

## Project Overview



### **Small Business Assistance/Industrial Assessment**

**Intern:** Brandi Munsinger

**Major:** Chemical Engineering

**School:** University Nebraska-Lincoln

### **The Companies**

WasteCap Nebraska is a small non-profit organization that provides assistance to businesses with their waste management. They provide on-site waste assessments, employee training, workshops and recycling discounts to businesses around Nebraska. They focus primarily on solid waste production and are dedicated to helping their members reduce their waste production.

A waste assessment was also conducted for the Nebraska National Guard Support Maintenance Shop (CSMS). The CSMS provides primarily vehicle and heavy equipment maintenance. The facility supports seven Field Maintenance Shops (FMS) and two Unit Training and Equipment (UTE) sites. The secondary functions housed in the facility include a computer rebuild shop, a carpentry shop, an armament repair shop, and a welding and metal working shop.

### **Project Description**

WasteCap Nebraska received funding from the Environmental Protection Agency to help conduct market research for the WasteWise program. WasteCap agreed to test various outreach approaches for businesses as well as to gather information on what is necessary to convince a business to join the WasteWise program. One of the methods used to convince businesses to join WasteWise was providing a baseline waste assessment for businesses, orienting the pollution prevention suggestions to WasteWise goals.

The Partners in Pollution Prevention class carried out a waste assessment at the National Guard's CSMS as a hands-on exercise as part of their training. Each of the 14 students researched a process or operating component at the National Guard CSMS and wrote a preliminary waste assessment. These reports were further refined and compiled into one report to be given to the CSMS in an effort to help them improve their waste management.

### **Pollution Prevention Benefits**

The WasteWise program is designed to encourage businesses to implement pollution prevention and recycling practices to reduce the amount of waste production at those businesses. The benefits of this program are only limited to the number of businesses that join the program.

The National Guard CSMS already implements pollution prevention practices by recycling excess metal, cardboard, and used oil; by "recharging" antifreeze for reuse; and by having a written Pollution Prevention Plan. Additional benefits identified include

reducing the amount of hazardous wastes by using alternatives to harsh solvent based washers, reducing solid waste and improving the efficiency of some processes.

### **Results**

The WasteWise program has the potential to assist hundreds of businesses with their pollution prevention efforts. All of the six businesses that received a baseline waste assessment verbally committed to becoming WasteWise partners. Two of those six businesses, Farm Bureau Financial and General Dynamics, have already signed up for the program. By diverting waste from the landfills and preventing waste, the whole community benefits.

Alternative processes and changes to existing processes could save the National Guard CSMS up to \$10,444 per year. These modifications will also increase worker safety and the efficiency of the overall workings of the CSMS. Table 1 below provides a summary of the potential annual savings for the CSMS based on the waste assessments conducted by the Partners in Pollution Prevention students.

**Table 1: Summary of Pollution Prevention Savings**

<b>Cost Savings \$/year</b>	<b>Energy reduction kWh/year</b>	<b>Solid Waste lb/year</b>	<b>Zep Solvent Gal/year</b>	<b>Hazardous Waste</b>
<b>10,444</b>	<b>183,74</b>	<b>27,400</b>	<b>120</b>	<b>75% reduction</b>