Memorandum

MATERIALS AND GEOTECHNICAL BRANCH

SOILS AND ROCKFALL PROGRAM

4201 EAST ARKANSAS, DENVER, COLORADO 80222-3400 (303) 757-9424



DATE:

July 14, 2005

TO:

Tim Harris, Director of Staff Services

FROM:

Tim Aschenbrener, Materials and Geotechnical Branch Manager

SUBJECT:

Revised Rockfall Mitigation Project Plan Site Schedule

This memo is an update of rockfall mitigation decision items for Georgetown Hill and a request for approval of the updated FY 2006 – FY 2010 Rockfall Mitigation Project Plan (RMPP) site schedule. Currently, rockfall along Georgetown Hill is rated in the Colorado Rockfall Hazard Rating System (CRHRS) but funding of mitigation is not allocated through the Rockfall Program. On January 6, 2005 the Rockfall Program was directed to update the RMPP site schedule to include Georgetown Hill.

A \$1.5M increase in the Rockfall Program budget was approved by the Transportation Commission during their April 2005 meeting. With the budget increase, the RMPP site schedule is revised to include Georgetown Hill and reflect a \$3M budget.

A Feasibility Study was prepared to assist in prioritizing rockfall locations along Georgetown Hill. In the study bedrock outcrops and rockfall source areas were mapped and evaluated. Using this data, areas for future rockfall mitigation were categorized and various mitigation measures were evaluated for effectiveness, constructability, maintenance requirements, environmental constraints, and cost. The Feasibility Study compliments the Georgetown Incline Rockfall Evaluation Report dated November 13, 2003.

The proposed RMPP site schedule is presented here:

I concur,

Tim Harris Director of Staff Services

7-18-05

Date

Table 2 (updated June 2005) Rockfall Mitigation Project Plan FY06 - FY10

F70	Preliminary Estimate		CRHRS Rank	CRHRS Score		Mile Po	Region	Site	Fiscal Year
PY 2006 Sh					End	Begin	Region		iscal rear
FY 2006 Section Sect	\$1,450,000.0		NA	NA	227 B10	227.430	1		
SH 12 - Weston 2 56,760 582 12	\$600,000.0		4	672	61.000	60.877	. 6	US 550 - Moins Pans	
Personnel Services/Operating Costs	\$400,000.0		17		58.616	58.178	5	TAXABLE DALING TO SELECT THE SECOND TO SECOND THE SECON	FY 2006
1-70 Georgetown Hill 1 258.400 227.170 NA NA	\$200,000.0		12	582	50.760	50.700	2		
FY 2007 Secretary Secret	\$300,000.0	_	2210					Personnel Services/Operating Costs	
SH 119 - Clear Creek Canyon	\$2,950,000.0								
SH 119 - Clear Creek Carryon	\$1,500,000.0		NA	NA	227.570	225,400	1	-75 - Georgetown Hill	
FY 2007 US 6 - Clear Creek Canyon US 543 E70 - Georgetown Hill US 50 - Big Horn Sheep Canyon US 50 - Big Horn Sheep Canyon US 50 - Big Horn Sheep Canyon US 550 - Red Mountain Plass US 550 - Red Mountain Pla	\$200,000.0		5	615	2.750	2.700	1	SH 119 - Clear Creek Canyon	
To - Georgetown Hill 1 226.050 286.050 285.20 18 18 19 19 19 19 19 19	\$200,000.0		6	606	5.394	6.351	1	SH 119 - Clear Creek Canyon	
US 6 - Clear Creek Canyon	\$250,000.0		8	597	270.363	270.200	*	US 6 - Clear Creek Canyon	EV 2007
FY 2008 FY 2008 FY 2009 FY 2	\$150,000.0		18	555	266.068	266.015	1	US 6 - Clear Creek Canyon	1-1-2007
FY 2008 I-70 - Georgetown Hill 1 228 160 205 350 NA	\$250,000.0		19	552	267.217	267-295	1	US 6 - Clear Creek Canyon	
1.70 - Georgetown Hill 1 226 160 226 150 NA NA	\$250,000.0		24	543	0.167	0.000	1	SH 119 - Clear Creek Canyon	
F70 - Georgetown Hill 1 228 160 206 150 NA NA US 50 - Big Horn Sheep Canyon 2 242 230 242 500 579 13 US 550 - Red Mountain Plass 5 88 150 88 150 88 150 88 150 88 150 Personnel Services/Operating Costs 1 226 050 228 200 NA NA SH 133 - McClure Plass 3 44 370 45 130 575 14 SH 133 - Paonia Reservoir 3 24 790 24 860 569 16 FY 2009 SH 133 - Paonia Reservoir 3 24 790 24 860 552 19 SH 133 - Paonia Reservoir 3 24 380 24 820 552 19 SH 133 - Paonia Reservoir 3 24 380 24 820 545 23 Personnel Services/Operating Costs 1 228 888 227 830 NA NA SH 82 - Snowmass 3 35 800 36 200 543 24 FY 2010 SH 145 - Norwood 5 36 538 96 893 552 19 SH 145 - Norwood 5 36 538 96 893 552 19 SH 145 - Norwood 5 36 538 96 893 552 19 SH 145 - Norwood 5 36 538 96 893 552 19 SH 145 - Norwood 5 36 538 96 893 552 19 SH 145 - Norwood 5 37 047 97 185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date;	\$350,000.0							Personnel Services/Operating Costs	
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FY 2008 US 550 - Red Mountain Pass US 550 - Red Mountain Pass Personnel Services/Operating Costs 170 - Georgetown Hull 1 226,050 206,000 NA NA SH 133 - McClure Pass 3 44,370 45,130 575 14 SH 133 - Paonia Reservoir 3 24,790 24,860 569 16 FY 2009 SH 133 - Paonia Reservoir 3 24,000 24,860 552 19 SH 133 - Paonia Reservoir 3 24,360 24,620 545 23 Personnel Services/Operating Costs F70 - Georgetown Hull 1 228,688 227,630 NA NA SH 82 - Snowmass 3 35,800 36,200 543 24 FY 2010 SH 145 - Norwood 5 96,539 96,693 552 19 SH 145 - Norwood 5 97,047 97,185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date; \$	\$1,200,000.0		NA	NA	206 350	225 100	1	1-70 - Georgetown Hill	
FY 2009 For Sonnel Services Operating Costs Section Sect	\$500,000.0		13	579	242.600	242.230	2	US 50 - Big Horn Sheep Canyon	
Personnel Services/Operating Costs 1 226.050 208.000 NA NA	\$550,000.0		10	588	MB 257	59.890	5	US 550 - Red Mountain Pass	FY 2008
FY 2009 SH 133 - Paonia Reservoir 3 24.790 24.600 559 16	\$300,000.0		19	552	08/424	88 250	5	US 550 - Red Mountain Pass	
FY 2009 SH 133 - Paonia Reservoir 3 24.790 24.600 559 16 5543 24.900 54.500 545 23 5543 24.900 54.500 545 23 5543 24.900 54.500 545 23 5543 24.900 54.500 545 24.500 2	\$350,000.0	11						Personnel Services/Operating Costs	
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SH 133 - Paonia Reservoir 3 24.790 24.650 569 16 SH 133 - Paonia Reservoir 3 24.060 24.350 552 19 SH 133 - Paonia Reservoir 3 24.360 24.620 545 23 Personnel Services/Operating Costs F70 - Geotgetown Hill 1 278.662 227.530 NA NA SH 82 - Snowmass 3 35.500 36.200 543 24 SH 145 - Norwood 5 96.538 96.693 552 19 SH 145 - Norwood 5 97.047 97.165 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$1,400,000.0	TP	NA	NA	226 200	229.050	T.	F70 - Georgetown Hill	
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SH 133 - Paonia Reservoir 3 24.380 24.820 545 23 Personnel Services/Operating Costs 1 228.681 227.530 NA NA SH 82 - Snowmass 3 35.500 36.200 543 24 FY 2010 SH 145 - Norwood 5 96.539 96.693 552 19 SH 145 - Norwood 5 97.047 97.165 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$200,000.0		16	569	24.860	24.790	3	SH 133 - Paonia Reservoir	
FY 2010 SH 145 - Norwood SH 146 - Norwood S	\$400,000.0		19	552	24.350	24.060	3	SH 133 - Paonia Reservoir	FY 2009
FY 2010 SH 145 - Norwood 5 96 539 96 693 552 19 SH 145 - Norwood 5 97 047 97 185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$350,000.0		23	545	24,620	24.380	3	SH 133 - Paonia Reservoir	
FY 2010 SH 145 - Norwood 5 96 539 96 693 552 19 SH 145 - Norwood 5 97 047 97 185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$400,000.0							Personnel Services/Operating Costs	
SH 82 - Snowmass 3 35.00 36.200 543 24 FY 2010 SH 145 - Norwood 5 96.539 96.693 SS2 19 SH 145 - Norwood 5 97.047 97.185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$3,250,000.0								
FY 2010 SH 145 - Norwood 5 96.539 96.693 SS2 19 SH 145 - Norwood 5 97.047 97 185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$1,400,000,0		NA	NA	227,630	226.600	- 1	I-70 - Georgetown Hill	
SH 145 - Norwood 5 97.047 97 185 543 24 Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$450,000.0		24	543	36.200	35.600	3	SH 82 - Snowmass	
Personnel Services/Operating Costs Total Rockfall Pool expenditures planned to date: \$	\$300,000.0		19	552	96:693	96.539	5	SH 145 - Norwood	FY 2010
Total Rockfall Pool expenditures planned to date: \$	\$200,000.0		24	543	97 185	97.047	5	CONTRACTOR OF THE PROPERTY OF	
Total Rockfall Pool expenditures planned to date: \$	\$400,000.0							Personnel Services/Operating Costs	
	\$2,750,000.0								
Anticipated expenditures per year for FY 2006 - FY2010:	\$15,000,000.0 \$3,000,000.0								
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- Preiminary estimates are based on past project costs, inflation is not taken into consideration.