CAPITAL IMPROVEMENT PROGRAM

City of Missoula CIP Project Request/Update Form FY 2018-2022

Department Priority		Major Department	New or Update	Required	Delay	Project Title
3	3 of 7	Public_Works	Update	Is this project Required?	Can project be delayed?	Grant Creek Drainage Improvements
Project Rating	Project Number	Division/ Sub-Department		Yes	No	
Plan	0	Stormwater	Is the project APPROVED for Fiscal Year 2018?	Y	FUNDED?	N

Summary Description and rationale of project and funding sources:

Analysis of the Grant Creek drainage indicates a potential for storm water impacts beyond the capacity of the existing drainage structures. Preliminary design of the drainage improvements needs to be conducted so that project scope and funding sources may be identified.

History & Current Status: Impact if Cancelled or Delayed

Trees that are currently in very close proximity to bridge could fall into the bridge and accumulate debris as well as leave the bridge nonpassable. The project would increase capacity of Grant Creek and reduces flooding risk to adjacent and downstream properties. With each passing year additional sediment deposits occur which increase the risk of stream bank breaching that would cause flooding of adjacent and downstream properties. The City is required to manage storm flows to prevent pollution as required by the City's MS4 Storm Water Permit.

Are there any site requirements/ Potentially Affected Interest (PAI) Coordination:

How is this project going to be funded:

REVENUE

			Yr. 1. budget	Unappropriated subsequent years			
Funding Source	Accounting Code	Prior Year Summation	FY18	FY19	FY20	FY21	FY22
Storm Water Utility		See "UPDATE" tab for detail of revenue funding sources and amounts.		50,000	400,000		
		-	-	50,000	400,000	-	-

How is this project going to be spent:

EXPENSE

Budgeted Funds	Accounting Code	Prior Year Summation	FY18	FY19	FY20	FY21	FY22
A. Land Cost		See "UPDATE" tab for detail of expenditures sources and amounts.					
B. Construction Cost					320,000		
C. Contingencies (10% of B)					32,000		
D. Design & Engineering (15% of B)				50,000	48,000		
E. Percent for Art (1% of B)							
F. Equipment Costs							
G. Other							
		-	-	50,000	400,000	-	-

Is this equipment prioritized on an equipment replacement schedule?	N
Is there ongoing Operating and/or Maintenance costs upon completion of project? *If "Y" then complete the section below (Operational Budget Impact)*	N

Operational Budget Impact

(account for operational savings and/or reduction in current budget of previous operating/maintenance charges)

Expense Object	Accounting Code	FY18	FY19	FY20	FY21	FY22
A. Personnel						
B. Supplies						
C. Purchased Services						
D. Fixed Charges						
E. Capital Outlay						
F. Debt Service						
G. (Operational Savings)						
		-	-	-	-	-

NOTE: Approval of the CIP does not indicate approval of the ongoing operating and maintenance costs. Those costs must be submitted as a "New Request" in the regular budget process. This will ensure the coordination exists between the CIP and the new request

Description of additional operating budget impact:

Responsible Person:	Responsible Department:	Date Submitted to Finance	Today's Date and Time	Preparer's Initials
Bob Hayes	Public Works - Storm Water Utility	4/4/2017	1/22/2018 16:44	isajor

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Project Rating	Project Number	Division/ Sub-Department		Yes	No			
Plan		Stormwater	Was the project APPROVED for the prior Fiscal Year 2017?			Yes	FUNDED?	Yes

Please complete the remainder of the pertinent information below:

Provide an update on the project; phase x of x; % complete; outstanding items/purchases; what is remaining to complete the project.

This project, Grant Creek Drainage Improvements, has not been started for FY2017

Project Revenues

Funding Source	Accounting Code	Actual FY 2015	Actual FY2016	Budgeted FY2017	Actual FY2017	Variance FY 2017	Total Project Revenue
						$ -	$ -
						-	-
						-	-
						-	-
						-	-
						-	-
						-	-
		$ -	$ -	$ -	$ -	$ -	$ -

Project Expenditures

Funding Source	Accounting Code	Actual FY 2015	Actual FY2016	Budgeted FY2017	Actual FY2017	Variance FY 2017	Total Project Expenditures
						$ -	$ -
						-	-
						-	-
						-	-
						-	-
						-	-
						-	-
		$ -	$ -	$ -	$ -	$ -	$ -

CAPITAL IMPROVEMENT PROGRAM

Project description/Rating

(See C.I.P Instructions for explanation of the Project Rating and Rational that is required)

Department Priority	Project Rating	Department	New or Update	Project Title
3	Plan	Public_Works	Update	Grant Creek Drainage Improvement
3 of 7	0	Stormwater		

Project Rating #1	Project Rationale #1
Efficiency	
Does the project demonstrate a clear efficiency or productivity gain as demonstrated by a cost/benefit analysis? Include analysis and supporting documentation.	

Project Rating #2	Project Rationale #2
Required	
Is the project necessary to meet a contractual obligation, Federal, State, or local legal requirements? This criterion includes projects mandated by Court Order to meet requirements of law or other such requirements.	

Project Rating #3	Project Rationale #3
Plan	Grant Creek Drainage Plan and the City's MS4 Storm Water Permit. The project would increase capacity of Grant Creek and reduces flooding risk to adjacent and downstream properties.
Does the project meet a goal in an adopted City plan? Identify the plan and how this project meets that goal	

Project Rating #4	Project Rationale #4
#N/A	

WGM Group, Inc.

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PLANNING

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May 21, 2002

RECEIVED
MAY 23 2002
MISSOULA, MONTANA
PUBLIC WORKS DEPARTMENT

Steve King, P.E., City Engineer
City of Missoula
435 Ryman Street
Missoula, MT 59802

RE: Grant Creek Between I-90 and Prospect Drive

Dear Steve:

The purpose of this letter is to inform the City of Missoula and the adjacent landowners of a serious problem that has been developing in the Grant Creek area over the last 10 years.

The reach of Grant Creek above I-90 to Prospect Drive is not a natural stream channel. The water irrigation users and agricultural landowners have moved and altered this channel for about 100 years. In the last 10 years, the channel has been very stable and protected from historical activities. We have also seen the various water rights, water users, and ditch rights fall into misuse or abandonment. The historical use of water by Grant Creek Ranch, Wheelers, Goodans, Ostregans, Kennys, Doughertys, Flynns and others have either been greatly reduced or abandoned. This section of Grant Creek use to go dry by early June due to heavy irrigation use, but now runs year-round and with larger than typical flows. This is also a reach of Grant Creek that use to transition between erosion and deposition on an annual basis, but no longer does.

Three major items have taken place that you should be aware of:

1. The westside of Grant Creek was protected from flooding by a levee constructed in 1991. The levee area and waterway were dedicated to the City of Missoula as a waterway and addition to Grant Creek Road right-of-way. It is the City of Missoula's responsibility to maintain the levee and the waterway.

2. The lands lying west of the levee have been and continue to be developed with high value commercial and residential uses that rely on the levee and the City's maintenance for flood protection.

3. The Reserve Street improvements at I-90 replaced the open stream channel in this area with an 800 foot long, 14 foot x 7 foot, box culvert. The FWPS required that riprap be placed in the channel of the box culvert to provide resting areas for fish.

In the last 10 years, I have driven along this channel several times a day noticing the series of changes and the neglect of this floodway. The channel has become blocked with fallen trees at several locations, debris has accumulated in the channel, the side areas have become filled with deadfall that will be moved during high water, brush and excessive growth of under storage have not been managed. The presence of dead and unhealthy trees along the channel and Grant Creek Road not only place the waterway at risk, but also reduce the safety along the roadway.

My first concern is with the debris collecting on the bottom of the box culvert or being moved into the box culvert during high water. I doubt if anyone regularly inspects the interior of the culvert. Unlike most culverts, the irregular bottom is ideal for trapping debris. If a blockage took place during any significant event, no one could clear it by entering either end for fear of drowning. Flood flows would then crest and flow under I-90 and down Reserve Street. Grant Creek is rated at 245 CFS for a 10 year, 380 CFS for a 50 year, 465 CFS for a 100 year and 730 CFS for a 500 year storm event. These are significant flows and they will move accumulated debris downstream to the box culvert.

My second concern is with the upstream channel blockages by fallen trees and debris accumulation in the flood way. Trees that have fallen across and into the channel creating barbs that direct flows against the side of the channel and possibly the levee or Grant Creek Road. During a major event, the accumulated debris will collect on fallen trees creating dams that will raise the 100-year flood profile, placing adjacent property and improvements at risk. If water ever exited the west side of Grant Creek, it would not have a chance to get back into the channel before it discharged under I-90 and down Reserve Street.

My third concern is for the safety of Grant Creek Road between Stonebridge and Prospect. Since the removal of agricultural uses and livestock 10 years ago, the westside of Grant Creek Road has become an area of fallen down fences, overgrown underbrush, thickets of cottonwoods and a collection place for deadfall. During a recent event where numerous branches were blown down, I saw the City of Missoula Street Department clearing the road and tossing the debris into the westside of the right-of-way or into the floodway. The growth of roadside brush and vegetation has caused sight distances to be greatly reduced, especially just south of Prospect. The clear distance between the vehicle travel way and the adjacent fence and brush offers no safe area for pedestrians, bikes or a stopped vehicle.

Floodway maintenance plans for almost any levee project call for the removal of accumulated driftwood and debris from the stream, floodway and levees on a regular basis. They call for annual inspections and documentation on the status of levees, weeds, vegetation, riprap, burrowing animals, debris, etc. These inspections are then followed up with documented corrective actions. The control of trees, brush and weeds is also important to provide desirable vegetation growth of native plants and healthy trees.

The levee and floodway delineation for this reach of Grant Creek were designed by Morrsion-Maierle, Inc. in 1991. I believe they would be concerned about the status and condition of the floodway, if they inspected it today. I have attached a few photos to illustrate my points.

I would advise that serious consideration be given to clearing the floodway of accumulated debris, thinning brush, and thickets in the floodway and along Grant Creek Road to provide a safe and healthy riparian area and roadway. I also advise that the box culvert be inspected and a debris trap be constructed upstream of the box culvert.

Lastly, a regular and documented inspection and maintenance plan should be put in to place.

Steve, I have also watched the channel of Grant Creek that was constructed and dedicated through Grant Creek Center slowly fill with bed load, debris and trees over the last 22 years. This reach of the channel that goes dry every year also has been neglected in regards to inspections and/or maintenance and its ability to carry flood flows has greatly diminished.

Grant Creek is easily as great of a risk as Pattee Creek to periodic high flows and property damages. If these City owned floodways and improvements are not kept in the condition to which they were designed and constructed, then surely problems will follow. As the normal flows have been diverted for irrigation use for 100-years return to in stream flows, the need to be attentive to Grant Creek and its changing character becomes very necessary. Because Grant Creek loses volume to the Missoula Valley's gravels, it does not carry debris downstream to the Clark Fork River. All the debris eventually collects in the streambed and must be removed. Historically, the agricultural users did this as part of their irrigation maintenance, but since they have stopped, no one has provided this form of maintenance for Grant Creek.

I would hope this letter would assist your department in evaluating a course of action.

Sincerely,
WGM Group, Inc.

Thomas P. McCarthy, E.S.

cc: John Crowley, Washington Corporation
Kenneth Salo, Morrison-Maierle
Rocky Mountain Elk Foundation
Montana Department of Transportation

W:\Projects\01012\Working.doc

#1

North end of 800-foot long (14'x7') box culvert under I-90 and Reserve Street intersection

#2

Stream gauging station between I-90 and Expo Parkway

#3

Logs and debris upstream of Expo Parkway