



Performance Audit

Department of Public Works Facilities Division

Report by the
Office of City Controller

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MICHAEL E. LAMB

CITY CONTROLLER

First Floor City-County Building • 414 Grant Street • Pittsburgh, Pennsylvania 15219

November 28, 2017

To the Honorable: Mayor William Peduto and
Members of Pittsburgh City Council

The Office of the City Controller is pleased to present this performance audit of the **Facilities Division** conducted pursuant to the Controller's powers under Section 404(b) of the Pittsburgh Home Rule Charter.

EXECUTIVE SUMMARY

The Facilities Division is under the Department of Public Works Bureau of Operations and is located at 1807 5th Avenue in the Uptown neighborhood of Pittsburgh. Facilities Division employees are responsible for maintaining and repairing over 393 city owned structures. Some of the buildings maintained include all public safety buildings, city offices, recreation centers, senior centers, DPW maintenance buildings, locker rooms, ball field dugouts, concession stands, and park pavilions/shelters.

This audit focuses on how the Facilities Division schedules work and tracks costs of all building repairs and maintenance throughout the city. This audit also focuses on the functions and features of the Cartegraph asset management software system used by the Facilities Division to track repair costs. A review of the city's professional service contract with Massaro Construction Management Services, LLC was also reported.

The Cartegraph system's dashboard allows all job activities, labor hours and costs associated with a particular job to be pinpointed to a specific City building/asset. This provides DPW management the ability to track the work history and costs associated with all city-owned structures.

The Facilities Division receives work order repair requests from other city departments and from the public. Emergency repairs take priority over any other job scheduled or in progress. The foreman assigns the personnel accordingly, tracks repair costs and labor hours, and decides what supplies and equipment are needed to complete the job. However, emergency repairs are not tracked by the Facilities Division.

The Facilities Division store manager keeps track of all materials held at the Facilities Maintenance Building. There is an estimated 13,000 stock items kept at the building. The

auditors discovered that an actual inventory was never reported and an inventory count began for the first time in March 2016. The auditors found that only about 1,400 stock items or 10.7% were cataloged in Cartegraph.

The Cartegraph system can generate a Detailed Task Report that shows all the tasks that were entered into Cartegraph related to City building repairs. In 2016, Facilities Division employees worked 5,350 asset tasks with a total cost of \$1,349,980.01. The City County Building had both the highest building costs and the most number of tasks completed in 2016. The auditors discovered that some fields were left blank or incomplete in the Detail Task Report.

The auditors analyzed the amount of time it took the Facilities Division in days to complete assigned tasks for 2016. The Facilities Division completed 4,389 (82.04%) tasks the same day as they were started. Given the limited amount of staffing, the Facilities Division employees are completing jobs in a timely manner.

The auditors were unable to receive a database from the Facilities Division that showed their tasks and repair costs for the years 2014 and 2015. The Facilities Division switched over to the new Cartegraph system in September 2015. All the prior tasks from the ACCELA software were not converted to Cartegraph and no computerized information exists prior to 2016.

The City of Pittsburgh entered into a professional service agreement with Massaro Construction Management Services not to exceed \$951,286.93 in February 2016. Massaro was to provide a 40-year Facilities Optimization study that included condition assessments on 247 city owned properties, an identification of funding mechanisms, market valuation and disposition strategies, identification of potential energy savings and sustainability initiatives, program assessments, use allocation and space planning, and demographic analysis. The goal of the assessment was to provide the City with data on building conditions so repairs to these facilities could be prioritized.

Our findings and recommendations are discussed in detail beginning on page seven. Our procedures were conducted in accordance with applicable government auditing standards and are limited to our objectives noted in the “Scope and Methodology” sections of this report. We believe our recommendations will provide more efficient operations.

We would like to thank the Facilities Division staff for their cooperation and assistance during our audit.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael E. Lamb". The signature is written in black ink on a white background.

Michael E. Lamb
City Controller

INTRODUCTION

This performance audit of the Facilities Division of the Department of Public Works was conducted pursuant to Section 404(c) of the Pittsburgh Home Rule Charter. This audit focuses on how the Facilities Division schedules work and tracks costs of all building repairs and maintenance throughout the City, the functions and features of the Cartegraph asset management software system, and a review of the City’s professional service contract with Massaro Construction Management Services, LLC. This is the first audit of the Facilities Division conducted by the City Controller’s Office.

OVERVIEW

The Department of Public Works (DPW) is separated into four bureaus: Administration, Operations, Environmental Services and Transportation and Engineering. The Facilities Division is a section under DPW’s Bureau of Operations. It operates out of the Facilities Maintenance Building at 1807 5th Avenue in the Uptown neighborhood of Pittsburgh.

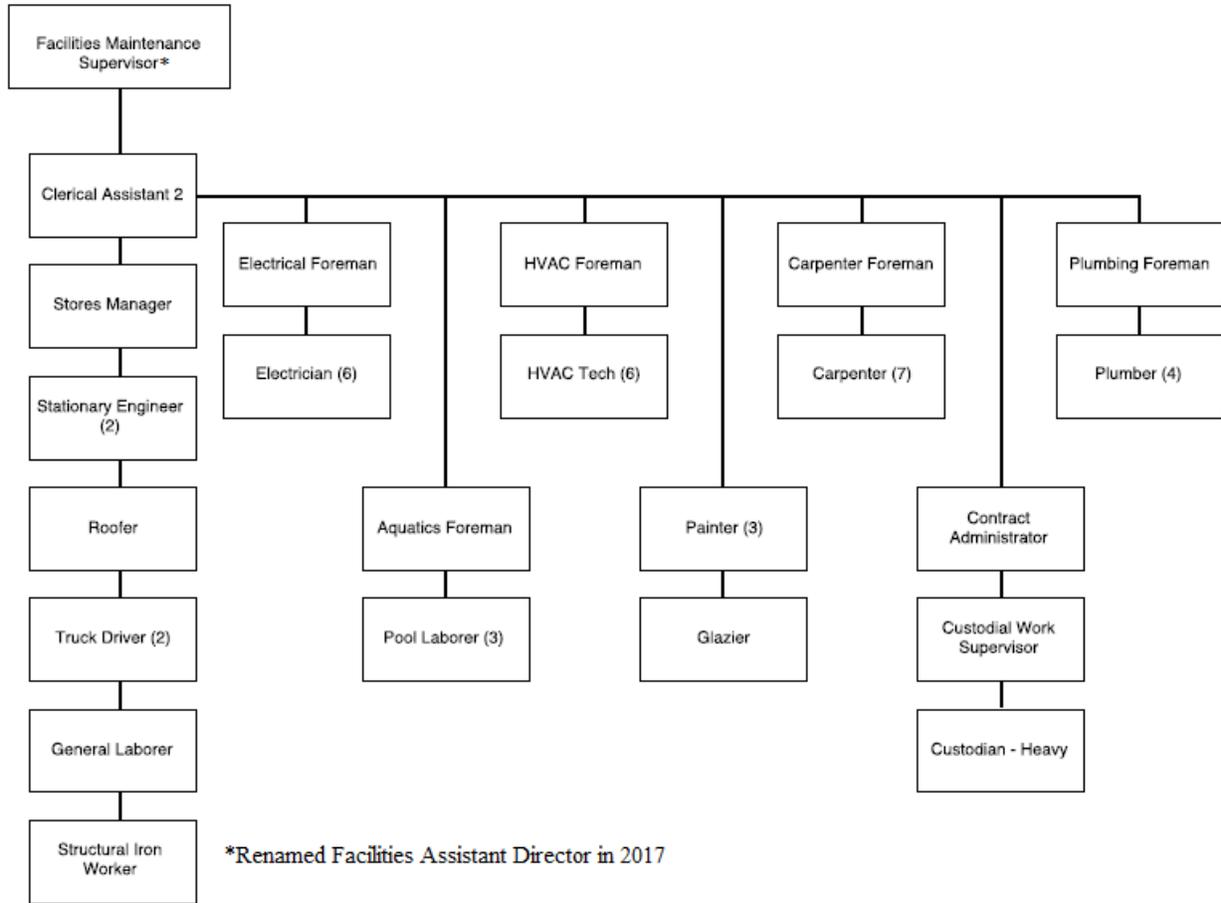
The main role of the Facilities Division is to maintain, repair, inspect, and make capital improvements to City-owned buildings. The Facilities Division is responsible for maintaining every structure in the City that is “under a roof.” There are currently 393 structures in the City that fit this description. The types of buildings/structures include all public safety buildings, City offices, recreation centers, senior centers, DPW maintenance buildings, locker rooms, ball field dugouts, concession stands, and park pavilions/shelters, etc.

The Facilities Division employees work on smaller scale projects such as emergency repairs, preventive maintenance work and general labor type jobs. All large scale and new construction projects involving City buildings are handled by DPW’s Architecture Division. These are capital projects requiring drawings and specifications which are put out for bid to contractors. Chapter 161 of the City Code entitled *Construction* outlines the rules for these construction projects.

Organizational Chart

According to DPW administration, the Facilities Division in 2016 had 48 budgeted positions totaling \$2,283,654.00. Figure 1 illustrates the division’s organization and the positions in each section. (It should be noted that in 2017, the facilities maintenance supervisor position was renamed facilities assistant director along with a corresponding pay increase and remained unfilled.)

**Figure 1
2016 Facilities Division Organizational Flowchart**



Source: DPW Administration

The facilities maintenance supervisor oversees the day-to-day operations of the division and handles all incoming repair requests. The construction supervisor has been assuming this role for the Facilities Division until the position is filled.

There are four foremen who oversee each skilled trade: electrical, HVAC, plumbing and carpentry. All foremen belong to the American Federation of State, County and Municipal Employee Local 2037 Union. Foremen plan, direct, coordinate, and monitor work orders received from start to finish, as well as determine job priority, assign and train crews, and order necessary supplies and equipment for every job. This holds true with the exception of the carpenter foreman, who also oversees the painters and glazier and the HVAC foreman, who oversees the roofer. However, the organizational chart above does not clearly represent this chain of command and is addressed in the findings and recommendations section of this audit.

There are 28 fulltime skilled tradesmen: six electricians, six HVAC techs, seven carpenters, four plumbers, three painters, one roofer and one glazier. All tradesmen belong to the labors union under the Pittsburgh Joint Collective Bargaining Committee.

Some of the general job duties of the skilled tradesmen are listed below. This list is not all inclusive.

Electrical- installs, fixes or replaces interior and exterior building lights, pool and park lights, ballasts, conduit pipe, cover plates, electrical outlets, fire alarms, exit signs and power outages

HVAC- installs, fixes or replaces furnaces, air conditioners, boilers, exhaust fans, air or heat registers, changes furnace filters, and cleans and inspects HVAC units; the HVAC foreman oversees the roofer who repairs shingles, patches roofs, fixes gutters, downspouts, and installs smaller roofs

Plumbing- installs, fixes or replaces toilets, sinks, faucets, park water fountains, water leaks; replaces parts for concession stands; turns on water for all spray parks, swimming pools and concession stands

Carpentry- installs, fixes or replaces doors, floor tile, kitchen cabinets, locks, drywall, ceiling tile, moves furniture, and installs cubicles in offices; the carpentry foreman oversees the painters that paint walls and other various things and the lone glazier that installs, fixes or replaces windows.

The Facilities Division also has a separate pool maintenance group that consists of an aquatics foreman and three pool laborers. This group takes care of all City pool maintenance. These employees are responsible for filling and draining pool water, maintaining pool pumps and filtration systems, filter lids, provide water samples by law, routine pool cleanings, and painting all lines, signs, depth marks and life guard chairs.

The store manager oversees the building materials supply warehouse located inside the Facilities Maintenance Building. The store manager tracks in-house inventory, orders material, and supplies tradesmen with materials needed for their current jobs.

The contract administrator oversees the personnel who clean the inside of the City County Building, the Municipal Court Building and all police zone buildings. There are also two stationary engineers who assist HVAC and plumbers with fixing pumps, motors, radiators, boilers furnaces, decorative fountains, etc.

All other job titles listed on the Facilities Division organizational chart have job duties that correspond with their job titles: e.g. truck drivers drive a truck, custodians clean City buildings and laborers do manual work.

OBJECTIVES

1. To evaluate how facilities employees are tracking building costs.
2. To analyze what kind of work was performed by the Facilities Division.
3. To assess the Facilities Division work order process.
4. To calculate the total cost of work performed by Facilities Division.
5. To track Facilities Division work order turnaround time.
6. To determine the effectiveness of the new Cartegraph software.
7. To review the facilities optimization plan contract the City of Pittsburgh has with Massaro CM Services
8. To make recommendations for improvement.

SCOPE

The scope of this performance audit includes Facilities Division work processes and positions for 2016; repair tasks from DPW's new Cartegraph data base for 2016; foremen project schedules for 2017; Massaro CM Services professional service contract from February 9, 2016 to March 2017; and City payments to Massaro from 2016 through July 2017.

METHODOLOGY

The auditors met with the director of public works, deputy director of DPW, project manager, construction supervisor and a Facilities Division staff member to discuss preliminary objectives and get an overview of all the Facilities Division functions and job duties. The auditors also met with all acting managers and foremen on three separate occasions to discuss their daily work process and how they calculate job costs.

A tour of the Facilities Maintenance Building at 1807 5th Avenue was conducted for an overview of operations; the auditors visited various tradesmen work sites and observed their work process.

The auditors attended two Cartegraph overview sessions. The first was with the deputy director of DPW and the second with the DPW project implementation analyst. The DPW project implementation analyst and Facilities Division foreman gave the auditors a demonstration of how job tasks are entered in Cartegraph software.

The DPW provided the following documents: Facilities Division organizational flowchart, employee list by position, facility building list, 2016 Facilities Detailed Task Report in an Excel spreadsheet, a hand written 2017 pending projects schedule for each trade group. DPW also provided an example of a 311 service request form, a supply requisition form and a vendor invoice.

A meeting was held with the Office of Management and Budget to discuss details of the professional service contract between the City of Pittsburgh and Massaro CM Services.

The Massaro CM Service professional service contract and City payments to Massaro were obtained from the City's OnBase software. The Massaro Facilities Optimization Plan-Conditional Assessment Report was obtained from the City Webpage. All other information regarding the contract was provided by the Office of Management and Budget which included the City's request for proposal, Massaro's submission to the City, building assessment list, and a list of subcontractors that assisted Massaro with the work scope.

The 311 Response Center provided the auditors with the 2016 Facilities Division database regarding complaints about City building conditions. This data does not provide enough detail for a time analysis for each 311 inquiry. Therefore, a time analysis was performed through the Cartegraph software system.

FINDINGS AND RECOMMENDATIONS

Facilities Division Organization Chart

The Facilities Division currently has 48 budgeted positions. There are four foremen that supervise the electrical, HVAC, carpentry, and plumbing trades. The HVAC foreman also oversees all job duties of the roofer and the carpenter foreman oversees all the painters and glazier. The DPW organization chart shown on page two of this audit does not depict this work structure.

Finding: The roofer, painter and glazier positions are not depicted correctly on the organizational chart.

RECOMMENDATION NO. 1:

The Facilities Division organization chart should be updated to reflect that the roofer reports to the HVAC foreman and the painters and glazier report to the carpenter foreman. This would give an accurate representation of the job duties and responsibilities of the HVAC and carpenter foremen.

Cartegraph Asset Management Software System

The Facilities Division documents all work they have completed in an asset management system called Cartegraph. Prior to September 2015, the Facilities Division and some DPW divisions were using a software system called ACCELA to document completed work. In contrast, a few DPW divisions were using an older version of Cartegraph. DPW decided to convert all of the divisions over to an updated version of Cartegraph because of its enhanced dashboard features.

The Facilities Division began using the new version of Cartegraph on August 24, 2015. DPW staff initially trained the facilities maintenance supervisor and foremen individually and was actively using the system by September 2015. Training was to be expanded to the store manager at a later date.

Benefits of Cartegraph

The updated version of Cartegraph's dashboard allow all job activities, labor hours and costs associated with a particular job to be pinpointed to a specific City building/asset. This provides DPW management the ability to track the work history and costs associated with all city-owned structures. The old software only allowed costs to be grouped into a lump sum by department and did not provide details of the repairs made or specific job tasks.

Cartegraph also offers DPW management the power to analyze job efficiency. DPW management can look at all employee labor hours per job, analyze how fast work is completed and determine what type of jobs need more manpower. This gives them the flexibility to move employees to positions of need within the same division or to another DPW division altogether. This allows work to be completed more effectively and efficiently.

Work Order Process

The auditors observed all work order processes and activities that were conducted at the Facilities Maintenance Building located on 5th avenue. This did not include pool maintenance work processes.

When City departments need something repaired or inspected, they fill out a DPW Facilities Management Maintenance Work Order request form. This form can be obtained from the Facilities Maintenance supervisor through email if a department has none on file. Service repair forms are returned to the Facilities Maintenance Supervisor by email, FAX, or interoffice mail.

Work Order Categories

There are four different categories of work order requests that the Facilities Division is responsible for: 1) emergency calls, 2) City department requests, 3) resident repair requests, and 4) ongoing preventive maintenance work.

Emergency calls take priority over all other maintenance requests. Emergency calls are considered any safety issue that could cause danger to City employees or the public. Examples of emergency calls include: no heat or air conditioning in a building, water breaks, gas leaks and loss of electricity etc. Phone call requests are accepted for emergency repairs because of the urgency.

City departments experiencing maintenance problems or issues will submit requests for repairs. These requests usually involve problems with materials/items/fixtures that are deteriorating, malfunctioning, broken, or need to be upgraded.

In addition, City residents can request a repair to a City building by calling the Mayor's 311 Response Center and filing a complaint. The 311 operator will ask the resident questions regarding their request, the location of the problem and contact information. The 311 team will send a notification to the Facilities Maintenance Supervisor.

Lastly, Facilities Division crews follow a preventive maintenance (PM) work schedule on buildings and machinery to lessen the likelihood for machinery failure. Examples of PM work are:

- The HVAC trade group will inspect boilers, and change furnace belts/filters

- The electrical group will inspect fire alarm and sprinkler systems, as well as check batteries on emergency generators
- The plumbing crews do seasonal PM work. In the spring they turn water on outdoor water fountains, spray parks and swimming pools. In the winter, the plumbers have to shut the water off on these same assets and winterize the facility

Daily Routine

All incoming requests are first reviewed by the facilities maintenance supervisor. Once the supervisor approves the request, a confirmation email is sent to the department acknowledging their repair request was received. Then the facilities maintenance supervisor forwards the request to the proper foreman in the appropriate trade needed to execute the job. The request date is never documented by the foreman supervisor. This is true no matter how the maintenance request was received whether by email, FAX, or interoffice mail.

Finding: The Cartegraph database does not currently have a field that allows the facilities maintenance supervisor to enter the request for maintenance date.

RECOMMENDATION NO. 2:

A repair request date field should be added in Cartegraph. This will allow the Facilities Division to track how long it takes them to start a repair from the actual request date. This would give management the ability to monitor issues like repairs and take action(s) to improve.

When a foreman receives a work order request, he writes it down on a sheet of paper. With this information, the foreman plans, directs, coordinates, and monitors the repair request received from start to finish. The foreman assigns the personnel accordingly, tracks repair costs and labor hours, and decides what supplies and equipment are needed to complete the job.

Once work orders are assigned, the foreman or tradesman inspect the job before hand and gather a list of needed materials. Most materials needed are kept in stock on the second floor of the Facilities Maintenance Building. Foremen send out requests for quotes to vendors under contract with the City for any other materials not in stock.

The foremen then type the material list on a Requisition for Supplies, Materials & Equipment form for the tradesmen. The tradesmen give the form to the store manager. The store manager fills the order and places all special orders with the appropriate vendors. Special orders are either shipped to the Facilities Division or directly to job sites when large quantities or bulky items are involved.

Finding: The Facilities Division's employees do not contact city departments on what day they are coming to begin the work or when they have completed the job.

RECOMMENDATION NO. 3:

The Facilities Division should issue a formal work order notification via email to the requester when the request is submitted and when the job is completed. This would allow the requests to be monitored from start to finish providing the ability for the requester to track the progress of its completion.

Foremen Documentation for Work Tasks

Foremen document all repair task information the tradesmen have completed in Cartegraph. The foremen are the only staff members that enter the job details into Cartegraph. In Cartegraph, every task is assigned a unique identifier when it is opened.

The input fields in Cartegraph include: the task start date, the day the task was completed, activity (e.g. HVAC, plumbing, electrical, etc.), task description, employees assigned to the task, equipment used, material costs, labor hours, vendor cost, and labor costs. Certain fields have preloaded information available, so the foreman only needs to click on it rather than type the activity in.

Preloaded labor costs include the workers' salary plus benefit costs. Cartegraph also includes options for overtime and double time. Overtime pay would apply to the hours worked over eight hours a day and usually is paid at 1 ½ times of hourly rate. Double time would apply when working holidays and is paid 2 times of hourly rate. Equipment costs are calculated using Federal Emergency Management Agency (FEMA) rates. In case of a natural disaster, the City would be prepared to submit a reimbursement from FEMA by using these calculations.

When the project is assigned to the tradesmen and the work actually started, the foremen are supposed to enter the start date into the Cartegraph database. In reality, the data is often entered after the job is started or completed. This is due to time constraints of the foremen.

Project Schedules

The foremen plan a project schedule with all incoming requests. Project schedules include all City repair requests and preventive maintenance work. Project schedules allow foremen to keep track of upcoming jobs and assign tradesmen's tasks more efficiently. They also help divide workloads properly by location and number of employees needed. If possible, the foremen try to schedule projects on a first-come first-serve request basis. For instance, if the tradesmen are already working in a building it makes sense to complete other scheduled projects in that same building or projects in the surrounding area.

The auditors requested a copy of all Facilities Division upcoming/pending project schedules for 2017. Hand written project schedules were received from the carpentry, plumbing, electrical and HVAC foremen. The carpentry project list included upcoming jobs for the painters and glazier. In some instances, the auditors had to determine the type of projects on the schedule

in order to summarize and report the workload. Table 1 reflects the project tasks scheduled in 2017 for each trade group.

TABLE 1

2017 FACILITIES DIVISION FOREMEN UPCOMING PROJECT LIST BY TRADE GROUP		
TRADE GROUP	# OF EMPLOYEES	TOTAL TASKS
Carpenter	7	71
Painting	3	16
Glazier	1	0
Total	11	87
Plumbing	3	143*
Electrical	6	107*
HVAC	6	9*
Roofing	1	3
Total	7	12

*Represents a minimum task tally
Source: Facilities Division Foremen

The carpenter foreman’s list had 87 upcoming projects; 71 were construction jobs ranging from installing a single door to completing three different firehouse kitchen renovations. Sixteen of the jobs were painting jobs. No glazier jobs were listed.

The plumbing foreman listed 18 different upcoming jobs requiring 143 tasks. Twelve of these jobs were repair jobs and one job required installing back flows on 25 different drinking fountains in City parks. The last five jobs were spring preventive maintenance work that included: turning on 80 water fountains, turning water on at 18 city swimming pools, six spray parks, activating two ponds, and turning water on at all concession stands (# not given). Some jobs did not give the number of locations; therefore, the auditors were not able to include them in the total amount of job tasks. The figure of 143 represents a minimum.

The electrical foreman listed 40 different jobs broken down by the following: 14 jobs in progress, nine upcoming projects, 10 bucket truck jobs, and seven different PM jobs. The bucket truck jobs require a crane-type truck that allows work to be performed on lighting that is in elevated, inaccessible areas. The seven PM jobs included fire alarm inspections on 20 buildings, Election Day voting inspections at 25 different locations twice a year, check batteries on emergency generators, check calcium chloride dispensers, check swimming pool motors and an unidentified amount of sprinkler inspections. Again, this list did not give the quantity of some of

the generators, dispensers, pool motors or sprinkler maintenance jobs, therefore, the auditors could not tally the total amount of tasks. At minimum, these electrical type jobs represent 107 tasks.

The HVAC foreman listed 12 upcoming jobs and PM work for the HVAC tradesmen and the roofer. This included seven upcoming projects: six HVAC repairs and one downspout repair for the roofer. There were also three PM jobs for the HVAC group and two PM jobs for the roofer. The HVAC tradesmen had regular maintenance on all city furnaces, A/C units and boilers. In addition, the roofer had to clean off all City facility roofs and gutter systems. As noted previously with other trades, the number of locations was not specified; therefore, the auditors were not able to include them in the total amount of job tasks. The HVAC tradesmen have to go to every City owned building to service furnaces and A/C units. As a result, the total HVAC job tasks of 12 do not give an accurate representation of tasks performed yearly.

As shown in Table 1 the Facilities Division is very understaffed in relation to the amount of tasks required to complete upcoming projects, in addition to PM work. For example, the plumbers had 143 tasks and only three plumbers staffed at this time. Also these project lists do not include emergency calls that happen quite frequently in the plumbing, electrical and HVAC trade groups.

Finding: The number of tasks is far greater than the number of staff available to complete the work load in the shortest amount of time.

Emergency Calls

Oftentimes when tradesmen are working on projects, they get pulled off the job site to handle emergency repairs, which are always given first priority. With 393 city buildings and many older structures, things are bound to break. According to foremen and tradesmen, the amount of emergency calls they receive can become overwhelming with their limited staff size. Emergency calls can cause a backlog of work order requests, affect job turnaround times, and make completing PM schedules difficult.

The auditors requested information on how many emergency calls the Facilities Division actually received in 2016. The foremen told the auditors they do not document or track the amount of emergency calls they receive. The foremen also noted Cartegraph does not have a field where this information can be documented.

Finding: No administrator in the Facilities Division tracks the number of emergency jobs that are requested and completed.

RECOMMENDATION NO. 4:

The Cartegraph asset management system should have a field where foremen can document the task is an emergency repair, since emergencies are the Facilities Division's top priority. By tracking emergency calls, other project delays can be effectively explained.

Inventory

The Facilities Division store manager keeps track of all materials held at the Facilities Maintenance Building. The store manager estimated that there are approximately 13,000 different stock items in inventory at the Facilities Division. Inventory was never reported and an inventory count was conducted for the first time in March 2016. The store manager began doing daily walk-throughs. This helps identify and count each stock item on hand and catalog them into Cartegraph. The data captured into Cartegraph included the item's description, quantity, and price. When quantities get low, the store manager orders more.

Cataloging the inventory like this makes the process of entering job task information easier for foremen. When foremen are assigning different materials to a job task they can simply scroll through a material drop box menu in Cartegraph and click on the item used. The item and material cost will be assigned to the task, and the quantity of the material used is then automatically deducted from the inventory.

The process of completing the store inventory has taken over a year and it is still not finished. As of May 18, 2017, the DPW project implementation analyst who oversees the Cartegraph system stated that there are approximately 1,400 stock items cataloged in Cartegraph. This represents only 10.7% of the estimated total of 13,000 different items in inventory.

The store manager has to complete his daily job duties that limit time available to complete the inventory himself. An "all hands on deck" approach is needed to get the entire inventory categorized in a timely manner.

RECOMMENDATION NO. 5:

The Facilities Division staff should make completing the inventory a priority. At minimum, management should explore ways to improve the inventorying of all materials in stock.

2016 Facilities Division Building Costs

The Cartegraph system can generate a Detailed Task Report that shows all the tasks that were entered into Cartegraph related to City building repairs. On April 28, 2017, the DPW project implementation analyst sent the auditors a Detailed Task Report in an Excel spreadsheet for all work that was completed by Facilities and Architecture divisions in 2016. Also included were Parks and Recreation division tasks related to pool maintenance.

Each task in the spreadsheet was a separate line item that included a task I.D.#, type of work done, status of project, name of the City building worked in, task description, who entered the information, actual start date, actual stop date, date entered in Cartegraph, labor hours, and 5 different cost categories. According to DPW, the cost categories in the Detailed Task Report are defined as follows:

Labor Cost- Cost of DPW employees to perform the work

Equipment Cost- The cost of DPW trucks, trailers, or other pieces of equipment to complete the job

Material Cost- Items held in inventory at the Facilities Maintenance Building that are used to complete the task. Examples include doorknobs, locks, parts for toilets and furnace fixtures etc.

Other Cost- Items that are not held in stock at the Facilities Maintenance Building and had to be special ordered through a vendor; work performed by an outside vendor and inventory items at the Facilities Maintenance Building that have not been cataloged in Cartegraph yet

Total Cost- The sum of all labor, equipment, material, and other cost categories

Facilities Division Building Costs by Activity

The auditors eliminated the 58 Architecture and 332 Parks and Recreation pool maintenance tasks from the Detailed Task Report spreadsheet to determine the costs of completed work in the Facilities Division. The Facilities Division tasks were then grouped together into different work activities and all labor hours and costs were totaled for that activity.

In 2016, the Facilities Division employees worked 5,350 asset tasks. Assets included 265 facility structures, 102 outdoor City water features, 19 open City pools, five closed City pools and six spray parks. The total costs of these tasks were \$1,349,980.01. Table 2 lists the cost of tasks by activity.

TABLE 2
COSTS OF FACILITIES DIVISION TASKS BY ACTIVITY
FOR 2016

Activity	Count of Activity	Sum of Labor Hours	Sum of Labor Cost	Sum of Equipment Cost	Sum of Material Cost	Sum of Other Cost	Sum of Total Cost
Glazier	63	476	\$12,951.58	\$1,746.88	\$0.00	\$1,397.96	\$16,096.42
Roofing	74	667	\$18,599.65	\$2,285.86	\$455.00	\$3,905.28	\$25,245.79
Electrical	129	1,312	\$35,885.96	\$3,739.90	\$16,021.66	\$22,921.00	\$78,568.52
Painting	95	4,791	\$132,195.65	\$2,802.00	\$0.00	\$22,650.49	\$157,648.14
HVAC	436	3,309	\$92,181.49	\$11,860.66	\$941.71	\$93,621.02	\$198,604.88
Plumbing	1,076	4,770	\$132,971.10	\$15,361.42	\$32,148.78	\$22,318.85	\$202,800.15
Pools	2,360	5,622	\$138,674.21	\$76,908.00	\$13,957.70	\$0.00	\$229,539.91
Carpentry	1,117	8,923	\$246,301.58	\$19,355.51	\$0.00	\$175,819.11	\$441,476.20
TOTAL	5,350	29,868	\$809,761.22	\$134,060.23	\$63,524.85	\$342,633.71	\$1,349,980.01

Source: Cartegraph

Cartegraph Task Observations

While the auditors were reviewing the 2016 Cartegraph Detail Task Report, they discovered incomplete fields for some of the tasks. Task description fields were the most common field left blank. Foremen use this field to describe what work was actually done at the job site.

Finding: There were 810 tasks or 15.14% out of the total 5,350 tasks which were missing task descriptions in Cartegraph for 2016.

The auditors also found individual tasks that had 0 labor hours and 0 listed under every cost category for a total cost of \$0. The auditors were told these were tasks the foremen have not yet entered into Cartegraph. This time lag for not entering the information is over four months or more from the date the auditors received the database on April 28, 2017.

There were 116 tasks or 2.17% out of the 5,350 tasks that were listed missing all cost categories (a \$0 amount was listed). This zero amount exists because the foreman did not enter any of the task costs into Cartegraph yet. These 116 tasks also had 73 missing start dates.

Finding: Foremen are not entering task data into Cartegraph in a timely manner.

Foremen oftentimes are used for emergency repairs and other regular repair work needs. This takes them away from their data entry duties in Cartegraph and causes delays in completing tasks into the system.

RECOMMENDATION NO. 6:

The foremen should enter all task description fields to identify what kind of repair work was completed to a specific city asset. All tasks should be entered in a timely fashion to avoid forgetting to input the information and so costs can be accurately calculated.

2016 Building Repair Costs by Facility

The auditors grouped all Facilities Division tasks in Cartegraph by city building asset and all labor hours and costs were totaled for the work completed to that specific asset. Table 3 shows the top 20 City buildings with the highest Facilities Division repair costs in 2016.

TABLE 3

**2016 TOTAL REPAIR COSTS FOR THE
TOP 20 CITY BUILDINGS**

Asset Name	Count of Activity	Sum of Labor Hours	Sum of Labor Cost	Sum of Equipment Cost	Sum of Material Cost	Sum of Other Cost	Sum of Total Cost
City-County Building	439	3,149	\$89,206.64	\$5,768.47	\$2,587.71	\$41,988.27	\$139,551.09
Police Recruit Training Center	26	1,116	\$29,574.05	\$2,066.65	\$104.00	\$9,267.75	\$41,012.45
Civic Building	26	441	\$13,179.75	\$717.92	\$170.00	\$19,924.04	\$33,991.71
Medic 14 Rescue 2 Police Bike Patrol	23	958	\$27,639.48	\$743.23	\$207.85	\$3,351.59	\$31,942.15
Finance General Services Facility 1	16	656	\$17,941.61	\$2,156.61	\$7,457.30	\$1,352.23	\$28,907.75
DPW Facilities Division Bldg	81	652	\$17,266.62	\$2,097.38	\$362.00	\$5,173.50	\$24,899.50
Pool Highland - Main	187	595	\$14,453.86	\$7,717.95	\$2,384.75	\$0.00	\$24,556.56
Municipal Courts Building	51	512	\$15,488.69	\$801.39	\$1,506.30	\$6,398.68	\$24,195.06
Firehouse 08	35	345	\$9,524.10	\$841.11	\$2,430.16	\$10,355.13	\$23,150.50
Mount Washington Senior Center	31	213	\$5,716.60	\$726.02	\$131.18	\$16,572.12	\$23,145.92
Pool Sue Murray	213	582	\$14,459.02	\$7,267.54	\$960.50	\$129.00	\$22,816.06
Firehouse 15	9	542	\$14,604.59	\$1,005.62	\$2,277.25	\$1,203.90	\$19,091.36
Police Zone 05	36	544	\$14,400.38	\$533.15	\$8.00	\$3,874.38	\$18,815.91
Southside Market House	41	235	\$6,344.86	\$890.74	\$50.00	\$11,231.76	\$18,517.36
Oliver Bath House	130	465	\$11,698.44	\$6,716.58	\$0.00	\$0.00	\$18,415.02
Firehouse 32	31	494	\$13,862.93	\$702.51	\$476.21	\$2,797.30	\$17,838.95
Fire General Services Warehouse	28	189	\$5,181.63	\$587.50	\$237.00	\$11,736.87	\$17,743.00
Police Zone 03	33	491	\$13,052.72	\$616.95	\$120.81	\$3,240.57	\$17,031.05
Police Headquarters	59	370	\$9,830.08	\$955.06	\$305.00	\$4,601.69	\$15,691.83
Pool - Moore	141	349	\$8,522.21	\$4,585.04	\$1,572.75	\$0.00	\$14,680.00
TOTAL	1,636	12,894	\$351,948.26	\$47,497.42	\$23,348.77	\$153,198.78	\$575,993.23

Source: Cartegraph

City County Building (CCB) Costs

The City County Building had both the highest building repair costs and the most number of tasks completed in 2016. The CCB had a total of 439 (8.2%) tasks completed during 2016 for a total of \$139,551.09. This was a 10.4% of the total spent on facilities maintenance for 2016. The auditors wanted to look at what kind of repairs were done to the CCB and which departments inside the building were receiving these repairs.

The auditors were not able to analyze the cost spending on individual departments within the CCB because of a lack of detailed data in Cartegraph. Many task descriptions were left blank. Out of the 439 tasks, 130 or 29.6% did not have a task description. The task descriptions that were completed by the foremen contained a varying amount of detail from “new faucet” to the specific bathroom and sink which had a new faucet installed.

Finding: The foremen do not have the ability to select a department within any building. In addition, there is no standardization of inputting information into the task description field. This causes data entry inconsistencies and creates the inability to calculate departmental costs.

RECOMMENDATION NO. 7:

Facilities Division foremen should enter a department name and location identifier in the task description field or add another field. This would allow costs to be collected and evaluated by city buildings that have multiple departments.

Task Turnaround Time

Table 4 is a summary of the amount of time it took the Facilities Division in days to complete the assigned tasks for 2016. The Facilities Division completed 4,389 tasks the same day as they were started. The longest task took 449 days to complete. As depicted in the table, 73 tasks could not be calculated due to missing start dates.

TABLE 4

TASK TURNAROUND TIME FOR 2016		
DAYS TO COMPLETE	COUNT	PERCENT
Same day	4,389	82.04%
1-10	441	8.24%
11-30	212	3.96%
31+	235	4.39%
Missing Start Date	73	1.36%
TOTAL	5,350	100%

Source: DPW

Facilities Division staff completed 82.04% of the jobs the same day they were requested. Given the limited amount of staffing, the Facilities Division employees are completing jobs in a timely manner. Some of these same day completions could represent emergency calls. Considering the limited staff size of the Facilities Division, the division is completing tasks in a timely fashion.

2016 Facility Upgrades Not Done By DPW Facilities Division

Besides Facilities Division repair work, the 2016 Detailed Task Report had 58 capital project tasks totaling \$7,522,975.60. These capital projects were completed on 40 different City assets varying from buildings, pools and water fountains etc. Title II Chapter 218 of the City Code defines capital projects as “any project funded by public monies to design, build, restore, retain or purchase any City-owned asset that is expected to provide long term public benefit or propose physical improvements in an element of the City’s infrastructure.”

All capital projects are performed by the Architecture Division, not the Facilities Division. These projects involve drawings and specifications and are put out to bid to subcontractors. Table 5 lists the **top 15 capital projects by dollar value** in 2016 and the task description that was provided in the Detailed Task Report.

TABLE 5

2016 TOP 15 CAPITAL PROJECTS BY DOLLAR VALUE FOR CITY ASSETS Architecture Division		
ASSET	\$ AMOUNT	WORK DONE
Beechview Senior & Community Center	\$3,527,376.00	Renovation/plumbing noted
Water Feature Westinghouse Lake	\$572,166.00	Pond Restoration
City-County Building	\$554,471.00	exterior masonry repairs/ Law Dept Blinds
Southside Market House	\$354,123.00	HVAC/ Roof Replacement
Schenley Pool	\$308,026.00	Filter Building Construction/Pool Alterations
Schenley Park Skating Rink	\$280,660.00	Schenley ice rink feasibility
Firehouse 12 Medic 7	\$224,438.00	Masonry Repairs /roofing replacement
Sue Murray Pool Building	\$169,475.00	Masonry Repairs /roofing replacement
Firehouse 27	\$155,375.00	Masonry repairs/ roof replacement
Sheraden Senior Center	\$150,666.00	Metal Siding Replacement
Medic 14 Rescue 2 Police Bike Patrol	\$142,112.00	exterior wall/roof replacement
Firehouse 38	\$140,000.00	Sewer Installation
Firehouse 14	\$127,597.60	roofing system/
Highland Park	\$111,219.00	Dog Park Construction
Sue Murray Pool	\$101,127.00	Pool Repairs
TOTAL	\$6,918,831.60	

Source: Cartegraph

2014 and 2015 Building Costs

The auditors were unable to receive any database from the Facilities Division that shows their tasks and repair costs for the entire years of 2014 and 2015.

All Facility Division tasks prior to September 2015 were entered in ACCELA software. In September 2015, the Facilities Division switched over to using Cartegraph software when entering repair task information. All the Facilities Division task information that was stored in ACCELA software prior to the switch to Cartegraph was erased. The ACCELA information was unable to be converted to Cartegraph and no time was dedicated to entering the older information into the new Cartegraph software. The Facilities Division administration also told the auditors the old ACCELA information was erased. **The only records available are paper hard copies kept at the Facilities Maintenance Building in boxes dating back to 2010 and are in no particular order.**

Finding: The Facilities Division currently has no repair task or cost information available in any computerized format prior to switching to the Cartegraph software in September 2015. This may have been due to an incompatibility issue with the two software systems.

RECOMMENDATION NO. 8:

The Facilities Division repair task and cost information for at least the past 2 years should have been saved in some format or entered in a computer spreadsheet for easy access and historical reference. The decision to destroy documented historical information jeopardizes the understanding of current and future projects. It also leaves the administration open to criticism that past activity was being hidden.

Massaro Construction Management Services LLC. Contract

On December 1, 2015, Resolution no. 783 was passed by City Council authorizing the Mayor and the Director of the Office of Management and Budget to enter into a professional service agreement to “develop a 40-year Facilities Optimization study and investment strategy for the City of Pittsburgh that shall include, but not be limited to, condition assessments on designated City-owned properties, identification of funding mechanisms, market valuation and disposition strategies, identification of potential energy savings and sustainability initiatives, program assessments, use allocation and space planning, and demographic analysis.”

The contract went out to bid and was awarded to Massaro CM Services on February 19, 2016. The contract was valid for 1 year from the assigned date and the total amount of the contract was not to exceed \$951,286.93.

Massaro Construction Management Services LLC is a branch of Massaro Corporation located in Pittsburgh, PA. Massaro CM Services provides public project owners with construction management, consulting services, project budget planning, facility assessments, move management, and building information modeling.

The contract also approved two other Massaro Corporation branches: Massaro Design/Build LLC and Massaro properties, as well as subcontractors CJL Engineers, AE Works, and CM Solutions with assisting Massaro CM Services to complete the contract specifications.

The scope of work in the contract states that Massaro is to develop an overall City facilities optimization plan consistent with the City's goals.

Pre-assessment

Before the start of the Optimization study, Massaro met with DPW to discuss the current facilities database and their conditions. Massaro also met with other City departments to discuss their facility usage.

The City of Pittsburgh employees in charge of the project and the Massaro teams met to discuss the field assessment strategies. A leadership team was selected from members of both parties and developed an onsite building inspection schedule.

Facilities Building Assessment

The City of Pittsburgh gave the Massaro team a list of 247 City-owned facilities for inspection. The list of facilities was divided into 5 categories as follows:

- Category 1-Candidates for Disposition, Demolition, or Critical Investment
- Category 2-Public Safety Facilities
- Category 3-Recreation and Healthy Active Living Centers (Senior Center)
- Category 4-Warehouse and Storage Facilities
- Category 5- Other Structures

The goal of the assessment was to provide the City with data on building conditions so repairs to these facilities could be prioritized. Massaro ranked each building on a scoring system according to its condition (Lower score/poor, higher score/good). All data collected during the inspection process was entered into the City's Cartegraph system by Massoro.

According to City administrators, several adjustments were made to the City facility list given to Massaro. In other words, some properties were removed from the list with other properties being added. This resulted in adjustments to the cost which created some confusion.

Finding: The list of properties that the City wanted examined changed once the contract was awarded. This could be considered unfair to other companies responding to the initial bid.

RECOMMENDATION NO. 9:

Items in a Request for Proposal (RFP) should not be changed once a bid is awarded. If major changes are made the contract should be rebid.

Field Assessment

Once the inspection schedule was established, the Massaro team met with the City's on-site staff to gain access to all of the buildings. Sometimes, city employees escorted the Massaro team and answered questions regarding facility conditions. The Massaro team documented and took pictures of any flawed conditions, as well as estimated the remaining life cycle of major assets. The Massaro staff inspected the buildings on the following five categories:

- **Architectural-** evaluation of the interior of the building, entrance ways, windows and doors, resistance to elements of the environment, parking lot, and general safety issues
- **Structural-** identifying any defects or deterioration of exterior structure, structural load issues, retaining wall structure
- **MEP-** (Mechanical, Electrical & Plumbing) evaluation of all HVAC, electrical, plumbing systems, wireless network capabilities, and safety equipment such as fire alarms, emergency exit signs, and sprinkler systems
- **Accessibility Assessment-** identify areas that are not up to code with the Americans with Disabilities Act
- **Roofing assessment-** an inspection of the current condition of the roof, gutters, and downspout systems in buildings

During the assessment, the Massaro team met with City officials in charge of the project once a month to give updates on the status of the project. Monthly results, findings, and recommendations on the conditions of City facilities were presented at this time. Any questions City officials had regarding the project were also answered.

RECOMMENDATION NO. 10:

Monthly meetings between Massaro and City officials are a good practice and, when applicable, this practice should continue with future contract vendors.

Building Assessment Rankings

After the assessment process was completed, the Massaro team ranked the condition of each building structure and their components according to the descriptions listed in Table 6:

TABLE 6

MASSARO'S ASSESSMENT RANKINGS FOR BUILDING CONDITIONS	
CONDITION	DESCRIPTION
New or Like New	No issues to report; no expected failure unless no regular maintenance occurs
Good	No reported issues or concerns; keep regular maintenance
Fair	Average wear for building age; no new or major issues to report. Lack of maintenance
Poor	Worn from use, end of expected lifecycle. Replace within the years projected in the report
Critical	Extremely worn or damaged. Replace immediately

Source: Massaro Report

All cost estimates provided by Massaro were done by a group of general, mechanical, electrical, and plumbing estimators. Cost estimates were entered in MCMS Excel-based estimate system using the UNIFORMAT 11 Elemental Classification for Building Specification and Cost Analysis. By using the UNIFORMAT 11 format, all buildings were evaluated and given a cost estimate for the same major building elements. Cost estimates were given for the following major building elements: Substructure, Building Shell, Interior, Components, Building Sitework, and Special Construction & Demolition.

Also costs were broken down further under each major building element. For example, the components category was broken down into HVAC, plumbing and electrical.

The building condition scoring system and cost estimates provided by Massaro are a good tool that allows the City to develop a preventative maintenance repair program. It will assist the City in planning short and long term facilities investment strategy and funding mechanisms.

Final Building Condition Assessment and Cost Estimates

Upon the completion of inspections, Massaro provided a detailed report with condition scores of each facility, budgeted estimates of all facility repair needs, a 40-year main component lifecycle investment plan, five year capital improvement program forecast, pictures of poor building conditions, a priority building repair list, and recommendations for improvement.

The final report of the building condition assessment and repair cost estimates provided by Massaro were released on July 25, 2017.

Finding: The Massaro report was released five months after the contract deadline. The change in assignments could have caused this delay.

Category 1 Building Condition Assessment

The buildings assigned in Category 1 were given a priority assessment before buildings in category 2 thru 5 because the buildings were either: 1) vacant/not in use and the City considered them for disposal/demolition or 2) buildings that needed a considerable amount of capital investment to stay open to the public.

Table 7 below lists all 14 buildings in Category 1 along with Massaro's recommended action and overall building condition score.

TABLE 7
CATEGORY 1
CANDIDATES FOR DISPOSITION,
DEMOLITION, OR CRITICAL INVESTMENT

CITY FACILITY	MASSARO RECOMMENDATION	ESTIMATED COST	CONDITION SCORE
Robert E Williams Rec Center	Demolition	\$55,000	Critical
Leslie Pool Building	Demolition	\$180,000	Critical
Oliver Bath house	1-5 year repair cost	\$1,804,500	Critical
Cowley Rec/Pool	Demolition	\$180,000	Critical
Chadwick Rec Center	Demolition	\$45,000	Critical
Sheraden Apartment and Service Building	Demolition	\$40,000	Critical
Dunbar Fieldhouse/Apartment	Demolition	\$50,000	Critical
Public Works 5th Div	Demolition 1-5 year repair cost	\$30,000 \$1,200,940	Critical
Manchester Field Storage Building	Demolition	\$2,000	Critical
Kennard Rec Center	Demolition	\$20,000	Critical
Firehouse 12/Medic 7	1-5 year repair cost	\$628,700	Fair
Medic 01/11	Combine with Firehouse 15 or 17	N/A	N/A
Medic 10	Combine with Firehouse 38	N/A	N/A
McKinley Park Office	1-5 year repair cost	\$154,033	Good-Fair

Source: Massaro Report

A total repair cost was not given for Category 1 buildings because Massaro gave different types of cost recommendations to multiple buildings. Seven of the buildings that were not in use or vacant had a total combined demolition cost of \$552,000. These buildings were: Robert E. Williams Rec. Center, Leslie Pool Building, Cowley Rec/Pool, Chadwick Rec Center, Sheraden Service Building, Dunbar Fieldhouse, and Manchester Field Storage Building. The Kennard Recreation Center was in use but was also recommended for demolition for \$20,000. All buildings recommended for demolition were to be paved over or used as green space.

The Oliver Bath House, McKinley Park Office, and Firehouse 12/ Medic 7 station were given capital investment recommendations that had a combined total of \$2,587,233. The Public Works 5th Division was given two recommendations. The building could be condemned for \$30,000 or given repair upgrades that were estimated at \$1,200,940.

Public Safety buildings Medic 10 and Medic 1/11 were recommended to be merged with another public safety facility.

Building Categories 2 thru 5

Massaro estimated that total repair costs for 233 buildings in categories 2 thru 5 would be \$56,156,625. Tables 8 thru 11 show the top 5 buildings by repair cost and their overall building condition score.

TABLE 8
CATEGORY 2
PUBLIC SAFETY FACILITIES
TOP 5 BUILDINGS BY REPAIR COST

NAME	CONDITION	REPAIR COST
Firehouse 24	Poor	\$ 2,091,410
Firehouse 04	Fair	\$ 1,543,343
Medic Headquarters	Fair	\$ 1,220,851
Police Headquarters	Good	\$ 1,096,875
Police Zone 4/Firehouse 18	Fair-Poor	\$ 1,063,271

Source: Massaro Report

Massaro rated the average condition score for all 44 public Safety buildings in Category 2 as fair condition. The average score is a relationship between the overall condition and size of facility. The total repair costs in Category 2 totaled \$25,144,000.

TABLE 9

**CATEGORY 3
RECREATION AND HEALTHY ACTIVE LIVING CENTER
TOP 5 BUILDINGS BY REPAIR COST**

NAME	CONDITION	REPAIR COST
Brighton Heights Senior Center	Critical	\$ 2,000,000
Bloomfield Pool and Rec Center	Critical	\$ 1,684,415
Moore Pool/Rec Building	Critical	\$ 1,240,813
Southside Market House	Fair	\$ 561,375
Spring Hill Community Center	Fair	\$ 544,550

Source: Massaro Report

Massaro rated the average condition score for the Recreation/Healthy Active Living Center category as fair condition. The total estimated repairs for these 23 buildings amounted to \$11,714,442. Massaro also noted that the Warrington Pool and Recreation Center in Category 3 had an overall condition score as poor-critical condition and estimated repairs of \$11,714,442.

TABLE 10

**CATEGORY 4
WAREHOUSE AND STORAGE FACILITIES
TOP 5 BUILDINGS BY REPAIR COST**

NAME	CONDITION	REPAIR COST
Firehouse (Eazor)	Fair-Poor	\$ 2,495,536
Public Works Const Div/62 St Warehouse	Good-Fair	\$ 1,035,577
Public Works 2nd Div. Storage Area	Critical	\$ 720,000
Public Works Highland Park Serv Bldg	Fair	\$ 205,540
Public Works Storage Building	Critical	\$ 174,000

Source: Massaro Report

Massaro rated the average condition score of the 14 buildings in the Warehouse and Storage Facilities category as fair condition. The total estimated repairs amounted to \$4,840,743. Massaro also rated the DPW Traffic Division and 4th Division storage building additions in critical condition with estimated repairs of \$80,000 and \$2,500 respectively.

TABLE 11
CATEGORY 5
OTHER STRUCTURES
TOP 5 BUILDINGS BY REPAIR COST

Name	Condition	Repair cost
Public Works 3rd Division	Poor	\$ 888,417
Public Works Facilities Repair Shop	Poor	\$ 649,721
Public Works Traffic/Paint Division	Fair	\$ 593,770
Public Works 1st Div. Salt Dome	Fair	\$ 556,700
Public Works 1st Div. Salt Dome Saw Mill Run	Fair	\$ 550,500

Source: Massaro Report

Massaro rated the average condition score for the Other Structures category as fair condition. The total estimated repairs for these 152 buildings totaled \$14,457,440. Massaro also gave the following buildings in Category 5 a critical condition score with their estimated repairs in parentheses: Asphalt Plant Testing Lab Building (\$103,756), McBride Park Picnic Shelter (\$45,250), West Park Tennis Court Building (\$44,975), Highland Park Lake Carnegie Cabin (\$1,200) and the Quarry St. Picnic Shelter in the South Side Slopes (\$0). Quarry Street Picnic Shelter was given a value of (\$0) because it was recommended for demolition.

Other Contract Work Provided By Massaro

Massaro provided a programmatic and market value study with the information provided from the field assessment. These studies fulfilled the identifying funding sources in the contract.

The programmatic study provided the City with information on what facilities could be relocated or consolidated with other city facilities to save money. A space assessment study was also presented to give a guide to optimize a building's space. The market value assessment provided the City with the fair market value of all City facilities. The market value assessment also recommended opportunities in which facilities could be vacated, sold to the private sector, opportunities for community partnerships, or used to generate other sources of revenue through billboards or naming rights.

This part of the Optimization study was out of the scope of the audit, but this information can be accessed on the City's website or the following [link](#). It is called Facilities Optimization Plan-Condition Assessment.

Finally, Massaro provided the City with PDF blueprints of all the exterior and interior of all the City facilities and MEP systems exposed to view.

Payments to Massaro

The City’s OnBase system shows as of July 11, 2017, the City of Pittsburgh has made 10 payments to Massaro CM Service totaling \$809,264.03. The following table shows the payment amounts broken down by the capital improvement/optimization study, the facility condition assessments, the architectural/M.E.P. blueprint designs, the programmatic assessment, and the marketability study.

TABLE 12

CITY OF PITTSBURGH PAYMENTS MADE TO MASSARO FOR 2016-2017	
PAYMENT ACTIVITY	DOLLAR AMOUNT
Capital Improvement & Optimization Plan Study	\$75,926.93
Facilities Assessment & Cartegraph input	\$341,439.90
Architectural Design & BIM Modeling	\$178,535.85
M.E.P.Design & Revitt Modeling	\$79,302.90
Programming Assessment -Consolidation, colocation, space planning	\$113,276.61
Market Value Assessment	\$20,781.84
TOTAL	\$809,264.03

Source: OnBase

Finding: There are currently three additional payments to Massaro for an undetermined amount. The City Controller’s Office is currently reviewing the work completed under these three payments. Final payments to Massaro are not going to be paid until the work completed is validated.

Auditor's Worksite Observations

On April 11th and 18th 2017, the auditors visited different Facilities Division job sites and observed tradesmen work. Tradesmen answered any questions the auditors had regarding the current status of the job, their everyday job duties, and any complaints and suggestions about the job. A couple of the sites visited were a carpentry job at the Highland Park Lake Carnegie Cabin, an electrical rewire of the entire Burgwin Pool Building in Hazelwood, and a roof patching job at the Finance General Services Facility #1 located in the Strip District. The Finance General Services Facility #1 and #2 are the names given to the two buildings that the City rents to First Vehicle Services to repair all City owned vehicles.

While visiting the Finance General Services Facility #1 site the auditors were told of a large quantity of roofing material sitting on the roof. Upon inspection the auditors confirmed that a large quantity of roofing supplies was located on the roof. The material looked damaged and weathered; as if it was sitting out for a long period of time. Figure 2 is a picture of the materials on the roof.

Figure 2
Finance General Services Facility #1
Roofing Material



After further research the auditors discovered that the material was from a capital roofing project that the City bid out to a contractor a couple years ago. The materials were delivered; however, the project was never started for undisclosed reasons. After the job was halted, the City's decided to store all the remaining job materials on top of the roof that was to be worked on.

RECOMMENDATION NO. 11:

Upon canceling a contract, the facilities management administration should move any and all purchased materials out of harm's way. If possible, materials should be returned for a refund. If that is not possible and if another project is not planned to use the material then the administration should explore auctioning off the over purchased materials. In this instance all roofing material should have been placed under a structure with a roof or inside a storage facility to avoid damage from weather conditions. This would have prevented the materials from being ruined by the weather and wasting taxpayers' money.

CITY OF PITTSBURGH
DEPARTMENT OF PUBLIC WORKS

TO: Michael Lamb, Controller **DEPARTMENT:** Office of the City Controller
FROM: Michael Gable,  CFRP, Director **DEPARTMENT:** Public Works
DATE: November 14, 2017
RE: DPW Facilities Division Performance Audit

We had the opportunity to meet with your staff (Bette Ann, William and Nathan) to complete the Exit Conference for the above referenced audit on Thursday, November 9, 2017. Based on that meeting please find attached our comments to the recommendations in the audit in addition to some corrections/clarifications. All in all we found the audit to be fair and appreciate the favorable comments on the Facilities Division. If you need to discuss this further please email me at mike.gable@pittsburghpa.gov.

MG:kah

Attachment

C: Rick DeCarlo, Supervisor/Facilities Division
Cas Pellegrini, Project Manager
Bette Ann Puharic, Performance Audit Assistant Manager/City Controller's Office

CITY CONTROLLER'S OFFICE

2017 NOV 15 PM 2:12

RECEIVED

CITY CONTROLLER OFFICE PERFORMANCE AUDIT OF THE DPW FACILITIES DIVISION

- Recommendation #1 - We agree with this recommendation and our 2018 Organization Chart reflects that alignment. It wasn't so critical to us to show exactly where it was aligned, since it is an internal document, but more importantly to account for the position. Divisional realignments occur all the time and it is not necessary to constantly update the Organization Chart.
- Recommendation #2 - Agree with this recommendation but need to confer with the Cartegraph personnel to see if they can accommodate this recommendation.
- Recommendation # 3 - Agree with this recommendation. We like open communications.
- Recommendation #4 - Agree with this recommendation but need to confer with the Cartegraph personnel to see if they can accommodate this recommendation.
- Recommendation #5 – Agree with this recommendation. There was an Intern previously assigned to work on this project with the Stores Manager but the Intern got another job. We are pursuing another intern to work on this project.
- Recommendation #6 - Agree with this recommendation, but sometimes emergency work tops the timely write up and entering of data, but it eventually gets into the system.
- Recommendation #7 - Agree with this recommendation but need to confer with the Cartegraph personnel to see if they can accommodate this recommendation.
- Recommendation #8 - We take exception to this recommendation. While some task and cost data was discarded, we still have the actual forms filled out by the Foreman so it is still possible to “view” the data. There was a compatibility issue between the software programs so we do not see it as our fault why we couldn't transfer the data.
- Recommendation #9 - We do not believe this RFP was under the jurisdiction of our department.
- Recommendation #10 -We agree with this recommendation.
- Recommendation #11 -Minimal loss was experienced by leaving this material on the FVS facility roof. In addition we have been drawing off materials from this location to use on other roofing

projects so it is not being wasted nor wasting taxpayers money. We had a good storage location rather than moving it twice. We probably could have done better securing the product.

We appreciate the nice comment made at the bottom of Page 17 and at the bottom of page 23 Massaro (Massoro) was misspelled on our copy but believe your staff already corrected it.