

**CAPITAL IMPROVEMENT PROGRAM**  
**City of Missoula CIP Project Request Form FY 2013-2017**

Program Category:	Project Title:	11 Project #	12 Project #	13 Project #
Community Service	Street Materials Storage Site: Missoula's Southside	CS-06	CS-06	CS-06

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

Purchase bare land on south side of City for Street Maintenance Division use during various operations. Street has historically leased the Pattee Canyon Gravel pit (approximately 20 years; current lease is \$7500/year). The City's lease could be terminated at any time. The Pattee Canyon pit is essential to Street Division activities for work done on the City's south side. It has been a stockpile site for winter sand storage used during snow operations and for dumping sweeping water and solids. Loss of this property will significantly increase snow vehicles' response time for street sanding in the hills south of 39th Street. Increased travel times for dumping sweeper units decreases productivity. Sanding units will be forced to travel across town to the Central Maintenance facility at 1305 Scott Street in order to refill sanders. Sanding unit response times increase by 85% to the south side of town. A suitable parcel has not been found. Street Maintenance Division is negotiating with the Missoula County Fairgrounds. Parks & Recreation may also elect to participate in a site at the Fairgrounds. First year \$20,000 for property appraisals.

Is this equipment prioritized on an equipment replacement schedule?

Yes

No

NA

X

Are there any site requirements:

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

Funding Source	Accounting Code	FY13	FY14	FY15	FY16	FY17	Funded in Prior Years
General Fund					20,000	300,000	
		-	-	-	20,000	300,000	-

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

Budgeted Funds	Accounting Code	FY13	FY14	FY15	FY16	FY17	Spent in Prior Years
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							
G. Other					20,000	300,000	
		-	-	-	20,000	300,000	-

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

Expense Object	Accounting Code	FY13	FY14	FY15	FY16	FY17	Spent in Prior Years
Personnel							
Supplies							
Purchased Services							
Fixed Charges							
Capital Outlay							
Debt Service							
		-	-	-	-	-	-

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

3/2/2012

4/20/2012 12:50

JSM

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CAPITAL IMPROVEMENT PROGRAM					
Project Rating					
(See C.I.P. Instructions For Explanation of Criteria)					
Program Category:	Project Title:			13 Project #	
Community Service	Street Materials Storage Site: Missoula's Southside			CS-06	
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	Loss of a sand stock pile area on south side of city for use with winter snow operations increases snow plow/sander travel time for refilling sander to unacceptable levels. Longer travel times for snow plow units mean longer time frames for which main streets and bus routes needing sand application will remain in a dangerous slick condition. icy streets increase chances of accidents for the traveling public. Further, loss of productivity due to increase dumping/travel times for the City summer sweeping program could also have a negative impact on water and air quality.	
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)	Funding of this CIP request would prevent increased costs caused by longer travel times for Street Division equipment south of Mount Ave. To maintain current levels of service on south side of City additional personnel and equipment time would be needed for snow removal, leave collection, and street sweeping. Attached Cost/Benefit analysis shows and approximate loss of \$53,000/year for a 5.7 year pay off.		5	-
6. Does the project require speedy implementation in order to assure its maximum effectiveness?	(0-3)	If a suitable parcel is located having the funds available for purchase would enable the City to make a prompt offer reducing the potential for another party to acquire property.		4	-
7. Does the project conserve energy, cultural or natural resources, or reduce pollution?	(0-3)	City of Missoula maintains a rigorous sweeping program with the main goal to keep streets as clean as possible. Street sweeping reduces street contaminants from draining into ground sumps and storm water systems. Efficient street sweeping has been shown to be an effective measure for helping to maintain groundwater quality in urban settings. Further, street sweeping is also mandated by EPA and MC-CHD for prevention and reduction of fugitive particulate to maintain air quality in the Missoula valley. Low sweeping productivity would be detrimental to pollution reduction.		3	-
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)	Street Division has leased Pattee Canyon pit for approximately 20 years. Pattee Canyon pit has been essential for snow operations, street cleaning, and leaf collection by providing an area to stock pile winter sand and to temporarily store street sweeping water, solids, and leaves. The property has also been used to stockpile chips for chipsealing, sand for reclamation, and asphalt millings for grading alleys. Access to property on the southside of City is essential for many Street Division activities and is necessary to maintain current levels of service. The current lease of Pattee Canyon is in jeopardy due to a change in ownership.		4	-
9. Does the project specifically relate to the City's strategic planning priorities or other plans?	(0-3)	Productive sweeping helps protect air and water quality for the City of Missoula. Efficient snow removal operations are essential for providing safe streets during winter.		4	-
Total Score					-

**COST BENEFIT/ ANALYSIS**  
**South Side Property**

13 Project # CS-06

**Scope:** This analysis shall attempt to quantify cost to the City if a south side parcel for Street Division use was not available during street sweeping, snow operations, and leaf collection.

**Street Sweeping**

Sweepers typically use Pattee Canyon pit for dumping when sweeping south of Mount Avenue, which is approximately half of the total streets within the City. For the sake of this analysis it shall be assumed half of the total sweeping work hours are spent with sweepers dumping at Pattee Canyon pit. Historical Street Division data from FY 04 shall be used and Pattee Canyon pit was available. (Half of actual costs reported in Street Division Narrative).

Half of FY 04 Data  
with Pattee Canyon leased by City

Hours Worked	4357
Labor cost	\$ 99,125
Equipment cost	\$ 69,050
<b>TOTAL COST</b>	<b>\$ 168,175</b>

Field tests were conducted to measure travel/dump time with sweepers traveling to Pattee Canyon pit from three central locations in areas south of Mount Avenue. Measured times ranged from 14 - 34 minutes/load, with an average travel/dump time = 25 minutes/load. Sweepers traveling to North side yard from the same three south side locations completed round trips in 28 to 53 minutes. Total estimated average travel time without south property (i.e. dumping at North side) is 43 minutes/load.

Depending on location, travel time is increased by 15 to 21 minutes/load, which results in an average increase of 18 minutes/load. See Response & Travel Time sheet with field measurements for further information.

During spring, sweepers can pick up a full load in approximately one hour. Sweepers normally get 5-7 loads per/day with Pattee Canyon pit available with an average actual time of sweeping at eight hours per day on a 10 hour shift. Based on above analysis, resulting sweeper output is 1.4 hours/load or 5.7 loads per day dumping at Pattee Canyon. If South side property was not available estimated sweeper output would drop to 1.7 hours/load or 4.7 loads/day. Productivity drops by over 21% on south side of City.

To maintain current level of service, the City would have to increase hours worked by 21%, which increases costs as shown below.

Apply 21% Increase to FY 04 data

Hours worked	5272
Labor cost	\$ 119,941
Equipment cost	\$ 83,551
<b>TOTAL COST</b>	<b>\$ 203,492</b>

EXPECTED COST INC. \$ 35,317

**Add 6% for inflation and wage increases**

**2006 Estimated Current Cost Increase** **\$ 37,436**

## Snow Operations

Sander/plow trucks will use Pattee Canyon pit for refilling sanders when working in Farviews and South Hills areas. Based on labor hours and equipment hours (185.5 hrs) for this winter, (October 1, 2006 - January 30, 2006) City of Missoula Street Division has spent \$ 5,052.47 for labor and \$ 2,265.48 for actual equipment cost to provide sanding/plowing services for Farviews and South Hills.

Based on the response time data recorded for sander/plow trucks using Pattee Canyon verses 800 W. Broadway for refilling sanders, round trip travel times increased by 11 - 31 minutes/load, resulting in an average increase of 21 minutes per load. Trucks working in South Hills and Farviews can typically spread four and five loads of sand respectively during an eight (8) hour shift, with an estimated actual sanding/plowing time of seven hours/shift. Therefore, currently in South Hills, output for a plow truck is expected to be 1.75 hours per load of sand placed on streets. Farviews area is expected to be 1.4 hours per load of sand placed in street. If a south side sand storage area is not available and plow trucks must travel to 800 W. Broadway to reload, sander output will be reduced since time to place one load of sand on streets is increased on average to 2.08 hours and 1.73 hours respectively. Average increase in time for sand placement is 21%.

To maintain the current level of service for South Hills and Farviews areas the 21% increase shall be applied to Street Division data for sanding/plow operations during 2005/2006 winter as follows:

### Apply 21% increase to hours and cost

Hours worked	223
Labor cost	\$ 6,114
Equipment cost	\$ 2,741
TOTAL COST	\$ 8,855

**EXPECTED COST INC. \$ 1,537**

## Leaf Collection

3/2/2012

During leaf collection, Street Division tandem axle dump trucks, street sweepers, and leaf machines, will typically dump leaves at Pattee Canyon pit when working south of Mount Avenue, approximately half of City streets. Travel/dump times for equipment used during leaf collection is assumed to be similar to street sweeping equipment. Therefore, the same analysis described for street sweeping shall be applied here for leaf collection using data from the 2005/2006 season. With Pattee Canyon pit available, travel times and stand-by times for all associated equipment and personnel is minimized. To maintain current service level, a 21% increase in hours and costs for all leaf collection activities could be reasonably applied.

### 1/2 hours/labor/equipment for 2005/2006 season

Hours worked	1721
Labor cost	\$ 43,808
Equipment cost	\$ 23,383
Total Cost	\$ 67,191

Apply 21% to total cost = \$ 81,301

**EXPECTED COST INC. \$ 14,110**

**TOTAL EXPECTED COST INCREASE FOR CITY PER YEAR \$ 53,083**

**Field Measurements for Response Time**  
13 Project # CS-06  
**Snow Plow Unit**

**Scope:** Street Division crew made test runs with sanding units from two centrally located intersections on the south side of the City. Each vehicle started at the named intersection with an empty sand spreader where stopwatch timing began. The vehicle then traveled to Pattee Canyon pit, loaded up with sand, and then returned to same starting intersection where elapsed time was recorded. The same process was repeated with the vehicle traveling to the other sand stock pile currently located at 800 West Broadway.

Date of Analysis: 1/19/06 - 1/20/06

Intersection	Time of Day	Destination	Travel/Load Time for round trip (mins)	% Increase
High Park & Whitaker	10:40 AM	Pattee Canyon Pit	12.5	
	11:16 AM	800 W. Broadway	23.1	85
23rd & Garland	8:58 AM	Pattee Canyon Pit	23	
	7:29 AM	800 W. Broadway	53	130

**Sweepers**

**Scope:** Sweeping crew made test runs from centrally located intersections in Areas 2 & 4, which would be primarily affected by a south dump site. Each sweeper started time at the indicated intersections after a full sweeping load had been gathered. Sweepers then made separate timed runs to dump solids and liquid at the North side stock pile yard and Pattee Canyon pit.

Date of Analysis: 1/20/06

Intersection	Time of Day	Destination	Travel/Load Time for round trip (mins)	% Increase
Sussex & Arthur	7:34 PM	Pattee Canyon Pit	13.7	
	8:00 PM	North side yard	28.3	107
23rd & Foothills	4:18 PM	Pattee Canyon Pit	27	
	5:00 PM	North side yard	48.2	79
Linda Vista & Jack Drive	5:30 PM	Pattee Canyon Pit	33.7	
	4:36 PM	North side yard	52.7	56