

**Brent Spence Bridge Corridor Project  
Aesthetic Committee Meeting Summary (KY)  
August 10, 2022**



*Groundbreaking by Design.*

# MEETING MINUTES

Project: Brent Spence  
Purpose: Project Urban Aesthetics  
Place: Kenton Co. Court's Conference Room  
Meeting Date: August 10, 2022  
Prepared By: David Reed  
Attendees: Dave Hatter Mayor - Ft. Wright  
Jill Bailey Ft. Wright Administrator  
Jude Hehman Mayor - Ft. Mitchell  
Kris Knochelmann Kenton Co. Judge Executive  
Sharma Lee Kenton Co.  
Nick Hendrix Kenton Co. Public Works  
Scott Gunning Kenton Co. Administrator  
Laura Tinfelde Kenton Co. Planning and Development Services  
Gary Valentine KYTC – CO  
Stacee Hans KYTC – D6  
Glen Kelly Qk4  
David Reed Qk4

## 1. Introductions/Project History

- a. Introductions were made. Human Nature, Inc's. team members will be assisting Qk4 in the visioning process, but were not in attendance.
- b. A history summary was provided by Stacee. Alternative I is what was originally selected. A Mega Project Grant, programmed for \$2.7 billion – has not been awarded yet, but is anticipated to be successful to allow the project to move forward. Grant awards will be made in October and December of 2022. This project is in competition for funding along with five or six other projects in the country and it is speculated that each project may receive some level of funding from the grant process.

## 2. Current Design Details and Impacts

- a. Main revision of Alternative I is within the bridge itself, where local traffic was shifted to existing bridge, and through traffic shifted to new bridge. Issues with incident management (emergency services response) is being studied and may incorporate movable barrier gates in the median wall.
- b. The group was most interested in the location where decision making for local/through and I-71/I-75 will be critical – and specifically, the impacts to the Dixie Highway and Kyle's Lane interchanges. These two interchanges will be linked by a collector/distributor corridor and separated from the higher speed through lanes. The introduction of this new pattern will be augmented with enhanced signage.

- c. Interstate signage and concerns regarding nomenclature available for local businesses for each ramp was also discussed, in addition to new project lighting and the impact it will have on residents/businesses. Lighting of the interstate will be fixed and dictated by interstate standards, but transition zones beyond the interstate will need to be coordinated with municipal partners.

### **3. Aesthetic Guidelines**

- a. Efforts have begun to explore aesthetic guidelines which could include “gateway” type improvements at each city’s exit ramps. Judge Knochelmann requested the vision along the entire I-71/I-75 corridor be coordinated and cohesive – making it clear that you have arrived to Kentucky.

### **4. Gateway Opportunities**

- a. Representatives of Ft. Wright shared their desire to create gateway treatments at the Kyles Lane interchange ramps ramps and emphasized how important it is for these areas to be aesthetically pleasing. They also identified that the city is willing to pay for some of the improvements. Ft. Mitchell echoed the same level of interest and commitment. The consulting team supports these improvements and their inclusion in the project, and would like to begin by reviewing draft gateway improvement plans available.
- b. In addition to gateway and signage ideas, the consulting team is also interested in pedestrian fencing for plan inclusion. Human Nature will be assisting in this effort. Since structures and roadway are being reconstructed, costs will be handled by the project, with commitments from municipalities to maintain landscape and streetscape elements. Evendale, OH is an example of preferred landscape aesthetics.
- c. Areas where duplicate fencing exists along the interstate will be examined to offer more practical patterns of right-of-way boundary control and maintenance opportunities by the municipalities.

### **5. Sound Barriers**

- a. Noise studies are ongoing to verify they offer a reduction in predicted noise levels and the optimum locations to construct. KYTC is committed to being a better neighbor and will construct these as community enhancements regardless of the cost effectiveness if they reduce predicted noise and the community desires.
- b. If an existing noise wall is impacted by construction, the noise wall will be reconstructed.

### **6. Right of Way Acquisition**

- a. Right of Way work has begun and has been reduced in scope through value engineering efforts. Affected property owners south of 12<sup>th</sup> Street have been contacted with the current focus on appraisals, with offers made to five or six property owners thus far. One home is in Ft. Wright, which will be acquired and demolished as part of this project.

### **7. Drainage Issues**

- a. The group noted drainage issues within the outside bend of the interstate (northbound east side) where skid abrader surfacing has been installed. The group prefers this pavement treatment be maintained in the future with final pavement installation/restoration.

## **8. Traffic Issues**

- a. Beechwood School was discussed, but will not likely be able to be addressed within the scope of the project.
- b. Concerns were raised about crumbling pavements, medians etc. on Kyles Lane. These concerns will be addressed within the project limits.
- c. Wright's Summit Pkwy is currently a right in only from Kyles Lane, and there is a preference is for a right in/right out option to improve traffic flow within the Wright Summit Properties, including the development of the three current vacant parcels fronting the interchange. This is currently being evaluated by KYTC. Development is at an impasse until this option is resolved.
- d. Maintenance of traffic and phasing will determine the limits of buildable units and whether the two interchanges will be constructed in tandem, or separately.
- e. The construction of the project is expected to be from November 2023 to the end of 2029 and will be developed in multiple phases.

## **9. Action Items and Next Steps**

- a. Both Ft. Wright and Ft. Mitchell would like to have access to some information and graphic materials to help educate interested residents, such as any available boards and graphics which could be provided to each community so residents could view them at municipal buildings, or on the KYTC website.
- b. It was requested that each City appoint one representative to attend meetings to keep conversations efficient and productive. The Mayor indicated that at this time Jill Bailey would be that person for the city.

**End of Meeting Notes**



# MEETING MINUTES

*Groundbreaking by Design.*

Project:	Brent Spence	
Purpose:	Urban Aesthetics/Guidelines	
Place:	KYTC – District 6	
Meeting Date:	August 10, 2022	
Prepared By:	David Reed	
Attendees:	Mayor Joseph Meyer	City of Covington
	Ben Oldiges	Advisory Committee Member
	Emily Wolff	Advisory Committee Member
	Sarah Allen	Advisory Committee Member (representing Susan Smith)
	Steven Hill	Advisory Committee member
	Diana Martin	RL Record LLC
	Rick Record	RL Record LLC
	Nicole DiNovo	Human Nature
	Gary Wolnitzek	Human Nature
	Gary Valentine	KYTC - CO
	Stacey Hans	KYTC – D6
	Glen Kelly	Qk4
	Lindsay Hoskins	Qk4
	David Reed	Qk4

## 1. Introductions

David opened by introducing new team members (Lindsay, Gary, and Nicole), followed by room introductions, and Gary Valentine provided a brief introduction and recap of progress to date.

## 2. Information Exchange Materials

- a) The group reviewed information that was exchanged during the month of July; seeking direct input on preferred design parameters for impacted city streets and expand underpass areas.
- b) The three (3) page list of Advisory Committee considerations (compiled by Rick Record) was cross-referenced to the list of agenda items with the plan for discussion to touch on most items listed.
- c) Review of Example Aesthetic Guidelines
  - These represent a good sampling of other project examples, although each a little different
  - Louisville Bridges (Aesthetics and Landscape)
  - I-69 (2<sup>nd</sup> Street) Henderson - very prescriptive down to types of materials used, including landscape plant material and pavement types and scoring patterns.
  - The group will work together collaboratively to develop a similar set of guidelines, specific to this project, and tailored to the needs of the city.

- Further evaluation and comment was requested: What is the Committee's opinion of these documents and this format; is it effective? What did you like or not like? What would you like to see included in this effort?
  - (1) KY 351 (69 project) was intended to be a gateway into downtown Henderson, matched type of lights city already had in place; and a variety of pedestrian crossing options, details and examples of street furnishings were provided.
  - (2) Louisville's document focused more on architectural elements; it was more broad, had different areas/zones; and a specific landscape document was developed to explore the use of native plant material and plant communities.
  
- d) Review of City Master Plan Documents
  - The group reviewed these three documents as valuable to the project and Aesthetic Guidelines. All documents provide a good background/formula for our use including two specific examples.
    - (1) Pike Street example provides solutions for narrow street and sidewalk corridors.
    - (2) 3rd street recommendations overlap a portion of this project (between Main and Crescent).

We would like to confirm that these are still the ideas that you're interested in pursuing, or would you like for them to be modified in some specific way?
  - Bike Trails
    - (1) The group understands that bicycle mobility is a strong goal of the city and the guidelines will incorporate opportunities for bike paths to be included and the bike trail network expanded.
    - (2) The group looked at route options transposed from City's plan, which has a lot of east/west movement. The group examined ramps and connections with local streets, and the opportunity to connect bike traffic with the River Front Park. The group also discussed options of where and how to introduce bike and pedestrian crossings under the interstate and to the riverfront (on grade or elevated options).
      - (a) 9th Street is currently the safest place to bike from Devou Park due to limited vehicular conflicts.
      - (b) An Art Park is being created on the river side of flood wall at C.W. Bailey Bridge, where preference is to go through levee gates instead of over the levee. A street artist will be developing floodwall murals and the area will be developed into an event space. This Economic Development initiative - inspired by graffiti and display urban art, not permanent art – will be supplemented by food trucks and festival activity.
      - (c) 3rd Street connection is less dangerous due to limited vehicular conflicts. Still need walkability improvements for 4th and 5th Streets.
      - (d) The IRS site is focusing on walkability and is a pedestrian friendly plan; 3rd Street will be re-established from Madison Avenue to Johnson.
      - (e) Does 3rd or 4th have enough width to add tree wells? Group will investigate.
      - (f) 4th Street will have to be reconstructed completely with traffic calming measures, and complete street features.
      - (g) Gateway opportunities were discussed, where work is ongoing at 4<sup>th</sup> and Main.
    - (3) New patterns for I-71/I-75 were discussed, with the overall goal of separating through traffic (express system) and local traffic trying to exit/enter the system (collector-distributor systems) networks.
      - (a) Existing bridge will only serve local system.
      - (b) New bridge will serve through traffic.
      - (c) Local restaurants are concerned with how that will impact them – for instance, how will drivers be informed to get off at 12th to get on local system?
      - (d) Collector/Distributor system needs to be attractive, free flowing,
      - (e) Concern for noise increase due to expanded interstate footprint and mass.
      - (f) KYTC has hired UK to do research for quiet pavement; FHWA doesn't recognize pavement as a form of mitigation, but it is being investigated.

- Goebel Park
  - (1) Master Plan identified a number of features and amenities. The park will be impacted and may drive the need for significant improvements to be considered. The group agreed this is an opportunity to explore improvements recommended from this study and find new use patterns.
  - (2) Roadway designers are exploring options to lower Jillians/Simon Kenton Way down to surface level to allow the reconstructed combined sewer to be located under the surface street.
  - (3) The group recommended the development of a new conceptual masterplan for Goebel Park, to allow implementation of initial improvements and a coordinated plan for the city to implement future improvements.

### 3. Current Design, Disturb Limits and Impacts

#### a) Design Overview

- Sampled cross-section illustrations provide examples of how landscaping can be provided along both sides, but ultimately these buffer plantings are subject to design preferences of the advisory group.
- Impacted Street Corridors
  - (1) The group would like to extend 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> Street streetscape recommendations east to Main Street.
  - (2) The streetscape recommendations should examine capacity, movement, conflict points with bikes/pedestrians, and not just aesthetics.
  - (3) 12th Street is already connected and improved; although, it would be good to explore bike lanes on both north and south sides.
  - (4) Pike Street should be extended to Main if possible and extended west to the St. Johns School crossing.
  - (5) 9th Street treatments should explore bike connectivity.
- Tree Canopy Impacts
  - (1) Current city canopy guidelines were reviewed, and more detailed information will be provided on restoration areas/numbers.
  - (2) The group noted hillside stabilization concerns from clearing all the trees at Goebels Park. (Gary Valentine will follow-up with Geotechnical team members.)
  - (3) Solutions in this hillside area should acknowledge the new townhomes constructed along Crescent.

### 4. Preferred Design Parameters

#### a) Existing and Proposed Corridor Dimensions

- Concern for proximity of the new Jillians Corridor in relation to residences and pool.
- The design of underpass areas is critically important – what does the “Greenbook” offer in the way of design guidelines?
  - (1) Vehicular and pedestrian lighting will be important within underpass areas; lighting direction and temperature are important too.
- All surface cross-street intersections will likely be signalized and actuated. There is concern for children in the areas of all street crossings.

#### b) Underpass Conditions and Preferences

- Parking within the underpass area between Pike and 12<sup>th</sup> Street is in high demand and should remain.
- The group was encouraged to think of how this environment will be different than typical streetscape - decorative pavement opportunity for murals on abutment walls, decorative fencing between columns were all discussed.
- The group is interested in the potential for park space in underpass zones. (Sawyer Point Park is an example).
  - (1) City would need to agree to maintain/police area; and the group was concerned if this area would be an attractive area for homeless.

- (2) Areas of higher, wider overpasses may be suitable for picnic areas, bike stations or other similar recreation functions.

**5. Next Meeting and Preferred Areas of Focus**

- a) The designers will develop more detailed plan view concepts and renderings of impacted corridors, typical sections for each of those corridors, rendered in graphical format, including 3-dimensional images of proposed underpass areas.
- b) The September meeting could be moved to the First Financial Bank (6th and Madison) where the 2nd floor is available for public use (Stacey to coordinate with Mayor's office).
- c) If there are any comments following the meeting, please forward those along to Stacey and Gary.

**End of Meeting Notes**



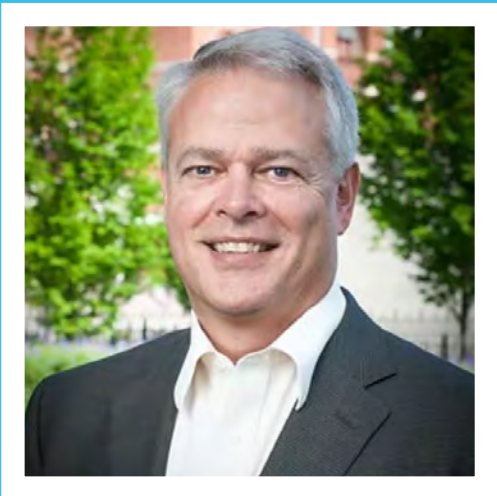
# COVINGTON STREETSCAPE & PUBLIC REALM DESIGN GUIDELINES

BRENT SPENCE  
BRIDGE CORRIDOR





**Lindsay Hoskins**  
**Qk4**



**Gary Wolnitzek**  
**Human Nature**

# INTRODUCTION OF NEW TEAM MEMBERS

COVINGTON STREETScape &  
PUBLIC REALM DESIGN GUIDELINES

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BRENT SPENCE  
BRIDGE CORRIDOR



Landscape Design Guidelines and Concepts  
for the **Kennedy Interchange**  
Louisville, Kentucky

August 2006



**OHIO RIVER  
CROSSING**  
HENDERSON: SECTION 1

**I-69 ORX KY 351 Streetscape Improvements**  
I-69 Ohio River Crossing Project – Section 1  
Henderson, KY

# REVIEW OF EXAMPLE AESTHETIC GUIDELINES

## Aesthetic Design Guidelines

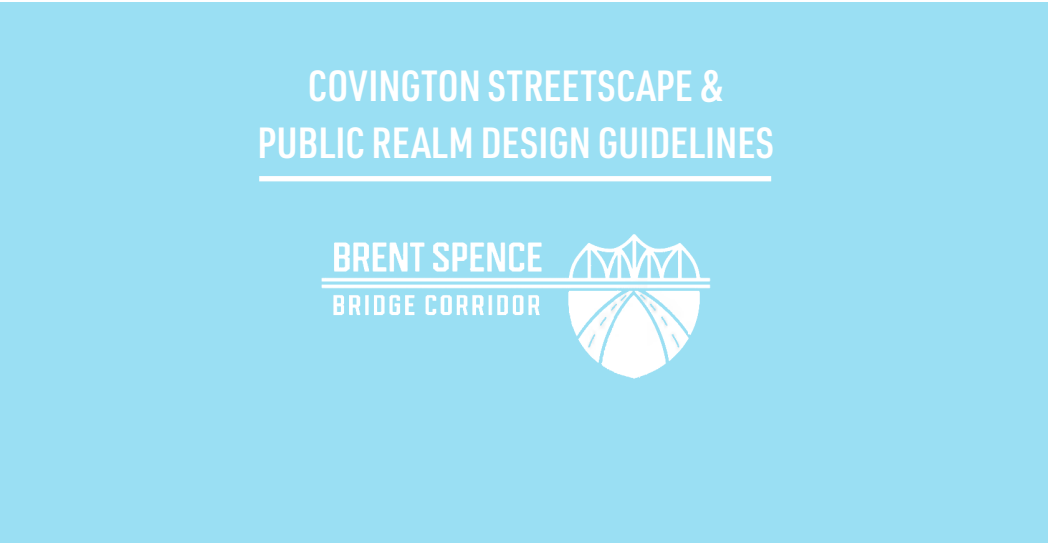
The Louisville-Southern Indiana  
Ohio River Bridges Project



Section 1-Kennedy  
Interchange

Prepared for  
Kentucky Transportation Cabinet

Prepared by  
Rosales Gottemoeller and Associates  
+ Kentucky Transportation Associates



## COVINGTON STREETScape & PUBLIC REALM DESIGN GUIDELINES

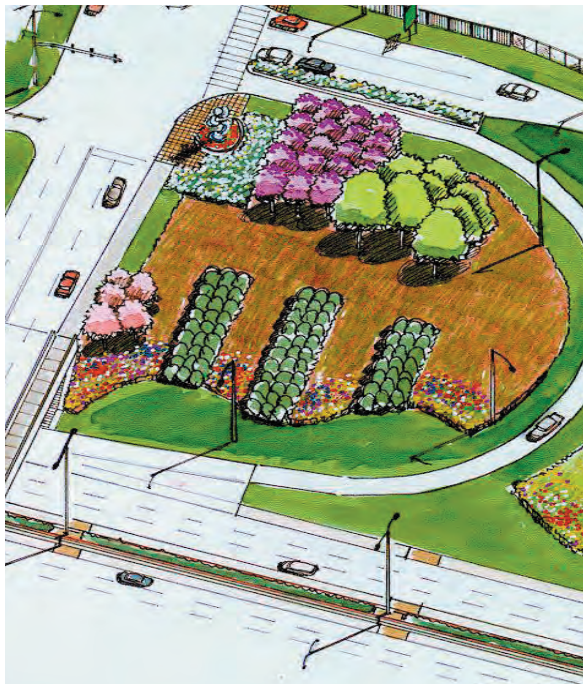
**BRENT SPENCE**  
BRIDGE CORRIDOR



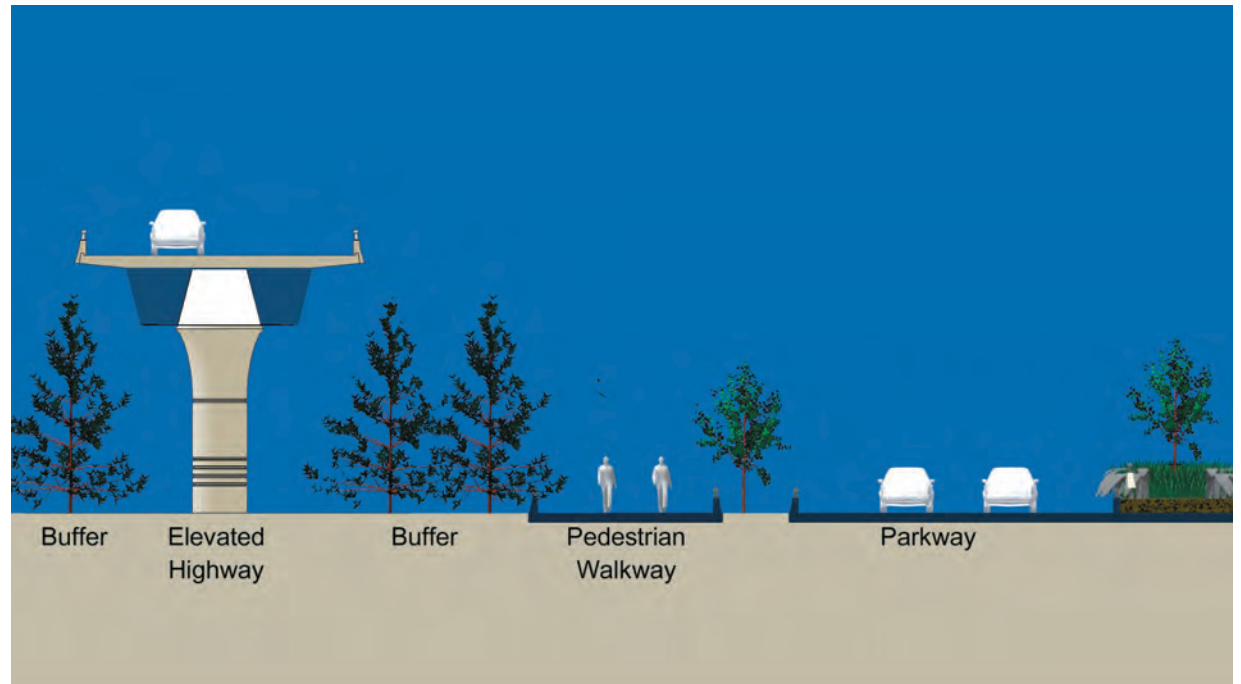
# LOUISVILLE BRIDGES - AESTHETICS AND LANDSCAPE



A.4- Extension of Park into Interchange Zone



A.5- Example of Landscape Treatments



A.6- Example of Circulation and Buffer Zones

# LOUISVILLE BRIDGES - AESTHETICS AND LANDSCAPE

## Landscape Design Guidelines and Concepts for the Kennedy Interchange Louisville, Kentucky

August 2006



# I-69 - 2ND STREET

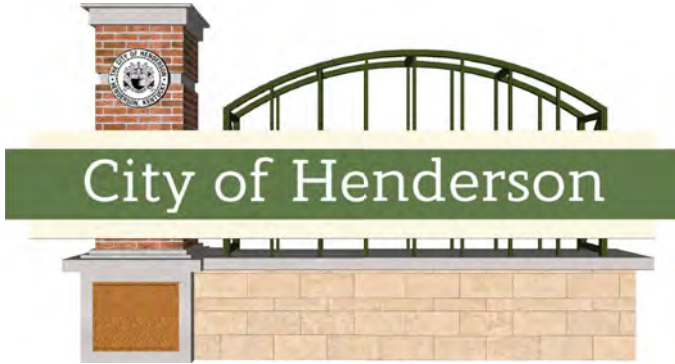


City Gateway Signage - Plan View

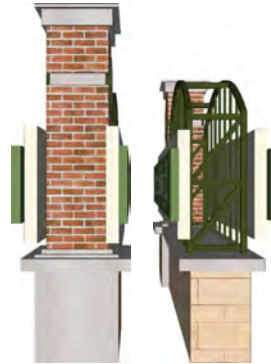
Type Family: Modum Regular

Brick	Powdercoated Alum. (R-99 G.121 B.75)
Limestone	Powdercoated Alum. (R-57 G.66 B.19)
Limestone Veneer	Powdercoated Alum. (R-211 G.205 B.189)

Materials, Colors & Finishes



City Gateway Signage - Front View

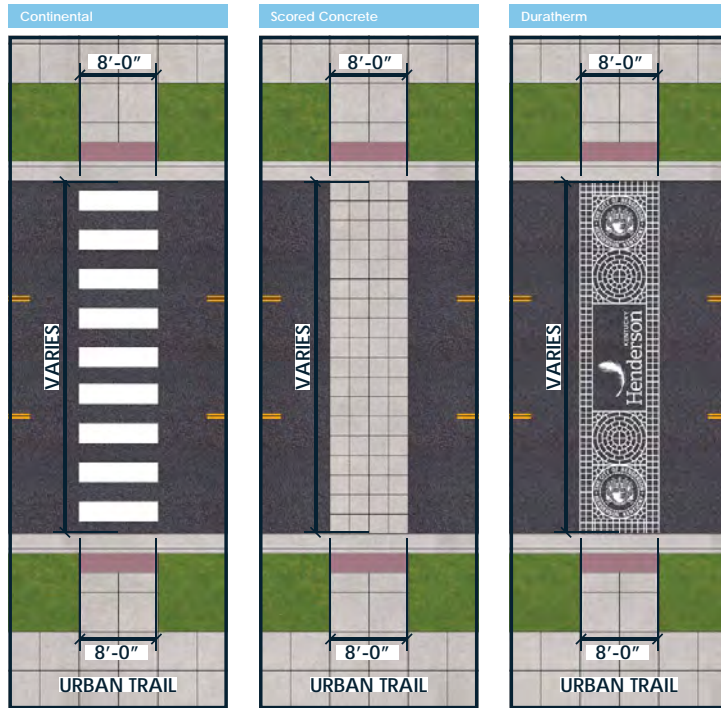


City Gateway Signage - Side Views

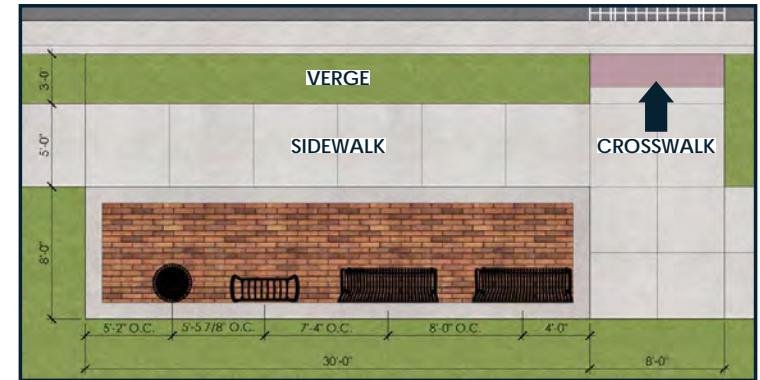
## Aesthetic Design Guidelines

### The Louisville-Southern Indiana Ohio River Bridges Project

Section 1-Kennedy Interchange  
Prepared for Kentucky Transportation Cabinet  
Prepared by Rosales Gottemoeller and Associates + Kentucky Transportation Associates  
February 21, 2006



Crosswalk Typologies - Plan View



Pedestrian Node - Plan View



Pedestrian Node - Perspective View



# REVIEW OF CITY MASTER PLAN DOCUMENTS

COVINGTON STREETScape &  
PUBLIC REALM DESIGN GUIDELINES

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BRENT SPENCE  
BRIDGE CORRIDOR

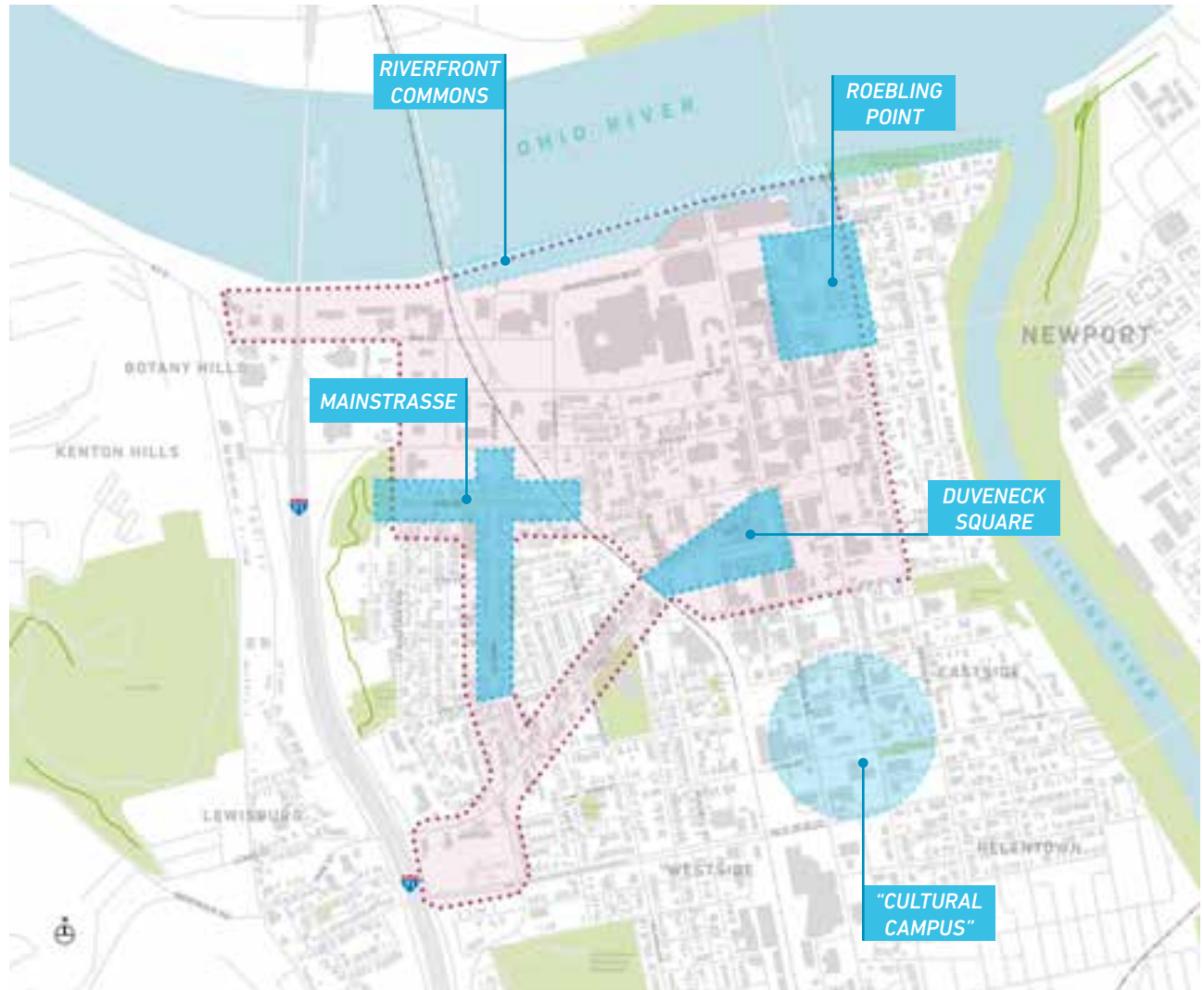


# PURPOSE AND INTENT

The recommendations of this plan are guided by the knowledge and opinions of key stakeholders and city staff from Economic Development, Engineering, Public Works, Historic Preservation, Community Development and Urban Forestry.

The design guidelines contained in Section 3 are intended to achieve the following objectives:

- Build upon the findings and recommendations of prior planning initiatives
- Develop a more cohesive, aesthetically-pleasing, and vibrant downtown streetscape.
- Address the poor condition of sidewalks and lack of compliance with the Americans with Disabilities Act (ADA)
- Develop a more “Complete” street network with a stronger balance between the needs of motorists, transit riders, cyclists and pedestrians.
- Ensure that the unique identity of and sense of place within the Pike Street Corridor, MainStrasse, Roebling Point and Duveneck Square districts are celebrated and maintained within the adopted guidelines.
- Mitigate the impacts of utility infrastructure and include strategies and standards that allow for the incremental deployments of smart technologies such as fiber-optic and WIFI distribution, intelligent street lighting and connected roadway and traffic signal technologies.
- Minimize uncertainty around expectations for the replacement and development of sidewalk and streetscape improvements and bolster significant private-sector investments in Covington’s Historic downtown area





# INTRODUCTION

This section includes design standards for each of the following categories of the streetscape design including:

**Standard Streetscape Elements:** The section begins by outlining the City's accepted standards for streetscape design elements such as paving, furnishings, lighting and street trees.

**Geometric Layout:** Street-specific standards are then categorized by major street corridors (such as Main and Madison) or grouped together based on similar form and function (6th and 8th Streets). Each section includes an existing section diagram of current conditions on the street, followed by a prototypical section of what future improvements should look like.

**Sidewalk Standards:** Design standards for the public realm along each street include specific dimensions and functions for each component within the public realm. A perspective illustration calls out dimensional standards and an accompanying plan view portrays prototypical patterning and placement of streetscape elements.

**Material Palette:** Specific materials, furnishings and planting treatments are then listed for each component. Materials that are listed represent the standard for aesthetics and performance. Other materials may be substituted, but they will be required to meet the performance standards of the guidelines listed herein and will be subject to City approval.



VIBRANT STREETScape ACTIVITY ALONG MAIN STREET IN MAINSTRASSE

# CITY-WIDE DESIGN STANDARDS

## MATERIAL PALETTE



### 1. Concrete Sidewalk

Standard concrete; light buff color  
Light to medium broom finish,  
perpendicular to traffic flow Saw-cut  
joints, no edge marks



### 2. Container Planters

Round or square fiberglass planters,  
black finish  
30" diameter (or width) minimum size,  
low-profile  
Style to match existing planters along  
Madison Avenue  
Locations to be prioritized near  
intersection plazas or key pedestrian  
areas where budget allows.  
Alternate: Size & style may vary  
per district character and agreed  
maintenance responsibilities amongst  
adjacent proprietors.



### 3. Benches

Transitional-style backed steel slat  
bench with intermediate armrests  
6' length, black gloss finish.  
Mount to pavement per manufacturer's  
recommendations  
Exception:  
Maintain existing historical steel  
benches (if present), such as on 6th  
Street in George Steiner Park.



### 4. Trash/ Recycling Receptacles

City standard steel receptacles, pair  
trash and recycling where demand  
requires and service is available.  
Locate at corner intersection plazas  
where demand requires, maintain  
clear pedestrian through-ways in all  
instances.  
Black gloss finish.



### 5. Decorative Street Light

Pedestrian scale decorative street light  
Duke Energy Deluxe Acorn style  
luminare  
LED 50 watt fixture  
12' Fluted tapered steel or aluminum  
pole, black automotive finish  
Locate 2' from face of curb.  
Exception:  
Current Madison Avenue standard is to  
be replaced over time on a per-block  
basis with the above.



### 6. Street Tree Well

Upright deciduous tree, see appendix  
for approved species.  
Locate within sidewalk bump-outs or  
in amenity zone when sidewalk width  
meets or exceeds 8'.  
Install perennial and ground-cover  
underplantings.  
Alternate: Cast iron tree grates where  
minimum 4'-0" pedestrian clear zone  
necessitates use. Center hole must be  
capable of expansion as tree growth  
requires.

# STREET TREES & LANDSCAPE DESIGN STANDARDS



### 7. Future Street Tree Plantings

A healthy urban forest is an integral  
component of an appealing  
streetscape environment. In addition to  
ecological benefits, a canopy of trees  
contributes to the comfort,  
beauty and walkability of the urban  
environment and consequently yields  
tangible social and economic benefits.  
While there is tremendous potential  
to increase the amount of green  
space along Covington streets and  
sidewalks, it is important to note  
that not all streets have sidewalk  
spaces which are wide enough to  
accommodate street tree plantings.

In these areas the best opportunity to  
introduce street trees is in front yards,  
screens and buffers associated with  
parking areas and private properties.  
Future plantings should only be  
located where space is sufficient  
and should promote continuity with  
existing plantings that have not  
exceeded their useful lifespan. Trees  
should be located to avoid conflicts  
with overhead utilities and obstructed  
views to and from buildings. All trees  
to be planted within the public right-  
of-way shall be approved by the City of  
Covington Urban Forester.



### 8. Increased Soil Volume for Tree Health

Trees in pavements typically are confined  
to small areas of soil often lacking in  
water, nutrients, oxygen and adequate  
room for proper root growth. Soils  
under sidewalks are highly compacted  
to meet engineering standards required  
to support pavements; therefore, trees  
in this environment live a stunted and  
shortened life, generally living only 7-10  
years. With better soil conditions, life  
expectancy can be greatly increased to  
upwards of 60 years. CU-Structural Soil  
and Silva Cells are two options that both  
support pavements and encourage deep  
root growth. The investment in soil for a

healthy tree is paid back by fulfilling the  
functions for which it was planted, which  
may include shade, noise reduction,  
pollution reduction, wildlife habitat and  
the creation of civic identity.  
Application: Structural soils have been  
successfully employed for many years  
and are easily integrated into standard  
tree well applications. Silva cells are a  
newer, more expensive technology that  
shows greater promise for long-term  
tree health and development and can  
be utilized in prioritized locations such  
as festival streets where larger planting  
areas can occur.



### 9. Bioretention Planters

Rain Gardens, Bio-retention Cells  
and Storm Water Planters utilize a  
series of landscaped or turf covered  
catchment areas designed to capture,  
cool, cleanse and infiltrate stormwater  
runoff from urban streets. These  
systems are an effective method of  
integrating landscaping and  
stormwater management into the  
urban area. During rainfall events,  
stormwater runoff is directed into the  
catchment area, is allowed to collect,  
and then infiltrate into the soil. With  
intense rainfall events, the remaining  
excess water will either flow back to

the street gutter, entering the next  
downstream catchment in the series,  
or can be diverted to underground  
storage chambers. After traveling  
throughout the entire series, any  
remaining stormwater is directed to  
the storm sewer system or directed  
into swales or stream channels.  
Application: Generous Sidewalk widths  
along Madison, Main, Seventh and  
potentially Scott & Greenup Streets  
provide excellent potential for the  
integration of various types of bio-  
retention and catchment areas.

# PIKE STREET OVERVIEW

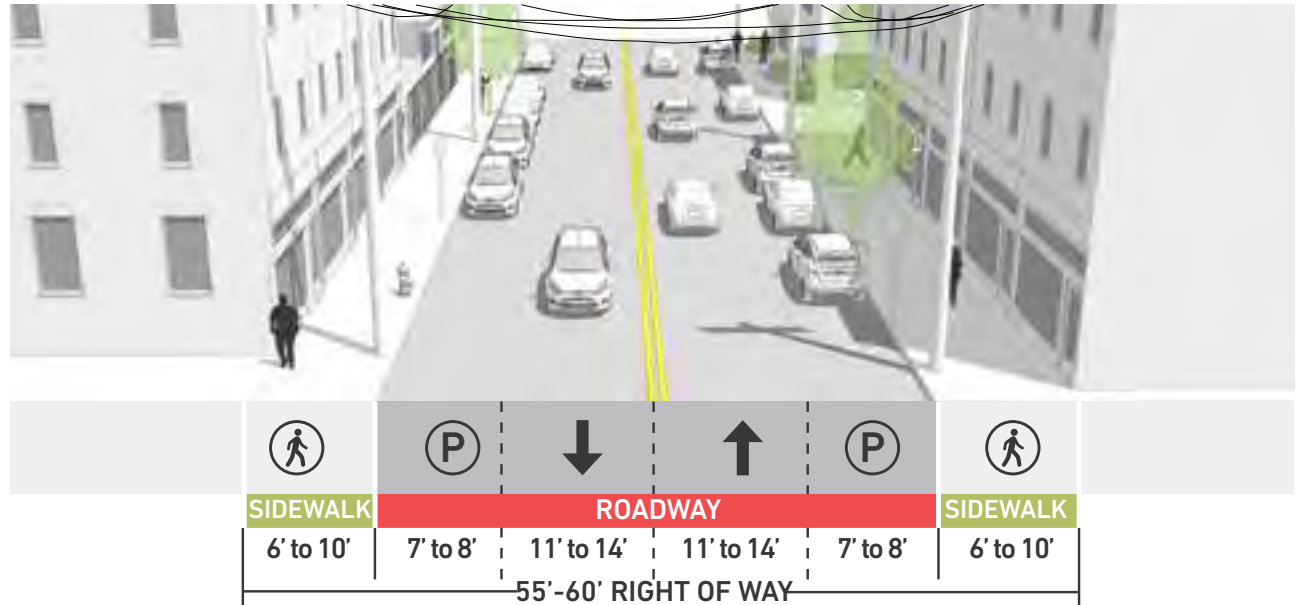
Pike Street features widely varied right-of-way and streetscape configuration extending from I-75 to Madison Avenue. Electric utility service crossings create a cluttered appearance to the street to a much greater extent than distribution poles along the curb. Incremental sidewalk replacement projects should include utility conduits that support the phased elimination of electric service crossings and address non-compliant sidewalk cross-slopes. Future lighting should employ post-top LED fixtures in place of existing cobra-head lighting. Future tree plantings should utilize tree wells with adequate soil volume to support the development of a healthy tree and more substantial canopy. Future improvements in bicycle mobility could include the establishment of sharrow lanes.

*Note: Lane configuration and sidewalk widths may vary slightly from the sections seen at right. These sections are meant to be typical.*

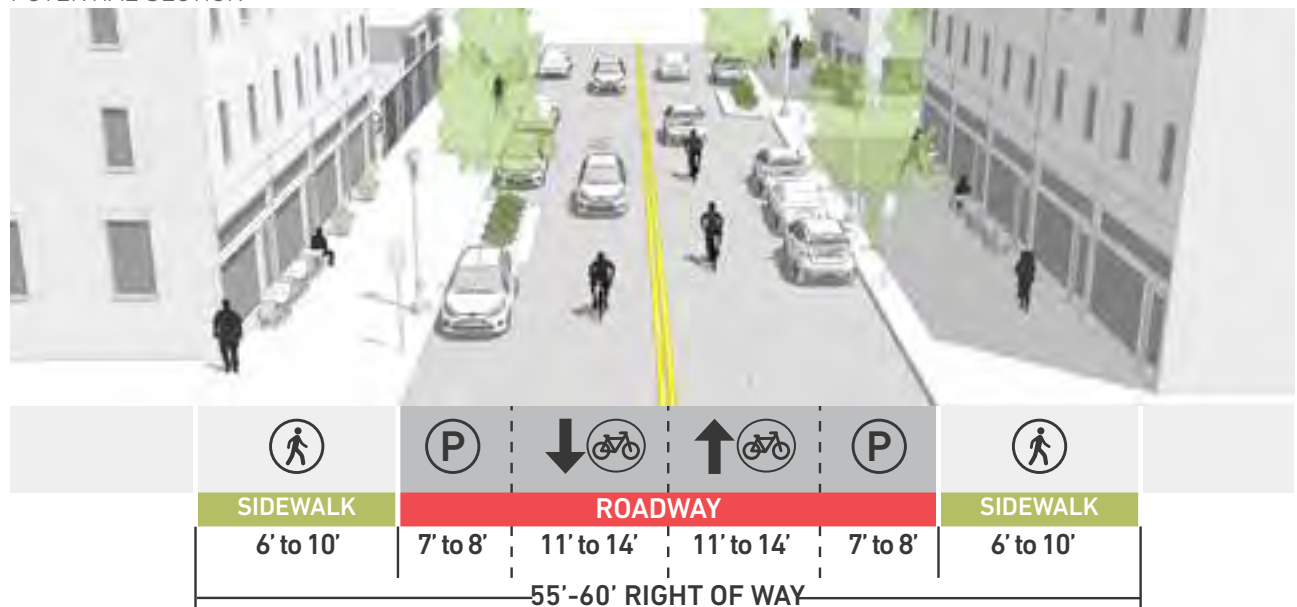


PIKE STREET

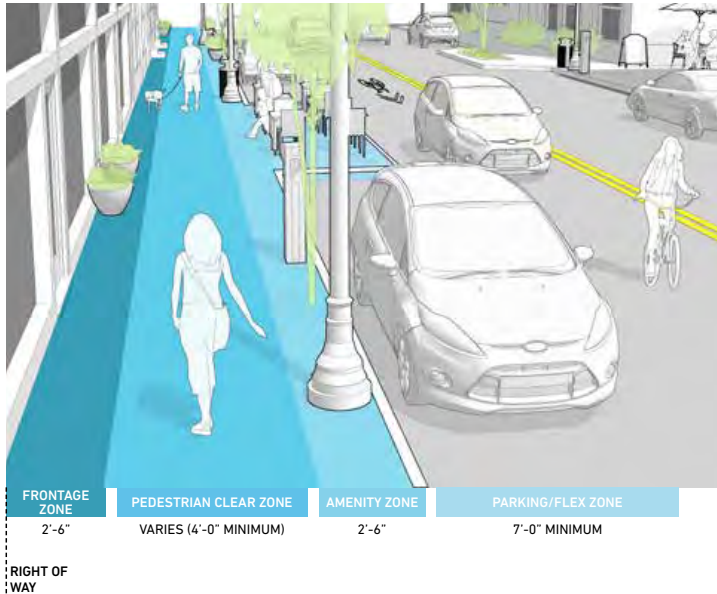
## EXISTING SECTION



## POTENTIAL SECTION



## SIDEWALK STANDARDS



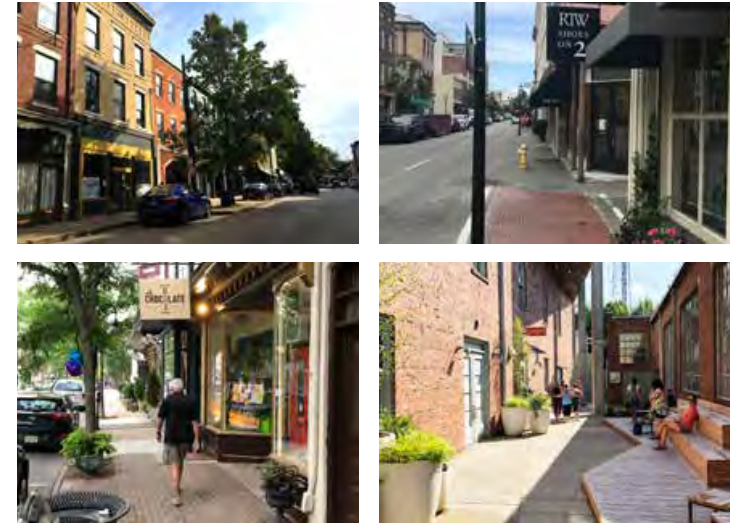
## TYPICAL PLAN

The proposed design standard establishes fixed dimensions for the sidewalk frontage and amenity zones which will provide consistency along the widely varying spaces between the back of curb and storefront sidewalk. Bump-outs should be strategically placed to support retail and dining venues and provide space for any proposed street tree plantings and/or placemaking elements.

The character of site furnishings and placemaking elements should reflect the art-focused "bohemian" aesthetic of the corridor.

1. Decorative Post Lamp
2. Cafe Tables
3. Street Tree Well at Bump-Out
4. Bump-out
5. Container Planters
6. Concrete Sidewalk

## MATERIAL PALETTE



### Standard Street Elements:

For the following street elements and their use on Pike Street refer to the city standards:

- Concrete Sidewalk
- Trash / Recycling Receptacles
- Street Tree Well
- Decorative Street Light
- Container Planters
- Wayfinding Elements

### 1. Street Character:

Pike Street's historic architecture and unique building geometries provide a great opportunity to promote diversity of materials and a more eclectic, art-centric appearance.

Although sidewalk conditions vary, ample room exists for a vibrant and inviting public realm through attractive storefront signing and displays, container planters, sandwich boards, outdoor seating and tree plantings at bump-outs or select locations.

### FRONTAGE ZONE

WIDTH - 2'-6"

PURPOSE - BUILDING ENTRY

FURNISHINGS & AMENITIES - ENTRY STEPS, CONTAINER PLANTINGS, 2-TOP SEATING, SANDWICH BOARDS

### PEDESTRIAN CLEAR ZONE

WIDTH - VARIES (4'-0" MINIMUM)

PURPOSE - PRIMARY ACCESSIBLE PATHWAY

### AMENITY ZONE

WIDTH - 2'-6"

PURPOSE - PLACEMENT OF TYPICAL STREETScape INFRASTRUCTURE

FURNISHINGS & AMENITIES - LIGHT POLES, WAYFINDING & SIGNAGE, PARKING METERS, UTILITIES

STREET TREES - TREE WELL

### PARKING / FLEX ZONE

WIDTH - 7'-0" MINIMUM

PURPOSE - ON-STREET PARKING OR CURB EXTENSIONS

FURNISHINGS & AMENITIES - OUTDOOR DINING, VALET PICK-UP/ DROP-OFF

STREET TREES - TREE WELL

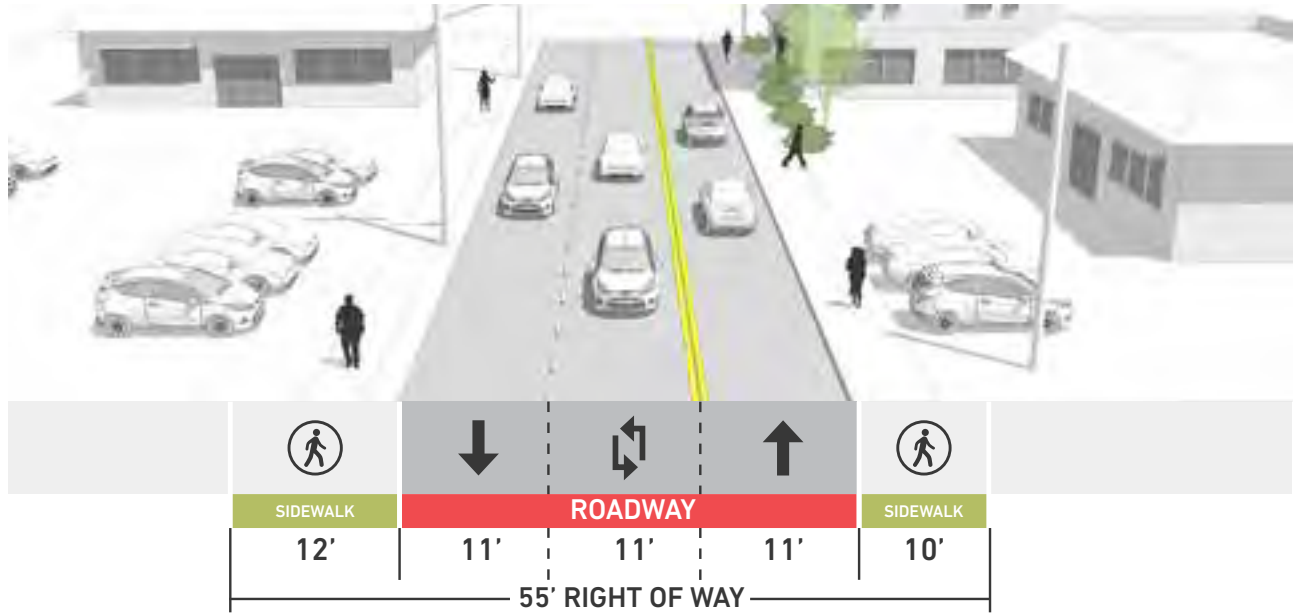


# WEST 3RD STREET OVERVIEW

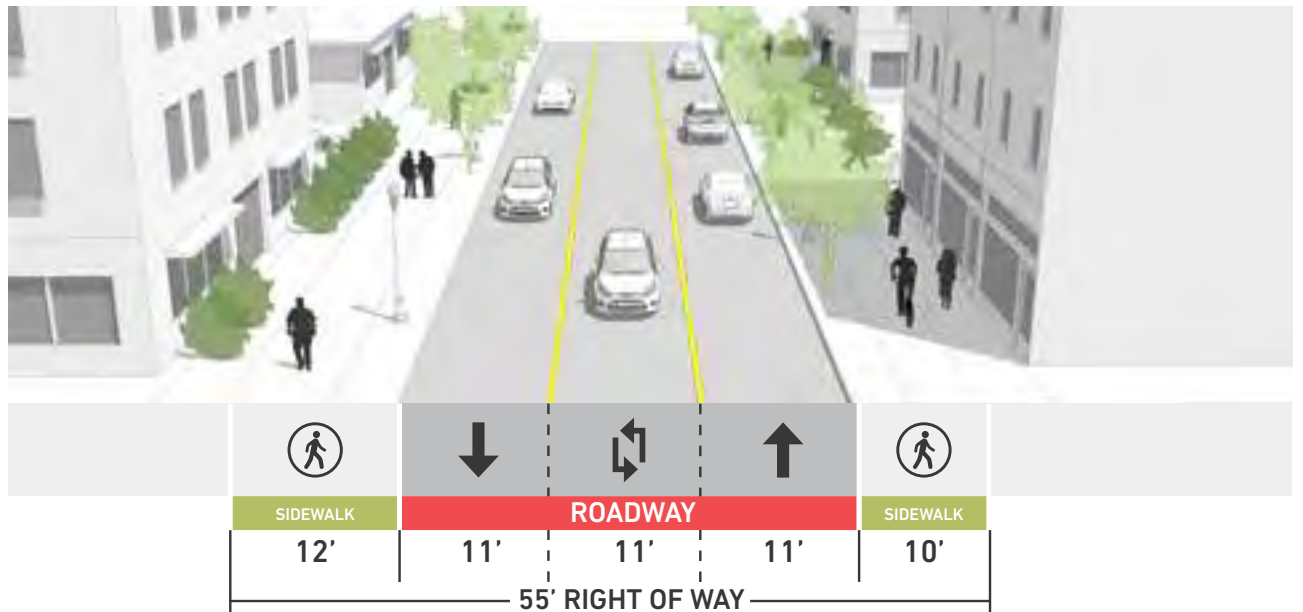
Future improvements to 3rd Street should follow the recommendations of the 2015 meet NKY plan. Future improvements should include parking area buffers, street trees and post-mounted street lighting in order to create a more pedestrian-focused, walkable environment between the City's Riverfront Hotels and Convention Center Area.

*Note: Lane configuration and sidewalk widths may vary slightly from the sections seen at right. These sections are meant to be typical.*

EXISTING SECTION

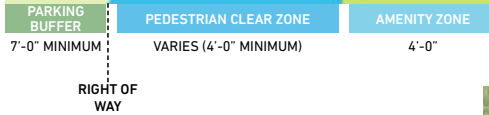
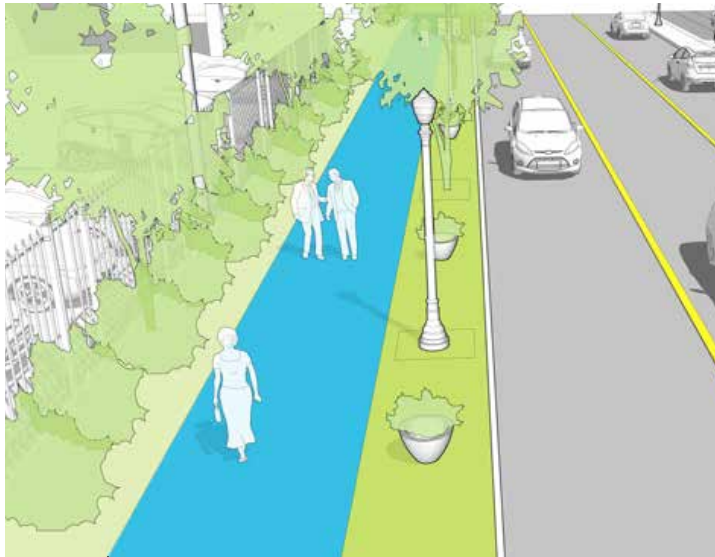


POTENTIAL SECTION



3RD STREET

## SIDEWALK STANDARDS



### PEDESTRIAN CLEAR ZONE

WIDTH - VARIES (4'-0" MINIMUM)  
 PURPOSE - BUILDING ENTRY, PRIMARY ACCESSIBLE PATHWAY

### AMENITY ZONE

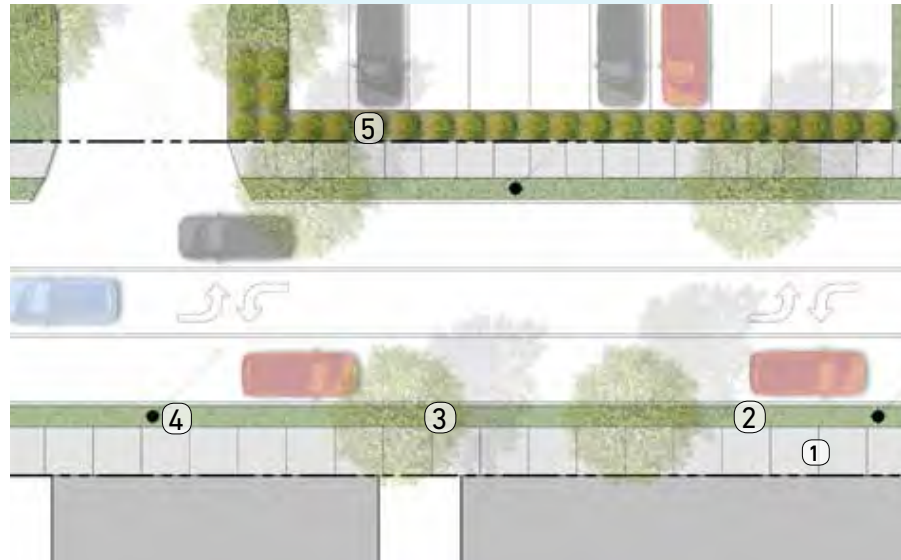
WIDTH - 4'-0"  
 PURPOSE - PLACEMENT OF STREETSCAPE ELEMENTS  
 FURNISHINGS & AMENITIES - LIGHT POLES, WAYFINDING & SIGNAGE  
 STREET TREES - TREE WELL

## TYPICAL PLAN

The proposed design standard establishes fixed dimensions for the parking area buffers and amenity zones which can provide consistency along the widely varying sidewalk widths moving east to west.

Landscaping and street tree planting standards should be established at sufficient density to mitigate the impacts of current parking and industrial properties and support the transition of the street's tenancing over time.

1. Concrete Sidewalk
2. Tree Lawn
3. Street Tree
4. Decorative Street Light
5. Landscape Buffer



## MATERIAL PALETTE

### Standard Street Elements:

For the following street elements and their use on West 3rd Street refer to the city standards:

- Concrete Sidewalk
- Trash / Recycling Receptacles
- Decorative Street Light
- Container Planters
- Wayfinding Elements



### 1. Low Density Streetscape

A more suburban style of development with a mixture of buildings and parking lots should provide a continuous tree lawn, pedestrian scale lighting and wayfinding elements.



### 2. Vehicular Use Area Buffer:

Parking lots and vehicular use area buffers should include evergreen and deciduous plantings that reduce the visual impact of parked cars and provides seasonal interest. See the city's vehicular use area perimeter landscaping, screening and fencing standards, 7'-0" minimum width.

# BICYCLE MOBILITY

Over the past decade the level of interest around bike mobility has shown significant growth and now represents a multitude of groups across the Northern Kentucky/ Greater Cincinnati region. Planned and ongoing efforts include Riverfront Commons across the six Northern Kentucky river city communities, the Licking River Greenway Trail, CROWN (Cincinnati Riding or Walking Network), RedBike and Ride the Cov to name a few.

Options for improvements to bicycle mobility in downtown Covington are limited by the widely varied right-of-way and street widths which exist throughout the study area street network. Recognizing that there is not an opportunity for the widening of streets, a combination of safe & proven design solutions will need to be employed to provide continuous and inter-connected bike routes.

The map at right identifies bicycle-compatible opportunities across the study area street network. Utilizing data from traffic counts, crash/ accident reports, existing lane configuration and right-of-way measurements, the highlighted routes outline the primary streets on which potential bicycle infrastructure could occur. Precedence was given to routes that connect the three major districts within the downtown study area as well as connections to potential destinations, adjacent communities and existing/ proposed trail networks.

It is important to recognize that the formal designation of bike lanes carries with it the understanding that the responsible agencies encourage and support the designation in promoting safe and accessible passage.

More work and discussion with City of Covington Staff and Kentucky Transportation Cabinet (KyTC) must be done during subsequent engineering phases to determine the most appropriate applications for downtown.





SHARROW LANES



DESIGNATED BIKE LANE



BUFFERED BIKE LANE



MULTI-PURPOSE TRAIL

Shared-use trails such as the Indianapolis Cultural Trail (above) are designed for pedestrians and cyclists alike and can drive economic activity along the corridor as they attract a diversity of users.

## POTENTIAL BIKE FACILITIES

### Sharrows Lanes

Sharrows are short-hand for “shared lane pavement markings” to indicate that motorists and cyclists share the same travel lane. Sharrows are accepted practices for higher volume streets where dedicated bike lanes cannot be used because of demands for on-street parking or the number of travel lanes. Based on analysis of Covington’s street network these could potentially be proposed on the following streets: Main, Madison, 6th, 8th, Russell, Washington, Bakewell, Johnson and Pike.

### One-way Bike Lanes

While One-way bike lanes are not currently in use in other parts of the city they may provide a viable means of creating a dedicated bike lane that could connect the northern and southern areas of the downtown core. Based on limitations of pavement width, right-of-way, and a current desire to maintain the existing number of travel lanes, Scott and Greenup are strong candidates for one-way, dedicated bike lanes.

### Designated Bike Lanes

This type of lane relies on roadway markings to demonstrate the space allocated for a bicyclist. A six-foot wide lane is most desirable, but three-feet is an acceptable minimum width. Designated lanes have been shown to increase cyclist comfort and serve as a visual cue to drivers to be on the lookout for cyclists.

### Sheltered (Buffered) Bike Lanes

In Sheltered lanes bicyclists are segregated from the vehicular carriageway by a median or other grade-separating device. The model has been used extensively in Europe where it has been successful at promoting bicycle commuting among novice cyclists. More space, typically eight feet, is needed to implement this type of lane, meaning significant changes would need to be planned and accommodated for if their use were to be considered in Covington.



# GOEBEL PARK COMPLEX OVERVIEW



## FEATURES & AMENITIES

- **Two Playgrounds**
  - **Goebel Park:** Two Large Structures (Separate Age 2-5 and Age 5-12), Swings (5 Belt, 1 Adaptive, 2 Toddler), Spring Rider, Seesaw
  - **Sergeant First Class Jason Bishop Memorial Park:** Small Play Structure (Age 2-5), Ladder Climber
- **Basketball Courts (2)**
- **Picnic Shelters**
- **Gazebo**
- **Swimming Pool**
- **Walking Path (Paved) - 0.8 Miles**
- **Carroll Chimes Clock Tower**
- **Goebel Goats**  
(Used for Ground Maintenance)
- **Pollinator Garden**
- **Storage Building**
- **Grill**
- **Monuments and Dedication Plaques**
- **Open Space**
- **Benches**
- **Picnic Tables**
- **Bike Racks**
- **Portable Toilets**
- **Trash Receptacles**  
(Some Decorative)
- **Parking Lots**



## PARK ISSUES IDENTIFIED THROUGH SITE ASSESSMENTS AND PUBLIC INPUT

## PARK IMPROVEMENT RECOMMENDATIONS

Lack of park and wayfinding signage

Provide wayfinding and trailhead signage at multiple locations to assist visitors in location features; Develop interpretive signage throughout the site (will require a signage plan)

Limited accessibility (ADA) & Lack of walkways; Paved access to park amenities is needed; Missing railings on stairs throughout complex

Add paved access to facilities, including ADA walkways/ramps and stairs

Age and condition of playground equipment, limited play value and not accessible at Sergeant First Class Jason Bishop Memorial Park

Replace playground at SFC Jason Bishop Memorial/Kenny Shields side and include age 2-5 and 5-12 equipment; Improve Clock Tower to make it functional again

Condition of shelters and nearby asphalt slab at Kenny Shields Park - potentially unsafe; Graffiti along wall

Demolish and replace the shelter on the Kenny Shields side in a more visible location; Repave all parking lots and pave the gravel lots (Kenny Shields); Renovate existing shelters near the main playground and add a restroom to promote increased park use for planned events, extended visits

Condition of basketball courts at Kenny Shields Park

Renovate or replace basketball courts (Kenny Shields)

Obsolete and deteriorating swimming pool; limited or deteriorating recreational options

Consider a sprayground as a long-term replacement of the pool if it becomes unsustainable to operate; Improve existing park trail; Add outdoor fitness equipment; Seek a location for pickleball courts to meet the growing need for these facilities, especially for those age 50+; Develop a neighborhood feature based on the preferences of the nearby residents as determined through neighborhood outreach; Add a food truck pad and support infrastructure for program concessions and revenue; Consider adding permanent outdoor games (Foosball, Ping Pong, Corn Hole) in a central gathering area near seating and the future food truck pad

Condition of drinking fountain

Add support amenities including drinking fountains with bottle fillers, Wi-Fi hotspots, trees, landscaping, site furnishings, and entrance signage (multiple locations)

Strong desire for a dog park and a disc golf course

Develop a dog park to meet the strong demand for this type of facility in this portion of the city; Add a disc golf course throughout the site, utilizing underutilized areas while avoiding conflict with the other users

Requests for improved security

Add site/security lighting and cameras

# DESIGN OVERVIEW

Sampled Cross-Section Illustrations

# IMPACTED STREET CORRIDORS

3rd, 4th, 5th, 9th, Pike, 12th,  
Jullians, Bullock

# CURRENT DESIGN, DISTURB LIMITS AND IMPACTS

# TREE CANOPY IMPACTS

COVINGTON STREETScape &  
PUBLIC REALM DESIGN GUIDELINES

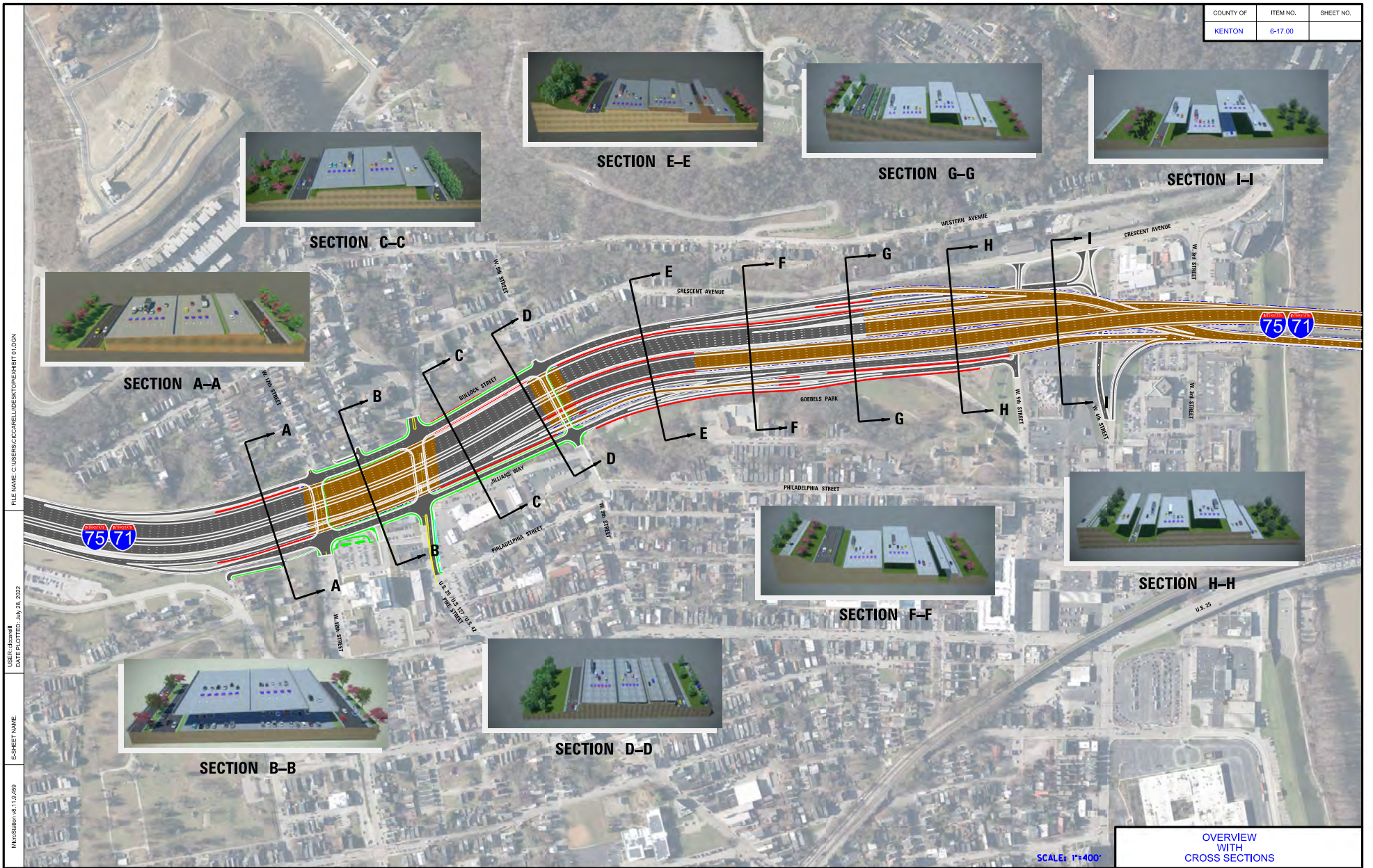
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BRENT SPENCE  
BRIDGE CORRIDOR



# OVERVIEW WITH CROSS SECTIONS

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KENTON	6-17.00	



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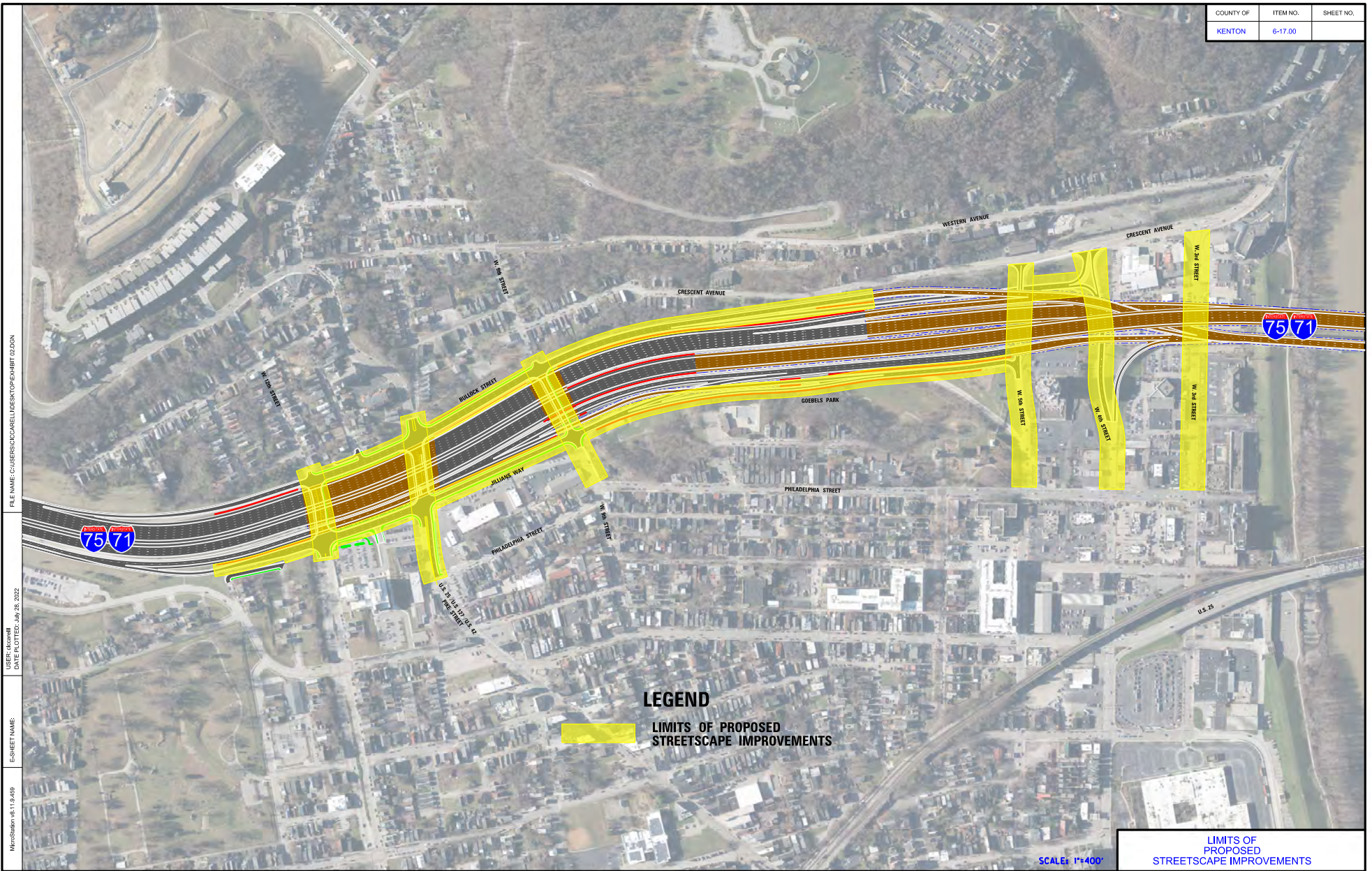
USER: ccarrell  
DATE PLOTTED: July 26, 2025

CSHEET NAME:

MicroStation v8.11.9.609

# LIMITS OF PROPOSED STREETScape IMPROVEMENTS

COUNTY OF	ITEM NO.	SHEET NO.
KENTON	6-17.00	



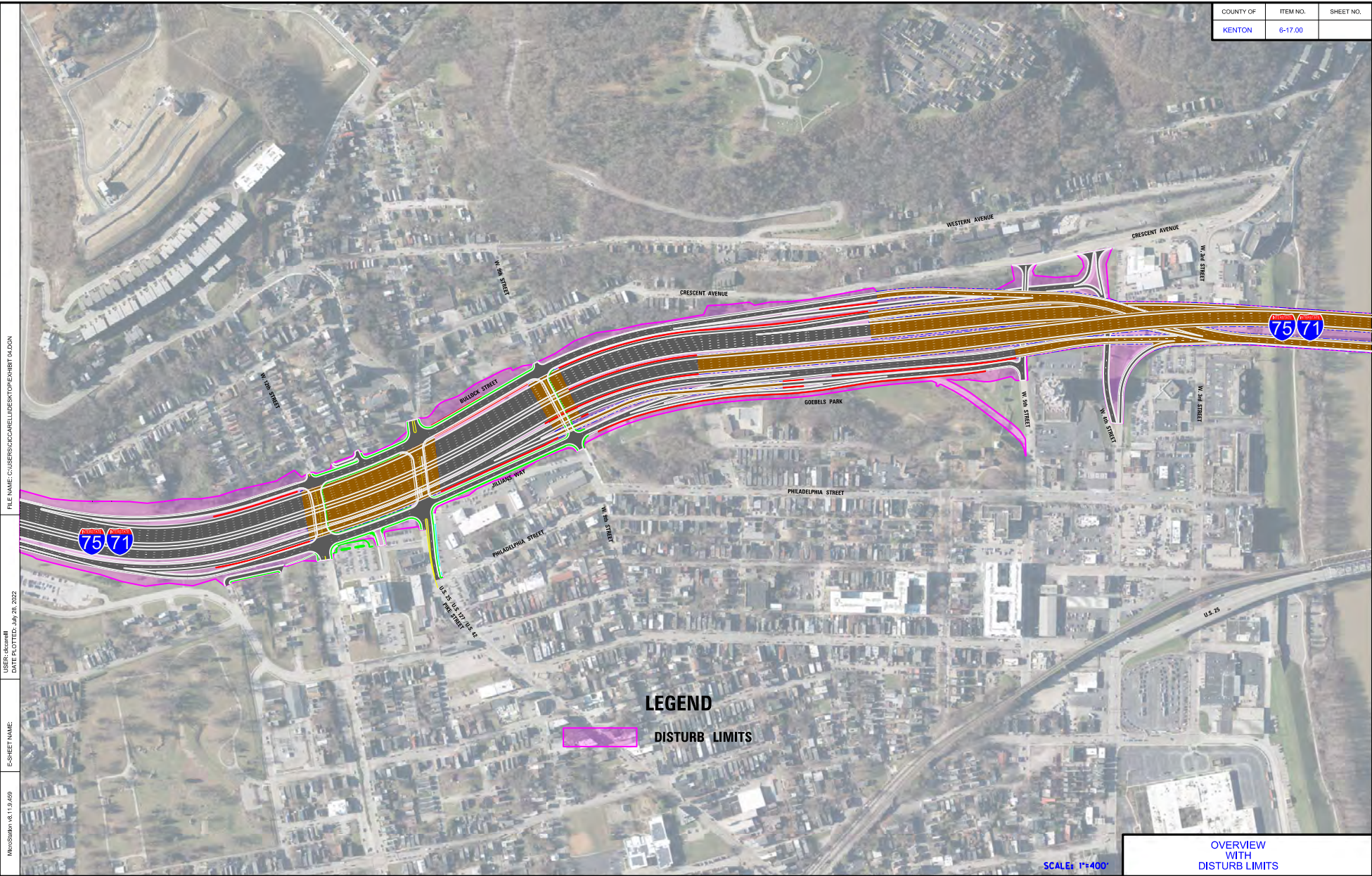
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USER: C:\USERS\CICARELLE  
DATE PLOTTED: JULY 28, 2022

E-SHEET NAME:

MicroStation v8.11.9.459

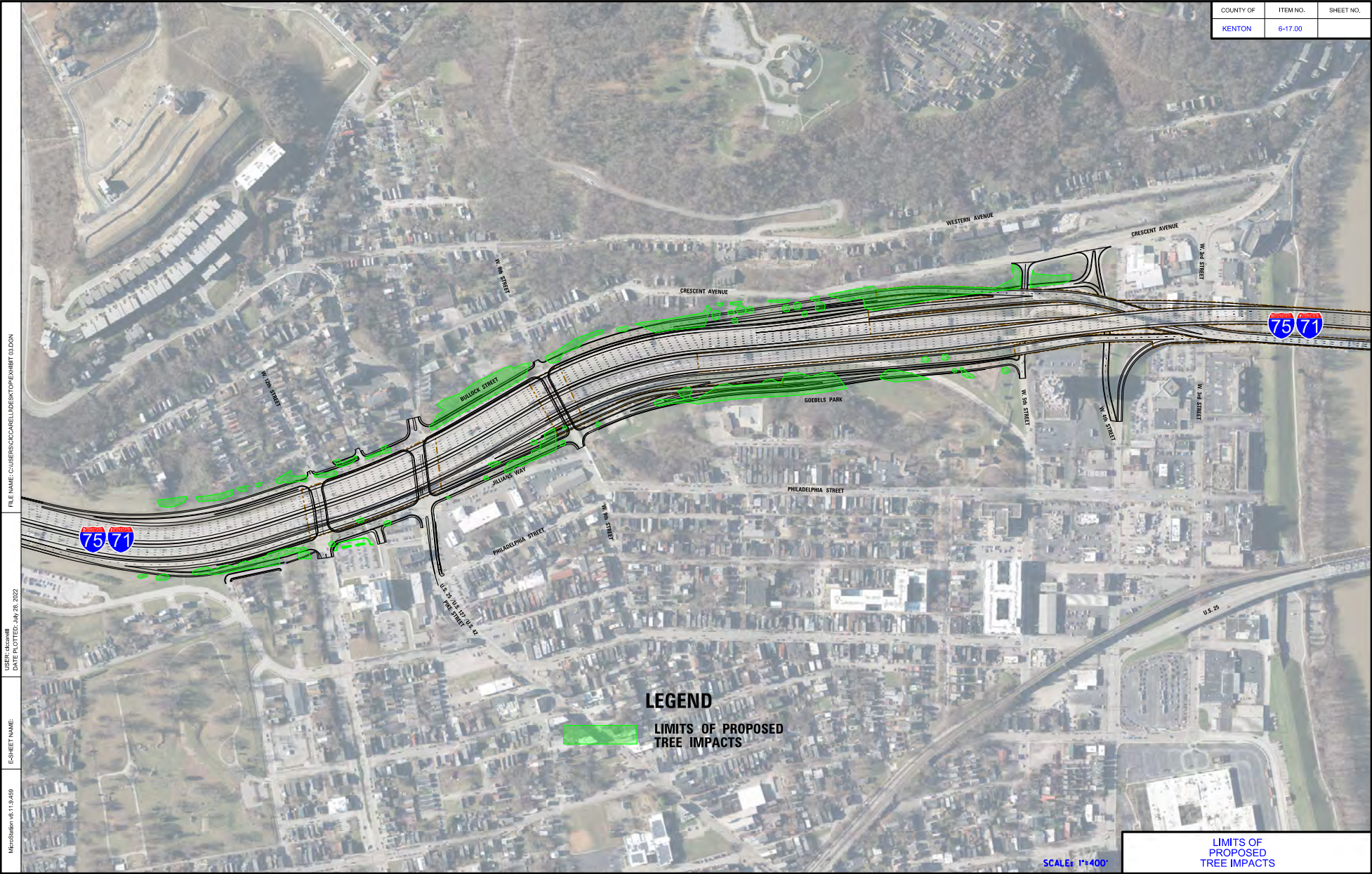
# OVERVIEW WITH DISTURB LIMITS



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 E-SHEET NAME:  
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# LIMITS OF PROPOSED TREE IMPACTS

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KENTON	6-17.00	



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 DATE PLOTTED: JULY 28, 2022  
 E-SHEET NAME:  
 MicroStation v8.11.9.459

# EXISTING AND PROPOSED CORRIDOR DIMENSIONS

# UNDERPASS CONDITIONS AND PREFERENCES

# PREFERRED DESIGN PARAMETERS

COVINGTON STREETScape &  
PUBLIC REALM DESIGN GUIDELINES

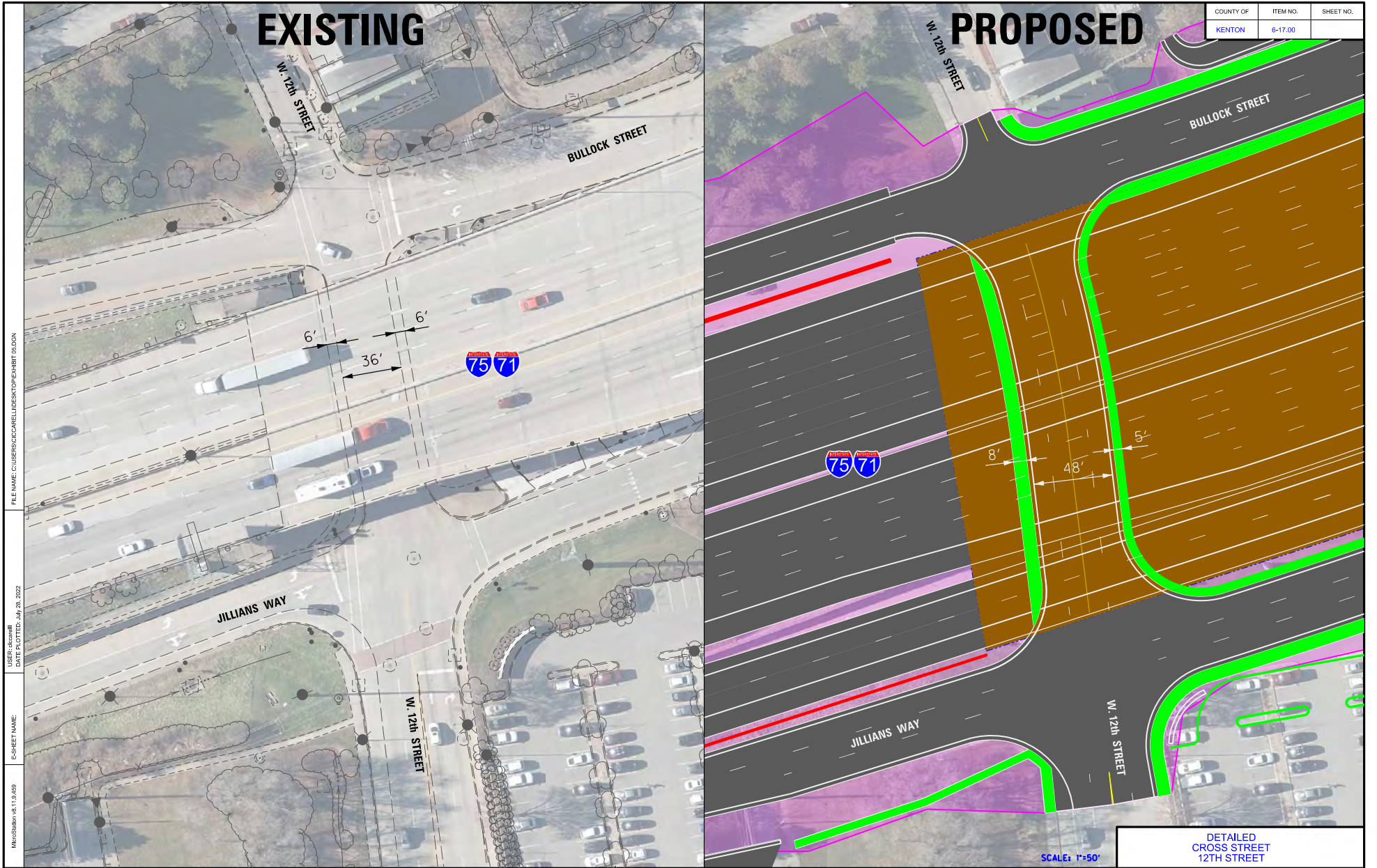
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BRENT SPENCE  
BRIDGE CORRIDOR

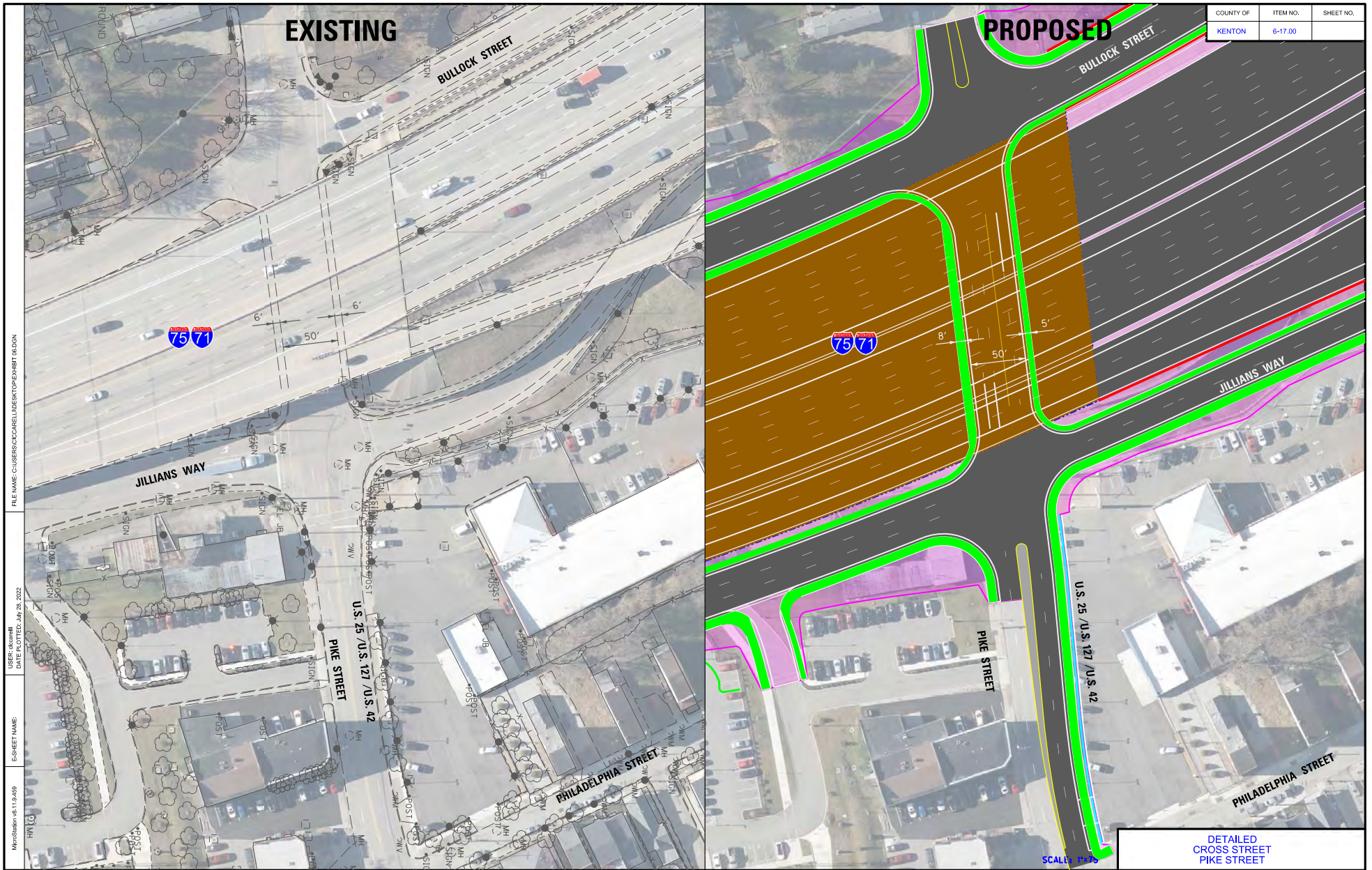




# 12TH STREET



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 MicroStation v8i,11.9.409

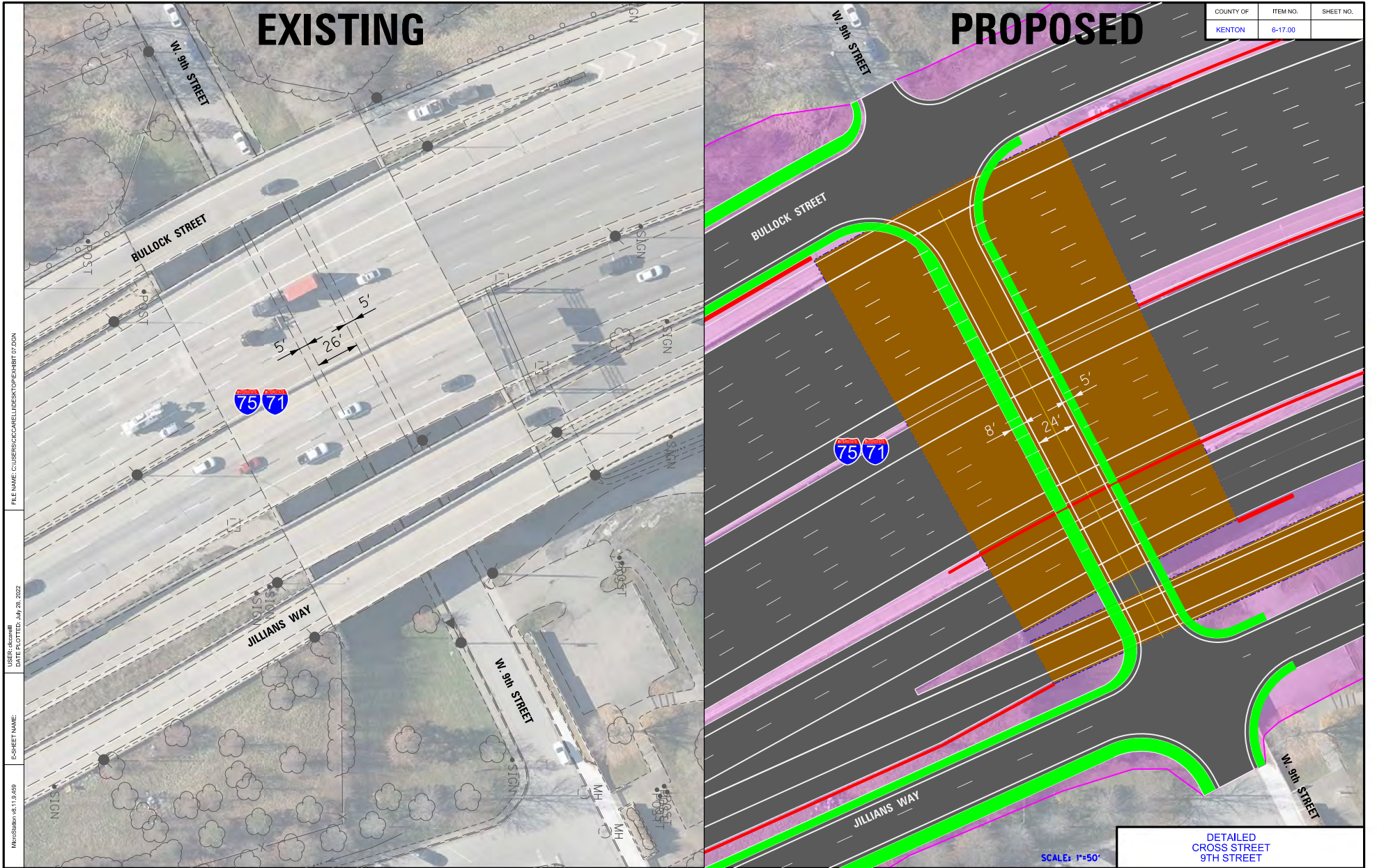


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KENTON	6-17.00	

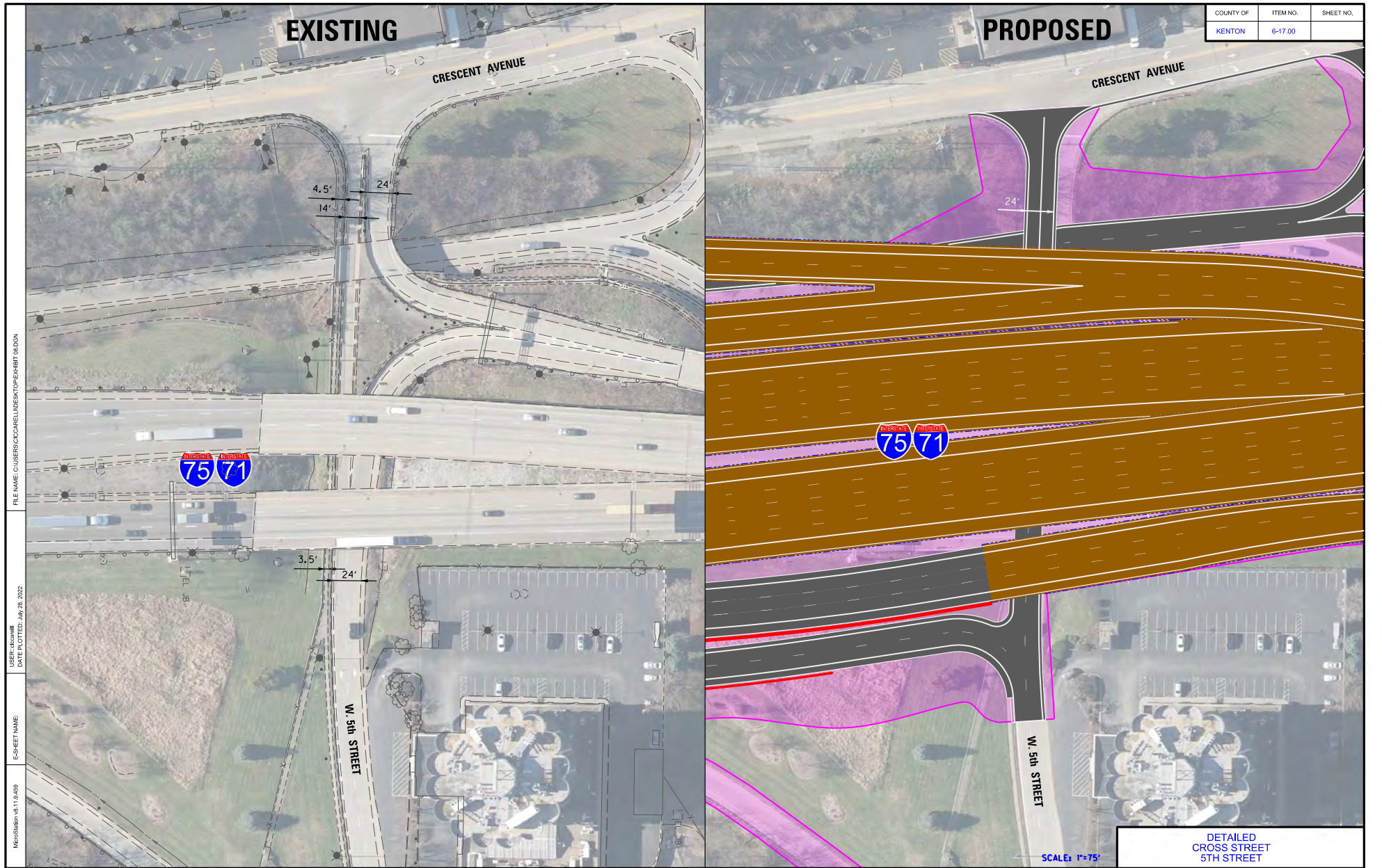
MicroStation v8i11.9.459 | E-SHEET NAME: | USER: JACOB W. HARRIS | DATE PLOTTED: JULY 28, 2022 | FILE NAME: C:\USERS\JACOBW\DESIGN\TOP\PIKEHBIT.MXD

DETAILED  
 CROSS STREET  
 PIKE STREET

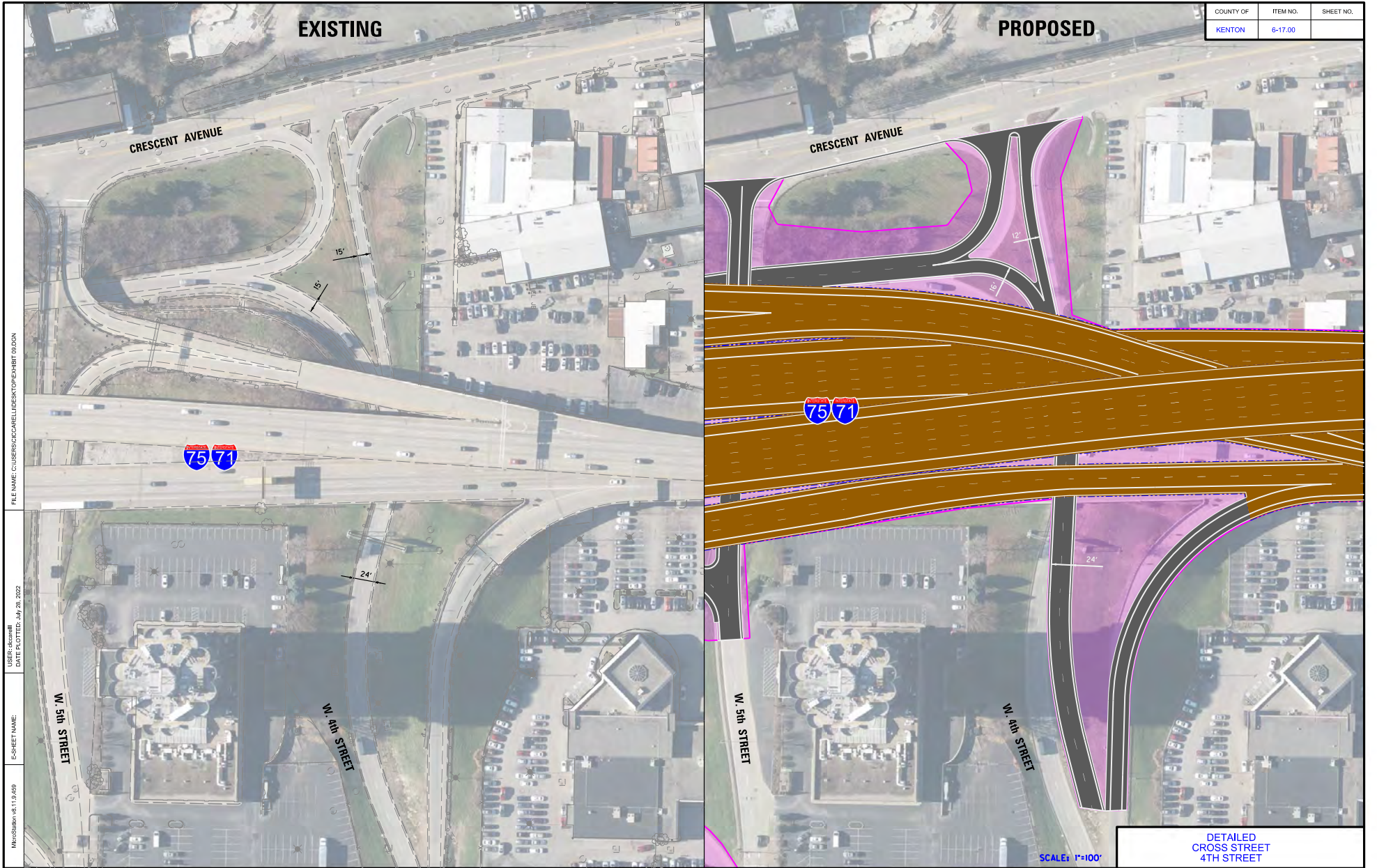
SCALE: 1" = 20'



MicroStation v8.11.9.609  
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 DATE PLOTTED: July 26, 2025  
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# 4TH STREET



COUNTY OF	ITEM NO.	SHEET NO.
KENTON	6-17.00	



DETAILED  
CROSS STREET  
3RD STREET

SCALE: 1"=100'

MICROSOFT VISIO 2010  
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 USER: JACOB W. BENTLEY  
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# COVINGTON STREETScape & PUBLIC REALM DESIGN GUIDELINES

NEXT MEETING  
DAY, DATE

PREFERRED AREAS OF FOCUS

HERE •

HERE •



BRENT SPENCE  
BRIDGE CORRIDOR



---

**From:** rrecord@rrecord.com <[rrecord@rrecord.com](mailto:rrecord@rrecord.com)>  
**Sent:** Monday, August 22, 2022 9:49 AM  
**To:** Valentine, Gary (KYTC) <[gvalentine@ky.gov](mailto:gvalentine@ky.gov)>  
**Cc:** Hans, Stacey D (KYTC-D06) <[Stacey.hans@ky.gov](mailto:Stacey.hans@ky.gov)>; Joseph Meyer <[jumeyer@covingtonky.gov](mailto:jumeyer@covingtonky.gov)>  
**Subject:** some follow up from aesthetics committee Covington, and pavement 411 - BSB Corridor Project

---

**\*\*CAUTION\*\* PDF attachments may contain links to malicious sites. Please contact the COT Service Desk [ServiceCorrespondence@ky.gov](mailto:ServiceCorrespondence@ky.gov) for any assistance.**

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Gary,

Attached are some rough notes from a group download session 8/17, as promised in follow up to the August 10 meeting at KYTC. This will give your team some guidance on how the four committee members are thinking.

I should add that one member has since expressed, in addition to the attached, concern for number of lanes and understanding why so many are needed, in particular on C-D/parallel local road elements (*...we need to get a solid idea of what is being proposed for the 'connector roads' and how they will impact the two sides of the interstates* [meaning number of lanes and overall project footprint/width]...[and] *the enormity of the intersections*). Just passing this along...

Gary, I heard you mention last meeting that you had asked UK to dig a little on possible pavement design for various mitigation areas, and that is great! Couple years ago, I sat in on a TRB webinar (slides attached FYI) on OGFC function and benefit in high-speed systems. A key slide for the BSB corridor is #20. Among the presenters, afterward I talked with the Austin guys (Hazlett and Barrett) and I know Scott Taylor well from various TRB committees. From an initial emphasis on WQ and water volume dispersion, more work has been done on noise (and now safety) benefits, and somewhere along the line I reviewed a couple research papers on that. All these benefits are quantifiable, within ranges, as performance outcomes. I do have somewhere a collection of articles/papers on PFC/OGFC and will pass them along if I can locate. Also, last time I heard I believe TnDOT was heading toward essentially 100% PFC/OGFC for uniform high-speed systems, for safety and environmental (noise, water) benefits.

Thanks,

Rick R.



Coordination session Covington Aesthetics Committee Members  
Wednesday August 17, 2022  
Farny Room – City of Covington

The group met for a brief period to collect thoughts and reactions from the August 10 meeting at KYTC D6. The idea for today is to compile some consolidated direction that can be provided back to KYTC to keep their work on target and with best use of effort.

Broad reactions/thoughts on overall from August 10:

- The KYTC team had a good command of what the project involves from their view.
- Pool/park area issues were surprising.
- Not clear on how much flexibility there is, how changeable.
- Height/scale issues not clear so far.
- Good information but had more questions going away than coming in.
- Not clear on how local/surface streets ideas would actually work.
- The 3D model they are working on should help.
- No information on emergency response issues or changes.
- How parallel roadways to local streets would actually work.

A little deeper dive into 3 categories for things heard/presented August 10 (flip chart sheets):

1. What works (or might?)
2. What does not work?
3. What information needs, questions, ideas?

Group worked through various concepts and parts of project covered August 10 (but not everything came up or was discussed; things that 'stood out' were emphasis for today). Slide deck provided by KYTC from Aug 10 was put up on screen where needed to look at or discuss an item, as well as 'project preliminary exhibits' (7 pages total) showing general configuration relative to community, including though-lanes, local lanes/C-D, and service roads, and access points; KYTC will be sending along requested detailed preliminary plans shown August 10 soon.

What works (or might?)

1. *9<sup>th</sup>-12<sup>th</sup> bridge rework [existing pier pattern]*
2. *Land back to parks [at 5<sup>th</sup> Street ramp removal]*
3. *Surface street improvements [extending away from project east and west]*
4. *Multi-modal trails on C/D [roads]*
5. *Opportunities "under" [reuse/better use of land under freeway]*

What does not work?

1. *Park and pool [outcome]*
2. *Height and scale*
3. *"Long" underpasses*

What information needs, questions, ideas?

1. *EMS/response*
2. *3D picture*
3. *Vibration/noise [especially historic districts/structures; remedy question]*
4. *Do we need 9<sup>th</sup> to 5<sup>th</sup> connection [park issues]*
5. *Do we connect at 9<sup>th</sup> at all? [traffic distribution and impacts]*
6. *Clarify access at 5<sup>th</sup> southbound [proposed]*
7. *Next meeting date?*

## Open Graded Pavements: A Primer with Emphasis on Water Quality Benefits

Thursday, September 19, 2019  
2:00-3:30 PM ET

The Transportation Research Board has met the standards and requirements of the Registered Continuing Education Providers Program. Credit earned on completion of this program will be reported to RCEP. A certificate of completion will be issued to participants that have registered and attended the entire session. As such, it does not include content that may be deemed or construed to be an approval or endorsement by RCEP.



### Purpose

To describe open graded pavement designs for highways.

### Learning Objectives

At the end of this webinar, you will be able to:

- Describe PFC mix design and function
- Identify water quality benefits of PFC by pollutant of concern
- Apply PFC for water quality at a transportation agency

## Open Graded Pavements: A Primer with Emphasis on Water Quality Benefits

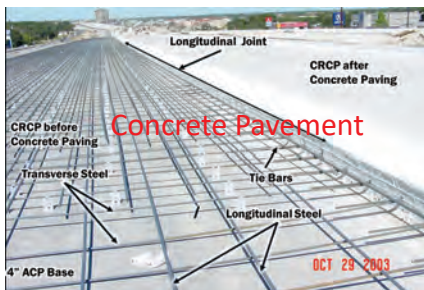
Darren Hazlett, P.E.  
University of Texas at Austin  
Center for Transportation Research

## Permeable Friction Course – Open Graded Friction Course

- Types of Pavement
- PFC
  - Properties
  - Drawbacks
  - Benefits
  - Specifications to insure desired performance
  - PFC in action

## Types of Pavement/Surfaces

- Concrete
- Hot Mix Asphalt
- Seal Coat



## Types of Hot Mix Asphalt Pavement

- Dense Graded
- Open Graded

They have different aggregate gradations.

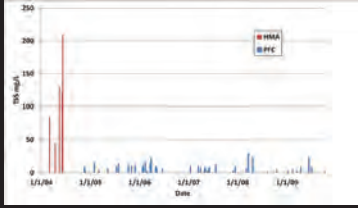


## Historical

- Called **Plant Mix Seal**.
- In Texas, originated in **mid to late 1980s**.
- The first specifications in the 1990s used:
  - conventional asphalt binders (**no polymers, no lime, no fibers, no asphalt-rubber**), and
  - no tests for **durability or drain-down**.
- The binder drained down and the top of the mix, with little asphalt remaining, raveled off. **Performance was bad**.
- In the 2000's additives and performance tests were introduced which greatly improved performance of these mixtures.



### TSS Temporal Trend

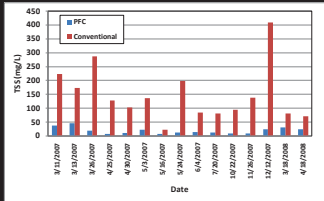


### Water Quality at TX1

Constituent	Conventional Asphalt	PFC	Reduction %	p-value
TSS	118	8.8	92	0.016
Total P	0.13	0.07	48	0.047
Total Copper	27	13	50	0.010
D. Copper	6	10	-77	0.045
Total Lead	13	1	91	0.025
Total Zinc	167	29	83	0.002
Dissolved Zinc	47	22	53	0.139



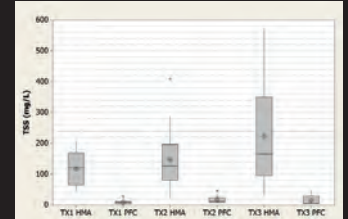
### Paired Samples – TX2



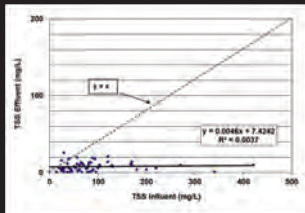
### Water Quality at TX2

Constituent	Conventional Asphalt	PFC	Reduction %	p-value
TSS	148	18	88	<0.000
Total P	0.15	0.05	63	0.006
Total Copper	90	13	57	<0.000
D. Copper	6.3	9.0	-44	0.015
Total Lead	11	1.3	88	<0.000
Total Zinc	130	21	84	<0.000
Dissolved Zinc	18	11	40	0.043

### Original Texas Sites



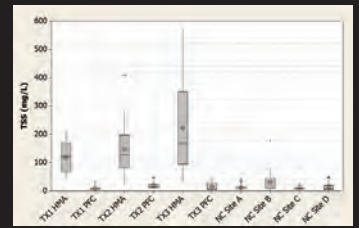
### Sand Filter Performance



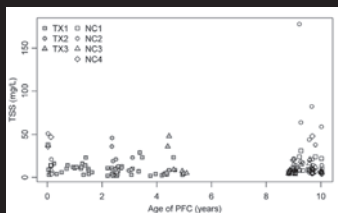
### European Studies

Study	TSS Conventional	TSS PFC
Berbee et al. (median)	194	17
Pagotto et al. (wgt mean)	68	13
Pagotto et al. (subset)	46	8.7

### Texas & North Carolina



### Water Quality Persistence



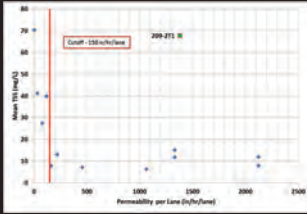
### Caltrans Study Objectives

- Identify 10 locations where there were paired installations of conventional asphalt and a thin lift overlay
- Evaluate the performance of:
  - Open graded friction course (OGFC)
  - Rubberized hot mix asphalt – gap graded (RHMA-G)
  - Rubberized hot mix asphalt – open graded (RHMA-O)

### Caltrans Paired Sites



### Maintenance Indicator



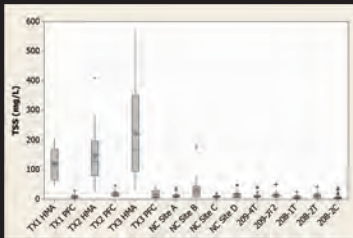
### The Problematic Site (209-2T1)



### OGFC Failure



### TX NC CA Comparison



### Sand Filter Comparison

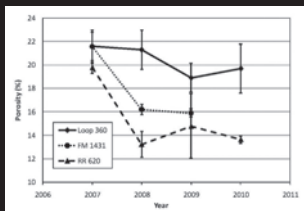
Constituent	OGFC	Sand Filter	Test	p-value
TSS (mg/L)	8	6.2	2-Sample t	0.202
Total P (mg/L)	0.07	0.165	2-Sample t	< 0.001
Total N (mg/L)	1.0	1.37	2-Sample t	< 0.001
Total Cu (µg/L)	7.1	8.5	2-Sample t	0.02
Dissolved Cu (µg/L)	4.4	6.9	2-Sample t	< 0.001
Total Zn (µg/L)	16.5	31	2-Sample t	0.075
Dissolved Zn (µg/L)	7.9	21	2-Sample t	0.001

Concentrations reported are medians

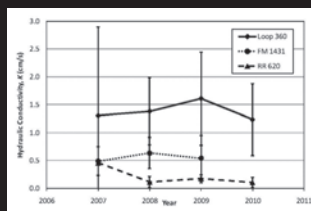
A-R PFC on CRCP  
IH 35 San Antonio, Fall 2002



### Porosity Testing



### Permeability Testing



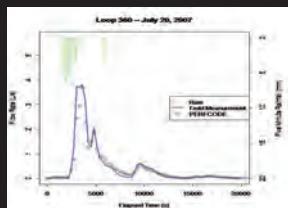
### Darcy's Law

$$Q = KA \frac{dH}{dL} \quad q = K \frac{dH}{dL} \quad v = \frac{q}{n} = \frac{K}{n} \frac{dH}{dL}$$

Where:

- Q = Discharge
- K = Hydraulic Conductivity
- A = Cross-sectional Area
- q = Darcy Flux
- v = Water Velocity
- n = Porosity

### Model Calibration



### Darcy's Law

$$Q = KA \frac{dH}{dL} \quad q = K \frac{dH}{dL} \quad v = \frac{q}{n} = \frac{K}{n} \frac{dH}{dL}$$

$$n = 0.15, K = 1.0 \text{ cm/s}, dH/dL = 0.02$$

$$v = \frac{1.0}{0.15} \times 0.02 = 0.13 \text{ cm/s} = 16 \text{ ft/hr}$$

### PFC/OGFC Summary

- Runoff from PFC/OGFC is much cleaner than that from conventional pavement and comparable to the discharge from other approved BMPs
- Will treat at least 450 inches of rain without maintenance
- Provides treatment at all rainfall intensities
- Ideal method to retrofit existing highways for water quality

Questions?

### Pavement Mix Design

Sieve Size	1 inch		3/4 inch		NCDOT PS 78M	NCDOT P 17	NCDOT P 17	NCDOT FC L/No. of	NCDOT FC-2
	Max Limits Proposed Gradation	Min Limits Proposed Gradation	Max Limits of Proposed Gradation	Min Limits of Proposed Gradation					
1.5"	100	100	100	100	100	100	100	100	100
1"	95-100	95-100	100	100	100	100	100	100	100
3/4"	85-96	85-96	100	100	100	100	100	100	100
3/8"	55-71	55-71	80-100	80-100	80-100	80-100	80-100	80-100	80-100
20/40	25-35	25-35	25-40	25-40	25-40	25-40	25-40	25-40	25-40
No. 40	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25	15-25
No. 60	5-15	5-15	5-15	5-15	5-15	5-15	5-15	5-15	5-15
No. 100	0-10	0-10	0-10	0-10	0-10	0-10	0-10	0-10	0-10
No. 200	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5	0-5

### Pavement Mix Design

Sieve Sizes	Caltrans 1/2 inch Max	NCDOT PADC P 78M	TxDOT A-R Mix
1.5"			
1"			
3/4"	100	100	100
3/8"	95-100	95-100	95-100
20/40	78-89	75-100	50-80
No. 40	28-37	20-45	0-8
No. 60	7-15	3-15	0-4
No. 100	0-10	-	-
No. 200	0-3	1-3	0-4

### Today's Participants

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### Get Involved with TRB

- Getting involved is free!
- Join a Standing Committee (<http://bit.ly/2jYRrF6>)
- Become a Friend of a Committee (<http://bit.ly/TRBcommittees>)
  - Networking opportunities
  - May provide a path to become a Standing Committee member
- **Sponsoring Committees: AFB65, AFK20**
- For more information: [www.mytrb.org](http://www.mytrb.org)
  - Create your account
  - Update your profile

This is a Highway Specific BMP

- Raveling
  - Sharp cornering
  - Rapid acceleration/braking
- Clogging
  - Occurs very rapidly on urban streets
  - Prevented by high speed traffic
- Use Limited to Highways with Speed Limits not less than 50 mph

TRB turns 100 on November 11, 2020



#### Help TRB:

- Promote the value of transportation research;
- Recognize, honor, and celebrate the TRB community; and
- Highlight 100 years of accomplishments.

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MOVING IDEAS: ADVANCING SOCIETY—100 YEARS OF TRANSPORTATION RESEARCH

**Brent Spence Bridge Corridor Project  
Aesthetic Committee Meeting  
Summary Month Day, 2022**

**Under Development**