
33	Lee St.	Washington St. to Jefferson St.	$114,270.00	22
34	Lee St.	Jefferson St. to Monroe St.	$78,235.00	26
35	Lee St.	Monroe St. to Market St.	$112,875.00	26
36	Lee St.	Market St. to Mulberry St.	$125,625.00	32
37	Lee St.	Mulberry St. to Locust St.	$134,930.00	32
38	Olive St.	Prairie St. to Albert St.	$0.00	--
39	Olive St.	Albert St. to Main St.	$117,075.00	21
40	Olive St.	Main St. to Center St.	$164,520.00	22
41	Olive St.	Center St. to Roosevelt St.	$0.00	--
42	Olive St.	Roosevelt St. to Lee St.	$6,000.00	--
43	Grove St.	Mulberry St. to Locust St.	$172,410.00	20
43a	Sidewalk	West of Albert St. (Olive St to Grove St.)	$34,425.00	21
44	Front St.	Prairie St. to East St.	$213,105.00	11
45	Front St.	East St. to Main St.	$97,937.00	1
46	Front St.	Main St. to Center St.	$130,320.00	1
47	Front St.	Center St. to Madison St.	$149,815.00	2
48	Front St.	Madison St. to Roosevelt Ave.	$73,125.00	12
49	Front St.	Roosevelt Ave. to Lee St.	$65,665.00	12
50	Washington St.	Prairie St. to East St.	$224,055.00	10
51	Washington St.	East St. to Main St.	$126,720.00	7
52	Washington St.	Main St. to Center St.	$4,600.00	--
53	Washington St.	Center St. to Madison St.	$130,650.00	7

8.0 Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00
Client: City of Bloomington *Date:* 23-Jun-14
By: JMG, JAG, JAM

Summary

54	Washington St.	Madison St. to Roosevelt Ave.	$123,897.00	14
55	Washington St.	Roosevelt Ave. to Lee St.	$153,325.00	14
56	Jefferson St.	Prairie St. to East St.	$166,285.00	16
57	Jefferson St.	East St. to Main St.	$104,820.00	8
58	Jefferson St.	Main St. to Center St.	$3,800.00	--
59	Jefferson St.	Center St. to Madison St.	$132,250.00	8
60	Jefferson St.	Madison St. to Roosevelt Ave.	$119,055.00	24
61	Jefferson St.	Roosevelt Ave. to Lee St.	$110,436.00	24
62	Monroe St.	East St. to Main St.	$278,485.00	9
63	Monroe St.	Main St. to Center St.	$800.00	--
64	Monroe St.	Center St. to Madison St.	$115,730.00	9
65	Monroe St.	Madison St. to Roosevelt Ave.	$100,365.00	25
66	Monroe St.	Roosevelt Ave.. to Lee St.	$63,893.00	25
67	Market St.	Prairie St. to East St.	$185,020.00	17
68	Market St.	East St. to Main St.	$136,224.00	6
69	Market St.	Main St. to Center St.	$124,005.00	4
70	Market St.	Center St. to Madison St.	$120,225.00	6
71	Market St.	Madison St. to Roosevelt Ave.	$125,305.00	28
72	Market St.	Roosevelt Ave. to Lee St.	$114,995.00	28
73	Douglas St.	Prairie St. to East St.	$83,960.00	30
74	Mulberry St.	Prairie St. to East St.	$133,160.00	29
75	Mulberry St.	Main St. to Center St.	$149,705.00	3
76	Mulberry St.	Madison St. to Roosevelt Ave.	$91,250.00	31
77	Mulberry St.	Roosevelt Ave. to Lee St.	$55,340.00	31
			Street Segment Total=	**$8,498,369.00**

8.0 Opinion of Probable Cost

Project: **Bloomington Streetscape Lighting Master Plan** *Project No.:* 131202.00

Client: City of Bloomington *Date:* 23-Jun-14

By: JMG, JAG, JAM

Material Quantity Cost Summary

Item Description	Unit Cost	Total Qty.	Total
Civil			
Sidewalk Removal & Replacement	$12.00	19500	$234,000.00
Pavement Removal Seeded Restoration	$20.00	3660	$73,200.00
Curb Removal & Replacement	$40.00	725	$29,000.00
Combination Concrete Curb & Gutter	$25.00	850	$21,250.00
Class D Patch, Type IV [5]	$200.00	10705	$2,141,000.00
PC Conc. Driveway Removal & Replacement [7]	$60.00	1105	$66,300.00
Vault Mitigation [1]	$500.00	320	$160,000.00
Handicap Ramps	$1,200.00	67	$80,400.00
Erosion Control [6]	$800.00	65	$52,000.00
Traffic Control Complete [5]	$4,500.00	65	$292,500.00
Bump Out- Type 1	$3,500.00	19	$66,500.00
Bump Out- Type 2	$8,000.00	42	$336,000.00
Mobilization	$2,500.00	69	$172,500.00
East Street Jack/Bore Conduit	$80,000.00	1	$80,000.00
Electrical			
Lighting Controller and Concrete Pad	$12,000.00	9	$108,000.00
PVC Conduit & Wire	$17.00	31192	$530,264.00
13' Pole Concrete Base [4]	$1,000.00	290	$290,000.00
26' Pole Concrete Base [4]	$1,400.00	166	$232,400.00
Utility Cost	$5,000.00	13	$65,000.00
Ground Rod	$60.00	463	$27,780.00
In-Grade Junction Box	$600.00	463	$277,800.00
13' Five Globe Light Fixtures & Pole	$5,175.00	5	$25,875.00
13' Single Globe Light Fixture & Pole	$2,875.00	281	$807,875.00
26' Down Light / Single Globe Fixture & Pole	$6,900.00	161	$1,110,900.00
26' Down Light / Single Globe Fixture & Pole w/ Camera Arms	$9,200.00	4	$36,800.00
22' Four Globe Light Fixture & Pole w/ Camera Arm	$7,475.00	3	$22,425.00
Connect to Existing In-Pavement J-Box	$1,500.00	17	$25,500.00
Light Pole Installation and Connection	$1,000.00	458	$458,000.00
Remove Utility Pole	$400.00	7	$2,800.00
Utility Relocation	$20,000.00	2	$40,000.00
Landscaping			
2.5" cal. Tree in pavement [2]	$1,500.00	115	$172,500.00
2.5" cal. Tree in lawn area [2]	$1,200.00	69	$82,800.00
New Bike Rack by Victor Stanley (Model #BKR-35) [3]	$800.00	44	$35,200.00
New 6' Bench by Victor Stanley (Model #CR-196) [3]	$3,000.00	18	$54,000.00
New Litter Bin by Victor Stanley (Model #S-42) [3]	$2,200.00	39	$85,800.00
Tree grate removal	$500.00	16	$8,000.00
Metal Street Banners (Tall Poles)	$1,500.00	66	$99,000.00
Precast Planters (Does not include soil or plantings)	$1,000.00	90	$90,000.00
Kiosk Signs	$2,500.00	2	$5,000.00
		Total	$8,498,369.00

[1] Approximate quantity.
[2] Cost includes sidewalk/soil removal & replacement, backfill with planting mix, and new shredded hardwood mulch.
[3] Includes shipping, installation and contractor mark-up.
[4] Cost includes sidewalk/soil removal & replacement.
Product prices based upon market value upon publish date of this report. Adjustment factors for inflation have not been considered.
All prices are an estimate and based upon the information available to the designer.
Estimate does not include costs for utility relocations or alterations required to install lighting or other streetscape amenities unless indicated otherwise.
Estimate does not include costs for security cameras and associated enclosures.
Estimate does not include site restoration for grass or dirt areas.
Cost for Design Documents, Specifications, and Construction Inspection are not included.

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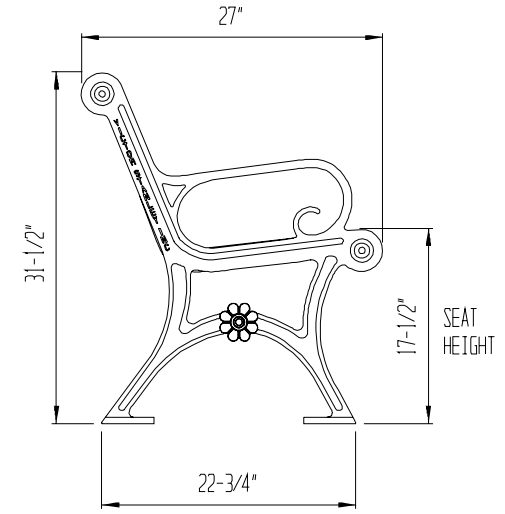

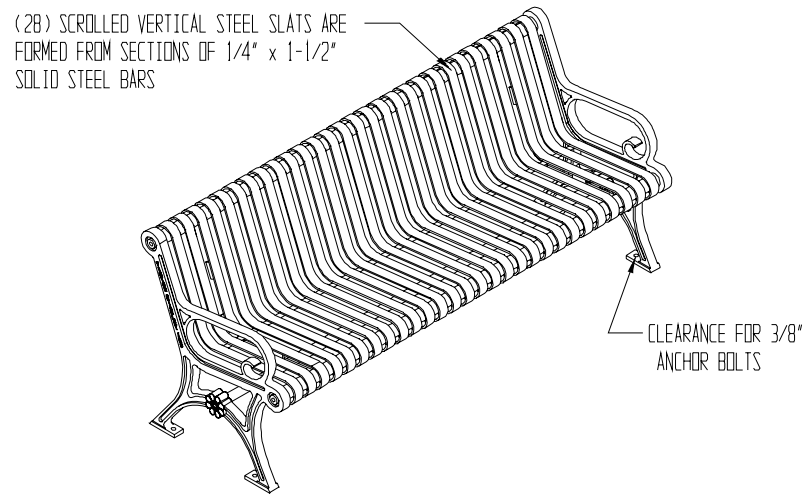

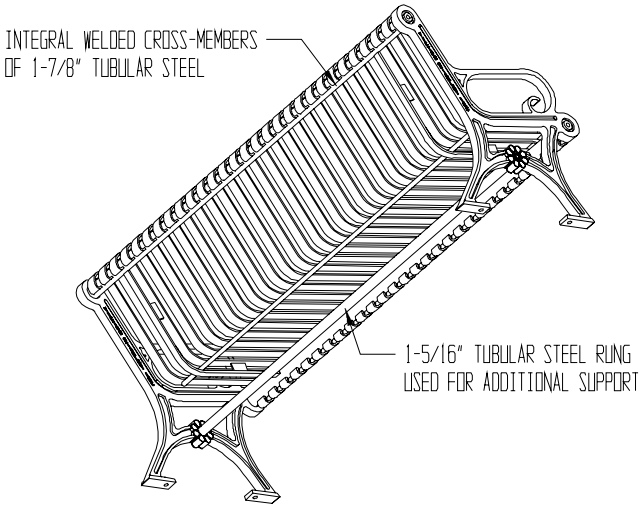

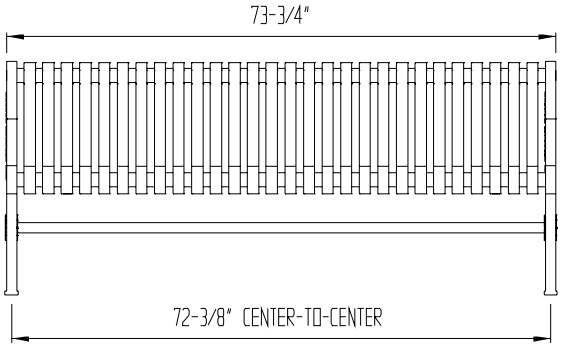

CENTER-TO-CENTER DISTANCES ARE APPROXIMATE
(VARIATIONS IN CASTINGS ARISE FROM DIFFERENT RATES OF COOLING)

AVAILABLE OPTIONS:

POWDER COATING
10 STANDARD COLORS, CUSTOM COLORS (INCLUDING THE RAL RANGE)

CUSTOM PLAQUES
ENGRAVED CAST BRONZE PLAQUES

INTERMEDIATE & CENTER ARMRESTS
4', 6' & 8' AVAILABLE WITH OPTIONAL ARMRESTS

LENGTHS
STANDARD 4'
STANDARD 6' LENGTH SHOWN
STANDARD 8'

NOTES:

1. DUCTILE IRON CASTINGS COME WITH A TEN YEAR WARRANTY AGAINST BREAKAGE.
2. DRAWING NOT TO SCALE. DO NOT SCALE DRAWINGS.
3. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD COATING FILM. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH COAT AVERAGES 8-10 MILS (200-250 MICRONS).
4. IT IS NOT RECOMMENDED TO LOCATE ANCHOR BOLTS UNTIL BENCH IS IN PLACE. THIS VICTOR STANLEY INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
5. ANCHOR BOLTS NOT PROVIDED BY VICTOR STANLEY, INC.
6. FOR HIGH SALT ABUSIVE CLIMATES, HOT DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. SEE WRITTEN SPECIFICATIONS FOR DETAILS.
7. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
8. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.

CR-196

CLASSIC SERIES STANDARD BENCH WITH DUCTILE IRON END FRAMES
SHOWN: STANDARD 6-FOOT LENGTH

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REV. 7/27/04 DRAWN N.E.S. 2004-257

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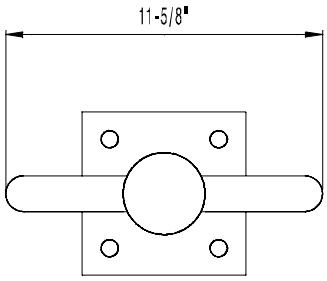
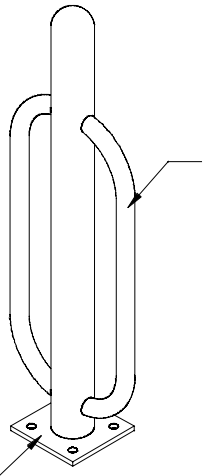
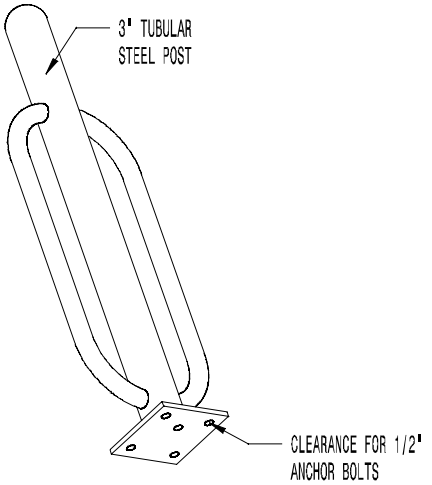
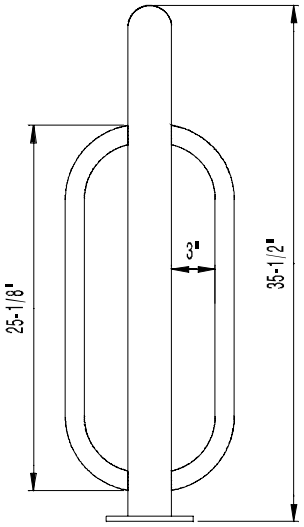
* ALL DIMENSIONS ARE IN INCHES *









AVAILABLE OPTIONS:

POWDER COATING
10 STANDARD COLORS, 2 OPTIONAL METALLIC COLORS
CUSTOM COLORS (INCLUDING THE RAL RANGE)

MOUNTING
STANDARD SURFACE AND IN-GROUND

NOTES:

1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD COATING FILM. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED IN THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
4. FOR HIGH SALT ABUSIVE CLIMATES, HOT DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. SEE WRITTEN SPECIFICATIONS FOR DETAILS.
5. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
6. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.

BKR-35

T SERIES™

ALL-STEEL BIKE BOLLARD
SHOWN: STANDARD SURFACE MOUNT

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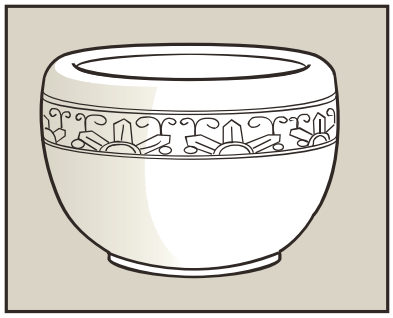
REV. 6/21/12 DRAWN S.M.P. 2012-566

TF 4229 WLIRP4835 Westlake Planter



Options:
Note: Options may change without notice.
Call to confirm current options.

Weatherstone:
Sand - Gray - Brown - Buff - Cream
Light Charcoal - French Gray - Brick Red

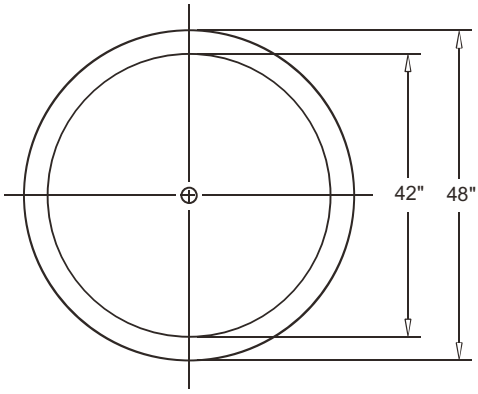
Custom Options Available

Size:	48" Dia. x 35" H.
Weight:	1350 lbs.
Material:	Reinforced Precast Concrete.
Wall Thickness:	3" thick wall at the top.
Features:	Member of the Westlake Series.
Reinforcing:	1/4" Dia. steel rebar.
Hardware:	(4) - 1/2" Dia. threaded inserts. (3) - 5/8" Dia. lifting inserts.
Reservoir System:	Optional. Available upon request.
Drain Hole:	(1) - 1 1/2" Dia.
Anchoring:	Optional.
Maintenance:	Rinse periodically with water & mild detergent. Re-seal annually.
Packaging:	Banded to pallet.

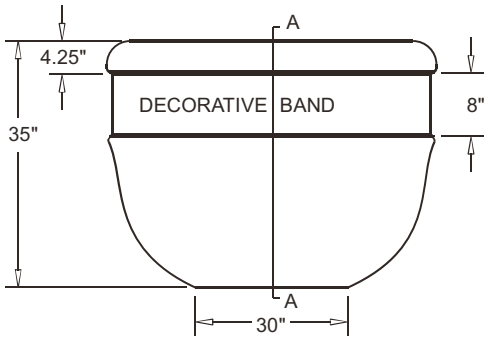
*NOTE:
Lifting inserts are to ONLY be used when the planter is EMPTY.
Shown with:
Westlake 1 Design -- features an 7" carved bank around the top 1/3 of the planter. Series 1 sports an ancient Egyptian design with a fern and floral background. These carvings are flush with the outside of the planter.
Also available with:
Westlake 2 Design -- features an 7" carved band around the top 1/3 of the planter. Series I sports an ancient Egyptian design with diagonal lines, triangles and pillars. These carvings are flush with the outside of the planter.

GENERAL PLANTER SPECIFICATIONS

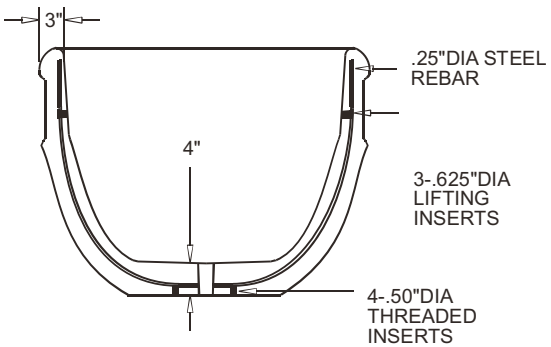
TF 4229 WLIRP4835 Planter



TOP VIEW



FRONT VIEW



SECTION A-A

1.1 SUMMARY

A. Section includes: Furnish Precast Concrete Planter indicated on drawings or specified herein.

1.2 REFERENCES

A. American Society for Testing & Materials
   1. ASTM C33 2. ASTM C150 3. ASTM C31

1.5 SUBMITTALS

A. Submit product data, shop drawings and Samples.
   1. Product Data: Manufacturer's specifications and technical data edited specifically for proposed system, including the following specific information:
      a. Detailed specification of construction fabrication.
      b. Manufacturer's installation instructions
      c. Maintenance literature
      d. Product warranty
   2. Shop Drawings: Indicate pertinent dimensions, general construction, component connections anchoring methods, hardware and installation procedures.
   3. Samples as requested by Architect.

1.6 QUALITY ASSURANCE

A. Qualifications of Manufacturer: Manufacturer to be prequalified by specifier prior to bidding. Failure to comply will result in disqualification of bid. Manufacturer to have at least five years experience in the manufacturer of precast concrete planters field proven for at least five years.

1.10 WARRANTY

Manufacturer shall submit a written warranty for precast products for the period of two years upon acceptance of products.

2.1 MANUFACTURERS

A. Acceptable manufacturer for Precast Concrete Planters to be known as Wausau Tile, Inc.
   PO Box 1520, Wausau, WI 54402-1520.
   (800) 388-8728 FAX (715) 355-4627
B. Clarification Note: Drawings and installation specification are based on manufacturers proprietary literature from Wausau Tile, Inc. Other manufacturers shall comply with minimum levels of material and detailing indicated on drawings or specified herein.
C. Coloring: All Precast products for this project shall be of one manufacturer.

2.2 MATERIALS

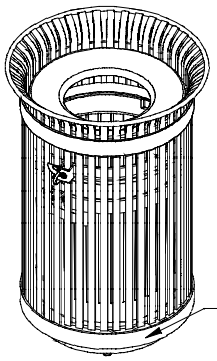
A. Portland Cement: ASTM C150 specifications for Portland Cement.
B. Aggregates: All aggregates to meet ASTM C33 specifications, to be cleaned of foreign matter and properly graded to size.
C. Pigments used shall be inorganic, resistant to alkalinity and used as per manufacturer's recommendations.

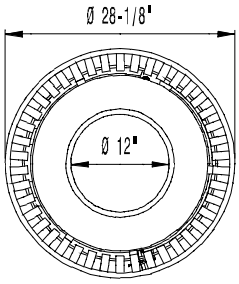
# # #

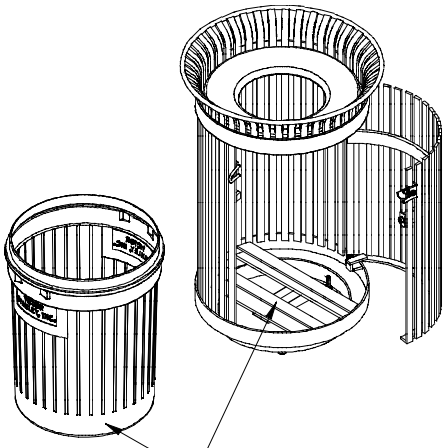
VICTOR STANLEY, INC.®
-Manufacturers of Quality Site Furnishings since 1962-

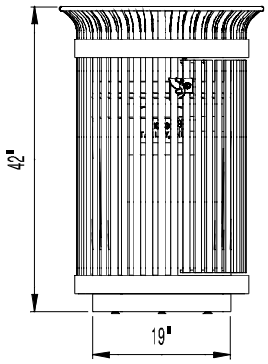
P.O. DRAWER 330 - DUNKIRK, MD 20754 USA
TOLL FREE: (800) 368-2573 (USA & CANADA)
TEL (301) 855-8300 - FAX (410) 257-7579
WEB SITE: HTTP://WWW.VICTORSTANLEY.COM

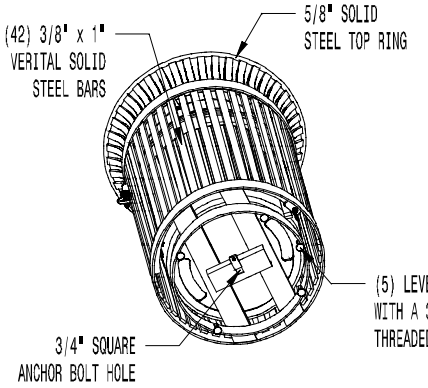
* ALL DIMENSIONS ARE IN INCHES *











AVAILABLE OPTIONS:

POWDER COATING
10 STANDARD COLORS, 2 OPTIONAL METALLIC COLORS, CUSTOM COLORS (INCLUDING THE RAL RANGE)

CUSTOM PLAQUES & DECALS
AVAILABLE WITH STEEL PLAQUES IN VARIOUS SIZES AND PRESSURE SENSITIVE VINYL OUTDOOR DECALS.

LIDS
STANDARD TAPERED FORMERED LID (AS SHOWN). AVAILABLE WITH OPTIONAL DOME LID, DOME LID WITH ASHTRAY, RAIN BONNET LID, RAIN BONNET LID WITH ASHTRAY, CONVEX LID, CONVEX LID WITH SELF CLOSING DOOR, ENCLOSED DOME LID, ENCLOSED DOME LID WITH STAINLESS STEEL ASHTRAY, AND RECYCLE LIDS. ASHTRAYS AVAILABLE WITH OPTIONAL ASHTRAY COVER.

SECURITY
AVAILABLE WITH STANDARD LOCKABLE LATCH, OPTIONAL KEYED LOCK BOX. LID RIVETED IN PLACE. AVAILABLE WITH OPTIONAL MOUNT WITH 3 IN-LINE ANCHOR HOLES AND OPTIONAL BOTTOM PLATE COVER.

NOTES:

1. DRAWINGS NOT TO SCALE. DO NOT SCALE DRAWINGS.
2. ALL FABRICATED METAL COMPONENTS ARE STEEL SHOTBLASTED, ETCHED, PHOSPHATIZED, PREHEATED, AND ELECTROSTATICALLY POWDER-COATED WITH T.G.I.C. POLYESTER POWDER COATINGS. PRODUCTS ARE FULLY CLEANED AND PRETREATED, PREHEATED AND COATED WHILE HOT TO FILL CREVICES AND BUILD FILM COATING. COATED PARTS ARE THEN FULLY CURED TO COATING MANUFACTURER'S SPECIFICATIONS. THE THICKNESS OF THE RESULTING FINISH AVERAGES 8-10 MILS (200-250 MICRONS).
3. OIL IMPREGNATED BRONZE BUSHINGS AND STAINLESS STEEL PIVOT PINS FOR DOOR MOVEMENT, STANDARD 3/16" SOLID STEEL LATCH ASSEMBLY OR OPTIONAL PATENTED STAINLESS STEEL KEYED LOCK ASSEMBLY.
4. THIS VICTOR STANLEY, INC. PRODUCT MUST BE PERMANENTLY AFFIXED TO THE GROUND. CONSULT YOUR LOCAL CODES FOR REGULATIONS.
5. VICTOR STANLEY, INC., PLASTIC INNER LINERS ARE MOLDED ON TOOLING DESIGNED FOR AND OWNED BY VICTOR STANLEY, INC. THEY OFFER MAXIMUM CAPACITY AND STRENGTH WITH LIGHTWEIGHT CONSTRUCTION USING CRITICAL MOLDED RIBS, INTEGRAL HANDHOLDS, AND HIGH-STRENGTH MATERIALS. THIS MINIMIZES HANDLING DIFFICULTY AND FACILITATES EASY EMPTYING AND STORAGE WHILE AFFORDING LONG SERVICE LIFE.
6. ANCHOR BOLT NOT PROVIDED BY VICTOR STANLEY, INC.
7. FOR HIGH SALT ABUSIVE CLIMATES, HOT DIP GALVANIZING BEFORE POWDER COATING IS AVAILABLE. SEE WRITTEN SPECIFICATIONS FOR DETAILS.
8. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE. CONTACT MANUFACTURER FOR DETAILS.
9. THIS PRODUCT IS SHIPPED FULLY ASSEMBLED.

SD-42

IRONSITES® SERIES

36-GALLON SIDE-DOOR-OPENING LITTER RECEPTACLE
SHOWN: STANDARD TAPERED FORMED LID

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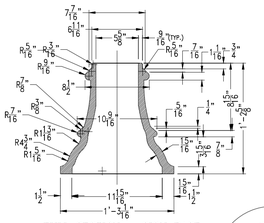
REV. 8/23/11 DRAWN R.G.O. 2011-555

Street Trees for Bloomington, IL

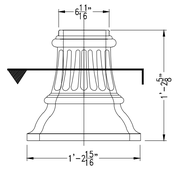
(Based on input from the City of Bloomington Parks & Recreation Department)

Scientific Name	Common Name
Acer rubrum ‘Brandywine’, ‘Redpointe’, ‘Red Sunset’	Red Maple
Acer campestre	Hedge Maple
Acer saccharum ‘Fall Fiesta’, ‘Green Mountain’, ‘Legacy’	Sugar Maple
Acer platanoides ‘Columnare’, ‘Emerald Queen’	Norway Maple
Carpinus betulus ‘Fastigiata’	Hornbeam
Carpinus caroliniana	Ironwood (Hornbeam)
Celtis occidentalis ‘Chicagoland’, ‘Prairie Pride’, ‘Prairie Sentinel’	Hackberry
Crataegus viridis ‘Winter King’	Hawthorn (Thorn less)
Gingko biloba ‘Autumn Gold’, ‘Princeton Sentry’	Gingko (Male)
Gleditsia triacanthos ‘Imperial’, ‘Shademaster’, ‘Skyline’	Honeylocust
Gymnocladus dioicus ‘Espresso’, ‘Kentucky Colonel’, ‘Prairie Titan’	Kentucky Coffeetree
Liriodendron tulipifera ‘Emerald City’ ‘Little Volunteer’	Tuliptree
Malus ‘Marilee’, ‘Velvet Pillar’	Crabapple (Fruitless)
Prunus virginiana ‘Canada Red’	Canada Red Chokecherry
Quercus bicolor	Swamp White Oak
Quercus rubra	Red Oak
Quercus muelenbergii	Chinquapin Oak
Syringa reticulata ‘Ivory silk’, ‘Summer Snow’	Japanese Tree Lilac
Taxodium distichum ‘Shawnee Brave’	Baldcypress
Tilia americana ‘Legend’, ‘Redmond’	American Linden
Tilia tomentosa ‘Sterling’	Silver Linden
Ulmus ‘Accolade’, ‘Frontier’, ‘Homestead’, ‘Patriot’, ‘Pioneer’	Elm

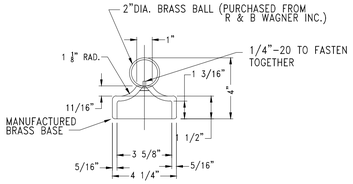
NOTES:
1. SIGNAGE IS TO BE ROMAN INFORMATION SIGN BY ALLEN ARCHITECTURAL METALS (800) 204-3858 OR EQUIVALENT.
2. INSTALLATION, GRAPHICS, AND ANCHORS ARE NOT PROVIDED BY ALLEN ARCHITECTURAL METALS.
3. ALL WELDS ARE 1/4" ALL PLACES EXCEPT FOR PART # 5 AND10. (SEE SECTION "D")
4. PROVIDE ARCHITECT/ENGINEER WITH SHOP DRAWINGS OF SIGNAGE SYSTEM AND TOP PANEL GRAPHICS PER SPECIFICATIONS.



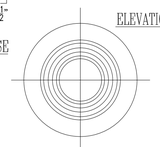
FULL SECTION – SIGN BASE



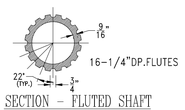
ELEVATION – ROUND SIGN BASE



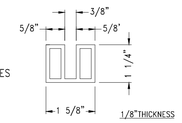
BRASS FINIAL DETAIL



TOP VIEW



SECTION – FLUTED SHAFT



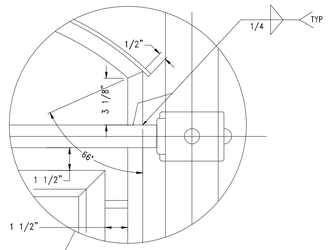
SECTION – EXTRUSION

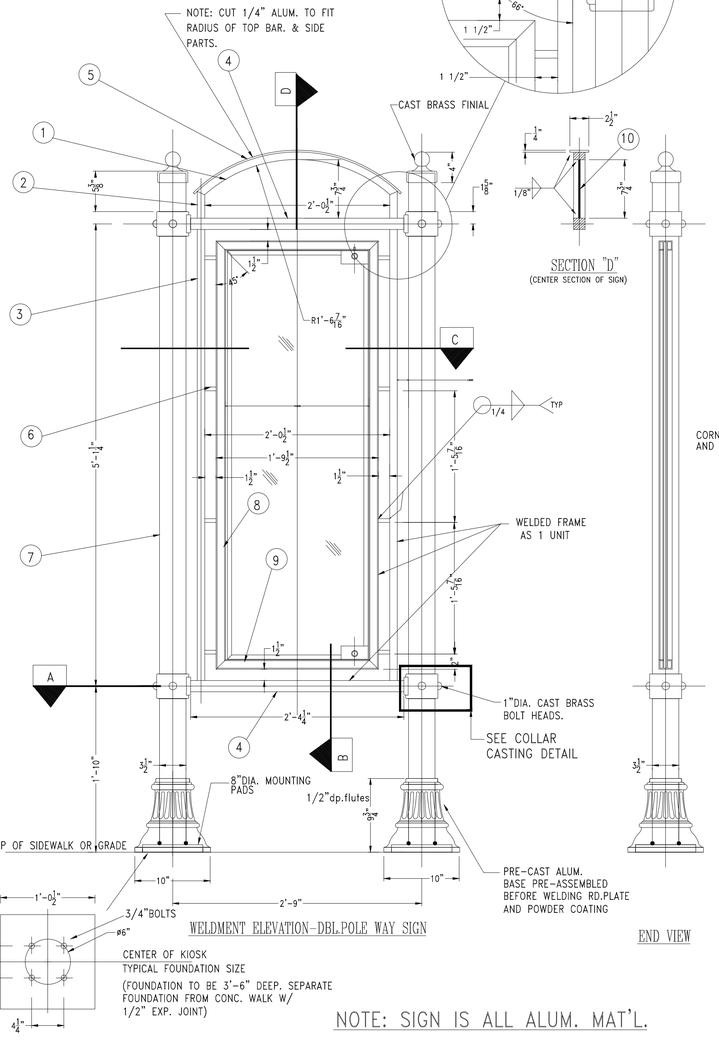
NOTE: GRAPHICS ARE TO BE FORMED BY MANUFACTURER'S RECOMMENDED PROCESS. GRAPHICS APPEAR ON BOTH SIDES OF SIGN PANEL.

ELEVATION – TOP PANEL SIGN GRAPHICS

MATERIAL LISTING

NO.	QTY.	DESCRIPTION
1	1	1" x 1 1/2" SOLID ALUM. x 30" LG.
2	2	1" x 1 1/2" SOLID ALUM. x 3 1/2" LG.
3	2	1" x 1 1/2" SOLID ALUM. x 4'- 11 3/4" LG.
4	2	1 1/2" x 1 1/2" SOLID ALUM. x 29 3/8" LG.
5	1	1/4" THICK x 2 1/2" ALUM x 31 3/4" LG.
6	8	1 1/2" x 1 7/16" x 1/2" THICK ALUM.
7	2	3" PIPE SCH 80 ALUM. (NOTE: 3 1/2"DIA. x 7'-6" LG.
8	2	1" DP. x 1 1/2" WIDE ALUM. EXTRUSION x 4'-8 3/4" LG
9	2	1" DP. x 1 1/2" WIDE ALUM. EXTRUSION x 1'-9 1/2" LG.
10	1	1/4" x 7 3/4" x 24 1/2" ALUM.



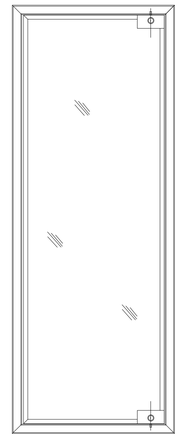


WELDMENT ELEVATION–DBL.POLE WAY SIGN

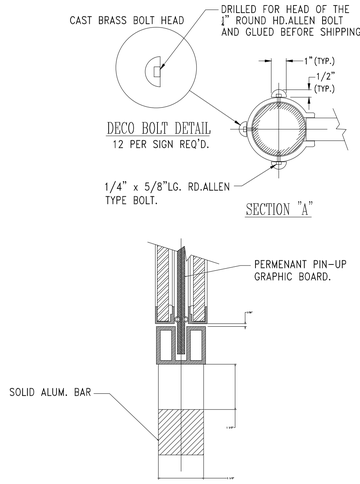
SECTION "D"
(CENTER SECTION OF SIGN)

END VIEW

NOTE: SIGN IS ALL ALUM. MAT'L.



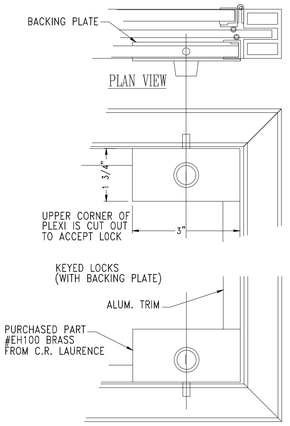
ELEVATION– SIGN FRAME WELDMENT



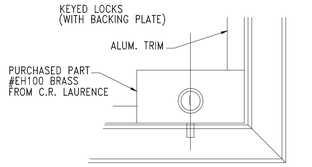
SECTION "B" (SIGN DETAIL)

DECO BOLT DETAIL
12 PER SIGN REQ'D.

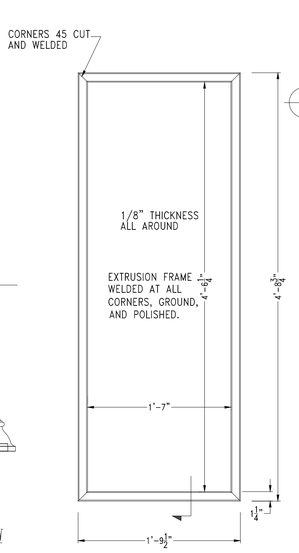
SECTION "A"



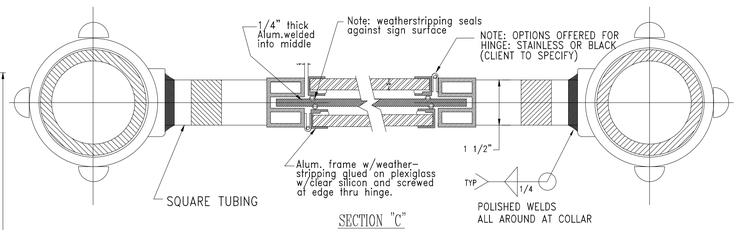
PLAN VIEW



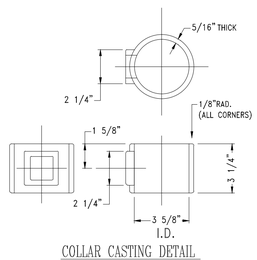
LOCK DETAIL (R.H. CORNERS)



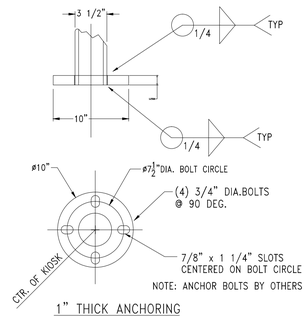
ELEVATION– SIGN FRAME WELDMENT



SECTION "C"



COLLAR CASTING DETAIL



1" THICK ANCHORING ALUM. PLATE

1914 LED LIBERTYVILLE SERIES SPECIFICATIONS

GENERAL

- Luminaire housing shall be 356 die cast aluminum.
- The luminaire shall be available with acrylic tear drop acorn, a sag glass lens or a flat lens.
- Optic shall be IP66 rated.
- The luminaire shall measure 17" diameter by 35" tall with acrylic tear drop; 17" diameter x 21 1/2" tall with flat lens or 17" diameter 23 3/4" tall with sag lens.
- The luminaire shall have LED light sources with down-lighting optics.
- The luminaire shall be U.L. or E.T.L. listed in U.S. and Canada.

FITTER / DRIVER HOUSING

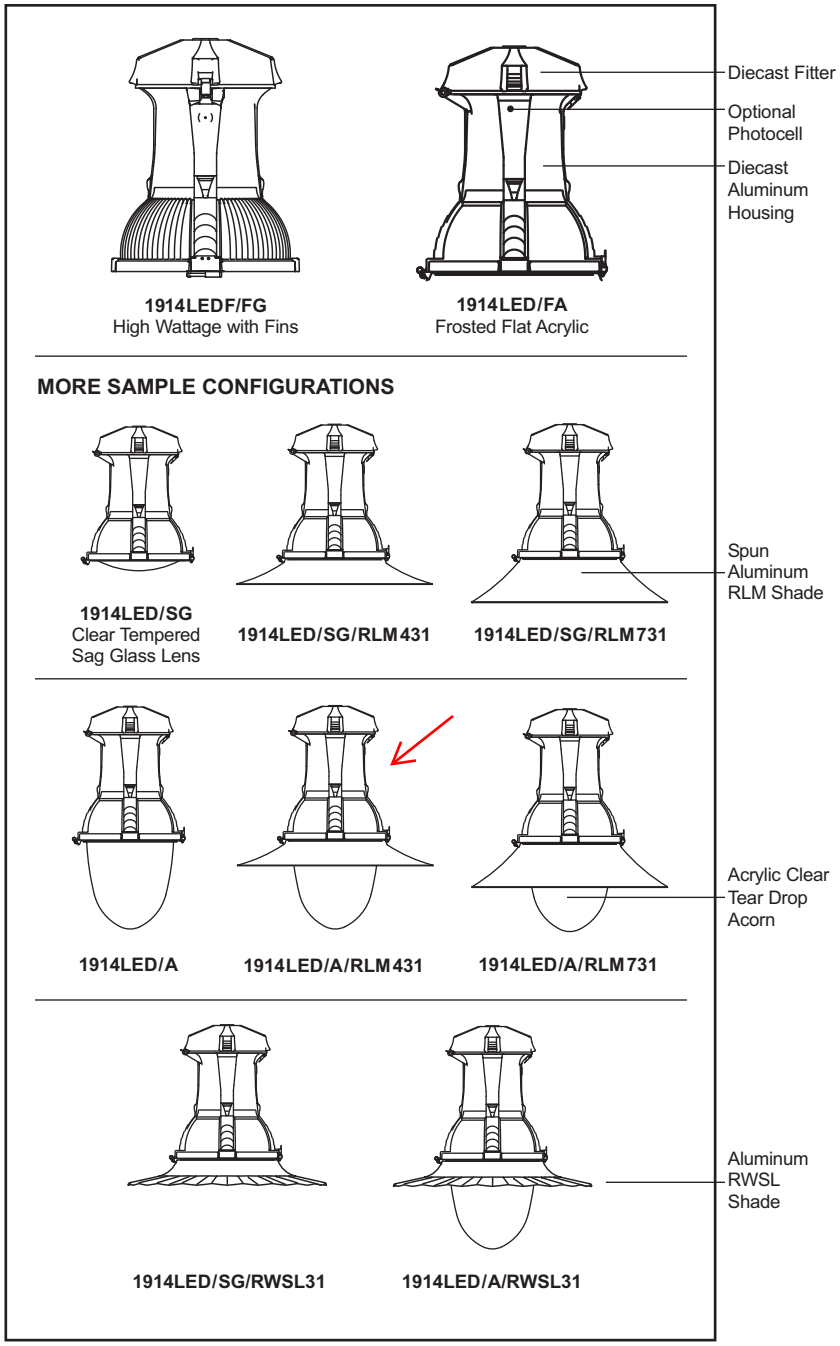
- The fitter shall be heavy wall die cast aluminum alloy for high tensile strength and corrosion resistance.
- The fitter shall be hinged with a stainless steel pin and secured with a tool-less stainless steel spring latch.
- The housing shall be fully gasketed.

DRIVER MOUNT

- The LED driver shall be securely mounted inside the housing for optimized performance and longevity.

LIGHT SOURCES

- The luminaire shall use high output, high brightness LEDs.
- The LEDs shall be mounted in arrays, on printed circuit boards designed to maximize heat transfer to the heat sink surface.
- The LED arrays shall be mounted to minimize up-light.
- The LEDs shall be attached to the printed circuit board with not less than 90% pure silver to insure optimal electrical and thermal conductivity.
- The LEDs and printed circuit boards shall be protected from moisture and corrosion by a conformal coating of 1 to 3 mils.



1914 EPA = 1.55 (ft²)
WEIGHT = 75 LBS

(Continued on next page)

1914 LED LIBERTYVILLE SERIES SPECIFICATIONS

LIST NO. 1914 LED LIBERTYVILLE SERIES

- The LEDs and printed circuit board construction shall be environmentally friendly and 100% recyclable. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant.
- The LED life rating data shall be determined in accordance with IESNA LM-80.

OPTICS

- The luminaire shall be provided with individual, acrylic, refractor type optics applied to each LED.
- The luminaire shall provide Type ___ (2, 3, 4 or 5) light distribution per the IESNA classifications.
- Testing shall be done in accordance with IESNA LM-79.
- Offered with clear flat glass (FG), textured flat acrylic (SV1), frosted flat acrylic (SV2), clear sag glass (SG), frosted sag glass (FSG) lenses and acrylic tear drop (A).

PERFORMANCE

- The luminaire shall meet the requirements for 0% uplight depending on options (UO in BUG).
- The LEDs and LED driver shall operate over a -40°C (-40°F) to +50°C (122°F) ambient air temperature range.

(Continued on next page)

INITIAL DELIVERED LUMEN DATA ("A" LENS)

Light Source	T2	T3	T4	T5	Watts
40L50-MDL21[2]	22885	22800	22035	24330	286
40L45-MDL21[2]	21250	21170	20460	22595	286
40L35-MDL21[2]	19615	19540	18885	20855	286
40L50-MDL14[2]	17630	17600	17200	18690	185
40L45-MDL14[2]	16370	16340	15970	17355	185
40L35-MDL14[2]	15110	15085	14745	16020	185
40L50-MDL10	14340	14325	13960	15345	136
40L45-MDL10	13315	13305	12960	14250	136
40L35-MDL10	12290	12280	11965	13150	136
33L50-MDL10	12140	11975	11320	12760	112
33L45-MDL10	11275	11120	10510	11850	112
33L35-MDL10	10405	10265	9705	10940	112
21L50-MDL10	8160	8025	7450	8250	76
21L45-MDL10	7575	7455	6915	7660	76
21L35-MDL10	6995	6880	6385	7070	76
21L50-MDL07	5700	5610	5180	5745	51
21L45-MDL07	5295	5210	4810	5335	51
21L35-MDL07	4885	4810	4440	4920	51

[2] See footnotes, last page

Estimated 26' pole. Recommended to be sized per each lighting phase using photometric software.

1914 LED LIBERTYVILLE SERIES SPECIFICATIONS

LIST NO. 1914 LED LIBERTYVILLE SERIES

- The High Performance white LEDs will have a life expectancy of approximately 70,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C.
- The High Brightness, High Output LEDs shall be 4500K (3500K or 6000K option) color temperature with a typical of 75 CRI.
- The luminaire shall have a minimum _____ (see table) initial delivered lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

ELECTRONIC DRIVERS

- The driver shall be U.L. Recognized.
- The driver shall have overload as well as short circuit protection.
- The driver shall be a DC voltage output, constant current design, 50/60HZ.
- The driver shall have a minimum efficiency of 90%.
- The driver shall be rated at full load with THD<20%.
- The driver accepts input voltage from 120-277 (MDL). Optional 347-480 (MDH).
- The driver is dimmable using 0-10V signal.
- The luminaire shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines.
- The LED driver shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections.

LUMINAIRE HOUSING

- The luminaire shall be made of heavy wall cast aluminum alloy.
- For the higher power LED sources (MDL14 and MDL21) the luminaire shall be provided with optimized cast aluminum heat sink fins on the housing to provide maximum life and performance. (Finned body option available on lower power models).

RLM OPTIONS

- The luminaire shall be available with field installable RLM shades.
- The shades shall be spun aluminum.

ARMS

- The arms shall be cast aluminum and/or extruded aluminum.
- Arms with decorative filigree shall have meticulously detailed scroll work and gracefully curved brackets.
- The arms shall be pre-wired for ease of installation.
- The arms shall be bolted to a post mount adaptor which is welded to the pole to ensure proper alignment to the base.
- **(Twin TA and twin 579 arms)** The arms shall be attached to a decorative center hub which will fit the center tenon of the pole (not shown).

PHOTOCELL OPTIONS

Twist-Lock Type

- Photocells shall be twist-lock design.
- Photocell shall be electronic switch type.

(Continued on next page)

1914 LED LIBERTYVILLE SERIES SPECIFICATIONS

LIST NO. 1914 LED LIBERTYVILLE SERIES

- Photocells shall be mounted in the housing on the photocell bracket and pre-wired to the driver.
- On multi-fixture poles the photocell shall be mounted on top of pole/arm/hangstraight. The photocell is not pre-wired since drivers are mounted in the fitters and packaged separately.
- Photocell time delay is 2 minutes to turn on at 1.5 foot-candles and 2 minutes to turn off at no more than 6 foot-candles.
- The photocell is 120-277 volt.

Electronic Button Cell Type

- Photocells shall electronic button type.
- Photocells shall be mounted in the housing and pre-wired to the driver.
- On multi-fixture poles, the photocell shall be mounted in the pole shaft on an access plate. The photocell is not pre-wired since driver are mounted in the fitters and packaged separately.
- The photocell shall turn on at 1.5 foot-candle and turn off 5-10 seconds at no more than 2-3 foot-candles.
- The photocell is 120-277 volt.

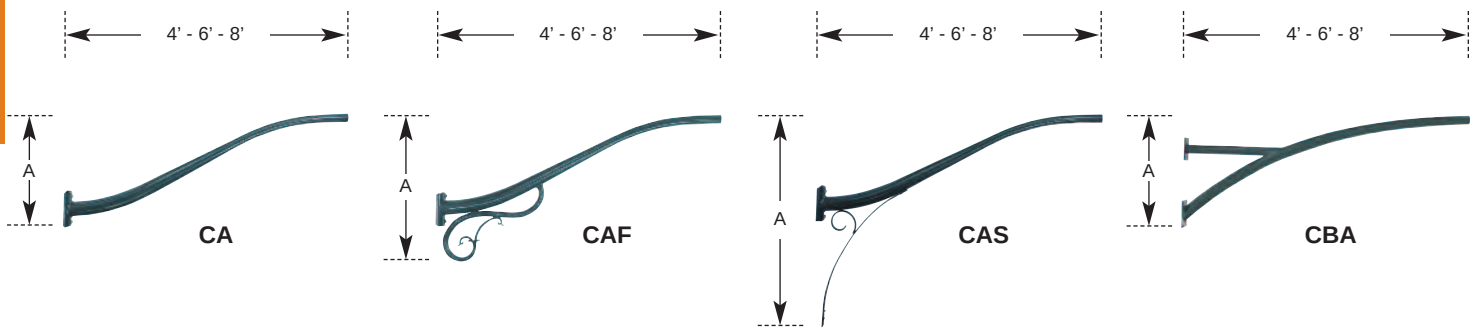
FINISH

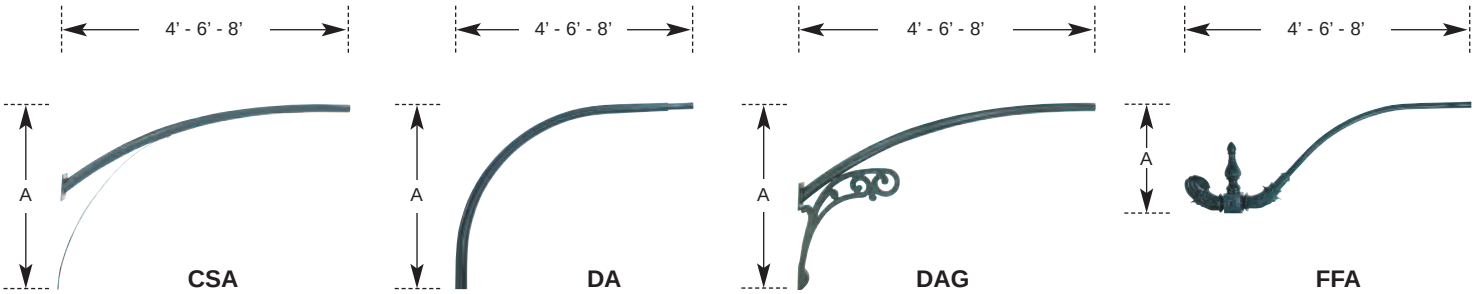
- Prior to coating, the luminary shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse-osmosis water rinsing and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coat.
- The finish coat shall be an electrostatically applied semi-gloss, super durable polyester powder coat, baked on at 400°F, to provide a durable, color retentive finish.
- *The optional _____ (Verde Green or Swedish Iron) finish shall be hand-brushed using a 3-step process.

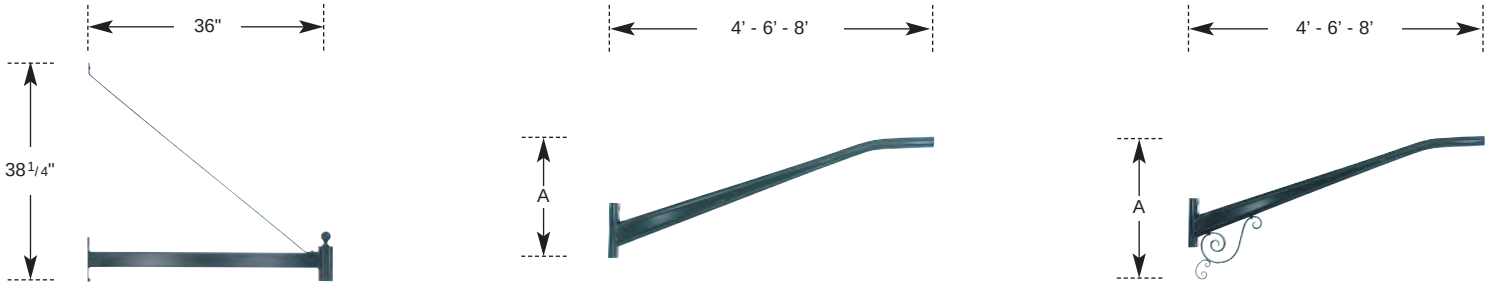
WARRANTY

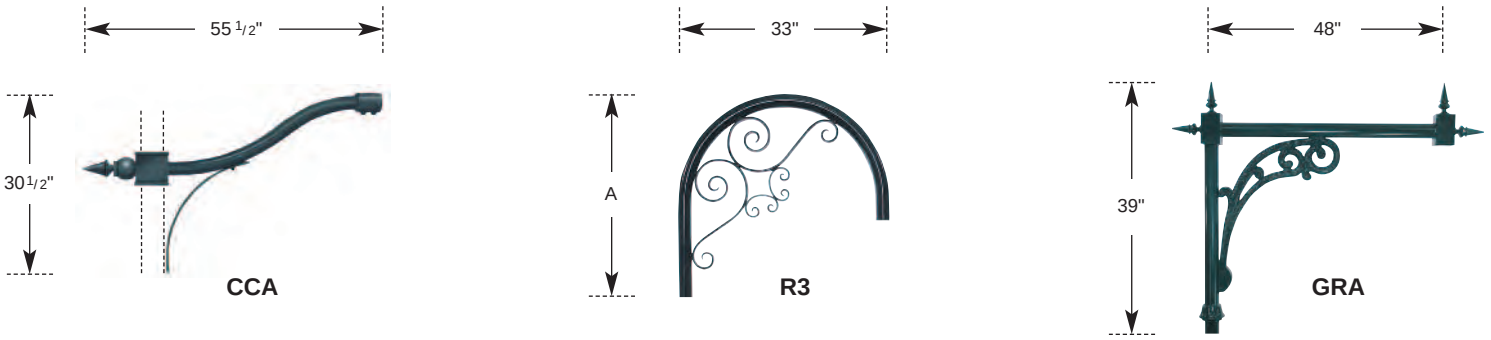
- The luminaire shall be free from all defects in materials and workmanship for a period of seven (7) years from the date of manufacture.
- The luminaire manufacturer shall warrant the LED boards/system, during the stated warranty period, against failure defined as more than three (3) simultaneous non-operating LEDs.
- The driver shall be warranted for seven (7) years.

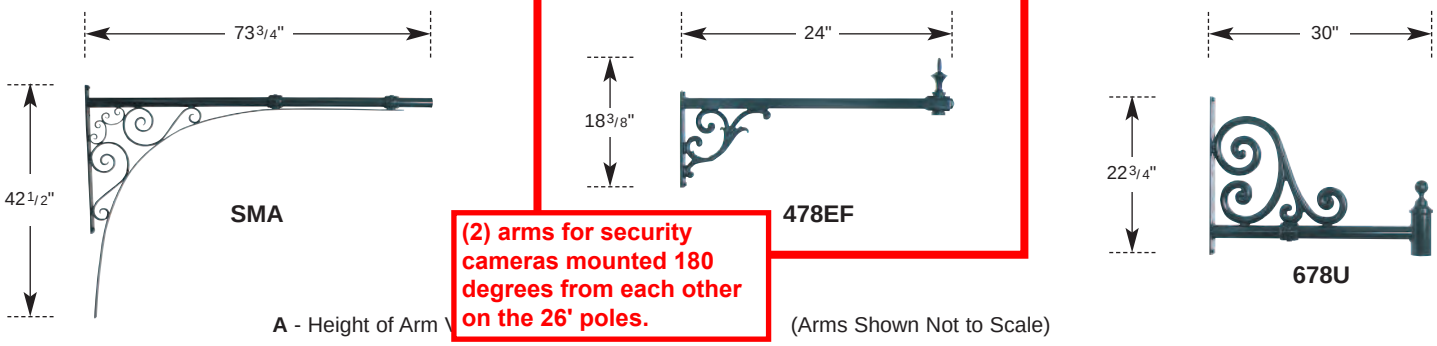
ROADWAY ARMS











(2) arms for security cameras mounted 180 degrees from each other on the 26' poles.

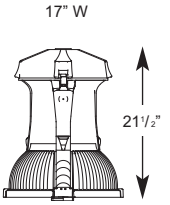
A - Height of Arm V

(Arms Shown Not to Scale)

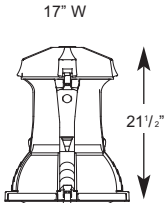
1914 LED LIBERTYVILLE

FIXTURES / ARMS PM - WB

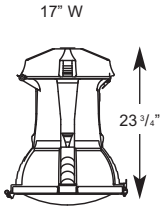
FIXTURES / SHADES



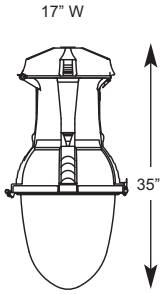
High Wattage with Fins
1914LEDF/FG
Flat Glass
1914LEDF/SV1
Textured Flat Acrylic
1914LEDF/SV2
Frosted Flat Acrylic



1914LED/FG
Flat Glass
1914LED/FLD
Flat Diffuse Acylic
1914LED/FA
Frosted Acrylic

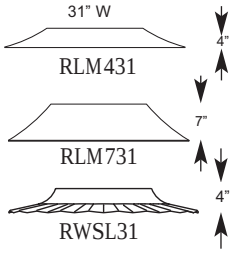


1914LED/SG
Sag Glasss
1914LED/FSG
Frosted Sag Glass



1914LED/A
Acrylic Tear
Drop Lens

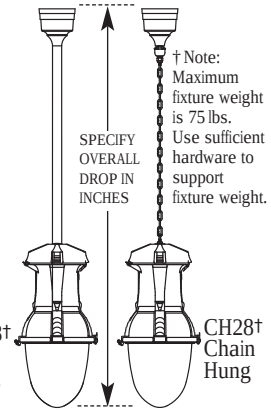
HANGING BRACKETS†



HS Hangstraights

HS-H
Horizontal
8 1/4"W x 10 5/8"H

HS-C
Clamp
12 1/2"W x 10 5/8"H



† Note: Maximum fixture weight is 75 lbs. Use sufficient hardware to support fixture weight.

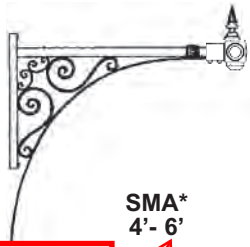
SH28† Stem Hung

CH28† Chain Hung

ARMS - POST MOUNT (PM) or WALL BRACKETS (WB)

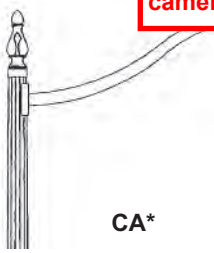
See Arms Section for more information

GRA*
4'- 6'

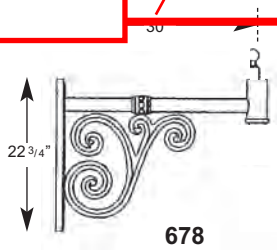


SMA*
4'- 6'

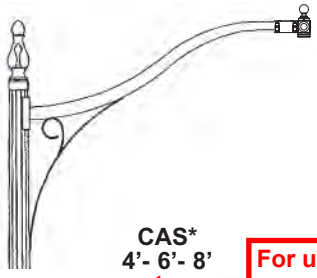
For use on 22' four-globe camera poles.



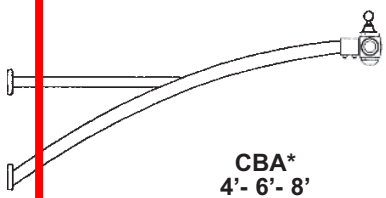
CA*



678

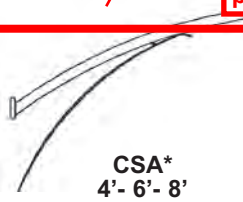


CAS*
4'- 6'- 8'

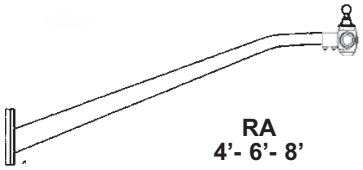


CBA*
4'- 6'- 8'

For use on 26' combination roadway pendant/pedestrian pole.



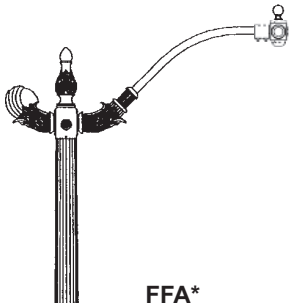
CSA*
4'- 6'- 8'



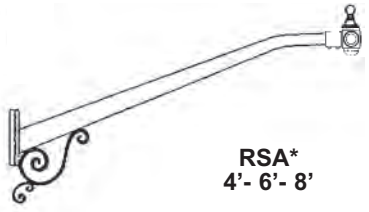
RA
4'- 6'- 8'

CAF*
4'- 6'- 8'

CCA*
4'- 6'

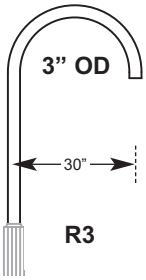


FFA*
4'- 6'-8'

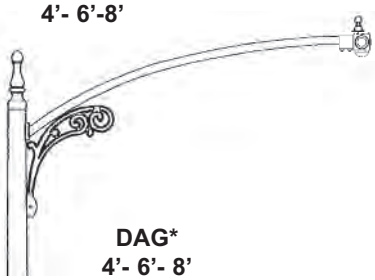


RSA*
4'- 6'- 8'

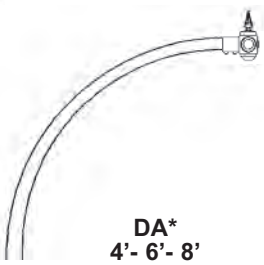
3693 Scrolls for R3 (Optional)



R3



DAG*
4'- 6'- 8'



DA*
4'- 6'- 8'

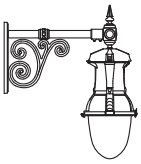
*Shown with Optional HS Hangstraight

BUILDING A PART NUMBER

POST & ARM FIXTURES

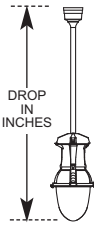
ARM MOUNTED FIXTURE

NO. OF ARMS	FIXTURE/LENS/ RLM (IF REQUIRED) POSTARM	POST (See Pole or Roadway Post Section)	POST CAP	LIGHT SOURCE LED	LIGHT SOURCE COLOR	LIGHT SOURCE TYPE	DRIVER	OPTIONS	FINISH
1 –	1914LED/A/CA6	6420SRTF	RSB4	33L	45	T5	MDL10	HS-H	BKT



WALL FIXTURES

FIXTURE/LENS/ RLM (IF REQUIRED) WALL BRACKET ARM	LIGHT SOURCE LED	LIGHT SOURCE COLOR	LIGHT SOURCE TYPE	DRIVER	OPTIONS	FINISH
1914LED/A/678WB	40L	45	T3	MDL14		BKT



HANGING FIXTURES

FIXTURE/ LENS (IF REQUIRED) HANGING BRACKET	OVERALL DROP IN INCHES	LIGHT SOURCE LED	LIGHT SOURCE COLOR	LIGHT SOURCE TYPE	DRIVER	OPTIONS	FINISH
1914LED/A/SH28	72 INCHES	21L	45	T5	MDL07		BKT

PART NUMBER SELECTIONS

FIXTURES
- 1914LED
- 1914LEDF[2]

LENS
- FG
- SV1
- SV2
- SG
- FSG
- A

POST ARMS
- 678PM
- R3
- CA4[1]
- CA6[1]
- CA8[1]
- CAF4[1]
- CAF6[1]
- CAF8[1]
- CAS4[1]
- CAS6[1]
- CAS8[1]
- CBA4[1]
- CBA6[1]
- CBA8[1]
- CCA4[1]
- CCA6[1]
- CSA4[1]
- CSA6[1]
- CSA8[1]
- DA4[1]

POST ARMS
- DA6[1]
- DA8[1]
- DAG4[1]
- DAG6[1]
- DAG8[1]
- FFA4[1]
- FFA6[1]
- R3 single
- R3 twin
- RA4[1]
- RA6[1]
- RA8[1]
- RSA4[1]
- RSA6[1]
- RSA8[1]
- QPM
- SMA4[1]
- SMA6[1]
- TAPT
- TASUPT
- 478EF

WALL BRACKET ARMS
- 678WB
- R2WB
- TASUWB
- TAWB

SHADES
- RLM431
- RLM731
- RWSL31

HANGING BRACKETS
- CH28
- SH28

LIGHT SOURCES

LED	COLOR TEMP. (K)	TYPE
21L	50(00)	T2
33L	45(00)	T3
40L	35(00)	T4
		T5

*Consult factory for other color temperatures

DRIVER

VOLTS	TYPE	mA
120-277	MDL	21[A]
347-480	MDH	14[A]
		10
		07[B]

[A] 40 LED only
[B] 21 LED only

STANDARD FINISHES*
- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

*Smooth Finishes are available upon request

CUSTOM FINISHES
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

STERNBERG SELECT FINISHES
- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

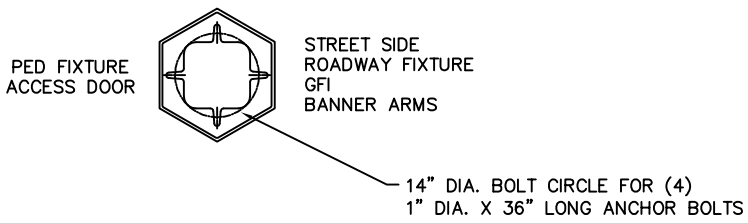
OPTIONS
- R Receptacle Only for Twist-Lock Photocell
- R1 Twist-Lock Photocell 120-277 Volt
- PEC Photocell-Electronic 120-277 Volt
- FHD Dual Fuse & Holder
- PF Pineapple Finial or Font (for TA, TASCR)
- BF Ball Finial or Font (for TA, TASCR)
- CC3693 Scrolls for R3 Arm
- HS-H Horizontal Hangstraight
- HS-C Clamp Style Horizontal Hangstraight

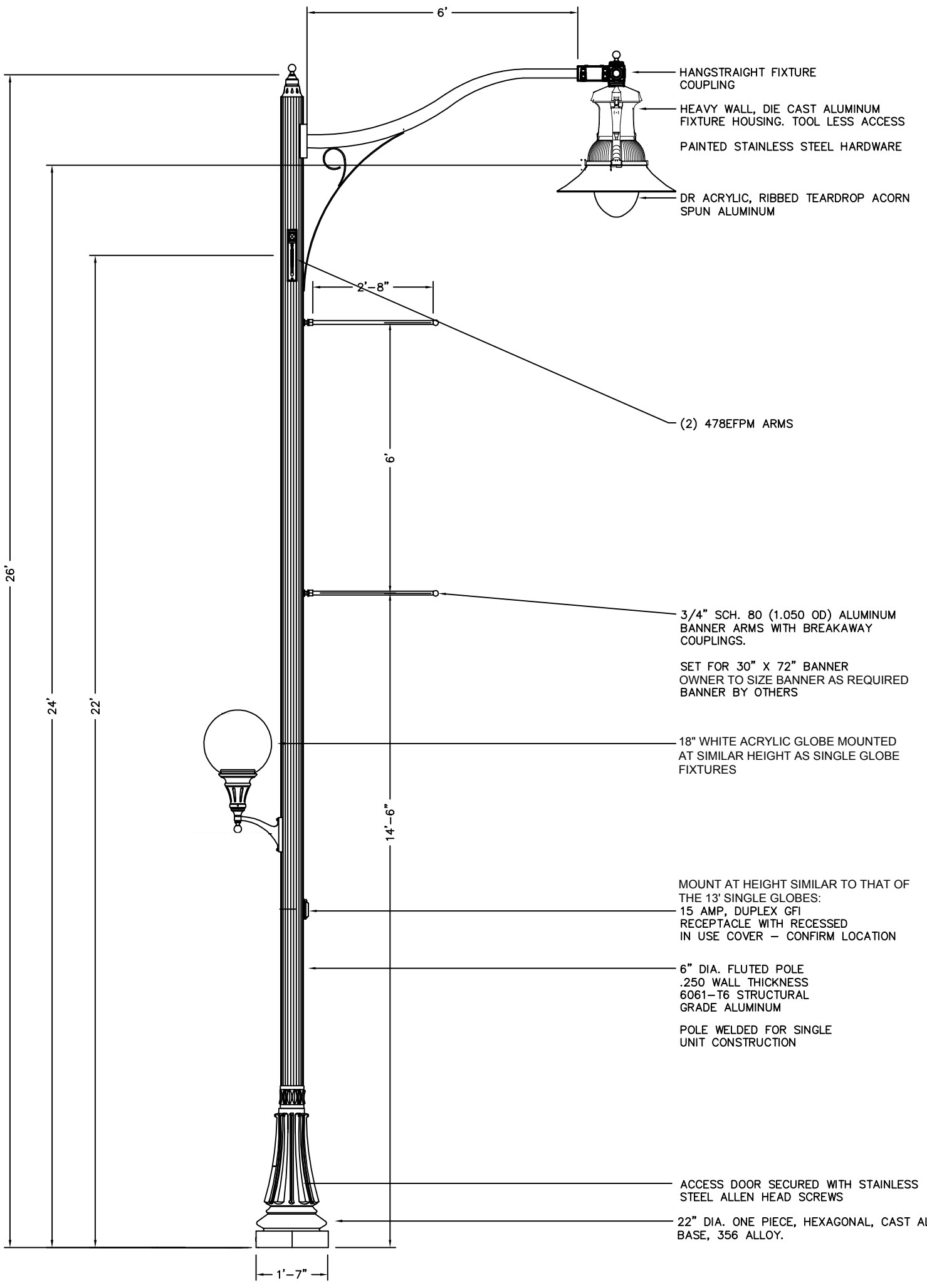
All options for all poles indicated here. All recommended options may not be required on every pole. Do not use for ordering. Consult factory.

NOTES:
[1] Add (S) Spike or (B) Ball after arm number to designate type of finial.
[2] Required with MDL21 and MDL14 drivers.

555 Lawrence Ave. Roselle, IL 60172 • 847-588-3400 • Fax 847-588-3440
www.sternberglighting.com Email: info@sternberglighting.com

26' Down Light / Single Globe Fixture w/ Camera Arms





POLE HEIGHTS HAVE A TOLERANCE OF + OR - 2"

DRAWN DRE

DRAWN DATE 2/12/14

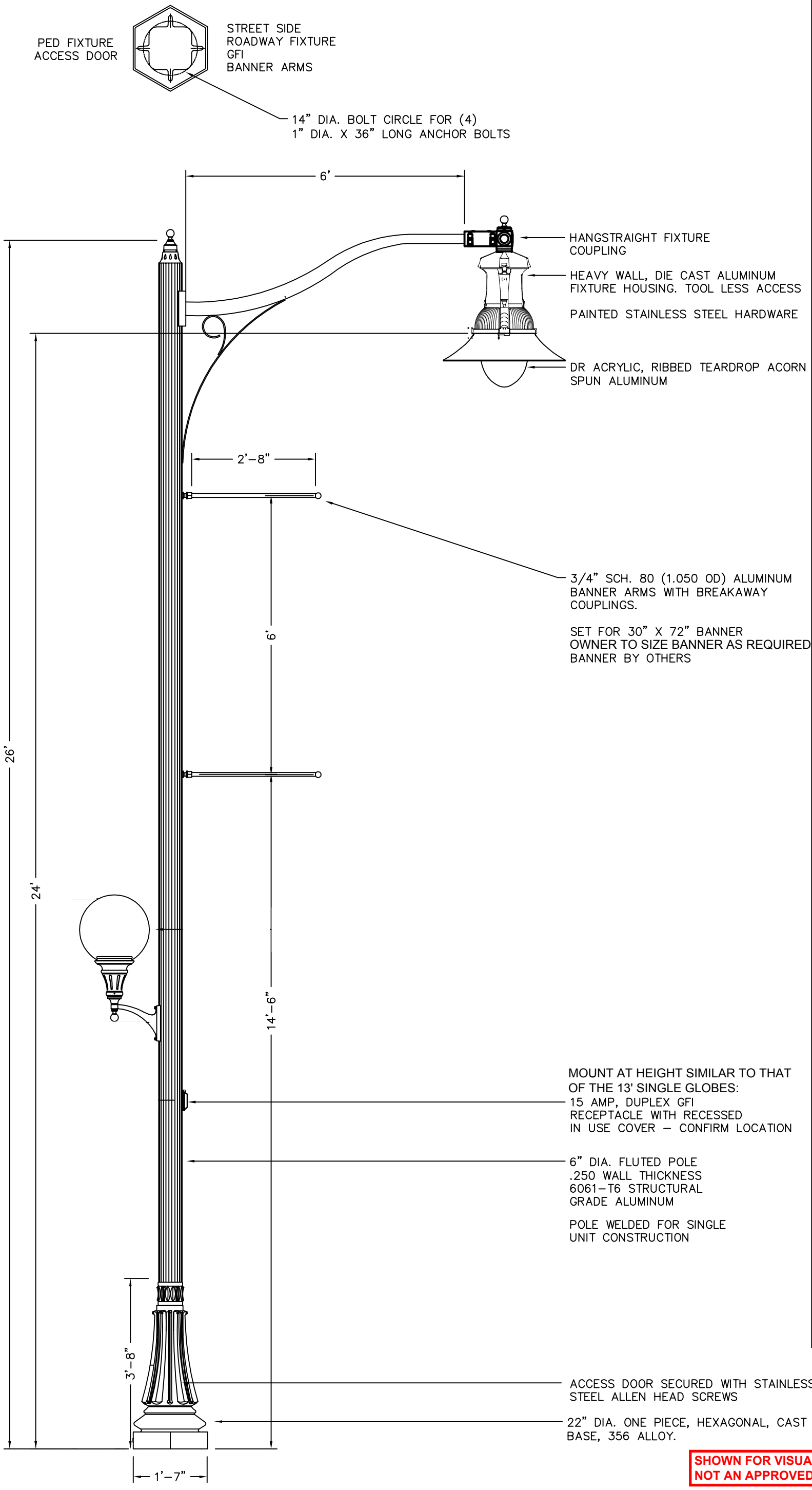
DRAWING NUMBER

BLOOMINGTON, IL

STERNBERG SINCE 1923

SHOWN FOR VISUAL PURPOSES ONLY.
NOT AN APPROVED FACTORY DRAWING.

26' Down Light / Single Globe Fixture



POLE HEIGHTS HAVE A TOLERANCE OF + OR – 2"

3/21/2012

DRAWN SS

DRAWING NUMBER

STERNBERG SINCE 1923

SOCKET TYPE

WATTAGE
SEE DWG

LIGHT SOURCE
LED

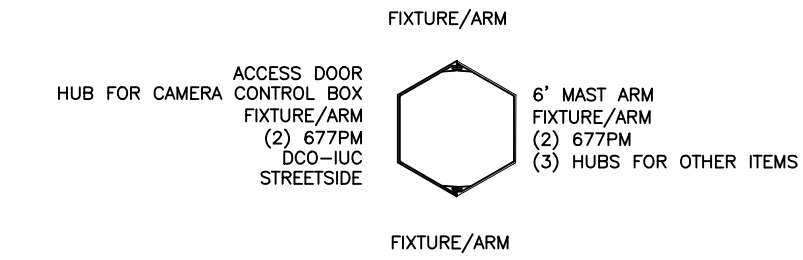
VOLTAGE
120–277

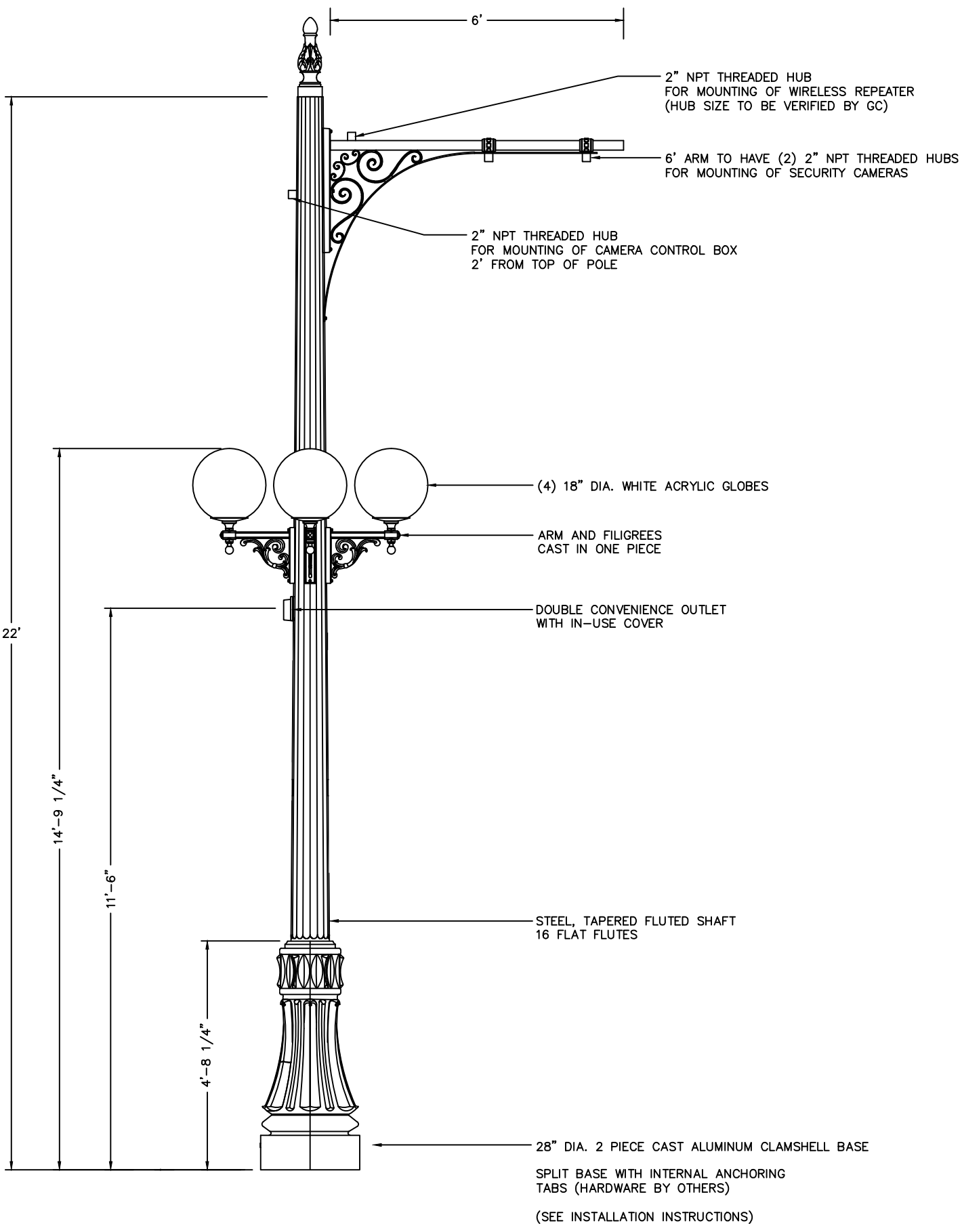
FUSE

FINISH
BLACK FINISH

**SHOWN FOR VISUAL PURPOSES ONLY.
NOT AN APPROVED FACTORY DRAWING.**

22' Four Globe Light Fixture & Pole w/ Camera Arm





DRAWN LMG
SCALE
POLE HEIGHTS HAVE A TOLERANCE OF + OR – 2"
DRAWING NUMBER

BLOOMINGTON, IL

STERNBERG
SINCE 1923

REV	REVISIONS	DATE	RVSD
A	ORIGINAL	10–3–12	

SHOWN FOR VISUAL PURPOSES ONLY.
NOT AN APPROVED FACTORY DRAWING.

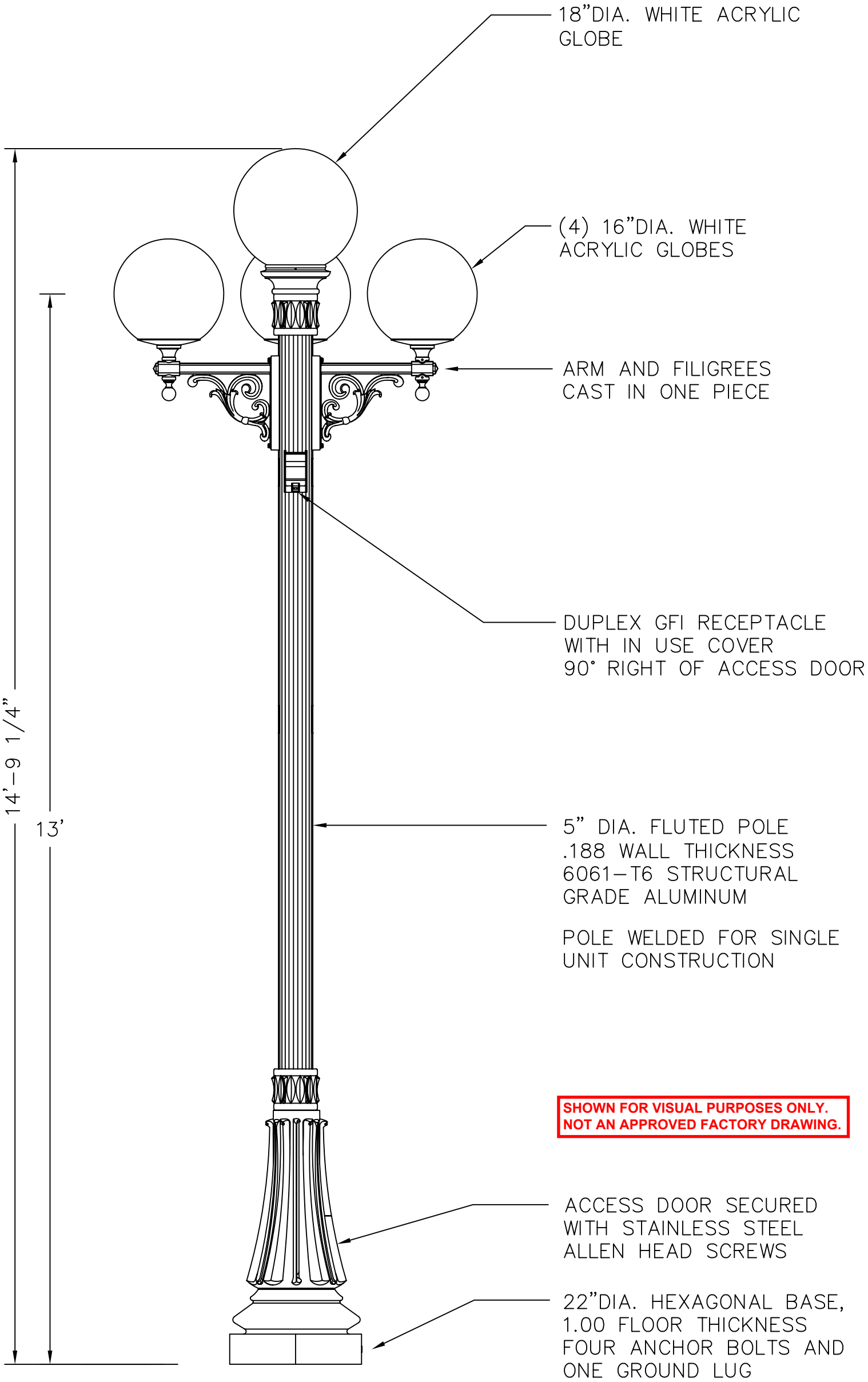
13' Five Globe Light Fixture & Pole

FIXTURE

FIXTURE
677 PM

ACCESS DOOR
FIXTURE
677 PM

FIXTURE
GFI



SHOWN FOR VISUAL PURPOSES ONLY.
NOT AN APPROVED FACTORY DRAWING.

POLE HEIGHTS HAVE A TOLERANCE OF + OR – 2"

SEP 9 2008

DRAWN DRE

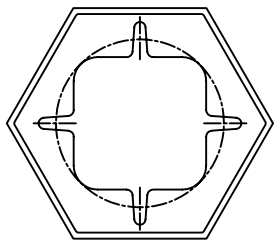
DRAWING NUMBER

STERNBERG SINCE 1923

SOCKET TYPE MED
WATTAGE
LIGHT SOURCE
VOLTAGE 120
FUSE
FINISH ADVISE

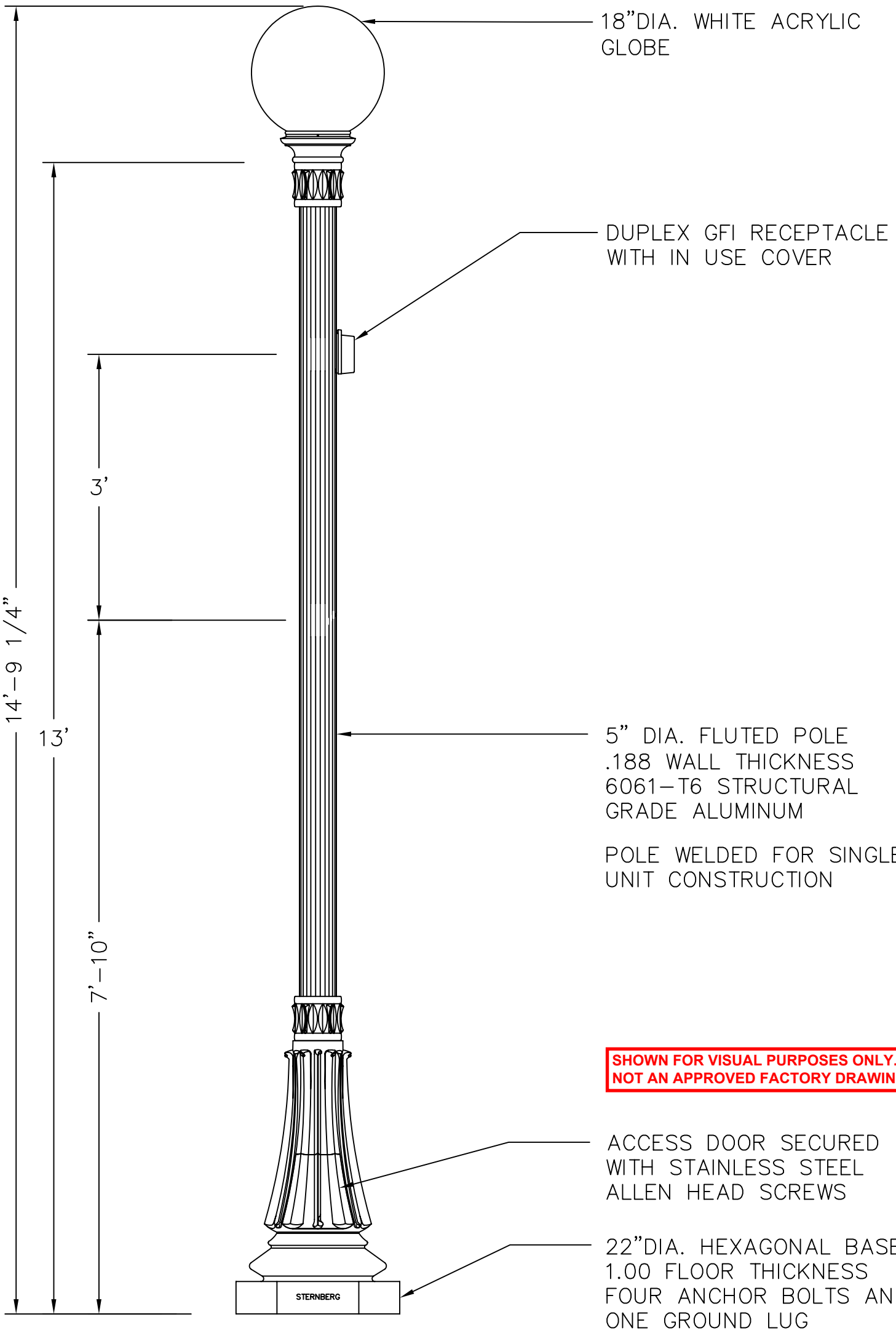
13' Single Globe Light Fixture & Pole

677 PM



GFI

677 PM
ACCESS DOOR



SHOWN FOR VISUAL PURPOSES ONLY.
NOT AN APPROVED FACTORY DRAWING.

POLE HEIGHTS HAVE A TOLERANCE OF + OR – 2"

12/3/09

DRAWN DRE

DRAWING NUMBER

STERNBERG SINCE 1923

BLOOMINGTON, IL

SOCKET TYPE
MED

WATTAGE

LIGHT SOURCE
INC

VOLTAGE
120

FUSE

FINISH
BLACK

5400 HAMILTON SERIES SPECIFICATIONS

GENERAL

The ____ ft tall* decorative post shall be aluminum, one-piece construction. The 22" hexagonal cast aluminum, ornamentally pleated base shall be constructed with a ____ inch diameter aluminum shaft. The model shall be Sternberg Lighting **#5400** or **#5400R** for candy cane poles. The pole shall be U.L. or E.T.L. listed in U.S. and Canada.

CONSTRUCTION

The base shall have a hexagonal lower section and designed with a pleated and sculptured upper section terminated with a decorative ring and be made of heavy wall, 356 alloy cast aluminum. It shall have a 1" thick floor cast as an integral part of the base.

____ The **smooth tapered shaft** shall be made of ASTM 6063 extruded aluminum and tempered to a T6 condition.

____ The **smooth straight shaft** shall be made of ASTM 6063 extruded aluminum and tempered to a T6 condition.

____ The **straight fluted shaft** shall be made of ASTM 6061 extruded aluminum and tempered to a T6 condition. It shall have a decorative fluted 3" O.D. tenon.

____ The **cast tapered fluted shaft** shall be made of heavy wall, 356 alloy cast aluminum.

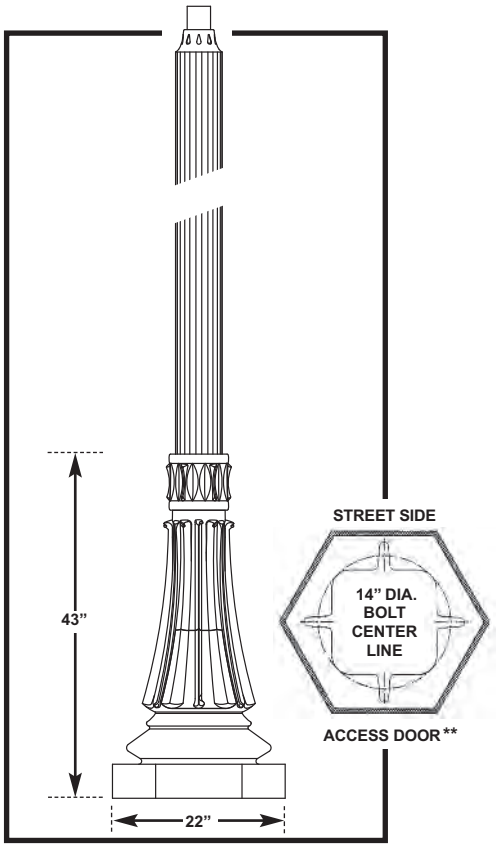
____ The **extruded tapered fluted shaft** shall be made of ASTM 6063 extruded aluminum and tempered to a T6 condition. The shaft shall be double circumferentially welded internally and externally to the base for added strength.

____ The **smooth straight shaft** shall be made of ASTM 6063 extruded aluminum and tempered to a T6 condition.

INSTALLATION

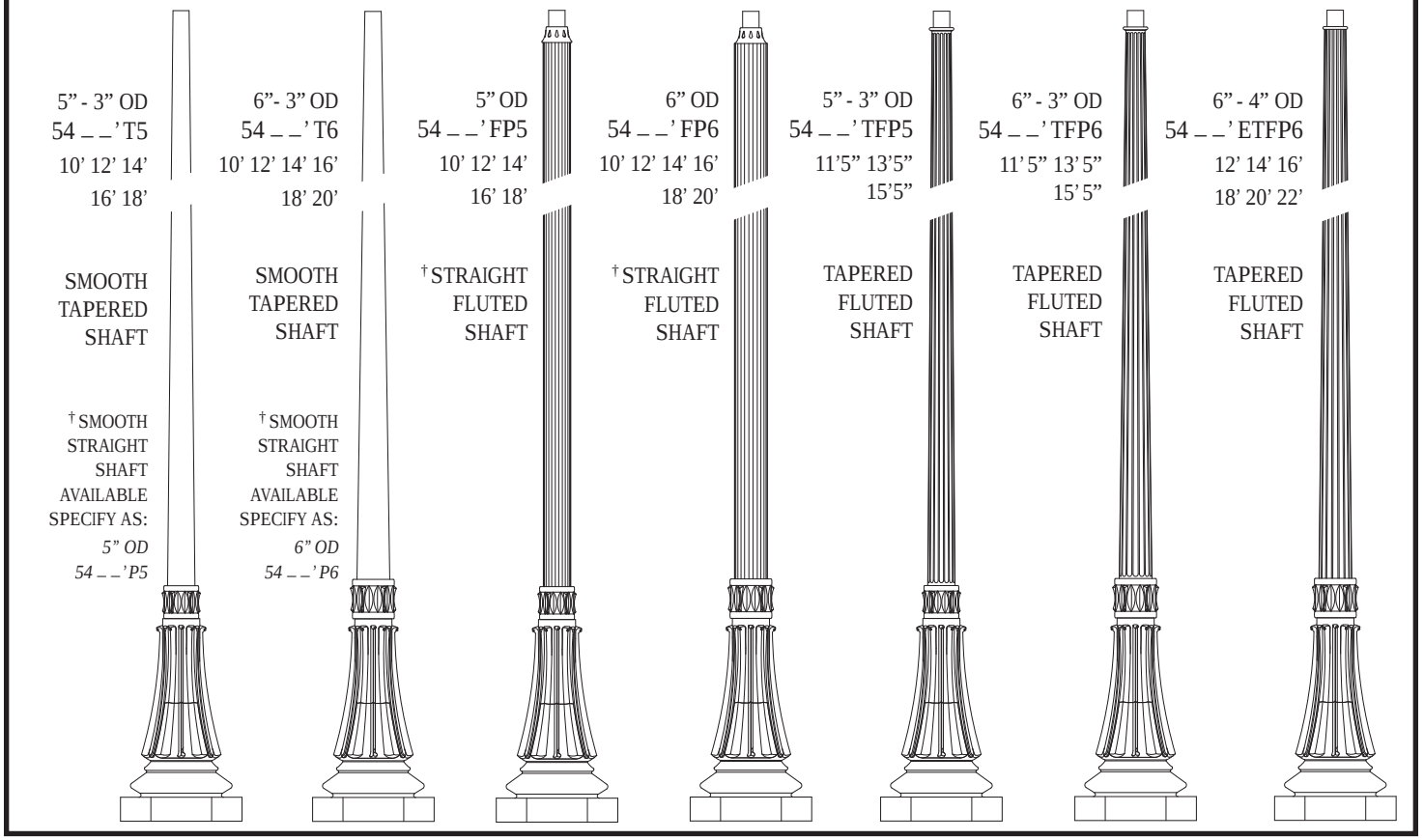
Four 1" diameter, hot-dipped galvanized "L" type anchor bolts shall be provided with the post for anchorage. A door shall be provided for wiring and anchor bolt access. It shall be secured with tamper proof, stainless steel hardware. Post will be provided with a grounding stud mounted on the base floor opposite the access door.

Indicate the type of shaft needed (above)



**See installation template for exact door position. Bolt circle dimensions may change on taller poles.

Cast Aluminum - Extruded Poles — 22" Hexagonal Base x 43" High



11-13

*For candy cane poles insert ____AG ft (feet - above grade height). See diagram on reverse side.

†Tenon not supplied if fixture or arm slips shaft O.D.

5400 HAMILTON SERIES — POSTS / OPTIONS / POST CAPS

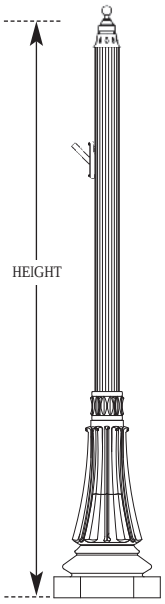
BUILDING A PART NUMBER

Straight Poles

MODEL / HEIGHT / SHAFT			POST CAP CENTER	OPTIONS	FINISH
54	18	FP5	BCC	FH	BK

Candy Cane Poles

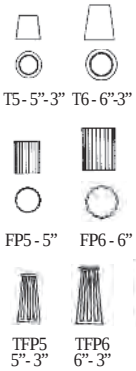
MODEL / HEIGHT / SHAFT				HEIGHT ABOVE GRADE	OPTIONS	FINISH
54	00	RT5	—	18 AG		BK



Part Number Selections

MODEL	HEIGHT	SHAFT†	
• 54	• 10'	• T5:	5"-3" Tapered Smooth
	• 11'	• T6:	6"-3" Tapered Smooth
	• 12'	• P5:	5" Straight Smooth
	• 13'	• P6:	6" Straight Smooth
	• 14'	• FP5:	5" Straight Fluted
	• 15'	• FP6:	6" Straight Fluted
	• 16'	• TFP5:	5"-3" Tapered Fluted*
	• 18'	• TFP6:	6"-3" Tapered Fluted**
	• 20'	• ETFP6:	6"-4" Tapered Fluted
	• 22'		

*Available in 11', 12', 14', 16' **Available in 11', 13', 15'



OPTIONS AVAILABLE

• GFI	• SBAR	• PCD
• GFB	• DSPA	• SH
• FH	• DHPA	• SB
• SBA	• PA478	• WHK
• DBA		

• DB Direct Burial • HB Helix Burial

† See first page for height restriction.

POST CENTER CAP (If Required)
- BCC
- FCC
- SCC
- TFCC
- SSCC

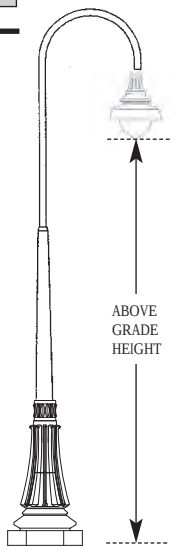
Part Number Selections

MODEL	HEIGHT	SHAFT†	
• 54	• 00	• RT5:	5"-3" Tapered Smooth
		• RT6:	6"-3" Tapered Smooth
		• RP5:	5" Straight Smooth
		• RP6:	6" Straight Smooth
		• RFP5:	5" Straight Fluted
		• RFP6:	6" Straight Fluted
		• RTFP5:	5"-3" Tapered Fluted*
		• RTFP6:	6"-3" Tapered Fluted**
		• RETFP6:	6"-4" Tapered Fluted

*Available in 13'1", 14'1", 16'1", 18'1"

**Available in 13'5", 15'5", 17'5"

ABOVE GRADE
- 10' AG
- 12' AG
- 14' AG
- 16' AG
- 18' AG
- 20' AG
- 22' AG



STANDARD FINISHES*
- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

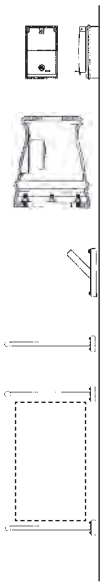
*Smooth Finishes are available upon request

CUSTOM FINISHES
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

STERNBERG SELECT FINISHES
- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

OPTIONS AVAILABLE

See Accessories Section for more options and information



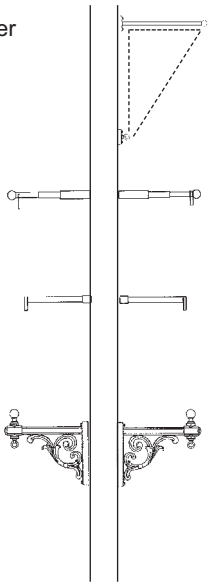
GFI - Ground Fault Interrupter mounts in the pole

GFB - Ground Fault Breaker *inside* base

FH - Flag Pole Holder mounts on the pole

SBA - Single Banner Arm mounts on the pole

DBA - Double Banner Arms mount on same side of the pole

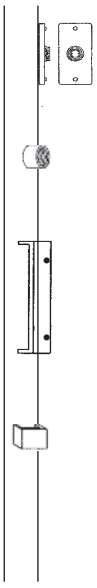


SBAR - Single Banner Arm and Ring

DSPA - Double Stepped Planter Arms mount on either side

DHPA - Double Hooked Planter Arms mount on either side

PA478 - Decorative Planter Arms with planter rings



PCD - Photo Control mounts on door on pole

SH - Speaker Hub for mounting speaker, floodlight or signal

SB - Sign Bracket mounts on pole to hold signs

WHK - Wreath Hook mounts on pole to hold decorations

POST CENTER CAPS (If Required)

BCC - Ball Center Cap

FCC - Finial Center Cap

SCC - Spiked Center Cap

TFCC - Tall Finial Center Cap

SSCC - Side Spiked Center Cap

EiKO®
CERTIFIED GREEN

POST-TOP HID REPLACEMENT LAMP

C0820 PT Series

FEATURES

- Most efficient LED replacement lamp on the market - as much as 105 lpw
- Patented individual LED heatsink provides unrivaled thermal control
- Superior optical control through a proprietary lensing process
- LEDs maintain greater than 90% of initial light output after 60,000 hrs
- The only LED replacement lamp with independent heatsink
- Available in 30W and 45W
- Choice of 5 color temperatures
- Medium to mogul enlarger socket provided
- Typically replaces 70W to 175W HID

** Must be operated base down*

TYPICAL APPLICATIONS

- Streetscapes
- Apartment Complexes
- University Campuses
- Bike Paths
- Municipalities
- Community Park and Recreation

Acorn cover not included. Existing acorn fixtures will still function with LED lighting.

Lamp comes standard as Mogul base. Medium to Mogul Enlarger Socket (shown right) included.

OPTICAL PERFORMANCE

- Choice of 2300K, 2700K, 3000K, 4000K, 5000K color temperature
- Superior optic control distributes light directly to the task
- CRI > 70

ELECTRICAL SPECIFICATIONS

- Power Input: 120-277 VAC 50/60Hz
- Power Factor: ≥95%
- THD <20% at full load
- Operates in -40°C to 40°C ambient temperatures

TEST & CERTIFICATIONS

- ETL Listed
- UL 1993
- CSA C22.2 No. 1993-12
- LM79, LM80
- RoHS Compliant (optional)
- 5 year limited warranty
- L90 - 60,000 hours at 40°C - compliant with IESNA TM-21

POST-TOP HID REPLACEMENT LAMP

1. Model	2. Type	3. Wattage	4. Color Temp.	5. Finish	LED vs. Typical HID	
C0820	**PT** - Post-Top	**30W** - 3,000 lumens **45W** - 4,500 lumens	**23K** - 2300K **27K** - 2700K **30K** - 3000K **40K** - 4000K **50K** - 5000K	**W** - White	30W	70W-100W
					45W	100W-175W

Example: **C0820 - PT - 45W - 50K - W**
1 2 3 4 5

LITESPAN™ FIXTURES

lighting design lab

The following lamps are listed as LDL qualified product:
- C0820-PT-30W-40K-W
- C0820-PT-30W-50K-W
- C0820-PT-45W-30K-W
- C0820-PT-45W-40K-W
- C0820-PT-45W-50K-W

RoHS Compliant

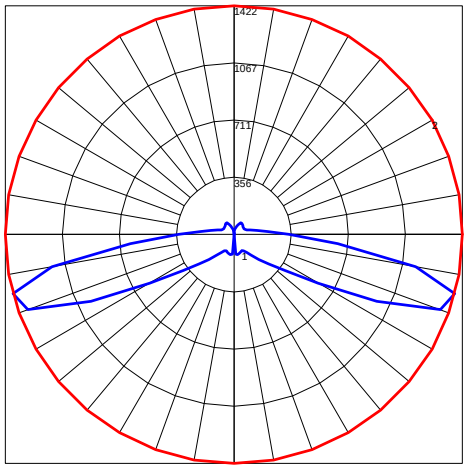
23220 W. 84th St., Shawnee, KS 66227 • Ph: 1.800.852.2217 • Fax: 1.800.492.8975 • eiko@eiko.com
EiKO CANADA: 81 King Street, Barrie, ON L4N 6B5, Canada • Ph: 1.888.410.8151 • Fax: 1.888.705.1335 • orderdesk@eiko.com
www.eiko.com

POST-TOP HID REPLACEMENT LAMP

C0820 PT Series

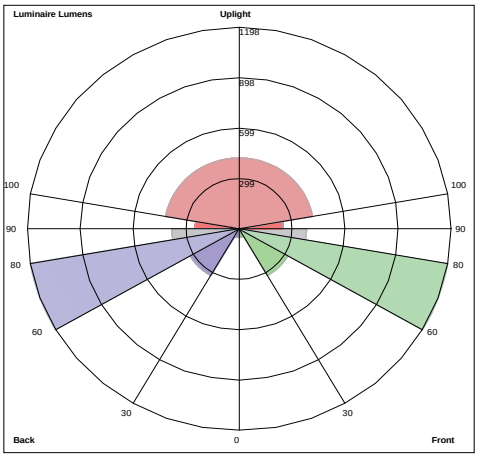
ILLUMINATION DIAGRAM

POLAR GRAPH



Maximum Candela = 1422 Located At Horizontal Angle = 0, Vertical Angle = 75
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (75) (Through Max. Cd.)

LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=48.9, Medium=318.7, High=1197.6, Very High=379.8
Back: Low=48.9, Medium=318.7, High=1197.6, Very High=379.8
Uplight: Low=248.1, High=420.7

BUG Rating : B3-U3-G3

DIMENSIONS

30W **45W**

- *Comes standard as a mogul base. Medium to mogul enlarger socket included.*
- *Universal voltage operation from 120-277V*
- *Bypasses the HID ballast and provides 120-277V line voltage directly to socket*
- *Must be operated base down.*

Medium Based Spiral CFLi Lamps

Continued...

Ordering Code	Approvals	mg Hg	Volts	Watts	Base	MOL	CT deg K	Life Hours	CRI	Approx Initial Lumens
SP23/65K	UL/CSA, TCLP Compliant	1.6	120	23	Medium Screw (E26)	4.882/124	6500	10000	80	1600
SP27/27K	Energy Star	1.6		26	Medium Screw (E26)	5.079/129	2700	10000	80	1700
SP27/35K	UL/CSA, TCLP Compliant	1.6	120	26	Medium Screw (E26)	5.08/129	3500	10000	80	1700
SP27/41K		1.6		26	Medium Screw (E26)	5.079/129	4100	10000	80	1700
SP27/50K		1.6		26	Medium Screw (E26)	5.079/129	5000	10000	80	1700
SP32/27K		3.2		32	Medium Screw (E26)	5.711/145	2700	10000	80	2000
SP32/35K	UL/CSA, TCLP Compliant	3.2	120	32	Medium Screw (E26)	5.63/143	3500	8000	80	2050
SP32/41K	UL/CSA, TCLP Compliant	3.2	120	32	Medium Screw (E26)	5.63/143	4100	8000	80	2050
SP32/50K	UL/CSA, TCLP Compliant	3.2	120	32	Medium Screw (E26)	5.71/145	5000	10000	80	2000
SP42/27K	UL/CSA, TCLP Compliant	3.2		40	Medium Screw (E26)	7.283/185	2700	10000	80	2600
SP42/35K		3.2		40	Medium Screw (E26)	7.283/185	3500	10000	80	2600
SP42/41K		3.2		40	Medium Screw (E26)	7.13/181	4100	10000	80	2600
SP42/50K		3.2		40	Medium Screw (E26)	7.283/185	5000	10000	80	2600
SP65/41/MED	UL/CSA, TCLP Compliant	4.8	120	65	Medium Screw (E26)	9.45/240	4100	10000	>80	4300
SP65/50/MED	UL/CSA, TCLP Compliant	4.8	120	65	Medium Screw (E26)	9.45/240	5000	10000	>80	4000
SP85/41/MED	UL/CSA, TCLP Compliant	4.8	120	85	Medium Screw (E26)	9.96/253	4100	10000	>80	5700
SP85/50/MED	UL/CSA, TCLP Compliant	4.8	120	85	Medium Screw (E26)	9.96/253	5000	10000	>80	5350
SP105/41/MED	UL/CSA, TCLP Compliant	4.8	120	105	Medium Screw (E26)	10.75/273	4100	10000	>80	7000
SP105/50/MED	UL/CSA, TCLP Compliant	4.8	120	105	Medium Screw (E26)	10.75/273	5000	10000	>80	6600

Currently the City standard lamp

Dimmable CFLi Lamps

Ordering Code	Volts	Watts	mg Hg	Special Desc	Base	MOL	CT deg K	Life Hours	CRI	Approx Initial Lumens
SP13/27K-DIM	120	13	2	Dimmable down to 8%. Use only dimmers rated 600W or lower, made after 1995.	Medium Screw (E26)	4.92/125	2700	8000	80	900
SP13/41K-DIM	120	13	2	Dimmable down to 8%. Use only dimmers rated 600W or lower, made after 1995.	Medium Screw (E26)	4.92/125	4100	8000	80	850
SP15/R30/27K-DIM	120	15	1.6		Medium Screw (E26)	6.102/155	2700	10000		680
SP15/R30/41K-DIM	120	15	1.6		Medium Screw (E26)	6.102/155	4100	10000		680
SP15/R30/50K-DIM	120	15	1.6		Medium Screw (E26)	6.102/155	5000	10000		680
SP15/R30/65K-DIM	120	15	1.6		Medium Screw (E26)	6.102/155	6500	10000		640
SP19/27K-DIM	120	18	2	Dimmable down to 8%. Use only dimmers rated 600W or lower, made after 1995.	Medium Screw (E26)	5.12/130	2700	8000	80	1350
SP19/41K-DIM	120	20	2	Dimmable down to 8%. Use only dimmers rated 600W or lower, made after 1995.	Medium Screw (E26)	5.12/130	4100	8000	80	1300
SP23/27K-DIM	120	23	2	Dimmable down to 8%. Use only dimmers rated 600W or lower, made after 1995.	Medium Screw (E26)	5.47/139	2700	8000	80	1550

lighting levels. Consensus opinion is currently to delete such a differential on the basis that adequate research to justify the lower levels has not been conducted.

High mast lighting typically consists of clusters of three to six or more luminaires mounted on rings, which can be mechanically lowered to near ground levels for servicing.

Designs for high mast lighting can utilize the illuminance method. Unique high mast luminaires and both symmetrical and asymmetrical distributions have been used. Cutoff luminaires are desirable to avoid excessive glare. Large lamps consuming up to 1000 watts are sometimes employed.

Because high mast lighting is a tool for illuminating areas rather than specific sections of roadway, the poles are customarily placed well back from adjacent roadways. Installation cost comparisons between high mast and conventional lighting systems vary widely, depending on the application. High mast lighting for interchanges is frequently less expensive to install than conventional lighting, due to the reduced complexity of conduit and conductor and the smaller number of luminaires and poles required. Other than at interchange locations, conventional lighting usually requires a smaller initial cost.

Maintenance costs for the two types of systems differ greatly. Conventional lighting requires the use of a bucket truck and frequently requires extensive traffic control, such as signs, cones, and lane closures. When poles are mounted on concrete traffic barriers (CTB's), the adjacent traffic lane usually has to be closed, resulting in significant traffic disruptions. One or two persons, without special lift equipment, can usually perform maintenance on a high mast lighting system equipped with a lowering device. High mast lighting may also eliminate the risks involved with having personnel working near high speed traffic.

3.5 Pedestrian and Bikeway Design Criteria

The lighting of streets with pedestrian sidewalks and/or bikeways included as part of the right of way, particularly in urban and suburban areas, differs from that of limited access high speed roadways. The driver's tasks include seeing objects in the roadway as well as pedestrians, parked cars, and other elements. The purpose

Table 2: Illuminance Method - Recommended Values

Road and Pedestrian Conflict Area		Pavement Classification (Minimum Maintained Average Values)			Uniformity Ratio	Veiling Luminance Ratio
Road	Pedestrian Conflict Area	R1 lux/fc	R2 & R3 lux/fc	R4 lux/fc	E_{avg}/E_{min}	L_{vmax}/L_{avg}
Freeway Class A		6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Freeway Class B		4.0/0.4	6.0/0.6	5.0/0.5	3.0	0.3
Expressway	High	10.0/1.0	14.0/1.4	13.0/1.3	3.0	0.3
	Medium	8.0/0.8	12.0/1.2	10.0/1.0	3.0	0.3
	Low	6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Major	High	12.0/1.2	17.0/1.7	15.0/1.5	3.0	0.3
	Medium	9.0/0.9	13.0/1.3	11.0/1.1	3.0	0.3
	Low	6.0/0.6	9.0/0.9	8.0/0.8	3.0	0.3
Collector	High	8.0/0.8	12.0/1.2	10.0/1.0	4.0	0.4
	Medium	6.0/0.6	9.0/0.9	8.0/0.8	4.0	0.4
	Low	4.0/0.4	6.0/0.6	5.0/0.5	4.0	0.4
Local	High	6.0/0.6	9.0/0.9	8.0/0.8	6.0	0.4
	Medium	5.0/0.5	7.0/0.7	6.0/0.6	6.0	0.4
	Low	3.0/0.3	4.0/0.4	4.0/0.4	6.0	0.4

*(Refer to **Section 3.6** for Intersection Lighting)*

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Table 5: Recommended Values for High Pedestrian Conflict Areas

Maintained Illuminance Values for Walkways/Bikeways			
	E_H lux/fc	E_{Vmin} lux/fc	E_{avg}/E_{min} *
Mixed Vehicle and Pedestrian**	20.0/2.0	10.0/1.0	4.0
Pedestrian Only	10.0/1.0	5.0/0.5	4.0

* Horizontal only

Mixed vehicle and pedestrian refers to those areas where the pedestrians are immediately adjacent to vehicular traffic without barriers or separation. Does not apply to mid-block crossings. (See **Section 3.5.1.4.)

E_H = average horizontal illuminance at walkway/bikeway
E_{Vmin} = minimum vertical illuminance at 1.5 m (4.9 ft.) above walkway/bikeway measured in both directions parallel to the main pedestrian flow

3.6 Intersections

3.6.1 Classification. Typically, about 50 percent of accidents in urban areas, excluding freeways, occur at intersections.[11] The basic classification system for urban surface streets as given in **Section 2.1** include:

Major (M)
Collector (C)
Local (L)

These streets intersect to form six types of intersections; M/M, M/C, M/L, C/C, C/L, and L/L. The Institute of Transportation Engineers (ITE) in Guidelines for Residential Subdivision Street Design[12], has identified the following volumes of average daily traffic (ADT) as typical for each type of street in residential areas:

Major ..... over 3,500 ADT
Collector ..... 1,500 to 3,500 ADT
Local ..... 100 to 1,500 ADT

Note: These street classifications do not apply to the road classifications of **Tables 2, 3,** and **4,** but may be used in determining intersection lighting levels from **Table 9.**

3.6.2 Vehicular Traffic Volumes and Conflicts. Obviously, the volume of traffic at the intersection of one local street with another is quite low. Alternatively, volumes at intersections of local streets with major streets are primarily those on the major street. If the intersecting street is of collector or major type, the total volume is substantially increased due to the traffic on the cross street. Also, denser land uses, such as commercial or industrial, generate higher volumes for all types of streets. The likelihood of pedestrian conflict is also an important consideration.

Driveways onto other roadways are miniature intersections and should be classified accordingly. Those serving a single family home typically generate about ten trips per day; i.e., five vehicles in and five vehicles out and do not require any special lighting. At the other extreme, driveways serving high volume activities, such as regional shopping centers, will be used by thousands of vehicles per day and should be illuminated similar to a major/major intersection.

At the intersection of two streets, both carrying two-way traffic, with no restriction on turning movements and no signal control, a total of 16 vehicular conflict points exist as shown in **Figure 3.** An equal number of pedestrian conflict points exists; i.e., there are four

Table 6: Recommended Values for Medium Pedestrian Conflict Areas

Maintained Illuminance Values for Walkways/Bikeways			
	E_H lux/fc	E_{Vmin} lux/fc	E_{avg}/E_{min} *
Pedestrian Areas	5.0/0.5	2.0/0.2	4.0

* Horizontal only

E_H = average horizontal illuminance at walkway/bikeway
E_{Vmin} = minimum vertical illuminance at 1.5 m (4.9 ft.) above walkway/bikeway measured in both directions parallel to the main pedestrian flow

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Table 9. Recommended Illuminance for the Intersection of Continuously Lighted Urban Streets
(Based on the values in Table 2 for R2 and R3 pavement classifications)

Illuminance for Intersections				
Functional Classification	**Average Maintained Illumination at Pavement by Pedestrian Area Classification** lux/fc			E_{avg}/E_{min}
	High	Medium	Low	
Major/Major	34.0/3.4	26.0/2.6	18.0/1.8	3.0
Major/Collector	29.0/2.9	22.0/2.2	15.0/1.5	3.0
Major/Local	26.0/2.6	20.0/2.0	13.0/1.3	3.0
Collector/Collector	24.0/2.4	18.0/1.8	12.0/1.2	4.0
Collector/Local	21.0/2.1	16.0/1.6	10.0/1.0	4.0
Local/Local	18.0/1.8	14.0/1.4	8.0/0.8	6.0

urban street right of way, such as pedestrians and bicyclists, will also require adequate lighting for their tasks.

4.4 Integration with Non-Lighting Elements

In urban areas, particularly medium to high pedestrian usage areas, many elements may have to be integrated and coordinated with the lighting system. Some of these elements are noted in **Figure 2**. The locations of light poles need to be coordinated with the street furniture and landscaping. An assessment may be required of the impact that these objects may have on the performance of the lighting system. The designer and owner of the lighting system must look at the installation with all of the non-lighting elements and work to resolve conflicts.

4.5 Vertical Surface Illumination

Illuminated building faces can provide a sense of security and mitigation for the shadows (off the street) created by roadway cut-off luminaires in standard layouts. Adding a small percentage of vertical component to the lighting photometric distribution can provide "fill light" to enliven the architectural facades at night. Care must be exercised in selection of the optical type and equipment placement to avoid creating an obtrusive condition for the motorist or the abutting property users.

4.6 Glare and Sky-Glow Issues

Roadway lighting systems are under increasing scrutiny from various sectors of the public. While the general public is not usually aware of specific design requirements of roadway lighting systems, glare, sky-glow, and aesthetic elements are widely perceived and open to criticism. The lighting designer should become familiar with these issues and be prepared to design a lighting system that meets the needs of the client/owner, while also considering the effect of the lighting system on the general aesthetic environment of the area.

An increasing number of communities are adopting lighting ordinances meant to reduce sky-glow (popularly termed light pollution). This action should put lighting designers on notice that this is a very important issue. There are situations (building facades, landscapes, and central business districts for example) in which lighting aimed upward may sometimes be required. Roadway lighting is not usually one of these situations. Luminous flux above the horizontal does not benefit roadway lighting but can contribute to glare and may be considered visual clutter.

Luminous flux above the horizontal also adds to sky-glow. Many people consider sky-glow undesirable and even offensive. This is an immensely important issue with the astronomical community, professional and amateur, and is particularly annoying when equally effective lighting systems can be designed that reduce or eliminate direct up lighting.

Unless it is essential to have luminous flux aimed above the horizontal, as mentioned in the situations above, non-cutoff luminaires should not be used for new roadway lighting. Non-cutoff luminaires inappropriately used may be considered a waste of energy. Roadway lighting luminaires should at least be semi-cutoff. Cutoff and full cutoff should be strongly considered. When it is necessary to have luminous flux above the horizontal, the designer should be diligent to keep the above horizontal flux as low as practical to accomplish the intended effect. This can be done by using lower wattage luminaires, by shielding, or by luminaire design.

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Chapter Fifty-six

HIGHWAY LIGHTING

BUREAU OF DESIGN AND ENVIRONMENT MANUAL

Chapter Fifty-six
HIGHWAY LIGHTING

Table of Contents

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Chapter Fifty-six
HIGHWAY LIGHTING

56-1 GENERAL

The general purpose of roadway lighting is to provide improved safety, security, and aesthetics for the various users of the roadway and associated facilities. Lighting enables the driver to recognize the geometry and condition of the roadway at extended distances, thereby simplifying the driving task at night. This, in turn, increases driver visual comfort and reduces driver fatigue, which contributes measurably to highway safety.

Due to the large and diverse volume of highway lighting information, it would be impractical for this Chapter to present a complete design guide. Instead, the intent is to provide the user with a synopsis of the highway lighting design process and to present IDOT's criteria, policies, and procedures on this issue. Use the references listed in Section 56-7 as guidance for highway lighting design.

56-1.01 Responsibilities

Each district is responsible for the highway lighting projects within their respective jurisdictions (e.g., information gathering, plan preparation). See Chapter 63 for additional information on plan preparation.

The district will contact the Electrical and Mechanical Unit in the Central Office to design the project lighting. If it is mutually decided to have it designed by a consultant, a pre-design discussion will be held with the consultant to outline the lighting design parameters for the project.

The consultant lighting design must be submitted and approved by the Electrical and Mechanical Unit before lighting plans are submitted. The district will submit all consultant preliminary and final lighting plans to the Central Office for review and approval by the Electrical and Mechanical Unit.

Lighting plans for all types of lighting installations will be reviewed and approved by the Electrical and Mechanical Unit in the Central Office. See Chapter 11 for additional information on the local agency highway lighting improvement projects that must be submitted for review.

District 1 is responsible for highway lighting projects within their jurisdiction. This includes both lighting design and plan review for approval.

56-1.02 Definitions

The following definitions are for a common understanding of terms for non-practitioners in the lighting field; consult listed references for detailed definitions:

1. Average Initial Illuminance. The average level of horizontal illuminance on the pavement area of a traveled way at the time the lighting system is installed, when lamps are new and luminaries are clean; expressed in average footcandles (lux) for the pavement area. See definition of Illuminance.

2. Average Maintained Illuminance (E_h). The average level of horizontal illuminance on the roadway pavement when the output of the lamp and luminaire is diminished by the maintenance factor (MF); expressed in average footcandles (lux) for the pavement area. See definition for Maintenance Factor.

3. Ballast. An electrical device used with high-intensity discharge lamps to regulate electric current through the lamp and provide the necessary voltage to start and operate the lamp.

4. Candela (cd). A measure of the luminous intensity of a light source as seen by the eye (a.k.a., "candle"). For example, because the eye is less sensitive to blue light than to green light, a blue light source must radiate more power in watts (W) than a green light source if the two are to have the same luminous intensity. Most light sources have different luminous intensities when viewed from different directions and so the luminous intensity for a light source may vary with the angle at which it is viewed (1 cd = 1 cp).

5. Candela per Square Meter (cd/m^2). The metric unit of luminance (photometric brightness) that is equal to the uniform luminance of a perfectly diffusing surface emitting or reflecting light at the rate of one lumen per square meter (lm/m^2) or the average luminance of any surface emitting or reflecting light at that rate ($1\ cd/m^2 = 0.2919$ fl).

6. Candlepower (cp). The luminous intensity in a specific direction; expressed in candelas (cd). It is no indication of the total light output (1 cp = 1 cd).

7. Coefficient of Utilization (CU). The ratio of the luminous flux (lm) from a luminaire received on the pavement surface to the rated lumens emitted by the luminaire.

8. Disability Glare. Glare resulting in reduced visual performance and visibility. It often is accompanied by discomfort. See definitions for Discomfort Glare and Glare.

9. Discomfort Glare. Glare producing discomfort. It does not necessarily interfere with visual performance or visibility. See definition for Glare.

10. Footcandle (fc). The US Customary unit of measurement for illuminance on a surface one square foot (ft^2) in area where there is uniformly distributed a light flux of one lumen (lm) (1 fc = 10.76 lx).

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11. Footlambert (fl). The US Customary unit of luminance (photometric brightness) equal to the uniform luminance of a perfectly diffusing surface emitting or reflecting light at the rate of one lumen per square foot (lm/ft^2) or the average luminance of any surface emitting or reflecting light at that rate (1 fl = 3.426 cd/m^2).

12. Glare. The optical sensation produced by luminance within the visual field that is sufficiently greater than the luminance to which the eyes are adapted and causes annoyance, discomfort, or loss in visual performance and visibility. See definitions for Disability Glare and Discomfort Glare.

13. House Side. The horizontal direction away from the roadway or behind the nadir of the luminaire. See definitions for Street Side and Nadir.

14. Isolux Diagram. A diagram plotted on any appropriate set of coordinates to show all points on a surface where the illuminance is the same, represented by a series of isolux line curves.

15. Illuminance. The density of the luminous incident on a surface. It is the quotient of the luminous flux by the area of the surface when the latter is uniformly illuminated.

16. Lamp Lumen Depreciation Factor (LLD). A depreciation factor that indicates the decrease in a lamp's initial lumen output over time. For design calculations, the initial lamp lumen value is reduced by LLD to compensate for the anticipated lumen reduction. See definition for Maintenance Factor.

17. Light Standard (Pole). A pole provided with the necessary internal attachments for wiring and the external attachments for the bracket and luminaire.

18. Longitudinal Roadway Line (LRL). A line along the roadway parallel to the curb or shoulder line. See definition for Transverse Roadway Line.

19. Lumen (lm). The unit of luminous flux. It is equal to the flux through a unit solid angle (steradian), from a uniform point source of one candela (cd), or to the flux on a unit surface, all points of which are at unit distance from a uniform point source of one candela.

20. Luminaire. A complete lighting unit consisting of a lamp or lamps and ballast together with accessories (reflector and/or refractor) designed to distribute the light to its intended target area.

21. Luminaire Dirt Depreciation Factor (LDD). A depreciation factor that indicates the expected reduction of a lamp's initial lumen output due to the accumulation of dirt on or within the luminaire over time. See definition for Maintenance Factor.

22. Luminance. The luminous intensity of any surface in a given direction per unit of projected area of the surface as viewed from that direction.

23. Luminous Efficacy (lm/W). The quotient of the luminous flux (lm) emitted by the total lamp power input. It is expressed in terms of lumens per watt (lm/W).

24. Luminous Efficiency (%). The ratio of the total luminous flux emitted by a luminaire to that emitted by the bare lamp.

25. Luminous Intensity. See definition of Candela.

26. Lux (lx). The metric unit of illuminance on a surface one square meter (m^2) in area on which there is uniformly distributed light flux of one lumen (lm), or the illuminance produced on a surface where all points are at a distance of one meter (m) from a uniform point source of one candela (cd) (1 lx = 1 lm/m^2 = 0.0929 fc).

27. Maintenance Factor (MF). A combination of light loss factors (LLD, LDD, EF) used to denote the reduction of the illumination for a given area after a period of time compared to the initial illumination on the same area (MF = Luminaire Lumen Depreciation (LLD) • Luminaire Dirt Depreciation (LDD) • Equipment Factor (EF)).

28. Mounting Height. The vertical distance between the roadway surface and the center of the light source in the luminaire.

29. Nadir. The vertical axis that passes through the center of the luminaire light source.

30. Overhang. The horizontal distance between a vertical line through the nadir of a luminaire and the edge of traveled way or edge of the area to be illuminated.

31. Setback. The horizontal distance between the face of a light pole and the edge of traveled way.

32. Spacing. The distance in meters between successive light poles.

33. Street Side. The horizontal direction toward the roadway from the nadir of the luminaire. See definition of House Side.

34. Transverse Roadway Line (TRL). Any line across the roadway that is perpendicular to the curb or shoulder line. See definition of Longitudinal Roadway Line.

35. Uniformity Ratio (E_h/E_{min}). The ratio of average maintained horizontal illuminance (E_h) to the maintained horizontal illuminance at the point of minimum illumination (E_{min}) on the pavement. A uniformity ratio of 3:1 means that E_h - footcandles (lux) is three times the E_{min} - footcandles (lux) at the point of least illuminance on the pavement.

36. Utilization Curve. A plot of the quantity of light falling on the horizontal surface both in front (street side) and behind (house side) the luminaire. It shows only the percent of bare lamp lumens that fall on the horizontal surface and is plotted as a ratio of width of area to mounting height of luminaire.

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56-2 GUIDELINES FOR JUSTIFYING HIGHWAY LIGHTING

Providing lighting for all highway facilities is neither practical nor cost effective. It is generally IDOT's practice only to provide highway lighting where justified based on sound engineering judgment and on the criteria, recommendations, and principles presented in the AASHTO publication *Roadway Lighting Design Guide* and NCHRP Report No. 152 *Warrants for Highway Lighting*.

The Department will assess the economic feasibility of lighting on roadway projects and prioritize potential lighting projects. A location that appears to justify lighting does not necessarily obligate the Department to provide funding. Local agencies may provide lighting within their respective jurisdictions provided they find sufficient benefit in the forms of convenience, safety, policing, community promotion, public relations, etc., to participate in an appreciable percentage of the cost of, or wholly finance, the installation, maintenance, operation, and energy needs of the lighting facilities; see Chapter 5.

For a highway lighting facility to be considered for funding by IDOT, the lighting system must be both economically feasible and justified based on the applicable criteria presented in the following sections. The impacts of local conditions (e.g., frequent fog, ice, snow, roadway geometry, ambient lighting, sight distance, signing) should also be considered when analyzing highway lighting needs.

56-2.01 Analyzing Highway Lighting Needs

The AASHTO publication *Roadway Lighting Design Guide* presents an empirical approach to analyzing highway lighting needs with primary application to freeway-type facilities. The principal considerations are vehicular traffic volume, interchange spacing (i.e., an indicator of the relative frequency of vehicular traffic maneuvers), land development and artificial lighting conditions in the area surrounding the freeway, and the night-to-day crash ratio. The affect of these factors on driver visibility should be considered in the lighting needs analysis.

A supplemental approach to analyzing highway lighting needs, based primarily on an analytical evaluation of driver information, is published in NCHRP Report No. 152 *Warrants for Highway Lighting*. This publication has application to both urban-type facilities (e.g., streets, arterials, intersections) and freeway-type facilities (e.g., Interstates). In urban areas where the analyst may find difficulty in applying the AASHTO empirical approach, Report No. 152 offers an alternative approach for analyzing highway lighting needs. Additional information for analyzing partial interchange lighting is available in NCHRP Report No. 256.

56-2.02 Freeways

Use the criteria presented in the following sections when analyzing the lighting needs for State-maintained freeway facilities.

56-2.02(a) Continuous Freeway Lighting

Continuous lighting consists of all mainline and direct connections, and provides for complete lighting of all associated interchanges. Lighting may be provided through high-mast facilities, conventional, or both. Continuous freeway lighting (CFL) should be considered under the following conditions:

1. Freeway Volume. On those freeway sections in and near cities where the current ADT is 30,000 or more, CFL should be considered.

2. Interchange Spacing. CFL should be considered where three or more successive interchanges are located with an average spacing of 1.5 miles (2.5 km) or less, and adjacent areas outside the right-of-way are substantially urban in character.

3. Land Development/Lighting Conditions. Consider CFL where, for a length of 2 miles (3 km) or more, the freeway passes through a substantially developed suburban or urban area where one or more of the following conditions exist:

   - local traffic operates on a complete street grid having some form of street lighting, parts of which are visible from the freeway;
   - the freeway passes through a series of developments (e.g., residential, commercial, industrial areas, civic areas, colleges, parks, terminals), which include facilities (e.g., roads, streets, parking areas, yards) that are lighted;
   - separate cross streets, with and without connecting ramps, occur with an average spacing of 0.5 miles (1 km) or less, some of which are lighted as part of the local street system; or
   - freeway cross-section elements (e.g., median, shoulders) are substantially reduced in width below desirable criteria in relatively open country.

4. Night-To-Day Crash Ratio. CFL should be considered where the night-to-day ratio of crash rates is at least 2.0 or higher than the statewide average for all unlighted similar sections, and a study indicates that lighting may be expected to result in a significant reduction in the night crash rate. The number of nighttime crashes should also be evaluated.

5. Local Agency Needs. CFL should be considered where the local agency finds sufficient benefit in the forms of convenience, safety, policing, community promotion, public relations, etc., to pay an appreciable percentage of the cost of, or wholly finance, the installation, maintenance and operation of the lighting facilities. See Chapter 5 for additional information on local agencies' lighting responsibilities.

6. Local Conditions. CFL should be considered where local conditions (e.g., frequent fog, ice, snow, roadway geometry, ambient lighting, sight distances, or frequent advertising signing) could justify lighting.

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56-2.02(b) Complete Interchange Lighting

Complete interchange lighting (CIL) consists primarily of lighting the freeway's through traffic lanes within the interchange area, the traffic lanes of all ramps, the acceleration and deceleration lanes, all ramp terminals, and the crossroad between the outermost ramp terminals. Consider CIL at interchanges under the following conditions:

1. Ramp Volume. CIL should be considered where the total current ADT ramp traffic entering and exiting the freeway within the interchange area exceeds 10,000 for urban conditions, 8000 for suburban conditions, or 5000 for rural conditions.

2. Crossroad Volume. Consider CIL where the current ADT on the crossroad exceeds 10,000 for urban conditions, 8000 for suburban conditions, or 5000 for rural conditions.

3. Land Development/Lighting Conditions. Consider CIL at locations on unlighted freeways where existing substantial commercial or industrial development, which is lighted during hours of darkness, is located in the immediate vicinity of the interchange, or where the crossroad approach legs are lighted for 0.5 miles (1 km) or more on each side of the interchange.

4. Night-to-Day Crash Ratio. CIL should be considered where the night-to-day ratio of crash rates within the interchange area is at least 1.5 or higher than the statewide average for all unlighted similar sections, and a study indicates that lighting may be expected to result in a significant reduction in the night crash rate. The number of nighttime crashes should also be evaluated.

5. Local Agency Needs. CIL should be considered where the local agency finds sufficient benefit in the forms of convenience, safety, policing, community promotion, public relations, etc., to pay an appreciable percentage of the cost of, or wholly finance, the installation, maintenance, and operation of the lighting facilities. See Chapter 5 for additional information on lighting responsibilities of local agencies.

6. Continuous Freeway Lighting. Provide CIL at interchanges where continuous freeway lighting is provided. See Section 56-2.02(a).

56-2.02(c) Partial Interchange Lighting

Partial interchange lighting (PIL) generally is a lighting configuration that defines lighting for the decision-making areas. It consists of a few luminaires located in the vicinity of all ramp terminals. The usual practice is to light those general areas where the exit and entrance ramps connect with the through traffic lanes of the freeway and generally those areas where the ramps intersect the crossroad. Consider PIL at interchanges under the following conditions:

1. Ramp Volume. Consider PIL where the total current ADT ramp traffic entering and exiting the freeway within the interchange area exceeds 5000 for urban conditions, 3000 for suburban conditions, or 1000 for rural conditions.

2. Freeway Volume. Consider PIL where the current ADT on the freeway through traffic lanes exceeds 25,000 for urban conditions, 20,000 for suburban conditions, or 10,000 for rural conditions.

3. Night-to-Day Crash Ratio. PIL should be considered where the night-to-day ratio of crash rates within the interchange area is at least 1.25 or higher than the statewide average for all unlighted similar sections, and a study indicates that lighting may be expected to result in a significant reduction in the night crash rate. The number of nighttime crashes should also be evaluated.

4. Local Agency Needs. PIL should be considered where the local agency finds sufficient benefit in the forms of convenience, safety, policing, community promotion, public relations, etc., to pay an appreciable percentage of the cost of, or wholly finance, the installation, maintenance, and operation of the lighting facilities. See Chapter 5 for additional information on local agencies' lighting responsibilities.

5. Continuous Freeway Lighting. Consider PIL where continuous freeway lighting is justified, but not initially installed. See Section 56-2.02(a). The freeway section should be in or near a city where the current ADT is 30,000 or more, or the interchange should be among three or more successive interchanges located with an average spacing of 1.5 miles (2.5 km) or less with adjacent areas outside the right-of-way being substantially urban in character.

6. Complete Interchange Lighting. Where complete interchange lighting is justified, but not initially fully installed, a partial lighting system, which exceeds the normal partial installation in number of lighting units, is considered to be justified. See Section 56-2.02(b).

NCHRP Report No. 256 *Partial Lighting of Interchanges* provides additional information on analyzing the need for partial interchange lighting.

56-2.02(d) Crossroad Ramp Terminal Lighting

Lighting of the crossroad ramp terminal should be considered regardless of traffic volume where the crossroad ramp terminal design of freeway interchanges incorporates raised channelizing or divisional islands, where there is poor sight distance, or roadway alignment constitutes curvature or severe slopes.

56-2.03 Streets and Highways Other Than Freeways

Urban and rural conditions, traffic volumes (both vehicular and pedestrian), intersections, turning movements, signalization, channelization, and varying geometrics are factors that should be considered when determining the lighting needs of streets and highways other than freeways. Consider the following when assessing the lighting needs of such State-maintained

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facilities. NCHRP Report No. 152 *Warrants for Highway Lighting* provides additional information analyzing the need for lighting.

1. Facilities with Raised Medians. Consider highway lighting along sections of State-maintained facilities that have raised medians.

2. Major Urban Arterials. Consider highway lighting along all major arterials that are located in urban areas.

3. Intersections. Consider intersection lighting at rural intersections that meet any one of the following conditions:

   - there are 2.4 or more crashes per million vehicles in each of three consecutive years;
   - there are 2.0 or more crashes per million vehicles per year and 4.0 or more crashes per year in each of three consecutive years;
   - there are 3.0 or more crashes per million vehicles per year and 7.0 or more crashes per year in each of two consecutive years;
   - the intersection is signalized and in the past year the day-to-night crash ratio is at least 1.25 or higher than the Statewide average for similar signalized intersections;
   - substantial nighttime pedestrian volume exists;
   - less than desirable alignment exists on any of the intersection approaches;
   - intersection approach roadway leg has less than the required Safe Sight Stopping Distance (SSSD) at the intersection;
   - the intersection is an unusual type requiring complex turning maneuvers;
   - commercial development exists in the vicinity, which causes high nighttime traffic peaks;
   - distracting illumination exists from adjacent land development; and/or
   - there exists recurrent fog or industrial smog in the area.

   Isolated intersections located within the fringe of corporate limits that are suburban or rural in character may be illuminated at the State's expense provided they meet the above criteria. Every effort should be made to have the local agency accept ownership of the system after installation and assume all operational and maintenance costs. See Chapter 5 for additional information on lighting responsibilities of local agencies.

4. High-Conflict Locations. Consider lighting along roadway sections with high vehicle-to-vehicle interactions (e.g., sections with numerous driveways, where driveway separation is less than one SSSD, significant commercial or residential development, driveways with larger percentage of turning traffic, large complex intersection with more than one turning lane in one direction, intersection with raised medians, high percentage of trucks). Lighting generally improves traffic safety and efficiency at such locations.

5. Complex Roadway Geometry. Consider lighting at spot locations in rural areas where the driver is required to pass through a roadway section with complex or substandard geometry.

6. Night-to-Day Crash Ratio. Lighting should be considered at locations or sections of streets and highways where the night-to-day ratio of crash rates is higher than the statewide average for similar locations, and a study indicates that lighting may be expected to significantly reduce the night crash rate.

7. Local Agency Needs. Lighting should be considered where the local agency finds sufficient benefit in the forms of convenience, safety, policing, community promotion, public relations, etc., to pay an appreciable percentage of the cost of, or wholly finance, the installation, maintenance, and operation of the lighting facilities. See Chapter 5 for additional information on lighting responsibilities of local agencies.

8. Pedestrian Sidewalk. Consider lighting the sidewalk along the roadway section. Properly designed highway lighting may provide adequate roadway and sidewalk lighting without the need for supplemental or separate sidewalk lighting.

56-2.04 Rest Areas

Provide lighting at rest areas that offer complete rest facilities (e.g., comfort station, information kiosk, picnic areas). Illuminate all areas within the facility that have pedestrian activities (e.g., parking areas, immediate area of building). Provide lighting at rest area ramps, gore areas, other decision points, and traffic conflict areas.

56-2.05 Weigh Stations

Provide lighting and overheight detectors at all permanent truck weigh stations. Illuminate the weighing area, parking areas, speed change lanes, ramps, and gore areas.

56-2.06 Bridge Structures and Underpasses

Because of their typical configuration and length-to-height ratio, underpasses generally have good daylight penetration and do not require supplemental daytime lighting. Underpass lighting generally is installed to enhance driver visibility after daylight hours. When the underpass length-to-height ratio exceeds approximately 10:1, it usually is necessary to analyze specific geometry and roadway conditions, including vehicular and pedestrian activity, to determine the

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need for supplemental daytime lighting. See ANSI/IESNA *American National Standard Practice for Tunnel Lighting* for more information on daytime lighting.

On highways that are not continuously lighted, consider providing underpass lighting where frequent nighttime pedestrian traffic exists through the underpass or where unusual or critical geometry exists within or on an approach to the underpass.

Provide underpass lighting on all highways that are continuously lighted. Favorable positioning of conventional highway luminaires adjacent to a relatively short underpass often can provide adequate illumination within the underpass without a need to provide supplemental lighting. If this action is considered, ensure that shadows cast by the conventional luminaires do not become a visibility problem within the underpass.

56-2.07 Tunnels

Provide lighting for tunnels to create adequate roadway visibility necessary for safe and efficient traffic operation. Daytime tunnel lighting is recommended when driver visibility requirements are not satisfied without the use of a daytime lighting system to supplement natural daylight. Visibility requirements vary considerably with such items as:

- portal to portal tunnel length (i.e., short or long);
- tunnel portal design;
- geometry of tunnel and its approaches;
- vehicular and pedestrian traffic characteristics;
- treatment of pavement, portal, interior, and environmental reflective surfaces;
- climate and orientation of tunnel; and
- visibility objectives to provide for safe and efficient tunnel operation.

The AASHTO publication *Roadway Lighting Design Guide* provides tunnel lighting guidelines. For additional tunnel lighting requirements, consult the *American National Standard Practice for Tunnel Lighting*.

56-2.08 Roundabouts

Provide lighting at roundabouts, including rural roundabouts, as recommended by the AASHTO publication *Roadway Lighting Design Guide*. Additional lighting requirements are outlined in the most current version of the *Design Guide for Roundabout Lighting*, IESNA DG-19.

Lighting should be located in consideration of the following:

- Lights should be located so that they provide good illumination on the approach nose of splitter islands, at all conflict areas where traffic is entering the circulating stream, and at all places where the traffic streams separate to exit the roundabout.
- Particular attention should be given to the lighting of the pedestrian crossing areas.
- Avoid placing lighting poles within splitter islands, on the central island directly opposite an entry roadway, or on the right-hand perimeter immediately downstream of an exit point.

56-2.09 Other Locations

Provide lighting for pedestrian crosswalks and all pedestrian underpass and pedestrian tunnel facilities. In addition, lighting for the following facilities will be considered on a case-by-case basis:

- commuter park-and-ride lots,
- bike paths,
- pedestrian walkways, and
- pedestrian overpasses.

56-2.10 Highway Sign Illumination

Overhead highway signs fitted with long-lasting, highly reflective sheeting may be adequately illuminated by vehicular headlights. Signs with non-reflective lower grade sheeting must be internally illuminated by a direct light source. Roadway lighting adjacent to signs does not provide adequate intensity to meet the requirements for external sign illumination.

Provide sign illumination where background (roadway and/or non-roadway) lighting obscures the legend of the sign or the sign is not adequately visible by vehicular headlights. In urban areas with high-ambient lighting, the external illumination of overhead sign panels generally is warranted.

External lighting for all other overhead sign panels along lighted highway facilities will be illuminated on a case-by-case basis. See the *IESNA Recommended Practice for Roadway Sign Lighting* for additional information on when to light signs. Also, apply the requirements of this publication when designing lighting for sign panels.

56-2.11 Navigation and Obstruction Lighting

Highway structures over navigable waterways require waterway obstruction warning luminaires in accordance with US Coast Guard requirements. The district or Electrical and Mechanical Unit in the Central Office will coordinate with the Coast Guard. Design navigable waterway obstruction lighting in accordance with the US Coast Guard Bridge Administration Manual, *Bridge Lighting and Other Signals* and the CFR Title 33, Part 118.

Any need for aviation obstruction warning luminaires on highway structures will be coordinated with the Federal Aviation Administration by the district or Electrical and Mechanical Unit in the Central Office. For information on lighting for navigable airspace obstructions, consult the FAA Advisory Circular AC 70/74602J *Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace*.

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56-2.12 Transition Lighting

Consider step-down transition lighting, or similar visibility measures, for traffic lanes emerging from a lighted area with very high lighting levels. For additional information, consult the ANSI/IESNA RP-8.

56-2.13 Roadway Reconstruction

Existing highway lighting shall be evaluated for upgrade to meet current Department highway lighting criteria on roadway reconstruction projects. Contact the Electrical and Mechanical Unit in the Central Office for additional information.

56-2.14 Municipal and Residential Lighting

IDOT will not participate in highway lighting on facilities located within an incorporated area except as described in Sections 56-2.02, 56-2.03, and Chapter 5.

56-2.15 Ornamental Lighting

At the request of a local agency, ornamental lighting may be permitted by the Department on a State-maintained facility if the minimum requirements of the Department and ANSI/IESNA RP-8 are met and the local agency is 100% responsible for construction funding, ownership, electrical energy, and maintenance of such lighting both during and after construction. Special lighting requirements regarding light trespass and glare must also be satisfied. Contact the Electrical and Mechanical Unit in the Central Office for additional information on ornamental lighting requirements.

56-2.16 Lighting for Nighttime Construction

Ensure lighting for nighttime construction activities, either mobile or stationary, is provided and included in all plans. Ensure the lighting design does not impair motorist visibility and meets RP-8 glare and light trespass requirements. This should be done to help provide for the overall on-site safety of the workers and by making them more visible to motorists where construction is adjacent to traffic. Nighttime lighting also benefits the quality of the construction work.

56-2.17 Temporary Lighting

Consider temporary highway lighting in construction zones requiring complex traffic maneuvers (e.g., crossovers) and where existing lighting will be removed, relocated, or altered by construction operations. Temporary roadway lighting shall meet ANSI/IENSNA RP-8 requirements for lighting, glare, and light trespass. Also, ensure the temporary roadway lighting is designed to meet roadside safety issues (e.g., clear zone setback) in accordance with Chapter 38.

56-2.18 Replacement Lighting

Consider a new roadway lighting design where existing lighting facilities are being replaced on a complete lighting circuit basis or in its entirety. With the exception of spot replacements, large portions of lighting facilities replaced through maintenance or construction operations shall be reevaluated from a lighting design standpoint to ensure lighting facilities are upgraded to meet current Department lighting criteria, including ANSI/IESNA RP-8 requirements.

This is especially important with older facilities that were installed with a different light source than is currently used, wiring methods, etc. Contact the Electrical and Mechanical Unit in the Central Office for additional information on the replacement of existing lighting facilities.

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56-3 MATERIALS AND EQUIPMENT

Because luminaires, electrical devices, and support structures change rapidly with new developments, this section presents an overview rather than an absolute requirement for lighting equipment and materials. The *Standard Specifications, Highway Standards*, and the IDOT electric detail sheets provide additional details on lighting equipment and materials that are required for IDOT projects. Section 56-5 provides specific design guidance for luminaires, electrical devices, and support structures used by IDOT. Figure 56-3.A illustrates the various components of a typical highway lighting structure.

56-3.01 Foundations and Mounting

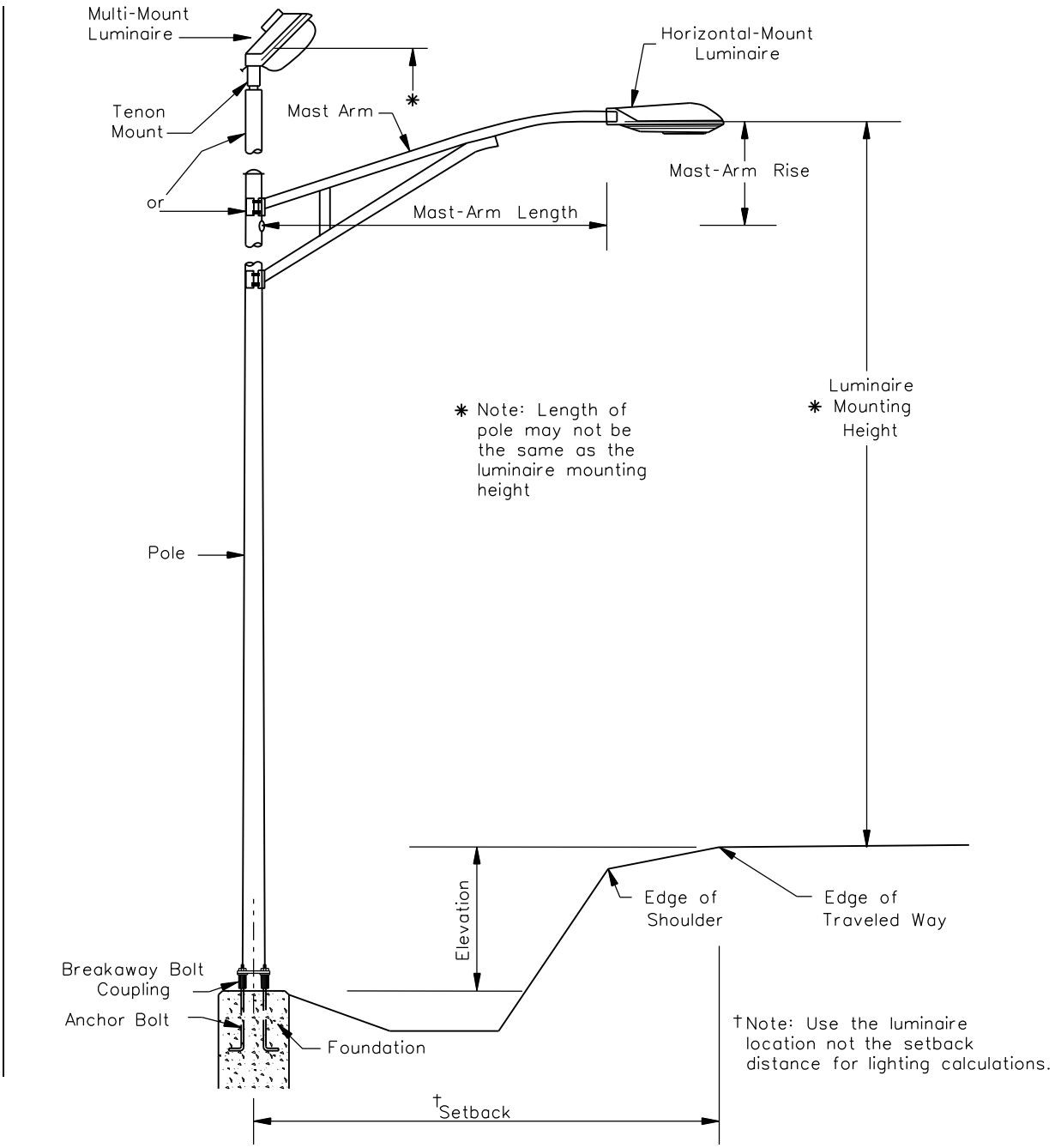
In conventional highway lighting applications, luminaire assemblies generally are attached to davit or mast-arm poles mounted along the roadway either on ground foundations or atop bridge parapets or barriers. Supports for conventional light poles may be either reinforced concrete or steel helix foundations and are constructed from typical designs. However, concrete foundations for light towers in high-mast lighting applications require special designs and soil analyses to determine adequate foundation depth. Depending on factors such as roadside location, most conventional light poles will be mounted on breakaway devices. Attach light poles that are mounted atop parapets and barriers or behind guardrail to foundations with high-strength, non-breakaway bolts. Use special vibration isolating materials to mount light poles on bridges. Where feasible at signalized intersections, a roadway luminaire may be mounted on a combination mast-arm assembly and pole using approved combination structures.

Luminaires mounted in underpasses and tunnels are either attached directly to the wall adjacent to or hung from vibration-dampening pendants at the edge of the travel lanes. Light sources that are used to externally illuminate overhead sign panels typically are fastened to the truss or cantilever support structure.

Waterway and aviation obstruction warning luminaires are attached directly to the structures representing the hazard. Ensure the location and installation of warning luminaires for waterway and aviation also meet the requirements of Section 56-2.11.

56-3.02 Pole Bases

Light poles may be attached to one of several types of bases (e.g., stainless steel flair base, transformer base, breakaway coupling base, anchor base, butt base). Selection is governed by project need and material suitability. A very important distinguishing characteristic of the pole base is whether it is classified by AASHTO and FHWA as an acceptable breakaway device. If the pole represents a roadside hazard, it will be mounted on a breakaway device (see Chapter 38 for additional guidance). Section 56-5.05 provides some design guidance on this issue. The following briefly describes typical pole configurations used by the Department:



Note: Single mast-arm/multi-mount luminaire shown for illustrative purposes. For other luminaire mounting types, see the IDOT Electric Detail Sheets, Highway Standards, and Standard Specifications.

TYPICAL HIGHWAY LIGHTING STRUCTURE

Figure 56-3.A

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1. Breakaway Coupling. Breakaway couplings are connectors or sleeves that are designed to shear when the pole is hit by an errant vehicle. The bottom of each coupling (device) is threaded onto a foundation anchor bolt, and the pole is attached to the top of the coupling. Four couplings are used with each pole. All wiring at the pole base will have simultaneous quick disconnect splices.

2. Frangible Transformer Base. The frangible transformer base consists of a cast aluminum apron between the foundation and the base of the pole. It is designed to deform and break away when hit by an errant vehicle. All wiring inside the base will have quick disconnect splices.

3. Anchor Base. The anchor base consists primarily of a metal plate that is welded to the bottom of the pole. The plate allows the pole to be bolted directly to the foundation using anchor bolts without an intermediate breakaway connection. The anchor bolts and anchor base is not classified by the Department as a breakaway device.

56-3.03 Poles

Light poles for conventional highway lighting applications support luminaire mounting heights ranging from approximately 30 ft to 50 ft (9.1 m to 15.2 m). Light towers for high-mast lighting applications generally range from 80 ft to 160 ft (24.4 m to 48.8 m) and are designed in multiple sections. Weathering steel is a common material choice for light towers. Ornamental light poles used for local streets generally range in height for 8 ft to 15 ft (2.4 m to 4.5 m).

56-3.04 Arms

Depending on the particular application, luminaires may be mounted on single and/or double mast arms or davit arms at the top of the pole. The use of an arm places the light source closer to the traveled way while allowing the pole to be located further from the edge of the traveled way. Arms longer than 15 ft (4.5 m) require special approval.

56-3.05 Luminaires

Luminaire housing consists of a lamp or lamps and electrical components to start and regulate the lamps and distribute the light. The following sections provide some general information on the basic components of the luminaire.

56-3.05(a) Light Sources

There are numerous light sources for highway lighting applications. However, there are only a few practical choices when considering availability, size, power requirements, and cost effectiveness. It is rare that a light source other than the high-intensity discharge (HID) type is used in highway lighting applications.

Use high-pressure sodium for roadway lighting unless permission is obtained from the Department for a different light source. The local agency requests this permission from the district in writing and ensures the request demonstrates the ability of the alternative light source to light the roadway to the requirements of this Chapter without additional luminaires and increased cost.

Fluorescent lamps have been used to illuminate signs. Recently, light emitting diodes (LED's) have become a popular light source due to their long life and low electrical energy usage, but they have not yet become effective for most roadway applications. The following provides information on some of the HID light sources used in highway applications:

1. High-Pressure Sodium (HPS). HPS lamps have excellent luminous efficiency, power usage, and long life. The HPS lamp produces a soft, pinkish-yellow light by passing an electric current through a combination of sodium and mercury vapors.

2. Low-Pressure Sodium (LPS). LPS lamps are considered one of the most efficient light sources on the market. However, the LPS lamp is very long and produces a very pronounced monochromatic yellow light. Light is produced by passing an electrical current through a sodium vapor.

3. Mercury Vapor (MV). Prior to the introduction of HPS lamps, MV was the most commonly used light source in highway applications. The MV lamp produces a bluish-white light and is not as efficient as the HPS lamp. This light source is not longer used.

4. Metal Halide (MH). MH lamps produce better color at higher efficiency than MV lamps. However, life expectancy for MH lamps is shorter than for HPS or MV lamps. They also are more sensitive to lamp mountings and orientation (i.e., horizontal vs. vertical) than other light sources. MH lamps produce good color rendition. Light is produced by passing a current through a combination of metallic vapors. New technology is advancing pulse start and ceramic halide.

56-3.05(b) Optical System

The optical system of the luminaire consists of a light source, a reflector, and usually a refractor. The following provides a general discussion on the optical system components:

1. Light Source. See Section 56-3.05(a) for information on the high-intensity discharge lamps used in highway applications.

2. Reflector. The reflector is used to redirect the light rays emitted by the lamp. Its primary purpose is to redirect that portion of light emitted by the lamp that would otherwise be lost or poorly utilized. Reflectors are designed to function alone or, more commonly, with a refractor to redirect the poorly utilized portion of light to a more desirable distribution pattern. Reflectors are classified as either specular or diffuse. Specular reflectors are made from a glossy material that provides a mirror-like surface. Diffuse reflectors are used where there is a need to spread light over a wider area.

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3. Refractor. The refractor is another means of optical control to change the direction of the light. Refractors are made of a transparent, clear material, usually high-strength glass or plastic. The refractor, through its prismatic construction, controls and redirects both the light emitted by the lamp and the light redirected by the reflector. It also can be used to control the brightness of the lamp source.

56-3.05(c) Ballasts

All luminaires used in highway lighting applications have a built-in ballast. Ballasts are used to regulate the voltage and current to the lamp and to ensure that the lamp is operating within its design parameters. It also provides the proper open circuit voltage for starting the lamp.

56-3.05(d) Housing

The housing integrates the lamp, reflector, refractor, and ballast into a self-contained unit. The housing is designed to seal the unit against the entry of dust, moisture, and insects. Air entering the housing for thermal breathing will typically pass through a filter to eliminate contaminates. Housings are designed to accommodate access for lamp maintenance and adjustment (i.e., light direction and distribution). The housing is generally cast aluminum or stainless steel.

56-3.06 Other Materials and Equipment

There are numerous other materials and equipment that are used in a highway lighting system (e.g., quick disconnect fuse holders, controllers, photocells, surge arresters, raceways, ground rods, cabling, transformers, conduit, hand holes, pull boxes). The use and specification of These ancillary items will depend on the particular highway lighting application and will vary on a project-by-project basis.

56-3.07 Electric Service

Electric service must be a low voltage (0-600V) grounded system. Have the service delivered to the roadway right-of-way. Ground the service and equipment in accordance with the NEC. Specify the service transformer by the electric utility to typically deliver secondary voltages of single-phase 120/240V or 240/480V and 3-phase voltages of 120/208V or 277/480V.

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56-4 LIGHTING PROJECTS (New)

The following is a brief overview of the development of a typical highway lighting design project requested by the district, except District 1, and designed by the Electrical and Mechanical Unit in the Central Office.

56-4.01 Determine Classifications and Justify Need

Determine the roadway classification, pedestrian area classification, pavement classification, and environmental conditions. A mutual determination will be made between the district and the Electrical and Mechanical Unit in the Central Office regarding the classification of any interchange or freeways as urban, suburban, or rural. The district will initiate a lighting project by submitting the warrants and all supporting data to the Central Office for review. Highway lighting projects that are justified may be incorporated into the annual improvements program.

56-4.02 Assemble Information

The district assembles all necessary information needed for a lighting design and forwards it to the Electrical and Mechanical Unit in the Central Office or the lighting design consultant. This may include:

- identifying current lighting design policies, preferences, and procedures;
- gathering all necessary roadway and bridge plan and profile sheets and any special detail sheets (e.g., as-built plans for existing lighting, as applicable);
- determining existing and proposed utility locations;
- discussing special considerations with the highway or bridge designer;
- determining existing and proposed roadway cross-sections, plan and profile, construction staging, and right-of-way lines;
- conducting field reviews with photographic inventory;
- establishing the need for temporary lighting, as applicable;
- contacting local officials for local projects;
- contacting local electrical utility for electric service;
- determining existing and proposed signalized intersections with detailed information on any combination traffic signal and lighting structures;
- noting areas of high ambient lighting or areas especially sensitive to trespass lighting (e.g., soybean fields);

- determining the location of advance warning beacons, changeable message boards, or other devices that may be impacted by roadway lighting;
- contacting the FAA for any possible height restrictions on lighting facilities due to airports in the vicinity;
- identifying the need for other lighting needs (e.g., aviation and/or waterway navigation warning luminaires, overhead sign lighting, bike paths); and
- noting any other special considerations that may affect the lighting design (i.e., location of light poles due to drainage).

56-4.03 Prepare Preliminary Plans

The district will submit to the Electrical and Mechanical Unit in the Central Office or the lighting design consultant the plan sheets showing the overall project with roadway and area classifications including significant other information to justify chosen classification and criteria. Ensure that the plans include:

- information gathered in Section 56-4.02 as appropriate;
- stationing at appropriate 100 ft (30 m) intervals and stationing of noses and tangent points of ramps which are formed by the roadway proper and not by the shoulder;
- pavement, shoulder, and median widths at frequent intervals;
- all roadway features which may affect the stationing or setback of poles (e.g., guardrail, barrier median, barrier curb, signs exceeding 50 ft^2 (4.5 m^2), driveways, culverts, railroads, pipelines);
- the approximate height of any power and telephone lines along and over the roadway;
- the location of power poles from which service may be obtained;
- if combination signals and lighting are present or proposed, the stationing and offset of the traffic signal poles, the arm length and mounting height of luminaires, the type and wattage of luminaire, and the location of the power pole and control cabinet; and
- lighting calculations in an electronic format with all the supporting data.

Electronic plans are preferred over paper copies. Show existing and proposed roadway geometry and basic plan information as noted above. Also, furnish as-built plans of existing lighting facilities, as applicable. In addition, copies of any available sample calculations, plans, notes, schedules, and pay quantities may provide further clarification for the lighting designer.

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56-4.04 Electrical and Mechanical Unit Central Office Review

The district will communicate the project scope, configuration details, and timeframe for a lighting design to the Electrical and Mechanical Unit in the Central Office. Upon receipt of the request from the district, the Electrical and Mechanical Unit will design the lighting for the project and send the design package to the district. The design package will include the location of poles and luminaires, the electrical distribution and control system design, and associated specifications. The Electrical and Mechanical Unit also will furnish wiring diagrams and drawings of equipment, foundations, and electrical details, as applicable. The plans and specifications will be returned to the district for CADD drafting and completion as final contract documents.

When a consultant is used by the district to complete the design, the preliminary and final plans will be submitted to the Electrical and Mechanical Unit in the Central Office for review and approval, but not until the consultant's lighting design is approved.

56-4.05 Field Review

Prior to finalizing plans, the district or the lighting design consultant will conduct a field review to determine if pole and luminaire locations will interfere with existing or proposed underground, at-grade, and aerial utilities and/or roadway structures. The district will notify the Electrical and Mechanical Unit in the Central Office of any conflict that would cause modification to the design. For high-mast lighting designs, ensure that borings are taken for soil analyses to ascertain the correct foundation depth at each tower location.

56-4.06 Final Plan Preparation/Contract Award

The district and/or the lighting design consultant will prepare the final plans, specifications, and estimates and submit them to the BDE for processing and contract award. See Chapter 63 for information on plan preparation and Chapter 66 for information on contract processing. Upon award of the contract, the contractor will submit for approval a list of manufacturers for all major electrical equipment to be used on the project (e.g., poles, towers, luminaires, controllers, unit duct, cable), a complete set of manufacturer's product data, and detailed shop drawings for any fabricated equipment.

The complete package of project shop drawings for lighting shall be sent to the Electrical and Mechanical Unit in the Central Office for review and approval.

Each page of the submittal package shall be signed, stamped, and dated by the contractor.

56-4.07 Final Inspection

The completed project will be inspected by the Electrical and Mechanical Unit in the Central Office in accordance with the *Standard Specifications*. If the installation is satisfactory, it will be accepted. The Electrical and Mechanical Unit will notify the Engineer in writing of any

deficiencies found during the final inspection, which shall be repaired or corrected by the contractor. Depending on the severity of the deficiencies, a second inspection may be warranted.

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56-5 LIGHTING DESIGN

When designing a highway lighting system, there are numerous factors to consider. This Section presents design considerations commonly encountered in highway lighting designs and presents IDOT's criteria, policies, and procedures on these issues. Figure 56-5.A presents typical highway lighting design parameters used by the Department.

TYPICAL IDOT HIGHWAY LIGHTING DESIGN PARAMETERS	
Maintenance Factor (i.e., LLD • LDD)	0.50 to 0.70
Percent of Voltage Drop Allowed	3% to 5% maximum *
Typical Parameters for Conventional Lighting (Interstate)	Aluminum or Steel Pole, Single- or Twin-Arm Mounting; 45 ft to 55 ft (13.7 m to 16.8 m) Mounting Height; 250 W or 400 W HPS Horizontal Mount Luminaire; Breakaway Base where Justified.
Typical Parameters for Conventional Lighting (Expressway)	Aluminum Pole, Davit or Mast-Arm Mounting; 40 ft to 50 ft (12.2 m to 15.2 m) Mounting Height; 250 W or 400 W HPS Horizontal-Mount Luminaire; Breakaway Base where Justified.
Typical Pavement Classification	Class R3
Typical IES Luminaire Classification For Conventional Highway Lighting	Cutoff (C) or Full Cutoff (F).
Typical Luminaire Pole Arrangement	Staggered, Opposite, or Median Mounted.

* *Never exceed the equipment limits.*

Ensure all lighting designs conform to current recommended values in ANSI/IESNA/RP-8 for the selected roadway and pedestrian conflict areas.

TYPICAL IDOT HIGHWAY LIGHTING DESIGN PARAMETERS

Figure 56-5.A

56-5.01 Methodologies

There are at least two lighting design methodologies available for use in highway lighting design – illuminance or luminance. The Illuminating Engineering Society (IES) of North America has been a leader in developing these methodologies (see the publication, ANSI/IESNA RP-8). The levels defined in ANSI/IESNA RP-8 are minimum acceptable levels and the design approach shall achieve, but not significantly exceed these levels. Ensure calculated lighting levels do not exceed the levels for the next higher roadway and pedestrian classification.

It is a good practice, and will be required in consultant submittals, to consider both illuminance and a luminance design. Select the design that produces the most conservative results. Both of these methodologies require the designer to consider veiling luminance and limit the ratio to the values listed in Figures 56-5.B and 56-5.C. The following sections briefly describe each of the available design methodologies.

56-5.01(a) Illuminance

The illuminance methodology is the oldest and simplest method to employ. Illuminance is defined as the density of the luminous flux, lumen (lm), incident on a surface area, ft^2 (m^2), and is measured in footcandles (lux). Footcandle (fc) and lux (lx) are units of illuminance expressed in lumens (lm) per square foot (ft^2) and lumens per square meter (m^2), respectively. The illuminance methodology is used to determine the combined amount of luminous flux reaching critical pavement locations from contributing luminaires (i.e., a measure of light quantity) and to calculate how uniformly the luminaires' combined luminous flux is horizontally distributed over the pavement surface (i.e., a measure of light quality). The brightest spot normally will occur directly under the luminaire and diminishes as the driver travels away from the source.

An inherent disadvantage of the illuminance methodology was that it only accounts for incident light and does not assess the effect on visibility due to reflected light from an object or surface. This sensation is known as "brightness." Objects are distinguished by contrast from their difference in brightness. To address some visibility concerns, a new metric called "Veiling Luminance Ratio" was added to the illuminance methodology. Illuminance designs consider the average maintained horizontal illumination (E_h), or quantity of light, and the uniformity ratio, or quality of light. See Section 56-1.02 for the definition of uniformity ratio (E_h/E_{min}).

56-5.01(b) Luminance

Luminance is defined as the luminous intensity, candela (cd), of any surface in a given direction per unit of projected area, ft^2 (m^2), of the surface as viewed from that direction. It is measured in footlamberts (candelas per square meter). The luminance methodology is used to simulate driver visibility by assessing the quantity and quality of light reflected by the pavement surface to the motorist's eye from contributing luminaires. Assumptions are made regarding the spatial positioning of the driver's eye, and luminance values are calculated at grid points over

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Roadway Facility Classification④	Area Classification	Pedestrian Conflict Area ③	Average Maintained①⑤ Horizontal Illuminance (E_h) Footcandle (Lux)			Uniformity Ratio (Ave./Min.)	Veiling Luminance Ratio L_{vmax}/L_{avg}
			Pavement Classification ④				
			R1	R2 & R3	R4		
Freeway ②	Class A Class B		0.6 (6) 0.4 (4)	0.9 (9) 0.6 (6)	0.8 (8) 0.5 (5)	3:1	0.3
Expressway ②	Commercial Intermediate Residential	High Medium Low	1.0 (10) 0.8 (8) 0.6 (6)	1.4 (14) 1.2 (12) 0.9 (9)	1.3 (13) 1.0 (10) 0.8 (8)		
Major	Commercial Intermediate Residential	High Medium Low	1.2 (12) 0.9 (9) 0.6 (6)	1.7 (17) 1.3 (13) 0.9 (9)	1.5 (15) 1.1 (11) 0.8 (8)		
Collector	Commercial Intermediate Residential	High Medium Low	0.8 (8) 0.6 (6) 0.4 (4)	1.2 (12) 0.9 (9) 0.6 (6)	1.0 (10) 0.8 (8) 0.5 (5)	4:1	0.4
Local	Commercial Intermediate Residential	High Medium Low	0.6 (6) 0.5 (5) 0.3 (3)	0.9 (9) 0.7 (7) 0.4 (4)	0.8 (8) 0.6 (6) 0.4 (4)	6:1	
Alleys	Commercial Intermediate Residential		0.4 (4) 0.3 (3) 0.2 (2)	0.6 (6) 0.4 (4) 0.3 (3)	0.5 (5) 0.4 (4) 0.3 (3)		
Walkways/ Bikeways and Intersections ③	See ANSI/IESNA RP-8 for recommended criteria and specific treatments. See IESNA DG-5 for Walkways/Bikeways separated from the roadways.						
Rest Areas And Weigh Stations							
Ramp Gores & Interior Roadways	All		0.4 (4)	0.6 (6)	--	3:1 to 4:1	0.4
Parking & Major Activity Areas	All		0.8 (8)	1.1 (11)	--		
Minor Activity Areas	All		0.4 (4)	0.5 (5)	--	6:1	

Notes:

1. *Average illuminance on the traveled way.*
2. *Both mainline and ramps.*
3. *Facilities adjacent to a vehicular roadway should use the illuminance levels and uniformity ratios for that roadway as recommended in IESNA RP-8.*
4. *See Section 56-5.04 for definitions of roadway facility, area, and pavement classifications. Use either Column 2 or Column 3 in the tables to best describe the location to be lighted.*
5. *The illuminance values in Figure 56-5.B are minimum maintained averages. Higher levels than shown in the tables may be justified, consult the* AASHTO Roadway Lighting Design Guide *for details.*

IDOT ILLUMINANCE DESIGN CRITERIA

Figure 56-5.B

Road and Area Classification			Average Luminance L_{avg} (cd/m^2)	Uniformity Ratio L_{avg}/L_{min} (Maximum Allowed)	Uniformity Ratio L_{max}/L_{min} (Maximum Allowed)	Veiling Luminance Ratio L_{Vmax}/L_{avg} (Maximum Allowed)
Roadway	**Area Classification**	**Conflict Classification**				
Freeway Class A	N/A		0.6	3.5	6.0	0.3
Freeway Class B	N/A		0.4	3.5	6.0	0.3
Expressway	Commercial	High	1.0	3.0	5.0	0.3
	Intermediate	Medium	0.8	3.0	5.0	0.3
	Residential	Low	0.6	3.5	6.0	0.3
Major	Commercial	High	1.2	3.0	5.0	0.3
	Intermediate	Medium	0.9	3.0	5.0	0.3
	Residential	Low	0.6	3.5	6.0	0.3
Collector	Commercial	High	0.8	3.0	5.0	0.4
	Intermediate	Medium	0.6	3.5	6.0	0.4
	Residential	Low	0.4	4.0	8.0	0.4
Local	Commercial	High	0.6	6.0	10.0	0.4
	Intermediate	Medium	0.5	6.0	10.0	0.4
	Residential	Low	0.3	6.0	10.0	0.4

IDOT LUMINANCE DESIGN CRITERIA

Figure 56-5.C

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the pavement surface. In theory, luminance is a good measure of visibility; however, the results of using the luminance methodology in highway lighting applications are greatly affected by the reflectance characteristics of the pavement surface, both now and in the future. Factors affecting pavement reflectivity include initial surface type, pavement deterioration, resurfacing material type, assumptions regarding weather conditions, etc. It is difficult to predict or control these factors. Luminance design parameters include average maintained luminance (L_{avg}), minimum luminance (L_{min}), maximum luminance (L_{max}), maximum veiling luminance (L_v), and ratios of L_{avg} to L_{min}, L_{max} to L_{min}, and L_v to L_{avg}.

56-5.01(c) Small-Target-Visibility (STV)

Many lighting practitioners no longer support the STV method discussed in ANSI/IESNA RP-8.

56-5.02 Computerized Design

The highway lighting design process is an iterative process that is quite effectively implemented by computer. If criteria are not initially satisfied, it will be necessary to change design parameters (e.g., pole spacing, mounting height, luminaire wattage, luminaire distribution) until an acceptable alternative is found. This process will be repeated until the design is optimized to meet the selected criteria.

For computerized designs prepared by outside consultants, the consultant will provide the program's name and version and the input data and output reports in both printed and electronic format. Ensure the software program selected meets all necessary provisions, including ANSI/IESNA RP-8 calculation requirements. Contact the Electrical and Mechanical Unit in the Central Office for approved software programs.

56-5.03 Design Process

The following briefly describes the processes used in any highway lighting design:

1. Select Lighting Equipment. Select the lighting equipment and associated design parameters that will be used for the project. This will include items such as luminaire mounting height, pole setback, light source, lamp wattage, etc. It will be necessary to make some initial assumptions during preliminary design. Design parameters then may be iteratively changed to meet the highway lighting criteria.

2. Select Luminaire Arrangement. Select an appropriate luminaire arrangement for the project. This will depend on local site conditions and engineering judgment. Alternative arrangements may need to be considered. Computer programs will create the required output based on the input criteria.

3. Luminaire Spacing. Typically, luminaire spacing required to satisfy the project specific design criteria will be determined by computer software.

4. Check Uniformity. Once luminaire spacing has been determined, check the uniformity of light distribution and compare this value to the lighting criteria selected in Step #1. Adjust design parameters and recalculate as necessary to meet criteria.

5. Select Optimum Design. Because computerized design is relatively quick and easy, modify key design parameters (e.g., luminaire photometry, location, mounting height) to develop and test several alternative designs. It generally is not good engineering practice to consider only one design, even if found to satisfy the lighting criteria. There often are several alternatives that will work. Optimize and select the most cost-effective and minimum maintenance design.

Typically, do not terminate a lighting project just before an intersection. Consider motorist decision points and potential pedestrian interaction when evaluating how far to extend the limits of lighting.

56-5.04 Design Considerations

When selecting design criteria for a lighting project, it is necessary to determine classifications for the roadway facility, the area the roadway traverses, and the pavement type that best fit the descriptions contained in ANSI/IESNA RP-8 and AASHTO. Do not use the classifications of other publications. The following sections discuss these classifications for the purpose of highway lighting design only.

56-5.04(a) Roadway Classification

Use the following definitions to classify roadway facilities for IDOT highway lighting projects:

1. Freeway. A divided major highway with full control of access and with no crossings at grade.

2. Expressway. A divided major arterial highway for through traffic with full or partial control of access and generally with interchanges at major crossroads. Expressways for non-commercial traffic within parks and park-like areas generally are known as parkways.

3. Major. The part of the roadway system that serves as the principle network for through traffic flow. The routes connect areas of principle traffic generation and important rural highways entering the city.

4. Collector. The distributor and collector roadways serving traffic between major and local roadways. These are roadways used mainly for traffic movements within residential, commercial, and industrial areas.

5. Local. Roadways used primarily for direct access to residential, commercial, industrial, or other abutting property. They do not include roadways carrying through traffic. Long

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local roadways generally will be divided into short sections by the collector roadway system.

6. Alley. A narrow public way within a block, generally used for vehicular access to the rear of abutting properties.

7. Sidewalk. Paved or otherwise improved areas for pedestrian use, located within public street right-of-way, which also contains roadways for vehicular traffic.

8. Pedestrian Way. Public sidewalks for pedestrian traffic generally not within rights-of-way for vehicular traffic roadways. Included are skywalks (pedestrian overpasses), subwalks (pedestrian tunnels), walkways giving access to park or block interiors, and crossings near centers of long blocks.

9. Bicycle Lane. Any facility that explicitly provides for bicycle travel.

56-5.04(b) Area Classification

For IDOT lighting projects, use the following definitions to classify the area in which the roadway traverses. These definitions match the AASHTO *Roadway Lighting Design Guide*. These definitions do not match the ANSI/IESNA RP-8 IESNA classifications, which are based on pedestrian/vehicular conflicts.

1. Commercial. That portion of a municipality in a business development where ordinarily there are large numbers of pedestrians and a heavy demand for parking space during periods of peak traffic or a sustained high pedestrian volume and a continuously heavy demand for off-street parking space during business hours. This definition applies to densely developed business areas outside of, as well as those that are within, the central part of a municipality.

2. Intermediate. That portion of a municipality that is outside of a downtown area but generally within the zone of influence of a business or industrial development, often characterized by a moderately heavy nighttime pedestrian volume and a somewhat lower parking turnover than is found in a commercial area. This definition includes densely developed apartment areas, hospitals, public libraries, and neighborhood recreational centers.

3. Residential. A residential development or mixture of residential and commercial establishments, characterized by few pedestrians and a low parking demand or turnover at night. This definition includes areas with single-family homes, townhouses, and/or small apartments. Regional parks, cemeteries, and vacant lands are also included.

56-5.04(c) Pedestrian Conflict Area Classification

The magnitude of pedestrian flow is nearly always related to the abutting land use. Three classifications of pedestrian night activity levels and the types of land use with which they are

typically associated are given below. These definitions match the ANSI/IESNA RP-8 classifications, which are based on pedestrian/vehicular conflicts not the AASHTO *Roadway Lighting Design Guide*:

1. High. Areas with significant numbers of pedestrians expected to be on the sidewalks or crossing the streets during darkness. Examples are downtown retail areas, near theatres, concert halls, stadiums, and transit terminals.

2. Medium. Areas where lesser numbers of pedestrians utilize the streets at night. Typical areas are downtown office areas, blocks with libraries, apartments, neighborhood shopping, industrial, older city areas, and streets with transit lines.

3. Low. Areas with very low volumes of night pedestrian usage. These can occur in any of the cited roadway classifications, but may be typified by suburban single-family streets, very low density residential developments, and rural or semi-rural areas.

Consult ANSI/IESNA RP-8 for the method used in taking pedestrian counts and the associated pedestrian count that corresponds with these conflict areas.

56-5.04(d) Pavement Classification

For IDOT lighting projects, use the following definitions to classify the pavement type of the roadway facility. These pavement classifications have mean luminance coefficient Q_0:

1. Class R1 and ($Q_0 = 0.10$). Class R1 pavement has a mostly diffuse mode of reflectance. R1 pavements include portland cement concrete road surfaces and asphalt road surfaces with a minimum of 12% of the aggregates composed of artificial brightener (e.g., Synopal) aggregates (e.g., labradorite, quartzite).

2. Class R2 and ($Q_0 = 0.07$). Class R2 pavement has a mixed diffuse and specular mode of reflectance. R2 pavements include asphalt road surfaces with an aggregate composed of a minimum of 60% gravel with a size greater than 0.40 in (12 mm).

3. Class R3 and ($Q_0 = 0.07$). Class R3 has a slightly specular mode of reflectance. R3 pavements include asphalt road surfaces, both regular and carpet seal coats, with dark aggregates (e.g., trap rock, blast furnace slag) and exhibit a rough texture after some months of use. Class R3 pavement represents typical asphalt highways and is used on most highway lighting projects.

4. Class R4 and ($Q_0 = 0.08$). Class R4 pavement has a mostly specular mode of reflectance. R4 includes asphalt road surfaces with a very smooth texture.

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56-5.04(e) Illuminance and Luminance Design Levels

Design criteria for highway lighting projects vary according to the roadway, area, and pavement classification. Figures 56-5.B and 56-5.C present the illuminance and luminance design criteria used by the Department. In addition to these figures, consider the following:

1. Crossroads at Interchanges. Lighting levels on crossroad approaches should not be reduced through an interchange area. If existing crossroad lighting currently is deemed inadequate, consider upgrading the lighting to current criteria to ensure safe and efficient traffic operation.

2. Partial Interchange Lighting. Where partial interchange lighting is provided, luminaires should be located to best light the through lanes and speed change lanes at diverging and merging locations. The design controls of basic level of lighting and uniformity should be subordinated to overall lighting of the roadway area at these locations.

3. Bridge Structures and Underpasses. Underpass lighting level and uniformity ratios should duplicate, to the extent practical, the lighting levels on the adjacent facility. On continuously lighted freeways and lighted interchanges, the lighting of bridges and overpasses should be at the same level as the adjacent roadway.

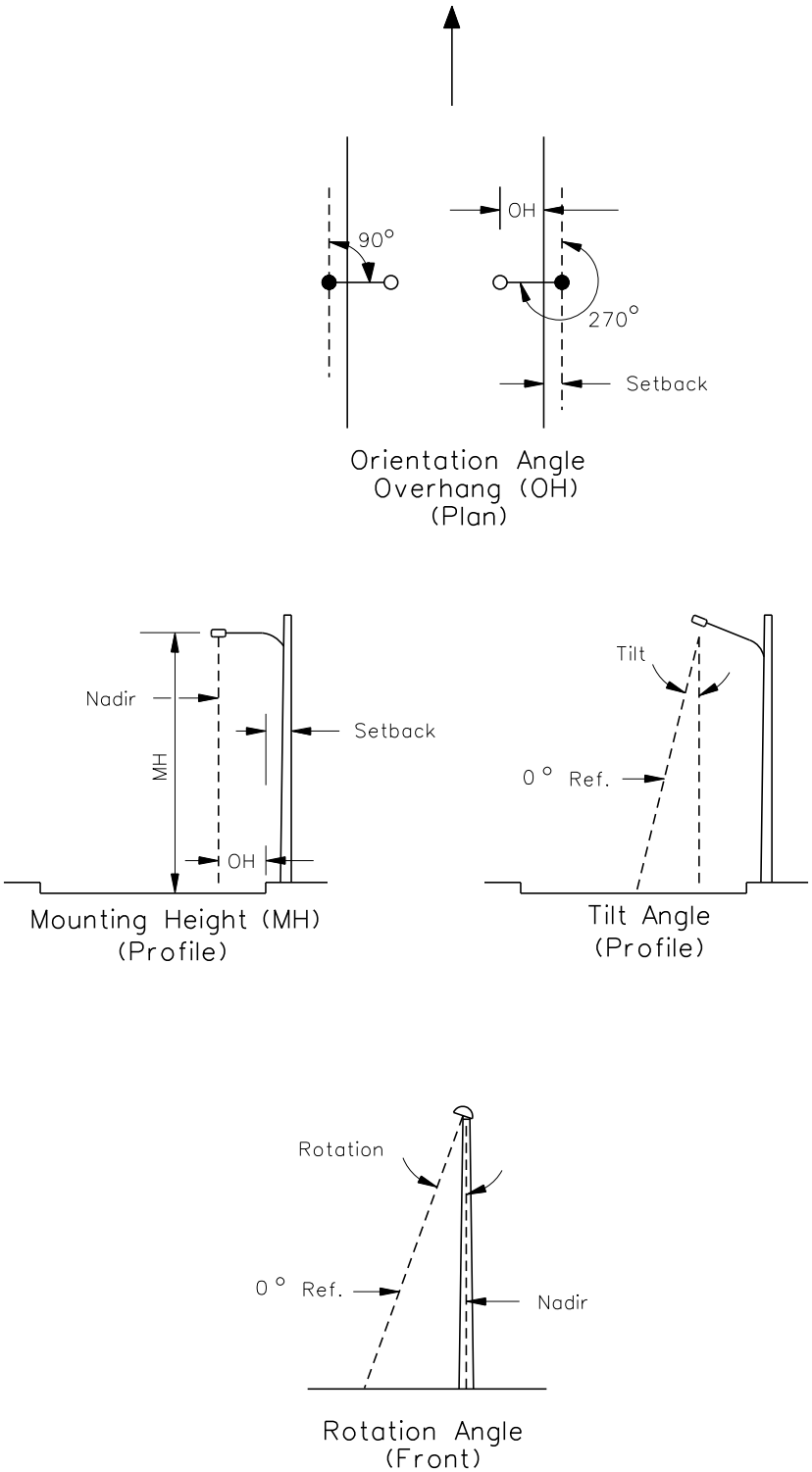
4. Transition Lighting. Transition lighting is a technique intended to provide the driver with a gradual reduction in lighting levels and glare when leaving an illuminated area. The designer should consider transition lighting if a study of the specific conditions at a location indicates a need. The designer may also want to consider extending delineation beyond the last luminaire for traffic lanes emerging from a lighted area. This will provide an additional measure of effectiveness. Visual adaptation occurs more quickly when approaching a lighted area and therefore no transition lighting is typically required.

5. Navigation and Obstruction Lighting. The lighting criteria and locations for waterway and aviation obstruction luminaires will be based on the requirements of the US Coast Guard and the Federal Aviation Administration, respectively.

6. Other Locations. Where lighting is justified for other facilities not covered under this section, consult the references in 56-7 and contact the Electrical and Mechanical Unit in the Central Office for additional information on lighting criteria.

56-5.04(f) Luminaire Characteristics

Figure 56-5.D illustrates the common terms used in defining and mounting luminaires (e.g., mounting height, overhang). The following sections discuss design issues related to luminaires.



LUMINAIRE GEOMETRY

Figure 56-5.D

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56-5.04(f.1) Light Distribution

Light distribution is a major factor in highway lighting design. It affects the selection of luminaire mounting height, placement, and arrangement. Specific photometric data and light distribution sheets are available from each luminaire manufacturer. Manufacturers typically classify their luminaire products based on the IES luminaire classification system. This system uses a three part approach to define luminaire distribution — the lateral beam width, vertical angle of maximum candlepower, and the degree of glare control.

The following briefly describes the IES classification system:

1. Vertical Light Distribution. There are various classifications of vertical light distribution. The selection of a particular vertical light distribution is dependent upon the luminaire mounting height and application. The following defines each type:

   a. Short Distribution (S). The maximum candlepower strikes the roadway surface between 1 and 2.25 mounting heights from the luminaire. The theoretical maximum luminaire spacing, using the short distribution, is 4.5 mounting heights.

   b. Medium Distribution (M). The maximum candlepower is between 2.25 and 3.75 mounting heights from the luminaire. The theoretical maximum luminaire spacing is 7.5 mounting heights. Medium distribution is commonly used in highway applications.

   c. Long Distribution (L). The maximum candlepower is between 3.75 and 6.0 mounting heights from the luminaire. The theoretical maximum luminaire spacing is 12 mounting heights.

   From a practical standpoint, the medium distribution is predominantly used in highway practice, and the spacing of luminaires normally does not exceed five to six mounting heights. Short distributions are not used extensively for reasons of economy, because extremely short spacing is required. At the other extreme, the long distribution is not used to any great extent because the high beam angle of maximum candlepower often produces excessive glare.

2. Lateral Light Distribution. There are seven classifications for lateral light distribution. The following provides application guidelines for each luminaire type:

   a. Type I. The Type I luminaire is placed in the center of the roadway or area where lighting is required. It produces a long, narrow, oval-shaped lighted area. Some types of high-mast lighting are considered a modified form of Type I.

   b. Type I - 4-Way. This luminaire type is located over the center of the intersection and distributes the lighting along the four legs of the intersection.

   c. Type II. The Type II luminaire is placed on the side of the roadway or edge of the area to be lighted. It produces a long, narrow, oval-shaped lighted area, which is usually applicable to narrower roadways.

d. Type II - 4-Way. This luminaire type is placed at one corner of the intersection and distributes the light along the four legs of the intersection.

e. Type III. The Type III luminaire is placed on the side of the roadway or edge of the area to be lighted. It produces an oval-shaped lighted area and is usually applicable to medium width roadways.

A Type III distribution is where the street side segment of the half-maximum-intensity isointensity trace within the longitudinal range where the point of maximum intensity falls (S, M, or L), lies partly or entirely beyond the 1.75 MH street side LRL, but does not cross the 2.75 MH street side LRL; see Figure 56-5.E.

f. Type IV. The Type IV luminaire is placed on the side of the roadway or the edge of area to be lighted. It produces a wider, oval-shaped lighted area and is usually applicable to wide roadways.

g. Type V. The Type V luminaire is located over the center of the roadway, intersection, or area to be lighted. It produces a circular, lighted area. Type V often is used in high-mast lighting applications.

3. Control of Distribution. As the vertical light angle increases, disability and discomfort glare also increase. To distinguish the glare effects on the driver created by the light source, IES has defined the vertical control of light distribution as follows:

a. Full-Cutoff (F). A luminaire light distribution is designated as full cutoff (F) when zero candela intensity occurs at or above an angle of 90° above nadir. Additionally, the candela per 1000 lamp lumens does not numerically exceed 100 (10%) at or above a vertical angle of 80° above nadir. This applies to any lateral angle around the luminaire.

b. Cutoff (C). A luminaire light distribution is designated as cutoff (C) when the candela per 1000 lamp lumens does not numerically exceed 25 (2.5%) at or above an angle of 90° above nadir, and 100 (10%) at or above a vertical angle of 80° above nadir. This applies to any lateral angle around the luminaire.

c. Semi-Cutoff (S). A luminaire light distribution is designated as semi-cutoff (S) when the candela per 1000 lamp lumens does not numerically exceed 50 (5%) at or above an angle of 90° above nadir, and 200 (20%) at or above a vertical angle of 80° above nadir. This applies to any lateral angle around the luminaire.

d. Non-Cutoff (N). This classification is where there is no limitation on the zone above the maximum candela intensity.

A plan view of the theoretical light distribution (i.e., theoretical roadway coverage) and schematics of the intended application of each type of IES luminaire are illustrated in Figure 56-5.E.

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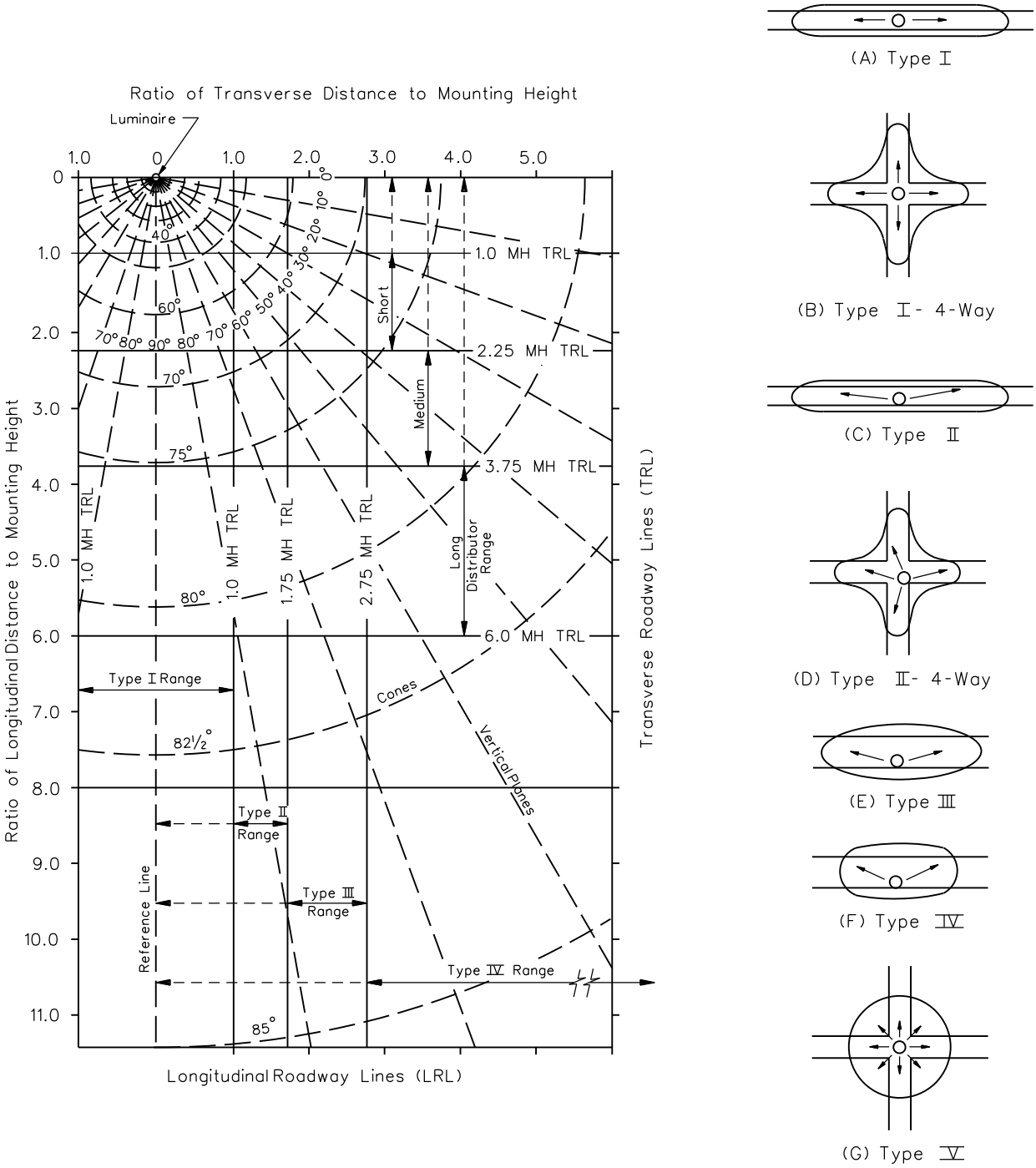

PLAN VIEW OF ROADWAY COVERAGE FROM LUMINAIRES

Figure 56-5.E

Recently a system of backlight, uplight, and glare (BUG) ratings have been derived from the IES Luminaire Classification System (LCS). For additional information on the LCS and BUG ratings, consult the *Luminaire Classification System for Outdoor Light*ing. Use only the photometric data with the proper shield, if the project requires luminaire shielding. Do not use the photometric data without the appropriate shield for projects with shields.

56-5.04(f.2) Mounting Heights

Higher mounting heights used in conjunction with higher wattage luminaires enhances lighting uniformity and typically reduces the number of light poles needed to produce the same illumination level. In general, higher mounting heights tend to produce a more cost-effective design. For practical and aesthetic reasons, the mounting height should remain constant throughout the system. The manufacturer's photometric data is required to determine an appropriate mounting height. Typical mounting heights used by the Department for conventional highway lighting purposes range from 30 ft to 55 ft (9.1 m to 16.8 m). Mounting heights for light towers are typically 80 ft (24 m) or greater.

56-5.04(f.3) Coefficient of Utilization

A utilization curve is used to obtain a luminaire's coefficient of utilization (CU). Manufacturers typically provide utilization curves and isolux diagrams with each of their respective luminaire products. Figure 56-5.F illustrates a sample utilization curve. The utilization curve relates to the luminaire rather than to the light source. The ratio of transverse distance over luminaire mounting height provides the percentage of bare lamp lumens that are utilized. If the luminaire is placed over the traveled way (i.e., over the pavement), the total lumen utilization is determined by adding the percentages from the street side and curbside (i.e., house-side) light from the coefficient of utilization curve (furnished by the luminaire manufacturer). In essence, the utilization curve defines how much of the total lumen output reaches the area being lighted.

56-5.04(f.4) Light Loss Factors

The efficiency of a luminaire decreases over time. The designer must estimate this decrease to properly estimate the light available at the end of the luminaire's serviceable life. The following briefly discusses these factors:

1. Lamp Lumen Depreciation Factor (LLD). As the lamp progresses through its serviceable life, the lumen output of the lamp decreases. This is an inherent characteristic of all lamps. The initial lamp lumen value is adjusted by a lumen depreciation factor to compensate for the anticipated lumen reduction. This assures that a minimum level of illumination will be available at the end of the assumed lamp life (i.e., after the lamp lumen depreciation has occurred).

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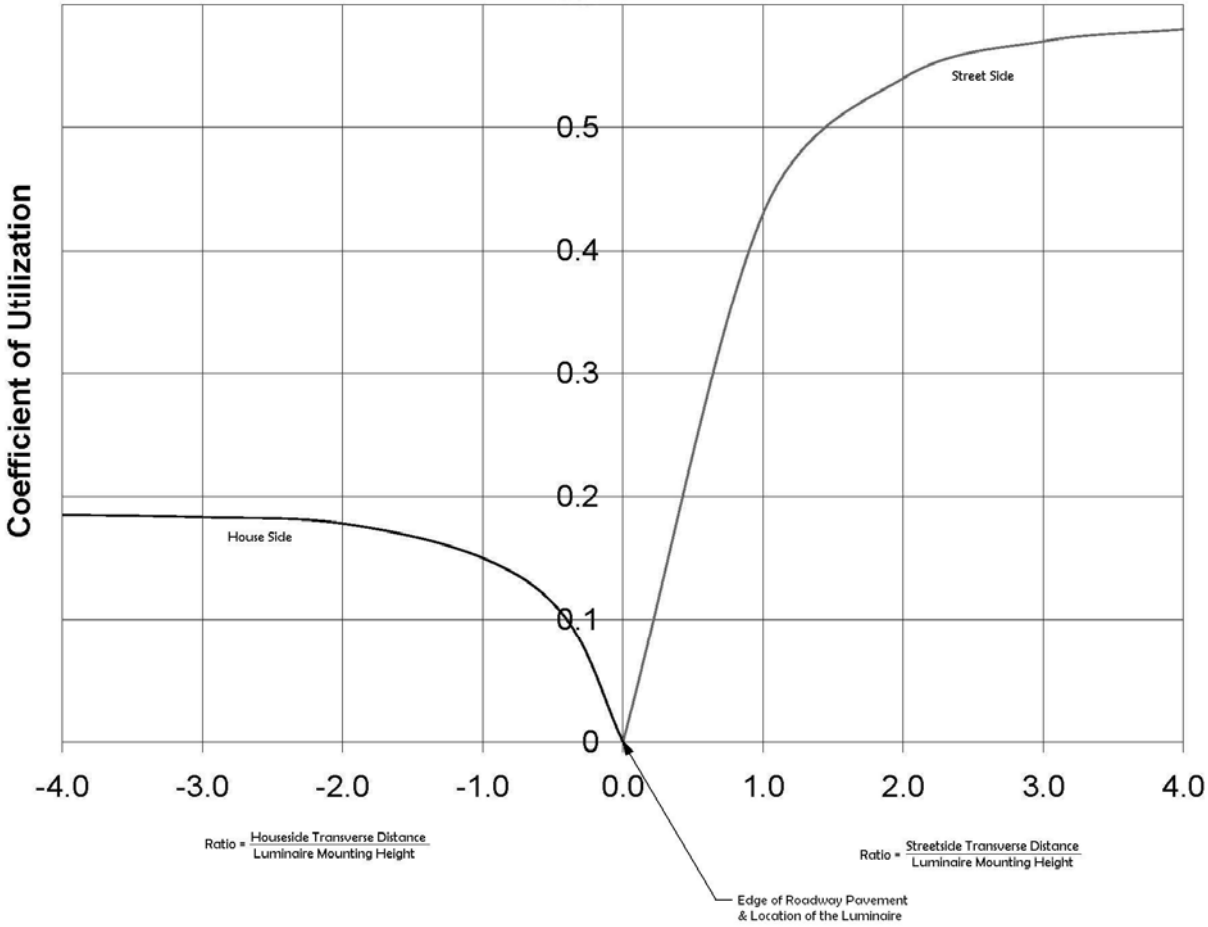
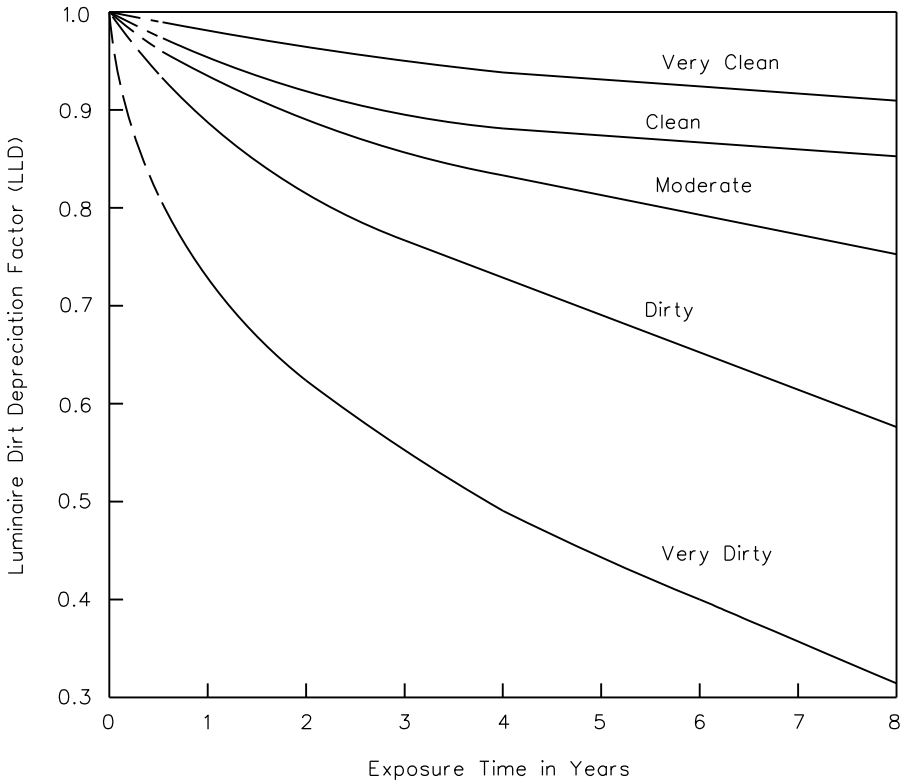


Note: The utilization curve will vary with each manufacturer and luminaire type.

SAMPLE UTILIZATION CURVE

Figure 56-5.F

2. Luminaire Dirt Depreciation Factor (LDD). Dirt on the exterior and interior of the luminaire, and to some extent on the lamp itself, reduces the amount of light reaching the pavement. Various degrees of dirt accumulation may occur depending upon the area where the luminaire is located. Industrial areas, automobile exhaust, diesel trucks, dust and other environs all affect the dirt accumulation on the luminaire. Higher mounting heights, however, tend to reduce the vehicle-related dirt accumulation. The relationship between the ambient environment and the expected level of dirt depreciation over time is shown in Figure 56-5.G.



Notes:

1. *VERY CLEAN - No nearby smoke or dust-generating activities and a low ambient contaminant level. Light traffic. Generally limited to residential or rural areas. The ambient particulate level is not more than 150 micrograms per cubic meter.*

2. *CLEAN - No nearby smoke or dust-generating activities. Moderate to heavy traffic. The ambient particulate level is not more than 300 micrograms per cubic meter.*

3. *MODERATE - Moderate smoke or dust-generating activities nearby. The ambient particulate level is not more than 600 micrograms per cubic meter.*

4. *DIRTY - Smoke or dust plumes generated by nearby activities may occasionally envelope the luminaires.*

5. *VERY DIRTY - As above, but the luminaires are commonly enveloped by smoke or dust plumes.*

ROADWAY LUMINAIRE DIRT DEPRECIATION CURVE

Figure 56-5.G

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3. Equipment Factor (EF). Allows for variations inherent in the manufacture and operation of the equipment (i.e., luminaire, system voltage, voltage drop). It is generally assumed to be 95%.

4. Maintenance Factor (MF). The maintenance factor is the combination of light loss factors used to denote the reduction of the illumination for a given area after a period of time compared to the initial illumination on the same area. It is the product of the lamp lumen depreciation factor, the luminaire dirt depreciation factor, and the equipment factor (i.e., MF = LLD • LDD • EF). Consult the manufacturer's data and the Electrical and Mechanical Unit in the Central Office for the appropriate factors to use.

56-5.04(f.5) Luminaire Arrangement

Figure 56-5.H illustrates typical luminaire arrangements for conventional highway lighting designs. Use the calculation points provided in Figure A4 of ANSI/IESNA RP-8 publication.

56-5.04(g) Voltage Drop Determination

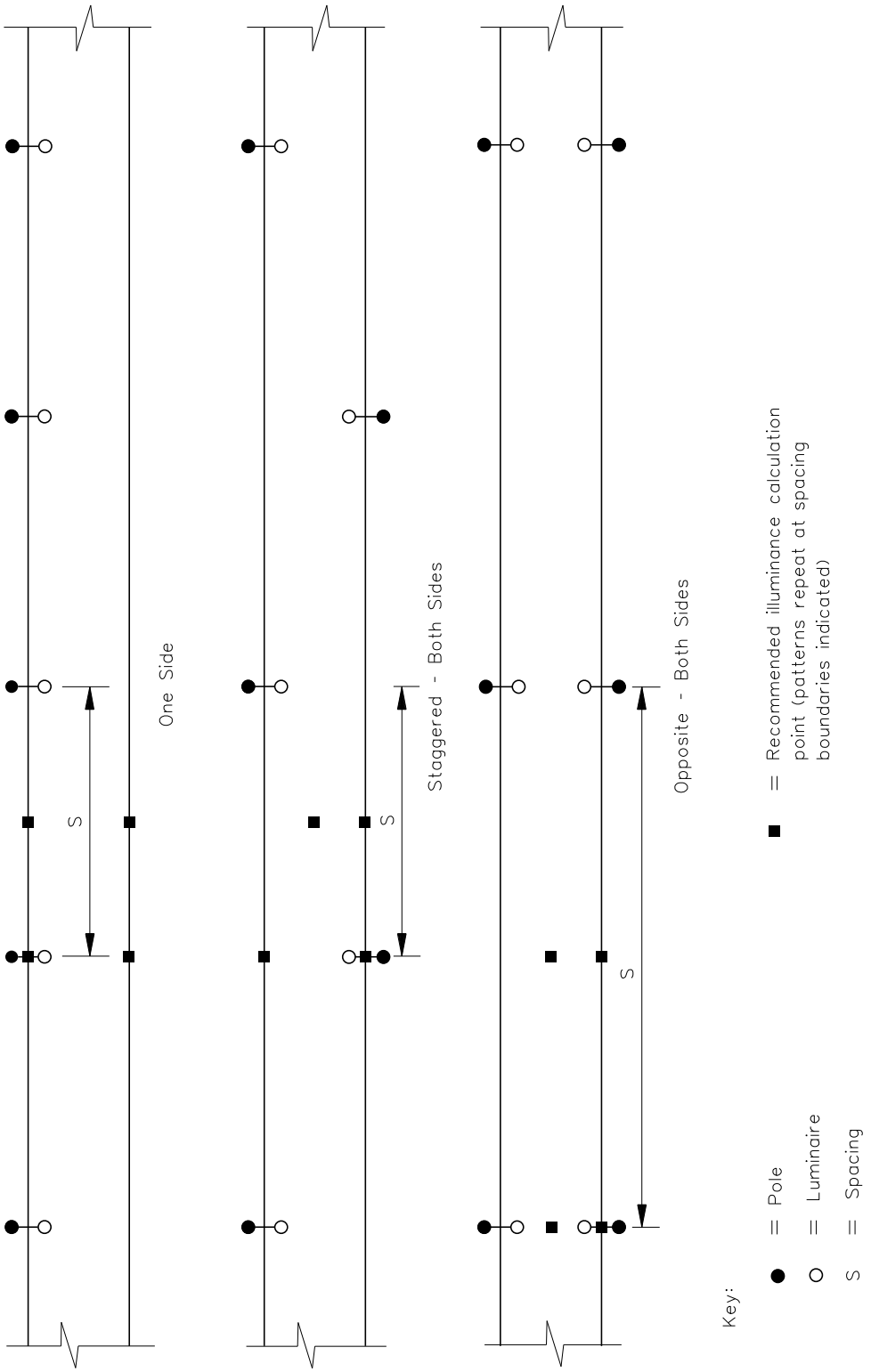
The typical power supply circuit to the highway lighting controller is 120/240 V or 240/480 V, single-phase, four-wire, 60-cycle alternating current. The branch lighting circuit consists of two conductors and an insulated ground wire. The lights are connected on both sides of the circuit to obtain 240V or 480V across the luminaire's ballast. Use Figure 56-5.I to determine the voltage drop between two adjacent luminaires.

56-5.05 Other Design Considerations

56-5.05(a) Roadside Safety Considerations

Light poles should be installed so that they will not present a roadside hazard to the motoring public. However, the physical roadside conditions often dictate their placement. It is important to recognize this limitation. Overpasses, sign structures, guardrail, roadway curvature, right-of-way, gore clearances, proximity to roadside obstacles, and lighting equipment limitations are all physical factors that can limit the placement of light poles. The designer also must consider factors such as roadway and area classification, design speed, posted speed, safety, aesthetics, economics, and environmental impacts. In addition, there should be adequate right-of-way, driveway control, and utility clearance. Consider the following when determining the location of light poles:

1. Clear Zone. Where practical, place light poles outside the roadside clear zone. See Chapter 38 for additional information on roadside clear zone.



TYPICAL LUMINAIRE ARRANGEMENTS FOR CONVENTIONAL HIGHWAY LIGHTING DESIGN

Figure 56-5.H

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AMPS① (HPS Mag Reg Ballast)		
Watts	**240 Volts**	**480 Volts**
250 WATTS	1.4	0.7
400 WATTS	2.1	1.1

Wire Size AWG	Circuit Resistance ohms/100 ft (ohms/100 m)	Wire Size AWG	Circuit Resistance ohms/100 ft (ohms/100 m)
14	0.0032614 (1.0700)	2	0.0002009 (0.0659)
12	0.0020498 (0.6725)	1	0.0001600 (0.0525)
10	0.0012899 (0.4232)	1/0	0.0001271 (0.0417)
8	0.0008089 (0.2654)	2/0	0.0001009 (0.0331)
6	0.0005099 (0.1673)	3/0	0.0000796 (0.0261)
4	0.0003210 (0.1053)	4/0	0.0000625 (0.0205)

Notes:

1. Consult manufacturer's data for specific ballasts being considered.

2. Voltage drop is determined using the following equation:

$V_d = 2 \bullet D \bullet I \bullet R$ *(For single-phase circuits with minimal impedance.)*

where:

V_d = *voltage drop (volts)*

D = *distance in hundreds of ft (m). See Note 3.*

I = *current (amperes). Use nominal, full-load current – published by the ballast manufacturer*

R = *resistance in ohms/100 ft (ohms/100 m). See Note 4.*

3. Distance is the circuit length from controller-to-pole or from pole-to-pole for the segment of circuit being analyzed, measured in hundreds of feet (meters).

4. DC resistances listed in table above are based upon stranded copper conductor at 167°F (75°C) operating temperature with an insulated covering and located in conduit. Reference source: Table 8 "Conductor Properties," Chapter 9 of the National Electrical Code.

VOLTAGE DROP BETWEEN LUMINAIRES

Figure 56-5.I

2. Breakaway Supports. Unless located behind a roadside barrier, guardrail or crash cushion, which are necessary for other safety-related reasons, conventional light poles placed within the roadside clear zone will be mounted on FHWA-approved breakaway supports. Poles outside the clear zone also should be mounted on breakaway supports where there is a possibility of them being struck by errant vehicles. Be aware that falling poles and mast arms may endanger bystanders (e.g., pedestrians, bicyclist, motorists). Consider the following during design:

   a. Pedestrians. In areas where pedestrians, bicyclists, or building structures and windows may be struck by falling poles or mast arms after a crash, evaluate the relative risks of mounting the light pole on a breakaway support. Examples of locations where the hazard potential to pedestrian traffic would be greater include:

      - transportation terminals,
      - sports stadiums and associated parking areas,
      - tourist attractions,
      - school zones, or
      - central business districts and local residential neighborhoods where the posted speed limit is 30 mph (50 km/h) or less.

      In these locations, use non-breakaway supports. Other locations that require the use of non-breakaway bases, regardless of the pedestrian traffic volume, are rest areas and weigh station parking lots and combination traffic signal/light poles.

   b. Breakaway Bases. All breakaway devices will comply with the latest applicable AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* requirements for breakaway supports.

   c. Breakaway Support Stub. Substantial remains of breakaway supports shall not project more than 4 in (100 mm) above a line between the straddling wheels of a vehicle on 60 in (1.5 m) centers. The line connects any point on the ground surface on one side of the support to a point on the ground surface on the other side, and it is aligned radially or perpendicular to the centerline of the roadway. Breakaway supports, including those placed on roadside slopes, must not allow impacting vehicles to snag on either the foundation or any substantial remains of the support. Surrounding terrain may need to be graded in order to permit vehicles to pass over any non-breakaway portion of the installation that remains in the ground or rigidly attached to the foundation. The specified limit on the maximum stub height lessens the possibility of snagging the undercarriage of a vehicle after a support has broken away from its base, and minimizes vehicle instability if a wheel hits the stub. The necessity of this requirement is based on field observations. Application of the clearance requirement is illustrated in Figure 56-5.J.

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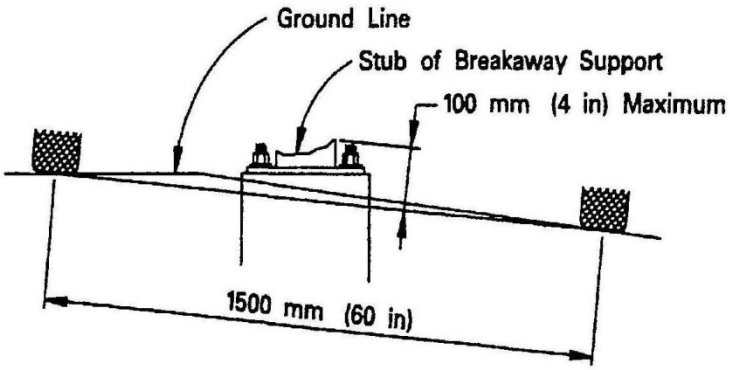

STUB HEIGHT REQUIREMENTS

Figure 56-5.J

d. Wiring. All light poles that require breakaway supports will be served by underground wiring and designed with simultaneous quick disconnect splices.

e. Light Towers. Light Towers used in high-mast lighting applications will not be mounted on breakaway supports. Also, towers will not be located within the roadside clear zone unless protected by guardrail, barriers, or crash cushions; see Chapter 38.

f. Bridge Parapets and Concrete Barriers. Where poles are mounted atop bridge parapets and concrete barriers, they will be mounted on non-breakaway supports.

3. Gore Areas. Where practical, locate light poles outside the gore areas of exit and entrance ramps. Generally, lighting support should not be placed within the clear zone of the gore area.

4. Horizontal Curves. Place light poles on the inside of sharp curves and loops. Where poles are located on the inside radius of superelevated roadways, provide sufficient lateral clearance to avoid being struck by trucks.

5. Maintenance. When determining pole and luminaire locations, consider the hazards that will be encountered while performing maintenance on the lighting equipment.

6. Barriers. Use the criteria provided in Chapter 38 to design and place light poles in conjunction with roadside barriers. Consider the following additional guidelines:

a. Placement. Where a roadside barrier is provided, place all light poles behind the barrier.

b. Deflection. Light poles placed behind a roadside barrier should be offset by at least the deflection distance of the barrier; see Chapter 38. This will allow the barrier rail to deflect without hitting the pole. If this clearance distance is not

available, such as in extreme side slope conditions, designate the stiffening of the barrier rail for reduced deflection.

c. Concrete Barriers. Light poles that are mounted atop barriers or protected by a rigid or non-yielding barrier do not require a breakaway support.

d. Impact Attenuators. Do not locate light poles within the functional operation of any impact attenuator or other safety device.

7. Protection Features. Do not use protection features (e.g., barriers) for the primary purpose of protecting a light pole.

8. Longitudinal Adjustments. Locate light poles to balance both safety and lighting needs. Adjustments on the order of 2% average of the longitudinal spacing is permissible in the field to accommodate utilities or drainage facilities provided the new location does not constitute a roadside hazard. Larger adjustments need to be brought to the attention of the lighting designer for evaluation and approval.

56-5.05(b) Foundation, Pole Mounting, and Structural Considerations

The *Standard Specifications*, *Highway Standards* and the electrical detail sheets provide pole mounting details and details for foundation materials, depth, width, reinforcing, etc. When designing lighting systems, also consider the following:

1. Foundation Height Relative to Final Grade. For other than light towers, ensure pole foundations are no more than 0.5 in (13 mm) higher than the high edge of the surrounding final grade and in compliance with Figure 56-5.J. This permits proper drainage around the foundation and reduces the likelihood of the foundation intensifying a collision. The foundation also is less likely to be destroyed during a collision. When located within the clear zone, ensure that the foundation and fractured breakaway device does not protrude more than 4 in (100 mm) above the finished grade within a 5 ft (1.5 m) chord. See Chapter 38 for additional information on clear zones.

2. Steel Foundations. The steel (i.e., helix screw-in type) foundation is one that is commonly used by the Department for conventional light poles. This foundation is placed in undisturbed earth using a clockwise rotation similar to a common screw. The steel tube is typically 8 in (200 mm) in diameter and 6 ft to 8 ft (1.8 m to 2.4 m) long. Shorter lengths may be appropriate for foundations in areas with shallow bedrock. The steel foundation will accommodate poles with 11.5 in and 15 in (292 mm and 381 mm) bolt circles for luminaire mounting heights up to 50 ft (15.2 m).

3. Light Tower Foundations. Foundations for light towers used in high-mast lighting applications typically require specialized designs and soil surveys to ensure adequate support. A 4-ft (1.2-m) diameter reinforced concrete foundation, to a depth as required by the soils analysis, usually is adequate for towers accommodating 80 ft to 110 ft (24.4 m to 33.5 m) luminaire mounting heights. The top 18 in (450 mm) of the foundation is

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formed. Below this depth, ensure that the foundation is poured monolithically against the undisturbed earth of the bored hole. Specify the foundation depth on the lighting plans. Additionally, include a level concrete work pad at the base of the tower..

4. Foundations for Temporary Lighting. Foundations for temporary lighting will be determined on a case-by-case basis. This may include direct embedment of wood poles to a depth of from 5.5 ft (1.7 m) for 30 ft (9.1 m) poles, to 12 ft (3.6 m) for 65 ft (19.8 m) poles. The use of butt base anchors also may be considered. However, locate these supports outside the clear zone; see Section 56-5.05(b) for more details.

5. Pole Mounting on Parapets. Poles for bridge lighting typically are mounted on specially designed concrete parapet sections. Mounting design includes the necessary non-breakaway, high-strength bolts, leveling plate, and vibration isolation pad and washers.

6. Structural Design. Poles will be designed and fabricated to meet or exceed AASHTO requirements as documented in *Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals* and NCHRP Report 411. See the *IDOT Standard Specifications* for the appropriate design criteria (e.g., wind loading, gust factor, luminaire weight, and effective projected area).

56-5.05(c) Other Considerations

In addition to the items discussed in the previous sections, consider the following when designing the highway lighting system:

1. Signs. Place light poles to minimize interference with the driver's view of the roadway and any highway signs. Luminaire locations should not seriously detract from the legibility of signs at night.

2. Structures. Place light poles sufficiently away, generally at least one mounting height, from overhead bridges and sign structures to minimize glare and distracting shadows on the roadway surface.

3. Trees. Insufficiently pruned trees can cause shadows on the roadway surface and reduce the luminaire's effectiveness. Design the pole/luminaire with a height and mast-arm length to negate such adverse effects.

4. Criteria. Consult the authority having jurisdiction of the lighting for design criteria and standards prior to design.

5. Navigable Airspace. Where lighting projects are being considered in close proximity to an active airfield or airport, consider the impact the height of the light pole has on navigable airspace during and after construction. For additional information, consult the FAA Advisory Circular AC 70/7460-2J *Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace*.

6. Luminaire Shielding. Avoid external shielding of luminaires. If external shielding is used, ensure the shields have been tested to achieve the necessary light control and designed to prevent rotation and misalignment. The lighting design must incorporate the correct photometry that accurately depicts the luminaire with the shields in place.

7. Combination Traffic Signal/Light Pole. The use of combination traffic signal structures that have a roadway luminaire top attachment generally improve roadside safety. They should be used, where practical, to eliminate a light pole adjacent to a traffic signal structure. Place combination poles beyond the pedestrian crosswalk to allow pedestrian visibility in silhouette.

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56-6 HIGH-MAST LIGHTING DESIGN

In general, the design of high-mast lighting systems follows the same design procedures as discussed in Section 56-5. In addition, consider the following:

1. Light Source. IDOT-owned and maintained lighting systems typically use either 400W, or 750W HPS lamps. The number of luminaires required will be determined by the area to be lighted. As a general starting point, it can be assumed that 400W luminaires will be used and the number per pole will be six luminaires.

2. Mounting Heights. Mounting heights in high-mast lighting applications range from 80 ft to 160 ft (24.3 m to 48.8 m). In general, heights of 100 ft to 150 ft (30.5 m to 45.7 m) have exhibited the most practical designs. Greater mounting heights require more luminaires to maintain illumination levels. However, greater heights allow for fewer poles and provide better light uniformity. As a general starting point, it can be assumed that mounting heights of 80 ft to 100 ft (24.3 m to 30.5 m) will be used.

3. Location. In determining the location of light towers, review the plan and profile view of the area to determine the critical areas requiring lighting. In selecting tower locations, consider the following:

    a. Critical Areas. Locate light towers so that the highest localized levels of illumination fall within the critical traffic areas (e.g., freeway/ramp junctions, ramp terminals, merge points).

    b. Roadside Safety. Locate light towers outside the roadside clear zone and a sufficient distance from the roadway so that the probability of a collision is virtually eliminated; see Chapter 38. Do not place light towers on the end of long tangents.

    c. Signs. Locate light towers so that they are not within the driver's direct line of sight to highway signs.

4. Design. Use point-by-point calculations to evaluate luminance, illuminance, and veiling luminance levels. Calculation grids must be placed at appropriate locations to analyze these levels. Consult the Electrical and Mechanical Unit in the Central Office for assistance to make these determinations.

    Adjust luminaires, pole locations, and other variables, as needed, to ensure that the minimum-maintained illumination is provided and the uniformity ratio has been satisfied. Give consideration to adjacent land use during the analysis. Ensure the design minimizes glare and maintains light control on adjoining property.

5. Navigable Airspace. Where lighting projects are being considered in close proximity to an active airfield or airport, consider the impact the height of the light tower has on navigable airspace during and after construction.

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56-7 REFERENCES

1. *American National Standard Practice for Roadway Lighting*, ANSI/IESNA RP-8, American National Standards Institute/Illuminating Engineering Society of North America;

2. *Roadway Lighting Design Guide*, American Association of State Highway and Transportation Officials;

3. *National Electrical Code*, National Fire Protection Association;

4. *National Electrical Safety Code*, American National Standards Institute/Institute of Electrical and Electronics Engineers;

5. *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*, American Association of State Highway and Transportation Officials;

6. *Structural Supports for Highway Signs, Luminaires, and Traffic Signals*, National Cooperative Highway Research Program Report No. 411, Transportation Research Board;

7. *Roadside Design Guide*, American Association of State Highway and Transportation Officials;

8. *Standard Specifications for Road and Bridge Construction*, Illinois Department of Transportation;

9. *Supplemental Specifications and Recurring Special Provisions*, Illinois Department of Transportation;

10. *Highway Standards*, Illinois Department of Transportation;

11. *Electrical Detail Sheets*, Illinois Department of Transportation;

12. *Warrants for Highway Lighting*, National Cooperative Highway Research Program Report No. 152, Transportation Research Board;

13. *Partial Lighting of Interchanges*, National Cooperative Highway Research Program Report No. 256, Transportation Research Board;

14. *Illinois Manual on Uniform Traffic Control Devices (ILMUTCD),* Illinois Department of Transportation

15. *American National Standard Practice for Tunnel Lighting*, ANSI/IESNA RP-22, American National Standards Institute/Illuminating Engineering Society of North America;

16. *IESNA Recommended Practice for Roadway Sign Lighting*, IESNA RP-19, Illuminating Engineering Society of North America;

17. *Design Guide for Roundabout Lighting*, IESNA DG-19, Illuminating Engineering Society of North America;

18. *Luminaire Classification System for Outdoor Luminaires*, IESNA TM-15, Illuminating Engineering Society of North America;

19. US Coast Guard Bridge Administration Manual COMDTINST M16590.5, *Bridge Lighting and Other Signals;*

20. *Code of Federal Regulations,* CFR Title 33, Part 118.

21. FAA Advisory Circular AC 70/74602J *Proposed Construction or Alteration of Objects that May Affect the Navigable Airspace*; and

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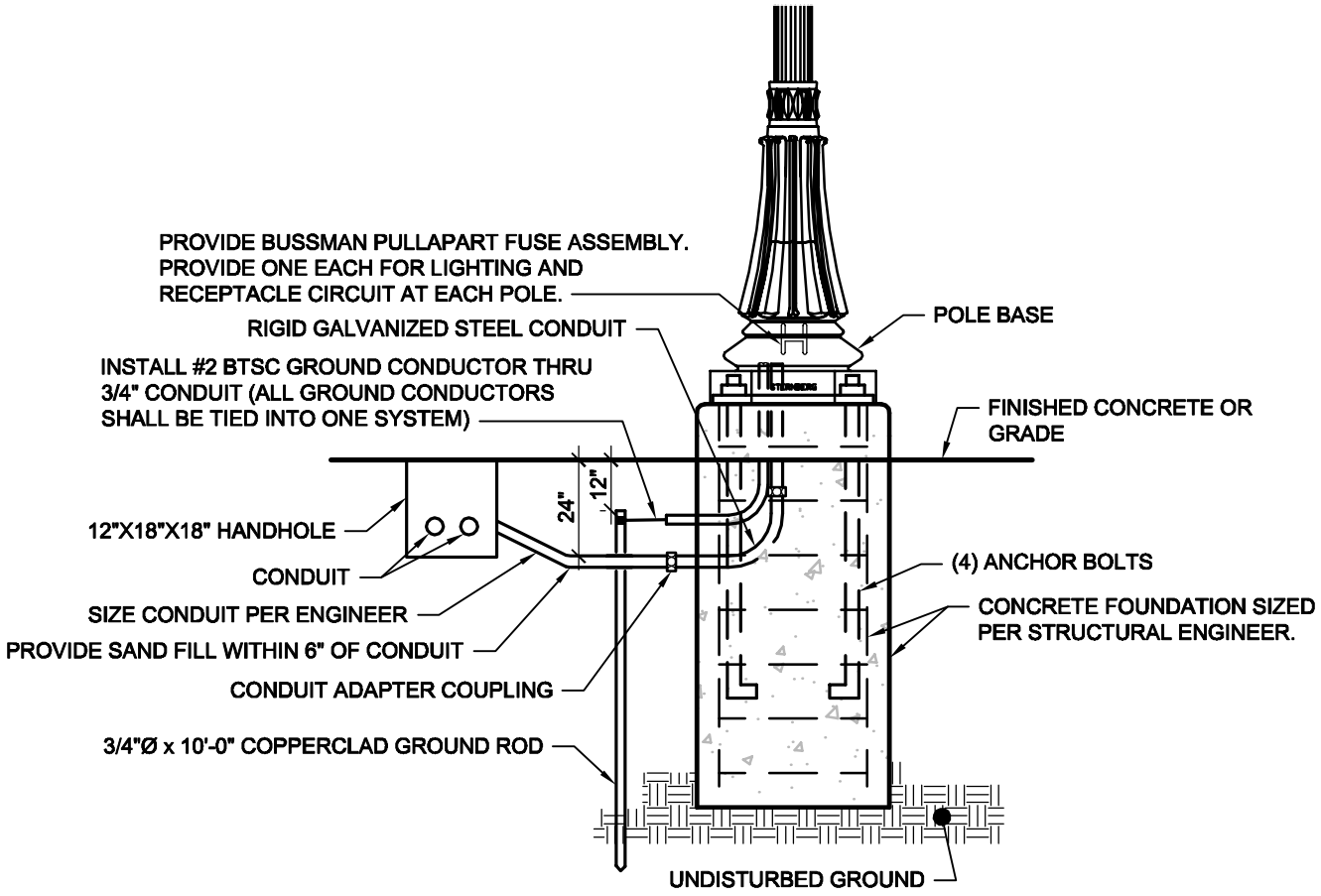

NOTES:

1. CHECK AND VERIFY ALL ANCHOR BOLT DIMENSIONS (SIZE, BOLT CIRCLE, ETC.,) WITH THE LIGHTING STANDARD PRIOR TO INSTALLATION OF THE FOUNDATIONS.
2. PROVIDE INSULATING GROUNDING BUSHING ON EXPOSED ENDS (IN BASE OF POLE) OF ALL GALVANIZED STEEL BENDS.
3. ALL SPLICES SHALL TAKE PLACE AT THE ACCESS DOOR OF LIGHT POLE. NO SPLICES WILL BE ALLOWED IN HAND HOLES.
4. DETAIL NOT FOR CONSTRUCTION AND TO BE USED ONLY AS REPRESENTATIONAL OF DESIGN INTENT.

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NORMAL, ILLINOIS 61761
(309) 663-8436 / (309) 663-8862 Fax

Bloomington Streetscape Lighting Master Plan

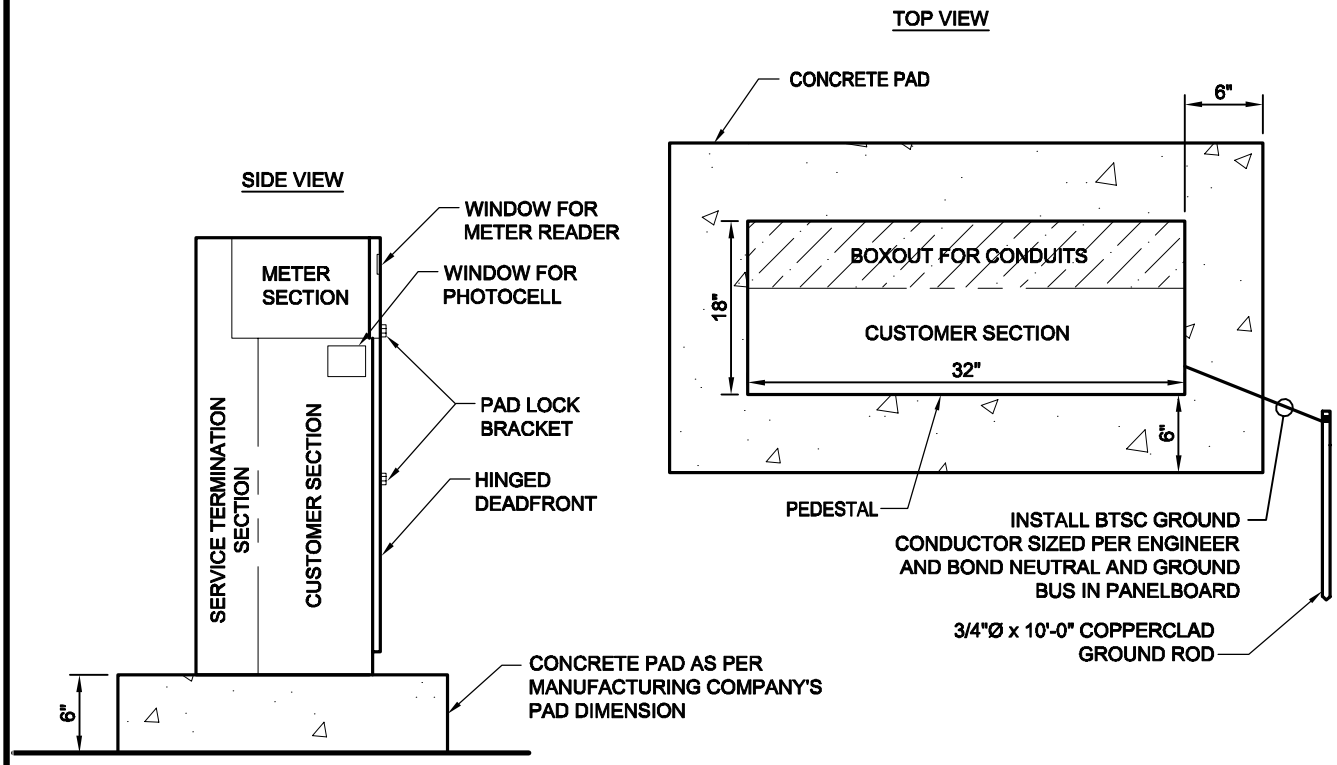
TYPICAL POLE BASE LAYOUT

Project No:	0131202.00
Book No:	
Drawn by:	–
Reviewed:	–
Date:	06/20/14

XRef Files:
| jgandhi | P:\City Of Bloomington\2013\0131202.00 - Streetscape Lighting Master Plan\Documents\Report\Sections\2014-06-23 Council Submittal Final\0091418.00-E201 Electrical Details.dwg | 6/20/2014 4:02 AM |

NOTES:

1. NEMA TYPE 3R ALUMINUM OR STAINLESS STEEL ENCLOSURE WITH BOTH SIDES ACCESSIBLE WITH DEAD FRONT PANEL.
2. ANCHOR PEDESTAL WITH (4) ANCHOR BOLTS IN CONCRETE PAD.
3. ACCESSIBLE DOORS SHALL BE LOCKABLE.
4. METERING PEDESTAL SHALL BE GROUNDED AND BONDED PER NEC.
5. DETAIL NOT FOR CONSTRUCTION AND SHOWN FOR GENERAL DESIGN INTENT ONLY.



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Bloomington Streetscape Lighting Master Plan

TYPICAL CONTROLLER iNSTALLATION

Project No: 0131202.00
Book No:
Drawn by: –
Reviewed: –
Date: 06/20/14

XRef Files:
| jgandhi | P:\City Of Bloomington\2013\0131202.00 - Streetscape Lighting Master Plan\Documents\Report\Sections\2014-06-23 Council Submittal Final\0091418.00-E201 Electrical Details.dwg | 6/20/2014 4:52 AM |