



TO: Michael C. Van Milligen, City Manager
FROM: Gus Psihoyos, City Engineer *GP*
SUBJECT: Upper Bee Branch Creek Railroad Culverts Project, Award Contract
[CIPs 2642769, 7202769, and 3402769]
DATE: February 12, 2019

INTRODUCTION

The purpose of this memorandum is to recommend awarding the construction contract for the Upper Bee Branch Creek Railroad Culverts Project (Project), the final contract associated with the Upper Bee Branch Creek Restoration Project (Phase 7 of the Bee Branch Watershed Flood Mitigation Project).

BACKGROUND

Since 1999 there has been six Presidential Disaster Declarations which included the Bee Branch Creek Watershed. The Drainage Basin Master Plan, completed and adopted by the City Council in 2001, established that there are more than 1,100 properties at risk of flood damage as a result of the flash flooding. Based on a subsequent study in 2009 by the Federal Emergency Management Agency (FEMA), there are 1,373 properties in the flood prone area. In addition to homes, there are over 70 businesses in the at-risk area with over \$500 million in annual sales. The flood prone area in the Bee Branch Watershed encompasses historic neighborhoods offering some of the community's most affordable workforce housing. Most residents are working families, many are elderly -- those least likely to recover from repetitive flood loss. Repetitive flood damage leads to disinvestment; from 2004 to 2009, while commercial property values grew by 39% citywide, they fell by 6% in the Bee Branch Watershed flood prone area.

Since 2001, the City has implemented many of the improvements outlined in the Drainage Basin Master Plan. But since 2001 several intense, storm events have occurred in the Dubuque metropolitan area so that revisiting the predicted hydrology and hydraulic behavior of the Bee Branch Watershed was appropriate. Over a twelve year period starting in 1999, there have been three 100-year storms, two 50-year storms, one 25-year storm, and one 10-year storm. Finally, it is important to consider how additional flood mitigation efforts undertaken by the City since 2001 fit with the overall effort to mitigate flooding. Therefore, work began to update/amend the Drainage Basin Master Plan.

On November 18, 2013 the City Council passed Resolution 335-13 adopting the 2013 Drainage Basin Master Plan Amendment. The 2013 Amendment did not replace the 2001 Drainage Basin Master Plan. Instead, it built upon its foundation. The amended Drainage Basin Master Plan outlined several improvements throughout the Bee Branch watershed to mitigate the effects of future flooding and disasters. Collectively, the improvements form the basis of the Bee Branch Watershed Flood Mitigation Project outlined in Table 1 below.

Table 1. Twelve phases of the Bee Branch Watershed Flood Mitigation Project

Phase	Description	
1	Carter Road Detention Basin	Complete
2	West 32 nd Street Detention Basin	Complete
3	Historic Millwork District	Complete
4	Lower Bee Branch Creek Restoration	Complete
5	Flood Mitigation Gate Replacement	Under Design
6	Impervious Surface Reduction (Green Alleys)	Under Construction
7	Upper Bee Branch Creek Restoration	Partially Complete*
8	22 nd Street Storm Sewer Improvements	Under Construction
9	Flood Mitigation Maintenance Facility	
10	North End Storm Sewer Improvements	
11	Water Plant Flood Protection	
12	17 th Street Storm Sewer Improvements	Under Construction

*Upper Bee Branch Creek Restoration Project includes improvements through the railroad property at 506 Garfield Avenue also known as the Upper Bee Branch Creek Railroad Culverts Project

The Bee Branch Watershed Flood Mitigation Project will prevent an estimated \$582 million in damages over the 100-year design life of the project. Due to the contributions of local, state, and federal funding partners, Dubuque citizens will see a return on their investment of more than \$8 for each \$1 spent. The Bee Branch Watershed Flood Mitigation Project represents a multi - phased, fiscally responsible investment. It reflects a holistic approach to mitigate flooding as it will also improve water quality, stimulate investment, and enhance the quality of life of watershed residents.

On December 4, 2013, the Iowa Flood Mitigation Board voted to approve the City's use of \$98,494,178 for the Bee Branch Watershed Flood Mitigation Project – a multiphased, fiscally responsible investment that reflects a holistic approach to mitigate flooding as it will also improve water quality, stimulate investment, and enhance the quality of life of watershed residents. The funding allows much of the protection to be provided over the next six years, instead of over the next 20 years (only some of the 240 alleys will take up to 20 years).

On February 3, 2014 the City Council adopted Resolution 31-14 authorizing the execution of an agreement with the State of Iowa Flood Mitigation Board and authorizing the City's use of sales tax increment funding for the Bee Branch Watershed Flood Mitigation Project.

On March 5, 2014 the City Council passed Ordinance 16-14 establishing the stormwater utility fee rate structure necessary to fund the various phases and improvements associated with the Bee Branch Watershed Flood Mitigation Project. The result was that the lowering of rates previously established by Ordinance 21-12 in Fiscal Years 2015, 2016, 2017, 2018, 2019, 2020, and 2021. A comparison the current Stormwater Utility rates established via Ordinance 16-14 to the previously adopted rates established via Ordinance 21-12 are outlined in Table 2 below.

Table 2. Comparison of the current Stormwater Utility rates established via Ordinance 16-14 to the previously adopted rates established via Ordinance 21-12.

	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22 & Beyond
Rates Per Ordinance 21-12	\$8.00	\$8.50	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00	\$9.00
Current Rates Per Ordinance 16-14	\$5.98	\$6.38	\$6.81	\$7.27	\$7.76	\$8.29	\$8.85	\$9.00

In December of 2004, the City Council adopted the alignment for the Bee Branch Creek Restoration Project based on the work and recommendation of the Bee Branch Citizen Advisory Committee. The adopted alignment crossed the railroad yard at 506 Garfield Avenue now owned by Canadian Pacific.

In August of 2008, the City Council authorized the hiring of Strand & Associates (Madison, WI), in association with IIW Engineers (Dubuque, IA) and Ken Saiki Design (Madison, WI), to prepare the final design of the Bee Branch Creek Restoration Project which included the section through the railroad property at 506 Garfield Ave.

CP's January of 2015 response was considered a conditional approval of the design, citing four minor issues for the City to address. While the City was in a position to move forward negotiating a Construction Agreement with CP and possibly moving forward with the improvements through CP property, doing so would have delayed the upstream improvements such that the City risked the loss of \$4 million in grant funding (EDA, IDOT, & RECAT). Therefore, the City proceeded with completing the Upper Bee Branch Creek project upstream of the railroad property.

Completed through multiple contracts, again due to funding, the City proceeded with the construction of the Upper Bee Branch Creek Restoration Project. In May of 2015, the City Council adopted Resolution 176-15 awarding the contract for the Upper Bee Branch Creek – Channel, Streets, & Utilities Project. In May of 2015, the City Council adopted Resolution 177-15 awarding the contract for the Upper Bee Branch Creek – Structures Project. In October of 2015, the City Council adopted Resolution 351-15 awarding the contract for the Upper Bee Branch Creek Mississippi River Trail Project, the third contract associated with the Upper Bee Branch Creek Restoration Project. In

December of 2015, the City Council adopted Resolution 422-15 awarding the contract for the Bee Branch Creek Basin Overlook & 22nd Street Parking Lot Project, the fourth and final contract associated with the Upper Bee Branch Creek Restoration Project. The improvements were substantially complete by July of 2017.

In January 2016, the State was awarded \$95.7 million in HUD National Disaster Resiliency Competition grant funds. Per the award, the City of Dubuque is to receive \$8.4 million for a comprehensive “Bee Branch Healthy Homes Resiliency Program” to help residents address residual impacts from the flooding experienced within the Bee Branch Watershed. The City is also to receive \$23.1 million for storm water infrastructure improvements associated with the Bee Branch Watershed Flood Mitigation Project. The infrastructure improvements included the (Upper) Bee Branch Railroad Culvert Infrastructure Improvements through Canadian Pacific property at 506 Garfield Ave.

In October of 2016, the City Council adopted Resolution 362-16 authorizing the execution of a contract with the Iowa Economic Development Authority (IEDA) in order for the City to utilize \$23,293,253.00 in HUD National Disaster Resiliency Competition grant funds for the Bee Branch Watershed Flood Mitigation Project with \$9,000,000 specifically for the proposed culverts from the Lower Bee Branch Creek, through Canadian Pacific Railway property, to the Upper Bee Branch north of Garfield Avenue. This phase of the Bee Branch Creek Restoration Project is also referred to as the Bee Branch Railroad Culvert Infrastructure Improvements Project. The contract with IEDA requires that the City complete all of the improvements by June of 2021.

In July of 2017, the City and CP executed the Amended and Substituted Service Agreement reflecting the current approach to install the tunneled culvert system and establishing a new expiration date of December 31, 2018. Under the terms of the original agreement, the City paid CP \$100,499.56 for their reimbursable expenses. Per the amendment, both agreed that reimbursable expenses for CP services incurred after December 30, 2014 shall not exceed \$50,000, unless agreed upon through a subsequent amendment.

In December of 2018, the City Council adopted Resolution 385-18, authorizing the execution of a Construction Agreement and an Environmental Right of Access Agreement with Canadian Pacific Railway.

The Upper Bee Branch Creek Railroad Culverts Project (Project) represents the final contract associated with the Bee Branch Creek Restoration Project (Phase 4 & 7 of the Bee Branch Watershed Flood Mitigation Project). The improvements will allow for the efficient flow of floodwaters from the recently completed upper Bee Branch Creek improvements, through the railroad yard on Garfield Avenue, to the lower Bee Branch Creek.

Project elements include the installation of six, 8-foot diameter culverts under the railroad tracks using tunneling methods. This allows for the railroad operation to

continue unimpeded during the construction project. In addition to the culverts under the railroad tracks, the Project includes the extension of the box culverts installed under Garfield Avenue as part of the upper Bee Branch Creek improvements to a new buried junction chamber, or transition structure where the flow from the upper Bee Branch Creek will join with flow from the Bee Branch storm sewer from Pine Street. The combined flow will then flow under the railroad tracks through the tunneled pipes mentioned previously into the lower Bee Branch Creek. An outfall structure will be constructed where the water will flow into the lower Bee Branch Creek. This will include a headwall for the culverts, a flood gate with pump station to control the depth of water in the upper Bee Branch Creek, topped by a concrete pad that will allow access to the culverts and gate from above while also providing a plaza area for citizens to overlook the lower Bee Branch Creek. The Project also incorporates the existing box culverts underneath the railroad tracks into the flood control system. The design will allow the existing box culverts to serve dual functions: flood control and as a hike/bike path under the railroad tracks.

In addition to the improvements identified above, the Project is being bid with four "additive" alternative bid items that could be awarded based on the availability of City funds. The alternative bid items are as follows:

Bid Alternate 1 Additional Landscaping and Amenities	While the base bid includes the establishment of a minimum amount of landscaping and vegetation, this bid alternative includes additional planters, a mulch path along the west side of the Bee Branch to 16 th Street, additional bike racks, benches, where the new culverts will discharge into the Bee Branch Creek.
Bid Alternate 2 Site Furnishings	The site furnishings include shade structures and enhanced, architectural seating areas that would help create a sense of place at the new plaza area that will overlook the lower Bee Branch Creek.
Bid Alternate 3 Trail and Additional Tunnel Modifications	The trail and tunnel modifications involve the construction of the hike/bike trail such as the paving the trail, improvements to the box culverts to make them suitable for a trail, and adding tunnel lighting and cameras.
Bid Alternative 4 Sanitary Sewer Interceptor	This involves the installation of a 36-inch diameter sanitary sewer from the lower Bee Branch Creek to the sewer on Garfield Avenue installed as part of the upper Bee Branch Creek construction project. Currently, the flow from the existing sanitary sewer flows under the box culverts on Garfield Avenue through a siphon. Construction of the new sewer will allow the City to eliminate the need for a siphon.

DISCUSSION

On February 5, 2019, the City received five bids for the Upper Bee Branch Creek Railroad Culverts Project. Tricon General Construction, Inc of Dubuque, Iowa submitted the low base bid of \$25,900,000.00, which is 1.24% over the engineer's estimate. In addition to the base bid, there were alternate bid items. A summary of the bid proposals received is as follows:

Contractor Name	Base Bid	Base Bid with Alternates
Tricon General Construction, Inc of Dubuque, IA	\$25,900,000.00	\$28,483,000.00
Portzen Construction, Inc. of Dubuque, IA	26,374,000.00	29,269,100.00
Langman Construction, Inc of Rock Island, IL	27,587,000.00	29,385,000.00
Michels Corporation of Milwaukee, WI	41,383,287.00	45,800,795.00
Super Excavators, Inc of Menomonee, WI	45,290,000.00	49,120,000.00
ENGINEER'S ESTIMATE	\$25,582,982.00	\$28,911,473.00

In conjunction with the preparation of the Fiscal Year 2020 Budget, the funding plan and schedule of the various phases of Bee Branch Watershed Flood Mitigation Project were considered. The construction contract budget for the Upper Bee Branch Creek Railroad Culverts Project was set to match the engineer's base bid estimate of \$25,582,982.00. The construction contingency budget to be used to cover unexpected work that might arise during construction was set to be \$1,279,149.00 (5% of the construction contract budget). Because the low base bid received is 1.24% (or \$317,018.00) more than the proposed budget, there isn't funding within the budget to do the additional work outlined in the alternate bid items. But as the project proceeds toward completion, and the need for the contingency funding is better understood, it may be possible to re-bid the alternate bid item improvements and construct them with contingency savings. The City will also continue to look for grant funding assistance to help cover the cost of the alternate bid item improvements.

In order to award the base bid construction contract and cover the \$317,018.00 shortfall, the recommendation is to adjust the funding and schedule of other phases of the overall Bee Branch Watershed Flood Mitigation Project versus increasing the planned debt for the project or increasing previously adopted stormwater utility rates. The proposed schedule is shown in Table 3 below.

Table 3. Adjusted Schedule of Bee Branch Watershed Flood Mitigation Project Phases

Improvements	Previous Construction Schedule	Proposed Construction Schedule
Upper Bee Branch Creek Railroad Culverts	2019	2021
Flood Mitigation Gate & Pump Replacement ¹	2020	2021
17th Street & W. Locust Street Storm Sewer Improvements ²	2021	2021
22nd Street & Kaufmann Ave Storm Sewer Improvements ²	2021	2021
Flood Mitigation Maintenance Facility ³	2022	2028
North End Storm Sewers (25 th , 26 th , 27 th , 28 th , 29 th , & 30 th Streets)	2025	2029
Water Plant Flood Protection	2025	2031
Pervious Pavement Systems (Green Alleys) ⁴	2038	2040

¹A \$2.5 million EDA grant application is pending.

²Construction limits reduced due to funding limitations.

³Site cleanup underway with EPA funding support. Full buildout in 2028.

⁴Construction of the first 80 green alleys is complete.

While the final completion date for the Upper Bee Branch Creek Railroad Culverts Project is June 30, 2021, it is expected that the system will begin to provide flood mitigation benefits by the end of 2020.

RECOMMENDATION

I recommend that the City Council award the construction contract for the Upper Bee Branch Creek Railroad Culverts Project to Tricon General Construction, Inc. in the amount of the base bid of \$25,900,000.00.

BUDGET IMPACT

The recommendation outlines a plan that will allow the contract to be awarded and the project to proceed without increasing planned debt for the project and without increasing previously adopted stormwater utility rates. The recommendation will, however, require the rescheduling other phases of the overall Bee Branch Watershed Flood Mitigation Project because it includes shifting funding for other phases of the overall watershed project to this phase.

The estimate of probable cost for Upper Bee Branch Creek Railroad Culverts Project is as follows:

	ESTIMATE	BID
Construction	\$25,582,982.00	\$25,900,000.00
Contingency (~5%)	1,279,149.00	1,279,149.00
Property Acquisitions	410,000.00	410,000.00
Engineering	3,596,200.00	3,596,200.00
Total Project Cost	\$30,868,331.00	\$31,185,349.00

The proposed project funding is summarized as follows:

Funding Source	Amount
HUD CDBG NDR Grant	\$12,559,703 ¹
U.S. EPA Clean Water SRF Loan	16,300,000 ²
State Sales Tax Increment Funding	1,279,149
State Sales Tax Increment Bond	1,046,497
Total	\$31,185,349

¹Allocating \$12,559,703 of HUD funding to the railroad culvert improvements will leave \$10,540,297 for the 22nd & Kaufmann Storm Sewer Improvements Project and the 17th & W. Locust Street Storm Sewer Improvements Project which is \$3,559,703 less than originally planned such that it will impact the construction limits of these improvements.

²The U.S. EPA Clean Water SRF loan will be paid back using stormwater utility fee revenue.

ACTION TO BE TAKEN

I respectfully request adoption of the attached resolution awarding the construction contract for the Upper Bee Branch Creek Railroad Culverts Project to Tricon General Construction, Inc of Dubuque, Iowa in the base bid amount of \$25,900,000.00 and

modifying the construction schedule of improvements associated with the Bee Branch Watershed Flood Mitigation Plan outlined herein so that awarding the contract for the Upper Bee Branch Creek Railroad Culverts Project can be done without increasing planned debt and without increasing previously adopted Stormwater Utility rates.

Attachments

Prepared by Deron Muehring

cc: Crenna Brumwell, City Attorney
Barry Lindahl, Senior Corporation Counsel
Jenny Larson, Budget Director
John Klostermann, Public Works Director
Steve Brown, Project Manager
Deron Muehring, Civil Engineer