



**LOWER MOUNT ROYAL PAVING S.A.D.**

**GW PROJ. NO.: 18686.00**

**DATE: May 18, 2015**

**July 7th, 2015 (REVISED)**

**May 18, 2016 (REVISED)**

**PRELIMINARY CONSTRUCTION COST ESTIMATE**

REPAIR APPROXIMATELY 4.4 MILES OF EXISTING ROAD BY COLD MILLING AND BASE CRUSHING AND SHAPING. UPGRADE DITCHING ALONG POLVADERA WITH A NEW ENCLOSED DRAINAGE SYSTEM OUTLETING TO THE RIVER. SEE COMMENTS ADJACENT TO WORK ITEMS AND NOTES AT THE END OF THE ESTIMATE.

ITEM WORK ACTIVITY	QUANTITY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>MOBILIZATIONS, TRAFFIC, PERMITS</b>					
Mobilization, Max 3%	1	LS	\$80,000.00	\$80,000.00	
Minor Traffic Control	1	LS	\$16,000.00	\$16,000.00	
Flag Control	1	LS	\$5,500.00	\$5,500.00	
Permits, Allowance	1	LS	\$5,500.00	\$5,500.00	
				\$0.00	
<b>SUBTOTAL - MOBILIZATIONS, TRAFFIC, PERMITS</b>				<b>\$107,000</b>	
<b>PAVE GRAVEL ROADS (SUNDEW, MOUNT ROYAL, AND WAKEFIELD (TO EAST END))</b>					
Excavation, Earth	500	CYD	\$30.00	\$15,000.00	12" thick, 10' wide road
Excavation, Earth	600	CYD	\$30.00	\$18,000.00	18" thick, 8' wide
Subgrade Undercutting, Type II	90	CYD	\$40.00	\$3,600.00	Assume 10% of road
Geotextile Blanket	2700	SYD	\$3.00	\$8,100.00	
Ditching, Hauling and Grading	1350	FT	\$15.00	\$20,250.00	Assume one side of road, incl restoration
Culvert, 12 inch	375	FT	\$30.00	\$11,250.00	15 ea x 25'
* Aggregate Base, 8"	3000	SYD	\$10.00	\$30,000.00	Road width plus 1' each side
HMA, 1100T-20AA	235	TON	\$77.00	\$18,095.00	1.5" thick + 5% fluff
HMA, 1100L-20AA	410	TON	\$72.00	\$29,520.00	2.5" thick + 10% fluff
HMA Surface, Rem (driveways)	150	SYD	\$12.00	\$1,800.00	18' ave width x 5' deep
HMA, 36A (driveways)	35	TON	\$100.00	\$3,500.00	4" thick
Landscape Restoration	1800	SYD	\$6.00	\$10,800.00	Estimate 6' each side of road
Erosion Control	1	LS	\$1,500.00	\$1,500.00	Budget
* Added 07/08/2015					
<b>SUBTOTAL - PAVE GRAVEL ROADS</b>				<b>\$171,415</b>	
<b>PAVEMENT RECONSTRUCTION</b>					
Cold Milling, HMA Surface (2" - 4")	24000	SYD	\$3.00	\$72,000.00	Assume 50% of roads to mill
Machine Grading	110	STA	\$400.00	\$44,000.00	Based on cold milling
Base Crushing and Shaping	24000	SYD	\$2.50	\$60,000.00	Assume 50% of roads are crushed
Station Grading	110	STA	\$600.00	\$66,000.00	Based on crushing / 1" hauled from site
Subgrade Undercutting, Type II	850	CYD	\$40.00	\$34,000.00	Assume 5% of road
HMA, 1100T-20AA	4300	TON	\$75.00	\$322,500.00	1.5" thick + 5% fluff
HMA, 1100L-20AA	7260	TON	\$70.00	\$508,200.00	2.5" thick + 10% fluff
HMA Surface, Rem (driveways)	3080	SYD	\$12.00	\$36,960.00	18' ave width x 5' deep
HMA, 36A (driveways)	700	TON	\$90.00	\$63,000.00	4" thick
HMA Curb, Mountable	6600	FT	\$5.00	\$33,000.00	Estimate 15%
Culvert, Remove	50	EA	\$250.00	\$12,500.00	Estimate 15% of drives
Culvert, 12", CMP	1250	FT	\$30.00	\$37,500.00	Estimate 15% of drives at 25' ea
Ditching, Hauling and Grading	6600	LF	\$15.00	\$99,000.00	Estimate 15% of road incl. restoration
Landscape Restoration	9800	SYD	\$6.00	\$58,800.00	Estimate 2' each side of road
Erosion Control	1	LS	\$10,500.00	\$10,500.00	Budget
Speed Humps	18	EA	\$2,500.00	\$45,000.00	+/- 16 Existing + 2 New
<b>SUBTOTAL - PAVEMENT RECONSTRUCTION</b>				<b>\$1,502,960</b>	

ITEM WORK ACTIVITY	QUANTITY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>STORM SEWER IMPROVEMENTS - POLVADERA</b>					
8" Perforated Pipe	700	FT	\$15.00	\$10,500.00	
12" Storm Sewer, C76-CLIV	200	FT	\$40.00	\$8,000.00	Road Crossings
15" Perforated Pipe	800	FT	\$45.00	\$36,000.00	Must verify size
18" Perforated Pipe	800	FT	\$52.00	\$41,600.00	Must verify size
21" Perforated Pipe	930	FT	\$60.00	\$55,800.00	Must verify size
Dr. Structure, 48 inch dia w/ Sump	17	EA	\$1,900.00	\$32,300.00	Mainline
Dr. Structure, 24 inch dia w/o sump	4	EA	\$1,600.00	\$6,400.00	
Dr. Structure Cover	21	EA	\$500.00	\$10,500.00	
Culvert, Remove	650	FT	\$20.00	\$13,000.00	
Culvert, 12" / 15", CMP	750	FT	\$35.00	\$26,250.00	Possibly larger or elliptical
HMA Surface, Rem	250	SYD	\$12.00	\$3,000.00	Driveways only (road being R and R)
HMA, 36A (Driveways)	55	TON	\$100.00	\$5,500.00	4" thick
Ditching, Hauling and Grading	2650	LF	\$15.00	\$39,750.00	Between all culverts on south side
Landscape Restoration	4400	SYD	\$6.00	\$26,400.00	Assumed 15' wide average
Erosion Control	1	LS	\$5,000.00	\$5,000.00	Budget
				\$0.00	
<b>SUBTOTAL - STORM IMPROVEMENTS - POLVADERA</b>				<b>\$320,000</b>	
<b>STORM SEWER IMPROVEMENTS - SUNDEW</b>					
12" Storm Sewer, C76-CLIV	600	FT	\$40.00	\$24,000.00	
Dr. Structure, 48 inch dia w/ Sump	3	EA	\$1,900.00	\$5,700.00	
Dr. Structure, 24 inch dia w/o sump	3	EA	\$1,600.00	\$4,800.00	
Dr. Structure Cover	6	EA	\$500.00	\$3,000.00	
<b>SUBTOTAL - STORM IMPROVEMENTS - SUNDEW</b>				<b>\$37,500</b>	
<b>STORM SEWER IMPROVEMENTS - MISCELLANEOUS</b>					
Clean out / repair leaching basins	15	EA	\$400.00	\$6,000.00	Estimate
Sewer Repairs at Creedmore	1	LS	\$5,000.00	\$5,000.00	3 leaching basins that flood road
Install new leaching basins	5	EA	\$1,750.00	\$8,750.00	Budget
6" Edgedrain / Underdrain	500	FT	\$12.00	\$6,000.00	Budget
<b>SUBTOTAL - STORM SEWER IMPROVEMENTS - MISC</b>				<b>\$25,750</b>	
<b>RCOC APPROACHES (COMMERCE AND SOUTH COMMERCE ROADS)</b>					
HMA Surf, Rem or Excavation, Earth	536	SYD	\$12.00	\$6,432.00	
Curb and Gutter, Conc, Det B2	160	FT	\$30.00	\$4,800.00	
HMA, 2C	100	TON	\$90.00	\$9,000.00	Sundew and Ridgemont - Construct new approach to Commerce Road with RCOC Deep Strength HMA Section
HMA, 3C	100	TON	\$95.00	\$9,500.00	
HMA, 4C	70	TON	\$100.00	\$7,000.00	
Shoulder, CL II, 8 Inch	180	SYD	\$12.00	\$2,160.00	
Cold Mill, HMA Surface (4")	1340	SYD	\$4.00	\$5,360.00	Oakestria, Polvadera, Pondarosa,
HMA, 3C	210	TON	\$95.00	\$19,950.00	Polvadera, Ruppert - Resurface existing approaches with 4" HMA
HMA 4C	125	TON	\$100.00	\$12,500.00	
Advanced Warning Signage	4	EA	\$500.00	\$2,000.00	
				\$0.00	
<b>SUBTOTAL - RCOC APPROACHES</b>				<b>\$78,702</b>	
<b>SUBTOTAL CONSTRUCTION COST</b>				<b>\$2,243,327</b>	

ITEM WORK ACTIVITY	QUANTITY	UNIT	UNIT PRICE	TOTAL	COMMENTS
<b>SUBTOTAL CONSTRUCTION COST</b>				<b>\$2,243,327</b>	
<b>CONSTRUCTION CONTINGENCY (15%)</b>			<b>15%</b>	<b>\$336,499</b>	
<b>ENGINEERING (20%)</b>			<b>20%</b>	<b>\$515,965</b>	Includes borings, design, bidding, admin, inspection, testing
<b>LEGAL AND BONDING (12%)</b>			<b>12%</b>	<b>\$371,495</b>	
<b>TOTAL ESTIMATED COST</b>				<b>\$3,467,286</b>	

Specific work items that ARE NOT included in this estimate include:

- No improvements are required at any of the bridges
- No easements or right of way are required

Notes:

- This estimate is based off plans from 1988. Conditions may vary.
- This estimate **DOES NOT** include a mechanical forebay for sedimentation control. Typical cost is approx. \$100,000.
- It is assumed that the existing aggregate base is sufficient for paving.
- Storm sewer sizing along Polvadera is estimated. Drainage area and runoff from the North will be required.
- The storm sewer along Polvadera will be a perforated pipe system and will assist in drying out the ditches.
- Soft swales will be designed along the storm sewer route and culverts reinstalled to provide an overflow system.
- Cracking WILL occur transversely at 20' - 40' increments within 1 - 5 years. Crack seal as a maintenance procedure.
- Edge cracking may / will occur at the edge of the roads due to lack of edge support (curbs) - Crack seal as maintenance procedure.

It should be pointed out that since we have no control over the Contractor's method of determining prices, competitive bidding or market conditions, our opinion of the probable construction cost as provided for herein is made on the basis of experience and represents our best judgment as design professionals. We cannot guarantee that the final construction cost will not vary from this estimate.

Respectfully,  
GIFFELS WEBSTER

Estimate Prepared By: Scott A. Ringler, PE  
Date: May 18, 2016

Estimate Checked By: Jason Mayer, PE  
Date: May 18, 2016

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Detroit, MI 48226  
(313) 962-4442 Fax: (313) 962-5068

6303 26 Mile Road, Suite 100  
Washington Twp, MI 48094  
(586) 781-8950 Fax (586) 781-8951



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Date: May 18, 2016

Estimate Checked By: Jason Mayer, PE  
Date: May 18, 2016

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