Recycling Technical Assistance Project # 590

City of Harrisburg, Dauphin County

Harrisburg School District Recycling

Sponsored by the Pennsylvania Department of Environmental Protection through the Pennsylvania State Association of Township Supervisors

REPORT

January 2016

York, PA
(800) 679-9220
www.mswconsultants.com

TABLE OF CONTENTS

1. STATEMENT OF THE PROBLEM 1
2. SUMMARY OF WORK COMPLETED 1
3. VISUAL AUDIT RESULTS 1
4. WASTE REDUCTION SAVINGS-SHARING MODELS 2
   - 4.1 Expense Review 2
   - 4.2 Contract Management 3
   - 4.3 Free or Low-Cost Recycling Program Assistance 3
5. RECOMMENDATIONS 3
   - 5.4 Short Term 3
     - 5.4.1 Develop a Recycling Protocol 3
     - 5.4.2 Label Recycling Bins with Uniform Signage 3
     - 5.4.3 Identify Recycling Bin Sources & Distribute to All Classrooms 3
     - 5.4.4 Install Recycling Bins Next to Every Copier & Printer 4
     - 5.4.5 Pair Waste & Recycling Bins 4
   - 5.5 Long Term 4
     - 5.5.1 Develop a Cafeteria Waste Reduction Program 4
     - 5.5.2 Develop a Confidential Paper Recycling Program 5
     - 5.5.3 Develop a Methodology For Recycling Education 6
   - 5.6 Ongoing Recommendations 6
     - 5.6.1 Request & Review Waste Collection Documentation 6
     - 5.6.2 Evaluate Waste & Recycling Program Annually 6
     - 5.6.3 Explore Alternative Waste Collection Options 6

List of Appendices

Appendix A: Visual Waste Audit Findings

Appendix B: Waste Reduction & Recycling Resources

Appendix C: The Bill Emerson Good Samaritan Act

RECYCLING TECHNICAL ASSISTANCE PROJECT #590

CITY OF HARRISBURG, DAUPHIN COUNTY

HARRISBURG SCHOOL DISTRICT RECYCLING

1. STATEMENT OF THE PROBLEM

The City of Harrisburg (City) is the exclusive waste and recycling hauler for City institutions. The City recently modified its waste and recycling collection program and reviewed commercial/institutional billing practices. The modification resulted in significant increases in Harrisburg School District (District) waste collection fees.

The City charges the District for waste service on a volume and frequency basis, but it does not charge for collection of recyclables. The District has reacted by implementing a recycling program in which City-provided 96 gallon carts have been delivered to District schools. Recycling programs differ from school to school, and there is no official recycling protocol. This report provides the District with waste reduction recommendations that will ultimately reduce the volume of garbage produced by District Schools and waste-related costs.

2. SUMMARY OF WORK COMPLETED

MSW Consultants consulted with the District's Business Administrator to gather pertinent data and perform visual waste audits at three District schools. Marshall Academy (Marshall) is a grade 5-8 Science, Technology, Engineering and Math (STEM) school. It was chosen because the faculty, staff and students have implemented their own recycling program. This school serves as a pilot school for recycling in the District. Rowland Academy (Rowland) and John Harris High School (JHHS) are middle and high schools, respectively. These schools represent the highest middle and high school enrollments in the District. School statistics are shown in Table 2-1.

Table 2-1 Harrisburg School District Schools Audited

School	Address	Teachers	Admin-istrators	Other Staff	Grades	Enroll-ment
Marshall Academy	301 Hale Avenue	25	2	25	5-8	425
Rowland Academy	1842 Derry Street	50	3	55	5-8	830
John Harris High School	2451 Market Street	80	4	70	9-12	1,185

3. VISUAL AUDIT RESULTS

The District owns six cubic yard front load waste collection dumpsters. Waste dumpsters are emptied daily by City crews. According to individual school administrators and District custodial staff, waste dumpsters reach or extend beyond capacity daily. MSW Consultants performed a visual

audit of material that could be pulled from dumpsters, but did not measure weight or volume of the material based on the project scope of work.

The City has provided 96 gallon recycling carts at no cost to the District. The recycling carts store single stream recyclables and are collected three times per week by City crews. The City requests that large cardboard boxes be flattened and stacked for collection. The District's Facilities Director indicated that often, stacked cardboard is collected with a city pickup truck. MSW Consultants observed this type of collection at Marshall Academy.

The District's Facilities Director distributes recycling carts at each of the District's schools and oversees waste and recycling collections. He has provided each school with recycling carts for each classroom hallway, administrative office, kitchen and any other requested areas. Each observed school is presented with unique placement challenges as well as classroom challenges. Detailed visual audit findings are available in Appendix A. Results are summarized here:

- Rowland and JHHS classrooms lack recycling options in the form of recycling bins and consistent signage.
- Classroom waste bins contain paper, plastic bottles, tissues, paper towels, and snack food packaging.
- Offices, planning rooms, faculty lounges, computer labs and copy machine areas do not have recycling bins.
- No recycling occurs in cafeterias.
- Some hallway recycling carts are not conveniently located, and recycling is impeded by physical barriers such as doors.
- Wholesome, donatable food is frequently discarded in the cafeteria at Marshall, while food waste at Rowland and JHHS is not donatable.
- Some signage exists for waste and recycling containers, but it is not consistently used nor is the messaging consistent.

4. WASTE REDUCTION SAVINGS-SHARING MODELS

The District has been approached by firms that wish to assist it in developing cost-savings through recycling. These firms provide waste reduction assistance in return for a share of cost savings or recycling revenue generated. Firms employing these business models, or a combination thereof, will require extensive documentation of a client's waste and recycling programs, including documentation of system costs. Savings-sharing business models to assist clients with waste management cost savings come in several variations:

4.1 EXPENSE REVIEW

In the expense review model, a client will develop an agreement to share a percentage of refunds the expense review firm pursues on the client's behalf. The firm will review waste management expenses and invoices for errors and inconsistencies and seek refunds from the service provider. The client is expected to remit the shared savings for an agreed upon time period (usually 2-4 years).

4.2 CONTRACT MANAGEMENT

In the contract management model, a client will outsource its waste collection management. The firm will manage contract procurement, monitor and adjust waste collection service, review and pay collection invoices and act as the client's liaison with its waste collection provider. In turn, the client will enter into a services contract for a period of several years that may include some shared savings and/or an ongoing management fee, depending on the services offered.

4.3 FREE OR LOW-COST RECYCLING PROGRAM ASSISTANCE

Some firms will provide containers, balers and other equipment that increases collection of recyclable materials, and may also provide collection of the recyclables, but will retain the value of any recyclables they collect. These firms usually will not assist in reducing trash service levels after implementation of the recycling programs.

5. RECOMMENDATIONS

MSW Consultants has provided the following recommendations based on ease of implementation in the short term and long term future.

5.4 SHORT TERM

5.4.1 DEVELOP A RECYCLING PROTOCOL

With the input of custodial staff, develop a District-wide recycling protocol and distribute to teachers, administrators and other staff. Consider including the following in the protocol:

1. Explanation of how classroom recycling bins will be distributed;
2. Requirement to maintain a recycling bin in every classroom and office;
3. Requirement to label recycling and waste containers with District-approved or provided labels;
4. Ban on the use of recycling containers as waste containers;
5. List of materials that can be recycled (this list should include only the typical items used within the school. For example, office paper, notebook paper, sticky notes, beverage bottles and cans) and a list of material that cannot be recycled (for example, tissues and paper towels);
6. Explanation of how recyclables will be collected from offices and classrooms and a directive to transfer recyclables to centralized locations like hallways carts;
7. Contact for waste and recycling questions and requests for containers.

5.4.2 LABEL RECYCLING BINS WITH UNIFORM SIGNAGE

Before distribution, clearly and uniformly label all recycling bins with consistent signage. Signage should include a "Recycling" designation and a list of acceptable material to be placed in the bins. A label for the District's use is located in Appendix B. It should be affixed to recycling receptacles on one or more sides so that it can be plainly seen and understood.

5.4.3 IDENTIFY RECYCLING BIN SOURCES & DISTRIBUTE TO ALL CLASSROOMS

Identify how the District will obtain, purchase or create (from copy paper boxes, for example) recycling bins for every classroom. In 2006, the PA Department of Environmental Protection and

the Department of Education provided the District with recycling bins for every classroom. Since then, a number of District schools have closed. If located, excess recycling bins from those schools could be used. Once sourced, the District should distribute recycling bins to each District classroom and office. Recycling bins should be placed next to waste bins to encourage recycling.

5.4.4 INSTALL RECYCLING BINS NEXT TO EVERY COPIER & PRINTER

Increase recycling by placing recycling receptacles where recyclables are generated. Place a recycling receptacle within reach of every printer and copy machine. These items are located in computer labs, meeting rooms, office suites, planning rooms and faculty lounge spaces.

5.4.5 PAIR WASTE & RECYCLING BINS

In areas where there are waste and recycling bins (for examples, the hallways at Rowland and the lobby of JHHS), place clearly labeled waste and recycling bins next to each other. This placement encourages recycling.

5.5 LONG TERM

5.5.1 DEVELOP A CAFETERIA WASTE REDUCTION PROGRAM

Opportunities exist for waste reduction in the District's cafeterias. A typical lunch is shown in Figure 5-1. When the following recommendations are performed in the order in which they are presented, a system is created to maximize waste reduction in line with the US EPA's Waste Management Hierarchy.

1. **Establish a meal count.** The District can help its food services vendor plan to reduce food waste by establishing a daily meal count. In this system, homeroom teachers will present students with the day's meal options and take a count of how many students request each option. Meal counts will be delivered to food services as early as possible in the day. Though this recommendation is part of a long-term plan, it may be implemented immediately.

Figure 5-1 MARSHALL ACADEMY LUNCH

2. **Donate unconsumed foods.** The *Bill Emerson Good Samaritan Act*, attached in Appendix C, allows "wholesome food or an apparently fit grocery product" donations to a nonprofit organization, such as a food bank, without civil or criminal liability. Whole fruits and sealed foods such as the beverage cartons and sealed fruit containers may be donated. In its September

17, 2015 webinar *Changing How We Think About Our Resources for a Better Tomorrow: How to Donate Surplus Food from K-12 Schools*, the EPA introduced Food Bus, Inc., an organizations that works with schools to develop systems to store, collect and deliver food to foodbanks. Links to the EPA presentation, including all webinar slides, are available in Appendix B. The District may contact any of the EPA's recommended organizations or a local nonprofit such as the Central PA Food Bank that can help the District to develop a plan for food donation. The EPA may be helpful in navigating a path to donating food funded through the National School Lunch Program. The EPA Food Recovery contact is André Villaseñor, available at phone number 213-244-1813 or email address villasenor.andre@epa.gov.

3. **Dispose of liquids separately from waste and recyclables.** Rowland has implemented a system to dispose of liquid left in milk cartons separately from waste. Students pour unconsumed beverages into a bucket before disposing of beverage containers. The custodial staff pours liquid down the drain. This system can be implemented in all cafeterias to reduce the weight and liquid mess of the waste stream and to prepare cartons for entry into the recycling stream.
4. **Research and implement recycling.** Empty beverage cartons, beverage bottles, plastic clam shell containers and other plastics generated in the District's cafeterias are recyclable. The District should meet with the City's recycling coordinator and recycling processor to determine which materials generated in cafeterias are acceptable at the recycler's material processing facility. The processor may engage the District in a pilot program to determine the contamination levels of specific materials such as paper lunch trays and clam shell containers before deeming those materials acceptable.

   After authorization from the recycling processor, the District should develop recycling protocols and recycling receptacle signage specifically for cafeteria recycling. Implementation of a program should occur at the beginning of a school year so that students, faculty and staff have the opportunity to learn and teach proper cafeteria recycling protocol. The Carton Council provides cafeteria recycling resources including technical assistance. Downloadable tools, including a start-up guide, posters, information for custodians and recycling calculators, are available on the Carton Council's website. More information is available in Appendix B.
5. **Stack lunch trays.** Lunch trays placed in waste cans create wasted space in trash bags which causes bags to quickly reach capacity. These bags add volume to waste collection containers, causing them to fill more quickly, resulting in more frequent dumpster collections. Developing a system in which students dump food and other waste from lunch trays and then stack trays together eliminates wasted space. Alternatively, upon the completion of a successful paper tray pilot program, the District may wish to implement District-wide a lunch tray recycling program.

5.5.2 DEVELOP A CONFIDENTIAL PAPER RECYCLING PROGRAM

Paper generated in some areas of the District's schools, including guidance offices, is confidential or sensitive in nature. Paper generated in these areas is currently disposed of. The District should research confidential paper recycling options including shredding paper on site or capturing it in a secured container to be shredded offsite. The City's current recycling processor does not accept shredded paper for recycling. The Dauphin County Recycling Center provides shredding and recycling services with destruction documentation for $5 per box.

5.5.3 DEVELOP A METHODOLOGY FOR RECYCLING EDUCATION

In the 2015-2016 school year, Marshall Vice-Principal Ryan Jones spearheaded a hands-on recycling program with students, engaging the entire student body in recycling problem solving during the District's half days. Jones has approached recycling as a real-world situation that can help students develop problem solving skills and promote Common Core principles. MSW Consultants recommends that Jones develop a methodology, based on the school's experience, for recycling program implementation that can be replicated at other District schools.

5.6 ONGOING RECOMMENDATIONS

5.6.1 REQUEST & REVIEW WASTE COLLECTION DOCUMENTATION

The City provides the District with a waste collection rate schedule, based on collection container volume, and a monthly utility bill that includes waste collection and disposal charges. In order to track and monitor charges and waste reduction, the District must have documentation of waste collection including the location of waste collections and the number of collections performed within a given amount of time. The District should request waste collection documentation from the City.

5.6.2 EVALUATE WASTE & RECYCLING PROGRAM ANNUALLY

As the District implements waste reduction measures, the volume of waste collected and frequency of waste collections will decrease. To avoid unneeded collections and collection costs, the District should annually review waste collection documentation, monitor and record waste levels and adjust collection frequency accordingly. To gain more insight into waste monitoring, the District may wish to review the *Philadelphia School District Waste and Recycling Service Analysis* that MSW performed in 2014. A link to the report and a form for collection container fullness observations is provided in Appendix B.

5.6.3 EXPLORE ALTERNATIVE WASTE COLLECTION OPTIONS

The District is required to use City waste collection services by the City of Harrisburg Municipal Code, Section 9-303.1.B, provided below:

All municipal waste generated in the City shall be collected by the City, except for municipal waste from nonresidential property when, because of the type, nature or quantity of such waste or the necessity of more frequent collection than provided by the City, permission is granted by the Director DPW, either by general rule or regulation, or, in specific cases, for such municipal waste to be collected by private haulers or by the occupiers of such nonresidential property.

The Code includes exemption language that may apply to the District considering a significant portion of the District's school waste is generated in cafeterias and kitchens. The volume of this waste and collection frequency may be significantly reduced with the use of garbage compactors, which the City is unable to collect. MSW Consultants encourages the District to openly discuss garbage compaction options and services with the City, to explore the cost of such a system including electrical and drainage modifications required for compactor installations, and to explore collection costs.

APPENDIX A

VISUAL WASTE AUDIT FINDINGS

This page intentionally left blank.

APPENDIX A

VISUAL WASTE AUDIT FINDINGS

1. MARSHALL ACADEMY

MSW Consultants, accompanied by the District Facilities Director and Vice Principal, performed a visual waste audit at Marshall Academy (Marshall) on October 21, 2015.

1.1 RECYCLING EDUCATION BACKGROUND

Marshall Academy is a Science, Technology, Engineering and Math (STEM) school with grades 5-8. Vice Principal, Mr. Jones has spearheaded a hands-on recycling program with students to problem solve and learn common core principles in a real-world situation. District schools have a regularly scheduled student half-day of school. While most schools continue their normal curriculum on half days, Marshall performs student-engaged building-wide projects. In September 2015, Marshall students were divided into mixed grade groups. Each group was assigned a waste stream category (waste, food waste, cardboard, high quality paper, low quality paper, plastic, and metal). Categories were suggested by the City recycling coordinator. Student groups were asked to identify the school's waste problems for each category. In October 2015, the same groups were asked to brainstorm systems-based solutions for the problems that they identified. After this work day, teachers selected project managers from each of the groups and the "Recycling Rangers" were formed. With student suggestion and input, Mr. Jones designed a system to characterize Marshall's waste with the Recycling Rangers leading the charge.

Jones and the Recycling Rangers set up a sort system for all waste generated using categories noted above. For one week, students separated their classroom and cafeteria waste into the categories instead of putting it all into the trash. Daily, students weighed the categories and also assigned a visual volume based on the volume of recycling bins. The students found that most of their waste is generated in the cafeteria, and food waste is the heaviest category of their waste stream. Jones and The Recycling Rangers continue to use their study results to brainstorm short term and long term waste reduction goals and plans.

1.2 WASTE COLLECTION

Marshall uses one six cubic yard waste dumpster and several 96 gallon recycling carts. Recycling carts are kept in hallways, offices and the kitchen until they are full. When full, the carts are rolled to the outdoor collection area shown in Figure 1-1. The waste dumpster is emptied daily. Staff indicate that the dumpster meets or exceeds capacity daily.

Figure 1-1 Marshall Waste Collection Area

Upon inspection, bags of waste in the dumpster contained classroom and cafeteria waste as shown in Figure 1-2. The classroom waste bags inspected contained 80% paper and 20% non-recyclables including tissues, pencil shavings and snack food packaging. Cafeteria waste bags inspected contained cafeteria trays, clamshell containers, napkins and paper towels, milk cartons, partially consumed food, and unconsumed milk cartons and whole fruits.

Figure 1-2 Dumpster Contents

1.3 CLASSROOM AND OFFICES

Waste and recycling bins are staged in all Marshall classrooms. Recycling bins are labeled, but signage is inconsistent from classroom to classroom. In all observed classrooms, recyclables were found in recycling bins, and appropriate trash was found in waste bins. In Figure 1-3, the blue recycling bin on the left is used as a trash can, the black rectangular waste bin in the middle is a trash can, and the rectangular blue recycling bin on the right is a recycling bin. Also observed throughout Marshall was the use of clear, black and green garbage bags. There is no designation of use for the differently colored bags. The misuse of the recycling bin in Figure 1-3, the different colored garbage bags and inconsistent recycling signage create mixed messages.

Figure 1-3 Classroom Waste and Recycling Bins

Recycling Rangers transport the contents of recycling bins to hallway recycling carts daily. Students, teachers and staff also use hallway recycling carts for recyclable materials throughout the day. Recyclables observed therein were various paper grades, cardboard and plastic beverage bottles. Hallway recycling carts are labeled with a list of material that can be recycled. Cart contents and signage are shown in Figure 1-4.

Figure 1-4 Hallway Recycling Cart Contents & Signage

During the audit, a discussion with students and administrators made clear that there is a misconception that paper towels are recyclable. MSW Consultants informed them that paper towels and tissues are not recyclable.

In the Marshall main office, one recycling bin is centrally located, and there are waste bins at each desk. There are no recycling bins next to copy machines. In the faculty lounge/prep room, there are two vending machines and a copy machine. A 32 gallon waste receptacle is located there. It contained 50% recyclables. There is no recycling bin in the lounge.

1.4 KITCHEN & CAFETERIA

MSW Consultants observed one breakfast and one lunch in Marshall's cafeteria. There are no recycling bins in the cafeteria, however, students use paper trays instead of the District standard expanded polystyrene trays. Paper trays are used in preparation for a paper tray recycling pilot with the assistance of the City's recycling coordinator. Students will test paper trays to determine their durability. If trays are durable, they will investigate tray-recycling options.

Observed in the cafeteria were six 32 gallon trash cans lined with green bags. A custodian transports the bags to the dumpster at the end of each breakfast and lunch. After breakfast, the trash cans contained 70% trays and 25% milk cartons and food waste. Five percent of the total volume of trash appeared to be donatable milk cartons and whole fruits. After the observed lunch, the trash containers consisted of 70% trays, 25% donatable milk cartons and whole fruit, and 5% food waste and other materials including clamshell containers and napkins.

The Recycling Rangers have a goal to recycle in the cafeteria. They have identified food soil on trays and clam shell containers as system complications.

In the Marshall kitchen, cafeteria staff effectively sort waste and recyclables and put material into the appropriate containers. The kitchen has been provided with a 96 gallon recycling cart so staff can put recyclables directly into it.

2. ROWLAND ACADEMY

MSW Consultants, accompanied by the head custodian at Rowland Academy, performed a visual waste audit at Rowland Academy (Rowland) on October 22, 2015.

2.1 CLASSROOMS AND OFFICES

Most classrooms at Rowland have one or more waste receptacles, usually a small round metal trash can. Non-recyclable contents in these containers were tissues, snack food wrappers and pencil shavings; recyclable contents were various grades of paper and plastic beverage containers. Classroom waste receptacles contained an average of 80% recyclables.

Rowland is laid out so that on each of four floors, there are two classroom wings. Wings are separated by double doors and a stairway and landing between the wings. Students and faculty have access to 96 gallon recycling carts and waste bins located on each landing. The recycling carts are kept closed. Some carts, like the one in Figure 2-1, have recycling and trash labels on them. At the time of the audit, some recycling carts were not staged on landings because carts had been filled and moved the storage room. Inside the double doors of each wing are waste receptacles, but no recycling carts.

Figure 2-1 Rowland Stair Landing Recycling Carts

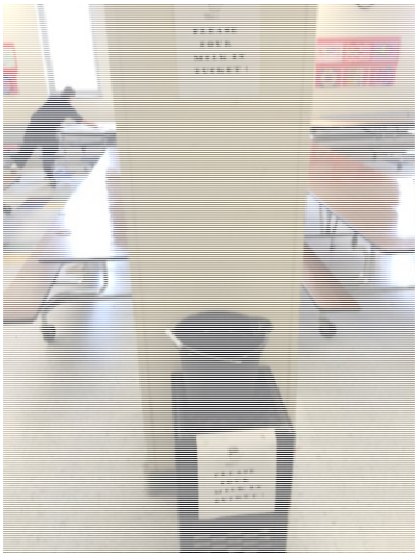
Rowland's main office has one centrally located recycling cart, but at the time of the audit it was awaiting collection in the storage area and had not been replaced. The office also has a recycling bin at the copy machine. It was full of office paper. Each office staff-person has a trash can at his or her desk. Trash cans contained food wrappers and paper. 75% of the contents were recyclable.

The faculty lounge does not have a recycling bin or cart. In the lounge is one beverage vending machine and two copiers. The contents of the three waste receptacles in this room were plastic bottles and office paper. All material in the three trash cans in this room was recyclable.

2.2 KITCHEN AND CAFETERIA

In the cafeteria are seven 32 gallon waste receptacles and three stations with buckets for milk as shown in Figure 2-2. Students pour their left over milk into buckets and discard the cartons as well as other lunch waste into the waste containers. Little donatable food waste observed. Students offered leftover food to other students before they discarded it. Food waste observed was mostly in the form of hot vegetables.

Figure 2-2 Rowland Milk Collection Station



In the Rowland kitchen are two 32 gallon waste cans. Kitchen staff set aside recyclables and later put them directly into a 96 gallon recycling cart. The kitchen and pantry areas have direct access to the loading dock. Cardboard is taken to the loading dock where it is flattened and stacked for collection.

3. JOHN HARRIS HIGH SCHOOL

MSW Consultants, accompanied by the District's facilities director, performed a visual waste audit at John Harris High School (JHHS) on October 23, 2015.

3.1 WASTE COLLECTION

The JHHS waste collection system includes three 6 cubic yard waste dumpsters in separate corrals. A fourth corral is empty. Waste is collected daily. Recycling collection carts are located outside of the school nearby. They are wheeled in front of the corrals on recycling collection days. Recycling is collected three days per week.

Figure 3-1 JHHS Waste Collection Dumpsters

At the time the audit, the collection containers contained cardboard, shown in Figure 3-2. The boxes on the left appear to have originated in the District's third-party copy center located inside JHHS, with a separate entrance outside the building. The flattened boxes on the right appear to have originated in the JHHS kitchen.

Figure 3-2 JHHS CARDBOARD IN WASTE DUMPSTERS

3.2 CLASSROOMS AND OFFICES

Most classrooms at JHHS have one waste receptacle. Non-recyclable contents in these containers were tissues, snack food wrappers and pencil shavings; recyclable contents were various grades of paper and plastic beverage containers. Classroom waste receptacles contained at least 56% recyclable materials of which most were paper or plastic beverage containers.

Figure 3-3 JHHS Classroom Waste Bin

Each classroom hallway at JHHS contains two planning rooms. Each planning room contains a food preparation area with a sink and a refrigerator and a copy machine. At other schools, City provided 96 gallon recycling carts are located in each hallway. At JHHS, these carts are located in planning rooms. MSW Consultants observed the second floor planning rooms. The first planning room did not contain a recycling cart. Teachers in the room reported using the recycling cart and questioned where it had gone. The District Facilities Director recovered the missing recycling container in the second planning room and moved it back to the first planning room.

MSW Consultants also toured the Guidance Office Suite. The Suite contains offices and a common area in which students and faculty meet and use the copy machine. Waste receptacles are located at each desk and in each office. There is one centrally located recycling bin next to a trash can in the common area. Guidance Office staff commented that they do not use the recycling container because often the paper they discard contains student information and should be kept private. Waste contained in office waste receptacles was 95% recyclable by volume. The recycling receptacle contained only office paper. No waste or recycling receptacle is located within reach of the copier.

3.3 KITCHEN AND CAFETERIAS

Two cafeterias are located at JHHS. They flank the school's kitchen. In the smaller of the two cafeterias, six 32 gallon waste containers are centrally located around a pillar. MSW Consultants observed the containers after the ninth grade girls-only lunch in this cafeteria. The containers were filled with lunch trays and food waste. Less than 5% of material in the waste cans was recyclable in the form of clam shell containers and beverage cartons. Discarded donatable food was not observed. In the large cafeteria, there are seven 32 gallon waste collection containers. These containers were emptied by custodial staff before the observation.

In the JHHS kitchen there are four 32 gallon waste containers. Staff set recyclables aside to be placed in a 96 gallon recycling cart located outdoors and accessed by a door in the back of the kitchen. No recyclables were observed in the kitchen waste receptacles, and the kitchen recycling cart contained plastic and metal food containers. Cardboard is collected in a custodial collection cart and placed outside to be flattened, stacked and set out for recycling collection be the City. During the audit, the kitchen manager requested from the District Facilities Director, two additional carts, one for cans and the other for cardboard. Inside the kitchen manager's office is a small recycling bin. It contained office paper and water bottles consumed by kitchen staff.

Figure 3-4 JHHS Kitchen Recyclables

3.4 JHHS FIELD HOUSE

A field house is located at JHHS. It contains a large multi-purpose room, a weight room and two locker rooms. Waste receptacles are located in the locker rooms. The waste receptacles contain 75% recyclable materials by volume. Most recyclables are office paper and plastic beverage containers.

3.5 DISTRICT COPY CENTER

The District's copy center, managed by a third-party, is located at JHHS. It has an outdoor entrance as well as an entrance inside the school. Inside the copy center are several large disposal receptacles. Copy Center staff indicated that they do not know if receptacles are destined for waste or recycling. School District custodians collect the receptacles from the copy center. They contain at least 95% office paper and less than 5% unrecyclable material include food wrappers and tissues.

4. POST-AUDIT FINDINGS

Since the October visual waste audit, MSW Consultants has learned the following:

1. Recycling has been implemented in the cafeterias at Marshall and Rowland.

2. The District has contacted the City's recycling processor to research paper cafeteria tray recycling.
3. A fourth waste collection dumpster is located at JHHS. It is located at the Field House. This collection container is scheduled to be removed, reducing collections at JHHS to three waste collection containers.
4. At Marshall, in the month of January 2016, collections have been reduced from five days per week to one day per week.

APPENDIX B

WASTE REDUCTION & RECYCLING RESOURCES

This page intentionally left blank.

APPENDIX B

ONLINE RESOURCES

Food Donation & Food Waste

EPA Webinar *Changing How We Think About Our Resources for a Better Tomorrow: How to Donate Surplus Food from K-12 Schools*, September 17, 2015
http://www.epa.gov/smm/sustainable-materials-management-smm-web-academy-webinar-changing-how-we-think-about-our-0

1. Presentation by the US EPA: How to Donate Surplus Food from K-12 Schools
   http://www.epa.gov/sites/production/files/2015-10/documents/andre_villasenor_slides.pdf
2. Presentation by the USDA: Recovering wholesome, uneaten food in K-12 Schools
   http://www.epa.gov/sites/production/files/2015-10/documents/jimmy_nguyen_slides.pdf
3. Presentation by Food Bus, Inc.: Recovering food, filling pantries, and easing hunger in our communities
   http://www.epa.gov/sites/production/files/2015-10/documents/kathleen_weil_slides.pdf

Right-Size Waste Collection

PA DEP Recycling Technical Assistance Project *Philadelphia School District Waste and Recycling Service Analysis*
http://www.dep.pa.gov/Business/Land/Waste/Recycling/Municipal-Resources/TechnicalAssistance/Pages/default.aspx#.Vmjan7grLIU

School Specific Waste Management Resources

Carton Council: A group of carton manufactures focused on carton recovery. This group provides technical assistance and downloadable resources

http://www.recyclecartons.com/carton-recycling/schools/

Green Schools: A non-profit organization that provides programs and resources to promote E-STEM Education
http://projectgreenschools.org/

Recycle Bowl: A national school recycling competition by Keep America Beautiful that engages students in recycling.
http://recycle-bowl.org/

Waste Collection Monitoring Form

School Name: _____

Approx. Collection Time: _____

Date Range: _____

Waste Collection Containers (circle one): Dumpster Carts

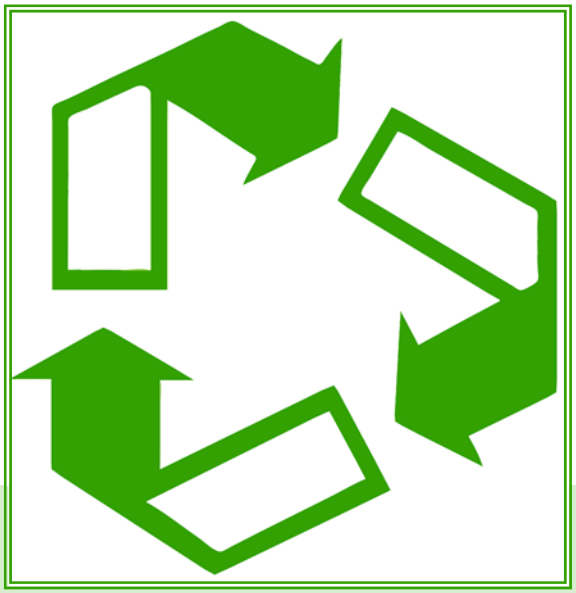
Insert photo of waste collection area here, and label each dumpster with an ID number.

Dumpster ID	Dumpster Fullness by Collection Day					Notes
	M	T	W	TR	F	
1						
2						
3						
4						

INSTRUCTIONS

FULLNESS:
Fill in each box the percent fullness of each dumpster as close to pickup time as possible. Use "OF" to symbolize that the dumpster is overflowing.

NOTES:
Write down anything that is unusual. For example, if bags are placed around the dumpster, an event has occurred that created more waste than usual, or it appears that someone illegally dumped trash at the dumpsters, include that information here.



RECYCLE

PAPER & CARDBOARD

- Cardboard boxes
- Notebook paper
- Computer paper
- Newspaper
- Magazines
- Soft back books
- Sticky notes

CONTAINERS

- Plastic bottles
- Aluminum cans
- Drink cartons

DON'T RECYCLE

- Tissues
- Paper towels
- Food
- Snack food bags
- Plastic bags
- Pencil Shavings
- Pens
- Pencils

APPENDIX C

THE BILL EMERSON GOOD SAMARITAN ACT

This page intentionally left blank.

Public Law 104–210
104th Congress

An Act

To encourage the donation of food and grocery products to nonprofit organizations for distribution to needy individuals by giving the Model Good Samaritan Food Donation Act the full force and effect of law.

Oct. 1, 1996
[H.R. 2428]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. CONVERSION TO PERMANENT LAW OF MODEL GOOD SAMARITAN FOOD DONATION ACT AND TRANSFER OF THAT ACT TO CHILD NUTRITION ACT OF 1966.

(a) CONVERSION TO PERMANENT LAW.—Title IV of the National and Community Service Act of 1990 is amended—

(1) by striking the title heading and sections 401 and 403 (42 U.S.C. 12671 and 12673); and

(2) in section 402 (42 U.S.C. 12672)—

(A) in the section heading, by striking "**MODEL**" and inserting "**BILL EMERSON**";

(B) in subsection (a), by striking "Good Samaritan" and inserting "Bill Emerson Good Samaritan";

(C) in subsection (b)(7), to read as follows:

"(7) GROSS NEGLIGENCE.—The term 'gross negligence' means voluntary and conscious conduct (including a failure to act) by a person who, at the time of the conduct, knew that the conduct was likely to be harmful to the health or well-being of another person.";

(D) by striking subsection (c) and inserting the following:

"(c) LIABILITY FOR DAMAGES FROM DONATED FOOD AND GROCERY PRODUCTS.—

"(1) LIABILITY OF PERSON OR GLEANER.—A person or gleaner shall not be subject to civil or criminal liability arising from the nature, age, packaging, or condition of apparently wholesome food or an apparently fit grocery product that the person or gleaner donates in good faith to a nonprofit organization for ultimate distribution to needy individuals.

"(2) LIABILITY OF NONPROFIT ORGANIZATION.—A nonprofit organization shall not be subject to civil or criminal liability arising from the nature, age, packaging, or condition of apparently wholesome food or an apparently fit grocery product that the nonprofit organization received as a donation in good faith from a person or gleaner for ultimate distribution to needy individuals.

"(3) EXCEPTION.—Paragraphs (1) and (2) shall not apply to an injury to or death of an ultimate user or recipient of the food or grocery product that results from an act or omission

of the person, gleaner, or nonprofit organization, as applicable, constituting gross negligence or intentional misconduct."; and

(E) in subsection (f), by adding at the end the following: "Nothing in this section shall be construed to supercede State or local health regulations.".

(b) TRANSFER TO CHILD NUTRITION ACT OF 1966.—Section 402 of the National and Community Service Act of 1990 (42 U.S.C. 12672) (as amended by subsection (a))— 42 USC 1791.

(1) is transferred from the National and Community Service Act of 1990 to the Child Nutrition Act of 1966;

(2) is redesignated as section 22 of the Child Nutrition Act of 1966; and

(3) is added at the end of such Act.

(c) CONFORMING AMENDMENT.—The table of contents for the National and Community Service Act of 1990 is amended by striking the items relating to title IV.

Approved October 1, 1996.

LEGISLATIVE HISTORY—H.R. 2428:

HOUSE REPORTS: No. 104–661 (Comm. on Economic and Educational Opportunities).

CONGRESSIONAL RECORD, Vol. 142 (1996):

July 12, considered and passed House.

Aug. 2, considered and passed Senate, amended.

Sept. 5, House concurred in Senate amendments.

WEEKLY COMPILATION OF PRESIDENTIAL DOCUMENTS, Vol. 32 (1996):

Oct. 1, Presidential statement.

○