



# Iowa City Gateway

City Council Work Session  
September 17, 2013



# Agenda

- Project background
- NEPA Process and findings
- Design option decisions
  - Level of protection for Dubuque Street
  - Backwater Reduction goal for the bridge
  - Structure Type for the bridge
- Impacts of the Do-Nothing Alternative
- Council Q&A



# Project Study Area

**Normal  
Conditions**



**2008  
Flood**





# Project Partners

This project is being led by the City of Iowa City in cooperation with:

- University of Iowa
- Metropolitan Planning Organization of Johnson County (MPOJC)
- Project GREEN
- Iowa Department of Transportation (DOT)
- Federal Highway Administration (FHWA)
- Economic Development Administration (EDA)





# Project Goals

## Goals

- Improve the reliability of Dubuque Street
- Improve the reliability of Park Road & Bridge
- Reduce the backwater created by Park Road Bridge
- Provide needed infrastructure improvements
- Better serve bicyclists and pedestrians
- Preserve and enhance the natural entry





# Funding Sources

## Gateway Project - \$40 Million

- U.S. Department of Commerce, Economic Development Administration – \$3 Million
- Transportation, Housing & Urban Development – \$1.5 Million
- SAFETEA-LU Surface Transportation Program – \$6 Million
- Local Option Sales Tax – \$25.8 Million
- G.O. Bonds – \$3.7 Million



# Three Projects from the CIP to be combined into one bid package

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## **Park Road 3<sup>rd</sup> Lane Improvement - \$1.44 Million**

- G.O. Bonds - \$1.44 Million

## **North River Corridor Trunk Sewer Reconstruction - \$4.4 Million**

- Wastewater Operations - \$4.4 Million



# Tonight's discussion and estimates will focus on Gateway and Park Rd

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# Process to Date and Schedule

## Iowa City Gateway Schedule

September - 2013



\*Discussions with property owners and other interested parties will be ongoing throughout design and construction.





# Project Development Stages

## Iowa City 1-Plan

### Phase 1: Plan

- NEPA evaluation
- Planning process
- Required for federal funds

## Iowa City 2-Design

### Phase 2: Design

- After completing NEPA
- Detailed engineering & final design
- 12 to 15 months

## Iowa City 3-Build

### Phase 3: Build

- 2 construction seasons
- Bid in December 2014
- Begin construction in 2015 for fall 2016 completion



# What is NEPA

- National Environmental Policy Act (1969)
- Required for federally funded or permitted projects
- Conduct prior to design and construction
- Evaluate impacts to both natural and social (man-made) environment
- Follows one of three types of process/documents
  - Environmental Impact Statement
  - **Environmental Assessment**
  - Categorical Exclusion



# NEPA Tasks

## Completed:

- ✓ Data collection
- ✓ Flood model data updated
- ✓ Initial alternatives screening
- ✓ Purpose and Need approved
- ✓ Two public meetings
- ✓ Refine alternatives
- ✓ Screen alternatives
- ✓ Recommend preferred alternative
- ✓ Prepare NEPA document

- ✓ Resource Agency coordination
- ✓ Release NEPA document for review
- ✓ Hosted Public Hearing

## To Do:

- ☐ Receive Federal approval
- ☐ Keep talking with stakeholders
- ☐ Advance to design and construction



# NEPA Purpose and Need

## Why do the project:

*The purpose of the proposed action is to provide a reliable multimodal transportation corridor that reduces the impact of flooding on the local transportation system and the Iowa River corridor.*

## Need for the Proposed Action:

- Maximize the reliability of Dubuque Street
- Maximize the reliability of Park Road Bridge
- Minimize backwater created by Park Road Bridge
- Address existing roadway deficiencies on Dubuque Street and Park Road





# NEPA Process for the Gateway

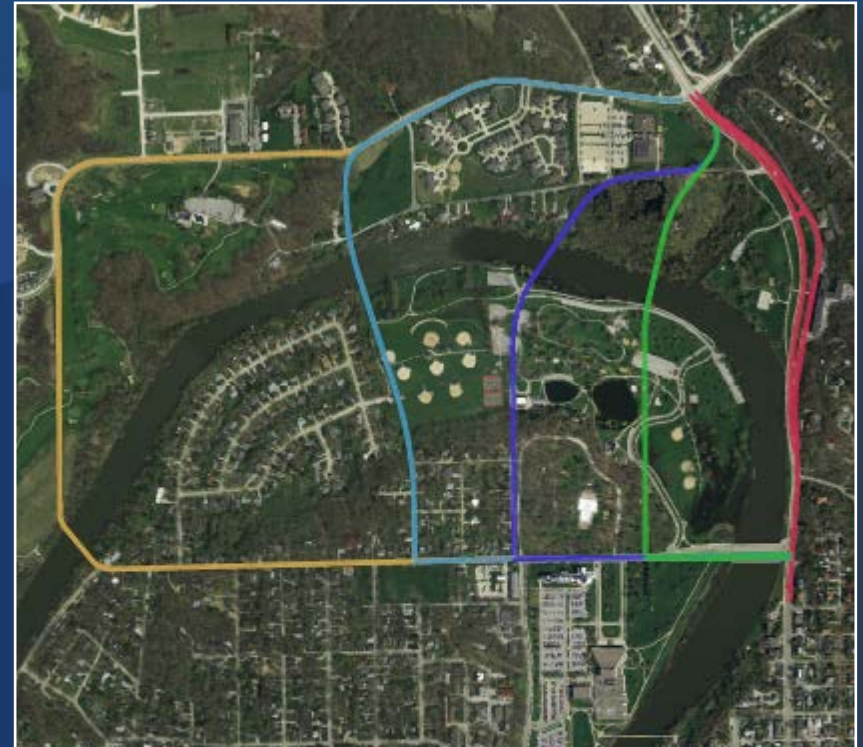






# Initial Roadway Alternatives

- Off-Alignment
  - Dodge/Governor
  - First Avenue/Highway 6
  - Foster Road/Prairie du Chien
- On-Dubuque Street
- Off-Dubuque Street
  - Lower City Park
  - Taft Speedway
  - Louis Place
  - Foster Road





# Initial Bridge Alternatives



## **Cable Stayed –**

Steel or concrete

Similar to Mississippi River Bridge in Burlington, Iowa



## **Girder Bridge**

Steel or concrete

Similar to existing Park Road Bridge



## **Open Spandrel Deck Arch**

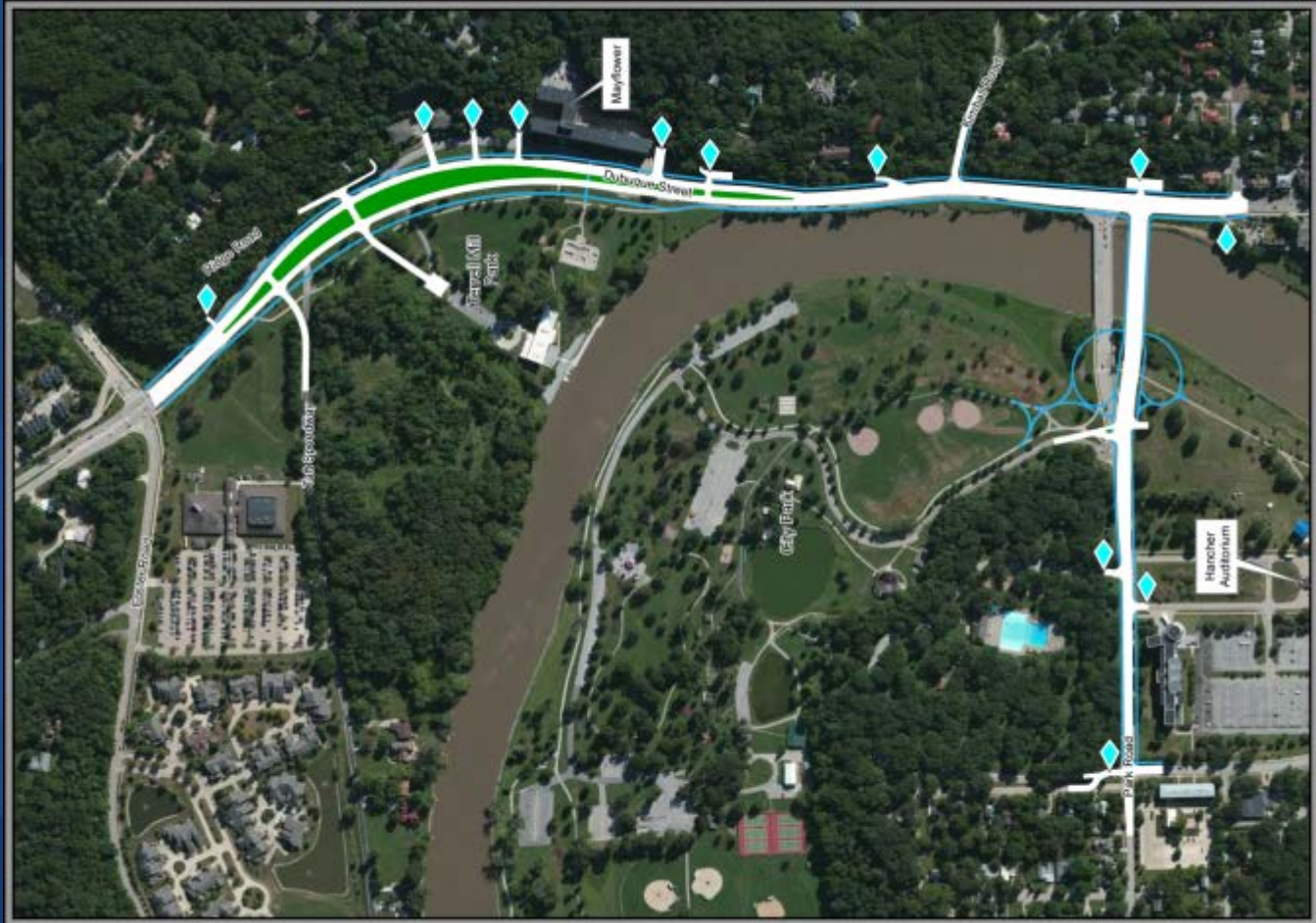
Steel or concrete

Similar to Iowa Avenue Bridge





# NEPA Preferred Alternative





# NEPA Preferred Alternative

- Build 1 foot above 500 year floodplain
- Improve bike/ped/trail connections
- Maintain parkway feel
- New bridge
  - Low steel to pass 500 year flood
  - 5 lanes of travel
  - Longer spans
  - Located south of existing Park Road Bridge





# NEPA Preferred Alternative

- Girder bridge
- Located south of existing bridge
- Five travel lanes
- 10' Multipurpose paths on each side
- Similar transit access
- Least expensive bridge type
- Fewer piers in the water
- Perpendicular with river
- Minimizes backwater







# Preferred Alternative at Foster





# Preferred Alternative at Cliff Apartments







# Preferred Alternative at Mayflower





# Preferred Alternative from Boathouse







# Preferred Alternative from City Park







# NEPA Preferred Alternative

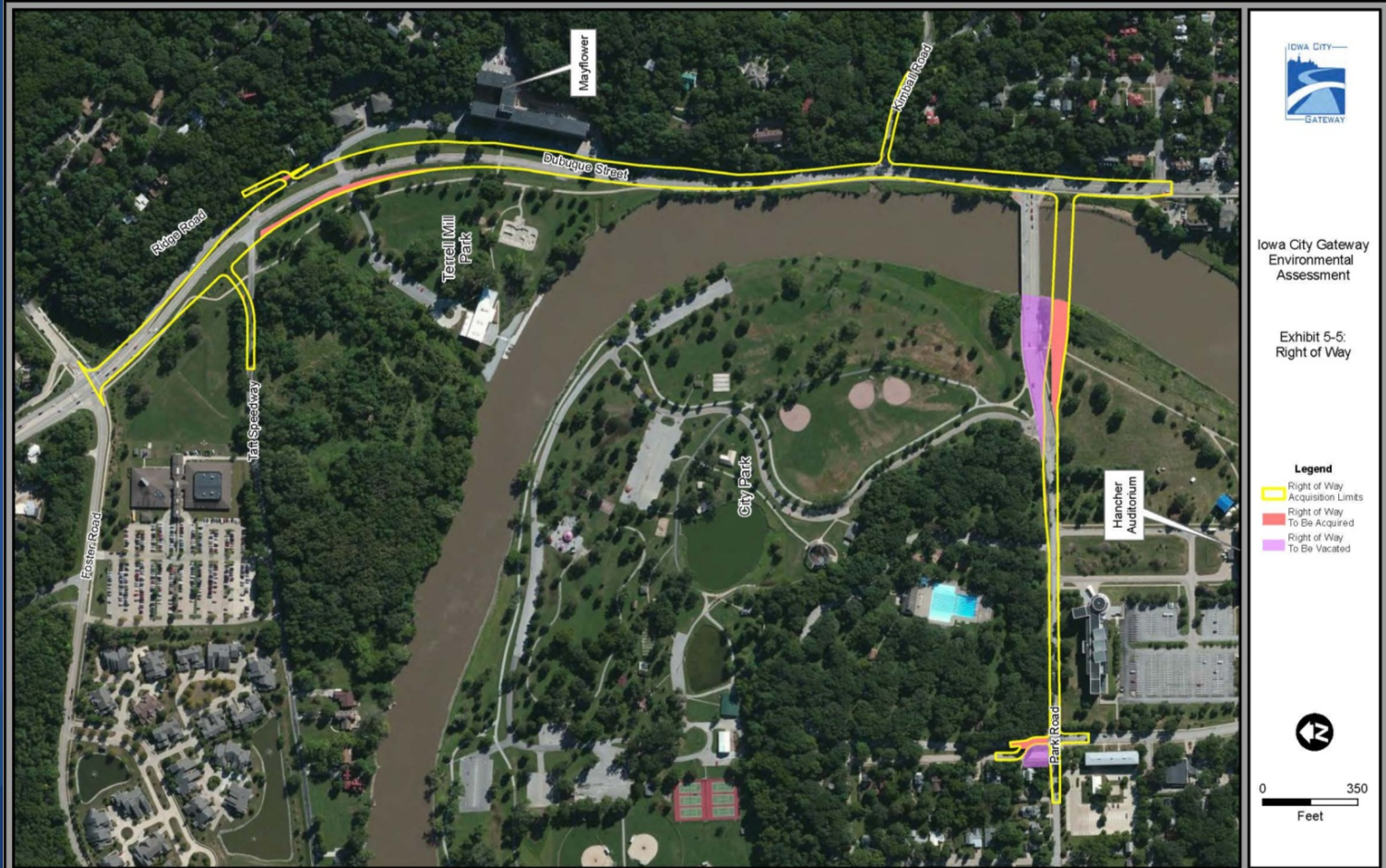


## Impact area and Category

- 0.94 acres Wetlands
- 5.1 acres Grading impacts to public parks/open space
- 1.2 acres Historic Sites or Districts (no buildings or resources)
- 15.4 acres 100 Year Floodplain
- 17.9 acres 500 Year Floodplain
- 0.92 acres Acquired ROW
  - 0.2 acres residential
  - 0.5 acres parks/open space
  - 0.4 acres university of Iowa



# Preferred Alternative ROW Impacts





# NEPA Cultural Resource Investigations

- Led by Office of State Archaeologist and Tallgrass Historians
- Coordinated with:
  - Iowa City Historic Preservation Commission
  - Iowa DOT Cultural Resource staff
  - State Historic Preservation Officer
- Received finding of Conditional No Effect summer 2012
- Affirmed by independent evaluation summer 2013





# NEPA Public Outreach

- Two public meetings: 250+ attendees
- Drop-in center + online public meeting
- Public hearing/drop-in center
- Multiple paid ads
- Local media press releases
- City and project specific Web site
- Mailing list of nearly 2,000
- Neighborhood and civic group meetings
- Multiple one-on-one meetings and calls with City staff





# NEPA Agency Coordination and Findings

- |  |  |
|--|--|
| ▪ Federal Highway Administration             | <u>Finding of No Significant Impact</u>          |
| ▪ Economic Development Administration        | <u>Section 4(f) <i>De Minimis</i></u>            |
| ▪ Iowa Department of Transportation          | <u>Conditional No Adverse Effect</u>             |
| ▪ State Historical Society of Iowa           | <u>Conditional No Adverse Effect</u>             |
| ▪ Iowa Highway Archaeology Program           | <u>Concur with Conditional No Adverse Effect</u> |
| ▪ Iowa City Historic Preservation Commission | <u>Letter of Project Support to SHPO</u>         |
| ▪ Other Agencies                             |  |
| • Natural Resource Conservation Service      | Federal Aviation Administration                  |
| • U.S. Army Corp of Engineers                | U.S. EPA   |
| • U.S. Fish and Wildlife                     | U.S. Coast Guard                                 |
| • Tribal coordination                        | Iowa DNR   |
| • MPO Johnson County                         |  |





# Design Decisions

## Roadway

- Elevation – protect 1' above
  - 100 year floodplain
  - 2008 flood elevation
  - 500 year floodplain

## Bridge

- Elevation – protect 1' above
  - 100 year floodplain
  - 2008 flood elevation
  - 500 year floodplain
- Backwater Reduction
- Type
  - Girder
  - Open spandrel deck arch



# Roadway Level of Protection

- **500-year flood elevation +1'** (protection level required for structures constructed in a floodplain)
- **2008 flood event elevation +1'**
- **100-year flood elevation +1'** (minimum protection required for federal funding)
- No build/existing elevation

\* The level of protection can be anywhere between the 100-year and the 500-year flood elevations



# Roadway Options – Pros and Cons

## Parameters Foster to Kimball

- Flood protection/elevation
- Grading impacts
- Construction / Constructability

## Pros and Cons

### Increase in elevation

- Improves flood protection
- Improves roadway availability
- Maximizes release from reservoir

- Increases grading impacts
- Increases cost
- More difficult to construct



# Roadway Views from City Park







# Sidewalks

- 10' Iowa River Trail on Dubuque St.
- 8' sidewalk Brown to Foster
- 10' multiuse paths on bridge
- Split grade crossing on west side
- 8' sidewalk both sides of Park Rd.
- 8' clear space for pedestrian safety and snow storage







# Range of Bridge Options

- Type:
  - Haunched girder,
  - Deck arch / Through Arch
  - Cable stayed
- Elevation – Protection and backwater reduction
- Common features of each bridge:
  - Number of travel lanes
  - Bike/ped/transit amenities
  - Bridge deck dimensions
  - Number of Piers



# Renderings of Bridge Options





# Bridge Options – Pros and Cons

## Parameters

- Cost
- Flood protection elevation
- Backwater reduction
- Grading impacts at intersection
- Constructability

## Pros and Cons

- Arch bridge \$2.5-3 Million more
- Arch bridge more complex
- Increase in elevation
  - Improves flood protection
  - Improves roadway availability
  - Maximizes release from reservoir
  - Minimizes backwater
  - Increases grading impacts
  - Increases cost
  - More difficult to construct



# Influence on Backwater

- Each option performs better than current bridge
- No option eliminates all backwater
- Girder bridge performs slightly better than an Arch bridge

Flood event	Girder bridge at 500+1	Arch at 500+1
50 year flood	about 1" reduction	about 0.5" reduction
100 year flood	2 – 3" reduction	1 – 2" reduction
2008 flood	10" reduction	8 – 9" reduction
500 year flood	7 – 8" reduction	7" reduction



# Construction Cost Estimate of Combined Options

Roadway Option	w/ Deck Arch 500+1	w/ Girder 500+1
Roadway 500+1	\$39.9M	\$36.6M
Roadway 2008+1	\$38.6M	\$35.3M
Roadway 100+1	\$36.9M	\$34.2M
	<b>Deck Arch 2008+1</b>	<b>Girder 2008+1</b>
Roadway 2008+1	\$38.4M	\$35.0M
Roadway 100+1	\$36.7M	\$33.4M
	<b>Deck Arch 100+1</b>	<b>Girder 100+1</b>
Roadway 100+1	\$36M	\$32.6M

Environmental Assessment, Final Design, Construction Administration and Inspection fees = \$8-9Million. Trunk sewer reconstruction not included in these costs.





# Do Nothing Option

The following work would still need to occur:

- Reconstruct North Corridor Trunk Sewer
- Replace Dubuque Street pavement
- Replacement / Major Repair of Park Road Bridge
- Widen Park Road to three lanes to Riverside Drive
- Right turn lane at SB Dubuque Street to WB Park Road
- Upgrade aging water, storm sewer, lighting, overhead utilities
- Cost of above: Approximately \$31.7 Million



# From the FY09 CIP

## The last pre-flood Capital Program

### City of Iowa City Capital Improvement Program

Project Category: STREETS, BRIDGES  
and TRAFFIC ENGINEERING

<b>Project Name</b> Mormon Trek - Left Turn Lanes		<b>Funding</b> \$ 3,750,000			
<b>Description</b>					
Construct left turn lanes at major intersections or a continuous center lane through the corridor between Melrose Avenue and Abbey Lane. Federal STP funds are proposed for this project.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Federal Grants	\$ -	\$ -	\$ -	\$ 1,500,000	\$ -
10 GO Bonds	\$ -	\$ -	\$ 1,125,000	\$ -	\$ -
11 GO Bonds	\$ -	\$ -	\$ -	\$ 1,125,000	\$ -

<b>Project Name</b> Neighborhood Pedestrian Lighting		<b>Funding</b> \$ 100,000			
<b>Description</b>					
Add pedestrian-scale lights to near-downtown neighborhoods.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Road Use Tax	\$ -	\$ -	\$ 100,000	\$ -	\$ -

<b>Project Name</b> Park Road & Park Road Bridge		<b>Funding</b> \$ 1,600,000			
<b>Description</b>					
FY2011: Park Road Bridge & Intersection Improvements: Replace Park Road bridge deck, reconfigure lane markings at the Park Road / Dubuque Street intersection and add a right turn lane on south-bound Dubuque.					
FY2012: Park Road - Third Lane Improvement: This project accommodates traffic flow on Riverside Drive and Park Road to Hancher by adding a center turn lane between Lower City Park entrance and Riverside Drive. The walkway lying on the north side of Park Road between Upper City park's main entrance and Templin Road will also be replaced at this time with an 8' sidewalk. Timing of this project will be in conjunction with the Park Road Bridge Improvement project.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
11 GO Bonds	\$ -	\$ -	\$ -	\$ 1,600,000	\$ -
12 GO Bonds	\$ -	\$ -	\$ -	\$ -	\$ 1,140,000

### City of Iowa City Capital Improvement Program

Project Category: PUBLIC UTILITIES

<b>Project Name</b> Highlander Lift Station - Force Main Replacement		<b>Funding</b> \$ 431,000			
<b>Description</b> Replace lift station's sanitary sewer force main. Recent repair work on this force main has revealed significant corrosion problems.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Wastewater User Fees	\$ -	\$ 431,000	\$ -	\$ -	\$ -

<b>Project Name</b> N. Gilbert Street Box Culvert		<b>Funding</b> \$ 360,000			
<b>Description</b> Replace box culvert on North Gilbert Street, south of Kimball Road.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Stormwater User Fees	\$ -	\$ -	\$ -	\$ 360,000	\$ -

<b>Project Name</b> Rapid Creek Watershed - Sewer Service Study		<b>Funding</b> \$ 85,000			
<b>Description</b> This project will consist of an engineering study to determine the feasibility and options for municipal sewer service in portions of the Rapid Creek watershed, north of the current corporate limits.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Wastewater User Fees	\$ -	\$ 85,000	\$ -	\$ -	\$ -

<b>Project Name</b> Sandusky Storm Sewer		<b>Funding</b> \$ 635,000			
<b>Description</b> Construct a larger storm sewer system to reduce the depth of ponding in the stormwater management basin south of Sandusky Drive and east of Pepper Drive.					
<b>Funding</b>	<b>FY08</b>	<b>FY09</b>	<b>FY10</b>	<b>FY11</b>	<b>FY12</b>
Stormwater User Fees	\$ -	\$ 635,000	\$ -	\$ -	\$ -



# Next Steps

- Receive FHWA approval / Finding of No Significant Impact
- Determine the right balance for the following:
  - Dubuque Street Elevation: Level of protection versus amount of fill and related externalities
  - Park Road Bridge Elevation: Backwater reductions versus elevation of the Dubuque Street / Park Road intersection
  - Bridge Type: Appearance and elevation advantages versus cost
- Begin Final Design



# Council Q&A



