



**National Digital Stewardship Residency | New York**  
**Final Report**  
**Carmel Curtis**

**Host: Brooklyn Academy of Music**

***The Archives and the Born-Digital Asset Life Cycle at the Performing Arts  
Institution***

# **NDSR-NY 2016 Final Report**

## **Table of Contents**

<b>1. OVERVIEW</b>	<b>2</b>
<b>2. PROJECT PARTNERS</b>	<b>2</b>
2.1 ARCHIVES DEPARTMENT	2
2.2 IT DEPARTMENT	3
2.3 COHORT	3
2.4 OUTSIDE BAM	3
<b>3. PROJECT EXECUTION, ANALYSIS, &amp; RESULTS</b>	<b>3</b>
3.1 DEVELOPED VIDEO PRESERVATION WORKFLOW	4
3.2 COMPLETED INTERVIEWS WITH ALL DIVISIONS, DEPARTMENTS, AND SUB-DEPARTMENTS AT BAM	5
3.3 REVISED RECORDS RETENTION SCHEDULE FOR ALL DIVISIONS, DEPARTMENTS, AND SUB-DEPARTMENTS AT BAM	7
3.4 WROTE REPORT SUMMARIZING FINDINGS AND PROVIDING RECOMMENDATIONS	8
3.5. DOCUMENTED ALL SYSTEMS IN USE ACROSS BAM	9
3.6. RESEARCH OPTIONS FOR DIGITAL PRESERVATION TOOLS	10
3.7 DEVELOP METHOD AND WORKFLOW FOR INGESTING DIGITAL RECORDS INTO THE ARCHIVE	11
3.8 ATTEND AS MANY BAM PERFORMANCES AS POSSIBLE	11
<b>5. WHAT'S NEXT</b>	<b>11</b>
<b>6. PROFESSIONAL DEVELOPMENT</b>	<b>12</b>
<b>7. DELIVERABLES</b>	<b>13</b>

## 1. Overview

Throughout my residency at the Brooklyn Academy of Music (BAM), I was able to work on a number of tasks relating to assessing and improving the management of digital records of archival significance at BAM. This project addressed a need for the Archive to identify records that were of archival significance, articulate the need for departments to deposit records into the Archive, and establish workflows and protocols for digital records to be brought into the Archive. Furthermore, this project provided recommendations for the Archive to then care for the long-term preservation and access of digital materials of archival significance. Through interviews, surveys, observations, and analysis, I was able to make assessments on the current condition of digital record management and preservation at BAM and interpret requirements needed for a digital preservation system that will support the continued production, management, and access of digital materials.

This NDSR project was broken into the following four phases:

1. Interview and survey all divisions, departments, and sub departments at BAM to assess and identify the categories of records being created. The outcome of this phase was to listen and document the status of records creation and management across the institution of BAM.
2. Interpret interviews and surveys from phase 1 into a comprehensive Records Retention Schedule for the institution of BAM.
3. Identify and make recommendations to address significant trends across departments at BAM (from phase 1) that will need to be addressed in order for proper ingest of records into the Archive at BAM.
4. Make recommendations for BAM to move towards becoming an OAI compliant digital repository.

Through this project, it was made clear that BAM is ready to initiate bringing digital institutional records into the Archive, but at this point should focus its limited resources specifically on the ingest process. The work accomplished in this project serves as the groundwork for future decision making for functional, technical, and business requirements that BAM would need in an Open Archival Information System (OAIS) compliant digital preservation environment. This project is the first step in documenting the environment of BAM and provides recommendations for next steps in moving towards an OAIS compliant digital preservation environment.

## 2. Project Partners

This project would not have been as successful as it was without the support of many people inside and outside of BAM.

### 2.1 Archives Department

Those working within the Archives at BAM created an environment that pushed and supported me to successfully complete this project. Whether it was through direct mentorship and shadowing, through recommendations of upcoming conferences, or through encouragement and faith in my abilities, I would not have been able to accomplish this project without the openness and guidance of the following people:

Sharon Lehner; Director of Archives

Evelyn Shunaman; Processing Archivist, NDSR Mentor

Sarah Gentile; Project Archivist, NDSR Mentor  
Louie Fleck; Archives Manager

## 2.2 IT Department

Within the IT Department, I received significant support and assistance. Whether it was being walked through command line basics or collaboratively attempting to solve a technical problem, I learned a lot with and from the following members of the IT Department:

Tim Chawaga, Technical Support  
Jason Minnis, IT Project Manager  
Allen Lee, Director of IT

## 2.3 Cohort

Having the privilege of being able to talk through all aspects of my project with my fellow fellows was an extremely positive aspect of my residency. Whether it was editing blog posts or planning conferences, the cohort members significantly contributed to my project.

Dinah Handel, NDSR @ CUNY-TV  
Genevieve Havemeyer-King, NDSR @ Wildlife Conservation Society  
Mary Kidd, NDSR @ WNYC  
Morgan McKeehan, NDSR @ Rhizome

## 2.4 Outside BAM

Throughout this project, I was participating as a member of the nonprofit group, XFR Collective. In this group of volunteer archivists I found incredible support to discuss specific troubleshooting issues such as automating checksums validation for hundreds of video files or navigating the politics of the workplace. The members of XFR Collective contributed to the success of my final project.

Ashley Blewer  
Joey Cabrera  
Andrea Callard  
Rebecca Fraimow  
Ethan Gates  
Michael Grant  
Dinah Handle  
Mary Kidd  
Julia Kim  
Marie Lascu  
Karl McCool  
Rachel Mattson  
Kristin MacDonough  
Yvonne Ng  
Lorena Ramirez-Lopez  
Pamela Vizner

## 3. Project Execution, Analysis, & Results

This project did not significantly change from the original project proposal. The deliverables outlined in the original project proposal were all met. The only change that happened was the time that it took for each phase of the project to be completed. Due to issues related to

scheduling, there was not necessarily a linear path moving from one phase to the next. Rather, aspects of phase two were started when aspects of phase one were still being wrapped up. Below are the most significant accomplishments completed during the project:

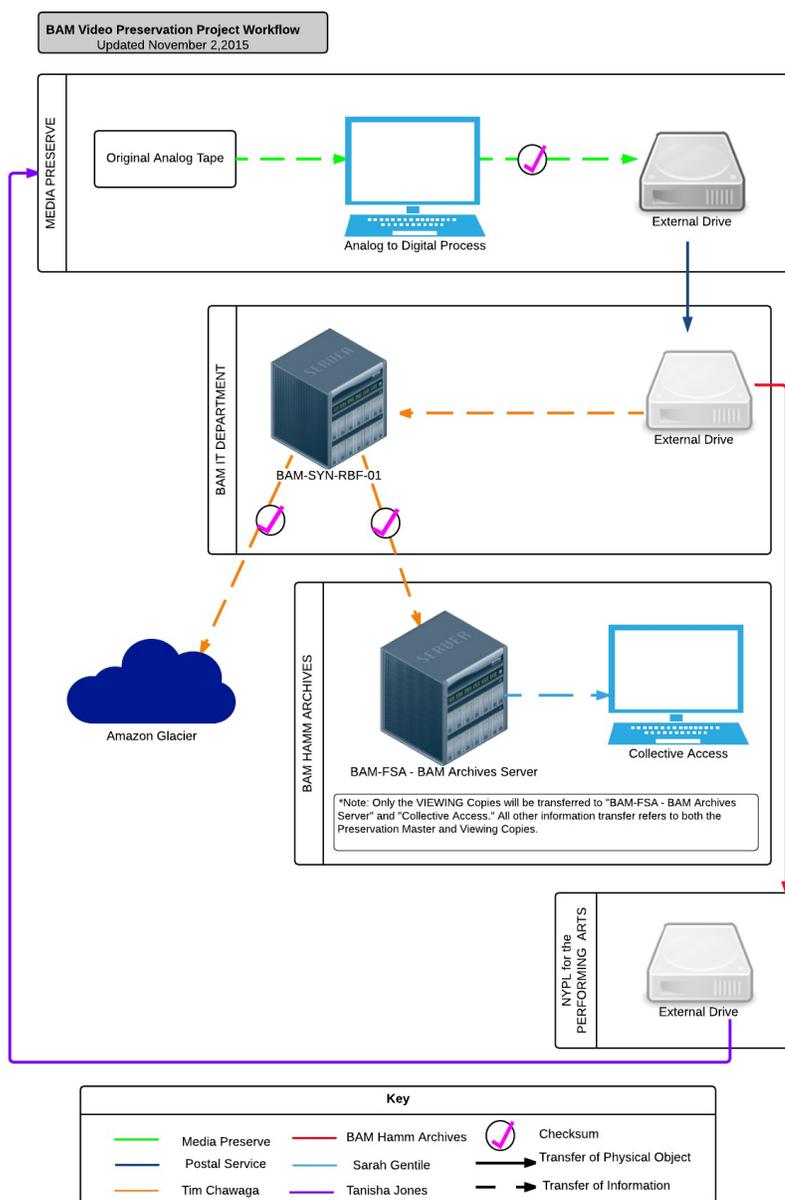
### **3.1 Developed Video Preservation Workflow**

I developed and put into practice a workflow for sending analog video materials to a vendor, receiving digitized files, uploading digitized files to Amazon Glacier, and returning original videos to storage.

This process ended up having a number of issues. When we checked the checksums on all 1,650 files there were a 635 that had errors. Through working with the IT Department we were able to validate the checksums on all files through a shell script which significantly expedited the process as opposed to running checksums on batches of files mounted through a networked server. It ended up taking hours to generate the checksum as opposed to weeks.

After consulting with the vendor it turned out that they generated their original checksums while running other operations and the errors we were seeing at BAM were computing errors from the vendor. After the vendor re-generated checksums on all of the files, it was revealed that their new checksums matched ours. Meaning, none of our files were corrupted and nothing had to be replaced. Through this process I learned a lot about collaborating with IT and also building my confidence in communicating with vendors.

Results: I developed a visual workflow for the process of having analog videos digitized by a vendor and 1,650 files quality controlled and ingested into Amazon Glacier. Additionally, I assisted with any technical or logistical issues that came up throughout this process. See workflow below:



### 3.2 Completed Interviews With All Divisions, Departments, and Sub-Departments at BAM

My mentor and I were able to successfully conduct hour-long interviews with all divisions, departments, and sub-departments at BAM. This ended up being a total of forty-three interviews. In each of these interviews, we were able to go over the existing Records Retention Schedule (that had not been revised in eight to ten years and was not reflective to current organizational structures or electronic workflows) and made changes to reflect the current workflows and practices of the department. For many departments there was no existing Records Retention Schedule and in these cases my mentor and I created new ones from scratch.

This process was both tedious and rewarding. I think it was important for my mentor and I to speak with as many people as possible at BAM to really get a sense of some of the digital preservation issues that are effecting the institution at large. While a lot of time was spent on

researching retention requirements for records that will not even come into the Archive, it was definitely a learning experience to see how a Records Manager and Archivist have similar yet different responsibilities.

Throughout these interviews, it was a great opportunity to advocate for the importance of the Archive. Due to BAM's long history, there is a sense of longevity and grandiosity in the work that general staff members conduct. Through these interviews, I really do think we got across that while it is very possible for BAM to exist 50 years from now and it is very possible for their be a desire from researchers to access materials relating to BAM; however, if active preservation is not put into place now than these records will be lost. Overall, we received very positive feedback from everyone we interviewed.

In a post interview email, a division head wrote, "Thank YOU...for all the work you're doing to make this info accessible for generations to come..." In another email, a department head wrote, "We're eager to have our work and process be included in the BAM story, so do let us know how we can help."

Results: Forty-three interviews were conducted, audio recorded, and summarized in word documents outlining significant issues or concerns relating to digital record management and preservation within each department. I created a visual aid that provides advice on some of the

major issues/concerns identified across departments:

## General Tips on Digital File Management



### Standardized and Consistent File Naming Conventions:

Use consistent and descriptive file names that work for your Department. Having date information in the file name is SUPER helpful for identification in long term preservation. This goes for email subject headings too!

**Good File Name:** '20160501\_Records\_Retention\_Schedule\_Policy'

**Good Email Subject Heading:** 'May 2016 - Implementation of Records Retention Schedule Across BAM - With Attachment'



### Avoid Saving Important Information in Links:

How many times have you tried to open a link to a webpage and gotten a 'Error 404: Page Not Found' message? Hyperlinks are a common way to share information. However, links break or expire and the desired information is no longer accessible. If a webpage is really important to you, save it as a .pdf!



### Identify and Discard Old Versions and Drafts:

When (and only when) old versions are no longer needed, get rid of them! Avoid confusion by labeling final versions 'FINAL' in the file name.

Example: '20160501\_Records\_Retention\_Schedule\_Policy\_FINAL'



### What is Significant? When Is Something No Longer Useful?:

Many of the retention categories call for a selection of 'significant' records. But how do you know if something is significant or not? Try to imagine you are a researcher in the future interested in the history of BAM. Is the record in question something that portrays unique information about BAM? How much of this information would future researcher you want to sift through? And as always, if you are uncertain about something just ask the Archives!

Many of the record categories have designated retention times of 'while useful.' How do you know when it's ok to get rid of something? How do you appease that nagging 'well you just never know' that's ringing in your ear? Consider making a 'Rarely Used' folder where files suspected to be no longer useful can be stored. If files in this folder have not been touched within a year, consider deleting them!



### Avoid Storing Records on Removable Media:

IT daily backs up all information on Networked Servers. If your records are not on your Departmental Network Server, they will not be guaranteed to be backed up! Additionally, optical media (CDs, DVDs) have extremely high failure rates. If its scratched, it's useless! Flash drives aren't great either!

## 3.3 Revised Records Retention Schedule for All Divisions, Departments, and Sub-Departments at BAM

After interviewing all departments at BAM, my mentor and I fully revised the Records Retention Schedule to reflect the current state of BAM. Through this process, we looked at examples of other institutions' Retention Schedules. Without access to legal consultation, we did as much research as possible to ensure our retention periods fell inline with the law (particularly for Finance, Fiscal, Building Operations, General Management, and Human Resources). Additionally, we requested that every department appoint a Records Retention Coordinator so that in the future the Archives will have a specific person with whom to communicate with about all records related issues.

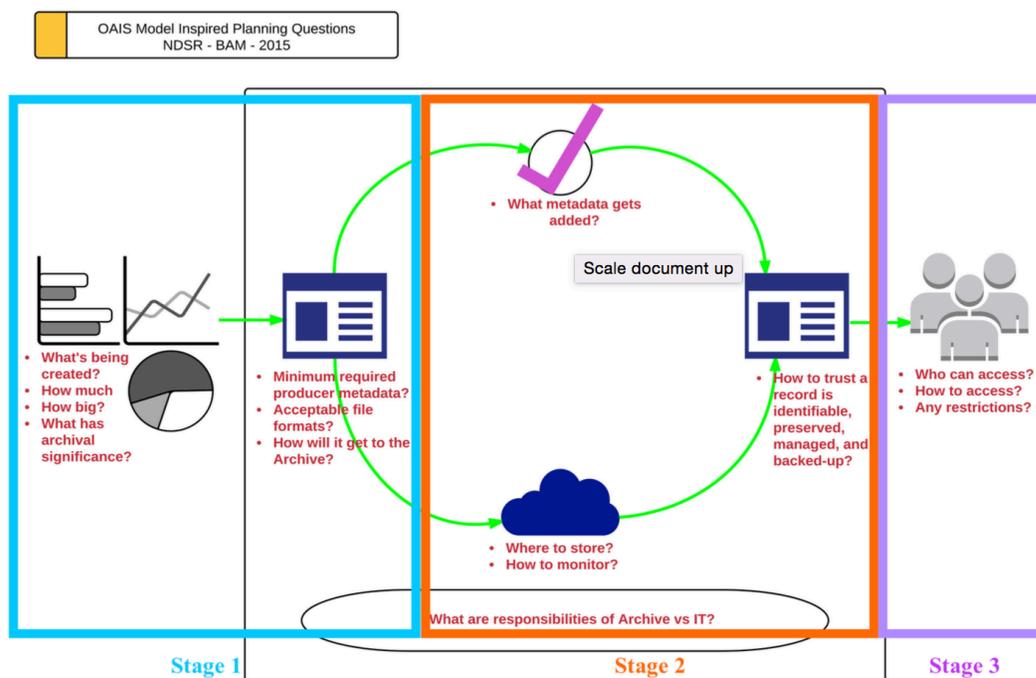
**Results:** A comprehensive Records Retention Schedule was completed for all divisions, departments, and sub-departments at BAM and Records Retention Coordinators were appointed. Below is an example of the structure that the Records Retention Schedule followed:

**SPECIAL EVENTS RETENTION SCHEDULE**

Item	Record Series Title	Description/Examples	Total Retention	Transfer to Archives
SE-1	Event Files	Correspondence, printed materials, timelines, selected photos, contracts, other documents.	permanent	no
SE-2	Selected Materials From Event Files	For events with noteworthy guests or other extraordinary features, selected photos with clear rights and metadata, correspondence, printed materials, other documents of historical or scholarly value.	permanent	yes
SE-3	Gala Files	Invitations, guest lists, program/journal, selected photos, other descriptive information available.	permanent	yes
SE-4	Departmental Budgets	Annual budgets and supporting documentation, including drafts and contingency budgets.	while useful, up to 3 yrs	no
SE-5	Contract and Legal Agreements--Official Copies	Original signed copy of any contract or agreement entered into by this department.	7 yrs after termination or final payment	no

**3.4 Wrote Report Summarizing Findings and Providing Recommendations**

After conducting all of our interviews and revising the Records Retention Schedule, I wrote a detailed report summarizing commonalities across BAM that will need to be addressed in order to create a relatively compliant OAI digital preservation environment. Focusing on Submission Information Packages (SIPs), I identified what issues will need to be addressed in order for producers to deposit information and for Archives/IT to ingest this information into the Archive. I then outlined realistic recommendations to address these issues that can be accomplished within my residency and as well as after I leave.



Using the above planning diagram that I created, my mentor and I attempted to answer the questions outlined in Stage 1 (What is being created? How much? How big? What has archival significance? Minimum required producer metadata? Acceptable file formats? How will it get into the Archive?).

Results: A final report was created that clearly identifies digital preservation issues that need to be addressed and provides recommendations to approach these issues (see section 7 for full report). The following screenshot of the table of contents outlines the areas that the report discusses.

## Table of Contents

1. Introduction.....	3
2. Background on the Archive and the Institution .....	4
3. Problem Statement.....	5
4. Participants.....	6
4.1 Producers.....	6
4.2 Management.....	6
4.3 Consumer.....	7
5. Information .....	8
5.1 Records .....	8
5.2 Current Systems/Tools.....	9
6. Issues to Address .....	11
6.1 Primary Issues .....	11
6.1.1 Establish Deposit Method.....	11
6.1.2 Require Minimum Metadata.....	13
6.1.3 Standardize File/Folder Naming Conventions.....	14
6.1.4 Identify & Discard Drafts/Versions.....	14
6.1.5 Define "Significant Records" and "While Useful Records".....	15
6.1.6 Organize, Manage, and Store Email .....	16
6.1.7 Discourage Use of Removable Media.....	16
6.1.8 Establish Acceptable File Formats.....	17
6.1.9 Reassure Continued Access to Deposited Records .....	18
6.2 Secondary Issues .....	19
6.2.1 Develop Workflow for Archiving Videos at BAM.....	19
6.2.2 Educate on Risks of Links.....	20
6.2.3 Be Mindful of Potential Duplication.....	21
6.2.4 Be Mindful of Potentially Sensitive Information.....	21
6.2.5 Research Web Archiving (Including Social Media).....	22
6.2.6 Research Mission Critical Systems.....	23
6.2.7 Research LTO vs Cloud Storage for Archival Material.....	24
6.2.8 Investigate Digital Repository Tools.....	25
8. Appendixes 1-13 .....	26
8.1 Appendix #1: Updated Records Retention Schedule.....	26
8.2 Appendix #2: Systems Documentation.....	84
8.3 Appendix #3: Exactly Training Manual Macs.....	91
8.4 Appendix #4: Exactly Training Manual for PCs .....	<b>Error! Bookmark not defined.</b>
8.5 Appendix #5: Archive Tips for BAM Staff.....	106
8.6 Appendix #6: Removable Media Plan .....	107
8.7 Appendix #7: Recommended File Formats.....	114
8.8 Appendix #8: Desired Video Workflow .....	120
8.9 Appendix #9: Metro Fellowship Proposal—Email Archiving.....	121
8.10 Appendix #10: Metro Fellowship Proposal—Web Archiving.....	122
8.11 Appendix #11: AVPS Analysis of Amazon Web Services.....	123
8.12 Appendix #12: Minnesota Historical Society Report - Preservation & Cloud Services ..	128
8.13 Appendix #13: POWRR Tool Grid .....	152

### 3.5. Documented All Systems in Use Across BAM

Through interviewing all departments at BAM, my mentor and I found that a significant number of systems and tools are being used to create and store records. From BAM specific databases to DropBox, we felt it was important to begin to document what is being used and to identify some

potential preservation concerns around these tools. If BAM's data is being stored in these systems then we must make assess the systems' trustworthiness. Initially, my mentor and I attempted to develop a checklist of questions to gauge the trustworthiness of all systems identified as being in use. Not surprisingly, for many of these systems it is very difficult to receive any information or documentation on how they are actually storing users' data. We decided to hone our efforts and only research a selected number of highly used, mission critical systems that store records that are indicated as being archivally significant in the Records Retention Schedule.

Results: Created document that answered the following questions for BAM mission critical systems that store archivally significant records:

- a) Approximately how long has system/program been in use at BAM?
- b) Who at BAM uses system/program? (Who enters information and who just views?)
- c) Who at BAM maintains system/program and what does that involve?
- d) What kinds of data elements are stored in system/program?
- e) Is information stored in system/program unique to the system or could it be digitally found elsewhere (ie. On BAM Network drive?)
- f) What is the current method of ingesting information into the system/program?
- g) Is information in system/program accessible to the public (or semi public—ie. Vimeo invite)?
- h) Can the public interact with information? Leave comments, likes, etc?
- i) How is information backed up by system/program? Are there multiple backups? Is documentation available?
- j) What are legal terms and conditions of system/program in relation to preservation? Is documentation available?
- k) What are termination conditions of system/program? For them and/or BAM? Is documentation available?

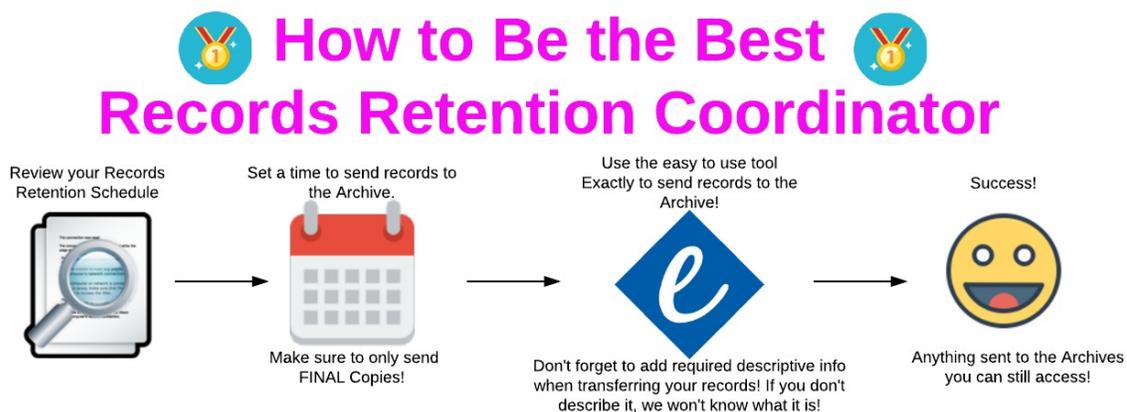
### **3.6. Research Options for Digital Preservation Tools**

I did a lot of research on potential digital preservation tools that BAM's Archive could use. Initially, I outlined what I saw as functional requirements that BAM needs in digital preservation environment within an OAIS framework. I then researched tools that other repositories are using and attempted to map the requirements that I identified to tools such as Archivematica, Preservica, etc. However, in the process of mapping our needs to a digital preservation tool and discussing the pros and cons of common digital preservation tools with my mentor, we concluded that at this time, a "micro-service" approach would be a more appropriate fit for the Archive's needs at this time. In other words, we concluded that a singular tool would need customization to fit our needs and that currently the Archive does not have the resources to ensure this customization can occur. With this in mind, we instead decided to look at the functional requirements we identified (focusing specifically at the functional requirements around ingest—see diagram in section 3.4) and attempt to find an array of tools that would address our needs.

### 3.7 Develop Method and Workflow for Ingesting Digital Records Into the Archive

With the functional requirements in mind (as described in section 3.6), I researched tools and methods that would enable records to be ingested into the Archive. We eventually decided that AVPreserve's open source file transfer tool, 'Exactly' would most appropriately match our needs. My mentor and I developed detailed instruction manuals to teach BAM staff how to use this tool and conducted tests with a number of departments to evaluate the effectiveness and ease-of-use of the tool as well as to refine our instructions.

Results: Easy to follow, BAM specific instructions on how to use 'Exactly' were created for both MAC and PC users. I also created the following visual workflow that maps the responsibilities of the appointed Records Retention Coordinators to identify files to send to the Archive through 'Exactly':



### 3.8 Attend As Many BAM Performances As Possible

One of the unanticipated major learning opportunities at BAM has been attending performances and events that have occurred at BAM. I have been able to see a number of dances, plays, talks, movies, etc. as a benefit of working for BAM. Being able to engage in so many cultural heritage events has been a huge learning opportunity.

## 5. What's Next

My mentor and I spent a significant amount of time planning for the continuation of this project after the conclusion of my residency. We developed a plan for the summer of 2016 in which the Archive plans to hold facilitated 'Archival Records Transfer Training Sessions' in conjunction with BAM's existing Annual Digital Clean Up Day. During these training sessions, appointed Records Coordinators in each department will meet one-on-one with my mentor, Evelyn Shunaman and will be walked through instructions on how to transfer records to the Archive through the tool, 'Exactly.' Additionally, Records Coordinators will be asked to estimate time periods for when they expect to regularly transfer records into the Archive. This information will then be added to the official Records Retention Schedule document.

The initiative this summer will then allow for the Archive to re-evaluate and the process for ingesting digital materials into the Archive and develop a plan for the continued management and access of these digital records.

## 6. Professional Development

My professional development time was spent attending as many conferences as possible. I tried to take advantage of participating in a number of conferences and professional developments talks to both meet new people and expand my knowledge of many of the issues relating to digital preservation. I attended conferences that were both directly related to my project such as the POWRR workshop in Albany where I gained skills on how to advocate on behalf of digital preservation to those without a background in preservation, as well as conferences that were not directly related to my project but were connected to larger issues such as the Digital Blackness conference. Below is a list of conferences, events, and lectures that I attended during my residency:

<b>Event</b>	<b>Location</b>	<b>Date</b>
Let's Piece Our Knowing Together	New Museum, NYC	September 19, 2015
ART Education Event: Archives in the Electronic Age	Cardozo Law School, NYC	October 1, 2015
ART Archives Week: United Nations Archives and Record Management Tour	United Nations, NYC	October 16, 2015
La MaMa Archives: Preserving the Videotaped Record of 1970s-era Experimental Theater	La MaMa, NYC	October 19, 2015
POWRR Workshop	Albany, NY	October 22-23, 2015
Social Justice Special Interest Group of the Metropolitan New York Library Council (METRO): Conditions of Confinement	The New School, NYC	October 30, 2015
★❖ XFR Collective analog video transfer station at MIX Queer Experimental Film Festival	NYC	November 10-15, 2015
AMIA Conference	Portland, OR	November 18-21, 2015
Independent Media Arts Preservation: A Roundtable of Cataloging Solutions for Media Assets	Fales Library, NYC	December 10, 2015
❖ METRO Annual Conference	Baruch College, NYC	January 21, 2016
Preserving Liquid Communications	University British Columbia, Vancouver	February 10-12, 2016
Who Owns Digital Memory	The New Museum, NYC	February 18, 2016
★❖ Archiving/Preserving Film and Media Collections-A Workshop	New York University, NYC	February 27, 2016
★ Beyond the Bars Conference	Columbia University, NYC	March 4-6, 2016
Code4Lib	Philadelphia, PA	March 6-10, 2016

MAARA : Preserving the J.H. Kwabena Nketia Recordings – A Talk by Archivist Judith Opoku-Boateng	New York University, NYC	April 5, 2016
★ Asian/Pacific/American Institute at NYU Community Archiving Day	New York University, NYC	April 9, 2016
A/V Surgery Workshop With Dave Rice	New York University, NYC	April 21, 2016
Digital Blackness Conference	Rutgers University, NJ	April 22, 2016
★❖ NDSR NY 2016 Preservation Week Symposium	Brooklyn Historical Society, NYC	April 28, 2016
Digital Asset Symposium	Scandinavia House, NYC	May 4, 2016
Personal Digital Archiving Conference	University of Michigan, MI	May 12-14, 2016

★=event organizer ❖=event speaker

## 7. Deliverables

The final report that I wrote is an accumulation of all of the deliverables I produced throughout my residency. Below is the final report. Screenshots from selected appendixes are included in section 3 of this document. However, due to sensitive information, the full range of appendixes will not be included in this document.

# 2015-2016 NDSR FINAL REPORT

May 27, 2016

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Prepared by Carmel Curtis

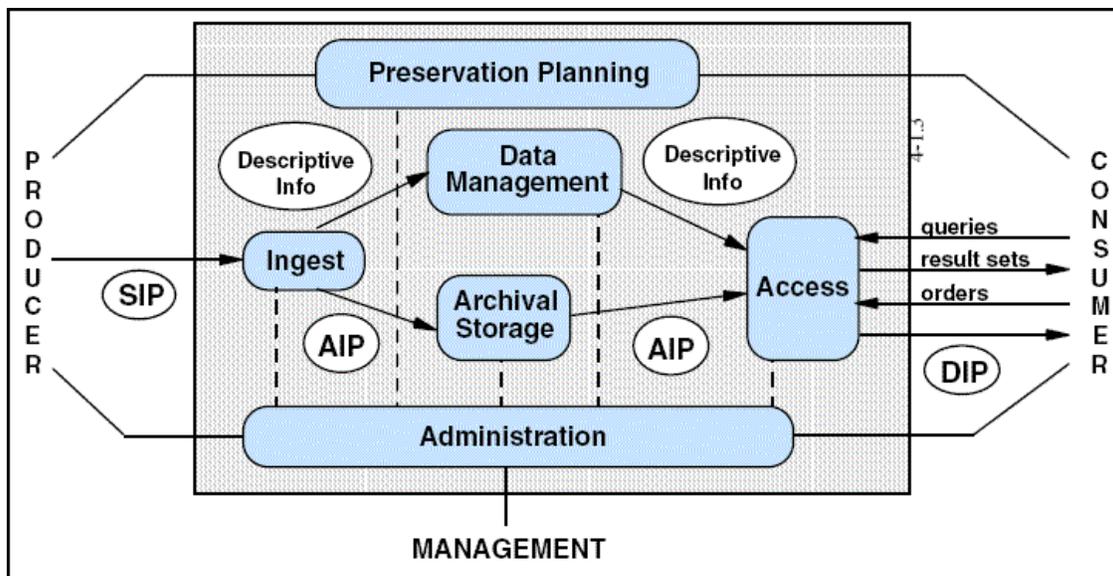
## Table of Contents

<b>1. Introduction.....</b>	<b>3</b>
<b>2. Background on the Archive and the Institution .....</b>	<b>4</b>
<b>3. Problem Statement.....</b>	<b>5</b>
<b>4. Participants.....</b>	<b>6</b>
4.1 Producers.....	6
4.2 Management.....	6
4.3 Consumer.....	7
<b>5. Information .....</b>	<b>8</b>
5.1 Records.....	8
5.2 Current Systems/Tools.....	9
<b>6. Issues to Address .....</b>	<b>11</b>
6.1 Primary Issues.....	11
6.1.1 <i>Establish Deposit Method</i> .....	11
6.1.2 <i>Require Minimum Metadata</i> .....	13
6.1.3 <i>Standardize File/Folder Naming Conventions</i> .....	14
6.1.4 <i>Identify &amp; Discard Drafts/Versions</i> .....	14
6.1.5 <i>Define “Significant Records” and “While Useful Records”</i> .....	15
6.1.6 <i>Organize, Manage, and Store Email</i> .....	16
6.1.7 <i>Discourage Use of Removable Media</i> .....	16
6.1.8 <i>Establish Acceptable File Formats</i> .....	17
6.1.9 <i>Reassure Continued Access to Deposited Records</i> .....	18
6.2 Secondary Issues .....	19
6.2.1 <i>Develop Workflow for Archiving Videos at BAM</i> .....	19
6.2.2 <i>Educate on Risks of Links</i> .....	20
6.2.3 <i>Be Mindful of Potential Duplication</i> .....	21
6.2.4 <i>Be Mindful of Potentially Sensitive Information</i> .....	21
6.2.5 <i>Research Web Archiving (Including Social Media)</i> .....	22
6.2.6 <i>Research Mission Critical Systems</i> .....	23
6.2.7 <i>Research LTO vs Cloud Storage for Archival Material</i> .....	24
6.2.8 <i>Investigate Digital Repository Tools</i> .....	25
<b>8. Appendixes 1-13 .....</b>	<b>26</b>
8.1 Appendix #1: Updated Records Retention Schedule.....	26
8.2 Appendix #2: Systems Documentation.....	84
8.3 Appendix #3: Exactly Training Manual Macs.....	91
8.4 Appendix #4: Exactly Training Manual for PCs .....	<b>Error! Bookmark not defined.</b>
8.5 Appendix #5: Archive Tips for BAM Staff.....	106
8.6 Appendix #6: Removable Media Plan .....	107
8.7 Appendix #7: Recommended File Formats.....	114
8.8 Appendix #8: Desired Video Workflow .....	120
8.9 Appendix #9: Metro Fellowship Proposal—Email Archiving.....	121
8.10 Appendix #10: Metro Fellowship Proposal—Web Archiving.....	122
8.11 Appendix #11: AVPS Analysis of Amazon Web Services.....	123
8.12 Appendix #12: Minnesota Historical Society Report -Peservation & Cloud Services ..	128
8.13 Appendix #13: POWRR Tool Grid .....	152

## 1. Introduction

Over the course of nine months from 2015-2016, National Digital Stewardship Resident, Carmel Curtis, conducted an assessment of the current status of digital record management and preservation at the Brooklyn Academy of Music (BAM). This assessment was conducted as part of a fellowship funded by Institute of Museum and Library Services (IMLS) in which Carmel was able to work under the mentorship of BAM Hamm Archive Processing Archivist Evelyn Shunaman. Through interviews, surveys, observations, and analysis, Carmel and Evelyn were able to make assessments on the current condition of digital record management and preservation at BAM and interpret requirements needed for a digital preservation system that will support the continued production, management, and access of digital materials. Their work made clear that BAM is ready to initiate bringing digital institutional records into the Archive, but at this point should focus its limited resources specifically on the ingest process.

This document is meant to serve as the groundwork for future decision making for functional, technical, and business requirements that BAM would need in an Open Archival Information System (OAIS)<sup>1</sup> compliant digital preservation environment. This report is the first step in documenting the environment of BAM and provides recommendations for next steps in moving towards an OAIS compliant digital preservation environment.



<sup>1</sup> This document assumes a basic, high-level understanding of the OAIS Reference Model. For more information on this see: Magenta Book. Reference Model for an Open Archival Information System (OAIS), Recommended Practice. CCSDS 650.0-M-2 (Magenta Book) Issue 2, 2012.

## 2. Background on the Archive and the Institution

Founded in 1861, Brooklyn Academy of Music (BAM) is the oldest continuously operating performing arts center in the United States and one of the foremost arts presenters in the world. BAM's significance draws on its identity as a global institution—one that exemplifies a commitment to diversity, creativity, and innovation in the arts and public life. The BAM Hamm Archives documents the history of this singular institution through materials and artifacts chronicling the artists, works, and cultural movements that define contemporary performance.

The BAM Archive was established in 2005 after it became apparent that a systematized approach to storing and locating archival records relevant to BAM was necessary. Previously, materials had been stored in various BAM buildings and throughout New York City. The BAM Hamm Archive opened in 2005 with support from Charles J. and Irene Hamm, as well as the Levy Foundation. It is home to approximately 3,000 linear feet of materials dating from 1857 to the present, including newspaper clippings, photographs, books, playbills, promotional materials, video, architectural plans, posters, administrative records, production elements, art and other materials.

Due to the 1903 destruction by fire of BAM's original site and scarce funding resources for documentation and preservation until the early 21<sup>st</sup> century, the bulk of the material contained in the Archives focuses on the artists and performances that appeared at BAM from the latter half of the twentieth century to date. However, BAM's holdings document one of the most fertile time periods for the development of contemporary performing arts in the United States and around the world. Due to the significance of these materials not only to BAM's institutional history, but also to the history of the contemporary performing arts, this collection is of utmost importance to scholars and to the general public.

Between the complete loss of its facility in 1903 and the incremental degradation of more recent materials, BAM has learned first-hand the importance of preserving its invaluable, unique assets. Thankfully, since the founding of the BAM Hamm Archives and with the support of donors, BAM has been able to preserve and expand its collection and make its holdings more available to researchers and the general public. In the past few years attention has naturally turned to born-digital materials created at BAM, with a focus on establishing the proper migration and transfer of protocols for materials in the various departments at BAM. It is clear that what is now needed is a complete and systematic survey and inventory of each departments' born-digital files, some of which were created as long ago as the late 1990s. Only then can a robust framework be established around the proper collection, description, transfer, and storage of materials at BAM.

### 3. Problem Statement

The act of digital preservation, ensuring that digital records remain unchanged and accessible to users over a long period of time, is a process that requires continued maintenance and upkeep. There are a number of potential threats to successful digital preservation. Bit rot, hardware obsolescence, processor obsolescence, storage media/interface obsolescence, storage media failure, lack of metadata, and lack /loss of organizational support and resources are all significant threats to digital preservation. Without proper planning for each of these risk factors, digital records are at danger of being corrupted, lost, or becoming inaccessible.

It is the eventual goal of the BAM Hamm Archives to create a digital preservation environment that will ensure the management, migration, storage and access of selected digital information. The intention of this report is to provide documentation and identify major trends across departments that will need to be addressed in order for Submission Information Packages (SIPs) to be created to then be brought into a digital preservation environment.

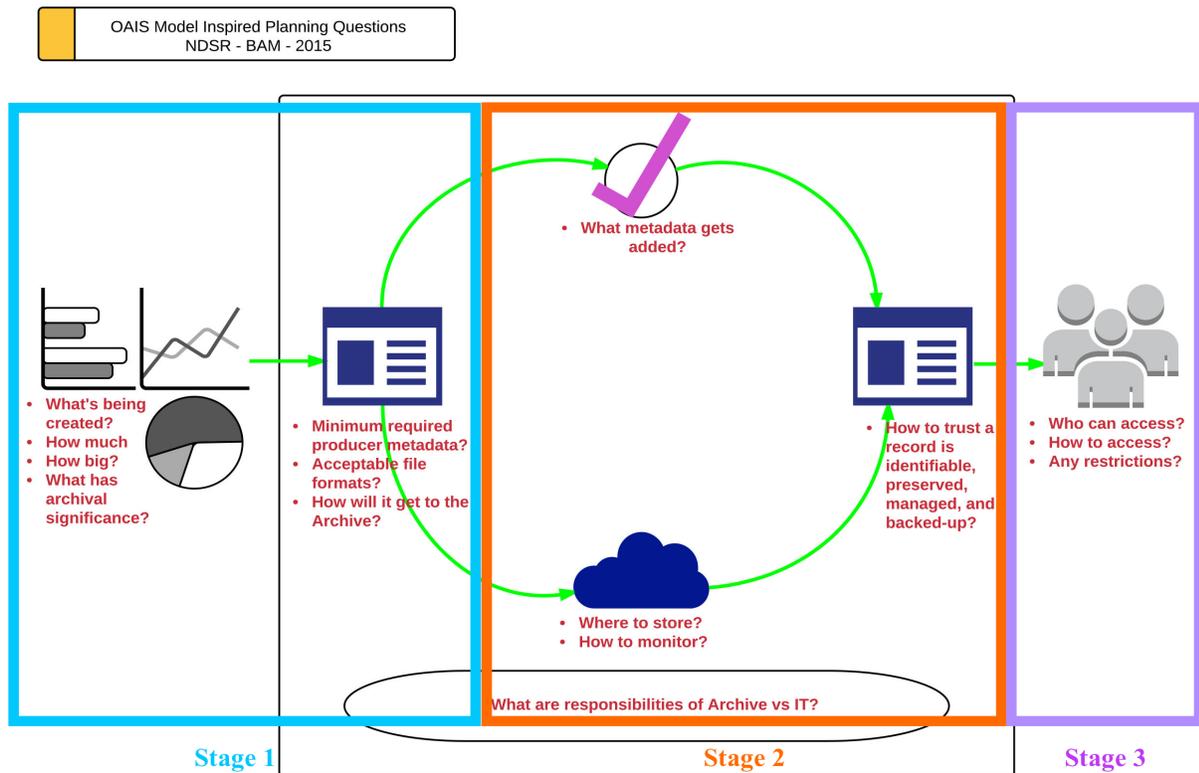


Figure 3: OAIS Inspired planning diagram.

This report aims to answer and provide recommendations to the following questions outlined in Stage 1 of Image 2: What is being created?; How much?; How big?; What has archival significance?; Minimum required producer metadata?; Acceptable file formats?; And how will it get to the Archive? **Addressing these issues will be the first step in establishing an OAIS compliant workflow.**

## 4. Participants

This section looks at the environment surrounding an OAIIS. Working within the defined user groups of the *Reference Model for an OAIIS* (producer, management, and consumer), this section will define these categories as relevant to BAM.

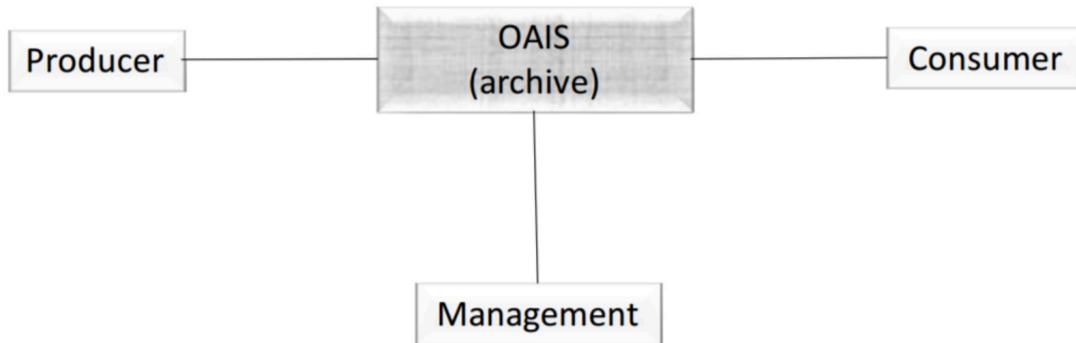


Figure 4: Depiction of the environment surrounding an OAIIS.<sup>2</sup>

### 4.1 Producers

*Producer is the role played by those persons, or client systems, which provide the information to be preserved.*<sup>3</sup>

As it is the responsibility of Archive to save records that relate to performances that occur at BAM as well as the institution itself, all departments at BAM are “producers.” As part of this project, a revised Records Retention Schedule was created that identifies which record categories are being created that need to be brought into the Archive. See **Appendix #1** for the 2016 revised Record Retention Schedule. All divisions, departments, and sub-departments at BAM were interviewed about the records they create, with an emphasis on what electronic records they create. Through collaboration between individual departments, the BAM Archive, and BAM IT, revised retention schedules were developed based on historical, legal, and functional requirements.

### 4.2 Management

*Management is the role played by those who set overall OAIIS policy as one component in a broader policy domain, for example as part of a larger organization. In other words, Management control of the OAIIS is only one of Management’s responsibilities. Management is not involved in day-to-day Archive operations. The responsibility of managing the OAIIS on a day-to-day basis is included within the OAIIS in an administrative functional entity.*<sup>4</sup>

<sup>2</sup> Magenta Book, 2-2.

<sup>3</sup> *Ibid.*

<sup>4</sup> *Ibid.*

The management of an OAIS will ensure continued documentation, evaluation, operation, and financial contribution to, as well as institutional endorsement of an OAIS. At BAM, this role would be performed under collaborative efforts of the Archive and IT departments with support of the BAM Executive Team. This report is intended to be a first step in documenting and creating policies around the creation and development of an OAIS thus enabling eventual formal institutional endorsement of an OAIS at BAM.

### 4.3 Consumer

*Consumer is the role played by those persons, or client systems, that interact with OAIS services to find and acquire preserved information of interest. A special class of Consumers is the Designated Community. The Designated Community is the set of Consumers who should be able to understand the preserved information. A given individual or system may act in the role of both a Consumer and a Producer.*<sup>5</sup>

The breadth of consumers in an OAIS at BAM would be wide spanning. In conjunction with the mission of BAM's Archive to "collect, organize, protect, and provide access to materials and documents that chronicle BAM's ongoing history, programs, and people," an OAIS would provide information for the following designated community groups:

**4.3.1 BAM Staff** – The Archive is a powerful resource for current staff members to learn from and be inspired by. Whether it is looking at programs from past performances or architectural drawings of one hundred year old buildings still in use, BAM staff has been and will continue to be a primary user group of the Archive.

**4.3.2 Researchers** – Scholars, historians, students, performers, fans, and others often request access to materials in BAM's Archive. There has been and will continue to be a broad range of researchers with specific interests looking to utilize materials in the Archive.

**4.3.3 Public** – There is increased potential within a digital archival environment for consumers to be the general public; in other words, those who are interested in borrowing through information without a specific research topic in mind. With the BAM Hamm Archives' Leon Levy Digital Archives set to be publically launched within 2016, the general public as consumers will become a much more important user group than it ever was in the past.

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<sup>5</sup> *Ibid.*, 2-3

## 5. Information

*Information is defined as any type of knowledge that can be exchanged, and this information is always expressed (i.e., represented) by some type of data in an exchange.<sup>6</sup>*

### 5.1 Records

The categories of information that will be coming into an OAIIS at BAM are identified in the Records Retention Schedule (see **Appendix #1**). Below is a breakdown of approximate volume broken down by department and asset type. The chart below is intended to provide a rough estimation and should not be used as an exact measure of volume.

Division	Department	Current Vol	Current #	Approx Archival Vol	Approx Archival Vol Jan 2018
	Executive Team	TBD	TBD	TBD	TBD
Artistic Programing & General Management Division	Artist Services	3.9 GB	19,820	<10 MB	<10 MB
	Building Operations	21.7 GB	34,175	<10 MB	<10 MB
	Dance Motion USA	10.4 TB	83,395	300 GB	100 GB
	General Management	69.6 GB	28,112	10 GB	5 GB
	Production	152.3 GB	152,177	75 GB	10 GB
	Programming	198.5 GB	76,218	3 GB	1 GB
	Theater Management	1.5 GB	6,343	<10 MB	<10 MB
Education, Humanities, Cinema & Cinematek	Cinema	5.4 GB	36,287	0	0
	Cinematek	83.8 GB	20,159	40 MB	<10 MB
	E&H	42.2 GB	23,081	12 GB	5 GB
Finance & Administration	Capital Projects	53 GB	70,968	25 GB	10 GB
	Finance	199.1 GB	210,007	0	0
	Fiscal	28.2 GB	59,768	0	0
	Government & Community Affairs	21 GB	30,681	TBD	TBD
	HR	6.3 GB	19,421	<10 MB	<10 MB
	IT	1689.6 GB	85,700	TBD	TBD
	Project Management &	TBD	TBD	<10 MB	<10 MB

<sup>6</sup> *Ibid.*, 2-3.

	Strategic Planning				
Development	Endowment & Board Relations	86.1 GB	32,185	60 GB	30 GB
	Patron Services	837.3 MB	7,354	<10 MB	<10 MB
	Special Events	35.3 GB	58,729	11 GB	4 GB
	All Other Development	206.8 GB	311,299	5 GB	1 GB
Marketing & Communications	Audience Development & Strategic Planning	TBD	TBD	<10 MB	<10 MB
	Communications	273 GB	90,463	14 GB	6 GB
	Creative Services	TBD	TBD	TBD	TBD
	Design	TBD	TBD	TBD	TBD
	Marketing	214.6 GB	128,439	0	0
	Video	~150 TB	TBD	100 TB	25 TB
	Digital Media	147.5 GB	83,266	TBD	TBD

### 5.2 Current Systems/Tools

This section is intended to identify all current systems that are in place. More detailed analysis of the mission critical systems (ArtsVision, Collective Access, and Tessitura) are described in a Systems Report in **Appendix #2**. It is important to document what systems are in place in order to consider what information needs to be brought into the Archive and what complications that might bring up. On the chart below, not all of the systems and tools in use have information that will need to be incorporated into an OAIS environment. Those that do are marked with an (x); those yet to be determined (TBD) are the various social media systems in use. The questions around acquiring social media (whether to, how much to, how to) fell outside of the scope of this project.<sup>7</sup>

System	Department(s) Used By	Archival Significance	Legal Considerations
ArtsVision	Multiple	x	
Audience 360	Marketing		
AWS	IT	x	
Blogger	Claire	x	
Box Office System (?)	Box Office		
BoxNet	Communication	x	
Collective Access	Multiple	x	
Dell EMS	Multiple	x	

<sup>7</sup> A grant application has been submitted to conduct research around the issue of archiving social media. See **Appendix #9** for further information.

2015-2016 NDSR Final Report

<b>System</b>	<b>Department(s) Used By</b>	<b>Archival Significance</b>	<b>Legal Considerations</b>
Dropbox	Multiple	x	
Ebate	Building Operations		
embARK	E&H		
Facebook	Multiple	TBD	
Google	Multiple	x	
Instagram	Multiple	TBD	
Livestream	Multiple	TBD	
Multiview	Fiscal		
My Staffing Pro	HR		x
Picasa	Special Events	x	
Planned Giving Software (PGCalc)	Denis Azara		
Sales Force	Communication		
Smartsheets	Finance		
Social Bakers	Marketing	TBD	
Surveymonkey	Audience Development		
Tessitura	Multiple	x	
UltiPro	Multiple		x
Vimeo	Multiple	TBD	
Wordpress	Multiple	TBD	
Workamajig	Multiple		
Yammer	Multiple		
Youtube	Multiple	TBD	

## 6. Issues to Address

Focusing on the ingest of SIPs into a digital preservation environment, there are several cross-departmental issues that must be addressed involving Producers and Management.

### 6.1 Primary Issues

Below are primary issues that need to be addressed for the majority of departments at BAM. The current situation is explained and the ideal situation is outlined.

Recommendations are provided to move towards making the ideal situation a reality. The status of recommendations indicates the progress that has already been made or needs to be made towards accomplishing the recommendations.

#### 6.1.1 Establish Deposit Method

##### **Current Situation**

Currently, with paper based and analog records, departments deposit materials to the Archive on the Annual Clean Up Day, at the request of the Archive, and/or at the request of the department. Typically, once paper and analog materials come into the Archive, they are minimally processed, and stored appropriately.

There is currently less consistency with digital records. Critical digital materials (such as photos, programs, press releases) are deposited to the Archive through BAM's Public shared drive or are recorded onto optical discs and delivered to the Archive typically at the request of the Archive or when departments are low on allocated storage space on their network drive. Most other institutional records created digitally have not been sent to the Archive.

##### **Ideal Situation**

Departments will be able to easily and quickly isolate records that are identified as "Archival." Departments will be required to attach an established set of essential minimum metadata to individual and batches of records. Departments will be able to deposit these records and their associated metadata in a designated digital holding area for the Archive to process. Ideally, this transfer will not require the use of removable media.

##### **Recommendations**

1. Create reasonable Records Retention Schedule for each Department.
2. Establish designated area for deposit of Archival records with particular consideration towards size of files and authorization of access.
3. Establish minimum required metadata.
4. Establish timeline for when Departments are expected to deposit Archival records.

##### **Status of Recommendations**

1. Completed – A revised Records Retention Schedule was completed for all of BAM in May 2016. See **Appendix #1** for the full Records Retention Schedule.
2. Completed – A process for transferring records into the Archive has been established with the adoption of the open-source file transfer tool, 'Exactly.' Through this tool created by AVPreserve, Departments at BAM will be able to

transfer their electronic records (individual files and/or folders) directly to the Archive's designated deposit location,<sup>8</sup> which at the time of this report is the Archive's Synology server. 'Exactly' utilizes the BagIt File Packaging Format, which standardizes the way in which files are transferred and creates fixity information (md5 checksums) for all files transferred. See **Appendix #3 & #4** for training manuals on how to use 'Exactly' for Mac and PC users.

3. Completed – Through the file transfer tool, 'Exactly,' Departments transferring records into the Archive are asked to provide information for eight basic metadata fields. These metadata fields were established with consideration to basic and essential minimum metadata needed to identify deposited records. It is recommended that these minimum metadata fields are reviewed and revised annually. Below are the current metadata fields and instructions to BAM staff on how to enter information for each field:
  - a. Title: Enter the Deposit date and a brief description of the files/folder being transferred to the Archive. Deposit date should be in the format: YYYYMMDD. Description of the files/folders should not include any spaces but should use dashes "-" instead. For example 20160401-Fall2015-Selected-Photos; 20160401-FY15-Strategic-Planning-Documents.
  - b. Department: Enter the name of your Department or Sub-Department.
  - c. Record Code: Using your Department's Record Retention Schedule, enter the Item Number to which the records you are depositing correspond. For example, Production Department would enter PR-5 when transferring Show/Event Records.
  - d. Date From and Date To (YYYYMMDD - YYYYMMDD): Use this field to enter the date range that is covered by the records you are depositing. If the record(s) are from a singular date, enter the one date. Dates should be formatted as YYYYMMDD.
  - e. Related Season(s): Enter the BAM Performance Season(s) to which the records you are depositing relate. If this is not applicable enter n/a.
  - f. Related Production(s): Enter the name(s) of any Production(s) to which the records you are depositing relate. If this is not applicable enter n/a.
  - g. Production ID: If your department uses production IDs, enter the assigned production ID to which the records relate. If you are uncertain of the production ID, contact Louie Fleck in the Archives Department. If this is not applicable enter n/a.
  - h. Restrictions (Y/N): Enter Y (for yes) or N (for no) to indicate whether the records you are depositing should be flagged for any possible restrictions. Examples of restrictions could be sensitive information, uncertain copyright, etc.
  - i. Rights Holder Other Than BAM: Indicate the name(s) of any person(s) who have rights to any records being deposited to the

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<sup>8</sup> At the time of this report, the Archive's designated deposit location is the Archive's Synology Server (smb://128.100.0.3).

Archive. If you are uncertain, please enter “uncertain.” If BAM is the rights holder enter n/a.

4. In Progress – In the Summer of 2016, the Archive plans to hold facilitated ‘Archival Records Transfer Training Sessions’ in conjunction with BAM’s existing Annual Digital Clean Up Day. During these training sessions, appointed Records Coordinators in each department will meet one-on-one with Evelyn Shunaman and will be walked through instructions on how to transfer records to the Archive through the tool, ‘Exactly.’ Additionally, Records Coordinators will be asked to estimate time periods for when they expect to regularly transfer records into the Archive. This information will then be added to the official Records Retention Schedule document.

### 6.1.2 Require Minimum Metadata

#### Current Situation

Currently, with both paper/analog and digital records, no related metadata is required to be submitted. Metadata is ascertained through institutional knowledge of those working in the Archive and one-on-one follow-ups between Archive staff and relevant BAM Departmental staff. On occasion, certain metadata (for example in photographs) will be previously embedded in digital records sent to the Archive or will be added after receipt within the Archive. Embedded metadata is currently read and added by Archive staff through Adobe Bridge.

#### Ideal Situation

Departments will agree to provide an established set of minimum required metadata for all records deposited to the Archive. Departments will encourage photographers and videographers (externally and internally hired) to embed established required metadata into the file (including rights information).

#### Recommendations

1. Establish minimum required metadata for Archival records.
2. Establish method in which Departments can provide metadata information on individual and batches of files.
3. Create recommendations and how-to-guides for embedding metadata into images and videos.

#### Status of Recommendations

1. Completed – Through file transfer tool, ‘Exactly,’ minimum metadata fields have been established. See ‘**Status of Recommendation**’ point #4 in section 6.1.1.
2. Completed – Through file transfer tool, ‘Exactly,’ metadata can be provided at the file or folder level. See ‘**Status of Recommendation**’ point #4 in section 6.1.1.
3. To Do – For Departments with photos and videos, more research should be done to assess current workflows with the Department around the technical environment under which photographs and videos are produced. For example, are photos/videos edited on a Mac or PC? What software is used? Are photos/videos created internally or externally? Once a clearer picture is gained as to how photos/videos are created, research can be conducted as to how metadata is

embedded in similar working environments and appropriate recommendations can be made to Departments.

### 6.1.3 Standardize File/Folder Naming Conventions

#### **Current Situation**

Currently, there is little consistency for naming files and/or folders within and across departments at BAM. Files are named according to the needs of individual departments which does not necessarily ensure understandability by those outside of the individual department. For example, a file named “2016 Report” might not convey the same significance from one department to the next.

#### **Ideal Situation**

Departments across BAM will follow a broad institutionally adapted naming convention. Departments will be able to adapt this new naming standard and integrate it into individual workflows.

#### **Recommendations**

1. Establish broad naming convention based on existing standards. (For example: YYYYMMDD\_RecordCategory\_Version#\_DeptSpecificNotes
2. Articulate need for standardized naming convention in non-archival understandable terms.

#### **Status of Recommendations**

1. To Do – After the Annual Digital Clean Up Day in the Summer 2016, it is recommended that the Archive browse through records that have been deposited and look at file names taking note of what file names that are clear and descriptive and file names that are ambiguous. Through these observations, the Archive can provide recommendations to Departments at BAM to move towards the creation of standardized file naming conventions.
2. Completed – An easy to understand, one-pager of ‘tips’ for how to manage digital content with specific notes on file naming conventions was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.

### 6.1.4 Identify & Discard Drafts/Versions

#### **Current Situation**

Currently, there is little consistency across departments as to whether or not versions of records are identified and/or retained. Some departments are clear about labeling and regularly deleting old versions of files after they are no longer useful, while other departments indefinitely maintain multiple versions of files without distinction.

#### **Ideal Situation**

Departments across BAM will identify versions of files within the file name. Final versions will be saved in accordance to the Records Retention Schedule and superseded versions will be deleted as soon as they are no longer needed.

#### **Recommendations**

1. Articulate need for identifying versions and deleting older, non-useful versions in non-archival understandable terms.

#### **Status of Recommendations**

1. Completed – An easy to understand, one-pager of ‘tips’ for how to manage digital content with specific notes on identifying versions and finals was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.

#### **6.1.5 Define “Significant Records” and “While Useful Records”**

##### **Current Situation**

Currently, the existing version of the Records Retention Schedule, as well as the newly revised Records Retention Schedule (**Appendix #1**) makes a distinction between significant and non-significant records. Additionally, “while useful” is listed as a common retention period. Both significant and while useful can be vague terms that lead to confusion and lack of compliance.

##### **Ideal Situation**

Departments across BAM will regularly review (annually at minimum) the Records Retention Schedule and determine amongst themselves with the assistance of the Archive, what is significant and non-significant. Additionally, Departments will regularly review (annually at minimum) all record categories with a retention period of “while useful” to determine if they can be discarded.

##### **Recommendations**

1. Articulate generalized guidelines to help departments define “significant” and “while useful” for themselves.
2. Suggest creation of “Rarely Used” folder where files suspected to be no longer useful can be stored. If files have not been touched in a period of six months, files can be deleted.
3. Establish timeline for when each department will review Records Retention Schedule.

#### **Status of Recommendations**

1. Completed – An easy to understand, one-pager of ‘tips’ for how to manage digital content with specific notes on significant vs. non-significant files was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.
2. Completed – An easy to understand, one-pager of ‘tips’ for how to manage digital content with specific recommendations on creating a ‘Rarely Used’ folder was created and will be distributed to Departments during the Summer of 2016 in conjunction with Annual Digital Clean Up Day. See **Appendix #5**.
3. In Progress – In the Summer of 2016, the Archive plans to hold facilitated ‘Archival Records Transfer Training Sessions’ in conjunction with BAM’s existing Annual Digital Clean Up Day. During these training sessions, appointed Records Coordinators will be asked to estimate time periods for when they expect

to regularly transfer records into the Archive. This information will then be added to the official Records Retention Schedule document.

#### **6.1.6 Organize, Manage, and Store Email**

##### **Current Situation**

Currently, across all Departments at BAM, email is regularly used as a communication tool to share everything from unsubstantial notes about lunch to final versions of contracts. More often than not, there is little distinction between “significant” and “non-significant” emails. In general, emails are being stored as if they were a records category in and of themselves. For example, rather than saving a correspondence related to an Artist Subject File, the correspondence (email) will be saved with all other emails. BAM’s long-term email back-up system is erroneously considered by many to be a potential information source for the Archive. In truth, this is only the case for BAM executive email. Furthermore, during the course of this project, it was learned that the back-up system (currently Dell EMS) is not used by many staff members. Additionally a sample test to retrieve old emails was conducted and resulted in errors thus showing that the Dell EMS system can be unreliable. However, because IT is implementing a new email archiving system (Office 365) in 2016, further work to correct Dell EMS was not pursued.

##### **Ideal Situation**

Departments across BAM will receive professional development training in how to organize and manage emails. This training will provide recommendations on subject headings of emails, folder names, and how/when to delete emails that are no longer useful. Additionally, BAM staff will save archivally significant emails (as indicated in the Records Retention Schedule) in related folders on the BAM Networked Drive. For example, a note-worthy correspondence with an Artist would be dragged from Outlook into an Artist Subject Folder on the Network Drive. Lastly, for BAM staff for whom all email is retained permanently in the Archive (BAM Executives), a clear ingest and access plan will be developed to bring all emails into the Archive after the staff member is no longer using their BAM email.

##### **Recommendations**

1. Discuss with IT, senior management, and Archives plan for managing email and make clear whose responsibility email archiving needs to be.

##### **Status of Recommendations**

1. To Do – IT is in the process of migrating to a new email archiving management system, Microsoft 365. Once this is in place, it is recommended that a meeting be arranged to establish a workflow for bringing in archival emails into the archive.

#### **6.1.7 Discourage Use of Removable Media**

##### **Current Situation**

Currently, there is not much removable media (hard drives, flash drives, optical discs, floppy discs, etc.) used across departments at BAM. However, there are instances of records (especially photographs and videos) being stored on removable media. Often

records were stored in this manner as a means of back-up or of convenient transport. Due to the inherent instability of optical discs and other removable media devices<sup>9</sup> as well as the decline in machines that read this information<sup>10</sup>, there is concern for accessing records stored on removable media for the long term.

### **Ideal Situation**

BAM staff will understand the risks to storing records on removable media. Optical discs will no longer be used and hard drives will be used solely as a means of personal back-up. Any older forms of removable media devices will immediately be deposited into the Archive. All important information stored on removable media will also be stored on the BAM Network Drives.

### **Recommendations**

1. Articulate risks of storing information on removable media in non-archival understandable terms.
2. Incorporate reminders to not depend on removable media into the Annual Clean Up Day and the Annual Digital Clean Up Day.
3. Establish a part-time or intern led project in the Archives to gather all removable media across departments at BAM and migrate all information off of existing removable media devices (prioritizing based on obsolete/soon to be obsolete devices including optical discs).

### **Status of Recommendations**

1. Completed – An easy to understand, one-pager of ‘tips’ for how to manage digital content with specific notes on the risks of removable media was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.
2. Completed – Same as above.
3. To Do – See **Appendix #6** for a detailed proposal on a project that could be initiated by a BAM Archive’s staff member or intern to process removable and optical media at BAM.

### **6.1.8 Establish Acceptable File Formats**

#### **Current Situation**

Currently, the Archive does not have any formalized specifications or requirements with regards to file formats for digital records submitted to the Archive. Due to management by the IT Department, there is some consistency with regards to acceptable software programs used at BAM. As a result, most digital records are created within the Microsoft

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<sup>9</sup> Fred R. Byers, *Care and Handling of CDs and DVDs: A Guide for Librarians and Archivists*, Washington, D.C.: Council on Library and Information Resources, 2003.; Adrian Brown, *Care, Handling and Storage of Removable Media*. Digital Preservation Guidance Note 3. London: The National Archives, 2008.

<sup>10</sup> Kyrnin, Mark. "Death of the Computer Optical Drive." About.com Tech. 17 Mar. 2016. Web. 27 May 2016.

and Adobe platforms. However, for the creation of photographs, videos, and audio streams, there is little standardization encouraged by BAM.

### **Ideal Situation**

The Archive will establish a list of acceptable file formats (based off of projected archival stability), that BAM staff will attempt to adhere to. For files created outside of the established acceptable file formats, a mapping plan will be created to convert files into acceptable file formats upon ingest into the Archive. This list will be regularly reviewed by the Archive to limit possibilities of file format obsolescence.

### **Recommendations**

1. Research and create list of acceptable file formats based off of predicted archival stability and with acknowledgment that both Mac and PCs are used.
2. Research and create migration plan to convert non-acceptable file formats into acceptable file formats.
3. Provide recommendations for preferred file formats to departments working with photographs, videos, and audio.
4. Establish timeline for Archive to regularly review list of acceptable file formats.

### **Status of Recommendations**

1. Completed – See **Appendix #7** for detailed documentation on recommended file formats and a plan for migration.
2. Completed – Same as above.
3. Completed – Same as above.
4. To Do – It is recommended that in preparation for the Annual Digital Clean Up Day that the Archives reviews the information in **Appendix #7** making note of any necessary changes.

## **6.1.9 Reassure Continued Access to Deposited Records**

### **Current Situation**

Currently, a limited percentage of digital records come into the Archive. One of the reasons for this is because BAM staff frequently refer back to old records for research, fact-checking, and inspiration. With the ease of digital storage, it is more convenient for staff to keep records on their Network Drives than to deposit something into the Archive. However, as the amount electronic information created continues to grow, the amount of space on Network Drives will become an increasingly pressing issue. Also, more information created digitally will become

### **Ideal Situation**

BAM staff will feel confident depositing records into the Archive with the knowledge that they will still be able to access this information. There will not be any time in which BAM staff will not be able to obtain an access copy of their own digitally created records deposited into the Archive.<sup>11</sup>

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<sup>11</sup> For large original masters of some videos and audio files, there might be a time-delay in request for access and access.

## Recommendations

1. Reassure BAM staff of continued access to any records deposited into the Archive.
2. Confirmation of receipt of electronic records deposited into the Archive will be sent within a week of any deposited records.
3. The Archive will provide transparent information on how archival records are stored and backed-up.

## Status of Recommendations

1. Completed – An easy to understand, one-pager of the overall process for sending records to the Archive with a specific emphasis on continued access to records after deposit was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.
2. Completed – Once electronic records are deposited into the Archive using the file transfer tool, ‘Exactly,’ the Archive will send an email within a week acknowledging receipt of records. Below is a sample text that is recommended for the email:

Thank you for transferring records to the Archive. This email acknowledges that on **Date** the Archives received **Title of Deposit** from **Department**.
3. To Do – Over the Summer of 2016, the Archive plans to hold facilitated ‘Archival Records Transfer Training Sessions’ in conjunction with BAM’s existing Annual Digital Clean Up Day. Before records are transferred to the Archive, the Archive must confirm with the IT Department how the Archive’s Synology (the designated location for transferring archival records) will be backed-up. At the time of this report there were discussions of having the information on the Archive’s Synology back-uped on an additional local Synology server<sup>12</sup> or through Amazon Web Services. Once a clear back-up plan is established, it is recommended that the Archives create an easy to ready document outlining how electronic information within the Archive is backed-up. It is the hope that being transparent will encourage trust from BAM staff that they can safely deposit records into the Archive.

## 6.2 Secondary Issues

Below are secondary issues that need to be addressed for one or multiple (but not the majority) of departments at BAM.

### 6.2.1 Develop Workflow for Archiving Videos at BAM

#### Current Situation

Currently, the Video Department at BAM records all mainstage performances and a selection of other performances, events, and marketing materials with anywhere from one to seven cameras. For mainstage performances, the Video Department will record what they call an “Archive Video” which is ‘back of the house’ footage of the performances

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<sup>12</sup> IT expects Dance Motion USA to be purchasing an additional Synology server in the Summer of 2016; however, it had not been confirmed at the time of this report.

with added titles. The master copies of all mainstage performances are stored permanently at BAM and also at the New York Public Library for the Performing Arts. The master copies at BAM are supposed to be the Archival copy and a workflow is being created to have the master copies sent to Amazon Glacier. Currently, the Video Department (not the Archive) has authorization over the management of the video archival masters sent to Amazon Glacier. Derivative viewing copies of the mainstage performances are supposed to be created by the Video Department and sent to the Archive. However, due to extremely demanding workloads, there is a backlog of viewing copies that need to be made and sent to the Archive. At the time of this report, the Video Department is working on clearing this backlog.

### **Ideal Situation**

The Video Department will record all mainstage performances. Archive master videos will be sent to NYPL and to Amazon Glacier. Once in Glacier, the Archive and IT will have administrative control over the Archive master videos. The Video Department will create viewing derivative copies of all mainstage performances and transfer these to the Archive's Synology server. The same workflow will apply to all other non-mainstage performances that are recorded by the Video Department that are archivally significant (as indicated by the Records Retention Schedule. See **Appendix #1**) except they will not be sent to NYPL.

### **Recommendations**

1. Develop clear workflow outlining the lifecycle of archivally significant videos created by the Video Department.
2. Discuss between Archives, IT, and Video the responsibilities for management of archival master videos in Amazon Glacier.

### **Status of Recommendations**

1. Completed – An easy to understand diagram that outlines the lifecycle of archivally significant videos was created. See **Appendix # 8**.

## **6.2.2 Educate on Risks of Links**

### **Current Situation**

Currently, hyperlinks are used in a variety of mediums at BAM: newsletters, internal reporting documents, and emails. The majority of instances in which hyperlinks are used are in records that are not deemed archivally significant in accordance to the Records Retention Schedule. However, the reliance on links in daily operations can cause potential problems if the link becomes broken or no longer active.

### **Ideal Situation**

BAM staff will understand the risk of using links and will save any significant information in the form of a .pdf or .pdfa.

### **Recommendations**

1. Articulate risks to using links in non-archival understandable terms.

### **Status of Recommendations**

1. Completed – An easy to understand, one-pager of the overall process for sending records to the Archive with a specific emphasis on the risks of using links was created and will be distributed to Departments during the Summer of 2016 in conjunction with the Annual Digital Clean Up Day. See **Appendix #5**.

### 6.2.3 Be Mindful of Potential Duplication

#### **Current Situation**

Currently, there are occasions when departments across BAM will work together to create records or will share final records with one another. This can lead to multiple departments saving the same record. This can also lead to confusion as to whose responsibility it is to deposit these records into the Archive.

#### **Ideal Situation**

BAM staff use the Records Retention Schedule as a guideline and understand whose responsibility it is to save and deposit records. Any records that are deposited into the Archive by multiple departments will be detected upon ingest and will be associated with the department in accordance with the Records Retention Schedule.

#### **Recommendations**

1. Establish timeline for Records Retention Schedule to be reviewed and updated annually to ensure that it fits with current workflows of BAM departments.
2. Ensure duplication checks are run on all records upon ingest into the digital preservation environment.

#### **Status of Recommendations**

1. Completed – Every year in conjunction with the Annual Clean Up Day, the Archives will request approval of the existing Records Retention Schedule from appointed Records Retention Coordinators.
2. To Do – Duplication checks should be run on all records deposited into the Archive on a regular basis. Consider purchasing the easy to use Mac based application, ‘Duplication Detective’ to run this task.<sup>13</sup>

### 6.2.4 Be Mindful of Potentially Sensitive Information

#### **Current Situation**

Currently, there are a number of records for select departments that contain sensitive information. There is no established procedure for under what circumstances access to these records should be granted to consumer groups. Currently, there are no digital emails stored within the Archive. However, when emails are eventually brought into the Archive, considerations must be given to searching for and identifying potentially sensitive information contained within emails.

#### **Ideal Situation**

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<sup>13</sup> At the time of this report, ‘Duplication Detective’ costs \$2.99 and can be searched for and purchased through the Mac App Store.

Records with potentially sensitive information will be identified by departments upon deposit. The Department, Archive, and any necessary Executive Staff will establish the parameters under which access to these records will be granted. A specific project dedicated specifically to email will be conducted and result in guidelines for handling sensitive information contained in archival emails.

### **Recommendations**

1. Flag record categories with potentially sensitive information on the Records Retention Schedule.
2. Establish workflow and protocols for obtaining permission to provide access to archival materials that contain sensitive information.
3. Establish specific project for handling email within the Archive.

### **Status of Recommendations**

1. Completed – During the process of revising the Records Retention Schedule, any record categories that were expected to hold potentially sensitive information were noted in the ‘Notes’ column of the Excel spreadsheet version of the Records Retention Schedule. Furthermore, one of the metadata fields Departments are asked to enter when depositing records to the Archive through the file transfer tool, ‘Exactly,’ is “Restrictions [Y/N].” Instructions for this field read:  
Enter Y (for yes) or N (for no) to indicate whether the records you are depositing should be flagged for any possible restrictions. Examples of restrictions could be sensitive information, uncertain copyright, etc.
2. To Do – Further conversations across any relevant Departments (i.e. Archives, IT, Executives) need to be initiated to establish protocols for providing researchers with access to records that may contain sensitive information.
3. In Progress – At the time of this report the Archives submitted a proposal for grant funding from Metropolitan New York Library Council (METRO) to work on a project specifically to develop approaches for archiving email. See **Appendix #9** for the project proposal.

## **6.2.5 Research Web Archiving (Including Social Media)**

### **Current Situation**

Currently, there is no process in place for capturing and archiving BAM’s website or any of BAM’s social media presence.

### **Ideal Situation**

Records relating to BAM’s online presence are incorporated into the Records Retention Schedule. The Archive is trained in easy-to-use web and social media tools that capture what is identified as being archivally significant. A timeline and all related parameters for capture will be documented by the Archive.

### **Recommendations**

1. Develop a plan for the Archive to conduct a research project specifically on web and social media archiving with the goal of determining how, when, and how much of BAM’s online presence should be archived.

2. Provide recommendations on potential tools and other areas of further research in this field.

### **Status of Recommendations**

1. In Progress – At the time of this report the Archives submitted a proposal for grant funding from Metropolitan New York Library Council (METRO) to work on a project specifically to develop a plan for social media and web archiving. See **Appendix #10** for the project proposal.
2. To Do – More research needs to be conducted as to methods and tools for social media and web archiving that are in place within similar archival environments. Some tools/resources to consider include:
  - i. Archive-It
  - ii. Archive Social
  - iii. Exactly
  - iv. NCSU Social Media Archives Toolkit
  - v. Social Feed Manager
  - vi. Twarc
  - vii. Video Grabber
  - viii. Webrecorder

### **6.2.6 Research Mission Critical Systems**

#### **Current Situation**

There are a number of systems that are used to organize, store, and manage records created by BAM staff. Section 5.2 outlines the major systems that are used by BAM staff as identified through this project. Currently, there is no documented way to ensure that information stored in these systems will be guaranteed to exist beyond the lifecycle of the system itself. Furthermore, there are select systems (i.e. systems with password protected individual accounts such as dropbox, google drive, etc.) that are not guaranteed to be accessible beyond a staff members' employment at BAM. Because these systems are relatively young, there is no policy or workflow in place to manage records stored in systems for the long-term. Of particular importance are the systems that contain information that the Archive is required to store permanently as per the Record Retention Schedule (See **Section 5.2**).

#### **Ideal Situation**

Any information that is stored in a system will have a clear plan for ingest into the Archive's digital repository. The Archive will have documentation on how information stored in these systems is backed up and will develop a plan for how to access this information over the long-term.

#### **Recommendations**

1. Document current known information about the mission critical systems (Arts Vision, Collective Access, and Tessitura).
2. Develop plan for ingesting archival records stored in systems into the Archive.

### **Status of Recommendations**

1. Complemented – Interviews were conducted with BAM staff who administer the mission critical systems. See **Appendix #2** for summarizations of the information gathered from these interviews.
2. To Do – A clear plan will need to be established to ensure the Archive is caring for any archival records regardless of where they are being stored by BAM staff. Once systems no longer hold all data since their inception, there must be a method for transferring the information in a readable format to the Archives.

### 6.2.7 Research LTO vs Cloud Storage for Archival Material

#### Current Situation

BAM IT is in the process of developing the scope and extent to which it will depend on Amazon Web Services' (AWS) two platforms, S3 and Glacier, for storage and back-up of BAM's digital information. While BAM IT is responsible for ensuring immediate access to all current data for the entire institution of BAM, it is the Archive's responsibility to ensure long-term preservation requirements are being met specifically for the archival records. There was a preliminary conversation between the Archive and IT about potential concerns around the archival trustworthiness of using AWS for long-term storage. As part of this project, research was conducted as to alternatives to cloud-based storage for archival records, such as the use of Linear Tape Open (LTO). Currently, IT will move forward with plans to store archival data on AWS.

#### Ideal Situation

All digital information stored in the Archive will be backed-up on a trustworthy platform and the Archive will have clear documentation relating to all workflows relevant to long-term storage. Decisions around the platform(s) used for long-term storage of archival records will be considered when the Archives are able to embark on a project that looks specifically at developing the Archival Information Package (AIP) portion of the OAIS model.

#### Recommendations

1. Research and evaluate trustworthiness and effectiveness of AWS for the long-term preservation of archival records.
2. Research and evaluate trustworthiness and effectiveness of LTO for the long-term preservation of archival records.

#### Status of Recommendations

1. In Progress – Preliminary research has been conducted as to the trustworthiness of AWS with regards to long-term preservation. See **Appendix #11** for an easy to read summarization by AVPreserve as to the advantages and disadvantages of using AWS. It is recommended that when IT does move forward with transferring archival records into Glacier that tests be performed to ensure retrievability. Additionally, once archival records are moved into Glacier it will be important to clearly document the responsibilities for maintenance and access between IT and Archives.
2. In Progress – Preliminary research has been conducted as to the option of having the Archives use LTO for long-term storage. While establishing a LTO workflow would be not an immediate step that the Archive takes, it is

recommended that the use of LTO continue to be considered as an option once the Archive has established a more regularized routine for ingesting records into the Archive. See **Appendix #12** for a report from the Minnesota Historical Society on digital preservation and cloud services.

### **6.2.8 Investigate Digital Repository Tools**

#### **Current Situation**

Within the current state of the field of digital preservation, it is common for archives and digital repositories to utilize or build a digital preservation system such as Archivematica, Preservica, etc. However, there is still much debate in the field as to the advantages and disadvantages of different systems. At BAM, no digital preservation system is in place and no recommendations have been made towards selecting a specific tool. The Archives does not currently have the resources to acquire or maintain this type of system.

#### **Ideal Situation**

BAM Archive is able to select a digital repository tool that satisfies the functional and business requirements unique to BAM. The tool will be able to be selected based off in-depth research and reviews from other similar archives.

#### **Recommendations**

1. When the Archives is prepared to move to the next stage of developing the digital repository for institutional records, research and evaluate digital repository tools that are common amongst digital archives.

#### **Status of Recommendations**

1. In Progress – Preliminary research has been conducted on the advantages and disadvantages of different digital repository tools. See **Appendix #13** for an easy to read evaluation by Preserving (Digital) Objects With Restricted Resources (POWRR) of common digital repository tools in the field. Furthermore, it is recommended that archive staff continue to stay abreast on the state of digital preservation and specifically digital repository tools being used by subscribing to listservs, reading journals, and attending conferences.