

2025 INNOVATION CHAMPIONS CONTEST

Crack Sealer

COUNTY: Bismarck Public Works
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PROBLEM STATEMENT:

The City of Bismarck has approximately 1600 lanes miles of paved streets. These streets all need to be crack sealed. The old crack sealers were hard to handle. They easily tipped over, especially at the curb line.

City streets with curb and gutter are much harder to seal at the gutter line. The crew worked to modify an existing crack sealer to be more ergonomic and easier to handle. The crack sealer also has an improved rubber squeegee for placing the sealer material.

SOLUTION:

The City staff used an existing crack sealer and upgraded it. They added a taller and wider handle. The handles are more ergonomic. Each crack sealer holds 3.5 gallons of material. This makes the weight manageable. The rubber squeegee for placing the sealer material was reconfigured by using an old conveyor belt.

LABOR, EQUIPMENT, AND MATERIAL:

Equipment Used: *(to build innovation)*

- Shop equipment used: welder, saw, etc.

Salvaged Materials: *(Example: 2 -9/16 x 3" bolts, 1 shaft 1-3/4" x 10")*

- Old conveyor belt was used for the rubber squeegee.
- Scrap metal was used to rebuild the handles.

New Materials:

- No new materials used.

Total Labor Hours: *(No. of persons, number of hours for each)* *(Note: Consider time required for design and discussion.)*

- Labor was 4 person hours per unit.
- 6 units were made in total.
- 24 hours in all.

COST SUMMARY: *(approximate cost of each item purchased)*

- No new materials purchased.
- Labor and other miscellaneous cost are \$125 per unit.
- The 6 units cost a total of \$750.

Total Cost: \$125 plus labor

SAVINGS AND BENEFITS: (to agency – monetary and/or safety related)

The savings to Bismarck Public Works is the ease of sealing the roads and a more ergonomic unit for the employees. Thus, resulting in more efficient work and less chance of injury. The employees are safer due to less injury chance. They are also safer as the units do not tip spilling hot liquid on the employees.

ANNUAL OPERATING COSTS:

- Prior to using the innovation – N/A
- After using the innovation – N/A

DRAWING (SCHEMATIC) WITH DETAILS: (label material parts/components in detail)

Pictures are attached on the following pages.



