

# Peerless C&D Landfill

The Peerless C&D Landfill is located in Peerless Park , MO., which is part of the St. Louis metropolitan area. It is owned and operated by The George and Dale Behnen. The disposal facility is permitted to accept only construction, demolition, and inert industrial materials. The landfill is situated adjacent to Interstate 44 in an industrial area.

The Peerless Landfill accepted 146,660 tons in 1996, 149,426 tons in 1997 146,249 tons in 1998. The facility does not have a scale, therefore all incoming loads are estimated by volume and converted to tonnage using a 3:1 ratio of cubic yards to the ton.

The Peerless Landfill operation was the only landfill that was observed twice. Since there are only two large C&D landfills in the state, data was needed from both seasons in order to properly project annual composition. The first observation period was on Monday September 28<sup>th</sup> 1998 through Friday October 2<sup>nd</sup> 1998. Observation took place from 7 AM till 4:30 PM on the above dates. The second observation period was on Monday March 15<sup>th</sup> , 1999 through March 19<sup>th</sup> , 1999.

During the first observation period, 423 trucks, with loads approximating 8098 cubic yards, unloaded waste. Using a 3:1 volume to weight ratio, approximately 2700 tons of waste was observed. During the second observation period 354 trucks unloaded 7965 cubic yards of waste weighing approximately 2655 tons. A Total of 777 trucks were observed delivering about 5337 tons of waste to the Peerless Landfill

Virtually all of the trucks delivered waste in open top roll-off containers or dump trucks. Nearly one half of the trucks were from Behnen Container Services (BCS). Smaller hauling companies or independent contractors operated the remainder of the trucks.

During the first observation period each driver was asked where the load originated. This was done to determine in what classification (construction, demolition, or industrial) the load should be recorded. During the second observation period most loads could be classified without any driver data.

## **The Total Waste Stream - 5337 tons**

The Peerless C&D Landfill is not permitted to accept Municipal Solid Waste (MSW), The construction, demolition and Industrial waste stream components were delivered to the landfill in dump trucks, roll-off containers, and small pick-ups and trailers.

Total waste received during the observation period was 5337 tons. The components of the waste stream were estimated as they were unloaded. The results of both observation periods are shown to illustrate the differences and similarities between fall and spring waste flows. These components are listed on the next page.

## Waste Stream Components - 5,337 tons (16,030 Cubic yards)

| Date                  | MSW       | Const.      | Demo        | Industrial | Other     |
|-----------------------|-----------|-------------|-------------|------------|-----------|
| 9/28 - 10/2           | 0%        | 32%         | 60%         | 8%         | 0%        |
| Cu. yds.              | 0         | 2553        | 4828        | 664        | 0         |
| Tons (3:1)            | 0         | 851         | 1609        | 221        | 0         |
| 3/15 - 3/19           | 0%        | 43%         | 53%         | 4%         | 0%        |
| Cu. yds.              | 0         | 3424        | 4239        | 302        | 0         |
| Tons (3:1)            | 0         | 1141        | 1413        | 101        | 0         |
| <b>Average %</b>      | <b>0%</b> | <b>37%</b>  | <b>57%</b>  | <b>6%</b>  | <b>0%</b> |
| <b>Total Cu. yds.</b> | <b>0</b>  | <b>5977</b> | <b>9067</b> | <b>966</b> | <b>0</b>  |
| <b>Tons (3:1)</b>     | <b>0</b>  | <b>1922</b> | <b>3022</b> | <b>322</b> | <b>0</b>  |

## Construction Waste - 1,991 tons (5,973 Cubic yards)

About 37% of the total waste received was from new construction sources. Construction waste loads were transported to the landfill in open top roll-off containers, dump trucks, or open trailers.. The construction loads tended to be lighter, less weathered, and more homogeneous (all wood and dry wall). Masonry was defined as inorganic materials (bricks, concrete, etc.) which was part of a load with other materials that were classified as coming from new construction. Other materials were primarily insulation.

Total construction waste received during the observation period was 1,991 tons. The materials within the construction waste stream were estimated as they were unloaded. These estimated materials are listed below.

### Construction Waste Components

| Date              | Wood        | Dry Wall    | Masonry    | Metal     | Plas.      | OCC        | Other      |
|-------------------|-------------|-------------|------------|-----------|------------|------------|------------|
| 9/28-10/2         | 41%         | 21%         | 10%        | 1%        | 2%         | 8%         | 17%        |
| Cu. yds           | 1033        | 538         | 266        | 22        | 58         | 212        | 424        |
| Tons (3:1)        | 344         | 179         | 88         | 7         | 19         | 71         | 141        |
| 3/15 - 3/19       | 41%         | 19%         | 17%        | 0%        | 5%         | 9%         | 10%        |
| Cu. yds.          | 1374        | 640         | 582        | 12        | 158        | 315        | 344        |
| Tons (3:1)        | 458         | 213         | 194        | 4         | 53         | 105        | 115        |
| <b>Average %</b>  | <b>41%</b>  | <b>20%</b>  | <b>14%</b> | <b>1%</b> | <b>4%</b>  | <b>9%</b>  | <b>13%</b> |
| <b>Cu. yds.</b>   | <b>2407</b> | <b>1177</b> | <b>847</b> | <b>33</b> | <b>216</b> | <b>527</b> | <b>768</b> |
| <b>Tons (3:1)</b> | <b>802</b>  | <b>392</b>  | <b>282</b> | <b>11</b> | <b>72</b>  | <b>176</b> | <b>256</b> |

## Demolition Waste - 3,023 tons (9,069 Cubic yards)

About 57% of the total waste was from demolition sources. Demolition waste loads were usually transported to the landfill in open top roll-off containers, dump trucks, or open trailers. Roofing waste was typically delivered to the landfill by independent contractors and was not mixed with other materials. The remaining demolition loads contained more mixed materials.

Total demolition waste received during the observation period was 3,023 tons. The materials within the demolition waste stream were estimated as they were unloaded. These estimated materials are listed below.

### The Demolition Waste Component

| Date        | Wood | Dry Wall | Roof | Masonry | Metal | Carpet | Other |
|-------------|------|----------|------|---------|-------|--------|-------|
| 9/28-10/2   | 20%  | 5%       | 34%  | 23%     | 1%    | 2%     | 15%   |
| Cu. yds.    | 976  | 234      | 1615 | 1121    | 71    | 117    | 694   |
| Tons (3:1)  | 325  | 78       | 538  | 374     | 24    | 39     | 231   |
| 3/15 - 3/19 | 28%  | 7%       | 33%  | 19%     | 3%    | 3%     | 7%    |
| Cu. yds.    | 1180 | 306      | 1383 | 814     | 124   | 146    | 287   |
| Tons (3:1)  | 393  | 102      | 461  | 271     | 41    | 49     | 96    |
| Average     | 24%  | 6%       | 33%  | 21%     | 2%    | 3%     | 11%   |
| Cu. yds.    | 2156 | 540      | 2998 | 1935    | 195   | 263    | 981   |
| Tons (3:1)  | 719  | 180      | 999  | 645     | 65    | 88     | 327   |

## Industrial Waste - 323 tons (969 Cubic yards)

About 6% of the total waste was from industrial sources. Processed tire waste from Tire Shredders Unlimited in High Ridge Missouri represented over half of the industrial waste.

Total industrial waste received during the observation period was 325 tons. The materials within the industrial waste component were estimated as they were unloaded. These estimated materials are listed below.

### The Industrial Waste Component

| Date        | Card | Paper | Food | Metal | Wood | Plas. | Tex. | Rbr. | Other |
|-------------|------|-------|------|-------|------|-------|------|------|-------|
| 9/28-10/2   | 3%   | 7%    | 0%   | 3%    | 9%   | 16%   | 0%   | 53%  | 9%    |
| Cu.yds.     | 18   | 44    | 0    | 217   | 61   | 104   | 0    | 354  | 62    |
| Tons (3:1)  | 5.9  | 14.8  | 0    | 6.9   | 20.2 | 34.5  | 0    | 118  | 20.7  |
| 3/15 - 3/19 | 10%  | 10%   | 0%   | 11%   | 36%  | 10%   | 0%   | 13%  | 10%   |
| Cu. yds.    | 29   | 30    | 0    | 33    | 110  | 30    | 0    | 40   | 30    |
| Tons (3:1)  | 10   | 10    | 0    | 11    | 37   | 10    | 0    | 13   | 10    |
| Average     | 5%   | 8%    | 0%   | 6%    | 18%  | 14%   | 0%   | 41%  | 10%   |
| Cu. yds.    | 47   | 74    | 0    | 54    | 171  | 134   | 0    | 394  | 92    |
| Tons (3:1)  | 16   | 25    | 0    | 18    | 57   | 45    | 0    | 131  | 31    |

# PEERLESS LANDFILL

# 146,249 TONS IN 1998

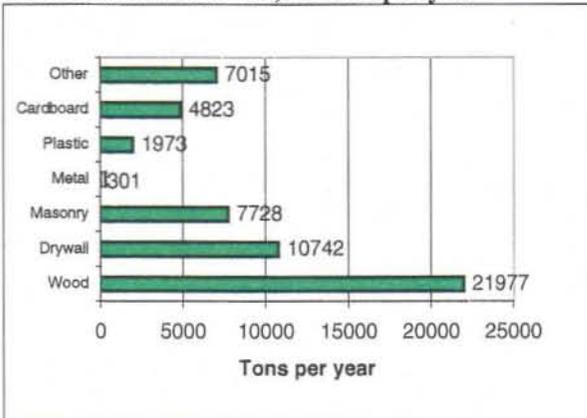
| MATERIAL                  | Tons received during observation period | Percent of each material received | Estimated tonnage received in 1998 based on observation |
|---------------------------|---|-----------------------------------|---|
| <b>MSW Component</b>      |   |                                   |   |
| Paper                     | 0 Tons                                  | 0.0%                              | - Tons  |
| Glass                     | 0 Tons                                  | 0.0%                              | - Tons  |
| Metals                    | 0 Tons                                  | 0.0%                              | - Tons  |
| Plastics                  | 0 Tons                                  | 0.0%                              | - Tons  |
| Organics                  | 0 Tons                                  | 0.0%                              | - Tons  |
| Inorganics                | 0 Tons                                  | 0.0%                              | - Tons  |
| <b>TOTAL MSW</b>          | <b>0 Tons</b>                           | <b>0.0%</b>                       | <b>- Tons</b>   |
| <b>Construction Waste</b> |   |                                   |   |
| Wood                      | 802 Tons                                | 15.0%                             | 21,977 Tons   |
| Dry Wall                  | 392 Tons                                | 7.3%                              | 10,742 Tons   |
| Masonry                   | 282 Tons                                | 5.3%                              | 7,728 Tons  |
| Metal                     | 11 Tons                                 | 0.2%                              | 301 Tons  |
| Plastic                   | 72 Tons                                 | 1.3%                              | 1,973 Tons  |
| Cardboard                 | 176 Tons                                | 3.3%                              | 4,823 Tons  |
| Other                     | 256 Tons                                | 4.8%                              | 7,015 Tons  |
| <b>TOTAL CONSTRUCTION</b> | <b>1991 Tons</b>                        | <b>37.3%</b>                      | <b>54,559 Tons</b>                                      |
| <b>Demolition Waste</b>   |   |                                   |   |
| Wood                      | 719 Tons                                | 13.5%                             | 19,703 Tons   |
| Dry Wall                  | 180 Tons                                | 3.4%                              | 4,933 Tons  |
| Roofing                   | 999 Tons                                | 18.7%                             | 27,375 Tons   |
| Masonry                   | 645 Tons                                | 12.1%                             | 17,675 Tons   |
| Metal                     | 65 Tons                                 | 1.2%                              | 1,781 Tons  |
| Carpet                    | 88 Tons                                 | 1.6%                              | 2,411 Tons  |
| Other                     | 327 Tons                                | 6.1%                              | 8,961 Tons  |
| <b>TOTAL DEMOLITION</b>   | <b>3023 Tons</b>                        | <b>56.6%</b>                      | <b>82,839 Tons</b>                                      |
| <b>Industrial Waste</b>   |   |                                   |   |
| Cardboard                 | 16 Tons                                 | 0.3%                              | 438 Tons  |
| Paper                     | 25 Tons                                 | 0.5%                              | 685 Tons  |
| Food                      | 0 Tons                                  | 0.0%                              | - Tons  |
| Metal                     | 18 Tons                                 | 0.3%                              | 493 Tons  |
| Wood                      | 57 Tons                                 | 1.1%                              | 1,562 Tons  |
| Plastic                   | 45 Tons                                 | 0.8%                              | 1,233 Tons  |
| Textiles                  | 0 Tons                                  | 0.0%                              | - Tons  |
| Rubber                    | 131 Tons                                | 2.5%                              | 3,590 Tons  |
| Other                     | 31 Tons                                 | 0.6%                              | 849 Tons  |
| <b>TOTAL INDUSTRIAL</b>   | <b>323 Tons</b>                         | <b>6.1%</b>                       | <b>8,851 Tons</b>                                       |
| <b>Other Waste</b>        |   |                                   |   |
| Bulky Items               | 0 Tons                                  | 0.0%                              | - Tons  |
| Soil and Inert Materials  | 0 Tons                                  | 0.0%                              | - Tons  |
| Asbestos                  | 0 Tons                                  | 0.0%                              | - Tons  |
| Other                     | 0 Tons                                  | 0.0%                              | - Tons  |
| <b>TOTAL OTHER WASTE</b>  | <b>0 Tons</b>                           | <b>0.0%</b>                       | <b>- Tons</b>   |
| <b>TOTAL WASTE STREAM</b> | <b>5337 Tons</b>                        | <b>100%</b>                       | <b>146,249 Tons</b>                                     |

# The Peerless C&D Landfill

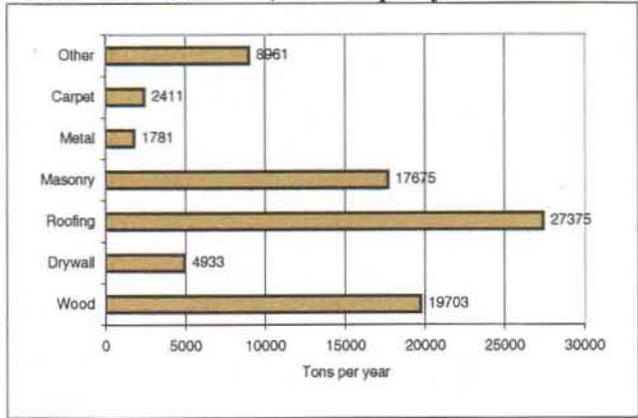
## Total Waste Components 146,249 tons per year



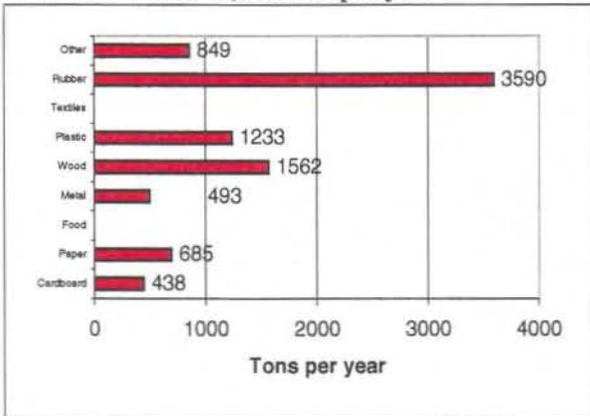
### Construction Waste - 54,559 tons per year



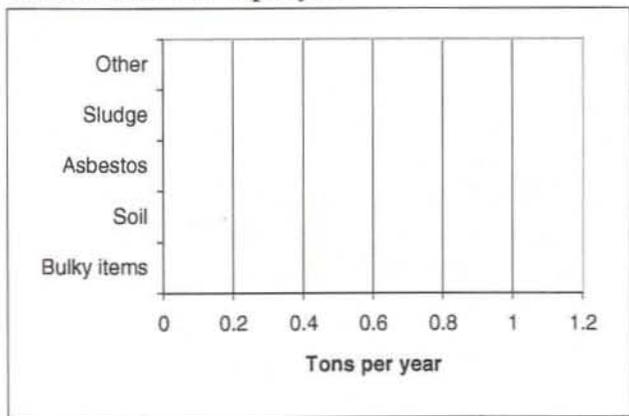
### Demolition Waste - 82,839 tons per year



### Industrial Waste - 8,851 tons per year



### Other Waste - 0 tons per year



### Peerless Waste Components vs RockHill C&D and State C&D Averages

