

Preparation for the Practical Training : Overall Process of Conservation

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Introduction

In Japan, wood is the primary structural material used in buildings which are preserved because of being designated as cultural properties by the national government, municipality, et cetera. The reason for the heavy use of this material is that it was available in abundance, given the hot, humid climate. Although wood has its drawbacks, such as combustibility and vulnerability to rotting and insect damage, it lends itself to ready repair, and modification, of parts of the building which it comprises. Such repair and modification of wooden buildings are also a part of history.

Similarly, plant-based roofing materials such as shingles, *hinoki* (Japanese cedar) bark, and thatch, are prone to wear and tear. Consequently, they require re-roofing and rethatching in shorter intervals compared to materials such as clay brick and metal, which have longer lifetimes.

Thus when wooden structures need to be preserved, they must be subjected to repairs varying in scope from dismantling to partial repair.

The repair of buildings is performed by the owner and/or steward of the building, with guidance, advice, and, when necessary, financial assistance for the repair project provided by the public organization responsible for designating that building as a cultural property.

1. The repair plan

With buildings which are designated as a cultural property, it is usually the case that the owner, who lacks the traditional skills required for repair and preservation, commissions the design, supervision, and management of the repair project to specialized engineers (licensed technicians) or to an organization which retains such specialists.

The specialized engineer or engineers (hereinafter referred to as “engineer”) entrusted with the project then conducts the following field surveys to determine the following matters required to perform the repairs according to the owner’s intent.

- (1) Measurement of building dimensions to determine the as-is size, floor area, etc. of the building.
- (2) Survey to determine the as-is status of damage, and formulation of a course of action for repair.
- (3) Survey of modifications and survey of restoration.
- (4) Formulation of tentative plan.
- (5) Survey of specifications.
- (6) Survey of replacement materials.
- (7) Photographing of as-is status.

2. Design of the repair project

Following the field surveys, the engineer reports the results to the owner and begins to formulate a design plan on the basis of the information gained from the surveys, under the supervision of relevant public organizations.

- (1) Establishment of a course of action for repair.
- (2) Formulation of the project specifications.
- (3) Decision-making on the duration and timing of the repair.
- (4) Formulation of an estimate of the project cost (or, with multiple-year projects, the project cost allocation for the first year).
- (5) Preparation of a month-by-month work schedule.
- (6) Preparation of as-is drawings.
- (7) Adjustment of as-is photographs.

The engineer prepares the design documents outlined above, and when the project involves a grant, attaches them to the application form for the grant for submission to the owner.

3. Implementation of the project

After preparing the design documents, the design supervisor supervises the repair work. Prior to implementation of the repair work, the supervisor prepares the necessary documents, while the

owner signs a contract with the contractor and the work is begun.

[1] Supervision of the repair work (in the case of a dismantling operation)

- (1) Preparation of necessary drawings as the need arises for implementing the repair work
- (2) Making measurements of the building and preparation of finely detailed as-is drawings.
- (3) Supervision of the work site and the work schedule.
- (4) Conducting a large number of surveys, including those relating to damage assessment, specifications, traces and impressions, alterations made to the original, and restoration to the original form.
- (5) When necessary, preparation of documents for restoration (application for modification of as-is status)
- (6) After dismantling is complete and permission has been granted for modification of the as-is state, preparing and submitting the design for implementation (application for modification of plan).
- (7) Preparation of conservation drawings (“before” and “after” repairs).
- (8) Making an estimate of the project, and preparing a performance report.
- (9) Preparation of documents relating to completion of the repair work.
- (10) After completion of the repair work, compilation of records, surveyed matters, drawings, and main informational photographs into a “Conservation Repair Project Report” for printing and publication.

[2] Implementation of the repair work

- (1) Depending on the type of building, the primary woodworking technician is to be a person who has taken the Woodworking Technician Training Program implemented by an organization holding “selected conservation techniques” relating to woodworking and repair of buildings.
- (2) Prior to embarking on the repair work, the technician is to have careful and meticulous consultations with the design supervisor in regard to the details of the design documents as well as of the repair work.
- (3) Following the design documents of the commissioned work, temporary structures are to be constructed and various facilities to be set up.
- (4) Following the design documents, work such as dismantling, foundation works, woodworks, roofing, and plastering, is to be performed in the order set out in the work schedule.
- (5) Any records (field notes) prepared under the instructions of the supervisor in dismantling etc. are to be submitted to the design supervisor.
- (6) Work on any uncertain parts is to be carried out under the instruction of the design supervisor.