Rockville Paved Road Inventory & Maintenance Expense Estimates

Chip Seal Work

1. Cox and DeMille .5 mi (2,640') x > 16' w = 42,240sf @ $0.17/sf = $7,180
2. Dennett Ln. .12 mi (634') x > 19' w = 12,046sf @ $0.17 = $2,048
3. Center St. .10 mi (528') x > 30' w = 15,840sf @ $.17 = $2,693
4. Jennings Ln. .075 mi (396') x > 15' w = 5,940sf @ .17 = $1,010
5. Bridge/ Upper Grafton .75mi(3,960') x > 22' w = 87,120sf @.17 = $ $14,811
6. Lower Grafton Rd. 1.5 mi (7,920') x 24' w = 190,080 sf @.17 = $32,314
7. River Rd. .13 mi (686') x > 20' w = 13,720sf @.17 = $2,332

Crack sealing of Bridge, Upper Grafton (East of Vescos), Jennings, Dennett $3,600

Re-build shoulder Bridge Rd/ Upper Grafton Rd. > $1,800

Removal of cattle guards Keep 2nd Cattleguard - Improve fencing > $1,800

Replace pavement at cattle guards + Widening at upper cattle guard (McBride) > $6,000

Asphalt repair ahead of chip-seal (not including crack-sealing)

Bridge Rd	> $ 1,000
Upper Grafton	$1,500
Lower Grafton	$4,500
Cox and DeMille	$1,200
Dennett	$ 0
Jennings	$ 0
River Rd	$400
Center St.	$2,000

Hot Mix Asphalt overlay Center St.	$14,200
Cold Mix patch Center St. 24cu yds x 1.5t/yd x 115/ton	$4,000
HMA overlay Cox Ln from SR9 to concrete swale 20' w	$5,000
Cold Mix patch Cox Ln SR9 to Concrete swale	$ 200- 1,800 ???

Using Washington County Chip Seal formula:

Oil	$0.73/sq yd	x 40,777sq yds =	$29,767
Chips	$0.20/sq yd x	"	$8,155
Hauling			$6,116
Distributor truck	16 hrs @ 150/hr =		$2,400
Overnight charge for distributor truck driver =			$300
Total Chip Seal Cost $1.15/ sq yd = $46,738 (@$1.35/sq yd = 55,049)			??

Latest e-mail from Dean Wulfenstein at Washington County:

Hello Mark,

Just as an idea to get you in the ball park without measuring myself, using your square footage I came up with your project taking about 76.5 Tons of LMCRS-2 if the whole project was done with this oil. Or it would be 73.40 Tons of MC 3000 if the entire project was done with this oil. It would require around 500 Tons of chips. We would be able to do this entire project in a day and these totals are very close to what we just did for the Town Of New Harmony in which it took us 10 Hrs. to complete. So figuring the Equipment and labor at this time would be $9,600.00 for the County. The Distributor Truck would be $1,500.00 at this same time. So my calculations to give you an Idea of what you will be up against is as follows:

LMCRS-2

Oil 76.5 Tons @ $338.00/ton	$25,857.00
Chips 500 Tons @ $18.00/ton	$9,000.00 + transportation to get chips to the project?
County Equipment/Labor	$9,600.00
Distributor Truck w/ Travel Time	$1,500.00
	$45,957.00 + transportation to get chips to the project?
	$4,300.00 should be close for transportation to give you an idea
	$50,277.00 total

MC 3000

Oil 73.4 Tons @ $530.00/ton	$38,902.00
Chips 500 Tons @ $18.00/ton	$9,000.00 + transportation to get chips to the project?
County Equipment/Labor	$9,600.00
Distributor Truck w/ Travel Time	$1,500.00
	$59,002.00 + transportation to get chips to the project?
	$4,300.00 should be close for transportation to give you an idea.
	$63,302.00 total

The transportation of the chips the way I figured it is probably safe and a little more than it would actually cost. The way I figured it I took the Ton of chips needed to do this project and divided it by 21 because the side dumps that haul the material can haul 21 Tons at a time. Doing this means it will take 24 loads to haul this amount. I figured it would take probably 2 hrs. round trip so it would take 48 Hrs. of truck time to haul it. The trucks rate is $90.00/hr. so it should be $4,300.00 dollars.

Let me know if you have any questions,
Thank You,

Dean M. Wulffenstein

Dean M. Wulffenstein
Superintendent
Washington County Road Department
(435)634-5736 Office
(435)634-5774 Fax
(435)669-6132 Cell

Straight Stripe Painting, Inc.
1812 W Sunset Blvd #1-525
St George, UT 84770
O: 435-656-0930 F: 435-634-0580

Straight Stripe PAINTING, INC | Dixie Clean & Sweep A STRAIGHT STRIPE COMPANY

Contractor: Town of Rockville
Address: 43 E Main
Rockville, UT.
Phone: 970-291-9665
Fax / Email: markhartless@gmail.com

Estimate # 16096

Date Submitted: 9/12/2016

UT Contractors Lic #: 6185058-5501

Dec - Febr -

Customer Name: Mark Hartless
Project Name: Town of Rockville
Project Location: Rockville, UT.
Project Address: Bridge Rd.

Bridge & Upper Grafton

Estimate By:
Gordon Schneider
Cell: 435-632-8698
Gordon@straightstripe.com

Item #	Item Description	Quantity	U of M	Unit Price	Total
1	**Crack Seal- Field** Field crack sealing Clean-out cracks in using high pressure air (min 185 psi), and clean entire asphalt surface. Apply Maxwell product NUVO D Hot Elastomeric Sealant to all cracks 1/4" and wider and level off with a banding shoe.	1	LS	$ 2,870.00	$ 2,870.00
2	**Vacuum Sweeping**	1	LS	$ 625.00	$ 625.00
3	**Mobilization- Crack Seal**	1	Each	$ 250.00	$ 250.00
	***Crack Seal and Seal Coat do not adhere to oil stained areas. If client chooses not to replace those areas, no warranty will be offered. It is recommended to remove and replace those areas for the best results.**				

Specifications:
Any mobilization estimated shall be charged for each time our company is called to perform labor and services on the project, and is NOT an estimate for mobilization for the entire project. Any item estimated at a "daily" rate will be charged per day at the unit price listed. Any item estimated as "unknown" will be charged at the unit price listed multiplied by the actual labor, services, and/or materials provided. All paint/markings, sign, seal coatings, crack sealants, and bumper blocks to be applied under this estimate will be billed at the unit price listed above multiplied by the actual services applied at the project at your request.

Exclusions:
This estimate does NOT include surveying and/or layout of pavement markings. (Does Not Include documenting type, location and offset of existing markings). This estimate does not include traffic control unless stated other wise in this estimate. Our company is not responsible for cleaning paving marking surface area prior to painting/messaging application unless stated other wise in this estimate.

Total $ 3,745.00

This estimate is valid for a period of 30 days from the date of this estimate. Any invoice submitted by our company shall be due 30 days after the date of such invoice. Any invoice not paid within the 30 day period will accrue interest at a rate of 21% per annum until paid in full. Furthermore, in the event collection activities become necessary, our company shall be entitled to recover all of its costs incurred in the collection of the amounts due and owing under this estimate, including but not limited to attorneys' fees and court costs.

Customer Name: **Signature:**

Straight Stripe Painting, Inc.
1812 W Sunset Blvd #1-525
St George, UT 84770
O: 435-656-0930 F: 435-634-0580

Straight Stripe PAINTING, INC | Dixie Clean & Sweep A STRAIGHT STRIPE COMPANY

A Certified DBE Company: UT, AZ, CA, ID, MT, NV, WY

Contractor: Town of Rockville
Address: 43 E Main
Rockville, UT.
Phone: 970-291-9665
Fax / Email: markhartless@gmail.com

Estimate # 16078
Date Submitted: 7/28/2016
UT Contractors Lic #: 6185058-5501

Customer Name: Mark Hartless
Project Name: Town of Rockville
Project Location: Rockville, UT.
Project Address: Bridge Rd.

Do not recommend

Estimate By:
Gordon Schneider
Cell: 435-632-8698
Gordon@straightstripe.com

Item #	Item Description	Quantity	U of M	Unit Price	Total
1	Seal Coat- Premium Same/Close to Chip Seal				
	Center St.	16,671	SQFT	$ 0.16	$ 2,667.36
	N Dennett St.	19,561	SQFT	$ 0.16	$ 3,129.76
	E Demille Rd	21,145	SQFT	$ 0.16	$ 3,383.20
	W Demille Rd	14,675	SQFT	$ 0.16	$ 2,348.00
	Cox Rd	9,113	SQFT	$ 0.16	$ 1,458.08
	Jennings St.	6,696	SQFT	$ 0.16	$ 1,071.36
	Bridge Rd	76,724	SQFT	$ 0.16	$ 12,275.84
	Grafton Rd	191,876	SQFT	$ 0.16	$ 30,700.16
	Mobilization- Seal Coat	1	EACH	$ 250.00	
	*Note- Job minimum for seal coat is $1500.00.				
	*Note- Number of mobilizations is dependent on how much seal coat is being applied.				

Specifications:
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Exclusions:
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Straight Stripe PAINTING, INC | Dixie Clean & Sweep A STRAIGHT STRIPE COMPANY

A Certified DBE Company: UT, AZ, CA, ID, MT, NV, WY

Contractor: Town of Rockville
Address: 43 E Main
Rockville, UT.
Phone: 970-291-9665
Fax / Email: markhartless@gmail.com

Estimate # 16074

Date Submitted: 7/22/2016

UT Contractors Lic #: 6185058-5501

Customer Name: Mark Hartless
Project Name: Town of Rockville
Project Location: Rockville, UT.
Project Address: Bridge Rd.

Estimate By:
Gordon Schneider
Cell: 435-632-8698
Gordon@straightstripe.com

Item #	Item Description	Quantity	U of M	Unit Price	Total
1	**Crack Seal- Field** Field crack sealing Clean-out cracks in using high pressure air (min 185 psi), and clean entire asphalt surface. Apply Maxwell product NUVO D Hot Elastomeric Sealant to all cracks 1/4" and wider and level off with a banding shoe.	276	Boxes	$ 55.00	$ 15,180.00
2	**Seal Coat- Premium** Clean asphalt surface using wire brooms, high pressure blowers, and remove debris. Mask monuments and manhole covers, seal asphalt using two coats of NU Rock AXYS® Mastic Seal.	1	LS	$ 57,033.44	$ 57,033.44
3	**Crack Seal- Surface Cleaning**	1	LS	$ 1,200.00	$ 1,200.00
4	**Vacuum Sweeping**	1	LS	$ 2,500.00	$ 2,500.00
5	**Mobilization- Crack Seal**	3	Each	$ 250.00	$ 750.00
6	**Mobilization- Seal Coat**	2	Each	$ 250.00	$ 500.00
	*Crack Seal and Seal Coat do not adhere to oil stained areas. If client chooses not to replace those areas, no warranty will be offered. It is recommended to remove and replace those areas for the best results.				

Specifications:
Any mobilization estimated shall be charged for each time our company is called to perform labor and services on the project, and is NOT an estimate for mobilization for the entire project. Any item estimated at a "daily" rate will be charged per day at the unit price listed. Any item estimated as "unknown" will be charged at the unit price listed multiplied by the actual labor, services, and/or materials provided. All paint/markings, sign, seal coatings, crack sealants, and bumper blocks to be applied under this estimate will be billed at the unit price listed above multiplied by the actual services applied at the project at your request.

Exclusions:
This estimate does NOT include surveying and/or layout of pavement markings. (Does Not Include documenting

Dean Wulffenstein

From: Todd Edwards
Sent: Wednesday, August 24, 2016 1:19 PM
To: Dean Wulffenstein
Subject: FW: Chip Seal costs

Per square foot our estimating cost is $0.15 per square foot which equals $1.35 per square yard.

From: Todd Edwards
Sent: Tuesday, August 23, 2016 3:36 PM
To: Ron Whitehead
Subject: FW: Chip Seal costs

From: Todd Edwards
Sent: Tuesday, November 03, 2015 11:39 AM
To: Chuck Gillette
Subject: Chip Seal costs

Chuck,

Here are the chip seal costs from our project we did this year.:

2015 Chip Seal Costs – Cost of CRS-2H oil was $388.00/ ton delivered with the oil weighing 8.33 lb/gal. Therefore, cost was $1.62/ gal. We used 0.45 gal/sq. yd. so our cost was $0.73/sq. yd. Our cost of chips was $16.50/ton in the yard. We used 24 pounds per square yard, so our cost was $0.20/ sq. yd. Cost of the distributor truck was $150/hr with an overnight charge of $300, so one 10 hr day would be $1800. We could lay down about 3 miles per day in the subdivisions, so with 28 feet wide roads that would be about $0.04/sq. yd. Our hard cost to haul the chips with our own trucks was about $0.10/sq. yd. (not including labor). Total cost for our chips seal was about $1.07/sq. yd (not including our own labor). If you included the cost of labor it would bring the cost up to close to $1.35/sq. yd.

Thanks,
Todd

CHIP SEAL FORMULA

AGGREGATE / CHIP

(L x W) / 9 x (24 lbs/sq yd) / 2000 = Tons of Chips

I round the number to the closest whole number.

I use the 24 lbs/sq yd just to make sure we have enough chips for the project even though I calculate closer to us using 22 lbs/squ yd. I make the application rate (24 lbs / sy) variable (i.e. linked to another cell in the spreadsheet) just in case I want to change the application rate while updating all aggregate totals.

LMCRS-2 OIL

(L x W) / 9 x (0.40 gal/sq yd) x (8.33 lbs/gal) / 2000 = Tons of LMCRS-2 Oil

I only use the 10th decimal place (see spreadsheet). That seems to be a better number for accuracy.

I also link the application rate to another cell in the spreadsheet so that I can vary this rate based on what we want to use. I you look at the Ch-Su 2013 Tab in the spreadsheet I sent you, you'll notice that the oil application rate that I used was 0.40 gal/sq yd, but I used 0.36 for PASS Oil last year. Again, this was based on conversations I had with Mark Labelle with ASI regarding the application rate of PASS Oil.

MC 3000 OIL

(L x W) / 9 x (0.40 gal/sq yd) x (8.00 lbs/gal) / 2000 = Tons of MC 3000 Oil

TAMS Treatment Cost and Performance

Treatment Type	Maintenance Category	Cost (SqYd)	Remaining Service Life Categories (years)							
			0	1-3	4-6	7-9	10-12	13-15	16-18	19-2
Crack Seal	Routine	$0.30	0	0	0	0	1	2	3	2
Digout and Hot Patch (R&R)	Routine	$0.45	0	0	0	0	0	0	0	0
Fog Coat	Routine	$0.45	0	0	0	1	1	2	2	2
High Mineral Asphalt Emulsion	Seal Coats	$1.20	0	0	0	1	2	3	5	5
Sand Seal	Seal Coats	$0.65	0	0	0	1	2	2	2	2
Scrub Seal	Seal Coats	$1.00	0	1	3	4	5	5	5	5
Single Chip Seal	Seal Coats	$1.30	0	1	3	4	5	5	5	5
Slurry Seal	Seal Coats	$1.75	0	1	3	4	5	5	5	5
Microsurfacing	Seal Coats	$2.40	0	2	3	4	7	7	7	7
Bonded Wearing Course	Rehabilitation	$4.00	0	3	4	5	7	7	7	7
Cold In-place Recycling (2 in with chip seal)	Rehabilitation	$5.00	0	3	4	5	6	7	7	7
Thin Hot Mix Overlay (<2 in)	Rehabilitation	$6.75	0	4	6	7	7	7	7	7
HMA (leveling) & Overlay (<2 in.)	Rehabilitation	$7.50	0	4	6	8	8	8	8	8
Hot Surface Recycling	Rehabilitation	$5.00	0	3	5	7	8	8	8	8
Rotomill & Overlay (<2 in)	Rehabilitation	$8.40	0	4	7	8	8	8	8	8
Cold In-place Recycling (2/2 in.)	Reconstruction	$10.30	15	15	16	15	15	15	15	15
Thick Overlay (3 in.)	Reconstruction	$10.00	12	12	12	12	12	12	12	12
Rotomill & Thick Overlay (3 in.)	Reconstruction	$11.00	12	12	12	12	12	12	12	12
Base Repair\Pavement Replacement	Reconstruction	$12.00	16	16	16	16	16	16	16	16
Cold Recycling & Overlay (3/3 in.)	Reconstruction	$11.15	14	14	14	14	14	14	14	14
Full Depth Reclamation& Overlay (3/3 in.)	Reconstruction	$13.25	20	20	20	20	20	20	20	20
Base/Pavement Replacement (3/3/6 in.)	Reconstruction	$19.00	20	20	20	20	20	20	20	20

*Fit the current RSL into the RSL category along the top row and then move downward to the applied treatment to find the additional RSL that will be achieved from the s

(2/2 in) Means 2" overlay with 2" recycle (3/3/6) Means 3" HMA over 3" Road Base over 6" Base

Figure 47 – TAMS Treatment Cost and Performance