



**STATE OF IOWA
FLOOD MITIGATION PROGRAM
PROGRESS REPORT**

PERIOD COVERED BY THIS REPORT	11/1/2020	to	4/30/2021
LOCAL CONTACT NAME:	Deron Muehring		
GOVERNMENTAL ENTITY:	City of Dubuque		
ADDRESS:	50 West 13th Street		
	Dubuque, IA 52001		
TELEPHONE NUMBER:	563-589-4110		
PROJECT TITLE:	Bee Branch Watershed Flood Mitigation Project		
AGREEMENT NUMBER:	2013-0		
ACTIVITY COMPLETION TIMEFRAME:	12/4/2013	to	12/31/2033

	FEDERAL	LOCAL	STATE	TOTAL
TOTAL FUNDS APPROVED:	\$ 34,756,556	\$ 76,678,802	\$ 98,494,178	\$ 209,929,536
TOTAL FUNDS EXPENDED TO DATE:	\$ 25,287,322	\$ 66,574,003	\$ 65,415,327	\$ 157,276,652
PROJECT OVERRUN/ (UNDERRUN):	\$ 9,469,234	\$ 10,104,799	\$ 33,078,851	\$ 52,652,884

The percentage of actual work that has been completed at the end of the reporting period (not a % of funds expended) **70.00%**

The estimated cost of the project at completion (which may even exceed the awarded amount) **\$ 248,242,053**

Type of Expense & Funding Source	Budget (from Application)	Federal Local or State	Total Expended to Date	Remaining Balance
Engineering/Contractual Services:	\$ 17,817,601			
Carter Road Detention Basin - General Obligation Bonds		Local/State	\$ 560,230	
West 32nd Street Detention Basin - U.S. EPA State Revolving Funds		Federal	\$ 115,164	
West 32nd Street Detention Basin - Stormwater Utility Fees		Local/State	\$ 36,242	
West 32nd Street Detention Basin - General Obligation Bonds		Local/State	\$ 844,275	
Historic Millwork District - General Obligation Bonds		Local/State	\$ 225,430	
Historic Millwork District - Stormwater Utility		Local/State	\$ 502,809	
Lower Bee Branch Legal Services - U.S. EPA State Revolving Funds		Federal	\$ 849,637	
Lower Bee Branch Engineering - U.S. EPA State Revolving Funds		Federal	\$ 338,003	
Lower Bee Branch Engineering - Stormwater Utility		Local/State	\$ 1,592,959	
Upper Bee Branch Creek Engineering - State Sales Tax Increment Bond		Local/State	\$ 4,831,020	
Upper Bee Branch Creek Legal Services- State Sales Tax Increment Bond		Local/State	\$ 167,288	
Upper Bee Branch Creek Engineering - Stormwater Utility Fees		Local/State	\$ 2,376,951	
Upper Bee Branch Creek Engineering - General Obligation Bond		Local/State	\$ 1,173,197	
Upper Bee Branch Creek Engineering - U.S. EPA State Revolving Funds		Federal	\$ 6,342,564	
Flood Mitigation Maintenance Facility Design - State Sales Tax Increment Bond		Local/State	\$ 369,095	
Flood Mitigation Gate Replacement - State Sales Tax Increment Bond		Local/State	\$ 1,245	
Flood Mitigation Gate Replacement - Stormwater Utility Fees		Local/State	\$ 991,275	
17th Street/West Locust Storm Sewer Engineering - Sales Tax Increment Bond 1X0002		Local/State	\$ 139,542	
Impervious Surface Reduction - U.S. EPA State Revolving Funds		Federal	\$ 1,695,679	
22nd Street Storm Sewer Construction - Sales Tax Increment Bond		Local/State	\$ -	
Bee Branch Creek Railroad Culverts - U.S. EPA State Revolving Fund (SRF) - Legal - 1X0010		Federal	\$ 15,125	
Bee Branch Creek Railroad Culverts - State Sales Tax Increment Bond - Engineering 1X0010		Local/State	\$ -	
TOTAL			\$ 23,167,730	\$ (5,350,129)

Property Acquisition & Easement:	\$	19,301,143			
Carter Road Detention Basin - Purchase/Deconstruction - Stormwater Utility Fees			Local/State	\$	140,833
West 32nd Street Detention Basin - Purchase/Deconstruction - General Obligation Bonds			Local/State	\$	2,144,713
Lower Bee Branch Creek -Purchase/ Deconstruction/ Maintenance of Housing - Storm Water Utility Fees			Local/State	\$	1,157,577
Lower and Upper Bee Branch Creek -Purchase/ Deconstruction/ Maintenance of Housing - General Obligation Bonds			Local/State	\$	13,676,887
Upper Bee Branch Creek -Purchase/ Deconstruction/ Maintenance of Housing - State Sales Tax Increment Bond			Local/State	\$	2,373,206
17th Street/West Locust Storm Sewer Property Acquisition/Easements - Sales Tax Increment Bond			Local/State	\$	-
Flood Mitigation Maintenance Facility - Purchase/ Deconstruction/ Maintenance of Housing - State Sales Tax Increment Bond			Local/State	\$	691,987
22nd Street Storm Sewer Property Acquisition & Easement: - Sales Tax Increment Bond			Local/State	\$	-
	TOTAL			\$	20,185,202
					\$ (884,059)
Construction:	\$	139,593,792			
Carter Road Detention Basin - General Obligation Bonds			Local/State	\$	749,062
West 32nd Street Detention Basin - U.S. EPA State Revolving Funds			Federal	\$	1,711,836
Historic Millwork District - General Obligation Bonds			Local/State	\$	1,649,072
Historic Millwork District - TIGER Grant			Local/State	\$	5,600,000
Lower Bee Branch - State Sales Tax increment			Local/State	\$	31,435
Lower Bee Branch - U.S. EPA State Revolving Funds			Federal	\$	6,843,436
Lower Bee Branch - I-Jobs II Grant			Local/State	\$	3,695,500
Lower Bee Branch - RECAT Grant			Local/State	\$	189,142
Lower Bee Branch - Storm Water Utility			Local/State	\$	1,020,966
Lower Bee Branch - Repair lightning damage - State Sales Tax Increment Bond			Local/State	\$	658
Construction Trailer - State Sales Tax Increment Bond			Local/State	\$	17,670
Upper Bee Branch Creek Construction - State Sales Tax Increment Bond			Local/State	\$	18,688,165
Upper Bee Branch Creek Construction - U.S. EPA State Revolving Funds			Federal	\$	22,951,178
Upper Bee Branch Creek Construction - DMATS			Local/State	\$	940,000
Upper Bee Branch Creek Construction - RECAT			Local/State	\$	2,060,858
Upper Bee Branch Creek Construction - EDA			Federal	\$	1,227,138
Upper Bee Branch Creek Construction - NSB			Local/State	\$	1,000,000
Upper Bee Branch Creek Construction - SRT			Local/State	\$	100,000
17th Street/West Locust Storm Sewer Construction - Sales Tax Increment Bond			Local/State	\$	1,964,724
Impervious Surface Reduction - U.S. EPA State Revolving Funds			Federal	\$	7,704,321
Impervious Surface Reduction - State Sales Tax Increment			Local/State	\$	1,383,448
22nd Street Storm Sewer Construction - Sales Tax Increment Bond			Local/State	\$	1,660,375
Bee Branch Creek Railroad Culverts - U.S. EPA State Revolving Fund (SRF) - 1X0010			Federal	\$	12,601,372
	TOTAL			\$	93,790,356
					\$ 45,803,436
Contingency:	\$	11,337,000			
				\$	-
	TOTAL			\$	-
					\$ 11,337,000

Financing Interest:	\$	17,430,000		
Carter Road Detention Basin GO Bond			\$	883,161
W. 32nd Street Detention Basin SRF Loan			\$	594,175
Lower Bee Branch Creek SRF Loan			\$	2,192,728
Lower Bee Branch GO Debt			\$	5,000,212
Green Alley SRF Debt			\$	932,285
Historic Millwork District - General Obligation Bonds			\$	1,926,967
Sales Tax Increment Bond Series 2014A			\$	2,086,688
Sales Tax Increment Bond Series 2015A			\$	4,165,116
Upper Bee Branch Creek 2015 SRF loan			\$	2,221,189
Upper Bee Branch Creek 2019 SRF loan			\$	130,843
	TOTAL		\$	20,133,364
				\$ (2,703,364)

Financing Reserve:	\$	4,450,000		
			\$	-
	TOTAL		\$	-
				\$ 4,450,000

Total Project Budget Summary	\$	209,929,536	\$	157,276,653	\$	52,652,883
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FUNDING SOURCE:	FEDERAL (from Application)	LOCAL (from Application)	STATE (from Application)	Total Expended to Date
U.S. EPA Clean Water SRF	\$ 49,021,052			\$ 48,551,818
U.S. EDA Disaster Relief Grant	\$ 1,227,138			\$ 1,227,138
U.S. DOT TIGER Grant		\$ 5,600,000		\$ 5,600,000
I-Jobs II Grant		\$ 3,965,500		\$ 3,695,500
RECAT Grant		\$ 2,250,000		\$ 2,250,000
U.S. DOT National Scenic Byways Grant		\$ 1,000,000		\$ 1,000,000
State Recreational Trail Grant		\$ 100,000		\$ 100,000
DMATS		\$ 940,000		\$ 940,000
General Obligation Bonds		\$ 48,227,604		\$ 33,639,363
Private Donations		\$ 165,244		\$ 207,875
Sale of Assets and Land		\$ 336,358		\$ 585,802
Stormwater Utility Fees		\$ 14,394,096		\$ 18,555,463
Sanitary Sewer Fees				\$ -
U.S. EPA Clean Water SRF (repayment)	\$ (24,491,634)		\$ 24,491,634	\$ -
Sales Tax Increment			\$ 74,002,544	\$ 40,923,693
Total Project Funding Source	\$ 25,756,556	\$ 76,978,802	\$ 98,494,178	\$ 157,276,653

Indebtedness Incurred (Bonds, etc.)	Rate of Interest	Length of Term (start & end)	Costs of Issuance	Net Proceeds
Sales Tax Increment Revenue Bond (Series 2014A)	3.23%	6/16/14-6/1/29	\$ 40,398	\$ 8,120,912
Sales Tax Increment Revenue Bond (Series 2015A)	3.78%	6/15/15-6/1/31	\$ 110,950	\$ 20,637,011
Upper Bee Branch SRF2015	1.18%	6/15/15-6/1/31	\$ 785,524	\$ 30,941,000
Upper Bee Branch SRF2019	1.75%	6/1/19-6/1/40	\$ 81,910	\$ 16,382,000

NON-PUBLIC INVESTMENT - Entity	Total to Date
Gronen Restoration & Tennant Modifications - Caradco Building - Millwork District	\$ 33,000,000
Novelty Ironworks - 333 E. 10th Street - Ryan Derks	\$ 20,760,000
Residential Improvements/Additions - <i>(Various see Attachment B)</i>	\$ 20,608,296
Rainbo Oil - 1260 E. 16th Street	\$ 5,000,000
Morrison Brothers - East 7th Street	\$ 4,300,000
Graybill Custom Builders - New Residential Development - Ashley Lane/Danlin Ct	\$ 4,025,000
Dubuque Stamp - 3190 Jackson Street	\$ 3,000,000
Mark GudenKauf - New Residential Development - Peach Tree Lane	\$ 2,126,000
Engine House - 1805 Central	\$ 1,910,000
Bethany Home - 1005 Lincoln Ave - Addition	\$ 1,886,000
Commercial Improvements - <i>(Various see Attachment B)</i>	\$ 1,819,147
Walgreens - 345 E 20th St	\$ 1,004,390
Gronen Restoration - Betty Building - 151 E. 9th Street	\$ 1,000,000
M & M Schultz Properties LLC - 3422 Asbury Road	\$ 575,600
Salvia House LTD - 196 Kaufmann	\$ 523,000
Gronen Restoration - St. Mary's Campus - 15th & White Street	\$ 400,000
Weaver Castle - 324 - 326 W Locust Street	\$ 400,000
Weaver Castle - 407-409 Loras Blvd	\$ 400,000
Emmaus Bible School - 2570 Asbury Road	\$ 290,000
Davis Place Apartments - 601 Garfield	\$ 232,440
Dubuque Furniture & Flooring	\$ 100,000
Rusk Building - 1104 White Street	\$ 16,500
Nottingham Properties - 485 Locust Street	\$ 12,500
Richards or High Building - Central	\$ 6,800
Total Non-Public Investment	\$ 103,395,673

Project Status- entire project (Check One)	Description of significant activities this semi-annual term . Include comparison of actual accomplishments to the objectives identified in your application. Attach pictures and a narrative. Status changes or delays, please explain reason.
<input checked="" type="checkbox"/> On Schedule	Please see the attached project update.
<input type="checkbox"/> Delayed	
<input type="checkbox"/> Canceled	
<input type="checkbox"/> Completed	
<input type="checkbox"/> Suspended	

Application Work Schedule (Milestones)			Milestone Status
#	Description:	Submitted Completion Date:	Actual Completion Date:
1	Receive Grant Agreement from FMP	2/4/2014	12/4/2013
2	Carter Road Detention Basin	12/4/2013	12/4/2013
3	W. 32nd Street Detention Basin	12/4/2013	12/4/2013
4	Historic Millwork District	12/4/2013	12/4/2013
5	Lower Bee Branch Creek Restoration	6/4/2015	Functional
6	Flood Mitigation Gate Replacement	6/4/2015	
7	Impervious Surface Reduction	12/4/2033	
8	Upper Bee Branch Creek Restoration	12/4/2016	8/28/2017
9	Upper Bee Branch Creek Restoration (Lower Bee Branch to Garfield - Railroad Culverts)	12/4/2016	
10	22nd St Storm Sewer Impr. (Elm to White)	6/4/2020	11/15/2018
11	22nd St Storm Sewer Impr. (White to Francis)	6/4/2020	
12	22nd St Storm Sewer Impr. (Francis to N. Main)	6/4/2020	
13	Flood Mitigation Maint. Facility	6/4/2020	
14	North End Storm Sewer Impr.	12/4/2017	
15	Water Plant Flood Control	6/4/2020	
16	17th St Storm Sewer Impr. (Pine to Elm)	12/4/2020	12/21/2017
17	17th St Storm Sewer Impr. (Elm to Heeb)	12/4/2020	
18	Project Closeout Activities	12/31/2033	

Person Completing this Report:	Deron Muehring, Civil Engineer
Date:	5/14/2021
I, the undersigned, hereby certify that the above information is accurate and true, and in accordance with the approved project plan and state and federal regulations and policies governing this award.	
signature on file	
Signature of Authorized Representative or Governmental Entity	
Jennifer Larson, Director of Budget & Finance	
Name of Authorized Representative or Governmental Entity	

City of Dubuque Bee Branch Watershed Flood Mitigation Project Progress Report Narrative (4-30-21)

PROJECT STATUS

While steady progress is being made on multiple phases of the Bee Branch Watershed Flood Mitigation Project, completion of a few of the phases were delayed beyond the milestone dates outlined in the original project application. When the bid for a contract associated with Phase 7 came in \$9 million over budget, the shift in funding necessary to proceed affected the timeline of other phases.

Phase 1 – Carter Road Detention Basin [Complete]

Mowing and debris removal performed as planned.

Phase 2 – W.32nd Street Detention Basin [Complete]

Mowing and debris removal performed as planned. A controlled burn was performed in April of 2017. Sediment removal is planned for late fall/winter of 2020.

Phase 3 – Historic Millwork District [Complete]

Pervious pavements are inspected and cleaned per adopted schedule.

Phase 4 – Lower Bee Branch Creek Restoration [Milestone Completion Date: June of 2015]

Substantially complete, progress continues on the Lower Bee Branch Creek Restoration. In the fall of 2020, the security system network improvements were completed. And the dual-purpose maintenance/bike trail around the southeastern edge of the Bee Branch ponding area is under design with construction expected in 2022.

The Leisure Services Department continues mowing and trash/debris removal as needed. A controlled burn of the prairie grass along the creek and around the ponding area was completed to eliminate invasive, non-native plant species.

Phase 5 – Flood Mitigation Gate & Pump Replacement [Milestone Completion Date: June of 2015]

Due to the record rainfalls in 2010 (a 100-year rain event) and 2011 (a 500-year rain event) that impacted the Bee Branch Watershed, it was prudent to consider modifications to the facility such that it would accommodate something larger than a 10-year event as originally designed. The City hired IIW Engineers to evaluate five alternatives. The preferred alternative included the:

- Replacement of the existing flood gates;

- Installation of an additional flood gate;
- Replacement of the existing flood pumps and installation of additional pumps;
- Replacement and updating of the electrical service to current standards;
- Installation on an additional back-up generator for the additional pumps.

And recently, the United States Army Corps of Engineers (USACE) completed an engineering analysis that showed that the preferred option would accommodate the 500-year rain event.

This alternative was chosen because it best addresses the flooding that has been occurring since 1999. It also provides for additional resiliency options as rainstorms increase in both depth and intensity. This represents an expanded scope over what was originally proposed in the City’s State Flood Mitigation Program application (Application) which considered just the replacement of the gates at an estimated cost of \$4,512,464.00.

The City of Dubuque’s consulting engineer, IIW PC, has been working to develop and refine the project design for the 16th St. Detention Basin Food Gates project. With the development of the 90% design plans, the cost estimate for the project has increased significantly. The current cost estimate is \$17.1 million. Thus, the project is now estimated at \$15 million over the original budget reflected in the Bee Branch Watershed Flood Mitigation Project submitted with the City’s Application.

The City sought additional grant funding to offset the cost associated with the expanded scope and was successful in securing a \$2.5 million grant through the U. S. Economic Development Administration (EDA). With the EDA grant funding, the City costs is \$14.6 million. The current schedule for the improvements is as follows:

Event/Milestone	Date of Completion
90% Design of improvements	July 2020
Submission of Final Plans and Specifications, Construction and Floodplain Permits to USACE	September 2020
Approval of Final Plans/Construction Permitting from USACE	June 2021
Initiate Bidding	July 2021
Award of Construction Contract	August 2021
Construction Start	September 2021
Construction Completed	September 2023

Because of the scope and associated cost increase, construction of the Bee Branch Flood Mitigation Gate & Pump Replacement project might delay other phases of the 12-phase Bee Branch Watershed Flood Mitigation Project.

Phase 6 – Impervious Surface Reduction [Milestone Completion Date: December of 2033]

To date 80 of 240 impervious alleys have been converted into green alley, pervious pavement systems. The \$9.4 million in SRF sponsorship funding has been exhausted as anticipated. The construction of green alley pervious pavement systems will resume in 2021.

The Public Works Department continues to inspect the pervious pavement systems on a semi-annual basis, vacuum sweeping them annually and more frequently on an as-needed basis.

Phase 7 – Upper Bee Branch Creek Restoration [Milestone Completion Date: December of 2016]

The improvements were to be bid and constructed under multiple contracts. One contract came in \$9 million over the City budget. Therefore, it looked as if the \$9 million shortfall would delay the bidding and construction of the final Phase 7 improvements involving the installation of culverts through railroad property in order to pass floodwaters from the Phase 7 improvements to the Phase 4, Lower Bee Branch Creek, improvements. But in early 2016, it was announced that the City would receive \$9 million through the HUD National Disaster Resiliency Competition (HUD NDRC) to cover the shortfall associated with Phase 7 of the Bee Branch Watershed Flood Mitigation Project. In order to remain eligible for the \$9 million in HUD funding for the improvements through the railroad property, the City had to wait until a grant agreement between HUD and the State and an agreement between the State and the City was in place. This was accomplished in October of 2016. In March of 2017, in accordance with HUD requirements, the City executed a new contract with the City's consulting engineers to provide engineering design services for the improvements through the railroad property. And in June of 2017, the City Council authorized the hiring of Ahlers & Cooney law firm to provide legal services pertaining to the negotiations with the owner of the railroad, Canadian Pacific (CP) and other property acquisitions necessary for the improvements.

In February of 2019, the City awarded the construction contract for the Upper Bee Branch Creek Railroad Culverts Project in the amount of \$25,900,000.00, which was 1.24% over the engineer's estimate. 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 work was completed in late October of 2020. In addition to the culverts under the railroad tracks, the Project includes the extension of the box culverts installed under Garfield Avenue, work that was completed in early 2020. The large junction chamber immediately upstream of the tunneled culverts was completed in early May 2021. Work continues on the outfall structure, immediately downstream of the tunneled culverts. will be

These improvements 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. With construction underway, it is scheduled to be complete in September 2021.

Phase 8 – 22nd St/Kaufmann Ave Storm Sewer Impr. [Milestone Completion Date: December of 2016]

Engineering consultants are under contract designing the improvements for the entire stretch of the project limits. The construction contract for the first segment of the improvements, from Elm Street to White Street, was awarded in April of 2018 in the amount of \$2,548,366.71. It is now complete. The construction contract for the second segment, from White Street to Francis Street, was awarded in March of 2019 in the amount of \$2,349,054.47. It is also complete. Construction of the third and final segment, from Francis to North Main Street was also completed in late 2020.

Phase 9 – Flood Mitigation Maintenance Facility [Milestone Completion Date: June 2020]

The City has purchased the two properties required for the facility. Site clearing activities are under way, first addressing the environmental issues with the property. The City has been working with the US EPA to develop the scope of the cleanup activities for the brownfield site. The site has also been enrolled in the Iowa Department of Natural Resources voluntary Land Recycling Program. Cleanup of the easterly property is complete. Cleanup activity of the westerly property, which has been delayed due to the COVID-19 pandemic, will begin in 2021. It is expected to be complete by October of 2021. Design of the maintenance facility will follow completion of the cleanup activity.

Phase 10 – North End Storm Sewer Improvements [Milestone Completion Date: December 2017]

This phase of the project has been delayed in conjunction with the delays associated with Phase 4 and Phase 7 as they must be completed first.

Phase 11 – Water Plant Flood Control [Milestone Completion Date: June 2020]

The USACE created a sophisticated computer model that can predict the depth of inundation, time to inundation, and inundation paths at critical infrastructure for hypothetical levee breach scenarios. The USACE levee breach analysis was not initiated because of any known imminent risk of failure to the levee protecting Dubuque, but instead as an effort to improve emergency planning and communication of the potential risks associated with the levee. The main goal of their work was to further advance the USACE's new computer software tool [HEC-RAS 5.0]. It also helped to further their mission to ensure that the public understands the risks of "living

behind a levee.” In 2015, the City hired engineering consultant HDR to advance the 2-D modeling work started by the USACE. HDR refined the model by adding break lines to better match the existing terrain, spatially varied flow path characteristics, and incorporated the existence of buildings within the model. The City will be able to utilize the model when designing the flood control/prevention system to protect the City’s sole potable water treatment plant from flooding. The study is now complete. It will aid in the planned design of the water plant flood protection system.

Phase 12 – 17th St/W. Locust Storm Sewer Impr. [Milestone Completion Date: December 2020]

The first segment, between Pine Street and Elm Street, was completed in late 2017 for \$1,155,286.32. The second segment, between Elm Street and Heeb Street is also now complete at a construction contract cost of \$3,720,555.75. The third, and final segment, between Heeb Street and Iowa Street, is under contract with work to be completed in the spring of 2021.