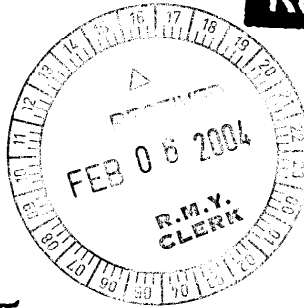


253 Broadway Ave, Orangeville, Ontario L9W 1K6
Tel: (800)-940-3958 or 519-940-3958
Fax: (519)940-3948

**Canadian Waste
Recycling Inc.**

Fax



REGION OF YORK
CLERK'S OFFICE

FILE No. - P27

To: Michelle GALLANT

From: RANDY CHARTRAND

Fax:

Pages: 6

Phone:

Date:

CO:

CC:

☐ Urgent

☒ For Review

☐ Please Comment

☐ Please Reply

☐ Please Recycle

• Comments:

PLZ FOWARD TO ALL REGIONAL COUNCILOR

Thx R

Canadian Waste Recycling Inc.**253 Broadway Ave., Orangeville, Ontario L9W 1K6****phone: 519-940-3958****toll free: 1-800-940-3958****fax: 519-940-3948****e-mail: grantgt@lycos.com****Date: February 3, 2004****mobile: 905-301-9993****To:****Attn:****Fax:****Phone:****Re: COLLECTION and RECYCLING of USED WASTE ROOF SHINGLES****Dear:**

All Municipalities in today's world are very concerned with the **environment**, saving **landfill space** and in **recycling** whenever possible. In that regard, CWR have developed a **unique process** to clean and grind **used roof shingles** into a powdered form, which is a useable and valuable manufactured product called Processed Shingle Material (PSM).

A shingle consists of 35% Asphalt Cement (A.C.), 12% Fiber and the balance is a limestone or trap rock aggregate. All of these shingle components are very compatible with, and blend in beautifully with, **hot mix asphalt paving** (HMA). Adding between 3% and 5% PSM to hot mix asphalt paving will result in savings of between 7% and 15% per ton of asphalt produced for road paving. That saving is gained through reducing the volume of virgin A.C. and virgin aggregate required for manufacturing new HMA for road paving.

The addition of the PSM into the HMA mix is a real bonus, because it adds strength to the roadway pavement through the fiber content in the PSM. The PSM in the mix allows a higher percentage of asphalt cement to be used, thereby making the mix stronger. The fiber itself adds additional strength to the roadway pavement.

*** The PSM can supply the **fiber content** required for road paving using the new "**Mastic**" pavement mixes, at a fraction of the cost of virgin fiber. The addition of PSM will allow all roads in your Municipality to be "**fiber strengthened**" which will assist the roadway to resist surface cracking and rutting, and will give the roadway a longer more durable life span.

PSM will **save your Municipality money** by **reducing your cost of road construction**, give your roads a longer **more durable life span**, reduce your **costs of disposal** of the shingles, and allow your **landfill sites more longevity** without the waste shingles having to be dumped there. If your Municipality has gravel parking lots or gravel roads, the PSM spread on those roads will **control dust**, and end up creating a **firm-driving surface**. The PSM can also be **sold to farmers** in your area, who can pick it at your works yard, and then spread the PSM on their long laneways, eliminating **potholes**, controlling **dust**, and creating a **firm-driving surface**.

WE SHOULD ALL TRY AND RECYCLE EVERYTHING THAT WE POSSIBLY CAN.

In shingle processing, not only is the recycling by itself a benefit, but also there is an actual **monetary gain** for your **Municipality** from this process. We can process all of your Municipalities waste shingles but -----

WE NEED YOUR CO-OPERATION TO ACCOMPLISH THIS.

MUNICIPAL INVOLVEMENT:

Approval of the PSM as an additive to roads in their jurisdiction.

Your municipality can collect all of the waste used asphalt roof shingles disposed of in your Municipality at your landfill site, or works yard. (We require one to two acres of area to work with as we have 3 very large pieces of equipment). Some Municipalities have separate disposal boxes at their transfer stations to receive the shingle waste. Those disposal boxes are then taken to their landfill sites. Other Municipalities have an area at their landfill sites where the shingles can be dumped. Some Municipalities combine and share their resources, locations and efforts with neighboring Municipalities.

CWR will come in when you have collected 1000 tons of shingles (that may be more than one years collection, but that is fine) and process them, leaving them on site for your Municipality to use.

There is approximately one ton of garbage for every 100 tons of shingles processed, and we require a facility to dispose of this garbage at. (Landfill site or transfer station). The collected garbage consists of nails, paper, aluminum, metal, plastic wood etc., all components of the re-roofing construction job.

We use a water spray on our grinder to cool the grinder and also to control any dust from the grinding process. If water is not available, we can truck it in at whatever that cost is.

We have a weigh scale on our discharge conveyor that will measure the tonnage of product processed, and that tonnage can be compared for "tonnage quantity purposes", with your Municipal weigh scale tickets (if you use a weigh scale) as the shingles are brought into your site.

You can then have any roads constructed in your area, (as a part of the paving specification), require between 3% and 5 PSM in the road pavement mixes.

You could also sell the PSM to the HMA contractor, or give him the PSM without charge and ask for a cost reduction equal to what the PSM saves in the HMA manufacturing process (7% to 15% per ton).

You can also sell the PSM to residents in your municipalities to be used for dust control on their driveways, or use it on your Municipal gravel roads and parking lots.

CWR require \$70.00 per ton to separate, clean and grind the shingles into a powdered form with our equipment and process.

It is as simple as that. No deposits, nothing onerous, just a purchase order authorizing us to process your shingle waste. Give us a call to discuss this "Recycling" and "Waste Diversion" opportunity.

The PSM needs to be approved by your Municipal Council or Engineering Department so that it becomes an **allowable additive** for any roads constructed in your Municipality. The PSM shingle product can then be used to **create better roads in your municipality**.

We have Asphalt Engineering Company reports on the PSM that we can provide you with, that should satisfy your Engineering Departments in regards to the PSM's attributes. We can also provide you with Engineering specification sheets on the PSM.

Support from your Road Engineering Departments and their request for approval of the PSM in the OPSS, and support through your Municipalities membership in the "Ontario Good Roads Association" and membership in the "Municipal Engineering Association", would be very beneficial so that the PSM product can be used across Ontario.

If your Municipality is not in a position where you do not have a suitable location in which to stockpile and process the shingle waste, we can discuss CWR picking up the shingles and trucking them to a local site where they can be processed.

It is beneficial for your Municipality though, through "Waste Diversion" programs and "Environmentally", that the used waste roof shingles from your area, benefit the roads that are to be constructed in your area.

In closing, CWR are **recycling a waste stream raw material** that is not a good landfill commodity in the first place, because of the fact that the shingles do not breakdown in the ground as organics do. Also, it is **very Inconsiderate of all of us** to landfill anything made from **non-renewable natural resources**. Not only can these waste stream products "just be recycled", but their use after recycling, will assist in building a better and longer lasting road for your municipality.

Is your Municipality thinking "GREEN"?

I will follow up with you on this beneficial recycling proposal in the next few weeks, or please give us a call.

We look forward to receiving your support.

Best regards,

Gary Grant

**WOULD YOU BE INTERESTED IN A PROCESS THAT WILL BUILD A STRONGER
AND LASTING ROADWAY IN YOUR MUNICIPALITY AND AT THE SAME TIME
SAVE YOU DISPOSAL COSTS**

SAVINGS USING PSM: (Processed Shingle Material)

By stockpiling PSM (processed, cleaned and ground waste roof shingles), the municipality can save disposal costs and they will be able to keep most or all of the tipping fees. The tipping fees range from \$55.00 per ton in Brantford, \$68.00 per ton in Toronto, and up to \$150.00 per ton in other areas.

Most of the shingles collected are presently trucked to Michigan at a cost of approximately \$51.00 per ton or landfilled at other Ontario landfill sites if they are available.

PSM consists of three things

Asphalt cement that costs \$270.00 per ton

Cellulose wood fibre that costs for \$600.00 per ton

Limestone aggregate of trap rock aggregate that costs for \$20.00 per ton

One ton of HMA (hot mix asphalt) used for road paving consists of, and costs:

5% Asphalt Cement x \$270.00 per ton = \$13.50 per ton

95% Aggregate x \$20.00 per ton = \$19.00 per ton

One ton of HMA costs \$19.0 plus \$13.50 to produce = \$32.50 per ton

ASPHALT CEMENT in the PSM:

(Only 70% of the A.C. in the PSM becomes "free" and can be considered as a saving off the requirement for, and the purchase of, fresh virgin A.C.)

Of the 5% total A.C. required in the manufacturing of HMA, by adding 5% PSM, the savings are:

5% (PSM) x 33% (the percentage of A.C. in the PSM) x \$270.00 (the price of virgin A.C. per ton) x 70% (the amount of A.C. in the PSM that is available).

$5 \times 33 \times 270 \times 70\% = \3.11

Adding 5% PSM saves \$3.11 worth of virgin A.C. per ton of HMA that is manufactured.

AGGREGATE

95% of HMA is aggregate

aggregate costs \$20.00 per ton

aggregate makes up 50% of the volume in our PSM

by adding 5% PSM in the manufacturing of HMA, you save:

50% (the percentage of aggregate in the PSM) x 5% (the amount of PSM we are adding to the HMA mix) x 95% (the percentage of aggregate in the HMA) x \$20.00 (the cost of the aggregate)

$50 \times 5 \times 95 \times 20 = 47 \text{ cents.}$

Adding 5% PSM saves 47 cents worth of aggregate per ton of HMA that is manufactured.

Total saving by adding 5% PSM into the manufacturing of PSM:

A.C. saving = \$3.11

Aggregate saving = .47

TOTAL SAVINGS = \$3.58 (and you end up with a much better and longer lasting roadway)

At a cost of HMA of \$32.50 per ton to manufacture, the addition of 5% PSM, saves a total of \$3.58 per ton from the \$32.50 cost per ton of the HMA, or a saving of 11% per ton.

One ton of PSM (ground recycled shingles) saves landfill space, saves the cost of trucking the shingles to a landfill, and allows the Municipality to build longer lasting and better roadways.

For Municipalities, besides the above mentioned obvious bonus's, there is a huge dollar saving for you.

One ton of PSM (which is cleaned and ground used shingles) you save the following money for any roads constructed in your area:

1 ton of PSM consists of:
 - 33% A.C. (33% x \$270.00 per ton x 70% the available A.C. in the PSM) = \$62.37
 - 50% aggregate (50% x \$20.00 per ton) = \$10.00

TOTAL SAVING:

= \$72.37

We only charge \$75.00 per ton for processing, cleaning and grinding the waste shingles, so in effect, our service costs you almost nothing. As a result, you will have eliminated all of your costs of disposal for your shingles, and you will end up with better built and longer lasting more durable roads in your municipality.

**** We have not even calculated the savings you will gain from the 12% cellulose wood fibre that is in the PSM. Once the Engineering community appreciates that the fibre that is in the PSM, is identical to the fibre that is used in the new SMA asphalt mixes, the value to the Municipality for stockpiling PSM will increase as follows:

Fibre percentage in PSM = 12%

Cost of fibre per ton = \$600.00

Savings on fibre by adding 5% PSM to the HMA:

\$600.00 (cost of fibre per ton) x 12% (percentage of fibre in the PSM) x 5% (the percentage of PSM in the HMA) = \$3.60

The savings to you per ton of HMA, fibre enhanced is now \$7.18 per ton.

1 ton of PSM supplies you with 12% of fibre x \$600.00 = \$72.00 per ton

1 ton of PSM in total saves you :

A.C	\$62.37
Aggregate	\$10.00
Fibre	\$72.00

A total of \$144.37 per ton.