



CITY OF IOWA CITY MEMORANDUM

DATE: July 10, 2014

TO: Tom Markus, City Manager

FROM: Rick Fosse, Public Works Director *RAF*

RE: **Iowa City Gateway Project**
July 15, 2014 Work Session

On July 15, 2014, staff and the Iowa City Gateway design team will return to speak at the City Council work session. We will be there to discuss plan updates since our last meeting in April as well as to seek input on landscaping and corridor aesthetic concepts.

In the past few months, HNTB has worked to establish the horizontal alignment based on the new design elements and they are currently beginning to review and revise grading in addition to looking at the utility layout. Additional topographic survey work and a more comprehensive tree survey with species identification will be completed within the corridor in July or August. When this information is combined with the revised grading limits, staff will be able to provide more detailed information to property owners adjacent to the project and identify areas of concern that can be focused on during the final design phase.

Based on notes from the April 1st meeting, the following aesthetic and landscaping elements will be discussed at the July 15th Gateway Project work session.

- Trail Connections and Railing Concepts
- Retaining wall appearance
- Potential bridge bump-outs and seating locations
- Street & Bridge Lighting
- Plantings
- Potential bio-swales and median drainage

Options for aesthetic ties between the bridge and Hancher Auditorium will be discussed further at a coordination meeting with the Hancher Design team scheduled for Wednesday, July 16.

Lastly, our consultant explored preliminary design details of a River Walk, or lower trail option to potentially be located at the bottom of the retaining wall. This trail would benefit from a split grade crossing at the Dubuque Street and Park Road intersection and potentially in the future, could link to a trail on the east side of the river extending to the Hancher Pedestrian Bridge.

The following questions were noted at the last work session. Staff's responses are as noted below:

- Where is the best location for the 25 mph transition north of Mayflower?

The design team recommends that this transition be located between the Taft Speedway and the Ridge Road/Terrell Mill Park Intersection, before reaching the Cliff Apartments and Mayflower.

- How tall is the proposed retaining wall near 1818 N. Dubuque Street?

Additional work has been done to realign Dubuque Street and move it away from this property. A retaining wall is no longer necessary in this location.

- Should the east sidewalk be extended from the Cliff Apartments to Foster Road? If not, should the grading be completed to accommodate it in the future? What effect does this sidewalk have on the property at 1818 N. Dubuque Street? Is there a cost analysis for doing it now v. in the future (20 years)?

With the realignment of Dubuque Street since the April meeting, the roadway has been pushed an additional 10' to 30' west, away from existing properties and the sidewalk could be located within existing R.O.W. Since the last meeting, staff has regularly observed pedestrians walking in this location on the east side of the roadway or in the median. If it is decided that this section of sidewalk will not be constructed at this time, it will be easier to complete the grading work for a future sidewalk due to the revised alignment. The cost of adding the sidewalk to the project now would be approximately \$18,000.00. Ten years from now, the estimated cost would be \$52,000.00 minimum, including contractor mobilization, clearing & grubbing, labor, materials and re-landscaping of the area.

- Can the Iowa River Trail on the west side of Dubuque Street meander through Terrell Mill Park as it currently does or should it follow along the road?

The Iowa River Trail can meander and follow the same alignment that it currently does through Terrell Mill Park. Although, it would be close to the same elevation that it is currently at, below the 100+1 flood elevation. This creates a situation during River flooding when Dubuque Street would be open, but pedestrians and bicycles would need to use the east sidewalk because the lower trail is flooded.

- Without a signalized pedestrian crosswalk in front of Mayflower, what other design elements can be introduced to improve the crosswalk and make it more visible to vehicles?

We are looking at the following safety measures to use at the cross-walk of Mayflower:

- *Using curb & gutter to better define the cross-walk, create an "island" effect.*
- *Angle the walk in the median so that pedestrians will slightly face oncoming traffic rather than being perpendicular to the roadway.*
- *High visibility signage and reflective paint.*
- *Improved pedestrian lighting at the cross-walk and in the median.*

- *Locating the cross-walk behind the bus pull off to create improved visibility for pedestrians and drivers.*

During final design, HNTB will investigate these measures further in addition to others that are appropriate for this situation.

- Is there a plan to have green space / plantings between the river bank and the bottom of the proposed retaining wall south of Terrell Mill Park?

This area will be rip-rapped in order to provide armament for the retaining wall. This area will be maintained to prevent the growth of larger plants and trees that would harm the rip-rap and that would potentially block the view of the river from Dubuque Street. Low level vegetation will fill in over time. During final design, additional erosion control consideration will be given to this area.

- What are the Kimball Road impacts?

Kimball Road details will be determined as we move into final engineering. At this time, the horizontal centerline alignment of Kimball Road will be maintained, but we have not yet determined if the existing drainage ditch will remain open as it currently is or placed in a culvert. The design team will begin looking at final grading and drainage in this area shortly. Once final grades have been established and the tree survey complete, we will refine the design and seek input from the neighboring property owners.

- More detail is needed south of Park Road to the end of the project. What are the impacts to the first property on the west side and its driveway? What does the east sidewalk between Brown Street and Park Road look like and how tall is the retaining wall that is required?

A cross-section of this area has been provided and is attached. The first property on the west side, south of Park Road will require re-grading of its parking lot and driveway. Our goal is to improve on the slopes that currently exist. On the east side of the street a retaining wall will be installed to allow for the sidewalk connection to be made. The proposed wall will vary from 2' to 5' tall. The look is anticipated to be similar to the existing retaining walls located at the north end of the corridor at Foster Road.

- Are pocket parks possible throughout the corridor and more specifically at the bottom of the Bella Vista bluff?

Pocket parks would be possible, but will have impacts on existing trees as well as property acquisition, and construction and maintenance costs.

- Is a promenade or other pedestrian friendly area possible along Dubuque Street? Can similar areas or bump outs be provided on Park Road Bridge?

HNTB has been investigating the possibility of introducing a River Walk at the bottom of the retaining wall between Terrell Mill Park and Park Road as mentioned previously. Further discussion of this can be found in the attached "Alignment Options for Iowa River Trail Along Dubuque Street". Staff will be prepared to discuss these options and provide a recommendation at the Work Session.

- Can the west side trail be placed at the bottom of the wall, or at a lower, river walk elevation? Should a separate walk be provided at a lower elevation in

addition to the trail? Is a split-grade crossing possible on the east abutment of the bridge?

See above response.

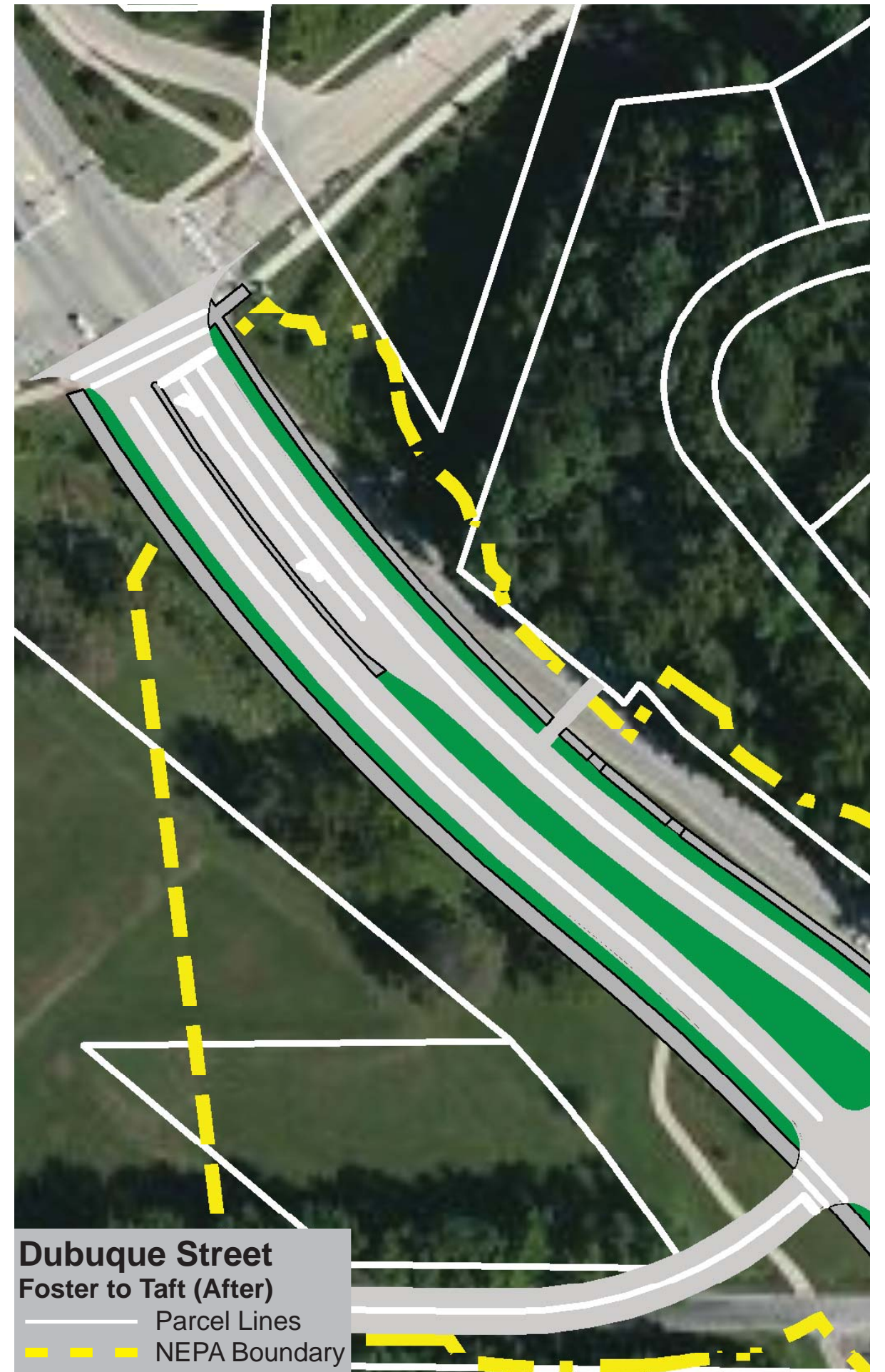
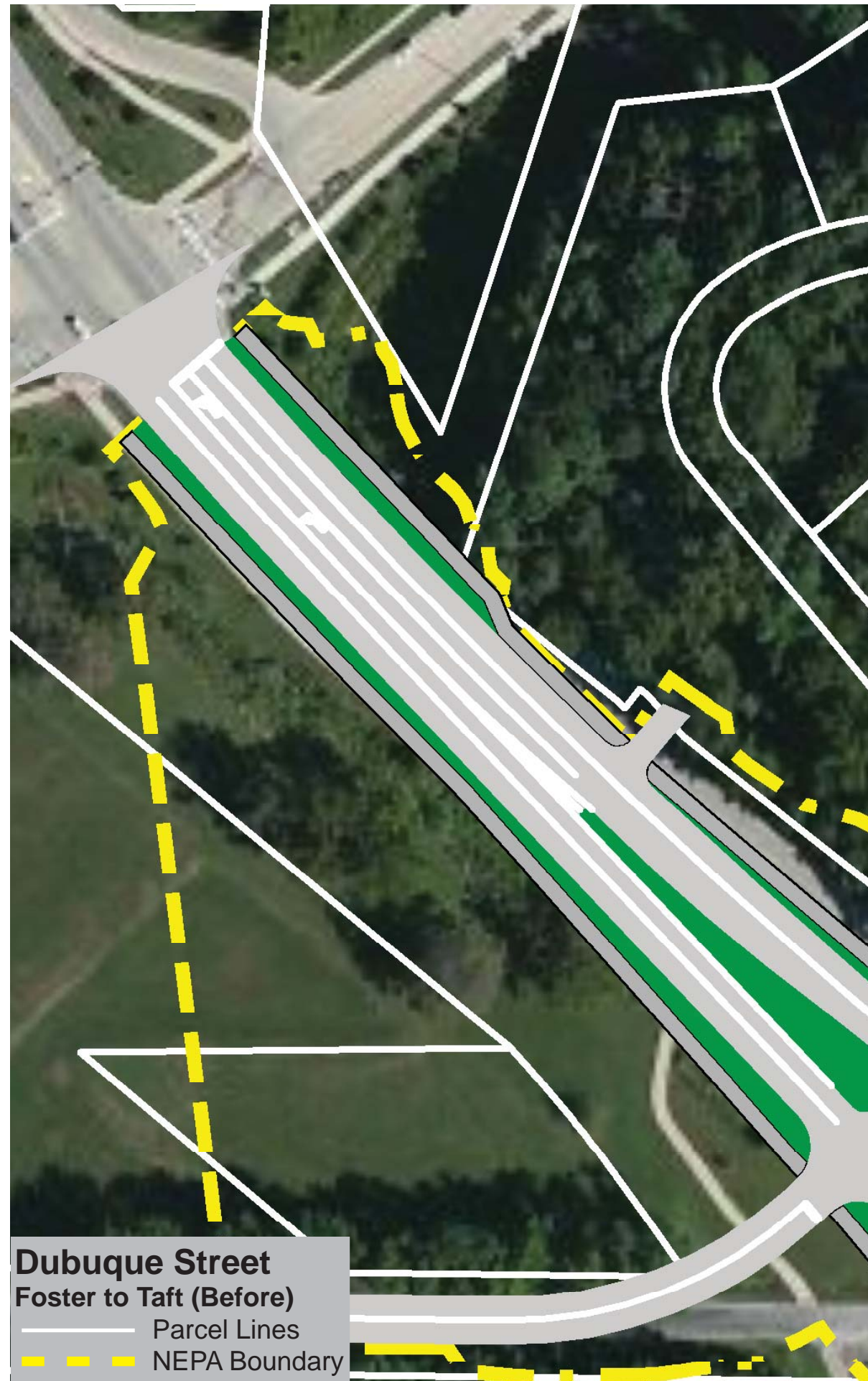
The following materials have been included to for the Council's review:

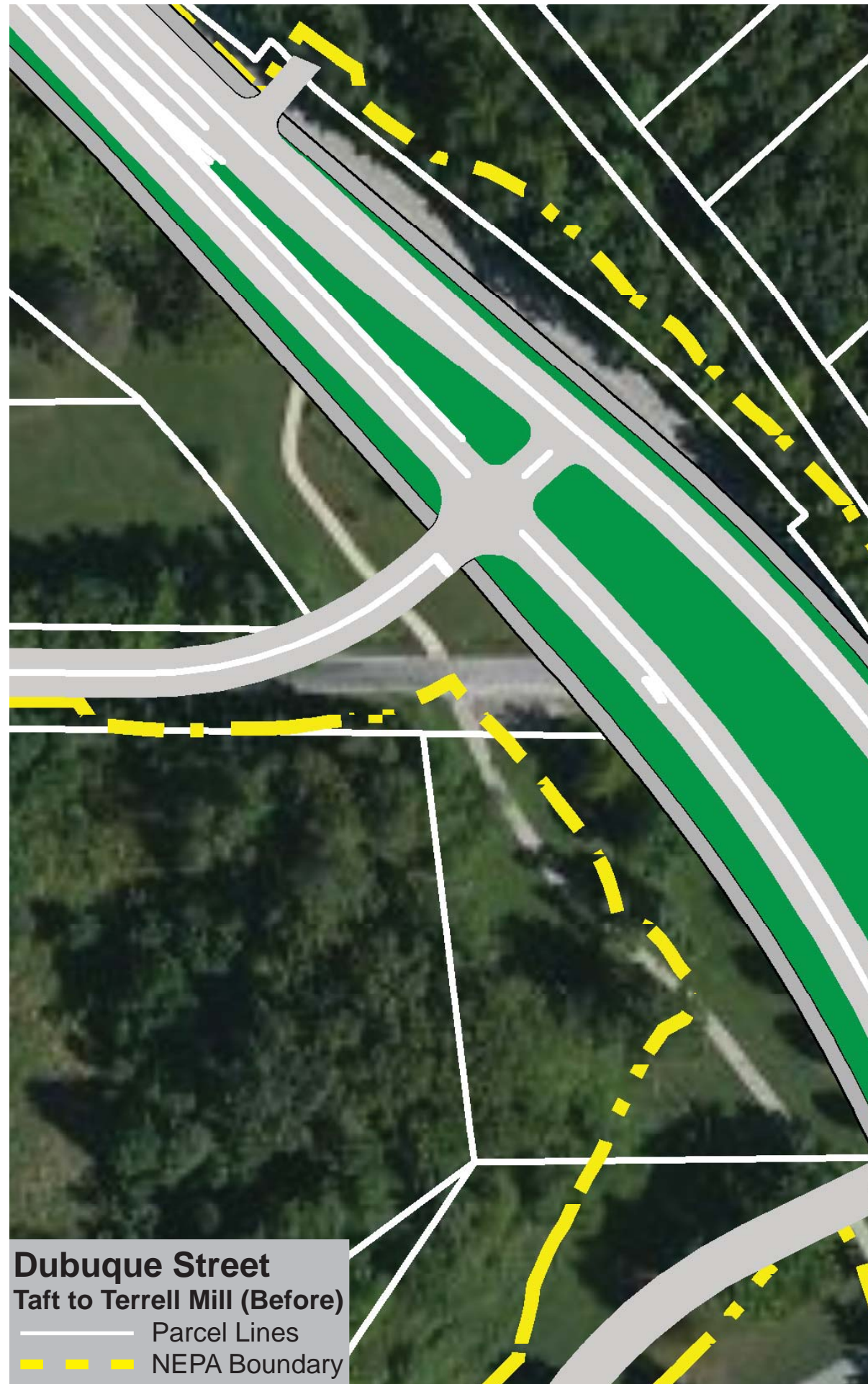
1. Dubuque Street Realignment Exhibit – Foster Road to Kimball Road
2. Dubuque Street Realignment Before & After Exhibits – Foster Road to Mayflower
3. Design Memo - Alignment Options for Iowa River Trail Along Dubuque Street
4. Design Memo – Trail Options along Dubuque Street Retaining Wall
5. Project Cross-Section at Sta. 41+50 depicting the retaining wall in front of 816 N. Dubuque Street
6. Cross-Section Exhibits for 816, 804 and 729 N. Dubuque Street

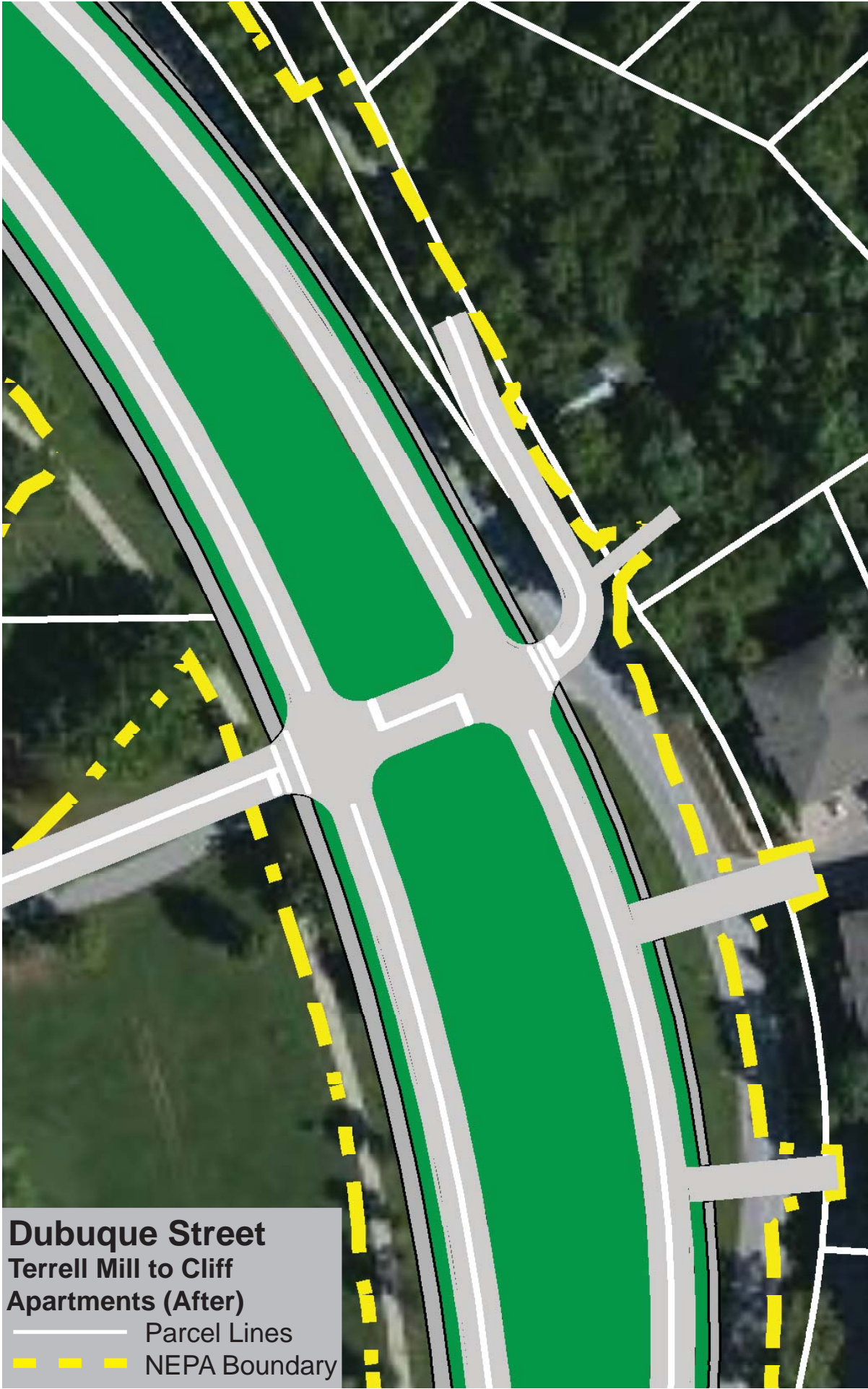
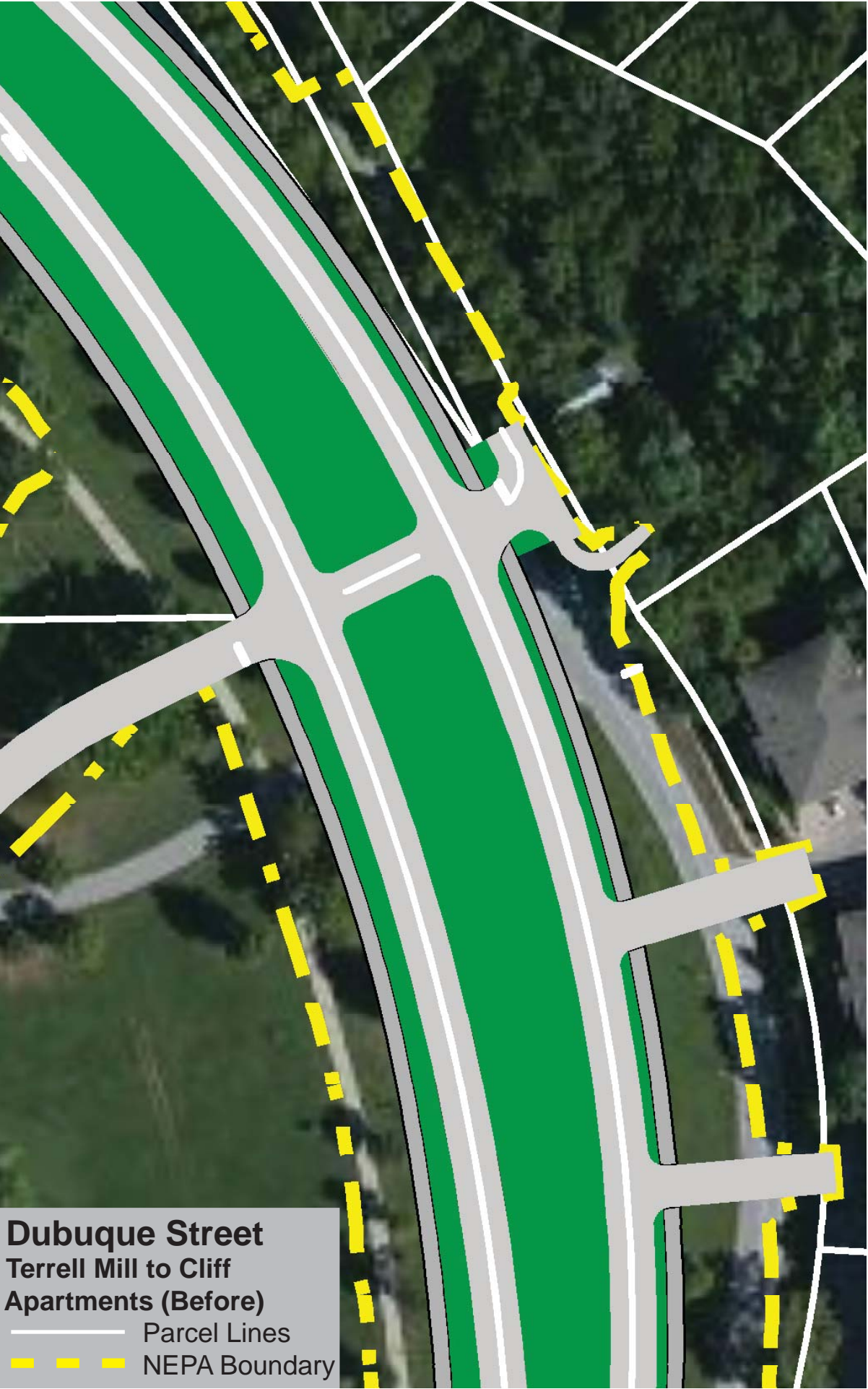
During the design process, the web site and the public email distribution list will continue to be used whenever there is new information available.

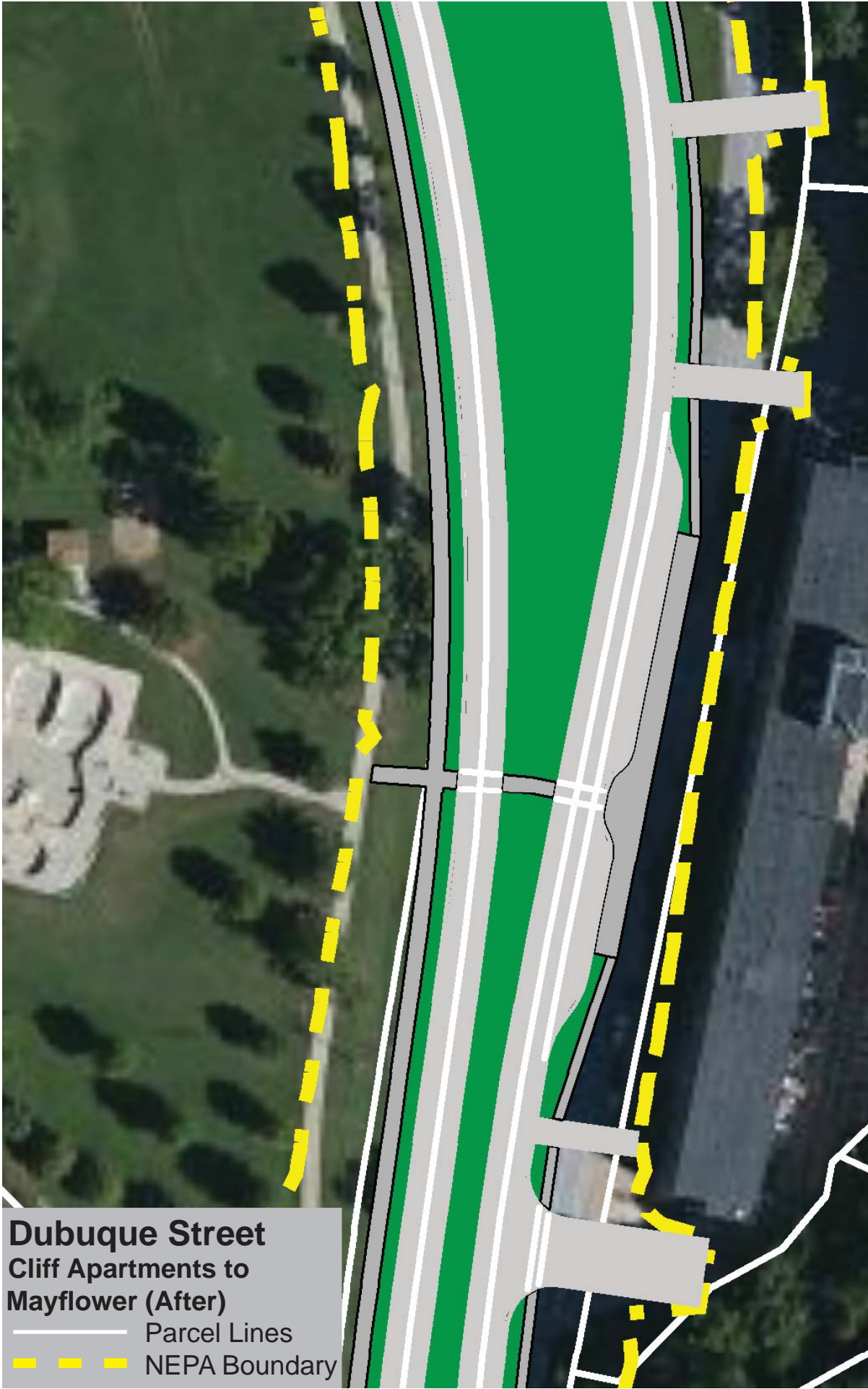
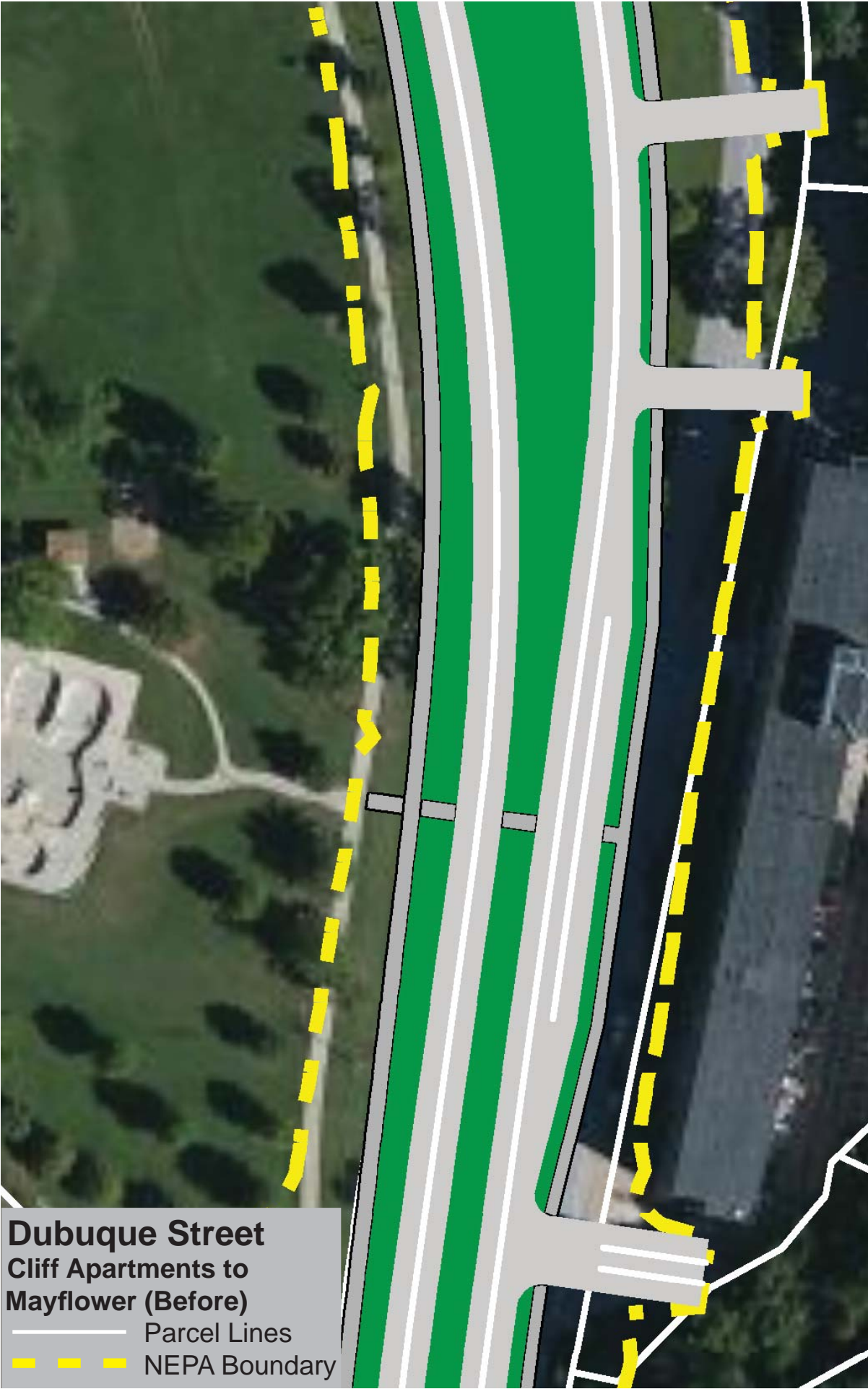
Cc: Ron Knoche, City Engineer
Melissa Clow, Special Projects Manager











Iowa City Gateway
Alignment Options for Iowa River Trail Along Dubuque Street
July 10, 2014

Staff is considering two options for the proposed design for the section of the Iowa River Trail that follows along the west side of Dubuque Street between Kimball and Foster roads. Option A follows parallel to the realigned Dubuque Street. Option B follows in parallel to Dubuque Street between Foster Road and Taft Speedway and from Taft Speedway to the south follows the existing alignment. For your reference, please find attached an exhibit displaying the proposed location for each of the alignments.

Each option is based on the general requirements established by the American Association of State and Highway Officials (AASHTO) Guide for the Development of Bicycle Facilities. Each has a minimum trail design speed of 20mph. To provide safety for all users, a maximum safety distance of 8-feet from the back of curb was established at street crossings to provide visual contact with vehicles entering or exiting the driveway. Vertical alignment does not exceed a 6 percent grade to provide users safety while passing or stopping.

In reviewing which option to implement, staff considered several factors. The factors include the following:

- Vertical elevation in relation to the one hundred year floodplain,
- Constructability,
- Additional NEPA coordination,

Following below is a discussion on the potential benefits and drawbacks of each option.

Option A - Parallel Trail

As approved as part of the Preferred Alternative during the NEPA process, this section of the Iowa River Trail was designed to run parallel to the west side of Dubuque Street at a standard offset from the back of curb. This provides simplicity during design and construction as well as meeting user expectation of following the path of the roadway. The width of the Iowa River Trail in this section is 10 feet, and like Dubuque Street, the minimum elevation of the trail would be one foot above the one hundred year floodplain. Since it was cleared in NEPA as part of the Preferred Alternative, it would not require any additional coordination with FHWA.

Option B - Meandering Trail

This option would run parallel to Dubuque Street between Foster and Taft and from south of Taft would tie in to match the current trail's meander through Terrell Mill Park. The trail meander begins south of Taft Speedway and quickly adjusts to match the existing meandering trail alignment. It would also meet the existing trails elevation, which falls below the desired elevation of one foot above the one hundred year floodplain. Any time the trail moves beyond 8 feet behind the back of curb the elevation of the trail is likely to be below the 100+1 floodplain elevation. This means that there would be times when Dubuque Street may be open while sections of the trail would be under water. Exact elevations of the meandering trail can be determined during the design process. The trail will then regain the desired elevation of one foot above the one hundred year floodplain south of Mayflower where it again runs in parallel to Dubuque Street. Portions of

Iowa City Gateway
Alignment Options for Iowa River Trail Along Dubuque Street

this trail alignment would fall outside the limits associated with the Preferred Alternative for NEPA. The Preferred Alternative called for the trail to run parallel to Dubuque Street from Foster Road to Park Road. Because some sections of Option B fall outside the NEPA limits, some additional coordination with FHWA may be required in order to incorporate this into design.



**Iowa City Gateway
Trail Options along Dubuque Street Retaining Wall**

The City Council and staff have requested that HNTB investigate options for the placement of the Iowa River Trail and other multiuse paths along Dubuque Street and the Iowa River from approximately Kimball to Park Road. HNTB investigated three options for the trail in this stretch of the corridor. Those options include the following:

- Option A – Trail on the top of the retaining wall only
- Option B – Trail on top of the retaining wall and multiuse path/River Walk along the base of the wall with bridge underpass at the east abutment
- Option C – Trail on top of the retaining wall with a new extension south of Park Road in anticipation of a future path from the Hancher Pedestrian Bridge to Park Road.

The options attempted to strike a balance between providing people the opportunity to connect to the Iowa River via trails and paths, while also maintaining a minimum of eight feet distance between the riverbank and the base of the retaining wall. This minimum distance from the riverbank is required for the construction of a Mechanically Stabilized Earth (MSE) retaining wall. Any retaining wall built within 8 feet of the riverbank would require a different type of foundation that is more costly and complicated to construct and would require work in the Iowa River, which was not cleared during the NEPA process nor approved by the Federal Highway Administration (FHWA) and other permitting agencies.

Attached for your reference, please find exhibits displaying the trail alignments of each option. Also attached is a sample of four cross-sections at points along each potential trail alignment. These display the height of the retaining wall, width of the trail or path and proximity to the river.

Staff considered several factors when assessing the potential benefits and drawbacks of each option. These included:

- Added cost and constructability
- Width of trails and multiuse paths
- Trail in relation to floodplain elevations
- Minimum distance of wall from the River
- Permitting ease and length of time for approvals
- Visibility of trail and path users from vehicles on Dubuque Street and Park Road.

The table on the following page displays the factors and the performance of each option. An overall assessment of each option follows below the table. In summary, Option A remains the simplest to construct, permit and remains at or above the one hundred year floodplain elevation. The other options entail additional cost to construct and introduce portions of the trail or path that are below the one hundred year floodplain elevation. The trail south of Park Road included in Option C was not part of the Preferred Alternative that received FHWA approval. As such, this option could incur delays in permitting and design due to additional coordination with FHWA and other permitting agencies.

Iowa City Gateway
Trail Options along Dubuque Street Retaining Wall

Trail Options along Dubuque Street Retaining Wall

Option	Added Cost	Reason for Cost	Width of Trail/Multi-use Path	Low Elevation	Minimum Offset to River	Permitting Case	Increased Time for Approvals	Pedestrian Safety
Option A: Trail on Wall Only	\$0	NA	10'	100+1 or above	10'	Standard process for entire project (4-6 months)	NA	All pedestrians visible to traffic
Option B: Trail on and Below Wall	\$470,000	Additional length and height of retaining wall required, bridge underpass	10'/6'	Trail 100+1 or above / Path at 10 year floodplain	8'	Increased coordination and study with permitting agencies	Additional 2 - 6 months	Pedestrians not visible on lower trail.
Option C: Trail on Wall / Future extension south of Park Road	\$240,000	Additional length of trail south of Park Road	10'/10'	100+1 or above north of Park Rd / 100+1, or above south of Park Road within study limits	27'	Increased coordination and study with permitting agencies	Additional 2 - 6 months	All pedestrians more visible than Option B.

Iowa City Gateway Trail Options along Dubuque Street Retaining Wall

Option A: Trail on Wall Only

This option is the original trail configuration as documented during the NEPA process. This is a 10' wide trail on the top of the Dubuque Street retaining wall. It is placed eight feet behind the back of curb and runs the length of the retaining wall. The cost of this option is covered in the base cost for the project. This option does not include a trail passage under the bridge, but it would keep the option open for a future extension of the trail to the south to connect with existing trails at the Hancher pedestrian bridge.

Option B: Trail on and Below Wall

This option has the trail splitting into two paths, beginning near the Dubuque Street intersection with Kimball Road. The ten-foot wide trail would continue along the top of the wall the same as in Option A. A six-foot wide path would follow along the base of the wall providing a path along the river bank. This lower path would continue under the bridge (at an elevation of approximately 645 feet). This is the same elevation as the 10-year flood and it would provide approximately 8.5-feet of vertical clearance for the trail under the bridge. South of the Park Road Bridge the path is able to widen to 10-feet and would connect to the upper trail. The lower trail is very close to the edge of the river and may be difficult to construct, which may result in a higher bid price for this item. The estimated added cost of this option compared to Option A is approximately \$470,000.00. Additionally, the area south of Park Road was not cleared during the NEPA process as it was not a part of the Preferred or Reasonable Alternatives considered. Therefore, additional study, coordination and approval from FHWA and permitting agencies would be required during the design of the project.

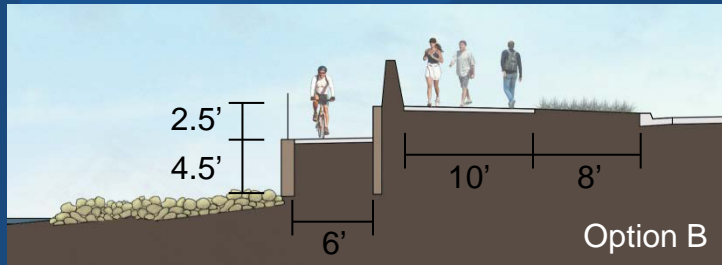
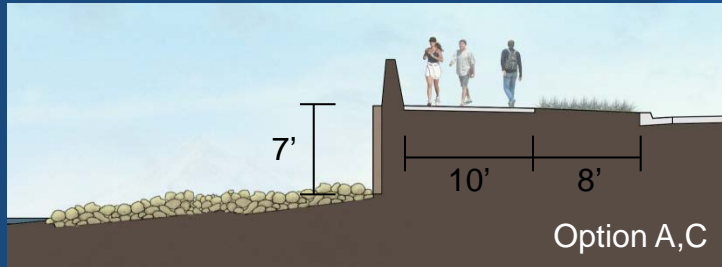
Option C: Trail on Wall and Extended South of Park Road

This option would follow along the top of the retaining wall, the same as Option A until reaching Park Road. At Park Road, the existing sidewalk would continue to run parallel to Dubuque Street. Also at Park Road, the second 10-foot wide path would descend along the wall and then pull away to follow along the bank of the river to connect to the future trail south of the project area. This option does not provide the chance to have a path under the bridge but it does provide connectivity to future trails to the south. Because it does not pass under the bridge and because it maintains greater distance from the riverbank, it improves constructability. Additionally, the area south of Park Road was not cleared during the NEPA process as it was not a part of the Preferred or Reasonable Alternatives considered. Therefore, additional study, coordination and approval from FHWA and other permitting agencies would be required during the design of the project. The estimated added cost of this option is approximately \$240,000.00 above the cost of Option A.



Trail Options

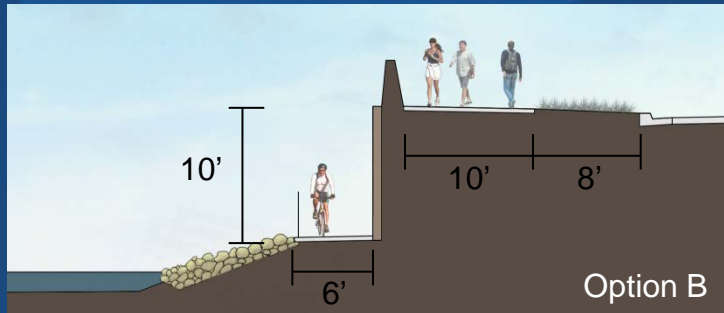
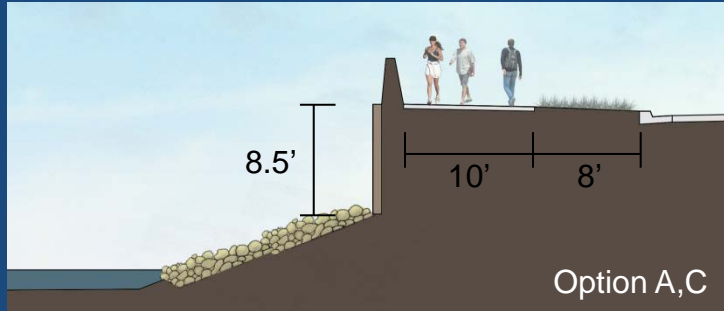
Section 32+50





Trail Options

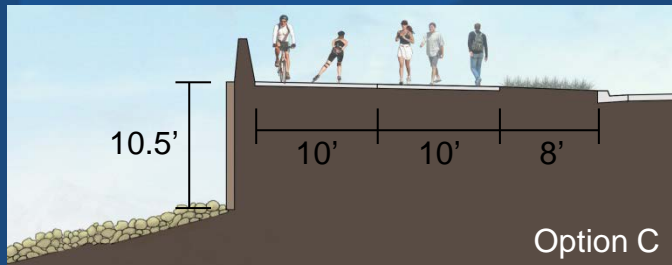
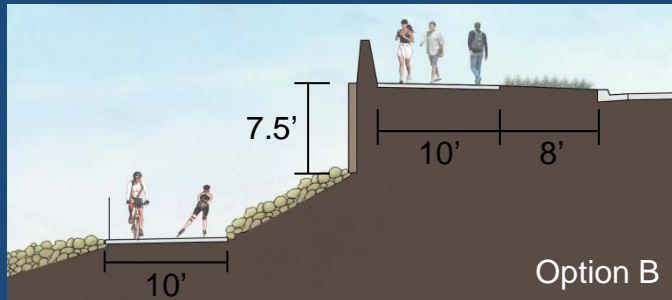
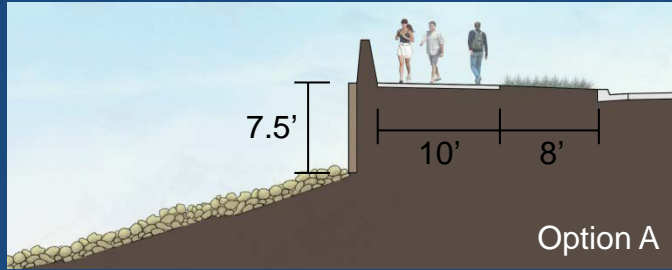
Section 36+00





Trail Options

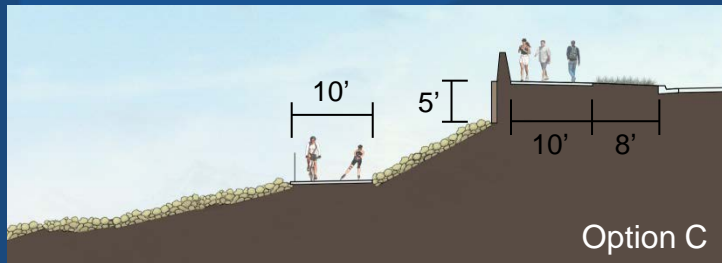
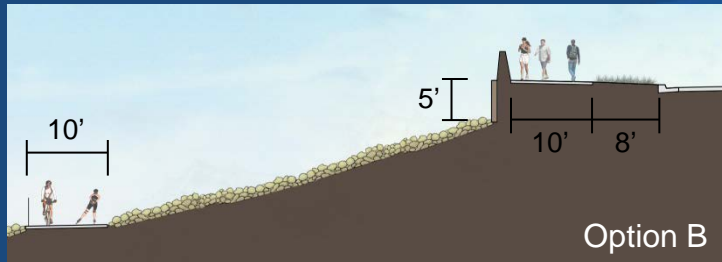
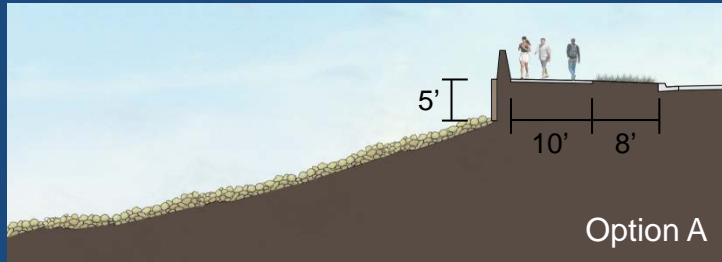
Section 39+50





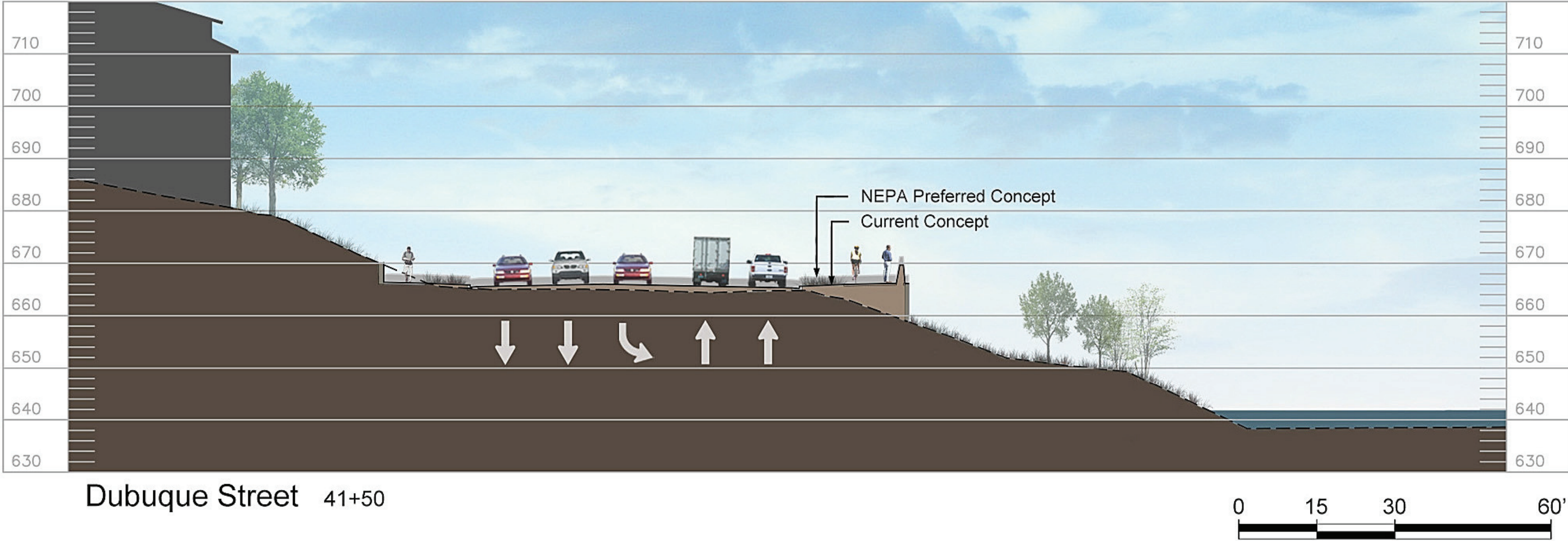
Trail Options

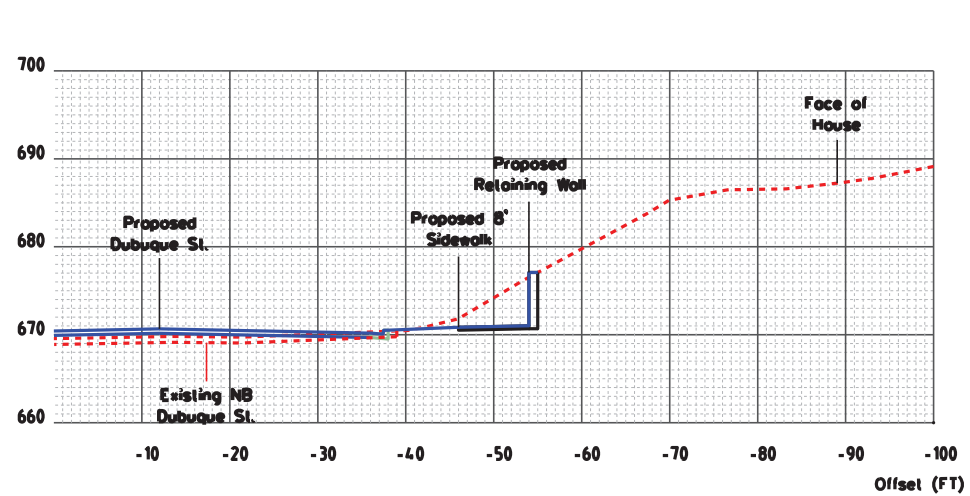
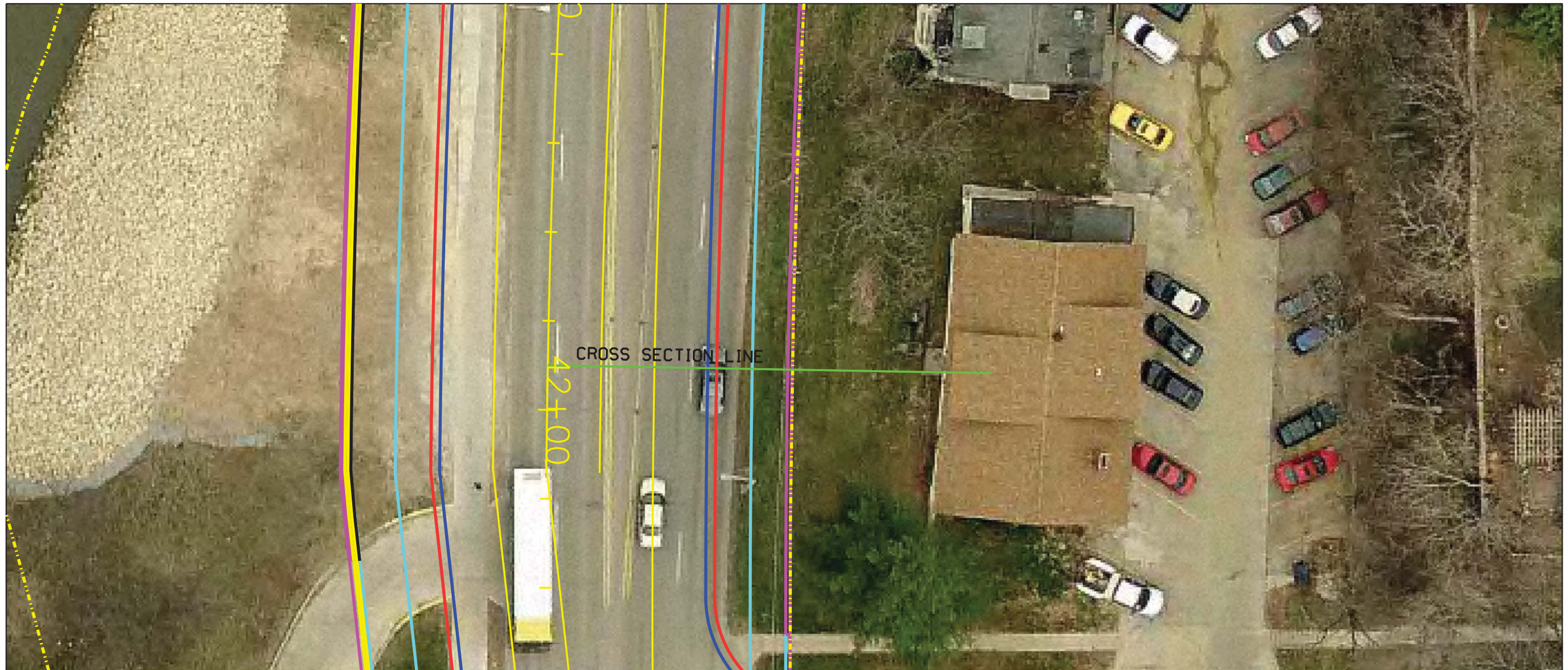
Section 41+00



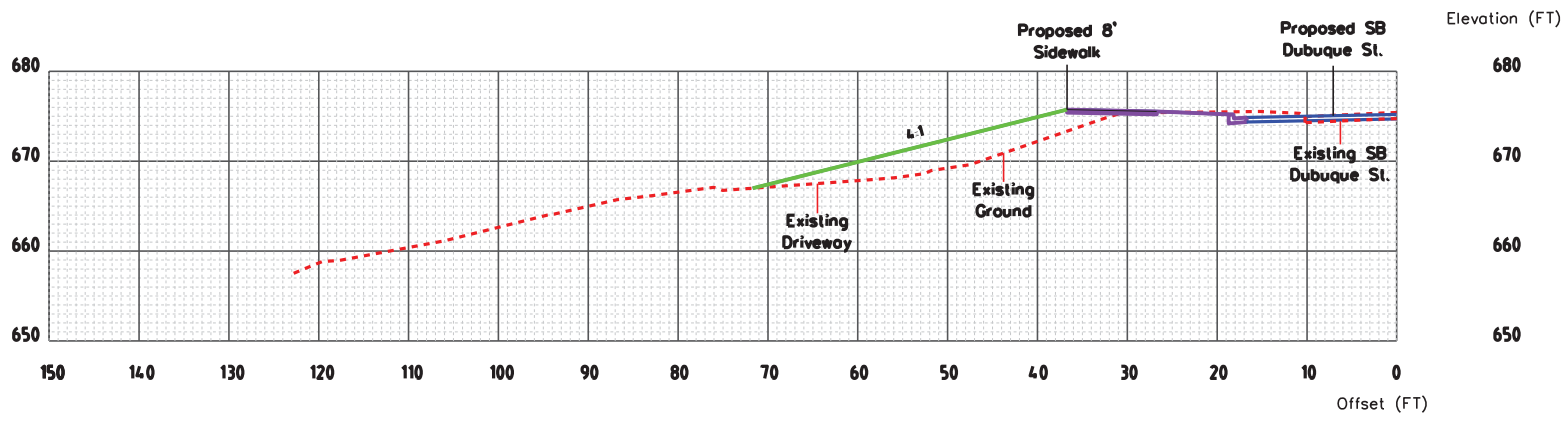
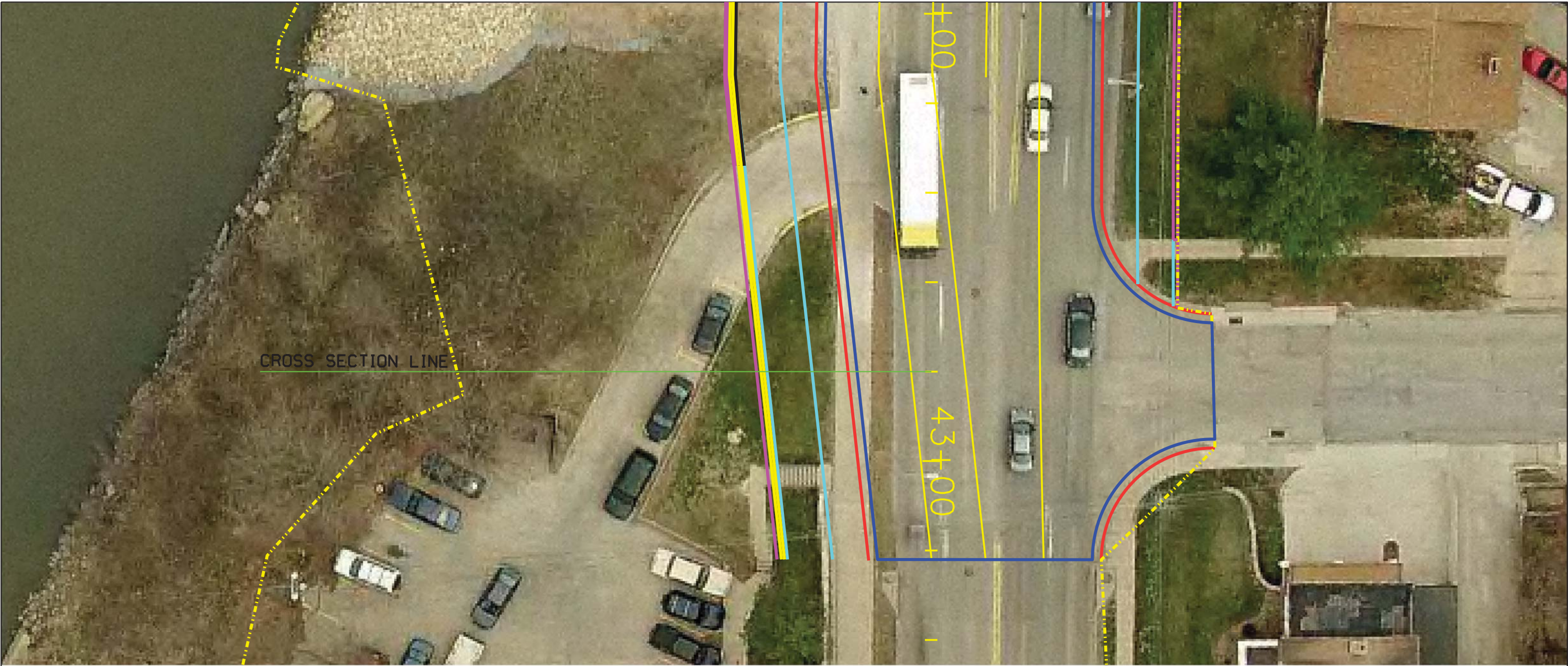
Project Cross Sections

March 19, 2014





		Orig. 8-12; Rev. 7-13
X-SECTION EXHIBIT		XS-6
BETA THETA PI FRATERNITY (2ND LOCATION) 52-01541 - 804 N DUBUQUE STREET CROSS SECTION & PLAN VIEW		



		Orig. 8-12; Rev. 7-13
X-SECTION EXHIBIT		XS-7
PHI DELTA THETA FRATERNITY 52-01540 - 729 N DUBUQUE STREET CROSS SECTION & PLAN VIEW		