



A Report to the City of Peoria from the
Coalition to Oppose Attacks on Recycling in America



HOW TO OPTIMIZE HANDLING OF YARD TRIMMINGS BY MINIMIZING COSTS AND MAXIMIZING DIVERSION



January 24, 2002

EXECUTIVE SUMMARY

The Department of Public Works and Waste Management are supporting a proposal to seek repeal of the Illinois law that bans the landfilling of yard trimmings in order to return grass and leaves to the City owned, Waste Management operated, landfill.

One of the primary claims that they have made in support of their proposal is that it would save the City money because the current separate collection of yard trimmings could be eliminated. They estimate the savings would be \$200,000 per year.

This report demonstrates that, if cost is the deciding factor, the elimination of separate yard trimming collection only provides a small fraction of the savings that could be realized by the alternative of eliminating all collection of grass clippings. The following table summarizes the comparative cost impacts of just modifying the form of collection versus the complete elimination of grass clipping collection.

Comparison of Net Savings to Peoria from Eliminating Separate Yard Collection to Eliminating All Grass Collection		
	Eliminate	
	Separate Yard Collection	All Grass Collection
Fewer Trucks	-\$204,930	-\$895,482
More Landfilling	+\$76,500	-0-
New Leaf Collection	-0-	+\$300,000
Net Savings	-\$128,430	-\$595,482

In summary, the alternative of dropping grass collection will save \$595,482, almost five times more than the City/Waste Management proposal to keep collecting all yard trimmings on different trucks. The reason for this substantial difference is that their proposal continues to require that the exact same quantity of material continue being collected, albeit with a slightly more efficient configuration. Our alternative, on the other hand, eliminates the need to collect the vast majority of the yard trimmings completely.

INTRODUCTION

The City of Peoria's Department of Public Works (DPW) and its waste services contractor, Waste Management, Inc. (WMI), have asked the City to support a legislative effort in the State Capitol to repeal an eleven-year old statute so as to permit the landfilling of grass, leaves and brush in Peoria Landfill No. 2. One of the main grounds submitted by them in support of the proposal is the claim that this would reduce the City's cost of providing separate collection of grass and leaves.

The Coalition to Oppose Attacks on Recycling in America (Coalition) submits this report in response to that claim so that the City Council may have a more complete set of facts bearing on how best to assert Peoria's financial interests.

While the Coalition is primarily organized for the purpose of supporting reasonable efforts to divert recyclable and compostable material from landfills, its members are not unmindful of the cost constraints that operate on municipal government. However, the Coalition believes that, when America's "best practices" for handling discards is considered, the preferred environmental approach also becomes the optimum cost strategy.

The Coalition prefers and supports the current City program of separately collecting yard trimmings, although we would hope that the carefully segregated material – which is a valuable soil amendment – would be used for compost and not wasted as landfill cover. especially when, as here, local composters are available. To the extent that cost considerations predominate, we believe that the Council's deliberations will be improved by consideration of the following salient facts.

DISCUSSION

Cost Claims

At times Public Works and Waste Management have implied that eliminating separate collection of yard trimmings would eliminate the current \$869,400 annual cost for that separate collection. Read more carefully, they only mention a 10% reduction in the total number of routes needed for separate trash and yard collection. Most recently, this estimate has been pegged at approximately \$200,000 per year.

While, on the surface, and without more facts, this number does appear to us to be within the zone of reasonableness insofar as the collection impacts are concerned. But, before turning to far more effective alternatives, even on its own terms the proposal does not recognize the additional real costs that will be incurred if 8,000 to 9,000 more tons of landscape discards are landfilled each year.

Though the contract the City has with WMI indicates that the City is to be charged a flat disposal fee, additional disposal costs will, in fact, be incurred. These are reflected by the difference between the higher cost of disposal compared to the lower cost of composting the City's grass and leaves. The difference between them is approximately \$76,500, thereby reducing the net savings from approximately \$200,000 to about \$125,000 per year.¹ This would seem to be the more reliable long-term estimate because it is probably an excess of optimism to expect that a large national

¹ The landfill tip fee is \$28.50 per ton, and the last contract offer by the local composter was \$6.50 per yard, or \$19.50 per ton, for a difference of \$9/ton applied against 8,500 tons of yard trimmings, or \$76,500/yr.

waste company will continue to absorb significant new costs imposed by one small city regardless of contractual provisions. That is what openers, escalators, renegotiations, political contributions and litigation are all about.

But, even apart from the environmental issues, there is something far more important in the context of minimizing costs. The fact that *some* savings can be achieved by eliminating separate collection of yard trimmings does not mean that this is the best way to *maximize* savings if a wider canvas of possibilities is considered. This would have been obvious were the Public Work Department's vision not constrained apparently by the interests of the Waste Management – interests that, although perfectly legitimate, are significantly distinct from and in conflict with those of the City.

This is a matter of some import. The financial interests of the City, even in a short-term context, are defined by minimizing the combined cost of collection and disposal. The interests of Waste Management, on the other hand, are defined by maximizing the amount of material it collects in its trucks and, especially on a statewide basis, in the volumes going to its landfills where the profit margins are greatest. Alternatives that reduce the City's net costs by decreasing the total volumes under costly management can, thus, be seen to be antagonistic to the hauler's interests. Moreover, looking at the longer term, the City will always be here and responsible for the health of its citizens, including after the end of the 30-year post-closure period when the liability of the landfill owners and operators terminates, and it will be the one responsible for any extremely costly corrective action, the prospects of which

increase whenever either decomposable or hazardous material is added the material discarded at the landfill.

A discussion of other options for cost reductions begins with an explanation of why the savings from eliminating separate collection of grass and leaves only saves \$200,000, approximately just one quarter of the current \$869,400 in annual costs for separate yard collection.

The reason stems from the essential fact that the City will still be collecting in its franchisee's trucks the same volume of material under the DPW/WMI proposal as it is currently collecting with separate collection. All that is changed is that the same trucks currently collecting trash will also collect any grass or leaves left at a stop, rather than having the yard material collected in a separate dedicated landscape vehicle.

What needs to be understood in this regard is that there will be a need to add more trucks for the trash fleet in order to handle the greater quantities of materials that now also include grass and leaves in the warmer months, along with the garbage. For the amount of material collected from each stop by the now combined trash/yard vehicle will be as much as 50% greater for the early summer and autumn than before. The vehicle will fill up more frequently and have to go off-route to unload that many more times, a process that can subtract another hour of the day from productive work.

That means that any individual combined-use trash and yard truck will not be able to collect from as many homes as it currently achieves when yard trimmings are collected separately. Consequently, there will need to be more trash trucks to complete all the routes

than before – albeit only for about half the year. The other part of the year, those new trucks are underutilized, creating new inefficiencies that offset in part the minor gains from the elimination of the separate yard collection fleet.

So certainly, it is true that the DPW/WMI proposal will produce some efficiencies, but those will be minor and

register only on the margins of the operation as attested to by WMI’s own statement of savings. Also those minor savings will be offset by the substantial inefficiency incurred whenever equipment, which is amortized over 365 days a year, is only needed and used to handle a seasonal requirement a few months a year.

To estimate how a 10% reduction in routes for the trash fleets impacts the net costs on all trucks regardless of which fleet they are currently allocated, TABLE 1 shows DPW’s statement of current costs:

TABLE 1 Annual Costs of Refuse and Yard Collection and Disposal City of Peoria	
Refuse Collection	\$1,863,000
Refuse Disposal	852,840
Yard Collection	895,482
Yard Disposal	213,210

The total for both Refuse and Yard Collection, then, is \$2,732,400. Not all of collection costs, however, are route related. Typically, sales, administration and general expense, which is not reduced when the truck fleet is 10% smaller, is about 25% of total collection costs. If we subtract 25% from the total collection costs, or \$683,100, to approximate the remaining fleet-only costs, then the route-related costs currently are \$2,049,300 (the actual subtractions will be greater to account for other factors, but detailed knowledge of operations are needed to estimate them, so they are not counted here).

Were those total route-related costs reduced by 10%, as WMI indicates would happen, the savings would be \$204,930, which closely corresponds to the \$200,000 annual savings promised by WMI.

On the other hand – and this is the key point – the most promising path to reduce costs is to eliminate the collection of grass clippings entirely,

because that would get rid of the great bulk of the current yard collection expense. Although Peoria has no waste composition data to pinpoint the exact grass fraction, on average approximately two-thirds of yard trimmings are grass and one-third leaves, with minor amounts of brush (e.g broken down as approximately 12% - 6% - 2%).

To simply eliminate grass collection entirely is considered “best practices” in contemporary waste management systems in the United States because, on the one hand, it is so much easier to leave the grass on the lawn than for the resident to bag grass clippings, and on the other, it keeps a major source of environmental problems out of our landfills at virtually no cost.

The primary remaining yard cost to the City would be for leaf collection that cannot be eliminated unless a community insisted upon homeowners actually setting up home composters, which is not likely to happen in the immediate future. Therefore leaf collection must be maintained, even

though grass collection can readily be eliminated.

It is difficult to be precise as to what leaf collection by itself will cost. Disproportionately lower costs are possible than the one-third share of leaves among all yard trimmings might otherwise imply because, unlike cut grass that, if wet, quickly begins to rot, leaf collection is not time-dependent. That is, leaf collection does not have to be done on a given day or time. Since leaves left at the curb do not become odorous like grass does, leaf collection can be spread out over the 2-3 months that leaves fall and serviced only when circumstances permit as opposed to being done on a fixed schedule.

This means that all or part of the capital expense normally incurred can be avoided by using the back-up, or spare, trucks that each fleet must have anyway for the intermittent times when one of the regular fleet trucks breaks down. In the case of Peoria, one would assume that approximately two or more backup vehicles would be held in reserve for its trash fleet that could be applied to leaf collection as conditions permit. In that case, leaf collection would only cost the run-time for those trucks, without any fixed costs assignment.

Without knowing more about the specifics of WMI's fleet and an analysis of the routes in Peoria to determine how

capital costs for leaf collection ought to be allocated, leaf collection-only certainly should be doable for far less than the \$300,000 which is one-third of the current cost of separately collecting all yard trimmings. This is an extremely conservative estimate because that figure, which is proportionate to leaf's share of yard trimmings, implies a full allocation of capital expenses that may be avoidable for leaf collections for the reasons explained earlier.

We would highly recommend that a more precise Peoria-specific estimate be calculated, and the City ought to contract for such an estimate from someone other than Waste Management, which has a generalized financial interest in continuing and increasing, rather than eliminating, collection of all types of discards.

When all of these factors are considered, an entirely new strategy can be seen for those seeking to minimize costs to the City. TABLE 2 shows that the net savings to the City from implementation of the DPW/WMI proposal is only \$128,430 – and that is only if the City were to succeed in the highly unlikely task of convincing Springfield to repeal an eleven year old statute over the objections of the County and almost every environmental and recycling organization in the United States.

Pursuing the alternative that optimizes the City’s interests without consideration of Waste Management’s conflicting interests, on the other hand, is more than \$595,482 – almost five times greater.

TABLE 2 Comparison of Net Savings to Peoria from Eliminating Separate Yard Collection to Eliminating All Grass Collection		
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Environmental Claims

In passing, it also should be noted that the collateral environmental claims are as utterly devoid of any rational basis as are the cost claims.

If the proponents are to be believed, the purpose of returning yard trimmings to the landfill is to conduct a study of whether the reintroduction of grass accelerates the decomposition of paper in a landfill when the facility is operated as a putative bioreactor in which liquids are deliberately added to accelerate decay. This contrasts with the more common and so-called “dry tomb” landfills in which the introduction of liquids is minimized in order to retard decomposition because that produces toxic leachate and the greenhouse gas, methane.

However, Peoria Landfill No. 2 is not, in fact, a bioreactor. Although the Department of Public Works continues to call it one blithely oblivious to all facts, this is patently and demonstrably false for the following reason.

As noted, the purpose of bioreactors is to accelerate decomposition under the theory that the site can be stabilized by the time it is closed, facilitating the task of post-closure care. To attempt to do this,

liquids are encouraged rather than discouraged as they are in “dry tomb” designs.

The Peoria Landfill No. 2 does recirculate the leachate that accumulates at the bottom of the site from the moisture entrained with the trash when it is landfilled. However, and again this is key, as acknowledged by Waste Management’s own bioreactor expert, Mr. Gary Hater:

“While it can be argued that one can create a bioreactor through leachate recirculation alone, most landfills will take five or six years to get up to 80% water holding capacity [required to achieve accelerated decomposition] alone. ... Because normal weather conditions, operational practices, and leachate recirculation do not produce enough liquid for a bioreactor at a normal landfill, additional moisture must be brought into the landfills in order to make bioreactors work as a business practice.”²

² Gary Hater, “Economics of Eight Scenarios for Landfill Bioreactors as Compared to Base Case Subtitle D Landfills,” *Presentation to Waste Tech 2001* (Feb. 13, 2001), at p. 5.

This technical sounding distinction is of controlling effect because the U.S. Environmental Protection Agency's landfill rules set forth in 40 CFR §258.58(a) prohibits the essential addition of outside liquids that is required for bioreactors to work. For current regulations are predicated on designs intended to keep the site as dry as possible in order to minimize difficult-to-manage, biologically active conditions. Only a handful of landfills in the United States have gone through the elaborate procedures necessary in order to receive a special and limited exemption from the regulations in order to add liquids in controlled tests of an, as yet, unproven technology. Peoria simply is not one of them.

Recirculation of the liquids found within the landfill, which Peoria landfills does, can sometimes achieve a reduction in leachate treatment costs at the sewerage plant, but, as WMI's Mr. Hater admits, that is something entirely different from accelerating decomposition to the extent that a claim might be made the site has been stabilized at the time it is closed.

Were the City Council to permit DPW and WMI to put Peoria forward making these nonsensical claims, all of this will come out in the legislative battle that will ensue if the issue is pursued. That will do little to enhance the City's reputation in Springfield.

CONCLUSION

If and to the extent that the City determines to pursue the least-cost alternative in waste handling practices for itself, there is simply is no possible rational basis for pursuing the DPW/WMI proposal. It should be rejected. It ought to also be turned aside because the technical claims are absurd on their face.

