

The City of St. Joseph Landfill

The City of St. Joseph Landfill is located in Buchanan County, MO., approximately 10 miles southeast of St. Joseph, MO. It is owned and operated by The City of St. Joseph. The disposal facility covers is permitted to accept all municipal solid waste (MSW) and some other wastes such as contaminated soils, asbestos, and wastewater treatment sludge. The City of St. Joseph also operates a yard waste composting operation at the same facility. The City of St. Joseph does not collect waste in the City. The residential and commercial waste collection service is contracted Deffenbaugh Industries and taken to their disposal facility in Kansas.

The City of St. Joseph Landfill accepted 98,940 tons in 1996, 99,285 tons in 1997 and 120,158 tons in 1998. The landfill operation was observed from Monday November 9^h through Friday November 13th. The weather was rainy and very windy during the first part of the week and fair the remainder of the week. Observation took place from 7 AM till 4:30 PM on the above dates. During the observation period, 667 trucks, delivered 2109 tons of waste to the landfill. All loads were observed and recorded. The landfill staff felt the material received during the observation period was not typical of material received year round because of two large projects, which tended to skew the results of the demolition and other waste stream components. Therefore the results may not be as accurate as desired.

Each driver was asked where the load originated. This was done to determine in what classification (MSW, construction, demolition, industrial, or other) the load should be recorded. However, most loads could be classified visually, without any driver data.

The City of St. Joseph Landfill accepts waste from Andrew, Buchanan, Clay, Clinton, DeKalb, counties. The nearest Missouri landfill are located in Maryville and Sugar Creek, Missouri. There are several landfills in Kansas, which accept waste from the area. There was a large amount of small self-haul traffic. There were no waste loads from transfer stations.

The Total Waste Stream - 2,084 tons

The total waste stream was very different than most comparable landfills. The Municipal Solid Waste (MSW) was very low because all of the St. Joseph MSW is contracted to Deffenbaugh Ind. And taken to their Kansas disposal facility. There were greater percentages of demolition, industrial and other waste than the rural areas. Total waste received during the observation period was 2,084 tons. The components of the waste stream were estimated as they were unloaded. These components are listed below.

Waste Stream Components

MSW	Const.	Demo	Industrial	Other
25%	4%	21%	23%	27%
523 tons	76tons	436 tons	478 tons	570 tons

Municipal Solid Waste - 523 tons

Municipal Solid Waste (MSW) accounted for only 25% of the total waste stream. MSW materials were not estimated during the observation period because the items are very small and normally contained within plastic bags. However, three MSW sorts were conducted at the St. Joseph Landfill in 1996. During the three waste sorts 30 samples, weighing an average of 239 pounds each, were examined. Each of these samples were hand sorted into six major categories and 26 sub categories. The sorted materials were recorded by weight and volume. Further details are available in the *Missouri Waste Composition Study: Municipal Solid Waste*.

The total MSW received during the observation period was 523 tons. The percentage of each major material category found in the 1996 sort was applied to the tonnage received during the observation period and is displayed below.

Municipal Solid Waste Components

Paper	Glass	Metals	Plastics	Organics	Inorganics
39.6%	6.4%	7.2%	12.7%	29.4%	4.1%
208 tons	34 tons	38 tons	67 tons	155 tons	22 tons

Construction Waste - 76 tons

About 4% of the total waste received was from new construction sources. Construction waste loads were usually transported to the landfill in open top roll-off containers, dump trucks, or open trailers. This percentage was greater than most of the rural areas but less than urban landfills in the state. The construction loads tended to be lighter, less weathered, more homogeneous (all wood, dry wall, etc), and contained more cardboard boxes (usually from fixtures) than the demolition waste loads.

Total construction waste received during the observation period was 76 tons. The materials within the construction waste stream were estimated as they were unloaded. These estimated materials are listed below.

Construction Waste Components

Wood	Dry Wall	Masonry	Metal	Plas.	Cardbrd	Other
40%	22%	29%	2%	1%	4%	1%
31 tons	17 tons	23 tons	2 tons	1 ton	3 tons	1 ton

Demolition Waste - 436 tons

About 21% of the total waste was from demolition sources. This was a very high percentage, which resulted from a large demolition project in Pattonsburg, Missouri. During the Observation period 25 trucks from the Pattonsburg project delivered 234 (51%) tons of demolition waste to the landfill. Therefore, this one time project doubled the normal demolition waste.

Demolition waste loads were usually transported to the landfill in open top roll-off containers, dump trucks, or open trailers. The wood was more weathered, there was very little if any

cardboard, and there was more masonry materials (brick, concrete blocks, rock and dirt) in the demolition waste as compared to the construction waste.

Total demolition waste received during the observation period was 436 tons. The materials within the demolition waste stream were estimated as they were unloaded. These estimated materials are listed below.

The Demolition Waste Component

Wood	Dry Wall	Roof	Masonry	Metal	Carpet	Other
53%	4%	18%	18%	1%	4%	1%
233 tons	19 tons	80 tons	79 tons	5 tons	17 tons	4 tons

Industrial Waste - 478 tons

St. Joseph has a large industrial base and therefore the industrial waste stream was significantly higher (23% of the total waste stream) than many other areas of the state. Industrial waste loads were usually transported to the landfill in open top roll-off containers or compactor units. They were normally homogeneous, containing a single waste products from a manufacturing process. There were 102 loads (15% of the total) that contained some industrial waste. These loads came from a variety of sources. The main industrial generators were Blueside, Ralston (Friskies), Johnson Control, Quaker Corp., Snorkel, and Silgan. Altec and Atchison Castings. The remaining industrial waste was from smaller generators.

Total industrial waste received during the observation period was 478 tons. The materials within the industrial waste stream were estimated as they were unloaded. These estimated materials are listed below.

The Industrial Waste Component

Cardbrd	Paper	Food	Metal	Wood	Plas.	Tex.	Rbr.	Other
15%	9%	35%	4%	16%	6%	0%	0%	15%
72 tons	44 tons	168 tons	18 tons	75 tons	27 tons	0 tons	0 tons	73 tons

Other Waste - 570 tons

Other wastes were defined as waste which did not fit into one of the above categories or was handled differently at the landfill (i.e. soil-like materials used for daily cover, asbestos, etc.).

Bulky items include furniture, mattresses, appliances, etc.. The big surprise in other waste was the amount of dirt brought to the landfill. The dirt came from three main sources. The City of St. Joseph Street Department 142 tons, a highway project in Hopkins, MO. 315 tons, and a construction project in St. Joseph 74 tons.

Total other waste received during the observation period was 570 tons. The materials within the other waste stream were estimated as they were unloaded. These estimated materials are listed below.

The Other Waste Component

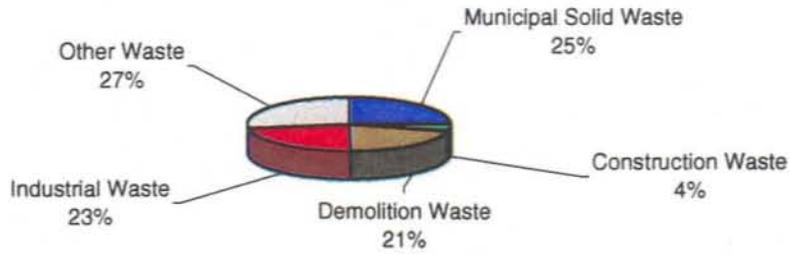
Bulky	Soil	Asbestos
5%	93%	2%
27 tons	531 tons	13 tons

CITY OF ST. JOSEPH LANDFILL 120,158 TONS IN 1998

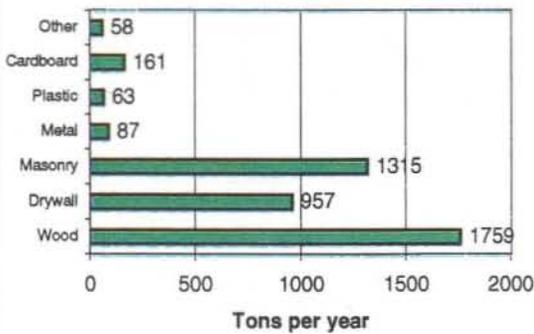
MATERIAL	Tons received during observation period	Percent of each material received	Estimated tonnage received in 1998 based on observation
MSW Component			
Paper	208 Tons	10.0%	11,995 Tons
Glass	34 Tons	1.6%	1,943 Tons
Metals	38 Tons	1.8%	2,186 Tons
Plastics	67 Tons	3.2%	3,852 Tons
Organics	155 Tons	7.4%	8,939 Tons
Inorganics	22 Tons	1.0%	1,246 Tons
TOTAL MSW	523 Tons	25.1%	30,161 Tons
Construction Waste			
Wood	31 Tons	1.5%	1,759 Tons
Dry Wall	17 Tons	0.8%	957 Tons
Masonry	23 Tons	1.1%	1,315 Tons
Metal	2 Tons	0.1%	87 Tons
Plastic	1 Tons	0.1%	63 Tons
Cardboard	3 Tons	0.1%	161 Tons
Other	1 Tons	0.0%	58 Tons
TOTAL CONSTRUCTION	76 Tons	3.7%	4,400 Tons
Demolition Waste			
Wood	233 Tons	11.2%	13,437 Tons
Dry Wall	19 Tons	0.9%	1,119 Tons
Roofing	80 Tons	3.8%	4,585 Tons
Masonry	79 Tons	3.8%	4,527 Tons
Metal	5 Tons	0.2%	294 Tons
Carpet	17 Tons	0.8%	963 Tons
Other	4 Tons	0.2%	242 Tons
TOTAL DEMOLITION	436 Tons	20.9%	25,167 Tons
Industrial Waste			
Cardboard	72 Tons	3.5%	4,169 Tons
Paper	44 Tons	2.1%	2,560 Tons
Food	168 Tons	8.1%	9,688 Tons
Metal	18 Tons	0.9%	1,044 Tons
Wood	75 Tons	3.6%	4,308 Tons
Plastic	27 Tons	1.3%	1,569 Tons
Textiles	0 Tons	0.0%	- Tons
Rubber	0 Tons	0.0%	- Tons
Other	73 Tons	3.5%	4,198 Tons
TOTAL INDUSTRIAL	478 Tons	22.9%	27,537 Tons
Other Waste			
Bulky Items	27 Tons	1.3%	1,569 Tons
Soil and Inert Materials	530 Tons	25.4%	30,564 Tons
Asbestos	13 Tons	0.6%	761 Tons
Other	0 Tons	0.0%	- Tons
TOTAL OTHER WASTE	570 Tons	27.4%	32,894 Tons
TOTAL WASTE STREAM	2084 Tons	100%	120,158 Tons

The City of St. Joseph Landfill

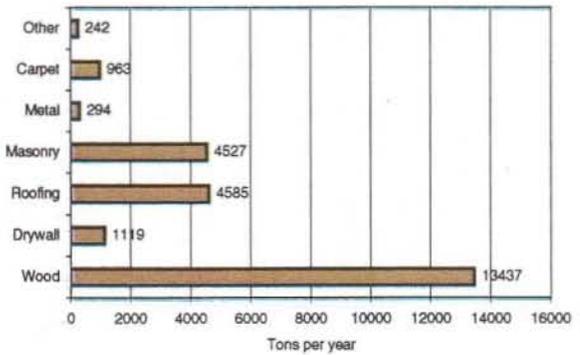
Total Waste Component - 120,158 tons per year



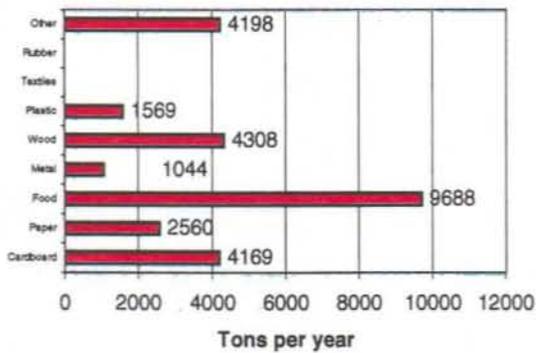
Construction Waste - 4,400 tons per year



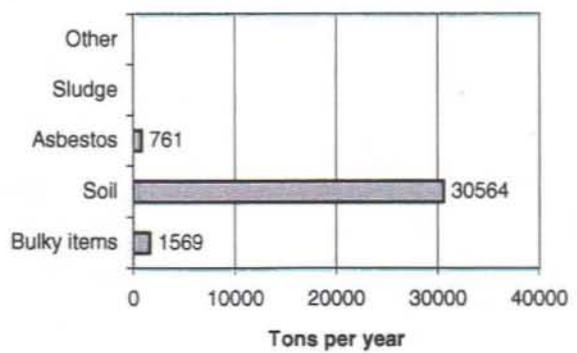
Demolition Waste - 25,167 tons per year



Industrial Waste - 27,537 tons per year



Other Waste - 32,894 tons per year



St. Joseph Waste Components vs Small Metro and State Averages

