

**CAPITAL IMPROVEMENT PROGRAM**  
**City of Missoula CIP Project Request Form FY 2012-2016**

Program Category:	Project Title:	10 Project #	11 Project #	12 Project #
Street Equipment	Purchase Asphalt Recycle Plant			

**Description and justification of project and funding sources:**

Purchase an asphalt recycle plant to enable production of hot mix asphalt year round for patching potholes and making small scale street repairs. Hot mix asphalt patches provide a more durable and longer lasting repair than other pothole repair methods currently employed by the Street Division during winter months. Ownership of this machine could assist other local government agencies and the private sector by providing hot mix asphalt during winter months when the asphalt plants are closed. The City would likely incur cost savings from recycling waste asphalt compared to paying for disposal at the land fill. Additional savings would also result from producing hot mix year round for Street Division use compared to purchasing mix from local vendors at almost 2.5 times the cost of recycling waste asphalt. See Support page for cost/benefit analysis.

**Is this equipment prioritized on an equipment replacement schedule?**

Yes

No

NA

X

**Are there any site requirements:**

No

**How is this project going to be funded:**

Funded in Prior Years

Funding Source	Accounting Code	FY12	FY13	FY14	FY15	FY16	
General fund-muni lease		180,000					
		180,000	-	-	-	-	-

**How is this project going to be spent:**

Spent in Prior Years

Budgeted Funds	Accounting Code	FY12	FY13	FY14	FY15	FY16	
A. Land Cost							
B. Construction Cost							
C. Contingencies (10% of B)							
D. Design & Engineering (15% of B)							
E. Percent for Art (1% of B)							
F. Equipment Costs		180,000					
G. Other							
		180,000	-	-	-	-	-

**Does this project have any additional impact on the operating budget:**

Spent in Prior Years

Expense Object	Accounting Code	FY12	FY13	FY14	FY15	FY16	
Personnel		-	(22,300)	(22,300)	(22,300)	(22,300)	
Supplies							
Purchased Services							
Fixed Charges							
Capital Outlay							
Debt Service		-	22,300	22,300	22,300	22,300	
		-	-	-	-	-	-

Description of additional operating budget impact:

Responsible Person:

Responsible Department:

Date Submitted to Finance

Today's Date and Time

Preparer's Initials

Total Score

Brian Hensel

Public Works

3/18/2011

4/12/2011 11:58

BH

48

CAPITAL IMPROVEMENT PROGRAM					
Project Rating					
(See C.I.P. Instructions For Explanation of Criteria)					
Program Category:	Project Title:				10 Project #
Street Equipment	Purchase Asphalt Recycle Plant				0
Qualitative Analysis		Yes	No	Comments	
1. Is the project necessary to meet federal, state, or local legal requirements? This criterion includes projects mandated by Court Order to meet requirements of law or other requirements. Of special concern is that the project be accessible to the handicapped.			X		
2. Is the project necessary to fulfill a contractual requirement? This criterion includes Federal or State grants which require local participation. Indicate the Grant name and number in the comment column.			X		
3. Is this project urgently required? Will delay result in curtailment of an essential service? This statement should be checked "Yes" only if an emergency is clearly indicated; otherwise, answer "No". If "Yes", be sure to give full justification.			X		
4. Does the project provide for and/or improve public health and/or public safety? This criterion should be answered "No" unless public health and/or safety can be shown to be an urgent or critical factor.			X		
Quantitative Analysis	Raw Score Range	Comments		Weight	Total Score
5. Does the project result in maximum benefit to the community from the investment dollar?	(0-3) 3	Purchase of the recycler could greatly diminish liability claims from potholes during winter months. Current techniques available for winter patching have provided very temporary results and have been costly for materials and required excessive labor.		5	15
6. Does the project require speedy implementation in order to assure its maximum effectiveness?	(0-3) 2	It would be advantageous to purchase the recycler prior to next winter for use with patching potholes and mitigate the treacherous street conditions endured through the winter of 2010/2011.		4	8
7. Does the project conserve energy, cultural or natural resources, or reduce pollution?	(0-3) 3	Recycling waste asphalt saves money and reduces volume going to the landfill.		3	9
8. Does the project improve or expand upon essential City services where such services are recognized and accepted as being necessary and effective?	(0-2) 2	Use of the recycler would greatly benefit level of service currently provided for patching potholes during winter. The recycler produces a patching material, which is less expensive and more effective, providing a longer lasting repair.		4	8
9. Does the project specifically relate to the City's strategic planning priorities or other plans?	(0-3) 2	Funding and Service - The ability to use hot mix asphalt in winter will increase the durability of patches and improve the level of service to citizens. The ability to recycle old asphalt diversifies the City's resources, as well.		4	8
Total Score					48

This fiscal year Street Division has spent \$ 13,090 on hot mix asphalt for patching potholes and small patch backs. We have spent \$ 17,644 on cold mix.

Total patching asphalt expense to date is \$ 30,734. When the asphalt plants open April 1, we will buying hot mix again for patching the rest of this fiscal year. Based on FY 10 data from April 1 to June 30 we spent \$ 4,873 on asphalt patching, which is an indicator of what we may need for the remainder of this year.

Based on the above data approximately \$ 35,607 will be spent for an estimated annual patching cost for hot and cold mix. If we had a recycler I estimate 80% of the patching tonnage we now purchase could be saved at \$28,486.

Cost to recycle asphalt is \$ 18.70/ton provided by manufacturer, which includes capital purchase, diesel, maintenance, labor, etc...which amounts to \$ 8,864 for annual cost of operation.

Annual cost of air quality permit is \$ 925 the first year then \$610 every year after (Health Department has indicated a permit may not be necessary, but further review is pending.)

Net savings to City on an annual basis is approximately \$ 18,697

Purchase of asphalt recycler machine capable of producing 3 tons /hour: \$ 179,000

A 10 year pay back is possible.

The asphalt recycler would also provide an opportunity to assist the private sector by providing hot mix asphalt during winter months when the other hot plants are not open. Experience has shown there is a need caused by underground utility repairs occurring in streets when the asphalt plants are closed. Contractors must maintain the cut-outs through the winter, which is costly and usually not effective.

Ownership of this machine could also benefit productivity by alleviating situations when hot plants are not able to make small batches for patching, as occurred frequently last summer. Knife River and LS Jensen, hot plant companies, apparently had fewer jobs than past years requiring asphalt. On several occasions Street Division was the only customer and neither plant would fire up to produce the small batches required for the patch truck. As a result, we were not able to patch for several days last season.

Another issue this machine could solve is by recycling larger sized ("8 -12") waste asphalt chunks we are currently disposing of at the landfill free of charge. For the last few years Allied Waste has been accepting asphalt chunks free for use as haul road stabilization within the landfill. I suspect at some point the haul roads will be adequately stabilized and this material will no longer be required. When the need is gone dump fees will resume. Prior to free disposal Street Division paid for crushing the large asphalt chunks, which cost \$ 10,000 to \$ 14,000 per event.

FY12 CIP# 0

**Current Costs - Asphalt for Patching**

<b>FY11 YTD Hot Mix</b>	<b>FY11 YTD Cold Mix</b>	<b>Expected April 1-Jun 30</b>	<b>Estimated Total FY11</b>
\$ 13,090	\$ 17,644	\$ 4,873	\$ 35,607

**Estimated 80% savings on asphalt patching tonnage**

<b>Asphalt Patch Cost FY11</b>	<b>Estimated Savings with Recycler</b>	<b>Total Estimated Asphalt Patch Cost FY12</b>	<b>Annual Savings</b>
\$ 35,607	80%	\$ 7,121	\$ 28,486

**Asphalt Recycler Operating Costs**

<b>Cost per ton</b>	<b>Annual tons</b>	<b>Annual Operating Cost</b>
\$ 18.70	474	\$ 8,864

① Manufacturer's estimate - includes capital purchase, diesel, maintenance, and labor