** Preservation Lab - Treatment Report**

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<td>2/5/2013</td>
<td>Ashleigh Schieszer</td>
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**Department**

PLCH

**Call Number**

624.230977 R711 rZr 1846

**Date Returned to Origin**


**Title**

Remarks upon Mr. Roeblings plan & report for a wire suspension bridge

**Author**

**DESCRIPTION:**

**General Remarks**

Side sewn paper pamphlet containing single sheets, folios and foldout maps.

**Binding**

Three-hole, side sewn with a paper wrapper cover tipped to the front over the sewing.

**Textblock**

The text is composed of both single sheets, folios, and two foldouts.

**Primary Support**

The textblock leaves are a light beige machine-made wove paper.

**Medium**

Printed in black ink.

**Attachments | Inserts**

There are two foldout maps located at the very end of the textblock that contain four and five folds.

**CONDITION:**

**Summary**

Extremely poor condition due to the brittleness of the cover and sewing. Additionally, there are disfiguring tideline stains throughout and engrained dirt beneath previous repairs.

**Binding**

The paper wrapper has discolored from beige to brown and contains numerous tideline stains from where drops of moisture were introduced. All edges of the upper cover are folded, creased, and torn. The sewing is broken and loose.

**Textblock**

The leaves are dirty and dog-eared. The foldout maps are particularly dirty, stained and discolored, especially where they have been previously filled with screen/net-like fabrics. The stains extend far into the leaf and appear to have been a result of the prior repairs.

**Primary Support**

The textblock paper is dirty, especially around the margins. The paper has discolored from white to light beige.

**Medium**

Printed in black ink.

**Housing**

**Portfolio**

**Previous Treatment**

There are losses in the folds of the foldout maps. These losses have been previously repaired with a screen fabric adhered to the verso of the losses. Scientific testing at Buffalo State College Art Conservation Department indicates there are two types of repair fibers adhered with a PVAc adhesive: nylon and cellulose. Both repair screens are impregnated with adhesive. The repair on the upper foldout has particularly become brittle and is highly prone to tearing. Both the fabric and adhesive on the upper foldout brightly fluoresce under Ultraviolet A radiation. The lower foldout repair is stronger, and does not fluoresce under ultraviolet A radiation.

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Monday, May 05, 2014
Materials Analysis
During spot testing, the prior repairs were both found to be soluble in ethanol, whereas the black printed ink was not soluble in ethanol.

TREATMENT:

Proposal
1. Remove original sewing.
2. Surface clean the cover and textblock.
3. Wash the textblock, cover, and foldout maps and remove the previous mendings.
4. Fill losses in the fold out maps with kozo tissue and wheat starch paste.
5. Mend tears and flatten creases in the textblock leaves.
6. Guard pages as needed.
7. Resew textblock.
8. Hinge on cover.

Housing Need

Factors Influencing Treatment
The pamphlet’s original style of side sewing was photographically documented before treatment. In order to facilitate safer handling of the document in the future, it will be kept in its original gatherings but sewn through the fold.

Performed Treatment
The pamphlet was documented with digital photography before, during, and after treatment using normal illumination and longwave ultraviolet radiation. UVA shows the amount of adhesive engrained in the paper from previous repairs.

1. The pamphlet was disbound by removing the broken sewing with tweezers and cutting with small scissors.

2. The cover, textblock and foldouts were first surface cleaned overall with Absorene sponges to lift away loose dirt. The textblock and cover were also surface cleaned overall with vinyl eraser crumbs in preparation for washing.

3. The foldouts were then separated from the rest of the textblock because of their brittle state and extra dirty repairs that required additional attention. First, the prior repairs were mechanically removed as much as possible. Once removed, the foldouts were further surface cleaned with vinyl eraser crumbs on the recto and verso. Afterwards, the foldouts were surface cleaned overall with a vinyl block eraser.

4. The textblock and title page were washed in a total of three baths of filtered water buffered to pH 7.5 with calcium hydroxide.

5. The textblock and title page air dried overnight on a drying rack in between sheets of Hollytex.

6. Once dry, the textblock and title page were sized with 0.3% methyl cellulose A4M and dried on a drying rack in-between sheets of Hollytex [AS & CV].

7. To flatten, the textblock was misted lightly with a dahlia sprayer and pressed in a blotter pressing stack overnight. The process was repeated a second time and pressed for three hours before repairing tears and guarding [V.S./I.E.].

8. The textblock folios were guarded with Uso Mino Thinnest and Zen Shofu wheat starch paste. Tears in the textblock were repaired using Uso Mino Thinnest and Tengujo kozo paper with wheat starch paste [V.S./I.E.].

9. Losses in the textblock leaves were filled with Uso Mino Thinnest, except for the title page corners which were repaired with Uso Mino tissue toned with Golden Acrylics to provide a more accurate thickness and aesthetically pleasing color match.

10. The cover was not sized. Instead, it was lined overall with Uso Mino tissue and wheat starch paste to provide additional strength. The lining was left long on the left hand side of the cover in order to serve as a hinge for re-binding. After lining, the cover was dried in between felts [A.S. & P.S.].

11. The losses in the upper left corner of the front cover were filled with toned Sekishu tissue and wheat starch paste using the pin-prick method on a light table.

12. Old prior repairs on the foldouts were mechanically removed after softening the clear adhesive by brush applying ethanol onto the repair. After the fabric was removed, the clear adhesive was repeatedly scraped off of the surface of the paper with a spatula after softening the adhesive with ethanol.

13. The two foldouts were first wet cleaned in separate baths of filtered water buffered to pH 7.5 with
calcium hydroxide for 45 minutes. Yellow tideline stains reduced greatly at this stage; however, the areas with prior mends were still much discolored.

14. The foldouts were then blotter washed in ethanol to reduce staining in areas of previous repair. To blotter wash, a blotter was placed in the bottom of a washing tub and was saturated fully with ethanol. The foldout plate was laid on top with a carrier of Hollytex. Ethanol was applied directly to the areas of previous repair, and the recto and verso of the stains were cleaned with a soft brush.

15. The foldouts were rinsed in baths of filtered water buffered to pH 7.5 with calcium hydroxide.

16. After washing, the adhesive was greatly reduced. However, under longwave UV the paper still strongly fluoresced, indicating the adhesive was still engrafted in the paper, despite the paper feeling more flexible. In an attempt to further reduce staining and to reduce adhesive in areas with prior mends, the foldouts were wet cleaned on a suction table. Both ethanol and ammoniated water adjusted to pH 9 were applied. After cleaning on the suction table, the blotter showed an accumulation of black particles. Even with additional cleaning, the paper’s fluorescence under UVA did not reduce.

17. To provide additional support during handling, the foldouts were lined overall with Uso Mino tissue and Zen Shofu wheat starch paste and dried in between felts. As with the cover, the lining tissue along the left edge of the foldouts were left long to be used as hinges for rebinding.

18. Losses in the foldouts were filled with Sekishu tissue and wheat starch paste using the pin-prick method on the light table. The filled areas of loss were inpainted at the edges with book dirt.

19. The foldouts were re-folded along their original fold lines.

20. The cover, textblock, and foldouts were not side sewn as they were originally. Instead, they were sewn with a pamphlet stitch through three sewing stations through the fold, in their original two groupings.

21. The cover hinges and foldout hinges were trimmed to be discrete.

**Housing Provided**

Tuxedo Box

**Storage Recommendations and Handling notes**

The pamphlet is now safe for handling and display.

**TOTAL Treatment Time**

28.25
The Preservation Lab

Treatment Report Cont'd

i28972764_768_A1UV, Ultraviolet Radiation, upper foldout, recto, Before Treatment

i28972764_768_A02UV, Ultraviolet Radiation, upper foldout, verso, Before Treatment

i28972764_768_B1UV, Ultraviolet Radiation, upper foldout, recto, During Treatment

i28972764_768_B2UV, Ultraviolet Radiation, upper foldout, verso During Treatment

i28972764_768_D1UV, Ultraviolet Radiation, recto, After Treatment, filled losses highly fluoresce

i28972764_768_D2UV, Ultraviolet Radiation, verso, After Treatment, filled losses highly fluoresce

Photography By: Jessica Ebert
Prior repair does not fluoresce.

Filled losses highly fluoresce.

Photography By: Jessica Ebert