

Appendix 2K - metadata per page MIX v2

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Revised for second bid.

For each page there should be a file with technical metadata concerning each page's JP2 image, where the MIX 2.0 schema must be used. It can be found here: <http://www.loc.gov/standards/mix/>

Technical metadata concerning each JP2 file – MIX 2.0

Data Description	Data type	Example	Notes	Repeatable R=yes NR=non-repeatable	Mandatory M=yes MA=yes, if available O=optional F=fixed	Xpath (see XML templates)
object Identifier	String	123456789-14-0010	[Film-id]-[Billed-id], cf. appendix 2f	NR	M	mix:mix/mix:BasicDigitalObjectInformation/mix:ObjectIdentifier[mix:objectIdentifierType="Image Unique ID"]/mix:objectIdentifierValue
File size	integer	53153644	Size of the file in bytes	NR	M	mix:mix/mix:BasicDigitalObjectInformation/mix:fileSize
File format name	string	JPEG2000 – part 1	Format name	NR	F	mix:mix/mix:BasicDigitalObjectInformation/mix:FormatDesignation/mix:formatName
File format version	string	ISO-IEC 15444-1:2004	Format version	NR	F	mix:mix/mix:BasicDigitalObjectInformation/mix:FormatDesignation/mix:formatVersion
Compression algorithm	string	JP2 lossless	Which type of compression does the file use?	NR	F	mix:mix/mix:BasicDigitalObjectInformation/mix:Compression/mix:compressionScheme
Checksum algorithm	string	MD5	Checksum algorithm	NR	F	mix:mix/mix:BasicDigitalObjectInformation/mix:Fixity/mix:messageDigestAlgorithm
Checksum	string		Checksum	NR	M	mix:mix/mix:BasicDigitalObjectInformation/mix:Fixity/mix:messageDigest
Organisation which calculated the checksum	String		Organisation that calculated the checksum	NR	M	mix:mix/mix:BasicDigitalObjectInformation/mix:Fixity/mix:messageDigestOriginator
Image width	integer	6121	Width of image in pixels	NR	M	mix:mix/mix:BasicImageInformation/mix:BasicImageCharacteristics/mix:imageWidth

Image height	integer	8661	Height of image in pixels	NR	M	mix:mix/mix:BasicImageInformation/mix:BasicImageCharacteristics/mix:imageHeight
colorSpace	string	greyscale	The colorspace the image uses	NR	M	mix:mix/mix:BasicImageInformation/mix:BasicImageCharacteristics/mix:PhotometricInterpretation/mix:colorSpace
Image source	string	microfilm	Source media it is scanned from	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:SourceInformation/mix:sourceType
FilmID	string	123456789-12	Film ID, cf. appendix 2F.	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:SourceInformation/mix:SourceID[mix:sourceIDType="Microfilm reel barcode #"]/mix:sourceIDValue
Location on film	string	0010	Billed ID, cf. appendix 2F	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:SourceInformation/mix:SourceID[mix:sourceIDType="Location on microfilm"]/mix:sourceIDValue
Scanning date	date	2010-03-02T11:48:06	When was the image scanned?	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:GeneralCaptureInformation/mix:dateTimeCreated
Scanner-organisation	string	State and University Library; Proquest; Operator ID	Who produced the image?	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:GeneralCaptureInformation/mix:imageProducer
Scanner manufacturer	String	Wicks and Wilson	Scanner manufacturer	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:scannerManufacturer
Scanner model name	String	Scanstation	Scanner model name	NR	M	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:ScannerModel/mix:scannerModelName
Scanner model number	String	RS325	Scanner model number	NR	MA	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:ScannerModel/mix:scannerModelNumber
Scanner model serial number	String	SN#8060359	Unique scanner serial number	NR	MA	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:ScannerModel/mix:scannerModelSerialNo
Software used on the image	String	Rollfilm	Software used on image	R	M	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:ScanningSystemSoftware/mix:scanningSoftwareName

Software version	string	2.6g	Software version. NB Software name and version are repeatable as pair, not as individual values.	R	M	mix:mix/mix:ImageCaptureMetadata/mix:ScannerCapture/mix:ScanningSystemSoftware/mix:scanningSoftwareVersionNo
sampling Frequency Unit	String	in. cm	Unit of the next two fields	NR	M	mix:mix/mix:ImageAssessmentMetadata/mix:SpatialMetrics/mix:samplingFrequencyUnit
x Sampling frequency	integer	400	NB You can use the denominator field if this is not to be an integer.	NR	M	mix:mix/mix:ImageAssessmentMetadata/mix:SpatialMetrics/mix:xSamplingFrequency[mix:denominator=1]/mix:numerator
y Sampling frequency	integer	400	NB You can use the denominator field if this is not to be an integer.	NR	M	mix:mix/mix:ImageAssessmentMetadata/mix:SpatialMetrics/mix:ySamplingFrequency[mix:denominator=1]/mix:numerator
bitsPerSampleValue	string	8	Number of bits per colour channel. If there are several colour channels, then use a comma separated list.	NR	M	mix:mix/mix:ImageAssessmentMetadata/mix:ImageColorEncoding/mix:BitsPerSample[mix:bitsPerSampleUnit="integer"]/mix:bitsPerSampleValue
bitsPerSampleValue	integer	1	Number of colour channels per pixel, i.e. always 1 for grey tones.	NR	M	mix:mix/mix:ImageAssessmentMetadata/mix:ImageColorEncoding/mix:samplesPerPixel

MIX example

```

<mix:mix xmlns:mix="http://www.loc.gov/mix/v20">
  <mix:BasicDigitalObjectInformation>
    <mix:ObjectIdentifier>
      <mix:objectIdentifierType>Image Unique
      ID</mix:objectIdentifierType>
    <mix:objectIdentifierValue>123456789-14-0010</mix:objectIdentifierValue>
    </mix:ObjectIdentifier>
    <mix:fileSize>53153644</mix:fileSize>
    <mix:FormatDesignation>
      <mix:formatName>JPEG2000 - part 1</mix:formatName>
      <mix:formatVersion>ISO-IEC 15444-1:2004</mix:formatVersion>
    </mix:FormatDesignation>
    <mix:Compression>
      <mix:compressionScheme>JP2 lossless</mix:compressionScheme>
    </mix:Compression>
    <mix:Fixity>
      <mix:messageDigestAlgorithm>MD5</mix:messageDigestAlgorithm>
      <mix:messageDigest>239.....</mix:messageDigest>
    </mix:Fixity>
  </mix:BasicDigitalObjectInformation>
</mix:mix>

```

```
<mix:messageDigestOriginator>Microfilm-scanning.com</mix:messageDigestOriginator>
  </mix:Fixity>
</mix:BasicDigitalObjectInformation>
<mix:BasicImageInformation>
  <mix:BasicImageCharacteristics>
    <mix:imageWidth>6121</mix:imageWidth>
    <mix:imageHeight>8661</mix:imageHeight>
    <mix:PhotometricInterpretation>
      <mix:colorSpace>greyscale</mix:colorSpace>
    </mix:PhotometricInterpretation>
  </mix:BasicImageCharacteristics>
</mix:BasicImageInformation>
<mix:ImageCaptureMetadata>
  <mix:SourceInformation>
    <mix:sourceType>microfilm</mix:sourceType>
    <mix:SourceID>
      <mix:sourceIDType>Microfilm reel barcode
#</mix:sourceIDType>
      <mix:sourceIDValue>123456789-12</mix:sourceIDValue>
    </mix:SourceID>
    <mix:SourceID>
      <mix:sourceIDType>Location on microfilm</mix:sourceIDType>
      <mix:sourceIDValue>0010</mix:sourceIDValue>
    </mix:SourceID>
  </mix:SourceInformation>
  <mix:GeneralCaptureInformation>
    <mix:dateTimeCreated>2010-03-02T11:48:06</mix:dateTimeCreated>

<mix:imageProducer>Statsbiblioteket ; Proquest</mix:imageProducer>
  </mix:GeneralCaptureInformation>
  <mix:ScannerCapture>
    <mix:scannerManufacturer>Wicks and
Wilson</mix:scannerManufacturer>
    <mix:ScannerModel>
      <mix:scannerModelName>Scanstation</mix:scannerModelName>
      <mix:scannerModelNumber>RS325</mix:scannerModelNumber>

<mix:scannerModelSerialNo>SN#8060359</mix:scannerModelSerialNo>
  </mix:ScannerModel>
  <mix:ScanningSystemSoftware><!--Repeatable-->

<mix:scanningSoftwareName>Rollfilm</mix:scanningSoftwareName>

<mix:scanningSoftwareVersionNo>2.6g</mix:scanningSoftwareVersionNo>
  </mix:ScanningSystemSoftware>
</mix:ScannerCapture>
</mix:ImageCaptureMetadata>
<mix:ImageAssessmentMetadata>
  <mix:SpatialMetrics>
    <mix:samplingFrequencyUnit>in.</mix:samplingFrequencyUnit>
    <mix:xSamplingFrequency>
```

```
        <mix:numerator>400</mix:numerator>
        <mix:denominator>1</mix:denominator>
    </mix:xSamplingFrequency>
    <mix:ySamplingFrequency>
        <mix:numerator>400</mix:numerator>
        <mix:denominator>1</mix:denominator>
    </mix:ySamplingFrequency>
</mix:SpatialMetrics>
<mix:ImageColorEncoding>
    <mix:BitsPerSample>
        <mix:bitsPerSampleValue>8</mix:bitsPerSampleValue>
        <mix:bitsPerSampleUnit>integer</mix:bitsPerSampleUnit>
    </mix:BitsPerSample>
    <mix:samplesPerPixel>1</mix:samplesPerPixel>
```

```
    </mix:ImageColorEncoding>  
  </mix:ImageAssessmentMetadata>  
</mix:mix>
```