March 27, 2008

Ms. Marla Marcinko  
Borough Manager  
Borough of Wilkinsburg  
605 Ross Avenue  
Pittsburgh, PA 15221

Dear Marla:

This letter report summarizes the findings of our evaluation of the direct costs to the Borough of Wilkinsburg (the Borough) for the collection of curbside recyclable materials versus the City of Pittsburgh’s proposed cost to collect recyclables curbside during a one-year pilot program. In addition, R. W. Beck estimated the revenue that the Borough could potentially earn from negotiating a revenue share, and identified all material recovery facilities (MRFs) within a 50-mile radius. This evaluation was performed as part of a Recycling Technical Assistance project supported by the Pennsylvania Department of Environmental Protection (DEP) and the Solid Waste Association of North America (SWANA).

Details of the analysis are provided in the sections below.

**Executive Summary**

Solid waste collection within the Borough of Wilkinsburg is provided by City of Pittsburgh crews once per week for residential households of six units or less and by private entities for commercial households. Residential recyclable materials generated by Borough households are collected by Borough crews every other week using a split-compartment, rear-load collection vehicle. Fiber materials are placed in one compartment and commingled containers are placed in the other. Commercial recyclables are collected by private haulers. All recyclable material collected by Borough crews is processed at the Pittsburgh Recycling Services, Inc. materials recovery facility (MRF). There is currently no revenue sharing agreement between the Borough and Pittsburgh Recycling. Beginning in 2008, Borough residents and commercial entities will have the option to dispose of recyclable materials at one of three drop-off recycling trailers. These trailers were purchased through a grant from the Pennsylvania Department of Environmental Protection to increase recycling and decrease the amount of waste landfilled.

The Borough has received an offer from the City of Pittsburgh to conduct a one-year pilot program to collect recyclable materials from participating Borough households and some commercial establishments every other week using City crews and City-owned vehicles. The cost to the Borough would be $225,000. Recyclables collected by City crews would be delivered to Recycle Management for processing. The pilot program would not involve any type of revenue sharing agreement. As such, the Borough requested that R. W. Beck identify and evaluate the current costs for the Borough to collect recyclable materials versus the proposed costs by the City of Pittsburgh for their proposed one-year pilot program. The Borough is also interested in understanding the potential revenue that could be obtained from the sale of their recyclable materials. As such, R.W. Beck identified two Pennsylvania communities with revenue-share agreements, and estimated revenues the Borough might potentially receive based on these communities’ revenue-sharing agreements. In addition, the
Borough was interested in identifying all materials recovery facilities (MRFs) located within 50 miles of the Borough, in the event the Borough decided to pursue their options for materials processing and revenue share agreements.

R. W. Beck’s general findings are that the Borough’s annual cost to collect recyclable materials is significantly less than the City of Pittsburgh’s proposed one-year pilot program of $225,000, both with and without potential revenue shares. The current annual direct cost to the Borough to collect recyclable materials is $119,500. Assuming that the Borough is able to obtain a revenue sharing agreement with a MRF for the sale of their recyclable materials at the commodity prices mentioned in this report, R.W. Beck estimates that the Borough could obtain up to $20,500 per year in revenue share revenues for residential recyclables, if they receive similar revenues on a $-per-ton basis by material type that the City of Pittsburgh and Chester County receive for their materials. The City of Pittsburgh’s one-year pilot program is offered at a cost of $225,000. Thus it is estimated that the Borough saves approximately $106,000 per year by conducting recyclables collections themselves, and could possibly save up to an additional $20,500 per year if they were able to negotiate a revenue share agreement on par with Pittsburgh and Chester County’s.

The amount of revenue share that the City can earn on recyclables depends upon several factors, and therefore, before making any final decisions about their recycling program, the Borough should first:

- Ensure that all direct and indirect costs of the current recycling program are included in the Borough’s cost estimate;
- Hold discussions/negotiations with potential recyclables processing facilities, clarifying any processing costs, residue handling costs, and revenue share arrangements, based on 2007 tonnages collected curbside in the Borough; and
- Take into consideration any increased transportation costs that would be incurred, if the recyclables are delivered to a different MRF.

The Borough should be aware that revenue shares differ for each locality, depending on volume, residue matter, processing fees, contract length, and other important factors. Therefore, the revenues the Borough might expect to gain may differ from the examples provided in this report.

**Introduction**

Wilkinsburg Borough (the Borough) is located in the east-central quadrant of Allegheny County, Pennsylvania. The Borough spans 2.1 square miles and is bordered by Penn Hills to the north, the city of Pittsburgh to the west, the Borough of Edgewood to the south, and the Boroughs of Churchill and Forest Hills to the east. The Borough is located approximately nine miles east of downtown Pittsburgh. A map of Allegheny County showing municipal boundaries is provided in Appendix A. The population of Wilkinsburg Borough has been
decreasing since 1970. U.S. Census Bureau data shows that in 1970 the population of the Borough was approximately 26,800. By 1990 the population had declined to 21,080. Wilkinsburg Borough’s population has continued to decline, as the 2000 population was estimated to be 19,196 and the population in July 2006 was estimated to be 18,000. Even with the population loss, the Borough is still considered to be “urban,” containing approximately 8,462 persons per square mile.

The Borough has requested technical assistance to help conduct a comparative analysis of the direct costs associated with the collection and transportation of recyclable materials by Borough crews versus what the City of Pittsburgh would charge the Borough for the collection and transportation of recyclable materials. In addition, this technical assistance project provides an estimate of the potential revenue that could be realized if the Borough had a revenue share agreement in place with a material recovery facility (MRF). To estimate the potential revenue gained by such an agreement, R. W. Beck benchmarked two communities that have revenue sharing agreements in place.

In addition to a comparative analysis of costs associated with recycling collection by Borough crews versus utilizing the City of Pittsburgh crews, R. W. Beck estimated the potential revenue gained via the sale of recyclable commodities, and as part of this task, R. W. Beck identified and provided contact information for all MRFs located within a 50-mile radius of Wilkinsburg Borough that could potentially process and market recyclables for the Borough.

The report is organized as follows:

- Background Information;
- Description of the Borough’s Current Collection Program;
- City of Pittsburgh’s Proposed Collection Bid;
- Estimate of the potential revenue gained from the sale of recyclable materials;
  - City of Pittsburgh Revenue Sharing Agreement;
  - Chester County Revenue Sharing Agreement; and
- Material recovery facilities located within a 50-mile radius of the Borough.

The report also contains multiple appendices, including:

- Appendix A: Allegheny County Municipal Boundaries
- Appendix B: Borough of Wilkinsburg Recycling Flyer
- Appendix C: Information Pertaining to Area MRFs.

**Background**

Wilkinsburg Borough is a “mandated recycling” community as defined by PA Act 101. As such, the Borough is required by Act 101 to provide a residential curbside recycling program.
The Act stipulates that the mandated municipalities provide for the collection at least three (3) of the following materials:

- Clear glass;
- Colored glass;
- Plastics (#1 through #5);
- Aluminum cans;
- Steel and bi-metallic cans;
- High-grade office paper;
- Corrugated cardboard; and
- Newsprint.

Residents of the Borough have the opportunity to recycle paper materials and commingled containers curbside every other week using two separate bins. The Borough received a grant for the purchase of residential recycling containers. Recyclables collected in the Borough’s curbside program include:

- Newspaper;
- Clear, green brown and colored glass;
- Aluminum cans;
- Bi-metallic and steel cans;
- Paper (magazines, mixed, phone, office, etc.)
- Corrugated cardboard; and
- Plastics (#1 through #5).

The Borough is not required to collect recyclables from commercial establishments. Instead, commercial establishments contract for their own collection with private haulers and are to submit their annual tonnages to the Borough. The submittal of tonnages by commercial entities to the Borough has not been done since the solid waste/recycling ordinance went into effect; however the Borough is currently working on implementing an educational/reporting program for 2008 for these establishments.

As of January 1, 2007 residential refuse (for single-family and multi-family dwellings of six units or less) in Wilkinsburg Borough is collected by the City of Pittsburgh refuse crews under contract with the Borough. Multi-family buildings with more than six units are served by Waste Management, Inc. under contract with the Borough. Commercial establishments contract independently and directly with a hauler for refuse removal. The Borough is in the process of determining whether, in addition to refuse, residential and commercial recyclables should be contracted out for collection to City of Pittsburgh crews.
Residential and Commercial Refuse Collection in the Borough

Wilkinsburg Borough residential refuse is collected weekly in 10- to 35-gallon containers by the City of Pittsburgh refuse crews (dwellings with five or fewer units) or by Waste Management, Inc. (dwellings with six or more units) under contract with the Borough. Commercial establishments contract directly with a hauler of their choice for refuse removal. The total cost to the Borough for residential refuse collection and disposal for CY 2007 was $722,000. The Borough has a three-year proposed contract in place with the City of Pittsburgh to continue solid waste collection and disposal through 2010. The Wilkinsburg Council has authorized the execution of the three-year agreement but has not yet received the contract document from the City of Pittsburgh. The terms and conditions are not expected to change significantly from those outlined in the prior contract. Table 1 displays the costs associated with the program. It should be noted that there is no separate tipping fee in the refuse contract with the City, as disposal costs are included in the contract price.

<table>
<thead>
<tr>
<th>Calendar Year</th>
<th>Annual Percent Increase</th>
<th>Total Annual Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>N/A</td>
<td>722,000</td>
</tr>
<tr>
<td>2008</td>
<td>3.9%</td>
<td>750,000</td>
</tr>
<tr>
<td>2009</td>
<td>3.5%</td>
<td>775,000</td>
</tr>
<tr>
<td>2010</td>
<td>4.5%</td>
<td>810,000</td>
</tr>
</tbody>
</table>

Curbside Recycling

Currently recyclables from single-family and multi-family units (of six and under) are collected curbside by a two-person Borough crew every other week on the regularly scheduled garbage day using a recently purchased 25-cubic yard split-body, rear-load recycling truck. The rear-loader was purchased from Scott Township, and is the same model used by the City of Pittsburgh crews. The rear-loader compacts materials allowing for fewer return trips to the Borough garage or to the MRF. A single split-compartment side-loading truck, (purchased with assistance from the DEP), which the Borough owns and maintains, is used as an emergency vehicle in the event the rear-loader is inoperable. Because this vehicle was purchased with DEP grant funds, it is possible that PA DEP would ask the Borough to repay the state for the vehicle if the Borough were to no longer provide curbside recycling in the Borough. If the vehicle has lived its useful life, or can be used for some other recycling purpose, however, the DEP may not require this. The Borough should discuss this matter, however, with their DEP regional office, in order to fully understand their options. The
Borough’s Regional DEP representative is Brad Cunningham of the DEP Southwest Region office, who can be reached at 412-442-4000.

As of December 2007, residential and commercial recyclable materials collected by the Borough and private haulers are taken to the Pittsburgh Recycling Services, Inc. MRF for processing. In 2006 approximately 408 tons of clean residential recyclables and 102 tons of clean commercial recyclables were generated in the Borough and processed at the MRF. There is no revenue sharing agreement for these materials, nor is there a separate processing fee.

Currently recyclables collected within the Borough by Borough crews or private haulers (from commercial establishments) are delivered to Pittsburgh Recycling for processing and marketing. The Borough does not have a revenue sharing agreement with Pittsburgh Recycling, nor do they have a contract or memorandum of understanding to deliver materials to the facility, nor does the Borough pay a processing fee. Pittsburgh Recycling has been cooperative in providing tonnage data to the Borough, which the Borough uses to receive credit for their annual recycling performance grant. Table 2 presents a summary of the estimated direct costs associated with the Borough’s current collection of recyclable materials.

### Table 2

#### Estimated Costs of Borough’s Curbside Recycling Program

**CY 2007**

<table>
<thead>
<tr>
<th>Personnel Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost Item</strong></td>
<td><strong>Salary</strong></td>
</tr>
<tr>
<td>Driver Number 1</td>
<td>N/A</td>
</tr>
<tr>
<td>Driver Number 2</td>
<td>N/A</td>
</tr>
<tr>
<td>Admin &amp; Support Staff</td>
<td>N/A</td>
</tr>
<tr>
<td>Total Overtime</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Estimated Sub-Total:</strong></td>
<td>$0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transportation Costs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Annual Fuel Cost</td>
<td>Avg. Annual Maintenance Cost</td>
</tr>
<tr>
<td>International Rear-loader</td>
<td>$6,500</td>
</tr>
<tr>
<td><strong>Estimated Total Cost:</strong></td>
<td></td>
</tr>
</tbody>
</table>

1 The total salary & benefits costs, including dispatch fee, provided by the Borough. No separate breakout for salary or benefits was provided.

As Table 2 indicates, the estimated cost of the Borough’s recycling program is $119,500 per year. If the Borough decided to contract out recyclables collection, it is possible that the rear load vehicle could be used for other purposes. Similarly, if the Borough is able to use the rear-load collection vehicle for other purposes while still providing the recycling program, an
appropriate portion of vehicle maintenance costs and fuel costs should be allocated to a
different cost center. The Borough was not able to identify administrative and support staff
costs dedicated to the recycling program, however it is expected that some administrative staff
time is dedicated to this program, and to the extent the Borough can identify these costs, they
will have a more accurate picture of the costs associated with their program. It should be noted
that maintenance costs can vary significantly, but on average are $3,000 per year.

**Drop-Off Recycling**

Beginning in 2008, Borough residents and commercial entities will have the option to deliver
recyclable materials at one of three drop-off recycling trailers. These trailers were purchased
through a grant from the Pennsylvania Department of Environmental Protection to increase
recycling and decrease landfill expenses. All materials accepted curbside are also accepted at
the three drop-off locations. Appendix B provides a flyer detailing the Borough’s residential
and commercial curbside and drop-off program programs. It is expected that the addition of
this program will increase overall recycling tonnages.

**City of Pittsburgh’s Proposed Recycling Collection Pilot Program Bid**

In addition to residential and commercial refuse collection, the City of Pittsburgh has proposed
a one-year *residential only* recycling pilot program at a cost of $225,000 to the Borough. The
city has not yet formally presented a proposal for this residential recycling collection pilot
program; however city crews would collect the same materials currently collected from all
participating Borough households. City crews would collect materials every other week using
City collection vehicles. All recyclables collected by the City crews would be delivered to
either Pittsburgh Recycling or Recycle Management for processing and marketing. As the
proposal currently stands, any revenue the City shares in from the sale of the commodities
would be the property of the City. The Borough’s direct costs associated with providing
curbside recycling are an estimated $105,500 less than the City of Pittsburgh’s proposed cost of
$225,000 for providing curbside recycling. These savings could be even greater if the Borough
were able to negotiate a revenue share agreement with a local MRF.

**Description of Selected PA Revenue Share Programs**

Currently all residential recyclable materials collected by Wilkinsburg Borough’s municipal
crews are delivered to Pittsburgh Recycling Services, Inc. (PRS) for processing and marketing.
In 2006 approximately 408 tons of clean residential recyclables generated in the Borough were
processed at the PRS MRF. There is no revenue share agreement in place with PRS for the sale
of recyclable materials. An additional 102 tons per year are reportedly collected from the
commercial sector, however, as described above, this figure is expected to underestimate recycling
because commercial recycling reporting requirements have not been strictly enforced.
As such, R.W. Beck was asked to determine the estimated gross revenue (dollar-per-ton) by commodity type that the Borough could expect to receive if they entered into a revenue sharing agreement with either PRS or another MRF.

R. W. Beck surveyed two communities that currently have revenue sharing agreements with a MRF for the processing of newspapers and/or other fiber materials and commingled recyclables. The two communities chosen were the City of Pittsburgh and Chester County, Pennsylvania. Representatives of the identified communities were interviewed to determine the current end market prices for recyclables, key language in their contract, pricing caps (floors or ceilings), and the “pros vs. cons” of their processing contract. Discussions focused on the different revenue sharing options, including the overall dollar-per-ton obtained per commodity type. The following two sections broadly explain the revenue sharing agreements between Pittsburgh and Chester County and their respective MRFs. It should be noted that revenue share agreements between providers of recyclables and MRFs can fluctuate depending upon several factors, including but not limited to:

- tonnage of recyclables delivered;
- material quality;
- duration of the contract; and
- competition for MRF processing.

Therefore, the estimate developed is intended to serve as an example of what some communities in Pennsylvania are currently receiving for a revenue share for their recyclables. The actual amount of revenue the Borough will generate will depend upon the agreement they are able to negotiate. Because the Borough is relatively small, and therefore generates a relatively small amount of recyclables, the revenue that the Borough could expect to receive may be lower. Also, if a revenue share is negotiated, a MRF may desire to charge a processing fee and/or a residue disposal fee (or a residue disposal fee for residue generated over a certain percentage, such as 5 percent of the weight of incoming recyclables). In theory, Pittsburgh would have to pay residue fees if their residue rates exceeded the allowable rate (up to 1 percent for prohibited materials, and 2 to 5 percent for total outthrows, depending upon the commodity), however this has never been an issue. Chester County is not subject to residue fees, as haulers are liable for contamination.

**City of Pittsburgh Materials and Commodity Values**

Recycling is mandatory for every resident, business, office and institution within the City of Pittsburgh. City crews, under the Bureau of Environmental Services, provide bi-weekly curbside recycling collection to single-family, multi-family, and non-profit institutions that complete a service agreement form with the City. In addition to curbside collection services the City provides a recycling drop-off service for residents and small businesses.
Material collected curbside and via drop-off programs within the City are delivered to one of three major processors, all located within the greater Pittsburgh/Allegheny County area. The City has entered into long-term contracts with all three processors. Table 3 shows the commodity type, collection process, contract length and processor for all materials collected curbside and via drop-off locations within the City.

<table>
<thead>
<tr>
<th>Processor Name</th>
<th>Materials Collected</th>
<th>Collection Type</th>
<th>Contract Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recycle Management</td>
<td>Commingled Containers(^1) Newspaper</td>
<td>Curbside</td>
<td>4/01/2006 to 3/31/2010</td>
</tr>
<tr>
<td>Atlas Waste Paper Southside</td>
<td>File Stock</td>
<td>Drop-off</td>
<td>9/01/06 to 6/30/2009</td>
</tr>
</tbody>
</table>

\(^1\) Glass bottles; Plastics (#1, 2, 3, 4, 5); Metal Containers (aluminum, steel, bi-metal cans)

As Table 3 indicates, the City’s curbside contract is for four years while the drop-off contracts are for three years. Depending on how a contract is structured, a potential advantage of having a longer-term contract with a processor is that the City is guaranteed a certain long-term commodity value and is thus protected in the event that markets for one or more commodities fall, due to the structure of their contract (a certain $-per-ton by commodity type is provided over the course of the contract). Also, because the City is willing to guarantee that they will provide recyclables to the MRFs for multiple years, the MRF may be more willing to provide favorable pricing vs. a shorter-term contract. Conversely, the disadvantages of having a long-term contract with specific revenue shares (e.g., not tied to market prices) include:

- if commodity prices increase, the City does not share in that revenue gain; and
- if the City is not pleased with the processor, they are not free to deliver their materials elsewhere.
Other communities, however, including Chester County, have a revenue share structure that links the revenue share value to the commodity price so that the market risk is shared, although this may make it more difficult to predict revenue streams.

The City of Pittsburgh provided information to R.W. Beck regarding the $-per-ton paid by the individual processors to the City for the commodities delivered to the MRF via the curbside and drop-off programs in addition to the total tons collected. However, for purposes of this section, only the $-per-ton received for the individual commodities are relevant to the Borough, and are summarized in Table 4 below. As stated previously, these commodity values were negotiated between Pittsburgh and the MRF and the revenues that the Borough could receive are dependent on what the Borough could negotiate. Note that the City of Pittsburgh collected almost 9,000 tons of curbside materials and slightly over 700 tons of material from their drop-off program in 2006. This is substantially more than the Borough collects, therefore the revenue share may be higher than what the Borough could expect to receive for their recyclables.

<table>
<thead>
<tr>
<th>Commodity Type</th>
<th>Collection Method</th>
<th>Revenue Share $/Ton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commingled Containers ¹</td>
<td>Curbside</td>
<td>$46.46 ²</td>
</tr>
<tr>
<td>Newspaper</td>
<td>Curbside</td>
<td>$56.56</td>
</tr>
<tr>
<td>OCC</td>
<td>Drop-off</td>
<td>$40.00</td>
</tr>
<tr>
<td>Baled OCC</td>
<td>Drop-off</td>
<td>$50.00</td>
</tr>
<tr>
<td>Newspaper</td>
<td>Drop-off</td>
<td>$56.56</td>
</tr>
<tr>
<td>Magazines &amp; Catalogs</td>
<td>Drop-off</td>
<td>$10.00</td>
</tr>
<tr>
<td>CPO (green bar)</td>
<td>Drop-off</td>
<td>$120.00</td>
</tr>
<tr>
<td>White Ledger</td>
<td>Drop-off</td>
<td>$120.00</td>
</tr>
<tr>
<td>Mixed Paper</td>
<td>Drop-off</td>
<td>$20.00</td>
</tr>
<tr>
<td>Mixed Color Ledger</td>
<td>Drop-off</td>
<td>$65.00</td>
</tr>
<tr>
<td>File Stock</td>
<td>Drop-off</td>
<td>$40.00</td>
</tr>
<tr>
<td>Super Office Mix</td>
<td>Drop-off</td>
<td>$65.00</td>
</tr>
</tbody>
</table>

¹ Glass bottles; Plastics (#1, 2, 3, 4, 5); Metal Containers (aluminum, steel, bi-metal cans)
² Price is for all commingled commodities combined. No break out for each individual commodity

**Chester County, PA**

In Chester County, the County has a contract with BFI Recyclery for the processing and marketing (P&M) of recyclable materials. The contract allows other entities to join in. In 2006
11 municipalities and two authorities (The Chester County Solid Waste Authority and the Central Chester County Recycling Authority, or CRRA, which represents five additional municipalities) participated in this revenue sharing agreement with the County. Collection methods and materials collected within the County vary by municipality, but household items typically collected in the program include:

- Aluminum and bi-metal containers;
- Brown and green glass;
- Newspaper;
- Corrugated cardboard;
- Mixed paper; and
- Plastics #1 & 2.

Recycling tonnages by commodity type and revenue earned for 2007 from Chester County were analyzed for this project. The per-ton commodity values are summarized in Table 5.

**Table 5**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrugated</td>
<td>$39.50</td>
<td>$117.00</td>
<td>$82.00</td>
<td>$87.00</td>
<td>$81.38</td>
</tr>
<tr>
<td>Mixed Paper</td>
<td>$20.00</td>
<td>$20.00</td>
<td>$20.00</td>
<td>$20.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Clear Glass</td>
<td>$16.50</td>
<td>$21.50</td>
<td>$21.50</td>
<td>$21.50</td>
<td>$20.25</td>
</tr>
<tr>
<td>Brown Glass</td>
<td>$10.00</td>
<td>$12.50</td>
<td>$12.50</td>
<td>$12.50</td>
<td>$11.88</td>
</tr>
<tr>
<td>Green Glass</td>
<td>$17.50</td>
<td>$22.50</td>
<td>$22.50</td>
<td>$22.50</td>
<td>$21.25</td>
</tr>
<tr>
<td>Aluminum Cans</td>
<td>$1,490.00</td>
<td>$1,730.00</td>
<td>$1,760.00</td>
<td>$1,460.00</td>
<td>$1,610.00</td>
</tr>
<tr>
<td>Steel/Bimetal Cans</td>
<td>$78.00</td>
<td>$78.00</td>
<td>$78.00</td>
<td>$78.00</td>
<td>$78.00</td>
</tr>
<tr>
<td>PET/HDPE</td>
<td>$126.00</td>
<td>$189.60</td>
<td>$226.40</td>
<td>$256.33</td>
<td>$199.58</td>
</tr>
<tr>
<td>Commingled Materials</td>
<td>$29.78</td>
<td>$40.40</td>
<td>$49.22</td>
<td>$52.12</td>
<td>$42.88</td>
</tr>
<tr>
<td>Commingled Cans</td>
<td>$94.27</td>
<td>$104.27</td>
<td>$105.77</td>
<td>$105.77</td>
<td>$102.52</td>
</tr>
</tbody>
</table>

1 Chester County pricing for their P & M Contract based on the June 27, 2007 Northeast Region Secondary Materials and Fiber pricing schedules.
Estimate of Possible Revenue Share to Be Gained in Borough

Based on the revenue shares received by the City of Pittsburgh and Chester County’s consortium, R. W. Beck estimated the potential revenues that Wilkinsburg Borough might generate if they were able to negotiate a similar revenue share agreement. Again, there are many factors involved in negotiating a revenue share agreement, and generally generators of significant quantities of high-quality (e.g., low contamination rate) recyclables are in the best position to negotiate a strong revenue share agreement. Therefore, the Borough may not be able to negotiate revenue shares as high as those presented.

Table 6 provides an estimate of the potential revenue share the Borough could gain, given 2007 tonnages, and the City of Pittsburgh and Chester County’s revenue share agreements.

### Table 6

<table>
<thead>
<tr>
<th>Material Type</th>
<th>$/Ton Chester County (Avg. 2007)</th>
<th>$/Ton Pittsburgh (Current)</th>
<th>Estimated Tons/Year (2007)</th>
<th>Estimated Annual Revenue Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>$20.00</td>
<td>$46.46</td>
<td>247.02</td>
<td>$4,940.40 - $11,476.55</td>
</tr>
<tr>
<td>Commingled Containers</td>
<td>$42.88</td>
<td>$56.56</td>
<td>160.53</td>
<td>$6,883.53 - $9,079.58</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$11,823.93</strong></td>
<td><strong>$20,556.13</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As Table 6 indicates, the Borough could potentially earn between $11,823 and $20,556 by negotiating a revenue share agreement for residential recyclables. Because the Borough is a relatively small generator of recyclable materials, it is more likely that the Borough would be able to negotiate a revenue share that would result in revenues in the lower end of that range, or perhaps even lower.

Table 7 provides the potential revenue share that the Borough might be able to gain on commercial recyclables if they were able to fold commercial recycling into the revenue share program, based on reported commercial tons recycled in the Borough and the revenue share agreements in Chester County and the City of Pittsburgh.
As Table 7 indicates, if the Borough included commercial recycling in their program, they could expect to earn between $6,081 and $9,640 per year in revenues from recycling separated commercial office paper, aluminum cans, and corrugated cardboard generated by commercial establishments, if they could negotiate a similar revenue share as Pittsburgh and Chester County. Note, commercial recycling is expected to be understated in the Borough, and additional materials are likely recoverable, so while the Borough may not be able to generate revenue shares as high as those indicated in Table 7 on a $-per-ton basis, the Borough might be able to generate more tons of commercial recyclables than indicated in Table 7. Of course these revenues would only accrue if commercial recycling can be included in a revenue share program along with curbside recyclables.

As Tables 6 and 7 show, the Borough could potentially earn between $17,905 and $30,196 per year, based on the revenue shares received by the City of Pittsburgh and Chester County, applied to 2007 Borough recovery rates. If the Borough is not able to service commercial recycling containers due to equipment limitations, it may not be realistic to consider including commercial recyclables in the Borough’s program. However, some commercial recyclables may be collected through the drop-off program.

### Cost Comparison – City of Pittsburgh vs. Borough Collection with Revenue Share

The City of Pittsburgh indicated that City crews could provide curbside recycling collection and processing of recyclables for $225,000 per year. As described above, there would be no revenue share under this arrangement.
Table 8 provides a planning-level, side-by-side comparison of the City of Pittsburgh’s proposed collection costs, relative to the Borough’s current recycling program cost, and relative to a Borough program with a revenue share applied to residential recyclables.

For the sake of this analysis, it is assumed that the Borough would receive the mid-point in the range of revenue shares for residential recyclables described in Table 6, which is $16,190. Wilkinsburg Borough should use this information as a general guideline only, as their actual revenue share that they are able to negotiate may differ based on several factors, including quantity delivered, duration of contract, quality of material, level of competition, etc.

<table>
<thead>
<tr>
<th></th>
<th>Estimated Annual Costs</th>
<th>Estimated Annual Revenues</th>
<th>Estimated Annual Net Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Pittsburgh Option</td>
<td>$225,000</td>
<td>$0</td>
<td>$225,000</td>
</tr>
<tr>
<td>Current Cost Without Revenue</td>
<td>$119,500</td>
<td>$0</td>
<td>$119,500</td>
</tr>
<tr>
<td>Share (Status Quo)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borough Option (Status Quo</td>
<td>$119,500</td>
<td>$16,190</td>
<td>$103,310</td>
</tr>
<tr>
<td>with Residential Revenue Share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential Cost Savings of</td>
<td></td>
<td></td>
<td>$121,690</td>
</tr>
<tr>
<td>Borough Option with Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Share (Vs. Pittsburgh-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provided Service with No Revenue Share)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As Table 8 shows, the Borough could potentially save $121,690 per year if they were able to obtain similar revenue shares as the City of Pittsburgh and Chester County obtain, by providing residential curbside recycling with Borough crews, versus contracting with the City of Pittsburgh to collect materials. One reason that the Borough can collect recyclables so cost-effectively is that they are not incurring any capital cost for their collection equipment. However, even if the Borough purchased a collection vehicle for $140,000 and amortized it over seven years, assuming no interest, the cost would be approximately $20,000 per year – which would still make the Borough-provided collection option the most cost-effective option.

Besides costs, there are other strengths and weaknesses associated with providing curbside collection of recyclables with Borough crews, as opposed to contracting with another hauler (such as the City of Pittsburgh) for the service. These strengths and weaknesses are summarized below.
Strengths of Borough Collection of Recyclables

- The Borough has more flexibility to make program changes, for example in collection frequency, schedules, and materials accepted;
- The Borough has more control over and accountability for service, which usually leads to a higher level of customer service; and
- The Borough does not have to monitor a service provider.

Strengths of Contracting for Collection Services

- Contracted service costs are usually easier to budget for than Borough-provided services, the costs of which can vary significantly from year to year (for example, fuel costs and vehicle maintenance costs); and
- Overall administrative burden to the Borough may be minimized, particularly if customers are asked to contact the hauler if collection is missed, rather than the Borough.

MRFs Located Near the Borough

As part of this project, R. W. Beck identified all MRFs located within a 50-mile radius of the Borough, with the aid of a PA DEP database. A summary of the information pertaining to MRFs located within 25 miles of Wilkinsburg Borough is provided in Table 9. A complete listing of these MRFs, including all MRFs located within 50 miles of the Borough, is provided in Appendix C. Appendix C includes MRF name, address, contact information, materials accepted, and the form the materials are accepted in (commingled, etc.). If the Borough wishes to pursue a revenue-sharing agreement with any of these MRFs, this information can be referenced. The Borough should prioritize MRFs located within a 25-mile driving distance, in order to reduce transportation costs.
### Table 9
Summary of MRFs in Close Proximity to Wilkinsburg Borough

<table>
<thead>
<tr>
<th>MRF Name</th>
<th>Location</th>
<th>Miles from Wilkinsburg Borough</th>
<th>Materials Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittsburgh Recycling Services</td>
<td>Pittsburgh</td>
<td>7</td>
<td>Dual Stream</td>
</tr>
<tr>
<td>Recycle Management Corp.</td>
<td>Carnegie</td>
<td>18</td>
<td>Dual Stream</td>
</tr>
<tr>
<td>Recycle Management Corp.</td>
<td>Neville Island</td>
<td>23</td>
<td>Commingled (Containers only)</td>
</tr>
<tr>
<td>Joseph Brunner Recycling</td>
<td>Ambridge</td>
<td>33</td>
<td>Commingled (Containers and OCC only)</td>
</tr>
</tbody>
</table>

### Recommendations

R. W. Beck recommends that in determining whether or not to accept the City of Pittsburgh’s proposal to collect recyclable materials from Borough households, the Borough carefully reviews their recycling collection costs to determine whether any additional costs need to be considered before assessing whether the Borough should contract for collection services. Oftentimes indirect costs are borne, such as administrative staff time, etc., which, when tallied, can be quite significant. Similarly, the Borough should try to estimate similar indirect costs that would be borne if the Borough contracted out services (such as time associated with contract negotiations, contract management, etc.).

Based on the information provided by the Borough, it appears that the Borough would save approximately $105,500 per year by maintaining its recycling collection program, as opposed to contracting for collection with the City of Pittsburgh, even without a revenue share. If a revenue-share agreement were in place, it is possible that the Borough could save up to an additional $11,824 - $20,556 per year, assuming the Borough is able to achieve a revenue share agreement on par with those of Chester County and Pittsburgh. Additional recommendations include:

- The Borough should contact representatives of the various MRFs identified in the area to discuss their potential interest in a revenue share arrangement. The Borough should also specifically ask the MRF representatives if they have any such agreements in place currently, and if so, whether they charge these customers processing and residue disposal fees. In addition, they should ask the MRF representative if they are open to a potential revenue share, and if so, would there have to be a minimum tonnage delivered under the
agreement. While the Borough is expected to find the most cost-effective arrangement within a 25-mile range, it should not strictly limit its search to those MRFs located within 25 miles of the Borough.

- The Borough should consider contacting surrounding communities to see if they would potentially be interested in implementing a recycling collection program or negotiating a recyclables processing contract jointly with the Borough. This may allow the Borough and any other entities joining with them to strengthen their negotiating power. It would be advisable that any communities joining consider implementing the same recyclable program (e.g., accepting the same materials, with the same degree of separation), and sharing in developing and disseminating education and outreach materials, to increase participation rates and material quality.

- If they have not already done so, the Borough should consider contacting the City of Pittsburgh to see if the City would be interested in implementing a revenue sharing agreement with the Borough in the event the City is awarded the recycling collection contract.

- The Borough should consider implementing a recycling education campaign to increase the amount of recyclable materials collected from residential and commercial establishments. This would likely result in increasing the amount of materials collected, thereby reducing the cost of the program on a $-per-ton basis. Quality would also be likely to be impacted in a positive manner, which may reduce any residue disposal fees that MRFs may charge.

We hope that these findings are useful to the Borough. R. W. Beck appreciates the opportunity to work with Wilkinsburg Borough on this project. If you have any questions or concerns, please feel free to contact Susan Bush at 508-935-1807.

Sincerely,

R. W. BECK, INC.

[Signature]

Kristian C. Ferguson
Consultant Analyst

[Signature]

Susan Bush
Project Manager

KCF: Is
Appendix A

ALLEGHENY COUNTY MUNICIPAL BOUNDARIES

RECYCLING
PICK UP
Recycling place in blue or tin containers Monday, Tuesday, Thursday and Friday.

DEEP DROP RECYCLING
Thursdays - Same bins that are picked up on curbs.

EVERY OTHER WEEK
Flats at curbs before 7 a.m. on the day before collection.

RETURNED MATERIALS
Please return containers and set away from refuse.

DEFEND
Household trash
Place all refuse in the designated brown collection bag on your trash day.

HOUSEHOLD ITEMS
Containers such as furniture, large appliances, and discarded small appliances.

Finally, place items in a clear plastic bag.

APPENDIX B

Borough Of Wilkinsburg
605 Ross Street
Wiltonsburg, PA 15221

NOW RECYCLE MORE CURBSIDE
Together We Can Make a Difference.

Beginning January 1, recycling cans will be collecting additional recyclables from the curbs in Wilkinsburg borough. In addition to your regular curbside recycling as (Bottles, cans, newspaper), residents may now also recycle the following items at the curbs on your regular collection day:

- Magazines, catalogs, paper envelopes, junk mail, mixed paper, phonebooks and office paper (all color) at the curb.
- Corrugated is allowed to be broken down, flattened. Pizza boxes must be clean and empty (no cheese, free of food and sauce paper).

Here is the best part: All recyclables can be placed together in the same container as used for newspaper and cans and bottles. Your full "newspaper" (image) box will hold all your paper and cardboard products. Your shorter "cans and bottles" (image) box will hold all cans, bottles and plastics (image 2) marked W-5.

Remember to always place recyclables away from regular garbage on collection day. Also, please discard all cans and lids from bottles and please do not drop any other materials in the list above, otherwise they will contaminate the recycling. Do not place Styrofoam or plastic out disposal in the recycling.

Once the recycling is collected, it is then transported to the single-stream recycling plant using modern technologies and marketed as individual commodities. We hope this will make recycling easier and more convenient for you, as well as double our recycling tonnages and significantly reduce our landfill disposal costs.

For more information contact the borough manager's office at 412-344-2000 ext 101.
APPENDIX B

Wilkinsburg Borough purchases “Recycling Trailers” for residential and commercial RECYCLING DROP-OFF CENTER

In cooperation with the PA Department of Environmental Protection the borough obtained three recycling trailers to facilitate recycling at convenient drop-off sites. Our goal, our mission is to increase recycling tonnage and decrease landfill expenses. In the year 2008 we have expanded the number of items residents and commercial businesses can recycle. All cans, bottles and plastics (1-5) are now accepted at curbside and at the drop off locations. In addition to newspapers we now can recycle magazines, catalogs, newspapers, cardboard and office paper (all colors). Corrugated cardboard (may be broken down, flattened). Pizza boxes must be clean and empty (that is, free of food and wax paper). “Together we can make a difference.”

Be on the look out for our new recycling trailers:
• Parking Lot at Wallace Avenue and Penn St.
• 785 Penn Avenue, the parking lot next to the Penn Lincoln
• DPW Garage on Park Avenue and remember

Keep Your Garbage Bags Down recycling helps to control your refuse handling fees by keeping the amount of trash down.

Bring in Money For Borough Services: the more tons of recycling the Borough collects, the more money we are able to apply for from the State DEP and the more revenue will be generated from the sale of recyclables.

The trailers (above), this newsletter, and a new, more efficient recycling vehicle are among items paid for with a Sierra DEP grant that was obtained based on our recycling program. The Borough received approximately $31,000 in 2007 from the State in a performance grant. The more we recycle, the more money we will receive.

Help Save The Environment: The more materials we recycle, the less energy is expended to create new materials, the more resources we conserve and the more trash and pollutants are kept from harming the environment. Recycling helps to keep our water and air clean, save our wildlife, and keep our streams clean.

REDUCE...REUSE...RECYCLE!

2008 Calendar
Appendix C

AREA MATERIALS RECOVERY FACILITIES
### APPENDIX C

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>Facility Address</th>
<th>Phone</th>
<th>Estimated Miles from Wilkinsburg Borough</th>
<th>Contact Name</th>
<th>Email Address</th>
<th>Service Area</th>
<th>Materials Accepted</th>
<th>What Form Materials Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittsburgh Recycling Services</td>
<td>60 Vesuvius St, Pittsburgh PA 15207</td>
<td>412-420-6000</td>
<td>7</td>
<td>Ron Herbert</td>
<td><a href="mailto:info@recycling.net">info@recycling.net</a></td>
<td>Allegheny, Butler, Westmoreland and Washington Counties</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, tin &amp; aluminum cans, newspaper, office paper, magazines and cardboard, scrap metal.</td>
<td>Commingled with fiber source separated</td>
</tr>
<tr>
<td>Recycle Management Corporation</td>
<td>73 A West Noblestown Rd P.O. Box 298, Carnegie PA 15108</td>
<td>412-420-6522</td>
<td>18</td>
<td>Tom Adamek</td>
<td><a href="mailto:Tadamek@reacions.com">Tadamek@reacions.com</a></td>
<td>South Hills, Pittsburgh and Youngstown OH.</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, tin &amp; aluminum cans, newspaper, office paper, phone books, junk mail and cardboard.</td>
<td>Commingled with fiber source separated</td>
</tr>
<tr>
<td>Joseph Brunner Recycling</td>
<td>2973 Duss Ave, Ambridge PA 15003</td>
<td>724-266-2256</td>
<td>33</td>
<td>Harold Pollock</td>
<td>NA</td>
<td>Allegheny, Butler &amp; Beaver Counties</td>
<td>Plastics 1 &amp; 2, glass 3 colors, corrugated cardboard, aluminum and tin.</td>
<td>Commingled</td>
</tr>
<tr>
<td>Armstrong County Recycling Center</td>
<td>136 Armistead Rd, Kittanning PA 16201</td>
<td>724-548-6048</td>
<td>42</td>
<td>Tom Aumanick</td>
<td>NA</td>
<td>Armstrong County</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, tin &amp; aluminum cans, office paper, magazines, cardboard, newspaper, waste oil.</td>
<td>Source separated</td>
</tr>
<tr>
<td>Indiana County Solid Waste Authority</td>
<td>1715 Route 119, South Homer City, PA 15748</td>
<td>724-479-3444</td>
<td>46</td>
<td>Timothy Long</td>
<td><a href="mailto:liswa@pld.net">liswa@pld.net</a></td>
<td>Indiana, Cambria, and Armstrong Counties</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, tin &amp; aluminum cans, newspaper, office paper, magazine, and cardboard.</td>
<td>Source separated at drop off sites and at curb</td>
</tr>
<tr>
<td>Recycle Management Corporation</td>
<td>16 South Washington St, Mida Industrial Park P.O. Box 777, Donora PA 15033</td>
<td>724-379-9555</td>
<td>46</td>
<td>Fran Minnow</td>
<td><a href="mailto:fran@tadamek.com">fran@tadamek.com</a></td>
<td>Southwest PA and Youngstown OH</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, Tin &amp; Aluminum cans, office paper, magazines, cardboard &amp; newspaper.</td>
<td>Commingled with fiber separated</td>
</tr>
<tr>
<td>Recycle Management Corporation</td>
<td>4100 Grand Avenue, Neville Island, PA 15225</td>
<td>412-771-4105</td>
<td>23</td>
<td>John Swann</td>
<td><a href="mailto:tadamek@recycle.net">tadamek@recycle.net</a></td>
<td>Western PA</td>
<td>Plastics 1 &amp; 2, 3 colors of glass, tin &amp; aluminum cans, newspaper, magazines, office paper and cardboard</td>
<td>Commingled with fiber separated; In process of installing single-stream sort line.</td>
</tr>
</tbody>
</table>
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