

**Environment and Natural Resources Trust Fund
2015 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 080-C

Regional Mattress Recycling: Reducing Landfill Use, Recovering Resources

Category: C. Environmental Education

Total Project Budget: \$ 3,435,115

Proposed Project Time Period for the Funding Requested: 2.5 years, July 2015 - December 2017

Summary:

The Regional Mattress Recycling Program will provide the infrastructure to educate, collect, transport, process, and recover resources while researching environmentally viable cotton markets and reducing regional use of landfill space.

Name: Ed Homan

Sponsoring Organization: McLeod County

Address: 1065 Fifth Ave SE
Hutchinson MN 55350

Telephone Number: (320) 484-4316

Email ed.homan@co.mcleod.mn.us

Web Address www.co.mcleod.mn.us

Location

Region: Central, SW, SE

County Name: Benton, Blue Earth, Brown, Carver, Chippewa, Dodge, Douglas, Faribault, Fillmore, Freeborn, Goodhue, Grant, Houston, Jackson, Kandiyohi, Lac qui Parle, Le Sueur, Lincoln, Lyon, Martin, McLeod, Meeker, Morrison, Mower, Murray, Nobles, Olmsted, Otter Tail, Pipestone, Pope, Redwood, Renville, Rice, Rock, Scott, Sherburne, Sibley, Stearns, Steele, Stevens, Swift, Todd, Traverse, Wabasha, Wadena, Waseca, Watonwan, Wilkin, Winona, Wright, Yellow Medicine

City / Township:

Alternate Text for Visual:

Property of current site with adjoining property for development

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	



Environment and Natural Resources Trust Fund (ENRTF)

2015 Main Proposal

Project Title: Regional Mattress Recycling: Reducing Landfill Use, Recovering Resources

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I. PROJECT STATEMENT

Minnesotans purchase approximately 700,000 mattresses and box springs each year (0.14 purchases per person each year, according to the International Sleep Products Association). This includes purchases made by institutions, hospitality industry and individuals. The majority of these mattresses end up in landfills, causing the following problems:

- 1) compact poorly (360 lbs/cubic yard mattresses vs. 1600 lbs/cubic yd non-mattress garbage), using excessive airspace
- 2) get tangled up in compactor equipment
- 3) increase complications during landfill fires

When mattresses go to landfills, so do their valuable components – including steel, polyfoam, cotton and wood.

There are only two recycling programs in the state processing mattresses (in Duluth and the Twin Cities), leaving nearly half the state unserved. Each location has experienced challenges in processing and marketing some of the recaptured resources, particularly cotton.

In 2013 McLeod County Solid Waste started a pilot program to recycle mattresses and test new ways to overcome the challenges of current efforts. The Regional Mattress Recycling Program will expand this pilot, offering mattress recycling to approximately 45 counties in Central, Southwest and Southeast Minnesota. At the end of three years, this program is projected to recycle a minimum of 28,900 mattresses, resulting in landfill airspace savings of 3,422 cubic yards [total airspace saved in dollars: \$128,667.00].

The Regional Mattress Recycling Program proposes to build a state-of-the-art, energy-efficient processing facility in McLeod County. Mattresses will be transported there from centralized collection points, and disassembled by disabled adults using specialized equipment. Funds generated by recycling fees and sale of recovered resources will be used to sustain the recycling program, including the employment of disabled adults. In addition, the Regional Mattress Recycling Program will develop innovative solutions to the challenges of recovering and marketing mattress components, and disseminate findings to key partners throughout the state.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Resource Recovery

Budget: \$3,435,115

The Regional Mattress Recycling Program will provide Minnesota Counties, in the targeted region, an environmentally safe and responsible way to recycle mattresses, while saving landfill space and resources.

Outcome	Completion Date
1. Elimination of a minimum of 1,589,500 pounds of mattress units from Minnesota Landfills during proposed years	December 31, 2017
2. Recovery of an estimated 1,011,500 pounds of recovered mattress product	December 31, 2017
3. Save an estimated 3,422 cubic yards of landfill space throughout the region.	December 31, 2017
4. Research cotton reuse & recycling in agricultural uses or as a potential biofuel.	December 31, 2017

Activity 2: New Building

Budget: \$2,300,000

Processing facility to recycle mattress units from throughout the region.

Outcome	Completion Date
1. Design energy-efficient facility to provide a regional site that will enable McLeod County to assist counties located in the targeted regions of Minnesota to meet their MPCA approved Integrated Solid Waste Plans.	August 30, 2015
2. Complete construction of building on McLeod County Solid Waste campus to receive, process, and ship commodities to an end user for recycling	December 31, 2015

Activity 3: Processing Equipment

Budget: \$521,960

Obtain equipment to collect and process mattresses for market.

Outcome	Completion Date
1. Order specialized equipment for transporting and processing mattresses in a safe and efficient manner.	Order date
2. Install equipment and train disabled adults on proper operation	December 31, 2015
3. Rent transport trailers for on-site collection throughout region and transportation to processing	December 31, 2015



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facility.	
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Activity 4: Program Education **Budget: \$50,000**
Increase recycling volume by heightening awareness of mattress recycling program.

Outcome	Completion Date
1. Direct mail campaign to commercial locations	Ongoing
2. Press releases to regional news organizations	Ongoing
3. Web links on government, business and institutional websites	Ongoing
4. Social media promotion	Ongoing
5. Billboards	Ongoing

Activity 5: Sustainability **Budget: \$475,435.00**
The Regional Mattress Recycling Program will be financially sustainable on its own after its two preliminary start-up years, through recycling fees per unit and recycling revenues from the recovered resources.

Outcome	Completion Date
1. Recycling Fees of \$15 per mattress unit for the 28,900 units collected during the project years.	December 31 st , 2017
2. Recycling Revenue estimated at \$1.50 per unit for 28,900 units collected during the project years.	December 31 st , 2017

III. PROJECT STRATEGY

A. Project Team/Partners

- McLeod County** – Ed Homan, Solid Waste Director
- McLeod County** – Sarah Young, Solid Waste Coordinator. Assist
- Adult Training & Habilitation Center** – Martha Brannon, Executive Director.
- UMD/NRRI** –University of Duluth and the Natural Resource Research Institute
- MPCA – Minnesota Pollution Control Agency-** Hank Fisher with the Minnesota Pollution Control Agency
- University of Minnesota Extension Services** – Nathan Winters, UMN Extension Director
- Creek Side Soils** – Andy Kosek, Manager at Creek Side Soils
- McLeod County Highway Department MNDOT**-John Brunkhorst and MNDOT
- Minnesota Mining and Manufacturing (3M)**-Darren Gores, 3M Project Representative **University of Minnesota Extension Services** – Roger Berggren, McLeod County Environmental Department
- Minnesota Department of Agriculture** – David Weinand, Grants Administrator
- Casket Industry**

B. Project Impact and Long-Term Strategy

The Regional Mattress Recycling Program will provide ongoing benefits to the state by reducing landfill use by 3,422 cubic yards and reducing greenhouse gasses by recovering valuable resources in the amount of 795 tons at the end of 2017. In addition, this program will use innovative techniques and develop new markets for recovered materials – results that will be disseminated to other recycling programs within the state. For example, the pilot program is currently exploring multiple uses for recycled mattress cotton as biofuel, compost, livestock bedding and erosion control. McLeod County has funded the pilot phase of mattress recycling through recycling fees and landfill abatement fees. ENTRF support would fund a new facility and equipment to expand this successful program to Central, Southwest and Southeast Minnesota. It would provide the means for McLeod County to begin collection partnerships with those counties currently expressing interest. It is anticipated that the program will be self-sustaining after 2017, based on recycling fees and recycled commodity revenues.

C. Timeline Requirements

It is anticipated that the program will begin to grow, as local units of government are provided information. By the end of 2017, the program goal is to have fifteen collection site partners established; with the ongoing goal of having the program expanded and offered to the entire targeted regions of Minnesota.

July 1, 2015 – August 30, 2015	Building Design/Green Energy
September 1, 2015 – December 31, 2015	Construction
September 1, 2015 - ongoing	Establish collection sites throughout region
January 1, 2016	Start of program for a minimum of 15 collection sites
January 1, 2016 – December 31 2017	Program costs and data tracking

2015-2017 Detailed Project Budget

Project Title: *Regional Mattress Recycling: Reducing Landfill Use, Recovering Resources*

INSTRUCTIONS AND TEMPLATE (1 PAGE LIMIT)

Attach budget, in MS-EXCEL format, to your "2015 LCCMR Proposal Submission Form".

(1-page limit, single-sided, 10 pt. font minimum. Retain bold text and DELETE all instructions typed in italics. ADD OR DELETE ROWS AS NECESSARY. If budget item row is not applicable put "N/A" or delete it. All of "Other Funds" section must be filled out.)

IV. TOTAL ENRTF REQUEST BUDGET: 2.5 years

BUDGET ITEM (See "Guidance on Allowable Expenses", p. 13)	AMOUNT
Personnel: Director Ed Homan, Project Manager & Construction Oversight 10% FTE + 30% increase due to benefits. Slight reduction in time commitment as program matures and becomes established.	\$ 15,990
Personnel: Recycling Manager Don Hopp, Project Oversight & Market Research, 10% FTE + 30% increase due to benefits This will be a continuous position with a possible slight reduction in time commitment as program matures and becomes established.	\$ 19,250
Personnel: Program Coordinator Sarah Young, Program Education, 10% FTE + 30% increase due to benefits. This will be a continuous position with a possible slight reduction in time commitment as program matures and becomes established.	\$ 17,875
Personnel: Office Manager Kimberly Block, Program Data Management, 10% FTE + 30% increase due to benefits. This will be a continuous position with a possible slight reduction in time commitment as program matures and becomes established.	\$ 12,300
Personnel: Transportation & Quality Control Coordinator , 12.5% FTE + 30% increase due to benefits. This position will become more time consuming as the program matures and additional collection sites are added. Estimating 1 load per week over the project timeline.	\$ 26,910
Contracts: ATHC (Adult Training & Habilitation Center) will provide the labor to disassemble the mattress units for market & bale each commodity. Two laborers estimated to work 260 hours each at \$11.00 per hour	\$ 63,580
Equipment/Tools/Supplies: Forklifts (2), to move, load and unload mattress units for processing and to and from trailers.	\$ 68,000
Equipment/Tools/Supplies: Truck (1), to haul trailers to and from regional collection sites.	\$ 100,000
Equipment/Tools/Supplies: Trailers (12), these are rental trailers for loading mattress units at each collection site, within the targeted region, for recycling at the McLeod County facility.	\$ 25,920
Equipment/Tools/Supplies: Shears, this will separate the metal springs from the wood mattress frame.	\$ 16,000
Equipment/Tools/Supplies: Baler, to process the commodities and prepare them for market.	\$ 100,000
Equipment/Tools/Supplies: Mattress Spring Compactor, to process and compact the metal springs for market.	\$ 165,000
Equipment/Tools/Supplies: Skidsteer, to load and push recovered mattress resources into the baler.	\$ 55,000
Equipment/Tools/Supplies: Miscellaneous tools & supplies (utility knives, blades, propane)	\$ 5,000
Travel: Site visits to establish collection partners with all the counties in the targeted region.	\$ 4,000
Travel: Pick-up and change out of trailers located at collection sites throughout targeted region.	\$ 40,290
Additional Budget Items: Solar Roof Panels on new processing facility	\$ 400,000
Additional Budget Items: Mattress Recycling Building 150' x 250' with geothermal loop.	\$ 2,300,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 3,435,115

V. OTHER FUNDS (This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period: <i>Indicate any additional non-state cash dollars secured or applied for to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.</i>	N/A	N/A
Other State \$ To Be Applied To Project During Project Period: State CAP Funding, initial application of interest made which included the new building to handle the growing number of regional program initiatives promoted by McLeod County; to include the geothermal and solar energy initiatives.	\$ 3,100,000	Pending
In-kind Services To Be Applied To Project During Project Period: Land Acquisition of 5.97 acres for processing facility	\$ 220,350	Secured
In-kind Services To Be Applied To Project During Project Period: Recycling Fees for mattress recycling.	\$ 433,500	Secured
In-kind Services To Be Applied To Project During Project Period: Advertising and Educational expenses.	\$ 50,000	Pending
In-kind Services To Be Applied To Project During Project Period: Office supplies and technical support	\$ 10,000	Secured
In-kind Services To Be Applied To Project During Project Period: Insurance for Building	\$ 8,142	Pending
In-kind Services To Be Applied To Project During Project Period: Insurance for Equipment	\$ 1,683	Pending
Funding History: <i>Indicate funding secured but to be expended prior to July 1, 2015, for activities directly relevant to this specific funding request, including past and current ENRTF funds. State specific source(s) of fund and dollar amount.</i>	N/A	N/A
Remaining \$ From Current ENRTF Appropriation: <i>Specify dollar amount and year of appropriation from any current ENRTF appropriation for any directly related project of the project manager or organization that remains unspent or not yet legally obligated at the time of proposal submission. Be as specific as possible. Indicate the status of the funds.</i>	N/A	N/A



Search Parcels by PID

Print

Remove Drawing

Advanced Tools



Solid Waste Department

MRF

232590080

232590090

MRF

HHW

SW Admin

Purchased Property:
Site of Mattress Recycling
Facility

232540060

50 m

04/21/2014

Zoom To:

Catalog Information

Parcels Found: 1

Parcel Layer

PID: [232540060 \(tax info\)](#)

Assessor [Photo](#)

Photo: [Photo](#)

Acres: 5.97

Taxpayer CONTACT CITY OF
Name: HUTCHINSON

Taxpayer (320)234-4214
Address: , MN

Property 1105 5TH AVE SE
Address: HUTCHINSON MN
55350

Land Value: 81,200

Building Value: 0

Total Value: 81,200

Sale Price: 0

Legal AP W 1/2 SEC 5-116-
Description: 29 HUTCH
5.97 AC
LOT 8 EX 1.03 FOR
AVE R/W
(HIGHWAY
DEPARTMENT)

Regional Mattress Recycling: Reducing Landfill Use, Recovering Resources

Project Manager

Ed Homan, Solid Waste Director of McLeod County, has been acting director of the Solid Waste department since it was created in 1999. Prior to this, he was the McLeod County Solid Waste Officer and Director of the McLeod County Planning & Zoning department from 1973 to 1999. With decades of experience in project management, Ed will oversee the construction of the mattress processing facility, while working with management staff to establish collection sites and routes, market commodities, create an education campaign, and provide ongoing data to program partners.

Assistant Project Manager

Sarah Young, Solid Waste Coordinator of McLeod County, has been coordinating educational campaigns and community outreach for McLeod County Programs since 2003. She has implemented the state's first School Recycling Program, which rewards schools with an environmental education rebate each year for recycling efforts. She has worked with the department on starting the state's first and only free infant/toddler carseat recycling program; placing the importance on both recycling and public safety efforts. Sarah also compiles department data and completes state and local reports.