

**PROJECT NAME: Stormwater Master Plan**

**PROJECT ID: 7.01**

**PROJECT TYPE: Stormwater Management**

**SUBMITTED BY: City Staff**

**PRIORITY: IMPORTANT**

**TOTAL COST: \$239,000**

**YEARS IN CIP (Beginning year): 2 (2013)**

**DESCRIPTION:**

Comprehensive stormwater infrastructure analysis and study encompassing the entire City.

**PROJECT JUSTIFICATION:**

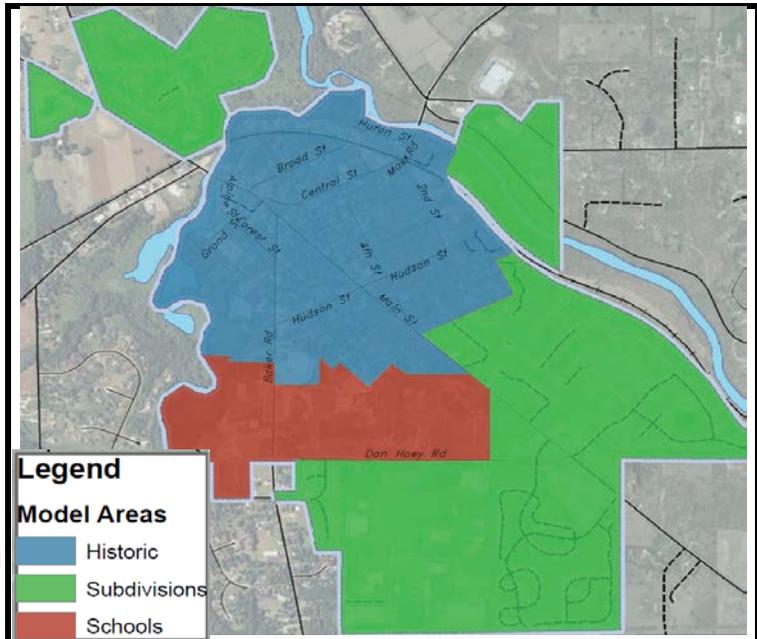
Value indicates the degree to which the project will help to: 0=Not Applicable  
1=Somewhat Important 2=Important 3=Very Important

2	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
2	Reduce energy consumption, impact on the environment
2	Enhance social, cultural, recreational, aesthetics opportunities
2	Improve customer service, convenience for citizens
<b>11</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Tool to help better identify, prioritize, plan for and manage stormwater improvement projects.

**LOCATION MAP:**



**MASTER PLAN AND/OR STUDY REFERENCE:**

MS4 Permit; Stormwater Education; Long Range Planning for Stormwater needs

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End	
	Month	Year	Month	Year
Study:		2013		2014
Design/Acquisition:				
Construction:				

SAW Grant application submitted Dec 2014. While application not selected in SAW Lottery it remains eligible for funding in the future.

**PROJECT COST DETAIL:**

Major/Local Streets	\$20,200
S2 Grant	\$215,130
Schools	\$3,670

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Major/Local Streets					\$22			\$22
S2 Grant					\$215			\$215
Schools					\$3			\$3
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$240	\$0	\$0	\$240



**PROJECT NAME: Regional Storm Basin**

**PROJECT ID: 7.03**

**PRIORITY: IMPORTANT**

**PROJECT TYPE: Stormwater Management**

**TOTAL COST: \$274,000**

**SUBMITTED BY: City Staff**

**YEARS IN CIP (Beginning year): 6 (2009)**

**DESCRIPTION:**

Construct a wetland within the Mill Creek watershed at the end of 2 storm outfalls along Baker Road behind the day care center. The wetland will serve as a stormwater treatment facility, educational area and can hold additional storm water generated from development in the area.

**LOCATION MAP: West of Baker Road, north of schools**



**PROJECT JUSTIFICATION:**

Value indicates the degree to which the project will help to: 0=Not Applicable 1=Somewhat Important 2=Important 3=Very Important

3	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
3	Reduce energy consumption, impact on the environment
2	Enhance social, cultural, recreational, aesthetics opportunities
1	Improve customer service, convenience for citizens
<b>12</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Will improve the quality of up to 15% of the stormwater from the City entering the Mill Creek and reduce the nutrients, sediments, etc entering the creek and improve the natural habitat with the creek.

**MASTER PLAN AND/OR STUDY REFERENCE:**

Clean Michigan Initiative (CMI) Part 319 Grant Application 2009 and 2010, both denied - AND Mill Creek Park Master Plan

**SCHEDULE:**

	Start		End	
	Month	Year	Month	Year
Study:		2008		2009
Design/Acquisition:		2010		2011
Construction:		2011		2012

**SCHEDULE JUSTIFICATION:**

CMI Grant not awarded, application will be resubmitted as CMI priorities meet City needs. City should consider HRWC submittal of project based on funding awards in 2009. Project should be coordinated with other funded projects, including Mill Creek Park Development or private redevelopment of the former PILOT site on Grand Street. Project should also be included in Stormwater Asset Management Plan.

**PROJECT COST DETAIL:**

Constructed Wetland	Major/Local Streets	\$69,000
	CMI 319 Grant	\$205,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Street Fund					\$69			\$69
CMI 319 Grant/Other					\$205			\$205
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$274	\$0	\$0	\$274

**PROJECT NAME: Baker Road Storm Channel Rehabilitation**

**PROJECT ID: 7.04**

**PRIORITY: IMPORTANT**

**PROJECT TYPE: Stormwater Maintenance**

**TOTAL COST: \$50,000**

**SUBMITTED BY: City Staff**

**YEARS IN CIP (Beginning year): 6 (2009)**

**DESCRIPTION:**

Rehabilitate the storm channel between the storm outlet from Baker Road and the proposed constructed wetland with pool steps and riparian buffers. Current channel heavily eroded from flash flows and likely contributes to significant sediment in Mill Creek.

**LOCATION MAP: West of Baker Road north of schools**



**PROJECT JUSTIFICATION:**

Value indicates the degree to which the project will help to: 0=Not Applicable 1=Somewhat Important 2=Important 3=Very Important

3	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
3	Reduce energy consumption, impact on the environment
2	Enhance social, cultural, recreational, aesthetics opportunities
2	Improve customer service, convenience for citizens
<b>13</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Reduction of pollutants entering the Mill Creek, rehab of a channel that is heavily eroded, improve quality of stormwater entering the Mill Creek watershed.

**MASTER PLAN AND/OR STUDY REFERENCE:**

Clean Michigan Initiative (CMI) Part 319 Grant Application 2009 and Mill Creek Park Master Plan

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End	
	Month	Year	Month	Year
Study:		2008		2009
Design/Acquisition:		2010		2010
Construction:		2014		2015

Outlet from baker should be considered priority due to potential damage to sidewalk and road. Completion of outlet rehab TOP priority and should be funded ASAP to protect roadway and pedestrians. Remainder of project important and should be considered when funding available. CMI and SAW Grants should be actively pursued.

**PROJECT COST DETAIL:**

Channel Rehabilitation	Major/Local Streets	\$14,000
	CMI 319 Grant	\$36,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Streets Fund				\$14				\$14
CMI 319 Grant				\$36				\$36
<b>TOTALS</b>	\$0	\$0	\$0	\$50	\$0	\$0	\$0	\$50

**PROJECT NAME: Fourth Street Storm Sewer**

**PROJECT ID: 7.05**

**PRIORITY: IMPORTANT**

**PROJECT TYPE: Storm Sewer Construction TOTAL COST: \$100,000**

**SUBMITTED BY: Utility Department**

**YEARS IN CIP (Beginning year): 10 (2005)**

**DESCRIPTION:**

Construction of storm sewer near the old library site (Fourth Street between Central and Broad Streets) to reduce flooding and soil erosion. Curb and gutter should be considered to accommodate on street parking.

**LOCATION MAP: Fourth St between Central and Broad**



**PROJECT JUSTIFICATION:**

Value indicates the degree to which the project will help to: 0=Not Applicable 1=Somewhat Important 2=Important 3=Very Important

3	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
2	Reduce energy consumption, impact on the environment
1	Enhance social, cultural, recreational, aesthetics opportunities
2	Improve customer service, convenience for citizens
<b>11</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Improve stormwater conveyance, eliminate yard flooding and eliminate erosion of roadway shoulder.

**MASTER PLAN AND/OR STUDY REFERENCE:**

Storm Water Management Study 2004 and OHM recommendation

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End		Project should be coordinated with any redevelopment of the former library site OR should be completed following Fifth and Central Street drainage issues.
	Month	Year	Month	Year	
Study:		2004		2005	
Design/Acquisition:		2014		2015	
Construction:		2015		2016	

**PROJECT COST DETAIL:**

Storm sewer construction Major/Local Streets \$100,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Streets Fund					\$100			\$100
								\$0
								\$0
								\$0
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$100	\$0	\$0	\$100

**PROJECT NAME: Grand Street Storm Sewer**

**PROJECT ID: 7.06**

**PRIORITY: IMPORTANT**

**PROJECT TYPE: Storm Sewer Construction**

**TOTAL COST: \$135,000**

**SUBMITTED BY: Utility Department**

**YEARS IN CIP (Beginning year): 6 (2009)**

**DESCRIPTION:**

Adding storm sewer along Grand Street improves the redevelopment potential in accordance with the DDA Plan. Storm sewer is needed to convey water off-site and accommodate development. Swales would likely be used on south side of street. Water can be conveyed to Mill Pond park detention area for additional treatment.

**LOCATION MAP: Grand Street between Baker and Mill Creek**



**PROJECT JUSTIFICATION:**

Value indicates the degree to which the project will help to: 0=Not Applicable 1=Somewhat Important 2=Important 3=Very Important

2	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
2	Reduce energy consumption, impact on the environment
1	Enhance social, cultural, recreational, aesthetics opportunities
2	Improve customer service, convenience for citizens
<b>10</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Improves redevelopment potential, improves the City's storm sewer system, meets Phase 2 requirements.

**MASTER PLAN AND/OR STUDY REFERENCE:**

Storm Water Management Study 2004 and DDA Development Plan recommendations

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End	
	Month	Year	Month	Year
Study:		2004		2010
Design/Acquisition:		2014		2015
Construction:		2015		2016

Additional research will be necessary for project, should be coordinated with Mill Creek Park storm basin construction, water and sewer improvements slated in conjunction with redevelopment along Grand Street.

**PROJECT COST DETAIL:**

Storm sewer construction Major/Local Streets \$135,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Streets Fund					\$135			\$135
								\$0
								\$0
								\$0
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$135	\$0	\$0	\$135

**PROJECT NAME: Storm Outlet Rehabilitation**

**PROJECT ID: 7.07**

**PRIORITY: DESIRABLE**

**PROJECT TYPE: Storm Water Maintenance**

**TOTAL COST: \$200,000**

**SUBMITTED BY: City Staff**

**YEARS IN CIP (Beginning year): 6 (2009)**

**DESCRIPTION:**

Storm outlets within the City are in need of rehabilitation. Locations include outdoor lab outlet from Walkabout Creek and other small outlets into the Mill Creek and Huron River.

**PROJECT JUSTIFICATION:**

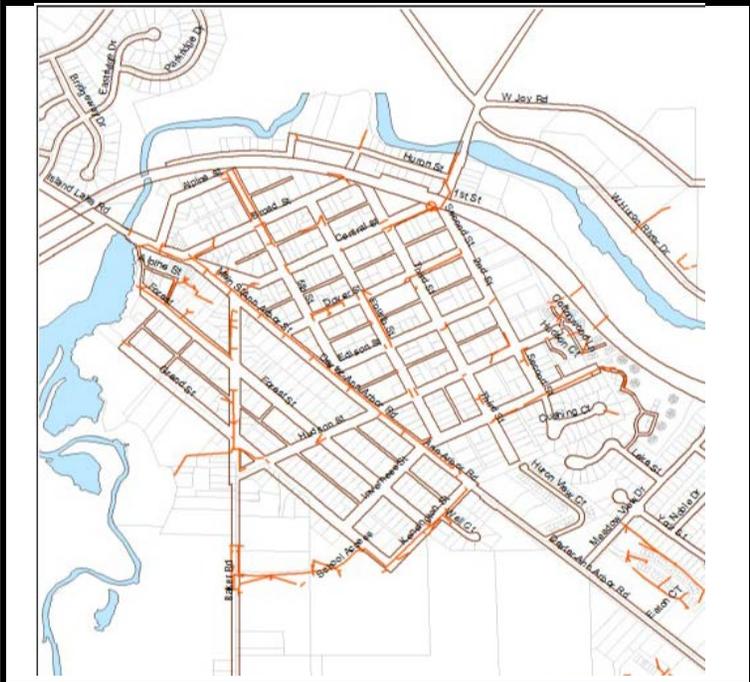
Value indicates the degree to which the project will help to: 0=Not Applicable  
1=Somewhat Important 2=Important 3=Very Important

2	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
3	Reduce energy consumption, impact on the environment
2	Enhance social, cultural, recreational, aesthetics opportunities
1	Improve customer service, convenience for citizens
<b>11</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Compliance with Phase 2 regulations, reduction in pollutants entering the Mill Creek and Huron River and improved infrastructure

**LOCATION MAP:**



**MASTER PLAN AND/OR STUDY REFERENCE:**

Storm Water Management Study 2004, Mill Creek Master Plan and regional trail coordination

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End	
	Month	Year	Month	Year
Study:		2011		2012
Design/Acquisition:		2013		2014
Construction:		2015		2016

Project is not a priority, however should be considered. Outlets at certain locations may be improved with other ongoing projects.

**PROJECT COST DETAIL:**

Storm Outlet Rehabilitation                      Major/Local Streets                      \$200,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Streets Fund							\$200	\$200
								\$0
								\$0
								\$0
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$200	\$200

**PROJECT NAME: Bio-retention systems**

**PROJECT ID: 7.08**

**PRIORITY: DESIRABLE**

**PROJECT TYPE: Stormwater Management**

**TOTAL COST: \$160,000**

**SUBMITTED BY: City Staff**

**YEARS IN CIP (Beginning year): 6 (2009)**

**DESCRIPTION:**

Construct 12 vegetated swales within the right-of-way and 8 rain gardens on private property to help manage and treat stormwater and educate the public.

**PROJECT JUSTIFICATION:**

Value indicates the degree to which the project will help to: 0=Not Applicable  
1=Somewhat Important 2=Important 3=Very Important

2	Protect health, safety, lives of citizens
3	Maintain or improve public infrastructure, facilities
3	Reduce energy consumption, impact on the environment
2	Enhance social, cultural, recreational, aesthetics opportunities
1	Improve customer service, convenience for citizens
<b>11</b>	<b>TOTAL SCORE</b>

**BENEFICIAL IMPACTS:**

Improved stormwater quality entering the Mill Creek, reduction of pollutants entering the creek and public involvement and education.

**LOCATION MAP:**



**MASTER PLAN AND/OR STUDY REFERENCE:**

Clean Michigan Initiative (CMI) Part 319 Grant Application 2009 and 2011 - denied

**SCHEDULE:**

**SCHEDULE JUSTIFICATION:**

	Start		End	
	Month	Year	Month	Year
Study:		2008		2011
Design/Acquisition:		2015		2015
Construction:		2016		2017

Project only a priority with grant funding. CMI and SAW Grants should be actively pursued.

**PROJECT COST DETAIL:**

Bio-Retention Swales/Raingardens	Major/Local Streets	\$60,000
	CMI 319 Grant	\$100,000

**EXPENDITURES (in thousands)**

Funding Source	Prior Yrs	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	Beyond FY20	TOTALS
Streets Fund							\$60	\$60
CMI 319 Grant/Other							\$100	\$100
<b>TOTALS</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$160	\$160