



United Nations
Educational, Scientific and
Cultural Organization



东南大学出版社
SOUTHEAST UNIVERSITY PRESS

ASIA CONSERVED

LESSONS LEARNED FROM THE UNESCO ASIA-PACIFIC AWARDS
FOR CULTURAL HERITAGE CONSERVATION (2015-2019)

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FOREWORD

Established in 2000, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme (known as the UNESCO Asia-Pacific Heritage Awards) has celebrated achievements in heritage conservation for two decades. The programme recognizes achievements by private and public-private initiatives in heritage conservation in the Asia-Pacific region. It has set standards in conservation practice by highlighting, so far, 249 noteworthy initiatives to restore, repair, reimagine and conserve buildings and sites.

These award-winning initiatives are often vital not only for the survival of built heritage, but they also contribute to the well-being of present and future generations. They bring a renewed sense of pride to communities, revive traditional crafts, create employment as well as catalyse increased economic activity. All of this highlights the role of culture and heritage as contributors to sustainable development.

This fourth volume in the *Asia Conserved* series covers the UNESCO Asia-Pacific Heritage Awards winners between 2015 and 2019. This period saw winners from all over the region, with diverse building typologies, scales, locations and circumstances. Each of the 67 winners represented in this volume has a unique approach in terms of conservation planning, technical challenges, community involvement and financing schemes.

Yet, all the successful projects demonstrate excellence in heritage practice in five dimensions. First, the winning projects put into practice heritage principles, charters and conventions in various steps of the heritage management process. They have often had a transformative impact on heritage laws and regulations in their localities and beyond. The projects gave high priority to the rights of local communities and to integrating traditional knowledge in conservation processes and actions. Through innovative interpretation work, they ensured that local stakeholders, visitors, decision-makers and the wider public are aware of heritage properties and their values. And finally, many of the projects embody how heritage protection and management conforms to sustainable development principles and the Sustainable Development Goals.

The standards of excellence in heritage practice that have emerged from the UNESCO Heritage Awards have been distilled and codified by UNESCO Bangkok in the form of a competency framework for managing cultural heritage sites that reflects these five dimensions. This competency framework is meant to be a benchmark for both institutional competency and to inform individual efforts to achieve competency as heritage practitioners. In this book, jury members and past winners reflect on the evolution of practice within these five areas over the past two decades.

Continued awareness raising and capacity building among heritage practitioners, government agencies, communities and educational institutions will be crucial to ensure that the next twenty years see further improvements in safeguarding heritage in the Asia-Pacific region, as in the previous two decades. In this way, the UNESCO Asia-Pacific Heritage Awards will continue to be a driving force in sustaining heritage places and local communities throughout the region.



Shigeru Aoyagi
Director
UNESCO Bangkok
Asia and Pacific Regional Bureau for Education

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OVERVIEW

TWENTY YEARS OF THE UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION (2000-2019)

RICHARD ENGELHARDT

When the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation were initiated in the year 2000, heritage conservation was, in most countries of the region, the exclusive domain of specialized national government agencies, dedicated for this purpose. Heritage conservation was understood to be the responsibility of national politicians and bureaucrats, whose decisions were implemented by a small number of elite professional conservation architects under government employ.

As a result, heritage conservation work in the region was limited. Projects were few in number and restricted to occasional large-scale undertakings, the object of which was to restore (and often rebuild) acknowledged 'monuments' of national significance under formal protection, usually for tourism purposes. The conservation of unprotected heritage was ignored and the conservation of vernacular heritage was not even considered to be a worthwhile undertaking, as heritage conservation was not typically part of national discourses on socio-economic development anywhere in the region.

Public involvement in safeguarding heritage was also limited – even restricted – both at the policy level, where decisions were made on what was to be safeguarded, and at the level of actual involvement of members of the community in conservation practice. Moreover, traditional artisans skilled in the building trades were, for the most part, excluded from work on 'protected monuments'; such work was instead given over to 'professional' conservation architects and engineers.

These government-driven practices favoured the construction of new buildings over the conservation of old and devalued the skills of traditional artisans. Consequently, the practice of heritage conservation was alienated from the discourse of sustainable community development, rendering heritage a largely irrelevant sector to most people, except as an expendable resource to be exploited, to the maximum extent within the shortest possible time-frame, for tourism.

The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme was launched with the purpose of engendering a shift in this self-limiting top-down paradigm. Over the past twenty years, the process set in motion by the awards programme has resulted in shifting the paradigm in favour of community-based conservation, returning ever-greater amounts of local heritage resources back to productive use. This process has been one of the gradual devolution of responsibility for the protection of heritage and decentralized empowerment: from national to local government authority and from restrictive professional practice to the inclusion of traditional practitioners in the execution of conservation works. There has also been a concomitant shift in how conservation work is carried out, with explicit recognition of local knowledge and the value of the skills of traditional artisans. The UNESCO Asia-Pacific Heritage Awards has encouraged these shifts by identifying best practice examples of this emerging bottom-up paradigm.

Phase I. The first five years of the Heritage Awards (2000-2004)

Local community resistance against government-defined models of heritage protection and conservation practice

The first five years of the UNESCO Asia-Pacific Heritage Awards was an era in which the winning entries challenged long-standing government-imposed top-down norms of heritage conservation, as defined by laws and regulations, many of which were remnants of the colonial era. At this time, the prevailing practice of government-led

conservation did not recognize or address the contemporary reality of the severe physical stress and rapidly-degrading built environment of historic urban districts and traditional rural settlements. The award-winning entries from this period demonstrated how it was possible to replace the outmoded, static, statist paradigm of heritage conservation with a bottom-up approach.

The paradigm shift demonstrated by these early standard-setting award-winning projects had two important immediate effects on conservation policy and practice. One effect was that it re-empowered traditional, local community-based, skilled artisans and lifted them to a level equal to that of university-trained conservation architects. The other effect was in drawing the attention of local politicians to the fact that heritage conservation was a popular undertaking with widespread community support, and thus an important and reliable source of political capital.

Some examples of these standard-setting, award-winning projects from the first phase of the awards programme that demonstrate the localization of conservation policy and practice include: Cheong Fatt Tze Mansion, Malaysia (2000 Most Excellent Project); Hoi An Preservation Cooperation Project, Viet Nam (2000 Excellent Project); Xijin Ferry Area Project, China (2001 Award of Merit); Broken Hill Heritage and Cultural Tourism Programme, Australia (2002 Honourable Mention); Jaisalmer Streetscape Revitalization Programme, India (2002 Honourable Mention); Dadabhai Naoroji Road Heritage Streetscape Programme, India (2004 Award of Merit) and Suzhou Warehouse, China (2004 Honourable Mention).

The benefits of this new approach to heritage conservation were immediately evident when several of the sites conserved through award-winning projects in the early years of the UNESCO Asia-Pacific Heritage Awards programme were subsequently inscribed on the World Heritage List, including George Town in Malaysia, Hoi An in Viet Nam, and Jaisalmer and Mumbai in India.

Phase II. The next 10 years of the Heritage Awards (2005-2014)

Extending the safeguarding of significant heritage from the exclusively monumental to the generically vernacular

The paradigm shift toward community-based conservation and adaptive reuse of vernacular heritage, which began during Phase I, expanded exponentially over the next decade and afterwards became the recognizable signature newly defining heritage conservation throughout the Asia-Pacific region.

The period between 2005 and 2014 was one in which conservation practice in the region rapidly expanded to include an ever-greater typology of heritage buildings, structures and spaces. Many of these structures had heretofore been considered derelict and past their practical use-life, thus presenting a problematic burden on the community and an impediment to local government development plans. As the variety of types of projects expanded, conservation initiatives targeted abandoned buildings slated for demolition and derelict areas of inner cities that had fallen victim to ill-fated projects that had been undertaken in the name of modernization and development.

During this ten-year period, local community, non-governmental heritage advocacy groups took it upon themselves to build their professional capacity to manage the increasing amount of heritage that was coming under protection. This decade also saw the establishment of heritage management courses at various educational institutions across the region. With Australia leading the way, courses were initiated in Hong Kong SAR, Macao SAR, various universities in China and Japan, and in Thailand, India and Pakistan.

The award-winning projects implemented during this second phase of the UNESCO Asia-Pacific Heritage Awards programme demonstrated the potential force of conservation as a driver for social revitalization as well as economic development, which had an immediate impact on planning policies that targeted regeneration and renewal of historic districts.

Two additional dimensions of the paradigm shift became apparent. One was that it catalyzed a movement prioritizing the reuse and adaptive use of buildings that had once been socially and culturally significant but had lost their relevance to contemporary socio-economic life. The other dimension of the shift was that project initiation and conservation (and any possible redevelopment) planning was handed over to local communities, through a variety of consensus building mechanisms, wherein conservation professionals played a mentoring but not decision-making role.

Examples of award-winning projects from this second phase of the awards programme that demonstrate this planning response to favour reuse and adaptive use of vernacular heritage and derelict or otherwise abandoned and unused heritage assets, include: Leh Old Town, India (2006 Honourable Mention); Stadium Merdeka, Malaysia (2008 Award of Excellence); Wat Pongsanuk, Thailand (2008 Award of Merit); Amphawa Canal Community, Thailand (2008 Honourable Mention); Hanok Regeneration in Bukchon, Republic of Korea (2009 Award of Distinction); SCAD Hong Kong (Former North Kowloon Magistracy Building), China (2011 Honourable Mention); Mbaru Niang, Indonesia (2012 Award of Excellence); Sethna Buildings, India (2012 Award of Distinction); Lal Chimney Compound, India (2013 Award of Distinction); and Tai O Heritage Hotel, Hong Kong SAR, China (2013 Award of Merit).

Phase III. The impact of two decades of the Heritage Awards (2015-2019)

Liveable communities: Sustaining the social impact of heritage conservation

The most recent five years of the UNESCO Asia-Pacific Heritage Awards was a period in which a broader and deeper understanding developed regarding the consequences of the (now well-developed) paradigm shift in the profession from exclusive to inclusive heritage conservation, and of conservation as a driver for and tool of sustainable community development. The various aspects of the paradigm shift continue to evolve today and encompass an ever-larger group of practitioners in all dimensions of professional conservation practice, while garnering increasing political support, as reflected in policies that support and incentivize heritage conservation as part of strategies for sustainable development.

Recent developments show how the transformation engendered by the paradigm shift has matured to include two other aspects: the embracing of intangible cultural values as the fundamental factor underpinning and driving sustainable heritage conservation policy and planning, and the acceptance of indigenous traditional building technologies as being on an equal footing with modern construction technologies.

Examples of award-winning projects from this most recent phase of the awards programme that demonstrate the explicit acknowledgement of intangible values and the validity of local knowledge include: Mei Ho House Youth Hostel, Hong Kong SAR, China (2015 Honourable Mention); Sree Vadakunnathan Temple, India (2015 Award of Excellence); Sanro-Den Hall at Sukunahikona Shrine, Japan (2016 Award of Excellence); Taoping Qiang Village, China (2016 Award of Distinction); Blue House Cluster, Hong Kong SAR, China (2017 Award of Excellence); Macha Village, China (2017 Award for New Design in Heritage Contexts); Shijo-cho Ofune-hoko Float Machiya, Japan (2018 Award of Excellence); Hengdaohezi Town, China (2018 Honourable Mention) and Tai Kwun Centre for Arts and Heritage, Hong Kong SAR, China (2019 Award of Excellence).

The award-winning projects in the UNESCO Asia-Pacific Cultural Heritage Conservation Awards programme in the past five years, and their ambition and scale, show that local knowledge and indigenous building technologies are now widely recognized as a legitimate basis for heritage conservation. Even more importantly, the past five years of the awards programme have convincingly brought into play intangible values as the guiding light informing heritage conservation practice, recognizing that intangible values are at the foundation of all physical expressions of cultural heritage.

Future directions

The projects featured above, drawn from the corpus of 249 projects that have won UNESCO Asia-Pacific Heritage Awards over the past two decades, conclusively demonstrate that a paradigm shift in the practice of heritage conservation has indeed taken place across the region. No longer is the argument 'for' or 'against' the conservation of heritage assets. Nor is the 'balancing' of heritage protection with economic development any longer a topic for serious debate among decision-makers.

Today, policy planners recognize the fundamental and pivotal role of the conservation of a community's heritage assets to future sustainable development, and investments are increasingly being made to this end. It is increasingly understood that the commercial practices that favour quick returns through unsustainable development practices are self-serving and short-sighted, and only bring about the unjust alienation of a community's assets from its members. Sufficient financing must be mobilized to meet the rapidly-increasing demand for heritage conservation in communities across the Asia-Pacific region.

The time has come to reinvent the entire profession of heritage conservation. Reinvention will start with on-the-ground skilled workers who must learn to marry their local knowledge and traditional skills with modern tools and techniques, and thereby meet modern expectations of professional technical specialists.

Similarly, local community planners at both the governmental and non-governmental levels will need to learn how to map, understand, mediate and mentor community non-partisan consensus for actions intended to safeguard heritage as a public good. The senior heritage managers of the future need not be technocrats, but they will assuredly need to be social entrepreneurs.

The actors in the other dimensions of the heritage conservation profession, where policies are made and investments decided upon, must also make changes. We need executives who understand and subscribe to the enforcement of international norms to safeguard heritage assets in the long-term as a tenet of intergenerational equity and sustainable development.

Putting in place these radical changes in the heritage profession and allied professions will ensure that the paradigm shift that has been seen over the past two decades of the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme will continue to create an impact. In this way, the value of heritage will continue to be leveraged as a community asset, and heritage conservation will become universal practice everywhere throughout the Asia-Pacific region as the basis for cultural continuity and long-term sustainable development.

INTRODUCTION TO REFLECTIONS

TOWARDS EXCELLENCE IN HERITAGE PRACTICE IN ASIA AND THE PACIFIC: SETTING A BENCHMARK FOR PROFESSIONAL COMPETENCIES

MONTIRA HORAYANGURA UNAKUL

Over the past two decades, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme (known as the UNESCO Asia-Pacific Heritage Awards) has been at the vanguard in setting standards of excellence in heritage practice in the region. These standards of excellence encompass the three pillars of the programme selection criteria: developing a sound understanding of the place, ensuring technical achievement in heritage conservation and creating social and policy impact.

The 249 award-winners between 2000 and 2019 represent a body of knowledge and practice that encapsulate noteworthy advances in heritage conservation and management that are deeply rooted in the region as well as in specific localities. Beyond ensuring the sustainability of the heritage resources that they have conserved, many of the projects also demonstrate the power of heritage in contributing to larger goals of sustainability, benefitting the surrounding community and ecological systems.

How can this body of knowledge and practice from the UNESCO Asia-Pacific Heritage Awards be distilled in a manner that allows heritage organizations, emerging practitioners or mid-career professionals to grasp the essence of these manifestations of excellent practice? While displaying a rich variation in responding to the diversity of contexts in which they have arisen, there is a common thread that connects these practices in terms of mastery of a range of knowledge and skills. These are not limited to technical knowledge and skills, which used to be the nuts and bolts of a conservator's trade. With the increasing complexity of heritage sites and management challenges that face the region today, the knowledge and skills that are needed to resolve heritage issues are now wide ranging – from skills to deal with the fallout of natural and human-induced disasters, to abilities in engaging communities in a truly democratic manner, to anticipating the impacts of transnational problems like climate change.

Successful heritage site conservation and management, as amply demonstrated by the winners of the UNESCO Asia-Pacific Heritage Awards, involves dealing competently with multiple elements, ranging from decorative interior details to an urban neighbourhood or a rural landscape, and from restoring a mural painting to upgrading public sewerage systems, as well as from fostering cultural industries to creating locally-relevant jobs for youth and other community members. A deep understanding of the ecological context is also necessary, not only to ensure a light footprint but also to foster resilience in the face of a range of hazards. As such, a narrowly-defined archaeological or architectural restoration initiative would not meet the needs either of the heritage resources or of the broader social and environmental fabric. Moreover, such an initiative would likely not be sustainable in the long run, whether in economic, social or environmental terms.

Significant advances have occurred in the Asia-Pacific region over the past twenty years both within the disciplinary confines of the heritage profession and also within the heritage sphere writ large. Local governments, private sector counterparts, civil society and community groups have increasingly taken heritage issues to heart. This broader engagement – moving beyond public-private partnerships to public-private-people partnerships – represents a more inclusive and encompassing form of participation. It is noteworthy that this public and civic engagement has been driven by heritage education and interpretation, and vice versa.

Another major change is that the regulatory frameworks in many countries have become more comprehensive. Also, community rights have become widely understood as being inalienable. Furthermore, the Asia-Pacific region has been the fount of some of the most important advances in heritage principles and practice, as seen in the Nara Document (2004) and national charters such as the Burra Charter (updated in 2013) and the China Principles (revised in 2015). In addition, the tenets of sustainability have become a mantra for good heritage practice and governance, and are recognized as being more important than ever for ensuring excellence in

future decades of heritage practice to come.

In this context, UNESCO Bangkok has developed a competency framework for cultural heritage management which establishes professional standards for heritage conservation that are holistic, interdisciplinary and multidimensional. This framework represents a codification of the award-winning practices as well as other notable exemplars and normative standards that are emerging in the heritage field at both the regional and global levels. The framework at present focuses on World Heritage sites, particularly in South-East Asia, but is more broadly applicable, both geographically and to other types of heritage.

Initiated in 2018, the competency framework is meant to be a benchmark for developing and assessing institutional competency and for informing individual efforts to achieve competency. The framework is also intended to serve as a reference for cultural heritage site management agencies in strengthening their staff capacities to improve the effectiveness and quality of site conservation and management. It will also benefit universities in designing qualification standards, training programmes and curricula to meet on-the-ground needs in cultural heritage management and conservation.

The primary reference for developing the framework was the *Global Register of Competences for Protected Area Practitioners* developed by the International Union for Conservation of Nature (IUCN) and the World Commission on Protected Areas (WCPA). Given the trend towards linking the management of cultural and natural sites, the IUCN Global Register is a timely point of departure for defining competencies in cultural heritage management. Expert inputs were sought from regional and international organizations (including the International Council on Monuments and Sites, the International Centre for the Study of the Preservation and Restoration of Cultural Property, the International Union for Conservation of Nature, the International Labour Organization, the World Heritage Institute of Training and Research for the Asia and Pacific Region, the ASEAN Secretariat and the Organization of World Heritage Cities) as well as from heritage and capacity building experts, site managers and educators from leading institutions in the region.

The framework identifies areas of competency (including skills and knowledge) for all levels of personnel in a cultural heritage site management agency: skilled workers, technical specialists, middle managers and executives. In this way, it spans all of the various staff engaged in managing a site, from those in vocational positions to decision-makers.

The competencies are grouped into four areas, with multiple sub-categories within each one:

- **Specialized technical competencies** – anthropology, archaeology, architecture, cultural landscape, traditional crafts, engineering, geography, intangible cultural heritage, landscape architecture, materials conservation, museology, urban studies, etc.
- **Personal competencies** – (i) foundation personal competencies, (ii) advanced personal competencies (these were adopted directly from the IUCN Global Register).
- **Managerial competencies** – (i) organizational governance, heritage planning and strategic management (ii) human resource management, (iii) financial and operational resource management, (iv) administrative documentation and reporting, (v) communication and collaboration (customized to fit the cultural heritage context from the IUCN Global Register).
- **Core competencies** – (i) laws and regulations, (ii) community, rights and knowledge, (iii) heritage policies, principles, processes and ethics, (iv) heritage education and interpretation, (v) sustainable development.

LEVELS OF PRACTITIONERS COVERED BY THE COMPETENCY FRAMEWORK

LEVEL	TYPICAL TITLE	SCOPE OF WORK AND RESPONSIBILITY	EXAMPLES OF POSITIONS AT THE LEVEL
Level 4	Executive	<ul style="list-style-type: none"> Central direction and management of large organizations National and regional policy development, spatial and strategic planning Cross sectoral coordination Direction of complex programmes and plans 	<ul style="list-style-type: none"> Director and deputy-director of national or sub-national heritage organizations Senior executive of organization with responsibility for the protection of heritage and heritage resources (e.g. chairperson of national and sub-national conservation boards, councils and advisory committees) Senior executive of a major national / international NGO, trust or community group with special interest in the protection of heritage Chief, elder or senior leader of indigenous group or people Chief, elder or senior leader of traditional system
Level 3	Senior manager	<ul style="list-style-type: none"> Direction and management of medium-sized organizations Planning and management of projects and programmes within strategic frameworks, and leading complex and technical programmes (according to speciality) 	<ul style="list-style-type: none"> Senior manager of organisation with responsibility for the protection of heritage and heritage resources Senior local government official with responsibility for heritage Senior official in conservation boards, councils and advisory committees Senior person or representative in traditional system Elder from a community or indigenous peoples' organization Local community leader
Level 2	Middle manager, Technical specialist	<ul style="list-style-type: none"> Management, organization and leadership of technical sections and teams implementing plans and projects Completing specific and complex technical assignments (according to speciality) 	<ul style="list-style-type: none"> Project manager Leader from local administration, agency, NGO or other civil society organization Technical officer Conservator Educational and interpretive officer Tourism officer Mid-level human resources officer of organization with responsibility for the protection of heritage and heritage resources Administrative officer Community outreach officer Facilities manager
Level 1	Skilled worker	<ul style="list-style-type: none"> Completing practical tasks under continuous supervision 	<ul style="list-style-type: none"> Tradesperson Craftsperson Technician Guide Security personnel Administrative assistant Skilled volunteer

Adapted from IUCN Global Register

Specialized technical competencies are the foundation of heritage practice; a heritage practitioner needs to achieve mastery in her/his own field and a heritage organization needs to have skilled practitioners at its disposal. This is not limited to professionals as understood in a modern educational and disciplinary context, but also encompasses practitioners with traditional knowledge and skills. Despite the necessity of such competencies, surveys of education programmes and heritage management agencies in the Asia-Pacific region show that specific training in conservation-related knowledge and skills is still lacking. In South-East Asia, for example, there is a dearth of programmes to train conservation architects; most existing curricula only produce architects with an ability to design new buildings. Therefore, additional training and education is needed to complement these baseline skills with more specialized heritage-related know-how. Moreover, heritage organizations often do not recognize knowledge and skills gained through non-formal or informal channels, including traditional transmission systems such as apprenticeships, so mechanisms to recognize such skills acquisition are needed in the context of modern procurement systems, which privilege degree holders at the expense of other knowledge bearers.

This first group of competencies, specialized technical competencies, provides a benchmark for various areas of expertise in the disciplines that are relevant to cultural heritage site management. This would be accompanied by mapping that shows which disciplines are needed for which types of heritage sites or related cultural institutions, such as site museums, to underscore the multidisciplinary and interdisciplinary nature of heritage work. Depending on the size and set up of the organization, a professional may have responsibilities that require multiple specialized technical competencies. From the point of view of the **heritage management agency as a whole**, ensuring that a range of specialized technical competencies are available either in-house or from external partners or consultants ensures a comprehensive and multidisciplinary approach to site management.

The latter three areas of competencies specify the knowledge and skills that are essential for everyone working at a cultural heritage site management agency. **Every single heritage professional** should have competencies spanning these three areas (personal, managerial and core) at their appropriate level, in addition to certain specialized technical competencies.

Personal competencies include fundamental skills such as literacy and numeracy as well as soft skills and attitude requirements, mostly related to interpersonal relationships. Advanced personal competencies are skills and attitudes required for staff charged with supervisory, leadership and decision-making functions.

Managerial competencies cover the knowledge and skills needed to manage a heritage organization or endeavour. Competency is needed in terms of establishing and sustaining well-governed, managed and led organizations, and in preparing strategic frameworks for heritage protection, planning and management. Skills are also required in human resource management, financial and operational resource management, administrative documentation and reporting as well as in communicating and collaborating effectively.

Core competencies are at the centre of heritage practice at both the institutional and individual level. First, excellence in heritage practice requires an ability to ensure that laws, regulations and rights affecting heritage properties at all levels are upheld and enforced. Second, rather than paying lip service to community involvement, excellence in heritage management involves contributing meaningfully to the realization of the rights of local communities. Moreover, it often requires the ability to validate traditional knowledge, by integrating it into conservation processes and actions. A third type of ability required for excellence in heritage practice is in ensuring that heritage practice in the field puts into practice the developments in heritage philosophy. This requires the ability to implement and reflect heritage principles, charters and conventions at

all stages of the heritage management process. The fourth type of core competence is the ability to inculcate shared responsibility and to foster a feeling of ownership, which requires ensuring that local stakeholders, visitors, decision-makers and the wider public are aware of heritage properties, their purpose and values, and how they are governed and managed. A fifth type of core competency is in sustainable development, that is, the ability to ensure heritage protection and management practices conform to sustainable development principles and contribute to achieving the Sustainable Development Goals.

The five types of core competencies form the subject of the commentaries and reflections by past Heritage Awards jury members and award-winners in this fourth volume of *Asia Conserved*. The commentaries and reflections provide a sweeping overview of how policy and practice have evolved in the Asia-Pacific region over the past twenty years with regard to the core issues of heritage practice.

UNESCO COMPETENCY FRAMEWORK FOR CULTURAL HERITAGE SITE MANAGEMENT

A. PERSONAL COMPETENCIES	B. MANAGERIAL COMPETENCIES	C. CORE COMPETENCIES	D. SPECIALIZED TECHNICAL COMPETENCIES
All levels Level 4: Executive, Level 3: Senior manager, Level 2: Middle manager/ Technical specialist, Level 1: Skilled worker			Mainly Level 2
FPC. Foundation personal competencies APC. Advanced personal competencies	OPM. Organizational governance, heritage planning and strategic management HRM. Human resource management FRM. Financial and operational resource management ADR. Administrative documentation and reporting CAC. Communication and collaboration	LAR. Laws and regulations COM. Community, rights and knowledge HER. Heritage policies, principles, processes and ethics HED. Heritage education and interpretation SUS. Sustainable development	Anthropology Archaeology Architecture Cultural landscape Traditional crafts Engineering Geography Intangible cultural heritage Landscape architecture Materials conservation Museology Urban studies Etc.

COMMENTARY

LAWS AND REGULATIONS

RICHARD ENGELHARDT

A paradigm shift in the Asia-Pacific region over the past twenty years has seen the expansion and democratizing of the heritage safeguarding process. A broader range of community and vernacular heritage has been recognized and brought under protection and conservation, and local stakeholders are more empowered and have a greater role in sustaining their heritage.

With this shift has come recognition that the competencies required to successfully execute conservation projects have evolved. Nowhere is this change more evident (and necessary) than in the area of laws and regulations. As authority has devolved to lower levels of governance and the responsibility for professional compliance has moved from the formal to the non-formal sector, heritage practitioners have had to become adept in dealing with the shifting legal landscape affecting heritage properties at all levels.

In this process of devolution, the social importance and economic efficacy of heritage conservation to the creation of sustainable, liveable communities has been repeatedly and convincingly demonstrated in multiple contexts, including in various political systems, levels of economic development and cultural histories.

As noted in the reflections by practitioners with award-winning projects, the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation (known as the UNESCO Asia-Pacific Heritage Awards) show that wherever heritage conservation is supported by (i) laws protecting community heritage assets and (ii) regulations that respect and empower local knowledge and skills in conservation practice, this equity of opportunity for sustainable development is matched with aspirations for cultural continuity.

In the early 2000s, award-winning projects highlighted the need for legislative and regulatory reform. With a number of these sites achieving World Heritage status, these award winners became politically-resonant and economically-viable examples that have led to changes in local by-laws to extend protection to vernacular heritage, which would otherwise have been subject to demolition and site redevelopment. In Malaysia, for example, national heritage protection legislation was adopted following the conservation of Cheong Fatt Tze Mansion (2000 Most Excellent Project). Similarly, in Viet Nam the demolition and redevelopment of historic towns and districts across the country was halted in the expectation that other towns could follow the example of Hoi An (2000 Excellent Project) in using heritage conservation as the route to sustainable development. In India, following Mumbai's example, several municipal corporations adopted by-laws to protect historic urban landscapes and to rehabilitate decrepit urban infrastructure in historic districts, thereby returning life and livelihoods to the inner cities, where unemployment, especially among youth, was rife.

While winning projects in the early years of the UNESCO Asia-Pacific Heritage Awards identified the need for legislative and regulatory reform, subsequent winning projects suggested an ensuing need to focus on building the capacity of

local government planning officials (and actors in the non-government sector) to plan and implement programmes that would safeguard a community's heritage assets effectively and reinstate those assets into an equation for sustainable local community development, and ensure the appropriate mechanisms are in place for this.

With regard to heritage administration, four key areas of reform are required: First and foremost, national governments need to devolve the responsibility for heritage identification and protection to local government units, as local government is, in virtually all countries of the Asia-Pacific region, responsible for the management of land and property. Successful implementation of this reform will require that knowledge of international norms and national laws for the protection of heritage properties becomes part of the training for local government administrators and the members of local planning departments.

Secondly, the leaders and members of local heritage advocacy groups must, like government officials, become knowledgeable about international standards and national laws, and become conversant with best-practice examples of conservation work. If members of local communities are to be responsibly empowered to undertake the task of safeguarding – including identification, protection, conservation and development – of their community's heritage assets, then lobbying and public advocacy, while always an important role of local heritage support groups, needs to be supplemented by practical knowledge of heritage protection and its administration.

Thirdly, contracts for the execution of heritage conservation work must be opened to traditional local artisans through a system that enables the licensing of those with proven skills and experience, even if they do not possess formal academic credentials. In many countries and in local jurisdictions, this may require reform of the system for rewarding construction contracts.

Concomitantly with the third reform, a fourth reform is required: to establish a local authority to monitor and regulate the non-formal sector (including local volunteers) and establish who is authorized to work on local heritage conservation projects, in order to ensure that quality and safety standards are met. National government watchdog agencies will not suffice to monitor local contractors.

The need for greater capacity and for effective mechanisms for heritage safeguarding has four main planning implications: The first of these is the need to include knowledgeable heritage experts in local government planning departments. Typically, these will be drawn from the local community, and will be those who have self-identified through their participation and leadership in heritage advocacy groups.

The second implication is that adaptive reuse, along with identification, protection and conservation, needs to be prioritized in local planning strategies and zoning by-laws. This will necessitate the institution of incentivized local planning ordinances that favour retention of heritage fabric, investment in its conservation and adaptation for new social and economic uses. It may also be necessary to revise building codes

to accommodate the special needs required for the conservation of older buildings, in order to maintain their authenticity and structural integrity.

The third implication is that decisions to undertake conservation for adaptive reuse are not to be taken by individual 'experts' but, rather, such decisions must be based on a community consensus, lest the decision to use public funds to support adaptive reuse be seen (rightly or wrongly) to favour certain special interest groups to the detriment of other groups within the community. Community-based consensus decision-making is preferable because it moves local planning away from being based on investor demand and instead takes into consideration long-term community benefits. The award-winning projects provide numerous examples of how to achieve consensus, including through community-based cultural mapping.

Revision of the measures of success is the fourth implication that can be drawn from recognition of the need for better heritage safeguarding capacity and mechanisms. Not only is it important to ensure that measures to support and sustain conservation and adaptive reuse are implemented according to both the spirit and letter of the law, it is equally important to track and measure the impact of public investment in what are often private sector assets. This requires the adoption of new measures of success for heritage conservation projects, with a focus on whether or not they retain investments in the community and, equally importantly, how they contribute to the amelioration of the public debt burden, which would be attendant upon investment in high-cost, rapid-turnover infrastructure projects.

All four of these implications point to the importance of re-skilling the conservation profession. In the past, conservation professionals were typically single-mindedly focused on the achievement of the technical aspects of their work, as architects or engineers, or in other technical fields. With the paradigm shift to including local communities in heritage conservation, not only as advocates but also as actors, heritage conservation professionals now need to develop new skills, including as mentors and mediators, at all levels, from the executive level involving senior government officials, especially in local government units, to the senior managerial level dealing with planning and monitoring, to the technical specialists and skilled workers onsite. Each of these heritage conservation professions needs to gain and share knowledge regarding the regulatory parameters, the planning provisions and the technical specifics that guide heritage conservation work.

In this context of change, it is impossible to understate the importance of consensus-based legal and regulatory frameworks to guide successful conservation practice. It is also unwise to assume that current levels of practice will suffice to meet the new demands that conservation practice will face in the future.

The three reflections that follow (by the Cultural Affairs Bureau of Macao SAR, the Government of Hong Kong SAR and Tongji University), illustrate how legal frameworks and government policies have impacted on heritage conservation in Macao SAR, Hong Kong SAR and mainland China as a whole.

REFLECTION LAWS AND REGULATIONS

CULTURAL AFFAIRS BUREAU OF THE GOVERNMENT OF MACAO SAR, CHINA

Macao SAR projects that have been recognized in the UNESCO Asia-Pacific Heritage Awards include St. Joseph's Seminary Church (2001 Honourable Mention) and the Tak Seng On Pawnshop (2004 Honourable Mention). The award given to the project to conserve St. Joseph's Seminary Church recognized the technical achievements of a complex intervention that included the structural consolidation and restoration of an iconic monument that in 2005 became part of the Historic Centre of Macao World Heritage site. The award given the Tak Seng On Pawnshop commended the ground-breaking public-private partnership for its achievement in attaining greater visibility and appreciation for heritage among the local community and the broader public. This greater awareness led to a replica of the pawnshop building being selected to represent Macao SAR at the Shanghai Architecture Expo of 2010.

The success of these projects inspired advancements in developing regulatory frameworks to support the continuing safeguarding of Macao SAR's heritage. The efforts invested in the development of legislation culminated in the enactment of a new heritage protection law (11/2013), which came into effect in March 2014.

Macao SAR's heritage protection law led, in turn, to the creation of a cultural heritage council and other mechanisms for greater inter-departmental coordination at all levels of the government. This then led to identifying heritage protection as a top priority and motivated associated legal reforms, including a new urban planning law that came into effect in June 2014. The council revised and updated other legal instruments, and also developed policies related to general city management and impact assessment. In addition, the council implemented a rigorous approach to technical issues with the aim of improving the quality of restoration and rehabilitation works. In 2018, the city began developing a protection and management plan for the Historic Centre of Macao site and carried out a public consultation process.

The council's efforts have not only led to regulatory advancements but also to a much better understanding among the public of the benefits that conservation projects can bring to the community. Today there is greater awareness also of the benefits of expanding the application of heritage concepts beyond built properties and their respective urban settings to also include the protection of intangible and movable heritage as equally relevant components of local cultural identity.



REFURBISHED INTERIOR OF TAK SENG ON PAWNSHOP

The Cultural Affairs Bureau of the Government of Macao SAR is responsible for overseeing the implementation of heritage protection regulations and promoting broader citizen participation in cultural awareness programmes. The scope of work of the bureau includes the management of the Historic Centre of Macao World Heritage site as well as other listed heritage properties.

REFLECTION

LAWS AND REGULATIONS

THE GOVERNMENT OF HONG KONG SAR, CHINA

Hong Kong SAR has a wealth of historic buildings and monuments that bear witness to the city's unique history and development. In working to preserve this built heritage, residents of Hong Kong SAR have connected deeply with the city's past, while gaining a clearer sense of their distinct cultural identity.

Over numerous projects, the government of Hong Kong SAR has developed a multi-pronged conservation approach, with an emphasis on community interaction and collaboration. Heritage conservation projects have revived communities, created job opportunities and stimulated the local economy. Crucially, the projects have significantly enhanced the city's cultural diversity and offerings.

The government's flagship heritage programme, the 'Revitalising Historic Buildings Through Partnership Scheme' (known also as the 'Revitalisation Scheme'), invites non-profit organizations to adapt government-owned buildings for new purposes as social enterprises. This public-private partnership programme promotes community participation in conservation efforts and has worked to preserve and make good use of Hong Kong's heritage buildings.

The Revitalisation Scheme was set in motion following the government's 2007 policy statement on heritage conservation, which formalized the government's commitment to protecting, conserving and revitalizing historic buildings in the city and provided a roadmap for the government's work on built heritage conservation. Under the Revitalisation Scheme, the government provides participating organizations with financial support, including one-time grants for the renovation of historic buildings, nominal building rents and grants to meet the starting costs and operating deficits of the social enterprises over their first two years of operation. On the technical side, the government provides advisory services, helping the participating organizations in various areas, including heritage conservation, land use planning and compliance with local statutory requirements.

Another key heritage conservation initiative introduced by the government is the 'Conserving Central' programme, consisting of eight innovative projects aiming to preserve cultural and architectural heritage while invigorating Hong Kong SAR's central business district. Two of the conservation initiatives, the Tai Kwun Centre for Heritage and Arts (formerly the Central Police Station Compound) and the PMQ (formerly the Police Married Quarters, now a centre for creative industries), followed a similar public-private partnership model to the Revitalisation Scheme.

The entrepreneurial spirit and creative approaches of the participating non-profit organizations have been central to the success of the public-private partnerships, shaping the conservation and revitalization of Hong Kong SAR's built heritage. Thanks to the keen interest and enthusiastic support of the Hong Kong SAR community, the government will continue to apply heritage conservation approaches with confidence and gratitude.

Hong Kong SAR award-winning projects (2010-2019)

- North Kowloon Magistracy (now the Savannah College of Art and Design Hong Kong): 2011 Honourable Mention
- Old Tai O Police Station (now the Tai O Heritage Hotel): 2013 Award of Merit
- Saltpans of Yim Tin Tsai: 2015 Award of Distinction
- Mei Ho House (now YHA Mei Ho House Youth Hostel): 2015 Honourable Mention
- Old Tai Po Police Station (now the Green Hub): 2016 Honourable Mention
- Blue House Cluster (now Viva Blue House): 2017 Award of Excellence
- Tai Kwun Centre for Heritage and Arts: 2019 Award of Excellence
- The Mills: 2019 Award for New Design in Heritage Contexts

The author, Carrie Lam, has served in the Hong Kong SAR government since 1980 in some twenty public service positions, including as Secretary for Development. In this role, Lam launched the 'Revitalising Historic Buildings Through Partnership Scheme'. In 2017, Lam was elected Chief Executive of Hong Kong SAR.

REFLECTION LAWS AND REGULATIONS

TONGJI UNIVERSITY

China has a rich array of tangible and intangible cultural heritage, including numerous traditional houses and townscapes, which serve as vivid expressions of the traditional wisdom of the nation's ancestors. The rapid economic development of China over the past four decades has threatened to destroy the country's old villages, towns and cities, however.

Recognizing this threat and the need for conservation expertise, Tongji University created the first major in China in 'built heritage conservation'. Since the 1980s, under the guidance of Ruan Yisan and other senior experts, Tongji University has also been directly involved in conservation efforts, for example through conducting surveys and studies of historic cities, towns and villages across China and preparing conservation plans.

An especially important part of Tongji University's work has been its contribution to formulating regulations and codes for the protection of cultural cities, towns and villages. These laid the foundations for better technical standards and have helped refine the heritage management system in China.

A particular area of focus by the Tongji team has been conservation planning. Conservation plans at the level of cultural cities, towns and villages emphasize the links between the settlements and their natural surroundings. At this level, conservation planning involves defining the content and areas to be conserved and measures to be taken, while seeking to improve the living environment for the residents and to create employment opportunities.

As early as the 1980s, the Tongji team proposed in the master plans for the water towns in the south of the Yangtze River the concept of 'protecting old towns, constructing new districts, developing tourism and revitalizing the economy'. Likewise, the conservation plan for the district of Pingjiang Road in Suzhou sought the conservation of traditional neighbourhoods along with the development of the cultural and tourism industries. In a post-earthquake context, the conservation plan for Xijie District of the city of Dujiangyan became a driving force to push forward the restoration of traditional neighbourhoods and to restore the confidence of the local population. At the household level, when preparing conservation plans for the ancient towns of Lijiang and Pingyao the Tongji team also formulated a set of 'conservation and rehabilitation guidelines for traditional courtyard houses' to guide self-building efforts and to ensure these efforts were aligned with broader

heritage conservation goals and standards.

Through its studies, surveys, regulations, codes and plans, Tongji University has contributed to the establishment of the Chinese heritage conservation system and to the conservation of hundreds of cities, towns and villages, managing to save a large number of historic sites; some of which are today among the most famous heritage sites in China.

In addition to the planning at the site level, Tongji University has also participated in the formulation of the "Regulations on the Protection of Famous Historical and Cultural Cities, Towns and Villages" and the "Codes for the Conservation Planning of Historical and Cultural Cities, Towns and Villages", both of which laid the foundations for more robust technical standards and has helped refine the management system of the cultural heritage conservation in China.

Tongji University contributed to the following Award-winning projects between 2015 and 2019: Ping Yao Courtyard Houses (2015 Award of Merit) and Liu Ancestral Hall (2016 Honourable Mention).

Tongji University, located in Shanghai, was established in 1907. The university is a comprehensive one, offering programmes in many disciplines, but it is particularly well known for its civil engineering and architecture programmes.

COMMENTARY

COMMUNITY, RIGHTS AND KNOWLEDGE

SUSAN BALDERSTONE

Over the past twenty years, awareness among governmental and non-governmental heritage agencies has grown regarding the right of communities to participate in the conservation of their cultural heritage, both tangible and intangible. This process has involved self-identification by relevant communities, their engagement and their collaboration through sharing of knowledge.

As Johannes Widodo wrote in his essay on 'Contributing to the Community's Cultural Continuum', in the first volume of this series on *Lessons Learned from the UNESCO Asia-Pacific Heritage Awards (2000-2004)*, past urban development involving the eviction of residents and loss of heritage buildings resulted in a strong reaction from many local communities and civic organizations, which consequently emerged to regain control over their heritage and protect it. In this context, support from UNESCO for the networks of heritage bodies and non-governmental organizations attempting to rebuild community ties and protect local heritage manifested itself through the setting up and operation of the awards programme and its ongoing promotion.

While commercial exploitation and hierarchical decision-making continue to threaten heritage, awareness of the importance of cultural diversity, heritage, the right of communities to know their own history and the contribution that heritage conservation makes to sustainability have combined to broaden the reach of the awards and their impact in the Asia-Pacific region.

Community rights

As demonstrated by the award-winning projects, Cangqiao Historical Street (2003 Award of Merit) and Zhangzhou City Historic Streets (2004 Honourable Mention), conservation projects can improve residents' living conditions when the community's right to decent housing is respected. In these award-winning projects, residences were repaired and brought into line with modern expectations, with the provision of services such as sewerage, electricity and water. Importantly, the local communities were actively engaged in the conservation process, raising funds and participating in the work.

Community knowledge

To ensure that the rights of local communities are upheld and that traditional knowledge and practice are incorporated into conservation processes, information held by the community needs to be respected and used. If the community is to be truly empowered, knowledge transfer must have a wider reach than just between professionals and local craftspeople. The processes applied by conservation experts, and the reasons for them, need to be clearly explained to the wider community. Examples in which this has occurred include the Hoi An Town Preservation Cooperation Project (2000 Excellent Project), the Vietnamese Traditional Folk Houses project (2004 Award of Merit) and the Historic Buildings in Duong Lam Village project (2013 Award of Merit). A more recent example is the Shijo-cho Ofune-

hoko Float Machiya (2018 Award of Excellence) project, which involved restoring a building to house the community's traditional float, used as part of an annual parade, thereby resurrecting a local tradition. The project's goals were achieved through close collaboration and knowledge-sharing between community members, heritage professionals and local master carpenters.

Perhaps the best example of the incorporation of traditional knowledge and practice in a conservation initiative is the Mbaru Niang community-led rebuilding project in Wae Rebo, Indonesia, winner of the 2012 Award of Excellence. Although the project was initiated by a 'community of interest', the Rumah Asuh Foundation, a group of architects dedicated to preserving and reconstructing traditional houses, the work at Wae Rebo depended heavily on the skills and knowledge of the inhabitants. Earlier efforts by the villagers themselves had demonstrated the prohibitive cost (by local standards) of such work without assistance. Through collaboration with donors, however, the local inhabitants, who had the required skills and traditional knowledge, were able to repair and reconstruct five decayed and dilapidated traditional conical houses in the 500-year-old village.

Sustainability

The Mbaru Niang project underscored the importance of understanding the connection between built heritage and the surrounding natural heritage, and the inherent issues relating to the sustainability of structures that depend on timber from large trees growing in now-protected forests. That is, the project highlighted that when natural heritage (e.g. a forest) is protected and managed sustainably, the resources provided by that heritage (e.g. timber) will be available for use as materials to repair and build traditional houses, thus sustaining cultural heritage. The project also drew attention to the need to manage cultural and natural sites together, rather than as separate entities.

The Mbaru Niang project is a key marker for the future of the many traditional villages in the Asia-Pacific region, and flags the need for local communities and 'communities of interest' to put their minds to holistic and cooperative solutions, which are therefore sustainable. In this case, such 'communities of interest' might include foresters and wildlife experts who could examine how the sustained provision of traditional building materials can be accommodated in the sustainable management of forests, and how collaborative efforts could contribute to the long-term sustainability of local villages.

As implied in the above discussion, community rights in heritage conservation must be seen not only as the right to participate in the conservation process and to share knowledge, but also the right to sustainable habitation and a sustainable way of life. Thus, ensuring a community's cultural and historical continuum through heritage conservation not only requires upholding the right to participation but also requires attention to the sustainability of the community itself, its buildings, environment and way of life.



DRAWING ON LOCAL COMMUNITY KNOWLEDGE AT MBARU NIANG, INDONESIA

REFLECTION COMMUNITY, RIGHTS AND KNOWLEDGE

ARSOM SILP INSTITUTE OF THE ARTS

The Baan Luang Rajamaitri (2015 Award of Merit) project implemented by the Arsom Silp Institute of the Arts innovated a social enterprise model of heritage conservation that sought to bring about community rehabilitation through heritage conservation and tourism development. The project was a cooperative effort by the Chanthaboon riverside community of the town of Chanthaburi and other associates, who sought an alternative to conventional urban redevelopment initiatives.

The Arsom Silp Institute of the Arts has implemented the social enterprise model of community development in several towns and districts in Thailand, in ways that vary depending on the local context and needs. In the town of Songkhla, for example, the institute worked with local shop owners in Nongjik Road, including the owners of noodle restaurants, snack bars, an electric appliances shop and an old poster shop. These entrepreneurs got together as a group to allocate some of their income to fund the restoration of a local shrine and old buildings. In Chiang Khan District of Loei Province, the institute worked with a local group of fisheries workers to design and build a houseboat to enhance the lives of the riverside fishers and their families.

The most important factor in the success of the institute's projects is to ensure the sustainable management of cultural assets by the community. This requires time and readiness both within and outside the community. This approach also respects the local contexts and depends heavily on local community knowledge in each area.

The Arsom Silp Institute of the Arts hopes to work together with communities and develop new contemporary models or choices for architectural and community conservation in the future. The organization's principal intent is to be widely known for its emphasis on co-learning and participatory conservation.

The Arsom Silp Institute of the Arts is a small private educational institution based in Bangkok, Thailand, that is operated as a social enterprise with the goal of nurturing social development. Certified by the Office of the Higher Education Commission of Thailand since October 2006, the institute fosters learning in a holistic way, by combining academic subjects and life experiences in the fields of pedagogy, architecture and the arts.



**EXTENSIVE COMMUNITY CONSULTATIONS UNDERTAKEN FOR
THE BAAN LUANG RAJAMAITRI PROJECT**

REFLECTION COMMUNITY, RIGHTS AND KNOWLEDGE

SHOWA WOMEN'S UNIVERSITY IN JAPAN

Heritage conservation projects by the Institute of International Culture of Showa Women's University have received UNESCO Asia-Pacific Heritage Awards on three occasions so far. In essence, the success of the award-winning projects can largely be attributed to the excellent relationship the institute developed with all of the stakeholders, including government representatives at various levels and the local communities.

In each project, the team took time to gain the understanding and cooperation of the various stakeholders. This involved implementing activities such as community workshops and resident meetings. Over the years, the institute gradually built up a solid relationship of mutual trust with the communities with which it worked. In the process of transmission of traditional knowledge, this foundation of trust proved to be vital.

The Showa Women's University projects also relied greatly on the exchange of government personnel in the field of cultural heritage preservation in various regions of Viet Nam. In particular, during the conservation projects technical staff members from different provinces came together to contribute and share their knowledge.

Another essential element in the success of the projects was the support of governmental and nongovernmental organizations in both Viet Nam and Japan, which ensured the necessary legislative context, advocacy and funding for the projects to proceed.

The Institute of International Culture of Showa Women's University has contributed to implementing the following Award-winning projects between 2009 and 2019: Hoi An Town Preservation Cooperation Project (2000 Excellent Project), Vietnamese Traditional Folk Houses Conservation Project (2004 Award of Merit) and Historic Buildings in Duong Lam Village (2013 Award of Merit).

The Institute of International Culture is a research institute belonging to the graduate school of Showa Women's University in Japan. One of the institute's areas of research is the study and preservation of Vietnamese cultural heritage, which the institute has been engaged in since the early 1990s.



LOCAL CRAFTS SKILLS WERE DEPLOYED DURING THE DUONG LAM VILLAGE PROJECT

REFLECTION

COMMUNITY, RIGHTS AND KNOWLEDGE

QUE WEIMIN

A tangible cultural heritage property is the material carrier of a community's history and culture. The community, especially the local community living in or around the heritage property or site, whether in the city or in the countryside, plays an important role in the protection, maintenance and sustainable use of the site. The community's role has several aspects. The community is the creator of the tangible heritage property and a witness of the inheritance, the use and the development of the site. Furthermore, the community is also the beneficiary of the values and interests of the site and is the advocate, protector and inheritor of the site.

The four strategic objectives identified by the World Heritage Committee in Budapest in 2002 are known as the 'four C's': credibility (strengthen the credibility of the World Heritage list), conservation (ensure the effective conservation of World Heritage properties), capacity building (promote the development of capacity-building measures) and communication (increase public awareness, involvement and support for World Heritage through communication). Recognizing the important role of communities in heritage protection, in 2007 a fifth 'C' was added: communities (enhance the role of communities in the implementation of the World Heritage Convention).

With community participation, a heritage site can be viable. Conversely, without community participation, a site is likely to be abandoned, desolated and effectively destroyed. Mobilizing or encouraging the community to publicize, protect and inherit both tangible and intangible cultural heritage enhances the sense of ownership of community members, increase the benefits of the site for the community and ultimately contributes to the sustainable development of the community.

In order to fully engage the community, heritage conservation advocates must thoroughly communicate with the community regarding where the cultural heritage is located, conscientiously learn about their history and culture, gain an understanding of their close relationship with the cultural heritage and absorb their experience in the protection and inheritance of the cultural heritage. This knowledge can then guide work to protect and conserve the heritage site.

Que Weimin is a professor in the College of Urban and Environmental Sciences of the World Heritage Research Centre, Peking University, China. Four of Professor Que's heritage conservation projects have won awards: Cangqiao Historical Street (2003 Award of Merit), Zhangzhou City Historic Streets (2004 Honourable Mention), Houkeng Timber-Arched Corridor Bridge (2005 Award of Excellence) and Heritage Buildings, Cicheng Historic Town (2009 Honourable Mention).



PUBLIC-PRIVATE PARTNERSHIP AT THE CANGQIAO HISTORICAL STREET

COMMENTARY

HERITAGE POLICIES, PRINCIPLES, PROCESSES AND ETHICS

H. DETLEF KAMMEIER

Twenty years is not a long time for socio-economic development, given the time that underlying shifts and changes in public policies and processes take. These are governed by changes in attitudes and ethics among groups of a population that qualify as opinion leaders. Yet, in the heritage context within the Asia-Pacific region, notable progress has been seen within this relatively short span of time. There have been significant tangible outcomes, as seen in the growing number of successful heritage conservation projects, many of which have been recognized by the now-coveted UNESCO Asia-Pacific Heritage Awards.

Twenty years ago when the annual awards programme was launched, it was impossible to predict the scale of it. The competition and the resulting promotion of progressive and innovative projects became a catalyst for pushing the cause of heritage conservation in the right direction, thus opening the Asia-Pacific to the idea of 'mainstreaming' heritage conservation. Much of this success may be ascribed to the now ubiquitous availability of information online, including UNESCO's web-based communications on the awards programme.

When the Heritage Awards were introduced in 1999, the champions of advanced professional conservation capability were Australia; New Zealand; Hong Kong SAR, China and, to some extent, Singapore. This represented a predictable effect of the link between economic development and professional education, and also receptiveness for good heritage conservation practices among the general public. Today, several other Asian countries are becoming 'champions', including India, Pakistan, Viet Nam and Thailand. They have made significant changes in heritage conservation practices, particularly in terms of the increasingly popular and successful practice of working closely with the local community, as exemplified by the Amphawa Canal Community project (2008 Honourable Mention) and the Baan Luang Rajamaitri project (2015 Award of Merit) in Thailand.

The change in China is especially remarkable, where the kinds of progressive conservation projects that are being seen today would have been unthinkable twenty years ago. China's approach to heritage conservation has seen a transformation, with the focus shifting from inauthentic refurbishment of historic shopping streets to highly-sensitive community-based projects that demonstrate not only professionally competent practices but genuine achievements in heritage ethics. An example of the latter approach is the Taoping Qiang Village project (2016 Award of Distinction).

Pakistan and India were already impressive in their heritage protection principles and efforts twenty years ago and their awarded projects have become influential examples for other countries to emulate. The community-based restoration of Krishan Temple (2001 Award of Distinction) in Punjab, India, is a particularly noteworthy example, as is the Astana of Syed Mir Muhammad (2003 Award of Distinction) in Baltistan, Pakistan.

In Cambodia, heritage conservation has made progress, against the odds in a context of often chaotic and destructive urbanization. Positive signs include workshops on urban conservation at the School of Architecture and Planning at Pannasastra University in Phnom Penh. Such workshops form the basis for collaborative projects in smaller towns such as Battambang. Urban conservation has also been successfully incorporated in municipal-level staff education as a component of an Asian Development Bank programme (2013-2015).

Progress in policies, principles and processes in some countries, along with new laws and regulations, are behind the shifts that the award-winning projects are demonstrating today. Indonesia, which has been a 'quiet champion' in good heritage

protection practices in recent years, must be mentioned, but also Bhutan. The latter's adoption of the philosophy of 'Gross National Happiness' has fostered better heritage policy, and this is increasingly being put into practice, as demonstrated by the Tseto Goenpa project (2019 Award of Merit) in Paro, Bhutan. China's recent environment law (2014), which incorporates respect for and education on the cultural context and the natural environment, has supported the changes we have seen in heritage conservation in the country. This ethical concept has led to a shift towards the integration of heritage conservation into the overall environmental agenda, from the national policy level down to compulsory environmental education, which has become part of all curricula in China, from primary school up to university.



RESTORATION OF TSETO GOENPA, BHUTAN

REFLECTION

HERITAGE POLICIES, PRINCIPLES, PROCESSES AND ETHICS

GLOBAL HERITAGE FUND

The Global Heritage Fund's China heritage conservation programme began in 2002 with the launch of the Lijiang Ancient Town preservation project in Yunnan Province. This was followed by the Ping Yao Ancient Town preservation project in Shanxi Province in 2008. Both towns had been listed as UNESCO World Heritage sites in 1997 and while both sites went through different development phases, they faced very similar conservation issues and challenges.

While Lijiang is today a popular tourist destination, not many people know that the historic town centres of Lijiang were once plagued by unplanned construction. In order to mitigate such problems, the Global Heritage Fund (GHF) partnered with the local government to set up the Preservation Incentive Fund, in which hundreds of qualified local homeowners in the ancient towns of Dayan, Baisha and Shuhe were granted fiscal support to help refurbish and maintain their historic homes. The goal of the fund was to engage and empower local residents to protect their homes in the face of commercial tourism development. The GHF provided the vision and seed funding to help launch the programme, after which the local partners continued the effort and fully took charge of their own heritage.

In a similar vein, the aim of the Ping Yao Courtyard House project was to empower underprivileged property owners by providing them with tools and resources to sustain the lifecycle of historic courtyard buildings and improve their living conditions. Through partnerships between the local authorities, national experts and the GHF, the project provided technical advice and funding to enable homeowners to restore their dilapidated residences. Programmes included: demonstration restoration projects; local expert-led technical capacity building; a local government-led financing model, under which qualified homeowners could receive help to repair and maintain their homes; and guidelines to advise both site managers and homeowners in appropriate maintenance and repair work.

Another GHF project, in Dali Dong Village in Guizhou Province, is also focused on community-based conservation and local capacity building. The local community has craft traditions and strong social networks that present a unique opportunity to develop local tourism and economic initiatives. With men leaving to find work

in the cities, the women in the village have become the keystone that holds the community together. A textile cooperative, which operates as a collaborative effort by local women, the GHF and the ATLAS Studio, was established to create economic opportunities for the women of the village and to help conserve and sustain traditional textile practices into the future. The textile cooperative is now a space for textile production, business development and training that is run by local women.

The Global Heritage Fund contributed to implementing the following projects between 2005 and 2019: Lijiang Ancient Town, Yunnan, China (2007 Award of Merit) and Ping Yao Courtyard Houses, Shanxi, China (2015 Award of Merit).

The Global Heritage Fund (GHF) empowers communities through partnering with local communities, organizations and governments to preserve the timeless heritage of the past and ensure that it is a vibrant and beneficial part of the present. Since 2002, the GHF has helped local communities to protect twenty-eight sites in nineteen countries with over a hundred partner organizations.

REFLECTION HERITAGE POLICIES, PRINCIPLES, PROCESSES AND ETHICS

TSINGHUA UNIVERSITY

The Tsinghua University heritage conservation team, led by Lyu Zhou, has implemented three award-winning projects since the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation were launched in 1999. These and other award-winning projects have had a significant impact on thinking about conservation principles and the appropriate conservation methods and techniques to use in conserving heritage sites and properties.

Tsinghua University's first project to win a UNESCO award was an initiative to protect the Gongziting building complex (2004 Honourable Mention), the main complex in Tsinghua Garden and the oldest complex within the Tsinghua University campus. The project was careful to protect the original components of the complex, restoring earlier features to utility and improving the complex's functions overall.

In 2008, in response to damage caused by a serious earthquake in Sichuan Province, the Tsinghua University team undertook a project to restore Erwang Temple and Fulong Taoist Temple, which are components of the Mount Qingcheng and the Dujiangyan Irrigation System World Heritage site. The two projects helped define the team's post-disaster conservation and restoration method. The project to conserve Fulong Taoist Temple received the Award of Merit in 2010, while the project to conserve Erwang Temple won the highest award in China for heritage conservation, the Special Award for Excellent Cultural Relics Protection, in 2011. Both projects followed internationally-recognized conservation principles, including the preservation of original components and the creation of long-term maintenance plans.

In 2019, the team received recognition for its conservation of Guyue Bridge (2019 Award of Merit). A relatively small-scale project, it adhered to high standards in conservation practice and involved extensive research and testing to identify a new technique to protect the original stone fabric of the bridge.

Between 2009 and 2015, Tsinghua University participated in the revision of the 'Principles for the Conservation of Heritage Sites in China'. This work was based on the team's experience in restoration in the Gongziting project and the knowledge

gained about the relationship between conservation and recovering the lifestyles of local communities through the Fulong Taoist Temple and Erwang Temple projects, as well as the understanding the team developed about the assessment of cultural and social values through implementing other conservation projects in China. The 'China Principles', which are based on experience from award-winning conservation projects, now serve as guidelines for ongoing cultural heritage conservation practice in China.

The author, Lyu Zhou, is the Director of the National Heritage Center of Tsinghua University in Beijing. He is also the vice-president of ICOMOS China and president of the Architectural History Society of China.



TECHNICAL ADVANCES SHOWCASED IN THE GUYUE BRIDGE PROJECT

REFLECTION HERITAGE POLICIES, PRINCIPLES, PROCESSES AND ETHICS

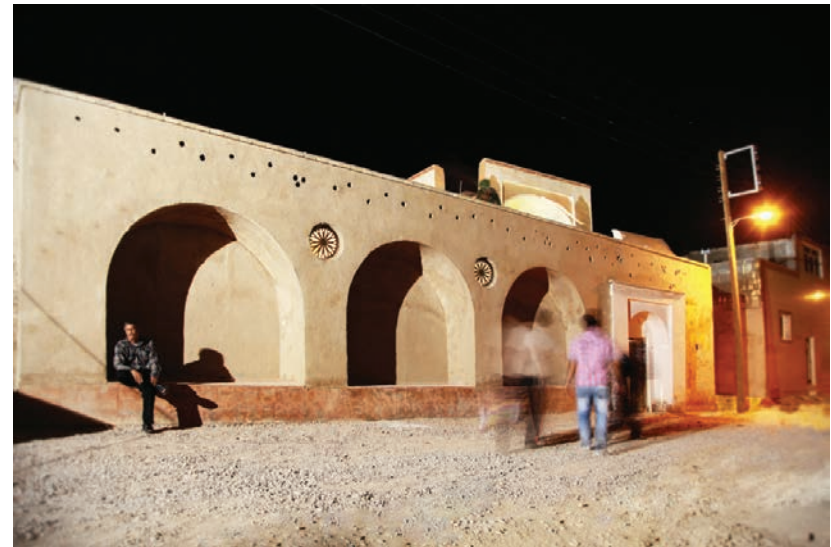
YEO KANG SHUA

Conservation, narrowly defined, is a technical response and involves the treatment of a site after it has been recognized as having heritage value(s). While the causal belief is that any work must not change the 'meaning of the place', the practice of conserving does in fact actively interpret the place. Every decision made during conservation work, such as how much to consolidate, how much to clean and how much to restore, will have implications for how the place will be perceived, understood and used. While the physical processes of repair are part of it, conservation is, more broadly, a philosophical attitude that seeks to understand what people value in a place, beyond the official pronouncement. That is to say, conservation is the interpretation of a site's significance. It can be aided by research and vice versa. Research is an ongoing process and the understanding of a site is rarely exhaustive nor complete.

Collaborative research and practice offers a way to mediate the issues associated with how a site should be interpreted. With the multitude of personnel involved in a project, including building professionals and artisans of various trades, heritage conservation is truly a multidisciplinary endeavour and the various actors each contribute their own perceptions of the site as well as their particular knowledge and skills.

Fundamentally, conservation ought not to fossilise a site into a 'museum'. It should strive to make places and foster social connections through preserving and maintaining a site as living heritage. Architectural heritage must remain relevant and be used by people. The challenge lies in how to ensure the continued connection that heritage has with people, while allowing succeeding generations to make their own interpretation of the place. This is a perpetual challenge and never ceases.

Yeo Kang Shua trained as an architect and architectural historian, and his research is primarily in the area of architectural conservation. He has been involved in the restoration of several of Singapore's historic buildings.



**LIVING HERITAGE PROMOTED AT THE AFTAB CULTURAL HOUSE,
ISLAMIC REPUBLIC OF IRAN**

COMMENTARY

HERITAGE EDUCATION AND INTERPRETATION

PINRAJ KHANJANUSTHITI

The past twenty years of the UNESCO Asia-Pacific Heritage Awards demonstrate how heritage conservation has developed in the region. As illustrated by many of the award-winning projects in recent years, heritage conservation is no longer viewed in isolation but as an integral part of development plans, placemaking and revitalization, to ensure the continuity of heritage resources and the sustainability of communities. The award-winning projects express this integrated approach, which goes beyond the technical aspects of conservation.

A multidisciplinary, integrated approach, based on an understanding of broader heritage values, should be fundamental to conservation practice. Such an approach involves collaboration between heritage stakeholders at all levels, including policy-makers, local administrators, planners, architects and conservation professionals. All of the stakeholders must be aware of this approach and be educated on the relevant issues. However, having professionals with specialized training is not enough to ensure the survival of heritage. The understanding, the support and the participation of a large portion of society are also needed. Creating awareness and educating the general public about the value of heritage is therefore essential.

Interpretation of value and awareness-raising

Public awareness of the value and authenticity of heritage derives from sensitive interpretation and careful conservation interventions. Interpretation can assist the learning process and can also convey conservation and management principles. The 2019 Award of Excellence winner, the Tai Kwun Centre for Heritage and Arts, demonstrates the effectiveness of a thematic interpretation programme in providing the public with insights into the history of a place. The centre uses various interpretation techniques, such as digital screens and role play, to explain significant events. And by using the old police station as a space for educating future generations, the centre continues to serve the community, but in a freshly-interpreted way.

Places of cultural importance have two possibly conflicting roles. First, they are places that provide symbolic value, a testimony to continuously evolving culture and ways of life. At the same time, however, they are physical places where new economic connections are formed. In view of this, the economic benefits of conserving historic areas, especially from heritage-related tourism, have become a major driver of conservation. This has led to increasing physical pressure on historic places and to changes in management and conservation strategies. In a number of cases, spaces have been interpreted and restored to serve tourism demands and sometimes this has led to the loss of authenticity. To prevent such loss, it is necessary that policy-makers, at both the national and local levels, and local inhabitants understand the implications of development plans and make appropriate decisions. Through this understanding, local communities and traditional custodians can contribute to identifying the values associated with heritage places and also ensure interpretation is appropriate with regard to their customs and traditions.

Conservation education and the delivery of conservation training

In general, most conservation courses at the university level are offered as elective subjects and vary in their level of emphasis on technical aspects, with some having a more theoretical approach. In Asia, conservation courses mainly base their theoretical instruction on international charters and guidelines. However, the variety of types of heritage and the diverse nature of cultural resources require specific knowledge and skills, which vary in depth and extent, and this diversity may not be offered in educational institutes.

Conservation professionals working onsite possess and develop practical skills. While many of them may not have a formal education, they may nevertheless be highly knowledgeable. Often, however, they do not have the capacity to relate their technical competency to the broader issues. Yet, specialized conservation training programmes are not inclusive and cannot fill all the gaps between professional conservation practice and academic knowledge. Therefore, there is a need for conservation education that matches the requirements of heritage stakeholders, targeting every aspect of the conservation process. In recent years there have been attempts to widen the scope of teaching to include management aspects so as to provide conservation professionals with much-needed managerial skills and prepare them for their new role as change managers.

The structure of curricula can differ between institutions depending on the resources and limitations of each institution. However, project-based and issues-based skills training onsite, involving traditional practitioners and local communities, can integrate the requirements of each core competency and can provide an inclusive platform for training heritage professionals that conventional programmes in education institutes do not provide.

The importance of interdisciplinary collaboration in conservation education is widely recognized. As the educational platform has expanded to provide extensive and alternative means of teaching and training, beyond classroom lectures and studios, collaborative onsite training that brings academic institutes and cultural sites together has proven to be an effective approach.

Many award-winning projects have served as cross-disciplinary laboratories for training locals, students and professionals at various stages of the conservation process in a manner that no taught course can offer. Conservation sites can thus become a hub of cultural transmission, providing technical training in traditional building crafts during the course of the restoration work, as in the cases of the LAMO Centre, Leh, India (2018 Award of Distinction) and Keyuan Garden, Suzhou, China (2019 Award of Distinction).

Awareness can be raised through education, public meetings and campaigns, engaging stakeholders and policy planners. Participatory processes ensure the viability of projects by engaging local communities in the decision-making process. At the Tai Kwun Centre for Heritage and Arts, for example, the public were invited to comment on the design of new buildings on the site and the designs were altered as a result of that feedback. The final design therefore met with community approval. Throughout the project, new standards of best practice in adaptive reuse were set and recorded, and the lessons learned from the experience are now being used by the Buildings Department to produce guidelines for heritage conservation in Hong Kong SAR.

Discrepancies between conservation standards in award entries suggest differences in capacity and in approaches to conserving and managing cultural sites in the Asia-Pacific region as well as the need to strengthen the competency of conservation personnel at every level. The competency framework for cultural World Heritage sites initiated by UNESCO in 2018 can be used as a guide for developing conservation curricula and training courses in countries across the Asia-Pacific region and beyond.



LOCAL HERITAGE BROUGHT TO LIFE AT THE LAMO CENTRE, INDIA

REFLECTION

HERITAGE EDUCATION AND INTERPRETATION

HERITAGE COUNCIL OF WESTERN AUSTRALIA

Over the past eight years, six conservation projects implemented with the support of the Heritage Council of Western Australia have been recognized by the UNESCO Asia-Pacific Heritage Awards. These award-winning projects have played an integral role in raising public awareness and knowledge of Western Australia's cultural heritage. Furthermore, the international recognition that these projects have received has drawn greater attention to the restored sites and helped people to see the value of the state's heritage and the importance of protecting it.

In recent decades, there has been a marked change in approaches to conservation and heritage interpretation in Western Australia. As the award-winning projects demonstrate, there is increasingly a focus on sharing the stories behind our historic buildings and sites. Interpretation is a particularly vital element of heritage tourism sites and the Heritage Council has worked with the owners of heritage places to help them identify and tell these stories in a meaningful way.

The refurbished William Street Precinct (2012 Honourable Mention) is today one of Perth's most important urban landmarks and offers visitors an exciting inner-city experience. The success of this project has helped raise awareness among planners, architects and both local and state governments of the role heritage precincts can play in the revitalization of streetscapes and the benefits they bring as drivers for heritage tourism. The project has also highlighted the importance of engaging a range of stakeholders for successful heritage conservation, education and interpretation.

Similarly, the restored Sailmaker's Shed (2013 Honourable Mention) in Broome has reinvigorated a sense of pride among the community and, as a showcase for the region's rich pearling heritage, is an attraction for both residents and visitors, contributing to the local tourism industry. Other award-winning projects that are drivers for heritage tourism include Rottnest Island World War II Coastal Defences (2014 Honourable Mention) and Cape Inscription Lighthouse Keepers' Quarters (2014 Honourable Mention).

An important conservation project for the local community was the Wanslea Cancer Wellness Centre (2015 Honourable Mention), a complex in Cottesloe, Perth, dating to 1905 that today houses a facility providing support for cancer patients and their families. Another project that had significant benefits for the community is the state heritage-listed Brookman and Moir Streets Precinct (2017 Award of Distinction), which revitalized the streetscape and strengthened the local sense of community. Through this project, private owners within the precinct educated other owners on best practice in heritage conservation, and the community members inspired each other to restore and adapt their homes for contemporary living.

The author, Anne Arnold, is the Chair of the Heritage Council of Western Australia, the state government's advisory body on heritage matters. She has been involved in property, planning and housing throughout her career and is a strong advocate for heritage conservation.



RAISING AWARENESS ABOUT PEARLING HERITAGE AT THE SAILMAKER'S SHED

REFLECTION

HERITAGE EDUCATION AND INTERPRETATION

LAURENCE LOH

The award-winning sites are 'living' sites. The cultural essence of each site, encapsulated in its restored form and ongoing use, remains intact and vibrant. Over time, the stories that have emerged have been retold in sharing events, be they religious, social or recreational. They have added value and intensity to the idea of memory and transmission. The multiple meanings conveyed in the stories are enhanced through the interpretative activities of the knowledge keepers, who are often the guardians of the sites.

In the case of Cheong Fatt Tze Mansion (2000 Most Excellent Project) in George Town, Malaysia, from the start of the conservation process the guiding principle was for the site to serve as a conservation best practice benchmark and the owners felt compelled to set international standards in the area of use and interpretation. Prior to 2001, access to the mansion was only through daily tours and special events. Trained cultural guides ensured that visitors joining the tours were touched by the mansion's authenticity and the heritage environment. In 2001, the adaptive reuse concept of the mansion evolved and the owners introduced bed and breakfast service so that the complete cycle of life in the mansion could be experienced. This was recognized as an important attribute of the site's spirit of place. After George Town was inscribed as a World Heritage site in 2008, the mansion was upgraded into a 4-star boutique hotel with additional facilities.

At Cheng Hoon Teng Main Temple (2002 Award of Merit) in Melaka, Malaysia, the continuous practice of rituals and prayers throughout the day and night within the retained authenticity of the temple's southern Chinese architecture, enhanced by the sight, sounds and smells of daily life, ensures that visitors and worshippers are affected by its religious soul. The very act of immersion in the living heritage environment conveys the meanings of the place.

Stadium Merdeka (2008 Award of Excellence) in Kuala Lumpur, Malaysia, continues to function as a sports venue. The activation of the space ensured that its spirit of place is transmitted through use. Psychologically, the reading of the space and its heritage values is the most direct of the examples of living heritage discussed here, as the intended use has never changed. Its interpretation continues to be embedded in the collective psyche of the Malaysian people because every year on Independence Day scenes of the original declaration of independence, which took place in the stadium in 1957, are replayed on national television.

The use of Suffolk House (2008 Award of Distinction), located in Penang, Malaysia, has remained constant since it was restored. Its heritage attributes have not been altered or modified. Visitors continue to view the conserved Anglo-Indian Georgian building and sample the cuisine of its restaurant. Interpretation boards and period furniture convey the essence of the time when the site's first owner, Francis Light, laid the foundations of the British port of George Town.

Twenty years of unbroken connection to these timeless places suggests that interpretation in all its forms remains an essential part of a holistic approach to heritage conservation and the transmission of the spirit of place.

Laurence Loh advocates 'designing with culture' as a pathway towards creating sustainable urban solutions. He divides his time between Arkitek LLA, his architectural practice, and Think City, a community-based organization that is a platform for public-private partnerships to undertake area rejuvenation.

REFLECTION HERITAGE EDUCATION AND INTERPRETATION

VIKAS DILAWARI

Three decades ago when the conservation movement first emerged in India, heritage structures were often pulled down because awareness of the value of heritage was lacking. Awareness-raising and education were therefore important first steps towards protecting heritage, and the first targets of these efforts were clients and users, and then contractors. The next targets were the neighbours of these heritage sites and then authorities and the general public.

In recent years, with the rise of social media and the sudden online accessibility of historical maps and information, the heritage scene in Mumbai has been transformed. The public, on the whole, is now better informed about heritage. When conservation projects are opened for public viewing during the course of ongoing work, the awareness generated is much more substantial than in the past in terms of users, owners, media and the general public, with awareness eventually trickling up to decision-making authorities. Very often, the clients, users and government departments are automatically involved in the education process if they participate in the weekly or fortnightly meetings that are held to share the progress of the projects.

Raising the awareness of authorities about heritage and its importance has often been the most challenging aspect of conservation projects in Mumbai. It is a slow process, but it can lead to important impacts at the policy level. In general, in educating the authorities we have to first sensitize the top management and then reach out to the officials under them for actual implementation. Very often we find one or two dedicated people who can take it forward, and this makes all the difference. With each new restoration project, government agencies, including the central public works department, the railways ministry, the state government and municipal bodies, have become more aware of the benefits of conservation. The restoration of the stained glass in the University of Mumbai Library Building (2001 Honourable Mention) was one such project that kick-started awareness among the authorities and the public at large.

This awareness was heightened with the restoration of Dr. Bhau Daji Lad Museum (2005 Award of Excellence) by the Indian National Trust for Art and Cultural Heritage (INTACH) Mumbai Chapter. This was a landmark project, as it transformed one of the city's neglected heritage structures into one of the most opulent public

buildings of Mumbai. In the civic sphere, the projects to restore Wellington Fountain (2017 Honourable Mention), Ruttonjee Muljee Jetha Fountain (2018 Honourable Mention), and Flora Fountain (2019 Honourable Mention) also served to increase awareness and understanding of heritage conservation among government authorities and the general public.

Once awareness has been raised, heritage cells are formed, and funding is provided to maintain, repair and enhance public heritage buildings. As a result of such changes, there is now a system to appoint specialized contractors, modifications have been made to the municipal schedule of rates and so forth.

Starting a dialogue with youth about conservation is another important focus area in raising awareness of the importance of heritage preservation. The heritage path can be conveyed to youth both through exposure to ongoing projects and through teaching the younger generation about heritage conservation. They can gain useful experience onsite as interns and also by visiting project sites.

Formal conservation education in Mumbai has come a long way over the past two decades. In the mid-2000s, conservation electives were launched in several architectural colleges and in 2007 a master's programme in architecture began at the Kamla Raheja Vidyanidhi Institute for Architecture and Environmental Studies in Mumbai. At around the same time, non-governmental organizations began offering occasional conservation training courses to the engineers serving in government departments, who are the custodians of public heritage buildings and monuments. Today, the Mumbai Metropolitan Regional Development Authority, the Chhatrapati Shivaji Maharaj Vastu Sangrahalaya Museum and one of the oldest architectural colleges, namely the Sir J.J. College of Architecture, offer training modules in conservation and award diplomas. Moreover, four architectural colleges in the country now award master's degrees in conservation.

Vikas Dilawari is a practicing conservation architect with nearly three decades of experience. His practice has successfully implemented numerous conservation projects, with sixteen of his projects winning UNESCO Asia-Pacific Heritage Awards between 2000 and 2019.

COMMENTARY SUSTAINABLE DEVELOPMENT

JOHANNES WIDODO

Introduction

In 2015, the United Nations set out seventeen Sustainable Development Goals (SDGs) as a blueprint for achieving a better future for the world through addressing pressing issues, including poverty, inequality, climate change and environmental degradation. Specific targets were set, to be achieved by 2030. Cultural heritage conservation is an integral part of many of the goals, but especially the Sustainable Cities and Communities goal (SDG 11).

The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme, conceived in 1999, has pursued UNESCO's strategic mandate of encouraging community, private-sector and non-governmental initiatives in cultural heritage conservation in the Asia-Pacific region for twenty years. During the past two decades, the awards programme has focused on recognizing the efforts of private individuals and organizations that have successfully restored and conserved structures and buildings of heritage value in the region, based on the demonstration of a clear understanding and application of good conservation criteria, including articulation of the spirit of place, technical achievement, appropriate use or adaption, and the project's contribution to the surrounding environment as well as to the local community's cultural continuity. Moving forward, in addition to encouraging adherence to the rising standards of conservation practice, the programme also encourages efforts to address the issues identified in the seventeen SDGs.

In 2018, UNESCO launched an initiative to develop a competency framework for cultural heritage management. The competency framework is expected to serve as a reference for World Heritage site management agencies in strengthening their staff capacities to ensure improved effectiveness and quality of site conservation and management. It will also benefit universities in designing qualification standards, training programmes and curricula to meet on-the-ground needs in cultural heritage management and conservation. Combining the competency framework with the cultural heritage conservation awards programme is a strategic move in taking holistic and effective steps towards achieving the SDGs.

The reflections by three of the award winners (the Aga Khan Trust for Culture, Wu Zhi Qiao and the Tibet Heritage Fund) that follow this commentary not only provide us with learning points from their achievements, but also help us in aligning the future trajectory of heritage protection and management with the larger agenda of the SDGs.



USING LOCAL MATERIALS AND KNOW-HOW CONTRIBUTES TO SUSTAINABILITY
AT THE SANGIIN DALAI MONASTERY PROJECT

Poverty alleviation and partnership

Over the past two decades of the UNESCO Asia-Pacific Heritage Conservation Awards programme, fourteen of the projects implemented by the Aga Khan Trust for Culture through its Pakistan affiliate, the Aga-Khan Cultural Service – Pakistan (AKCS-P), have received recognition, with ten of them receiving awards of Excellence or Distinction. These include Baltit Fort (2004 Award of Excellence), Shigar Fort (2006 Award of Excellence), Altit Fort (2011 Award of Distinction) and Khaplu Palace (2013 Award of Distinction).

In addition to protecting cultural heritage and empowering local communities, the projects have created more than 250 full-time jobs in the surrounding areas, which is helping to create decent work (SDG 8) and alleviate poverty (SDG 1). These projects also contribute to reducing inequality (SDG 10), creating sustainable cities and communities (SDG 11) and strengthening partnerships between local communities and the government and other stakeholders (SDG 17).

A key factor in the long-term success of the AKCS-P projects is that the revenues generated by the restored and repurposed buildings flow to the local communities. These communities therefore have a direct stake in the well-being of the restored sites and a sense of ownership, which allows the projects to flourish and expand, and also lead to replications elsewhere.

Gender equality, capacity building and partnerships

Over the five-year period between 2005 and 2009, three of the Tibet Heritage Fund's conservation projects won Heritage Awards: Leh Old Town (2006 Honourable Mention) in India, Sangiin Dalai Monastery (2009 Award of Excellence) in Mongolia and Serkhang Monastery (2011 Award of Merit) in China.

The Tibet Heritage Fund (THF) has a community-based conservation approach founded on the principles of liveability, environment-cleanliness and visible value. The organization's projects not only conserve buildings and monuments, but also improve the living conditions and infrastructure for the people residing in and around the sites.

As part of its conservation efforts, the THF runs a large vocational training programme that builds local capacity in traditional skills and keeps traditional building skills and crafts alive. By increasing knowledge and skills, the programme also creates economic opportunities for local communities, thereby contributing to creating decent work (SDG 8) and alleviating poverty (SDG 1).

An important element of the THF's projects is to encourage the participation of women in conservation efforts and to empower them through capacity building. This was seen in the Saigiin Dalai Monastery project, in which women were trained

in various skills relating to traditional construction and in management, thus gaining opportunities to find employment and generate incomes. In this project, some of trained women became masons. The women were awarded the 'Mother Gobi Award' by the government for their contributions to the project. By empowering women in this way, the THF's conservation projects have contributed towards gender equality (SDG 5).

The THF also encourages collaboration in efforts to protect and safeguard cultural and natural heritage, involving partnerships between the local communities, artisans and international experts. Thus, THF's heritage conservation projects contribute to strengthening partnerships in line with SDG 17.

Local wisdom, climate action and innovation

Since 2004 the Wu Zhi Qiao (Bridge to China) Charitable Foundation has engaged in conserving and improving traditional rammed-earth construction, which is a more affordable and environmentally-sustainable means of building rural dwellings than conventional brick and concrete construction. The organization's projects in Ma'anqiao Village (2011) and Macha Village (2017) in China were awarded the Award for New Design in Heritage Contexts (formerly the Jury Commendation for Innovation).

By conserving local wisdom while introducing innovative improvements to local technology and at the same time empowering local communities in recovery, reconstruction and housing improvement in poor, rural areas of China, while also contributing to reducing greenhouse-gas emissions, Wu Zhi Qiao's award-winning projects are helping to fulfil SDG 9: Industry, Innovation and Infrastructure, SDG 11: Sustainable Cities and Communities, SDG 12: Responsible Consumption and Production and SDG 13: Climate Action.

Epilogue

As the award-winning projects of these three organizations demonstrate, heritage conservation efforts not only contribute to achieving the Sustainable Cities and Communities goal (SDG 11), but also contribute to other SDGs, including: No Poverty (SDG 1), Gender Equality (SDG 5), Decent Work and Economic Growth (SDG 8), Innovation and Infrastructure (SDG 9), Reducing Inequality (SDG 10), Climate Action (SDG 13) and Partnerships for the Goals (SDG 17).

Together with the other award-winning projects, these project provide us with models of good practice for cultural heritage conservation and management, and with useful learning points to ensure that the heritage protection and management objectives in the UNESCO Competency Framework for Cultural World Heritage Sites conform to the sustainable development principles and contribute to achieving the SDGs.

REFLECTION

SUSTAINABLE DEVELOPMENT

AGA KHAN TRUST FOR CULTURE

The projects managed by the Aga Khan Cultural Service – Pakistan (AKCS-P), the country affiliate of the Aga Khan Trust for Culture (AKTC), to restore and repurpose the forts of Baltit, Shigar and Altit and Khaplu Palace have been recognized by the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation as meeting the highest heritage conservation standards, with all four receiving top awards.

This success was achieved by anchoring the restored landmark monuments in their local settings through carefully-crafted reuse strategies in partnership with local communities, generating a sense of ownership that pervades the projects, allowing them to flourish and expand, thereby ensuring the sustainability of the heritage assets and the surrounding communities. Not only are the restored sites maintained and kept in good standing, but the projects have inspired community initiatives to conserve other heritage sites in the region.

Aiming to improve the quality of life of the local communities, and with facilitation by government authorities, the projects have stimulated the local economies by creating socio-economic opportunities. The benefits of the completed projects to the local communities include revenues derived from the reuse of the heritage sites as businesses. In 2018, the four sites, combined, generated over US\$1.5 million in revenues, with the communities receiving US\$90,000 out of the profits along with the ticket fees of US\$300,000. These funds flow to the communities through their representative organizations: the Baltistan Culture Development Foundation, the Shigar Town Management and Development Society and the Khaplu Town Management and Development Society, in consultation and coordination with the AKCS-P.

While all of the AKCS-P projects have contributed towards the sustainable development of the regions in which they are located, Altit Fort (2011 Award of Distinction) is a particularly noteworthy example. Located in the Karakoram, Altit Fort was conserved in its raw form, highlighting the traditional engineering of wooden cribbage and masonry infill. The tranquil garden and orchard, Kha Basi, was carefully protected and the modest summer house was converted into a welcoming café where visitors enjoy local Hunza cuisine and the juice of locally-grown apricots.

Altit Fort is managed by Ciqam, a women-centred social enterprise with 32 staff; twenty of whom are women. The centre builds the capacity of local residents in

areas such as traditional building skills, surveying, documentation and hospitality skills. As historic settlements in the area have attracted considerable interest in recent years, traditional building skills are now in high demand, providing employment opportunities for local skilled workers. The conservation of Altit Fort has also brought benefits to around 200 other local residents. These beneficiaries include the owners and workers in local hotels, gift shops, transport services and parking services, as well as guides and security staff. The vast majority of the beneficiaries are youth and around half are women. The Altit Fort conservation project and an earlier project to conserve Altit Settlement (2007 Award of Distinction) have brought particular benefits to the residents of the village of Altit, home to 144 households, that today enjoy updated sanitation services, clean drinking water and valuable community spaces for gatherings and events.

The Aga Khan Trust for Culture (AKTC) is the cultural agency of the Aga Khan Development Network (AKDN). In Pakistan, the AKTC's community-based conservation approach, which harnesses heritage for development, has been ongoing since 1991. In alignment with the AKDN goal of improving lives, the AKTC and AKCS-P seek to leverage the unique transformative power of culture to improve socio-economic conditions.



PROJECTS SUCH AS ALTIT FORT CONTRIBUTE TO LOCAL WELL-BEING

REFLECTION

SUSTAINABLE DEVELOPMENT

TIBET HERITAGE FUND

The award-winning projects by the Tibet Heritage Fund (THF) implemented over the past two decades, not only sought to conserve built heritage, but also to preserve living intangible cultural heritage. The THF follows a community-based conservation approach that emphasizes engaging with people and safeguarding their culture, enabling people to carry their memories from the past into the future. THF projects are founded on the idea that local communities are the key stakeholders in preserving and maintaining heritage and passing on their cultural identity to future generations. Recognizing the links between heritage and socio-economic activities, a key aim of THF projects is to address the social and economic needs of the communities. This involves improving the living conditions of the people living in and around the heritage sites conserved under their projects.

In implementing the project to restore Leh Old Town (2006 Honourable Mention), the THF worked closely with the local community. By rehabilitating houses and improving infrastructure, the THF not only preserved built heritage, it also improved the living conditions of the community. The project used original and natural materials to conserve the buildings and also trained local artisans in conservation practices. These measures ensured that the buildings were restored in an appropriate manner while increasing local capacity and the artisans' opportunities for employment. The project also supported local social and cultural activities, thereby contributing to the survival of such practices. In these ways, the THF contributed significantly to the social and economic sustainability of Leh.

The project to conserve Sangiin Dalai Monastery (2009 Award of Excellence) sought to reinstate this spiritual centre for the residents of the area, while also training community members in traditional building and craft skills so as to increase their income-generating opportunities. The THF established a kiln onsite and trained local community members in the process of making the bricks and tiles, and also instructed them on restoration techniques and project management. This new capacity contributed to reviving social and economic vitality in the area and to ensuring the long-term sustainability of the community. As the team of artisans created under the project gained the skills required to implement conservation projects on other ruined monasteries, they have contributed to the revival of other sites and communities in Mongolia.

The THF's project to restore Serkhang Monastery (2011 Award of Merit) in Qinghai, China, conserved the buildings and wall paintings with the aim of ensuring the continuation of the local community's religious and cultural practices. As a community-based project, a key area of emphasis was on fostering cooperation between the local community and international experts, and on ensuring that the users of the monastery buildings had significant input in the conservation process. While some compromises were necessary, the project combined high-quality artisanal work with the findings of modern science to ensure the stability and long-term continued use of the buildings.

Established in 1996, the Tibet Heritage Fund (THF) is an international, non-profit organization engaged in conservation and heritage preservation. The organization works on self-sustaining community projects.



USERS OF BUILDINGS ARE CLOSELY INVOLVED IN THE PROJECTS

REFLECTION

SUSTAINABLE DEVELOPMENT

WU ZHI QIAO

Over the past decade, two projects by the Wu Zhi Qiao (Bridge to China) Charitable Foundation have won awards in the UNESCO Asia-Pacific Awards for Heritage Conservation: Ma'anqiao Village (2011) and Macha Village (2017). Both projects won the Award for New Design in Heritage Contexts (formerly the Jury Commendation for Innovation) and both demonstrated the benefits of rammed-earth construction technology and its contribution to sustainable development.

Construction with earthen materials, one of the oldest building technologies in the world, was widely employed throughout China over thousands of years. Today, at least 60 million people in China still live in traditional rammed-earth dwellings. However, in recent decades such housing came to be regarded as dangerous and was viewed as a symbol of poverty by many dwellers and by governments, which led to many rammed-earth dwellings being abandoned or demolished and replaced by conventional buildings made of concrete and fired bricks. This was despite the fact that most new concrete and brick-based dwellings perform poorly compared to earthen dwellings in terms of comfort, safety (anti-seismic capacity) and sustainability.

Against this background, since 2004 the university-based research team of the Wu Zhi Qiao (Bridge to China) Charitable Foundation has been working on innovative and improved earth-based building technology. Aiming to illustrate an affordable, earthquake resistant and environmentally-sustainable method of rammed-earth rural dwelling construction, the organization emphasized the importance of reviving a technology that can be passed on by villagers in the regions with a tradition of earthen buildings. The team developed earth-based techniques that can be integrated with anti-seismic design strategies based on local construction regimes.

Following the Wenchuan Earthquake in 2008, the Wu Zhi Qiao Charitable Foundation launched the Ma'anqiao Village demonstration project. Based on locally-available natural resources and reclaimed materials from collapsed houses, the team enhanced the local traditional rammed-earth methods to improve seismic performance. Through prototype-based training, all of the villagers quickly mastered the improved techniques and rebuilt their houses with minimal input of paid labour and low material cost.

Encouraged by the successful experience in Ma'anqiao Village, the Wu Zhi Qiao Charitable Foundation initiated a long-term research project in 2011 in Macha Village. In this second demonstration project, the team conducted tests of various improved means of rammed-earth technology and subsequently supported local villagers to build a prototype dwelling, 28 houses and a village community centre. The project enabled villagers to affordably rebuild their homes and also created a pool of skilled workers who have disseminated the improved methods and technology to other regions of China.

The Wu Zhi Qiao (Bridge to China) Charitable Foundation, registered in Hong Kong SAR, engages volunteers to design and build footbridges and other village facilities in remote and poor villages in mainland China with the goal of improving the lives of the underprivileged, inspiring appreciation and preservation of cultural and environmental heritage, and furthering the concept of sustainability.



**USING VERNACULAR CONSTRUCTION TECHNIQUES AT MACHA VILLAGE
HAS A LIGHT ECOLOGICAL FOOTPRINT**



TRADITIONAL BUILDING METHODS ARE COMBINED WITH SEISMIC IMPROVEMENTS AT MA'ANQIAO VILLAGE

FIVE YEARS OF THE UNESCO ASIA-PACIFIC HERITAGE AWARDS

CASE STUDIES OF BEST CONSERVATION PRACTICE, 2015-2019

AWARD OF EXCELLENCE

SREE VADAKKUNNATHAN TEMPLE
INDIA

AWARD OF DISTINCTION

SALTPANS OF YIM TIN TSAI
HONG KONG SAR, CHINA

J.N. PETIT INSTITUTE
INDIA

AWARD OF MERIT

CANGDONG HERITAGE EDUCATION CENTRE
CHINA

PING YAO COURTYARD HOUSES
CHINA

XIENG THONG TEMPLE
LAO PDR

BAAN LUANG RAJAMAITRI
THAILAND

HONOURABLE MENTION

WANSLEA CANCER WELLNESS CENTRE
AUSTRALIA

SANFANG QIXIANG
CHINA

YHA MEI HO HOUSE YOUTH HOSTEL
CHINA

PARVATI NANDAN GANAPATI TEMPLE
INDIA

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

PORT ARTHUR PENITENTIARY
AUSTRALIA

2015

SREE VADAKKUNNATHAN TEMPLE

INDIA

THE HOLISTIC RESTORATION OF SREE VADAKKUNNATHAN TEMPLE REPRESENTS A MILESTONE ACHIEVEMENT IN REVIVING A LIVING RELIGIOUS HERITAGE SITE USING A COMBINATION OF INDIGENOUS KNOWLEDGE OF VERNACULAR BUILDING TECHNIQUES, STRICT ADHERENCE TO ELABORATE RITUAL PROTOCOLS AND CONTEMPORARY CONSERVATION PRACTICE. AFTER A CENTURY OF EXPOSURE TO MONSOON RAINS AND INAPPROPRIATE MINOR REPAIRS, THE PROJECT SKILFULLY STABILIZED THE WOODEN COMPLEX FOR ONGOING USE BY LOCAL DEVOTEES AND RESTORED SIGNIFICANT DECORATIVE WORKS, INCLUDING MURALS. THREE HUNDRED ARTISANS WORKED FOR A DECADE, GUIDED BY THE PRINCIPLES ENCODED IN THE *VASTU SHASTRA*, THE INDIAN TRADITIONAL SCIENCE OF ARCHITECTURE. THROUGH THE EXEMPLARY INITIATIVE OF THE TEMPLE STAKEHOLDERS AND WITH COMMENDABLE SUPPORT FROM THE AUTHORITIES AND THE PRIVATE SECTOR, THE PROJECT HAS PRESERVED A SIGNIFICANT ARCHETYPE OF KERALA TEMPLE ARCHITECTURE WHILE SAFEGUARDING THE CONTINUITY OF AGE-OLD PRACTICES OF VENERATION.

2015

AWARD OF EXCELLENCE



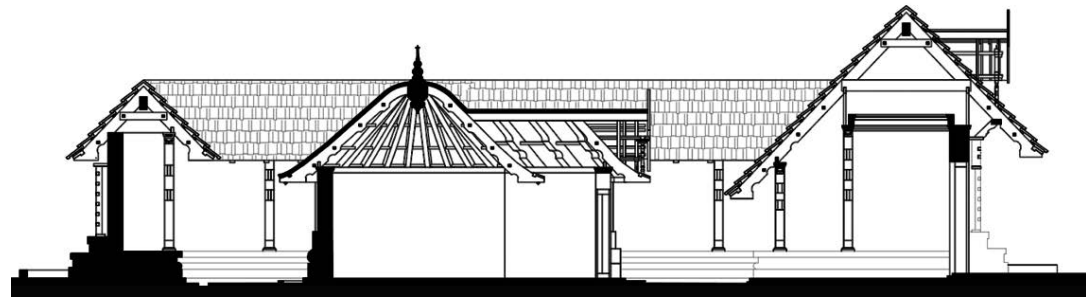
CONTEXT

The Sree Vadakkunnathan temple complex, dedicated to the Hindu god Shiva, was built in accordance with the dictates of eminent *sthapati* (traditional architects) and traditional *shilpa* (art/design principles), and reflects the architectural legacy of the Kerala region of India. This legacy has evolved over many centuries and demonstrates the influence of various religious and cultural traditions, including Hinduism, Buddhism, Jainism and Brahmanism, and also reflects some influences of European ideals of layout and design. Located on an elevated hillock in the heart of the city of Thrissur, Sree Vadakkunnathan Temple occupies a significant position and serves as an important focus of local religious, cultural and social life.

BUILDING HISTORY

The site dates from the eleventh century, but modifications and additions extended well into the nineteenth century. The temple complex covers nine acres and was once surrounded by a teak forest. It is circumscribed by a massive, square fortified wall, with four monumental *gopuram* (entrance towers) facing the four cardinal directions. This follows the scheme of traditional Kerala temples, as prescribed in ancient treatises. In particular, the temple adheres to a *panchaprakara* layout (with five enclosing walls), and all of the shrines include the six parts prescribed in the *Tantra Samuchayam* (book of tantra principles): the base, pillar, entablature, neck, head and finial.

Within the walls of the ancient temple complex are three courtyards. The innermost enclosure features three prominent entrances from the west, which are directly aligned with the temple's three principal shrines. One shrine is dedicated to the deity Shiva, another is dedicated to the deities Shiva and Vishnu, and the third is dedicated to the deity Rama, a significant manifestation of Vishnu. The main deity, Shiva, is represented by a large *lingam* (phallic or egg-shaped object), typically covered by a mound of *ghee* (clarified butter), which renders the *lingam* invisible. The walls of each of the shrines feature murals that depict stories from Hindu mythology. In front of each shrine are halls where devotees can prostrate themselves. The innermost enclosure also houses two ancillary deities. This core



SECTION

THE RESTORATION PROGRAMME FOR SREE VADAKKUNNATHAN TEMPLE, CARRIED OUT WITH THE HELP AND EXPERTISE OF VARIOUS PROFESSIONALS, RETAINED THE AUTHENTICITY OF THE PRICELESS HERITAGE, HONOURED INDIGENOUS ARTISANSHIP AND SKILLS, AND PRESERVED THE TIME-HONOURED WISDOM OF KERALA WHILE REVIVING TRADITIONAL KNOWLEDGE SYSTEMS.

— QUOTE FROM THE PROJECT TEAM —



SHRINE TO THE HINDU GOD AYYAPPAN BEFORE AND AFTER RESTORATION

area also contains the kitchen, where food for offerings is prepared, and also has space for circumambulation.

A second enclosure surrounds the core area. This is a space for the display of oil lamps, which are set on wooden posts. The area between the outermost and the second enclosure features shrines dedicated to other Hindu gods. A circumambulatory path of stones lined by trees surrounds this grouping, and an outer garden (in the third enclosure) imbues the site with significant cultural, religious and mythological significance.

The materials used in the construction of the temple include stone, wood and plaster. The temple walls are composed of granite bases coursed with laterite masonry and plastered in mud and lime plaster. The wooden columns, beams, rafters and brackets support elaborate tiered roofs with deep overhanging eaves in conical and pyramidal shapes with copper covers. The copper was imported in the twelfth century, most likely from Portugal or elsewhere in Europe.

The temple is noteworthy for its murals, which are of great importance and are worshipped daily. They belong to several periods and include the Vasukishayana (Vasuki Shayana) and the Nrithanatha. The former mural depicts Shiva resting on a giant snake and the latter depicts Shiva as a dancer with twenty arms. Like the murals, the elaborately-carved stone and wooden relief sculptures also convey stories and contribute to the significance of the temple complex.

An assessment of the temple in the 1990s found that much of the temple was in a dilapidated and dangerous condition, as no major repairs had been carried out for over 100 years. The building had major defects, including dry and wet rot of the wooden elements and damage to the stone, plaster and copper, as a result of exposure to moisture, solar radiation and termites.

PROJECT HISTORY

In view of the dilapidated state of the temple, in 1997 the Archaeological Survey of India (ASI), the national body responsible for the protection of built heritage in India, began conserving elements of the complex, including several of the *gopuram*, wood carvings and murals. Recognizing that a broader conservation effort was needed, in 2005 the ASI partnered with the Cochin Devaswom Board, the administrative authority responsible for the maintenance and management of Hindu

PROJECT TITLE
SREE VADAKKUNNATHAN
TEMPLE

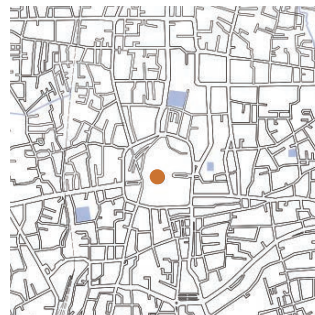
LOCATION
THRISSUR, KERALA, INDIA

SIZE
3.7 HECTARES
(37,000 SQUARE METRES)

COST
US\$1,571,463
RESPONSIBLE PARTY
COCHIN DEVASWOM BOARD
TVS MOTOR COMPANY

HERITAGE ARCHITECT
VINOD KUMAR
(DD ARCHITECTS)
SAPARYA VARMA
ANJALI C.

CONTRACTOR
K.C. REGHURAM
DATE OF COMPLETION
MARCH 2015



CURRENT USAGE OF THE TEMPLE

temples in central Kerala, and the Venugopalswamy Kainkaryam Trust (VGKT), the social enterprise wing of TVS Motor Company, to launch a major project. The VGKT provided funding and human resources for the project and appointed an architectural firm to serve as the local coordinator.

A traditional local ritual called an *odilakkal* (removing the first tile), conducted in April 2005, marked the beginning of the conservation work; a second ritual, the *naveekarana kalasam* (reconsecration of the idols), served to mark the project's completion ten years later.

PROJECT SCOPE AND FRAMEWORK

The project to conserve Sree Vadakkunnathan Temple addressed not only structural concerns, but also social factors and management considerations. One of the primary objectives of the project was the consolidation of the temple's structures to make them safe. A second objective was to employ local workers familiar with the original materials and construction techniques. A third objective was to develop a maintenance plan for the temple complex.

A major focus of the project was to address the deterioration of the complex's wooden elements, including the columns, capitals, beams, ridges, rafters and supporting brackets, so as to ensure the temple's structural stability. The project also involved removing elements that had been introduced in previous repairs that were incompatible with the integrity of the buildings and that were damaging to the original materials. These elements included coatings of Japan Black (a lacquer finish) that had been applied to the bases of the stone

shrines, concealing the original stone surfaces. The team also disposed of the old *ghee*, a major offering in the temple.

Another key area of activity was outreach work with the community and the temple's custodians (the temple's administrative body and the devotees). This process required identifying and abiding by local beliefs and prioritizing regional texts and oral traditions as part of the conservation effort.

The extensive project was carried out by skilled artisans, aided by experts from various professions. The artisans are part of an ancient guild system covering multiple areas of expertise. Over the ten-year period of work the project hired more than 300 skilled artisans and workers from all over southern India.

CONSERVATION METHODOLOGY AND MATERIALS

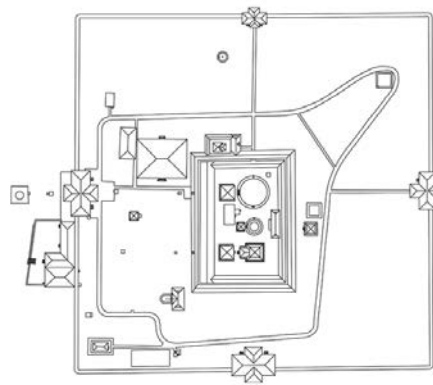
The project adhered to four core principles: ensure strict adherence to temple protocols when scheduling and carrying out the work; ensure continual reference to ancient treatises on building and construction prescribing specific geometries, systems of measurement and rituals; ensure respect for the ancient guild system practiced in Kerala – a system that strictly separates the work of wood workers, stone workers and metal workers; and ensure that each structure within the complex retains its original use.

Conserving the intangible values associated with the site was as important to the conservation team and the community as the repair of the physical structure. Because of this, the overall effort sought to balance contemporary conservation practice with documented traditional approaches embedded in the *Vastu Shastra* system, the Indian traditional system of architecture. The project therefore depended on the advice of a *vastu* professional, who was consulted at every stage of the project to ensure that the conservation work abided by the rules of this system.

Out of respect for local traditions, the project employed a renowned astrologist to help decide the timing of the project and when the work would be undertaken. This step was important for many of the temple's stakeholders as it continued an age-old practice in Kerala. In addition, appropriate rituals prescribed in the treatises punctuated each stage of the conservation work; for example, the *anujna* ritual, which was held



TRADITIONAL ENGINEERING SKILLS REINVENTED



SITE PLAN

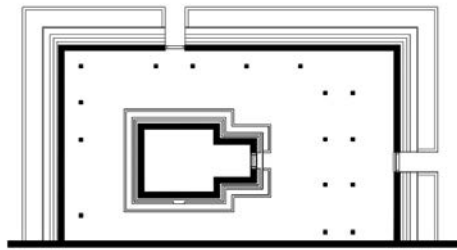
to get permission from the deities for the work. All of the stakeholders took part in the rituals; thus, they also served as opportunities for the community and the temple's custodians to discuss the work with the conservation team and express their views. In this way, agreement was reached at every stage of the process.

In sequencing the work, the conservation architects approached each shrine separately and, under the guidance of the ASI, analysed the condition of each, catalogued materials and assigned appropriate measures for each component. The team marked the wooden sculptures, prepared drawings and took photos of each item before dismantling them so that everything could be returned to their correct places after the repairs were made.

The team remained aware throughout the conservation process of the ancient Indian treatises on building and construction that prescribe the specific geometries, systems of measurements and orientations of each shrine in the complex. In particular, the conservation team remained cognizant of the ancient unit of measurement (*kal*) that the complex's first builders employed.

In line with contemporary conservation practice and in recognition of the customary belief that the temple and its materials contain spiritual energy, the project team sought to retain as much as possible of the temple's original fabric. The team was also careful in its choices of materials used in the conservation work, prioritizing traditional materials. In addition, the team also conducted research on each material's composition in order to better understand its history, patterns of usage, components and technical specifications, and the linkages of the materials to other geographical locations. One of the traditional construction materials used in the conservation work was a local herbal wood oil (created by boiling eight ingredients together), which was applied to wooden members to protect them from termites and the weather. The project also relied on traditional lime plaster (a mix of lime, herbs and jaggery sugar), which was prepared by experienced artisans.

Special care was taken with the repair of the teak rafters in the main temple. The wood had decayed and it posed a threat to the Shiva mural below it. The mural is worshipped daily and therefore could not be touched. After almost six months of negotiations with the temple custodians, the head carpenter initiated the difficult



PLAN OF THE VRISHABHA SHRINE

task of dismantling and restoring the rafters without causing damage to the mural.

The team used traditional techniques wherever possible, but at times it improvised, developing new techniques to better protect the temple from damage in the long term. For example, the team developed a new method of installing the copper plates on the roof of the temple. This method involved fastening the copper tiles to the wooden roof boards using copper clips and nails, which had the advantage of making the roof leak proof. Another innovation was in response to the undulations in the stone and the lack of drainage channels, which had resulted in stagnation of rainwater, leading to damage of the temple's structure. The team corrected these issues through adjusting the slopes and installing new channels.

IMPORTANT ISSUES

A significant challenge for the project was to incorporate the ideas and ideologies of all of the various stakeholders. It was necessary to ensure the authenticity and integrity of the temple complex while finding a compromise between ethics and aesthetics. Merging contemporary principles of conservation practice with traditional architectural principles and with the ideas of the temple custodians was particularly challenging. Overcoming this required ongoing consultation and negotiation with the various stakeholders. As part of this effort, the conservation team raised awareness among the custodians of the importance of appropriate repair and restoration measures.



FIXING OF THE FINIAL

A further challenge encountered by the project team was that because the temple is a living monument, it was necessary to ensure continuing use of the temple during the conservation work. Once again, consultation and negotiation with the temple custodians was the means of addressing this.

An added difficulty facing the project was the multiple ownership of the temple and unclear management responsibilities. The care of the Sree Vadakkunnathan temple complex falls upon two major stakeholders: the ASI and the Cochin Devaswom Board, but these bodies have different mandates and philosophies regarding conservation. While the ASI is more focused on protecting built historic fabric, the Cochin Devaswom Board is more concerned with sustaining the intangible practices associated with sacred sites. And while the ASI advocates for minimum intervention and maximum reuse of the original building materials, the Cochin Devaswom Board advocates that the temple be a 'living' site and favours the use of modern materials and conveniences. Accordingly, the expectations of the two organizations for the conservation project differed. This complicated decision-making. Balancing these differing expectations while also respecting the traditions and beliefs of the site's users, required much negotiation and discussion. Compromises in this regard led to the widening of the scope of the conservation project to include interventions that would make the spaces within the temple complex more comfortable for the various users.

PROJECT SUSTAINABILITY AND VIABILITY

With the completion of the conservation work, the temple has gained a considerable number of new pilgrims and, consequently, the revenue generated by the temple has increased. This has allowed for the scheduling of maintenance and regular repairs. At the same time, the project's reliance on traditional knowledge and practice from artisans in the region has contributed to preserving indigenous craft skills, thereby ensuring the continuation of the expertise required for maintaining and conserving the temple. These factors have ensured that the temple will continue to thrive in the long term as a centre of social and cultural activity in Thrissur.

PROJECT IMPACT

The conservation effort has ensured that the temple complex, a living monument, will continue to be used daily and be maintained, thereby ensuring the continuation of important cultural practices in the local community. Moreover, the employment of artisans and workers from the region, an important aim of the project, has contributed to preserving not only the temple complex but also traditional time-honoured construction knowledge. Another impact of the project was that the close interaction between the project's architects and the traditional craftspeople over a period of ten years enabled the architects to learn about the Kerala traditional language and vocabulary of design, which is not taught in modern architectural schools.

In view of the success of the project, the temple's custodians intend to open a museum within the temple grounds to display old, damaged parts of the temple and provide information about the conservation effort. The custodians of the temple believe that a museum of this type will enable the public to learn about the history of the original structure and recognize the advantages of retaining such buildings and preserving their materials, as opposed to rebuilding them in concrete and thus erasing the history of the sites. They also feel a museum will increase public awareness and appreciation of the values and principles behind traditional architectural practices. In addition to educating the public, the museum is expected to facilitate the replication of the project's conservation approach elsewhere in India.

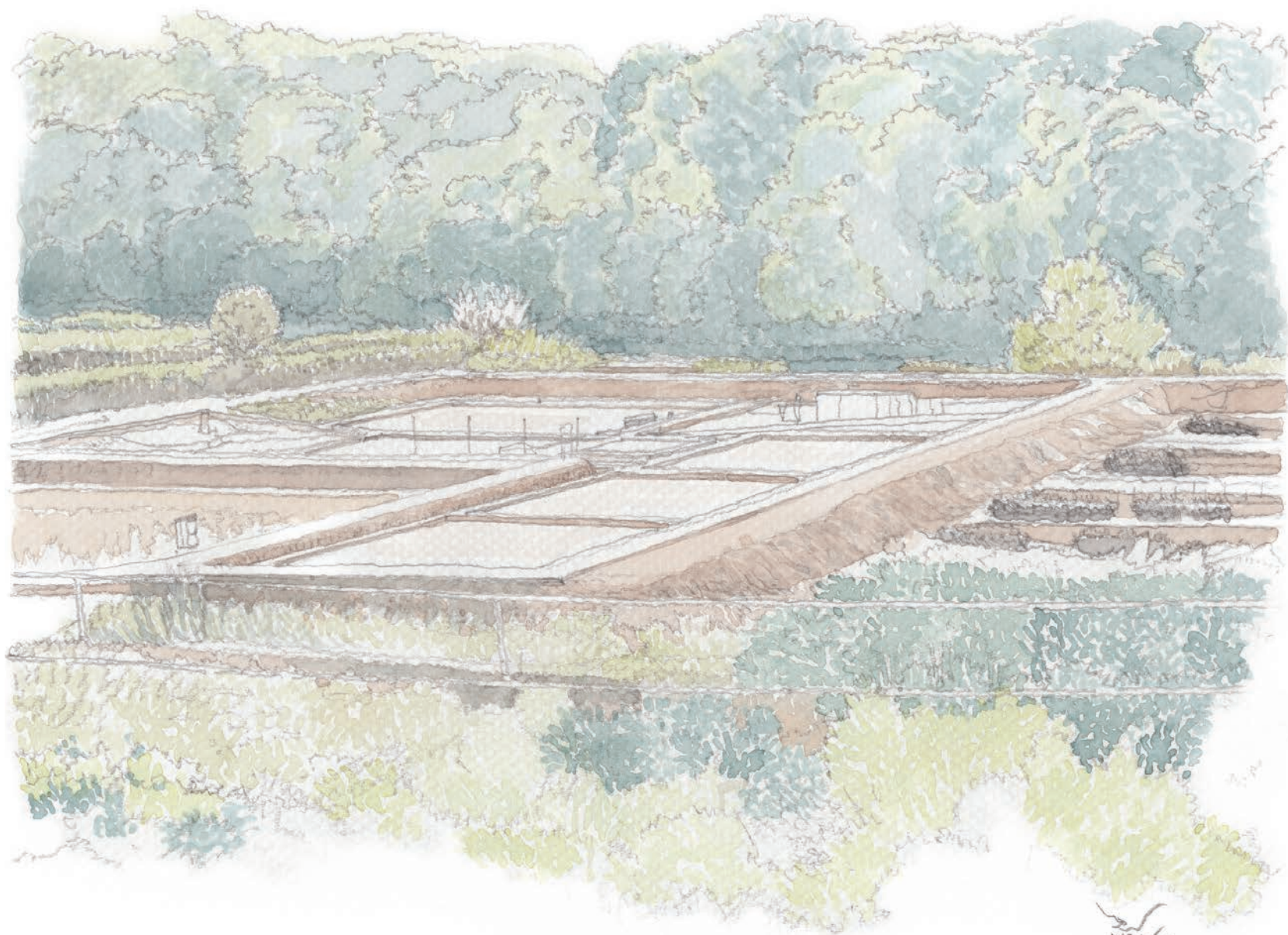
SALTPANS OF YIM TIN TSAI

HONG KONG SAR, CHINA

THE REVITALIZATION OF THE SALTPANS OF YIM TIN TSAI ISLAND IN A RURAL AREA OF HONG KONG SAR CELEBRATES AN OVERLOOKED FORM OF INDUSTRIAL HERITAGE AND CONTRIBUTES TO EXPANDING THE ENVELOPE OF CONSERVATION PRACTICE. THE PROJECT OVERCAME A LACK OF HISTORICAL RECORDS BY USING A FIELD-BASED METHODOLOGY OF *IN SITU* INVESTIGATION TO INFORM THE CONSERVATION PROCESS. THE CONSERVATION WORK EMPLOYED SIMPLE LOCAL BUILDING MATERIALS AND TECHNIQUES TO RETURN THE SALTPANS TO A FUNCTIONING CONDITION. THE SALTPANS NOW SERVE AS AN EDUCATIONAL HUB FOR STUDENTS AND AS AN ECO-TOURISM DESTINATION FOR A GROWING NUMBER OF VISITORS. COORDINATED BY MEMBERS OF THE CHAN CLAN, WHOSE ANCESTORS ORIGINALLY BUILT THE SALTPANS, THE PROJECT IS AN INNOVATIVE APPROACH TO THE CONSERVATION OF INDUSTRIAL HERITAGE LANDSCAPES AND HAS REKINDLED INTEREST IN HONG KONG'S HISTORY.

2015

AWARD OF DISTINCTION



WIND



VISITORS ON A TOUR OF THE SALTPANS

**IT IS HOPED THAT THE RENEWAL OF THE BONDS BETWEEN
THE LAND AND THE PEOPLE WILL BRING FORTH A STRONG
SUSTAINABLE FORCE FOR THE CONSERVATION OF THE ISLAND'S
CULTURAL HERITAGE.**

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

Yim Tin Tsai (Little Salt Field) is a small island located three kilometres off Sai Kung Peninsula, on the eastern edge of Hong Kong SAR, China. The saltpans of the island are typical of those on the south-east coast of China during the nineteenth century. Unlike many other heritage properties, which are distinguished by their architectural forms, the Saltpans of Yim Tin Tsai are significant as an expression of the key livelihood that once supported the island's population, for their raw beauty as a fragment of an industrial past and in what they say about the resilience of the island's inhabitants.

SITE HISTORY

While salt production in Hong Kong dates from the Song Dynasty (960-1279), the saltpans on Yim Tin Tsai date from the settlement of the island by the Chan clan in the eighteenth century. As with other Hakka settlers in Hong Kong, the settlers of Yim Tin Tsai migrated from Shenzhen, China. The settlers brought with them traditional salt-making knowledge and techniques and, recognizing the island's natural advantages for salt making, established saltpans in an inlet on the south-eastern side of the island.

In the nineteenth century, salt production was the most important economic activity of the coastal region of Hong Kong. With the rise of industrialization, however, the manufacturing industry surpassed the salt industry and the number of saltpans in Hong Kong began to decrease. Intense competition from salt producers in South-East Asia contributed to the further decline of the salt industry. During the twentieth century, villagers converted many of the saltpans into fish ponds. The new use of the land as fish ponds led to changes in the physical configuration of the original saltpans; for example, the berms (raised earthen walls around the salt pans) lost their regular rectangular configurations. Following the Second World War the saltpans and fish ponds were gradually abandoned, with many of the island's residents choosing to move to urban areas. Abandoned and neglected, the berms and the bunds (the paths connecting the pools) eroded and eventually collapsed as a result of exposure to the elements. By the turn of the twenty-first century little physical evidence of the saltpans remained.

PROJECT HISTORY

The Yim Tin Tsai Saltpan Revitalization Project was initiated in 2012 by the Chan family, descendants of the original salt-makers of Yim Tin Tsai. The project sought to build on the positive impacts that had resulted from an earlier conservation project on the island: St. Joseph's Chapel. That project was recognized in 2005 with an Award of Merit in the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation.

The new project took inspiration from the International Charter for the Conservation and Restoration of Monuments and Sites (Venice Charter), which observes that 'the concept of a historic monument embraces not only the single architectural work but also the urban or rural setting in which is found the evidence of a particular civilization, a significant development or a historic event'. The project therefore sought to restore the rural setting that once supported salt-making, as practiced in the past by the Yim Tin Tsai community.

Members of the Chan clan set up a social enterprise, the Salt and Light Preservation Centre (SLPC), as a means to explore the local historic and cultural resources of Yim Tin Tsai, and to manage the project and a consequent eco-tourism initiative on the island. The SLPC then appointed a project team, including an architect, an engineer and a surveyor, and engaged people from the local area in the conservation process. The restoration project commenced in 2012 and was completed in 2014.

PROJECT SCOPE AND FRAMEWORK

The main aim of the project was to bring new vitality to the island of Yim Tin Tsai, building on the earlier project to conserve St. Joseph Chapel. In particular, the project sought to restore the saltpans, but not for use in commercial salt production. Rather, the aim was to be able to demonstrate to the public the traditional process of making salt and the associated culture, as well as promote sustainable practices. It was intended that the new project would emphasize five distinct, yet interrelated, aspects of the local area: religion, culture, ecology, heritage and tourism.

The project restored five key components of the salt-making site: the sluice gate, a seawater holding pond, four evaporation pools, a brine pool and a crystallization

PROJECT TITLE
SALTPANS OF YIM TIN TSAI

LOCATION
HONG KONG SAR, CHINA

SIZE
APPROXIMATELY
2,800 SQUARE METRES

COST
US\$653,000

RESPONSIBLE PARTY
SALT AND LIGHT
PRESERVATION CENTRE LTD.
YIM TIN TSAI RURAL VILLAGE
COMMITTEE

HERITAGE ARCHITECT
ANNA KWONG ARCHITECTS &
ASSOCIATES

CONTRACTOR
REALTY CHENG & PARTNERS
CONSTRUCTION LTD.

DATE OF COMPLETION
MAY 2014



CHILDREN IN THE EDUCATIONAL SALTPAN

pool. The project team also installed two types of pool bases: (i) sand/clay (lime-based mud) and (ii) ceramic tile, to demonstrate the differences. The restored area encompasses about 28,000 square metres, which is approximately a third of the area at Yim Tin Tsai that was devoted to salt production in the past.

Beyond rebuilding the saltpans, the project encompassed education and interpretation. This required designing an exhibition space within one of the island's former school buildings, preparing exhibits about the saltpans and setting up weekly eco-tours to the restored site.

CONSERVATION METHODOLOGY AND MATERIALS

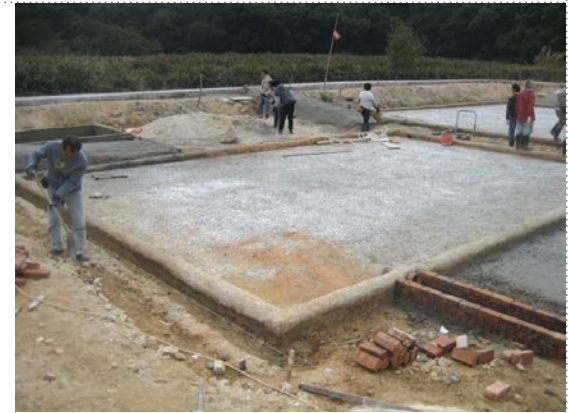
An overriding consideration for the project team was that the saltpan's components should conform to traditional designs and that traditional methods should be used in the construction of the various components of the site. Another important consideration was the use of appropriate materials. The project's designers selected the materials based on three criteria: compatibility (with the context and with the traditional techniques used in Yim Tin Tsai), strength (so that the saltpan structures would be stable and safe), and durability (to reduce maintenance costs).



PLAN



SALTPAN BEFORE RESTORATION



SALTPAN BEING DREDGED

The first step in restoring the saltpans was the installation of a drainage system. Once this stage was complete, it was possible to restore the layout of the pans. Because the saltpans had been modified to form fish ponds, it was necessary to reinstate the boundaries of the saltpans (berms). It was also necessary to reconstruct the bunds. The bunds were originally made from a mixture of natural materials, including oyster shell powder, clay, sea sand, sticky rice and red sugar. Oyster shell powder is made by burning shells, which changes the chemical composition of the shells to calcium oxide, an ingredient of lime mortar. The team reinstated the bunds using the original materials but strengthened their foundations by embedding timber frames within the pathways.

For the evaporation and crystallization pools, the team inserted a curb of rammed earth, with a base of clay, sand, oyster shell powder and sticky rice. The brine pool was reconstructed using a combination of traditional materials and Portland cement; the latter ingredient was added in order to reduce leakage of sea water. The team also constructed a bamboo structure over the brine pool following longstanding practice in the area. Because of its severe deterioration, the old sluice gate had to be replaced with a new one, but the team based it on the original design and used the same materials. The original gate, a heritage artefact, was donated to the local museum on the island.



VIEW FROM THE SALTPAN TO THE VILLAGE

IMPORTANT ISSUES

There were few records of the original appearance of the saltpans and this lack of knowledge presented a major challenge. This was overcome through research and documentation. The project team began by conducting a series of field studies in Guangdong and other parts of China where comparable saltpans still exist. This gave the team an idea of the appearance of the original saltpans at Yim Tin Tsai and basic knowledge of traditional salt-making methods. The researchers found that there were two main methods of salt production in the areas studied: leaching and solar evaporation. The method employed at Yim Tin Tsai had been solar evaporation, so the researchers examined that method in detail. The researchers then discovered that saltpan owners in different areas adjusted the solar evaporation process to the local micro-climates and developed unique methods for salt extraction accordingly. Therefore, the saltpan owners in Guangdong used different methods from their counterparts in other parts of China. After considering the two methods, the project team adopted the Shanwei method as a model for the restoration work because it was compatible with the natural environment of Yim Tin Tsai.

PROJECT SUSTAINABILITY AND VIABILITY

The Yim Tin Tsai Saltpans site is today a public attraction and offers visitors a rare opportunity to witness salt production using traditional methods. Visitors gain an understanding of the historic landscape and learn in a hands-on way about salt production methods through weekly educational eco-tours conducted by volunteers and managed by the SLPC. The tours to the island contribute to the local economy and ensure the continued maintenance of the saltpans. To ensure that village life and the island's ecosystems are not overly disturbed by visitors, the SLPC put in place a daily quota (a maximum of 300 people per day).



OVERGROWN SALTPANS IN 2012



REVIVED SALTPANS IN 2014

To answer the needs of the present circumstances, some changes were introduced in the operations of the saltpans. While in the past, someone operated the sluice gate daily to control the flow of sea water to the salt pans, this is no longer practicable. Thus, while their physical appearance has been restored, the saltpans are now operated with the assistance of new techniques and equipment. These include a holding tank to store seawater during low tide and electric pumps to move seawater from one pan to another. These measures ensure the saltpans remain operational in the long term.

PROJECT IMPACT

The Saltpans of Yim Tin Tsai today serve as an eco-tourism and educational site, providing visitors with an opportunity to gain an insight into the lives and livelihoods of the past residents of the island and how they contributed to Hong Kong's economy, while also learning about ways of using natural resources in a sustainable manner.

Through the project, the social enterprise engaged members of the Chan family and other stakeholders in developing strategies to conserve and sustain the island's cultural heritage. This cooperation served to revive the saltpans and today ensures that the operations of the site and the eco-tours are maintained. Furthermore, the engagement and participation by Chan family members in the project has strengthened the bonds within the clan and enhanced their sense of identity.

The project has received positive feedback from both residents of the island and visitors and has garnered significant attention from the media, institutions and the Hong Kong SAR government. It has also increased public awareness of industrial heritage. The saltpans in Yim Tin Tsai may inspire the revitalization of other saltpans, such as those on the island of Tai O, which were once the largest in Hong Kong SAR.

Despite their heritage value, the saltpans are not included in any of Hong Kong's categories of heritage buildings and monuments. This successful project therefore calls for the need to recognize the value of saltpans and other cultural landscapes, and broaden the range of protected heritage sites and practices accordingly.

J.N. PETIT INSTITUTE

INDIA

THE RESTORATION OF THE J.N. PETIT INSTITUTE HAS SUCCESSFULLY EXTENDED THE LIFE OF ONE OF MUMBAI'S MAJOR NEO-GOTHIC LANDMARKS AND WELL-LOVED INSTITUTIONS. THE METICULOUSLY-EXECUTED RESTORATION WORK HAS RESCUED THE BUILDING FROM A STATE OF SERIOUS DECAY, RETURNING IT TO ITS ORIGINAL GLORY WITH THE REINSTATEMENT OF PERIOD DECORATIVE WORKS, NOTABLY STAINED-GLASS WINDOWS, CARPENTRY AND MASONRY ORNAMENTATION. THE PROJECT ENSURES THAT GENERATIONS OF MUMBAIKARS WILL CONTINUE TO ENJOY THE INSTITUTE'S FACILITIES, IN PARTICULAR, THE SPLENDID READING ROOM, IN YEARS TO COME. AT AN URBAN SCALE, THE RESTORED BUILDING ENRICHES THE CHARACTER OF FORT DISTRICT'S MOST DISTINCTIVE HERITAGE STREETScape. ACTING AS A CATALYST FOR CHANGE, THE PROJECT SETS A NEW BAR FOR OTHER PROPERTY OWNERS IN MUMBAI IN USING A CONSERVATION APPROACH TO BRING RENEWED VITALITY TO HISTORIC NEIGHBOURHOODS.

2015

AWARD OF DISTINCTION



Wendi

CONTEXT

The J.N. Petit Institute is located on Dr. Dadabhai Naoroji Road (D.N. Road) in Mumbai's historic Fort District. Situated within an urban streetscape of historically and architecturally significant buildings, the building is an example of the Gothic Revival (Neo-Gothic) style. Its pointed arches, slender columns, finials and brackets are characteristic of the architectural style.

Since its opening in 1898, the building has served as a private, but low-cost, library and reading hall for the community of South Mumbai. It contains one of the most impressive collections of reading materials in the city, comparable to the David Sassoon Library and the Rajabai Tower and Mumbai University Library, which are among the city's earliest public institutions. In recognition of the building's architectural qualities and its long history of use and benefit to the community, the building was listed by the Government of Maharashtra as Grade II-A heritage.



FAÇADE BEFORE RESTORATION



THE FLAT TERRACES WERE REDONE IN CONVENTIONAL INDIAN WATER PROOFING (BRICK BAT COBA WITH CHINA MOSAIC FINISH)

THE PROJECT HAS ENABLED NINETEENTH-CENTURY BUILDINGS IN THE FORT DISTRICT TO REMAIN VIABLE AND VIBRANT IN THE TWENTY-FIRST CENTURY, AND IT IS HOPED THAT THIS WILL MOTIVATE THE GOVERNMENT TO CHANGE ITS POLICY TO BE MORE CONDUCTIVE TO CONSERVATION THAN TO CONSTRUCTION.

— QUOTE FROM THE PROJECT TEAM —

BUILDING HISTORY

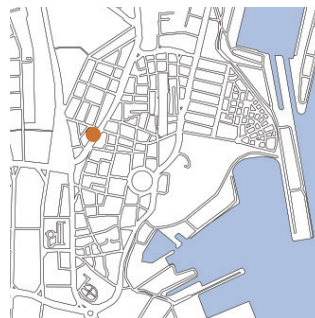
The J.N. Petit Institute houses a library and reading room. The library was founded in 1856 by students of Elphinstone College and was originally known as the 'Fort Improvement Library'. With the addition of a reading room, it became known as the 'Fort Reading Room and Library'. In 1891, it was renamed the 'J. N. Petit Fort Reading Room and Library' in memory of Jamsetji Nesserwanji Petit who had been a director of the library and had taken a lively interest in its welfare and development. The current building housing the library and reading room was constructed with funding from J. N. Petit's mother, Bai Dinbai Nesserwanjee Petit, on a plot of land formerly owned by Jamsetji Nussarwanji Tata and the city government. Construction began in 1895 and the building was inaugurated on 1 May 1898.

Originally a two-storey building with two mezzanine floors, it is of ashlar masonry construction, with façades made of *malad* (basalt) from the local area and with ornamental details in limestone and marble. The second-storey hall of the institute is adorned with stained-glass windows and is known as one of the most impressive interiors in all of Mumbai.

In 1938, in order to accommodate the institute's growing membership, the governing board authorized an extension to increase the building's usable space. Works included the construction of an additional storey, using reinforced cement concrete (RCC). The vertical extension cleverly incorporated the ornate Gothic Revival features of the lower storeys, making the added storey appear as if it were part of the original building. In the process, the corner staircase tower was built higher and the original conical roof was replaced with an octagonal spire. This architectural gesture further anchored the building as a landmark in the streetscape. The building, now with three storeys, was reopened to its members on 1 May 1939, exactly 41 years after the original opening.

The 1938 project changed several aspects of the building, however. Concrete balconies replaced the original teakwood verandas and louvred screens, and I-beams cased in concrete were inserted to support the mezzanine balcony, alongside the original cast iron columns. Also, as part of the renovations, a flat terrace was created above the reading hall, replacing the building's original roof. This too was made of RCC, supported by I-beams cased in concrete – a design

PROJECT TITLE
J.N. PETIT INSTITUTE
LOCATION
FORT, MUMBAI, INDIA
SIZE
2,082 SQUARE METRES
COST
APPROXIMATELY US\$274,193
RESPONSIBLE PARTY
THE TRUSTEES OF J.N. PETIT
INSTITUTE
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
PREMIER CONSTRUCTION
COMPANY
DATE OF COMPLETION
MARCH 2015



choice that resulted in a large, column-free reading space below. This reading room became a second home to local students and was valued for its well-lit and well-ventilated space.

The J.N. Petit Institute building remained essentially untouched from the 1940s until 2001, when Russi M. Lala from the Sir Dorabji Tata Trust funded external repairs and terrace waterproofing work. Following this, the building gradually fell into disrepair, however, and by 2011 severe damage could be seen. In the second-floor reading hall, the Plaster of Paris ceiling had collapsed, revealing the concrete slab. Moreover, water ingress had caused the wooden frames of the staircase tower to rot and had led to vegetation growth around the pipe spouts. Crucially, the building had structural damage and was no longer in a usable condition.

PROJECT HISTORY

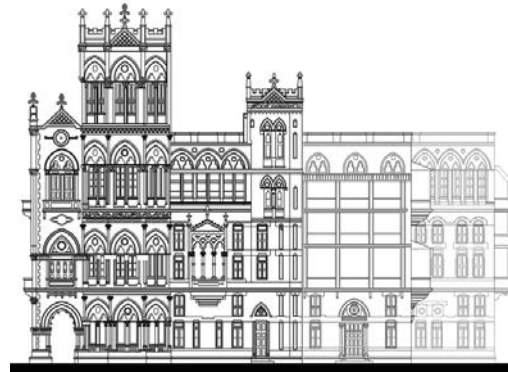
Until the turn of the twenty-first century, the Fort District was a vibrant area that housed financial institutions and insurance companies. The area gradually declined, however, with the end of the leases of many of the buildings in the district. Most buildings in the Fort District were built between 1895 and 1905 and had a lease of ninety-nine years with the Municipal Corporation of Greater Mumbai (MCGM). When these leases expired at the turn of the new century, the government proposed short leases of thirty years and increased the rents. This resulted in many institutions shifting their headquarters to the nearby Bandra Kurla Complex, a planned business district. As a result of this exodus, many buildings of the Fort District were abandoned or divided into apartments, and consequently lost much of their character and glory.

The J.N. Petit Institute remained in use, but with the rise of electronic documents and the internet, the demand for library services declined. With this decline, the memberships and income of the institute dropped. And as funding for maintenance fell, the building deteriorated. Recognizing the need to make the building structurally sound and to upgrade its facilities to meet contemporary needs, the trustees of the J.N. Petit Institute initiated a conservation project in 2012. Repair work began in 2013 and was completed in 2015.

PROJECT SCOPE AND FRAMEWORK

The project aimed to ensure the continued use of the J.N. Petit Institute as a library and reading room for the people of Mumbai. It therefore focused on returning the building to a safe and usable condition. The project sought to achieve this in the most economical manner possible, while respecting the original character of the building and its materials, so as to demonstrate the viability of sensitively restoring heritage buildings for contemporary use. The project also sought to revive the lost skills of making mouldings and other decorative features.

The project focused particularly on repairing the building's structural damage and involved a major intervention to arrest the leaking of rainwater on the terraces. Other major work included the refurbishment of the exterior façades. On the interior, the project encompassed upgrading utilities and services, including installing new electrical wiring, security cameras and fire alarms. In addition, the rooms and ceilings were replastered and painted.



ELEVATION

CONSERVATION METHODOLOGY AND MATERIALS

The guiding philosophy was one of minimum intervention to the building's fabric and appearance. A key priority of the project team was to ensure that the various parts of the building retained their original character and continued to reflect the eras in which they were built. This unique challenge was addressed by using the relevant techniques and original materials for the two different periods of construction of the building: the nineteenth and twentieth centuries.

The conservation work was based on the findings of a fabric status study, which included defect mapping. Initial efforts focused on repairing the damage caused by water ingress at the terrace level. The structure was made watertight by completely replacing the waterproofing of the terrace (with brick bat coba and a ceramic mosaic finish), repointing the exterior walls (using lime brick dust mortar), replacing broken glass in the windows and repairing the rotten window and door frames. On the façade, the team also replaced missing drip moulds over the windows (to prevent the rotting of the frames), repaired ornamental details and removed inappropriate paint to expose the original stone surfaces.

The project team found that the RCC slab resting on reinforced concrete beams that had been introduced in 1938 had added stress to the original ashlar masonry walls. Work was therefore undertaken to relieve this stress. The team also found that the RCC cantilevered *chajja* (balconies) that had been added onto the façades showed signs of distress in the form of cracks – a result of corrosion of the reinforcing bars and the subsequent spalling of the plaster. The team repaired both the *chajja* and broken flashing. While the team used original materials as much as possible in the conservation works, in this case it applied modern technology in the form of micro concrete and polymer modified mortar so as to ensure long-term waterproofing. In addition, artisans constructed teakwood screens over the balconies, as had been planned in the 1938 extension project, to prevent excess water ingress.

The project teams repaired the building's interior walls, replastered (using the same type of lime plaster used in the original construction) and restored the painted elements (using appropriate colours to match the originals). The teams also repaired the furniture in the reading room. In addition, the teams retained and



DETAIL OF DECORATIVE BOUQUETS BEFORE AND AFTER THE PROJECT

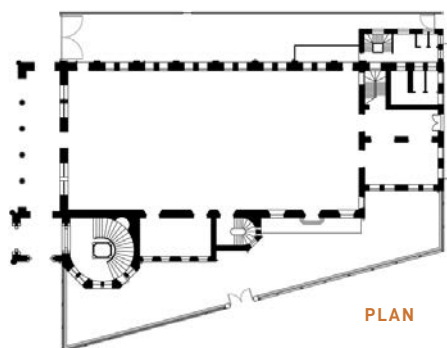


THE HALL WAS TRANSFORMED THROUGH RESTORATION OF DETAILS AND IMPROVED LIGHTING AND COLOURING

cleaned the Minton tiles, bringing back their historic finish. Damaged tiles were repaired where possible. In cases where elements had to be replaced, the teams used original materials as much as possible.

IMPORTANT ISSUES

The conservation of Mumbai's architectural heritage receives minimal support and financial incentives from the government, making new development a more appealing route for property investors and bureaucrats than conservation. This environment presents a major challenge to the conservation movement of Mumbai. In spite of this, the conservation movement has had some success. The project to conserve the J.N. Petit Institute is an example of this success. It demonstrates that the sensitive conservation of heritage buildings is both affordable and viable, and it offers an example for other custodians, patrons and protectors of heritage structures to follow.



PLAN

PROJECT SUSTAINABILITY AND VIABILITY

The ground floor of J.N. Petit Institute is leased for commercial purposes, with revenues from rents ensuring the sustainability of the library and reading room. The building continues to be used for its original purpose and has gained increased recognition since its conservation. The J.N. Petit Institute faces the modern-day challenge of libraries becoming obsolete in the face of digital technology. Due to substantial declines in membership, several public libraries in the city have faced closure. Given this context, the survival of the J.N. Petit Institute is remarkable and the conservation effort can be commended for extending the life of the library and one of the city's beloved landmarks, while enriching its use to the community. The institute's growing membership validates the continued use of the building and prevents it from becoming another outdated, sub-divided property in the Fort area.

PROJECT IMPACT

The conservation of the J.N. Petit Institute rescued this local landmark from a state of disrepair and decay. The exercise was executed within the constraints of a modest budget, setting an important precedent for other buildings in the neighbourhood. The project has motivated owners of other properties on the stretch to follow a similar path, thereby breathing a fresh lease of life into these neglected buildings and serving as a catalyst for conservation of the historic streetscape of D.N. Road. The project encourages the government to reframe policies and give more substantial financial support and incentives to the protection of built heritage in the city.

CANGDONG HERITAGE EDUCATION CENTRE

CHINA

USING A MULTI-PRONGED APPROACH, THE PROJECT TO ESTABLISH THE CANGDONG HERITAGE EDUCATION CENTRE HAS HELPED TO REVERSE THE GRADUAL ABANDONMENT OF THIS ONCE-PROSPEROUS FARMING COMMUNITY IN GUANGDONG PROVINCE. LOCATED NEAR THE KAIPING DIAOLOU AND VILLAGES WORLD HERITAGE SITE, THE VILLAGE OF CANGDONG CONTAINS NOTEWORTHY ARCHITECTURAL ELEMENTS DATING TO THE MING DYNASTY THAT THE PROJECT SELECTED FOR CONSERVATION, RESULTING IN THE SENSITIVE RESTORATION OF TWO ANCESTRAL HALLS, A WATCHTOWER AND A TEMPLE. BY DESIGNING AN OUTREACH PROGRAMME TARGETING YOUTH, THE PROJECT HAS HELPED TO RAISE AWARENESS AND INTEREST IN LOCAL HERITAGE AMONG THE YOUNGER GENERATION. THE COMMENDABLE EFFORTS OF COMMUNITY MEMBERS, PATRONS AND CONSERVATIONISTS HAVE REALIZED AN AMBITIOUS NEW VISION FOR THE REVITALIZATION OF THE VILLAGE.

2015

AWARD OF MERIT



PROJECT SYNOPSIS

Located in Kaiping County in Guangdong Province of China, the village of Cangdong was established by the Xie family over 740 years ago. Later, during times of hardship in China, members of the Xie family travelled south to the Malay Peninsula, Australia and New Zealand and east to North America, some becoming gold miners and railway construction workers. Returnees brought new ideas with them and the buildings of Cangdong therefore reflect overseas architectural styles.

Some buildings in the village were damaged or destroyed during the Cultural Revolution (1966-1976). Later, as a result of the 'Open Door' policy (announced in 1978), many villagers emigrated overseas, leading to a significant decrease in the local population. In 2015, only nine people were living in the village and forty-seven of its fifty-one buildings were vacant. Consequently, most of the village's buildings were in a state of disrepair.

In 2011, a project was launched to conserve the buildings of Cangdong. In particular, its aims were to preserve and promote vernacular architecture in the village, to build a sustainable community and to raise awareness among the public of the value of heritage conservation.

The project began with the restoration of three buildings: two ancestral halls of the Xie clan (originally used as village schools and celebratory gathering places) and a watchtower (*diaolou*); the project later reconstructed a local temple. Three of the four buildings retained their original functions; today all of them serve as venues for educational activities and village meetings.

CONSERVATION APPROACH

The project team adhered to the principles of authenticity, integrity, reversibility, distinguishability and minimum intervention in accordance with international guidelines issued by ICOMOS and UNESCO, as well as with recommendations from government departments in China. In line with these principles, throughout the project the primary emphasis was on the use of traditional construction methods and on maximizing the reuse of existing materials, including salvaged tiles and timber. New materials were selected to closely match the originals, and local materials were used wherever possible.

To encourage the protection of the historic setting



BINGWEN AND HOUCHEG ANCESTRAL HALLS DURING RESTORATION

WE BELIEVE THAT THE MAIN PURPOSE OF CONSERVATION IS TO UNDERSTAND THE PLACE. WE CONSERVE NOT ONLY THE BEAUTIFUL HISTORIC BUILDINGS, BUT ALSO THE PRIDE AND IDENTITY OF LOCAL PEOPLE, THE PRACTICES AND REPRESENTATIONS OF THEIR LIFESTYLE.

— QUOTE FROM THE PROJECT TEAM —

and to ensure authenticity, the team conserved the landscape as a whole, rather than isolating the separate monuments. Another key area of emphasis in the project was the participation of the village's remaining inhabitants and people from the local area. The project team collected the oral histories of the local people, and their suggestions regarding the conservation of the buildings formed the basis for decision-making. The team also adhered to local protocols and rituals, including those to drive away ghosts and to welcome deities back to shrines.

The team relied on both local artisans and external experts to evaluate the condition of the buildings and recruited experienced skilled local workers to repair the structures, along with several nationally-recognized artisans to restore the frescoes and wood carvings. The team also relied on specialized artisans for repairing the furniture within the restored buildings. In addition, the project trained younger generations of workers in heritage conservation methods so as to support the long-term preservation of cultural heritage in the area.

Constructed in the mid 1930s, the two ancestral

halls conserved under the project are two-storey structures with green brick exterior walls and reinforced concrete columns supporting the roofs. The walls, particularly those of the portico and veranda, feature decorative paintings, while the façades have embellished pediments and arched openings. Flag poles display the family banners.

Work on Bingwen Ancestral Hall included removing an inappropriate outer wall that had been introduced during the Cultural Revolution and uncovering the original wall surfaces. In the case of the adjacent Houcheng Ancestral Hall, however, the conservation team preserved later changes and additions, including those dating to the time of the Cultural Revolution. The team wanted to convey to residents and visitors how the Cultural Revolution had impacted the lives of people in the village. This decision was in accordance with the Venice Charter and other conservation guidelines, which emphasize the need to conserve the totality of each site's history.

To facilitate the use of the ancestral halls as classrooms and places for celebrations by villagers, and to reduce moisture and humidity in interior spaces, the team installed roofs over the courtyards. Prior to taking this step, the project's designers consulted with villagers and with *feng shui* (geomancy) experts. To avoid compromising the inherent spatial quality of the ancestral halls with the introduction of the new roofs, the project team used glass, allowing continuing views of the sky, with open areas at the periphery. Since the general belief in the village is that rain symbolizes wealth from the heavens, the project included a provision for pipes to direct rainwater to the courtyard floor. Similarly, the project accommodated local birds and bats – both of which signify happiness – by providing a way for them to enter and exit the buildings at will. These allowances helped to perpetuate longstanding traditions and ensured that the ancestral halls retained their spiritual qualities.

The Huanye Diaolou watchtower is a simple six-storey structure, with thick reinforced-concrete walls, a wooden staircase and small iron-barred and wooden windows. The conservation team restored only the damaged areas of the tower, in accordance with the principle of minimum intervention and with the aim of preserving the character of the structure. Unlike the other properties in the project, which retained their

original uses, the team repurposed the tower as an exhibition space and storage facility.

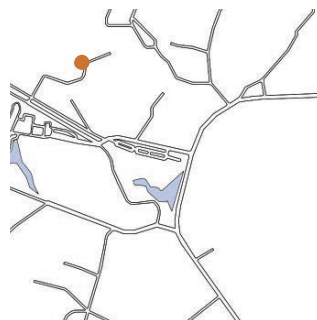
Furen Temple, dating to the Ming Dynasty, is dedicated to Taoist goddesses, Chongjiu Furen and Shengmu. Severely damaged during the Cultural Revolution, the ancient temple remains an important cultural symbol and presence in the lives of the villagers. The project reconstructed the temple in line with evidence from the remains and descriptions made by local residents. Although the team aimed to use mainly traditional materials and techniques in the reconstruction works, at the villagers' request they used reinforced concrete supports instead of wooden beams, so as to prevent termite attacks and to facilitate future maintenance. Similarly, in accordance with local beliefs for ensuring a propitious outcome, the team used new green bricks in the reconstruction work rather than old ones.

CONSERVATION AND THE COMMUNITY

People from the local area benefited in various ways from the project. The project employed local artisans and labourers for the conservation work. Following the completion of the conservation work, other community members gained employment as tour guides and workshop tutors. This served to retain people in the village, strengthening and revitalizing the local community. The project has also encouraged people originally from the area to move back or to at least visit their ancestral village.

The restored buildings today serve as sites for teaching about cultural heritage conservation and also provide hands-on sites for field studies. In addition, the educational activities connected to the project offer visitors an opportunity to experience traditional village life and the local culture. The project has been recognized by the local government as a model for sustainable community development and has inspired other conservation projects in the area.

PROJECT TITLE
CANGDONG HERITAGE
EDUCATION CENTRE
LOCATION
CANGDONG, GUANGDONG,
CHINA
SIZE
1,300 SQUARE METRES
COST
US\$218,000
RESPONSIBLE PARTY
ROCKY DANG
HERITAGE ARCHITECT
JINHUA TAN (SELIA TAN)
CONTRACTOR
HAIBO XIE
DATE OF COMPLETION
DECEMBER 2014



PING YAO COURTYARD HOUSES

CHINA

THE PILOT RESTORATION OF FIFTY-THREE COURTYARD HOUSES IN THE ANCIENT CITY OF PING YAO WORLD HERITAGE SITE SERVES AS A NOTEWORTHY MODEL FOR THE CONSERVATION OF PRIVATELY-OWNED VERNACULAR BUILDINGS, WHICH ARE INCREASINGLY VULNERABLE ACROSS THE ASIAN REGION. THROUGH A WIDE-RANGING PARTNERSHIP INVOLVING LOCAL AUTHORITIES, NATIONAL EXPERTS AND INTERNATIONAL HERITAGE CONSERVATION ORGANIZATIONS, THE PROJECT PROVIDED TECHNICAL ADVICE AND FUNDING SUBSIDIES TO ENABLE HOMEOWNERS TO RESTORE THEIR DILAPIDATED RESIDENCES. THE WORK WAS CARRIED OUT BY EXPERIENCED CRAFTSPEOPLE USING TRADITIONAL CONSTRUCTION TECHNIQUES AND MATERIALS, THUS RETAINING MATERIAL AUTHENTICITY WHILE SUSTAINING LOCAL BUILDING TRADITIONS. TECHNICAL MANUALS WERE DEVELOPED TO ENSURE THESE HIGH STANDARDS ARE APPLIED IN FUTURE RESTORATION, ADAPTATION AND MAINTENANCE EFFORTS. THROUGH A COMBINATION OF DEMONSTRATION PROJECTS, TECHNICAL CAPACITY BUILDING AND NEW FINANCING MODELS, THE INITIATIVE MAKES A SIGNIFICANT CONTRIBUTION TO THE LONG-TERM VIABILITY OF PING YAO COURTYARD HOUSES.

2015

AWARD OF MERIT



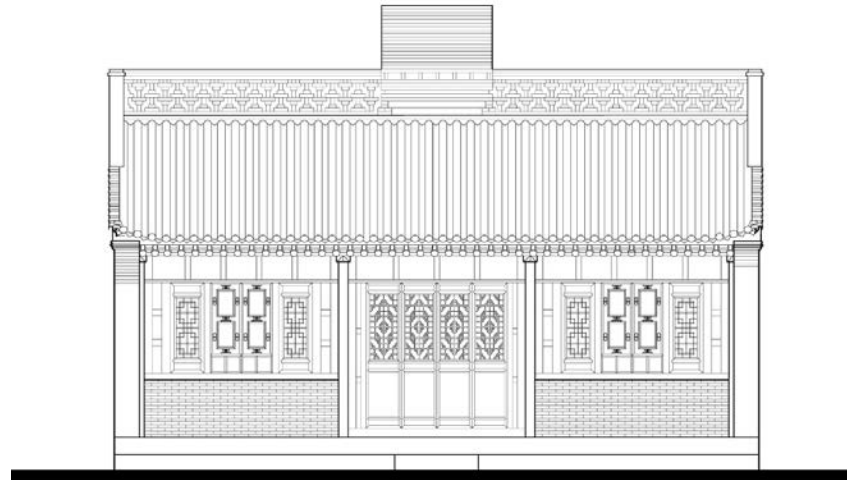
PROJECT SYNOPSIS

The Ancient City of Ping Yao in Shanxi, China, is an outstanding example of a Han Chinese city of the Ming and Qing Dynasties (1368-1644 and 1645-1912) and retains many of the original features of such cities. This World Heritage site's traditional courtyard houses are an integral component of the cityscape, defining the scale and character of the city.

The courtyard houses contain the memory of the *yaodong* form, literally meaning 'cave dwelling'. Indeed, the courtyard houses of Ping Yao, called *guyao*, are an adapted urban form of the traditional *yaodong* structure. *Guyao* rely on earthen and masonry construction and, with their symmetrical layouts and clear axial lines, the quadrangular buildings embody the essence of the lifestyle and philosophy of the local region: the Loess Plateau of central China (also known as Huangtu Plateau).

Many of the traditional Ping Yao courtyard houses are very old and lack modern facilities and services, with the result that by today's standards they provide poor living conditions for the owners and residents. As many owners were not able to afford to upgrade their houses, in recent decades some houses were abandoned while others were rented out. In many cases, this led to the deterioration of the architectural elements of the courtyard houses as well as to the loss of much of the Ping Yao site's integrity.

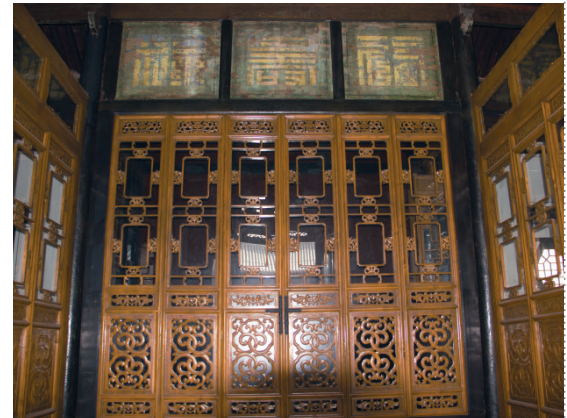
To address these issues, in 2012 the Urban and Rural Planning Bureau of Ping Yao and the Global Heritage Fund launched a public-private partnership effort called the 'Ping Yao Traditional Courtyard House Conservation and Sustainable Use Model Project', with the overarching goal of retaining the authenticity and integrity of the traditional courtyard houses of Ping Yao and ensuring their functionality for the future. The project provided the owners of the courtyard houses with the financial and technical means to preserve, improve and maintain their buildings. This restoration work was guided by conservation guidelines created by the Ping Yao county government and the UNESCO Beijing office. The guidelines adhere to key UNESCO conventions and ICOMOS charters, as well as national laws, local regulations and traditional building construction methods.



ELEVATION OF MAIN CHAMBER

THIS CONSERVATION PROJECT HOPES TO EMPOWER UNDERPRIVILEGED PROPERTY OWNERS WITH TOOLS AND RESOURCES THAT CAN HELP TO SUSTAIN HISTORIC COURTYARD BUILDINGS AND IMPROVE LIVING CONDITIONS, THEREBY RETAINING PING YAO'S CHARACTER AS A LIVING CITY AND PRESERVING ITS WORLD HERITAGE VALUES.

— QUOTE FROM THE PROJECT TEAM —



CANG XIANG MAIN HALL INTERIOR DURING AND AFTER RESTORATION

Under the project, eligible applicants submitted requests to the planning bureau for the conservation of their courtyard houses. Upon approval of the requests, the project staff members assisted the applicants to prepare conservation management plans. The planning bureau then organized financial support for implementing the approved plans and also provided the applicants with training in the conservation and maintenance of the properties, based on the conservation guidelines. As of 2015, fifty-three privately owned courtyard buildings had been conserved under the project, improving the quality of life of the residents and contributing greatly to the preservation of a key element of the Ancient City of Ping Yao World Heritage site.

CONSERVATION APPROACH

Under the project, the courtyard houses were restored to their condition during the nineteenth and early twentieth centuries. Some were adapted for reuse as family-run guesthouses or community museums. The scale and complexity of the interventions varied depending upon the condition of the houses and the aims of the owners.

In accordance with the conservation guidelines, the project team preserved and restored the courtyard layouts, building heights, roof forms and openings, as well as integral decorative elements, such as chimneys and gateway entrances. This required removing inappropriate additions and reversing unsuitable alterations. The team also preserved landscape features, including trees, wells and mills. In addition, the team ensured that all original structural elements, walls, roof tiles and distinctive elements of historic and artistic value were retained and that the original materials were reused as much as possible.

In the context of a living World Heritage site, continuing use and the accommodation of existing owners and residents is strongly encouraged. Recognizing that to be liveable the houses required modern services and facilities, the conservation plans incorporated bathrooms, kitchens and other new facilities. This presented the technical challenge of retaining the integrity of the historic courtyard houses while upgrading the properties for contemporary use.

PROJECT TITLE
PING YAO COURTYARD HOUSES

LOCATION
PING YAO, SHANXI, CHINA
SIZE
7,000 SQUARE METRES

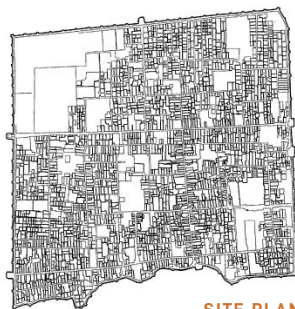
COST
US\$1,016,692

RESPONSIBLE PARTY
PING YAO COUNTY URBAN AND
RURAL PLANNING BUREAU
GLOBAL HERITAGE FUND
HERITAGE ARCHITECT

YUN JIA HISTORIC
ARCHITECTURE AND GARDEN
DESIGN INSTITUTE
TODAY HISTORIC
ARCHITECTURE AND GARDEN
DESIGN INSTITUTE

CONTRACTOR
PINGYAO COUNTY HISTORIC
ARCHITECTURE
CONSTRUCTION COMPANY
CHAOJIE HISTORIC
ARCHITECTURE
CONSTRUCTION COMPANY
MINGHONG HISTORIC
ARCHITECTURE
CONSTRUCTION COMPANY

DATE OF COMPLETION
DECEMBER 2014



SITE PLAN

The project permitted flexibility in the choice of interior finishes, allowing the owners of the courtyard houses to exercise their own preferences. Thus, while obliged to retain elements of historical or artistic significance, the owners were able to design the interiors in accordance with personal tastes in terms of paint colours, decoration and other elements. The project team worked closely with the property owners, however, to ensure that changes were in line with the conservation guidelines and that new services and facilities, such as electrical wiring and sewage systems, were inconspicuous.

CONSERVATION AND THE COMMUNITY

The Ping Yao courtyard houses, embodying living heritage, represent the continuing functionality of the surrounding city. Overall, the project preserved the social and cultural values of the area's inhabitants, especially of those who remained in their ancestral homes. The conservation project also contributed to the local economy, through employing qualified artisans from the city to carry out the conservation work. This also supported the continuation of traditional knowledge and craft skills – something critical to the future maintenance and sustainability of the cultural heritage of the city.

The Ping Yao Courtyard House project was a pioneer in Shanxi Province in subsidizing the protection of properties with no legally-recognized heritage protection status. The support provided through the project has raised the value of heritage properties in the minds of both residents and government officials. The project has had widespread recognition, both within Shanxi Province and nationally, and the conservation guidelines are used as a reference by conservation professionals in drafting plans for conserving other historic towns and cities in China. Indeed, the World Heritage division of the national heritage authority has endorsed the conservation guidelines as a model for guiding other heritage preservation efforts.

XIENG THONG TEMPLE

LAO PDR

THE CONSERVATION OF THE EXCEPTIONALLY ORNATE XIENG THONG TEMPLE HAS SAFEGUARDED THE JEWEL OF LUANG PRABANG ARCHITECTURE AND ITS MOST SIGNIFICANT LANDMARK. UNDERTAKEN WITHIN THE FRAMEWORK OF TECHNICAL STANDARDS SET BY THE LUANG PRABANG DEPARTMENT OF WORLD HERITAGE, THE PROJECT IS TO BE COMMENDED FOR ITS SYSTEMATIC CONSERVATION PLANNING AND EXECUTION. THE INVOLVEMENT OF TRAINED MONK ARTISANS IN PRODUCING THE TRADITIONAL DECORATIVE WORKS REPRESENTS A NOTEWORTHY REVIVAL OF AN AGE-OLD PRACTICE OF SUSTAINING BUDDHIST TEMPLES. THE MAJOR INITIATIVE HAS ARRESTED THE TEMPLE COMPLEX'S SLOW PHYSICAL DECAY AND REVERSED PREVIOUS INAPPROPRIATE CONSERVATION EFFORTS, IMPROVING THE CONDITION OF BOTH THE RITUAL BUILDINGS AND THE MONKS' QUARTERS. BY COMBINING GRASS-ROOTS EFFORTS WITH DONOR SUPPORT, THE PROJECT EPITOMIZES THE SPIRIT OF WORLD HERITAGE IN PROMOTING INTERNATIONAL COOPERATION FOR PROTECTING THE WORLD'S MOST ICONIC HERITAGE PLACES.

2015

AWARD OF MERIT



PROJECT SYNOPSIS

One of the oldest temples in Lao PDR, Xieng Thong Temple was built in 1560, during the reign of King Setthathirath (1548-1571). The jewel of the Lane Xang kingdom's capital, the ornately-decorated complex was an important Buddhist monastery, with a large retinue of monks and novices. As a royal *vat* (temple), Xieng Thong also served as the site of the coronation ceremonies for Laotian kings. Vat Xieng Thong is today a national monument, recognized for its immense heritage significance, and is an iconic building within the Town of Luang Prabang World Heritage site.

Vat Xieng Thong is a fine exemplar of traditional Buddhist architecture and of the Lane Xang style of art. The temple complex is made up of over twenty structures, including a tiered-roof *sim* (ordination hall), a funerary carriage house and *kuti* (residences) for the monks and novices. The most important structure within the *vat* complex is its *sim*, which features a golden Buddha statue and a mosaic mural depicting the 'tree of life'.

Subject to numerous additions, repairs and modifications throughout its life, including the introduction of coloured glass mosaics (most dating from the 1950s and 1960s), the 450-year-old temple complex fell into disrepair following the dissolution of the monarchy in the mid 1970s. Years of exposure to the elements, coupled with ill-considered repairs, negatively impacted the physical condition of the complex. In recent years the temple complex was also subject to damage by the large numbers of tourists visiting the site.

The intent of the Vat Xieng Thong conservation project was to safeguard and enhance the significance of the temple, while supporting the sustainable development of Luang Prabang. The project was a partnership, initiated by the local government, with funding from the US Ambassadors Fund for Cultural Preservation. It adhered closely to the framework set out in the conservation master plan prepared for the Town of Luang Prabang World Heritage site as well as to national heritage protection law.

January 2012 marked the beginning of the first phase of the conservation work. This included the repair of the deteriorated roof structure, the traditional murals and the ornaments of the *sim*. Artisans (including monks



ONE OF THE CHAPELS BEFORE AND AFTER RESTORATION

THIS PROJECT STRENGTHENED COOPERATION FOR CONSERVATION WITHIN THE WORLD HERITAGE SITE, ESPECIALLY BETWEEN LOCAL AND NATIONAL GOVERNMENTS, INTERNATIONAL ORGANIZATIONS AND THE LOCAL COMMUNITY, AND WITH RELIGIOUS PATRONS, WHO ARE IMPORTANT STAKEHOLDERS FOR THE LONG-TERM USE AND MANAGEMENT OF THE TEMPLE.

— QUOTE FROM THE PROJECT TEAM —

and novices) from the training centre for the traditional crafts of the Buddhist *sangha* (community) of Luang Prabang conducted much of the repair of the temple's art work.

The Vat Xieng Thong conservation project was completed in December 2014. The temple has since resumed its use as a residence for monks and, most importantly, as a symbol of the continuity of deep-rooted Laotian Buddhist traditions. The project also contributed to conserving the World Heritage site of Luang Prabang.

CONSERVATION APPROACH

Anchoring the work in fundamental concepts of conservation, the team sought to minimize intervention and restore the authenticity of Vat Xieng Thong through the application of traditional techniques and materials. As a preliminary step, the team conducted extensive research on the history and architecture of the site. This included consultation with experts and a thorough documentation of existing conditions. As an organizational tool, the project team identified four protection zones, extending the conceptual scope of the project beyond the Vat Xieng Thong site itself to include the town of Luang Prabang and the peripheral forest landscape.

This framework assisted in the understanding of the social and aesthetic context of the site and its greater environment.

To preserve the authenticity of Vat Xieng Thong, the team used traditional materials and techniques, such as lime plaster, despite this being more time consuming and less cost efficient than the application of modern materials. To ensure sustainability, the team also used local materials, including timber, wherever possible. Some compromises were necessary in cases where the original materials were no longer available or when a change in the material would enhance the durability of the restored structures. The team kept these modifications to a minimum, however, so as to not alter the overall character of the historic site. Thus, the team abstained from the use of replica finishes and materials unless the components under repair, such as the coloured glass mosaics, were not available.

One of the most arduous aspects of the project was the restoration of the gold leaf motifs of the *sim*, which had become barely distinguishable. The artisans spent a substantial amount of time in retrieving and copying the motifs onto stencils in order that they might be repainted with precision. Owing to the high level of complexity involved in the restoration of the intricate details of Vat Xieng Thong, the project team organized special training sessions for the artisans.

After completing the conservation work on the *sim*, the team moved on to the restoration of the other buildings and components of Vat Xieng Thong. These



MOSAIC WORK ON STUPA

PROJECT TITLE
XIENG THONG TEMPLE
LOCATION
LUANG PRABANG, LAO PDR
SIZE
8,100 SQUARE METRES
COST
US\$675,000
RESPONSIBLE PARTY
LUANG PRABANG DEPARTMENT
OF WORLD HERITAGE;
US AMBASSADORS FUND FOR
CULTURAL PRESERVATION
HERITAGE ARCHITECT
SOUVALITH PHOMPADITH
CONTRACTOR
NATTHAVONG CONSTRUCTION
CO. LTD.
DATE OF COMPLETION
DECEMBER 2014



WORK ON MONK QUARTERS

included the chapels, *that* (stupa), monks' quarters, the drum house, the courtyard wall and the funerary carriage house. This work included repairing and restoring roof structures, floors, walls, ceilings, columns, tiles and decorative elements, along with reinforcing the foundations. The team also sensitively installed and updated electrical services and other facilities needed by both the temple's residents and visitors. In addition, the team improved signage and access at the temple.

CONSERVATION AND THE COMMUNITY

The project to conserve Vat Xieng Thong, a site highly esteemed by the Laotian community, protected valuable local cultural assets – both tangible and intangible. Given that the temple is one of the principal tourist attractions of Luang Prabang, the project also helped to ensure that the local community continues to accrue, in the long term, the benefits associated with heritage tourism.

A sizeable proportion of the decorative work was undertaken by local monks. Thus, the project continued the tradition in which monks are responsible for conserving and maintaining the buildings in the temple complex, including the art and decorative work of those buildings. The project also led to a deeper appreciation for local cultural heritage among the public. In addition, it has inspired similar projects at other temples in Luang Prabang.

BAAN LUANG RAJAMAITRI

THAILAND

THIS ADAPTATION OF THE FORMER HOUSE OF LOCAL ENTREPRENEUR, LUANG RAJAMAITRI, INTO A HERITAGE INN AND MUSEUM SPARKED AWARENESS OF HERITAGE CONSERVATION AMONG A WIDE RANGE OF STAKEHOLDERS IN CHANTHABURI AND CATALYSED A LARGER MOVEMENT TO REVITALIZE THE ONCE-DECLINING 150-YEAR-OLD RIVERFRONT TOWN. THE ENLISTMENT OF OVER 500 SHAREHOLDERS TO INVEST IN THE TRANSFORMATION OF THE HOUSE CREATED AN INNOVATIVE NEW SOCIAL ENTERPRISE MODEL OF URBAN HERITAGE CONSERVATION. THE WELL-EXECUTED RESTORATION AND ADAPTIVE REUSE OF THE SINO-PORTUGUESE BUILDING HAS MADE IT THE LINCHPIN OF AN INCREASINGLY POPULAR CULTURAL TOURISM DESTINATION. THE PROJECT SETS AN EXAMPLE FOR OTHER COMMUNITIES IN THAILAND IN SUCCESSFUL COMMUNITY-BASED CONSERVATION PRACTICE, NOW KNOWN AS THE 'CHANTHABOON MODEL'.

2015

AWARD OF MERIT





HOUSE-BLESSING CEREMONY



SECTION

**THE PASSION OF ANY DESIGN INSTITUTE CANNOT BE COMPARED TO THAT OF THE COMMUNITY OWNERS.
THE PROJECT SERVED AS AN INSTRUMENT TO ENGAGE THIS COMMUNITY PASSION IN CONSERVING
THE LOCAL WAY OF LIFE.**

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Baan Luang Rajamaitri is located in Chanthaburi, a Thai riverside town dating to the late Ayutthaya period (1350-1767). Over time, the town became a commercial centre and transport hub, nurtured by a mix of migrants including Thai, Chinese and Vietnamese merchants, among them a significant number of Roman Catholics fleeing persecution in Cochin: southern part from present-day Viet Nam. One of the best-known merchants was Luang Rajamaitri, referred to as the 'father of eastern rubber trees'. With his thriving rubber business, he contributed significantly to Chanthaburi's economic prosperity in the early twentieth century. His *baan* (house), Baan Luang Rajamaitri, has since become a landmark within the community.

Over 150 years old, the house contains evidence of the history of local architecture and of the lifestyle of the owner. Baan Luang Rajamaitri is a two-storey residence built in Sino-Portuguese style, with influences from Penang. It is constructed in brick and timber, with lime mortar and plaster. The large building, located on the riverfront, was modified over its history, with the owner, Luang Rajamaitri, expanding the building from its original three-room layout to an eventual five rooms, with a shop, living area and kitchen on the ground floor, and bedrooms on the upper level.

Following the death of Luang Rajamaitri in 1956, his house was largely abandoned, along with many of the other buildings in the town, when many people of

Chanthaburi moved to larger towns and cities. In the subsequent decades the settlement faced significant disinvestment. This decline continued until 2005, when the Arsom Silp Institute of the Arts, a Thai non-profit organization, began working alongside the Chanthaburi community to preserve and revitalize the town.

The Arsom Silp Institute recognized the cultural heritage value of Baan Luang Rajamaitri and stepped in to rescue it. Following a lengthy process of discussion with the community, the Institute acquired the house under a 30-year lease from the owner (the heir of Luang Rajamaitri), along with another building within the old settlement. The institute also established, in cooperation with the Chanthaboon Riverside Community Development

Committee, a social enterprise: Chanthaboon Rakdee Co. Ltd. This social enterprise sold shares (priced at 1,000 baht each) to more than 500 community members to raise funds for the conservation of Baan Luang Rajamaitri. The sale of these shares not only raised capital, but also demonstrated to the community that they could control and manage their built heritage themselves.

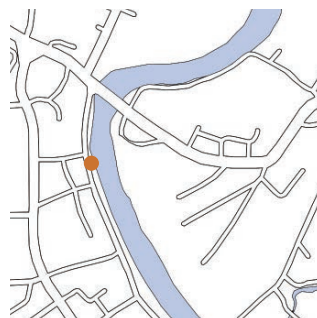
The social enterprise initiated an adaptive reuse conservation project centred on Luang Rajamaitri's residence, restoring the building and converting it into the Baan Luang Rajamaitri Historic Inn. This boutique hotel today offers ten guest rooms and has an exhibition space that presents to visitors the original owner's life story.

CONSERVATION APPROACH

In order to retain the heritage value of Luang Rajamaitri's residence, the project adhered to the principle of minimum intervention and preserved the existing materials, including the historic bricks of the walls. Although some degree of reconstruction was inevitable, the project respected the historic fabric by ensuring that new work was the same as the original in terms of form and colour, but was distinguishable from the original. All the changes conformed to the principle of maximum reversibility. For example, the interior walls installed in the guest rooms to enhance the acoustic barrier can be removed in the future without affecting the original structure.

Prior to conservation, Baan Luang Rajamaitri exhibited several structural defects, such as cracks in the load-bearing brick walls and decayed wooden beams and joists, as well as surface deterioration, notably faded and damaged paint finishes. To obtain a more comprehensive understanding of the house, the conservation team conducted a structural engineering survey, which involved an archaeological excavation of the foundations. Through this, the surveyors identified the original footprint of the building as well as the additions and renovations that had been made to it, along with the chronological order of the periods of use. The evidence for the changes included differing colours and alignments of bricks used in the various rooms, as well as remnants of openings on the walls.

PROJECT TITLE
BAAN LUANG RAJAMAITRI
LOCATION
CHANTHABURI, THAILAND
SIZE
540 SQUARE METRES
COST
APPROXIMATELY US\$290,500
RESPONSIBLE PARTY
CHANTHABOON RAKDEE
CO., LTD.
CHANTHABOON
RIVERSIDE COMMUNITY
DEVELOPMENT COMMITTEE
HERITAGE ARCHITECT
ARSON SILP INSTITUTE OF
THE ARTS
CONTRACTOR
CHANTHABOON RAKDEE
CO., LTD.
DATE OF COMPLETION
OCTOBER 2014



The team also conducted research into the history of the site and use of the building, which involved studying the collection of documents, including notebooks, letters, contracts and photographs, found in the house, as well as information in the Thai National Archives. To learn more about the site and about Luang Rajamaitri, the team also recorded the oral histories of Luang Rajamaitri's descendants and other people associated with the house. The findings of the research and survey formed the basis for the planning and execution of the conservation work.

CONSERVATION AND THE COMMUNITY

The conservation of Luang Rajamaitri's house was based on Arsom Silp Institute's culture-led regeneration approach to community development and was the result of close cooperation between the Chanthaboon Riverside Community Development Community and the Arsom Silp Institute, using the Chanthaboon Rakdee social enterprise as the vehicle for the realization of the effort. The social enterprise today manages the boutique hotel and ensures that 10 per cent of the hotel's profits are returned to the community for conservation and revitalization purposes. The community remains involved in decision-making regarding the hotel, with at least one community representative serving on the company's executive board.

The project has contributed to reviving the declining community of Chanthaburi through creating new employment opportunities and attracting visitors through the hotel. The conservation initiative has also increased the pride of local people in their history, culture and heritage.

The conservation project has served as an example for the local community of Chanthaburi to follow, encouraging local residents to conserve their own houses. In addition, the project's approach to conserving heritage assets and reviving communities has inspired similar success in other provinces of Thailand, including in Kanchanaburi, Phetchaburi and Suphanburi, and has come to be known as the 'Chanthaboon Model'.

WANSLEA CANCER WELLNESS CENTRE

AUSTRALIA

THE RESTORATION OF THE HISTORIC WANSLEA PROPERTY TO HOUSE CANCER SUPPORT AND ASSISTANCE GROUPS IS NOTABLE FOR ITS SENSITIVE APPROACH TO EMBRACING AND ARTICULATING THE MULTI-LAYERED HISTORY OF THE SITE. THE PROJECT HAS RETAINED AND REJUVENATED THE EXISTING BUILDINGS IN THE COMPOUND, WHICH DATE TO 1905, USING A THOUGHTFUL CONSERVATION PROCESS. THE NON-INTRUSIVE INCORPORATION OF MODERN STRUCTURES AND UTILITIES ALLOWED THE CENTRE TO OPTIMIZE ITS FUNCTIONALITY IN A MANNER THAT RESPECTS THE HISTORIC FABRIC WHILE MEETING REQUIRED BUILDING CODES AND USER NEEDS. THE BUILDING CONSERVATION WORK WAS IMPLEMENTED AS PART OF A COMPREHENSIVE MASTER PLAN FOR THE SITE THAT ADDRESSES THE INTEGRITY OF THE OVERALL LANDSCAPE AND THE FINANCIAL VIABILITY OF THE CENTRE, ENSURING THE OVERALL SUSTAINABILITY OF THIS IMPORTANT COMMUNITY FACILITY FOR GENERATIONS TO COME.

2015

HONOURABLE MENTION



PROJECT SYNOPSIS

The Wanslea Cancer Wellness Centre, a complex of buildings within a landscaped garden, is situated in the suburb of Cottesloe in the city of Perth, Western Australia. The oldest structure within the complex is the two-storey, red-brick Wanslea building. Built in 1905 in the Federation Style, the building originally served as housing for orphans. Over time, other buildings were added to the complex, including the First Staff Quarters (1926), the Army Buildings (1940, 1943), the Second Staff Quarters (1958) and the Laundry (1974).

In 1940, the federal government requisitioned the complex as part of the war effort, then during the Second World War the Red Cross used the site as the Lady Mitchell Convalescent Home for returned members of the armed forces. Soon after the war, the Western Australia state government purchased the site, then transferred it to the Crown in 1947. That year, the Women's Australian National Service (WANS) established Wanslea as a home for the children of sick mothers. Over the subsequent years the centre also accommodated cancer support groups, a childcare centre and a community playgroup. WANS occupied the complex until 1984 after which time it was under-utilized and the site began to suffer from neglect. By the mid-2000s, the buildings were in a dilapidated condition and many of them were structurally unsound. In 2008, the state government of Western Australia asked the National Trust to develop a plan for the conservation of the state-heritage-registered site. This was the first step in the revival of the facility.

Recognizing the significance of the site, the National Trust of Western Australia launched a project to ensure its continued use. The conservation effort sought to preserve, manage and interpret the heritage buildings, and also to create a community hall on the site as a venue for workshops and events. Funding for the conservation project came from various sources, including Lotterywest, the Department of Education and the Cancer Wellness Centre.



ELEVATION

THE CONSERVATION WORK ARTICULATES THE HERITAGE VALUES OF THE PROPERTY BY REINFORCING AND SUSTAINING THE USE OF THE BUILDING AND THE GROUNDS. THE SPIRIT THAT WAS BEHIND THE ESTABLISHMENT OF THE ORPHANAGE LIVES ON.

— QUOTE FROM THE PROJECT TEAM —



BEFORE AND AFTER RESTORATION

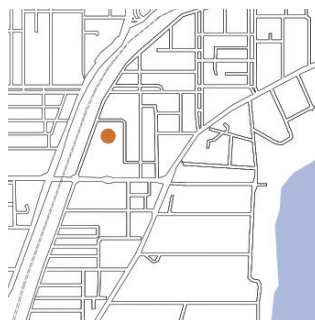
CONSERVATION APPROACH

The first step in the conservation effort was to develop a master plan, a business plan and an interpretative scheme. The project planners followed the principles of the Burra Charter to determine appropriate measures for the conservation of the site, and emphasized retaining and reusing as much of the original material of the buildings as possible. The master plan specified direction from the National Trust and consultation with the existing occupants and potential future occupants. This consultative process led to the decision to develop Wanslea as a 'wellness centre' for cancer patients. The plan also provided guidance for the adaptation of the site for commercial tenancy, thereby helping to ensure the facility would be sustainable. The conservation work was divided into three stages: civil works and services; building, conservation and restoration work; and interior repairs and modifications. These stages allowed for continual occupancy of the site as the work proceeded.

The site was unusual in its array of buildings from various eras, dating from 1905 until the mid 1970s, and in the variety of construction methods and materials represented by those buildings. The conservation team addressed the needs of the buildings individually, adopting tailor-made approaches for each. Repair work was carried out using methods, tools and materials appropriate for each building's era of construction. Although additions were made to some of the buildings, the spatial layouts of the complex as a whole and of each of the buildings were largely retained. New components were inserted in ways to minimally affect the original fabric of the building. Lightweight walls, for example, accommodated new requirements, while allowing flexibility and reversibility.

Work on the Wanslea building included rebuilding its two-storey veranda, which involved retaining the existing beams and splicing in structural beams. Where replacement beams were necessary, the team used salvaged and recycled timber similar to the originals. The work on the Wanslea building also involved reversing previous inappropriate repairs, including cement rendering on the brick walls that had formed a concrete skin, trapping moisture in the walls and thus accelerating the deterioration of both the brick and the original lime mortar. Under the direction of the conservation team, workers removed the concrete with low pressure water

PROJECT TITLE
WANSLEA CANCER WELLNESS
CENTRE
LOCATION
COTTESLOE, PERTH,
WESTERN AUSTRALIA,
AUSTRALIA
SIZE
5,790 SQUARE METRES
COST
APPROXIMATELY
US\$4.9 MILLION
RESPONSIBLE PARTY
NATIONAL TRUST OF
AUSTRALIA (WESTERN
AUSTRALIA)
HERITAGE ARCHITECT
BERNARD SEEBER PTY. LTD.
CONTRACTOR
COLGAN INDUSTRIES PTY. LTD.
WESTERN PROJECTS PTY. LTD.
DATE OF COMPLETION
OCTOBER 2014



spraying and hand tools. After removing this inappropriate surface, skilled masons rebuilt the damaged sections of the walls and repaired sections that were still intact. The masons also repointed the brick surface, using the tuckpointing method and lime mortar to match the original. Work on the Wanslea building also included installing a small lift (elevator), in compliance with modern building codes.

The First Staff Quarters building received similar treatment. Constructed of pressed concrete units of identical dimensions, the old residence is a rare example of such construction. To facilitate the addition of a section containing a reception area, offices and rest areas, workers cut the concrete units carefully so they could be returned to their original places later. The new addition connects with the existing building but remains structurally independent, allowing for reversal in future, if necessary. Work on the other buildings in the complex included repairing roofs, preserving and strengthening the timber structural framing, removing inappropriate cladding, ensuring universal access and upgrading electrical and other services.

The landscaping work began with a survey of the existing plants and their condition, as well as a study of their life span and growth. Early photographs indicated a landscape of indigenous coastal plants, so the project sought to reinstate such plants, while retaining the mature trees in the garden. Assuming that vegetable plots and citrus trees would have been present on the site to provide for the inhabitants of the Wanslea orphanage, as that was the general practice of the building's era, the project reintroduced these. The site's fruit and vegetable garden today provides produce for the patients of the centre.

CONSERVATION AND THE COMMUNITY

The conservation effort ensured the retention of the cultural significance of the Wanslea complex, recognizing its long and distinguished history as a site for the provision of care to the community. The continued use of the site as a wellness facility allows the local community to have ongoing access to specialized health and support services. Moreover, the new community hall, by providing a space to host gatherings and events, is helping to forge new links between the complex and the residents of the area.

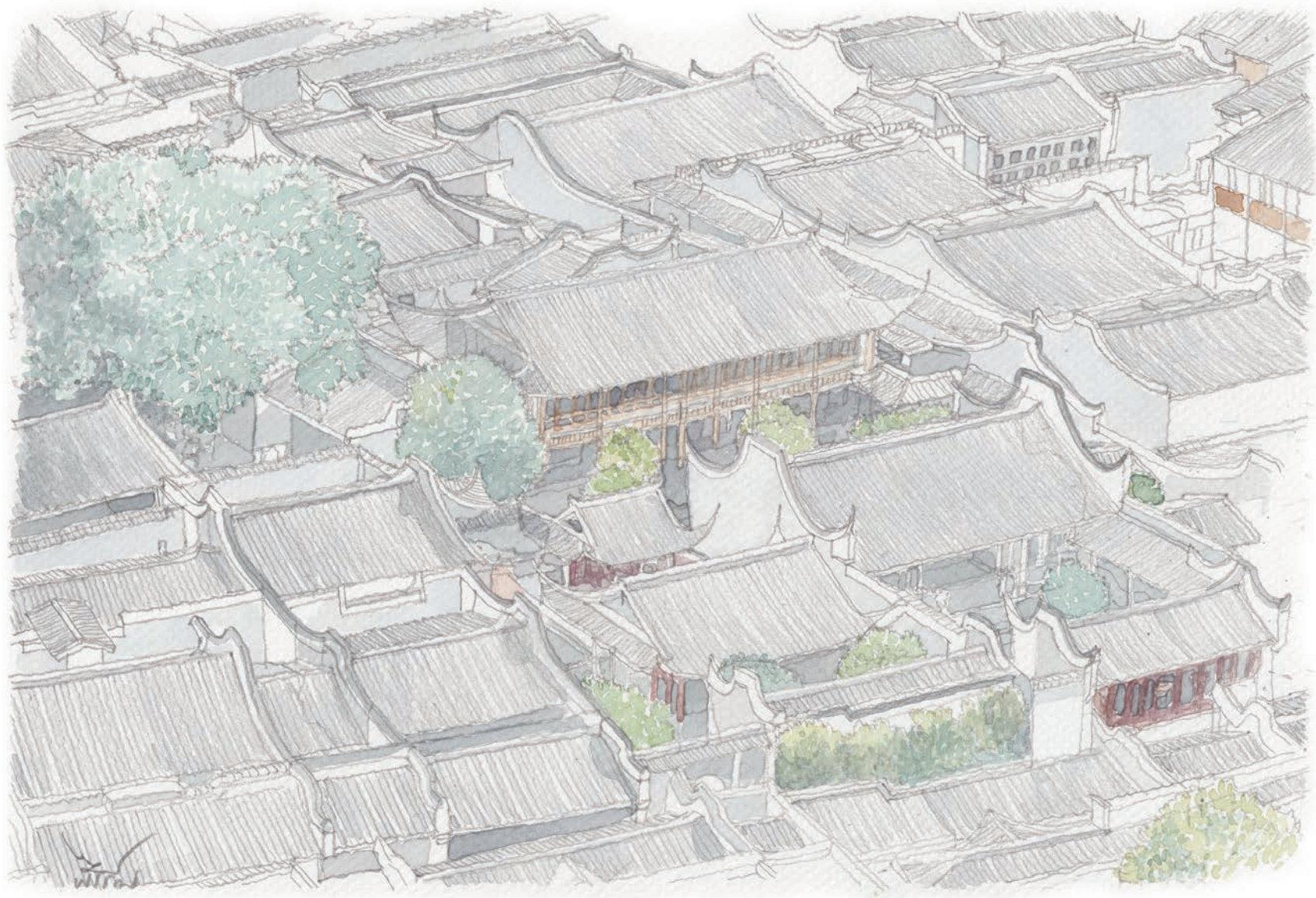
SANFANG QIXIANG

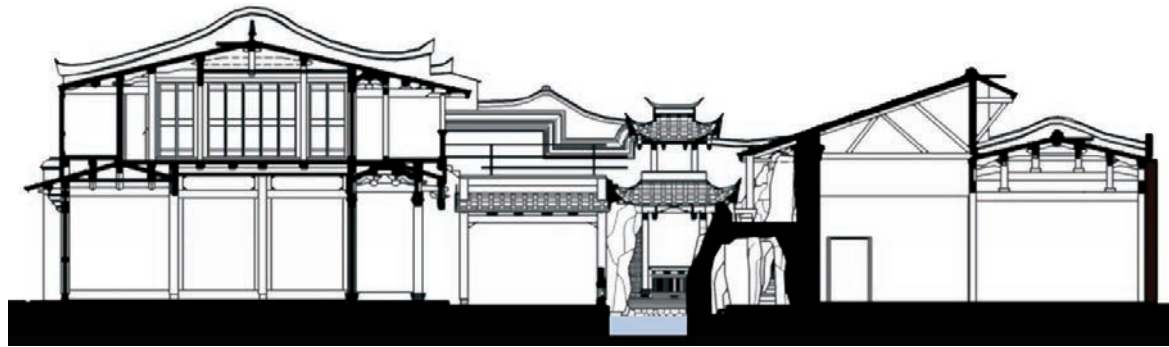
CHINA

THE REVITALIZATION OF SANFANG QIXIANG HAS SAVED THIS TRADITIONAL URBAN SETTLEMENT FROM REDEVELOPMENT AND PROMOTED WIDESPREAD RECOGNITION OF THE HISTORICALLY-SIGNIFICANT 'THREE LANES AND SEVEN ALLEYS' DISTRICT. THE PROJECT DEMONSTRATES A METICULOUS AND COMPREHENSIVE APPROACH TO CONSERVATION PLANNING AT THE SCALE OF BOTH INDIVIDUAL BUILDINGS AND THE LARGER LANDSCAPE, DRAWING UPON EXTENSIVE ARCHIVAL RESEARCH, *IN SITU* INVESTIGATION AND INTERNATIONAL CONSERVATION PRINCIPLES. THE ONCE DETERIORATED BUILDINGS WERE RESTORED IN AN AUTHENTIC MANNER USING TRADITIONAL BUILDING TECHNIQUES AND MATERIALS. MOREOVER, THE WELL-ORGANIZED TOURISM STRATEGY AND APPROPRIATE LAND USE CONTROL MEASURES MAINTAINED THE SERENITY OF THIS HISTORIC NEIGHBOURHOOD. THIS TEN-YEAR PROJECT DIRECTLY CONTRIBUTED TO THE REVIVAL OF COMMUNITY LIFE AND LED SANFANG QIXIANG TO BECOME A MODEL FOR THE CONSERVATION OF OTHER HISTORIC DISTRICTS IN CHINA.

2015

HONOURABLE MENTION





SECTION

THE PROJECT HAS BOOSTED THE DEVELOPMENT OF COMMUNITY LIFE AND IMPROVED THE LIVING QUALITY OF LOCAL RESIDENTS THROUGH RESTORATION OF INFRASTRUCTURE AND ENHANCED PUBLIC SPACE.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Sanfang Qixiang ('three lanes and seven alleys') is an area located in the centre of the city of Fuzhou, China, that has retained a traditional urban street pattern of small lanes and alleys. Built for wealthy residents of the port city, the area has 172 buildings, most dating to the Ming and Qing Dynasties (1368-1644 and 1644-1911). These structures include traditional courtyard houses as well as commercial buildings, temples and museums. The mostly one-storey brick buildings are clad in white stucco and typically feature tiled gable roofs, many with extended end gable apexes. As a site of living cultural heritage, Sanfang Qixiang's value lies not only in its special buildings but also in the ancient urban customs embedded in the place.

During the 1990s, Sanfang Qixiang became the property of a real estate development company, which demolished part of the neighbourhood and developed four thirty-storey modern residential high-rises as part of a larger plan to redevelop the entire area. The new buildings severely altered the streetscape, however, and drew condemnation from local residents and heritage

experts alike. Following concerted efforts by residents and experts, including a joint letter from sixty-two experts to the central government calling for the protection of Sanfang Qixiang, the government terminated the plan for redevelopment of the area.

The area then stagnated, however. By the mid-2000s, following years of low investment and a lack of maintenance, Sanfang Qixiang was under threat. Many of the historic buildings were in a state of serious disrepair, some on the verge of collapse. The damp environment of Fuzhou, along with termite infestation and vegetation growth, had damaged various features of the structures. Moreover, many buildings had inappropriate additions and lacked modern services, such as water, sewage pipes and electrical wiring. Overcrowding was a further issue, which impacted the community's quality of life.

In 2005, the Fuzhou Sanfang Qixiang Protection Development Company Limited acquired control of the area and immediately began work on a new conservation and revitalization plan for the area. In 2007, the state government authorized the plan, and it was approved by

the local government the following year. The Sanfang Qixiang cultural heritage conservation plan set out a framework for the repair and restoration of the physical features of the site. In particular, the plan called for repairs to the buildings and cultural relics, while protecting and maintaining their unique layouts and the iconic three lanes and seven alleys, as well as providing the infrastructure for various services. Funding came from various sources. The local government authority shouldered the cost of the infrastructural work and the surrounding landscape improvements.

Starting in 2007, the company repaired 14 properties designated as national monuments, 12 provincial monuments and 102 other buildings and houses. Following seven years of work, Sanfang Qixiang today successfully combines residential use, businesses, leisure and tourism, and demonstrates the valuable contribution that cultural assets make to sustainable urban development.

CONSERVATION APPROACH

The conservation project sought not only to preserve tangible heritage but also to retain the intangible cultural attributes of the site, adopting the approach of conserving the area as a 'living community museum'. In line with the Xi'an Declaration (2005), which states that 'understanding, documenting and interpreting the setting is essential to defining and appreciating the heritage significance of any structure, site or area', the project designers undertook an extensive documentation process. This included a thorough examination of the techniques and materials used in constructing the buildings. Researchers used 3D laser scanning technology to accurately document the architectural components.

In order to ensure participation by the community in the initiative, the project planners convened a seminar before the conservation work began to gain inputs from local residents and experts. An outcome of this seminar was a 'declaration' that expressed that the project would respect and protect the diversity of cultures within Sanfang Qixiang and would seek to ensure their sustainability.



VIEW OF A STREET

PROJECT TITLE
SANFANG QIXIANG
LOCATION
FUZHOU, FUJIAN, CHINA
SIZE
28.88 HECTARES
COST
US\$591,600,000
RESPONSIBLE PARTY
FUZHOU SANFANG QIXIANG
PROTECTION DEVELOPMENT
CO. LTD.
HERITAGE ARCHITECT
ZHANG JIE
ZHANG YANG
CHEN LIANG
CONTRACTOR
BEIJING TSINGHUA TONGHENG
PLANNING & DESIGN
INSTITUTE
DATE OF COMPLETION
JUNE 2014



In accordance with international conservation charters, the conservation project retained and restored the structures, respected original technology and engaged local artisans to carry out the repairs. Moreover, the workers used traditional materials, including local blue clay tiles and Fuzhou paint pigments. On-site instruction and professional training helped to ensure a high standard of work. Artisans were selected for the project based on their performance in several 'test' buildings of Sanfang Qixiang, where they also received training. This ensured that only those with the most expertise participated in the conservation work.

The work, which was based on a set of technical guidelines prepared for the project, encompassed repairs to the various elements of the buildings, including their structural components, walls (made using sticky rice), plaster decorations and murals, as well as work to improve the infrastructure in the area so as to be able to provide modern services to the buildings, including water supply, waste drainage and electricity. The project team took pains to ensure that modern additions to the structures were made sensitively and were inconspicuous, so as to retain the authenticity of the old buildings. The team also strictly observed the principle that all interventions should be reversible.

CONSERVATION AND THE COMMUNITY

The restoration of Sanfang Qixiang has greatly enhanced local living conditions and restored Sanfang Qixiang's reputation as a site of great cultural value. The project focused on retaining both tangible and intangible cultural heritage, and maintaining the relationship between them. As a result of the project, cultural activities were reintroduced into the community, and this, along with the improved environment, spatial quality and attractions of the area, has benefitted the residents and local businesses.

The restoration and revitalization of Sanfang Qixiang has had a significant impact on conservation policy both in the Fuzhou area and elsewhere in China, and has engendered a positive change in attitudes towards historic sites and heritage conservation. It has also served as a model for the conservation of other communities.

YHA MEI HO HOUSE YOUTH HOSTEL

HONG KONG SAR, CHINA

THE TRANSFORMATION OF THE ABANDONED MEI HO HOUSE INTO A YOUTH HOSTEL AND HERITAGE MUSEUM HAS SUCCESSFULLY EXTENDED THE LIFE OF THE TERRITORY'S FIRST PUBLIC HOUSING COMPLEX. THE CONSERVATION WORK IS COMMENDABLE FOR ITS NUANCED APPROACH TO RETAINING THE HALLMARKS OF PERIOD ARCHITECTURE WHILE SENSITIVELY INSERTING CONTEMPORARY AMENITIES CATERING TO THE BUILDING'S NEW FUNCTION. THE IMPRESSIVE EFFORTS TO REACH OUT TO FORMER RESIDENTS AND RECORD ORAL HISTORIES HAVE ENRICHED THE SITE INTERPRETATION AND CREATED THE VIBRANT MEI HO HOUSE ALUMNI NETWORK. THE PROJECT HAD A CATALYTIC IMPACT IN THE LARGER RENEWAL OF SHEK KIP MEI AS ONE OF THE CITY'S NEW CULTURAL HUBS. MOREOVER, THE RESTORATION OF MEI HO HOUSE HAS PRESERVED AN IMPORTANT CHAPTER IN THE SOCIAL HISTORY OF HONG KONG AND DEMONSTRATES THE ENDURING VALUE OF THE MODERN TYPOLOGY OF SOCIAL HOUSING.

2015

HONOURABLE MENTION



PROJECT SYNOPSIS

Mei Ho House, part of the Shek Kip Mei Estate in the Sham Shui Po neighbourhood of Hong Kong SAR, China, is the only surviving first-generation public-housing block in the city. Built in 1954, the six-storey H-shaped building was one of eight blocks constructed by the colonial government as part of a project to accommodate the victims of the 1953 fire that destroyed the Shek Kip Mei shantytown, the home of immigrants from mainland China.

Mei Ho House is a modest building made of reinforced concrete, with the floor and roof slabs supported by a series of parallel shear walls resting on shallow pad footings. In this and other housing blocks of the estate, a typical residential unit was a bare shell, 11 square metres in size, with no partitions. The units had no bathrooms, toilets or kitchens. Each unit was meant to accommodate around five adults. Over 300 people lived on each floor of the Mei Ho building, and the residents shared six toilets, fourteen shower cubicles and two stand pipes. While basic, the housing blocks were safe, durable and resistant to fire and wind – unlike the huts that the residents had formerly lived in.

For fifty years Mei Ho House was home to thousands of people and became an integral part of the urban landscape of the Sham Shui Po neighbourhood, which developed a distinctive communal network. While all of the other Shek Kip Mei housing blocks were demolished in various redevelopment projects, Mei Ho House, although dilapidated, escaped demolition. Vacated in 2004, the building was preserved as a record of Hong Kong SAR's public housing development. The property was vacant for five years before the Hong Kong Youth Hostel Association (HKYHA) leased the government-owned building in 2009 under the first batch of the Hong Kong SAR government's 'Revitalising Historic Buildings through Partnership Scheme' (also known as the 'Revitalisation Scheme'). In 2010, the government listed Mei Ho House as a Grade II historic building.



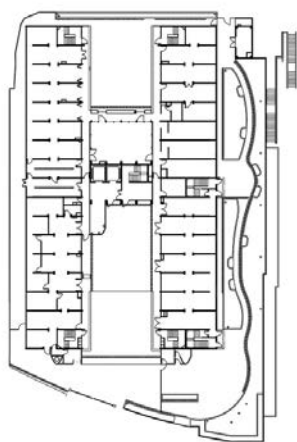
FRONT VIEW OF THE CURRENT MEI HO HOUSE

THE REVITALIZED MEI HO HOUSE REPRESENTS THE COLLECTIVE MEMORY OF THE RESIDENTS AS WELL AS OF THE ENTIRE 1950s GENERATION. PART OF THE CITY'S LEGACY, IT HAS TAKEN UP A NEW ROLE WHILE CONTINUING TO SERVE THE COMMUNITY.

— QUOTE FROM THE PROJECT TEAM —



THE ROOM INTERIORS WERE TRANSFORMED



PLAN

Aiming to retain its built form and architectural style, and preserve its usage as accommodation, the HKYHA converted the housing block into a youth hostel and museum, with 129 guest rooms and an exhibition area. In so doing, the HKYHA also facilitated appreciation among visitors and local residents alike for the history and development of the public housing sector in Hong Kong SAR. The conservation work began in 2009 and Mei Ho House Youth Hostel opened to the public in October 2013.

CONSERVATION APPROACH

The conservation approach called for minimal intervention, retaining the utilitarian qualities of Mei Ho House while making necessary adaptations to allow it to be used as a youth hostel and museum. Recognizing that the construction of Shek Kip Mei estate marked the birth of public housing in Hong Kong, the project sought ways to emphasize the social context, the spirit of the building and aspects of its original character and use.

The challenge for the restoration project's designers was to bring the building into compliance with modern building regulations and standards without altering the building substantially. With these considerations in mind, the project's architects strengthened the central

PROJECT TITLE
YHA MEI HO HOUSE YOUTH
HOSTEL

LOCATION
SHAM SHUI PO,
HONG KONG SAR, CHINA

SIZE
7,320 SQUARE METRES

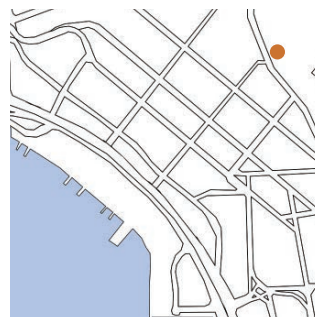
COST
US\$21.8 MILLION

RESPONSIBLE PARTY
HONG KONG YOUTH HOSTEL
ASSOCIATION

HERITAGE ARCHITECT
AD+RG ARCHITECTURE DESIGN
AND RESEARCH GROUP LTD.

CONTRACTOR
CHINNEY CONSTRUCTION
COMPANY LTD.

DATE OF COMPLETION
AUGUST 2013



core and corridors on each level; replaced the brick balustrade walls with reinforced concrete railings; introduced barrier-free access, including a lift (elevator); installed double-glazed tempered glass windows with low-emissivity coating; and introduced modern services and amenities, such as central air-conditioning. At the same time, the project's designers took pains to preserve original decorative elements, including the building's mosaic tiles, not only to retain the original fabric, but also to minimize construction waste.

In view of the building's history and past use, the project placed an emphasis on ensuring the site had spaces that provide an arena for social interaction and activities for both residents of the area and visitors staying at the hostel. Accordingly, the project not only retained existing open areas, but also introduced new spaces to the site, including a function room, a museum and a garden. The additions took into consideration the setting of the site and the surrounding landscape, including an existing old tree, emphasizing both environmental and community harmony, so had minimal impact on the character of the site. The new function room is a glass structure that allows for the continued visibility of the heritage building.

CONSERVATION AND THE COMMUNITY

The project actively sought the views of the local community and encouraged community participation throughout the decision-making process. In particular, the project team acknowledged the importance of the collective memories of residents and, through establishing the Mei Ho House Alumni Network, fostered a social network that reunited the former residents. Residents who had moved away from the building came back to the site and helped in the planning and design of the museum. Many participated in an oral history project and donated household items as exhibits for the museum. The project's designers were intent on ensuring the continuity of the community's links to the building after the completion of the project, so therefore invited its members to serve as tour guides in the museum. As a hostel, the building today brings new economic opportunities to the community. Mei Ho House is now part of a string of historic sites in the district, helping to create a network of tourism that will benefit the local community in the years to come.

PARVATI NANDAN GANAPATI TEMPLE

INDIA

THE RESTORATION OF PARVATI NANDAN GANAPATI TEMPLE HAS GIVEN NEW PROMINENCE AND VITALITY TO THIS RELIGIOUS SITE IN PUNE. THE COOPERATION BETWEEN THE STAKEHOLDERS, INCLUDING DEVOTEES, LOCAL BUILDERS AND SPECIALISTS, ENSURED THAT THE PROJECT FULFILLED THE NEEDS OF THE WORSHIPPERS WHILE ABIDING BY ACCEPTED CONSERVATION STANDARDS. THE PROJECT IS TO BE COMMENDED FOR ITS DETAILED ARCHIVAL RESEARCH, CAREFUL DESIGN AND SENSITIVE WORK IN REVERSING INAPPROPRIATE PREVIOUS INTERVENTIONS. THE USE OF TRADITIONAL CARPENTRY AND MASONRY TECHNIQUES AND MATERIALS TO PRESERVE DILAPIDATED ELEMENTS AND REPLACE EARLIER REPAIRS HAS RETAINED THE TEMPLE'S AUTHENTIC CHARACTER. AS PART OF A HOLISTIC CONSERVATION APPROACH, THE DISCREET LANDSCAPING OF THE COMPLEX PROVIDES A FITTING BACKDROP TO THE ATTRACTIVELY-RESTORED SHRINE AND ASSEMBLY HALL.

2015

HONOURABLE MENTION



PROJECT SYNOPSIS

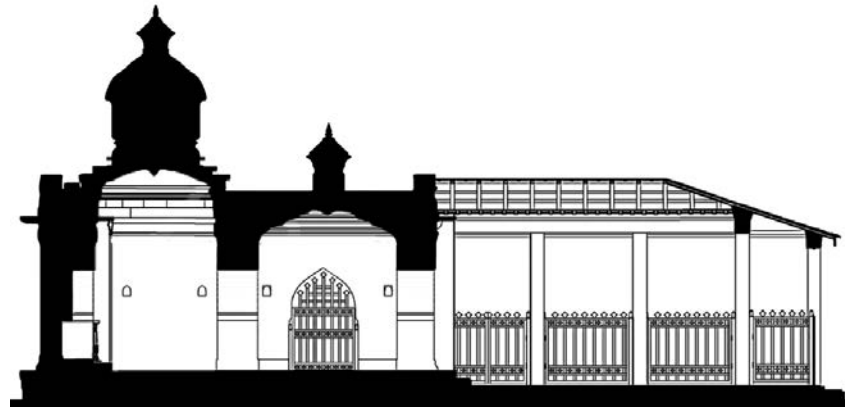
The Parvati Nandan Ganapati Temple, is one of fifty-six temples in Pune, India, dedicated to the Hindu god Ganapati (Ganesha). The 700-year-old Hindu temple was constructed using local materials, including basalt, brick and wood, and the various components of the temple complex display different styles of Indian architecture. While the *gabbara* (inner sanctum) was built in the style of the Yadava period, the *shikhar* (spire) is in the Early Maratha Style (itself a style relying on the earlier Bahamani Style) and the *mandapa* (assembly pavilion) is in the late Peshwa Style. The temple stands as an important marker for both faith and architecture in India and attracts worshippers from both Pune and the surrounding area.

The temple was not always well maintained and many inappropriate changes were made to it over the years. Recognizing a need to repair the temple, the temple's trustees and members of the community launched a conservation project. The main aim of the project was to enhance the property's integrity and re-establish the site's religious associations and importance. This was achieved through restoring the original spatial layout and the relationships between the various parts of the temple, reversing inappropriate alterations, addressing structural issues and repairing the various elements of the complex. Additionally, the project made the complex more visitor friendly.

Since the completion of the project, the temple has attracted a number of new worshippers and is today a popular site for devotees, especially during the annual festivals of Ganesh Chaturthi and Sankashti Chaturthi, when large numbers of people visit the temple.

CONSERVATION APPROACH

The project team combined detailed archival research, careful design and sensitive conservation work to restore the temple to its previous condition. For Grade II heritage status, the project adhered strictly to national and international conservation principles and practices. These included minimal intervention, using local materials, traditional construction methods and technology, consulting with the local community and other stakeholders, and interpreting the significance of the site for visitors.



SECTION

THE PROJECT HAS SHOWN HOW CONSERVATION CAN FOCUS THE ATTENTION OF A COMMUNITY AND PAVE THE WAY FOR SIMILAR CONSERVATION ACTIONS ELSEWHERE.

— QUOTE FROM THE PROJECT TEAM —



INTERIOR OF THE MANDAPA BEFORE AND AFTER RESTORATION



EXTERIOR OF THE NORTHEAST CORNER
AFTER RESTORATION

The project followed a rigorous sequence, beginning with a visual inspection to identify the conservation measures needed (this included developing an understanding of the original configuration and design of the temple complex and the temple's place in the history of the region). Next, the team conducted a detailed documentation of the complex, including drawings to record the architectural spaces, elements and features, and identified defects in the structures. A site documentation report outlined areas for restoration and repair, described the restoration work required, listed the agents that could assist in completing the work and set out a schedule.

The conservation work included: restoring the basalt stone flooring in the main temple and the entrance gateway; restoring damaged stone at the bases of the columns; removing inappropriate additions, including brick walls, thereby returning the original spatial configuration; improving lighting and air circulation in the complex; removing paint to expose the original basalt stone and wood finishes; repairing the stucco plaster of the buildings and the lime mortar pointing of the main temple; repairing the roof, including the purlins, rafters and tiles; and applying a lime coating on the *shikhar*. All wooden surfaces received an application of linseed oil as a protective measure against termites.

PROJECT TITLE
PARVATI NANDAN GANAPATI
TEMPLE

LOCATION
PUNE, INDIA

SIZE
887 SQUARE METRES

COST
US\$35,500

RESPONSIBLE PARTY
SUHAS LUNKAD
CHANDRASHEKHAR BABHALE
KIRAN KALAMDANI
ANJALI KALAMDANI
SNEHA TAMHANE BENDRE

SANJAY WABLE
GORAKH JADHAV

HERITAGE ARCHITECT
KIMAYA ARCHITECTS

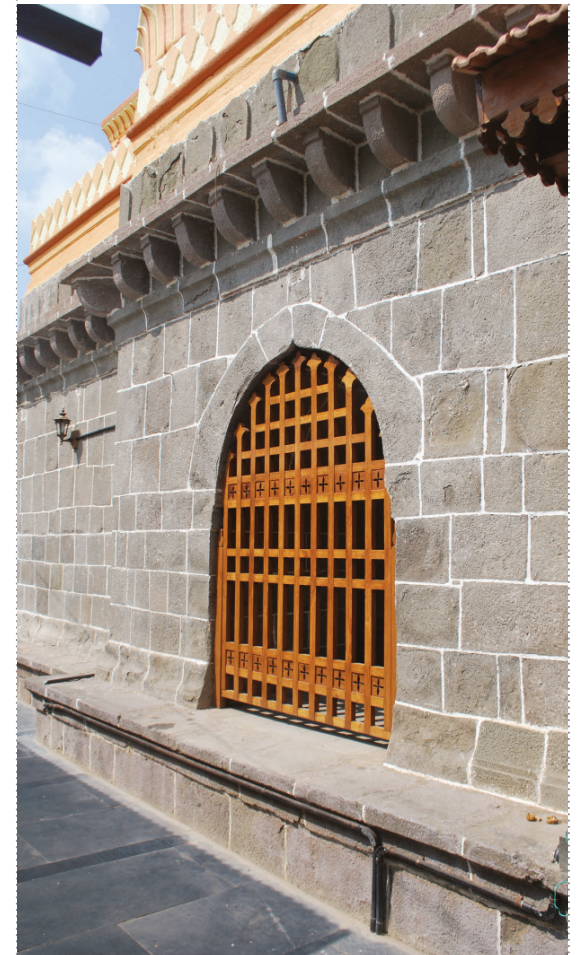
CONTRACTOR
ROHAN BUILDERS
(INDIA) PVT. LTD.

DATE OF COMPLETION
AUGUST 2013



CONSERVATION AND THE COMMUNITY

The Parvati Nandan Ganapati Temple project involved a large number of stakeholders, including devotees and residents of the surrounding area. The project's designers took the suggestions of the stakeholders into account in the formulation of the conservation plan and sought to meet the needs of all stakeholders, the broader community as well as regular users.



DETAIL OF THE SOUTH FAÇADE AFTER RESTORATION

HONOURABLE MENTION

PORT ARTHUR PENITENTIARY

AUSTRALIA

THIS INNOVATIVE ENGINEERING SCHEME AT PORT ARTHUR PENITENTIARY SETS A BENCHMARK FOR SYMBIOTIC NEW DESIGN HELPING TO SUSTAIN FRAGILE HISTORICAL PLACES. CARRIED OUT UNDER CHALLENGING CIRCUMSTANCES IN THE SENSITIVE CONTEXT OF A WORLD HERITAGE PROPERTY THAT IS ONE OF AUSTRALIA'S MOST VISITED DESTINATIONS, THE PROJECT HAS SUCCESSFULLY STABILIZED THE ONCE STRUCTURALLY UNSOUND MASONRY RUINS TO EXTEND THE LIFE OF THE GLOBALLY-SIGNIFICANT SITE AND ALLOW FOR SAFE VISITOR ACCESS. EXTENSIVE ARCHAEOLOGICAL INVESTIGATIONS AND ENGINEERING SIMULATIONS INFORMED A DESIGN THAT ACHIEVES A QUIET EQUILIBRIUM BETWEEN NEW INTERVENTION AND EXISTING FABRIC. THE ELEGANTLY-MINIMALIST STEEL STRUCTURES PROVIDE AN ARCHITECTONIC COUNTERPOINT TO THE RED-BRICK WALLS, WITH THE DESIGN VOCABULARY BEING CLEARLY OF ITS OWN TIME YET DEFERENTIAL TO THE ICONIC HISTORIC BUILDING.

2015

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

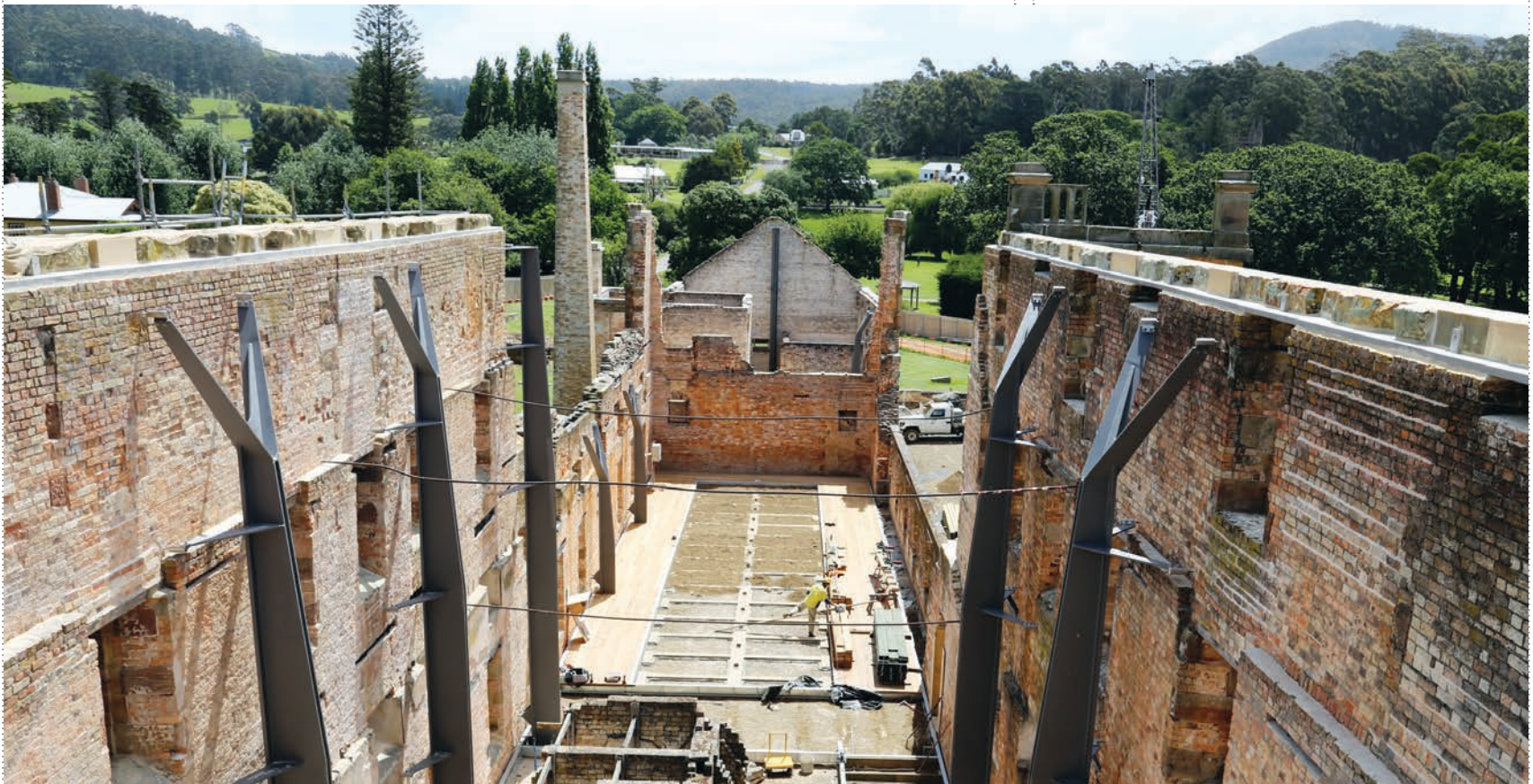


KEY TO THE DESIGN CONCEPT SUCCESS WAS A METHODOLOGY OF INSTALLATION AND BUILDABILITY THAT WAS SUITABLE WITHIN THE CONFINES OF A HIGHLY FRAGILE ENVIRONMENT. THE DESIGN TEAM'S OBJECTIVE WAS TO DEVELOP A SYSTEM OF STRUCTURAL SUPPORT THAT COULD BE IMPLEMENTED WITH MINIMAL RISK TO THE FABRIC.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

Port Arthur Penitentiary is the centrepiece of the Port Arthur Historic Site in Tasmania, Australia. Inscribed on the World Heritage list in 2010, as part of the Australian Convict Sites World Heritage property, the Port Arthur Historic Site contains more than thirty convict-built structures and ruins, in a picturesque and relatively undisturbed landscape. Port Arthur Penitentiary, which survives as a substantial ruin, is an iconic cultural landmark and the most recognizable element of the Port Arthur Historic Site, which itself is Australia's most intact nineteenth-century convict settlement and one of the best-known symbols of Australia's convict past.



PORT ARTHUR PENITENTIARY UNDER CONSTRUCTION SHOWING THE NEW STRUCTURAL STABILIZATION SYSTEM

The significance of Port Arthur Penitentiary is in its important place in the evolution of penal practices in the colony, serving to remind visitors of the harsh labour experienced by convicts of the era and the results of that labour. The site is also highly significant as a reminder of the colonial occupation of land in Tasmania, which took place to the detriment of the Aboriginal peoples.

Constructed in 1842, the Port Arthur Penitentiary building was originally a granary and flour mill. Erected on reclaimed land and built on foundations of ironstone boulders and log cribbing, the four-storey building's walls were built with locally-fired red bricks. The hipped roof was sheathed in split shakes derived from local timber. Although it was utilitarian, the building possessed a substantial and dignified architectural character.

During its operation, up to fifty-six convicts operated a giant treadmill to power the grindstones. When the granary and flour mill failed in 1852, the building lay vacant until 1857, when the site was converted into a penitentiary to meet the pressing need to house convicts, a need that had grown as other convict settlements closed. The building primarily served as sleeping quarters for convict labour, accommodating up to 484 convicts, 348 in dormitories and 136 in separate cells. The requirements of the prison led to the construction of various other buildings on the site, including accommodation for watchmen, a laundry and an ablutions block, as well as workshop areas and convict exercise yards.

The building served as Port Arthur Penitentiary for only twenty years. It closed in 1877 when the penal colony was given over to private logging companies. Fire destroyed the unused complex in 1897, leaving only the outer walls of the buildings intact. Over the next forty years, sections of the structures collapsed. Apart from some work to stabilize the ruins in the 1950s, no conservation work was conducted until 2011.

PROJECT HISTORY

Port Arthur Penitentiary was managed as a standing ruin within a cultural landscape from the early 1900s. It survived for many years but was extremely fragile, with 12-metre high walls that rocked in the breeze. In 2011, recognizing that the building was unstable, the

PROJECT TITLE
PORT ARTHUR PENITENTIARY
LOCATION
PORT ARTHUR, TASMANIA,
AUSTRALIA
SIZE
APPROXIMATELY
4,000 SQUARE METRES
COST
US\$5.62 MILLION
RESPONSIBLE PARTY
COMMONWEALTH DEPARTMENT
OF ENVIRONMENT
HERITAGE TASMANIA
PORT ARTHUR COMMUNITY
ADVISORY COMMITTEE
TASMANIAN HERITAGE
COUNCIL
HERITAGE ARCHITECT
HPA PROJECTS PTY. LTD.
CONTRACTOR
HANSEN YUNCKEN PTY. LTD.
DATE OF COMPLETION
DECEMBER 2014



Port Arthur Historic Site Management Authority (PAHSMA), engaged specialists to conduct extensive archaeological and geotechnical investigations, masonry analysis, finite element structural modelling and 3D force modelling. The findings concluded that the site was structurally unsafe, due to ground conditions and an insufficient foundation. The brick walls were also found lacking, with extensive voids caused by erosion of the lime mortar.

In view of these defects, PAHSMA initiated a conservation project for the penitentiary building. To identify the most appropriate approach to preserving the site, PAHSMA hosted a national forum that brought together conservation specialists to discuss the project. The organization also reached out to the community to solicit local opinions. PAHSMA also engaged several heritage agencies in the design process.

PROJECT SCOPE AND FRAMEWORK

The conservation project aimed to stabilize the structure, while retaining existing fabric without damage or alteration, exposing extant fabric, minimizing intrusion, enabling public access and better interpreting the penitentiary complex's history and former function. The structural analysis of the ruins had conclusively demonstrated that there was no alternative but to introduce a new and comprehensive structural system, but this needed to honour the heritage site with minimal visual impact. The project therefore involved developing engineering solutions that would address the structural deficiencies and ensure compliance with modern building codes and standards, while retaining the character and appearance of the ruin.

DESIGN AND MATERIALS

The simple solution (conceptually) was to build a concrete or steel frame that acted as a structural armature to the masonry walls. However, such a 'cage' would have completely overwhelmed the building from all vantage points. The design team therefore developed a structural stabilization system that had minimal impact on the appearance of the building. This structural solution comprised five key elements: underground

cross-linked concrete beam footings; cantilevered steel columns supported on concrete footings; helical stainless-steel bars embedded in masonry brick joints; grouted structural anchors drilled from the top of the walls; and stainless-steel top-plate band beams (50mm thick), masked with sandstone coping.

The combination of elements worked in unison with the existing brick and mortar walls, thus reinforcing the walls. Structural stability was achieved through the combination of elements being designed to match and meet inherent and varying capacity weakness. The majority of the reinforcement was invisible.

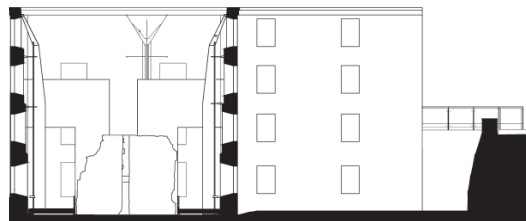
The one visible component of the stabilization solution, the steel columns, was profiled to minimize visual impact and physical contact, while being strong enough to support the fragile brickwork. The conservation team also installed a viewing platform and additional walkways within the building, thus improving public access without affecting the external appearance.

IMPORTANT ISSUES

The approach of managing the Penitentiary Precinct of the Port Arthur Historic Site as a standing ruin within a cultural landscape is in recognition of the historic and aesthetic values attributed to the place, inclusive of its ruined state. The site's statutory management plan reiterates this approach through its policy framework which states that 'Ruins are recognised as a fundamental part of the history and significance of the Port Arthur Historic Sites and will be conserved as ruins'. In response to this policy, the project did not seek to identify a compatible or alternate use for the place or to change its function within the operations of the historic site. Instead, the project sought to stabilize the structure and improve the compatibility of the place with emerging tourism trends and functional requirements.



INTERVENTIONS IMPROVED VISITOR ACCESS



SECTION

PROJECT IMPACT

The project achieved its objective of preserving the historic site without changing its appearance and also improved visitor access as well as the quality of interpretation of the site. The work has greatly expanded the capacity of the site and has opened opportunities for interpretation projects, at the same time enabling an exciting environment for guided tours. In addition, the completed project provides a venue for events and functions within the space consistent with the tourism and hospitality operations of PAHSMA.

TECHNICAL BRIEF

STRUCTURAL STABILIZATION USING GROUTED ANCHORS



STABILIZATION SCHEME

After three years of in-depth analysis and testing, the researchers found that the building structure had the following characteristics:

- A poor foundation and weak ground conditions, with a bearing capacity of only 100 kilopascals (kPa).
- Extremely low-strength brickwork (hand fired clay bricks and lime mortar).
- Extensive voids within the walls, likely to have been caused by the erosion of lime mortar aggravated by low-temperature firing of the clay bricks.

The project team concluded that the Port Arthur Penitentiary was in an extremely fragile condition.

Finite element modelling

In order to examine the bending generated by various wind and earthquake-induced lateral loads, the design

team developed a finite element (FE) model of the penitentiary walls, which were of varying thicknesses. This engineering simulation identified the eastern portion of the southern wall of the structure as highly distressed and in a precarious condition.

Extensive engineering analysis concluded that the penitentiary's masonry walls typically exhibited less than one-third of the required design capacity. For a number of high walls, the design capacity was approximately 10 per cent of the structural sufficiency requirements under code.

Proposed structural solution

The structural solution proposed by the design team for achieving equilibrium of the penitentiary's unstable structure had five key elements. Of these, the most

important innovations were in the symbiotic pairing of helical stainless-steel bars (inserted horizontally in the mortar bed to provide lateral restraint) and grouted steel anchors (inserted vertically to provide a mechanical bond to the compromised brickwork). The grouted steel anchors worked as important components for augmenting the existing masonry's vertical bending capacity.

Grouted structural anchors

The team developed a system that involved drilling vertically 12 metres into fragile masonry, using a lightweight, direct, electric motor drive dry coring system. The system imposed no dead loads on the structure as it was supported on precision guide rails, and was bridged across free-standing scaffolds erected each side of the walls. Additionally, the bespoke down hole tools were configured on marine-grade stainless-steel drill tubes machined to high tolerance, thus minimizing vibration and keeping live loads to an absolute minimum while maintaining the high accuracy required.

Conventionally, water is used to cool the drill head in long drilling applications. But one of the challenges faced by the design team was that water presented a high risk of damage to the walls, particularly the lime mortar masonry joints. Therefore, instead of using water, the team developed an air flush slow-speed method. The team tested this method on samples of the fabric prior to deployment on site.

The project required the fabrication of custom-built, high-strength stainless-steel reinforcing bars. A key engineering

requirement for the grouting was that installation pressures be kept below 100kPa, one third to one half of that normally used. Hollow stainless bars were rolled with a coarse rope thread to provide a high capacity connection between steel and grout. The hollow bars enabled controlled low-pressure grout encapsulation of the reinforcement within containment socks, without the use of any permanent plastic grouting tubes. This was accomplished by the use of multiple small ports in the central hollow of the anchor bar, along with closely-controlled pressurized air over grout injection method. The team monitored the actual grout levels and local pressures within the deeper holes using an air gauging balance system designed specifically for the project.

Woven containment socks were used over all the anchors to stop the intrusion (or 'bleeding') of cement-based grout into the historic fabric. The challenge was to match void characteristics with sock-strength type while providing structural connection between the original lime-mortar bonded bricks and the new reinforcement. Following inspections, by means of remote fibre optic cameras in each of the holes that were drilled, the team chose the most suitable sock for the connection type and wall condition, from an approved range which had been selected through extensive testing both on-site and off-site.

*Adapted from the
"Port Arthur Penitentiary"
UNESCO Asia-Pacific Heritage Awards
entry submission*

AWARD OF EXCELLENCE

SANRO-DEN HALL AT SUKUNAHIKONA SHRINE
JAPAN

AWARD OF DISTINCTION

TAOPING QIANG VILLAGE
CHINA

ST. OLAV'S CHURCH
INDIA

AWARD OF MERIT

CAMA BUILDING
INDIA

WALLS AND BASTIONS OF MAHIDPUR FORT
INDIA

SHAHI HAMMAM
PAKISTAN

HONOURABLE MENTION

FUDEWAN MINERS' VILLAGE
CHINA

LIU ANCESTRAL HALL
CHINA

OLD TAI PO POLICE STATION
CHINA

WU CHANGSHUO RESIDENCE ARCHAEOLOGICAL SITE
CHINA

DOON SCHOOL MAIN BUILDING
INDIA

DARUGHEH HOUSE
ISLAMIC REPUBLIC OF IRAN

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

THE BREWERY YARD
AUSTRALIA

2016

SANRO-DEN HALL AT SUKUNAHIKONA SHRINE

JAPAN

DRAMATICALLY PERCHED ON A STEEP SLOPE, THE SANRO-DEN PRAYER HALL OF THE HIGHLY SACRED SUKUNAHIKONA SHRINE WAS RESURRECTED IN AN EXEMPLARY ACT OF GRASSROOTS MOBILIZATION. A RARE EXAMPLE OF THE KAKEZUKURI ARCHITECTURAL STYLE, THE BUILDING WAS RESCUED AFTER TWO DECADES OF ABANDONMENT AND HAS BEEN REINTEGRATED INTO THE LIFE OF THE COMMUNITY. WITH SPONSORSHIP FROM AN INTERNATIONAL FOUNDATION, THE HIGHEST LEVEL OF QUALITY AND AUTHENTICITY IN THE CONSERVATION WORK WAS ACHIEVED THROUGH THE REVIVAL OF AGE-OLD BUILDING PRACTICES, STRICT ADHERENCE TO TRADITIONAL CONSTRUCTION MATERIALS AND STATE-OF-THE-ART TECHNICAL ANALYSIS. ADVOCACY AND OUTREACH EFFORTS SUCCESSFULLY BROADENED AWARENESS OF THE BUILDING'S IMPORTANCE AMONG OZU RESIDENTS, GENERATING RENEWED COMMITMENT TO SUSTAIN THE HALL FOR FUTURE GENERATIONS TO COME. THE OUTPOURING OF LOCAL SUPPORT FROM ENTHUSIASTIC VOLUNTEERS, EXPERTS AND SKILLFUL ARTISANS SERVES AS A TESTAMENT TO THE SUCCESS OF COMMUNITY STEWARDSHIP IN SAFEGUARDING VULNERABLE HERITAGE BUILDINGS AND FOSTERING CULTURAL CONTINUITY.

2016

AWARD OF EXCELLENCE



CONTEXT

Sanro-Den is located within Sukunahikona Shrine in the city of Ozu, Ehime Prefecture, on the island of Shikoku, Japan. This wooden building was built like a 'castle in the air', on the slopes of Mount Yanase, and much of it projects out over the valley, its foundation supported by an impressive scaffolding-like structure. The location and physical features of Sanro-Den can be traced to the legend of Sukunahikona (also known as Sukunabikona), a god of healing who once visited Ozu. The site of his visit can be seen from the overhanging structure of Sanro-Den.

The prayer hall has long been valued by local people as an important gathering place. It fell into disuse following the closure of Sukunahikona Shrine in 2003, but was revived a decade later by a group of local residents who, in partnership with Ozu's forest industry association and numerous volunteers and donors, restored the site as a focal point for community life.

BUILDING HISTORY

The Sukunahikona Shrine compound, a Shinto place of worship that houses many monuments, has been a protected sacred zone from the time of Japan's feudal period (1185-1603). Built in 1934, Sanro-Den (which means 'a hall where one confines oneself to pray') is one of a number of monuments constructed within the compound in the early part of the prosperous Showa era (1926-1989).

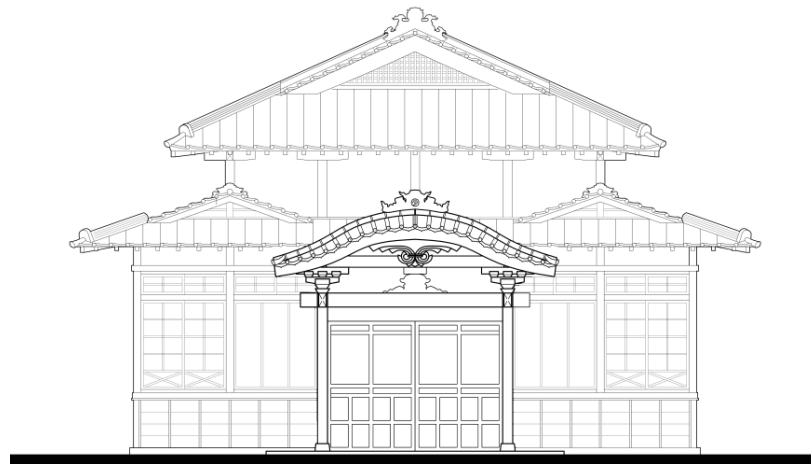
Sanro-Den, a single room encased in glass walls and suspended over a steep slope on a frame of long, slender timber pillars, represents the Kakezukuri (Kake-zukuri) architectural style (the 'overhang style'). Structures built in this style are noted for their resistance to earthquakes. Indeed, Sanro-Den was left unscathed by the Nankai Earthquake in 1946, a testament to its resilience. Often situated on hillsides, there are around 100 buildings in this style in Japan. Most such buildings date to before the Meiji period (1868-1911), Sanro-Den being an exception. There are very few modern Kakezukuri-style buildings remaining today in Japan, and Sanro-Den is the largest of the three identified to date in Ehime Prefecture.

The Sanro-Den hall was the work of architect Fumitoshi Nakano, with construction supervised by Ryoji Nakano and Kazuma Ninomiya, and it exhibits a rare mix of traditional

and modern architectural techniques. Modern features of the building include large king post roof trusses, brace struts and glass walls. A distinctive feature is the thinness of the supporting structure's timber columns. The most impressive feature of Sanro-Den, however, is the height of the supporting structure, which soars 13 metres above the ground. The wooden frame supporting Sanro-Den is composed of twenty-seven columns, of which ten are supporting columns and the remaining seventeen are through-columns.

Sanro-Den once served as a venue for religious events associated with Sukunahikona Shrine, including ritual

feasts and offertory dances, but its main function was as a venue for community gatherings, such as seminars and wedding ceremonies. In 2003, with the closure of Sukunahikona Shrine, Sanro-Den also closed. When the shrine closed it lost its parishioners and priests, along with associated donations that once funded site maintenance. Since Sanro-Den was not a designated cultural property, it received no government funding for its conservation. Thus, although the local community sought to maintain the site, no financial support was available for the conservation of Sanro-Den and other buildings in the shrine complex.



ELEVATION

SANRO-DEN IS A BUILDING THAT HAS LONG BEEN IMPORTANT TO THE LOCAL COMMUNITY AS A SITE ROOTED IN THEIR HEARTS AND SOULS: A FUNDAMENTAL AND ESSENTIAL ELEMENT OF A CULTURAL ASSET. WE HOPE THAT THE PROJECT TO RESTORE SANRO-DEN WILL BECOME A MODEL FOR THE RESTORATION AND PRESERVATION OF SIMILAR SITES IN JAPAN AND EVEN GLOBALLY.

— QUOTE FROM THE PROJECT TEAM —

By 2010, when the conservation project was conceived, Sanro-Den was in a highly dilapidated condition. A key area of deterioration was the roof. Damage to the roof tiles had led to water ingress, which in turn had led to rotting of the ceiling and to the partial collapse of the floor, and had damaged the supporting columns beneath.

PROJECT HISTORY

The project was a community initiative. Recognizing the heritage value of Sukunahikona Shrine and Sanro-Den's significance to the community, in 2010 traditional woodworking artisans of Ozu formed a volunteer group, the Osukuna Troupe, aimed at conserving the buildings within the shrine compound. Since Sanro-Den exhibited the greatest level of deterioration, it became a priority for the group.

In 2012, the Osukuna Troupe established the Executive Committee of Sukunahikona Shrine Sanro-Den Restoration (ECOSAR), a non-profit organization. The members of ECOSAR included experts in traditional wood-frame construction, local residents, the president of Ozu's forest industry association and a number of heritage and architectural professionals. That same year, ECOSAR launched a fundraising campaign for the conservation project and instigated several outreach programmes.

Inclusion of Sanro-Den on the World Monuments Fund (WMF) Watch list in 2014 helped to spread awareness of the site's cultural significance and of its urgent need of repair. Widespread media coverage of the project helped to attract donations to supplement the funds ECOSAR had raised locally, and these funds allowed the conservation work to begin. The work started in December 2014 and was completed in December 2015.

PROJECT SCOPE AND FRAMEWORK

The main objective of the project was to restore the rare Kakezukuri-style structure to its original condition and return the property to a state of usability, so as to re-establish Sanro-Den as a community hub. This was accomplished by means of a partnership between the community, woodworking artisans and local businesses, and involved organized educational efforts and activities, including presentations and workshops.

PROJECT TITLE
SANRO-DEN HALL AT
SUKUNAHIKONA SHRINE,
OZU CITY

LOCATION
OZU, EHIME PREFECTURE,
JAPAN

SIZE
420 SQUARE METRES

COST
US\$470,459

RESPONSIBLE PARTY
EXECUTIVE COMMITTEE OF
SUKUNAHIKONA SHRINE
SANRO-DEN RESTORATION
(ECOSAR)

HERITAGE ARCHITECT
NINOMIYA ARCHITECT AND
DESIGN

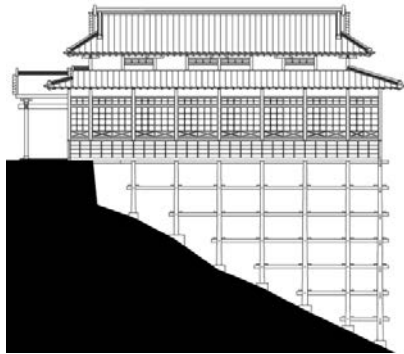
CONTRACTOR
MUNEKIYO MATSUHIRA
DATE OF COMPLETION
DECEMBER 2015



In addition to restoring the hall, the project also involved building an administrative office (with visitor facilities) within the shrine compound, situated at a respectful distance from the religious sites. This attractive building was designed in the Kakezukuri style so as to integrate well with Sanro-Den. The project also paved the access paths to Sukunahikona Shrine, installed lights and built retaining walls and drainage channels to ensure visitor safety. Another addition was a medicinal garden, complete with the names of the various plants, in honour of Sukunahikona.



**EXTERIOR VIEW OF THE WORSHIP PORCH
BEFORE AND AFTER RESTORATION**



ELEVATION

CONSERVATION METHODOLOGY AND MATERIALS

A key component of the philosophy guiding the conservation of Sanro-Den was to base the restoration work on the findings of thorough research – covering the structure's history, design, engineering, materials and methods of construction – so as to retain the authenticity of the building, enable the revival of the skills associated with its construction and ensure its long-term preservation.

Community involvement was another fundamental component of the project's conservation philosophy. Such involvement included volunteer work during the restoration, participation in on-site educational activities and donations of money and wood. A key activity was a presentation by the Osukuna Troupe of the traditional methods and types of saws used in preparing Japanese cypress for use as a construction material. One such saw is the *oga*, a large rip saw dating from the fifteenth century.

The conservation project followed a multiphase sequence. In the first stage, specialists carried out studies and tests of the structure and its materials. All of the wooden members were tested to estimate hydrate content and were subject to Pilodyn tests to determine their soundness. The tests revealed that ten of the structure's seventeen through-columns and all ten of the supporting columns required replacement.

Several professionals in seismic performance volunteered in the initial stage of the project to study the earthquake resistance of the building. Their findings indicated that Sanro-Den performed far better than most



THE INTERIOR OF THE HALL BEFORE AND AFTER RESTORATION. MOST OF THE ORIGINAL GLASS WAS RETAINED AND REUSED.

other wooden buildings in Japan, and the investigators concluded that the structure required minimal seismic reinforcement during its restoration. The findings of the tests found, however, that the site was subject to strong winds, so steps were taken to improve the windbreak function of the adjacent forest.

Following the research phase, the conservation work began. This work included removing damaged and decayed materials and repairing or replacing them. The project team sought to preserve and reuse the original materials wherever possible; thus, about 2,040 of the hall's 2,400 roof tiles were reused. These tiles required washing, a task undertaken by volunteers, who included children from the local area. Over 90 per cent of the original glass in the building's walls was retained and reused. New materials were marked to distinguish them from the original materials.

In the repair of the hall's supporting structure, workers began by installing anchors to strengthen the retaining wall and avoid any risk of collapse. Sourcing suitable new wood to replace the decayed columns and bringing the timber to the site were key challenges. The studies of the building's materials had found that the logs used for the construction of the hall were likely to have been transported via the Hijikawa River (which passes close to Sukunahikona Shrine). The project organizers considered multiple options before deciding on the use of trucks for transporting the new logs. Importantly, the workers used the same manual

methods and traditional tools for processing the new timber as had been used to prepare the original timber of the building. These methods rely on the knowledge and skills of the artisans, and on cooperation between them, rather than on electric power. As well as installing new columns, the workers repaired the ceiling and the wooden floor of the building, replacing decayed floorboards as required.

IMPORTANT ISSUES

Finding suitable replacements for the decayed cypress columns, some as tall as 13 metres, was the greatest challenge during the conservation effort; as tall, straight Japanese cypress trees are relatively rare today. A related problem was how to fell the trees and transport the logs to the project site. The project team overcame these issues by reviving a special kind of partnership that had existed in the past. Buildings such as Sanro-Den were originally built through the collaboration of carpenters, forest owners and *somabito* (a collective term for timber fellers and carriers). The project team partnered with the owner of a local forest, who generously donated the necessary trees for the project; then, harnessing the assistance of the forest industry association of Ozu and the Osukuna Troupe, they together undertook the lumbering of the trees and their transportation to the project site.

PROJECT SUSTAINABILITY AND VIABILITY

The project's considerable efforts to engage Ozu residents and businesses in the project have ensured the ongoing appreciation and use of the building by the local community, thereby ensuring its sustainability. For the future conservation of Sanro-Den, the Osukuna Troupe will maintain its role as steward of the property, relying on donations from the community and from visitors to the site, and on funds raised through ESOCAR membership fees, to fund the cleaning and maintenance of the hall and other buildings within the shrine compound.

Following the completion of the project, Sanro-Den received official designation from the local government as an Ozu City Cultural Property. This designation allows for subsidized maintenance and renovations of the hall, thus greatly assisting the stewards of the property in conserving Sanro-Den in the long term.



PROCESSING WOODEN MEMBERS



INTERIOR AND FITTINGS WORK

PROJECT IMPACT

The conservation project returned Sanro-Den to the community as a space for gatherings and performances and thereby enabled Sanro-Den to continue to play a central role in local residents' life. The success of this project was not simply the restoration of the building but the active involvement of the local people in the conservation process. This participation contributed to their understanding of the place and helped them cultivate a deeper sense of ownership of the site. The project also enhanced public awareness of the value of Sanro-Den not only as a cultural heritage site but as a place with meaning for everyone in the Ozu community.

Since its reopening, Sanro-Den has become a popular site for visitors, who come not only to see the extraordinary Kakezukuri-style hall but also to participate in festivals held at the site and in study tours of the medicinal garden. Sanro-Den thus now functions as an important component of the growing tourism sector in Ozu and is expected to contribute to boosting the local economy.

The project serves as a model for similar work within the Sukunahikona Shrine compound and for the conservation of other Kakezukuri-style buildings in Japan. Indeed, the project represents a sustainable approach to conservation, one that involves community members in all phases of the conservation process and revives the use of local materials and long-forgotten traditional skills.



TESTING THE TRADITIONAL OGA (BIG SAW) METHOD

TAOPING QIANG VILLAGE

CHINA

THE RESTORATION OF THE ANCIENT TAOPING QIANG VILLAGE FOLLOWING THE MASSIVE 2008 WENCHUAN EARTHQUAKE SHOWCASES A HOLISTIC APPROACH TO COMMUNITY REHABILITATION IN THE WAKE OF A NATURAL DISASTER. THE ENGAGEMENT OF ETHNIC GROUP VILLAGERS ALONGSIDE GOVERNMENT AGENCIES, EXPERTS AND CRAFTSPEOPLE THROUGHOUT THE CONSERVATION PROCESS ENSURED SENSITIVITY TO THEIR QIANG CULTURE IN THE RECOVERY OF THE DISTINCTIVE *DIAOLOU* (WATCHTOWERS), OTHER VERNACULAR ARCHITECTURE, PUBLIC INFRASTRUCTURE AND THE LANDSCAPE. FOLLOWING TRAINING IN TRADITIONAL CONSTRUCTION SKILLS, LOCAL RESIDENTS WERE EMPLOYED IN REPAIR ACTIVITIES IN LIEU OF GIVING RELIEF SUBSIDIES, A MEASURE THAT WAS A NOTABLE MEANS OF PROVIDING EMERGENCY SUPPORT WHILE ALSO ENSURING THE LONG-TERM MAINTENANCE OF VILLAGE BUILDINGS. BY SUCCESSFULLY REVIVING THE SPIRITS OF BOTH PEOPLE AND PLACE IN THIS HISTORIC SETTLEMENT, THE PROJECT SERVES AS AN INSPIRATION FOR FUTURE POST-DISASTER RESPONSE EFFORTS.

2016

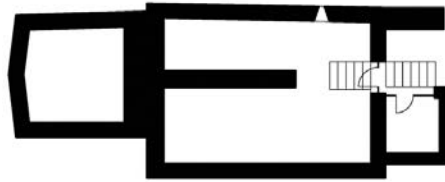
AWARD OF DISTINCTION



CONTEXT

Taoping Qiang Village is situated on the edge of the Qinghai-Tibet (Tibetan) Plateau in the province of Sichuan, China. The remote village sits 1,500 metres above sea level, at the confluence of trade routes and the Zagunao River, and covers an area of about four hectares.

The village of Taoping Qiang, which is inhabited by the Qiang ethnic group, with a population of about 500 people, has a compact, fortress-like arrangement. The buildings of the village exemplify the vernacular architecture of the Tibetan and Qiang ethnic groups, which have lived in this mountainous region for millennia.



PLAN OF CHAO WEN CHAN HOUSE

Taoping's buildings bear witness to the local conditions and to the history of the Qiang ethnic group, displaying strong regional characteristics and distinct aesthetic values. The settlement, its buildings and structures and its system of water supply, with each architectural complex having its own access to groundwater, adhere to the contours of the landscape and reflect local traditions of defence, developed over many centuries. Taoping Qiang is part of the 'Diaolou Buildings and Villages for Tibetan and Qiang Groups', which has been on China's Tentative List for World Heritage consideration since 2013.



EXTERIOR OF CHEN ZHAOWEN HOUSE BEFORE AND AFTER RESTORATION

THE INTEGRATED CONSERVATION OF THE LANDSCAPE HAS NOT ONLY CONSERVED THE BUILDINGS AND CONTEXT OF THE SITE BUT ALSO THE CULTURE OF THE VILLAGE.

— QUOTE FROM THE PROJECT TEAM —

BUILDING HISTORY

Taoping Qiang Village has four main types of buildings, each category reflecting the era in which the structures were built and how they have been modified over time. The oldest structures, some of which date back to 111 BC, are exemplars of the traditional architecture of Qiang villages; these include the *diaolou* (watchtowers), the *zhaolou* ('shield-like' houses) and *yujibei* ('fish-back' houses). They have internal wooden frameworks, but outer walls of stone, which are unpainted, their surfaces displaying the rich character of the local materials. The vernacular houses are typically three to four storeys high. A second type of building in the village encompasses the traditional structures that were built before the 1950s but which have since been modified. The alterations to these buildings incorporate local architectural styles and traditional construction methods and materials, however, and the buildings have largely retained their original character. The third type of building is those built between the 1950s and the 1990s. Although these are traditional in their design and production, following older prototypes and incorporating traditional building materials, most exhibit character-changing additions and alterations. The fourth type of building encompasses those built after the 1990s. These lack traditional features and character, with the influence on design coming from outside of the region, and use modern construction techniques and materials, including reinforced concrete.

On 12 May 2008, Taoping Qiang suffered immense damage as a result of the Wenchuan earthquake (also known as the Great Sichuan earthquake), which had a magnitude of 7.9 on the Richter scale. The earthquake damaged over 80 per cent of the ninety-six structures in the village. Fifty-three of the village buildings were of heritage value. Of these, three were severely damaged, nineteen were heavily damaged and twenty-one had some level of damage.

PROJECT HISTORY

Immediately following the earthquake, the people of the village launched a project, with assistance from the government, aiming not only to repair the damage and protect the built heritage of the village but also to meet the local population's needs for modern services and amenities. The project team interacted with residents

PROJECT TITLE
TAOPING QIANG VILLAGE
LOCATION
TAOPING, SICHUAN PROVINCE,
CHINA
SIZE
40,000 SQUARE METRES
COST
US\$9,587,270
RESPONSIBLE PARTY
INSTITUTE OF
ARCHITECTURAL HISTORY,
CHINA
ARCHITECTURE DESIGN GROUP
MUNICIPAL GOVERNMENT OF
TAOPING
HERITAGE ARCHITECT
LIJUN WANG
CONTRACTOR
BOYA HAN
DATE OF COMPLETION
SEPTEMBER 2010



and with officials from the local government to lay a foundation for the smooth implementation of the conservation work. The project was launched in 2008 and completed in 2010.

PROJECT SCOPE AND FRAMEWORK

The project was not the restoration of a single building but of an entire town, a living heritage site. Thus, the project covered the entirety of the four-hectare Taoping Qiang site, having an impact on the total population. Moreover, the project expanded into the surroundings and addressed the cultural landscape, recognizing the social and environmental importance of the village's utilities and water system, as well as its roads, steps, walls and other landscape features. The project also considered the non-contributing and newer structures, introducing changes that ameliorated negative visual impacts.

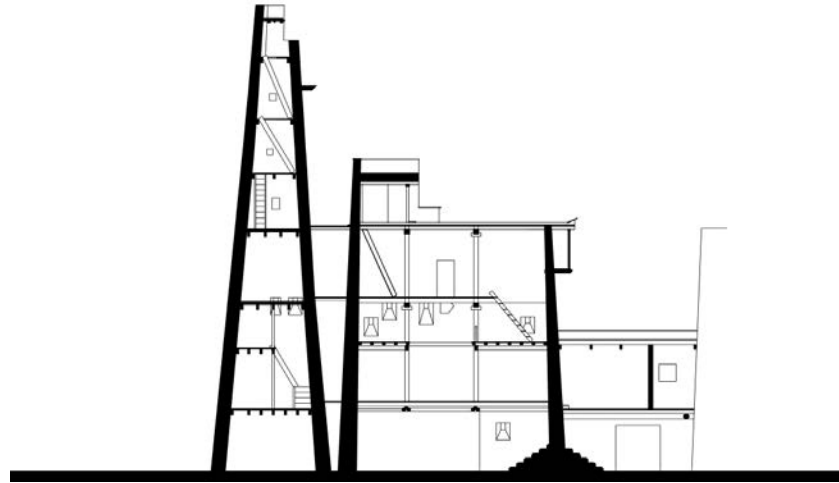


QIANG GIRL

AWARD OF DISTINCTION

The project team undertook a formal condition assessment and a complete catalogue of the buildings in the town. The survey revealed the extent of damage caused by the earthquake. This included collapsed, cracked and moved walls; fallen and dislocated beams; out-of-kilter windows and doors and collapsed floors, as well as damage to the village infrastructure.

The Taoping Qiang Village project was not a typical conservation effort; the May 2008 earthquake had caused considerable damage, and the safety of the villagers was a first priority. Divided into two stages, the project first engaged in work necessary to stabilize the buildings, ensuring the residents would be safe. This first stage, which ran from June to November 2008, included the construction of temporary structural reinforcement and clearing of debris.



SECTION OF CHAO WEN CHAN HOUSE



EXTERIOR OF THE DIAOLOU BUILDINGS BEFORE AND AFTER RESTORATION

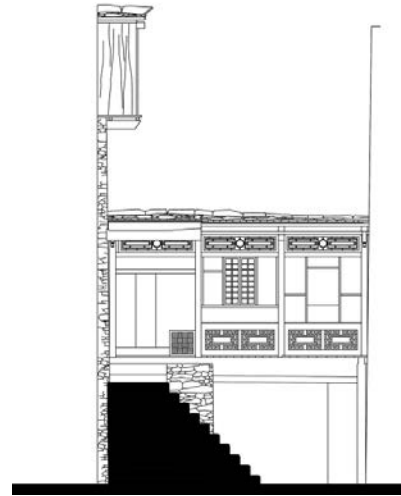
Once stability was ensured, the project adopted a philosophy rooted in ensuring the continuation of the Qiang culture's traditional building practices. The second stage, which began in May 2009 and was completed in September 2010, included work to conserve the buildings of the village and extensive improvements to amenities and infrastructure throughout the village. The conservation work on the buildings encompassed two *diaolou* buildings and fifty-eight traditional Qiang dwellings, as well as the village infrastructure and paths.

CONSERVATION METHODOLOGY AND MATERIALS

Throughout the process, the project adhered to the principles of the Venice Charter, the Nara Document on Authenticity, the ICOMOS China Principles for the Conservation of Heritage Sites (2000) and the Ministry of Culture's Measures for the Management of Cultural Relics Protection (2003). The project was also based on two other key principles: to fully respect the culture of the local Qiang people and to retain the traditional character of the buildings and the village. These principles and the team's initial assessment of the damage formed the basis for decision-making throughout the process, which was also guided by the 'Construction Guidelines for Damage Survey and the Restoration and Renovation of Buildings', developed under the project.

Given these principles, and in accordance with the guidelines, the conservation team gave priority to the hiring of local artisans, the use of traditional construction practices and technologies, and the application of local materials. The use of modern methods was limited, unless problems could not be resolved using traditional materials. The use of modern methods was permitted only following a demonstration that they would be in compliance with the requirements of the Principles for the Conservation of Heritage Sites China.

The earthquake risk in the surrounding mountains is ever present, so the conservation team therefore created new regulations to address the problems of safety and structural stability. As part of the project, the conservation team adhered to regulations relating to building heights, dimensions and colours, and shared this knowledge with other villages in the region in order to avoid both aesthetic and practical problems in the future.



ELEVATION OF CHAO WEN CHAN HOUSE

IMPORTANT ISSUES

Participation by the village residents was a key ingredient of the conservation effort. The project accommodated the views of all stakeholders, but focused particularly on the views of the residents. The local population had input into the guidelines, ensuring that local interests and concerns were addressed, and many of the villagers were employed in the restoration process, thus enabling them to earn a living wage in the post-earthquake period. The involvement of local villagers contributed to preserving intangible heritage and also encouraged residents to remain in the village, thereby keeping the village alive.

PROJECT SUSTAINABILITY AND VIABILITY

The commitment to authenticity of both materials and techniques promoted the traditional architecture traditions of the Qiang people and thereby helped ensure the continuity of those traditions. Moreover, the emphasis on hiring local residents allowed the community to celebrate and learn the building skills of their ancestors and therefore also contributed to ensuring the continuation of traditional construction methods and materials.

The project relied on careful measures of results and impacts. This quality-control system was an important guarantee that future work in Taoping Qiang Village will maintain high standards. Overall, the effort has provided a means of ensuring high-quality conservation and maintenance of local architecture in the long term.

PROJECT IMPACT

With an unremitting perseverance and an adherence to the guidelines for preserving authenticity and integrity, the Taoping Qiang project preserved the historical, scientific and artistic value of the settlement. Indeed, the project restored Taoping Qiang Village while retaining its authenticity. The integrated conservation of the cultural landscape has led not only to a conserved site but has also helped in the retention of the culture and history of the village for the future. In addition, the project exhibited a high level of social and environmental sensitivity, and the village is today a viable community where the local population can continue to live and thrive in for years to come.

The emphasis on community participation not only helped to maintain the architectural legacy of the Qiang ethnic group but also to instil a new sense of pride in local culture and the village. The project has made an outstanding case for the importance of involving local people and traditions in the conservation of their homes and offers a model of best practice for the conservation and maintenance for post-disaster reconstruction.



RECONSTRUCTING STONE WALL

ST. OLAV'S CHURCH

INDIA

A SIGNIFICANT COLONIAL-ERA ARCHITECTURAL LANDMARK, ST. OLAV'S CHURCH WAS SUCCESSFULLY RECOVERED THROUGH METICULOUSLY-EXECUTED CONSERVATION WORK. THE FOCAL POINT OF THE FORMER DANISH TRADING PORT OF SERAMPORE IN WEST BENGAL, THE CHURCH WAS RETRIEVED FROM A STATE OF EXTENSIVE DECAY AFTER CENTURIES OF WEATHERING AND YEARS OF DISUSE. THE PROJECT ELEVATED LOCAL STANDARDS OF CONSERVATION PRACTICE AT EVERY STAGE OF THE PROCESS, STARTING WITH CAREFUL INVESTIGATION AND DOCUMENTATION. UNDER THE PROFESSIONAL GUIDANCE OF INDIAN AND DANISH CONSERVATION ARCHITECTS, ARTISANS CAREFULLY CARRIED OUT RESTORATION WORK USING TRADITIONAL MATERIALS AND REPAIR TECHNIQUES. FOLLOWING RE-SANCTIFICATION, THE CHURCH HAS REGAINED ITS FUNCTION AS A SOCIAL, EDUCATIONAL AND RELIGIOUS HUB FOR THE LOCAL COMMUNITY.

2016

AWARD OF DISTINCTION





THE CHURCH IS BACK IN USE AFTER RESTORATION

THE RESTORED AND RENEWED ST. OLAV'S CHURCH CAN NOW LIVE ON FOR CENTURIES WITH ITS COMBINED FUNCTION OF A CONSECRATED PLACE FOR RELIGIOUS WORSHIP AND A LIVING HERITAGE MONUMENT.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

St. Olav's Church (known locally as 'the Danish church') is the focal point of the old city centre of Serampore (Shrirampur), a town situated on the bank of the Hooghly (Hugli) River in West Bengal, India. For over 200 years, St. Olav's was used as a place of worship by the local Christian community. As well as serving the congregation of Serampore College, the church was also the site of the Christmas and Easter services of the Serampore Johnnagar Baptist Church. In addition, the church vestry was used for many years by Emmanuel Ministries from Kolkata as a vocational training centre for Serampore's underprivileged children. With its central location and tall steeple, the magnificent colonial building is a key landmark in Serampore.

BUILDING HISTORY

St. Olav's Church was constructed between 1800 and 1806 under the direction of Ole Bie, then administrator of the Danish trading post of Frederiksnagore (known by the indigenous population as Serampore). In 1819, a wall was erected around the church, along with two small guard houses. The layout of Serampore's town square was planned in conjunction with the construction of St. Olav Church, and the church is one of around 100 buildings constructed by the Danish administrators of the settlement between 1755 and 1845.

The architecture of the church does not recall its Danish patronage but rather follows English examples, including the churches of St. John's and St. Andrew's in Calcutta. Inspiration for this type of church comes from St. Martin-in-the-Fields in London, which because of its prominence was the standard for British church buildings at that time. The church features a covered portico, supported by four pairs of twin columns. The royal monogram of Christian VII, who was the King of Denmark at the time of the construction of St. Olav's Church, decorates the cornice of the front pediment. A clock sits upon the tower rising above the neoclassical portico. Above this is a towering steeple, twenty-one metres high.

Although conceived as a Lutheran church, the structure was never consecrated nor was a bishop appointed. Also, due to the small number of resident Danes, the services were never performed by a Danish priest, but rather, were carried out by English missionaries.

Serampore College carried out repairs and maintenance of the church from the 1950s onwards, with financial support from Denmark. However, political disruptions in the 1970s interrupted church maintenance, and over the subsequent decades the church condition deteriorated. In 2008, the then Principal of Serampore College, Dr. Lalchungnunga, decided to close St. Olav's due to serious termite damage to the wooden beams supporting the roof; this was a timely decision, for in 2010 a large roof beam fell to the ground in front of the altar.

PROJECT HISTORY

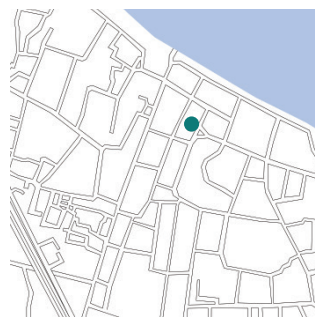
Seeking assistance for the restoration of St. Olav's Church, Dr. Lalchungnunga visited Denmark, where he met with the Serampore Initiative at the National Museum of Denmark, an organization that raises funds for the restoration of Serampore's heritage buildings. Recognizing that without a thorough restoration the church would be lost forever, the owner of the building, the Calcutta Diocesan Trust Association, launched a conservation project in partnership with Serampore College and the National Museum of Denmark. In 2011, the Danish Ministry of Culture and Realdania, a philanthropic association, donated funds to restore the church. Additionally, the Association to Preserve Serampore's Heritage also contributed funds to the restoration work.

Following this successful fundraising, the next step was to prepare a conservation plan; this was undertaken in 2013. The conservation work, undertaken between 2013 and 2016, was based on detailed research and documentation, a thorough condition survey, material testing and analysis, and a structural assessment. One month following the completion of the work, in a ceremony held on 16 April 2016, the Bishop of Calcutta, the Rt. Rev. Ashoke Biswas, rededicated St. Olav's Church.

PROJECT SCOPE AND FRAMEWORK

The aim of the St. Olav's Church project was to stabilize the structure, restore its original features and allow the continued use of the building by the community. The project had three phases. The first phase focused

PROJECT TITLE
ST. OLAV'S CHURCH
LOCATION
SERAMPORE, WEST BENGAL,
INDIA
SIZE
603.5 SQUARE METRES
COST
US\$372,000
RESPONSIBLE PARTY
CALCUTTA DIOCESAN TRUST
ASSOCIATION
(ASHOKE BISWAS)
NATIONAL MUSEUM OF
DENMARK (BENTE WOLFF)
SERAMPORE COLLEGE
(VSPANGLURA)
HERITAGE ARCHITECT
MANISH CHAKRABORTI
CONTRACTOR
MASCON (ASISH MUKHERJEE)
DATE OF COMPLETION
MARCH 2016



on major structural interventions, including work on the roof, the tower and the gate houses. The second phase focused on the electrical, plumbing and drainage work for the entire complex. The third phase involved the implementation of a landscape plan for the churchyard. This included installing exterior seating, creating pathways, a ramp and grills, and installing signage.

CONSERVATION METHODOLOGY AND MATERIALS

The conservation team adopted the principles of authenticity and integrity to guide the project work and to provide a framework for decision-making. The team also emphasized that the work be carried out using traditional techniques and materials, and that as much of the original building materials be retained as possible.

As an initial step, labourers cleared the building of all debris from the collapse and removed all vegetation growth from the exterior. This was done with care and it took considerable time to remove the roots of the vegetation from the masonry without dislocating the building's fabric.

Following the stages outlined in the plan, the initial conservation work focused on the collapsed roof near the altar. The decrepit state of the roof required significant work and attention to make the building usable again. Composed of a flat lime concrete base, surmounted by two layers of tiles, the roof was supported by beams below. The conservation team carried out a survey of each component of the roofing system to identify what was salvageable. The team found that many of the weight-bearing wooden beams and runners were rotten and, in many cases, hollow due to termite infestation, and the beams were also under significant stress, often bent and cracked.

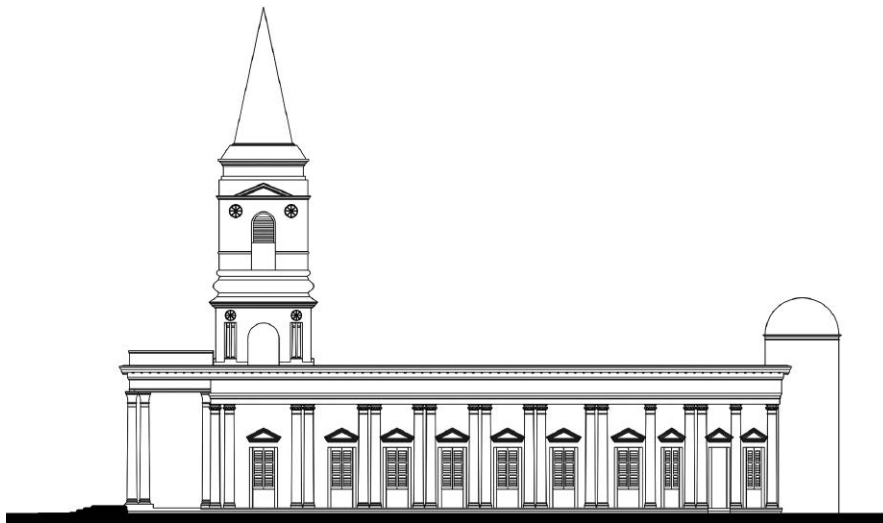
The structural work on the roof included inserting steel scaffolding on the interior of the building to serve as additional support for the mid-span beams where the roof was severely damaged, preventing further collapse during the conservation work. This was followed by the partial dismantling of the roof components. The team removed the roof tiles, sorting and stacking them for later reuse. The approach to the beams was to splice damaged members with compatible wood pieces; these were bolted and strengthened where necessary. Wooden



CHURCH EXTERIOR BEFORE RESTORATION



THE PROJECT INCLUDED SUBSTANTIAL ROOF RESTORATION



ELEVATION

members in contact with masonry received a moisture resistant treatment; they were also isolated from direct contact with the masonry by a layer of bitumen felt. All wooden elements were subject to an anti-termite treatment before being placed in position. Following traditional methods of preparation, workers beat, rolled, and mixed lime cement, using it to seal the roof and guide rainwater to the roof drainage points, to prevent water accumulation. After laying the lime concrete, the workers compacted the roof surface by uniform beating. This was left to harden and was finished with a traditional slurry mixture. The old tiles were then returned to their original positions.

At 21 metres, the steeple of St. Olav's is one of the most distinctive features of the church. Trained workers removed the steeple's worn-out plaster, resealed the joints and covered the exterior walls with a silicate paint. The tower received reinforcement and repairs, and the bell was relocated to the uppermost floor of the tower.

Much of the flooring of the church consisted of Dholpur sandstone over a lime-mortar bed. Workers cleaned the stone floor with a natural soap that impregnated the pores of the stone, making it less absorbent. The team retained the original doors, windows and furniture and employed a carpentry firm to conduct the repairs and restoration work.

IMPORTANT ISSUES

Throughout the project, the conservation team paid great attention to maintaining the authenticity and integrity of St. Olav's Church. This was particularly evident in the care taken with the mortars and pigments used in the conservation work. The team specified lime mortars and organic pigments, following the original colour scheme, established through scientific study and analysis of the materials. For the study of the mortar and plaster, specialists took samples at multiple sites throughout the church. The study concluded that the mortars at the beam level and lintel level were composed of lime and *sarkhi* (brick dust) except on the porch, where the plaster above the columns was composed of cement and sand. The plaster on the wall surfaces above the lintel level was of lime and sand, with the exception of the porch wall. Further study found that the outside wall surface had several layers of plaster, covered with a coat of lime

wash. The major body of the church was a light ochre yellow, the original colour confirmed by examining the upper layers of the surface of the church's walls as well as early photographs of the building.

A study of the materials in the church interior found that the walls had several colour periods. These included a white period, a greyish blue period and a light blue period. The overall conclusion was that the interior had originally been whitewashed and was later repainted twice. The conservation team decided to retain the existing light blue colour.

PROJECT SUSTAINABILITY AND VIABILITY

The pride of the community, the reopening of St. Olav's Church has allowed the church to again serve the congregations of Serampore College and Serampore Johnagar Baptist Church. It once again provides social welfare services to the community of



INTERIOR OF THE CHURCH BEFORE RESTORATION



PAINT WORK IN PROCESS ON THE INTERIOR COLUMNS

Serampore. These activities include free education for young children; literacy and vocational training for adults (including safety pin manufacturing and candle making); sports and musical activities for children; and a free medical clinic. The improvements to the church grounds and the general area have made the church more attractive, and have led to the site becoming a tourism attraction and a place for local people to meet. With the strong support from the congregations and from the wider community, and given the church's contribution to the local economy, the ongoing maintenance of the church building is now assured.

PROJECT IMPACT

The conservation of St. Olav's Church has given it new life as a centre of activity in Serampore. These activities are available not only to Christians but also to the Hindu and Muslim communities of the town. Greater community pride and recognition of the value of heritage buildings are other positive outcomes of the St. Olav's Church conservation project. Another benefit of the project is that it has contributed to increased tourist numbers, thus bringing economic benefits to the town.

The project has contributed to a growing awareness in Serampore of the importance of conservation, and stands as an example of best practice in conservation. It also serves as a case study in community revitalization, demonstrating that conservation can be a vector for sustainable development. It has led to other conservation efforts, with several restoration projects in and around the historic city centre inspired by the efforts at St. Olav's Church.

Since the completion of the project, the local municipal government has recognized St. Olav's Church as a significant heritage landmark. The Serampore Initiative of the National Museum of Denmark, under an agreement with the Government of West Bengal, is planning to nominate St. Olav's Church to the West Bengal heritage commission's list of heritage buildings.

CAMA BUILDING

INDIA

THE RESTORATION OF THE CAMA BUILDING HIGHLIGHTS A PRIVATE COMMITMENT TO SUPPORT THE VIABILITY OF MUMBAI'S DISTINCTIVE BUT VULNERABLE ZOROASTRIAN COMMUNITY. SURROUNDED BY URBAN REDEVELOPMENT PROJECTS, THIS IS THE FIRST OF TWENTY-FOUR STRUCTURES WITHIN THE CENTURY-OLD MURZBAN COLONY TO BE UPLIFTED FROM A STATE OF SERIOUS DETERIORATION. THE PROJECT EMPLOYED A SENSITIVE APPROACH, SALVAGING MUCH ORIGINAL FABRIC AND RETAINING THE BUILDING'S ORIGINAL ARCHITECTURAL CHARACTER AND CONFIGURATION, WHICH HAS HELPED TO SUSTAIN EVERYDAY INTERACTIONS AND A SENSE OF COMMUNITY AMONG ITS RESIDENTS. FINANCED BY THE GARIB ZARTHOSTIONA REHETHAN FUND WITHOUT ANY COST TO THE LONG-TIME TENANTS, THE PROJECT IS A NOTEWORTHY MODEL FOR PRESERVING THE CITY'S SOCIAL FABRIC THROUGH THE PRESERVATION OF AFFORDABLE HOUSING BUILT FOR ITS ORDINARY CITIZENS.

2016

AWARD OF MERIT



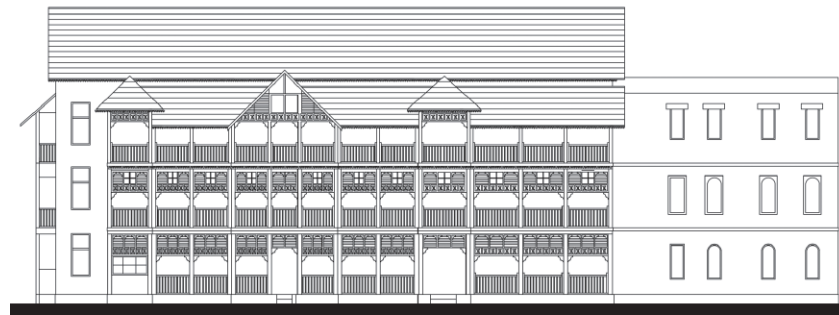
PROJECT SYNOPSIS

Cama Building is located in the Murzban Colony, one of the Mumbai inner-city precincts owned and managed by the Garib Zarthostiona Rehethan Fund (GZRF). Comprised of twenty-four residential buildings, the colony was established in the nineteenth century to provide affordable housing to members of the Parsi community. Its layout nurtures communal living, symbolizing the way of life of the community.

Constructed in November 1898, the Cama Building is a three-storey brick and wood load bearing block designed to suit Mumbai's tropical climate. The western façade of the building has deep verandas to shelter the interior spaces from Mumbai's heavy rainfall and strong sunlight, and to serve as a common passageway for the resident community. The façade features teakwood screens, fitted with louvers and adjustable glazed shutters. The building's top floor encloses large open areas, which are covered by a pitched roof, clad with clay tiles.

Although the Murzban Colony is listed as a Grade III heritage property, like most tenanted properties in Mumbai, the Cama Building was poorly maintained throughout much of its history, with only piecemeal repairs carried out by tenants. The building also experienced many alterations and unsympathetic repairs. Over time, the condition deteriorated to a dangerous level. Moreover, the site was marred by unsuitable new structures constructed in the compound. Among the most egregious of these are a three-storey car park and an eleven-storey private residential building, which stand between the Cama Building and the rest of the colony buildings. These intrusions not only have a visual impact on the setting but also altered the social cohesion of the community.

In 2010, recognizing the danger posed to the tenants by the instability of the Cama Building, the trustees of GZRF decided to undertake a complete conservation of the building and provide maintenance services for the other structures of the colony. The conservation project aimed to ensure the Cama Building was structurally sound and also met the modern needs of the residents. In addition, the project sought to restore the building to its original appearance. The overall aim of the project was to ensure the perpetuation of the residents' way of life. Thus, the project not only sought to restore the



ELEVATION

THE SUCCESSFUL, COMPREHENSIVE RESTORATION OF THIS BUILDING IN MURZBAN COLONY HAS ENCOURAGED THE ENTIRE COMMUNITY TO CONSERVE AND STAY IN THEIR HOMES.

— QUOTE FROM THE PROJECT TEAM —



VIEW OF THE VERANDAS BEFORE AND AFTER RESTORATION

physical character and safety of the Cama Building but also to preserve a distinct form of living cultural heritage in the city of Mumbai.

The repair and restoration of the Cama Building and ongoing maintenance of the Murzban Colony represented a significant commitment on the part of the trustees of the GZRF who opted for repairing the building over redevelopment, while adhering to best practice conservation principles. Today, the Cama Building has gained a new lease on life; the building is a safe place to live and community life has been revitalized.

CONSERVATION APPROACH

The project adopted a conservation approach emphasizing the following principles: minimal change, retention of authenticity, and the use of like-for-like materials, traditional skills and techniques, by local artisans, wherever possible. The project sought to educate the residents and the public about the value and cultural significance of the place. The project emphasized being economical, so as to demonstrate the economic viability of conservation and the value of measures to protect and enhance buildings through repairs and restoration as opposed to introducing new construction. Another feature of the project was that the tenants were not burdened with the cost of repairs nor was the rent increased as a result of this refurbishment.

An initial step was to conduct defect mapping, prepare a fabric status report and form recommendations for works to be undertaken. The conservation work had two phases, the first initiated in 2010 and the second in 2014. Phase I included work to make the building watertight and therefore arrest much of the deterioration. This involved adding new roofing tar felt to replace the old felt, waterproofing, and re-laying the Mangalore tiles on the roof. Another key task was to repair the rotted teak fascia boards, or replace the boards if they were not salvageable. Phase II involved strengthening, by splicing and flitching, decayed structural members such as joists, beams and posts and, in some cases, complete reconstruction or refurbishment with locally-sourced new teak.

To meet the modern-day needs of the building residents, the conservation project also involved upgrading the facilities of the Cama Building, particularly the kitchens and toilets. This was achieved without

compromising the building's heritage character. The project also undertook the landscaping of an underutilized area as an open space for the community.

CONSERVATION AND THE COMMUNITY

The project has provided the community with housing that is not only affordable but also safe, and that is configured to enable the community to continue their cultural practices. Interaction between neighbours is encouraged through the prevalence of open spaces, ensuring that the resident community retains a strong sense of belonging. The successful conservation of the Cama Building in a sensitive and economical way has encouraged residents of other buildings in the area to press for restoration following the same methods.



THE LAYOUT NURTURES COMMUNITY LIVING

PROJECT TITLE

CAMA BUILDING

LOCATION

MUMBAI, INDIA

SIZE

1,260 SQUARE METRES

COST

US\$125,115

RESPONSIBLE PARTY

GARIB ZARTHOSTIONA

REHETHAN FUND

HERITAGE ARCHITECT

VIKAS DILAWARI

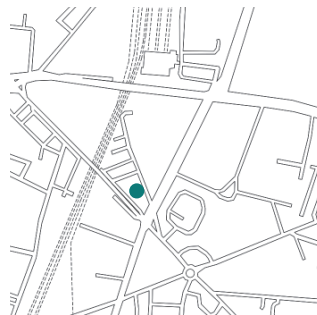
CONTRACTOR

PREMIER CONSTRUCTION

COMPANY

DATE OF COMPLETION

MARCH 2015



WALLS AND BASTIONS OF MAHIDPUR FORT

INDIA

THE CONSOLIDATION OF THE EIGHTEENTH-CENTURY ARCHAEOLOGICAL REMAINS AT MAHIDPUR FORT HAS SAFEGUARDED A MUCH-NEGLECTED HISTORIC ASSET HOUSING A LIVING MULTICULTURAL COMMUNITY. EXECUTED WITH INTERNATIONAL SPONSORSHIP UNDER AN INNOVATIVE PARTNERSHIP SCHEME WITH THE STATE GOVERNMENT, THE PROJECT REVERSED MAJOR DETERIORATION FROM REPEATED FLOODING, HAPHAZARD CONSTRUCTION AND INTERMITTENT VANDALISM. FOLLOWING CAREFUL DOCUMENTATION AND ANALYSIS, THE FORT'S WALLS AND BASTIONS WERE STRENGTHENED THROUGH AN APPROACH OF MINIMAL INTERVENTION, THEREBY PRESERVING THEIR HISTORIC PATINA. THE INVOLVEMENT OF LOCAL YOUTH AND OTHER RESIDENTS IN THE CONSERVATION WORK HAS PROMOTED A NEW SENSE OF PRIDE AND CUSTODIANSHIP, CREATING A SELF-SUSTAINING MECHANISM FOR PROTECTING THIS UNLISTED MONUMENT IN THE LONG TERM.

2016

AWARD OF MERIT



WrmS.

PROJECT SYNOPSIS

Mahidpur Fort (Quila Mahidpur) is situated north of the town of Mahidpur on the bank of the Kshipra (Shipra) River in the state of Madhya Pradesh in north-east India. The fort is an excellent example of an ashlar stone masonry fortification, featuring decorative brick crenellations (*kangura*) and merlons, punctuated by semi-circular bastions and strategically-placed gateways. The defensive structure is significant as a fine example of the military architecture of the Holkar Dynasty (1731-1948).

Following the end of the Holkar Dynasty, the fort deteriorated. As an unprotected monument, there was no statutory means of safeguarding Mahidpur Fort and it fell into ruin. Some parts collapsed while others were vandalized. In addition, parts of the structure were dismantled and the stones were used by people for their houses and for structures erected within the fort complex.

Recognizing the significance and heritage value of the site, in 2012 the Madhya Pradesh Monuments Project – a partnership between the World Monuments Fund (WMF) and the Government of Madhya Pradesh – launched an initiative to conserve the walls and bastions of the fort. Seeking to preserve the site as a partial ruin, the project involved consolidating the walls and bastions, protecting the plinths, strengthening the severely damaged portions of one of the fort buildings, restoring the original lime plaster and conserving the two gateways to the citadel, including one of the original timber gates. Moreover, the project also undertook actions to increase the well-being of the local communities living in and around the fort. In particular, the project sought to provide local youth with construction skills, giving them sustainable livelihoods while also creating a local workforce equipped with the skills to conserve heritage structures.

CONSERVATION APPROACH

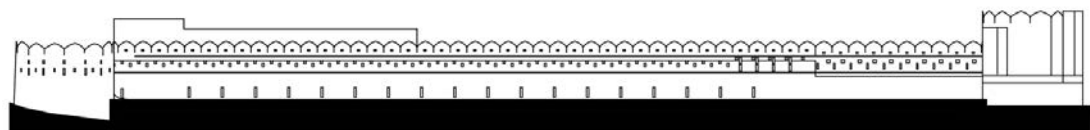
The conservation team viewed the cultural resource not in isolation, as an artefact, but rather as part of a larger natural and cultural environment. The main guiding principle adopted for the project was that the fortification walls and bastions of Mahidpur Fort would be presented as a partial ruin and interventions would



THE WALL AFTER CONSOLIDATION AND RECONSTRUCTION OF BROKEN *KANGURA*

HERITAGE CULTURAL RESOURCES ARE NOT A LIABILITY, AND IF RESTORED WITH CARE AND VISION CAN ENHANCE THE IMAGE OF A PLACE. EVERY MEMBER OF THE COMMUNITY IS NOW AWARE OF THE LAYERED HISTORY OF THE QUILA AT MAHIDPUR, AND IT IS NOW A TOURIST ATTRACTION.

— QUOTE FROM THE PROJECT TEAM —



ELEVATION

only be made to extend the life of its architectural fabric. Interventions were decided based on the physical condition of the site as well as the needs of the community. Below-ground buried archaeological context was not to be disturbed. The project was carried out in accordance with best practice in conservation, with the aim of retaining significance, avoiding loss of fabric, ensuring reversibility and adhering to historical accuracy in design, materials and artisanship.

The team followed the approach of minimum intervention and sought to ensure that all repairs were carried out on a like-for-like basis. Reconstruction was only undertaken when there was an absolute minimum of speculation about the original appearance and the original builders' intentions. The time-worn qualities of the site were respected and preserved as much as possible. Only a minimum amount of stone cleaning was performed. The project used traditional materials of construction and restoration, with minimal use of modern solutions. Where new interventions were necessary, they were designed to be discernable, but only upon close examination. All significant conservation decisions were made with the consensus of the project coordination team, which was made up of experts from the Department of Archaeology and the WMF.

Keeping to a strict philosophy of limited reconstruction was a significant challenge for the project's designers, because the state government and other stakeholders leaned towards conjectural restoration of the entire fabric. The project's leadership remained adamant, however, and intervention was therefore minimized, with the project team only taking the steps necessary to consolidate the site.

The first step was the careful documentation of the fort's historic fabric. The team spent eight months documenting, mapping defects and determining the interventions to be undertaken. The team also prepared tender drawings and bills of quantities at this time. The information gained in the initial stage informed the work throughout the project. In the conservation stage, four of the bastions were subject to limited reconstruction. For this repair work, special bricks were manufactured matching the size and composition of the original Lakhori bricks. The restoration of the *kangura* of Wall 01 followed the physical evidence of broken stone found at the base of the wall.

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PROJECT TITLE
WALLS AND BASTIONS OF
MAHIDPUR FORT

LOCATION
MAHIDPUR CITY,
UJJAIN DISTRICT,
MADHYA PRADESH, INDIA

SIZE
123,240 SQUARE METRES

COST
US\$150,000

RESPONSIBLE PARTY
DEPARTMENT OF
ARCHAEOLOGY, GOVERNMENT
OF MADHYA PRADESH
WORLD MONUMENTS FUND

+

HERITAGE ARCHITECT
AISHWARYA TIPNIS
ARCHITECTS

CONTRACTOR
BALVEER SINGH

DATE OF COMPLETION
MAY 2015

+

Evidence of existing lime stucco plaster on other walls and bastions served as the key to the replication of the stucco plaster on the *kangura*. Where the existing building fabric failed to reveal sufficient evidence, the walls and bastions were rebuilt only to the plinth level. In the case of the wooden gate, the project team was able to restore it using the original materials, and reinstated its key features.

Since the traditional methods and materials of construction had been largely abandoned in Mahidpur, the younger masons and labourers did not have the knowledge and skills required to prepare traditional mortar. The contractor therefore trained young masons and labourers on the job in the methods of preparing, using and checking the quality of the lime mortar. A traditional *chakki* (lime mortar mill) was set up on site, and a considerable amount of time was spent in ensuring that the consistency and quality of the mortar were acceptable before applying it.

CONSERVATION AND THE COMMUNITY

The project celebrated both the fort and its place in the context of the lives of local people over hundreds of years. The project's organizers took pains to ensure local communities were fully engaged and would benefit from the project, by inviting their opinions and assistance throughout the project period and by employing local people as labourers and artisans in the work. Through this, the local community gained a sense of ownership over the fort. This new sense of pride has had a strong impact on the community's youth in particular, who now have a renewed sense of purpose and belonging. Despite the lack of legal protection for the fort, a grass-roots advocacy organization now exists and has assumed stewardship of the ancient site.

Through consultation with the state government, the project achieved an agreement to modify the standard schedule of rates and specifications so as to meet the needs of a conservation project of this quality. This was the first time this had been achieved in the region. The project also enabled the creation of a monitoring mechanism. Monitoring was undertaken by the project coordination team and technical advisory committee. In addition, the Department of Archaeology undertook periodic supervision.

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SHAHI HAMMAM

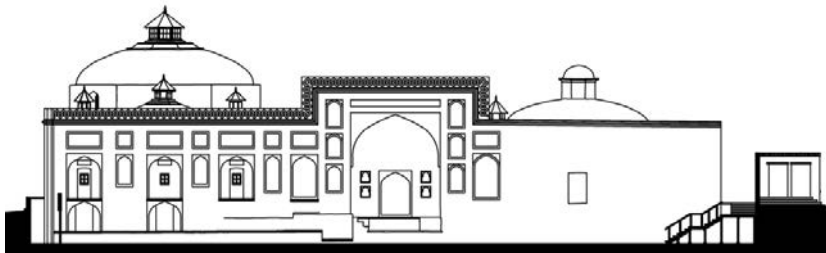
PAKISTAN

UNDERTAKEN WITH A HIGH DEGREE OF TECHNICAL PROFICIENCY, THE RESTORATION OF SHAHI HAMMAM HAS SAFEGUARDED A UNIQUE EXAMPLE OF MONUMENTAL SEVENTEENTH-CENTURY MUGHAL PUBLIC BATHHOUSES. THE TEAM OF INTERNATIONAL AND LOCAL EXPERTS AND ARTISANS ADEPTLY ADDRESSED SIGNIFICANT STRUCTURAL DAMAGE AND LOSS OF FABRIC AS A RESULT OF INAPPROPRIATE ALTERATIONS, POOR CONSERVATION AND ENCROACHMENT. CAREFUL INVESTIGATION AND ANALYSIS INFORMED THE CONSERVATION EFFORT, INCLUDING ARCHITECTURAL CONSOLIDATION AND THE PRESERVATION OF FRESCOES AND OTHER DECORATIVE ELEMENTS. VISITORS GAIN A VIVID UNDERSTANDING OF THE *HAMMAM'S* HISTORICAL FUNCTION THROUGH THE DISPLAY OF EXCAVATED UNDERGROUND STRUCTURES, A PARTIAL REINSTATEMENT OF THE BATHHOUSE FEATURES AND AN EDUCATIONAL EXHIBIT. THE PROJECT HAS RETURNED THE ORNATE SHAHI HAMMAM TO ITS FORMER PROMINENCE WITHIN THE WALLED CITY OF LAHORE WHILE ENCOURAGING OTHER PRIVATE CONSERVATION INITIATIVES IN THE FUTURE.

2016

AWARD OF MERIT





ELEVATION

THE *HAMMAM*'S NEWFOUND TRANQUILLITY HAS BEGUN TO BRIDGE THE GAP BETWEEN RAMPANT COMMERCIAL EXPANSION AND THE NEED FOR PUBLIC SPACES, BY PROVIDING VISITORS WITH A DESIGNATED SPACE TO PAUSE AND REFLECT ON THE CITY'S POWERFUL AND ARTISTICALLY-RICH HISTORY, IN A BUILDING THAT WAS CONSTRUCTED SPECIFICALLY FOR REST.

— QUOTE FROM THE PROJECT TEAM —



RESTORED ELEMENTS AND NEW VISITOR WALKWAY

PROJECT SYNOPSIS

Shahi Hammam (Wazir Khan Hammam) is a seventeenth-century monumental public bathhouse. Located on Shahi Guzargah, a historic thoroughfare extending from Lahore's famous Delhi Gate to Lahore Fort, the *hammam* (bathhouse) complex was the creation of Wazir Khan, the Mughal governor of Lahore, in 1634. Shahi Hammam is a unique remnant of communal bathing practices, giving a rare glimpse into everyday urban life of pre-colonial times, and the building stands out in term of its architectural design. As the sole surviving public bathhouse from the Mughal era (1526-1857) in the region, it is imbued with social, cultural and aesthetic values.

The *hammam* was constructed to offer travellers respite within the dense urban and commercial centre of the Walled City of Lahore. The quiet repose of the domed chambers, the serenity of its pools and the interplay of natural light and shade within the building all added to a potent sense of tranquillity that lulled visitors into a state of calm.

The bathhouse features corbelled domes with

elegant *muqarna* (ornamented vaulting) and skylights. The *hammam* boasts twenty-one interconnected rooms, and once offered visitors a sequence of hot, warm and cool plunges, sweat rooms and related ancillary chambers, along with a prayer room facing Mecca. The entrance gateway and the Great Hall are decorated with frescoed panels depicting angels and animals, as well as floral and geometric designs.

The *hammam* ceased to be used as a bathhouse and its function then took various forms over the years, including as a school, a dispensary, an office and shops. Despite being listed by the government as a cultural asset and declared a protected monument in 1955, the building was altered in line with the various changes in its use. These changes masked the unique features and the cultural values of the *hammam*. Changes to the building included adding several new partitions and a brick floor, covering the frescoes with layers of whitewashed lime plaster and expanding the chambers built into the façades to make room for shops, thus damaging the original brickwork.

Over time, the building deteriorated. Structural cracks and water ingress from the ground and the roof caused the detachment of wall frescoes and introduced deep lacunae, bio-degradation and salt crystallization on the murals. Recognizing the issues, government agencies undertook stabilization and restoration work in 1988 and 1991. In 1995, the building was converted for use as a restaurant and then as a site for filming television programmes.

In 2013, the Walled City of Lahore Authority (WCLA), in cooperation with the Aga Khan Cultural Service - Pakistan (AKCS-P), launched a project to conserve the *hammam*, aiming to restore it to its original form as a bathhouse and preserve it as a public museum. The museum was intended to present both the original functions of the building and the *hammam*'s place in the social and artistic heritage of the region.

The project's interventions included the repair of the building and frescoes, and the exposure, conservation and display of the remaining original waterworks, the drainage system and the hypocaust system (a raised

floor allowing for the movement of heated air), as well as the design of interpretation and visitor experiences.

Opened to the public in June 2015, the Shahi Hammam museum welcomes visitors from all over the world. The museum is also a venue for talks, seminars and cultural and corporate events. A cafe and souvenir shop help make the museum an economically-viable enterprise.

CONSERVATION APPROACH

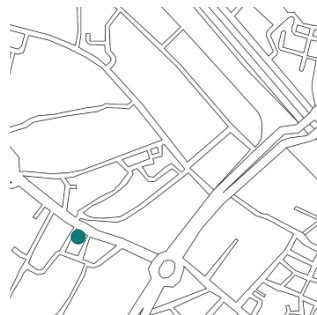
Minimum intervention, reversibility and the use of traditional knowledge and skills were the key principles applied in the conservation project. The team looked for guidance to the Venice Charter, the Burra Charter and the Nara Document on Authenticity, as well as to the International Cultural Tourism Charter and the Charter on the Built Vernacular Heritage.

The project had three phases. The first phase involved documentation and analysis, and included examining the physical character of the property to understand the functional aspects of the seventeenth-century bathhouse and the materials used, and to identify the key causes of structural and surface deterioration. At this stage, experts conducted exploratory excavations and collected and catalogued artefacts. The team used electronic distance measuring instruments and other tools to document both interior and exterior surfaces and substructures in as much detail as possible.

Based on evidence collected in the first phase and with reference to the features in other Mughal and Turco-Persian *hammam*, the second phase involved creating drawings of what the *hammam* would have looked like originally. The team then developed a plan for the conservation work, identifying features of high value and authenticity, and highlighting what should be conserved as-is versus what should be restored to an earlier condition. The plan also identified ways to make new work distinguishable from the original in order to retain the overall physical integrity of the site. To guide decision-making, the team tested the proposed interventions on a select group of prototypes before implementation.

The third phase was the actual conservation work. Recognizing the importance of respecting the original fabric, the team hired experts for the various aspects of the conservation work. Fresco experts, for example,

PROJECT TITLE
SHAHI HAMMAM
LOCATION
WALLED CITY OF LAHORE,
PUNJAB, PAKISTAN
SIZE
1,000 SQUARE METRES
COST
US\$650,000
RESPONSIBLE PARTY
WALLED CITY OF LAHORE
AUTHORITY
AGA KHAN CULTURAL
SERVICE - PAKISTAN
ROYAL NORWEGIAN EMBASSY
GOVERNMENT OF PUNJAB
HERITAGE ARCHITECT
MASOOD KHAN
RASHID MAKHDUM
NAHEED IFTIKHAR
MUBASHIR HASSAN
MARYAM RABI
SHOAIB MOHAMMAD
WASEEM BAIG
AMEEN KHAN
CONTRACTOR
AGA KHAN CULTURAL
SERVICE - PAKISTAN
DATE OF COMPLETION
JUNE 2015



carried out both non-reconstructive and reconstructive pictorial regeneration and reintegration of the frescoes, using thin layers of removable and water-based paint. Structural consolidation work included repairs to cracks on the roof and walls using bricks and lime mortar matching the original materials. This restored the overall integrity of the structure and also strengthened weak areas.

Historically-accurate reconstruction of several selected spaces and elements of the *hammam* was necessary to give visitors a clear idea of the original appearance and function of these spaces and elements. The selected spaces included the Great Hall and the Massage Hall, which were both partially reconstructed based on historical evidence. The team also restored the entrance to the *hammam* to its original appearance, providing a retaining wall to support the trench and to protect the building from future encroachment.

New elements included an underground viewing chamber, a steel walkway for visitors and the provision of modern services, including an uninterrupted power supply and audio-visual equipment in the interpretation room. To further enhance the visitor experience, an ancillary structure was created that now houses a souvenir shop, a cafeteria and office space for on-site administrators.

CONSERVATION AND THE COMMUNITY

Throughout the conservation process, the AKCS-P took special care to involve the local community, including both residents and local traders (shop owners), in the project's development and implementation. Whenever possible, the project team hired local residents as artisans and labourers in the project. There were many opportunities for skills transfer to artisans who had no prior experience with historic buildings, so the project helped to build local capacity.

Since the opening of the museum, both local and international tourists have visited the site, and the Walled City and Delhi Gate Bazaar have witnessed a steady increase in tourist numbers. Apart from the economic benefit deriving from tourism, the project has had a positive impact on the area's overall image. The area around Shahi Hammam is now perceived as a place with heritage value, which bodes well for the conservation of other buildings in the area.

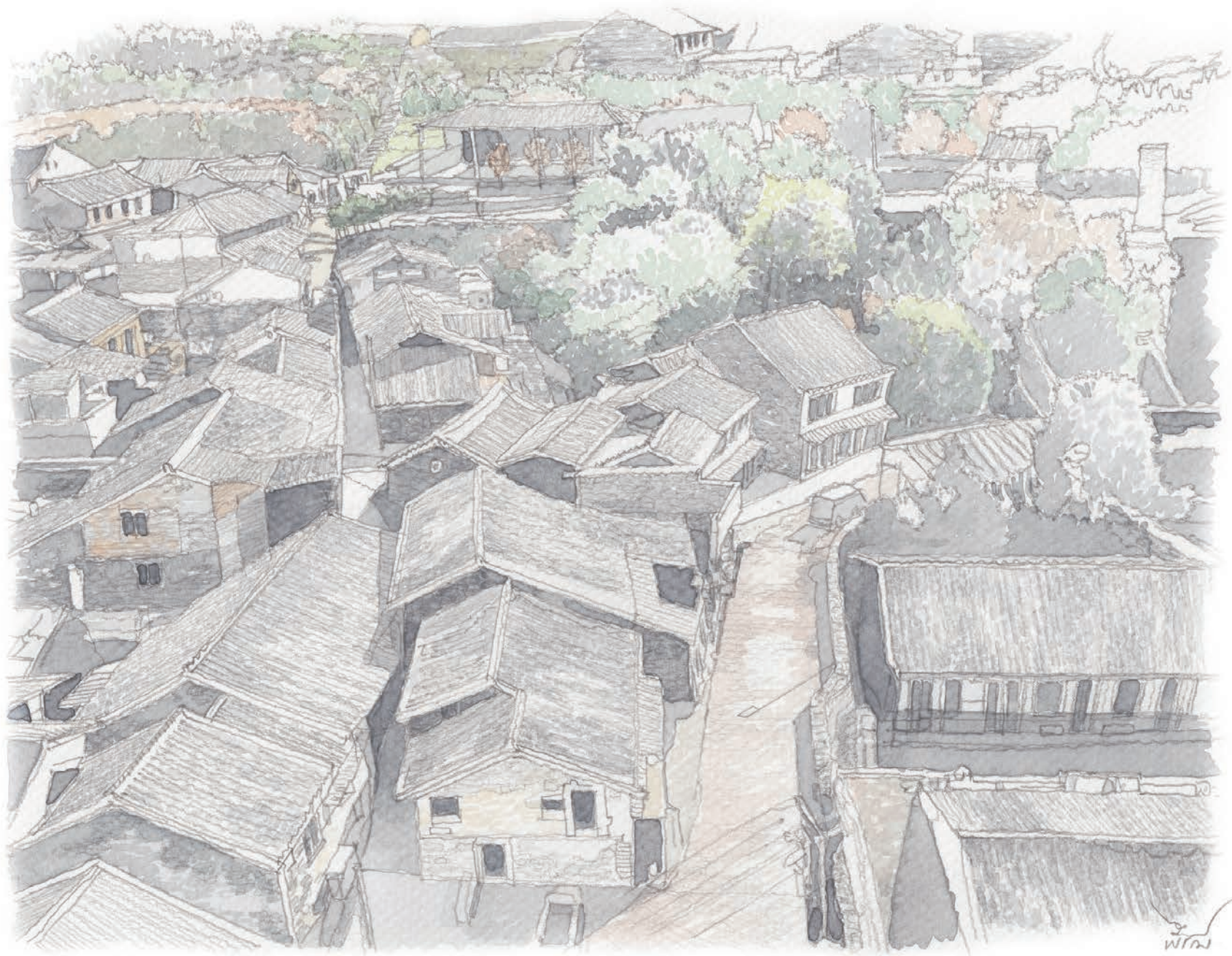
FUDEWAN MINERS' VILLAGE

CHINA

THE REVITALIZATION OF FUDEWAN MINERS' VILLAGE IS COMMENDABLE FOR ITS COMPREHENSIVE AND CULTURALLY-SENSITIVE PROGRAMME OF CONSERVATION AND ADAPTIVE USE. THE COMBINED EFFORT OF THE LOCAL PEOPLE, A NON-GOVERNMENTAL ORGANIZATION AND TWO GOVERNMENT INSTITUTIONS SUCCESSFULLY RETAINED THE MAJORITY OF THE HISTORIC DWELLINGS, ADHERING TO CONSERVATION GUIDELINES. INDUSTRIAL FACILITIES SUCH AS THE WEATHERING POOL WERE RESTORED FOR PUBLIC USE OR AS TOURIST FACILITIES. WITH PROVISIONS FOR ONGOING MAINTENANCE AND COMMUNITY PARTICIPATION, THE PROJECT PROVIDES A MODEL FOR THE CONSERVATION OF OTHER FORMER INDUSTRIAL TOWNS IN CHINA, WHICH REPRESENT A SIGNIFICANT STAGE IN THE COUNTRY'S MODERN DEVELOPMENT AND SHOULD BE RECOGNIZED FOR THEIR HERITAGE VALUE.

2016

HONOURABLE MENTION



PROJECT SYNOPSIS

Fudewan Miners' Village is in the town of Fanshan on the southern border of Zhejiang Province, China. With a history of more than 600 years, the town is known for being the world capital for alunite (a hydrated aluminium potassium sulphate mineral), and the local alunite mine is a recognized mining heritage site in China.

The lives of the residents of the Fudewan Miners' Village are closely bound up with the alunite mine, which had a direct influence on the layout, form and architecture of the village. The structures associated with excavating the alunite ore are on high ground, while the buildings associated with production processes are near the foot of the hill. The living quarters are separate from the processing area and are upwind of the processing plant.

The village displays various building types, ranging from simple miners' huts to ornately-decorated mansions. Houses along the village's commercial passage are typically one or two storeys in height, with the ground floor street-facing entry area functioning as a shop as well as a living room. The dwellings are either wooden, brick-and-wood or brick-and-stone, many of them centuries old.

The village is in a sub-tropical maritime monsoon zone with a high incidence of rainfall, receiving more than 1,700 mm of precipitation annually. As the village is less than ten kilometres from the sea, the air contains salt. Over time, the humid climate, frequent rainfall and salt led to the severe deterioration of the buildings in the village, which also suffered from termite infestation. Fudewan has a long history of mining, but the industry has been in decline for some time and many people have migrated out of the village in recent decades. As a result of the declining population, some houses were abandoned. Moreover, the village lacked sufficient labour to carry out necessary maintenance of the village's building stock and undertake repairs. Although the village is protected by laws specific to designated cultural and historic properties in China and by the regulations of the Cangnan County cultural relics protection institution, a lack of resources and staff made the enforcement of the laws and regulations difficult.

In 2011, a group of local visionaries founded the non-governmental organization, WAM Association for World Heritage Bidding, which, together with the

People's Government of Fanshan and the Cangnan County Museum, initiated a series of projects to conserve the region's mining heritage. The project to conserve Fudewan Miners' Village was the first such project.

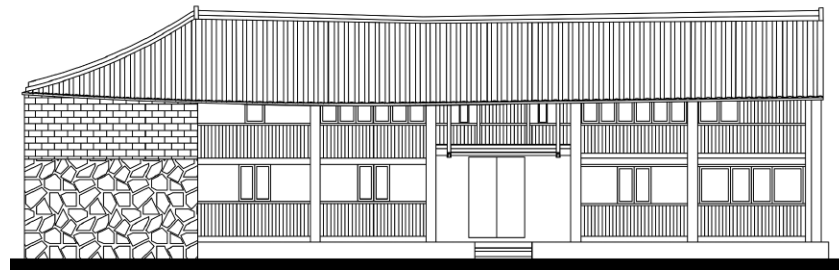
The conservation project, which began in 2012, was designed to conserve the tangible and intangible heritage of this industrial village, upgrade the living conditions of the residents and at the same time reconstruct a foundation for sustainable livelihoods for the residents. The project sought to rejuvenate the declining community, using cultural heritage as a tool for promoting cultural tourism and community-based businesses. The project also aimed to protect the cultural landscape of the village, including its natural landforms and water-supply system.

With the completion of the project, the village buildings and environment are in a greatly improved condition, the community has been revitalized and

cultural heritage has become a key element in the community's life. In addition, the village has become a popular tourist destination in the region.

CONSERVATION APPROACH

The conservation work adhered to the heritage-related laws of China, and was based on the principles expressed in the Burra Charter and the ICOMOS-TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes. The two key guiding principles were authenticity and integrity. Accordingly, the cultural relics were protected as a whole. In addition, the project retained particular modifications that had been made over the life of the buildings, such as Buddhist slogans painted on the walls. At the same time, however, the project removed structures that diminished the authenticity and integrity of the site.



ELEVATION

THIS PROJECT CONTRIBUTED TOWARDS RESTORING THE ORIGINAL ATMOSPHERE OF THE VILLAGE, BY RETAINING AND RESTORING THE TRADITIONAL DWELLINGS. WHAT IS EVEN MORE SIGNIFICANT IS THAT THE TRADITIONAL LIFESTYLE HAS BEEN PERPETUATED, WHICH ALLOWS THE RESIDENTS TO PASS ON THEIR CULTURE TO FUTURE GENERATIONS.

— QUOTE FROM THE PROJECT TEAM —



**EXAMPLE OF THE IMPROVEMENTS
MADE THROUGH THE PROJECT**

The project also emphasized the use of original materials and techniques, and the employment of local artisans. Accordingly, all new bricks used in the conservation work were consistent with the originals in terms of size, material and colour, and local carpenters undertook the repairs to wooden elements using traditional techniques.

Embracing the village's living culture, the project ensured that all components of the village continued to be used and, where possible, were used in ways appropriate to their historical function. Most residential buildings retained their original function, with the addition of necessary modern facilities such as plumbing, to improve the quality of life of the residents and ensure that the old dwellings would continue to be used as housing. Other old houses were modified to meet new needs. The Zhu House, once a private residence which had been abandoned, became a community museum and cultural auditorium for exhibitions, festivals

PROJECT TITLE
FUDEWAN MINERS' VILLAGE
LOCATION
FANSHAN, ZHEJIANG, CHINA
SIZE
6,102 SQUARE METRES
COST
US\$516,643
RESPONSIBLE PARTY
FUDEWAN COMMUNITY
COMMITTEE
PEOPLE'S GOVERNMENT OF
FANSHAN TOWN
WENZHOU ALUNITE MINE
ASSOCIATION FOR WORLD
HERITAGE BIDDING
CANGNAN COUNTY MUSEUM
HERITAGE ARCHITECT
ZHENHONG GUAN
CHANGCHUN LI
CONTRACTOR
XIANGYI DAI
DATE OF COMPLETION
JANUARY 2016



and community events. Another abandoned house, once belonging to the Zhang family, was converted into a tea house. The abandoned industrial buildings were reused as tourism facilities, continuing their function of supporting local livelihoods. For example, the boiler room was reconstructed and converted into a tourist reception centre. The weathering pool was likewise rebuilt, with the aim of displaying a key component of alunite mining industry architecture.

With the village's high annual precipitation rate, one of the main technical issues in the conservation project was to improve the drainage of groundwater, which was abundant and close to the surface, causing the soil around the building foundations to retain moisture, thereby clogging underground drains and causing rising damp. During the course of the site analysis, the project team identified areas requiring more drains and methods for improving existing drains, leading to the redesign of the drainage system.

Underground water in this region contains a considerable amount of sulphate, a circumstance that exacerbates the problem of rising damp. The freeze-thaw cycle also affects masonry within the area. To address the issue of salt damage, the team laid a thin layer of tar-paper over the surface of beams to keep the wood dry. All new metal components were treated against rust.

CONSERVATION AND THE COMMUNITY

Local people, as the owners of this heritage asset, participated actively in the conservation project. Residents of the village offered valuable suggestions and contributed to the conservation process, and each house owner contributed a third of the repair fees. Retired miners formed a team to provide support for the inspection and maintenance of the heritage structures related to mining.

The development of heritage tourism as a result of the project has brought employment opportunities to the area, motivating members of the younger generation to move back to the village and establish their own businesses. The project now serves as a learning base for university students in architecture, art and other majors. Professionals from heritage conservation and museum studies are attracted to the site to learn from it and to exchange information.

LIU ANCESTRAL HALL

CHINA

THE PRESERVATION OF LIU ANCESTRAL HALL IS NOTABLE FOR THE APPLICATION OF A RIGOROUS SCIENTIFIC APPROACH. DATING TO THE QING DYNASTY WITH FURTHER EMBELLISHMENT DURING THE TIME OF THE REPUBLIC OF CHINA, THE HALL HAD DECLINED INTO POOR STRUCTURAL CONDITION WITH DAMAGE TO ITS SURFACES, INCLUDING ITS RENOWNED DECORATIVE STUCCO FAÇADE. THE PROJECT'S PROPONENTS SUCCESSFULLY CARRIED OUT NON-INTRUSIVE INVESTIGATION OF THE BUILDING FABRIC, SYSTEMATIC TESTING OF POSSIBLE SOLUTIONS AND METICULOUS CONSERVATION INTERVENTIONS. IN REVIVING A SIGNIFICANT HISTORIC BUILDING FOR ONGOING USE BY DONG ETHNIC GROUP VILLAGERS AND TO ATTRACT OUTSIDE VISITORS, THE PROJECT CONTRIBUTES TO A LARGER INITIATIVE TO PROTECT AND PROMOTE GUIZHOU'S DIVERSE CULTURAL AND NATURAL HERITAGE.

2016

HONOURABLE MENTION





ELEVATION

**THE SIGNIFICANCE OF THE HALL IS BEYOND THE BUILDING ITSELF.
IT IS MORE THE SOUL OF THE CULTURE, AN EMBLEM OF
SANMENTANG AND A SYMBOL OF THE SPIRIT OF THE PEOPLE
OF THE AREA.**

— QUOTE FROM THE PROJECT TEAM —



STUCCO ORNAMENTATION

PROJECT SYNOPSIS

The Liu Ancestral Hall is located in Sanmentang, a village in Guizhou Province of China inhabited by the Dong ethnic group. The hall was constructed in 1875 to commemorate Liu Wang (also known as General Zhao Tong), a heroic ancestor. It stands as tangible evidence of the social circumstances of the village during the Qing Dynasty (1644-1912) and is regarded as a striking reminder of the village's past and one of the most significant conveyors of cultural heritage in the Qingshuijiang River Basin.

The ancestral hall is an important example of traditional Chinese architecture with a timber structural system and tiled roof, but it is embellished with Western design elements. The building's façade, which dates to 1931, demonstrates this confluence of styles. This elevation features a Baroque-style entry with columns, blind arches and mullioned windows.

However, the decorative elements, including relief plaster mouldings and sculptures, feature Chinese motifs, themes and auspicious symbols, demonstrating an adaptation of Western style to make it more compatible with Chinese traditional taste. The whole exhibits refined artisanship and is a harmonious combination of cultural expressions popular in that period.

In the 1960s, the government transferred ownership of the property to the village of Sanmentang and made several alterations to its interior. Converted into a barn, the building lost any sense of its original function. Around twenty years later, in the 1980s, the Liu family regained ownership of their ancestral hall. Over the years, as a result of weathering, the building deteriorated significantly, leading to structural defects and other damage, including cracks in the brick masonry, delaminated plastered surfaces and the loss of

decorative details.

In 2013, after the Liu Ancestral Hall was declared a major historical and cultural site, protected at the national level, the Tianzhu County Broadcasting Tourism Bureau of Radio initiated a conservation project, relying on technical support from the Shanghai Tongji Urban Planning and Design Institute to restore the physical integrity of the ancestral hall and promote the development of rural tourism. With a loan from the World Bank's Guizhou Cultural and Natural Heritage Protection and Development Project, the restoration work was completed within two years.

Today, Liu Ancestral Hall is once again a gathering place for ancestral worship and community interaction. The project has demonstrated how conserving and using existing cultural assets can contribute to sustainable development.

CONSERVATION APPROACH

The project design and implementation was guided by national and international conservation standards, particularly the guidelines of the International Association for Science and Technology of Building Maintenance and the Preservation of Monuments. Minimum intervention was the primary principle in the work; thus, the project sought to preserve the original fabric as much as possible. Another key guiding principle was the use of compatible materials and traditional construction techniques to repair the building elements and restore the features of the façade.

The project team adopted a systematic approach to the conservation of Liu Ancestral Hall. Prior to the commencement of the conservation work, the Tongji University architectural conservation laboratory carried out a detailed site investigation and a condition assessment of the building structure, along with material analysis to understand the characteristics and composition of the original materials and to identify the sources of deterioration.

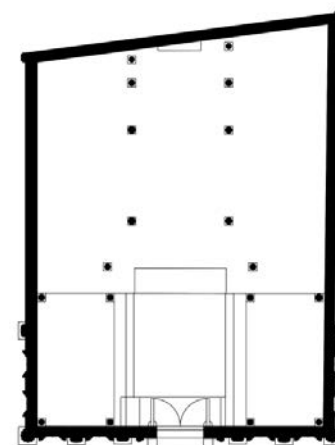
Non-destructive and minimally-invasive methods of analysis and sampling were used so as to minimize impacts on the building fabric, which included brick, stone, wood and lime. The methods used included thermal imaging and microwave moisture measurement, which were applied to determine the level and distribution of moisture penetration.

The repair work was a combined effort of the external team and local artisans. The former identified the materials physically and chemically, and ensured that newly-formulated materials were compatible to the original ones. The artisans reconstructed the building's details using traditional techniques.

Workers repaired the weathered plaster and stucco details on the façade using lime plaster with a composition similar to the original plaster (as identified in the laboratory analysis), and injected natural hydraulic lime grout and bamboo anchors to fill voids in the delaminated plaster. In addition, they reconstructed missing stucco elements following the design of the original elements.

Although the damp-proof layer of the walls had been found by the site investigation to be largely intact, the lower parts of the brick walls indicated signs of salt damage. Workers employed a desalination poultice to reduce the soluble salt content in the lower brick courses.

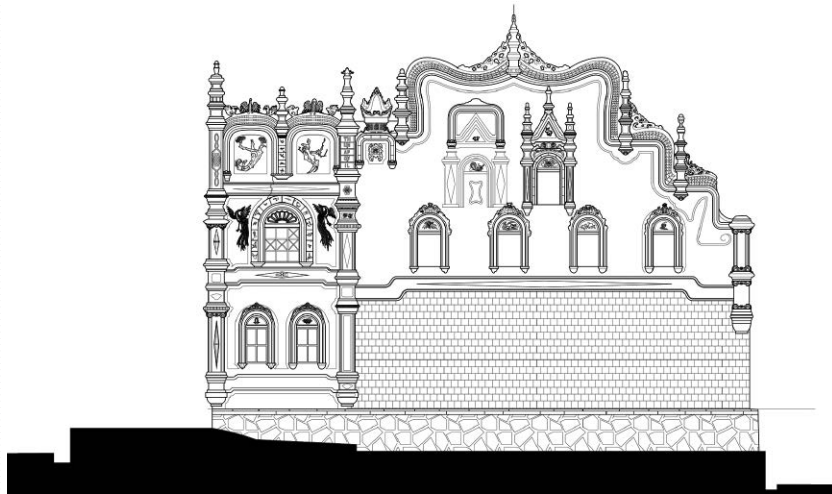
PROJECT TITLE
LIU ANCESTRAL HALL
LOCATION
SANMENTANG, GUIZHOU,
CHINA
SIZE
949.8 SQUARE METRES
COST
US\$120,000
RESPONSIBLE PARTY
SHANGHAI TONGJI URBAN
PLANNING AND DESIGN
INSTITUTE (JIAN ZHOU)
TIANZHU COUNTY
BROADCASTING TOURISM
BUREAU OF RADIO (NONGBING
GONG)
HERITAGE ARCHITECT
SHANGHAI TONGJI URBAN
PLANNING AND DESIGN
INSTITUTE
CONTRACTOR
JIAN ZHOU
DATE OF COMPLETION
AUGUST 2015



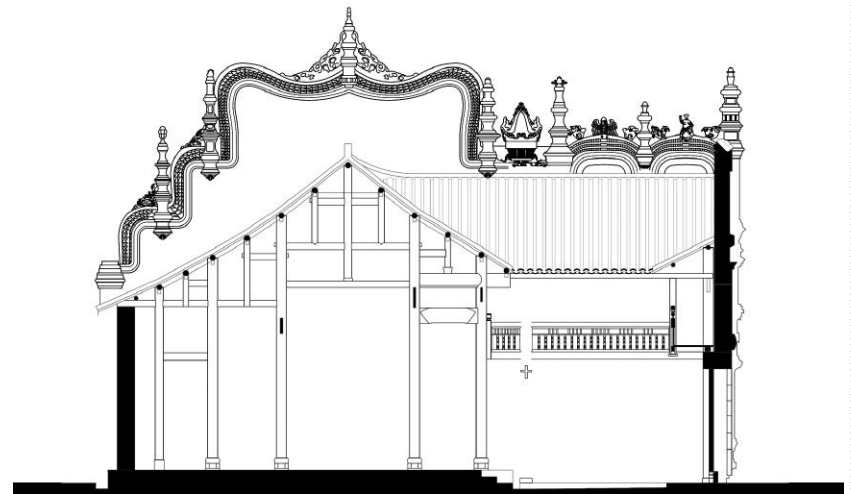
PLAN

This procedure required dampening the surfaces with deionised water. Salts present in the wall dissolved to form a saline solution. In the second phase, the extraction, the dissolved salt ions moved, in the form of an aqueous saline solution, from the wall to the poultice. The salt migration was generated by capillary water flow to the poultice due to drying. The dry poultice was then easily removed from the wall surface. Workers undertook this procedure several times until the salt content was sufficiently reduced.

While the project emphasized the use of traditional methods and materials, the team also used modern techniques and materials, which had been tested and well-established, but only when necessary. These were used to strengthen the building fabric, but minimally compromised its authenticity. For example, workers repaired some of the cracks in the masonry by inserting stainless steel bars and applied a stone strengthening compound to plaster surfaces. They also treated timber elements with a modern wood preservative for protection against termites and fungi.



ELEVATION



SECTION

CONSERVATION AND THE COMMUNITY

Throughout the work, the project's organizers sought the consensus of the villagers. This was particularly important when reaching agreement over removing houses within the compound and relocating them elsewhere, which was necessary to restore the ancestral hall's integrity.

Following the completion of the project, the ancestral hall and the adjacent square are once again important venues for social activities, such as folk customs and festivals. The project has thereby reinstated the hall as a central part of the villagers' lives and has contributed to the continuation of cultural traditions. Through attracting tourists to the site and encouraging the development of heritage tourism in the village, the project has also had a positive impact on the local economy.



REPAIRATION OF THE TILED ROOF

TECHNICAL BRIEF

CONSERVATION OF DECORATED LIME PLASTER BY INJECTION GROUTING



STUCCO CONSOLIDATION USING GROUT INJECTIONS

In the conservation of historic façades, a choice is often made between two approaches: (i) preservation and stabilization of the original historic fabric (which may include repairs, to regain aesthetic integrity) and (ii) reconstruction using traditional materials and techniques. Both methods respect the authentic materials and techniques, and both involve detailed research on the application techniques used to create the façade and scientific analysis of the composition of the materials. The choice of approach depends on the site. In the case of Liu Ancestral Hall, a decision was made to preserve the existing lime plaster façade, rather than reconstruct it, due to the façade's aesthetic and artistic value and the high quality of its uniquely-executed plaster decorations.

Preserving historic fabric and repairing and consolidating missing and delami-

nated pieces and finishes requires using materials that have similar physical and chemical properties to the original materials and that are compatible with the existing structure. In the case of the grouts used for the consolidation of plaster, the set grout should show similar physical characteristics to the original set grout and it should be chemically compatible, meaning it should not contain any substances that may cause damage in the future – for example, soluble salts. To achieve the desired outcome, it is important that the new grout has the same relative moisture content as the original fresh grout. Excessive amounts of water in the mix should be avoided as it may cause greater shrinkage. It is also important to avoid large aggregates and fibres due to their potential to cause blockages in the voids during injection.

A good grout should – after securing the plaster to the support – contribute to better resistance for the structure and not cause any subsequent damage. During the deterioration process, the grout should be the first to fail; thus, the intervention can be repeated to further preserve the original structure.

In the reattachment of the partially-delaminated lime plaster on the façade of Liu Ancestral Hall, the team developed natural hydraulic lime (NHL) grouts that demonstrated high compatibility with the original materials.

Natural hydraulic lime is defined by the European Standard for Building Lime [BS EN 459-1:2010] as a lime with

hydraulic properties. It is produced by the burning of more or less argillaceous or siliceous limestone (including chalk) with reduction to powder by slaking with or without grinding. It has the property of setting and hardening when mixed with water and by reaction with carbon dioxide from the air (carbonation). The hydraulic properties of the lime result from the special chemical composition of the natural raw material.

NHL is widely applied in conservation work instead of cement because NHL is not as hard as cement, which makes it more compatible with softer historic material. In addition, cement has the disadvantage of containing soluble salt (mainly sodium sulphate, sodium carbonate and sodium silicate), which can migrate into plaster and cause efflorescence, sub-efflorescence and incrustations.

Because grouting often means inserting a fluid material into an enclosed void, NHL has certain advantages, including the rapidity with which it sets and its hydraulic properties. The ability of NHL to set quickly and gain stability in the absence of air can be beneficial, as a rapid development of stability and strength can be crucial to avoid impacts on the fragile surface, which may be caused by the weight of the fluid material.

The original lime plaster at Liu's Ancestral Hall had been weakened by weathering. An injection grout gave it new stability without being too rigid. The grouts made with NHL flowed well into

the voids and had low shrinkage. Larger voids were treated twice with success.

A year after the treatment, the conservation team tested the success of the consolidation procedure using drill resistance and simple percussion methods. This monitoring exercise confirmed the reattachment of the plaster and thereby the success of the method of injecting NHL grout to conserve the façade.

Gesa Schwantes



DETAILS OF A PILASTER

OLD TAI PO POLICE STATION

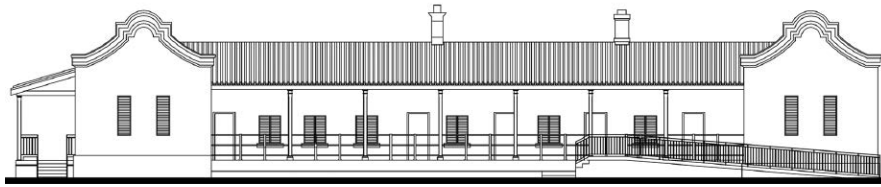
HONG KONG SAR, CHINA

THE TRANSFORMATION OF THE OLD TAI PO POLICE STATION FROM A DESERTED RELIC INTO A VIBRANT VENUE FOR LEARNING ABOUT SUSTAINABLE DEVELOPMENT IS NOTABLE FOR REVEALING LAYERS OF CULTURAL HISTORY EMBEDDED IN ITS BUILDINGS WHILE MAINTAINING THE SITE'S DISTINCTIVE ECOSYSTEM. INFORMED BY EXTENSIVE HISTORICAL RESEARCH AND A THOROUGH UNDERSTANDING OF THE AREA'S RICH BIODIVERSITY, THE PROJECT RETAINS MUCH OF THE COMPLEX'S ORIGINAL ARCHITECTURAL FABRIC AND NATURAL SETTING, GIVING LITTLE IMPRESSION OF THE DEGREE OF INTERVENTION. INSTILLING NEW LIFE INTO THE OLDEST COLONIAL PROPERTY IN THE NEW TERRITORIES, THE NEW 'GREEN HUB' CENTRE PROVIDES AN OASIS IN THE MIDST OF HONG KONG'S HIGHLY URBANIZED ENVIRONMENT.

2016

HONOURABLE MENTION





ELEVATION

THE GREEN HUB, BESIDES BEING A SITE THAT TELLS US STORIES OF THE PAST, ALSO SERVES AS A HUB TO CONDUCT EDUCATIONAL PROGRAMMES ON SUSTAINABLE LIVING. THE SITE HAS DRAWN PEOPLE TOGETHER, ALL WITH THE COMMON GOAL OF PROTECTING MOTHER NATURE.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

The Old Tai Po Police Station was the first permanent police station built by the British colonial government in the New Territories. Constructed in 1899, it represented the start of a major new phase of Hong Kong's development at the turn of the twentieth century.

The site consists of a group of buildings, including: the Main Building (1899), the Staff Quarters (built before 1945) and the Canteen Block (1961), as well as cell units (1936), an incinerator (1939) and a shed (1940s). The overall layout of the complex is utilitarian, reflecting its function as a place of law enforcement. The Main Building stands on an elevated platform, enjoying the most prominent position in the complex, while the other buildings are on a lower level.

The buildings were designed with the local rainy and warm climate in mind, so have features such as verandas, louvered windows and Chinese-style pitched roofs composed of pan and roll tiles. The tiles contrast with the buildings' Western decorative details, which include Dutch gables, faux rustication and voussoirs, ornamental fireplaces, moulded chimneys and cast-iron downpipes with sheet-metal collection boxes.

Over time, the area separating the police station from other buildings became a tree-covered zone and developed a valuable diversity of flora and fauna. It came to have particular value as an important breeding site for egrets in Hong Kong SAR. While the Tai Po area became built up, this immediate tree-covered area remained untouched. Essentially, the complex's surroundings came to serve as a 'green lung' within the highly-urbanized context of Tai Po.

Over its history, the buildings of the police station were modified in various ways. Additions included the enclosure of some of the verandas of the Main Building in 1918 and the construction of additional rooms in the 1960s and 1970s, along with outhouses (built in the courtyard). These alterations disrupted the spatial layout of the site. On the interior, modifications included a false ceiling and unsympathetic light fittings.

After the Second World War the complex was no longer used as the police headquarters but continued to be used by various sections of the police force. When a new police building opened in 1987, the Old Tai Po Police Station became obsolete. In 1988, the Antiquities Advisory

Board of Hong Kong SAR accorded the Old Tai Po Police Station Grade II heritage status. It was subsequently vacant for nearly thirty years. Damage to the roof tiles during this time led to leaking and, consequently, to the rusting of the metal roof structure and rotting of the wooden timber battens. At the same time, the surrounding garden and green area became overgrown with invasive weeds.

In September 2010, the Development Bureau selected a proposal by Kadoorie Farm and Botanic Garden, a local non-governmental organization, to conserve the police station site and transform it into a 'Green Hub for Sustainable Living', under Batch II of the Revitalising Historic Buildings Through Partnership Scheme (the 'Revitalisation Scheme'), which funds the adaptive reuse of government-owned buildings. Conservation work began in 2013 and the Green Hub opened to the public in August 2015.

Today the site is an educational centre that promotes the importance of environmentally-friendly practices, architectural conservation and sustainable living. The site has a guesthouse and restaurant and also provides heritage tours of the property and the surrounding areas, as well as cooking activities for school groups and families in which the participants harvest ingredients and prepare meals together.

CONSERVATION APPROACH

The aim of the project was to preserve the architectural and ecological resources of the Old Tai Po Police Station in a holistic way. The restoration team followed specific principles for the work. These included minimum intervention and maximum reversibility, respect for past changes as part of the site's history, retention of authenticity and integrity, repair rather than replacement, integration of new and old components, and use of low-carbon conservation methods.

Extensive *in-situ* research determined the most appropriate level of intervention. The conservation team conducted a comprehensive programme of historical and architectural research and carried out a condition survey to allow for a better understanding of the place and a more precise estimation of the extent of restoration work involved. Comparative research was also carried out on other colonial buildings from the same era. These included the Old Ping Shan Police Station (1899) and the



MAIN FAÇADE BEFORE AND AFTER RESTORATION

Old Sheung Shui Police Station (1902).

Based on the findings of these studies, the restoration programme set out a cautious series of steps for implementation, with the purpose of retaining the original architectural design to the greatest degree possible. All work was done with careful attention to detail and a respect for the original materials.

The various buildings in the complex were converted for reuse, often for uses similar to the original. For example, the Canteen Block now houses a restaurant called the 'Eat Well Canteen', while sections of the Staff Quarters building were converted into guestrooms. Other parts of the complex, including the charge room and armoury, were converted for educational use as heritage display areas.

As well as removing the weeds from the green space around the complex, the project team created a 'Memorial Garden' to highlight the history and significance of the site. The team also restored the internal courtyard,

PROJECT TITLE
OLD TAI PO POLICE STATION

LOCATION
TAI PO, HONG KONG SAR,
CHINA

SIZE
1,252 SQUARE METRES

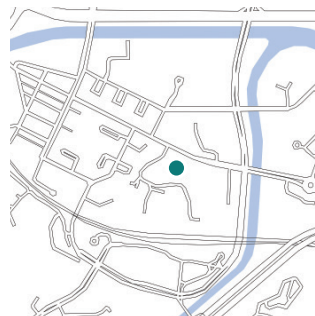
COST
US\$7.43 MILLION

RESPONSIBLE PARTY
KADOORIE FARM AND BOTANIC
GARDEN CORPORATION

HERITAGE ARCHITECT
THOMAS CHOW ARCHITECTS
LIMITED

CONTRACTOR
JUNIC CONSTRUCTION
COMPANY CO. LTD.

DATE OF COMPLETION
APRIL 2016



returning this open space to its former functions, one of which was to facilitate cross-ventilation and cool the interior of the living quarters. In consideration of this design feature, the team only installed air-conditioning in rooms where sufficient natural cross-ventilation could not be achieved or where a large flow of visitors was anticipated.

Parts of the original timber roof structure of the Main Building had been replaced in a previous repair effort by steel purlins, which had gradually rusted, resulting in water leakage into the interior. The roof of the Staff Quarters block and other buildings were similarly damaged. The project team decided to reinstate the original roofs of the buildings, as they were important character-defining elements. The project team also restored the cast-iron balustrades along the East Veranda, and reinstated it as a gathering point for visitors to the Green Hub, mimicking the role it played for police officers in the past.

The restoration programme called for the retention of the prison cells at the end of the complex and for restoring the distinctive circular window. It also called for the removal of the plaster on the external walls to expose important details, including the original faux rustication and lettering.

Unlike most conservation projects in Hong Kong, which use lime purchased from factories, the project to conserve the old police station used slaked lime prepared using traditional methods. The team recorded the on-site slaking process to serve as an educational reference for other practitioners in the future.

CONSERVATION AND THE COMMUNITY

The Green Hub is a social enterprise that generates income through its restaurant and 'Eat Well' Programme; guesthouse, seminar room, co-op shop and its educational courses on aspects of living sustainably. This income goes towards providing various complimentary services to the public, including educational programmes and heritage tours, and also covers the costs of maintaining the buildings and grounds.

The Green Hub's educational and heritage programmes provide information about various subjects, including the Old Tai Po Police Station and the surrounding green space, life in the past, healthy and sustainable living, and wildlife.

WU CHANGSHUO RESIDENCE ARCHAEOLOGICAL SITE

CHINA

THE RESTORATION OF THE WU CHANGSHUO RESIDENCE ARCHAEOLOGICAL SITE IS NOTABLE FOR ITS METICULOUS PLANNING AND SENSITIVE APPROACH TO THE PRESERVATION OF THE SITE'S MULTI-LAYERED HISTORY, RANGING FROM INCLUDING SUB-SURFACE EVIDENCE OF FOURTEENTH-CENTURY OCCUPATION TO RESTORING LATER NINETEENTH-CENTURY STRUCTURES. AS THE BIRTHPLACE OF PROMINENT CHINESE ARTIST WU CHANGSHUO, THE SITE HAD SUFFERED GRADUAL DETERIORATION AS A RESULT OF INSENSITIVE REPAIRS AND THE ADDITION OF INCOMPATIBLE STRUCTURES OVER THE YEARS. CONDUCTED IN STAGES, THE AMBITIOUS PROJECT APPLIED INTERNATIONAL CONSERVATION GUIDELINES AND DEPLOYED TRADITIONAL BUILDING MATERIALS AND TECHNIQUES TO SAFEGUARD THE OVERALL CHARACTER OF THE HISTORIC BUILDINGS AND THEIR RURAL VILLAGE SETTING. WELL-MANAGED TOURISM GUIDELINES ALLOW THE LOCAL COMMUNITY TO GAIN ECONOMIC BENEFITS FROM VISITATION TO THE SITE.

2016

HONOURABLE MENTION



PROJECT SYNOPSIS

The Wu Changshuo Residence Archaeological Site is located in the village of Zhangwu in Zhejiang Province, China. The site is the former residence of renowned master artist Wu Changshuo (1844-1927), who is celebrated for his contributions to poetry, calligraphy painting and signet-carving. His work remains highly regarded and he is one of China's four 'master artists'.

Spread over three non-contiguous locations, the site includes seven structures: the Compiling Genealogy House, the Main Gate, the Wooden Gate, the Old House, the Excavated Courtyard, the Remaining Wall and the combined Stone Bridge and Half-moon Pond. Wu Changshuo was born in the Old House. This building along with the courtyard, the wall, the bridge and pond form the site known as the 'Wu Family's Courtyard'. The Compiling Genealogy House was purchased by the Wu family in 1895. All seven properties are today owned by the Zhangwu government. Thus, all of the villagers of Zhangwu have a share in the ownership of the site. The Wu Changshuo Residence Archaeological Site was protected as a cultural heritage property by Anji County in 1983 and by Zhejiang Province in 2011.

The structures comprising the Wu Changshuo site were built between the fourteenth and the nineteenth centuries, and reflect the traditional architectural styles of their periods. Compiling Genealogy House follows a standard pattern of a main building and two rows of five rooms supported by timber columns. The wooden beams, windows and doors bear elaborate carvings, featuring birds, flowers and other elements. Given its overall aesthetic values, experts consider the house to be an excellent example of vernacular residential architecture of its period. The granite-framed Main Gate features stone carvings; the floor consists of large square bricks. The Tien Si Wooden Gate was once the entrance to a grand house that was constructed in the time of the Ming Dynasty (1368-1644) and was associated with Wu Song (a descendant of Emperor Wu of Jin, who reigned from 266 to 290).

In 2012, when the project was initiated, the Wu Changshuo site had experienced years of neglect and poor maintenance. The Old House was in a dangerous state of dilapidation. Issues included leaning, bulging, cracking and loss of mud plaster and render. Decaying rafters and beams had led to major damage to the



RESTORED HOUSE AT THE WU FAMILY'S COURTYARD

**THE PROJECT IS A TESTAMENT TO THE RESILIENCE OF
VERNACULAR ARCHITECTURE AND SERVES AS
A PHYSICAL REMINDER OF AN IMPORTANT AND FAMOUS
CHINESE ARTIST AND HIS PIONEERING ART.**

— QUOTE FROM THE PROJECT TEAM —

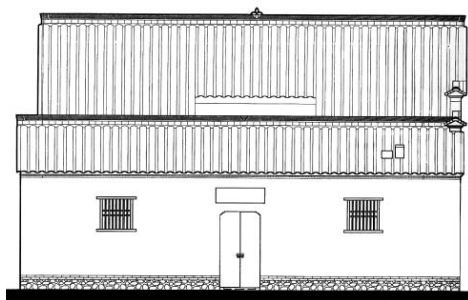
interior walls. Other problems included vegetation growth and rodent and insect infestation. The abandoned Compiling Genealogy House was also in a highly deteriorated and dangerous state. New additions within the site had introduced yet another layer of challenges.

The main objective of the project was to transform the Wu Changshuo site into a vibrant cultural resource through adaptive reuse. The project involved the conservation of all seven of the structures within the Wu Changshuo Residence Archaeological Site and also involved reuniting the components of the site into a single recognizable entity. In order to accommodate visits by the public, the project required the construction of two new structures on the site, the Stele Corridor and Jinshi Hall, which complement the architectural style of the site. Open to the public as an educational centre and heritage tourism destination, the Wu Changshuo Residence Archaeological Site today serves as a cultural highlight for the region.

CONSERVATION APPROACH

With the principles of the Burra Charter and the Venice Charter, as well as the Principles for the Conservation of Heritage Sites in China as a guide, the conservation team aimed to reinstate the form and fabric of the remaining structures as closely as possible, based on physical and documentary evidence, while retaining the ruins of other structures within the site. The emphasis was on minimal change and authenticity; the use of appropriate materials, careful attention to documentation, public participation and sustainability. The project did not seek to restore the buildings and elements to an 'as new' state but instead sought to repair them, replacing original fabric only when it was damaged beyond repair.

The initial phase focused on research and documentation, and was carried out by an experienced team with the help of local recruits. This research phase



ELEVATION

provided a foundation for the overall project design and helped in decision-making during implementation. Methodical documentation and research prior to commencement of work ensured the retention of architectural authenticity for each of the structures. The existing structure and fabric provided much of the evidence needed for restoration and reconstruction. The conservation team took special care to test materials for composition and strength. These included lime plaster, mortar, paint and timber. Archival research, interviews with the community and measured drawings completed this phase.

The conservation work began with repairing the fabric of the Old House. The walls, the most fragile component of the structure, were realigned and stabilized, and problems with the timber frames were corrected. The roof structure was also repaired. The work also included the replacement of decayed timber and the installation of stone and bricks to substitute for those damaged or lost through erosion. Workers replastered the interior walls using earthen mortar and whitewashed the exterior, employing traditional lime wash. Additional work included the installation of modern plumbing and electrical services. As a means of generating income for the property for ongoing maintenance and upkeep, the historic dining room was converted into a restaurant and the first floor spaces converted as halls for public functions.

Based on the findings of the research, workers accurately restored the Remaining Wall. Workers also reconstructed the stone bridge, using excavated materials: the original stone and bricks. Another major

PROJECT TITLE
WU CHANGSHUO RESIDENCE
ARCHAEOLOGICAL SITE
LOCATION
ZHANGWU, ZHEJIANG, CHINA

SIZE
3,629 SQUARE METRES
COST
US\$460,970

RESPONSIBLE PARTY
VILLAGERS' COMMITTEE OF
ZHANGWU VILLAGE
HERITAGE ARCHITECT
FEIXIANG QIU
GU CHEN
TIAN MA
XING WANG

CONTRACTOR
GLOBAL CULTURAL NETWORK
CO., LTD (MEHRI MADARSHAHI)
GENERAL CONTRACTED GROUP
(DING XINJUN, WANG NVYING,
SU LIJUAN, LI ZHAOYANG)

DATE OF COMPLETION
FEBRUARY 2016



SITE PLAN

conservation endeavour for the project was taking away inappropriate modern additions. A central focus was the removal of modern accretions through the relocation of some thirty households inhabiting the Wu Family's Courtyard to new homes on the riverside.

Specialists knowledgeable about traditional construction techniques and materials carried out the repairs, helping to maintain material authenticity while sustaining local building traditions. Many of the decorative wood and masonry repair work was done by hand using traditional tools. The team treated wooden structural members and decorative details vulnerable to termites and moisture penetration with tung oil. Some of the Wu Changshuo site's original furniture were carefully preserved and now form a significant part of the site's interpretation programme.

For the purposes of functionality and to operate the site as an archaeological park, the restoration team employed some new materials and features. Modern facilities, including a reception office and an exhibition area, were added to enhance visitor experience.

CONSERVATION AND THE COMMUNITY

The project was a public-private collaboration. The efforts to conserve the site came not only from the government and local residents and community members, but also from artists and art lovers, descendants of Wu Changshuo, organizations and businesses. Local residents were core sponsors of the project, raising money and creating stone tablet inscriptions. In addition, the community made direct contributions by donating relics, calligraphy and art. The Wu Changshuo Cultural Development Foundation assumed responsibility for the long-term maintenance of the heritage property.

The success of the project has attracted media attention and has raised awareness of heritage in the region. The site today welcomes numerous primary school students each year, offering them opportunities to learn about the history of the village, traditional literature, calligraphy painting and signet-carving. It is now also the venue for many cultural and festival events, including the Wu Changshuo cultural festival. The region's speciality products have gained exposure as visitors can buy souvenirs such as tea and other agricultural products at the site, generating income for the producers of those products.

DOON SCHOOL MAIN BUILDING

INDIA

THE RESTORATION OF THE DOON SCHOOL MAIN BUILDING EXHIBITS NOTABLE TECHNICAL ACCOMPLISHMENT IN PRESERVING THE CHARACTER OF A RENOWNED HISTORIC INSTITUTION, WHILE INCORPORATING MODERN EDUCATIONAL TECHNOLOGIES IN AN UNOBTRUSIVE MANNER. FOCUSED ON BOTH MINIMAL AND REVERSIBLE INTERVENTIONS, THE RESTORATION INCLUDED STRUCTURAL REINFORCEMENT, THE REMOVAL OF DAMAGING IVY AND PROTECTION AGAINST RAINWATER. A THOROUGH ASSESSMENT AND ANALYSIS OF THE ROOT CAUSE OF THE DECAY LED TO A STRATEGIC DESIGN SOLUTION AND INTERVENTION ALONG THE LINES OF THE EDWARDIAN STYLE, FOLLOWED BY A COMPREHENSIVE MAINTENANCE PLAN. THROUGH SENSITIVE RETENTION OF HISTORIC ASSETS, PRACTICAL SKILLS TRAINING AND SUSTAINING KNOWLEDGE OF TRADITIONAL CONSTRUCTION TECHNIQUES, THE PROJECT SETS A BENCHMARK FOR COMPREHENSIVE CONSERVATION PRACTICE BY AN EDUCATIONAL INSTITUTION.

2016

HONOURABLE MENTION



PROJECT SYNOPSIS

The Doon School is located within a picturesque wooded landscape known as the Chandbagh Estate and is a local landmark in the city of Dehradun, India. Constructed in 1916 as the Imperial Forest Research Institute (and modelled on Hardwick Hall in England), the campus became the property of the Indian Public Schools Society in 1935. Embodying a high degree of architectural and aesthetic significance, it is one of the oldest 'public' (independent) schools in India.

The Main Building, which functions as the principal academic block of the Doon School, is a two-storey brick masonry structure built in the Edwardian Style. Although maintained by the school administrators, the building deteriorated over the decades. It was also subject to incremental changes, and over time presented a host of issues, including structural distress.

Recognizing that for the school to retain its pre-eminence as an educational institution it would need to provide a top rate facility for students and faculty members, in 2011 the Doon School launched a project to conserve the Main Building. In particular, the project aimed to make the Main Building structurally sound, resistant to earthquakes and relevant to the evolving needs of the students. The desire to restore the structure, rather than redeveloping it, was based on the connection students and alumni have with the site and their immense pride in its heritage and legacy.

The State of Uttarakhand and the City of Dehradun do not have statutory legislation for protecting heritage buildings and sites, so the Doon School therefore falls under no legal heritage protection. As an independent school, the Doon School also does not receive any funding from the government, relying instead on school fees, endowments and philanthropy. As a result of these circumstances, the restoration was a private sector initiative, funded by donations from alumni. It is a rare example in India of the conservation of an unlisted historic building.

CONSERVATION APPROACH

The project was a manifestation of the belief that with sensitive design, old buildings can continue to be living buildings and meet contemporary needs. Minimal intervention was the key guiding principle of the



ELEVATION

THE PROJECT SERVES AS A MODEL FOR THE CONSERVATION OF OTHER UNLISTED HISTORIC BUILDINGS IN INDIA, RECOGNIZING THAT SUCH BUILDINGS DESERVE TO BE CONSERVED RATHER THAN DEMOLISHED.

— QUOTE FROM THE PROJECT TEAM —



REPAIRING MASONRY ARCH



SOUTHERN FAÇADE OF MAIN BUILDING AFTER RESTORATION

conservation effort. The project design also followed the principle that any new intervention should not damage, mask or devalue the old, either physically or visually, and that all new work should be of appropriate quality and complement the old work. The project also promoted the use of sustainable materials, encouraged the retention of the spatial and historic qualities of the site and celebrated the connection with the school's natural surroundings.

Before construction began, the architects conducted

a thorough assessment of the structure, including documentation and analysis of threats. This provided the basis for the conservation plan, which was developed by the project architects in consultation with the project management team and the Doon school community over a period of two years. The conservation plan was also guided by the significance of the building as a working school; the programme of intervention therefore recognized the need to adapt the building to meet the growing needs of the institution.

One of the most critical challenges of the project was that the building was in active use. Accordingly, works were carried out mainly during school vacations, and work schedules had to be aligned and coordinated accordingly. The first phase of work took place between April and July 2015 and included the repair of broken cast iron rainwater pipes and the removal of ivy on the façades. The team implemented the second phase of the work between July and October 2015 and concentrated on the upgrading of two classrooms with facilities to meet the needs of the twenty-first century academic instruction. This work incorporated technology for improving acoustics, using solutions that were in keeping with the architectural vocabulary of the Edwardian-period building.

The project team undertook the final phase between November 2015 and February 2016, which concentrated on roof terrace waterproofing, drainage work, structural consolidation and façade restoration. On the roof, the original mortar of lime and *surkhi* (brick dust that is used as a sand substitute) waterproofing layer was intact but had been masked by a concrete slab. As the removal of the concrete would have damaged the original layer, the team decided to leave the slab in place and cover it with a flexible membrane, surfaced with brick tiles. A prior study of the drainage and levels of the site had indicated the need for grading the slopes around the Main Building to prevent the collection of water. To protect the base of the walls, workers installed drains and paving, permitting evaporation and discouraging water retention.

For the structural work, seismic upgrading was necessary given that Dehradun is in a high-risk earthquake zone. This process began with a detailed assessment of the structure and the decision to limit the interventions to areas of severe distress. Since the building façades were of exposed fine-gauge British brickwork, a helical reinforcement system was used in the repairs. This system allowed for minimal impact and also helped strengthen the structure, particularly the failed arches.

The method for conserving the damaged brick masonry included repairing minor cracks and repointing with slaked lime-based mortar. Workers began by cleaning the brickwork with soft brushes using a mild detergent and low-pressure water. They then carefully repointed the joints on all the façades. The resulting

joints matched the original mortar joints. The workers replicated elements damaged beyond repair, including the cast-concrete Italianate balusters and the wooden windows.

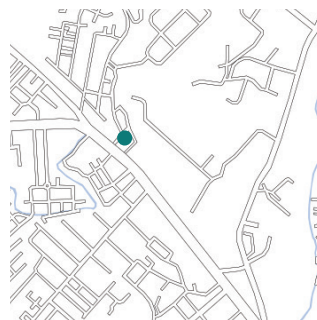
Throughout the construction phase, the conservation team systematically recorded all of the work on a daily basis. This included sampling every component of the project, as well as installing monitoring systems. Professional agencies were hired for both contracting and monitoring the work progress. Moreover, a project management consultant and the school's in-house engineering team developed a quality control system. Following completion, the architects produced a close-out report and a periodic maintenance schedule for the restored building. The maintenance schedule also extends to the other buildings within the school campus.

CONSERVATION AND THE COMMUNITY

Due to a lack of trained masons, the contractor created an on-site programme for masonry training, building the artisans' skills in façade cleaning, lime mortar application and pointing. The project thereby helped in building the capacity of almost fifty artisans from the local region. The participation by the artisans in the training and in the project work also sensitized them to the principles underlying the conservation process and gave them greater appreciation for the historic ambience and material palette. This is likely to have a ripple effect as many of the artisans who worked on the project will have opportunities to share their skills with others while working on the conservation of other heritage buildings in the area.

The restoration of the Main Building was an inclusive effort. In developing the designs for the upgraded classrooms, the architects consulted with all stakeholders, including the teachers, students and experts. This allowed for sharing of ideas and approaches, which led to a holistic solution. The classrooms are now in use and feedback from the student community on the practicality of the spaces will be the deciding factor in the restoration and upgrading of the rest of the classrooms. In forming a benchmark for future conservation works at the Chandbagh Campus, the project also serves as an example for conservation practice elsewhere in Dehradun as well as in the wider region.

PROJECT TITLE
DOON SCHOOL MAIN BUILDING
LOCATION
DEHRADUN, INDIA
SIZE
4,005 SQUARE METRES
COST
US\$447,460
RESPONSIBLE PARTY
DOON SCHOOL
HERITAGE ARCHITECT
AISHWARYA TIPNIS
CONTRACTOR
KULDEEP SINGH SETHI
GAGAN GOEL
DATE OF COMPLETION
FEBRUARY 2016



DARUGHEH HOUSE

ISLAMIC REPUBLIC OF IRAN

THE CONSERVATION OF DARUGHEH HOUSE HAS REINSTATED A SIGNIFICANT COMPONENT OF THE HISTORIC TOWNSCAPE OF MASHAD. BASED ON IN-DEPTH HISTORICAL RESEARCH, VERIFIED THROUGH ARCHAEOLOGICAL EXCAVATION, THE PROJECT PRESERVED THE ORIGINAL BUILDING'S SCALE AND FOOTPRINT WITH A FOCUS ON THE RETENTION OF ORIGINAL MATERIALS AND REUSE OF MATERIALS FROM DEMOLISHED ADJACENT BUILDINGS. LOCAL ARTISANS SPECIALIZING IN TRADITIONAL ARCHITECTURAL DECORATION CARRIED OUT THE WORK AND NEW FEATURES WERE CAREFULLY IDENTIFIED IN KEEPING WITH ESTABLISHED CONSERVATION PRACTICE. AMIDST THE RAPID PACE OF DEVELOPMENT NOW TRANSFORMING MASHAD, THE RESTORED DARUGHEH HOUSE PROVIDES VALIDATION FOR THE CONTINUING RELEVANCE OF TRADITIONAL SPACES IN CONTEMPORARY URBAN LIFE.

2016

HONOURABLE MENTION





VIEW OF THE INTERIOR AFTER RESTORATION

WITNESSING THE RENEWED BEAUTY OF THIS BUILDING HAS INCREASED THE PUBLIC'S SENSITIVITY TO THE NEED FOR THE CONSERVATION OF HISTORIC HOUSES.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Constructed in the 1870s as the residence of Yusef Khan, the then sheriff (*darugheh*) of the city of Mashad, Iran, Darugheh House is located in the Qabr-e-Mir Quarter in the precinct surrounding the Imam Reza shrine complex.

Darugheh House is a two-storey building built around a central courtyard. The various parts of the house are connected by a narrow corridor, which provides protected access in harsh winters and also serves as a sheltered space where women can sit to watch religious ceremonies performed in the courtyard. The components of the house were designed based on the traditional unit of measurement called the *gaz*, which corresponds to around 60 centimetres.

The house is a rare example of Qajarid architecture in Mashhad. This is an architectural style of the late nineteenth century in which Western cultural ideas were integrated into local architectural traditions. The traditional elements of the house include wind-catcher turrets, gypsum carvings and a *hose khaneh* (a room with a shallow pool of water that serves to keep

the house cool in summer). Western-derived features include a Russian-style fireplace, European landscape paintings and statuettes of winged angels.

In the Pahlavi period (1925-1979), Darugheh House served as a theological boarding school. During this time, a private bathhouse was constructed within the house compound. The bathhouse represented an innovation in domestic architecture; prior to this time people preferred to visit luxurious public baths where they could also socialize.

After the Islamic Revolution (1978-1979), a group of pilgrims purchased the property and in 1980 converted it into a hostel and *hosayniya* (a congregational space used during ceremonies commemorating the martyrdom of Hussein ibn Ali). Changes included altering the main entrance, subdividing the main halls into smaller rooms, covering walls with cement to a height of about two metres and removing much of the building's ornamentation.

The lack of regular maintenance over the years, coupled with inappropriate alterations, left the building

in a state of dilapidation. This damage was compounded by various other factors, including humidity and frost, which weakened the house's foundation, leading to cracking and peeling in the lower walls. In addition, heavy pollution from vehicular traffic damaged the remaining brick and gypsum ornamentation and further weakened the building's structure.

In 2000, the Qabr-e-Mir Quarter was acquired under an urban renewal project that led to most residents being evicted and the majority of the buildings in the area being demolished. Following this, only forty-one of the original buildings in the precinct remained. Darugheh House was one of them. The excavations associated with the construction of new buildings in the area caused further cracks in the walls of Darugheh House. In addition, the urban renewal programme altered the physical context of the house; the removal of other old houses and the construction of new buildings severely diminished visual integrity of the neighbourhood.

The registration of Darugheh House as a National Monument in 2002 prohibited further changes to the building, but its operations as a hostel continued. At the same time, new land-use regulations for the area allowed commercial buildings of up to eight storeys in the Qabr-e-Mir Quarter, so the potential added value of the land presented a challenge to the ongoing viability of Darugheh House.

In 2012, the Samen Company – an enterprise owned by the Shrine Custodian Organization, the Municipality of Mashhad and the Urban Development and Revitalization Holding Company – acquired the property. The Samen Company sought to conserve and adapt Darugheh House for use as a museum. The conservation project commenced in 2012 and was completed in May 2014. Darugheh House was reopened to the public soon afterwards. Since opening as a museum, Darugheh House has become a successful tourist attraction and receives up to sixty visitors daily.

CONSERVATION APPROACH

Anchored in the fundamental concepts of conservation, and in view of the building's status as a nationally listed property, the project team sought to preserve the authenticity of Darugheh House with minimum intervention.

Prior to beginning the conservation work, team members investigated and documented the condition and history of the building. The team then conducted a survey and analysis of the building defects, threats and challenges, and developed a conservation plan. The subsequent interventions were based on evidence from these detailed studies.

The conservation project employed the approach of 'anastylosis', the selective reconstruction of missing elements to make a historic property 'whole' again, and depended heavily on the skills of local artisans specializing in architectural decoration. Skilled artisans salvaged the architectural ornamentation of Darugheh House wherever possible, carefully cleaning and repairing it. Workers also reconstructed the entrance portal, staircases and the Russian-style fireplace on the eastern end of the house. They also replaced dilapidated lintels, returning the façade to its original design. Another key intervention was the repair of wooden decorations on the ceiling.

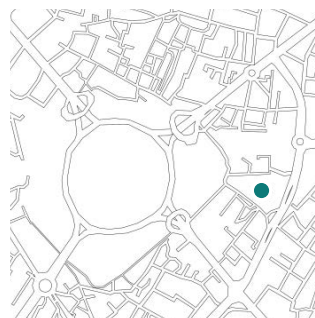
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PROJECT TITLE
DARUGHEH HOUSE
LOCATION
MASHAD, RAZAVI KHORASAN,
ISLAMIC REPUBLIC OF IRAN
SIZE
610 SQUARE METRES
COST
US\$300,000
RESPONSIBLE PARTY
SAMEN DEVELOPER COMPANY
HERITAGE ARCHITECT
AMIR HOOMAN
ASSADI MORASSA
BAHMAN BAKHSHI
CONTRACTOR
HEDAYAT GOVAHI
DATE OF COMPLETION
MAY 2014

+

+



+

+

The team also restored the courtyard, following traces of its original design, which was discovered during clearance work, and preserved the bathhouse, recognizing its outstanding heritage significance. In addition, the team installed damp-proof courses under the first floor to control humidity.

For the repair of the various elements, the project team collected suitable materials from nearby demolished buildings of the same period. When new materials were needed, in most cases the team selected materials of similar forms and sizes but which were readily distinguishable from the originals. In some cases, however, to differentiate the new from the old, the team used different materials; for example, stone slabs substituted for moulded bricks to differentiate new sections from the originals.

Another step was the removal of all insensitive additions, such as the partition walls of the main hall. Workers also removed the layer of cement that covered the masonry walls on the ground floor.

The project introduced new features to the building for its use as a museum and office space. These additions were based on strict criteria developed from the studies of the physical aspects of the building and the spatial quality of the building's parts, and in view of the nature of the new functions. Spaces with significant ornamental features, for example, became exhibit areas for valuable artefacts (such as pediment bricks, stucco and Timurid shards).

CONSERVATION AND THE COMMUNITY

With the completion of the project, Darugheh House has not only become a popular museum, it has also become a location for media television shows and media events. The Mayor of Mashhad regularly holds press conferences at the site and the municipality uses the premises for educational gatherings.

The project has also led to a marked change in community attitudes and an increased interest in conservation. It led to the conservation of the Kashmiri Axis, which is one of the most notable areas of the Qabr-e-Mir Quarter. Notably, also, the local government cancelled demolition plans for two other historic buildings in the area, with the hope that they might be conserved instead.

THE BREWERY YARD

AUSTRALIA

THE STRIKING TRANSFORMATION OF THE BREWERY YARD IN CHIPPENDALE INTO AN EFFICIENT TRI-GENERATION PLANT EVOCATIVELY REINTERPRETS A CENTURY-OLD INDUSTRIAL BUILDING TYPE FOR CONTEMPORARY USE. CLAD IN A SHIMMERING METALLIC MESH, THE SCULPTURAL NEW ROOF MASS HOVERS ABOVE THE HISTORIC BRICK FACTORY, CREATING AN ICONIC NEW ADDITION TO THE CITY'S SKYLINE. BY JUXTAPOSING TWENTY-FIRST CENTURY INDUSTRIAL AESTHETICS AGAINST A TWENTIETH-CENTURY INDUSTRIAL BUILDING VOCABULARY, THE DESIGN PROVIDES A CLEVER SOLUTION FOR CONCEALING THE NEW COOLING TOWERS WHILE PAYING HOMAGE TO THE SOARING ORIGINAL SMOKESTACK. ANCHORING A REVITALIZED NEW URBAN HUB, THE PROJECT IS A PROTOTYPE FOR REPURPOSING INDUSTRIAL HERITAGE IN A SUSTAINABLE, FORWARD-LOOKING MANNER.

2016

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS



CONTEXT

The Brewery Yard, originally called the Irving Street Brewery, is located in Chippendale, which is today a central suburb of the city of Sydney. The site, a purpose-built beer brewery, is part of a much larger complex that dates from 1835. The area around the Brewery Yard was once dominated by industrial sites and working-class housing. Today, the Brewery Yard is the only early twentieth-century industrial complex surviving in the area.

Constructed in 1912, the complex of brick and sandstone brewery buildings is significant as a fine example of Edwardian industrial design. In developing the form of the buildings, architectural detailing was at least as important to the designers as the brewing technology. This resulted in impressive elevations not only to the streets, but also in the working yard. A notable feature of the brewery complex is the 55-metre-high chimney stack.

In 1939, the Irving Street Brewery was upgraded and beer production on the site doubled. The owners extended the fermenting and skimming block west with the addition of a new building. Unlike the later buildings on the site, this addition was consistent with the original architecture of the brewery. Further modifications were made to the building in 1959 and in the late 1960s. In 1983 the Irving Street Brewery was incorporated into the Kent Brewery resulting in major changes, including the gutting of some of the earlier buildings in the complex and the adding of new buildings.

In 2003, the owners announced that the brewery would close and they gradually decommissioned the tanks and equipment, and transported them to another brewery in Queensland. Following its closure in 2005, the fabric of the buildings was in good condition, with high integrity, despite the removal of much of the internal machinery and fittings.

PROJECT HISTORY

To best decide how the site should be used in future, in 2007, private developers Frasers Property and Sekisui House sought designs for a mixed-use large-scale urban renewal project, under the auspices of the design excellence provisions of the City of Sydney's planning controls. For the Irving Street Brewery section of the larger site, the design they selected centred on the



NEW COOLING TOWERS AND HISTORIC SMOKESTACK

adaptation of the brewery's buildings to accommodate a tri-generation thermal plant that would supply power, cooling, heating and hot water to the surrounding 'Central Park' complex (built later, as part of the larger urban renewal project). The proposal was sympathetic to the industrial building and retained its overall form, while introducing a contemporary element on the roof of the old brewery building. The project was launched in 2010 and was completed in 2015.

PROJECT SCOPE AND FRAMEWORK

Seeking to improve the quality of life of the community, while also prioritizing sustainability, the Brewery Yard project aimed to adapt the industrial building for new use as an energy-efficient power generation facility. The task required integrating a new function and new fabric into the brewery building and meeting the demanding technical requirements of the various elements of the tri-generation thermal plant, particularly its cooling towers, while retaining the original structure, including its form, textures and materials.

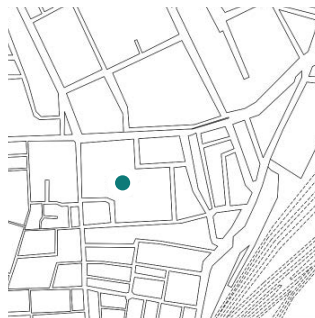
The designers also sought to create a distinctive contrast between the old and the new, and provide a visually-striking component that would honour the history of the original site and also serve as a landmark within the urban context. The designers created an expressive and contrasting design element on the roof of the brewery building.

DESIGN AND MATERIALS

The design team tackled the challenge of incorporating the tri-generation plant into the existing building by treating the new cooling towers of the plant as a sculptural element, situated above the old brewery, serving as a symbol of its transformation. The profile of the new addition derived from the existing roofline, augmented by the contrasting, largely organic geometric forms of the new plant equipment required at roof level.

The architects clad the new cooling towers in a perforated zinc mesh, in such a way that the mesh mimics fabric draped over a curved frame. The transparency of the mesh was calibrated to enhance the solidity of the form while providing permeability for the cooling towers, which require large volumes of air intake. The original inverted pyramid coal hoppers were

PROJECT TITLE
THE BREWERY YARD
LOCATION
CHIPPENDALE, SYDNEY,
NEW SOUTH WALES,
AUSTRALIA
SIZE
586 SQUARE METRES
RESPONSIBLE PARTY
FRASERS PROPERTY
SEKISUI HOUSE
HERITAGE ARCHITECT
TZANNES
CONTRACTOR
TOTAL CONSTRUCTION
BUILDER
CHRISTIE CIVIL BUILDER
(SHROUD)
DATE OF COMPLETION
MARCH 2015



SITE PLAN

retained *in situ* within the new zinc clad enclosure and they inform the volume of the base of the structure.

The adaptive use of the brewery and the design of the sculptural element were guided by the building regulations and heritage requirements of the government of the state of New South Wales and by the Burra Charter. Accordingly, the project emphasized the retention of the overall character of the industrial buildings, with special attention to the conservation of the original materials. However, the project required the removal of the north-facing wall of the boiler house in preparation for the second stage of the larger urban renewal project. Workers stripped back the shell, exposing the old coal hoppers reminiscent of the building's former life, and inserted a glazed façade.

In the interior, the project preserved the historic fabric, including the existing brickwork and formwork, which is now visible to visitors. The architects inserted a new steel support for the cooling towers, but ensured this was separate from the massive load-bearing masonry. The project conserved the original, heritage-listed chimney stack and it now serves as an exhaust for the new tri-generation thermal plant below, creating a direct link between the new use and the site's history as a brewery and industrial facility.

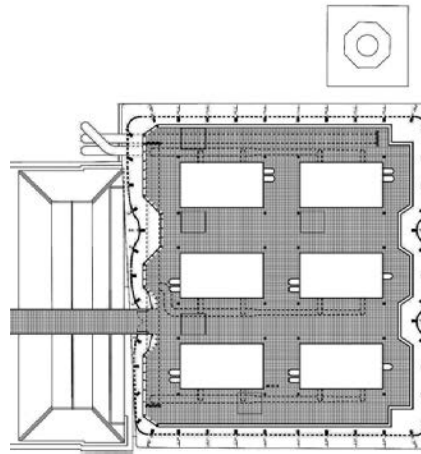


COMMUNITY GATHERING PLACE AT THE BREWERY YARD

THIS COMPLEX, NUANCED INDUSTRIAL ADAPTIVE REUSE PROJECT IS AN EXEMPLAR OF HOW OLD INDUSTRIAL BUILDINGS CAN SERVE NEW PURPOSES, SHAPE PUBLIC POLICY OUTCOMES AND ENRICH THE LIVES OF THE PEOPLE WHO USE THEM.

— QUOTE FROM THE PROJECT TEAM —

In an impressive feat of design and engineering, the project engineers constructed the new tri-generation thermal plant in the basement of the brewery complex. This intricate task required precise calculations to ensure the elements of the new facility would fit into the space available, as well as meticulous planning and careful manoeuvring to lower the elements, including machinery, piping and ductwork, into the basement, through an existing hatch 6 metres long and 3 metres wide. The conversion of the existing chimney for use as the exhaust for the thermal facility was another significant challenge, as it required inserting a 16-tonne, 55-metre-long stainless-steel cylinder into the old chimney. This was achieved with the use of a crane that lifted the metal cylinder over 110 metres above the ground and carefully lowered it into the chimney.



PLAN

IMPORTANT ISSUES

In the late twentieth century, the area around the Irving Street Brewery had become very valuable for non-industrial uses. There was a new demand for housing, including rooms for over 80,000 university and technical college students, as well as for new commercial and retail space. Existing warehouses and other industrial properties had become prime targets for conversion. An early plan was to redevelop the site of the brewery as a student hostel. There were also proposals for commercial uses of the old brewery spaces.

The solution to adapt the brewery building as a tri-generation thermal plant fit within the parameters of the overall aims of city officials and planners, as well as the needs of the community at large. In addition, the adaption of the heritage building as a modern and energy-efficient power plant was sympathetic to the industrial background of Irving Street Brewery and paid tribute to the changing socio-economic context from the early twentieth century to the present.

PROJECT IMPACT

The new tri-generation energy facility today provides hot water, cooling, heating and electricity for approximately 1,400 apartments, 1,000 student rooms and 16,000 square metres of retail space. Moreover, the old brewery building has become a local landmark and the precinct's first 'monument'.

The innovative reuse of the original structure – as opposed to demolition and development of a new power plant – provides a significant alternative to normal practice. The Brewery Yard project demonstrates that old buildings can be adapted for contemporary uses and that new design does not require the loss of heritage. It presents the new kinds of uses and fresh design treatments possible for industrial buildings and shows how melding new and old can strengthen the visual character of revitalized areas.

The project has received wide recognition as a model for heritage conservation and adaptive reuse, as well as for integrating sustainable technology into a heritage building. The publicity generated from the project serves to inform others of the possibilities for older structures and their potential for new and innovative uses.



PRESERVATION OF ORIGINAL CONSTRUCTION



NEW STEEL SUPPORT SYSTEM

AWARD OF EXCELLENCE

BLUE HOUSE CLUSTER
HONG KONG SAR, CHINA

AWARD OF DISTINCTION

BROOKMAN AND MOIR STREETS PRECINCT
AUSTRALIA

HOLY TRINITY CATHEDRAL
CHINA

AWARD OF MERIT

CHRIST CHURCH
INDIA

ROYAL BOMBAY OPERA HOUSE
INDIA

SRI RANGANATHASWAMY TEMPLE
INDIA

GREAT HALL AND CLOCK TOWER BUILDINGS, THE ARTS CENTRE
NEW ZEALAND

HONOURABLE MENTION

BOMONJEE HORMARJEE WADIA FOUNTAIN AND CLOCK TOWER
INDIA

GATEWAYS OF GOHAD FORT
INDIA

HAVELI DHARAMPURA
INDIA

WELLINGTON FOUNTAIN
INDIA

AFTAB CULTURAL HOUSE
ISLAMIC REPUBLIC OF IRAN

CATHEDRAL OF THE GOOD SHEPHERD AND RECTORY BUILDING
SINGAPORE

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

JINGDEZHEN CERAMIC INDUSTRY MUSEUM
CHINA

MACHA VILLAGE
CHINA

PERSIAN GULF UNIVERSITY
ISLAMIC REPUBLIC OF IRAN

2017

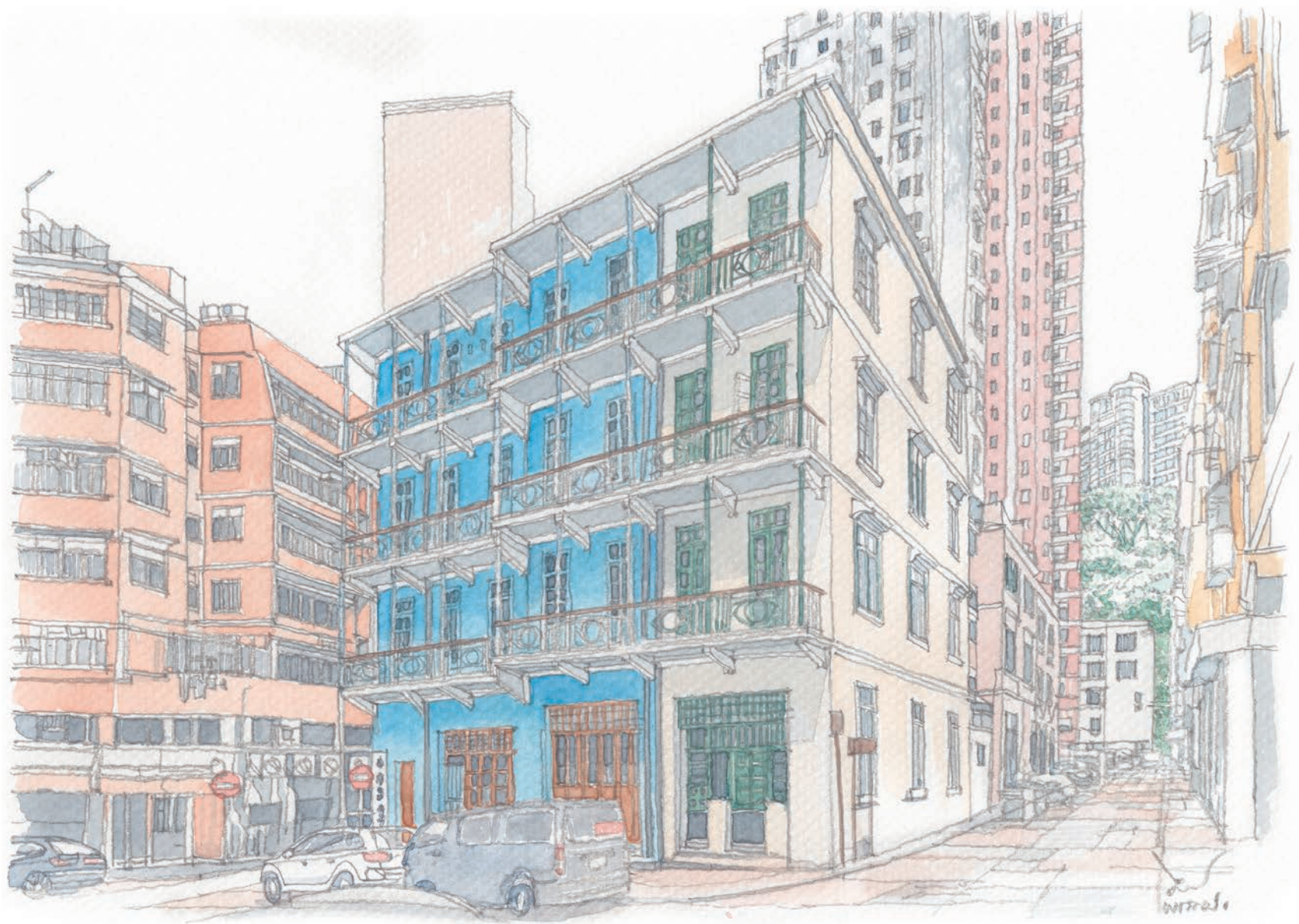
BLUE HOUSE CLUSTER

HONG KONG SAR, CHINA

THE REVITALIZATION OF THE BLUE HOUSE CLUSTER PROVIDES TRIUMPHANT VALIDATION FOR A TRULY INCLUSIVE APPROACH TO URBAN CONSERVATION. A BROAD ALLIANCE, SPANNING TENANTS TO SOCIAL WORKERS TO PRESERVATIONISTS, WAGED A GRASS-ROOTS ADVOCACY CAMPAIGN TO SAVE THE LAST REMAINING WORKING-CLASS COMMUNITY IN THE FAST-GENTRIFYING ENCLAVE OF WAN CHAI, WHICH WAS THREATENED BY DEMOLITION AND WHOLESALE REDEVELOPMENT. SUCCEEDING AGAINST ALL ODDS, THEIR IMPASSIONED EFFORTS AND INNOVATIVE PARTICIPATORY PROGRAMMES HAVE SAFEGUARDED NOT ONLY THE ARCHITECTURE, BUT ALSO THE LIVING HISTORY AND CULTURE OF A NEIGHBOURHOOD WHICH IS ROOTED IN A FORMATIVE CHAPTER OF HONG KONG'S PAST. THE THREE DILAPIDATED TWENTIETH-CENTURY SHOPHOUSE BLOCKS WERE DEFTLY RESTORED FOR CONTEMPORARY USE AND UPGRADED WITH MODERN FACILITIES. AT THE HEART OF THE PROJECT WERE THE RESIDENTS, WHO STAYED ON-SITE FOR THE DURATION OF THE CONSTRUCTION ACTIVITIES BY SPECIAL ARRANGEMENT, ENSURING MINIMUM DISRUPTION TO THEIR LIVES AS WELL AS THEIR FULL INVOLVEMENT THROUGHOUT THE PROCESS. THIS UNPRECEDENTED CIVIC EFFORT TO PROTECT MARGINALIZED LOCAL HERITAGE IN ONE OF THE WORLD'S MOST HIGH-PRESSURE REAL ESTATE MARKETS IS AN INSPIRATION FOR OTHER EMBATTLED URBAN DISTRICTS IN THE REGION AND BEYOND.

2017

AWARD OF EXCELLENCE



CONTEXT

Located at the heart of the 'Stone Nullah Lane' neighbourhood of the Wan Chai area of Hong Kong SAR, China, the Blue House Cluster is a unique assemblage of three traditional shophouses. The three buildings, known as the 'Blue House', the 'Yellow House' and the 'Orange House' owing to their vivid exterior colours, have served as homes and businesses for generations of people and, consequently, social connections and stories have become embedded within them. The group of buildings is the last of its kind in Wan Chai district and serves as a tangible anchor for the residents of the neighbourhood. As a result of a community effort to revitalize the Blue House Cluster, the once threatened shophouses now constitute the centrepiece of a vibrant urban community and this architectural heritage is poised for another century of use.

BUILDING HISTORY

The three buildings making up the Blue House Cluster were built in response to a need for housing following a surge in the population of the area that came about with the arrival of immigrants from the Chinese mainland between the 1920s and 1950s. Both the Blue House and Yellow House were built in the 1920s; the Orange House was built in the late 1950s.

The buildings are 'shophouses', an architectural form that serves both for residential and commercial use and a type common throughout the Chinese diaspora. In particular, the buildings represent a twentieth-century Southern Chinese shophouse typology, adapted in Hong Kong in response to the public health standards imposed by the colonial government.

The buildings are between four and five storeys high and are located close together on one block, surrounded by four streets. When they were first built, the buildings were painted with a whitewash, which deteriorated over time to a dull grey. In the lead up to Hong Kong's hand over in 1997, the government undertook repair work on all government-owned properties in the Wan Chai area, including on the buildings of the Blue House Cluster. To keep costs low, the government used leftover paint in blue, yellow and orange from their stock to paint the cluster of shophouses, giving the buildings a colourful appearance. The buildings came to be known by their



ELEVATION

CONSERVATION IS NOT ONLY ABOUT THE PAST, IT IS ABOUT THE FUTURE. CONSERVATION IS NOT ONLY ABOUT BUILDINGS, IT IS ABOUT PEOPLE. CONSERVATION IS NOT ONLY ABOUT PROTECTING HERITAGE, IT IS ABOUT SUSTAINING THE COMMUNITY.

— QUOTE FROM THE PROJECT TEAM —



SHOP FRONT BEFORE AND AFTER RESTORATION

colours and the colour palette is now enshrined as part of the cluster's identity. As the Blue House is particularly prominent, it came to represent the entire group of shophouses in the area.

Over the years, the shophouses have been family homes and have also served various commercial and educational purposes. The Blue House, for example, once hosted Yat Chong College, the only English-speaking middle school in the area, and also provided a meeting place for the local fishmongers' chamber of commerce, serving as a venue for the resolution of conflicts among its members and as a site for festivals and social activities.

Beginning in the late 1980s, the Hong Kong government committed to a number of large-scale urban renewal projects in the Wai Chai district, with the result that the Blue House Cluster is today one of the last surviving groupings of shophouses in the area. The once predominantly residential Wan Chai district gradually transformed into a largely commercial district of shopping malls, office towers and high-rise residential buildings. Small businesses were mostly driven out, and the area became increasingly gentrified.

Throughout this period of change, the buildings in the Blue House Cluster survived largely intact. However, by the mid-2000s, when the project was conceived, they were in a dilapidated state, lacking modern services and in need of extensive repairs.

PROJECT HISTORY

In 2006, as part of an urban renewal strategy for Wan Chai district, the Government of Hong Kong SAR announced a plan to transform the Stone Nullah Lane neighbourhood into a tourist area. This plan involved evicting the tenants of the shophouses and threatened to result in gentrification of the neighbourhood, with the result that the local residents, who are mostly working class, would be priced out. Thus, the social connections in the neighbourhood and the collective memory of multiple generations were at risk of being lost.

In response to the tourism plan, St. James Settlement (SJS), a non-governmental organization specializing in providing support to the marginalized and in implementing community development activities, launched an initiative to conserve the Blue House Cluster. In cooperation with the Heritage Hong Kong Foundation Ltd., Community Cultural Concern and the

PROJECT TITLE
BLUE HOUSE CLUSTER
LOCATION
STONE NULLAH LANE, WAN CHAI, HONG KONG SAR, CHINA
SIZE
BLUE HOUSE:
1,052 SQUARE METRES
YELLOW HOUSE:
456 SQUARE METRES
ORANGE HOUSE:
198 SQUARE METRES
COST
APPROXIMATELY
US\$10 MILLION
RESPONSIBLE PARTY
ST. JAMES' SETTLEMENT
HERITAGE ARCHITECT
LWK & PARTNERS (H.K.) LTD.
CONTRACTOR
WAH TAT CONSTRUCTION CO.
MILESTONE BUILDER
ENGINEERING LTD.
SPEEDY ENGINEERING &
TRADING CO. LTD.
DATE OF COMPLETION
JUNE 2017



Blue House Residents' Group, SJS developed a proposal for a community development project centred on the conservation of the buildings. This came to be known as the 'VIVA Blue House: Conservation First, Community Always' plan. In 2007, SJS and its partners responded to a government call for submissions to the 'Revitalising Historic Buildings Through Partnership Scheme' (also known as the 'Revitalisation Scheme'), an initiative that supports efforts by non-profit organizations to repurpose older government-owned properties for uses that benefit the community (thereby providing a means of conserving such buildings). The proposal submitted by SJS and its partners was approved and the conservation works commenced in 2013.

The first phase of work focused mainly on the Orange House and the Yellow House, but also involved improvements to a public open space adjoining the cluster. Residents of the orange and yellow buildings were relocated to the Blue House for the duration of the project. The second phase of work, which began in 2016, targeted the Blue House. At this point, all the residents of the Blue House moved to vacant units in the other two buildings. With the completion of the conservation work in 2017, all of the tenants were able to return to their buildings and new tenants took over vacant units in the three buildings, as part of an initiative by SJS called the 'Good Neighbour Scheme'.

PROJECT SCOPE AND FRAMEWORK

The most important objective of the project was to revitalize the local community in the Stone Nullah Lane neighbourhood. In particular, the project sought to sustain the neighbourhood's character, social networks and economy, preserve local cultural practices and rebuild community bonds. As part of efforts to achieve this overall aim, the project sought to conserve, repair and update the three buildings making up the Blue House Cluster, and also to create a shared community gathering space within the cluster.

The conservation work involved restoring the buildings to their original design – retaining the historic fabric and character-defining elements – while also ensuring the continued use of the buildings and the safety of the tenants. Works included bringing the buildings into compliance with current safety regulations, introducing modern facilities and services and improving and

adapting parts of the complex to fulfil various uses relating to the needs of the residents. To create the gathering area, the project paved an open space next to the cluster of buildings (the site of a shophouse that had been torn down some years earlier) and transformed it for use as a venue for local cultural events and community activities.

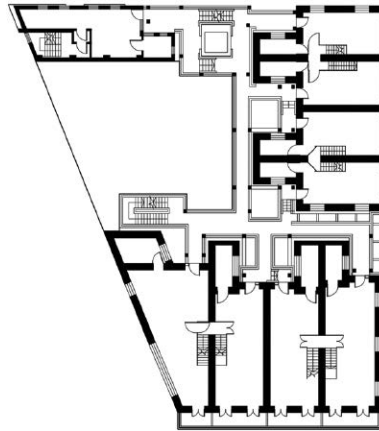
CONSERVATION METHODOLOGY AND MATERIALS

The project was guided by a philosophy consisting of three main ideals: minimum intervention, reversibility and retention of authenticity and integrity. Accordingly, the project team paid careful attention to retaining the appearance, character and fabric of the buildings and emphasized the use of traditional building materials and techniques.

As well as conducting an initial assessment of the condition of the buildings, the team employed structural engineers and termite specialists to make recommendations on suitable conservation strategies. These recommendations also helped the team in formulating conservation guidelines for future use. To ensure the feasibility of each of the selected restoration methods, before beginning the conservation work the team carried out paint analysis, tested the various materials and created mock-ups.

The team removed inappropriate materials that had been used in past repairs and replaced them with traditional materials wherever possible. This respected the history of the site and helped to ensure its continued architectural value. When repairing the walls, for example, the masons removed the cement patches and filled the gaps with traditional plaster made of a mix of straw, lime and sand. This imparted greater permeability to the brick walls than cement, thereby slowing down the deterioration process. Similarly, when repairing the exterior ironwork, workers substituted the ad hoc elements that had been introduced in previous repair work with period-appropriate materials.

The project's emphasis on the use of traditional methods was seen in the decision to employ specialists experienced in the construction techniques used in the early twentieth century. In the repair of the deteriorated roof and floor joists, for example, the contractor hired local carpenters and joiners who possessed traditional woodworking skills. Similarly, the project team employed



PLAN

moulding restoration specialists from Australia who trained local workers to reinstate the plaster moulding on the exterior walls.

In order to enhance the quality of life of the residents of the Blue House Cluster, which was an important component of the project's community development objective, the project team installed modern bathrooms and kitchens, updated the plumbing and electrical wiring, and repaired the ceilings, walls and floors of the apartments within the three buildings. The team also ensured that the buildings were compliant with current standards on building safety – a challenge for historic buildings. An important part of meeting modern statutory requirements was the introduction of a link bridge to connect the three buildings. This provision



INTERIOR OF BLUE HOUSE BEFORE AND AFTER RESTORATION



INTERIOR OF YELLOW HOUSE BEFORE AND AFTER RESTORATION



**INTERIOR OF ORANGE HOUSE
BEFORE AND AFTER RESTORATION**

allowed for barrier-free access within the complex and also enhanced safety by providing an additional fire escape. To minimize the visual impact of the intervention, the structure was sited at the rear of the building cluster, in a place not visible from the main access. The team designed the link bridge with reversibility in mind, so therefore minimized changes to the historic fabric.

IMPORTANT ISSUES

With community needs at the centre of the initiative, the project designers conducted, as part of the design process, participatory workshops with the building tenants and other residents of the area to enable them to voice their concerns and their aspirations and expectations regarding the conservation work. As the project designers had none of the original plans of the buildings, past tenancy records or maintenance records to help them understand the changes that had occurred over time to the buildings, they relied heavily on oral histories and cartographic and photographic surveys. The oral histories of the tenants were of particular value in enabling the project designers to understand the living conditions in the buildings and the way of life of the neighbourhood, both past and present. The information gained through these steps was the basis for the project's conservation and interpretation strategies and enhanced the authenticity and integrity of the conservation works.

A core element of the project was the engagement of the community throughout the conservation process. This was conducted through community programmes launched in parallel with the conservation work. Under the broad title, 'In-operation Conservation', these programmes engaged the building tenants and other community members in the project, encouraging them to contribute their time, talents and experience to the project and to the community. Indeed, this engagement provided a starting point for long-term sustainable community development. The community engagement also contributed to retaining the culture of the Stone Nullah Lane neighbourhood, including local cultural practices – enabling these to be passed on to future generations. Importantly, the effort recognized the interconnection between built and intangible heritage and sought to conserve the two equally, thereby ensuring a future for both.

PROJECT SUSTAINABILITY AND VIABILITY

The Blue House Cluster has retained its original use as a residential complex with commercial operations on the ground floor. Thanks to the 'In-operation Conservation' programmes, tenants co-manage the complex and help to sustain the community life of the neighbourhood through daily interaction and mutual care. Two of the programmes focus on ensuring the long-term economic sustainability of the local area – through social enterprises



KAI FONG COMMUNITY SHARING CLASS

established within the Blue House Cluster. These enterprises include a vegetarian restaurant and a dessert house, both of which serve traditional dishes and employ people from the community, including retirees. Another social enterprise set up under the project is a 'community-oriented mutual economy hall' where people can exchange second-hand goods and access free services such as haircuts and health care. Combined, these programmes consolidate links between members of the community, support the marginalized and strengthen the local economy, ensuring that the living heritage of the Blue House Cluster is sustained in the long term.

PROJECT IMPACT

The Blue House Cluster project showcases the feasibility of revitalizing a community through architectural conservation and demonstrates the effectiveness of community-led, bottom-up and participatory heritage conservation initiatives. Through a holistic conservation plan, which gave equal consideration to respecting the authenticity of the buildings and to meeting the needs of the residents housed in them, the project established a new benchmark for conservation in Hong Kong. This pioneering planning approach, which sustained local culture and community networks while also conserving a key landmark in the Stone Nullah Lane neighbourhood, today serves as a model for the conservation of other urban heritage districts both domestically and internationally.



CULTURAL TOURS

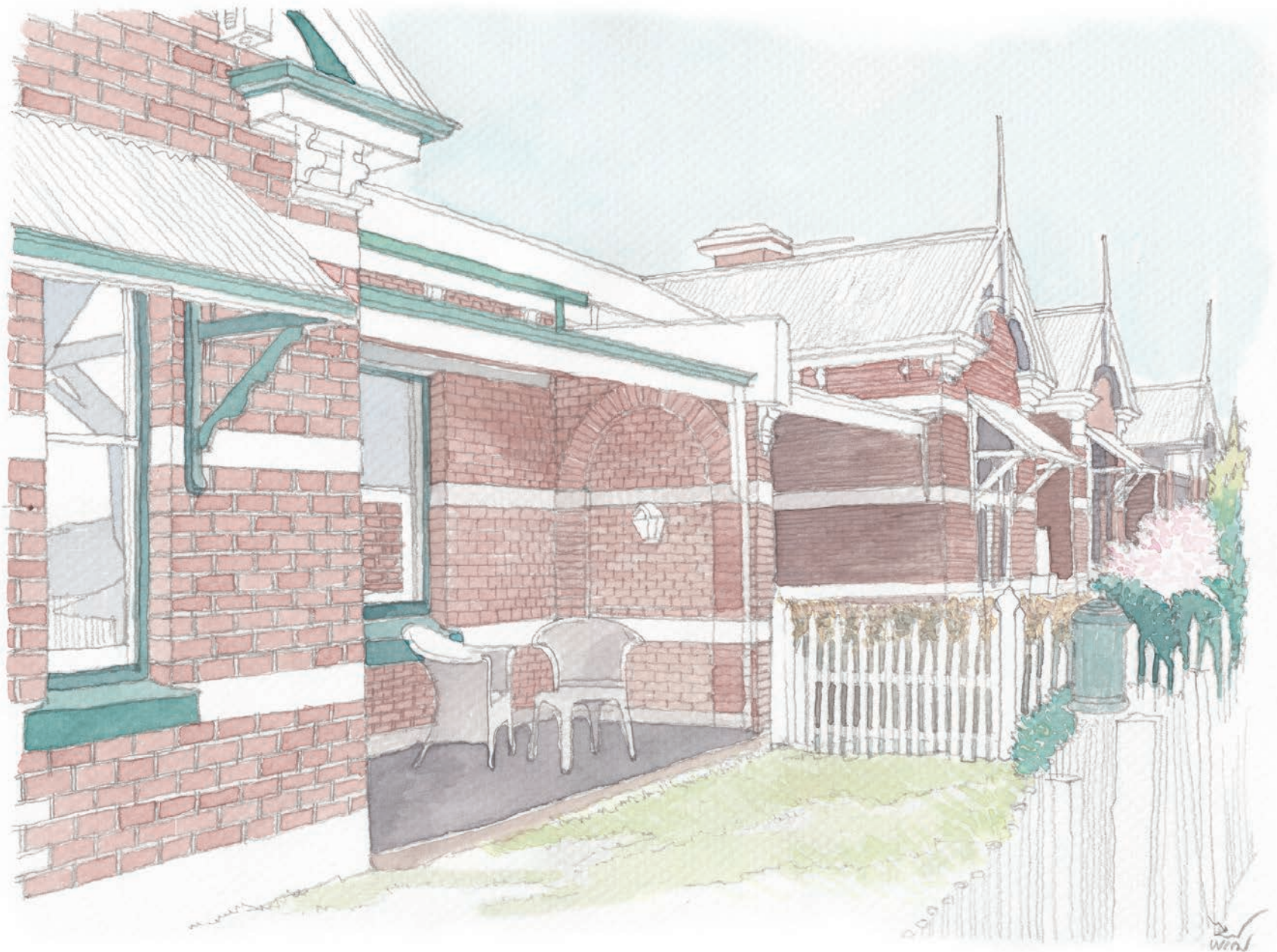
BROOKMAN AND MOIR STREETS PRECINCT

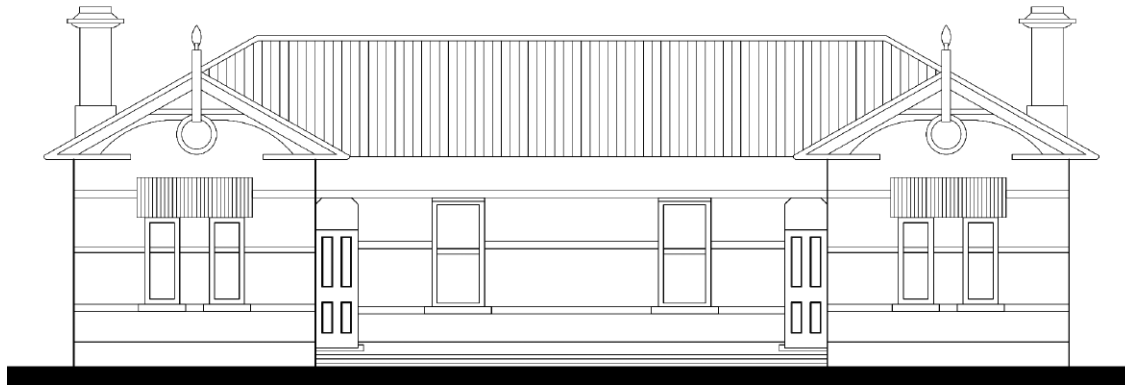
AUSTRALIA

THE RESTORATION OF THE LATE NINETEENTH-CENTURY WORKERS' COTTAGES ALONG BROOKMAN AND MOIR STREETS HAS THOUGHTFULLY REVIVED A MODEST BUT HISTORICALLY-SIGNIFICANT HOUSING DISTRICT DATING BACK TO THE WESTERN AUSTRALIAN GOLD BOOM. INDIVIDUAL HOMEOWNERS UNDERTOOK THE LOVING REFURBISHMENT OF THE SIMPLE FEDERATION QUEEN ANNE SEMI-DETACHED DWELLINGS, WHICH HAD SUFFERED FROM YEARS OF UNSYMPATHETIC CHANGE AND DILAPIDATION. WITH FINANCIAL SUPPORT FROM THE CITY OF VINCENT AND THE LOCAL HERITAGE COUNCIL, AND TECHNICAL GUIDANCE FROM CONSERVATION PROFESSIONALS, THE ORIGINAL ARCHITECTURAL CHARACTER AND MATERIAL PALETTE OF EACH RED BRICK BUILDING WAS CAREFULLY RECOVERED. CATALYSED BY THE RENOVATION OF A SINGLE HOUSE, WHICH THEN INSPIRED OTHER NEARBY RESIDENTS, THE PROJECT HAS REVITALIZED THE STREETScape AND RETURNED A SENSE OF COMMUNITY TO THE AREA. THE REVIVAL OF THE BROOKMAN-MOIR PRECINCT UNDERSCORES THE IMPORTANCE OF RECOGNIZING AND SAFEGUARDING EVERYDAY URBAN FABRIC AS PART OF A HOLISTIC STRATEGY IN SUSTAINING HISTORIC URBAN LANDSCAPES.

2017

AWARD OF DISTINCTION





ELEVATION OF NO. 26 AND NO. 28 BROOKMAN STREET

THE OWNERS OF THE PROPERTIES HAVE SHOWN HOW INDIVIDUALS CAN SHARE KNOWLEDGE AND WORK TOGETHER FOR THE COLLECTIVE GOOD IN RESTORING A SIGNIFICANT STREETSCAPE BACK TO ITS ORIGINAL STATE, AND HOW PROPERTIES CAN BE ADAPTED FOR CONTEMPORARY USE, WHILE ALSO REGENERATING COMMUNITY SPIRIT AND BELONGING.

— QUOTE FROM THE PROJECT TEAM —



REVIVAL OF COMMUNITY SPIRIT AND PRIDE

CONTEXT

The Brookman and Moir Streets Precinct is a residential estate that was built in the late 1890s for the workers of the Colonial Finance Corporation in the city of Perth, Australia. The complex, spans two streets and includes fifty-eight residences. The one-way streets, modest lot sizes and the homogeneity of architectural design and materials of the dwellings within the precinct convey a particular sense of place and provide a visually-striking amenity to this inner-city residential area of Perth.

The modestly-scaled estate, named after two of the principal investors in the Colonial Finance Corporation, was the largest of its type developed in Western Australia in the nineteenth century. Although the development of housing estates was common in Melbourne and Sydney, this was a rare occurrence in Perth. The Brookman and Moir Streets housing estate exhibits aesthetic, social and rarity values and is included on the state heritage register.

BUILDING HISTORY

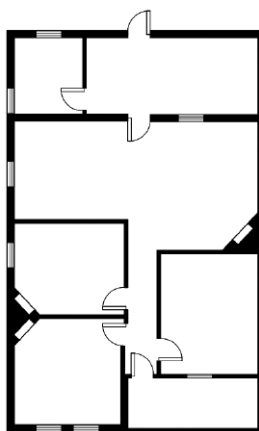
The Colonial Finance Corporation developed the estate to provide workers with rental accommodation in the context of a housing shortage following a rapid population increase during the Western Australian gold rush. The estate consisted mainly of pairs of single-storey semi-detached residences in the Federation Queen Anne Style. The Colonial Finance Corporation rented out the residences of the precinct until 1920, when the estate was transferred to a business owner, who sold the villas as individual residences the following year.

Constructed in limestone and brick, with corrugated-iron roofs, the villas boast architectural features such as bay windows, timber-framed iron-roofed sun hoods, cast-iron lacework, half-timbered gables, delicate stucco (plaster) mouldings, ornamental timber friezes and timber verandas. When they were built, each of the pairs of five-roomed villas was a mirror image of that beside it, with entry from a front veranda to a central passage leading through to the kitchen, and with the back door

opening to a rear veranda. The living rooms and bedrooms opened from the passage, while another room opened from the kitchen. The living rooms and kitchens had fireplaces.

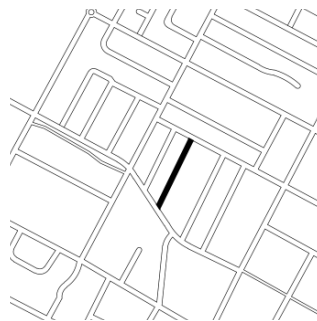
For various reasons, the estate deteriorated significantly over the subsequent eight decades. A key cause of the deterioration was that the precinct had been constructed on land that was originally a lake and marshlands. Before construction of the estate, the developer had filled the lake with sand, leaving a peat bed and a perched water table. Over time, movement of the water table, along with peat shrinkage and settlement, resulted in cracking of the walls of the houses. In addition, many years of rising damp took its toll on the limestone block footings and brickwork.

In the late 1990s, about 100 years after the Brookman and Moir Streets Precinct was first built, the state government constructed a highway and tunnel close to the site, which resulted in further cracking and structural damage to many of the properties in the precinct. In addition, the continual building up of road and path surfaces around the site caused ground levels to rise, exacerbating damp-related problems. Aside from these issues, the cornices and ceilings of the houses were cracked and door jamb levels were uneven, leaving many windows and doors inoperable. In 1998, an inspection revealed that the combination of the structural cracking and rising damp had left many of the houses in the precinct in poor condition.



**GROUND FLOOR PLAN OF NO. 28
BROOKMAN STREET**

PROJECT TITLE
BROOKMAN AND MOIR
STREETS PRECINCT
LOCATION
PERTH, WESTERN AUSTRALIA,
AUSTRALIA
SIZE
100 SQUARE METRES
PER HOUSE
COST
US\$100,000 TO US\$200,000
PER HOUSE
RESPONSIBLE PARTY
CITY OF VINCENT
HERITAGE ARCHITECT
ANNABEL WILLS
DATE OF COMPLETION
JUNE 2016



PROJECT HISTORY

In view of the heritage value of the Brookman and Moir Streets Precinct, in 1995 the local neighbourhood government, the City of Vincent, listed the precinct on the municipal heritage inventory and amended its planning scheme to limit the sub-division and development potential of the lots in the precinct and to protect the existing buildings from possible demolition or replacement. The local government also developed conservation guidelines to assist owners to retain and enhance the significance and distinctive qualities and unified character of the Brookman and Moir Streets Precinct, while also upgrading their residences to suit modern living requirements. In November 2006, the City of Vincent launched a Heritage Assistance Fund to provide financial assistance (grants) to owners who wished to undertake approved heritage conservation projects on places listed on the local heritage inventory. In 2007, the precinct was included in the state register of heritage places.

By the mid-2000s, the damage to the houses in the Brookman and Moir Streets Precinct was severe and the owners of the houses faced the daunting task of repairing their residences. For many owners, demolition seemed the only possible option. The owner of one of the houses recognized the opportunity offered by the heritage grants, however, and began the process of conservation. This first conservation effort provided an example for others to follow. The owners of the house next door to the initial project abandoned their plans to demolish their villa and also launched a conservation project. Subsequently, the owners of many of the other houses in the precinct were inspired to do the same. As of 2016, twenty-nine of the houses in the precinct had been conserved.

PROJECT SCOPE AND FRAMEWORK

The projects to conserve the houses in the Brookman and Moir Streets Precinct aimed to make the buildings structurally sound and watertight, and sought to address the issue of rising damp, remove non-original intrusive elements and adapt the buildings to suit contemporary inner-city living.

For the conservation of the first house, a building condition report recommended that structural repairs

be undertaken before cosmetic works were carried out. The report proposed addressing ground drainage issues and rising damp (for example, by excavating soil to levels below the air vents), underpinning the walls, repairing structural cracks, repointing the brick walls and repairing the roof. Other tasks included reversing alterations and removing additions, such as the reinforced concrete floors and reinstating floorboards and period skirting, as well as restoring original façade elements, such as windows, verandas and awnings. Similar works were proposed for the other houses in the precinct.

CONSERVATION METHODOLOGY AND MATERIALS

The projects to conserve the houses in the precinct were guided by the City of Vincent's conservation guidelines, which had been developed in accordance with the conservation philosophy and principles of the Burra Charter. In particular, the projects adhered to four key principles: conservation works should follow a cautious approach of changing as much as necessary but as little as possible; the aesthetic, historic and social/cultural significance of the residences should be conserved, including the strong sense of community within the precinct; conservation work should respect the existing fabric of the houses and retain the streetscape; and projects should use the original techniques and materials whenever possible.

Prior to the commencement of the first project, the conservation team conducted extensive research on the cultural significance and spirit of the place. With the support and assistance of heritage consultants, the local City of Vincent and the Heritage Council of Western Australia, they examined and analysed the physical, documentary and oral evidence of the estate. The findings of these studies were the basis for the conservation projects in the estate.

The conservation work undertaken at the Brookman and Moir Streets Precinct exhibited a high level of uniformity and consistency. Technical solutions respected the character of the properties and ensured that the buildings were conserved with a high degree of authenticity. Materials were replaced like-for-like, with care being taken to ensure that original fabric was retained and only replaced when absolutely necessary.



A HOUSE IN BROOKMAN STREET BEFORE AND AFTER CONSERVATION

IMPORTANT ISSUES

The Heritage Assistance Fund introduced by the City of Vincent in 2006 overcame one of the major challenges for the owners of the residences in the precinct: lack of finance. Without these funds, many of the local residents would not have been able to conserve their properties, and may have been forced to sell their houses and move out of the area. The provision of funding support was therefore a significant factor in avoiding gentrification of the precinct. Between 2006 and 2016, the local government supported thirteen grant applications from the Brookman and Moir Streets Precinct. The Heritage Council of Western Australia, the state government's advisory body on heritage matters, provided funding assistance for sixteen projects in the precinct.

PROJECT SUSTAINABILITY AND VIABILITY

The nature of the housing, the layout of the streets, the adjoining front gardens and the fact there is no off-street parking made for a close-knit neighbourhood and a sense of community, which the people living in the precinct valued. Reflecting this, the work on the villas in the precinct was a collaborative effort. As momentum for preservation grew, the community came closer together. Neighbours offered each other advice on appropriate materials and the right colour paint, and whenever a house was brought back into good repair the whole neighbourhood felt a sense of achievement. The owners of the houses also worked in cooperation with the local government, the state government and conservation professionals. In addition, contractors working on properties within the precinct took the knowledge they gained about conservation methods to other projects in the precinct, ensuring the replication of good practice. The cooperation and sharing of information not only served to strengthen bonds and inspire others to conserve their houses, but also encouraged home owners to ensure the ongoing maintenance of their properties. The projects have resulted in a vibrant community and have ensured a residential precinct that will remain for generations to come.

PROJECT IMPACT

As a result of the combined efforts of the homeowners, the local and state governments and heritage professionals, many of the residences in the Brookman and Moir Streets Precinct were conserved, reviving this once run-down and derelict area and breathing new life into it. The very act of conservation strengthened social bonds in the community; residents talked to each other more and helped each other, fostering a stronger sense of community spirit and pride. Additionally, in the process of restoring the houses in the precinct, many property owners uncovered their shared history, which brought a new level of consciousness of local heritage. The conservation work thus assisted in reintroducing the cultural heritage significance and identity of the precinct to the community.

TECHNICAL BRIEF

BROOKMAN AND MOIR STREETS DEVELOPMENT GUIDELINES



INTERIOR OF 17 BROOKMAN STREET BEFORE RESTORATION

In 2001, the City of Vincent developed and adopted development guidelines for the Brookman and Moir Streets precinct. The guidelines, which were based on the conservation philosophy and principles of the Burra Charter, sought to maintain the consistency of the streetscape and the character of the area. In particular, the guidelines aimed to assist owners of the buildings in the precinct to conserve their properties, so that the significant qualities and unified character of the precinct – which reflect over 100 years of history – would endure. While aiding in the conservation of the properties in

the precinct, the guidelines also sought to assist owners to manage change; to modify their properties to accommodate modern living standards and also to extend their properties, when required.

The guidelines offered a course of action for any kind of intervention, covering both exterior details and the interior plans of the residences. The guidelines specified that the original external features, including rooflines, gable details, gable vents, chimneys, window arrangements, front doors, veranda features, awning lights, party wall niches and consoles, were to be

retained and conserved. Furthermore, to preserve the integrity of the streetscape and architecture, the guidelines stated that no construction would be permitted within the front setback and no additions would be permitted that would be visible from the public domain. In addition, the guidelines specified that existing access to sunlight and privacy were to be maintained.

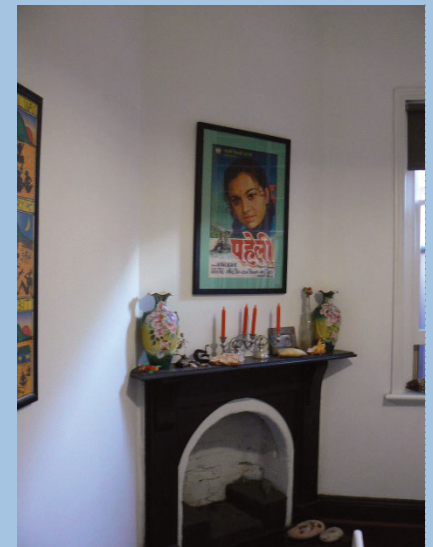
However, the guidelines allowed for alterations and additions. They were permitted as long as they interpreted the heritage significance in a contemporary way. That is, alterations and additions were allowed as long as the design considered the existing built form, context of the streetscape, roof form, public domain and building proportions.

The guidelines were divided into four categories, namely: essential controls, discretionary controls, encouragement and advice. As the name suggests, 'essential controls' are not flexible, while 'discretionary controls' allow for certain measures, providing they result in a good conservation outcome and are in harmony with the Brookman and Moir Streets area. 'Encouragement' consists of information that assists in the enhancement of individual properties, as well as the area as a whole, while 'advice' describes the manner in which improvements can be made. Relating to the latter, the City of Vincent offered free advice on various heritage matters, including appropriate design, colour schemes and materials.

While the guidelines were directed at homeowners, they also provided an

insight into the local government's direction with regard to development and urban infrastructure. The guidelines specified that the design of roads, lighting, signage, paving and street furniture was to be sympathetic to the character of the area. In particular, they stipulated that roads, kerbs and footpaths should retain their alignment, and that all new development would be measured by discretionary control to obtain a positive conservation outcome as well as benefits to the area.

*Adapted from the
"Brookman and Moir Streets Precinct"
UNESCO Asia-Pacific Heritage Awards
entry submission*



INTERIOR OF 17 BROOKMAN STREET
AFTER RESTORATION

HOLY TRINITY CATHEDRAL

CHINA

THE EXCEPTIONALLY ACCURATE AND TECHNICALLY PROFICIENT RESTORATION OF THE HOLY TRINITY CATHEDRAL HAS REVIVED THE OLDEST ANGLICAN CHURCH IN CHINA AND SUCCESSFULLY RE-ESTABLISHED ONE OF SHANGHAI'S MOST ICONIC HISTORIC LANDMARKS. EXTENSIVE REPAIRS AND JUDICIOUS REMOVAL OF UNSIGHTLY MODERN ACCRETIONS RECOVERED THE ORIGINAL DIGNITY AND GRANDEUR OF THE GOTHIC REVIVAL MONUMENT DESIGNED BY PROMINENT NINETEENTH-CENTURY ARCHITECT, SIR GEORGE GILBERT SCOTT. METICULOUS CRAFTSMANSHIP WAS APPLIED TO RESTORING THE STRUCTURE AND LOST DECORATIVE WORKS, NOTABLY THE STAINED-GLASS WINDOWS. THE REBUILDING OF THE CLOCK TOWER RE-ESTABLISHED A DISTINCTIVE ICON THAT ONCE ANCHORED THE CITY'S HISTORIC SKYLINE. THE REINSTATEMENT OF ITS SOARING INTERIORS AND DISTINCTIVE POLYCHROME BRICKWORK PROVIDES A FITTING BACKDROP FOR SACRED USE OF THE CATHEDRAL BY A MODERN-DAY CONGREGATION.

2017

AWARD OF DISTINCTION



CONTEXT

Located in the district of Huangpu in Shanghai, the Holy Trinity Cathedral was the first Anglican church constructed in China. The cathedral was a central feature in the lives of the British population living in the Shanghai International Settlement (1863-1941), and the cluster of buildings making up the complex created a de facto church 'zone' in the city, giving the church a prominent social position and significant influence. The church and its tower symbolize a significant period in Shanghai's history and are among of the city's most iconic structures.



'SEEKING THE REAL HISTORY' WAS A CONSERVATION PRINCIPLE OF THE PROJECT, WHICH AIMED TO RETRIEVE AND CONVEY THE TRUE SPIRIT OF THE PLACE.

— QUOTE FROM THE PROJECT TEAM —



EXTERIOR BEFORE (L) AND AFTER (R) CONSERVATION

BUILDING HISTORY

Designed in the Gothic Revival style by prolific English architect Sir George Gilbert Scott, the plan of the Holy Trinity Cathedral followed a traditional Latin cross. As the original design was too costly and lacked sufficient seating for the congregation, William Kidner, a British architect working in Shanghai, revised the design, lengthening and widening the building, with approval from Scott.

Owing to economic constraints, the construction of the Holy Trinity Cathedral was divided into two phases. The main part of the church building was completed in 1869, while the tower, which was equipped with a musical clock that could be struck as per the rhythm of psalms, was completed in 1893, along with the spire.

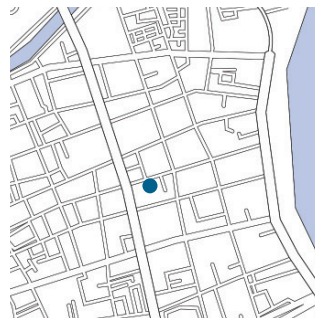
The church walls were of red bricks sized according to the British system. The building also featured granite columns and imported pine. The roof was clad in oil shale tiles. The clock tower was constructed with a wooden frame, but its walls continued the red brick of the main sanctuary. Historically, the red spire of the cathedral could be seen by ships approaching the harbour, making it a key landmark. The building's red bricks and spire led to the site becoming known as 'the Red Church'.

In 1925, the parish installed a 2,500 pipe organ in the cathedral. Then in 1928, the parish added a church school, a four-storey Art Deco building, on the northern side of the church building. The parish also added two annexes on the church's west. One was a two-storey brick and wood building that served as the dean's residence and the other was a single-storey reinforced concrete structure that was used as a health club.

In the 1950s the Three-Self Patriotic Movement (TSPM), a Protestant church based on the principles of self-governance, self-support and self-propagation, took over management of the complex. At this time the school and dean's residence became police offices and a visa bureau, respectively, which resulted in changes to the layout and appearance of these buildings.

The site suffered significant damage during the Cultural Revolution (1966-1976). The Red Guards pulled down the spire on top of the clock tower and used the church as a warehouse. The church building later served as a cinema; for this purpose a stage was installed in the chancel and the floor was inclined to incorporate

PROJECT TITLE
HOLY TRINITY CATHEDRAL
LOCATION
SHANGHAI, CHINA
SIZE
2,240 SQUARE METRES
COST
US\$3 MILLION
RESPONSIBLE PARTY
CHINA CHRISTIAN COUNCIL
THREE-SELF PATRIOTIC
MOVEMENT
HERITAGE ARCHITECT
MING YANG
JIN HOU
CONTRACTOR
SHANGHAI HOUSING GROUP
C&D CO., LTD.
DATE OF COMPLETION
APRIL 2010



theatre seating. The interior wall surface was painted over, altering the original brick finish and mouldings. All of the stained-glass window panels were lost.

In 1989, the government designated the building as a cultural heritage site. Over the subsequent years, the Holy Trinity Cathedral fell into disrepair, however. Decades of wind and rain resulted in the weathering of the external walls. Many of the roof tiles were damaged, leading to leakage, as well as rotting of the roof brace system, which threatened the structural integrity of the church building. The buttress at the southeast corner collapsed. The uppermost wooden structural frame became infested with white ants. Most of the roof's cast iron gutters and drains were also damaged over the years and vegetation growth marred the main façade.

PROJECT HISTORY

Towards the end of the twentieth century, the city of Shanghai began gradually adopting a series of local laws to protect historic buildings, thus paving the way for conservation efforts. In view of this, and recognizing the need to conserve the cathedral, in 2004 the TSPM and the China Christian Council (CCC), the officially authorized representative organization for China's Protestant population, jointly initiated a project to restore the Holy Trinity Cathedral. In 2005, the government transferred ownership of the cathedral to the TSPM and provided funding for the conservation effort. Conservation work began in 2008 and was completed in 2010.

PROJECT SCOPE AND FRAMEWORK

The core aims of the project were to reinstate the grandeur and aesthetics of the Holy Trinity Cathedral, to restore the components to their specific historical eras as precisely as possible and to reinstate the original function of the church as a place of community gathering. An important part of the restoration work was the removal of additions and alterations. Aside from conserving the church, the project also restored the school building and converted it for reuse as a bookstore. In addition to restoration and conservation work, the project also included the insertion of modern facilities. Furthermore, the project involved landscaping, so as to establish a tranquil spot within the urban context that the population of Shanghai could enjoy.

CONSERVATION METHODOLOGY AND MATERIALS

The project adhered to the Shanghai government's rules for the conservation of buildings and China's Law on the Protection of Cultural Relics, and was guided by the philosophy of 'seeking the real history' of the buildings. In accordance with this philosophy, a key task was the removal of the layers of accretions, which compromised the original features of the cathedral complex.

The project sought to use, as much as possible, the same materials and techniques used in the original construction. The repairs demanded a high level of technical proficiency and the project team therefore hired skilled artisans to meticulously restore the buildings.

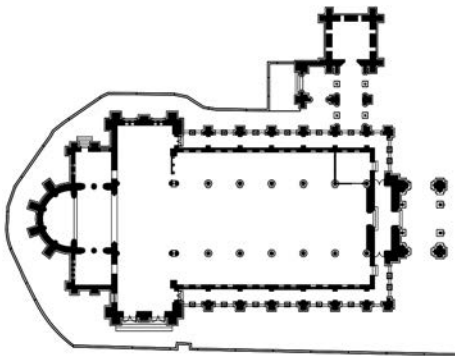
Before works commenced, experts conducted on-site research and analysis, and examined written materials, photographs and illustrations to identify the original form, materials and finishes of the cathedral. Based on the findings of the studies, the conservation team adopted targeted measures for both the exterior and interior components, which were restored with the highest-possible level of technical accuracy.



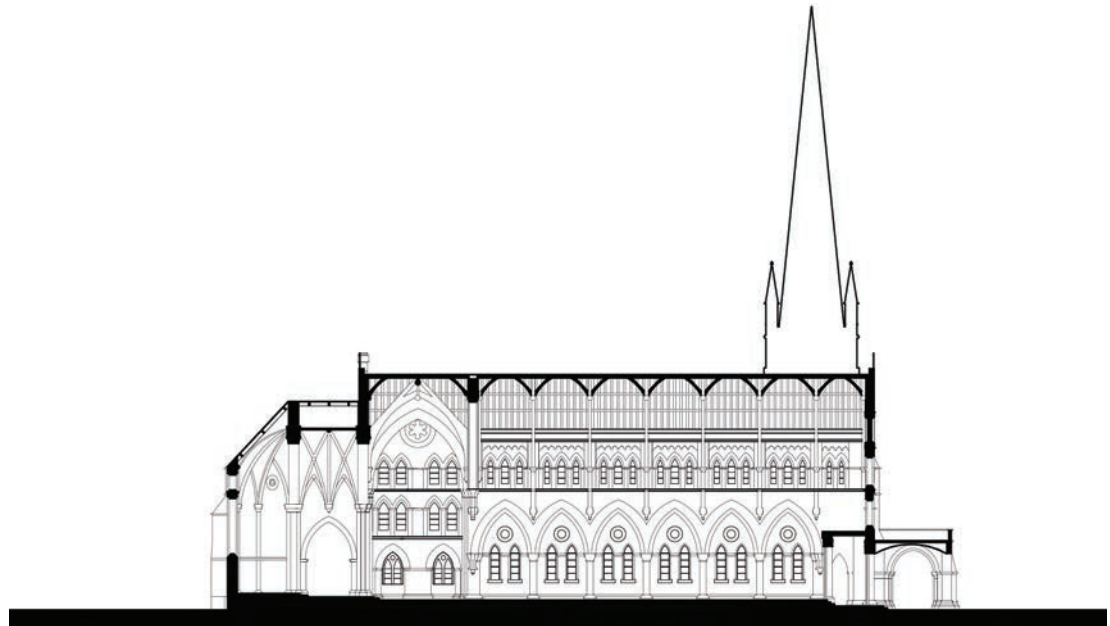
ORGAN AND THE ABSIDE AFTER RESTORATION



INTERIOR OF THE ABSIDE AFTER RESTORATION



PLAN



SECTION

A key challenge was to stabilize the main building. This required dismantling the slabs and beams that had been added in the 1970s and realigning the gable wall. This was carried out by securing the beams with support brackets and dismantling the framework at specific locations. Additionally, the team set laser survey points at the periphery of the building in order to identify the stress variation levels resulting from the beam dismantlement. The structural engineers and construction contractor adopted a method that moved the entire face of the gable wall in order to rectify its inclination. With careful calculation and execution, stabilization was achieved.

Work to the façade included repairing the damage caused by plants and water ingress. Workers dismantled the remains of the south-east corner wall, which had collapsed as a result of vegetation growth, and rebuilt the wall using the old bricks. New bricks, of the same size and colour as the original bricks, substituted for missing and weathered bricks.

To reinstate the porch design, the team replaced the missing stone columns and stone decorative motifs, using granite that matched the original in terms of colour and quality. Similarly, for repointing the brickwork the team selected mortar to match the original, based on the results of the chemical analysis of the original mortar. Wooden members damaged beyond repair were replaced with new pieces of the same type of wood.

Among the project's major challenges was the reconstruction of the clock spire, a step necessary to restore a crucial part of the form and aesthetic of the church. The team ascertained the height of the original spire with the help of old photographs of the church and a 3D model. To reconstruct the spire, the workers used pipe steel as the primary structural material for the inner brace and used pre-cast cement slabs to form the base slab. The workers then joined the structural base of the spire to the reconstructed clock tower.

On the interior, workers removed the suspended ceilings, wall plaster, reinforced floor slabs and steps that had been added in the 1970s. The workers then repaired the original components and ornamentation of the church building, including decorative mouldings, doors and windows and ceiling patterns. The team also reinstated furniture, including timber pews and an organ.



**INTERIOR OF THE CATHEDRAL
BEFORE AND AFTER RESTORATION**

Taking care to retain the original appearance of the building, workers installed modern facilities and equipment, including air-conditioning, lighting fixtures and visual and audio equipment, thereby upgrading the church to meet the expectations of a modern-day congregation.

IMPORTANT ISSUES

The removal of the concrete flooring inside the church building revealed a mosaic tile floor at the altar end as well as the logo of the Church of England. As some parts of the mosaic were missing, experts installed matching tiles to replace the missing ones, using the same quality and colour tiles as the originals. For the restoration of the stained glass, the team located the stained-glass manufacturer in the United Kingdom that had made the windows and acquired the designs of the original window panels. An artisan recreated the stained-glass panels on the west, south and north of the building. The installation of the stained glass contributed strongly to reinstating the former aesthetic and character of the church.

PROJECT SUSTAINABILITY AND VIABILITY

The conservation of the Holy Trinity Cathedral reinforced the site as a religious centre and community gathering spot. Several meetings and events have taken place at the site since its reopening. The church also serves as the headquarters for the Three-Self Patriotic Movement.

PROJECT IMPACT

The project not only restored the site, it also recaptured the spirit of this important community landmark. The resurrected spire has anchored the building to the skyline and has enriched the urban cityscape.

The professional techniques used in this project serve as a useful reference for other masonry and timber structures of this type and era in Shanghai, and the restoration works undertaken at the Holy Trinity Cathedral set a high standard for conservation practice in the region.

CHRIST CHURCH

INDIA

THE CONSERVATION OF THE NINETEENTH-CENTURY CHRIST CHURCH HAS RECAPTURED THE ORIGINAL CHARACTER OF A FINE AND RARE EXAMPLE OF NEO-CLASSICAL ARCHITECTURE IN MUMBAI. ONE OF THE CITY'S OLDEST PUBLIC BUILDINGS, THE CHURCH HAD SUFFERED FROM EARLIER INAPPROPRIATE REPAIR WORKS THAT DISGUISED AND DIMINISHED ITS CULTURAL VALUE. FOLLOWING CAREFUL INVESTIGATIONS, PAST INTERVENTIONS WERE SELECTIVELY REVERSED AND THE CONTINUING FUNCTION OF THE CHURCH WAS ENHANCED. ARTISAN SKILLS WERE REVIVED DURING THE RENEWAL OF THE ELEGANT INTERIOR WITH ITS GILDED COLUMNS, MEMORIAL STAINED-GLASS WINDOWS AND LATH AND PLASTER CEILING. FUNDED BY THE CHRIST CHURCH TRUST, THE RESTORATION OF THIS CHURCH HIGHLIGHTS THE ARCHITECTURAL HISTORY OF THE NEIGHBOURHOOD AND SERVES AS A MODEL TO ENCOURAGE FURTHER CONSERVATION OF MUMBAI'S BUILT HERITAGE.

2017

AWARD OF MERIT





ELEVATION

IT IS HOPED THAT CHRIST CHURCH CAN BE A MODEL FOR OTHER CHURCHES TO FOLLOW, SO THAT THEY WILL AVOID AD HOC REPAIRS WITH CONTRACTORS, WHICH DO MORE HARM THAN GOOD. IT WAS AN IMPORTANT STEP FOR RELIGIOUS BUILDINGS THAT ARE DECLARED HERITAGE SITES.

— QUOTE FROM THE PROJECT TEAM —



TOWER DETAILS. BEFORE, DURING AND AFTER RESTORATION

PROJECT SYNOPSIS

Located in the South Mumbai neighbourhood of Byculla on the fringe of the Fort precinct, Christ Church has had a continuous role in the city's history for almost 200 years. As one of the city's oldest Protestant churches, Christ Church was built for the benefit of the children of the Bombay Education Society's school and was constructed on a plot adjoining the school; it is surrounded by a large garden. The components of the compound include the church with attached parsonage, the parish offices and the administrator's residence. The church opened for worship in 1833 and was consecrated in December 1835.

The Neo-Classical architectural style of Christ Church is in harmony with the city's remaining monuments of the same period, including the Mint and the Town Hall (the present-day Asiatic Society of Mumbai building). Designed to accommodate a congregation of at least 300, the rectangular floor plan follows longstanding church traditions, consisting of a centre aisle and two side aisles. A mezzanine level spans the inner side of the west façade. A tower distinguishes the entry end of the church. The tower was once a local landmark, but the site is today surrounded by high-rise buildings. The open space around the church nonetheless remains an oasis in the urban area.

Over its long history, the structure retained integrity in its overall design and form, and the masonry walls remained in a relatively good condition, with no distress or structural cracks evident. However, although the government had listed Christ Church as a Grade III heritage building in 1995, the building's authenticity was compromised by numerous unsympathetic additions and alterations. One such change was that the external and internal lime plaster had been replaced with concrete and the exterior of the church had been painted a pinkish-orange colour. On the interior, various changes had been made, including the addition of marble cladding to the altar. In recent decades, the building had suffered from a lack of maintenance, which was due to a decrease in the congregation size and a consequent reduction in the availability of funds for repairs.

In 2012, recognizing that the church was in need of repair, the trustees of Christ Church spearheaded a conservation effort. In order to avoid damaging the integrity of the church, the trustees engaged a noted conservation architect to guide the process. Constrained



**VISUALLY IMPAIRED ARTIST WEAVING
THE BASE OF THE SEATS**

by the length of time needed to raise funds for the project, the work was implemented in two phases, with the first phase (August to December 2015) focusing on structural repairs and the second phase (April to December 2016) focusing on reversing the accretions and their visual impact.

CONSERVATION APPROACH

As an important public building in the city, the project's designers felt it was vital to retain the features of the site that contribute to its distinctive character. The conservation effort sought to reveal the authenticity of the site while also taking into account the needs of the parishioners.

The project began with a detailed fabric status report and research into the building's history. Archival photographs obtained from the British Library provided evidence of details that had been damaged or destroyed in previous repairs. These included the front pediment, the gutters, the architrave moulding around windows and the window shutters.

A significant problem to be addressed was that the original louvered windows had been sealed with glass in a previous restoration effort, cutting off the building's natural ventilation. To rectify this, workers removed the panes of glass and installed new louvered shutters, along with drip moulds, thus reinstating the original window details.

PROJECT TITLE
CHRIST CHURCH

LOCATION
MUMBAI, INDIA

SIZE
756 SQUARE METRES

COST
US\$195,720

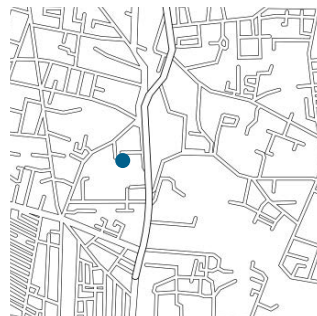
RESPONSIBLE PARTY
THE CHRIST CHURCH TRUST
HERITAGE ARCHITECT

VIKAS DILAWARI

CONTRACTOR

S.M. CONSTRUCTION (PHASE I)
G.R. ENTERPRISES
(PHASE II)

DATE OF COMPLETION
DECEMBER 2016



The process of inspection revealed that the wooden ceiling trusses were failing due to leakage from the roof gutters. The decay of the trusses had caused the southern part of the lath-and-plaster ceiling to collapse. In order to address the root cause of this problem, workers removed the wooden planks in the roof, laid new boards and installed new flashing in the gutters. The trusses themselves were also repaired. Workers installed new supports and wooden members, with additional steel flitching to replace the damaged components. Once the trusses had been strengthened, the lath-and-plaster ceiling was faithfully restored. In areas where the ceiling was missing, the conservation team installed gypsum board.

The project reinstated the original interior decorative elements, for example, removing the marble cladding on the altar and reapplying gilding to the two columns of the altar and two pilasters. Artisans also restored the memorial stained-glass window adorning the altar window. In addition, workers removed the linoleum covering the basalt flooring and diamond polished the floor.

CONSERVATION AND THE COMMUNITY

While ensuring that the conservation work on the building adhered to ideals of best practice, the trustees also consulted with the parishioners to ensure that the project met their needs, so as to secure Christ Church's significance for present and future congregations. This consultation process resulted in several compromises, but the project nevertheless adhered to high standards. Indeed, the restoration of Christ Church was significant in setting a new benchmark for the conservation of historic churches in Mumbai.

During the implementation of the conservation project, the directors organized educational programmes, workshops and heritage walks, and produced brochures, postcards and calendars, so as to inform the public of the history of the church and its heritage value. This has resulted in greater awareness among the public of the value of the building to the congregation and the wider community.

ROYAL BOMBAY OPERA HOUSE

INDIA

UNDER GENEROUS PRIVATE PATRONAGE, THE HEROIC RESCUE OF THE ROYAL BOMBAY OPERA HOUSE FROM THE VERGE OF COLLAPSE HAS REVIVED THE BELOVED CULTURAL VENUE AS A GIFT TO THE CITY OF MUMBAI. ONCE HAILED AS 'THE FINEST THEATRE IN THE EAST', THE CENTURY-OLD BUILDING HAD BEEN SUBJECTED TO A SERIES OF UNSYMPATHETIC RENOVATIONS DURING ITS STINT AS A CINEMA BEFORE ITS EVENTUAL CLOSURE AND ABANDONMENT. WITH GUIDANCE FROM DEDICATED SPECIALISTS, THE PROJECT DEMONSTRATES GREAT TECHNICAL COMPETENCE IN OVERCOMING SEVERE STRUCTURAL DISTRESS, RESTORING DECORATIVE FEATURES AND IMPROVING ACOUSTICS, ALL THE WHILE MAINTAINING SPATIAL INTEGRITY AND AUTHENTICITY. THE COMPREHENSIVE RESTORATION, UNDERTAKEN WITH METICULOUS RESEARCH AND QUALITY WORKMANSHIP, SUCCESSFULLY REVIVED NOT ONLY THE MAGNIFICENT NEO-BAROQUE ARCHITECTURE BUT ALSO THE SPIRIT OF PLACE OF THE ONLY SURVIVING OPERA HOUSE IN INDIA.

2017

AWARD OF MERIT



PROJECT SYNOPSIS

The only surviving opera house of its era in India, the Royal Bombay Opera House once hosted operas, concerts, dance, theatre, films and lectures. This Neo-Baroque structure, situated in the heart of the city of Mumbai, is characterized by its highly ornate stone façade and magnificent interiors. The monumental front façade is distinguished by Corinthian capitals, stained-glass fanlights, decorative architraves, Italianate balusters, panelled and louvered doors, timber awnings, intricate cast iron railings and ornate statuary. This façade is surmounted by an elaborate carved pediment with a sculpted frieze, which features carved cartouches and a bas relief depicting angels, cherubs and musicians playing the violin, harp and cello. These features combine to make this one of Mumbai's notable architectural landmarks.

Inaugurated in 1911 by King George V while still under construction, the Royal Bombay Opera House was completed in 1916. In 1917, the opera house began being used as a cinema, then in 1935 the opera house underwent a major renovation and was converted into a single screen cinema hall. From the 1940s to the 1970s it was the most popular venue for the premiers of India's major films.

The building was subject to major changes in the 1970s when its Neo-Baroque balconies were demolished and the interior received an Art Deco overlay. The building was used as a cinema until 1993 when, with the decline in cinema viewership for single screen theatres, the building was decommissioned. In the ensuing years, with no maintenance and subject to the local wet and humid conditions, the building fell into disrepair and finally dereliction. Water from the roof and the ground seeped inside the structure and initiated a chain reaction of deterioration that affected all parts of the building, including its stone walls and flooring. Severe structural distress led to an appraisal by the Municipal Corporation of Greater Mumbai that concluded that the old site was in a 'ruinous condition' that was likely to fall down, and that it was dangerous to any person occupying or passing it. Demolition appeared imminent.

Following a series of ownership changes, the building came under the custodianship of the property's current owner, Shri Jyotendrasinhji Jadeja. The owner launched a restoration project in 2007, seeking to strengthen the



INTERIOR VIEW OF THE AUDITORIUM BEFORE AND AFTER RESTORATION

THIS PROJECT HAS DEMONSTRATED THAT THE CONSERVATION OF PRIVATELY-OWNED BUILDINGS IS BOTH POSSIBLE AND VIABLE, AND IS IN THE PUBLIC INTEREST.

— QUOTE FROM THE PROJECT TEAM —

structure and restore the property's original appearance and use as an opera house and theatre, and therefore reinstate a key part of Mumbai's cultural heritage. Following a detailed documentation process, the project architect submitted a detailed fabric assessment and conservation plan to the Mumbai Heritage Conservation Committee, which approved the project in 2009. As the opera house is a privately-owned building, no government funding or grants were available for the project, so the project was funded entirely by the owner. The conservation work commenced in 2010 and was completed in October 2016. Today, the restored opera house is once again an important venue for theatre and music.

CONSERVATION APPROACH

The Royal Bombay Opera House project followed best practice in architectural conservation, adhering to principles and practices such as: proper documentation, minimal intervention, material authenticity, revival of traditional techniques and the employment of skilled artisans.

Prior to the conservation work, the project team carried out documentation and archival research,

Mapping and a cartographic survey, along with photographic records of every detail of the building, provided the necessary information for the preparation of the conservation plan and guided the subsequent work.

The conservation work had two phases. The first focused on structural stabilization and the restoration of the building's shell. The second phase involved restoring the interior. In the first phase, the work started with the propping of distressed sections. This was followed by the repair of the roof, the stabilization of balconies, the reinforcement of jack arches and the strengthening of elements in the basement. The team substituted decayed steel sections with matching ones, which were carefully selected from demolition yards in Mumbai and Gujarat, and replaced damaged timber planks in the roof with new, well-seasoned planks.

The first phase also included the restoration of the front façade. Workers repaired the six tall pilasters and Corinthian capitals, decorative architraves and timber awnings. For missing stones, workers used the 'Dutchman' (piecemeal) approach to repairs, replacing them with stone from the same quarries as the original material, which included limestone from Gujarat.



RENOVATED DOME IN THE ENTRANCE LOBBY

Workers cleaned the limestone and basalt in the walls and plinth employing a technique based on gentle misting and poultices (avoiding abrasive methods). The pointing of the stone walls relied on traditional lime mortar, a material that allows moisture to enter and leave the masonry wall freely.

The second phase began two years after the completion of the first. The team relied on old records to reinstate the former Neo-Baroque interior, notably the entrance lobby, once described as the 'Palace of Light'. Experts restored the woodwork, marble statuary, chandeliers, Minton tiles, stained glass, coloured figured glass and stone carvings. Missing elements, such as the balcony detailing, were carefully reconstructed using evidence found in the building, for example, details that were uncovered when removing the Art Deco panelling, and foliate and cherub plaster casts that were discovered in the basement.

In restoring the interior of the auditorium, the team sought to reinstate the original layout while also enhancing the experience of both performers and audiences. Therefore, the team installed modern additions to improve the acoustics, bringing the building up to standards expected by modern audiences, and inserted new fire alarms and a sprinkler system, improving safety. New amenities were introduced sensitively and unobtrusively. Following this work, representatives from the National Centre for the Performing Arts assessed the performance area and found it to be up to modern standards.

PROJECT TITLE
ROYAL BOMBAY OPERA HOUSE

LOCATION
MUMBAI, INDIA

SIZE
2,400 SQUARE METRES
COST

US\$2.6 MILLION

RESPONSIBLE PARTY

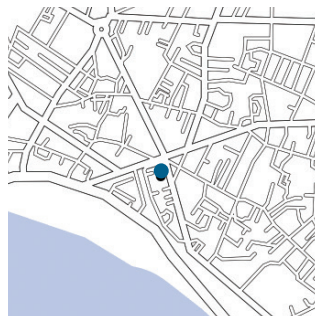
JYOTENDRASINHJI
VIKRAMSINHJI JADEJA

HERITAGE ARCHITECT
ABHA NARAIN LAMBAH
ASSOCIATES

CONTRACTOR

SAVANI CONSTRUCTION
CO. PVY. LTD.
SKYWAY INFRA PROJECTS
PVT. LTD.

DATE OF COMPLETION
OCTOBER 2016



CONSERVATION AND THE COMMUNITY

The project team gathered information about the original features of the building from people who were familiar with the earlier appearance of the building and from local artisans who had been employed in previous restoration work. By drawing on the memories of community members, the project team ensured the restoration was authentic and meaningful to the users of the building.

By successfully restoring this property, the privately-funded project demonstrated that there is hope for the many heritage buildings in private ownership in India. The restoration of the Royal Bombay Opera House has revived a cultural landmark and a key part of Mumbai's history.



INTERIOR OF THE ENTRANCE LOBBY AFTER RESTORATION

SRI RANGANATHASWAMY TEMPLE

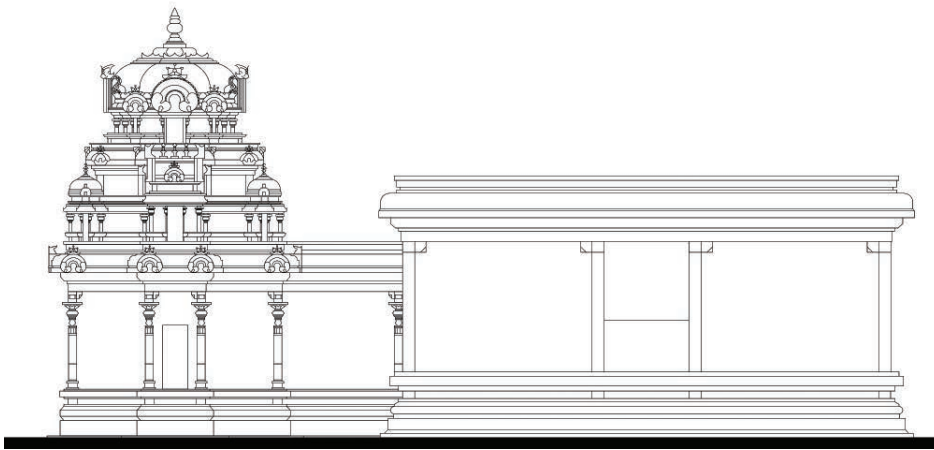
INDIA

UNDERTAKEN THROUGH A MAJOR PUBLIC-PRIVATE INITIATIVE, THE CONSERVATION OF THE SRI RANGANATHASWAMY TEMPLE HAS REVIVED THE EXTENSIVE RELIGIOUS COMPLEX AT THE CORE OF THE SRIRANGAM TEMPLE TOWN. THE PROJECT HAS REVEALED THE ORIGINAL FABRIC OF THE SHRINES, WATER BODIES AND LANDSCAPE WITHIN THE TEMPLE'S FOUR INNER ENCLOSURES, WHICH WERE ONCE OBSCURED UNDER LAYERS OF INAPPROPRIATE MODERN ADDITIONS AND TONS OF DEBRIS. EMPLOYING TRADITIONAL CONSTRUCTION MATERIALS AND TECHNIQUES, THE RESTORATION WORK WAS CARRIED OUT IN AN AUTHENTIC MANNER BY LOCAL CRAFTSPEOPLE IN ACCORDANCE WITH ANCIENT BUILDING PRINCIPLES AND RITES. THE TECHNICAL TEAM EFFECTIVELY OVERCAME THE PERENNIAL FLOODING PROBLEM THROUGH THE RE-ESTABLISHMENT OF THE HISTORIC WATER HARVESTING AND DRAINAGE SYSTEM. THE TEMPLE TODAY ATTRACTS GREAT ATTENTION AMONG ITS DEVOTEES AND SUPPORTERS, WHOSE RENEWED SENSE OF PRIDE AND CUSTODIANSHIP WILL ENSURE ITS LONG-TERM SUSTAINABILITY.

2017

AWARD OF MERIT





SRI VITTALKRISHNAN SHRINE ELEVATION



DETAILS OF RAGANVILAS MANDAPA AFTER CONSERVATION

THE TEMPLE CONSERVATION PROJECT HAS BEEN AN EDUCATIONAL RESOURCE THAT HAS HELPED PEOPLE UNDERSTAND AND APPRECIATE ARCHITECTURE, TECHNOLOGY, ART AND CULTURE. AS A REPOSITORY OF LOCAL HISTORY, THE TEMPLE HAS HELPED REMIND THE COMMUNITY OF RESPONSIBILITIES TO PAST AND FUTURE GENERATIONS.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Located on the island of Srirangam in the state of Tamil Nadu, Sri Ranganathaswamy is an ancient temple dedicated to Ranganatha, a reclining form of Lord Vishnu. The temple complex, considered one of the largest in the world, is the only temple in India containing a human settlement within its walls. Indeed, Sri Ranganathaswamy is more than a temple, it is also a town.

Features of the multi-faceted fabric of the complex include sites for rituals and also for activities associated with everyday life for the community. Within the seven rectangular walls of the 156-acre complex are shrines, halls, pavilions, granaries, towers and water catchment systems. The religious buildings within the temple complex feature decorative elements and murals depicting stories from the Hindu scriptures. At the centre of the temple is the shrine of Sri Ranganathaswamy.

Built over centuries, the temple reflects changes in

architecture and design under succeeding rulers, from the first-century Chola Dynasty up to the Vijayanagara Empire in the fourteenth century. The main architectural style is Dravidian, and the basic post and beam method serves as the core construction system. The layout and structures of the complex reflect the dictates of the *Agama Shastra* (ancient texts pertaining to temple design, upkeep and use). For example, the seven *prakaram* (paths between the temple walls) represent the seven *chakra* (centres of energy within the human body) and the central shrine represents the human soul.

Over the centuries, the temple deteriorated as a result of poor maintenance, the accumulation of debris, improper uses, incompatible alterations and incongruous conversions of some of the more important shrines. Despite dictates in the ancient *Agama Shastra* that temples should be visible from their bases to their

pinnacles, earth and vegetation accumulated over the years at the bases of many of the structures. These layers of debris concealed architectural features and buried ambulatory paths and historic gardens, which were once used in processions and rituals. Moreover, the site's ancient catchment systems (pools), used for both water supply and irrigation, became clogged by debris and were polluted. The water stagnation caused by a lack of drainage became a health hazard.

In view of the need to conserve and restore the complex, in 2014 the Government of Tamil Nadu, the Indian National Trust for Art and Cultural Heritage and the Venugopalaswamy Kainkaryam Trust launched a project with the goal of conserving the temple's structures and slowing their deterioration. The project also involved creating a plan to preserve and manage the temple's attributes and integrity in the long term.

The conservation effort focused on the neglected and under-utilized structures within the inner four walls of the complex. These included forty-eight shrines, the entrances of twenty-one towers (*gopuram*) and thirty-five halls (*mandapa*). Among these was the thirteenth-century 'Hall of 1000 Pillars', built of carved granite. These structures were restored to their original uses and reintegrated into the temple complex for use by the community. The project also remedied structural stresses caused by accumulated earth loads and uneven grades, and restored the historic water harvesting tanks. In addition, the project involved installing new elements, notably drainage pipes, gas lines and electrical wiring, to improve the quality of life of the inhabitants of the complex. The project was carried out in phases over a period of four years.

CONSERVATION APPROACH

The conservation project was guided by the principles outlined in the *Agama Shastra*. These texts are in keeping with international charters on conservation practice; for example, they affirm minimum intervention in restoring temples, the use of like-for-like materials and the use of traditional techniques when rebuilding structures. The conservation team sourced experienced artisans for the various tasks, including stone cleaning and wall repair, lime plaster restoration and mural restoration.

Before the conservation work began, the project team assessed the condition of each structure within the complex with the help of archaeologists, traditional builders and sculptors. The team also examined the ancient literature about the temple, to trace the architectural evolution of the site.

For each structure, workers removed incompatible accretions. They also removed debris and soil from the roofs, to prevent further vegetation growth, and repaired cracks in the roofs. The team also stitched cracks in the beams, using stainless steel pins. To repair weak and dilapidated stone walls, workers dismantled the stones, numbered them and then reassembled them in the original order and form. Artisans rebuilt missing and incomplete parapets and architectural ornaments using the same granite (reddish-brown or dark grey) and lime plaster as was originally used. Similarly, they employed traditional bricks to restore walls and paving.

PROJECT TITLE
SRI RANGANATHASWAMY
TEMPLE
LOCATION
SRIRANGAM, TAMIL NADU,
INDIA
SIZE
10.11 HECTARES
COST
US\$3,511,486
RESPONSIBLE PARTY
HINDU RELIGIOUS AND
CHARITABLE ENDOWMENTS
DEPARTMENT, GOVERNMENT
OF TAMIL NADU
INDIAN CULTURAL HERITAGE
TRUST
HERITAGE ARCHITECT
INDIAN CULTURAL HERITAGE
TRUST
CONTRACTOR
K.R. CONSTRUCTION
SWANAG INFRASTRUCTURES
DATE OF COMPLETION
DECEMBER 2015



Workers removed the ceramic tiles and modern concrete that had replaced the original floors, and installed stone pavers, returning the floors to their original heights and appearance. The removal of uneven paving stones helped to solve the drainage problem and established a uniform grade throughout the complex. The workers cleaned the stone components of each shrine (to remove camphor soot and oil stains) using a herbal poultice and water. The ornamental plaster work was cleaned using dry, stiff brushes. For the towers, workers removed the paint, repaired gaps in the walls, repointed the walls using traditional mortar and applied a lime-based coating. Each of these steps helped reveal the original composition and aesthetics of the temple complex.

The project provided shoe racks and toilets outside the wall enclosures. The visual impact of these new additions was minimized. Workers consolidated ventilation and service grills in locations where they had the smallest visual impact. Apart from the enhancements to facilities and services, workers added safety grilles and glass covers over some of the moats, which allow devotees to walk over the moats and which prevent accumulation of debris.

CONSERVATION AND THE COMMUNITY

Since its founding, the temple and the community living within the complex have had a symbiotic relationship. This unbroken tie between the buildings and the users was preserved and even enhanced during the massive undertaking to conserve the temple. Temple users, including residents, priests, management staff and maintenance workers, contributed to the formulation of a conservation plan for the site, thus ensuring the project met their needs. The project resulted in improved safety and more hygienic conditions for the residents, as well as an enhanced spiritual and cultural experience for the devotees and visitors. In addition, there is now a closer dialogue between the community, the local government and those responsible for the administration and management of the temple.

GREAT HALL AND CLOCK TOWER BUILDINGS, THE ARTS CENTRE

NEW ZEALAND

THE RESTORATION OF THE GREAT HALL AND CLOCK TOWER OF THE ARTS CENTRE IN THE HEART OF CHRISTCHURCH CELEBRATES A MEMORABLE STEP TOWARDS THE CITY'S RECOVERY FOLLOWING THE DEVASTATING EARTHQUAKES OF 2010 AND 2011. SUFFERING MAJOR DAMAGE, THE GOTHIC REVIVAL MASONRY STRUCTURES UNDERWENT A SOPHISTICATED REGIME OF SEISMIC STRENGTHENING AND RETROFITTING, ALONG WITH PAINSTAKING RECONSTRUCTION OF SIGNIFICANT HERITAGE FEATURES SUCH AS THE TURRET AND STAINED-GLASS WINDOWS. MODERN FACILITIES AND SERVICES WERE DISCREETLY INSERTED TO ENHANCE THE CONTEMPORARY FUNCTIONALITY OF THE BUILDINGS. THE RESURRECTION OF THE GREAT HALL AND CLOCK TOWER HAS RETURNED A MAJOR HISTORIC LANDMARK TO THE PUBLIC, AND THE SITE CAN NOW CONTINUE TO SERVE AS A SOCIAL, EDUCATIONAL AND CULTURAL HUB FOR THE COMMUNITY.

2017

AWARD OF MERIT



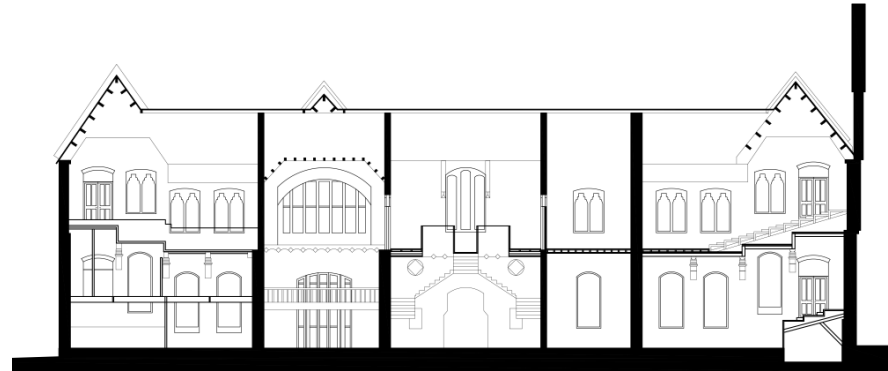
PROJECT SYNOPSIS

The Great Hall (1882) and the Clock Tower (1887) are part of a complex of heritage-listed buildings known as the Arts Centre. Located in the heart of Christchurch, the Arts Centre features New Zealand's largest collection of nineteenth-century Gothic Revival buildings. Designed along the lines of the Oxford and Cambridge models of academic structures surrounding cloistered quadrangles, the buildings were constructed in brick, basalt and limestone, and feature pointed arches, high gables and spires.

The buildings of the Arts Centre complex were formerly part of Canterbury College (now the University of Canterbury) and of two of the city's prominent secondary schools: Christchurch Girls' High School and Christchurch Boys' High School. The schools were relocated in 1881 and 1926, respectively. In the 1970s, Canterbury College required more space, so the college relocated to a larger campus and responsibility for the entire complex was transferred to the Arts Centre of Christchurch, which has since used the buildings as a place of education and creativity, offering a variety of arts and culture-related activities.

The Arts Centre not only has architectural and historical value, it also has significant social value for the community, and is one of the most popular public places in Christchurch. As well as art galleries, the centre is the site of weekly markets, theatre performances and social gatherings.

In 2010 and again in 2011, the entire site was devastated by the Canterbury earthquakes. Twenty-two of the twenty-three buildings in the complex were badly damaged and the Arts Centre was consequently closed to the public. In 2011, the Arts Centre's Trust Board launched a project to restore the complex, beginning with the Great Hall and the Clock Tower, the two most historically-significant buildings in the complex. The project aimed to repair, rebuild and strengthen the two buildings, to ensure stability and safety, and sought to preserve and protect them, while also upgrading the buildings' services, facilities and technology systems to enhance their usefulness and value to the community. The Great Hall and Clock Tower today feature modern services and infrastructure and are heated and lit to contemporary standards, but have retained their original integrity of design, with little evidence of the changes.



SECTION

AS COMPLEX AND TIME-CONSUMING AS THE RESTORATION WORK WAS, IT SHOWED THAT WITH EFFORT, DETERMINATION AND A COORDINATED APPROACH, HISTORICALLY-IMPORTANT BUILDINGS CAN BE RESTORED AND MADE EVEN BETTER THAN THEY WERE BEFORE.

— QUOTE FROM THE PROJECT TEAM —



ENTRANCE AND STAIRCASE IN THE CLOCK TOWER BEFORE AND AFTER RESTORATION

CONSERVATION APPROACH

The project did not aim to put things back exactly as they were, but rather to respect the history of the site while moving it into the twenty-first century. The restoration process incorporated a fundamental re-appraisal of how modern technology could be retrofitted into heritage buildings.

The conservation team adhered to best practice in conservation and also ensured that all design concepts fell within the policies presented in the Arts Centre's Conservation Plan (1991). The overall guiding philosophy behind the project was 'to implement a stronger, more robust structure – but to leave no sign of it being implemented'. In addition, all new architectural interventions were to be reversible so as to have minimal impact on the heritage finishes of the spaces and so that they could be removed at some future date.

The stabilization phase involved stripping out internal timber and brick to allow for the insertion of concrete and steel. Workers removed more than 14,000 pieces of timber and decorative features. These were photographed, numbered and stored in suitable atmospheric conditions and later reinserted in their original positions.

Key heritage features restored under the project included the Great Hall turret, the memorial stained-glass window and the clock in the Clock Tower. The magnificent stained-glass memorial window, with 4,000 stained-glass panels, was removed, carefully restored then reinserted. The turret was fortunate to have survive the 2010 earthquake, but damage caused it to break free of its footing and rotate in place. Consequently, it was removed after the 2010 earthquake and was no longer a feature of the site at the time of the second earthquake in 2011. It is unlikely that the turret would have survived that quake and could have fallen through the roof of the Great Hall, causing significant damage. The turret restoration work included replacing the interior brickwork and reinforcing the entire structure with concrete and steel.

The team introduced upgraded services into the buildings, including new heating systems, lighting schemes, new emergency lighting, a state of the art sound system and a universally-accessible bathroom. The new elements were inserted within the heritage fabric sensitively, but some were installed in such a way as to create a distinction between the new and the old.

PROJECT TITLE
GREAT HALL AND
CLOCK TOWER BUILDINGS,
THE ARTS CENTRE

LOCATION
CHRISTCHURCH,
NEW ZEALAND

SIZE
2,300 SQUARE METRES

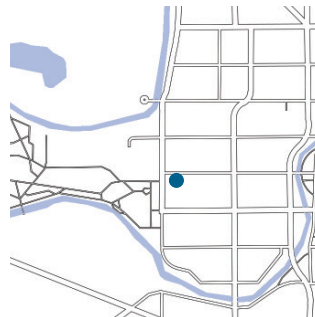
COST
US\$26.9 MILLION

RESPONSIBLE PARTY
THE ARTS CENTRE

HERITAGE ARCHITECT
HOLMES CONSULTING
WARREN & MAHONEY

CONTRACTOR
THE FLETCHER CONSTRUCTION
COMPANY LTD.

DATE OF COMPLETION
JUNE 2016



CLOCK TOWER EXTERIOR BEFORE RESTORATION

CONSERVATION AND THE COMMUNITY

The conservation effort was a complex task that involved juggling multiple stakeholder requirements. In order to meet the expectations of the stakeholders, the project began with a process of public consultation with the various stakeholders, including local residents and the arts community. This process resulted in a reassessment of the Arts Centre's vision, as a site celebrating the arts and emphasizing their importance in the twenty-first century.

The Art Centre worked closely with the Christchurch City Council and Heritage New Zealand in the development of a restoration plan and methods that would meet their sometimes conflicting restrictions. This process involved extensive input from specialists, including engineers, architects and heritage planners.

The restoration and reopening of the Great Hall and Clock Tower represents a significant milestone for the Christchurch community as it recovers from the 2010 and 2011 earthquakes. The project is an important part of rebuilding the cultural heart of Christchurch and boosting community pride.

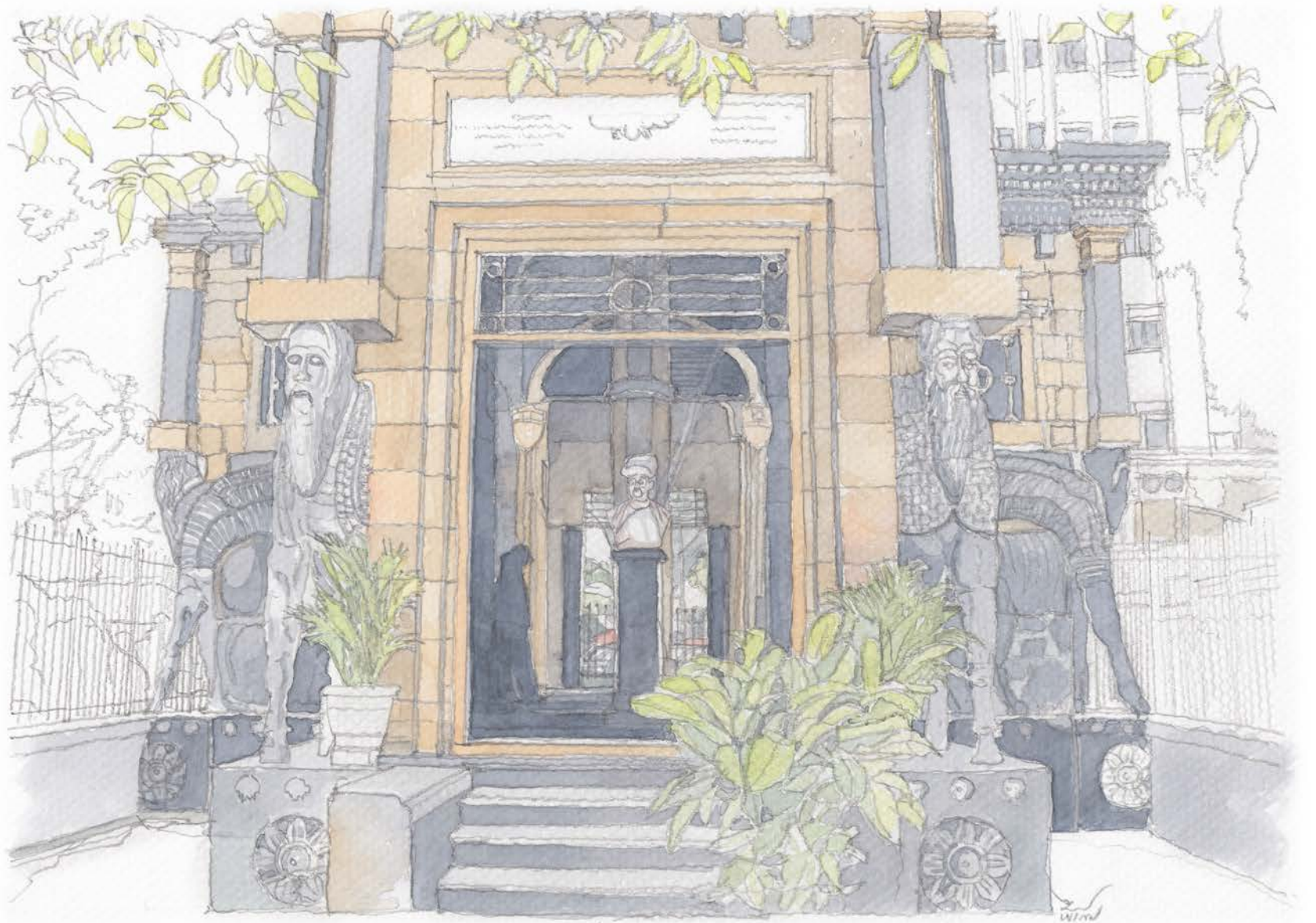
BOMONJEE HORMARJEE WADIA FOUNTAIN AND CLOCK TOWER

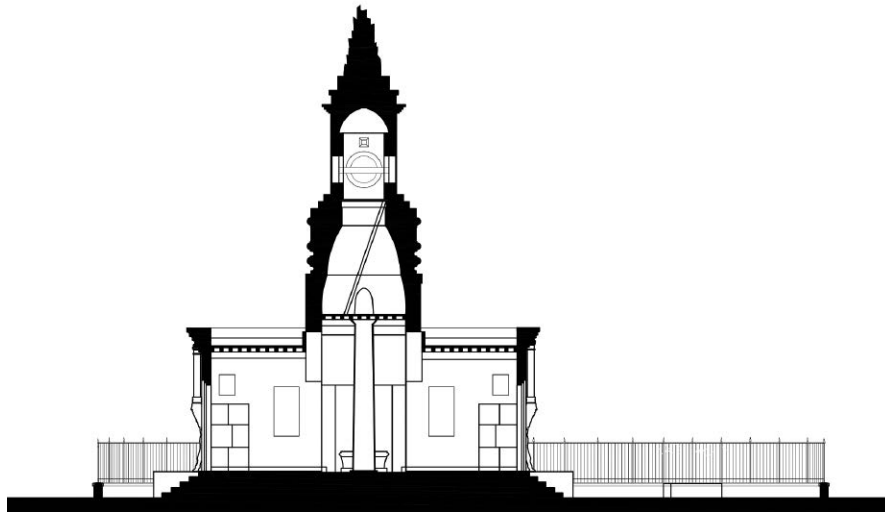
INDIA

LOCATED AT AN IMPORTANT NODE OF THE CITY, THE RESTORED BOMONJEE HORMARJEE WADIA FOUNTAIN AND CLOCK DEMONSTRATES THE SUCCESS OF A PIONEERING PUBLIC-PRIVATE PARTNERSHIP TO VALORIZE PUBLIC AMENITIES IN MUMBAI. ASSOCIATED WITH THE LOCAL ZOROASTRIAN COMMUNITY, THIS UNIQUE ARCHITECTURAL LANDMARK WAS SAVED FROM COLLAPSE BY THE TIMELY EFFORTS OF THE CITY GOVERNMENT WITH SUPPORT FROM THE KALA GHODA ASSOCIATION. USING A NON-INVASIVE APPROACH, THE PROJECT UNDERTOOK STRUCTURAL STRENGTHENING AND REPAIR OF DECORATIVE FEATURES, AND RETURNED THE VANDALIZED CLOCK TO WORKING ORDER. THIS REMARKABLE NINETEENTH-CENTURY DRINKING WATER FOUNTAIN AND CLOCK TOWER ONCE AGAIN STANDS AS A PROUD SYMBOL OF CIVIC PRIDE.

2017

HONOURABLE MENTION





SECTION



REPAIR OF THE CLOCK DIALS AND NUMERALS

THE BOMONJEE HORMARJEE WADIA FOUNTAIN AND CLOCK TOWER PROJECT SETS A BENCHMARK FOR CONSERVATION USING APPROPRIATE TECHNOLOGY AND SKILLS. IT ALSO EXEMPLIFIES THE SIGNIFICANCE OF COMMUNITY PARTICIPATION, WHICH CAN ENSURE ONGOING CARE FOR PUBLIC MONUMENTS.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Completed in 1882, the Bomonjee Hormarjee Wadia Fountain and Clock Tower is located at the junction of Bazaar Gate Street and Perin Nariman Street in the Fort area of Mumbai, in one of the city's densest mixed-use urban precincts. Erected in memory of Bomonjee Hormarjee (B. H.) Wadia, a philanthropist and a member of the local Parsi community, the fountain once served as a source of potable water for the surrounding residents and visitors to the area, and the clock served to inform the public of the time, in an era in which many people did not own watches. The fountain is therefore an important reminder of earlier times, helping to maintain a memory of lifestyles of the past.

Built principally in yellow buff basalt, with elements in gray-blue basalt, the fountain has a symmetrical base with a clock tower rising from it. The ground floor

plan is in the form of a Latin cross with a wooden shaft, housing the clock pendulum, at the junction of the four wings. The fountain's structure allows users to enter the building. The stylized fire surmounting the clock tower is a reference to Zoroastrianism, the religion followed by B. H. Wadia.

During the twentieth century, as piped water became more common in the city, people used the city's fountains less often. Eventually, the Bomonjee Hormarjee Wadia Fountain ceased to be used as a source of drinking water and later served as an informal storeroom. The loss of purpose of the building led to neglect, resulting in the structure gradually falling into a poor state of repair.

The site slowly filled with earth. Planters, placed haphazardly around the structure, obscured the plinth. The roots of ficus plants invaded and disrupted the

stone masonry. Consequently, the stepped cornices of the tower sagged and the tower shifted out of alignment. The clock was vandalized, and dials and numerals went missing. Overall, the site lost structural and aesthetic integrity, and despite its Grade III heritage status, by the early 2000s the fountain and its tower were on the verge of collapse.

Recognizing the site's precarious state, in 2015 the owner of the site, the Municipal Corporation of Greater Mumbai, invited the Kala Ghoda Association, a non-governmental heritage organization, to conserve the structure. The project, implemented over a period of ten months in 2016, sought to restore the building's structure and architectural integrity and return the fountain and clock to working order as a functional civic facility.

CONSERVATION APPROACH

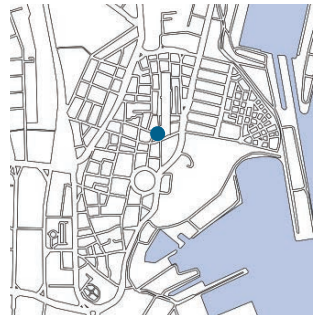
The conservation philosophy was one of minimal intervention and emphasized the restoration of missing elements using like-for-like materials and traditional techniques, wherever possible. Furthermore, all work was based on a thorough understanding of the structure and the underlying causes of the building's deterioration and instability.

A detailed study of the building revealed that the structure had originally been designed for aesthetic appeal rather than structural safety. The architect had used two kinds of stone for decorative purposes, but had failed to create a system to interlock the corners, which resulted in an unstable structure. Small stones had been placed vertically through the tower to form the decorative pilaster at the corners but the stones had



EXTERIOR OF THE EAST FACING FAÇADE
AFTER CONSERVATION

PROJECT TITLE
BOMONJEE HORMARJEE WADIA
FOUNTAIN AND CLOCK TOWER
LOCATION
BORA BAZAAR, FORT, MUMBAI,
INDIA
SIZE
161 SQUARE METRES
COST
US\$78,699
RESPONSIBLE PARTY
MUNICIPAL CORPORATION OF
GREATER MUMBAI
KALA GHODA ASSOCIATION
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
SEAN NORONHA & COMPANY
VENKAT RAO
DATE OF COMPLETION
DECEMBER 2016



not been bonded with the perpendicular wall. Similarly, the stone slab above the wooden joists had no groove in the stone parapet, so the slab did not go inside the wall, which resulted in water ingress and caused the ends of the joists to rot, weakening both the joists and the slab.

Given the precarious condition of the building, a priority was structural strengthening. The work started from the lowest level and proceeded upwards. Adherence to a careful sequence was essential for maximum efficiency, considering the challenges of the location of the building at a busy intersection.

Major structural works included the casting of new reinforced concrete slabs and the repair and, in some cases, replacement of the teakwood joists. Workers cast reinforced concrete slabs over the four wings of the building, supporting these with inverted beams on the four sides of each terrace. Stainless steel anchor dowels pinned the stone to a new diaphragm concrete wall. Workers capped the ends of the joists with aluminium to protect them from future damage.

To waterproof the flat roof, workers installed brick bat coba (a traditional method of roof waterproofing, using bricks) as well as a finishing layer of mosaic tiles. Repairs to the broken stone cornices and plinth matched the original details. Care was taken to insert new dials and numerals on the clock to match the remaining ones.

CONSERVATION AND THE COMMUNITY

The Parsi community played a role in the conservation of the Bomonjee Hormarjee Wadia Fountain and Clock Tower through offering information and feedback during the project meetings. A rededication ceremony and rituals were held with the community upon the building's reopening. Since the completion of the project, members of the community have volunteered to wind the clock daily and water the plants, as well as clean the structure regularly.

The project has re-established pride in the local area. Moreover, the successful public-private partnership served as a catalyst for the neighbouring community to take responsibility for its heritage assets and has set an example for other efforts to restore and prolong the life of the city's key landmarks.

GATEWAYS OF GOHAD FORT

INDIA

THE CONSERVATION OF HATHAI PAUR (ELEPHANT GATE) AND SANKAL DARWAJA (CHAIN GATE) HAS REINSTATED A SIGNIFICANT FEATURE OF THE FIFTEENTH-CENTURY GOHAD FORT AND ENHANCED THE SURROUNDING TOWNSCAPE. STILL IN DAILY USE BY THE LOCAL RESIDENTS, THE PARTIALLY-COLLAPSED EAST AND WEST GATEWAYS WERE REPAIRED ON AN EMERGENCY BASIS IN A MODEST AND TECHNICALLY COMPETENT MANNER. DETAILED DOCUMENTATION AND ANALYSIS INFORMED THE RE-CREATION OF THE ARCHES AND THE CONSOLIDATION OF THE SEVERELY-DETERIORATED BRICK AND STONWORK. THE PRODUCTIVE PUBLIC-PRIVATE COLLABORATION INVOLVING THE HERITAGE AUTHORITIES AND LOCAL GOVERNMENT HAS ENHANCED THE HERITAGE VALUE AND FUNCTIONALITY OF A HISTORIC ASSET OF LOCAL SIGNIFICANCE.

2017

HONOURABLE MENTION

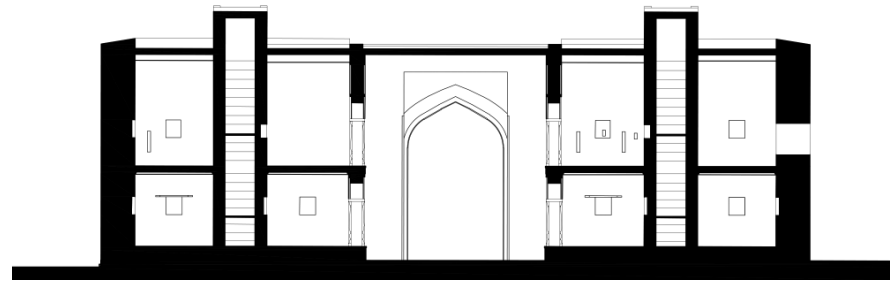


PROJECT SYNOPSIS

Gohad Fort is located in the town of Gohad on the Vaisli River in the state of Madhya Pradesh, India. One of 360 forts in the area, Gohad Fort dates from the fifteenth century. The circular-shaped fort is a unique example of architecture of the Jat Kingdom and is protected by two layers of fortification – an outer wall and an inner wall – each with bastions and gateways. The fort's two main gateways are Hathai Paur (Elephant Gate) and Sankal Darwaja (Chain Gate).

Over its history, the fort experienced significant physical damage as a result of warfare. When the fort fell into disuse, other damage came from neglect, looting, theft of building materials and vandalism. In 1975, the fort came under the protection of the Directorate of Archaeology, Archives and Museums of Madhya Pradesh. Despite legal protection, deterioration of the site continued due to a lack of funding for maintenance. The site fell into a dilapidated condition, with exposed foundation masonry, damaged roofs, broken lintels, collapsed arches at the gateways and rampant vegetation growth.

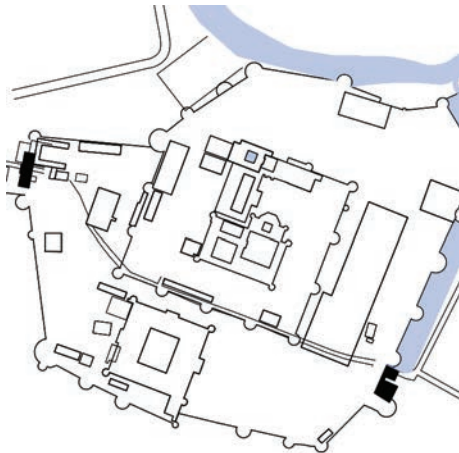
In 2012, the World Monuments Fund and the Directorate of Archaeology, Archives and Museums



SANKAL DARWAJA SECTION

OUR GENERATION HAS BEEN FORTUNATE TO WITNESS OUR RICH CULTURAL HERITAGE, WHICH WAS BESTOWED ON US, AND WE SHOULD PROTECT THIS HERITAGE FOR POSTERITY.

— QUOTE FROM THE PROJECT TEAM —



SITE PLAN



SANKHAL DARWAJA BEFORE, DURING AND AFTER CONSERVATION

established a partnership to conserve a number of state-protected monuments. One of the first on the list of monuments was Gohad Fort. The project sought to prolong the life of the fort and its tangible elements, with the aim of protecting local cultural heritage for future generations. The first stage of the project to conserve Gohad Fort focused on improving the structural condition of the two main gateways, Hathai Paur and Sankal Darwaja, which are used daily as people pass through them to get from one side of the town of Gohad to the other, and also focused on stabilizing elements of the Queen's Hammam.

CONSERVATION APPROACH

The project adopted a minimum intervention approach that respected the historic fabric and maximized the use of matching and compatible materials. The project's approach also emphasized employing skilled artisans, reviving disappearing skills and applying appropriate techniques.

In 2014, the architects completed a detailed documentation and assessment of the fort's structural condition. This included a complete inventory of features and materials, identifying the significance and condition of each character-defining element, and prioritizing items for conservation. This was the first comprehensive documentation of the fort. The team also took pains to document each part of the project in order to create a record for future conservation work on the fort.

Workers began by removing vegetation from the masonry walls and the terrace. This was done carefully, so as not to damage the structure. Masonry consolidation work also included the filling of voids, gaps and cracks. Workers used aggregates and compacted this to prevent the growth of vegetation and problems related to water ingress. Key work on Hathai Paur included recreating the multi-cusp arch. At Sankal Darwaja workers rebuilt the staircases and relaid the ceiling, using stone slabs of similar sizes and thicknesses to the originals. Workers also applied a fresh layer of lime concrete and coping on the parapets. Important work on the Queen's Hammam included repairing brackets, domes and ceilings and replacing the broken stone slabs on the roof with new stone slabs matching the original, as well as replastering the western façade.

PROJECT TITLE GATEWAYS OF GOHAD FORT

LOCATION
GOHAD, MADHYA PRADESH,
INDIA

SIZE
70,820 SQUARE METRES

COST
US\$100,000

RESPONSIBLE PARTY
DIRECTORATE OF
ARCHAEOLOGY, ARCHIVES AND
MUSEUMS, GOVERNMENT OF
MADHYA PRADESH

HERITAGE ARCHITECT
VIJAYA AMUJURE

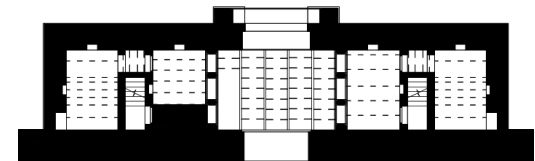
CONTRACTOR
GYAN SINGH SISODIA
YOGINDER SISODIA

DATE OF COMPLETION
MAY 2015



CONSERVATION AND THE COMMUNITY

Once considered a ruined structure with no hope of reclamation, the conservation effort has sparked a new sense of heritage appreciation on the part of the local community and kindled pride in their cultural assets. Moreover, the local labourers and artisans who worked on the project gained knowledge of how such structures can be conserved using traditional approaches and techniques. The success of the project has led to increased funding for conservation, which will be used to stabilize and restore other components of the fort.



SANKAL DARWAJA PLAN



HATHAI PAUR IN CONSERVATION PROCESS

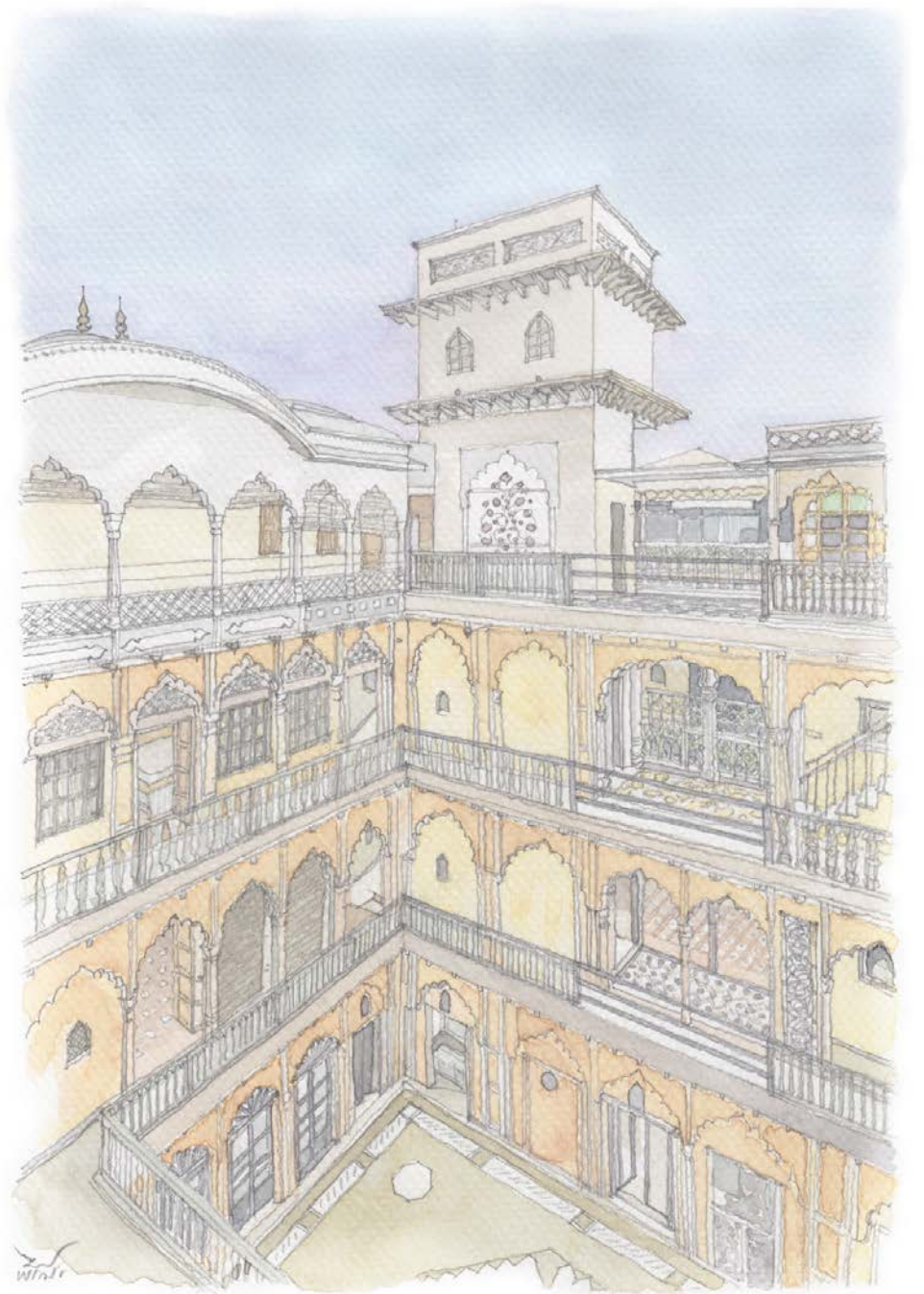
HAVELI DHARAMPURA

INDIA

THE CONSERVATION OF HAVELI DHARAMPURA RESCUED AN EXTRAORDINARY NINETEENTH-CENTURY RESIDENCE IN OLD DELHI FROM YEARS OF UNSUITABLE INTERVENTIONS AND ADAPTED IT FOR CONTEMPORARY USE AS A LUXURY BOUTIQUE HOTEL. THE *HAVELI*'S ORIGINAL SPATIAL CONFIGURATION WAS RE-ESTABLISHED AND ORNATE ARCHITECTURAL ELEMENTS WERE CAREFULLY RESTORED, RETURNING THE BUILDING TO ITS FORMER SPLENDOUR. HIGH-QUALITY WORKMANSHIP ENSURED THE AUTHENTIC PRESERVATION OF THE MOGHUL-ERA ARCHITECTURE, WITH DOZENS OF DEDICATED CRAFTSPEOPLE EMPLOYING TRADITIONAL MATERIALS AND CONSTRUCTION TECHNIQUES ALONGSIDE SENSITIVE MODERN INTERVENTIONS. A PRIVATE INITIATIVE OF THE HERITAGE INDIA FOUNDATION, THIS SUCCESSFUL PROJECT SERVES AS AN INSPIRATION FOR RESTORING OTHER HISTORIC *HAVELI* IN THE OLD CITY, THUS CONTRIBUTING TO ITS PATRON'S LONG-TERM VISION TO REVITALIZE SHAHAJANABAD IN ALL DIMENSIONS.

2017

HONOURABLE MENTION



PROJECT SYNOPSIS

Constructed in 1887, Haveli Dharampura is a fine example of nineteenth-century residential architecture in Shahjahanabad (Old Delhi), India. Built during the British Raj colonial period (1858-1947), the *haveli* (mansion) was constructed in the late-Mughal (1707-1857) architectural style, expressed in its decorative and climate-responsive features. The building features thick walls of Lakhori-brick masonry, wooden ceiling joists and lime-concrete floors; its elaborate ornamentation includes carved stone pillars, *jharoka* (overhanging enclosed balconies), arched niches and grand old wooden doors with iron, brass and copper fittings.

Haveli Dharampura was built for use as a residence but, like many other *haveli* of its era, also had a commercial area on the ground floor facing the street. The building's spatial configuration was functional: the outer area was designated for business purposes, while the inner area was a private living space, with separate courtyards for

men and women. Originally a two-storey building, a third floor was added in the mid-twentieth century, along with a rooftop terrace.

In recent decades, the old city of Delhi has undergone a complete transformation. The once residential district became a commercial area and many *haveli* in Shahjahanabad were demolished. Poor town planning, inadequate infrastructure and excess commercialization resulted in a degradation of the urban fabric in the old city, including the remaining *haveli*. These residences were gradually occupied by tenants or converted into godowns (warehouses) and reduced in character.

Frequent transfer of ownership of Haveli Dharampura resulted in poor maintenance along with damaging alterations. To accommodate additional residents, the various owners divided the *haveli* into sixty rooms by closing various openings and circulation areas. Changes in the building extended to the ornamentation and design

features. Coats of lime wash and synthetic paint covered the decorative plasterwork and stone carvings, and repairs to the wooden balconies disguised the original details.

Damage to the roof led to its collapse and cracks appeared in the masonry walls and pillars. Blocked openings restricted the egress of moisture resulting in severe damp in the basement. The *haveli* consequently fell into a state of extreme decay. By the turn of the twenty-first century, the building's safety was in doubt.

In 2004, the Indian National Trust for Art and Cultural Heritage (INTACH) listed the *haveli* as a heritage property, a designation subsequently recognized by the Delhi municipal government. As a private property, it was not eligible for public funding for maintenance or restoration, however.

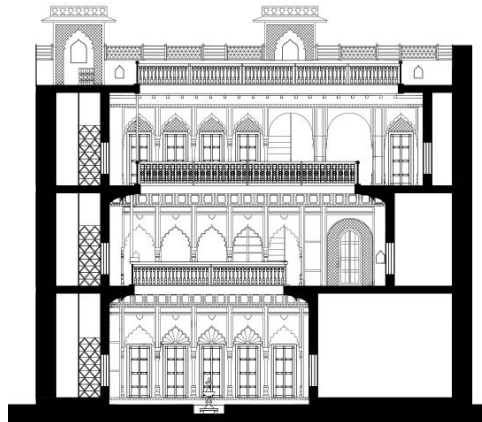
Recognizing the heritage value of the site, Shri Vijay Goel, the President of the Heritage India Foundation,

THE *HAVELI*, LIKE MANY OTHER PALATIAL BUILDINGS IN OLD DELHI, WAS CLOSE TO RUIN AND WAS DECLARED DANGEROUS, BUT HAS NOW BEEN RETURNED TO ITS ORIGINAL GLORY, RAISING HOPES THAT OTHER *HAVELI* IN THE NEIGHBOURHOOD WILL ALSO BE RESTORED.

— QUOTE FROM THE PROJECT TEAM —



INTERIOR BEFORE CONSERVATION



SECTION



INTERIOR AFTER CONSERVATION

acquired the building and in 2010 launched a project to prolong the life of the *haveli*, retrieve its authenticity and meaning, restore the *haveli's* original grandeur and details and convert it into a boutique hotel.

Following five years of careful conservation work, in 2015 Haveli Dharampura reopened as a hotel, as part of a chain of luxury hotels. Each of the fourteen rooms has its own theme, all of them related to old Delhi.

CONSERVATION APPROACH

Guided by the Venice Charter and the INTACH Charter, the conservation effort began with extensive research on the architectural and urban fabric of the *haveli*. This stage included a condition assessment that identified the causes of the damage.

In accordance with best practice conservation principles, the project team adopted an approach of minimal intervention and like-for-like replacement of materials. A key principle was authenticity, and the project sought to reinstate the original layout and features of the building. This required dismantling the later accretions. Simply opening up the circulation area and the blocked openings solved the problem of excess humidity.

The team invited skilled artisans from various old cities of India to restore elements of the building. Scraping off the layers of lime wash on the front façade and the pillars, workers revealed the original details. The team discovered that the carved Dholpur stone columns were still in an acceptable condition.

The project team repaired the collapsed roof using matching materials and repaired the roof slabs using a technique known as micro-concreting. The existing Sal wood (a coarse-grained building material) joinery of the ceiling required special attention as it had been affected by termites. Some components were reused after anti-termite treatment.

The project involved the reconstruction of several components. Workers restored the balcony above the entrance, for example, extending it from the front façade,

then reconstructed the columns and the missing railings along the corridor of each storey, and rebuilt the arches on the terrace.

While the emphasis was on use of the original materials, in some cases workers employed new materials in order to improve strength and recreate architectural elements to match the originals. For example, while workers filled gaps and holes in the walls with traditional lime mortar, they used steel bar anchors to repair the cracks the masonry walls. To replicate the red-stone brackets on the balcony, the team used fibre-reinforced brackets.

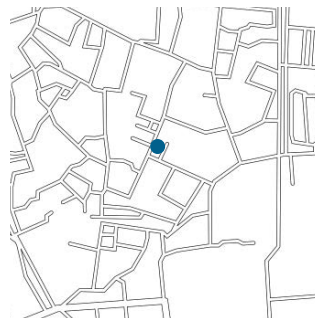
In order to convert the *haveli* into a hotel, the project introduced new amenities, including a lounge, a restaurant and an art gallery. The conversion also involved significantly updating the building's services. Interventions included installing a heating and air-conditioning system and elevators. Glass panels were introduced to replace the original doors between the restaurant and the courtyard, allowing light into the room. Custom-designed furniture and lighting were installed in each guest room.

CONSERVATION AND THE COMMUNITY

The *haveli* possesses many architectural features and details that could only be restored by employing artisans with traditional construction skills. By engaging these artisans, the project endorsed these skills and encouraged the continued use of them, and thereby supported the livelihoods of traditional artisans in the long term.

A Mughal-style residential building of great architectural and social merit, the project enabled it to be reused for a new purpose. The revitalization of the *haveli* is the first such project in the old city. It is likely to serve as a catalyst for the public recognition of the significance of these buildings and promote their preservation. The project also sets an example for the economic viability of the restoration of privately-owned properties.

PROJECT TITLE
HAVELI DHARAMPURA
LOCATION
DHARAMPURA, DELHI, INDIA
SIZE
1,250 SQUARE METRES
COST
US\$438,000
RESPONSIBLE PARTY
HERITAGE INDIA FOUNDATION
HERITAGE ARCHITECT
SPACES ARCHITECTS@KA
CONTRACTOR
HERITAGE INDIA FOUNDATION
DATE OF COMPLETION
AUGUST 2015



WELLINGTON FOUNTAIN

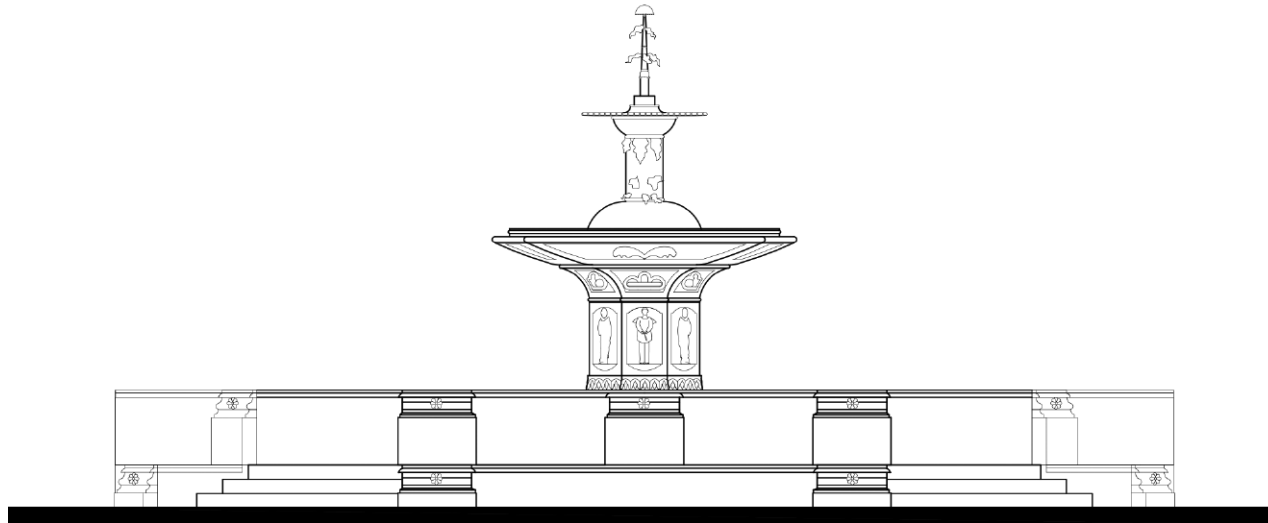
INDIA

THE RESTORATION OF WELLINGTON FOUNTAIN DEMONSTRATES THE IMPORTANCE OF EXTENDING HERITAGE PROTECTION EFFORTS TO THE PUBLIC REALM. EMPLOYING THE SAME RIGOROUS METHODOLOGY AND SCIENTIFIC TECHNOLOGY APPLIED TO THE RESTORATION OF MONUMENTAL BUILDINGS, THE PROJECT COMPETENTLY PRESERVED THE CITY'S ONLY FUNCTIONAL ORNAMENTAL WATER FOUNTAIN BY STRIPPING AWAY LATER ADDITIONS. PROMINENTLY LOCATED IN THE FORT PRECINCT, THE HISTORIC STRUCTURE CONTRIBUTES SIGNIFICANTLY TO ENHANCING THE NINETEENTH-CENTURY URBAN LANDSCAPE OF MUMBAI. THE PROJECT IS A NOTABLE STEP FORWARD IN STRENGTHENING THE UNDERSTANDING AND COMMITMENT FOR APPROPRIATE MANAGEMENT OF MUNICIPALITY'S CIVIC HERITAGE.

2017

HONOURABLE MENTION





ELEVATION

THOUGH THE PROJECTS TO RESTORE FOUNTAINS ARE SMALL IN SCALE, THEY HAVE AN IMPACT ON THE CONSERVATION MOVEMENT IN MUMBAI, AS HUNDREDS OF PEOPLE PASS BY THE FOUNTAINS EVERY DAY AND SEE THE BENEFITS OF RESTORING THEM PROPERLY.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Influenced by the popularity of fountains in the West as sources of drinking water, the governors of Bombay (now Mumbai) constructed more than sixty drinking fountains in the city during the nineteenth century. Regarded as the earliest fountain in the city, Wellington Fountain was built in 1865 to commemorate the Duke of Wellington (1767-1852) who served the British East India Company from 1797 to 1805, commanding a number of significant campaigns. The fountain was strategically sited on the road leading to the Gateway of India, the first entry point to greet visitors arriving by sea, and the fountain anchors one of the most prominent intersections in the Fort precinct.

Designed by Lt. Col. J. J. Scott in the Neo-Classical Style, Wellington Fountain's combination of decorative and functional elements distinguishes it from other fountains in the city. A two-tiered octagonal structure

supported on a basalt base, the lower tray features thick stone cantilevered over the foundation. The base features four water troughs that originally provided water for animals but were later used as flower beds. The wide and shallow upper tier is adorned with fishes and aquatic plants. Ornamented with acanthus leaves, a cast-iron shaft rises proportionately above the upper tier, supporting a brass spout from which the water springs out in four directions. The upper tier is supported on a base embellished with bas-relief marble plaques that illustrate the duke's victories and achievements.

With the introduction of piped water connections during the twentieth century, Wellington Fountain, along with other fountains in the city, faced obsolescence. Over the years, although Wellington Fountain was listed as Grade I heritage structure (in 1995), its reduced utility led to a reduction in maintenance and the loss of several

elements, including some of its metal leaves.

Ill-informed repairs in recent decades marred the fountain's appearance. Wellington Fountain received a coat of white paint, obliterating its original material and finishes, and tiled painted dado was installed over the basalt steps. The paint damaged the original material of the structure, preventing the stone from 'breathing'. In addition, the remaining ornamental leaves were painted green and red. Later, multi-coloured lights were installed on the fountain, further compromising the architectural value of the city's oldest fountain.

With increasing recognition of good conservation practice in Mumbai, in 2016 the owner of the fountain, the Municipal Corporation of Greater Mumbai (MCGM), requested that the company responsible for maintenance, Mahindra and Mahindra Limited, restore the fountain instead of conducting the usual maintenance. The



CLEANING OF THE MARBLE PLAQUES

company appointed a heritage architect to oversee the conservation work.

Wellington Fountain was in working condition; water flowed well from one level to another, so no mechanical works were required. The project therefore focused on removing the paint and other inappropriate additions, along with the vegetation covering the troughs. The conservation work began in October 2016 and was completed in March 2017.

Today, Wellington Fountain is once again a site that residents of the Fort district take pride in and that visitors to the area appreciate; heritage walks focusing on the fountain are now a popular choice among tourists.

CONSERVATION APPROACH

The project was guided by the principles of minimal intervention and maximum retention of the original materials. Moreover, the conservation work, based on the findings of scientific studies, was undertaken by skilled workers and was monitored daily.

Before the conservation work began, the team studied the condition of the fountain and its materials and identified ways of reversing the inappropriate changes that had been made to the structure, without damaging it. A key area of investigation was the paint that had been applied to the fountain. Consultants investigated the paint layers, which involved scraping samples of paint and experimenting with methods of removing it. To remove the paint from the basalt surfaces, the experts selected a nano-micro abrasive method, using a machine with a fine nozzle and grit of 200 microns,

PROJECT TITLE

WELLINGTON FOUNTAIN

LOCATION

FORT, MUMBAI, INDIA

SIZE

146 SQUARE METRES

COST

US\$15,113

RESPONSIBLE PARTY

THE MUNICIPAL CORPORATION
OF GREATER MUMBAI

HERITAGE ARCHITECT

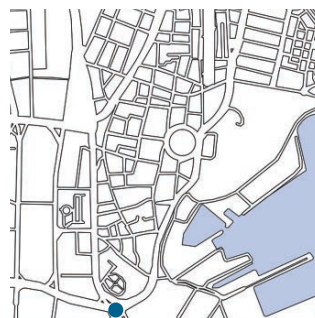
VIKAS DILAWARI

CONTRACTOR

JEERNODHAR
CONSERVATORS PVT. LTD.
INTACH MUMBAI CHAPTER

DATE OF COMPLETION

MARCH 2017



applied under controlled pressure.

The bas-relief marble plaques were softer than the basalt stone, thereby requiring a different cleaning technique. The tests revealed that a gel cleaning treatment was the most suitable method. This required the application of a gel paste – a mixture of ethanol and acetone – on the marble surface, which was then left for one hour, covered by a plastic sheet. Stubborn paint was removed using poultices and by subsequent washing, using a non-ionic detergent and ethanol. This was followed by cleaning of the surface with water. Specialists from the Indian National Trust for Art and Cultural Heritage (INTACH) undertook this cleaning task and then applied a protective coating on the marble.

Artisans reconstructed the lost metalwork, including the metal leaves, using wooden and aluminium moulds. The colourful lights of the fountain were replaced with plain LED lights, using weatherproof fittings. Gardeners trimmed the adjoining landscape to open up a view of the fountain.

CONSERVATION AND THE COMMUNITY

The project demonstrated the importance of science-based conservation of the city's civic heritage and the benefits of public-private partnerships. The project team encouraged community engagement in the effort, particularly the residents of the area, who participated in the repairs, assisted with the interpretation of the images on the marble plaques and attended training workshops about the conservation of built heritage.



REMOVING PAINT FROM THE GROUND TROUGH

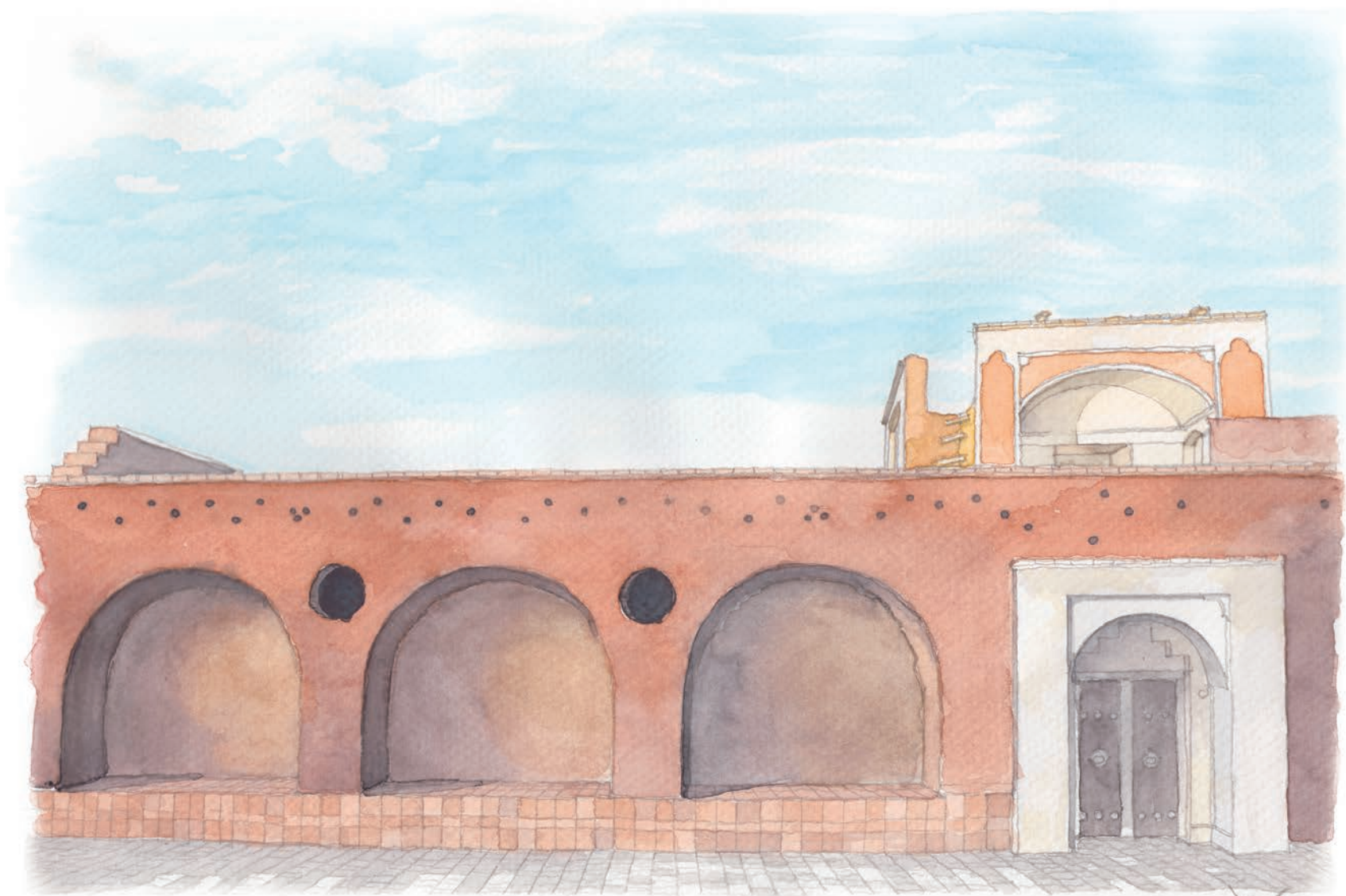
AFTAB CULTURAL HOUSE

ISLAMIC REPUBLIC OF IRAN

THE PROJECT HAS DRAMATICALLY TRANSFORMED THIS ONCE-DESERTED QAJAR-DYNASTY HOUSE, USED TO SHELTER SHEEP, INTO A POPULAR CULTURAL HUB. THROUGH A PRIVATE INITIATIVE, THE PROJECT CLOSELY ENGAGED THE COMMUNITY IN ITS CONSERVATION PROCESS. TRADITIONAL MATERIALS WERE USED TO REPAIR THE DETERIORATED ADOBE STRUCTURE, WITH THE VISUAL HIGHLIGHT BEING COLOURFUL MOSAICS OF HAND-MADE TILES ADORNING THE ROOF AND THE COURTYARD. UNDER AN ALL-FEMALE MANAGEMENT COUNCIL, THE BUILDING TODAY HOUSES A LIBRARY, CAFE AND CULTURAL VENUE. MODEST IN SCALE BUT WITH SIGNIFICANT LOCAL IMPACT, THE AFTAB CULTURAL HOUSE PROJECT DEMONSTRATES THE VIABILITY OF IMAGINATIVELY ADAPTING HERITAGE BUILDINGS TO SUSTAIN AND ENHANCE CULTURAL CONTINUITY.

2017

HONOURABLE MENTION



W. J. 10/10

PROJECT SYNOPSIS

Aftab Cultural House is in the village of Mazraeh Shur, which is part of Sagzi (Sejzi), a town in the province of Isfahan, Iran. It is surrounded by an ensemble of historic monuments, including hostels, bathhouses and mosques, and is close to two ancient channels. Many villagers believe that the house protects people from undesirable spirits, and it is therefore recognized by the community as having spiritual significance.

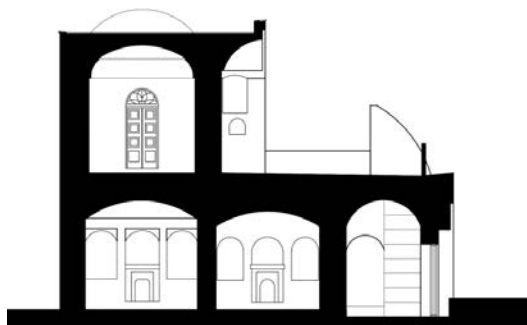
Built during the late Qajar period (1789-1925), Aftab Cultural House reflects eastern Iranian village architecture and culture. The two-storey building consists of two wings: west and east. The west wing, with its simple design and subtle ornamentation, was the earliest structure on the site and additions were made to it over time. On the south side of the house, overlooking the central courtyard, are two summer terraces.

The building originally served as a residence before being abandoned for many years. A lack of maintenance and repair of the house over the years caused the severe decay of the site's building fabric, and a neighbour later used the site as a shelter for sheep. The Bam Earthquake in 2003 damaged the building further, with some parts of the building collapsing.

The conservation and adaption of the house was the brainchild of the new property owner who undertook the project as homage to the village and its people. The project aimed not only to restore the building, but also to transform it into a library and cultural education centre, in order to demonstrate the potential of the site for



NEW MOSAIC TILES ON THE ROOF OF THE BUILDING



SECTION

WITH THE PARTICIPATION OF LOCAL VILLAGERS THROUGHOUT THE CONSERVATION PROCESS, THE COMMUNITY BECAME MORE AWARE OF HOW RETAINING BUILT CULTURAL HERITAGE IS AN EASY AND CHEAP WAY TO MAINTAIN IDENTITY AND TO DEVELOP AND STRENGTHEN CULTURE. THE RESTORATION OF THE BUILDING HAS NOT ONLY CHANGED LOCAL BELIEFS BUT HAS ALSO MARKED A TURNING POINT IN CONSERVATION IN THE REGION.

— QUOTE FROM THE PROJECT TEAM —

community building. The hope was that the centre would serve to celebrate local culture and traditional artisanship and would have a positive impact on people and livelihoods in the village.

The historical and cultural significance of the place motivated local villagers to support the conservation of the property through the provision of materials, labour and funding. Despite socio-economic constraints, the project was funded entirely by donations from villagers and philanthropists, without any government assistance. The conservation process began at the end of March 2014 and was completed in only forty-five days.

Today Aftab Cultural House is a valued community space and is particularly popular among local youth. It offers a library, space for study and a cafe for social gatherings, while perpetuating and honouring local cultural and architectural traditions.

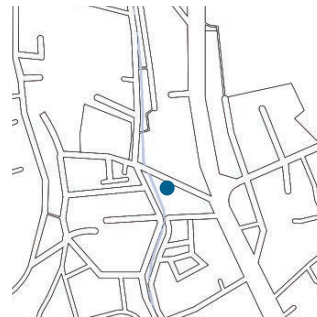
CONSERVATION APPROACH

Key guiding principles were minimal intervention and the use of local traditional construction materials and methods so as to retain the identity of the adobe building. The team salvaged the original materials as much as possible and introduced only essential modern elements.

Before work began to restore the building, the team conducted a detailed examination of the structural stability of the various parts of the house. Then, to understand the heritage values of the building and community attitudes to the site, the project team lived in the building during the project, retracing the lifestyle of inhabitants of the house and the village.

The conservation team began the project by repairing the building's structure in accordance with the original design. In order to make the property fulfill its new role as a cultural institution, the project changed the building's interior layout and amenities, however. For example, workers removed some of the interior walls on the ground floor to make room for two study rooms. A key addition to the building was the introduction of colourful mosaic floor tiles in the central courtyard and on the roof. Imitating the pattern of the traditional handmade rugs made in the village, the mosaic pattern not only acts as a link between internal and external spaces, it also showcases the accomplishments and contributions of the villagers.

PROJECT TITLE
AFTAB CULTURAL HOUSE
LOCATION
MAZRAEH SHUR, ISFAHAN,
ISLAMIC REPUBLIC OF IRAN
SIZE
170 SQUARE METRES
COST
US\$47,500
RESPONSIBLE PARTY
MOHAMMADREZA GHANEEI
HERITAGE ARCHITECT
MOHAMMADREZA GHANEEI
ASHKAN GHANEEI
DATE OF COMPLETION
MAY 2014



CONSERVATION AND THE COMMUNITY

Community collaboration was the highlight of this conservation project, and the project exemplifies good practice in efforts to retrieve and protect cultural heritage at a local level. The adaptive reuse of the Aftab Cultural House as a cultural centre was a joint decision by the project team and the villagers, who felt that the physical life of the house would be prolonged by introducing a relevant contemporary function. The project involved a high level of community participation, both physically and financially. Villagers were trained during the project as site workers and artisans, and learned techniques that encompassed the economic, environmental and social aspects of conservation. Community collaboration now influences decision-making elsewhere in the region, encouraging the conservation and adaptive reuse of other old buildings.

An all-female team manages the cultural centre. This group consists of five women trained in administration and coordination. This unusual arrangement serves to empower local women and has also drawn attention to the project.

The success of the project has helped to counter local beliefs, which earlier favoured not rebuilding damaged traditional buildings after earthquakes. The Aftab Cultural House project serves as an example of the viability of rescuing ruins in ways meaningful to the well-being of the local community.



IN USE BY THE COMMUNITY

CATHEDRAL OF THE GOOD SHEPHERD AND RECTORY BUILDING

SINGAPORE

THE RESTORATION OF THE CATHEDRAL OF THE GOOD SHEPHERD AND RECTORY BUILDING EMBRACES AND ENHANCES THE HISTORIC CHARACTER OF THE OLDEST ROMAN CATHOLIC CHURCH IN SINGAPORE WHILE UPGRADING ITS FUNCTIONALITY TO MEET CONTEMPORARY REQUIREMENTS. DEMONSTRATING METICULOUS CONSERVATION PLANNING AND THOROUGH COMMUNITY CONSULTATION PROCESSES, THE WELL-EXECUTED INTERVENTIONS INVOLVED UNDERPINNING THE WEAKENED FOUNDATION, REPAIRING HISTORIC FINISHES AND DECORATIONS, INSTALLING NON-INTRUSIVE MODERN SERVICES AND CONSTRUCTING ADDITIONAL FACILITIES. LARGELY UNDERTAKEN THROUGH A PRIVATE FUNDRAISING EFFORT, THE PROJECT SUCCESSFULLY CONSERVED A SIGNIFICANT HERITAGE BUILDING FOR THE CATHOLIC POPULATION OF SINGAPORE, WHILE GENERATING A HEIGHTENED APPRECIATION FOR HERITAGE AMONG THE PUBLIC AT LARGE.

2017

HONOURABLE MENTION



PROJECT SYNOPSIS

One of the best surviving examples of Greek Revival architecture in Singapore, the Cathedral of the Good Shepherd is distinguished by its generous porticoes, recessed fenestrations and ventilated jack roof. Constructed in 1843, the rarity of the building lies in the application of construction materials and methods that are no longer used today, including wedge-shaped bricks that form the building's slender Doric columns. The cathedral was initially a simple cruciform building, but in 1845 a bell tower and steeple were added. In 1888, the building was extended by three bays on the west and adorned with stained-glass windows, paintings and statues. Owing to its heritage significance, the Cathedral of the Good Shepherd was declared a national monument in 1973.

Adjacent to the cathedral, the Rectory Building is an Edwardian Neo-Baroque structure built in 1909 and finished in a 'blood and bandage' design (banded brick and plaster). Constructed using the newly-introduced concrete technology of that time, the Rectory Building is significant as one of the first buildings of Singapore to be built using techniques still in use today.

The two buildings together tell a story of Singapore's development and shifts in architectural taste. Both are significant monuments in the city-state's assemblage of historic buildings.

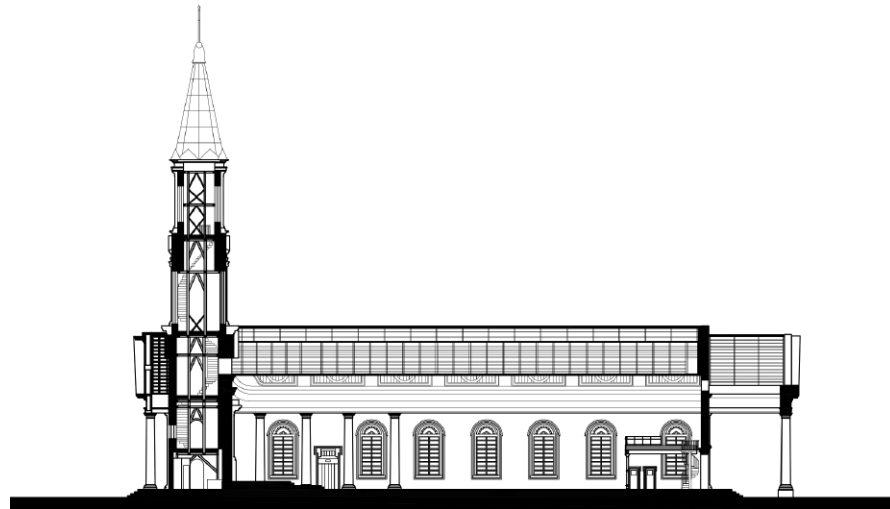
Various repairs and changes were made to the buildings over time, including the replacement of the cathedral's roof and ceiling in 1897 and the addition of a mezzanine in 1912. Concern over the stability of the site arose in 2003 when construction work below the site (to build a subway station) led to uneven ground settlement and resulted in a number of structural problems in the cathedral. One of the most significant issues was the cracking of various elements, including the Doric columns and the supporting walls.

In 2006, the cathedral's managers began planning a restoration project and initiated a fundraising programme. The need for a comprehensive conservation project was highlighted when work was required to stabilize the columns on the east end of the cathedral in 2009. Temporary props were introduced to keep the columns in place. At this time, widespread termite infestation was discovered in the building's timber elements. In addition, the bell tower and steeple, which

had been added to the cathedral building, were found to have tilted. This was attributed to the fact that the original building had not been designed to support the additional weight of the tower and steeple. This and other issues required interventions that would tackle the root causes of the problems.

In early 2012, a project team was formed which worked in close collaboration with the Preservation of Sites and Monuments division of the National Heritage Board and the Urban Redevelopment Authority of Singapore to plan the conservation project and prepare designs for the introduction of new structures

on site, which were necessary to enhance the church's operations. The team conducted extensive preliminary studies, documentation and surveys, including studies of archival images and documents, to isolate the root causes of deterioration; these formed the foundation for remedial actions. The first phase of the project involved the demolition of the rectory annex, restoration of the Rectory Building and construction of a new annex block. The second phase focused on the conservation of the cathedral and on fitting out the annex basement. Work began in October 2013 and was completed in November 2016.



SECTION OF THE CATHEDRAL OF THE GOOD SHEPHERD

INSTEAD OF APPLYING A 'ONE-SIZE-FITS-ALL' APPROACH TO CONSERVATION, THE PROJECT TEAM RECOGNIZED THAT THERE WERE PARTICULAR CHALLENGES UNIQUE TO THE HISTORIC SITE AND BUILDING THAT HAD TO BE ADDRESSED USING TAILOR-MADE SOLUTIONS. AT A MOST PRACTICAL LEVEL, A CUSTOMIZED APPROACH TO CONSERVATION ALSO ENSURED THAT ONLY AS MUCH AS NECESSARY WAS CARRIED OUT, SINCE THE WORKS WERE PRIMARILY FUNDED THROUGH PUBLIC FUNDRAISING EFFORTS.

— QUOTE FROM THE PROJECT TEAM —



FAÇADE SHORING IN PROGRESS

CONSERVATION APPROACH

The project sought to retain the dignity and beauty of the buildings, as well as the site's use as a church, with the priority being to create a welcoming space for people from all walks of life. Closely adhering to the guiding principles of the Venice Charter, the team followed best international practice and solicited professional guidance from conservation experts and a materials specialist.

The work was premised on the idea of the buildings being living artefacts. The team recognized the physical material of the buildings as a rich resource of information about the history of the buildings. To preserve the site's authenticity, the team repaired damaged components whenever possible. Only irreparable components were replaced.

The structural strengthening work included underpinning the existing foundation with reinforced concrete 'micro piles', brick repairs using traditional methods (including *scuci-cuci*, repointing and reinforcement insertions) and judicious use of fibre-reinforced polymer to repair the most vulnerable columns. To make the building watertight, the project replaced the porous roof tiles, repaired the roof trusses and inserted secondary waterproofing and insulation systems, as well as new in-roof trusses and catwalks for future maintenance.

Out of the sixteen stained-glass windows, the two transom panels were in the worst condition; they had buckled due to the building's movement. After full documentation, including photography, 'rubblings' and condition records, each stained-glass panel underwent bench-repair, which involved the replacement of

PROJECT TITLE
CATHEDRAL OF THE GOOD
SHEPHERD AND RECTORY
BUILDING

LOCATION
SINGAPORE

SIZE
9,165 SQUARE METRES

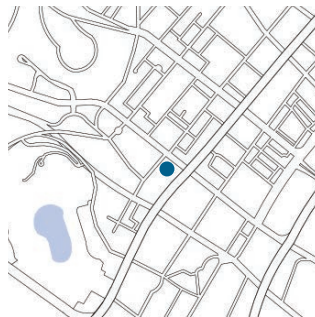
COST
US\$22 MILLION

RESPONSIBLE PARTY
THE TITULAR ROMAN CATHOLIC
ARCHBISHOP OF SINGAPORE

HERITAGE ARCHITECT
ARCHITECTS 61 PTE. LTD.
STUDIO LAPIS

CONTRACTOR
SHANGHAI CHONG KEE
FURNITURE & CONSTRUCTION
PTE. LTD.

DATE OF COMPLETION
NOVEMBER 2016



worn-out lead matrices and the removal of the damaged glass pieces for repair. Artisans neatly stitched the broken pieces of glass using thin 'string leads' or replaced them with newly-painted glass matching in colour, tone and texture. Glass pieces with faded but stable paintwork were not replaced. To protect the stained glass against future damage, the team installed an external layer of protective glass on all the windows.

Air-conditioning systems and other services were introduced to better meet present-day needs. Other work included a new annex block to house church activities and a heritage gallery, located in the annex basement. The new building was designed sensitively, to respect the spatial significance of the site.

CONSERVATION AND THE COMMUNITY

Once a spiritual sanctuary used mainly by ethnic minorities, the restored cathedral is now home to an ever-increasing number of worshippers from all ethnic groups and walks of life. Since the completion of the project, traditional Roman Catholic rites, such as the outdoor candlelit procession on the Feast of Corpus Christi, have been revived. The Cathedral of the Good Shepherd also hosts prayer gatherings for various Christian denominations as well as inter-religious celebrations and events.

The restoration of the Cathedral of the Good Shepherd and Rectory Building has not only safeguarded two exceptional buildings, it has served as a reminder of the value of safeguarding precious heritage assets and has raised appreciation for heritage conservation among the general public.



INTERIOR AFTER RESTORATION

JINGDEZHEN CERAMIC INDUSTRY MUSEUM

CHINA

THE TRANSFORMATION OF THE 1950s COSMIC PORCELAIN FACTORY INTO A MUSEUM AND MIXED-USE FACILITY SHOWCASES JINGDEZHEN'S FAME AS A WORLD-RENOWNED CERAMIC PRODUCTION CENTRE AND OPENS UP THE FORMER FACTORY SPACE FOR BROAD PUBLIC USE. BASED ON THE PRINCIPLE OF MINIMAL INTERVENTION, THE CHOICE OF A STREAMLINED MODERN INDUSTRIAL AESTHETIC RESPONDS TO THE MID-TWENTIETH CENTURY INDUSTRIAL ARCHITECTURE OF THE HISTORIC FACTORY BUILDING, PROVIDING A MUTED BACKDROP THAT ALLOWS THE KILN REMAINS TO TAKE THE SPOTLIGHT. THE CONTEMPORARY MATERIALS PALETTE CREATES A DRAMATIC COUNTERPOINT TO THE ORIGINAL BRICK STRUCTURES. THE NEW DESIGN RESPECTS THE FORM AND SCALE OF THE FORMER FACTORY AND CREATES INNOVATIVE OPPORTUNITIES TO INTERACT WITH THE FAMOUS CERAMIC PRODUCTION FACILITIES.

2017

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS





OLD TREES INSIDE THE MUSEUM COURTYARD WERE ALSO PRESERVED.

IN RESPONSE TO THE PROJECT, FACTORIES AND FACILITIES THAT WERE ABANDONED MANY YEARS AGO ARE NOW BEING RE-EXAMINED TO FIND VALUE. MORE AND MORE PEOPLE HAVE STARTED TO THINK ABOUT HOW TO INVESTIGATE AND REGISTER EXISTING INDUSTRIAL RELICS, EVALUATE THEIR VALUE, CREATE PROTECTION PLANS, FORMULATE PROTECTIVE MEASURES AND AVOID THE DESTRUCTION OF THIS VALUABLE INDUSTRIAL HERITAGE.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

Well known for its long history of ceramic production, the city of Jingdezhen has retained a large number of industrial relics. One of the city's best-known sites of this kind is the Cosmic Porcelain Factory, which is located in the Taoxichuan industrial district, close to the centre of the city.

The oldest and the largest building on the site is the factory's 'burning workshop', a brick and concrete structure situated in the middle of the complex. Its architecture is expressed by an M-shaped roof that gives the workshop a special prominence. The interior workshop space is huge and features two large windows in the roof. The building contains a collection of industrial equipment, including two round kilns that represent ceramic-production technology dating to the Tang Dynasty (618-907).

PROJECT HISTORY

The Cosmic Porcelain Factory dates to 1956, when the Soviet Union provided funding for the development of a state-of-the-art ceramics facility on the site. Advancements in porcelain production technology led to the factory converting from the original coal kiln to an oil tunnel kiln in the 1970s, and then to a gas tunnel kiln in the 1980s, which required changes to the building and its equipment. Following reforms to state-owned enterprises, the Cosmic Porcelain Factory ceased production in 1994 and the buildings were abandoned soon afterwards.

Over time the buildings deteriorated, eventually becoming a serious safety risk. The brick walls of the 'burning workshop' building lost most of their load-bearing function and several brick columns were damaged. With decay of the wooden roof trusses and the loss of many of the cement roof tiles, most of the roof collapsed. The round kilns and tunnel kilns were also severely damaged. However, the building's funnel (for raw materials) and three tall red-brick chimneys outside the building remained mostly intact.

In 2012, the Jingdezhen Ceramic Culture Tourism Group took over responsibility for the site as part of an urban revitalization programme by the City of Jingdezhen that aimed to transform the old industrial area. In 2013, the municipal government published

the Jingdezhen Historical and Cultural City Protection Plan describing its strategy to protect the overall characteristics of the city; this included parts of the city's industrial complexes. The design process for a project to conserve the Taoxichuan district and, in particular, adapt the 'burning workshop' building for reuse, began in 2012 and the government published the Taoxichuan Cultural Industrial Park Urban Design plan in 2013. The conservation and construction work was carried out that same year.

PROJECT SCOPE AND FRAMEWORK

The project aimed to revitalize the area, with the broader aim of improving the lives of the residents of Jingdezhen, through the adaptive reuse of industrial heritage in the Taoxichuan district. The project focused particularly on conserving the 'burning workshop' building, including the kilns and other industrial heritage within it, and sought to convert the building into a ceramics museum and exhibition space, while also creating spaces for art displays, commercial activities and community events. To protect the integrity of Jingdezhen's heritage, the project retained the overall configuration of the site, including the buildings and the various features of the complex, such as the chimneys and mature trees.

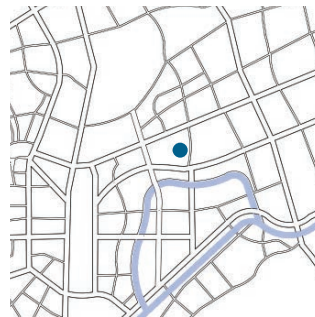
DESIGN AND MATERIALS

In order to adapt the interior of the industrial building to create an exhibition space as well as commercial areas, including coffee shops and book stores, the project team inserted a new steel structure within the building to create a second floor. To retain integrity, the designers ensured the newly-added second floor was removable, allowing for reversibility, as set out in many heritage conservation guidelines.

Workers installed lightweight elevators and staircases to allow visitors to reach the second floor and also to reach the highest point of the building, from where they can admire the view of the factory complex. From the second floor, visitors can look down at two round kilns and two tunnel kilns on the ground floor that were retained and conserved.

The building's unique funnel structure was also

PROJECT TITLE
JINGDEZHEN CERAMIC
INDUSTRY MUSEUM
LOCATION
JINGDEZHEN, JIANGXI, CHINA
SIZE
15,000 SQUARE METRES
COST
US\$19.8 MILLION
RESPONSIBLE PARTY
JINGDEZHEN CERAMIC
CULTURE TOURISM GROUP
HERITAGE ARCHITECT
YAN LIU
JIANXIN HU
TING LI
BINGBING ZHANG
JIE ZHANG
KAI QI
CONTRACTOR
GREENLAND CONSTRUCTION
GROUP
DATE OF COMPLETION
NOVEMBER 2015



retained, and a glass-enclosed structure was constructed above the funnel to create a space that is now used as a coffee shop. A piano was placed under the funnel, which serves as a huge speaker. This allows everyone on the first floor to hear the music, making a speaker system unnecessary.

The original roof structure had largely collapsed and could not be repaired so the team inserted steel to replace the original wooden structure, while retaining the original form and scale of the roof. This improved the strength and seismic performance of the roof while also addressing fire safety concerns. Workers added new insulation and waterproofing layers to the roof, but reinstated the original tile roofing material. The team retained the windows in the roof, which bring in natural light and aid in ventilation, thereby reducing dependency on artificial lighting and air-conditioning.

The project team employed the original materials of the building to the maximum extent possible. Workers collected the bricks from an external wall that had collapsed and carefully sorted them according to size and colour. The workers then reconstructed the external wall using a mix of the original bricks and new bricks. Produced in Jingdezhen, the bricks were the same type of bricks that had been used to construct the factory buildings.

The project team retained the central plaza on the south side of the building, providing a generous public space. Workers paved the plaza with bricks, once again using a mix of old and new bricks. The pattern in which the bricks were laid reflects that of the kiln, thereby vividly displaying the site's history. The team added a large water feature to the plaza area, next to one of the old chimneys. The water reflects the image of the building and imbues the site with a sense of calm, while also improving the microclimate of the plaza. Workers also added benches and paths that combine with the other features of the site to create a pleasant environment for visitors.

The team enlisted exhibition designers to provide a contemporary backdrop for the museum's exhibits. At the same time, the original vehicle track of the production line was retained on the ground to restore the characteristics of the original production process. The visitors' route through the museum was designed to

mimic the production line of the factory. The route passes by the remaining kilns, which are the central attractions. Other industrial artefacts, equipment, tools, materials and images relating to the site also serve as exhibits in the museum. Some of the components of the industrial equipment were transformed into outdoor furniture and sculptures.

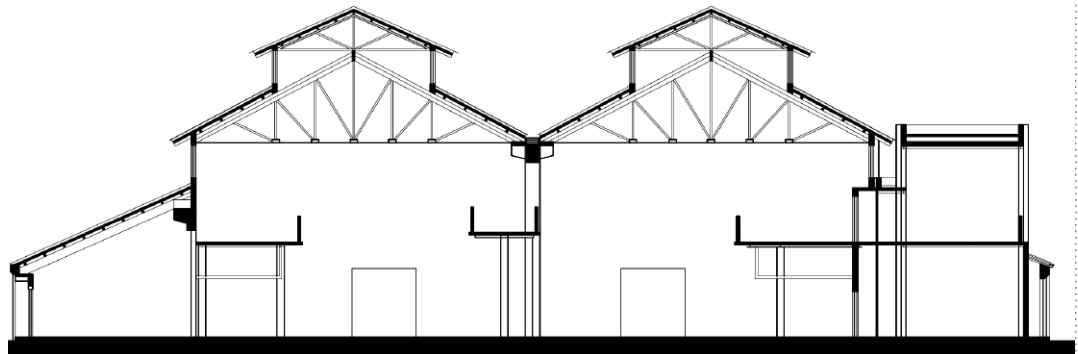
IMPORTANT ISSUES

The team adopted a Design-Build-Operate (DBO) project delivery model in which a single private entity designed and built the new features of the site, including the museum and plaza space, and then operated the site. Such an approach helps to ensure the long-term viability of a site because the decision-making processes for the three phases (design, construction and operation) are aligned from the beginning, resulting in a seamless process. Importantly, the DBO process requires that the private entity responsible for the project considers the long-term practicalities of site management, including maintenance, from the start of the project.

For the DBO process to be successful, all of the entities involved in the process, including the architects, builders, engineers and site managers, must work together and coordinate activities. It also requires communication with people familiar with the site's history and also with the expected future users of the site. Accordingly, the project team met with former workers at the factory to discuss details of the site's original appearance and history in order to ensure the restored building would be authentic. The team also solicited feedback from the local community regarding the plans for the site and how those plans could be improved.



INTERIOR SPACE BEFORE AND AFTER RESTORATION



SECTION

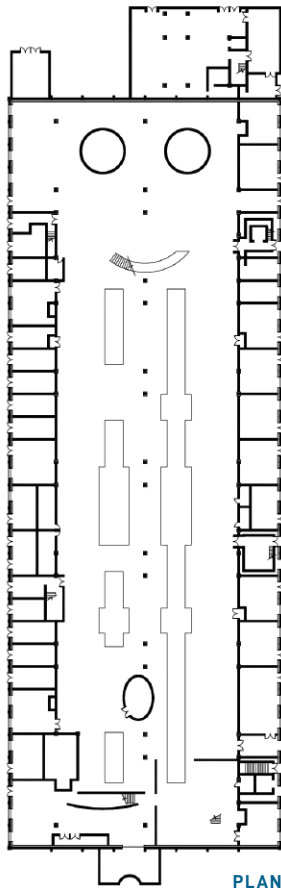


VIEW OF THE TWO ROUND KILNS ON DISPLAY
FROM THE SECOND FLOOR

PROJECT IMPACT

The Jingdezhen Ceramic Industry Museum is a vibrant place and provides visitors with an introduction to the city's history of porcelain manufacture in the 'Great Production Period' of the 1950s. The restored site showcases Jingdezhen's industrial heritage through time and space, and the exhibits on display in the museum reflect the community's collective memory of the era of ceramic production in the city. The success of the museum has enticed a number of art institutions, including from abroad, to establish design bases in Taoxichuan, thus serving to boost art and design in the city.

The central plaza has become a popular gathering spot, and today it serves as a public square. In the morning, groups of elderly people practice tai chi here. Later in the day, office workers take breaks on the benches and in the evening families take walks along the paths. The site is also often the venue for weddings, art exhibitions and other events. Proving that public spaces can serve as an important factor in making heritage part of the community's everyday life, the Jingdezhen Ceramic Industry Museum today provides a strong link between the city's residents and their industrial heritage.



PLAN



OUTDOOR SPACE IN USE BY THE LOCAL RESIDENTS AND VISITORS

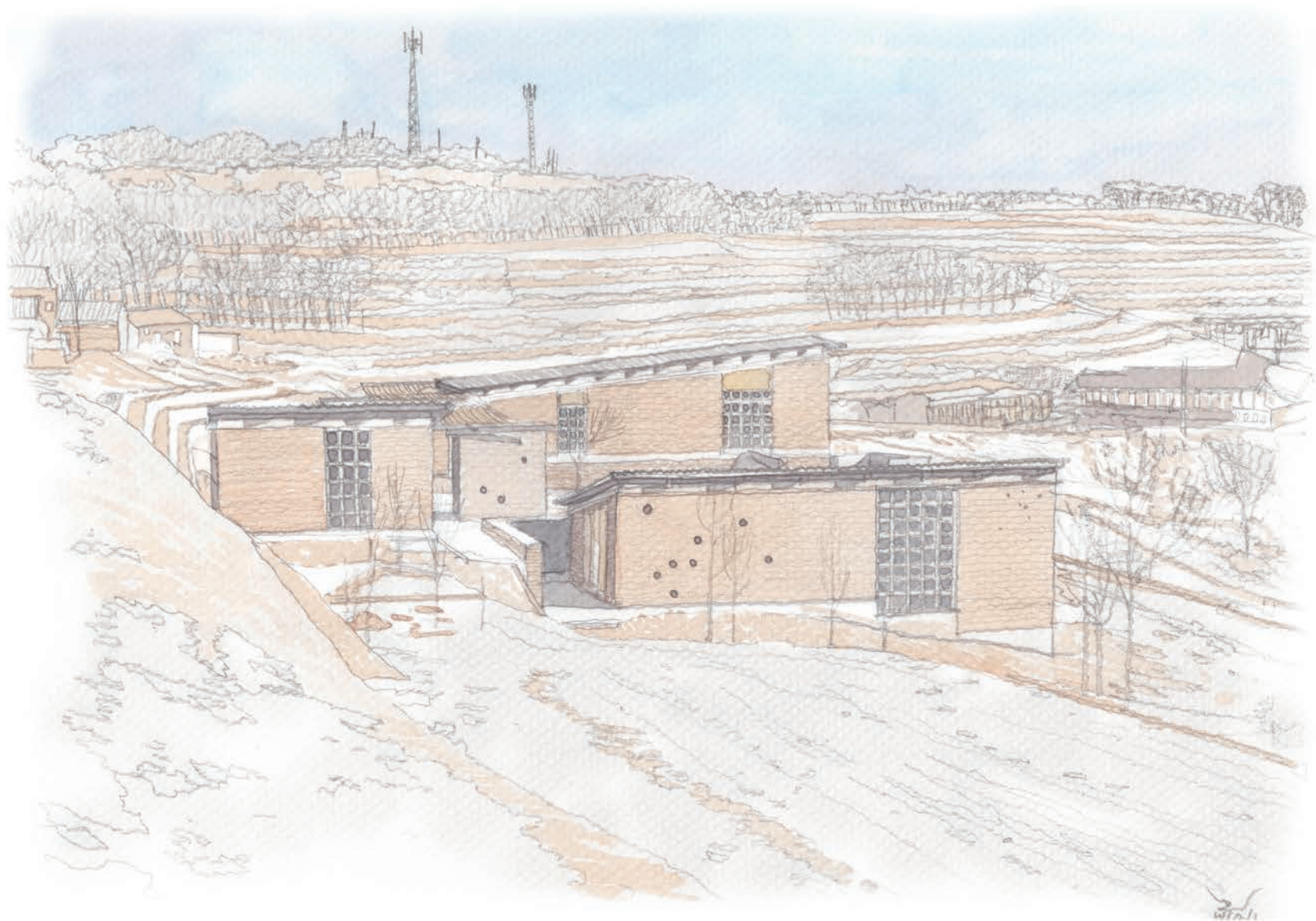
MACHA VILLAGE

CHINA

THE MACHA VILLAGE PROJECT VALORIZES VERNACULAR RAMMED-EARTH BUILDING TECHNOLOGIES AND VALIDATES THEIR CONTINUING APPROPRIATENESS FOR CURRENT-DAY USE. THE CONSTRUCTION OF TWENTY-EIGHT DWELLINGS AND A COMMUNITY CENTRE BY LOCAL RESIDENTS IN COOPERATION WITH VOLUNTEERS HAS VERY EFFECTIVELY OVERCOME CONCERNS ABOUT THE IMAGE, COMFORT AND DURABILITY OF VERNACULAR BUILDINGS. BY ADAPTING TRADITIONAL TECHNIQUES OF CONSTRUCTION TO MEET MODERN STANDARDS OF BUILDING PERFORMANCE AND SEISMIC SAFETY, THE QUALITY OF LIFE OF THE VILLAGERS HAS BEEN ENHANCED. THE PROJECT IS A MODEL FOR THE CONSTRUCTION OF RURAL DWELLINGS THAT ARE AFFORDABLE, SUSTAINABLE AND ECOLOGICALLY FRIENDLY.

2017

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS



AFTER FIVE YEARS OF MACHA-BASED STUDIES, DEMONSTRATIONS AND DISSEMINATION, THE MOST FREQUENT QUESTION TO THE PROJECT TEAM HAS CHANGED FROM, 'WHY EARTHEN ARCHITECTURE?' TO 'HOW DOES ONE CONSTRUCT AN EARTHEN BUILDING?' THIS ONCE-SHUNNED BUILDING TYPE IS NOW RECOGNIZED IN CHINA FOR ITS VITAL CONTRIBUTION TO PRESERVING HERITAGE IDENTITY AND BOOSTING LOCAL SOCIAL AND ECONOMIC ACTIVITIES.

— QUOTE FROM THE PROJECT TEAM —



SECTION OF THE MACHA COMMUNITY CENTRE



MACHA COMMUNITY CENTRE AFTER CONSTRUCTION

CONTEXT

Macha is a village of 1,260 people on the Loess Plateau (Huangtu Plateau) in central China. With a semi-arid climate, the region is known for its yellow soil, windswept landscape and traditional earthen houses. The houses are made using the rammed-earth construction method, which was once one of the most common construction types in China due to its affordability, the easy availability of the raw materials, the resistance of such buildings to rot and the low technology requirements. In recent decades, however, many earthen dwellings have been replaced by modern buildings made of concrete and bricks, which are perceived by the general public as being better and safer than traditional structures. The loss of rammed-earth buildings has occurred in spite of the fact that

concrete and brick structures are more expensive and are often not as durable as earthen structures.

PROJECT HISTORY

Recognizing that earthen construction could be a safe, financially-viable and community-enhancing means of providing housing and community spaces in underprivileged areas in the country, in 2011 the Wu Zhi Qiao (Bridge to China) Charitable Foundation gained authorization from the Ministry of Housing and Urban-Rural Development (MOHURD), to initiate a systematic, long-term research programme in Macha Village to study the feasibility of rammed-earth construction. The project had scientific support from

the International Centre for Earthen Architecture within the National School of Architecture at Grenoble (CRAterre-ENSAG) in France. Initiated in May 2011, the project was completed in May 2016.

PROJECT SCOPE AND FRAMEWORK

The Macha Village project was a multi-dimensional conservation effort to revitalize a traditional construction typology that is durable, easily-made and handled, and amenable to various construction needs. The project had four overlapping phases: (i) research, (ii) prototype building and house building, (iii) community centre construction and (iv) regional dissemination and replication.

DESIGN AND MATERIALS

Phase one of the project involved experimental studies and tests of variations to traditional rammed-earth construction methods in order to improve the seismic and waterproofing performance of earthen buildings. The process included simulations to test whether the sample materials could withstand earthquakes with a magnitude of up to 8.5 on the Richter scale.

The team adapted methods developed at CRAterre-ENSAG in France. Much of the experimental work centred on increasing the mass compressive strength of the soil through the use of powerful electric pneumatic hammers, adding sand and gravel into the traditional clay-soil mix, and reducing the moisture content. These improvements brought rammed-earth structures up to almost the same compressive strength of kiln-fired brick buildings.

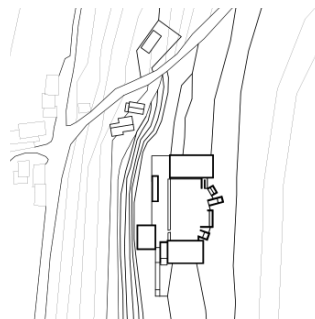
The technologies employed by CRAterre-ENSAG in France could not be replicated exactly in the Loess Plateau in China, where the wood that is traditionally used to form the shapes of the building components, such as the foundations, walls and roofing, is not strong enough to withstand the ramming force from pneumatic hammers. The project team therefore developed a modified structural form using plywood manufactured from bamboo and fitted with readily-available steel angles and tension screws. The assembly of these forms requires only two workers, making them a viable option for the local community.

The first phase of the project also involved experimenting with ways to improve the rainwater collection system in the traditional courtyard-style dwellings, as water is a precious resource in the region and collecting sufficient water for daily domestic and agricultural uses is a key challenge for local residents.

In the second phase, the project team built, as a prototype, a traditional three-tiered courtyard-style dwelling using the improved construction methods that were developed in the research phase. In the process of building the prototype, the team coached local builders and community members in the new techniques. The villagers learned the new methods quickly as it was an adaption of their traditional method of construction.

Following the completion of the prototype, the team then guided the members of twelve families who had participated in building the prototype to build their own

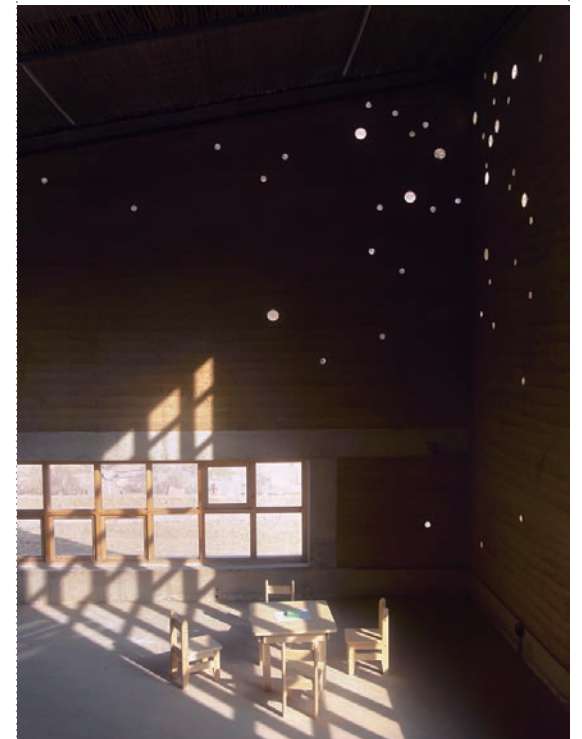
PROJECT TITLE
MACHA VILLAGE
LOCATION
MACHA, GANSU, CHINA
SIZE
7,298 SQUARE METRES
COST
US\$118,000
RESPONSIBLE PARTY
MINISTRY OF HOUSING AND
URBAN-RURAL DEVELOPMENT
OF CHINA
WU ZHI QIAO
(BRIDGE TO CHINA)
CHARITABLE FOUNDATION
HERITAGE ARCHITECT
JUN MU, WEI JIANG,
QIANGQIANG LI, SHUAI WANG,
LEILEI LU, LINXIN ZHAN,
ZHENG YANG WANG, YAN
HUANG, CHUANSHI ZHAO
CONTRACTOR
RESIDENTS OF
MACHA VILLAGE
BEIJING UNIVERSITY OF CIVIL
ENGINEERING AND
ARCHITECTURE, XI'AN
UNIVERSITY OF ARCHITECTURE
AND TECHNOLOGY
DATE OF COMPLETION
MAY 2016



SITE PLAN

rammed-earth dwellings using the improved methods, with the assistance of other villagers. The project team encouraged the villagers to make adjustments in the layout of the house to suit their own requirements. Another sixteen families in the village then followed suit and constructed their own houses. As of the end of 2016, twenty-eight families in the village had built earthen houses using the improved method.

In the third phase, with the assistance of over eighty volunteers from elsewhere in China and abroad, the project team worked during two summers with local residents of Macha to build a community centre for the village using the improved rammed-earth construction method. The centre was designed as a multi-tiered series of rammed-earth structures, based on the traditional courtyard house model. An improved water harvesting and storage system was installed in the



INTERIOR OF THE MACHA COMMUNITY CENTRE

new community centre. The team also installed a wind turbine to generate electricity to meet the centre's daily energy needs.

The decision to build a community centre in the village was partly in response to the loss of villagers through rural-urban migration. The Macha community centre was envisaged as a new hub for village activities, housing a library, nursery, hall and traditional Chinese medicine shop, to encourage greater community cohesion. The local community selected a site for the community centre at the crossroads of the various hamlets making up the village. The community centre opened to the public in April 2016.

In the fourth phase, which overlapped with previous phases, the project team compiled the knowledge gained through the various studies and construction efforts and in 2014 published an easy-to-follow, illustrated technical manual on how to design and construct earthen buildings, the first book of its kind in China. MOHURD then distributed this to regional governments and villages with rammed-earth building traditions. The project also sponsored the construction of an additional 110 rammed-earth dwellings in twelve regions of China. In each case, the construction process was guided by trained villagers from Macha and a professional construction team member. These experts also trained members of each community in the new techniques.

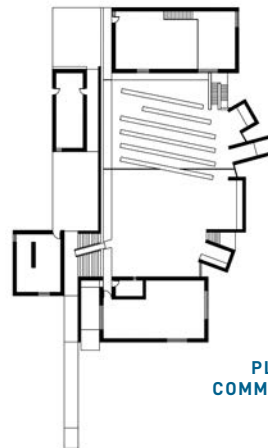
IMPORTANT ISSUES

The team conducted a study comparing the costs and energy use of houses built using the improved rammed-earth technology and those using concrete and bricks and found that the improved rammed-earth structures could be built at two-thirds the cost of conventional concrete and brick homes. When labour was provided free by neighbours under a cooperative, community-based approach, a rammed-earth house was a quarter of the cost of a conventional house.

Study results also revealed that the embodied energy of the finished rammed-earth structures was twenty-five per cent of that used by concrete and brick structures, and that the construction of earthen houses produced only twenty per cent of the carbon emissions



LOCAL CHILDREN



PLAN OF MACHA
COMMUNITY CENTRE

produced in the construction of conventional structures. The studies therefore found that the earthen houses were not only significantly cheaper to build but were also much more energy-efficient and had a lower carbon footprint than conventional concrete and brick buildings. In addition, the studies found that the upgraded earthen dwellings were comfortable living spaces and were warmer than concrete and brick houses in winter.

PROJECT IMPACT

The project demonstrated the viability of rammed earth construction as an ecologically-sound and low-cost way to provide high-quality residences and community spaces. The project has therefore promoted new confidence in the traditional construction typology and has helped to revive a fading building type.

The Macha project served as a launching ground for rammed-earth construction projects in other regions of China and for skills development at the national level. In particular, the project has become a model for teaching architecture students, both nationally and internationally, about material research and locally-integrated design for earthen construction. On-site summer workshops and design studios have won national recognition.

Since its completion, the community centre's light-filled and functional spaces have become popular with local villagers. The community centre enabled the invigoration of an after-school programme and fostered the revival of a long-disbanded traditional theatre group comprised of village elders, along with other groups that perform traditional entertainment, such as shadow puppetry and opera.

The success of the project has enticed some former residents to return to the village to learn the improved rammed-earth construction methods and earn a living in constructing earthen buildings. These trained builders now have sustainable livelihoods as builders and as trainers. With the revitalization of the village, other former residents have returned to start new businesses. For example, a young family returned from the city to set up an internet-based shop. In the words of one of the village elders, 'the original soul of Macha seems to be coming back'.

TECHNICAL BRIEF

RAMMED-EARTH TECHNOLOGY

A fundamental part of the Macha Village project was on-site experimental research into rammed-earth technology. The improved rammed-earth method developed during the research process was demonstrated to be an affordable and sustainable way of repairing old houses and building new ones in rural areas of China.

Research carried out by the International Centre for Earthen Architecture within the National School of Architecture at Grenoble (CRATerre-ENSAG) in the 1990s showed that the mechanical and waterproofing performance of rammed-earth mass could be greatly improved through powerful ramming with pneumatic hammers and by using a gap-graded mixture of clay-sand-gravel with a moisture content of between 8 per cent and 12 per cent. The CRATerre-ENSAG research also revealed that of all factors



LOCAL DWELLINGS AND TECHNIQUES

limiting the use and spread of modern rammed-earth technology using pneumatic hammers, the greatest challenge was developing a sufficiently strong shuttering system. China's traditional rammed-earth technology uses a rafter/board system, which lacks the strength required to withstand the force of pneumatic hammers. Overcoming this challenge became a key focus of the experimental research under the Macha Village project.

Given the context of low incomes in rural China and the labour-intensive nature of constructing rammed-earth buildings, the new shuttering system not only had to be strong, it also had to be cheap, durable and easily made and handled. To meet these criteria, it therefore needed to be

made of conventional products that were light in weight and available on the local market.

Market research in north-western China found that bamboo plywood, shaped steel and tension screws were readily available and were relatively cheap, and were also strong enough for the purpose. The research team developed a shuttering system using these materials.

The system developed by the team can be assembled by just two workers, and is flexible, so can be modified for different shapes of walls, including 'I', 'L' and 'T' forms. This not only satisfies rural construction demands, but also enables workers to reinforce wall corners mechanically. The team worked with villagers to experiment with making various compo-



SUMMER WORKSHOPS FOR THE CONSTRUCTION OF THE COMMUNITY CENTRE

nents using the new shuttering system, and also in making foundations, windows, doors, roofing and ring beams.

The lessons learned from this experimental phase were then applied to form a prototype house. Local craftspeople and villagers, guided by the project team, built a rammed-earth courtyard house for an elderly couple using the method developed in the experimental phase. Then families in Macha constructed their own houses using the new rammed-earth technology. These houses were completed in three months.

Adapted from the "Macha Village" UNESCO Asia-Pacific Heritage Awards entry submission



FIRST RAMMED-EARTH PROTOTYPE

PERSIAN GULF UNIVERSITY

FACULTY OF ARTS AND ARCHITECTURE

ISLAMIC REPUBLIC OF IRAN

THE NEW FACULTY OF ARTS AND ARCHITECTURE BUILDING OF THE PERSIAN GULF UNIVERSITY RESPONDS TO AN URBAN DESIGN CHALLENGE WITH A CONTEXTUAL SOLUTION THAT DEMONSTRATES A SOUND UNDERSTANDING OF THE VERNACULAR ARCHITECTURAL TYPOLOGY. LOCATED AT THE EDGE OF THE HISTORIC DISTRICT OF BUSHEHR, THE NEW BUILDING MAINTAINS CONTINUITY WITH THE EXISTING URBAN MORPHOLOGY, WITH ITS COMPATIBLE SCALE, FAÇADE TREATMENT AND MATERIALS. BY CONFIGURING THE BUILDING AROUND LANDSCAPED COURTYARDS, THE PROJECT CREATES AN OASIS FOR THE UNIVERSITY COMMUNITY USING TRADITIONAL ENVIRONMENTAL MANAGEMENT TECHNIQUES. THE NEW DESIGN MAINTAINS A DISTINCTIVE BUT RESPECTFUL PRESENCE VIS-À-VIS THE RESTORED 'NOZARI HOUSE' AND OTHER ADJACENT BUILDINGS. THE PROJECT OFFERS A NOTEWORTHY MODEL FOR CONTEMPORARY ARCHITECTURE THAT EMBODIES THE REGIONAL GENIUS LOCI.

2017

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS



CONTEXT

The Persian Gulf University is located in the port city of Bushehr in Iran. It is situated at the intersection of the city's historic precinct and an urban renewal area, in and close proximity to Nozari House, a building built during the Qajar Dynasty (1789-1925) that was restored recently by the Iranian cultural heritage department.

The built landscape of Bushehr is an architectural response to the area's hot and semi-arid climate. Buildings are generally two to three storeys, flanking narrow lanes. The proportions of the buildings are deliberate planning gestures to provide shade along the pathways between the houses. The indigenous architecture of the region is also designed to create air flow through buildings, with high ceilings and openings situated under the roofs to allow heat to escape. Of equal consideration is the social and cultural context of these spaces. Privacy in the urban context is retained through having few openings in the lower floors

of buildings. This also serves to ensure climatically-comfortable spaces within the buildings in winter. Another common feature of the architecture in Bushehr is semi-open spaces between the buildings. These not only aid in maintaining privacy but also create pockets of ventilation within the compact layout of units. This subtle design language demonstrates considerable flexibility, allowing for a careful attention to environmental conditions while creating an architecturally harmonious townscape.

PROJECT HISTORY

In 2007, the administrators of the Persian Gulf University examined the options for expanding the university's teaching space and decided to adaptively reuse Nozari House as part of the Faculty of Arts and Architecture, and also create a new building in close

proximity that would seamlessly integrate with the heritage building and with the surrounding urban landscape. This new building was needed in order to provide spaces that would accommodate large numbers of students, including rooms such as architectural studios, lecture halls and a student centre.

Originally planned as a three-phase project, involving the restoration and/or construction of several buildings in the area, the project came up against daunting budget issues. Consequently, the construction work on the first building was delayed for many years. While the design work was completed in 2008, the work under the first phase only began in 2014. It was completed in 2016 and the new Faculty of Arts and Architecture building opened in December that year. As of 2017, the remaining two phases of the larger project were awaiting funding and had yet to be initiated.

PROJECT SCOPE AND FRAMEWORK

The first phase of the project had two parts. The initial stage involved adapting Nozari House, a courtyard residence representative of the vernacular typology, to meet some of the needs of an academic facility, thus reviving the building and giving it a relevant current use, but in a way that respected the building's character. The second stage involved constructing a new building that would be suitable for large groups of students, but which would integrate well with the existing urban fabric.

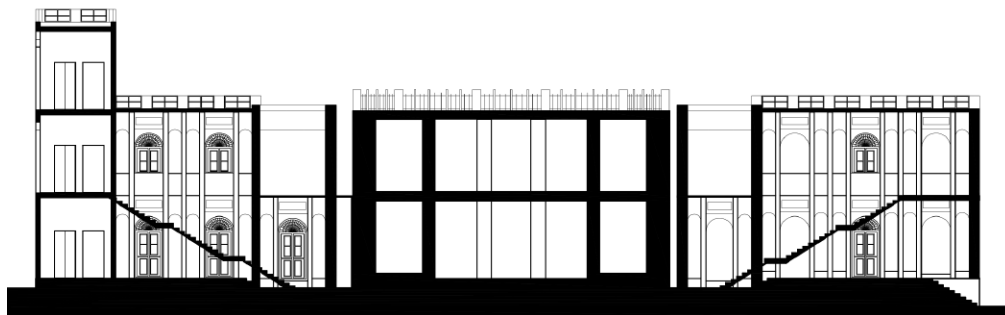
DESIGN AND MATERIALS

The new Faculty of Arts and Architecture was designed to integrate well with Nozari House. The designers of the building also paid careful attention to the impact of the new building on the urban texture and the lives of the residents of the area. In addition, the designers took into account the presence of old trees on the site, incorporating them into the design.

Comprised of various large spaces, including studios and an amphitheatre, the new building was designed to be compatible in scale and materials with the historic townscape while possessing its own distinctive aesthetic. Design gestures for the building included few openings on the ground floor, high ceilings, large porches and flat

HISTORICALLY, THE CITIES OF IRAN WERE DESIGNED TO BE IN HARMONY WITH NATURE AND COMPATIBLE WITH THE CLIMATE. THE DESIGN OF THE NEW BUILDING SOUGHT TO CONVEY THE ESSENCE OF THIS ARCHITECTURE IN TODAY'S WORDS.

— QUOTE FROM THE PROJECT TEAM —



SECTION

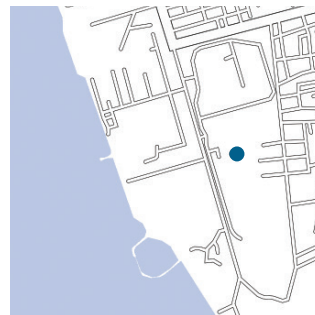
roofs and terraces. Other elements included retractable wooden blinds and an earth-tone façade identical to the old houses in Bushehr.

Reflecting existing construction traditions, the architects designed the university building to fit within a series of landscaped courtyards. The building's explicit relationship between the inside and outside via semi-open spaces reflects the surrounding buildings and replicates the community network evident in the old city, creating an implicit relationship between the physical and social environments. This quality encourages interaction between users by establishing a visual dialogue among the spaces and creates a distinct social dynamic within the new facility.



THE NEW BUILDING UNDER CONSTRUCTION

PROJECT TITLE
PERSIAN GULF UNIVERSITY
FACULTY OF ARTS AND
ARCHITECTURE
LOCATION
BUSHEHR, ISLAMIC REPUBLIC
OF IRAN
SIZE
7,000 SQUARE METRES
RESPONSIBLE PARTY
BUSHEHR CULTURAL
HERITAGE, HANDICRAFTS AND
TOURISM ORGANIZATION
HERITAGE ARCHITECT
BAM CITADEL OF KERMAN
CONSULTING ARCHITECTS AND
ENGINEERS
SHAHABEDDIN ARFAEI
DATE OF COMPLETION
DECEMBER 2016



CONNECTING AXIS IN THE NEWLY EXTENDED BUILDING

IMPORTANT ISSUES

Multiple environmental and social considerations governed the architectural planning and design of the project, resulting in a new building that is energy-efficient, compatible with the local climate and sustainable, and inspired by the historic fabric of Bushehr. The new building echoes the regional architectural language, embracing traditional principles while creating a building suitable for its modern institutional function.

PROJECT IMPACT

The resulting new Faculty of Arts and Architecture building gives expression to a harmonious blend of old and new, accomplished through meticulous programming and execution. The new building has created a fresh vitality in the area, increasing social interaction within the old fabric of Bushehr. The project sets a regional benchmark for new design in a historic setting.

AWARD OF EXCELLENCE

SHIJO-CHO OFUNE-HOKO FLOAT MACHIYA
JAPAN

AWARD OF DISTINCTION

THE LAMO CENTRE
INDIA

AWARD OF MERIT

5 MARTIN PLACE
AUSTRALIA

AIJING ZHUANG
CHINA

OLD BRICK WAREHOUSE OF THE COMMERCIAL BANK OF HONJO
JAPAN

HONOURABLE MENTION

HENGDAOHEZI TOWN
CHINA

RAJABAI CLOCK TOWER AND UNIVERSITY OF MUMBAI LIBRARY
BUILDING
INDIA

RUTTONSEE MULJEE JETHA FOUNTAIN
INDIA

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

HART'S MILL
AUSTRALIA

KAOMAI ESTATE 1955
THAILAND

2018

SHIJO-CHO OFUNE-HOKO FLOAT MACHIYA

JAPAN

THE RENEWAL OF THIS EARLY TWENTIETH-CENTURY *MACHIYA* CELEBRATES KYOTO CULTURE THROUGH THE SAFEGUARDING OF THE CITY'S ENDANGERED WOODEN TOWNHOUSE TYPOLOGY AS WELL AS THE ICONIC ANNUAL GION FESTIVAL. THE METICULOUSLY-RESTORED BUILDING TODAY HOUSES THE OFUNE-HOKO FLOAT, ITSELF RESURRECTED AFTER A 150-YEAR HIATUS TO REGAIN ITS PLACE OF PRIDE IN THE ANNUAL RITUAL PARADE. THROUGH CAREFUL DOCUMENTATION AND A LIGHT-HANDED APPROACH TO CONSERVATION, THE PROJECT HAS TRANSFORMED A RESIDENCE TO SERVE A MEANINGFUL COMMUNAL FUNCTION IN A MANNER THAT HAS ENHANCED THE ETHOS OF THE HISTORIC BUILDING. UNDERTAKEN BY MASTER CARPENTERS IN COLLABORATION WITH CONSERVATION EXPERTS, THE CONSERVATION WORK SHOWCASES INNOVATION WITHIN A TRADITIONAL ARCHITECTURAL CONTEXT. THE PROJECT SETS A MODEL FOR ITS SEAMLESS APPROACH TO SAFEGUARDING BUILT HERITAGE INTERTWINED WITH INTANGIBLE CULTURAL HERITAGE IN A MUTUALLY ENRICHING WAY.

2018

AWARD OF EXCELLENCE



CONTEXT

Located in the neighbourhood of Shijo-cho in Kyoto, this *machiya* (traditional Japanese townhouse) was converted under the project for use as a *kaisho*, a community centre and a site for storing the neighbourhood's floats, which are paraded in Kyoto's annual Yamahoko (Yamaboko Junko). This float procession, which was inscribed by UNESCO on the Representative List of the Intangible Cultural Heritage of Humanity in 2009, is the culmination of the Gion Matsuri (Gion Festival), which takes place in Kyoto each July. Many of Kyoto's neighbourhoods contribute floats to the procession; Shijo-cho's float, the Ofune-hoko ('large boat-shaped float'), has special significance as it is traditionally the final float in the festival procession.

The Shijo-cho Ofune-hoko Float Machiya is situated in a row with three other *machiya*, next to an alley containing another row of these townhouses. An increasingly rare sight today, *machiya* were once a prominent feature of the Shijo-cho townscape. Recognizing the heritage value of this vanishing typology and the importance of *kaisho* for ensuring the continuation of important ceremonies relating to the Gion Festival, members of the Shijo-cho community rallied to restore the *machiya* and convert it into a *kaisho* to house the Ofune-hoko.

BUILDING HISTORY

Built in 1933, the *machiya* is a wooden, three-storey building. Like other buildings of this typology, the *machiya* features a *tori-niwa* (inner corridor) that connects the various spaces, which include a commercial space at the front of the building, a residential space and a garden courtyard area. While it is a fairly modern building, the dimensions of many of its elements are the same as those of ancient *machiya*, as the form is handed down over generations. Moreover, in accordance with the tradition of reusing structural elements of older *machiya* in new *machiya*, almost 70 per cent of the horizontal structural elements in the building, including the timber beams and girders, derive from older *machiya* and are therefore much older than the building itself.

Over its decades of use as a commercial site and residence, the owners cared for the building but remodelled the interior in various ways and made



SECTION

THE RESTORATION OF THE *MACHIYA*, USING TRADITIONAL METHODS, HAS ENSURED THE LONGEVITY OF THE BUILDING AND HAS PROVIDED A FOUNDATION FOR THE PRESERVATION OF NOT ONLY THE FLOAT PROCESSION BUT ALSO THE LIVING CULTURE OF THE LOCAL COMMUNITY OF SHIJO-CHO.

— QUOTE FROM THE PROJECT TEAM —



SHIJO-CHO OFUNO-HOKO FLOAT MACHIYA AFTER RESTORATION

several changes, including covering the original tiled roof with corrugated sheet metal and obscuring the building's bay window. The *tatami* (traditional straw mat) floors were left largely intact, but the owners covered most of the interior walls and ceilings with plywood. In addition, the owners reduced the courtyard space and built a warehouse in the backyard. When the conservation project commenced in 2015 the building did not have any major structural damage, but substantial work was required to return it to its original layout and to prepare spaces for the storage of the disassembled float and for community gatherings and Shinto rituals.

PROJECT HISTORY

In 1864, Shijo-cho's *kaisho* and the wooden structure of the Ofune-hoko were lost in a fire. While the *kaisho* was rebuilt soon afterwards, the Ofune-hoko was not. In 1877, the local community decided to build an elementary school and in order to finance its construction and management they sold the *kaisho*. Without the *kaisho* and the Ofune-hoko, the community could no longer participate in the float procession of the Gion Festival. Over the following 150 years, therefore, the community of Shijo-cho only participated in the Imatsuri ceremony, in which they gathered to display their textiles and decorative objects and to perform Shinto rituals associated with the Gion Festival. Gradually, however, with the ageing of the population, participation in the Imatsuri ceremony declined and in 1996 it was scaled down to include only the Shinto rituals.

Several community members felt a strong sense of loss when the Imatsuri ceremony was curtailed and set out to revive the ceremony and, beyond that, restore the Shijo-cho community's participation in the Yamaboko Junko of the Gion Festival. In 2010, they established the Ofune-hoko Preservation Association (OHPA) and over the following four years engaged in a concerted effort to gather the resources necessary to build a new Ofune-hoko. With assistance from donors and from other neighbourhoods in Kyoto, in 2014 the Shijo-cho community came together to build and decorate a new Ofune-hoko and, on 24 July that year the float participated in the Yamaboko Junko for the first time in over 150 years.

The Gion Festival traditionally had two float processions, one at the beginning of the festival (Saki-

PROJECT TITLE
SHIJO-CHO OFUNE-HOKO
FLOAT MACHIYA

LOCATION
KYOTO, JAPAN

SIZE
256.58 SQUARE METRES

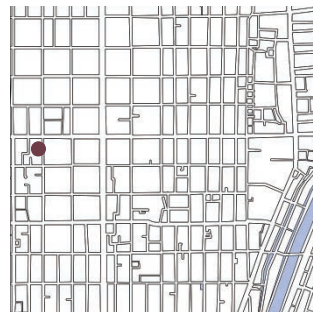
COST
US\$355,000

RESPONSIBLE PARTY
KYOMACHIYA COUNCIL
KYOTO CENTER FOR
COMMUNITY COLLABORATION
OFUNE-HOKO PRESERVATION
ASSOCIATION

SHIJO-CHO OFUNE-HOKO
PRESERVATION ASSOCIATION
WORLD MONUMENTS FUND

HERITAGE ARCHITECT
KYOMACHIYA ARCHITECTS
(KYO SUEKAWA AND
YUJI TSUJI)

CONTRACTOR
KYOMACHIYA ARCHITECTS
DATE OF COMPLETION
APRIL 2017



matsuri) and one at the end (Ato-matsuri), but both are referred to as the Yamaboko Junko. Shijo-cho's Ofune-hoko was one of the floats in the Ato-matsuri procession. In the 1960s, various concerns over city congestion during the festival led to a decision to merge the floats from the Ato-matsuri into the Saki-matsuri. Consequently, for the next half century there was only one procession. The situation changed in 2014, when the festival organizers reinstated the Ato-matsuri; this coincided with the rebirth of the Ofune-hoko.

Referred to as 'moving museums', the floats in the Gion Festival processions are decorated with ornate ornaments and fabric, including *nishijin* (traditional Japanese textiles). Each float has a special meaning to the local community, and the floats are considered community treasures. The floats are assembled and decorated each year by the members of the community



COURTYARD GARDEN BEFORE AND AFTER

associations. Following the procession, the community associations dismantle the floats and put them into storage. The storage space is regarded as a sacred place and is off-limits to the general public.

Two types of floats participate in the processions: *yama* (low and thick) and *hoko* (tall and slender). While *yama* floats are carried on the shoulders of several people, the *hoko* floats, including Ofune-hoko, can be as tall as 8 metres. Made of timber lashed together with rope, the *hoko* floats can weigh as much as 12 tonnes and are pulled on massive wheels by dozens of people.

Having reinstated the community's participation in the festival, the next step for the OHPA was to reinstate the community's *kaisho*. The original *kaisho* had been demolished some years before and replaced with a new building, so the OHPA searched for a suitable alternative. In 2014, the OHPA acquired an 81-year-old *machiya* on Shinmachi Street, opposite the site of the former *kaisho*. With support from the World Monuments Fund, the conservation work began later that year and was completed in 2017.



OHAYASHI FESTIVE MUSIC FOR THE DEDICATION AT OTABISHO

PROJECT SCOPE AND FRAMEWORK

The conservation work on the *machiya* aimed to restore the building and convert it into the permanent home for the Ofune-hoko. This was part of a broader community effort to re-establish the community's participation in the Yamaboko Junko and provide a foundation for the continuation of local community traditions associated with the Gion Festival. An additional aim of the project was to contribute to recovering and protecting the traditional *machiya* of Kyoto.

Following research into the history of the building and tests of the building's materials, the OHPA prepared a plan for the conservation work. The work to conserve the *machiya* focused on the removal of inappropriate additions; reversal of the changes to the layout; reintroduction of missing elements; provision of services, including plumbing and electricity; and insertion of the necessary elements for storing the Ofune-hoko and enabling the use of the building as a *kaisho*.

CONSERVATION METHODOLOGY AND MATERIALS

The project was based on three key principles: use

the construction methods traditionally applied in *machiya*; restore the cooperative partnership that once existed between local float builders (carpenters) and *machiya* builders/conservers; and ensure the participation and engagement of the local community.

In accordance with the first and second principles, an important element of the work was the employment of traditional craftspeople, both specialist carpenters and *machiya* builders, especially older artisans. This traditional knowledge and their expertise were essential to the success of the restoration work. Through bringing the various artisans together to restore the *machiya*, the project also nurtured their connections and fostered a relationship underpinned by shared community customs and culture.

In line with the third principle, the project team invited the community to participate and contribute at all stages of the restoration work on the *machiya* and also in the Gion Festival. In the process, the project team sought to inform the public of the value and significance of *machiya* buildings and of the need to preserve them. Moreover, the OHPA sponsored a series of workshops and site visits to enhance public knowledge of the role

of the Ofune-hoko in the Gion Festival.

In 2015, the Kyoto city government designated the *machiya* as an 'Important Structure of the Landscape'. This designation gave the building heritage protection status and further solidified the cultural heritage value enshrined in Kyoto's *machiya*.

In carrying out the repair work, the conservation team was careful to preserve the architectural elements typical of *machiya* buildings, including the inner corridor and courtyard garden. The team also removed inappropriate elements, including the front eave of the roof, which was changed to copper in keeping with the original style of the building, and the lattice at the front of the building, which was substituted with an appropriate flat style of lattice that can be removed to open up the front of the building during the Gion Festival.

Adjustments were made to the four *tatami* rooms on the second floor to enable them to serve particular purposes during the Gion Festival, including as a space for performing Shinto rituals. Work in the upper rooms included restoring alcoves and replacing some of the transom windows. The replacement windows were sourced from an old *machiya* in another part of Kyoto

(that had been demolished). The transom windows separating the rooms feature the Seigaiha, a traditional wave crest pattern representing unlimited blessing.

To accommodate the float, the team adjusted the threshold of the building and also built a removable cantilevered bridge that can be assembled every year to allow access to the Ofune-hoko (when it is outside in the street) from the second floor of the building. The team also constructed a temporary staircase that can be assembled annually to connect the second floor and backyard and thereby allow the smooth flow of visitors through the building when it is in use during the Gion Festival.

The restoration team employed traditional materials whenever possible, but made exceptions in the case of modern additions to the building, including electricity and plumbing, and except on the ground floor of the building, which was leased out to raise funds for maintaining the *machiya* and the Ofune-hoko. The traditional materials used in the conservation work included the original type of roof tiles, traditional plaster, Japanese paper screens and *tatami*. Where new wood was needed (e.g. for building the bridge and staircase), the team mostly used local elm and Japanese cypress. As well as salvaging old materials from elsewhere (e.g. windows), the team also avoided buying new objects and parts for the house and the float, instead relying on donations of objects from the OHPA members and members of other float associations in Kyoto.

IMPORTANT ISSUES

The conservation project was an initiative of the members of the OHPA and the success of the project was a direct result of their efforts. The members not only instigated the project and drove it forward but they also participated in the conservation work on a daily basis, contributing their knowledge, skill sets, time and labour. They also assisted the architects in daily decision-making, thereby keeping the project on track and helping to ensure the conservation principles were upheld throughout the project. In addition, they conducted training workshops and site visits to inform the public of the value of traditional customs and *machiya* architecture. The OHPA today manages the Shijo-cho Ofune-hoko Float Machiya and the association's efforts ensure the preservation of the

building and the continuation of the intangible heritage associated with it. The approach taken by the OHPA is an exemplar of successful community-based, grass-roots conservation and is a model for similar efforts in Japan and beyond.

PROJECT SUSTAINABILITY AND VIABILITY

Recognizing that the traditional skills used to create the new float and repair the *machiya* were becoming rare in Kyoto, in 2006 the project architects, who represent a group of thirty artisans specializing in crafts relating to the restoration of *machiya*, launched a two-year 'master builder' training course focused on reviving these traditional skills. The artisans trained in the course have added to the pool of skilled craftspeople in Kyoto and they play a vital role in preserving other floats and *machiya* in the city.

To achieve financial sustainability, the OHPA leased out the building's ground floor space for commercial use and also sought out additional income sources, such as from cultural events at the site. The association uses the income generated in these ways to maintain the *machiya* and float.

PROJECT IMPACT

The recovery of the *machiya* has enabled the Shijo-cho community to once again fully participate in an important cultural tradition, the Yamaboko Junko of the annual Gion Festival. The project not only rescued and restored a fine example of traditional *machiya* architecture, it also provided a venue for the perpetuation of cultural practices and ensured the continuation of local heritage values and customs. The project has also helped to revive a sense of unity in the Shijo-cho community and to reconnect traditional artisans, helping to ensure Kyoto's culture remains vibrant in the long term.

By conserving the *machiya*, the project has also helped to protect this building typology and conserve the townscape of Shijo-cho. Moreover, as a result of public outreach and workshops, awareness has grown regarding the value and importance of Kyoto's tangible and intangible cultural heritage, and the links between them. This represents an important step towards reversing the trend seen in many neighbourhoods of Kyoto of replacing traditional *machiya* with modern buildings.



FLOAT PROCESSION

THE LAMO CENTRE

INDIA

THE RECOVERY OF TWO ARISTOCRATIC HOUSES FROM A STATE OF PARTIAL RUIN ESTABLISHES AN IMPORTANT PRECEDENT FOR CONSERVING THE NON-MONUMENTAL URBAN FABRIC OF LEH OLD TOWN. INFORMED BY DETAILED RESEARCH AND INVESTIGATION, THE SYSTEMATIC RESTORATION PROJECT USED SALVAGED AND LOCAL BUILDING MATERIALS AND INDIGENOUS CONSTRUCTION TECHNIQUES WHILE ADROITLY INTRODUCING MODERN AMENITIES TO ASSURE ITS ONGOING USE. A DYNAMIC PROGRAMME OF ARTS ACTIVITIES ENLIVENS ITS SPACE FOR THE BENEFIT OF BOTH LOCAL RESIDENTS AND VISITORS. STRATEGICALLY LOCATED AT THE FOOT OF THE LEH PALACE, THE RESTORED STRUCTURE CONTRIBUTES SIGNIFICANTLY TO THE CONTINUITY OF THE HISTORIC TOWNSCAPE DATING BACK TO THE SEVENTEENTH CENTURY.

2018

AWARD OF DISTINCTION



CONTEXT

Located on a steep, rocky slope in the upper part of the Old Town of Leh, in Ladakh Province, India, the LAMO Centre is a community arts and media centre that celebrates and promotes Ladakhi material and visual culture. The centre is housed within two buildings: Munshi House and Gyao House.

The Gyao and the Munshi houses are examples of local vernacular architecture and express the same vertical separation of uses and spaces, reflecting the three-tiered division of the cosmos. The bottom floor reflects the underworld; this is where the storerooms, the animal stables and a toilet pit are located, as well as a *klu-bang* shrine, to appease the spirits of the earth.

On the floors above are the main living spaces, centred on the fireplace. These levels represent the world of humans. The uppermost storey is the sacred space, the realm of the gods; it contains a *chodkhang* (prayer room or chapel).

BUILDING HISTORY

The precise age of Munshi House is unknown; documentary evidence related to the building dates only from the end of the nineteenth century, but the oldest parts of the house are believed to have been built in the seventeenth century. The location of the house, directly

below the palace of Leh, which was constructed in the first half of the seventeenth century, is an indication of the status of the first owner of the house, who was a *togoche* (later known as a *munshi*), an official that ranked between a minister and a mayor.

Munshi House is an imposing four-storey building with thick masonry walls, an elaborate entablature, carved Kashmiri woodwork and decorative wall paintings featuring foliage, dragons and lotus flowers. The oldest parts of the house – the winter kitchen and the store rooms and stables below it – were built inside the north-south city wall. Later extensions to the house were made after the wall's defensive function had been superseded.

IF THE RESTORATION OF THE MUNSHI AND GYAO HOUSES AND THE ESTABLISHMENT OF THE LAMO CENTRE SETS A PRECEDENT FOR THE REJUVENATION OF OTHER BUILDINGS IN THE OLD TOWN OF LEH, THE PROJECT WILL HAVE SERVED ITS PURPOSE. RESIDENTS IN THE OLD TOWN NOW LOOK AT THE LAMO CENTRE AND SAY, 'THAT'S WHAT THE OLD TOWN SHOULD LOOK LIKE'.

— QUOTE FROM THE PROJECT TEAM —



SITE PLAN

THE GROUND FLOOR WALLS WERE BUILT UP IN STONE AND THEN BRICK FOR THE UPPER FLOOR

Over the years, the owners of Munshi House gradually expanded it to include a courtyard, with a surrounding colonnade of wooden pillars, which was built above the winter kitchen, and a small room at the north. Later, the owners added a grand reception space, the Rabsal Room, featuring a large decorated balcony, painted pillars, beams and painted walls. Below this was the Bokhari Room. Unfortunately, much of the new structure had inadequate foundations, causing the walls to deform as soon as the rooms were built. These forces continued in the twentieth century, leading to collapse in 2006. A final extension of the house took place at the end of the nineteenth century, when another room (called the Small Rabsal Room) and a second balcony were added. The upper storey features an impressive *chodkhang*, with a decorated screen and a lantern with painted deities. In the mid-2000s, parts of Munshi house remained intact, but the building was in poor condition overall as it had ceased to be occupied on a regular basis in the mid-1980s.

Little is known about the history of Gyao House. Unoccupied since the 1950s and in ruins for several decades prior to the project, the house shares a party wall with Munshi House. The masonry joint on the front wall suggests that Gyao House came later, leaning against Munshi House. Gyao House has three floors, with two windows to the south on each level. The small front door of the Gyao House led first into the stables and then up to the living floors.

PROJECT HISTORY

Throughout the Himalayas, historic towns have been lost or damaged through wars, natural disasters and redevelopment. While the Old Town of Leh has survived, its heritage buildings are increasingly bearing the brunt of neglect and demolition. Alarmed by the pressures on Leh's historic fabric, the Ladakh Arts and Media Organisation (LAMO) determined to identify a heritage building in Leh, conserve it and establish an arts resource centre in it. The organization wished to demonstrate how historic buildings can be rejuvenated and contribute to the social and cultural life of the community. It also sought to set a precedent for the restoration of privately-owned historic buildings, as conservation efforts in Ladakh so far have mostly focused on the protection and restoration of palaces.

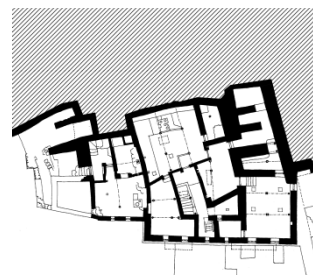
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PROJECT TITLE
THE LAMO CENTRE
LOCATION
LEH, LADAKH, INDIA
SIZE
888 SQUARE METRES
COST
US\$69,707
RESPONSIBLE PARTY
LADAKH ARTS AND MEDIA
ORGANISATION
HERITAGE ARCHITECT
JOHN HARRISON
CONTRACTOR
SHABIR AHMED
DATE OF COMPLETION
SEPTEMBER 2017

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+



+

PLAN

+

An earlier conservation plan for Leh had identified Munshi House as an important building that could be restored and turned into a museum. In the early 2000s, after making contact with the owners of Munshi House, who were interested in restoring the building and exploring possibilities for a new use, LAMO leased the house and began work to conserve the building. Soon after work started on Mushi House, LAMO was approached by the owner of the neighbouring Gyao House and subsequently also leased that house and added it to the conservation project.

One of the challenges faced during the conservation process was that Ladakhi artisans approached the project with some hesitation, as they thought the houses were haunted. It took some time to convince them that the houses were not. Another challenge was that work was not possible in winter. The work could only be conducted between the months of May and September. The short working season meant that the project was interrupted every year. While most workers returned to work the following year, there were some who did not. New team members required training and some continuity was lost. Moreover, it was difficult to engage local master builders because of the construction boom in Leh, which drew many workers away. Procuring building materials at the beginning of the season was also challenging as Leh experiences shortages of supplies if the passes that provide access into the region open late in the year. This meant that supplies had to be bought and stored the previous year, before winter set in.

The conservation work began in 2006 and was completed in 2010. Conservation of the wall paintings in the Fireplace Room of Munshi House was undertaken in 2017.

PROJECT SCOPE AND FRAMEWORK

The project aimed to conserve the two houses, reinstating their structural integrity and restoring their original features, and aimed to adapt them for use as a centre in which to present and celebrate Ladakhi material and visual culture. LAMO envisaged the restored buildings as spaces to accommodate exhibitions, performances and workshops as well as a library, artist studio, sound studio and offices.



THE WALLS OF MUSHI HOUSE PRE-RESTORATION



ELEVATION

The inclusion of Gyao House in the project meant that a generous and inviting new entrance could be designed to lead directly into the Munshi House courtyard. The project was designed such that Gyao House would accommodate two exhibition spaces and a separate toilet block, while a new staircase would provide direct vertical circulation between the three main levels: the upper level of the Munshi House (containing the Library, the Reading Room and the Chapel), the middle level featuring the Rabsal Room and the Small Rabsal Room, and the lower level, featuring the Winter Kitchen and Bokhari Room. The original stairs in Munshi House were retained (despite their disadvantages for less athletic visitors), but the new stairs in Gyao House provided improved public access.

The work on Munshi House included site cleaning; strengthening of the structure, focusing particularly on the east buttress, temple and library foundations; rebuilding the stone boundary walls; reconstructing the Rabsal Room and the Bokhari Room; rebuilding the stone steps and repairing the timber library structure. The work at Gyao House encompassed reinstating the masonry, roofs, parapets, internal and external plaster, slate and wooden floors, reconstructing the winter kitchen and courtyard, and discreetly inserting necessary modern amenities such as plumbing and electrical wiring.

CONSERVATION METHODOLOGY AND MATERIALS

The project sought to retain as much as possible of the original building fabric and to repair the elements of the buildings, including beams, pillars and windows, rather than replacing or rebuilding them. Where rebuilding was necessary, the original materials were salvaged and reused as much as possible. Intact bricks were relaid while broken bricks were remixed and remoulded. Similarly, the weathered woodwork was retained as it spoke of the age and history of the building. For example, workers removed the wooden entrance frame to the Chapel, repaired and realigned it, then reinserted it. Likewise, workers reassembled the Rabsal Room balcony frame from the salvaged fragments, piecing new timber sections into the main posts where necessary.



INTERIOR OF THE RABSAL ROOM SHOWING SUBSIDENCE OF PILLARS AND BEAMS



EXHIBITION OF WORKS BY LADAKHI ARTISTS IN GYA00 HOUSE



REALIGNING THE CENTRE PILLAR IN THE CHAPEL AFTER JACKING UP THE MAIN BEAM UNDER THE ROOF LANTERN

Another key area of emphasis was on the use of traditional materials and construction systems, both in the repair of the structure and in the reconstruction of elements. The team introduced new materials and methods only where appropriate and necessary, avoiding incompatible modern materials such as cement.

The intent was to display the history of the buildings as a continuous story of accretions and adaptations over their history of several hundred years. While many parts of the houses were rebuilt, the project team ensured that traces of the history remained. For example, on the interior of Munshi House, in the King's Room, the collapsed nineteenth-century brick wall was left open to reveal the earlier stone wall behind.

While the original ceiling and door heights in Munshi House were retained, thereby conserving the original character of the building, in Gyaoo House, which was largely rebuilt from rubble, the heights were increased, so as to adhere to modern standards. Similarly, the project introduced larger windows in Gyaoo House, allowing more natural light into the two exhibition floors. Full-height windows on the western side with double-glazing for thermal insulation were installed to

complement a new balcony. On the southern side, the upper window was designed as a projecting glazed box, serving as a conservatory to capture the sun's warmth in winter. The team also used traditional materials and elements in new ways in Gyaoo House, demonstrating the continued viability of such materials for contemporary living.

While the project sought to avoid modern materials, they were sometimes necessary. Modern additions included wiring for electricity (concealed to minimize its visual impact), bituminous roofing felt around the roof edges and built into the brick parapet walls as a waterproofing membrane at the weakest point in the traditional flat earth roof, wire netting over the felt to act as a key for the earth topping, and sheet metal flashings at roof drainage positions on top of the traditional wooden water spouts. Another new material added under the project was the flooring of the Rabсал Room. It had originally been finished in *arga*, a densely-compacted mineral with a polished surface, but as this mineral is no longer locally-available and the skills to apply it no longer exist in Ladakh, the project team opted to lay a pine floor.

The original decorative wall paintings, with a geometric pattern at dado height framing the windows, and stylised curtains featuring jewels at the top, had survived on the western wall of the Rabsal Room. Taking this as a template, a team of local painters who had studied at the Central Institute of Buddhist Studies in the town of Choglamsar expertly reproduced the design on the rebuilt walls. The rebuilt Rabsal Room is now used as a space for performances, film screenings, presentations, meetings and workshops. The Bokhari Room is used as an artists studio.

IMPORTANT ISSUES

Leh Old Town is largely neglected, with many buildings in ruins, and the district lacks sensitive infrastructure development. While modern amenities have been provided in the area, they have been introduced without taking into account the terrain of the land and heritage value of the town. The problems facing residents include inadequate drainage, sewerage systems and toilets; poor waste management; unreliable water and electricity supply; a lack of proper pathways and an absence of street lighting. The various problems have led to the accumulation of garbage in the streets and open spaces being used as toilets, resulting in unhygienic conditions.

To date, much of the conservation work in Leh Old Town has been initiated by non-governmental organizations and private owners, with limited contributions from the local government. To protect the town's built heritage, however, government engagement is crucial. A development plan was prepared for the city in 1987 but has not been implemented. With this plan and with housing in the Old Town becoming eligible for central government improvement funding, there is an opportunity to protect local heritage, and also to connect heritage revival with larger urban problems. A holistic approach that honours local heritage could be used to address the various challenges facing Leh Old Town. A listing of all the valuable heritage buildings and structures in the Old Town could aid in heritage protection efforts, as could robust heritage laws.



WORK ON THE NEW ENTRANCE



A STUDENT WORKSHOP AT THE MUNSHI HOUSE

PROJECT SUSTAINABILITY AND VIABILITY

The project set out to involve the community living in Leh Old Town so that the conservation process would be firmly rooted in a participatory framework. The community responded by giving the conservation effort their full support, contributing to the project's success. In the years since the restoration, the LAMO Centre has become a vibrant space, holding art exhibitions and festivals, workshops, music performances and film screenings, among many other activities and events. The centre is particularly popular with the youth of the region as they see it as providing a space for expressing their creativity and for engaging in open discussions.

PROJECT IMPACT

The LAMO Centre project undertook the adaptive reuse of the houses in a way that conveyed the cultural and material world of Ladakh and demonstrated that old buildings can retain their architectural integrity while being rejuvenated for modern use. In addition, the project demonstrated the feasibility and affordability of such projects, and serves as an example to the owners of other non-monumental heritage buildings in the Old Town of Leh and in other parts of Ladakh of the viability of conservation.

The LAMO Centre today serves as a means of raising awareness of the value of the built heritage of Leh, the importance of the Old Town's cultural, social and economic contributions, and the imminent threats it faces. LAMO works with residents and other stakeholders, including local leaders and policy-makers, to increase understanding of the significance of the Old Town of Leh and its importance for future generations of Ladakhis, through conducting research and documentation projects, presenting videos and films, encouraging new photography to add to the existing visual archive, publishing children's books, organizing art exhibitions, conducting heritage walks and hosting talks and presentations on the Old Town of Leh.

TECHNICAL BRIEF

CONSERVATION OF WALL PAINTINGS



PAINTED AND CARVED DECORATION ON BEAM IN CHAPEL

In 2017, conservation experts restored the murals of the Fireplace Room of Munshi House. Possibly one of the oldest rooms in the building, the Fireplace Room is a small, square chamber with a low ceiling and a single wooden column in the centre, supporting the main beam. The central wall hosts a small recessed space that is referred to as the 'fireplace'. It was from this element that the room received its name.

Located next to the courtyard, the room is accessible through a glass and

wooden door, which defines the entire façade. This door is a modern addition and was installed during the most recent restoration of the building.

The interior walls of the room were originally plastered with local clay and decorated with various painting schemes. These were later whitewashed, probably during the stay of a monk who was posted to take care of the small temple just above the Fireplace Room after the Munshi family abandoned the house in the late twentieth century.

Following a preliminary survey in 2015, the conservation team uncovered the painted walls and preserved them. The first step in this process was detailed documentation to record and assess the deterioration phenomena affecting the walls. Following this, the team removed the whitewash mechanically using scalpels and glass-fibre sticks. Since the paintings had been executed on a particularly burnished surface and were layered with oily soot from the butter lamps and the heating stove, the whitewash had not penetrated inside the painted surface and came off easily.

In the next step, sponges and soft brushes were used to remove dust and leftover whitewash. The paintings underneath had darkened over time, making them almost illegible. To reduce the oily soot layer, the conservation team used both dry and wet cleaning methods on certain areas, keeping in mind that the tempera technique that had been used to create the paintings would be highly susceptible to water. Through this process, a beautiful, mostly intact series of wall paintings came to light.

The main problem faced during the conservation process was the presence of large cracks and hollow areas in the plaster and plaster fillings, as well as a hole in the wall above the fireplace. The hole had been created to evacuate smoke after a heating stove was installed in the room. Other damage to the wall included holes from nails as well as newspaper cuttings stuck to the walls.

To fill the cracks and repair the losses and detachments, the team developed and tested several batches of filling materials on-site. Following the tests, the team selected a coarse mixture of local earth infused with organic matter to fill the gaps, and added small adobe bricks and stones to fill the larger losses. The team then applied a fine fill of mortar (tinted with pigment for better visual compatibility) over the coarse fills and in the shallow cracks and lacunae (gaps). Old repairs obscuring the painted surfaces were carefully removed using scalpels and brushes, and cracks were then refilled to level the surface. The team partially grouted hollow areas by injecting a clay-based grout developed on-site. The detachments were not in a precarious state, but grouting was done nevertheless to secure against any future losses. Consolidation of the paint layer was barely necessary. Since the surface's appearance was still quite uneven, the team executed a small retouching sample using watercolours, reducing light patches of colour loss by the application of *acqua sporca* (retouching).

The iconography of the paintings included several symbolic Buddhist themes rarely found in the region. The team identified some of the pigments that had been used in the paintings, including artificial ultramarine and emerald green. With the help of pigment analysis, it was possible to date the paintings to the nineteenth century.

Anne Voll and Noor Jahan

5 MARTIN PLACE

AUSTRALIA

THE ICONIC COMMONWEALTH BANK BUILDING HAS BEEN REVITALIZED AS A PREMIER COMMERCIAL PROPERTY WHILE RETAINING ITS HISTORIC FABRIC AND CHARACTER. ANCHORING MARTIN PLACE, THE BUILDING EFFECTIVELY MAINTAINS ITS CONNECTION TO THE STREET AND ITS URBAN CONTEXT. THE QUALITY OF THE INTERIOR SPACES AND PERIOD DETAILING WERE RETAINED, NOTABLY WITH THE USE OF A THOUGHTFULLY-DESIGNED CANTILEVER STRATEGY TO INTRODUCE A MAJOR NEW ADDITION. THE PROJECT ADDS A NEW MILESTONE TO THE EVOLVING HISTORY OF THE PROPERTY, REINVIGORATING IT FOR THE TWENTY-FIRST CENTURY.

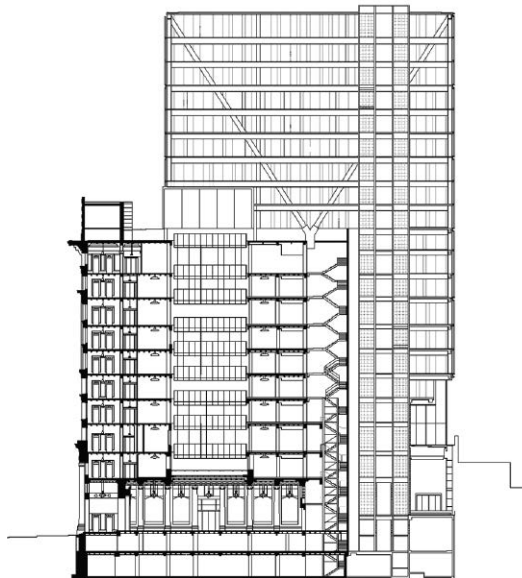
2018

AWARD OF MERIT





THE OFFICE BUILDING AFTER RESTORATION



SECTION

5 MARTIN PLACE HAS SET A NEW BENCHMARK FOR OFFICE BUILDINGS IN SYDNEY WITH HIGH QUALITY ARCHITECTURAL DESIGN, MATERIALS AND FINISHES. IT ENHANCES THE HERITAGE VALUES OF THE HISTORIC BUILDINGS, WHILE MAINTAINING ONGOING COMMERCIAL RELEVANCE.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Located in Sydney's commercial centre, 5 Martin Place was constructed as the headquarters of the then newly-established Commonwealth Bank. Completed in 1916, the building set a new benchmark for commercial office buildings in Sydney with the high quality of its architectural design, materials and finishes and the access to natural light provided by the building's atrium. One of Australia's first steel-framed buildings, it was designed to echo the skyscrapers of New York and Chicago. Built in the Commercial Palazzo Style, it became known as the 'Money Box' building because tin replicas of the building were issued by the bank to children as 'piggy banks'.

In 1929, the owners of the building began the construction of an almost seamless extension, with construction completed in 1933. This addition both respected and complemented the work of the architect of the 1916 building, reproducing the sandstone and trachyte exterior detailing and creating a symmetrical façade with the original portal flanking a new ionic portico. The 1916 and 1933 Grecian Doric façades had four distinct sections, with each section divided by pilasters that terminated at ground level with cartouches, and at the upper level with blank shields and ionic capitals. As the interior of the extension incorporated Art Deco influences, the 1916 building was subsequently

renovated for internal coherence. The 1916-1933 building was noteworthy for its modern banking technology and for the lavish decoration of both its interior and exterior.

To accommodate the evolving requirements of banking services, the owners added another extension between 1966 and 1968. The façade of this addition, while not matching the older structures, was designed to be harmonious with them. From the 1970s onward, successive interior reconfigurations resulted in an inefficient floor plan as well as the concealment or loss of many of the building's original interior features. Refurbishments in the early 1990s, for example, covered the building's two light wells. The 1994 cladding of part of the 1968 extension and the creation of a new entry to the underground car park diminished the overall integrity of the façade.

In 2005, the bank announced its intention to vacate the building, and the search for new tenants revealed that the building had become so compromised by modifications that it needed substantial reworking to attract suitable tenants. Following the departure of the bank in 2011, the building's owners launched a restoration project.

Beginning in 2012, the project had two phases. The first focused on the 1916-1933 building, restoring the fabric, spaces and details, and sensitively inserting requirements for contemporary office spaces. The second phase involved demolishing the 1968 addition and constructing a new ten-storey, cantilevered steel-frame extension, featuring glazing inspired by the fenestration of the 1916-1933 building. The new tower provided additional leasable floor space, making the project commercially feasible.

CONSERVATION APPROACH

Guided by a 2009 conservation management plan endorsed by the City of Sydney, both the developers and the design team were committed to maintaining the heritage value of the 1916-1933 edifice, the façades of which are listed as protected structures. The project aimed for maximum preservation, while adapting and upgrading the office spaces under new sustainability standards.

Key interventions included revealing the heritage features of the 1916-1933 building that had been lost in previous alterations, such as the marble-clad stairs and the 1916 atrium. The team restored the materials and

detailing of various rooms, including the Safe Deposit Vault, the Governor's Suite, and the Dining Room – which had been converted to a tally room for Australia's first televised federal elections. The imposing and lofty Banking Chamber on the ground floor was restored and reinvented as a retail space. The architectural team used high quality materials to evoke the spirit of the past.

The new structure used an innovative design that did not compromise or impose new loads on the 1916-1933 building. Cantilevering over the structure, the suspended section of the new glass tower posed a complex engineering challenge. The building was specifically designed to ensure that the commercial space responds to shifts in workplace needs brought about by technological and social change. The design both satisfies and anticipates the current and future market needs and expectations for internal amenity, technological innovation and environmental sustainability.

A new triple-height lobby linking the 1916-1933 building and the new addition provides a new space for art, thus reanimating the street level and supporting the building's continued use as part of the public sphere. A new fire-safety system was also installed.

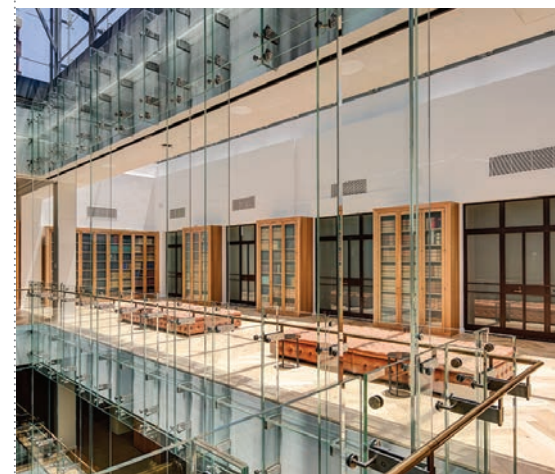
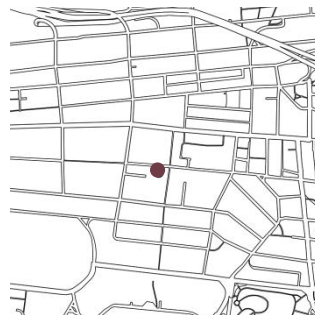
Finish materials, such as marble panelling and the trachyte panels on the historic façade, were reused and became part of the revitalized building. During construction, 95 per cent of demolished materials were recycled. Other sustainability measures included provisions for black water treatment, switchboard sizing and flues and penetrations into the concrete floor slabs in preparation for future retrofits. The façade of the new cantilevered tower has ventilated double skin, a treatment that reduces heat loads. The specifications called for sealing the historic windows and applying a second layer of glazing on the interior. These considerations resulted in the building receiving a 5-Star Green Star rating from the Green Building Council of Australia.

CONSERVATION AND THE COMMUNITY

The redevelopment of 5 Martin Place reaffirmed the site's heritage significance while helping to reactivate the commercial building. The building has since become a highly sought-out commercial and retail property, attracting both local and international retailers. The project also helped bring new life to the streetscape

of Martin Place, a pedestrian mall featuring a number of other important historic buildings. It also revitalized the area, further cementing Martin Place's reputation as one of Sydney's most well-known commercial areas.

PROJECT TITLE
5 MARTIN PLACE
LOCATION
SYDNEY, NEW SOUTH WALES,
AUSTRALIA
SIZE
36,603 SQUARE METRES
COST
US\$18.5 MILLION
RESPONSIBLE PARTY
CBUS PROPERTY
(CHRIS KAKOUFAS)
DEXUS PROPERTY
(PAUL OATES)
HERITAGE ARCHITECT
JOHNSTON PILTON WALKER
TANNER KIBBLE DENTON
ARCHITECTS
CONTRACTOR
GROCON
DATE OF COMPLETION
DECEMBER 2015



THE COMPLETED ATRIUM SPACE PROVIDED DIRECT SKYLIGHT TO ENTER THE BUILDING

AIJING ZHUANG

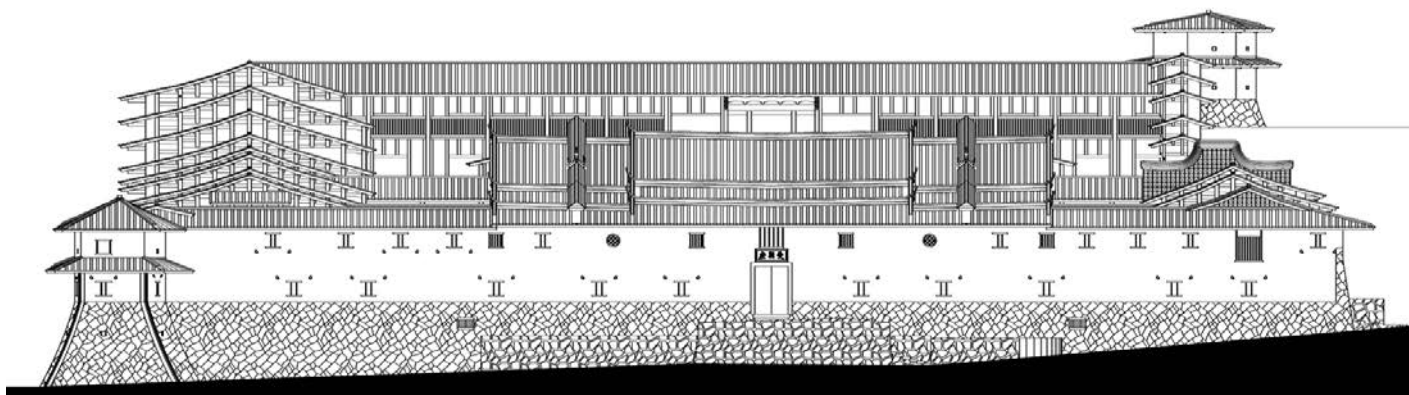
CHINA

THE CONSERVATION OF AIJING ZHUANG RESIDENTIAL COMPLEX DEMONSTRATES A SENSITIVE APPROACH TO SUSTAINING A RURAL SETTLEMENT AS A LIVING PLACE IN HARMONY WITH ITS NATURAL SETTING. THE RIGOROUS SEVEN-YEAR CONSERVATION PROCESS WAS INITIATED BY CLAN MEMBERS WITH THE COLLECTIVE SUPPORT OF SCHOLARS, CRAFTSPEOPLE AND THE LOCAL GOVERNMENT. WITH A COMMENDABLE SENSE OF RESTRAINT, THE PROJECT HAS SAFEGUARDED THE AUTHENTIC CHARACTER OF THE VERNACULAR HOUSING, DEFENSIVE STRUCTURES AND WATERWAYS THAT ARE EMBLEMATIC OF THIS SITE, PROVIDING A MODEL FOR OTHER HISTORIC VILLAGES ACROSS CHINA.

2018

AWARD OF MERIT





ELEVATION

WE CARRIED OUT THE REPAIRS IN ACCORDANCE WITH THE ORIGINAL FORM, SCALE, MATERIALS AND TECHNOLOGY. RATHER THAN ALTERING THE ORIGINAL APPEARANCE OF THE BUILDINGS, WE PRESERVED THEIR HISTORIC VALUE.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Aijing Zhuang, one of only a few well-preserved vernacular residential complexes in Fujian Province, is located in the village of Yangwei in south-east China. A massive compound with over 360 rooms, Aijing Zhuang was constructed in 1832 and subsequently served as the residence of the Bao family for nearly 200 years.

The timber, rammed-earth and masonry complex with two watchtowers sits on the uppermost terrace of a hill. An outstanding example of a traditional Chinese Zhuangzhai fortified building, key features include retaining walls and specially-designed bucket windows, which contributed to the building's defensive capabilities.

The design of the compound is based on the Confucian idea of benevolence, the Taoist concept of unity and the Buddhist notion of equality. The structure demonstrates a strong sense of harmony with nature. Built in an irregular form to fit the topography, it was designed to rely on natural features of the landscape to maintain internal comfort. For example, Aijing Zhuang includes

several alleys, two central lanes and two open courtyards, which helped to maintain a stable microclimate within the complex. The compound also had a system of ditches that protected it from flooding during the rainy season and that diverted rainwater. The site originally featured many local plants, including medicinal herbs.

The site is known mostly for its architecture but is also significant for its association with a legendary romance. The name 'Aijing' [爱荆] inscribed by the first owner over the main entrance of the compound means 'to love the wife' and expressed the owner's boundless love for his wife. The complex is also distinctive in its provision of a special area for female members of the clan, an uncommon practice in the era in which it was built. This is one of the features of the complex considered as showing respect for women and acknowledgment of women's contributions to society.

Aijing Zhuang survived for multiple generations and remained in fairly good condition, but the timber structure

deteriorated over time and alterations diminished the compound's comfort and character. In 2010, recognizing the need for major repairs and in order to meet the requests by residents for improvements, the Bao clan initiated a conservation project. The clan formed the 'Aijing Zhuang Council' to manage the project.

The main aim of the project was to reinstate the site as a comfortable, environmentally-friendly and vibrant residence. Recognizing the cultural and architectural significance of Aijing Zhuang, the council sought to maintain the compound's defensive structures and reinstate its ventilation system. After two years of research, the conservation work began in 2012 and was completed in 2016.

Today, the complex continues to perform its essential role as a residence for the Bao clan. Plans for the future include using the site as a venue for performances of traditional music for tourists, so as to increase appreciation for traditional culture and to generate funds for the ongoing maintenance and repair of the complex.

CONSERVATION APPROACH

Adhering to China's heritage laws and international standards, the project emphasized authenticity and cultural continuity. The project also focused on traditional craft skills and on the use of appropriate materials, including ashlar stone, clay and bamboo.

A key area of intervention was to repair the tiled roofs, replace the decayed internal wooden beams and shore up the damaged rammed-earth walls, thus stabilizing the buildings of the complex while maintaining the original appearance.

The team also reinstated the microclimate within the complex, through repairs to the internal corridors and the removal of inappropriate structures. Workers also restored the drainage system and reintroduced local plants to the compound.



**VIEW FROM THE BACKYARD:
BEFORE AND AFTER RESTORATION**

PROJECT TITLE

AIJING ZHUANG

LOCATION

YANGWEI, YONGTAI,
FUJIAN, CHINA

SIZE

9,980 SQUARE METRES

COST

US\$710,770

RESPONSIBLE PARTY

DAOYIN BAO

HERITAGE ARCHITECT

SHIXING BAO

QINGZHOU WU

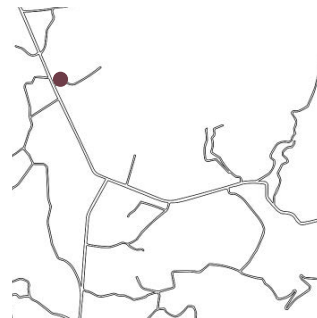
DAOWEN BAO

CONTRACTOR

DAOWEN BAO

DATE OF COMPLETION

JUNE 2016



WORK IN PROGRESS ON THE RAMMED-EARTH WALL

Artisans replaced damaged interior partition walls using a traditional 'bamboo-soil insulation' method of wall construction. This method involves preparing a timber frame, covering it with woven bamboo and coating this structure with an earth-straw ('grassy earth') mixture and then a layer of white clay. Other artisans reinstated the original doors and windows. Woodcarving artisans created decorative carvings to replace decayed ones.

CONSERVATION AND THE COMMUNITY

The project successfully re-established the original appearance of Aijing Zhuang and enabled its continued use as a residence. By preserving a complex that is regarded as the home of the Bao clan, the project enhanced the sense of history and belonging of the residents.

The Aijing Zhuang restoration project served to boost connections within the resident community and engage youth in community management. In particular, the council established a youth association that recruits youth volunteers to participate in research and management work in the residential community. The project also strengthened relations between the complex's residents and members of the clan who live outside the village, through seeking the support of external members for the restoration of the complex.

The project revived traditional building techniques and serves as an example for the repair of other traditional buildings in the region. Moreover, the project helped to raise recognition of the cultural significance of Zhuangzhai buildings and has contributed to the revitalization of Zhuangzhai culture.

OLD BRICK WAREHOUSE OF THE COMMERCIAL BANK OF HONJO

JAPAN

THE RESTORATION OF THE FORMER WAREHOUSE OF THE COMMERCIAL BANK OF HONJO HAS RECOVERED A SIGNIFICANT BRICK MASONRY LANDMARK AND OPENED IT UP FOR PUBLIC USE THROUGH SEISMIC RETROFITTING AND MODERNIZATION OF BUILDING SERVICES. THE PROJECT IS TO BE PRAISED FOR ITS SYSTEMATIC CONSERVATION METHODOLOGY BASED ON THOROUGH RESEARCH. IN GIVING NEW LIFE TO A BUILDING RELATED TO THE ONCE PROSPEROUS SILK BUSINESS IN THE AREA, THE PROJECT SERVES AS A NOTABLE EXAMPLE FOR INTERPRETING LOCAL INDUSTRIAL AND COMMERCIAL HERITAGE.

2018

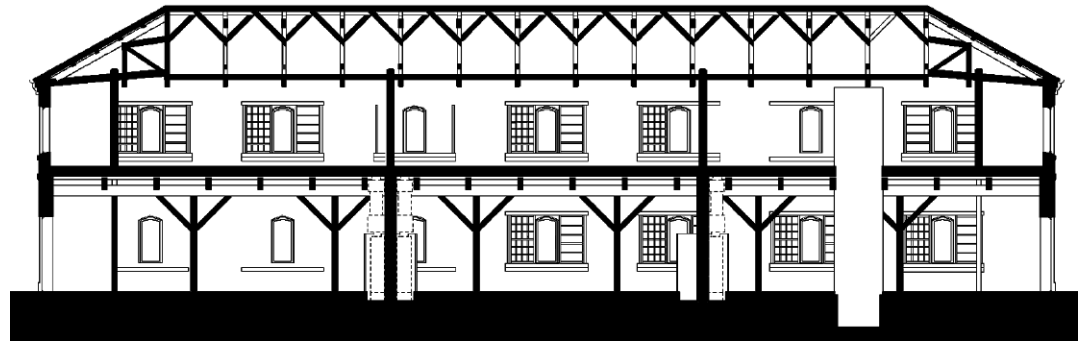
AWARD OF MERIT



PROJECT SYNOPSIS

The Old Brick Warehouse of the Commercial Bank of Honjo is located in the city of Honjo, Japan. Established in 1894, the bank provided capital for the manufacture of silk, a key industry in the Meiji period (1868-1912). In 1896, the bank built the Old Warehouse as a place to store cocoons and raw silk, which were kept as a form of collateral. The warehouse is a striking reminder of the once prosperous silk industry of Honjo. Recognizing the heritage value of the building, in the late twentieth century the Japanese government listed the property as a tangible cultural property.

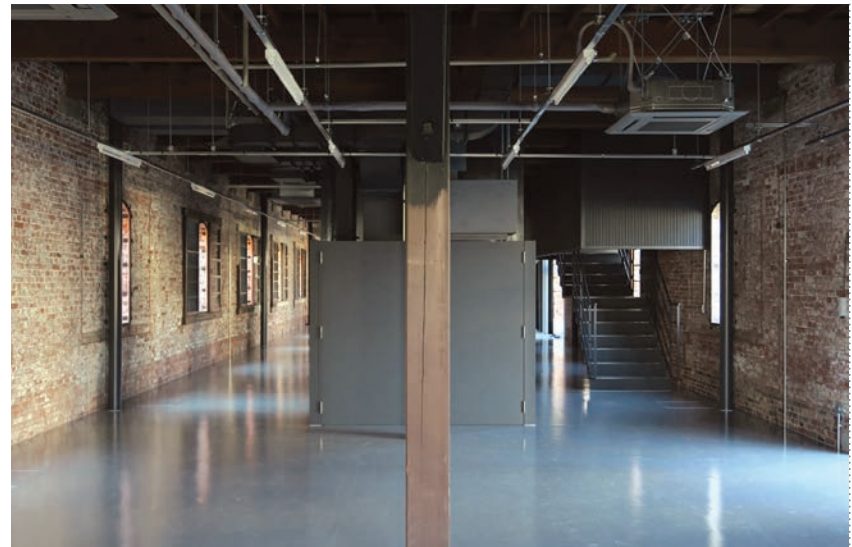
The warehouse was one of the only two-storey brick masonry buildings constructed in Honjo. Japan adopted Western brick construction techniques in 1860 as a symbol of modernization, but many of the first brick buildings collapsed due to earthquakes. The architects of the Old Brick Warehouse therefore placed an emphasis on



SECTION

**WE REDISCOVERED THE AESTHETIC OF THE BUILDING BY READING ITS HISTORY
AND INSERTED NEW ADDITIONS IN HARMONY WITH ITS INHERENT AESTHETIC.**

— QUOTE FROM THE PROJECT TEAM —



WAREHOUSE INTERIOR BEFORE AND AFTER RESTORATION

structural resistance to earthquakes, ensuring that the building would remain standing. The brick warehouse was built using the highest-quality materials of its time and had a well-engineered roof truss system. For the preservation of the cocoons stored at the site, the building was equipped with steel doors and had screened windows that provided ventilation.

With the decline of the silk industry in the twentieth century, the warehouse was converted for use as a pastry shop and functioned as such until its closure in 2011. Soon afterwards, the local government, the City of Honjo, purchased the heritage property and turned to Waseda University for advice on renovation and a new use. On the basis of recommendations from the university, in 2012 the City of Honjo launched a project to convert the building for use as a community and learning centre.

The project had three phases: a research phase, in which Waseda University studied the property's history and conducted a structural survey; a design phase, in which the spaces of the new centre were designed by architects; and a structural reinforcement and conversion phase. The project was completed over five years, between April 2012 and February 2017.

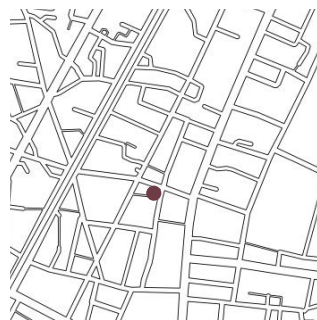
Today the building is a centre for local residents and a learning space for elementary school children. The first floor serves as the community facility and exhibition space, with a permanent exhibition introducing Honjo's past and the historical importance of silk production in the area. The second floor is a multipurpose room that is used for lectures and events.

CONSERVATION APPROACH

The project was guided by Japan's building codes and regulations, and by international conservation charters. The main design principle was to respect the authenticity of the building and preserve traces of past usage. The team removed the fixtures that had been added in the conversion into a shop, but retained the marks the conversion had left on the original fabric and elements of the building.

The project team applied the minimum intervention approach and carefully retained the original elements of the brick warehouse, including the windows and the exposed truss of the roof frame. The team used original construction methods and materials wherever possible and ensured that all new materials were

PROJECT TITLE
OLD WAREHOUSE
OF THE COMMERCIAL BANK
OF HONJO
LOCATION
HONJO CITY, SAITAMA, JAPAN
SIZE
1,193.7 SQUARE METRES
COST
US\$450,000
RESPONSIBLE PARTY
CITY OF HONJO
WASEDA UNIVERSITY
HERITAGE ARCHITECT
FT ARCHITECTS
(KATSUYA FUKUSHIMA)
CONTRACTOR
SHIMIZU CORPORATION
DATE OF COMPLETION
FEBRUARY 2017



distinguishable from the originals.

The research phase involved a great deal of material and structural investigation. Tests included structural evaluation of the brick masonry, including an intensity test, a vibration characteristic test and an evaluation of seismic capacity, which involved calculating the IS value (seismic index) of the building. An IS value over 0.6 is required for all public facilities in Japan. The tests revealed that the Old Brick Warehouse had an IS value of only 0.2. Based on the findings of the tests, the team decided to insert vertical reinforcements between gaps in the walls of the warehouse to bring the building into compliance with Japan's seismic standards and building codes. The design ensured that the seismic retrofitting interventions would have a limited visual impact on the appearance of the building.

The initial phase also involved examining maps and secondary sources. This research revealed the history of the Honjo area and connections with the neighbouring brick warehouses still on the site.

The team inserted mechanical elements to improve ventilation, but made use of the original under-floor ventilation opening. The team also inserted a skylight (that is not visible from the exterior) and created a partition wall around the staircase to meet building code requirements. Another new element was an elevator, to meet barrier-free standards and ensure accessibility for all.

CONSERVATION AND THE COMMUNITY

This project preserved the heritage value of the Old Warehouse and brought the building into compliance with the current building code, returning it to the community as a social asset of Honjo.

Before the project, few people in the area appreciated the value of the abandoned warehouse. With the completion of the project and the use of the facility, this has changed. Today, the area around the warehouse has gained a new sense of vibrancy, which has led to greater attention to silk industry heritage, and there is greater awareness among the local community of the benefits of conserving industrial buildings.

The Old Warehouse project has helped to stimulate similar projects elsewhere in the city and in the region. The project has also encouraged greater interaction among cities with industrial histories.

HENGDAOHEZI TOWN

CHINA

THE SUCCESSFUL PRESERVATION OF THE NINETEENTH-CENTURY RAILWAY TOWN OF HENGDAOHEZI IN NORTH-EAST CHINA IS NOTABLE FOR ITS HOLISTIC APPROACH, ENCOMPASSING THE TOWN'S HERITAGE BUILDINGS, INFRASTRUCTURE AND RELATED PUBLIC SPACES. DEMONSTRATING A SOUND UNDERSTANDING OF LOCALITY AND FUNCTION, THE PROJECT REINSTATES AND SUSTAINS THE SPIRIT OF PLACE OF THE HISTORIC URBAN INDUSTRIAL LANDSCAPE. THE CONSERVATION WORK WAS CARRIED OUT IN A RESTRAINED MANNER, RESPECTING THE HISTORIC PATINA AND FUNCTIONAL CHARACTER OF THE BUILDINGS AND THEIR SETTING.

2018

HONOURABLE MENTION



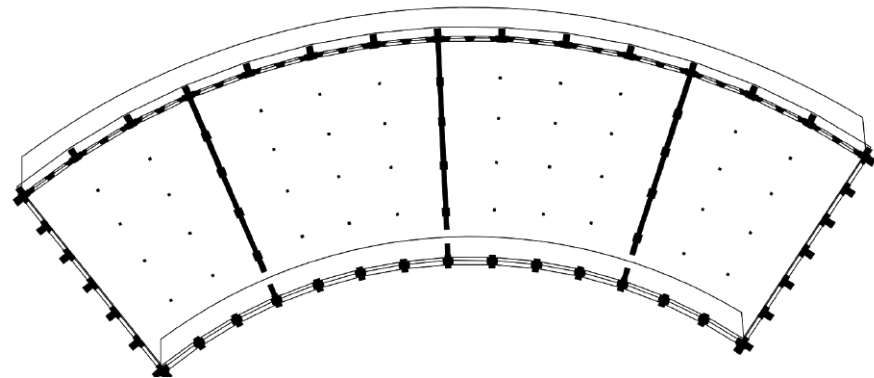
PROJECT SYNOPSIS

Hengdaohezi Town is part of the city of Hailin in north-western China. The town was a key hub for the construction of China's Eastern Railway line, which commenced in 1898 and was completed in 1903. Workers to construct the railway flocked to Hengdaohezi from elsewhere in China and also from Russia, and the construction of the railway led to significant Sino-Russian cultural exchange. As Hengdaohezi developed, it incorporated Russian building designs, with the result that many of the buildings constructed in the town at the turn of the twentieth century demonstrated traditional Russian building vocabularies, with features such as dark roofs, yellow walls and elegant door arches.

In May 2007, the government listed Hengdaohezi Town as a Chinese historic and cultural town, the first such town within Heilongjiang Province. The town's historic zone features 107 heritage buildings. Over their history, however, with the decline of the town's economy, many of these buildings had fallen into a dilapidated state.

**AMONG THE MANY TOWNS
ALONG THE CHINESE
EASTERN RAILWAY,
HENGDAOHEZI LEADS IN
TERM OF THE CONSERVATION
AND ACTIVATION OF
CULTURAL HERITAGE.
THE PROJECT HAS
TRANSFORMED THE TOWN
THROUGH PROTECTING ITS
UNIQUE ARCHITECTURAL
HERITAGE.**

— QUOTE FROM THE PROJECT TEAM —



PLAN OF ENGINEER'S HOUSE



SECTION OF ENGINEER'S HOUSE



THE ENGINE HOUSE WAS CONVERTED TO A MUSEUM

In view of the heritage value of these buildings, in 2012 the local government launched a project, with public participation, to conserve Hengdaohezi Town's historic zone, aiming to preserve the town's built cultural resources and natural environment. The government launched a second project of this kind in 2014. The work conducted in the two projects included the restoration of historic buildings, road reconstruction, the upgrading of power lines, the installing of new drainage and sewage systems, street repairs and improvements to the riverfront.

CONSERVATION APPROACH

The project adhered to China's urban planning and cultural protection laws and regulations, and was guided by the master plan and conservation plan for the Hengdaohezi Town historic zone. The project also aligned with the national conservation strategy of 'protection as the main object, rescue first, rational use, strengthening and management'. The guiding motto for the project was 'protection, remediation, renovation, renewal'.

The project also complied with international cultural heritage conservation and urban planning guidelines, in particular with the Venice Charter and the Athens Charter. The project emphasized 'science-based restoration' and authenticity, and sought to retain the social and natural contexts. The project also preserved the original uses of the buildings wherever possible. The approach was summed up by the principle: 'renovating but no change to the originality, authenticity and completeness' of the site.

The initial phase of the project involved field investigations (including studies of architecture in Russia and various cities in China), literature research, image research, a damage survey of the Hengdaohezi heritage buildings, an environmental assessment and the preparation of an architectural plan. The project team worked with experts from Tongji University and the Cultural Relics Protection Center as well as other professionals to ensure appropriate techniques and materials would be used in the repair of the buildings.

The conservation work focused particularly on the restoration of the buildings in the 'Old Street' of Hengdaohezi: typical wooden houses built in the Russian style; the Orthodox Notre Dame Church; and buildings that were part of the Hengdaohezi railway

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PROJECT TITLE HENGDAOHEZI TOWN

LOCATION
HAILIN, HEILONGJIANG, CHINA
SIZE

1.16 MILLION SQUARE METRES
COST

US\$7.78 MILLION
RESPONSIBLE PARTY
URBAN PLANNING AND
DESIGN INSTITUTE OF HARBIN
INSTITUTE OF TECHNOLOGY
(ZHAO ZHIQING)

HERITAGE ARCHITECT
ZHANG LIYAN, HU JIAYONG,
SONG YANGYANG, QIN GENG,
LI ZIWEI, ZHANG LU, ZHANG
BING, CHEN YUZHU, WANG
QINGLIAN, WANG YUE, YU YIN,
LIU JIAYING, WANG XUE,
ZHAO YANYAN

CONTRACTOR
BEIJING CULTURAL RELICS
AND ANCIENT CONSTRUCTION
ENGINEERING COMPANY
DATE OF COMPLETION
2018

+



+

SITE PLAN

+

station, including the Railway Security Station, which retained its use as an administrative building, and the Engine House, which was converted for use as a museum. Other tasks included the dismantling of inappropriate new buildings in the town and work to restore the surrounding natural context.

CONSERVATION AND THE COMMUNITY

The project to conserve the town's cultural heritage and make Hengdaohezi Town a more liveable town had the full support of local residents, who contributed funds and labour to the effort. Since the completion of the project, the town has seen a rise in cultural tourism, which has brought new employment opportunities to the residents and has revitalized the town, indicating a bright future for the community and the town's heritage buildings.



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THE PROJECT INCLUDED URBAN DESIGN INTERVENTIONS

RAJABAI CLOCK TOWER AND UNIVERSITY OF MUMBAI LIBRARY BUILDING

INDIA

THE RECENT RENEWAL OF THE UNIVERSITY OF MUMBAI'S RAJABAI CLOCK TOWER AND LIBRARY OPENS UP A NEW CHAPTER FOR ONE OF THE CITY'S SIGNIFICANT NEO-GOTHIC LANDMARKS. A COMPREHENSIVE PROGRAMME OF RESTORATION ARRESTED DECAY, STABILIZED THE STONE MASONRY AND INTERIOR TIMBER STRUCTURE, AND REPAIRED THE EXTENSIVE DECORATIVE WORKS. THE PROJECT WAS WELL THOUGHT THROUGH AND THE QUALITY OF CONSERVATION REFLECTS A COMPETENT HAND, EMPLOYING LOCAL ARTISANS AND MATERIALS THAT SUSTAIN THE AUTHENTICITY OF THE HISTORIC FABRIC.

2018

HONOURABLE MENTION

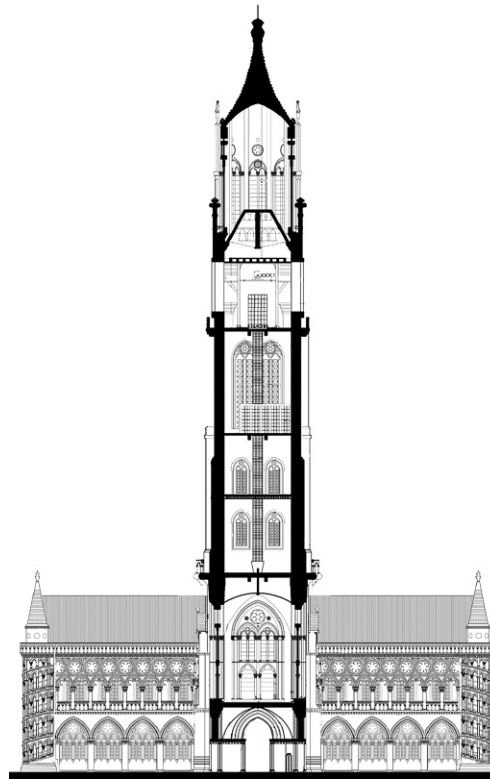


PROJECT SYNOPSIS

The Rajabai Clock Tower and University of Mumbai Library Building is a key component of the campus of the University of Mumbai, the city's oldest institute of tertiary education. Constructed in 1878 in the Neo-Gothic (Gothic Revival) Style, the library building was intended as 'an ornament to the city' with a clock tower attached that would house 'bells of joy'. Funding came from a philanthropist, Premchand Roychand, and the tower was named in honour of his mother, Rajabai. The impressive structure soon became a significant local landmark. Listed as a Grade I heritage structure, the Rajabai Clock Tower and Library Building is part of the 'Victorian Gothic and Art Deco Ensembles of Mumbai', which was inscribed as a UNESCO World Heritage site in 2018.



ARCHITECTURAL DETAILS



SECTION

EVEN TODAY, IN THE MIDST OF THE CHANGING URBAN SKYLINE OF MUMBAI, THE 'ORNAMENT TO THE CITY' STILL STANDS TALL. FOR YEARS THIS ICONIC HERITAGE HAS GIVEN THE PEOPLE OF THE CITY A SENSE OF IDENTITY, PRIDE, PLACE AND BELONGING.

— QUOTE FROM THE PROJECT TEAM —

The structure is notable for its scale, proportions and symmetry. The imposing two-storey library building is accented by an impressive clock tower with seven levels, rising 85 metres high. The building was constructed using four types of stone: Malad (on the façades), grey-green basalt (for internal rubble masonry and column shafts), Dhurangadhra (for the column shafts) and Porbandar (for the stone carvings). The roof of the library was originally covered with fired clay tiles; these were later replaced with Mangalore tiles.

Responding to the tropical climate, the architect incorporated verandas and balconies. The internal walls are plastered in lime and the ceiling of the ground floor is of plaster over wood lath with glazed floral details. The upper floor houses the grand Reading Hall, which has a magnificent wooden vaulted ceiling. At the both ends of the hall are elaborate stained-glass windows featuring geometrical and floral ornamental patterns. One of the notable features of the library is its encaustic tile flooring (also known as Minton tiles).

The design of the Rajabai Clock Tower is said to be influenced by the Campanile of Florence and Big Ben of London. The fourth level of the tower houses the chime mechanism and the fifth level houses the main clock. The sixth level is a sub-terrace surrounded by a continuous gallery on all four sides. A key feature of the tower is its stone carvings, depicting Indian animals and birds.

Over its history, the Rajabai Clock Tower and University of Mumbai Library Building was subject to monsoon rains and heat, which led to deterioration of the fabric and to vegetation growth, resulting in water ingress and decay. The chief problem areas were the roof, the load-bearing walls and various steel sections. Defects included cracks, stains and efflorescence on the stone façades, water seepage, broken and missing architectural details and damaged flooring. Unsympathetic alterations also marred the building.

In 1995, the university sponsored a project to restore the building's stained-glass windows but this project did not address the other damage to the building. In 2011, an architectural team conducted an assessment of the entire building to ascertain its overall condition and threats to its integrity, and compiled a database of the defects. Based on the results of this assessment, in 2012 the University of Mumbai launched a conserva-

tion project that aimed to address the key defects and return the building to its former grandeur. The project was completed in 2015.

Today, the building continues its indispensable function as a library and the clock tower remains an anchor for the city's skyline. During festivals, the building and gardens are opened to the public. The garden area is also used regularly by the local community for small gatherings.

CONSERVATION APPROACH

The project was an integrated interdisciplinary effort, guided by international charters, including the Venice Charter and the ICOMOS Charter, emphasizing the retention of the building's visual identity and the use of like-for-like materials. A special effort was made to retain the building's original sculptures and decorative elements, and to reinstate those that were missing.

The conservation project began with detailed documentation and non-destructive tests to identify the level of deterioration of the fabric. The first stage of the conservation work included gentle cleaning of the façade using a mild, pH-balanced surfactant and brushes. Workers then stitched and plastered cracks in the surfaces.

An important intervention was the restoration and strengthening of the roof of the library. Workers inserted mild steel plates and micro-concrete on the damaged trusses and introduced a new system of waterproofing in the form of a double-batten system that provided two layers of waterproofing protection with aluminium sheeting and membrane waterproofing. Workers applied a coating of 'Black Japan' to the purlins and trusses as a stain and preservative, as well as an anti-termite treatment, to protect them from further deterioration.

One of the major challenges was the restoration and repair of the Rajabai Clock Tower, as the only internal access to the clock tower was a spiral stone staircase less than one metre wide. Specialist restorers were appointed to carry out this work and particular safety measures were taken. Workers cleaned the roof of the tower, which is entirely built of Porbandar stone, by covering it entirely with poulticing packs. Workers also repointed the joints between the stone.

PROJECT TITLE
RAJABAI CLOCK TOWER AND
UNIVERSITY OF MUMBAI
LIBRARY BUILDING

LOCATION
FORT, MUMBAI, INDIA
SIZE

1,050 SQUARE METRES

COST

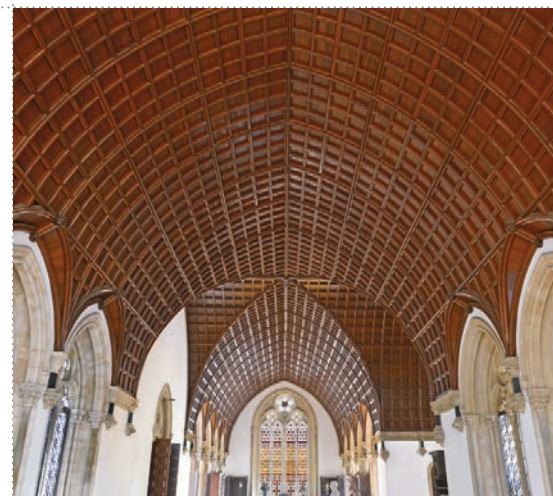
US\$629,790

RESPONSIBLE PARTY
TATA CONSULTANCY SERVICES
UNIVERSITY OF MUMBAI

HERITAGE ARCHITECT
SOMAYA & KALAPPA
CONSULTANTS

CONTRACTOR
SAVANI CONSTRUCTION
CO. PVT. LTD.

DATE OF COMPLETION
MAY 2015



THE WOODEN VAULTED CEILING OF THE READING HALL

On the interior, workers restored the library's wooden vaulted ceiling, a process that involved first carefully scraping off the old polish on the Burmese teak panels by hand. This was followed by the removal of the damaged wooden panels and replacement with new wood of the same type, then by the repolishing of the entire ceiling.

Workers replaced damaged Minton tiles with salvaged tiles of the same type that had been discarded during the restoration of another heritage site in the city. Other interventions included repairs to the wooden windows and upgrading the electrical services to meet modern fire safety standards and codes. Every effort was taken to conceal electrical conduits and wiring.

CONSERVATION AND THE COMMUNITY

During the project, the team sought to live up to the motto of 'conserve: educate: inspire'. With the aim of informing the local community of the history and value of the building, the team organized seminars and tours of the building during the restoration work. Since the reopening of the building, the university has initiated heritage tours and visitor interpretation activities that contribute to the community's understanding of the site and its role in the city's history.

RUTTONSEE MULJEE JETHA FOUNTAIN

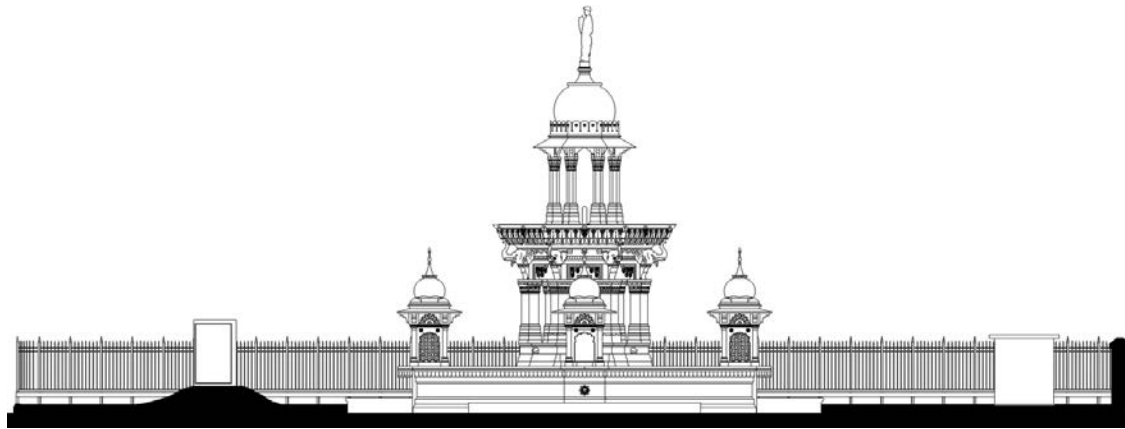
INDIA

THE RESTORATION OF THE RUTTONSEE MULJEE JETHA FOUNTAIN HAS REINSTATED AN INDO-SARACENIC LANDMARK IN THE HEART OF MUMBAI. THE PROJECT HAS REVIVED BOTH THE FUNCTIONAL AND AESTHETIC QUALITIES OF THE MONUMENT THROUGH CAREFUL WATER ENGINEERING, STONE REPAIR AND TASTEFUL, HISTORICALLY-ACCURATE LANDSCAPING. UNDERTAKEN IN PARTNERSHIP WITH THE MUNICIPAL AUTHORITIES AS PART OF A LARGER ONGOING PROGRAMME OF CIVIC WORKS, THE CONSERVATION OF THE FOUNTAIN CONTRIBUTES MEANINGFULLY TO ENHANCING THE PUBLIC SPHERE OF THE HISTORIC DISTRICT.

2018

HONOURABLE MENTION





ELEVATION

IT IS A RAY OF HOPE TO SEE THAT A VERY POSITIVE INITIATIVE HAS BEEN TAKEN BY THE MUNICIPAL CORPORATION OF GREATER MUMBAI TO CONSERVE ALL ITS DRINKING AND ORNAMENTAL FOUNTAINS TO THEIR ORIGINAL GLORY THROUGH A PUBLIC-PRIVATE PARTNERSHIP APPROACH, BRINGING BACK CIVIC PRIDE IN THE FORT AREA OF MUMBAI.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

A key local landmark, the Ruttonjee Muljee Jetha Fountain stands on an island at a busy junction in the Fort district of Mumbai, India. Built in 1894 by local businessman R. M. Jetha, as a memorial to his son, the fountain is significant as being one of the first major pieces of architecture constructed in the Indo-Saracenic architectural style in the city, at a time when the Neo-Classical Style predominated. It was designed by Frederick William Stevens, who was also the architect of the Chhatrapati Shivaji Terminus (formerly the Victoria Terminus), a World Heritage site.

The fountain, which stands over 11 metres high, is a three-tiered configuration with a basalt basin to collect water, an octagonal intermediate drum with Aberdeen granite columns supporting a disc water trough, and an upper pavilion surmounted by a dome supported by eight granite columns. The dome is topped with a statue of the memorialized son, Dharamsee.

Constructed using three types of coloured stone, the

fountain features elaborate architectural details and profuse ornamentation. Two mini pavilions on the lower basin feature intricately-carved marble *jaali* (*jallie*). The central shaft houses the water engineering and the pipes.

The fountains in the historic urban core of Mumbai originally served several purposes: as decorative landmarks at intersections, as memorials, as drinking fountains for residents in the vicinity and as water sources for animals. With the introduction of piped water in the twentieth century and other changes in the city, the fountains were no longer used to provide water. Ruttonjee Muljee Jetha Fountain was no exception and with its loss of function it gradually deteriorated, becoming, like other fountains in the city, a mere relic from the past.

Over its history, the fountain was maintained to an extent but it suffered ill-advised interventions, such as painting over layers of moss growth, pouring concrete on the base troughs, building a concrete wall on the inside face of the arched openings, and attempting to repair

the broken sculpture with concrete. Also, tree and vegetation overgrowth gradually obscured the structure and its features. In 2009, a stainless-steel railing that was added to the fountain's perimeter further diminished the structure's character and appearance.

In 2016, the Municipal Corporation of Greater Mumbai (MCGM), which owns the property, partnered with the Kala Ghoda Association, a non-governmental organization that seeks to preserve heritage in Mumbai, to launch a conservation project. The aim of the project was to restore the fountain and its setting and to inspire a revival of the surrounding urban area.

Today, the restored fountain has regained its original appearance and distinction, and serves as a green and cool oasis in a densely-populated urban area. The Kala Ghoda Association has agreed to maintain the fountain for ten years, local businesses have offered to assist with maintenance work and a nearby hotel has volunteered to ensure the security of the site.

CONSERVATION APPROACH

The project team was guided by international conservation principles and employed recognized conservation practices. The process began with thorough mapping of existing conditions of the fountain and its surrounds. The structure's restoration and the work on the garden area around the fountain were carried out at the same time to compress the construction time, as the site is a busy junction and phasing the work presented logistical problems.

Aside from restoring the main structure and the myriad sculptural features, the most significant component of the restoration process was the revival of the waterworks and associated mechanisms. The team discovered the original plumbing system when removing the concrete encasement around the middle octagon drum. They were able to trace the water inlet after several trials. After workers installed new brass nozzles, galvanized pipe connections, a timer and submersible pumps, the fountain became functional again. By reanimating the water flow, the project restored the fountain's core essence and, thus, its significance.

The lower trough paving, which had been dislodged by vegetation, was removed, numbered, cleaned and reassembled. To remove layers of incompatible paint on the basalt surfaces and softer stones such as Porbandar, workers first dry-scrubbed the surfaces with brushes.



THE FOUNTAIN WAS IN A BAD STATE BEFORE RESTORATION

PROJECT TITLE
RUTTONJEE MULJEE JETHA
FOUNTAIN
LOCATION
FORT, MUMBAI, INDIA
SIZE
325 SQUARE METRES
COST
US\$63,000
RESPONSIBLE PARTY
MUNICIPAL CORPORATION OF
GREATER MUMBAI
THE KALA GHODA ASSOCIATION
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
JEEMODHAR CONSERVATORS
PVT. LTD.
DATE OF COMPLETION
JUNE 2017



THE FOUNTAIN IS BACK IN FUNCTION AFTER RESTORATION

They then removed the inner coats of paint using a micro-chisel sand-blasting machine, being careful not to pit the softer stone surfaces. Artisans from neighbouring Gujarat state repaired the damaged stone sculptures using matching stone.

The project's architects designed new landscaping around the fountain. The trapezoidal side of the island was transformed into an open, stone-paved area, while the other side was modified with new small shrubs and an earthen mound that preserved an existing tree on the site. The team also added a metal fence, in an appropriate style to suit the fountain, to prevent encroachment and provide safety from traffic for users of the fountain.

CONSERVATION AND THE COMMUNITY

The once-neglected fountain is now a popular spot to rest, is a tourist attraction and is part of city heritage tours. Local residents, businesses and hoteliers enjoy the view of the fountain and landscaped garden, and have gained new appreciation for the benefits of conserving heritage structures and spaces. The revived fountain has encouraged nearby business owners to cooperate in maintaining the fountain and also their neighbourhood. Thus, this small project has demonstrated how a successful public-private partnership can generate community engagement in heritage protection. Moreover, it sets a positive agenda for future work to conserve the often-neglected historic properties in the city, where all too often custodians carry out ill-informed beautification projects, rather than much-needed conservation work.

HART'S MILL

AUSTRALIA

THE REMARKABLE TRANSFORMATION OF THE FORMER FLOUR-MILLING COMPLEX AND WHARF INTO A LIVELY SERIES OF PUBLIC SPACES REVITALIZES A DERELICT POST-INDUSTRIAL WATERFRONT AREA FOR PRESENT-DAY USE. THE THREE INTERCONNECTED INTERVENTIONS HAVE REJUVENATED BOTH THE BUILDINGS AND THE SURROUNDING AREA THROUGH A SUCCESSFUL URBAN PLACE-MAKING STRATEGY, USING CONTEMPORARY ART TO REFERENCE HISTORICAL FUNCTION. RESULTING FROM AN EXTENSIVE CONSULTATION AND ENGAGEMENT PROGRAMME, THE DEVELOPMENT OF TRAILS, PLAY AREAS AND EVENT SPACES HAS CREATED A MAJOR URBAN AMENITY FOR THE CITY OF ADELAIDE.

2018

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS





THE NEW PLAYGROUND IN USE

ACTIVATION WAS PROBABLY THE MOST SINGULAR AND CLEAR DRIVER FOR THE PROJECT. THE PROJECT PROVIDED INFRASTRUCTURE THAT CREATED A DESTINATION AND ENCOURAGES BOTH CASUAL AND FORMAL ACTIVITY ON THE SITE.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

Hart's Mill is located in the inner harbour of Port Adelaide, Australia, formerly a bustling dock and industrial area, featuring wharf infrastructure, dockyards buildings and industrial complexes. A former flour mill complex, Hart's Mill dates to 1855, when a five-storey stone building was constructed on the site. A seven-storey brick building was added in 1882, which was equipped with newer roller-milling technology. Over time, several other structures were added to the site to house supporting operations for the mill.

With the advent of shipping containerization in the 1960s and the need for deeper and larger ports, industrial shipping from the inner harbour and the wharves of Port Adelaide gradually declined. The port was decommissioned in 2000 and many of the waterside businesses were relocated. Buildings, factories and warehouses were abandoned or demolished. The state government cleared much of the waterfront land in preparation for redevelopment and an envisioned future of high-rise apartments. This redevelopment plan was stalled, however, by the global financial crisis of 2008.

PROJECT HISTORY

The plans to redevelop the site incited concern within the Adelaide community about the loss of heritage and identity in the harbour area. With public support for more heritage-friendly development schemes, a project for the adaptive use of Hart's Mill emerged. Engagement and extensive research revealed that a key need of the residents of the area was community space.

In August 2014, Renewal SA (a state government body) initiated a project to restore and adapt Hart's Mill as part of a broader programme of revitalization of the inner harbour area. Renewal SA dealt with infrastructure, while the City of Port Adelaide Enfield (the local government) supervised the conservation effort. Working together, the project's designers drew upon the expertise of the government, architects, engineers, artisans and labourers in the creation of new and vibrant community assets on a once derelict site. The project was completed in April 2015.

PROJECT SCOPE AND FRAMEWORK

The aim of the project was to reactivate the neglected site. Hart's Mill project responded to community requests and aimed to develop various functional community spaces, including an indoor exhibition area, an art gallery, a dedicated playground and shaded areas, as well as new amenities, including lighting and water and sewage services, while also conserving the dilapidated heritage-listed buildings on the site. The project was made up of three interconnected sub-projects: 'The Surrounds', 'The Loop Path' and 'Adaptation'.

The Surrounds sub-project organized the spaces surrounding the mill buildings and wharf into a connected, landscaped open area featuring a playground and a market space to serve as a destination for children and parents. The Loop Path component established a walking and riding trail following the contours of the inner harbour. The path was designed as an outdoor museum trail and art gallery, as well as a commuter path. The Adaptation sub-project focused on the adaptive use of a large flour shed and the conservation of the façade of a packing shed within the mill complex. The project converted the flour shed into a venue for music festivals and other purposes, retaining significant historic features while permitting a high degree of flexibility for future uses. The decision to convert the flour shed into a flexible performance venue was driven by its size and clear span configuration. Event spaces of such size are relatively rare and in high demand within the Adelaide metropolitan area.

DESIGN AND MATERIALS

Key factors underpinning the design included research and community engagement. The designers took a very strong narrative approach to developing design outcomes, viewing the urban landscape as both a cultural space and an artefact. Overall, they sought to retain the original character of the site and reveal some of the stories that make the place special – providing new ways of looking at what had been discarded.

Essentially, the design encompasses a series of relatively simple responses that provide the essentials of: a functional space, shade and amenity, trafficable surfaces, lighting, services and way-finding. The responses

PROJECT TITLE

HART'S MILL

LOCATION

PORT ADELAIDE, SOUTH
AUSTRALIA, AUSTRALIA

SIZE

1,640 SQUARE METRES

COST

US\$2.496 MILLION

RESPONSIBLE PARTY

RENEWAL SA

MULLOWAY STUDIO

ASPECT STUDIOS

HERITAGE ARCHITECT

MULLOWAY STUDIO

(PROJECTS 1-3)

ASPECT STUDIOS

(PROJECT 1)

CONTRACTOR

LANDSCAPE CONSTRUCTION
SERVICES

SMARTPOST SOLUTIONS

CLADDING AND ROOFING

CONTRACTS PTY. LTD.

COOK BUILDING AND

DEVELOPMENT

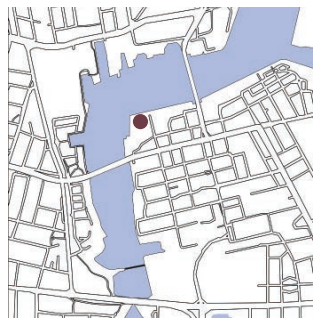
BRUCE INTERIORS AND

CONSTRUCTIONS

UNIQUE URBAN BUILT

DATE OF COMPLETION

MAY 2015

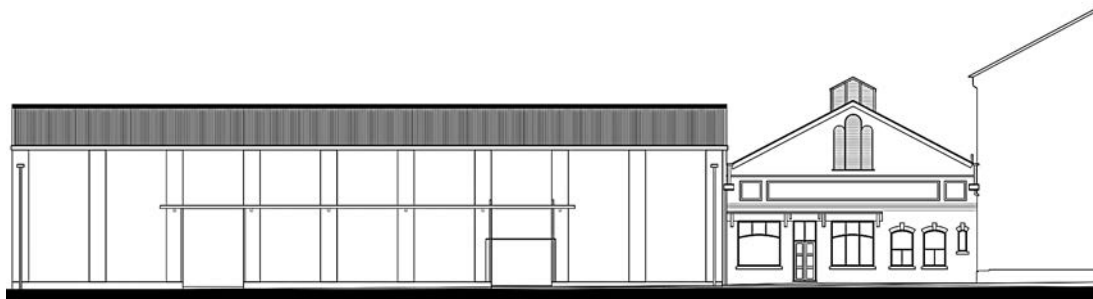


and interventions were considered 'temporary.' All external works were constructed on top of the existing ground surface. They were designed to 'float' over the existing without disrupting the ground plane. Trenching was limited to essential service runs. This minimized ground disturbance, protecting archaeological remains and managing contamination issues.

The project's palette of materials, design approaches and construction techniques were determined largely through an understanding of renewable resources, embodied energy and water usage. For new work, the designers emphasized curtailing the ecological footprint and relied heavily on salvaged materials. Timber from sections of the flour mill, for example, was reused to create a shelter beside the playground, and old roof sheeting was reused for interior and exterior wall cladding. These materials provide a subtle reference to the industrial history of the site.

A key element of the project was the creation of a playground as an urban amenity for the neighbourhood. From the outside it serves as a series of sculptural elements, but when children enter the playground it becomes an immersive experience. The playground gives expression to the industrial heritage of the area through custom-designed elements that derive from the process of refining grain into flour. Defined by a yellow metal tube connecting the various elements, the site references existing traces of the mill and flour-milling processes. The playground interprets industrial processes and the new elements embedded in the playground, and makes them highly visible. In contrast, other new elements – grassed areas, walkways, services and lighting – provide an unobtrusive platform for activity and, through the use of industrial palette of black steel, concrete and timber, tend to blend into the landscape, and allow the pre-existing elements of the industrial site to emerge and play a more active part in the urban context.

The Loop offers a combined educational and aesthetic experience. Interpretive markers guide the trail's users, turning the amenity into a museum and art experience. The design generally follows the cues from existing traces, uses materials and elements that are pre-existing and provides a multilayered way of viewing the main elements and the small details.



ELEVATION

Workers installed a series of installations on remaining timber wharf pylons along the path. Conceived of as 'view ports', they are metal boxes with photos on glass that visitors are encouraged to look through to understand the former uses and activities at the various points along the Loop.

The Adaptation sub-project was undertaken with a light touch in order to retain the existing character of the flour shed while providing the necessary acoustic performance and amenities for a festival venue. Workers inserted two 'boxes' that permit the use of the building for events. These are 'floating' elements clad in radially-sawn timber; the free-standing spaces recall the sawmills that were once part of the industrial site. The building is presented in a very raw state with dilapidation highly evident within and around the spaces, presenting this record of history as part of the experience. Workers did not repair or replace damaged structural timbers, but rather strengthened them, leaving the damage visible. The steel frames of doors and windows also point to the site's industrial history. Adapting the space by providing upgraded power, minimal conservation, new toilets and building code compliance was executed to attract maximum capacity. The temptation to provide more specific fitout was resisted to provide flexibility but also to provide a more authentic experience.

THE FLOUR SHED FAÇADE
BEFORE AND AFTER THE WORKS

IMPORTANT ISSUES

In a context of fractious relationships between the community and the government based on misaligned expectations around emerging developments, the project was seen as a way to rebuild trust and re-establish working relationships relating to the built environment. The project therefore placed great emphasis on meeting the needs and expectations of the local residents and the greater community of Adelaide. The provision of community spaces and the improvement of infrastructure responded to the community's needs, thereby respecting and maintaining the cultural and social continuum. As an outcome of an extensive consultation and engagement programme, the project has a high degree of community ownership, providing long-term sustainability.

PROJECT IMPACT

Today, Harts Mill is an inviting outdoor space for families, youth and the elderly. It is a space that is full of features that connect people with the histories of the place, both directly and indirectly. People visit to spend time all year around, both day and night.

The successful adaption of Hart's Mill has given a new function to a once neglected place. The project revived and reinvigorated the site through the provision of useful amenities and through revealing stories that make the place significant. Today, the site offers users a fresh way to see and engage with the past. The retention of visible defects of the industrial buildings and materials has challenged perceptions of such sites and has honoured their positive attributes. The history of the site serves as an asset, bringing the past into the present and reminding the community of the value of retaining such structures.

The transformation provides important community amenities and has demonstrated the importance of community participation. The project has received local and national recognition both as a conservation effort and as a new and innovative example of urban design, and serves as an example for the redevelopment of other post-industrial cities.

COMMUNITY PARTICIPATION IN THE URBAN PLANNING PROCESS



THE ILLUMINART FESTIVAL AT HART'S MILL

Following the demise of the first redevelopment contract for Port Adelaide, in 2012 the government set up a community reference group, the Port Adelaide Master Plan Steering Committee, which was charged with providing advice to the government in developing a master plan for Port Adelaide and with guiding the community engagement process.

The process resulted in:

- A high-quality community engagement and communications strategy.
- A broad section of the population becoming engaged in the planning process, ensuring that a diversity of community views was captured.
- A collaborative engagement process that respected community views.
- Agreement on the master plan.

The process built on previous engagement processes undertaken for similar

planning processes for the Port Adelaide area, and also learned from successful engagement processes elsewhere in South Australia and overseas.

The committee had seven members, who were all part of the local community. The members had expertise in various areas, including the arts, commerce, the indigenous community, environment and cultural heritage. An initial task of the committee was to develop the project vision and guiding principles. These were presented at a community open day in April 2012, which was held to seek feedback on, and input to, the development of the Port Adelaide Precinct Plan. The open day was attended by over 4,500 people and solicited more than 1,500 comments. The development of the Port Adelaide precinct plan drew heavily on the feedback received during

the open day as well as extensive consultation with a broad range of key stakeholders. A second open day, held in September 2016, sought community feedback on broader aspects of the project.

Potential projects were identified through an ongoing community forum. Meeting regularly, the committee selected a number of these potential projects for the Port Adelaide area, including infrastructure projects that would have a fairly immediate impact and help elevate issues around identity. The steering committee was involved in reviewing the designs and developing proposals for the projects at key points in the process, ensuring that the overall aims and objectives were maintained.

The selected projects were seen as making the most of the available resources, were aimed at improving the

built environment, fell within the limits of finance available for the project and were supported by active community interest.

As an outcome of an extensive consultation and engagement programme, the project had a high degree of community ownership, providing long-term security and sustainability.

That the community can see the place reflected in the outcomes – both in terms of the built infrastructure and active programming – was a key to providing this ownership and connections that form a social continuum. This ongoing programme was central to the success of the enterprise and provided a foundation for illustrating the opportunities for ongoing uses.

Anthony Coupe

KAOMAI ESTATE 1955

THAILAND

KAOMAI ESTATE 1955 IS AN INSPIRED MODEL FOR RESCUING AND REPURPOSING AN OVERLOOKED AND DISAPPEARING INDUSTRIAL TYPOLOGY BY COMBINING A COMMITMENT TO CONSERVATION WITH A CONTEMPORARY DESIGN AESTHETIC. NEW ARCHITECTURAL INTERVENTIONS IN STEEL AND GLASS PROVIDE A COUNTERPOINT TO THE HISTORIC BUILT FABRIC THAT SPANS DIFFERENT ERAS, INCLUDING WATTLE AND DAUB, BRICK MASONRY AND CONCRETE BLOCK. THE REACTIVATION OF THE ABANDONED TOBACCO-PROCESSING BARNs ADDS A LAYER OF MEANING TO THE HOTEL COMPLEX, PROVIDING A NOSTALGIC EVOCATION OF THE LOCAL HISTORY AND AGRARIAN HERITAGE ASSOCIATED WITH CHIANG MAI'S ONCE THRIVING TOBACCO INDUSTRY.

2018

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS



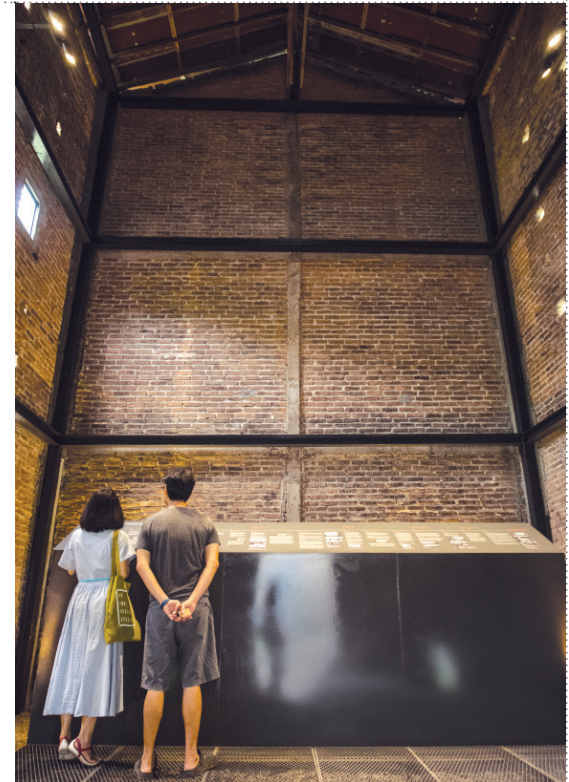
CONTEXT

Kaomai Estate 1955 is a former tobacco processing estate (previously known as Mae Ping Yasoob) located in Chiang Mai Province in the north of Thailand. Established by one of the Lanna royal families, the estate originally had twenty tobacco-drying barns (sheds). Another thirty such buildings were built on the site over the next thirty-five years in various materials, including wood, brick and concrete blocks.

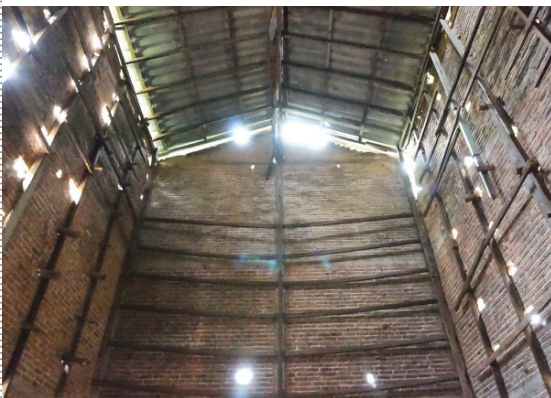
PROJECT HISTORY

In 1986, a new owner took possession of the estate and changed its name to Farm Thung Siew. Tobacco drying and processing at the site lasted until 1992 when higher labour and production costs closed the enterprise. The owner's passion for architecture and for the preservation of the natural environment ensured, however, that most of the estate's heritage assets, including the drying sheds and mature trees, remained intact.

In 1997, the owner of Farm Thung Siew responded to the potential tourism opportunities in the region by turning 8,600 square metres of the 68,800 square metres estate into a resort. This involved converting eighteen of the site's fifty tobacco-drying sheds (each 6 by 6 metres in size) into accommodation blocks and creating a hotel lobby area. The owner retained the original planning scheme of rows of sheds bisected by tree-lined laneways.



MUSEUM EXTERIOR AND INTERIOR AFTER CONSERVATION



BARN INTERIOR BEFORE CONSERVATION

THE PROJECT'S DESIGN OUTCOME HAS HARMONIOUSLY INTEGRATED THE PRESERVED TOBACCO-DRYING BARNs INTO THE SURROUNDING NATURE. THE PROJECT HAS ALSO SERVED TO CONNECT LOCAL RESIDENTS AND VISITORS TO THE HERITAGE ROOTS OF THE COMMUNITY, THROUGH THE ESTATE'S EDUCATIONAL PROGRAMMES AND THE 'HISTO-ECO MUSEUM'. MOREOVER, THE PROJECT HAS PROVIDED MULTIPURPOSE SPACES FOR SOCIAL AND CULTURAL PROGRAMMES, ENHANCING SOCIAL INCLUSION AND SUSTAINING THE COMMUNITY AND TOURISM IN THE LONG TERM.

— QUOTE FROM THE PROJECT TEAM —

The Kaomai Lanna Resort not only revived the economic life of the estate and provided employment for some former tobacco workers, it also preserved the continuity between the past and present, using the existing structures and the natural setting, and reinstated the estate's role as the heart of the local community.

In 2016, the owner initiated a project to revitalize other buildings on the estate, and added an additional 13,350 square metres of land to the site. The project was carried out over two years and the extension of the resort, named 'Kaomai Estate 1955', opened in March 2018.

PROJECT SCOPE AND FRAMEWORK

The project involved adapting several barns for new uses and creating spaces that could be used for cultural and educational purposes. Key interventions included converting twin barns on the site into a light-filled café-restaurant (Café Rong Bom) and converting two other barns into a museum to interpret the industrial history of the estate. The project also included work to conserve the other tobacco-drying buildings on the site, as well as the existing trees and plants, and work to repave the laneways.

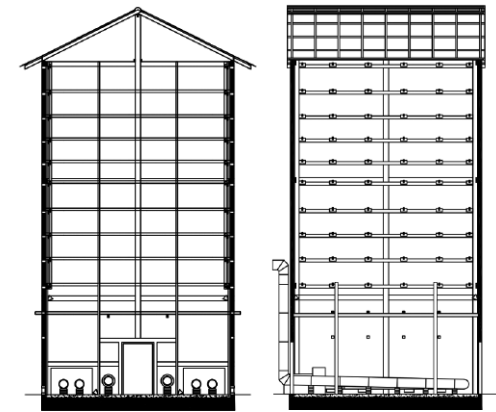
CONSERVATION METHODOLOGY AND MATERIALS

The project brought together a multidisciplinary team of architects, landscape architects, botanists, arborists, cultural advisers and designers from Chiang Mai and elsewhere in Thailand. The team worked together to ensure that conservation standards were adhered to and the estate's sense of place was retained.

As a first step, the project team carried out a rigorous inspection and assessment of the existing structures and the site. The team also conducted interviews of former workers, government officials and members of the original owner's family to fill in gaps in the site's history. An arboriculture specialist compiled the first privately-funded survey of trees in Thailand on the site, and drew up a management plan to keep the trees healthy and prevent them from encroaching upon the barns, while other specialists took a census of the wildlife on the site.

A key focus of the project was the conversion of a pair of highly-dilapidated barns into a light-filled café. The team linked the two buildings with a glass and

PROJECT TITLE
KAOMAI ESTATE 1955
LOCATION
SUN PA TONG, CHIANG MAI,
THAILAND
SIZE
13,350 SQUARE METRES
(BUILDINGS AND GARDENS)
COST
US\$500,000
RESPONSIBLE PARTY
CHAK CHERDSATIRKUL
HERITAGE ARCHITECT
KORNCHAWAN CHAVANAVIRAJ
PAVA ARCHITECTS
SHMA SOEN
TRIARCHITECTS
SUPAVADEE JINGITRA
CONTRACTOR
HARU ENGINEERING CO. LTD.
DATE OF COMPLETION
MARCH 2018



SECTION

steel entrance and lobby area, and removed the sides of the barns and installed glass walls. This was intended to enable the building to successfully blend into the site and to allow customers inside the café to observe and feel a connection to the surrounding environment. This feature demonstrated the idea of culture and nature joining together. The dark grey steel frame that supports the existing structure and roof likewise assimilates with the surrounds. Reclaimed bricks serve as the café counter, while reclaimed timber serves in the ceiling and furniture of the café.

For the museum, workers adapted two barns that are side by side. In one of the barns, workers installed wide flange steel beams to reinforce the existing structure. They removed the sticks and pipes that had been used for drying tobacco to highlight the powerful space and to draw attention to the texture of the brick walls. This barn features a large display that describes the history of the estate. In the second barn, workers restored the walls and retained and repaired the drying implements and flues, and reinstalled all the original elements in order to demonstrate the original tobacco-drying and production process.

The project also involved the creation of semi-circular terraced steps in an open space next to the café.

The steps function as seating and create a kind of amphitheatre for public gatherings and activities.

Workers resurfaced the four main lanes around the estate, using local natural materials in many cases. The team also installed signs along the pathways, describing the background of the site, the conservation work that went into each building and the botanical names of the trees.

At the other tobacco-related buildings on the site, workers stabilized the structures by repairing the load-bearing elements. The team also repaired broken timber roof framing and replaced corroded corrugated zinc roofing with new materials similar to those originally employed. Wattle and daub walls were restored by local artisans using the original bamboo-weaving technique and the original mortar formula. Workers opened air inlets, which had been sealed with bricks causing interior condensation, and removed moss that was growing at the bases of the buildings. They also installed French drains around the perimeter of each building to improve drainage.

IMPORTANT ISSUES

A goal of the project was to ensure the community remained part of Kaomai Estate 1955. To this end, the project team engaged the community in the project, seeking out their inputs and drawing on the eye-witness accounts of the older generations of former workers on the tobacco estate for information about the history of the site and the uses of the buildings. Throughout the project, local builders and artisans shared knowledge regarding the original techniques and materials used in building the tobacco-drying structures. The team also recruited labourers from the local community. Following the completion of the project, the estate hired residents from the vicinity to serve as staff in the newly-created facilities, providing additional employment for local residents and stemming the outward migration of young people.



EXTERIOR WATTLE - AND - DAUB BARN BEFORE AND AFTER CONSERVATION



BAMBOO WEAVING

The estate today hosts various community events, including a weekly farmer's market at the amphitheatre. The same space provides a location for educational and social activities relating to art, music, cuisine and natural and cultural heritage. The space is also rented out for events such as weddings. A fixed portion of the profits from the resort, café and event hire is dedicated to funding the preservation of the site's heritage structures and the surrounding natural area, and subsidizes art, music and botany workshops.



ADDING STEEL STRUCTURE TO THE MUSEUM

PROJECT IMPACT

The project has created a striking attraction that not only features unique heritage buildings but is also a true oasis of ecological diversity. The site today attracts significant numbers of tourists to a region that is off the beaten path, an achievement that has sparked interest among the local community in the adaptive reuse of derelict architecture in the area. The project has also brought national attention to the estate's adaptive use of industrial buildings and is challenging the prevailing mindset with regard to such buildings. It is likely that the success of the Kaomai Estate 1955 project will trigger other privately-funded conservation projects and inspire the adaptive reuse of other industrial sites both within Thailand and abroad.



SITE PLAN



NEWLY DESIGNED CAFÉ EXTERIOR AND INTERIOR

AWARD OF EXCELLENCE

TAI KWUN CENTRE FOR HERITAGE AND ARTS
HONG KONG SAR, CHINA

AWARD OF DISTINCTION

KEYUAN GARDEN
CHINA

VIKRAM SARABHAI LIBRARY, INDIAN INSTITUTE OF MANAGEMENT
INDIA

NELSON SCHOOL OF MUSIC
NEW ZEALAND

AWARD OF MERIT

TSETO GOENPA
BHUTAN

GUYUE BRIDGE
CHINA

KENESETH ELIYAHOO SYNAGOGUE
INDIA

OUR LADY OF GLORY CHURCH
INDIA

LYTTELTON TIMEBALL STATION
NEW ZEALAND

HONOURABLE MENTION

THE 5s CLASSROOM, PRESHIL, THE MARGARET LYTTLE MEMORIAL
SCHOOL
AUSTRALIA

WESTPAC LONG GALLERY, AUSTRALIAN MUSEUM
AUSTRALIA

LIDDELL BROS. PACKING PLANT
CHINA

FLORA FOUNTAIN
INDIA

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

JOAN SUTHERLAND THEATRE PASSAGEWAY AND LIFT, SYDNEY OPERA
HOUSE
AUSTRALIA

DRY PIT LATRINE IN JIAXIAN ANCIENT JUJUBE GARDEN
CHINA

THE MILLS
HONG KONG SAR, CHINA

2019

TAI KWUN CENTRE FOR HERITAGE AND ARTS

HONG KONG SAR, CHINA

THE TRANSFORMATION OF THE FORMER CENTRAL POLICE STATION INTO A WORLD-CLASS CENTRE FOR HERITAGE AND ARTS HAS CREATED A VIBRANT NEW CIVIC SPACE IN THE HEART OF THE CITY'S CENTRAL BUSINESS DISTRICT. THE PROJECT TACKLED A COMPLEX SITE WITH MULTIPLE LAYERS OF HISTORY DATING BACK TO THE MID-NINETEENTH CENTURY CENTURY, ENHANCING ITS LEGIBILITY AND OPENING IT UP TO THE PUBLIC. THE TECHNICAL QUALITY OF THE RESTORATION WORK IS STANDARD-SETTING ON AN INTERNATIONAL LEVEL, ENSURING THE AUTHENTICITY AND INTEGRITY OF THE HISTORIC FABRIC. INNOVATIVE ARCHITECTURAL AND ENGINEERING SOLUTIONS ARE UNDERPINNED BY METICULOUS INVESTIGATION AND RIGOROUS CONSERVATION PRINCIPLES. THE CENTRE'S DIVERSE AND CREATIVE PROGRAMMING ENLIVENS THE HISTORIC SPACE WITH ENGAGING HERITAGE INTERPRETATION PROGRAMMES AND CONTEMPORARY ARTS AND CULTURE. AGAINST TREMENDOUS COMMERCIAL REAL ESTATE PRESSURES, THE SUCCESSFUL REALIZATION OF TAI KWUN STANDS AS A TESTIMONY TO HONG KONG SAR'S COMMITMENT TO HERITAGE.

2019

AWARD OF EXCELLENCE



CONTEXT

The Tai Kwun Centre for Heritage and Arts, located in the heart of Hong Kong SAR, China, is the site of the city's former central police station. Comprising sixteen heritage buildings, dating from the 1860s to the 1930s, the site includes three monuments with special protection under Hong Kong's Antiquities and Monuments Ordinance.

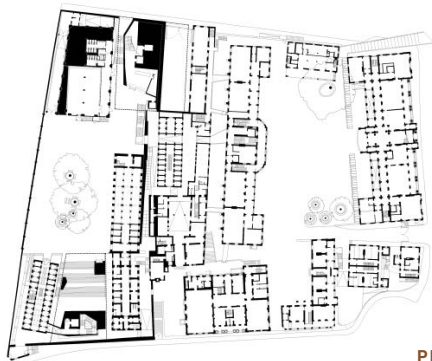
In 2006, after over 160 years of use, the police compound was decommissioned and the government of Hong Kong SAR conceived of a plan to conserve and revitalize the site as a vibrant and inclusive arts and culture centre. In 2008, the government formed a partnership with the Hong Kong Jockey Club (HKJC) and, following a lengthy public consultation process, the HKJC launched a project to conserve the site. Today the Tai Kwun Centre for Heritage and Arts is a popular destination for both residents of Hong Kong SAR and visitors alike – filling a gap in the city's art scene and serving as a cultural hub that is open to everyone.



AERIAL OVERVIEW OF THE SITE AFTER CONSERVATION

THE TRANSFORMATION OF THE POLICE COMPOUND INTO THE TAI KWUN CENTRE FOR HERITAGE AND ARTS REALIZED A VISION OF ENRICHING LIVES, PROMOTING INCLUSION AND BUILDING A CULTURALLY-VIBRANT CITY WHILE ALSO CONSERVING THE LARGEST SURVIVING HERITAGE SITE OF HONG KONG AS A LEGACY FOR ALL.

— QUOTE FROM THE PROJECT TEAM —



PLAN

BUILDING HISTORY

A vestige of the British colonial era, the site of the Tai Kwun Centre for Heritage and Arts once served three primary functions: correctional services, judiciary services and law enforcement. The site was initially used as a prison and magistracy compound beginning in the 1840s, shortly after the establishment of the British colony in Hong Kong. Over its history, many of the compound's buildings were modified or replaced, and new buildings were added to the complex in line with evolving needs and functions. Built up over almost a century, the sprawling facility eventually spanned an entire city block.

The first buildings constructed on the site were used for correctional and judiciary services. The colonial government added several new buildings in the 1860s, including a new prison building, which featured a radial plan, and dormitories and other quarters for the police force (e.g. Barrack Block and the Married Inspectors' Quarters), and constructed other new buildings (e.g. the Married Sergeants' Quarters and Single Inspectors' Quarters) between 1896 and 1903.

In the early twentieth century, the original magistracy, functioning since the time of its construction in the 1840s, was replaced by a grand Neo-Classical building.

Completed in 1914, the Central Magistracy gave the compound a new image. Five years later, the Police Headquarters Block was completed, bringing greater uniformity to the site. During the 1920s and 1930s, the government added five additional buildings to the compound. These included the Armoury, the Garage (now demolished), A Hall, C Hall, F Hall and the Ablutions Block (bathhouse).

By the 1930s, the walled compound contained a collection of almost a century of different architectural styles, showcasing a great diversity of design. The unifying theme within the complex was the confluence of Chinese and British construction techniques and materials. A prime example of this is the Police Headquarters building (1919), which was constructed using red bricks and rendered handsomely on its imposing north elevation, but which, in keeping with Hong Kong traditions, has a roof of a double layer of Chinese clay pan and roll tiles, bedded in mortar. Likewise, the Barrack Block (1864), a broad and gracious four-storey building with lofty verandas and Italianate-style arches, also has a roof of Chinese clay tiles.

The site suffered considerable damage during the Second World War. Between 1941 and 1945, Japanese forces occupied the site and made various changes, including converting the Armoury into stables for the mounted guards. The building has since been known as the Stable Block.

The compound's post-war life was largely one of ad hoc additions, intermittent maintenance and gradual decline. The most drastic transformation was the partial dismantling of the radial-plan prison building, including the removal of its west and south wings. The surviving structure stands today as the D Hall.

During its final decades of service to the Hong Kong Police Force, the compound ceased to be the hub of law enforcement, and as its principal functions were reassigned to other locations, the buildings gradually fell into a poor state of repair. In 2006, the government decommissioned the police compound and the site faced an uncertain future.

PROJECT HISTORY

In 2007, on the invitation of the government, the Hong Kong Jockey Club, a non-profit organization that supports efforts to improve the city, initiated an extensive

public consultation, reaching out to residents of the central area of Hong Kong SAR to discuss the conservation of the heritage property and the proposed public use of the site. Following input by heritage specialists, arts administrators and other experts, in 2008 the Jockey Club, in partnership with the Government of Hong Kong SAR, embarked on a decade-long commitment to the conservation and revitalization of the former police compound.

In 2010, the Jockey Club, through its Charities Trust, incorporated an exclusively-owned subsidiary company, Jockey Club CPS Limited (JCCPS), to manage the ongoing operation of the site, and it chose 'Tai Kwun' as the trading name. Tai Kwun is the old Cantonese nickname for the central police station and translates as 'big house' or 'big station'. That year a master layout plan for the site was approved by the Town Planning Board and in 2011, an environmental impact assessment study was carried out on the site. Following an intensive structural survey, conducted over a period of six months, the HKJC launched the conservation project in 2012. Work was completed in 2018 and the site was opened to the public in May that year.

PROJECT SCOPE AND FRAMEWORK

The vision of the conservation project was to transform the former central police compound, the largest surviving grouping of built heritage in Hong Kong, into a cultural and leisure landmark, while at the same time preserving and interpreting the site's history, promoting heritage awareness and fostering social inclusion.

The project sought to conserve the character-defining features of the site, including the heritage buildings, and especially the three protected monuments (the former Central Police Station, the Central Magistracy and Victoria Prison), while removing structures with little heritage value. It also aimed to improve pedestrian circulation within the complex and enhance the overall atmosphere. The project retained the spacious Parade Ground and Prison Yard (and their small cluster of trees), in recognition of the former functions of these spaces and of the value they would bring in providing generous recreational areas in densely-developed Hong Kong. To augment the contemporary relevance of the site, the project included the construction of two striking, yet compatible, new buildings: a multipurpose auditorium

PROJECT TITLE
TAI KWUN CENTRE
FOR HERITAGE AND ARTS

LOCATION
HONG KONG SAR, CHINA

SIZE
APPROXIMATELY
13,600 SQUARE METRES

COST
US\$500 MILLION

RESPONSIBLE PARTY
THE HONG KONG JOCKEY CLUB

HERITAGE ARCHITECT
PURCELL

ROCCO DESIGN ARCHITECTS
HERZOG & DE MEURON

CONTRACTOR
GAMMON CONSTRUCTION
LIMITED

DATE OF COMPLETION
APRIL 2018



and a contemporary art gallery. These were constructed between existing buildings in the Prison Yard area.

The project involved the adaptive reuse of existing buildings to introduce eight distinctive galleries which are distributed across the site. To improve access, connect the various elements and provide greater unity, the architects designed means of connecting the lower and upper parts of the compound. To this end, the project included the construction of a pedestrian passageway, Tai Kwun Lane, which links the prison building and the Police Headquarters, and also included a new bridge across Hollywood Road. In addition, the project involved strengthening the structure of many of the buildings, modernizing the buildings' facilities and improving fire resistance and emergency escape measures.

The scope of the project included a detailed programme for heritage interpretation that unifies the entire compound. This was accomplished through interpretive panels and a series of experiences reflective of the rich history and significance of the place. The panels are located throughout the compound, providing information to visitors and linking the dedicated heritage spaces. Wall screens, texts and screen-printed illustrations tell the stories of police officers, inmates and community members who were part of the site's history. The project's interpretation work extended also to the design of self-guided tours, which can be followed using a mobile application created for the purpose.

CONSERVATION METHODOLOGY AND MATERIALS

The project's guiding principles were those set out in the Australia ICOMOS Charter for Places of Cultural Significance (Burra Charter). Accordingly, the project aimed to conserve the buildings with minimum intervention, prioritizing the construction methods and materials used on the original buildings, while at the same time making sensitive modifications to the buildings to allow for adaptive reuse.

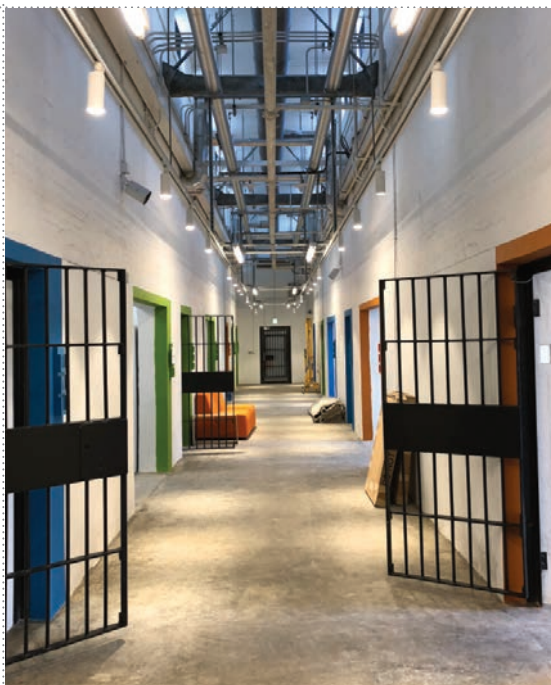
Included in the conservation work were a number of specialized interventions. One such intervention was the restoration of the lime-mortar cornices on the exterior of Blocks 1, 3 and 4. The skills necessary for this work had vanished from the local construction industry, so the project employed specialists from the United Kingdom to train local workers in this traditional technique, thereby reviving this knowledge and these skills in Hong Kong SAR.



SECTION



VIEW OF THE HALL SEEN FROM THE PRISON YARD AFTER CONSERVATION



A NEW USE FOR THE PRISON INTERIOR

Another noteworthy intervention was the removal of the paint on the outer bricks of the Married Sergeants' Quarters. The paint had been introduced fairly recently and marred the appearance of the building. The process to remove the paint involved the application of a mild chemical paint softener, followed by high-pressure steam. With the coating removed, the team was able to closely appraise the condition of bricks. The team then followed a specific treatment protocol: the bricks that had been damaged on their outer surface were turned around, exposing their good sides, while the bricks in poor condition were replaced. New bricks and other materials were sourced from manufacturers in Europe that use similar techniques and materials to those used in creating the original materials. These methods include the use of brick moulds in Imperial (rather than metric) measurements, which therefore result in bricks in the sizes used in the nineteenth and early-twentieth centuries.

IMPORTANT ISSUES

All works on Hong Kong's listed heritage buildings require the approval of the Antiquities and Monuments Office (AMO). The AMO's guidelines seek to ensure that conservation efforts respect the character and integrity of historic sites and do not undermine the heritage value of these sites through inappropriate and irreversible alterations and additions. Accordingly, the project team took care to respect these conservation guidelines. However, all works also require the approval of the Buildings Department (under the Development Bureau), which reviews them in relation to their safety and their compliance with modern building codes, and the Buildings Department has differing priorities to the AMO. This resulted in numerous cases where proposed solutions that would satisfy the requirements of one body were in conflict with the expectations of the other. The project team engaged in lengthy discussions with the two bodies to resolve these issues. Ultimately, issues of public safety and structural integrity took priority, so this led to highly creative solutions to also preserve the essential heritage features of the buildings.

In May 2016, part of the Married Inspectors' Quarters building collapsed during the conservation work. In response, the project team employed structural engineers to conduct an investigation of the structural integrity of all of the buildings on the site. This investigation identified significant structural problems in the Barrack Block and D Hall. In particular, the findings indicated that the four-storey Barrack Block had originally been a three-storey structure and that the addition of the top floor (in 1905) had been done without sufficient structural enhancements, which had caused serious compression to the pillars. To reduce the strain on the pillars, the team, under the direction of engineering specialists, introduced the ingenious solution of inserting a steel frame into the building. A similar problem was identified in D Hall (the former prison), which had been built in 1862 and is the oldest remaining structure in the compound. The team adopted an innovative solution to strengthen this building while embracing its unique architectural significance by inserting steel frames into the existing archways on the building's ground floor.

PROJECT SUSTAINABILITY AND VIABILITY

In 2010, the JCCPS took on a ten-year lease of the former police station compound at a nominal rent and today manages the operations of the Tai Kwun Centre for Heritage and Arts, including the contemporary arts and performing arts programmes, and ensures ongoing maintenance of the site. In addition to funding through the HKJC's Charities Trust, the principal sources of revenue for operating and maintaining the centre are the site's tenants, venue hire fees and ticket sales for special events. Combined, these funding sources will ensure the long-term care and conservation of the site's buildings.

The public consultation process formed the basis of the project, guiding the evolution of the work. Since opening, the centre has further strengthened its relationship with the community. Residents of the area are encouraged to attend special events and to become involved in the centre's activities. Moreover, community representatives are part of the centre's advisory committee. This committee reviews the centre's heritage and arts programmes regularly and advises the JCCPS management, thus ensuring the centre retains its vibrancy and continues to be relevant to the people of Hong Kong SAR.

PROJECT IMPACT

The project to conserve the former police station compound has transformed the complex into a welcoming and dynamic centre for heritage and arts, offering multiple galleries and performance spaces. By breathing new life into old buildings through imaginative reuse, the project brought vitality to the compound without losing sight of its past and its original purpose.

The Tai Kwun project set new standards for best practice in adaptive reuse in Hong Kong, and the experience gained through the project forms the basis of a heritage conservation guide developed by the Hong Kong Building Department. Furthermore, the approach taken by the project in fulfilling heritage conservation ideals while also respecting modern building code requirements has been recognized as model for future conservation efforts in Hong Kong.

KEYUAN GARDEN

CHINA

THE SENSITIVE CONSERVATION OF THE QING DYNASTY KEYUAN GARDEN SHOWCASES THE ART AND SCIENCE OF SAFEGUARDING TRADITIONAL CHINESE DESIGNED LANDSCAPES. THE PROJECT HAS REVERSED YEARS OF INAPPROPRIATE INTERVENTIONS IN BOTH THE GARDENS AND THE ARCHITECTURE USING A WELL-CHOSEN COMBINATION OF VERNACULAR AND CONTEMPORARY TECHNIQUES AND MATERIALS. THE CAREFUL PROTECTION OF ANCIENT TREES AND PLANTINGS AND THE RECOVERY OF LOST FEATURES SUCH A STONE BRIDGE ACHIEVE A HOLISTIC BALANCE BETWEEN NATURAL AND BUILT ELEMENTS. THE SITE HAS BECOME A HUB OF CULTURAL TRANSMISSION, PROVIDING TECHNICAL TRAINING IN ANCIENT BUILDING CRAFTS DURING THE COURSE OF THE RESTORATION WORK, AS WELL AS ONGOING EDUCATIONAL ACTIVITIES RELATED TO TRADITIONAL MUSIC AND ARTS FOR THE GENERAL PUBLIC. THE PROJECT RESTORES NOT ONLY THE GARDEN'S INTERNAL HARMONY, BUT ALSO ITS PLACE IN THE LIFE OF SUZHOU AND ITS RENOWNED LANDSCAPE TRADITION.

2019

AWARD OF DISTINCTION



CONTEXT

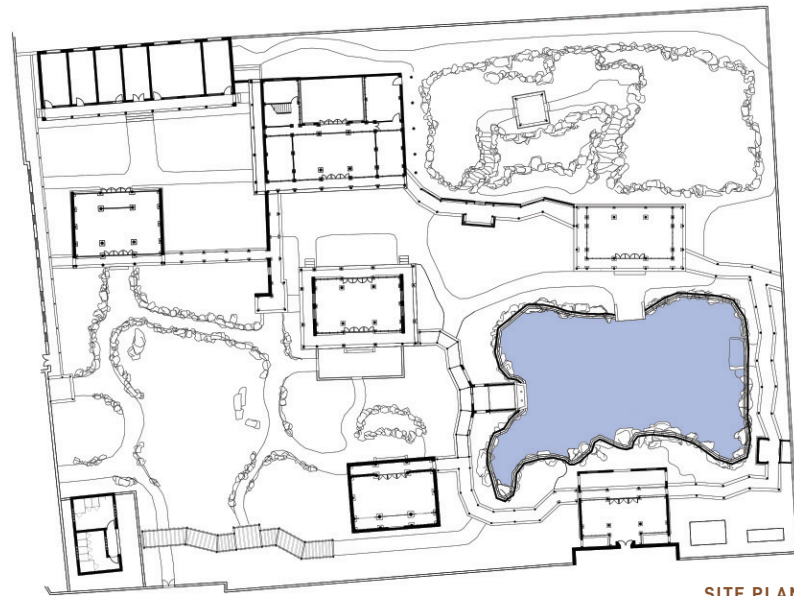
Keyuan Garden, located in the core area of the ancient city of Suzhou, is one of the city's classical gardens. These gardens, some of which date to the sixth century, were conceived and designed in the same spirit as that in traditional Chinese landscape painting. Intended as a microcosm of the natural world, the gardens incorporate basic elements, such as water, stones, rock formations and plants, as well as various buildings of literary and poetic significance, along with calligraphy and decorative artistic pieces. They showcase the artistic achievements of the East Yangtze Delta region and are noteworthy for their profound merging of elegance in design, excellent artisanship and artistic skill. Nine of the gardens of the city together form the World Heritage site called the Classical Gardens of Suzhou.

Keyuan Garden is a rare example of a scholarly style of classical garden dating from the Qing Dynasty (1644-1912). The garden gives voice to ancient academic traditions, provides insight into the aesthetic preferences of Chinese intellectuals and reflects the importance placed on education in Suzhou.

BUILDING HISTORY

Keyuan Garden covers an area of 6,320 square metres and includes features that mimic natural scenery such as plants, rocks, hills and water, as well as paved walkways and thirteen strategically-placed traditional wood and stucco Chinese pavilions of various types and sizes, built in different periods. Among the significant structures of the garden are Yiqing Hall, Zhuoying House, the Lecture Hall, Yiyu Hall and the Haoge Pavilion.

Originally named 'Paradise', Keyuan Garden was established in 1767 by Shen Deqian (1637-1769), a renowned poet and government minister. In its earliest form, the western portion of the garden served as the ancestral temple and residence of the Shen family, while the eastern portion was the Zhengyi Academy. In 1827, the governor of Jiangsu Province, Liang Zhangju, incorporated the western portion into the Zhengyi Academy and changed the name of the site to Keyuan Garden. Several years later, the garden was destroyed by a fire. In 1888, Jiangsu provincial administrator Huang Pengnian restored the garden and established Xuegu Hall. He also constructed



SITE PLAN

THROUGH PROTECTION AND RESTORATION, KEYUAN GARDEN'S ORIGINAL CULTURAL, SCIENTIFIC AND ARTISTIC VALUES HAVE BEEN PROTECTED AND PASSED ON TO FUTURE GENERATIONS.

— QUOTE FROM THE PROJECT TEAM —



YIQING HALL BEFORE AND AFTER RESTORATION



PIAO PAVILLION IN PROCESS

the Boyue Building, to house some 80,000 books.

In 1914, the Jiangsu provincial library was founded within the garden. In 1951, Keyuan Garden served as the offices for the South Jiangsu Technical College and a place of rest for students and teachers. From 1957 until 2012, the garden housed the medical college of Soochow University.

Over time, although Keyuan Garden retained its overall character, many of its elements were altered or inappropriately repaired. For example, some of the paving features within the garden were replaced with incompatible modern materials. Other changes, such as the sealing of doorways, disrupted the connections between the buildings and the surrounding landscape.

Changes were also made to the buildings. For example, the Boyue Building was sub-divided into ten office units and Xuegu Hall, originally with casement windows on its four façades, was separated into three office units through the construction of internal brick walls. In Zhuoying House, the indoor space was modified by the insertion of brick walls, thus changing the traditional system of using wooden pillars as supporting structures. Inappropriate new buildings were also added to the garden. For instance, a structure was built in brick to the east of Yiqing Hall, the style and features of which were noticeably inconsistent with Yiqing Hall.

PROJECT TITLE
KEYUAN GARDEN

LOCATION
SUZHOU, JIANGSU, CHINA

SIZE
6,320 SQUARE METRES
(GARDEN AND BUILDINGS)

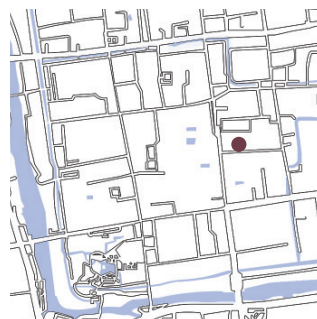
COST
US\$2,494,000

RESPONSIBLE PARTY
SUZHOU ADMINISTRATIVE
BUREAU OF LANDSCAPE AND
GREENING
SUZHOU CANGLANG PAVILION
MANAGEMENT OFFICE
SUZHOU CULTURE AND
TOURISM DEVELOPMENT
GROUP

HERITAGE ARCHITECT
SUZHOU INSTITUTE OF
LANDSCAPE ARCHITECTURE
DESIGN CO., LTD.

CONTRACTOR
SUZHOU GARDEN
DEVELOPMENT CO., LTD.
SUZHOU JINGYUAN
ENGINEERING DESIGN
CONSULTATION AND
SUPERVISION CO., LTD.

DATE OF COMPLETION
APRIL 2015



PROJECT HISTORY

In 2000, recognizing the deteriorated state of many of the city's gardens and their buildings, the Suzhou municipal government began working with businesses, individuals and communities to promote the conservation and restoration of key gardens so as to safeguard the city's cultural landscape. In 2012, the Suzhou Administrative Bureau of Landscape and Greening launched a project to conserve and restore Keyuan Garden in cooperation with the owner, the Suzhou Canglang Pavilion Management Office. The project was funded by the Suzhou Culture and Tourism Development Group. It was implemented over a period of three years and completed in April 2015.

PROJECT SCOPE AND FRAMEWORK

The aim of the project was to reinstate the integrity and authenticity of the garden and its buildings. The conservation team divided the buildings into three categories depending on whether they required repair, rehabilitation or restorative reconstruction. Repair works were carried out on structures that had damage to specific parts. These buildings included Yiqing Hall, the Boyue Building, Yiyu Hall and the Donghe Building. Rehabilitation work was implemented on buildings with altered structural systems and interior spaces, so as to reinstate the original style and layout. These buildings included the Entrance Hall, Zhuoying House, Hu Pavilion and Huanggong Pavilion. Restorative reconstruction applied to structures that once existed but for which little physical evidence remained. For example, the team rebuilt a stone bridge based on remnants found in a pond.

CONSERVATION METHODOLOGY AND MATERIALS

The project to conserve Keyuan Garden was guided by the Venice Charter for the Conservation and Restoration of Monuments and Sites, the Florence Charter and the Nara Document on Authenticity. The project adhered to two main principles: minimum intervention and authenticity. Accordingly, the project retained the original appearance of the buildings and other elements of the garden, along with their positions and sizes, and prioritized the use of traditional construction materials and methods. The team also took into consideration the safety of the users

of the garden in all the conservation work. The project conformed strictly to the requirements for the protection and management of World Heritage sites.

The conservation project was carried out systematically and scientifically. The groundwork for the project included a feasibility study, field investigations, detailed surveying and mapping, and the preparation of a renovation plan. On the basis of the findings, the conservation team developed individual conservation plans for each building. To ensure the conservation process was carried out in accordance with set standards, the team recorded, in words and images, all of the repairs and techniques that were used.

One of the key buildings repaired under the project was Yiqing Hall, the garden's main hall. Before beginning the conservation work, the project team removed the roof and undertook a detailed survey of the materials. In so doing, they discovered a severely damaged column. This was replaced, along with the hall's crossbeam, without changing the original structure.

A surprising discovery while restoring one of the garden's ponds was the foundations of a stone bridge. The project team and the department of cultural relics examined the remnants and identified the original curved form of the bridge. The team then rebuilt the bridge using stone matching the original material.

IMPORTANT ISSUES

While the project team used traditional construction methods wherever possible, the team made some improvements to the techniques in order to increase functionality. For example, while the traditional technique to reinforce wooden piers (which had rotted to one-third of their heights) was to attach iron hoops, this had a disadvantage in that the eventual rusting of the iron hoops would lead to further damage to the piers. The project team therefore developed a new technique to treat the rotten wooden piers. This was by splicing in new wood. Workers cut a joint into the pier at an oblique angle and sealed the joint with carbon-fibre cloth and epoxy adhesive. The combination of these materials not only improved the integrity of the piers but also prevented vertical displacement and settlement of the structure.

Another new technique that the conservation team developed was for the repair of the door joints in the



THE OVERALL ENVIRONMENT HAS BEEN IMPROVED

entrance gate of Keyuan Garden. Traditionally, repairs to door joints involved joining several pieces of wood together and inserting hardwood pins. To avoid problems caused by the pins being exposed, the team modified this method. As well as the pins, the team inserted two screw rods.

PROJECT SUSTAINABILITY AND VIABILITY

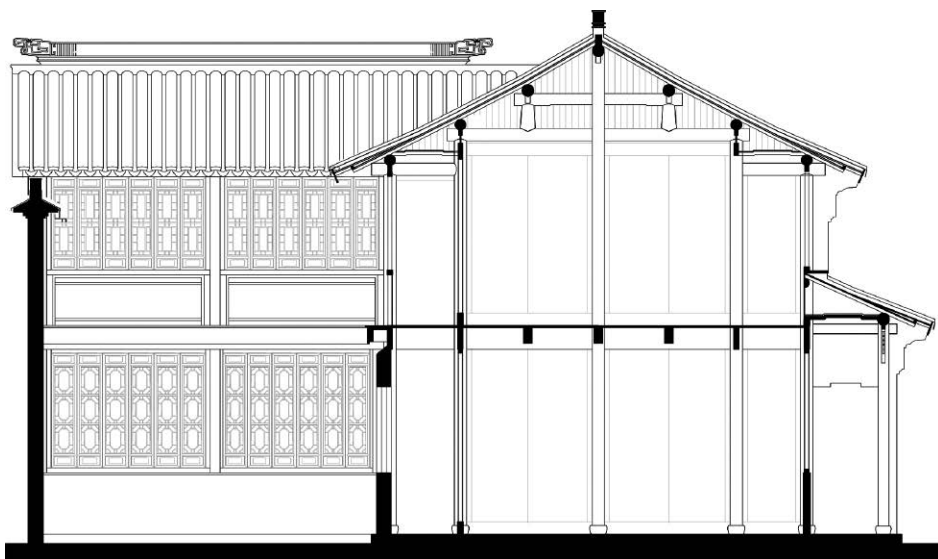
Members of the surrounding community participated in the restoration of the garden and later, following the completion of the project, became actively involved in its management. With increased knowledge and skills regarding traditional garden construction techniques, the community today has the capacity to maintain the garden in the long term.



VOLUNTEER IN KEYUAN



CARVED DETAILS REFLECT THE THEME OF THE ACADEMY



SECTION OF BOYUE HALL

PROJECT IMPACT

The conservation of Keyuan Garden has recreated the features and style of a scholarly garden and today contributes significantly to local community life in Suzhou. As well as providing a tranquil space for the community and visitors, the project has expanded cultural space in the city. Keyuan Garden is now the site of various cultural and educational activities, including lectures, readings and traditional opera performances.

With the success of the project to conserve Keyuan Garden, the classical gardens in Suzhou (over fifty in total) are becoming more interconnected and integrated, and the conservation of Keyuan Garden is likely to serve as a catalyst for the restoration of other gardens in the city.



DETAILS SHOWING TECHNIQUE OF REINFORCING WOODEN PIERS

VIKRAM SARABHAI LIBRARY

INDIA

THE RESTORATION OF THE MONUMENTAL VIKRAM SARABHAI LIBRARY HERALDS AN IMPORTANT STEP FORWARD IN THE PRESERVATION OF TWENTIETH-CENTURY ARCHITECTURE IN INDIA. THE LINCHPIN OF LOUIS KAHN'S ICONIC INDIAN INSTITUTE OF MANAGEMENT CAMPUS IN AHMEDABAD, THE LIBRARY WAS REHABILITATED FROM A STATE OF EXTENSIVE MATERIAL DILAPIDATION. THROUGH CAREFUL STUDIES AND EXTENSIVE MODELLING, THE CONSERVATION TEAM CONQUERED A RANGE OF DIFFICULT CHALLENGES TO EXTEND THE LIFE OF THE COMPOSITE BRICK AND CONCRETE STRUCTURE. THE PROJECT RECOVERED CONFIGURATIONS AND USES OF SPACE IN LINE WITH THE ARCHITECT'S ORIGINAL VISION, WHILE UPGRADING FUNCTIONALITY TO ENSURE THAT THE LIBRARY MEETS CONTEMPORARY REQUIREMENTS AND PROVIDES UNIVERSAL ACCESS. WITH MODERNIST HERITAGE ENJOYING INCREASING ACCLAIM, BUT STILL FACING THE WIDESPREAD THREAT OF DEMOLITION, THIS INITIATIVE PROMISES TO HAVE MAJOR POLICY IMPACT WITHIN AHMEDABAD AND THROUGHOUT INDIA.

2019

AWARD OF DISTINCTION





LIBRARY MAIN ENTRANCE

THE CONSERVATION PROCESS AIMED TO NOT ONLY RESTORE THE LIBRARY BUT ALSO ENHANCE ITS SPACES, TO ENABLE IT TO CORRESPOND TO THE CURRENT AND FUTURE NEEDS OF THE USERS, AND THEREBY SUPPORT ITS LONG-TERM SUSTAINABILITY.

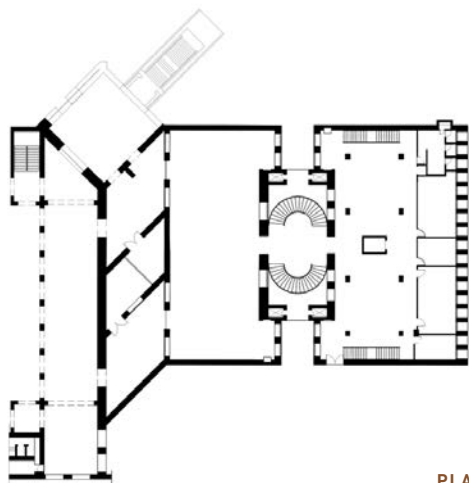
— QUOTE FROM THE PROJECT TEAM —

CONTEXT

The Vikram Sarabhai Library is part of the Indian Institute of Management (IIM-A), located in Ahmedabad, the state capital of Gujarat, India. Home to many internationally renowned educational and research institutions, Ahmedabad is known as a hub of higher education, science and technology in India.

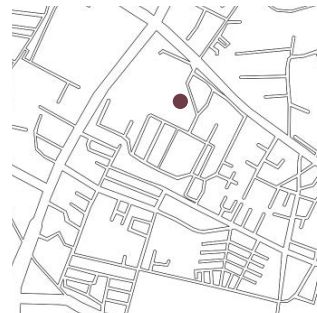
Ahmedabad has a rich assortment of colonial architecture, but the city is also home to a sizeable number of post-independence, twentieth-century Modern buildings. These include designs by Louis Kahn, Le Corbusier, Charles Correa, Balkrishna Doshi and Achyut Kanvinde. Many of Ahmedabad's buildings are not protected as heritage by the municipality, however.

Established in 1961, the IIM-A was envisioned as providing an educational environment that facilitated a more interactive style of teaching and learning, one that encouraged students to engage actively in class through discussion and debate, and the founders aimed to create a centre that would cultivate socio-economic development in India. The architect of the IIM-A, Louis Kahn, interpreted this educational philosophy by designing spaces that promote interaction and support collaborative efforts, and which are also inspirational.



PLAN

PROJECT TITLE
VIKRAM SARABHAI LIBRARY
LOCATION
AHMEDABAD, GUJARAT, INDIA
SIZE
4,580 SQUARE METRES
COST
US\$2,859,430.20
RESPONSIBLE PARTY
INDIAN INSTITUTE OF
MANAGEMENT
TATA CONSULTANCY SERVICES
FOUNDATION
HERITAGE ARCHITECT
SOMAYA & KALAPPA
CONSULTANTS
CONTRACTOR
SAVANI HERITAGE
CONSERVATION PVT. LTD.
SAMIR CONSTRUCTION
COMPANY
ABHISHEK INTERIORS
S.A. ENTERPRISE PVT. LTD.
BLUE STAR LTD.
VEDANT ENGITECH &
INFRASTRUCTURE PVT. LTD.
AKSHAR FIRE & SAFETY
DATE OF COMPLETION
DECEMBER 2018



BUILDING HISTORY

The Vikram Sarabhai Library, named after Dr. Vikram Sarabhai, a world-renowned physicist and the founding director of the IIM-A, was constructed between 1968 and 1975. Surrounded by the faculty blocks and the classroom complex, the library is a central element of the IIM-A.

Designed by Kahn, along with the other significant buildings on the campus, the monumental five-storey brick building has two wings divided by semi-circular staircases. It is in the Modern Style but features elements of Indian vernacular architecture.

The Reading Hall on the second floor is the key element of the building, featuring a triple-height space, exposed brick walls, bare concrete, large circular openings and windows, teak furniture and pole lights. The corner areas to the north and south of the building accommodate group discussions and collaborative study, while the upper floors of the western side are reserved for students to study in isolation and silence.

Over time, the building deteriorated as a result of weathering, vegetation growth and inappropriate interventions. An earthquake in 2001 caused structural damage, including a vertical crack on the facade, from the parapet to plinth.

PROJECT HISTORY

The project to conserve the Vikram Sarabhai Library was part of a much larger project to document, preserve and upgrade all of the heritage buildings on the IIM-A campus that had been designed by Louis Kahn.

In 2014, the institute requested a conservation architect to examine the buildings on the IIM-A campus, to analyse the issues and to prepare a conservation plan. The subsequent detailed study included a measurements survey, condition mapping and assessment, materials testing and mock-ups. Based on the study results, the project team devised a phased plan for the work. The conservation work on the library started in July 2016 and continued until December 2018.

PROJECT SCOPE AND FRAMEWORK

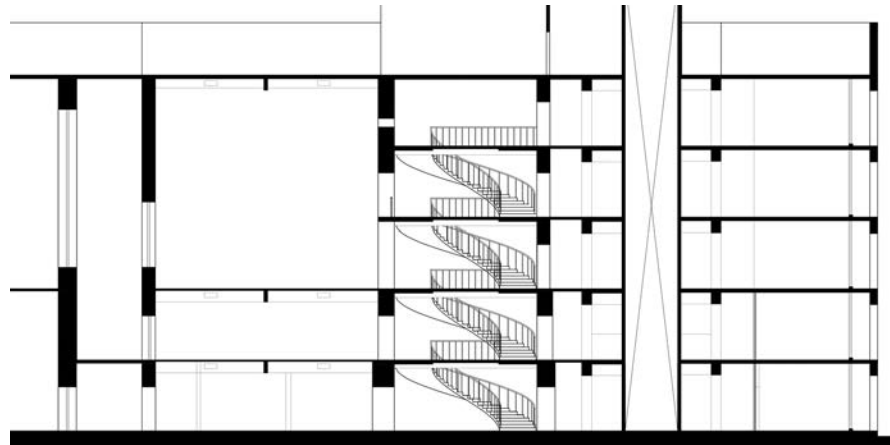
The project to conserve the library was intended to serve as a catalyst for restoration of the other Kahn buildings on the site. The framework for the conservation and management of the buildings entailed a full conservation process, beginning with the documentation of the heritage significance of the site and continuing on to drafting a conservation master plan based on the condition assessment of the building, managing the implementation of the conservation work and employing a sustainability plan for the long-term maintenance of the building. In addition, the team documented each step of the work for future reference.

The project sought to repair and restore the building, provide seismic retrofitting, optimize and increase the usability of the internal spaces of the library and upgrade the services to meet current needs, while respecting the building's monumental and spiritual character and retaining the heritage significance of the building and the surrounding complex.

CONSERVATION METHODOLOGY AND MATERIALS

The Venice Charter, Burra Charter and ICOMOS Charter served as guidelines for the project. Major interventions were largely limited to addressing problems that threatened the structural integrity of the building. All of the interventions were made based on scientific research and experiments; the team gave preference to measures that were the least invasive and most beneficial. The project also honoured the original materials. The project employed skilled workers and a multi-disciplinary team of consultants, including architectural, structural and service programming experts.

Key interventions included the reconstruction of eighty-five damaged arches, structural stitching, restoring the brickwork, concrete repairs, façade cleaning to remove efflorescence and biological growth, terrace waterproofing, flooring restoration, restoring doors and windows and treating rising damp. Restoring the interior space of the building was another important aspect of the project. The project also improved accessibility and upgraded services, such as toilets and the fire safety system, to meet modern needs and present-day building codes.



SECTION



LIBRARY MAIN ENTRANCE



THE ICONIC FAÇADE OF THE LIBRARY

A major component of the work was repairs to the structure. The crack in the wall caused by the earthquake had led to further damage, including fractures in the reinforced arches and the concrete slabs of the building. This circumstance required that the team reconstruct the south-east corner of the façade.

The work to restore the interior of the building included returning space on the ground floor of the western wing (that was occupied by IIM-A offices) to the library. In this area, the team removed the office fittings and introduced additional shelving, and reopened the

space as a reading lounge, allowing the building to function purely as a library, as it was originally designed to be.

IMPORTANT ISSUES

To ensure the best possible outcome for all the users of the building, the project team sought opinions regarding the necessary repair work and the improvements needed in the building from the key stakeholders, including the management and teaching staff, the student

committee, library staff, maintenance engineers and custodial staff. The feedback from the stakeholders shaped the design of the project, with each group providing useful information. The maintenance team, for example, provided valuable insights into the building condition issues faced in the past, the history of repair works and past maintenance practices. Other stakeholders provided feedback that was crucial to understanding the changes that were needed in order to improve the building's functionality.



READING HALL BEFORE AND AFTER RESTORATION

PROJECT SUSTAINABILITY AND VIABILITY

In collaboration with the IIM-A maintenance engineers, the project's architects produced a maintenance plan for the library. This plan describes the monitoring and maintenance requirements for the building on a daily, weekly, monthly and yearly basis, serving to support the scheduling of maintenance work. At the same time, the upgrade of the building's facilities has encouraged greater contributions by the alumni, who have financially contributed to conserving the Modern heritage structures at IIM-A. This funding will help to ensure the library and other buildings on the site are maintained in the long term.

PROJECT IMPACT

The project has retained the inspirational character of the original building and its heritage values, and has enabled the Vikram Sarabhai Library to continue to serve its original purpose in supporting the learning of students of the IIM-A. The library today is barrier-free, with new interactive and collaborative spaces, as well as upgraded lighting and services; features that combine to encourage study and research.

The successful project demonstrates the value of protecting twentieth-century heritage and has received both national and international attention and acclaim. Given this wide support, the project is expected to serve as a catalyst for the restoration of other Modern buildings in India and beyond.

TECHNICAL BRIEF

HONOURING THE MATERIAL: BRICK

The architect of the Vikram Sarabhai Library, Louis Kahn, had a strong liking for bricks. Despite the material's limitations, he believed that brick answered in many ways to modern construction. As he proclaimed:

If you think of Brick, you say to Brick, 'What do you want, Brick?' And Brick says to you, 'I like an Arch.' And if you say to Brick, 'Look, arches are expensive, and I can use a concrete lintel over you. What do you think of that, Brick?' Brick says, 'I like an Arch.' And it's important, you see, that you honour the material that you use. You can only do it if you honour the brick and glorify the brick instead of short-changing it.

Respecting Kahn's design and beliefs, brick restoration was a high priority for the Vikram Sarabhai Library conservation project

As part of the initial research phase of the project, the team conducted archival research on Kahn's architecture. The archival materials included films, publications, drawings, bills, receipts and photos and helped the researchers to understand the ideas behind the design of the Kahn buildings on the Indian Institute of Management Ahmedabad campus.

This research was followed by brick testing and analysis. This testing provided information about the type of the brick used to construct the library building, including the brick's compressive strength and its efflorescence content. The tests demonstrated that the bricks had been

made from local soil and were hand moulded and kiln burnt. They were porous, with inbuilt efflorescence, and had an average compressive strength of approximately 5 N/mm².

Honouring the existing material, the team acquired multiple samples of bricks from various local brick vendors to carry out tests to find new bricks that were similar to the original bricks.

The team also conducted tests of modern and traditional methods of brick façade cleaning (including water misting, chemical cleaning, poulticing and brush cleaning), along with methods of brick pointing and replacement.

The findings of the archival research and material testing offered the architectural team insights into Kahn's decision to use a double-over English bond system, a very strong bond. The team theorized that Kahn had selected this system due to the type of bricks used, which were fairly weak. In addition, the team believed that the reason Kahn had selected edged-filled pointing was to hide and protect the blunt edges of the bricks.

Through the research, the project team also found that Kahn had built an experimental wall in 1964 to study the construction techniques for arches using brick. As Kahn explained:

First works done on these buildings were completely unacceptable to me. And I was heartbroken. Arches didn't complete themselves as arches, they look like the work of one who never saw an arch. ... I proposed that I would like to build a sample wall



SPECIALIZED CLEANING OF THE BRICK FAÇADE

showing how a wall is built, showing how an arch is built. We came up with a beautiful wall. The arches were magnificently laid. I let them duplicate the work I did their way, using their methods, but knowing my religion of the brickwork, and they did.

Inspired by Kahn's experimental wall, the team created an off-site mock-up of the brick flat arch before reconstructing the building's eighty-five damaged flat arches. The mock-up allowed the team to work through the process of reconstruction of the flat arches, the angles for chamfering bricks, laying, pointing and finishing, as originally intended by Kahn. The architects

also created a mock-up prior to the reconstruction of the parapet wall, and added reinforced pillars for greater strength and earthquake resistance.

Brinda Somaya

NELSON SCHOOL OF MUSIC

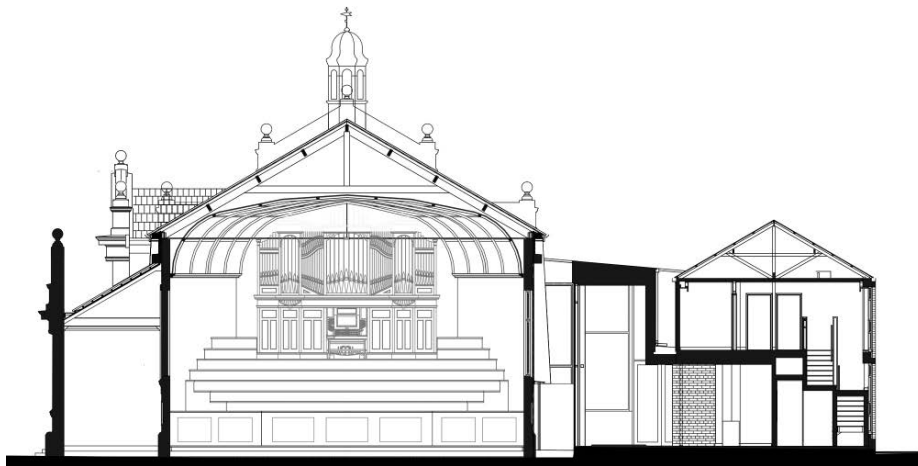
NEW ZEALAND

THE ELEGANT RESTORATION OF THE NELSON SCHOOL OF MUSIC HAS BROUGHT NEW LIFE TO THE SIGNIFICANT EDWARDIAN LANDMARK, UPGRADING THE CENTURY-OLD BUILDING TO FUNCTION AS A TWENTY-FIRST CENTURY PERFORMANCE SPACE. THE PROJECT HAS REVERSED THE EXCESSES OF A 1970s SEISMIC RETROFIT, WHICH STRIPPED AWAY THE FAÇADE ORNAMENTATION AND INSTALLED INAPPROPRIATE STRUCTURAL REINFORCEMENTS. USING A LIGHT TOUCH, A POST-TENSIONED SYSTEM NOW STRENGTHENS THE STRUCTURE IN LINE WITH REQUIRED BUILDING AND SAFETY CODES. EXTERNAL ORNAMENTATION WAS REINTRODUCED USING INNOVATIVE MATERIALS, WHILE THE HISTORIC INTERIORS WERE REINSTATED. MODERN BUILDING SYSTEMS AND A NEW ENTRY FOYER WERE DEFTLY INSERTED, BLENDING IN SMOOTHLY WITH THE HERITAGE CHARACTER OF THE PROPERTY. THE PROJECT ESTABLISHES A NOTEWORTHY MODEL FOR SEISMIC UPGRADES, WHICH CAN BE APPLIED TO OTHER HISTORIC BUILDINGS.

2019

AWARD OF DISTINCTION





SECTION



INTERIOR VIEW OF HERITAGE AUDITORIUM AFTER RESTORATION

THE PROCESS OF THE RESTORATION AND RECONSTRUCTION ALLOWED FOR THE RE-EMERGENCE OF A LANDMARK BUILDING THAT MANY NELSONIANS HOLD IN VERY HIGH ESTEEM.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

Located in the town of Nelson, New Zealand, the Nelson School of Music (renamed the Nelson Centre of Musical Arts in 2018) is one of the country's oldest music auditoria, and since its opening in 1901 has served almost continuously in its dual function as a concert hall and music training school. Over its long history, it has hosted many renowned musicians, as well as numerous distinguished visitors, including the then Prince of Wales in 1920.

Constructed of solid brick masonry in the Edwardian Free Classical Style, with a clay tile roof (Marseille tiles), the original features of the single-storey building included a decorative pediment over the entrance door, large arched and square headed windows, parapets of classical balustrading and contrasting materials.

At the time of its opening it was unique as the only auditorium in New Zealand constructed on the lines of a German conservatorium. Moreover, the school boasted advanced technology in acoustic design. Indeed, the building's acoustics have been described as among the best in the Southern Hemisphere.

BUILDING HISTORY

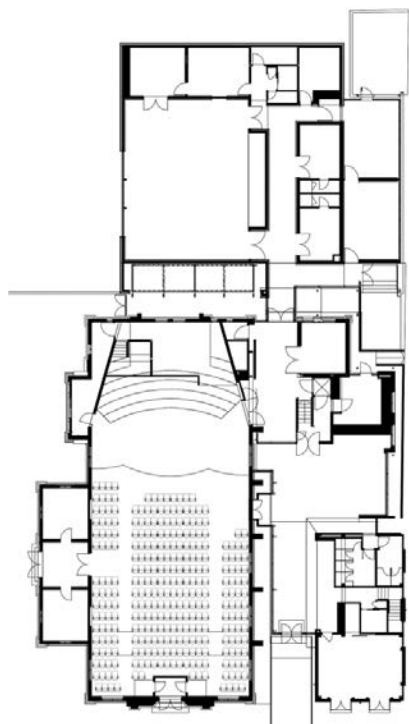
Built at the end of the nineteenth century, the Nelson School of Music auditorium soon became a landmark in the emerging urban landscape of the young town of Nelson. The building was a venue for recitals by internationally-acclaimed musicians and the school was very successful, with a musical programme that became

well-known both nationally and internationally.

In the 1920s, the venue suffered increasing competition from theatres and cinemas, and it waned further in popularity during the Great Depression of the 1930s. In the next decade, competition from local colleges that had begun teaching music contributed to the decline of the music school; unable to maintain the building, the school owners gifted it to the city in 1955.

In the 1960s, the city acquired the neighbouring Rainey House to provide additional studio space. An earthquake in 1968 led to the removal (in the 1970s) of the brick and plaster decorative features from the façade of the auditorium building, including the parapets, filials and cornices, as a safety precaution.

In 1971, the city purchased another neighbouring



PLAN

property, the Beatrice Kidson Building (formerly known as Snodgrass House), to provide classroom space. The city then gifted the buildings back to the Nelson Music Trust in 1974. In 1984, the trust built a foyer linking the Kidson building with the original auditorium building.

The complex remained in use as a music education institution and performance venue over the subsequent two decades but the school faced financial difficulties so the physical condition of the buildings began to decline. Water ingress and poorly-functioning gutters resulted in visible damage to the buildings' architectural features. The acoustic performance of the auditorium also deteriorated, reducing the quality of concert recordings. Moreover, the building lacked air-conditioning and modern fire prevention systems, which deterred patrons.

In 2010, the trustees decided that the school's facilities

PROJECT TITLE
NELSON SCHOOL OF MUSIC
LOCATION
NELSON, NEW ZEALAND
SIZE
1,338 SQUARE METRES
COST
US\$10.45 MILLION
RESPONSIBLE PARTY
NELSON SCHOOL OF MUSIC
TRUST
NELSON CITY COUNCIL
MINISTRY OF ARTS CULTURE &
HERITAGE
NELSON PINE INDUSTRIES
HERITAGE ARCHITECT
IAN BOWMAN ARCHITECT AND
CONSERVATOR LTD.
IRVING SMITH ARCHITECTS
LTD.
CONTRACTOR
COMAN CONSTRUCTION LTD.
DATE OF COMPLETION
MARCH 2018



BUILDING ENTRY AFTER RESTORATION



INTERIOR VIEW OF FOYER



EXTERIOR AFTER RESTORATION

were inadequate for administration and teaching. Then, in 2013 seismic building standards inspectors deemed the Nelson School of Music building unsafe, and the trustees were ordered to close the building.

PROJECT HISTORY

Recognizing the importance of the school and its history, and the value of the building as a Type A heritage structure and a performance venue of international prominence, in 2013 the Nelson School of Music Trust initiated a project to conserve the building, with funding from the Nelson City Council, the national government and the local community, including private enterprises and benefactors. Conservation work was carried out over five years and was completed in March 2018.



DEMOLITION WORKS IN PROGRESS

PROJECT SCOPE AND FRAMEWORK

The primary objective of the conservation project was to revive the music school and make it operational again. Of highest priority was the seismic strengthening of the building. Other key interventions included reconstructing the original form and character-defining architectural elements of the auditorium building, improving the foyer, administration, teaching and rehearsal spaces, and upgrading the facilities, including installing a temperature control system. The project also involved demolishing Rainey House and replacing it with a recital hall that includes studios, teaching space and green rooms, and which connects to the auditorium at stage level. Another key component of the project was to replace the 1984 foyer with a modern, glazed entry way.

CONSERVATION METHODOLOGY AND MATERIALS

Heritage architects drafted a comprehensive conservation management plan for the proposed works aligned to the method outlined in J. S. Kerr's *The conservation plan: A guide to the preparation of conservation plans for places of European cultural significance* (1990), but adapted to meet New Zealand requirements. Research prior to preparing the conservation management plan ensured that the project complied with the requirements of the Nelson Urban Design Panel, the national Resource Management Act, the requirements of Heritage New Zealand and the standards of best practice advocated by ICOMOS New Zealand. The conservation management plan emphasized the necessity of preserving the site's inherent spirit of place, which had been diluted by the loss of exterior elements that had once helped define the building's character.

The approach taken by the project designers was that 'nothing is finished forever; things change over time'. This philosophy recognized that while it was important to retain and celebrate the original building, it was necessary to also improve the functionality of the space and its usefulness to the community.

Being careful to minimize impacts on the auditorium's heritage features, the team's first major intervention was work to improve the building's seismic performance. This was achieved through installing new foundations and mounting tensioned vertical rods. The latter were encased in blasted stainless-steel sleeves for protection

and to differentiate them from the existing heritage fabric. Designed by structural engineers, the team installed a web of post-tensioned cables that was invisible both within and outside the structure. This web connected to a plywood roof diaphragm, essentially compressing the existing masonry structure to maximize its seismic durability. This intervention increased the building's performance from less than 20 per cent of the New Zealand Seismic Building Standard to over 90 per cent.

On the interior, the team reinstated the original timber detailing as closely as possible to the original, using salvaged mouldings and linings as a template for replacements. The interior was refinished using a sympathetic material and colour palette, based on the findings of the on-site studies and investigations.

While taking care to maintain the heritage aesthetic and the building's acoustics, the project team upgraded the auditorium to create a twenty-first-century performance space. Workers retained the original glazing of the windows but covered the glass with laminate to ensure better acoustic isolation from external noise sources. Another means of reducing noise was through installing insulation within the building fabric, along with hidden acoustic seals at openings. The team also introduced new seating (accommodating over 300 patrons). This was installed in a raked configuration using a special type of seat that creates the same acoustics whether empty for a rehearsal or full for a performance. In addition, the team sensitively introduced a heating, ventilation and air-conditioning system to provide thermal comfort year-round and to dispense with the need to open the building's windows. Moreover, the team installed modern electrical, lighting, recording, and data and communications technology.

A significant addition was the new foyer. The architects employed a design that respected the original complex, setting it back from the front plane and ensuring that it minimally impacted the existing fabric. Another major addition was a new recital theatre (with a capacity of 100 patrons) to replace Rainey House. The theatre features 'zigzag' internal walls for good acoustic performance, an attribute that was articulated on the exterior in the form of what the architects called a 'squeeze box', as a nod to the function of the building as a music venue. The recital theatre is in notable contrast to the more formal lines and scale of the auditorium, providing a distinction between new and old.

IMPORTANT ISSUES

A key component of the project was the revealing and reinstating of original detailing. This included reconstructing the decorative elements on the exterior of the auditorium, such as the parapets, copings and mouldings. The team reproduced these elements using glass-fibre reinforced cement, a product selected for its durability and because it was light enough to meet the specifications of modern seismic regulations.

PROJECT SUSTAINABILITY AND VIABILITY

Following the conservation work, the Nelson School of Music reopened in 2018 as the Nelson Centre of Musical Arts. The complex's ongoing use has helped secure its long-term viability. The projected returns from the operation of the complex in its three capacities as a music school, performance space and community building will ensure the maintenance of the facility and enable it to continue to serve the community in the foreseeable future.

PROJECT IMPACT

With the completion of the project, the Nelson Centre of Musical Arts has returned to regular use as a music school, an auditorium and a community asset. The restored building and the reconstructed supporting structures allow for continued high quality in teaching and performances, and the centre has re-established itself as a popular public facility among music enthusiasts and the larger Nelson community.

The Nelson Centre of Musical Arts has hosted a series of open days that provide an opportunity for the Nelson community to experience and understand the building first-hand. Furthermore, as the Nelson Centre of Musical Arts sits within a set of significant heritage structures, including the Theatre Royal, Nelson Cathedral and the Suter Art Gallery, the complex is now a component of a heritage walking tour, with suitable interpretive material describing its origins and history.



OBLIQUE VIEW OF THE RESTORED HALL AND THE RECITAL THEATRE

TSETO GOENPA

BHUTAN

FOLLOWING AN EARTHQUAKE IN 2011, TSETO GOENPA WAS SAVED FROM POTENTIAL DEMOLITION IN AN INSPIRING ACT OF DEVOTION BY MONKS, COMMUNITY MEMBERS AND GENEROUS SUPPORTERS. THE BADLY-DAMAGED RAMMED-EARTH TEMPLE WAS RESTORED AND SEISMICALLY STRENGTHENED USING A COMBINATION OF VERNACULAR MATERIALS AND NON-INTRUSIVE MODERN STRUCTURAL REINFORCEMENTS. SPECIALIST CONSERVATION EXPERTISE GUIDED THE RESTORATION WORK IN LINE WITH INTERNATIONAL STANDARDS, NOTABLY IN THE PRESERVATION OF THE WALL PAINTINGS. THE COMMITMENT OF THE MONKS AND VILLAGERS OVERCAME VARIOUS CHALLENGES, INCLUDING THE REMOTE LOCATION, WHICH REQUIRED CARRYING CONSTRUCTION MATERIALS TO THE SITE. THE REHABILITATION OF DILAPIDATED BUILDINGS AND THE SENSITIVE ADDITION OF NEW FACILITIES ENSURE THAT THE *GOENPA* IS NOW ABLE TO FULLY SERVE ALL ITS RITUAL AND COMMUNAL USES. THE REVITALIZATION PROJECT IS TO BE COMMENDED FOR PROVIDING AN EXEMPLAR FOR SAFEGUARDING OTHER RELIGIOUS BUILDINGS IN BHUTAN.

2019

AWARD OF MERIT



PROJECT SYNOPSIS

Tseto Goenpa (also known as Tsitog Goenpa and Tseteo Gonpa) is a Buddhist monastery located on a mountain top overlooking the Paro Valley in Bhutan. Founded by Master Lam Loday Jamtsho in the fourteenth century, the *goenpa* (monastery) contains numerous sacred objects and is an important pilgrimage site.

Tseto Goenpa adheres to the traditional organizational plan of Buddhist monasteries, featuring a temple hall surrounded by housing for monks. The two-storey U-shaped complex is centred on a paved courtyard. The complex originally consisted of only the *lhakhang* (main hall). Over time, other structures were built, including an anteroom, entrance foyer, residence, kitchen and storage room. Modest vernacular Bhutanese

structures, the monastery buildings are composed of tapering rammed-earth walls, whitewashed with lime; protruding balconies; timber floors, doors and multi-tiered trefoil windows; and gable roofs.

Colourful iconographic paintings embellish the interiors and wooden exterior elements of the buildings. The interiors also feature decorative carving, in vibrant colours.

Over time, weathering and erosion of the rammed-earth walls resulted in loss of cohesion and strength, and the formation of cracks in the buildings. At the same time, a lack of wall plates under the structural elements, including the roof truss timbers, beams and joists, caused concentrated load and also resulted in

cracking.

Apart from some insect damage, the timber joists and floors in the *lhakhang* remained in good condition overall. The timber rafters and battens became significantly weathered and deteriorated over time, however, due to damage to the corrugated-iron roofing, which resulted in leaking. Water ingress led to decay in the ceilings, consisting of small strips of randomly sized planks, and to the ends of the timbers set in the walls.

In 2011, an earthquake caused extensive damage to the monastery. In particular, the walls perpendicular to seismic motions were subject to bending, leading to planar failure. The damage was so severe that demolition of the buildings seemed likely.

The visit of an American couple, Jill and Steve McDonnell, who were struck by the monastery's beauty, led to a project to conserve and revitalize the temple complex. The couple offered to fund repairs to the buildings, returning them to service, and also improve the living conditions of the resident monks. The World Monuments Fund supported the initiative, and managed the design and implementation of the project.

The project to conserve Tseto Goenpa was carried out over 19 months from May 2016 to December 2017. The work encompassed strengthening the *lhakhang*, restoring and improving the existing accommodation for monks, and constructing new facilities, including a dormitory, a kitchen, a dining hall and toilets. The construction of the new dormitory enabled the monastery to attract more monks, and this increase in the resident population served to not only revitalize the monastery but also ensured sufficient labour on-site to properly maintain the temple buildings.

CONSERVATION APPROACH

Before the restoration work began, a detailed study of the history, environment, setting, finishes and structural stability of the site sought to identify the factors contributing to the deterioration of the heritage property. The conservation team identified structural, environmental and biological (mould and intrusive plants) threats to the property.

The remote location of Tseto Goenpa, which is a two-hour hike from the nearest road, required the

TSETO GOENPA SETS A GREAT EXAMPLE AS IT PRESERVES BHUTANESE HISTORY AND CULTURE WHILE MAKING SLIGHT CHANGES TO ACCOMMODATE THE CURRENT CONTEXT.

— QUOTE FROM THE PROJECT TEAM —



EXTERIOR VIEW OF MAIN HALL

project designers to take great care in the planning and logistics of the work. Materials had to be carried to the site. The project team employed masters in the arts of carpentry, masonry, carving and painting to undertake the technical work. The artisans were assisted by labourers recruited from local villages. Because many of the labourers were farmers, the construction work was scheduled around the planting and harvesting seasons.

Key interventions included installing a seismic retrofit system for the temple structure; consolidating the anteroom adjoining the main hall; rehabilitating and renewing the east and west wings of the buildings for use as monks' quarters; constructing a new two-storey residence with bedrooms, toilets and showers; constructing a new dining area, storeroom and community kitchen; repaving the courtyard and adding a new drainage system; constructing a new butter-lamp house and relocating the prayer wheel.

Two techniques were considered for the implementation of the seismic retrofit system: (i) seismic bands with corner keys and (ii) jacketing. The team selected the seismic bands with corner keys method over the jacketing technique as the former is less intrusive and because it was easier to obtain the materials that are required for that method.

The entire roof structure was dismantled for repair. The bent and tilted main beams, purlins and posts were rectified. Damaged rafters and battens were replaced with new timber. All of the corrugated iron roofing was replaced. Recognizing that concentrated load from the roof was one of the main causes of the cracks in the walls, the team installed a continuous timber band on top of the walls to distribute the roof load evenly along the width and length of the wall. This timber and the wood used for joists, window and door frames, flooring and trim was sourced from pine trees in the immediate vicinity and milled on-site. The Gross National Happiness Commission granted permission for the felling of these trees.

Prior to strengthening the walls, consolidation in the form of stitching and pressure mud grouting of cracks was required. The voids caused by cracks and other defects were grouted using mud. Larger cracks were repaired using adobe bricks.

PROJECT TITLE
TSETO GOENPA
LOCATION
DAGOPHU, PARO, BHUTAN
SIZE
620.4 SQUARE METRES
COST
US\$196,026
RESPONSIBLE PARTY
STEVE MCDONNELL
JILL KEARNEY MCDONNELL
WORLD MONUMENTS FUND
LAM DOLEY
HERITAGE ARCHITECT
STEPHEN KELLEY
TASHI DELING CONSTRUCTION
AND CONSULTANCY
CONTRACTOR
TASHI DELING CONSTRUCTION
AND CONSULTANCY
DATE OF COMPLETION
DECEMBER 2017



The restoration of the temple murals was a major component of the project. The murals had been painted on cotton cloth, which had then been affixed to the wall. To restore the murals, the conservators first detached them from the wall. Before this, however, the paintings were carefully examined and documented. In cases when the paintings had to be removed in pieces, an effort was made to avoid tearing the depictions of important deities or symbols. The areas that were flaking and lacking cohesion were adhered and consolidated before detachment, using glue made of wheat starch. After they had been removed, the conservators used cotton cloths to remove the plaster from the backs of the paintings.

The paints that had been used in the murals were a mix of industrial pigments and organic dyes, so the conservators used the same materials in the restoration work. A minimal amount of gold had been used in the paintings; a feature retained by the conservators. When the conservation work was complete, the paintings were pasted back onto the walls using the same wheat-starch glue. The decorative bands around the murals were repainted using the original types of painting materials.

CONSERVATION AND THE COMMUNITY

The local community was directly involved in the conservation project, working alongside the artisans and other workers. While the men mainly undertook work such as digging up soil for the earthen walls and hauling it to the site, the process of ramming the earthen walls was mostly the work of local women. Singing accompanied the labour, and songs were composed for each stage of the project. The cooperation between the artisans and local residents enhanced longstanding traditions of collaboration and strengthened the sense of belonging within the community.

The community participated in rituals at the monastery at the various stages of the project, with some rituals lasting for as long as ten days. Prior to the conservation project, a shortage of space and basic facilities, such as toilets, meant that some of the longer traditional rituals could not be held; in particular, the *ngung ngye* (fasting) ritual had not been performed for the previous 21 years. Following the restoration project, this ritual was revived, with the participation of almost 100 community members.

GUYUE BRIDGE

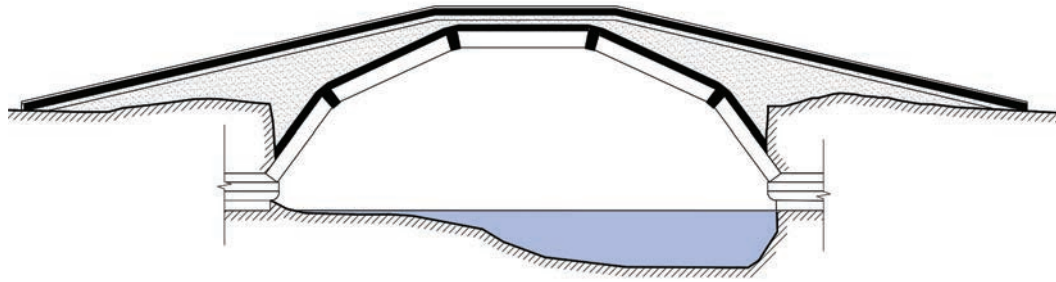
CHINA

THE METICULOUS RESTORATION OF THE 800-YEAR-OLD GUYUE BRIDGE EMBODIES THE SUCCESSFUL COMBINATION OF ADVANCED TECHNOLOGY WITH A RESPECT FOR TRADITIONAL CONSTRUCTION. STATE-OF-THE-ART SURVEYING, ENGINEERING AND MATERIALS SCIENCE WERE DEPLOYED TO UNDERSTAND AND STRENGTHEN THE ANCIENT STRUCTURE, ONE OF THE OLDEST DOCUMENTED 'FOLDING-ARCH' STONE BRIDGES IN CHINA. A NEW COMPOSITE MATERIAL WAS INVENTED AND APPLIED TO SLOW DOWN THE BRIDGE'S FUTURE DETERIORATION. LOCAL ARTISANS USING TRADITIONAL CONSTRUCTION TECHNIQUES ENSURED CONTINUITY IN VERNACULAR BUILDING PRACTICE. THE PROJECT HAS RETURNED A LOCAL LANDMARK, WHICH HAD FALLEN INTO DISREPAIR AND WAS IMPASSABLE FOR THE PAST TWO DECADES, BACK TO THE COMMUNITY, THEREBY CONTRIBUTING TO THE RECOVERY OF AN IMPORTANT TRADITIONAL RURAL LANDSCAPE.

2019

AWARD OF MERIT

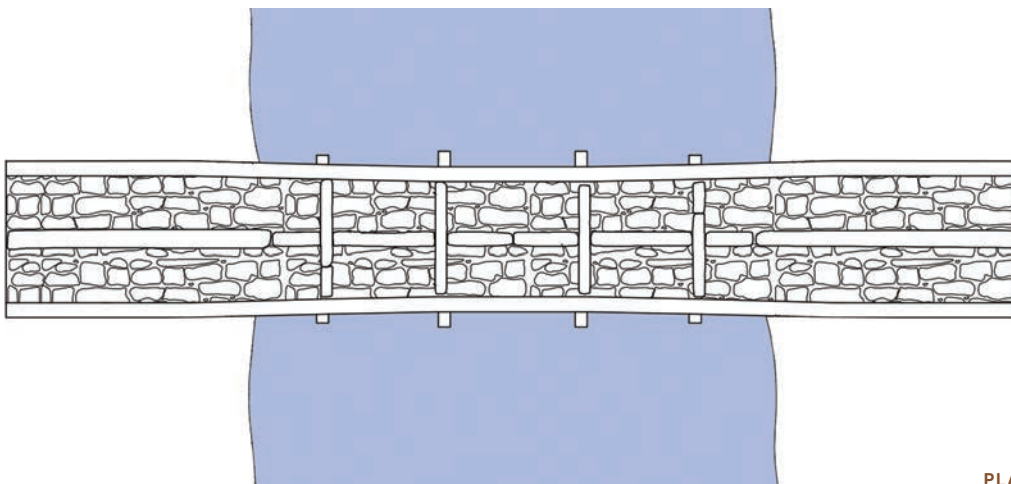




SECTION

THE PROJECT SHOWCASES A SUCCESSFUL COMBINATION OF HIGH-TECH MAPPING TECHNOLOGY, MATERIAL TECHNOLOGY, MONITORING TECHNOLOGY AND TRADITIONAL ARTISANSHIP, FROM DESIGN TO INTERVENTION.

— QUOTE FROM THE PROJECT TEAM —



PLAN

PROJECT SYNOPSIS

Guyue Bridge is a five-section 'folding-arch' stone bridge in the village of Yazhi Street (Yazhi Jiegun) in Zhejiang Province, China. Constructed in 1213, Guyue Bridge is the oldest documented stone bridge remaining in China and is significant as an important form of bridge construction, marking the transition from the stacked arch form to the round arch form. It was designated a national cultural heritage site in 2001.

The continuous use of Guyue Bridge over centuries demonstrates its robust structural design. The bridge consists of a single arch, employing a vertical connection and adjoining piling, and a succession of girder arches arranged like ribs. The body of the bridge has four layers. The bottom layer features six rows of volcanic breccia stone rib beams forming a five-section folding arch. The arch sections consist of interlocking stones, with grooves allowing the arch stones and locking stones to remain in close connection.

Over its long history, the bridge deteriorated and was also damaged by flooding. By the end of the twentieth century it had become unstable and was closed. In 2015, the Yazhi Street village committee initiated a project to restore Guyue Bridge. In January 2019, the bridge resumed its use as an important means of accessing the village.

CONSERVATION APPROACH

The project adhered strictly to the conservation principles of minimum intervention and reversibility in order to maintain authenticity. Prior to the conservation work, the project team conducted studies to understand the original construction design and mechanics of the bridge and the reasons for its deterioration. The studies revealed that the structure of Guyue Bridge was threatened by the dislocation of the interlocking stones and by the movement of some rib beams at their ends. Missing mortar combined with plant growth had resulted in decay of the beams.

The first step in the conservation process was the installation of a temporary free-standing steel beam system beneath the bridge to provide structural bracing and stability and allow full access to the structural components of the bridge during the repair process. Therefore, it was not necessary to dismantle the structural components of the bridge during the conservation work.



VIEW OF THE BRIDGE DECK AND
ARCH BEFORE CONSERVATION

Local artisans, skilled in traditional techniques, carried out work on the bridge deck and other stone surfaces to abate the effects of weathering and biological growth, and to prevent future rain and water seepage.

A unique aspect of the project was the use of a sacrificial material to act as a cushion between the various stone components of the bridge. The sacrificial material developed by the project team was composed of hydraulic lime, volcanic breccia ore and a small amount of polyvinyl alcohol fibre. The strength of the sacrificial material was designed to be slightly lower than that of the stone components. Thus, it will weather away first, keeping the original stone beneath it intact. The team obtained a patent for the newly-created sacrificial material in February 2017.

PROJECT TITLE
GUYUE BRIDGE
LOCATION
YAZHI JIECUN, ZHEJIANG, CHINA
SIZE
APPROXIMATELY
100 SQUARE METRES
COST
US\$496,000
RESPONSIBLE PARTY
HUANG-MEIYAN
COMMITTEE OF YAZHI STREET
VILLAGE
CULTURAL HERITAGE
CONSERVATION MANAGEMENT
OFFICE OF YIWU CITY
HERITAGE ARCHITECT
ZHANG RONG
LYU NING
CONTRACTOR
HONGYU ANCIENT BUILDING
GARDEN PROJECT CO., LTD.
JI GUANJUN
DATE OF COMPLETION
JANUARY 2019



CONSERVATION AND THE COMMUNITY

The local community contributed in various ways to the project. For example, villagers provided old photographs and important details about the site, which aided the project team in determining the original shape and use of the bridge, the height of the original railings and the manner in which the slab stones were originally laid. In addition, many of the workers on the project were from the locality, and some villagers were involved as consultants in the project. The municipal government of the nearby town of Chi'an and the Yazhi Street Villagers' Committee provided significant support and suggestions.

Following the completion of the project, the Yazhi Street Villagers' Committee and the Yiwu Office for Conservation and Management of Cultural Heritage committed to carrying out long-term scientific monitoring of the bridge and also to setting up a centre that would present exhibits about the monitoring process. The construction of the new centre began soon after the completion of the bridge conservation project.

Recognizing the need to protect the bridge and ensure it is managed sustainably, the Yazhi Street Villagers' Committee put in place new management policies, including limiting the use of Guyue Bridge to pedestrians only. Moreover, to prevent future flood damage, the committee began regular consultations with the water department to manage diversion and flood control in the upper reaches of the river.



DETAILS OF BRIDGE ARCH AFTER CONSERVATION

KENESETH ELIYAHOO SYNAGOGUE

INDIA

UNDERTAKEN WITH GENEROUS PRIVATE SPONSORSHIP, THE RESTORATION OF THE KENESETH ELIYAHOO SYNAGOGUE CELEBRATES THE CULTURAL PLURALITY OF MUMBAI. FROM A STATE OF DILAPIDATION WITH EXTENSIVE MATERIAL DECAY AND STRUCTURAL DAMAGE, THE MID-NINETEENTH CENTURY CLASSICAL REVIVAL STRUCTURE HAS BEEN SUCCESSFULLY REVITALIZED IN A TECHNICALLY PROFICIENT MANNER. METICULOUS CRAFTSMANSHIP HAS RESULTED IN THE REINSTATEMENT OF THE ORNATE VICTORIAN INTERIORS, NOTABLY THE STAINED-GLASS WINDOWS, STUCCO WORK, DECORATIVE CAST IRON AND WALL STENCILLING. THE SENSITIVE UPGRADE OF BUILDING SERVICES ALLOWS THE SYNAGOGUE TO CONTINUE ITS VITAL SERVICE TO DEVOTEES AND TO VISITORS OF ALL FAITHS, EXTENDING THE CULTURAL CONTINUUM OF THE OLDEST BAGHDADI SYNAGOGUE OF THE CITY.

2019

AWARD OF MERIT





PRAYER HALL INTERIOR AFTER RESTORATION

THE RESTORATION OF THE SYNAGOGUE HAS NOT SIMPLY RESTORED THE BUILDING SHELL BUT ALSO ITS SPIRIT OF PLACE. IT HAS ALSO DEMONSTRATED THAT IT IS IMPORTANT FOR A CITY TO SUPPORT THE RELIGIOUS INSTITUTIONS OF MINORITY GROUPS IF IT WANTS TO PRESERVE ITS PLURALISTIC AND MULTICULTURAL SPIRIT.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Located on a prominent corner plot within the present-day Kala Ghoda art district of Mumbai, the Keneseth Eliyahoo Synagogue is the city's oldest Baghdadi Sephardic place of worship. The building is a local landmark and a cultural asset, and is important not only to its devotees but also to the broader local community, which considers the building one of the city's treasures. Popularly known as 'the Blue Synagogue', the building is part of various heritage tours. In recognition of its significance, it was designated a Grade IIA heritage building in 1995.

Built in 1884, the Keneseth Eliyahoo Synagogue was erected by Jacob Sassoon (1850-1936) in memory of his father, Elias Sassoon (1820-1880). The synagogue is a charming Classical Revival structure that boasts a large pediment crowning the west façade, surmounting three stained-glass panels flanked by pilasters of fluted Corinthian columns. The north façade is articulated with Neo-Classical semi-circular and segmental arches in Porbandar limestone and lime plaster.

The interior layout of the prayer hall conforms to the orthodox planning of Baghdadi Sephardic synagogues, with a sanctuary on the west wall (facing Jerusalem) and a central free-standing podium in the prayer hall. The interior is adorned with decorative elements, religious symbols and iconography.

Over the years, the fabric of the Keneseth Eliyahoo Synagogue was weathered by Mumbai's monsoon climate and consequently deteriorated. A failing roof led to long-term water ingress, which introduced wet rot and fungal infestation as well as a loss of strength in the wooden, cast-iron and wrought-iron elements, and structural damage, along with damage to the interior plaster and paint. On the exterior, vegetation claimed a hold in crevices, resulting in further leakages, peeling plaster and damage to the stained-glass windows. Rising damp also contributed to the building's deterioration.

The interior of the prayer hall was subjected to a series of insensitive alterations, including painting of the carved stone friezes and sculptures, and the introduction of tube lights, switches and electrical conduits that obscured architectural details.

With a decline in the population of Baghdadi Jews in the city over the twentieth century, the congregation of the Keneseth Eliyahoo Synagogue shrank, and it did not

have the funds to cover the costs of maintenance and repair. At the turn of the twenty-first century, recognizing the need for conservation work on the synagogue, the Jacob Sassoon Charitable Trust initiated a fundraising effort.

In 2009, following a successful application for funding from the World Monuments Fund for the restoration of the synagogue's stained glass, the Jacob Sassoon Charitable Trust launched a conservation project to repair the building and reinstate it as a place of worship. Additional funds for the synagogue's conservation were donated by the Kala Ghoda Association and the JSW Foundation. Work commenced in January 2018 and was completed in February 2019.

Today, following a comprehensive conservation effort, the synagogue is once again the centre of cultural and religious life for the Jewish community of Mumbai and a much-visited place of worship, both by local residents and visitors to the city.

CONSERVATION APPROACH

The project to conserve the Keneseth Eliyahoo Synagogue was guided by the philosophy embodied in the notion of the 'spirit of place'. A particular emphasis of the conservation project was to retain the original fabric of the building and maintain authenticity of the building's form, materials and colours. In keeping with the goal of retaining material authenticity, the structural repairs relied on materials that matched those used in the original construction, including Burma teak, lime stucco (using lime mortar slaked on site) and limestone (sourced from the same quarries as the original stone).

Prior to the preparation of a conservation plan, the project team carried out intensive documentation and completed a thorough mapping of the building's exterior and interior. The team also implemented emergency stabilization measures.

The architect introduced a number of measures to ensure the structural stability of the building. These included terrace waterproofing, basement waterproofing, balcony repairs and strengthening, and strengthening of staircases and balconies.

The comprehensive conservation strategy not only sought to reinstate the architectural and structural

PROJECT TITLE
KENESETH ELIYAHOO
SYNAGOGUE
LOCATION
KALA GHODA, FORT, MUMBAI,
INDIA
SIZE
900 SQUARE METRES
COST
US\$63 MILLION
RESPONSIBLE PARTY
SIR JACOB SASSOON
CHARITABLE TRUST
JSW FOUNDATION
WORLD MONUMENTS FUND
KALA GHODA ASSOCIATION
HERITAGE ARCHITECT
ABHA NARAIN LAMBAH
ASSOCIATES
CONTRACTOR
SKYWAY INFRAPROJECTS
PVT. LTD.
DATE OF COMPLETION
FEBRUARY 2019



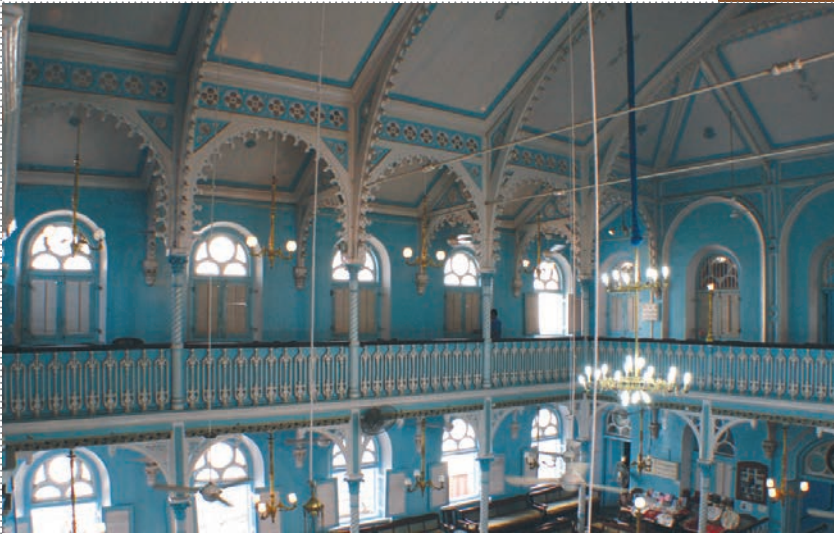
EXTERIOR AFTER RESTORATION

integrity of the building but also to address the need for future management and maintenance, in order to ensure the revival of the structure as an historic and cultural landmark.

Initial conservation work focused on the roof and structural consolidation, including strengthening of weakened slabs and the repair of cracks on the façades. Workers dismantled the roof and replaced rotten members with reclaimed Burma teak. The workers then added a waterproof membrane between the timber boards and the clay tiles (Mangalore tiles).

Following the structural work and repairs to the exterior façade, work focused on the interior spaces. This work included the removal of the peeling layers of paint that covered the walls, dados, ceilings and ornate cast iron columns. The restoration process revealed the original colour palette as well as Victorian stencilling and incised plaster. Plumbing and air-conditioning systems were upgraded, as was the lighting.

The unique stained-glass windows (featuring citrus fruit, pomegranates and pears – symbols used in Jewish ceremonies) received particular attention. The stained glass specialists carefully removed each of the panels and took the glass to their studio for repair. The artisans began by cleaning every panel with non-ionic soap. Repair work focused on the damaged parts of the stained glass, retaining the areas of glass, lead and paint that were stable. Many sections required replacement. This was done in styles and colours that matched but did not imitate the original pieces. Workers applied lime mortar on the window casings to replace the patchy Portland concrete left from previous uniformed interventions, and then reinserted the windows.

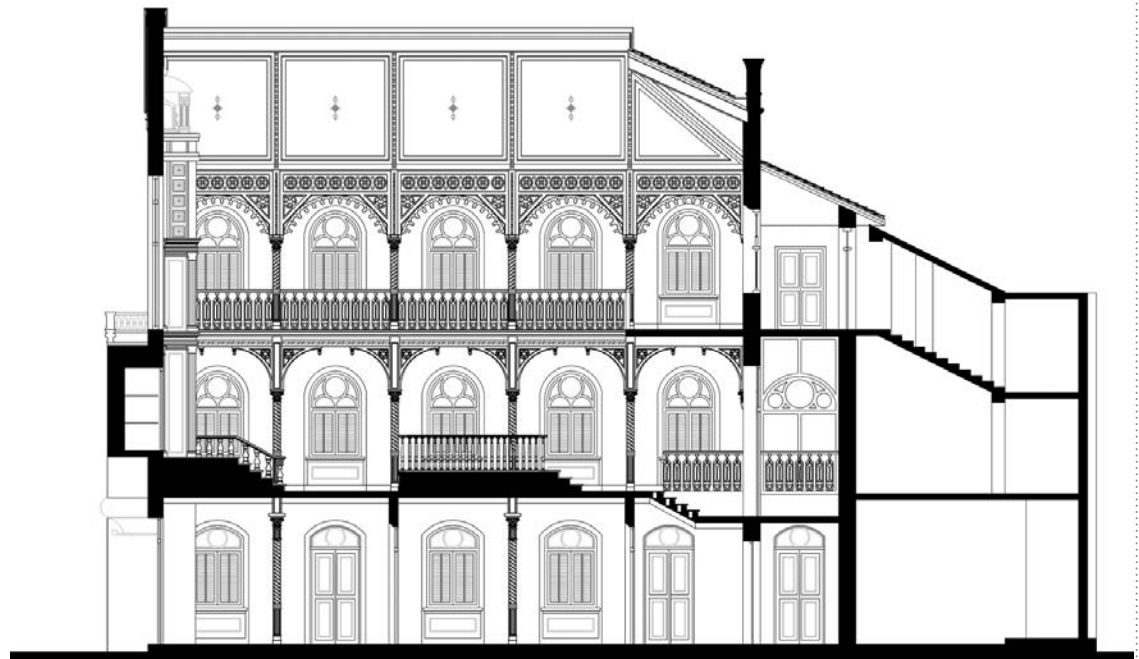


INTERIOR BEFORE AND AFTER RESTORATION

CONSERVATION AND THE COMMUNITY

The project to conserve the Keneseth Eliyahoo Synagogue was successful in saving an important cultural monument. Rescuing the building from a state of deterioration, it reintroduced an important place of worship within Mumbai's historic precinct and returned an architectural jewel to the city.

The project demonstrated that the conservation of privately-owned heritage buildings is viable and that, through citizen and corporate support, such buildings can be restored as cultural assets and given a new lease on life.



SECTION

TECHNICAL BRIEF

RESTORATION OF THE PRAYER HALL'S INTERIOR DETAILS

The remarkable interior of the Keneseth Eliyahoo Synagogue is a double-height space containing large windows with louvered shutters as well as a large stained-glass window made up of several panels. Features of the prayer hall include decorated cast-iron Corinthian columns and Minton tile floors.

Over its history, a series of insensitive alterations marred the hall and detracted from the character of the once grand interior. The damage included painted-over carved stone friezes and sculptures, and insensitively-located tube lights, switches and electrical conduits.

A key issue was that the walls, cast iron columns, timber brackets and ornamental elements in the prayer hall were masked by many layers of paint. One of the major tasks of the interior restoration, therefore, was to scrape off these multiple layers of paint; this involved the use of scaffolding to enable access to all surfaces of the main hall. Technicians removed all paint from the various elements and then repainted them. Upon removal of the obscuring layers, the original paint scheme on the walls, with ornate stencils, was revealed. The conservation team took great care in finding shades to match the original colour scheme, a Victorian palette of sage green, gold and white, and artisans reinstated this paint scheme. Handrails, which were originally polished, were stripped of their paint and re-polished.

Another major component of the interior restoration work was the repair of the Minton caustic-tile flooring. The tiles had been imported from Mintons Ltd, a noteworthy pottery company in Stoke-upon-Trent, England, known for having produced tiles for the Palace of Westminster in London and the United States Capitol in Washington DC. The Minton tiles in the corners of the main hall of Keneseth Eliyahoo Synagogue were badly damaged and had been obscured by linoleum flooring. To replace missing tiles, the project team ordered new ones, customized to match the originals, from a prominent local company, Bharat Floorings and Tiles.

The restoration work also encompassed repairs to the prayer hall's furniture, including several high-back chairs and forty-one benches of various lengths. Artisans repaired the damaged wood and mesh, and the furniture received a new layer of polish. Experts also refurbished the hall's brass chandeliers, a task that involved replacing missing pieces and glass.

Approaching the restoration of the Keneseth Eliyahoo Synagogue holistically, the restoration team treated the structural, exterior and interior aspects, bringing all of the elements of the building together again and reclaiming the synagogue's original grandeur.

*Adapted from the
"Keneseth Eliyahoo Synagogue"
UNESCO Asia-Pacific Heritage Awards
entry submission*



REFURBISHED VICTORIAN INTERIOR

OUR LADY OF GLORY CHURCH

INDIA

ONE OF THE OLDEST ROMAN CATHOLIC CHURCHES IN MUMBAI, OUR LADY OF GLORY CHURCH HAS BEEN LOVINGLY RESTORED TO ITS ORIGINAL SPLENDOUR. THE PROJECT DEMONSTRATES STATE-OF-THE-ART CONSERVATION PRACTICE IN ITS METHODICAL PROCESS, ATTENTION TO DETAIL AND COMMITMENT TO USING LIKE-FOR-LIKE MATERIALS. THE CARPENTRY, JOINERY AND PLASTERWORK DEMONSTRATE HIGH LEVELS OF ARTISAN SKILLS. THE TEAM HAS MADE A PRAISEWORTHY EFFORT TO RETAIN HISTORIC FABRIC, NOTABLY THE TIMBER ROOF STRUCTURE. THE THOROUGH INVESTIGATION AND DOCUMENTATION THAT UNDERPINNED THE CONSERVATION PROCESS WILL PROVE INVALUABLE FOR FUTURE REFERENCE. THE REFURBISHMENT OF THE STAINED-GLASS WINDOWS WAS THE FINAL TOUCH IN RE-ESTABLISHING THE NEO-GOTHIC GRANDEUR OF THE CHURCH, WHICH NOW STANDS PROUDLY AS A NEIGHBOURHOOD LANDMARK.

2019

AWARD OF MERIT



PROJECT SYNOPSIS

Located in the Byculla neighbourhood of Mumbai, Our Lady of Glory Church (known colloquially as Gloria Church) is one of the oldest Roman Catholic churches in the city belonging to the Franciscan order. The order built the original Gloria Church in 1595, which stood for over three centuries before being demolished to make room for the expansion of the port. The current building is the second church which was built in 1913.

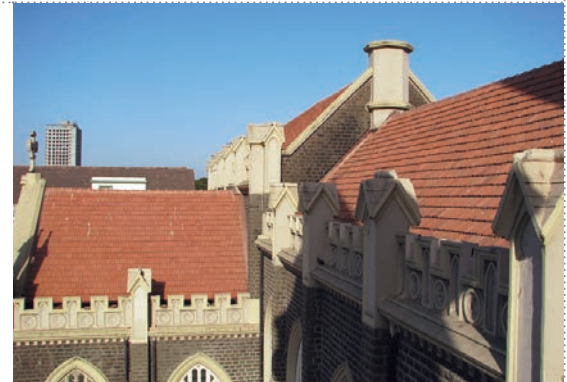
Constructed in the Neo-Gothic style, Our Lady of Glory Church follows the plan of a Latin cross, with a nave and two side aisles. The church has a vaulted apse and a north and south transept. A large masonry porch protects the main entrance. The imposing structure has brick load-bearing walls faced with basalt ashlar masonry. A local landmark, the church is a Grade IIB listed heritage building.

Over time, weathering and age led to the deterioration of the building. Key issues included sagging along the roof's ridge line, water ingress, rising damp and damage to the stained-glass windows. While the church was maintained over the years, repairs were not undertaken to address the root causes of the structural damage.

In 2012, plans were made to demolish the building, with the intention of improving the appearance of the church and restoring it to its original splendour in time for the centenary celebrations in 2013. The conservation project also aimed to resolve the building's structural



ALUMINIUM FLASHING AT ROOF JUNCTIONS



RESTORED ROOF

THE GLORIA CHURCH RESTORATION HAS TRANSFORMED THINKING WITHIN THE ARCHDIOCESE OF BOMBAY, WITH MANY CLERGY TODAY RESTORING CHURCHES WITH PROFESSIONAL GUIDANCE RATHER THAN SEEKING THE HELP OF ILL-INFORMED CONTRACTORS. A TYPE OF CONSERVATION PRACTICE THAT WAS ONCE VIEWED BY THE COMMUNITY AS AN INDULGENCE OF THE ELITE IS NOW VIEWED AS THE MOST SUSTAINABLE AND ECONOMICALLY-VIABLE MODEL TO FOLLOW.

— QUOTE FROM THE PROJECT TEAM —



SECTION

issues. The Roman Catholic Archdiocese of Bombay took a special interest in the project and set up a special committee made up of key dignitaries to manage the project and monitor its progress.

Beginning in 2012, the project was implemented over a period of six years. The work included repairs to the roof to prevent water ingress, strengthening of the bell tower, repairs to the exterior façade, restoration of the stained-glass windows and refurbishment of the interior.

The first phase was completed in November 2013 in time for the centenary celebrations. The second phase ended in November 2018. Progress was hindered by several factors, including a lack of documentation about the building and the unavailability of many of the materials used historically. Moreover, the work had to be scheduled around the monsoon months. Furthermore, since the building remained a functioning church throughout the project, work had to be suspended for

services and for events such as weddings and funerals.

Following the completion of the work, the church has fully resumed its activities and today continues to be an active parish church and the spiritual centre for the local Roman Catholic community.

CONSERVATION APPROACH

The project was guided by international conservation guidelines and Mumbai's heritage regulations. To gain an understanding of the building and its history, the project team documented the building's condition before intervention. The team also investigated the root causes of the deterioration and failure of parts of the building, and identified the priority areas requiring intervention. Experts collected samples and conducted experiments to decide on appropriate techniques for restoration, rehabilitation and reconstruction. The team also

recorded the materials and methods used during the conservation process.

Although the structure appeared intact from the outside, closer examination of the problem areas indicated more serious deterioration than originally expected. Due to displacement of the roof truss, the roof of the south transept had sagged along the ridge line. Rainwater had led to decay at crucial points in the joinery of the rafters and the tie beams of the wooden truss. The workers opened up the roof, allowing for the truss to be lifted, and added epoxy-coated mild steel metal 'C' channels at the ends of the truss. The workers also treated the rafters and trimmed and replaced the decayed ends.

Layers of waterproofing in the past had added excess load to the overhead terrace. When the workers dismantled the vaults, they discovered that the steel supporting members had corroded, particularly along the side aisles. Many of the vaults required reconstruction. This was carried out using the traditional method of moulding the ribs. Water seepage had also caused cracks in the capitals and the shearing of some of the decorative pilasters. The workers repaired cracks in the capitals with lime mortar.

The bell tower originally had three levels, but at some point the church custodians had added an additional slab. In 2012, the floor slabs within the bell tower showed significant signs of structural distress and the 'I' sections showed signs of corrosion and deterioration due to water ingress. Many had to be replaced. Workers coated new 'I' sections with epoxy and placed them on pre-cast concrete bed blocks.

Rising damp was noticeable at the base of the walls. This had caused the plaster to peel off. After addressing the causes of the rising damp, the team painted the interior of the church. The team also installed LED lights, to highlight significant architectural features.

The intricate stained-glass panels near the altar had required lead lining, thus making the windows very heavy. Over the years this led to buckling of lower panes and breakage of individual glass elements. Other issues included the deterioration of the lime plaster in the stone tracery and missing glass in the bell tower. The restoration team documented each frame and glass pane prior to beginning cleaning and restoration.

All frames had to be removed from the tracery, which were repaired by inserting sandstone sections and finishing with lime plaster. Workers installed new

steel frames to provide additional strength and support. Artisans reproduced missing stained-glass sections to match the other panels in the church.

Repairs over the years had led to the presence of different types of glass across the windows, causing a mismatched appearance. Workers replaced the ad hoc panes with glass in a consistent transparency and texture.

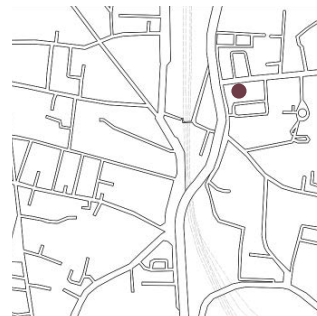
The pivoted shutters were converted to side hung shutters to protect the interior from water seepage. Workers documented and numbered all of the shutters before repairing or replacing them. Scraping the paint layers revealed the original grain of the wood, as well as intricate carvings.

CONSERVATION AND THE COMMUNITY

The parishioners were very supportive throughout the conservation process, donating generously to the project and showing a willingness to make compromises in their use of the church to facilitate the conservation work.

One of a number of treasured historic sites in the Byculla neighbourhood of Mumbai, including the Dr. Bhau Daji Lad Museum, Jijamata Udyan (Byculla Zoo) and Masina Hospital, Gloria Church is now part of a popular heritage tour of the area, which gives both locals and visitors insight into the area's history and culture.

PROJECT TITLE
OUR LADY OF GLORY CHURCH
LOCATION
MUMBAI, INDIA
SIZE
1,200 SQUARE METRES
COST
US\$533,572
RESPONSIBLE PARTY
ARCHDIOCESE OF BOMBAY
HERITAGE ARCHITECT
AINSLEY LEWIS
DAVID CARDOZ
CONTRACTOR
MADHURAM CONSTRUCTION
SAVANI CONSTRUCTION
CO. PVT. LTD.
DATE OF COMPLETION
NOVEMBER 2018



SANCTUARY OF THE CHURCH AFTER CONSERVATION

LYTTELTON TIMEBALL STATION

NEW ZEALAND

THE HEROIC RECONSTRUCTION OF NEW ZEALAND'S LYTTELTON TIMEBALL STATION, FOLLOWING ITS DESTRUCTION IN THE DEVASTATING 2010 AND 2011 EARTHQUAKES, HAS REINSTATED ONE OF THE FEW FUNCTIONING TIMEBALL STATIONS IN THE WORLD. USING THE ORIGINAL MASONRY TECHNIQUES, THE PROJECT TEAM PINNED THE SALVAGED NINETEENTH-CENTURY HERITAGE FABRIC TO A NEW SEISMIC-RESISTANT CORE, WHILE RETAINING TRACES OF THE EARTHQUAKE DAMAGE AS A VISUAL MEMORIAL OF THE CATASTROPHIC EVENT. SOPHISTICATED DIGITAL TECHNOLOGY WAS EMPLOYED IN THE STONE-BY-STONE SCANNING, DOCUMENTATION AND REASSEMBLY OF THE BUILDING COMPONENTS. WITH ITS PROMINENT HARBOURSIDE LOCATION, THE RESTORED MONUMENT IS AN IMPORTANT VISUAL MARKER AND A LIVING REMINDER OF THE TECHNOLOGICAL INNOVATIONS ASSOCIATED WITH THE EARLY DAYS OF TRANS-OCEANIC SHIPPING AT LYTTELTON HARBOUR.

2019

AWARD OF MERIT



PROJECT SYNOPSIS

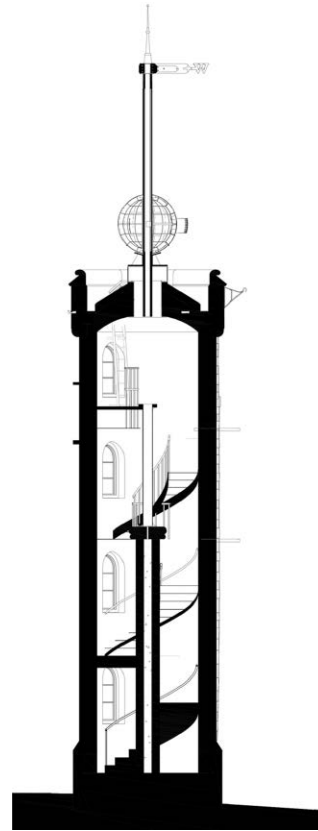
The Lyttelton Timeball Station is located on a sloping headland overlooking Lyttelton Harbour, New Zealand. A rare remnant of Victorian maritime technology, the timeball was used as an analogue system of time signalling, whereby the dropping of the ball from a tower each day at a predetermined time enabled ships in the harbour to verify the time on their chronometers.

Built in 1876, the Lyttelton Timeball Station was an excellent example of a stone masonry complex built in the Tudor Revival style, which was popular in New Zealand during the Victorian era. The complex was made up of two buildings: an octagonal tower constructed from local Port Hills basalt and contrasting lighter-coloured Oamaru stone, topped by the timeball, along with a building that resembled a Scottish castle, which had residential facilities for the station manager and other workers. The complex also featured a flagpole, which was used as a means of sending signals to the ships in the harbour.

The timeball mechanism was sophisticated technology for its time, consisting of a clock driven by an intricate galvanic battery system, which activated the daily dropping of the ball. Siemens Brothers of Germany supplied the timeball, while the clock was made by Edward Dent & Co. of Britain, the company that constructed the Big Ben clock in London. The Timeball Station efficiently carried out its function until 1934, when radio signals replaced use of the timeball. The flag signals continued until 1941. Over the subsequent seven decades the site served as a museum and the open space around it served as a public recreation area.

The tower and the adjoining building remained virtually unchanged until a devastating earthquake hit the province of Canterbury on 4 September 2010 causing severe damage to the complex. Aftershocks in 2011 caused the total collapse of the buildings, reducing them to rubble. The damage was so substantial that city officials initially considered the buildings beyond repair. Workers took down the remains of the buildings in 2011 as a safety precaution and the site was abandoned for several years.

The Timeball Station was considered a key landmark and had great cultural significance for the local and national communities, so in 2017 a group of conservation and architecture professionals launched a public-private



SECTION

**THE PROJECT EPITOMISES
THE LOCAL SENSE OF
IDENTITY – TAKING PRIDE IN
STANDING TALL IN THE FACE
OF ADVERSITY – AND KEEPS
A LOCAL MARITIME
TRADITION ALIVE.**

— QUOTE FROM THE PROJECT TEAM —



PANORAMIC VIEW OF THE TOWER AFTER RESTORATION



ORIGINAL STONWORK WAS RETRIEVED AND ABLE TO BE INCORPORATED INTO THE RECONSTRUCTION

initiative to rebuild the tower and reinstate the timeball and its mechanism. There was an outpouring of support from the public for this initiative. Donations were received from the public, from private organizations and from 'Landmark Incorporated', a charity established in 1972 to preserve New Zealand landmarks. The site's owner, Heritage New Zealand Pouhere Taonga, oversaw the project.

Today, with the tower restored and the timeball again operational, the Lyttelton Timeball Station is one of only five operational stations in the world. The reconstructed tower provides an accurate similitude of the original, and the grounds once again serve as a pleasant spot for the public to relax, enjoy harbour views and celebrate the landmark and its history.

CONSERVATION APPROACH

In view of the extensive damage caused by the earthquakes, an identical rebuild of the entire site was not possible. The restoration project aimed to rebuild the tower, restore the timeball and clock mechanism, and reconstruct the flagpole and mast, but did not seek to rebuild the accommodation building. The project involved consolidating the foundations of that building, however. This was done to enable visitors to discern the full extent of the building as it had been prior to the earthquakes.

The project team was able to salvage a significant amount of the original fabric of the tower, including 250 of the 350 or so of the tower's facing stones. The damaged stones were not repaired; they were reused in their flawed condition as evidence of the catastrophic earthquake. The damaged stone steps were also reused.

The project sought to restore the structure of the tower as closely as possible to its pre-earthquake condition. To enable the accurate reconstruction of the tower, the conservation team carried out a thorough documentation of the original fabric. This required the scanning of each stone.

Following the successful documentation of the stones, new software was developed to help with placing each stone back in its original position. The limestone blocks were not a uniform size, however, which complicated the process. Since many of the stones were damaged and the original scans were of medium resolution, accurate measurements were difficult to guarantee. The application first allowed a tolerance of +/-5mm, and then as more stones could be placed with higher confidence, the allowable tolerance was gradually relaxed. Eventually, 65 per cent of the available stones fit in their original positions in 6 of the 8 visible tower faces.

The architects then constructed an architectural model of the tower using the dimensions derived from the scan data. Based on the model, specialist stonemasons pinned the original stones to a new quake-resistant core.

The team also scanned and virtually reconstructed the mechanical equipment that was once housed in the tower to determine its original position, a process that was assisted by a photograph of the rubble following the collapse of the building.

Local Lyttelton marine engineers devised a new automated system that would operate the dropping of the timeball remotely. Workers restored the original

PROJECT TITLE
LYTTELTON TIMEBALL STATION
LOCATION
LYTTELTON, CANTERBURY,
NEW ZEALAND
SIZE
APPROXIMATELY
2,000 SQUARE METRES
COST
US\$2.3 MILLION
RESPONSIBLE PARTY
HOLCIM
LANDMARK INCORPORATED
MAINLAND FOUNDATION
NEW ZEALAND HERITAGE
POUHERE TAONGA
LOTTERY GRANTS BOARD
STOUT TRUST AND PARKINSON
HERITAGE ARCHITECT
DPA ARCHITECTS
CONTRACTOR
HAWKINS CONSTRUCTION
DATE OF COMPLETION
NOVEMBER 2018



FAÇADE DETAIL OF THE TOWER AFTER RESTORATION

wood-frame timeball and repainted it the original colours. A new zinc shell brought the feature back to life. The project team also restored the flagpole and landscaped the surrounding area.

CONSERVATION AND THE COMMUNITY

The conservation project was well received by the local community, which had fond memories of the monument. The project successfully reactivated the public space, allowing for recreational use of the area, while engaging and educating the public about local history and international maritime practices.

THE 5s CLASSROOM

PRESHIL, THE MARGARET LYTTLE MEMORIAL SCHOOL

AUSTRALIA

THE RESTORATION OF THE 5s CLASSROOM HAS RESULTED IN SAFEGUARDING A MODERNIST BUILDING WHILE HONOURING THE ORIGINAL PEDAGOGICAL TRADITIONS ESPOUSED BY A PIONEERING SCHOOL. THE RIGOROUS, EVIDENCE-BASED APPROACH TO CONSERVATION IS REFLECTED IN THE GREAT EFFORTS MADE TO FIND SUITABLE MATERIALS AND TECHNIQUES TO PRESERVE THE AESTHETIC AND SPATIAL QUALITIES OF THE ORIGINAL DESIGN. THROUGH LIVELY ENGAGEMENT WITH THE SCHOOL COMMUNITY, ALUMNI, AS WELL AS PRESENT-DAY STUDENTS, THE PROJECT REFLECTS AND SUSTAINS THE SPIRIT OF PLACE ASSOCIATED WITH PRESHIL, THE MARGARET LYTTLE MEMORIAL SCHOOL.

2019

HONOURABLE MENTION



PROJECT SYNOPSIS

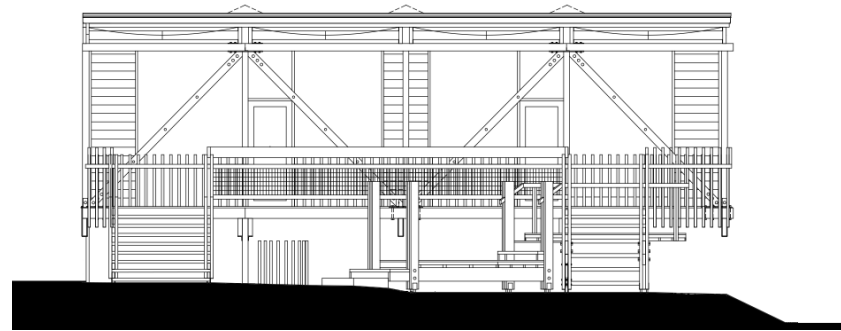
Located in Kew, a suburb of Melbourne, Australia, the 5s Classroom is part of Preshil, The Margaret Lyttle Memorial School. Founded in 1938, Preshil is the oldest progressive school for young children in Australia.

Designed in 1964 by Kevin Borland and Bill Irwin in collaboration with Margaret Lyttle and the Preshil students of the time, the 5s Classroom is a timber-framed, flat-roofed addition to the western end of a school block called Arlington House. The classroom forms part of an architecturally significant assemblage of six experimental engineered works undertaken at the school. The 5s Classroom embodies the last authentic record of Borland and Irwin's important legacy in Victoria that retains its original architectural and engineering values and is publicly accessible. In 1984, the school buildings designed by Borland and Irwin were included in the state heritage register.

The classroom demonstrates an imaginative structural concept, built with 1960s technology and materials. Unfortunately, the use of untreated steel components and exposed timber meant that the structure was vulnerable to deterioration. This inherent deterioration of the fabric was exacerbated by the removal of the large oak tree once on the property, which resulted in various makeshift adaptations to the classroom building to provide shade from the sun. The fixed textile screen on the north, for example, applied considerable stress to the structure, and the sheeting of the pergola complicated roof plumbing. In addition, the truncation of the original floor beams on the south side resulted in ongoing triage work to prop the failing cantilever of the west end.

Despite repairs, over the years the fabric's advanced deterioration undermined the structural integrity of the southern truss and its U-bolt connections to the wooden floor beams. Moreover, the material failure of the main trusses created secondary stresses, demonstrated in the racking and twisting of the northern veranda elements.

Upon raising sufficient funds, a project to conserve and restore the classroom commenced in 2017. The project was completed in April 2018 and the classroom is once again a place of learning for the students of Preshil and, moreover, can now be accessed by everyone in the school community.



ELEVATION

THE PRESERVATION OF ARCHITECTURE IS TAKEN VERY SERIOUSLY AS THE PHYSICAL EMBODIMENT OF PRESNIL'S EDUCATIONAL PHILOSOPHY, WHICH WILL BE TRANSMITTED TO FUTURE GENERATIONS.

— QUOTE FROM THE PROJECT TEAM —



SOUTH EXTERIOR AFTER CONSERVATION

CONSERVATION APPROACH

The conservation project was guided by the desire to retain as much of the original fabric of the classroom building as possible, while carefully replicating elements that were either damaged or had been modified over the years. This approach was balanced with the needs to meet modern building code requirements and to make the structure accessible for all users.

The project team conducted careful research, which included consolidating all building records as well as architectural documentation and archival photographs, prior to beginning the conservation work. The analysis of the structure and its fabric began with a condition assessment and a re-evaluation of the original engineering to determine the measures necessary to take for compliance with the Building Code of Australia, and to ensure the building met current code requirements for fire, safety and accessibility.

To understand the classroom's sense of place, the conservation team researched the history of the property and of the school, as well as its approach to education. The research findings underpinned the evidence-based conservation process.



CLASSROOM INTERIOR SHOWING
RESTORED DRAPED CEILING

PROJECT TITLE
THE 5s CLASSROOM, PRESHIL,
THE MARGARET LYTTLE
MEMORIAL SCHOOL

LOCATION
MELBOURNE, VICTORIA,
AUSTRALIA

SIZE
106 SQUARE METRES

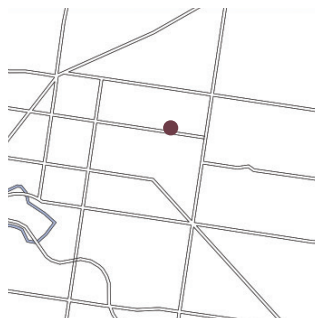
COST
US\$283,760

RESPONSIBLE PARTY
PRESHIL FOUNDATION
PRESHIL, THE MARGARET
LYTTLE MEMORIAL SCHOOL

HERITAGE ARCHITECT
GINA LEVENSPIEL, TIM HALL &
ASSOCIATES PTY. LTD.
MICHAEL MARKHAM,
TUG WORKSHOP

CONTRACTOR
SIXTY THIRD EVOLUTION
PTY. LTD.

DATE OF COMPLETION
APRIL 2018



CLASSROOM INTERIOR BEFORE CONSERVATION

The classroom was dismantled, with detailed documentation and analysis continuing during this process. Among the discoveries at this stage were remnants of the original tensile (draped) suspended ceiling, which assisted in the identification of the original design. The dismantling of the beams led to the uncovering of the original colour scheme. Such findings informed the conservation of existing elements and the re-creation of the original design. The building was re-assembled accordingly.

CONSERVATION AND THE COMMUNITY

The school's students had played an integral role in the original design process, reflecting the progressive model of learning fostered at Preshil. This inclusive community-based approach also informed the restoration process, wherein stewardship was provided by the students and the school management. The conservation team regularly addressed the students, informing them of the progress of the work.

WESTPAC LONG GALLERY

AUSTRALIAN MUSEUM

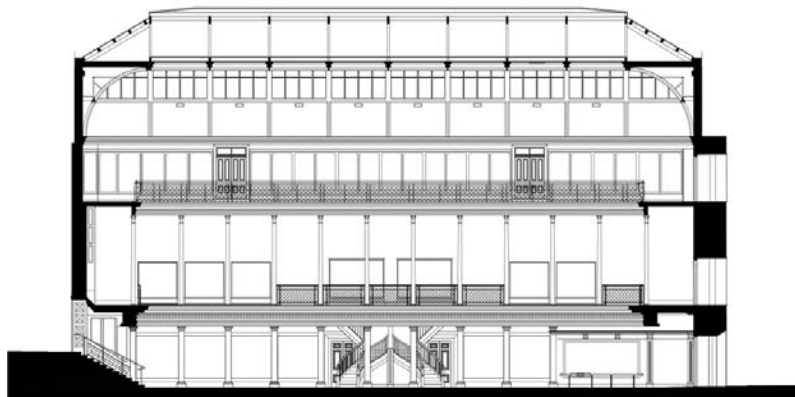
AUSTRALIA

THE WESTPAC LONG GALLERY PROJECT IS COMMENDABLE FOR ITS CAREFUL CONSERVATION OF THIS ORIGINAL NINETEENTH-CENTURY MUSEUM INTERIOR, CONVEYING THE HISTORICAL SPIRIT AND FEELING OF THE PERIOD. REVEALING SPACES PREVIOUSLY OBSCURED BY LATER ERAS OF EXHIBITION DESIGN HAS BROUGHT THE VENERABLE GALLERY BACK TO LIFE, WHILE ELEGANT CONTEMPORARY ADDITIONS UPDATE THE FACILITY FOR ONGOING USE. ON THE BASIS OF A THOROUGH MATERIALS ANALYSIS, THE PROJECT TEAM SELECTED APPROPRIATE MATERIALS AND ARTISANAL TECHNIQUES. A THOUGHTFUL APPROACH WAS TAKEN TO RESOLVING COMPLEX BUILDING CODE REQUIREMENTS, WITH ADEPT TECHNICAL SOLUTIONS THAT RESPECTED THE SIGNIFICANCE AND SPATIAL QUALITIES OF THE GALLERY.

2019

HONOURABLE MENTION





SECTION



VIEW OF CONSERVED 1860s DOUBLE SPIRAL CEDAR STAIRCASE

THE PROJECT RESTORED THE GRANDEUR AND RICHNESS OF THE SPACE AS AN ARCHITECTURAL DISPLAY CABINET, RETRIEVING QUALITIES OF AUTHENTICITY, HISTORY AND ARTISANSHIP THAT ARE FUNDAMENTAL TO THE MUSEUM'S IDENTITY.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

The Westpac Long Gallery (formerly the Long Gallery) is one of a number of nineteenth-century interiors within the Australian Museum. Located in Sydney, the Australian Museum is the earliest and most intact cultural institution in Australia and it is believed to be the fifth-oldest natural history museum in the world. Holding national significance as Australia's pre-eminent natural history museum, the museum serves to increase public knowledge of science, history and culture.

The museum was established in 1846 and is comprised of a group of buildings that were constructed in stages over a period of about 160 years to cater to the museum's evolving role and requirements. The various buildings (wings) are joined internally to allow access throughout.

The Westpac Long Gallery is located within the museum's oldest surviving building, the Lewis Wing, which was designed in the 1850s by Mortimer Lewis (1796-1879) in the Greek Revival Style.

As the principal display area within this building, the gallery was originally a double-height space with a basement. Alterations in the 1890s involved the addition of an extra level, creating a third storey across the entire building. With this addition came the removal of the original roof and the introduction of a coved timber-framed structure, with glass around the perimeter. The flat central section of the ceiling was of pressed metal, embellished with elaborate ceiling roses.

Over the following century various unsympathetic alterations and additions detracted from the architectural qualities of the gallery and resulted in the loss of several elements and details.

With a vision to restoring the site ahead of a new exhibition celebrating the 190th anniversary of the Australian Museum, in 2016 the management invited architects to undertake a detailed physical investigation of the gallery, looking at its evolution, integrity and

physical condition, so as to identify ways to interpret the significance of the gallery while upgrading the space to meet current functional and operational requirements. A key priority was to reinstate the original visual character of the gallery and restore the legibility of its original architecture.

Funding for the project came from the public and private sectors, including the state government, Westpac Bank and the museum's own fundraising efforts. The conservation and refurbishment work on the gallery was undertaken in 2017.

Following the project, the gallery has been reintegrated into the complex as a historic feature and it once again serves to showcase Australia's history and artefacts. Moreover, the gallery's significance and story are now clearly identified and interpreted.

CONSERVATION APPROACH

The project adhered to the guidelines set out in the Burra Charter, emphasizing the principle of 'do as much as necessary but as little as possible', and the use of appropriate materials and traditional skills. On the project, experienced artisans worked collaboratively with the design team to achieve the best possible conservation outcomes.

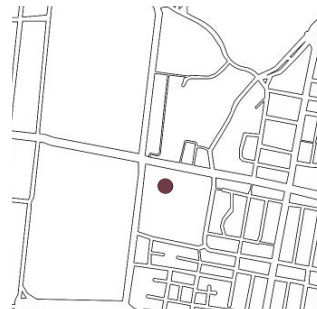
The significance of the property and the layers of change that had impacted the space meant that processes of conservation required an acute degree of sensitivity and technical consistency. Aligned to the guidelines in the conservation management plan, the project avoided recreating missing features unless sufficient documentation was available. Moreover, new work was reversible.

In light of the compromised architectural significance of the gallery – a consequence of layers of unsympathetic alterations and additions – the team painstakingly restored the original character of the space. For example, the floor edge at the first-floor level, which had been raised to accommodate the galleries, was reinstated.

The conservation was underpinned by thoughtful interpretation of pre-existing elements, including the ceiling roses and the pendant lighting. The project also replaced the balustrades to re-establish original view lines. The design of the new balustrades followed the pattern of the 1890s panels still intact on the second-floor level.

The gallery was upgraded to meet contemporary standards, with the installation of a new lighting and a climate control system as well as the enlargement of 1970s door openings. The team also replaced a non-compliant staircase with a floating steel staircase and installed new display cabinets on the ground and first floor levels as glass islands to maintain a visual dialogue within the space.

PROJECT TITLE
WESTPAC LONG GALLERY,
AUSTRALIAN MUSEUM
LOCATION
SYDNEY, NEW SOUTH WALES,
AUSTRALIA
SIZE
700 SQUARE METRES
COST
US\$4.2 MILLION
RESPONSIBLE PARTY
AUSTRALIAN MUSEUM
HERITAGE ARCHITECT
DESIGN 5 – ARCHITECTS
PTY. LTD.
CONTRACTOR
A J BRISTOW & SONS
DATE OF COMPLETION
OCTOBER 2017



CONSERVATION AND THE COMMUNITY

The project demonstrated how innovation and skill can be used to conserve and repair a significant structure with minimal replacement of the original fabric, and demonstrated the viability of returning such sites to their former glory while upgrading them for modern-day use.

The conservation process encouraged the local community to engage on a regular basis to learn more about the project and the gallery as well as to contribute to the conservation work, and the project renewed public interest in the space.



INTERIOR BEFORE AND AFTER
RESTORATION

HONOURABLE MENTION

LIDDELL BROS. PACKING PLANT

CHINA

THE CONSERVATION OF THE LIDDELL BROS. PACKING PLANT CONTRIBUTES TO PRESERVING CHINA'S RICHLY DIVERSE INDUSTRIAL HERITAGE, CELEBRATING AN EARLY TWENTIETH-CENTURY ARCHITECTURAL TYPOLOGY THAT IS RAPIDLY DISAPPEARING. THE PROJECT TEAM WAS ABLE TO BALANCE THE PROTECTION OF THE SITE'S SOCIO-CULTURAL SIGNIFICANCE WITH MODERN REQUIREMENTS FOR ITS CURRENT AND FUTURE USE. THE PROJECT IS NOTABLE IN ITS RESPECT FOR THE SITE'S FORMER STATE, TAKING THE APPROACH OF MINIMAL INTERVENTION, AS SEEN IN THE CAREFUL REPAIRS AND THE RETENTION OF THE BUILDING'S HISTORIC PATINA. THE PROJECT CREATES A PUBLIC PLACE THAT REHABILITATES AND ENHANCES THE RELATIONSHIP OF THE FORMER INDUSTRIAL COMPLEX WITH THE LOCAL COMMUNITY, OFFERING A VIBRANT HUB FOR PROGRAMMES ASSOCIATED WITH WUHAN'S STATUS AS A UNESCO CREATIVE CITY OF DESIGN.

2019

HONOURABLE MENTION





EXHIBITION IN BUILDING C

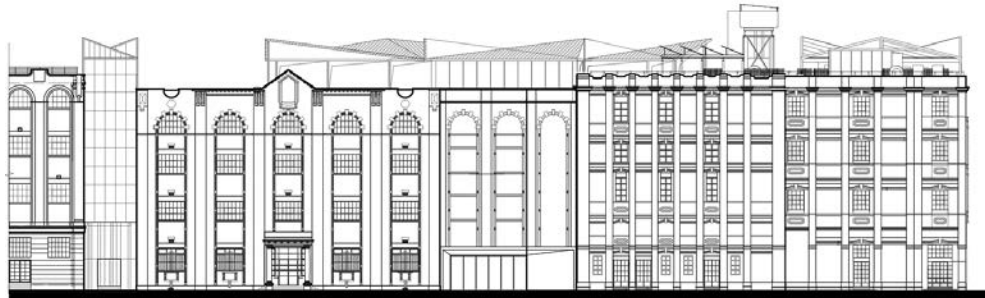
PROJECT SYNOPSIS

Located in the Hankou area of the city of Wuhan, China, the Liddell Bros. Packing Plant was the first and largest packing plant in the city. Built over a period of forty-five years between 1905 and 1949, the site witnessed the city's development into an industrial and commercial centre.

The Liddell Bros. Packing Plant, consisting of seven buildings, presents a unique architectural group that illustrates the architectural trends in the first half of the twentieth century, including the Neo-Classical and Art Deco Styles, which were popular in some Chinese cities.

In the 1960s, the packing plant was converted into a warehouse and in the 1980s parts of the building were rented by private enterprises for various functions, including for a garment factory, a guesthouse and a karaoke club. During this time, inappropriate additions and alterations compromised the overall integrity of the site. Over time, Wuhan's subtropical monsoon climate led to material deterioration, and the industrial complex fell into a dilapidated condition, with significant loss of structural stability.

Recognizing the need for renovation of the buildings, in 2005 some of the tenants and workers within the complex began considering ways in which it could be revitalized. They gathered information about successful examples of transforming industrial heritage buildings and approached the Wuhan Federation of Literary and



ELEVATION

THE SITE BECAME A LIVING EXAMPLE OF HOW INDUSTRIAL HERITAGE COULD ON ONE HAND REPRESENT LOCAL IDENTITY AND ON THE OTHER HAND BE AN ACTIVE SOCIAL AND COMMERCIAL SPACE, HENCE PROVIDING MULTI-LAYERED BENEFITS FOR SOCIAL COHESION AND WELL-BEING.

— QUOTE FROM THE PROJECT TEAM —



FAÇADE OF BUILDING C BEFORE AND AFTER CONSERVATION

Art Circles to discuss the possibility of converting the warehouse into an art park. These efforts led to a symposium in 2006 on the protection and future use of the warehouse.

In 2009, after over 100 years of operation, the Liddell Bros. Packing Plant closed. In 2011, the new owners, a state-owned asset management company, organized a conceptual design process and feasibility studies to identify ways in which to reuse the site and also organized a public consultation process. A second round of intensive testing, investigation and design and another public consultation took place in 2016.

The owners of the site launched a conservation project in 2017, the objective of which was to restore the industrial complex and adapt it as a cultural and creative centre. Financial support came from the municipal government, which has a programme to support heritage efforts in the area. Approval for the final design was received in February 2017 and the project was launched soon afterwards. The complex opened to the public in June 2018.

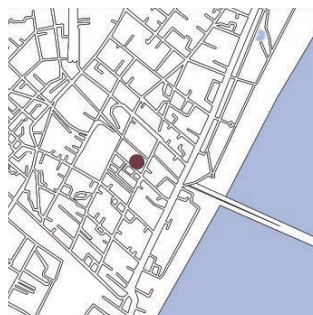
Today, this former industrial complex is a dynamic, multi-functional centre, incorporating spaces for exhibitions, conferences, public events and offices.

CONSERVATION APPROACH

The project adhered to local and international guidance and principles on heritage conservation, including the Hoi An Protocols for Best Conservation Practice in Asia and the Burra Charter. The key principles guiding the project were the safeguarding of authenticity and minimal intervention. Accordingly, the project sought to respect the existing state of the property, with attention to retaining its character and an emphasis on preserving its industrial elements. As an example of this approach, the materials, colours and forms of the exposed pipes and cables for new facilities were made compatible with the style of the original pipes and cables of the property, while ensuring the new additions were easily identifiable and reversible.

Environmental protection and energy efficiency were also important considerations governing the selection of materials, and the workers reused materials wherever possible. Relying on local workers, the team removed inappropriate additions that concealed the original architectural features and repaired or replaced

PROJECT TITLE
LIDDELL BROS. PACKING PLANT
LOCATION
WUHAN, HUBEI, CHINA
SIZE
30,500 SQUARE METRES
COST
US\$28.05 MILLION
RESPONSIBLE PARTY
JIANG'AN STATE ASSETS
MANAGEMENT CO. LTD.
HUBEI RESEARCH SOCIETY OF
HISTORICAL BUILDINGS
HUAZHONG UNIVERSITY OF
SCIENCE & TECHNOLOGY
DOWNS WORLD CO. LTD.
HERITAGE ARCHITECT
XIAO WEI
QI WEI
WANG YIYING
WANG XIANG
LI YUTING
ZHANG XI
YANG WEI
LI JINGJING
ZHANG GENGHUA
CONTRACTOR
WUHAN ANFANG
ARCHITECTURAL ENGINEERING
CO. LTD.
DATE OF COMPLETION
JUNE 2018



damaged parts using original materials. For example, masons replaced irreparable bricks using the same type of bricks used to construct the original buildings.

The project also met present-day regulations for buildings with public functions. Accordingly, certain new elements were necessary, including a new fire-safety system. In addition, the team installed stairs and elevators as well as other facilities to adapt the complex for the new uses.

CONSERVATION AND THE COMMUNITY

The complex's new function as a cultural and creative centre benefits the local community, offering public spaces for social gatherings, festivals, events, exhibitions and educational activities. The restored industrial plant also provides business spaces for many small private entrepreneurs in cultural and creative industries. It also offers support facilities, such as a parking lot, that benefit the local community. The project has raised awareness of the value of adaptive reuse of industrial heritage and has increased public interest in heritage conservation.

Various stakeholders contributed to the success of the project, including local residents, who helped by providing oral histories and historical documents; universities, which carried out studies of the site, as well as a workshop and neighbourhood interviews; non-governmental organizations, which served several roles, including to coordinate the various stakeholders; and the municipal government.



OUTDOOR STAIRS OF BUILDING G AFTER CONSERVATION

FLORA FOUNTAIN

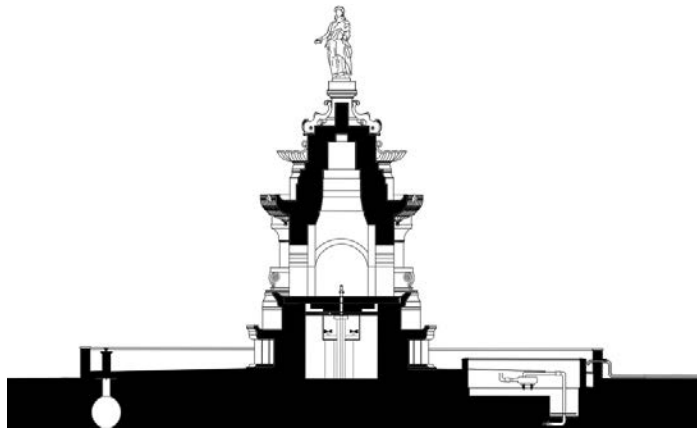
INDIA

THE CAREFUL RESTORATION OF MUMBAI'S ICONIC FLORA FOUNTAIN COMPLETES A SERIES OF CONSERVATION INTERVENTIONS TO REVIVE THE CITY'S MANY VICTORIAN-ERA FOUNTAINS, A COLLECTION OF ORNATE CIVIC MONUMENTS UNIQUE IN INDIA. AFTER METICULOUS RESEARCH AND DOCUMENTATION, THE TEAM CAREFULLY REMOVED LAYERS OF PAINT AND POLLUTION FROM THE FOUNTAIN, REVEALING INTRICATE DETAILS THAT HAD NOT BEEN SEEN IN DECADES. THE CLEANING, REPAIR AND REPLACEMENT OF STONE ELEMENTS WAS FOLLOWED BY THE SYSTEMATIC REHABILITATION OF THE FOUNTAIN'S WATER SYSTEM, WHICH IS ONCE AGAIN FULLY FUNCTIONAL. THE REFURBISHMENT OF THE FOUNTAIN AND SURROUNDING AREA HAS TRANSFORMED THE SPACE, GIVING IT A RENEWED LEASE ON LIFE AS A PUBLIC MEETING PLACE. THE PROJECT HAS NOT ONLY RECOVERED THE FOUNTAIN'S ARTISTIC BEAUTY, IT HAS ALSO VALIDATED THE SITE'S CONTINUING ROLE IN THE LIFE OF THE COMMUNITY AND ITS PROMINENT PLACE IN THE URBAN FABRIC OF MUMBAI.

2019

HONOURABLE MENTION





SECTION

THE PROJECT, IMPLEMENTED IN PARTNERSHIP WITH INTACH, SETS A HIGH BENCHMARK FOR PROJECTS MANAGED BY GOVERNMENT AGENCIES IN THE CITY.

— QUOTE FROM THE PROJECT TEAM —

PROJECT SYNOPSIS

Flora Fountain is located at the intersection of three major roads in Mumbai's historic Fort precinct: Veer Nariman Road, Mahatma Gandhi Road and Dr. Dadabhai Naoroji Road. A key landmark and one of the finest Renaissance Revival-Style sculptures in the city, Flora Fountain is a Grade I heritage structure.

Completed in 1869, Flora Fountain is one of several fountains erected in the city as facilities for drinking water and as symbols of a modern metropolis. The three-tiered ornamental water fountain was commissioned by the Agri-Horticultural Society of Western India to replace a city gate called Church Gate and the fountain formed an integral part of the city's nineteenth-century urban landscape.

The fountain is over 19 metres high and boasts sixty-four water spouts. The statue surmounting the fountain represents the Roman goddess of flowers, fertility and

spring: Flora. At the uppermost level, the spouts are sculpted artistically in the form of celestial fish, from where the water cascades into containers in the form of shells. The water flows to the next level and emerges through cast-iron lion heads. The square base features projecting apses at its four corners. These feature statues of four allegorical figures. The fountain's water system was an engineering marvel of its time, meticulously executed to conceal all connections within the masonry.

The imported Portland stone fountain was assembled locally, facilitated by a numbering system – symbols of which can be seen today on its internal face. Enclosed in decorative cast iron fencing, the fountain was surrounded by a circular lawn. Shrubbery, in the form of a raised garden, was later added around it.

As part of the maintenance of the fountain, it was painted regularly by the sponsor of the garden and layers



SOUTH-EAST VIEW BEFORE CONSERVATION

of paint gradually masked the sculpted details. Over the years, with the growth of the city the surrounding space was modified and increased traffic congestion deterred people from using the fountain. The site subsequently suffered from neglect, vandalism, pollution and encroachment.

In 2016, the municipal authorities made a decision to restore Flora Fountain to its original glory. The Municipal Corporation of Greater Mumbai (MCGM), the owner of the fountain, invited collaboration from professional institutions and experts, and the project was carried out with the assistance of INTACH, through its Mumbai chapter.

Today Flora Fountain is fully functional and is once again a point of interest and pride for the community. It is no longer a standalone monument but is part of a cohesive public space. The area surrounding the fountain is today an accessible plaza that attracts users of all walks of life to take a respite from the busy city and admire the restored fountain.

CONSERVATION APPROACH

It was of utmost importance to the project team to adhere to internationally-accepted conservation standards and principles. The team adopted the minimal intervention approach, maintaining authenticity as much as possible.



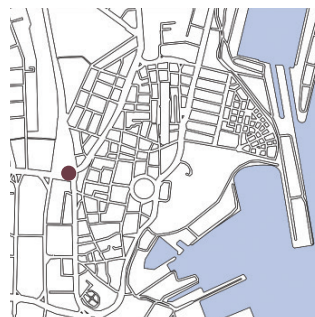
SOUTH-WEST VIEW AFTER CONSERVATION

Initial work included the creation of detailed as-built drawings, research into the history of the fountain and the preparation of a fabric defect report. The heritage architect, conservators and clients met on a weekly basis, ensuring that decisions were thoroughly deliberated and were based on evidence gained during the research stage.

The project had two phases: the first phase focused on the restoration and repair of the engineering mechanisms and sculptures of the fountain in order to revive its original use as a fully-functioning water fountain; the second phase involved improving the immediate surroundings of the fountain to encourage public engagement and to enhance the visitor experience. A team of four conservators took nearly two years to clean, repair, restore and repaint the fountain.

The first phase began with civil works, including waterproofing of the troughs and marble layering. Workers accessed the various levels of the fountain via metal scaffolding with wooden platforms, and cleaned the surface using steam and micro chisels. The workers removed over fifteen layers of paint to expose the fountain's original stone surface. The cleaning of the Flora statue alone took around five months. Using archival photographs, specialists carved missing parts of the fountain in local matching limestone, first casting in clay and moulding in Plaster of Paris.

PROJECT TITLE
FLORA FOUNTAIN
LOCATION
HUTATMA CHOWK, FORT,
MUMBAI, INDIA
SIZE
APPROXIMATELY
215 SQUARE METRES
COST
APPROXIMATELY
US\$530,000 (FOUNTAIN AND
SURROUNDING AREA)
RESPONSIBLE PARTY
MUNICIPAL CORPORATION OF
GREATER MUMBAI
HERITAGE ARCHITECT
VIKAS DILAWARI
CONTRACTOR
INTACH GREATER MUMBAI
CHAPTER
INTACH CONSERVATION
INSTITUTE
DATE OF COMPLETION
JANUARY 2019



Repairing the fountain's plumbing system was the most complex part of the project as there was minimal archival information about the mechanisms. When thermographs could not identify leaks, the team carried out trial and error experiments to work out the engineering mechanisms of the fountain. Finally, by reversing the water flow they were able to locate the base drum to reach the water mains and they replaced broken valves with new sluice valves to control the water flow.

During the second phase, the conservation team removed insensitive additions in the surrounding area, including the raised garden, shrubbery and railing around the fountain. The workers then installed basalt stone paving to form a plaza around the fountain. The team chose basalt owing to the traditional use of the material in Mumbai. The team retained old tram tracks revealed during the excavation process. The tracks are today a tangible reminder of the area's history as a busy intersection.

The team also installed specially-designed stainless-steel benches on the periphery of the circular landscaped area to further define the space and improve public facilities, along with an additional circular outer wall made of reinforced concrete and clad in Italian marble similar to that used in the fountain's inner trough. Workers fitted the existing cast-iron lamps with new waterproof LED lights, making the lamps functional again, and installed similar lights within the fountain.

CONSERVATION AND THE COMMUNITY

By restoring the fountain and enhancing its immediate environment, the MCGM has encouraged more engagement with the site by the local community and increased tourist visits. As a result of the conservation effort, Flora Fountain has become a well-known meeting point for both locals and tour groups.

The inauguration of the fountain in January 2019, 150 years after it was first constructed, was accompanied by an exhibition at the fountain that showcased the restoration process and conservation efforts, as well as the heritage value of the place. The opening also attracted several media outlets that reported on the restoration work. The positive coverage has increased public awareness of the fountain's heritage value, raising the potential for the conservation of other heritage structures in Mumbai in future.

JOAN SUTHERLAND THEATRE PASSAGEWAY AND LIFT

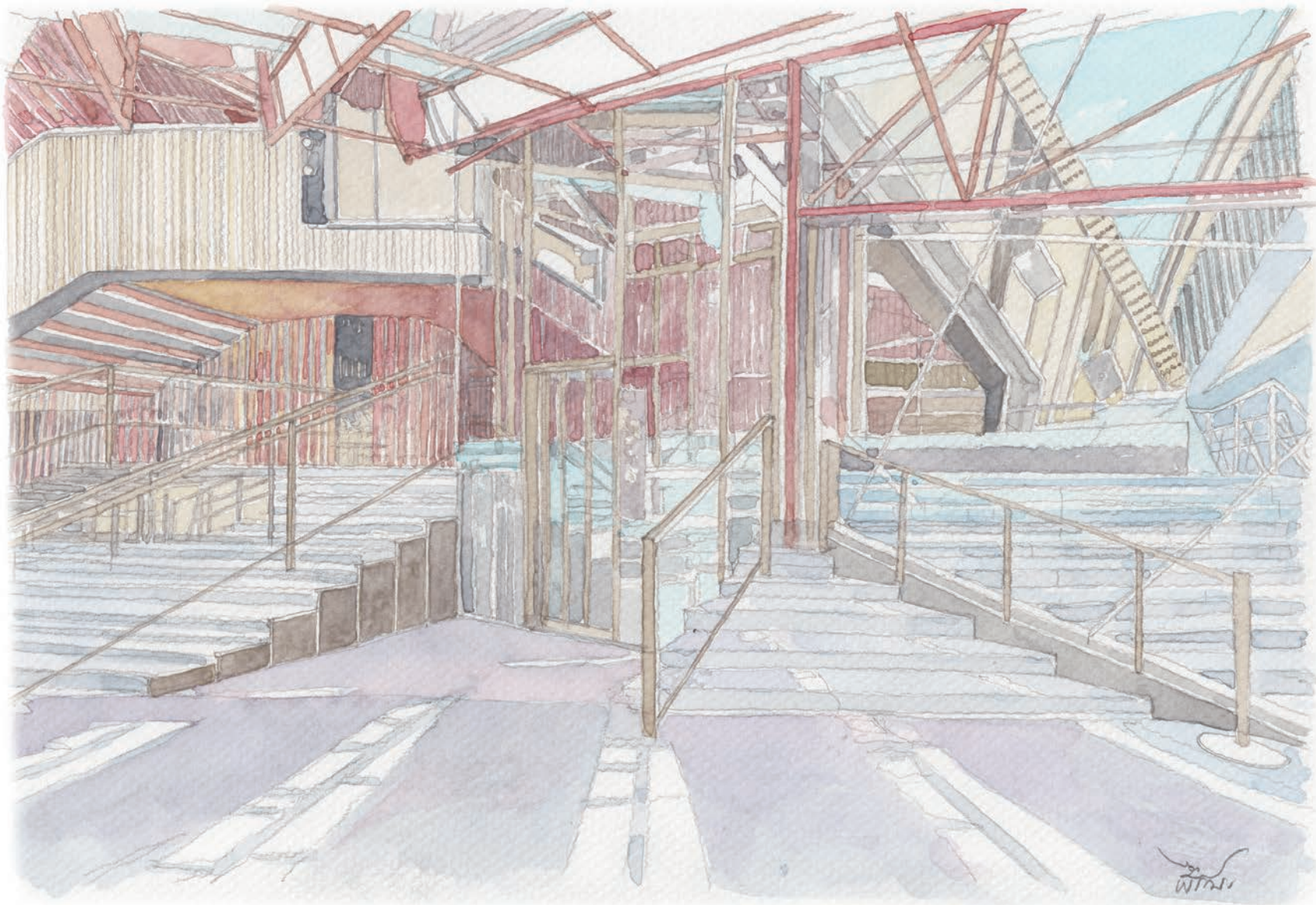
SYDNEY OPERA HOUSE

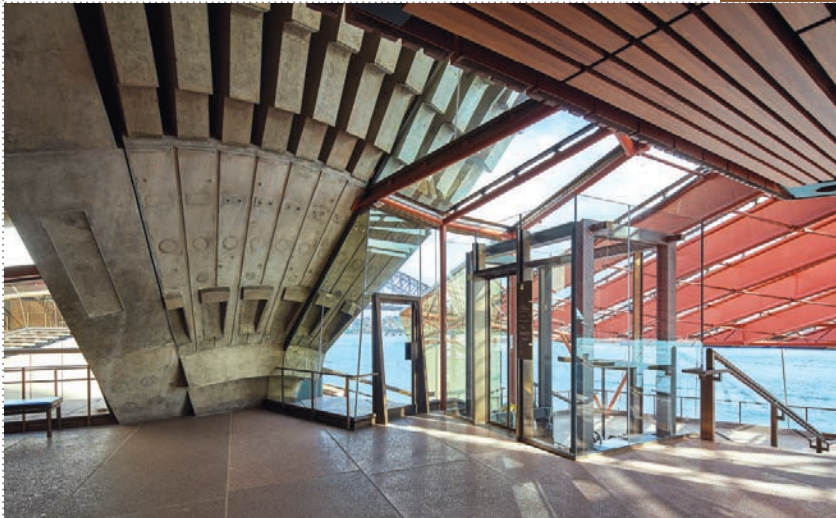
AUSTRALIA

THE JOAN SUTHERLAND THEATRE PASSAGEWAY AND LIFT PROJECT DEMONSTRATES A THOUGHTFUL DESIGN APPROACH TO PROVIDING FULL ACCESS TO THE UPPER LEVELS OF THE SYDNEY OPERA HOUSE. THE NEW ADDITIONS BLEND SEAMLESSLY WITH THE ICONIC ARCHITECTURE OF THIS WELL-LOVED WORLD HERITAGE SITE, THE DESIGN OF WHICH, REALIZED THROUGH INNOVATIVE ENGINEERING, HAS BECOME A HALLMARK OF TWENTIETH-CENTURY AESTHETIC SENSIBILITIES. THE PROJECT'S CHOICES OF MATERIALS AND DETAILING WERE CAREFULLY CALIBRATED WITHIN THE FRAMEWORK OF THE BUILDING'S CONSERVATION PRINCIPLES. THE PROJECT SUCCESSFULLY OVERCAME CHALLENGES IN WORKING WITH EXTREMELY RESTRICTED SPACE UNDER RIGOROUS CONSERVATION CONTROLS, SETTING A BENCHMARK FOR PROVIDING UNIVERSAL ACCESS AT HERITAGE PROPERTIES.

2019

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

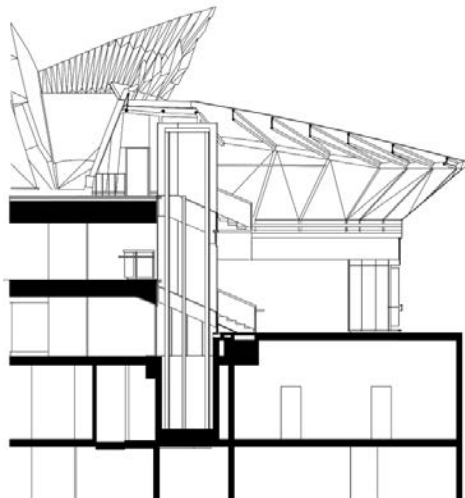




NEWLY INSTALLED LIFTS ENABLE ACCESS TO HARBOUR VIEWS FROM THE SYDNEY OPERA HOUSE

THE DESIGN CONCEPT CONTINUES AN ESTABLISHED APPROACH OF COMPLETING THE INDEPENDENT ACCESSIBLE PATH OF TRAVEL TO THE JOAN SUTHERLAND THEATRE BY CREATING NEW HORIZONTAL AND VERTICAL CONNECTIONS THROUGH THE BUILDING.

— QUOTE FROM THE PROJECT TEAM —



SECTION

CONTEXT

The Sydney Opera House, constructed between 1957 and 1973, is a masterpiece of modern architectural design, engineering and construction technology. The most widely recognized building in Australia, the Opera House is a national icon and is cherished as a world-class performing arts centre. Designed by Jørn Utzon with additional inputs by Peter Hall, the Opera House is inscribed on the New South Wales State Heritage Register (2003), the Australian National Heritage List (2005) and the World Heritage list (2007).

Despite its brilliant design, the Opera House is not without flaws. It was designed in an era when standards with regard to accessibility were different from those today. This, combined with changes to the Opera House design during its construction, resulted in the Northern Foyer of the Joan Sutherland Theatre being accessible only via a large set of stairs wrapping around the theatre.

PROJECT HISTORY

In the lead up to the fortieth anniversary of the Opera House in 2013, the management team began planning for the Decade of Renewal, a series of projects to upgrade the Opera House to meet standards expected in the twenty-first century. Accessibility upgrades to the Joan Sutherland Theatre were an important part of the Renewal programme and consisted of creating a new lift and passageway. The design process for these upgrades commenced in 2015 and construction work was undertaken between June 2017 and November 2018.

The project team worked closely with the Opera House's independent design advisory panel, the Office of Environment and Heritage and the Conservation Council throughout the design development process. This helped to maintain design consistency with other projects within the Renewal programme and align details, such as finishes and the arrangement of glass lines and joins.

PROJECT SCOPE AND FRAMEWORK

The key goal of the project was to ensure all visitors, including wheelchair users and those with limited mobility, could independently access the Northern Foyer of the Joan Sutherland Theatre. This required constructing a new passageway and a lift.

The design team gave careful consideration to the key elements that define the World Heritage value of the Opera House building. As the Joan Sutherland Theatre foyer is listed in the site's conservation management plan as having 'exceptional significance', it was vital to ensure minimal impact on the existing building fabric and to make new elements compatible with the building.

DESIGN AND MATERIALS

The new passageway and lift adhered to the Utzon Design Principles (2002), as reflected in the statement that 'one of the great features of the Opera House is the approach, the openness, the fluidity of people's movement through the house'.

The creation of the new passageway was the first stage of the project. This involved converting existing back of house rooms into a passageway. Referencing Utzon and Hall's work, and respecting the 'simplicity in the number of materials' element of the Utzon Design Principles, the team used brush box timber panels, concrete walls and bronze accents, which establish the space as a natural extension of the foyer. The new passageway had no impact on the existing staircase linking the Southern Foyer and Northern Foyer, and no changes were required to the auditorium or to the existing seating.

The second part of the project focused on the insertion of a new lift. Various options were considered to create a lift that would be commensurate with the grandeur of the Northern Foyer of the Opera House and its expansive harbour view, and which would not detract from the design of the building. Substantially constructed with glass, the new lift was placed to the western side of the Northern Foyer – a logical connection from the passageway, sitting parallel to the existing concrete stair ribs. The lift seamlessly integrates into the architecture of the building, ensuring Utzon's vision and Hall's interiors remain the highlight of the space. The glass and bronze lift car balances the sense of visual transparency and the bronze highlights of the Opera

PROJECT TITLE
JOAN SUTHERLAND THEATRE
PASSAGEWAY AND LIFT,
SYDNEY OPERA HOUSE

LOCATION
SYDNEY, NEW SOUTH WALES,
AUSTRALIA

SIZE
PASSAGEWAY:
65 SQUARE METRES
LIFT: 7 SQUARE METRES OVER
MULTIPLE LEVELS

COST
APPROXIMATELY
US\$73 MILLION
(WHOLE RENEWAL
PROGRAMME)

RESPONSIBLE PARTY
SYDNEY OPERA HOUSE
HERITAGE ARCHITECT
SCOTT CARVER ARCHITECTS

CONTRACTOR
LAING O'ROURKE AUSTRALIA
DATE OF COMPLETION
NOVEMBER 2018



**NEW PASSAGEWAY ALLOWS UNIVERSAL ACCESS TO
THE JOAN SUTHERLAND THEATRE**

House, while meeting the compliance requirements of current lift standards.

IMPORTANT ISSUES

A key challenge of this project was to accommodate the spatial constraints of the existing structure and services. The new passageway had to fit within constrained width and height dimensions. For the lift, the main challenge was to ensure there was no machinery or lift equipment visible above the top level. The team selected lift machinery that is underslung, which ensures the ropes and pulleys are not seen from above. The achievement of the design intent relied on close collaboration with GBH Design in Germany, which provided the bespoke lift and machinery.

PROJECT IMPACT

This project resolved universal accessibility issues in one of the world's most significant buildings and busiest performing arts venues, bringing the Joan Sutherland Theatre into line with current community standards and regulatory requirements. The design of the new additions demonstrates how adjustments for accessibility can improve the usability of heritage buildings while respecting and enhancing their heritage significance.

DRY PIT LATRINE IN JIAXIAN ANCIENT JUJUBE GARDEN

CHINA

THE DESIGN OF THE NEW DRY PIT LATRINES IN JIAXIAN ANCIENT JUJUBE GARDEN SUBTLY INCORPORATES VERNACULAR KNOWLEDGE IN ADDRESSING THE INFRASTRUCTURE NEEDS OF A HISTORIC SETTLEMENT, RESPECTING THE DIGNITY OF THE RESIDENTS. THE REINTERPRETATION OF INDIGENOUS BUILDING TRADITIONS, INCLUDING THE USE OF TRADITIONAL DRY-STONE WALLING METHODS, REPRESENTS A SYMPATHETIC AND ENVIRONMENTALLY-FRIENDLY RESPONSE TO LOCAL NEEDS. THE PROJECT ESTABLISHES A READILY-APPLICABLE MODEL FOR SUSTAINING THE FUNCTIONALITY OF RURAL HERITAGE PLACES WITH MINIMAL FINANCIAL REQUIREMENTS IN A MANNER THAT HONOURS TRADITIONAL TECHNOLOGY AND PROTECTS THE CULTURAL LANDSCAPE.

2019

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS



CONTEXT

Jiaxian Ancient Jujube Garden is located in the village of Nihegou in Shaanxi Province, China. In this rocky and arid region, which has maintained dry farming for centuries, the main livelihood is the cultivation of the jujube, a fruit native to China that is also known as the 'Chinese date'.

Nihegou has the largest forest of ancient jujube trees in the world, with some trees around 1,400 years old. The village also has thirteen cultural properties. The two most significant sites are the Jiaxian Traditional Chinese Date Gardens and the Ancient Stage. These sites attract large numbers of visitors.

The village's agroforestry system of jujube trees, grain and vegetable crops, known as the Jiaxian Traditional Chinese Date Gardens, was recognized in 2014 as a Globally Important Agricultural Heritage System and as a model of sustainable agricultural production. As well as providing fruit that sustain the livelihoods of many of the villagers, the jujube trees perform essential eco-functions, serving as wind-breaks and elements in soil conservation.

The agroforestry system includes traditional dry pit latrines, which require very little water and are scattered throughout the orchard. The dry pit toilet buildings are built with stone from the local area or with imported red bricks. These latrines play an important role in local agriculture, as they provide natural fertilizer for the trees.

PROJECT HISTORY

The existing dry pit toilets are of low quality, with poor ventilation, poorly-lit interiors and intolerable odours, which discourage villagers from using them. Such avoidance of the toilets spreads infectious diseases and leads to the contamination of soil and water. In 2015, recognizing that the local scarcity of water meant that flush toilets would not be a viable option in the region and that there was a need to upgrade the dry pit toilets, the Nihegou Village Cooperative invited a design team to address this problem.

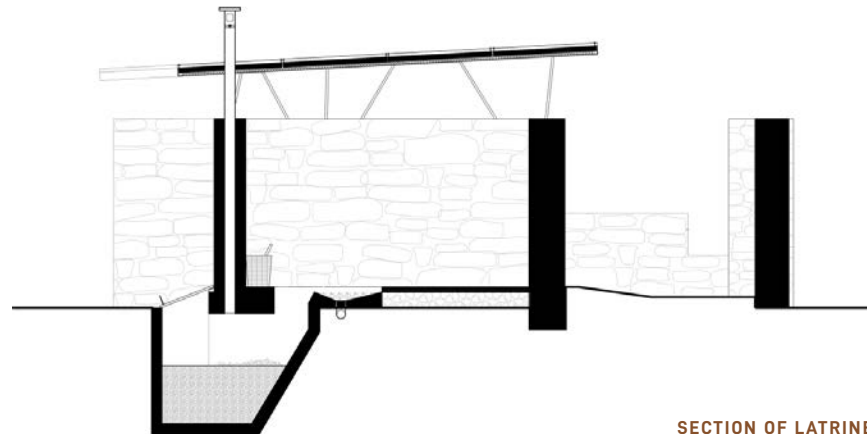
Collaborating with the Environmental Design Department of the Academy of Arts and Design at Tsinghua University, the team studied the latest dry pit latrine technology to help solve the problem of poor sanitation and to also improve the appearance of the toilet blocks.



VILLAGE LIFE

THE RENOVATION OF THE EXISTING TOILETS BROUGHT INTO HARMONY THE VARIOUS ELEMENTS OF THE SITE, INCLUDING THE DRY-PIT LATRINES, THE ANCIENT JUJUBE FOREST AND THE LIFESTYLE OF LOCAL VILLAGERS.

— QUOTE FROM THE PROJECT TEAM —



SECTION OF LATRINE

The team surveyed over 200 traditional latrines in the village and selected two to be upgraded. The latrines selected were close to the Jiaxian Traditional Chinese Date Gardens and the Ancient Stage. The red-brick toilet near the Jiaxian Traditional Chinese Date Gardens was in an extremely neglected state of disrepair and was poorly managed. The toilet near the Ancient Stage was located in a lane close to local dwellings.

The studies were undertaken in 2015. Work began to construct the new pit-toilets in 2016 and was completed that same year.

PROJECT SCOPE AND FRAMEWORK

The project aimed to redesign two of the site's dry pit latrines to meet contemporary hygiene standards, and sought to do so using local materials, including stones, branches and reeds, so as to ensure the buildings would be compatible with the natural landscape, the farming system and the community's traditional way of life. An additional aim was to make the toilets both easy to operate and low in cost to build and maintain. The project sought to adapt traditional technology and use locally-available materials, rather than introduce completely new methods and imported materials, to ensure that local residents would have the capacity to build, operate and maintain such toilets, thereby making it possible for more to be built in future.

DESIGN AND MATERIALS

Overall, the design improved the sanitary conditions of the latrines by improving the natural lighting and ventilation of the buildings, and redesigning the pits to facilitate urine-faeces separation and microbial fermentation, thus reducing the growth of pathogenic bacteria and minimizing odours, while also preventing the breeding of maggots. The new design also ensured that the degraded faeces could still be used as fertilizer.

For the upgrade of the red-brick toilet near the Jiaxian Traditional Chinese Date Gardens, the design team employed locally-sourced stones to construct a building with curved walls that encloses the pits. Wall heights were made low, to reduce the overall volume

PROJECT TITLE
DRY PIT LATRINE IN JIAXIAN
ANCIENT JUJUBE GARDEN

LOCATION
NIHEGOU, SHAANXI, CHINA

SIZE
38 SQUARE METRES

COST
US\$11,200

RESPONSIBLE PARTY
YONG TANG

HERITAGE ARCHITECT
YONG TANG

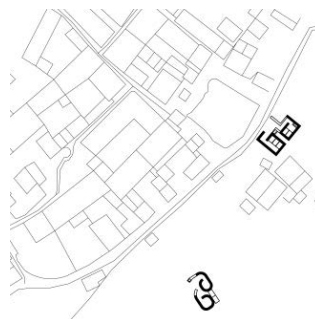
SONGFEI HE
BINGXIN YANG

XIANGLIN KONG
ACADEMY OF ARTS AND

DESIGN OF TSINGHUA
UNIVERSITY

CONTRACTOR
NIHEGOU VILLAGE VILLAGERS'
COMMITTEE

DATE OF COMPLETION
DECEMBER 2016



SITE PLAN

of the latrine while still ensuring privacy. The walls decrease in height along the circular path of the latrine enclosure, eventually forming the washbasin, from where people can enjoy a view of the gardens.

The designers made the roofs as light as possible and placed reed curtains under polycarbonate sheets to ensure maximum natural light. The design includes hidden ventilation ducts and lights.

The designers adapted the shape of the latrine near the Ancient Stage to form a cube, and added insulation to meet thermal requirements in winter. The design separated the roofs and the walls to form long and narrow windows to provide natural light and ventilation. Separate rooms were constructed for female and male toilets, which were detached from one another and given subtle height differences.

IMPORTANT ISSUES

The new dry pit toilets were constructed by local villagers, using mostly vernacular construction materials and methods, including dry-stone walling, making the buildings simple and affordable for the local community to build. The project team trained the workers in how to construct the modified pit design, ensuring that the pits could be replicated in the future. This laid a solid foundation for widespread adoption of the new latrine design.

PROJECT IMPACT

Local villagers were actively involved in the construction process, thus creating a sense of ownership that led to spontaneous management, cleaning and long-term maintenance of the latrines.

The latrines were well-received by the wider community. The project received much media coverage, thus raising public awareness of the design and environmentally advantageous features of these dry pit latrines.

The project represents a positive step in the promotion of eco-friendly dry pit latrines in China. This low-cost and easy to maintain design solution means that this type of dry pit latrine is viable in the region and beyond.

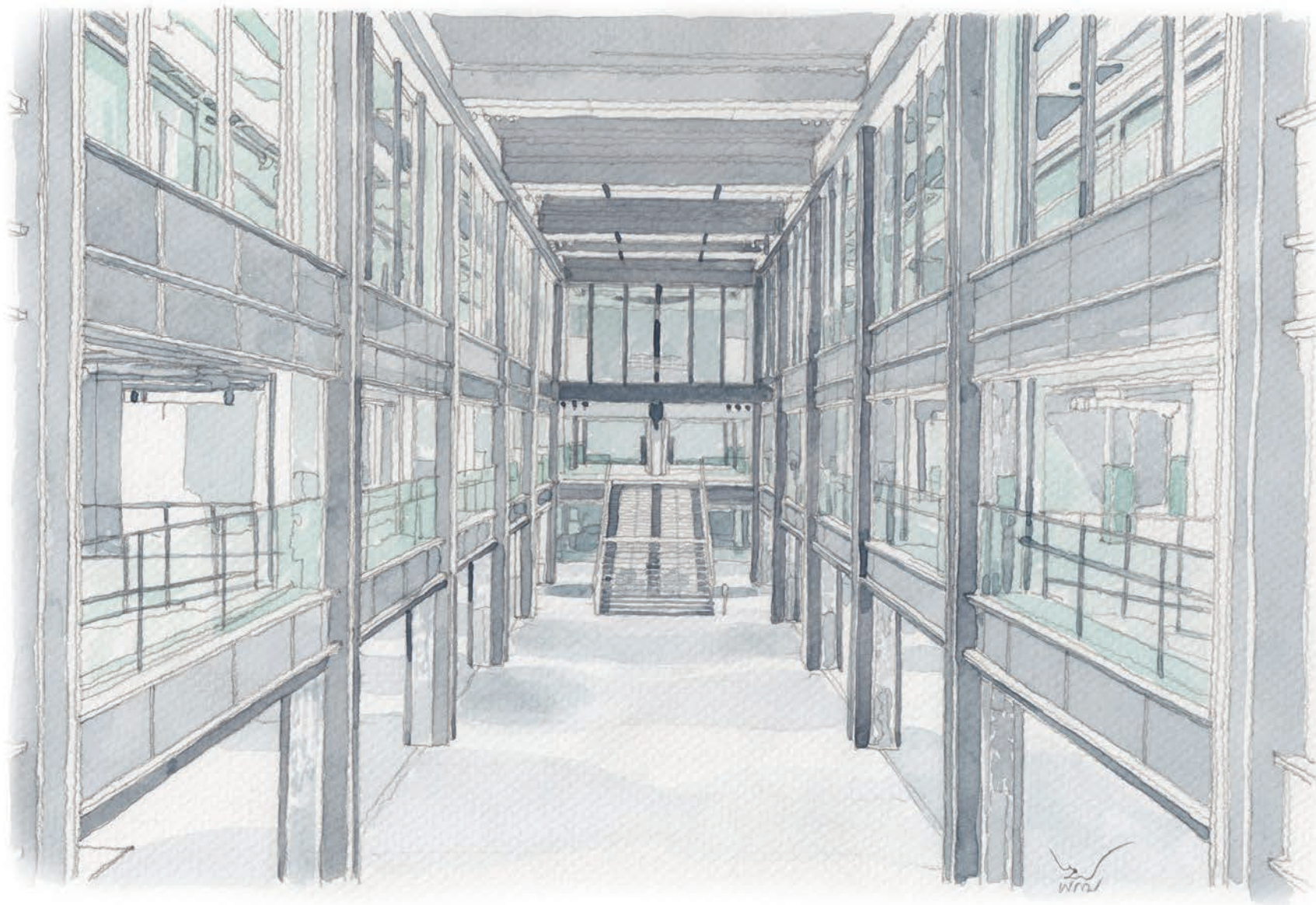
THE MILLS

HONG KONG SAR, CHINA

THE ADAPTIVE REUSE OF THE MILLS HAS PRESERVED A PHYSICAL REMINDER OF HONG KONG SAR'S INDUSTRIAL HERITAGE, WHILE ALSO TRANSMITTING TO FUTURE GENERATIONS KNOWLEDGE OF THE FAST-DISAPPEARING INTANGIBLE PRACTICES ASSOCIATED WITH THE CITY'S TEXTILE MANUFACTURING HISTORY. THE IMAGINATIVE REINVENTION OF THE FORMER FACTORY AS A CULTURAL HUB HAS CONNECTED FORMER TEXTILE WORKERS WITH YOUNG DESIGNERS, CONTEMPORARY ARTISTS AND THE PUBLIC. THE PROJECT CAREFULLY INSERTED NEW ELEMENTS TO STRENGTHEN THE INDUSTRIAL BUILDINGS, SHOWCASE THE ORIGINAL STRUCTURAL ELEMENTS AND SUPPORT THEIR ONGOING USE. THE MILLS SERVES AS AN EXAMPLE OF HOW THE TRANSFORMATION OF UTILITARIAN MID-TWENTIETH CENTURY BUILDINGS CAN BE SUSTAINABLE AND RESONATE WITH CONTEMPORARY SOCIETY IN A FAST-CHANGING URBAN CONTEXT.

2019

AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS





THE CENTRAL ATRIUM SPACE CREATED BY OPENING UP THREE FORMER FACTORY FLOORS

THE MILLS COMMEMORATES HONG KONG'S TEXTILE INDUSTRIAL HERITAGE AND CELEBRATES THIS SHARED INDUSTRIAL LEGACY WITH THE PEOPLE OF HONG KONG THROUGH INNOVATIVE NEW USES.

— QUOTE FROM THE PROJECT TEAM —

CONTEXT

The Mills is a former textile factory complex consisting of three contiguous blocks of industrial buildings located on reclaimed land in Tsuen Wan, an industrial district of Hong Kong SAR. An archetype of the city's Modern-period industrial architectural heritage, the complex originally consisted of six buildings (mills) that together formed the Nan Fung Textiles factory. Established in 1954, it was one of the leading cotton-spinning factories of its era. Mills 1, 2 and 3 were built in the 1950s, while Mills 4, 5, and 6 were completed in 1962, 1970 and 1961, respectively. The three oldest buildings (Mills 1, 2 and 3) were demolished towards the end of the twentieth century.

In 2008, following the shift of textile manufacturing from Hong Kong SAR to mainland China – a process that began in the late 1980s – Nan Fung Textiles ceased its cotton-spinning operations and the three remaining mills (Mills 4, 5 and 6) were converted into warehouses. The surviving buildings are the last of their kind in Hong Kong SAR and serve as a tangible memory of a bygone manufacturing era.

PROJECT HISTORY

Following the closure of the factory, the three former mills faced the threat of demolition. They were not officially-recognized heritage buildings, so did not have any means of legal protection, but public concern for the fate of the mills and local debate regarding the importance of Modern-period architectural heritage influenced the government of Hong Kong SAR to take up the agenda of revitalizing these and other old industrial buildings in the city. The government launched a 'reindustrialization' policy in 2010 to encourage such revitalization.

The project grew out of this 'reindustrialization' policy and from discussions in the early 2010s among the local business community on new uses for industrial buildings. In 2014, the leadership of the Nan Fung Group initiated a project to conserve the three surviving mills.

Prior to the start of the project, the Nan Fung Group organized a series of pilot social programmes to engage the various stakeholders. Through these programmes, The Mills found acceptance as an inclusive community space for textile workers, the community and entrepreneurs.

The project was implemented over a period of four years, and 'The Mills' complex opened to the public in June 2018.

PROJECT SCOPE AND FRAMEWORK

The project aimed to conserve and adapt the industrial complex as a 'techstyle' (technology and style; a homonym of 'textile') co-working hub, catering to innovative start-ups and local small businesses and artists, and providing community spaces for art and culture. The idea behind the hub was that innovation does not happen in isolation, but is instead a result of the confluence of ideas, and that innovation builds on the knowledge and experience gained by others in the past.

The Mills project aimed to achieve a space that would be environmentally responsible, socially inclusive and economically viable, and the project had three corresponding 'mission pillars', each representing one of the three pillars of sustainability: (1) Fabrica: a business incubator and an open, participatory platform for 'techstyle' entrepreneurs, students and start-ups; (2) the Centre for Heritage, Arts and Textiles (CHAT): a non-profit institution embracing contemporary art, design and heritage, weaving together exhibitions and learning experiences and serving as a knowledge exchange platform where past factory workers – including retired paper pattern masters and sewing workers – can share sewing and textile techniques with young designers and the interested public; and (3) the Shopfloor: an unusual retail model that not only generates revenue, but also incorporates an educational mission to help customers understand the principles of recycling, upcycling and sustainability.

Key spaces created under the project include: a central atrium space called 'The Hall', to be used for community gatherings, learning events, art exhibitions and business networking and other events; a multi-functional space for performances and seminars known as 'The Annex'; a multipurpose, public rooftop garden (on top of Mill 6) called 'The Park', which serves as a venue for handicraft fairs and an outdoor cinema and concert venue; and a small experimental and educational urban 'farm', called 'The Deck', located on the roof of the Shopfloor area.

In addition to adapting the industrial complex

PROJECT TITLE
THE MILLS
LOCATION
TSUEN WAN, HONG KONG SAR,
CHINA
SIZE
257,864 SQUARE METRES
COST
US\$89.7 MILLION
RESPONSIBLE PARTY
THE MILLS
HERITAGE ARCHITECT
NAN FUNG GROUP DESIGN
DEPARTMENT
THOMAS CHOW ARCHITECTS
CONTRACTOR
ATAL BUILDING SERVICES
ENGINEERING LIMITED
PAUL Y CONSTRUCTION
CO. LTD.
WESTCO CHINNEY LIMITED
DATE OF COMPLETION
JUNE 2018



BUILDING FAÇADES AFTER CONSERVATION

for reuse, the Nan Fung Group sought to provide an innovative prototype for conserving Modern-period architectural heritage that is relevant to modern Hong Kong's society and economy, and to thereby encourage the owners of other heritage properties to conserve and reuse such buildings rather than demolish them.

DESIGN AND MATERIALS

To create the desired new spaces while preserving the legacy of the industrial complex, the design team retained the original mass and character of the buildings, but inserted elements to strengthen and connect them. The team also reconfigured the interiors and rooftops for the new uses.

The project team conducted extensive surveys and documentation of the existing structures, as well as studies to determine the composition of the original fabric, prior to beginning the construction work. Through these studies, the team found that the original reinforced concrete structures did not meet the structural loading requirements for the proposed new uses and that the reinforced concrete in the complex suffered from severe spalling.

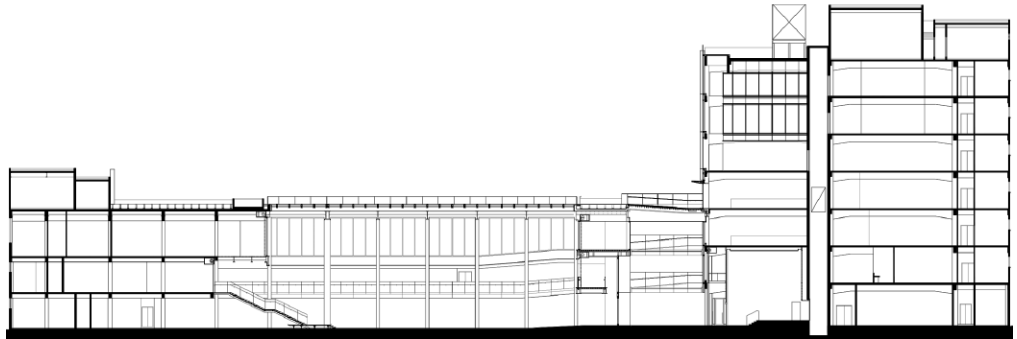
In order to retain the character of the historic fabric, the buildings were not rebuilt but were instead modified, using reversible and discernable reinforcements. The team strengthened the columns in each of the three

buildings with steel beams and through bolts, and re-patched the spalled areas with a similar concrete mix.

The team enhanced connectivity within and between the three buildings by introducing stairs and sky-bridges. A new stair core was created to connect all floors in Mills 4 and 5, and four glass and steel sky-bridges were created to link Mills 5 and 6. All three mills were also linked via their rooftop spaces.

To connect The Mills with other parts of the Tsuen Wan district and enhance pedestrian flow, the project created an internal pedestrian lane called 'Pak Tin Par Lane'. The designers introduced a sound barrier along the lane to reduce traffic noise from the highway fronting The Mills.

'The Hall' (atrium) was created by opening up the central section of three former factory floors to introduce natural lighting via a large skylight. This significantly improved the quality of the interior space, enhancing the usability of the area. This also helped create a visual connection to new functional spaces on all floors in Mill 6, including the retail area and the arts centre, in which heritage machinery and artworks are exhibited in the form of static and virtual-reality displays.



SECTION



NEW SPACES LINK THE BUILDINGS



INVESTIGATION OF FAÇADE GRAFFITI AT NO. 4 MILL

Another atrium space was created in the Fabrica component (in Mill 5). This was achieved by puncturing the floor slabs spanning the top three levels in the factory. The formerly windowless offices located on these three floors were transformed with a curtain wall that replaced the main concrete exterior wall, thereby introducing abundant natural light into the space.

The preservation of the building façades was of the highest priority in the project, so as to retain the external appearance of the complex. The modifications were made in such a way as to minimize the impact on the original character of the buildings. The designers also respected the existing colours and textures of the mill buildings, such that the new design elements would be distinguishable but would not clash with the original fabric. In addition, every effort was made to preserve the original signage. Workers restored the painted signage and protected it by applying a reversible transparent coating.

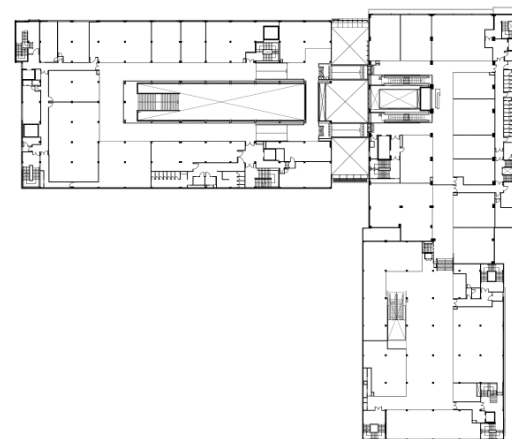
IMPORTANT ISSUES

Key themes of The Mills project were continuity from the past to the present and sustainability. The emphasis on continuity maintained the collective memory of the old factory buildings through preserving the buildings and their character-defining elements. The emphasis on sustainability manifested in efforts to reduce waste and reuse building materials wherever possible.

In most cases, elements of the buildings were left in place, with minimal and reversible intervention. When removal was essential, the elements were then repurposed. A set of metal gates, for example, was installed as a decorative backdrop for the reception desk, while wooden doors were made into benches and signposts in the public areas. Other artefacts preserved and repurposed under the project included fire-fighting buckets and the factory's main notice board.

PROJECT IMPACT

Inspired by the vision of illustrating the history of the company and the local community through conservation, while adapting heritage buildings for modern use, the project created a place that meets both community and business needs, and a space where themes of textiles and industry are woven into educational, cultural and artistic experiences for the public.



PLAN



INTERIOR AFTER CONSERVATION

CONCLUSION

CONCLUSION

The sixty-seven award-winning projects showcased in this publication, which covers the period between 2015 and 2019, represent the culmination of a journey of evolution in heritage practice over the past two decades since the UNESCO Asia-Pacific Heritage Awards were first given in 2000. Since that year, the awards programme has sought to set ever-higher standards of heritage practice in the Asia-Pacific context. The various manifestations of noteworthy practice seen in the awards programme and in other initiatives that have emerged in the region, both at World Heritage sites and other places, have been codified into the UNESCO Competency Framework for Cultural Heritage Management.

The five dimensions of core competency in heritage management identified in the UNESCO framework are illustrated in the project profiles, as well as in the selected winners' reflections and in the commentaries by jury members in this book. The framework is meant to be a benchmark for both institutional and individual competency. This framework provides us with the necessary structure to continue to enhance capacity and professionalize heritage endeavours across many sub-sectors and institutional contexts in the region, building upon the gains made in the past two decades.

First, many countries have strengthened **laws and regulations**, putting into place more inclusive frameworks to protect heritage and to guide successful heritage practice. Legal protection has been extended to heritage that was once vulnerable, marginalized or simply overlooked. In this way, manifestations of twentieth-century heritage, living heritage or vernacular heritage have been brought into the fold. Beyond heritage work as narrowly defined and regulated, the legal and regulatory environments in many countries are beginning to reflect international norms related to safeguarding heritage as part of sustainable development efforts.

The paradigm shift towards more inclusive heritage occurring both globally and within the region is particularly visible in the area of **community, rights and knowledge**. The past twenty years have seen greater awareness among government and non-government heritage agencies of communities' rights to be involved in the conservation of their cultural heritage. While commercial exploitation and hierarchical decision-making continue to be a threat, there has been growing mindfulness of the importance of cultural diversity, heritage and the rights of communities to know their own history and to mobilize it for their future well-being. Moreover, it is increasingly understood that knowledge transfer should reach a wide audience, and should not only occur between heritage professionals and local knowledge bearers at a heritage site.

Major strides have been made in advancing **heritage policies, principles, processes and ethics** in a manner unique to the social, cultural and regulatory contexts of Asia and the Pacific. At the time of the inauguration of the UNESCO Asia-Pacific Heritage Awards, countries such as Australia, Japan and New Zealand were leading heritage discourse, with long-established heritage policies and seminal doctrinal documents such as the Nara Document on Authenticity and the Burra Charter. In subsequent years, many countries have seen enormous momentum in this field, notably India and China as well as a number of countries in South-east Asia, which have developed forward-looking heritage policies and principles for local and national adoption.

In this way, developments since the turn of the century in **heritage education and interpretation** have been important not only in conveying the knowledge associated with these places, but also in empowering professionals and stakeholders alike to use and build upon this knowledge base. Many countries continue to face an ongoing struggle with heritage being commodified, its authenticity compromised and its complexity simplified for commercial development and especially tourism purposes. To counter this pressure, many Heritage Award-winning projects throughout the region have placed a priority on involving policy-makers as well as local communities in the participatory identification and interpretation of a diversity of heritage values

and in the subsequent decision-making process related to the conservation and development of the sites based on these values. The past two decades have seen numerous formal and informal heritage education programmes set up targeting not only heritage professionals but also skilled craftspeople, local communities, schoolchildren and local government officials.

Finally, the UNESCO Asia-Pacific Heritage Awards programme showcases the increasing recognition of linking heritage protection and management with **sustainable development**. Whereas heritage conservation in the early 2000s may have been widely seen as an elite enterprise linked to an arts or cultural agenda, over the years projects from across the region have demonstrated their capability to contribute positively towards various dimensions of local development. Such evidence – seen in improved economic, environmental and social outcomes in various local communities – has provided the stimulus for local, national and regional policy-making. Moreover, heritage and culture were formally included in the Sustainable Development Goals adopted in 2015, becoming part of the global commitment towards the 2030 Agenda for Sustainable Development. In this way, efforts to protect and safeguard cultural and natural heritage are being tied to other goals, for example, gender equality, decent work and economic growth, innovation and infrastructure, poverty eradication, climate action as well as partnerships.

The past two decades, seen through the lens of the UNESCO Asia-Pacific Heritage Awards programme, have seen a paradigm shift in the appreciation of heritage as an asset for development and in the practice of heritage conservation as a means to realize this asset value for the good of the community. During this time, the 249 Heritage Award-winning projects have brought together a network of practitioners and created a considerable body of accumulated knowledge and best practice, which provide a touchstone for future efforts and the further development of the heritage profession in the Asia-Pacific region and beyond.



REGIONAL MAP OF WINNING PROJECTS

AUSTRALIA

- 1 5 Martin Place, 2018 Award of Merit
- 2 Brookman and Moir Streets Precinct, 2017 Award of Distinction
- 3 Joan Sutherland Theatre Passageway and Lift, Sydney Opera House, 2019 Award for New Design in Heritage Contexts
- 4 Port Arthur Penitentiary, 2015 Award for New Design in Heritage Contexts
- 5 The 5s Classroom, Preshil, The Margaret Lyttle Memorial School, 2019 Honourable Mention
- 6 The Brewery Yard, 2016 Award for New Design in Heritage Contexts
- 7 Hart's Mill, 2018 Award for New Design in Heritage Contexts
- 8 Wanslea Cancer Wellness Centre, 2015 Honourable Mention
- 9 Westpac Long Gallery, Australian Museum, 2019 Honourable Mention

BHUTAN

- 10 Tseto Goenpa, 2019 Award of Merit

CHINA

- 11 Aijing Zhuang, 2018 Award of Merit
- 12 Blue House Cluster, 2017 Award of Excellence
- 13 Cangdong Heritage Education Centre, 2015 Award of Merit
- 14 Dry Pit Latrine in Jiaxian Ancient Jujube Garden, 2019 Award for New Design in Heritage Contexts
- 15 Fudewan Miners' Village, 2016 Honourable Mention
- 16 Guyue Bridge, 2019 Award of Merit
- 17 Hengdaohezi Town, 2018 Honourable Mention
- 18 Holy Trinity Cathedral, 2017 Award of Distinction
- 19 Jingdezhen Ceramic Industry Museum, 2017 Award for New Design in Heritage Contexts
- 20 Keyuan Garden, 2019 Award of Distinction
- 21 Liddell Bros. Packing Plant, 2019 Honourable Mention
- 22 Liu Ancestral Hall, 2016 Honourable Mention
- 23 Macha Village, 2017 Award for New Design in Heritage Contexts
- 24 Old Tai Po Police Station, 2016 Honourable Mention

- 25 Ping Yao Courtyard Houses, 2015 Award of Merit
- 26 Saltpans of Yim Tin Tsai, 2015 Award of Distinction
- 27 Sanfang Qixiang, 2015 Honourable Mention
- 28 Tai Kwun Centre for Heritage and Arts, 2019 Award of Excellence
- 29 Taoping Qiang Village, 2016 Award of Distinction
- 30 The Mills, 2019 Award for New Design in Heritage Contexts
- 31 Wu Changshuo Residence Archaeological Site, 2016 Honourable Mention
- 32 YHA Mei Ho House Youth Hostel, 2015 Honourable Mention

INDIA

- 33 Bomonjee Hormarjee Wadia Fountain and Clock Tower, 2017 Honourable Mention
- 34 Cama Building, 2016 Award of Merit
- 35 Christ Church, 2017 Award of Merit
- 36 Doon School Main Building, 2016 Honourable Mention
- 37 Flora Fountain, 2019 Honourable Mention
- 38 Gateways of Gohad Fort, 2017 Honourable Mention
- 39 Haveli Dharampura, 2017 Honourable Mention
- 40 J.N. Petit Institute, 2015 Award of Distinction
- 41 Keneseth Eliyahu Synagogue, 2019 Award of Merit
- 42 Our Lady of Glory Church, 2019 Award of Merit
- 43 Parvati Nandan Ganapati Temple, 2015 Honourable Mention
- 44 Rajabai Clock Tower and University of Mumbai Library Building, 2018 Honourable Mention
- 45 Royal Bombay Opera House, 2017 Award of Merit
- 46 Ruttonjee Muljee Jetha Fountain, 2018 Honourable Mention
- 47 Sree Vadakkunnathan Temple, 2015 Award of Excellence
- 48 Sri Ranganathaswamy Temple, 2017 Award of Merit
- 49 St. Olav's Church, 2016 Award of Distinction
- 50 The LAMO Centre, 2018 Award of Distinction
- 51 Vikram Sarabhai Library, Indian Institute of Management, 2019 Award of Distinction
- 52 Walls and Bastions of Mahidpur Fort, 2016 Award of Merit
- 53 Wellington Fountain, 2017 Honourable Mention

IRAN, ISLAMIC REPUBLIC OF

- 54 Aftab Cultural House, 2017 Honourable Mention
- 55 Darugheh House, 2016 Honourable Mention
- 56 Persian Gulf University – Faculty of Arts and Architecture, 2017 Award for New Design in Heritage Contexts

JAPAN

- 57 Old Brick Warehouse of the Commercial Bank of Honjo, 2018 Award of Merit
- 58 Sanro-Den Hall at Sukunahikona Shrine, Ozu city, 2016 Award of Excellence
- 59 Shijo-cho Ofune-hoko Float Machiya, 2018 Award of Excellence

LAO PEOPLE'S DEMOCRATIC REPUBLIC

- 60 Xieng Thong Temple, 2015 Award of Merit

NEW ZEALAND

- 61 Great Hall and Clock Tower Buildings, The Arts Centre, 2017 Award of Merit
- 62 Lyttelton Timeball Station, 2019 Award of Merit
- 63 Nelson School of Music, 2019 Award of Distinction

PAKISTAN

- 64 Shahi Hammam, 2016 Award of Merit

SINGAPORE

- 65 Cathedral of the Good Shepherd and Rectory Building, 2017 Honourable Mention

THAILAND

- 66 Baan Luang Rajamaitri, 2015 Award of Merit
- 67 Kaomai Estate 1955, 2018 Award for New Design in Heritage Contexts

REGIONAL DIRECTORY

HERITAGE ARCHITECTS,
DESIGNERS AND CONTRACTORS

AUSTRALIA

ARCHITECTS AND DESIGNERS

Alphazeta Pty. Ltd.

11 Harvard Tce, West Perth, WA 6005, Australia

Bernard Seeber Pty. Ltd.

152 High Street, Fremantle, WA 6160, Australia

Hydraulic Design Australia

Ground Floor, 1/300 Fitzgerald Street, Perth,
Western Australia, Australia

*Wanslea Cancer Wellness Centre, 2015 Honourable
Mention*

Annabel Wills

10 Holman St, Melville, WA 6156, Australia

*Brookman and Moir Streets Precinct, 2017 Award of
Distinction*

Aspect Studios

9/11 Bailey Street, Adelaide, SA 5000, Australia

Mulloy Studio

Level 1, 16 Peel St, Adelaide, SA 5000, Australia

*Hart's Mill, 2018 Award for New Design in Heritage
Contexts*

Design 5 – Architects Pty. Ltd.

5 Queen Street, Chippendale, NSW 2008, Australia

The Australian Museum

1 William Street, Sydney, NSW 2010, Australia

*Westpac Long Gallery, Australian Museum, 2019
Honourable Mention*

Doug Southwell

Scott Carver Architects

Level One, One Chifley Square, Sydney, NSW 2000,
Australia

*Joan Sutherland Theatre Passageway and Lift, Sydney
Opera House, 2019 Award for New Design in Heritage
Contexts*

Gina Levenspiel

65 King William Street, Fitzroy, VIC 3065, Australia

Tim Hall & Associates Pty. Ltd.

Suite 5.11, 343 Lt. Collins Street, Melbourne, VIC 3000,
Australia

Michael Markham

TUG Workshop

7-9 Raglan Street, North Melbourne, 3051, Victoria,
Australia

*The 5s Classroom, Preshil, The Margaret Lyttle Memorial
School, 2019 Honourable Mention*

HPA Projects Pty. Ltd.

P.O. Box 666, Manly, NSW 1655, Australia

*Port Arthur Penitentiary, 2015 Award for New Design
in Heritage Contexts*

**Johnson Pilton Walker and Tanner Kibble Denton
Architects**

Level 1, 19 Foster Street, Surry Hills, Sydney, NSW
2010, Australia

5 Martin Place, 2018 Award of Merit

Tzannes

63 Myrtle Street, Chippendale, Sydney, NSW 2008,
Australia

*The Brewery Yard, 2016 Award for New Design in
Heritage Contexts*

CONTRACTORS

A J Bristow & Sons

8 Odette Road, Dural, NSW 2158, Australia
Westpac Long Gallery, Australian Museum, 2019 Honourable Mention

Bruce Dickey

Sixty Third Evolution Pty. Ltd.
2 Hardy Terrace, East Ivanhoe, VIC 3079, Australia
The 5s Classroom, Preskil, The Margaret Lyttle Memorial School, 2019 Honourable Mention

Bruce Interiors and Constructions

214 Glen Osmond Rd, Fullarton, SA 5063, Australia

Cladding and Roofing Contractors Pty. Ltd.

10-14 Toogood Ave, Beverley, SA 5009, Australia

Cook Building and Development

135 Greenhill Rd, Unley, SA 5061, Australia

Landscape Construction Services

3 Creswell Rd, Largs North, SA 5016, Australia

Smartpost Solutions

35 Weaver St, Edwardstown, SA 5039, Australia

Unique Urban Built

55 Prospect Rd, Prospect, SA 5082, Australia
Hart's Mill, 2018 Award for New Design in Heritage Contexts

Christie Civil Builder (Shroud)

27 Moore Street, Leichhardt, NSW 2040, Australia

Total Construction Builder

Level 2, 3 George Street, North Strathfield, NSW 2137, Australia
The Brewery Yard, 2016 Award for New Design in Heritage Contexts

Colgan Industries Pty. Ltd.

Unit 1/283 Newcastle Street, Northbridge, WA 6003, Australia

Western Projects Pty. Ltd.

8/52 Frobisher Street, Osborne Park, WA 6107, Australia
Wanslea Cancer Wellness Centre, 2015 Honourable Mention

Grocon

Legion House, Level 4, 161 Castlereagh St, Sydney, NSW 2000, Australia
5 Martin Place, 2018 Award of Merit

Hansen Yuncken Pty. Ltd.

39 Patrick Street, Hobart, TAS 7000, Australia
Port Arthur Penitentiary, 2015 Award for New Design in Heritage Contexts

Laing O'Rourke Australia

Level 4, Innovation Place, 100 Arthur Street, North Sydney, NSW 2060, Australia
Joan Sutherland Theatre Passageway and Lift, Sydney Opera House, 2019 Award for New Design in Heritage Contexts

BHUTAN

ARCHITECTS AND DESIGNERS

Choni Lhamo, Choening Dorji and Sonam Tashi

Tashi Deling Construction and Consultancy
Changzamtog, Thimphu, Bhutan

Stephen Kelley

130 South Kenilworth Avenue, Oak Park, IL 60302, USA
Tseto Goenpa, 2019 Award of Merit

CONTRACTOR

Tashi Deling Construction and Consultancy

Changzamtog, Thimphu, Bhutan
Tseto Goenpa, 2019 Award of Merit

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ARCHITECTS AND DESIGNERS

AD+RG Architecture Design and Research Group Ltd.
10/F, 111 Leighton Road, Causeway Bay, Hong Kong SAR, China
YHA Mei Ho House Youth Hostel, 2015 Honourable Mention

Anna Sum-Yee Kwong
4/F, 16 Wyndham Street, Central, Hong Kong SAR, China
Saltpans of Yim Tin Tsai, 2015 Award of Excellence

Benjamin Tsang
Thomas Chow Architect Limited
Room 1306, Eastern Harbour Centre, 28 Hoi Chak Street, Quarry Bay, Hong Kong SAR, China

Humphrey Wong
Meta4 Design Forum Limited
Studio 12-13, 17/F, Kwong Sang Hong Centre, 151 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong SAR, China
Old Tai Po Police Station, 2016 Honourable Mention

Bin Shi
Guizhou Conservation Center Planning Design Studio
No.168 Beijing Road, Yunyan District, Guiyang, Guizhou Province, China

Gesa Schwantes
Architectural Conservation Laboratory (HKU)
7/F, 23 Kwai Heung Street, Sai Ying Pun, Hong Kong SAR, China

Jian Zhou
Shanghai Tongji Urban Planning and Design Institute, Tongji University
Room 1503, 1111 North, Zhongshan No.2 Road, Shanghai, 200092, China

Shibing Dai
Shanghai Tongji Urban Planning and Design Institute, Tongji University
3rd Floor, Wenyuan Building, No.1239 Siping Road, Shanghai, 200092, China
Liu Ancestral Hall, 2016 Honourable Mention

Chen Liang
188 Hudong Road, Gulou District, Fuzhou, Fujian Province, China
Zhang Jie and Zhang Yang
Qinghe Jiayuan, 20th Floor, Building 1, Qinghe Zhong Street, Haidian District, Beijing, China
Sanfang Qixiang, 2015 Honourable Mention

Changchun Li
No.65 Longqiao North Street, Oubei Town, Wenzhou, Zhejiang Province, 325105, China
Feixiang Qiu
1-D3 Building, 8# Xiyuan 8th Road, Xihu Science Park, Hangzhou, Zhejiang Province, 310000, China

Gu Chen
Artist Village, Hengshanwu, Lingfeng Tourism District, Anji County, Zhejiang Province, 313300, China
Tian Ma
4-919#, Wuzhou International Square, Xihu District, Hangzhou, Zhejiang Province, 310000, China

Xing Wang
2-2-19#, Turning-chair Market, Dipu Block, Anji County, Zhejiang Province, 313000, China
Wu Changshuo Residence Archaeological Site, 2016 Honourable Mention

He Songfei
Beijing Institute of Fashion Technology, School of Art and Design, Beijing, China

Tang Yong, Bingxin Yang, and Xianglin Kong
Beijing Originally Building Planning and Design Co., Ltd. Ganjiakou, Haidian District, 100037, Beijing, China
Dry Pit Latrine in Jiaxian Ancient Jujube Garden, 2019 Award for New Design in Heritage Contexts

Herzog & de Meuron
9/F, Hollywood Commercial House, 3-5 Old Bailey St, Central, Hong Kong SAR, China
Purcell
15 Bermondsey, Tower Bridge Road, London, SE1 3UN, United Kingdom

ROCCO Design Architects
38/F AIA Tower, 183 Electric Road, North Point, Hong Kong SAR, China
Tai Kwun Centre for Heritage and Arts, 2019 Award of Excellence

Hu Jianxin, Qi Kai, Zhang Bingbing
8 Xueqing Road, Floor 6, Chaifu Center, Haidian District, Beijing, 100084, China
Liu Yan, Zhang Jie, Li Ting
Floor 20, Tower B, Building Jia 1, Qinghe Jiayuan, Haidian District, Beijing, 100192, China
Jingdezhen Ceramic Industry Museum, 2017 Award for New Design in Heritage Contexts

Jinhua Tan
Department of Architecture, Wuyi University, No.99 Yingbin Road, Jiangmen, Guangdong Province, China
Cangdong Heritage Education Centre, 2015 Award of Merit

Jun Mu, Wei Jiang, Qiangqiang Li, Shuai Wang, Leilei Lu, Linxin Zhan, Zhengyang Wang, Yan Huang, Chuanshi Zhao
Beijing University of Civil Engineering and Architecture, No.1 Zhanlanguan Road, Xicheng District, Beijing, China
Macha Village, 2017 Award for New Design in Heritage Contexts

Lijun Wang
12th Floor East, Block A, Deshengkaixuan Building, Xicheng Street, 100120, Beijing, China
Taoping Qiang Village, 2016 Award of Distinction

LWK & Partners (H.K.) Ltd.
15/F, North Tower, World Finance Centre, Harbour City, Tsim Sha Tsui, Kowloon, Hong Kong SAR, China
Meta4 Design Forum Ltd.
Studio 12-13, 17/F, Kwong Sang Hong Centre, 151 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong SAR, China
Blue House Cluster, 2017 Award of Excellence

Lyu Ning

Tsinghua University, Haidian District, Beijing, 100084, China

Zhang Rong

Cultural Heritage Conservation Center of Beijing GWY Co.,Ltd.

No. 8 Building, North of National Olympic Park, Haidian District, Beijing, 100192, China

Guyue Bridge, 2019 Award of Merit

Ming Yang and Jin Hou, Luo Ling, Zhao Ying

East China Architectural Design & Research Institute No. 151, Han Kou Road, Shanghai, China

Holy Trinity Cathedral, 2017 Award of Distinction

Nan Fung Group Design Department

Nan Fung Group, 23/F, Nan Fung Tower, 88 Connaught Road Central, Central, Hong Kong SAR, China

Thomas Chow Architects

Rm 1311, Eastern Harbour Centre, 28 Hoi Chak Street, Quarry Bay, Hong Kong SAR, China

The Mills, 2019 Award for New Design in Heritage Contexts

Qingzhou Wu

Room 907, Liwu Building., 381 Wushan Road, Tianhe District, Guangzhou, 510640, Guangdong Province, China

Shixing Bao

Room 1503, Unit 1, Building 3, Courtyard No.6, Maliandao Street, Xicheng District, Beijing, 100055, China

Aijing Zhuang, 2018 Award of Merit

Suzhou Institute of Landscape Architecture Design Co., Ltd.

202 Xujiang Road, Gusu District, Suzhou, 215000, Jiangsu Province, China

Keyuan Garden, 2019 Award of Distinction

Today Historic Architecture and Garden Design Institute

Pingyao County, 031100, Shanxi Province, China

Yun Jia Historic Architecture and Garden Design Institute

Siyanqiaodong, Zhongdu Rd, Pingyao County, 031100, Shanxi Province, China

Ping Yao Courtyard Houses, 2015 Award of Merit

Urban Planning and Design Institute of Harbin Institute of Technology

No.66, Westdazhi Street, Harbin, 150006, Heilongjiang Province, China

Hengdaohezi Town, 2018 Honourable Mention

Xiao Wei, Li Jingjing, Li Yuting, Qi Wei, Wang Yiyang, Wang Xiang, Yang Wei, Zhang Genghua and Zhang Xi

No. 8, Siwei Road, Wuhan, 430010, Hubei Province, China

Liddell Bros. Packing Plant, 2019 Honourable Mention

Zhenhong Guan

No. 80 Shunjiang Road, 312099, Shaoxing, Zhejiang Province, China

Changchun Li

No.65 Longqiao North Street, Oubei Town, Wenzhou, Zhejiang Province, 325105, China

Fudewan Miner's Village, 2016 Honourable Mention

CONTRACTORS**Beijing Cultural Relics and Ancient Construction Engineering Company**

No.21, Dongjing Road, Xuanwu District, 150006, Beijing, China

Hengdaohezi Town, 2018 Honourable Mention

Beijing Tsinghua Tongheng Planning & Design Institute

Qinghe Jiayuan, 20th Floor, Building 1, Qinghe Zhong Street, Haidian District, Beijing, China

Sanfang Qixiang, 2015 Honourable Mention

Boya Han

12th Floor East, Block A, Deshengkaixuan Building, 36 Deshengmenwai Street, Xicheng Street, Beijing, 100120, China

Taoping Qiang Village, 2016 Award of Distinction

Brian Lam

Junic Construction Company Co.Ltd.

Office B, 2/F, Parkes Building, 23 Parkes Street, Yaumatei, Kowloon, Hong Kong SAR, China

Old Tai Po Police Station, 2016 Honourable Mention

Chaojie Historic Architecture Construction Company

Houguocundong, Pingyao County, 031100, Shanxi Province, China

Minghong Historic Architecture Construction Company

9, North First Alley, Zhongdu Rd, Pingyao County, 031100, Shanxi Province, China

Pingyao County Historic Architecture Construction Company

Pingyao County, 031100, Shanxi Province, China

Ping Yao Courtyard Houses, 2015 Award of Merit

Chinney Construction Company Ltd.

Block A&B, 9/F, Hong Kong Spinners Industrial Building Phase VI, 481-483 Castle Peak Road, Hong Kong SAR, China

YHA Mei Ho House Youth Hostel, 2015 Honourable Mention

Daowen Bao

No. 2, Hengyang Street, Yangwei Village, Tongan Town, Yongtai County, 350700, Fujian Province, China
Aijing Zhuang, 2018 Award of Merit

Gammon Construction Limited

28th Floor, Devon House, Taikoo Palace, 979 King's Road, Hong Kong SAR, China
Tai Kwun Centre for Heritage and Arts, 2019 Award of Excellence

Ding Xinjun, Wang Nvyang, Su Lijuan and Li Zhaoyang

General Contracted Group
5# Yiheyuan Road, Haidian District, Beijing, 100871, China

Mehri Madarshahi

Global Cultural Network Co., Ltd.
27 Avenue Foch, 75016, Paris, France
Wu Changshuo Residence Archaeological Site, 2016 Honourable Mention

Greenland Construction Group

180 Shuidian Road, 200083, Shanghai, China
Jingdezhen Ceramic Industry Museum, 2017 Award for New Design in Heritage Contexts

Haibo Xie

Cangdong Village, Tangkou Township, Kaiping, Guangdong Province, China
Cangdong Heritage Education Centre, 2015 Award of Merit

Hongyu Ancient Building Garden Project Co., Ltd.

Floor 2, Unit 1, Building 5, District 6, Louxia Village, Choujiang Street, Yiwu, Zhejiang Province, 322000, China
Guyue Bridge, 2019 Award of Merit

Jian Zhou

Shanghai Tongji Urban Planning and Design Institute, Tongji University
Room 1503, 1111 North, Zhongshan No.2 Rd., Shanghai, 200092, China
Liu Ancestral Hall, 2016 Honourable Mention

Milestone Builder Engineering Ltd.

14/F, 9 Po Lun Street, Lai Chi Kok, Kowloon, Hong Kong SAR, China

Speedy Engineering & Trading Co. Ltd.

14/F, 9 Po Lun Street, Lai Chi Kok, Kowloon, Hong Kong SAR, China

Wah Tat Construction Co.

Flat 10, 1F, Phase II Newport Centre, 116 Ma Tau Kok Road, To Kwa Wan, Kowloon, Hong Kong SAR, China
Blue House Cluster, 2017 Award of Excellence

Paul Y Construction Co. Ltd.

11/F, Paul Y. Centre, 51 Hung To Road, Kwun Tong, Kowloon, Hong Kong SAR, China
The Mills, 2019 Award for New Design in Heritage Contexts

Realty Cheng & Partners Construction Ltd.

No. C-D, 10/F, Ford Glory Plaza, 37-39 Wing Hong St., Cheung Sha Wan, Kowloon, Hong Kong SAR, China
Saltpans of Yim Tin Tsai, 2015 Award of Excellence

Suzhou Garden Development Co., Ltd.

58 Dongyan Road, Industrial Park, Suzhou, 215000, Jiangsu Province, China
Keyuan Garden, 2019 Award of Distinction

Wei Jiang

Shanghai Housing Group C&D Co., Ltd.
26F, No. 976, Lujiabang Road, Shanghai, China
Holy Trinity Cathedral, 2017 Award of Distinction

Wuhan Anfang Architectural Engineering Co., Ltd.

Floor 2, Kang Yi Garden, No.32 Hong Kong Road, Wuhan, 430016, Hubei Province, China
Liddell Bros. Packing Plant, 2019 Honourable Mention

Xiangyi Dai

Capital Normal University, NO.15, North Road, the West 3rd Ring Road, Haidian District, 100048, Beijing, China
Fudewan Miners' Village, 2016 Honourable Mention

INDIA

ARCHITECTS AND DESIGNERS

Abha Narain Lambh Associates

604 A wing, Amrit, Carter Road, Khar West, Mumbai, 400052, India

Royal Bombay Opera House, 2017 Award of Merit
Keneseth Eliyahoo Synagogue, 2019 Award of Merit

Ainsley Lewis and David Cardoz

St. Michael Bhavan, A wing, flat no. 4, Lady Jamshedji Road, Mahim West, Mumbai, 400016, India

Our Lady of Glory Church, 2019 Award of Merit

Aishwarya Tipnis Architects

83-D, DDA Flats, Masjid Moth, Phase II, Greater Kailash III, New Delhi, 110048, India

Walls and Bastions of Mahidpur Fort, 2016 Award of Merit
Doon School Main Building, 2016 Honourable Mention

Anjali C

Parakadavu, (PO) Anchampeedika, Kannur, Kerala, 670331, India

Saparya Varma

83/69, Nehru Colony, Mahalingapuram, Pollachi, 642002, Tamil Nadu, India

Kanipayoor Krishnan Namboothiripaad

PB No. 4, Kunnamkulam, 680503, Thrissur, Kerala, India

Vinod Kumar

DD Architects, New Agrapharam Lane, Punkunnam, Thrissur, Kerala, 680002, India

Sree Vadakkunnathan Temple, 2015 Award of Excellence

Flemming Aalund

Borgevez 37, DK-2800, Lyngby, Denmark

Manish Chakraborti

AA 171A, Salt Lake, Kolkata, 700064, West Bengal, India

St. Olav's Church, 2016 Award of Distinction

John Harrison

Berllan Helyg, Penmachno, Betws-y-Coed, Conwy, LL24 0AQ, Wales, United Kingdom

The LAMO Centre, 2018 Award of Distinction

Kiran Kalamdani and Anjali Kalamdani

Kimaya Architects

Flat No. 1, Building C-1, Shantiban, Chinchwad, Pune, 411033, Maharashtra, India

Parvati Nandan Ganapati Temple, 2015 Honourable Mention

Kapil Agarwal

Spaces Architects@ka

A-21/A, Basement, South Extension-II, New Delhi, 110049, India

Haveli Dharampura, 2017 Honourable Mention

Somaya & Kalappa Consultants

Ground Floor, North Wing, Udyog Bhavan, 29, Walchand Hirachand Marg, Ballard Estate, Mumbai 400001, Maharashtra, India

Rajabai Clock Tower and University of Mumbai Library Building, 2018 Honourable Mention

Vikram Sarabhai Library, Indian Institute of Management, 2019 Award of Distinction

Vikas Dilawari

273/3, Road No. 12, Jawahar Nagar, Goregaon (w), Mumbai, 400062, India

J.N. Petit Institute, 2015 Award of Distinction

Cama Building, 2016 Award of Merit

Christ Church, 2017 Award of Merit

Bomonjee Hormarjee Wadia Fountain and Clock Tower, 2017 Honourable Mention

Wellington Fountain, 2017 Honourable Mention

Ruttonsee Muljee Jetha Fountain, 2018 Honourable Mention

Flora Fountain, 2019 Honourable Mention

Vijaya Amujure

302A, Management Apartment, Plot no. 17, Sector 5, Dwarka, New Delhi, 110075, India

Gateways of Gohad Fort, 2017 Honourable Mention

CONTRACTORS

Asish Mukherjee

MASCON

76D, AIC Bose Road, Kolkata, 700014, West Bengal, India

St. Olav's Church, 2016 Award of Distinction

Balveer Singh

Mangarh Village, Raon Tehsil, Bhind District, Madhya Pradesh, 477335, India

Walls and Bastions of Mahidpur Fort, 2016 Award of Merit

Gyan Singh Sisodia and Yoginder Sisodia

Gwalior, Madhya Pradesh, India

Heritage India Foundation

74, Babar Road, Bengali Market, New Delhi, 110001, India

Haveli Dharampura, 2017 Honourable Mention

INTACH Greater Mumbai Chapter with Intach Conservation Institute (ICI)

c/o Dr. Bhau Daji Lad Museum, 91 A Rani Baug, Dr Ambedkar Road, Byculla, Mumbai, Maharashtra, 400027, India

Wellington Fountain, 2017 Honourable Mention

Flora Fountain, 2019 Honourable Mention

Jeernodhar Conservators Pvt. Ltd.

217, 2nd Floor, Ecstasy, City of Joy, JSD Road, Mulund West, Mumbai, Maharashtra, 400080, India

Wellington Fountain, 2017 Honourable Mention

Ruttonsee Muljee Jetha Fountain, 2018 Honourable Mention

K G Reghuram

Komathukatti House, Nandikkara, Thrissur, Kerala, 680301, India

Sree Vadakkunnathan Temple, 2015 Award of Excellence

Kuldeep Singh Sethi and Gagan Goel

106 Vijay Colony, New Cantt Road, Dehradun, Uttarakhand, India

Doon School Main Building, 2016 Honourable Mention

K.R. Construction

38/20 Ramanujam Nagar, Aynavaram, Chennai North, 600023, India

Swanag Infrastructures

No. 1500, 16th Main Road, Anna Nagar (W), Chennai, 600040, India

Sri Ranganathaswamy Temple, 2017 Award of Merit

Premier Construction Company

202, Hilla Towers, "A" Wing, Dr. S.S. Rao Road, Lalbaug, Mumbai, 400012, India

J.N. Petit Institute, 2015 Award of Distinction

Cama Building, 2016 Award of Merit

Rohan Builders (India) Pvt. Ltd.

The Reverie, 1st Floor, 805, Bhandarkar Institute Road, Pune, 411004, India

Parvati Nandan Ganapati Temple, 2015 Honourable Mention

Savani Construction Co. Pvt. Ltd

Building No. 8, Rajabhadur Mansion, Ambalal Doshi Marg, Fort, Mumbai, 400023, Maharashtra, India

Royal Bombay Opera House, 2017 Award of Merit

Rajabai Clock Tower and University of Mumbai Library Building, 2018 Honourable Mention

Vikram Sarabhai Library, Indian Institute of Management, 2019 Award of Distinction

Our Lady of Glory Church, 2019 Award of Merit

Sean Noronha & Company

B/1 Miramar C.H.S, 754, Veer Savarkar Marg, Dadar (W), Mumbai, 400028, India

Bomonjee Hormarjee Wadia Fountain and Clock Tower, 2017 Honourable Mention

Skyway Infra projects Pvt. Ltd.

Githanjali Arcade, Above India Bank, 3rd Floor, Nehru Road Vile Parle (East), Mumbai, 400057, India

Royal Bombay Opera House, 2017 Award of Merit

Wellington Fountain, 2017 Honourable Mention

G.R. Enterprises

3/37, Ready Money Terrace, Dr. A.B. Road, Worli, Mumbai, 400018, India

S.M. Construction

Room No 1, Parasnath Chawl No 4, Adarsh Lane, Jawahar Nagar, Khar (East), Mumbai, 400051, India

Christ Church, 2017 Award of Merit

IRAN, ISLAMIC REPUBLIC OF

ARCHITECTS AND DESIGNERS

Amir Hooman Assadi Morassa

No. 30, Behesht street, Mashhad, Islamic Republic of Iran

Bahman Bakhshi

No. 11, Kosar St, Vakil Abad Boulevard, Mashad, Islamic Republic of Iran

Darugheh House, 2016 Honourable Mention

Ashkan Ghaneei and Mohammadreza Ghaneei

Tabriziha Alley, Djulfa Esfahan, 8175855761, Esfahan, Islamic Republic of Iran

Aftab Cultural House, 2017 Honourable Mention

Shahabeddin Arfaei

Bam Citadel of Kerman Consulting Architects and Engineers

No. 207, Southern Golha Commercial Complex, Phase 2, Ekbatan, Tehran, Islamic Republic of Iran

Persian Gulf University – Faculty of Art & Architecture, 2017 Award for New Design in Heritage Contexts

CONTRACTORS

Arkan Beton Co.

No. 20, Imam Khomeini Street, Bushehr, Bushehr Province, Islamic Republic of Iran

Persian Gulf University – Faculty of Art & Architecture, 2017 Award for New Design in Heritage Contexts

Hedayat Govahi

No. 3, Janbaz St, No. 40, Mashad, Islamic Republic of Iran

Darugheh House, 2016 Honourable Mention

JAPAN

ARCHITECTS AND DESIGNERS

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Ninomiya Architect and Design
8-1-6 Hizuchi-cho, Yawatahama City, Ehime, 7960170, Japan

Koichi Wada

Wada Architect and Design
S'Stage 2F 1404-1, Miyauchi, Tobe-cho, Iyo-gun, Ehime, 7912120, Japan
Sanro-Den Hall at Sukunahikona Shrine, Ozu city, 2016 Award of Excellence

Katsuya Fukushima

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Old Brick Warehouse of the Commercial Bank of Honjo, 2018 Award of Merit

Kyo Suekawa and Yuji Tsuji

Kyomachiya Architects
32 Sanjo-dori Shinmachi Nishi-iru Kamanza-cho, Nakagyo-ku, Kyoto, 6048241, Japan
Shijo-cho Ofune-hoko Float Machiya, 2018 Award of Excellence

CONTRACTORS

Kyomachiya Architects

32 Sanjo-dori Shinmachi Nishi-iru Kamanza-cho, Nakagyo-ku, Kyoto, 6048241, Japan
Shijo-cho Ofune-hoko Float Machiya, 2018 Award of Excellence

Munekiyo Matsuhira

636 Higashiozu, Ozu City, Ehime, 7950064, Japan
Sanro-Den Hall at Sukunahikona Shrine, Ozu city, 2016 Award of Excellence

Shimizu Corporation

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Old Brick Warehouse of the Commercial Bank of Honjo, 2018 Award of Merit

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Lyttelton Timeball Station, 2019 Award of Merit

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PO Box 1095, Nelson, 7040, New Zealand

Irving Smith Architects Ltd.

PO Box 222, Nelson, 7040, New Zealand
Nelson School of Music, 2019 Award of Distinction

CONTRACTORS

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PO Box 3075, Richmond, 7050, New Zealand
Nelson School of Music, 2019 Award of Distinction

Hawkins Construction

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Lyttelton Timeball Station, 2019 Award of Merit

The Fletcher Construction Company Ltd.

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Shahrah-e-Quaid-e-Azam, Jutial, Gilgit, Gilgit-Baltistan, Pakistan

Shahi Hammam, 2016 Award of Merit

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Studio Lapis

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Cathedral of the Good Shepherd and Rectory Building, 2017 Honourable Mention

CONTRACTOR

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Cathedral of the Good Shepherd and Rectory Building, 2017 Honourable Mention

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Kaomai Estate 1955, 2018 Award for New Design in Heritage Contexts

GLOSSARY

<i>Agama Shastra</i>	A collection of traditional Hindu literary texts, describing cosmology, epistemology, philosophical doctrines, precepts on meditation and practices, four kinds of yoga, mantras, temple construction, deity worship and ways to attain six-fold desires.	Baroque style	A highly ornate and often extravagant style of architecture, music, dance, painting, sculpture and other arts that flourished in Europe from the early seventeenth century until the 1740s.
apse	A projecting part of a building or structure that is usually semi-circular in plan and vaulted.	basalt	A dark igneous rock.
architrave	A lintel or beam that rests on the capitals of the columns.	bas relief	A sculptural relief in which the projection from the surrounding surface is slight and no part of the modeled form is undercut.
Art Deco	A design style popular during the 1930s and 1940s that combines traditional craft motifs with modern imagery and materials.	bastion	A fortified area or position.
ashlar	A thin square and dressed stone for facing a wall of rubble or brick.	bay window	A window space projecting outward from the main walls of a building and forming a bay in a room.
awning	A roof-like cover extending over or in front of a place (as over the deck or in front of a door or window) as a shelter.	berm	A mound or wall of earth or sand.
Ayutthaya period	A Siamese kingdom that existed from 1350 to 1767.	brick bat coba	A traditional Indian waterproofing method applied on terraces, roofs and basements, which involves putting brick bats (broken pieces of bricks) on the slab to create a slope and then grouting with mortar admixed with various proprietary waterproofing compounds.
Bahmani Style	A blend of Persian and local architectural styles that originated during the Bahmani Sultanate (1347-1527).	bund	An embankment used to control the flow of water and connect various pools.
baluster	A vertical moulded shaft, square, or lathe-turned form found in stairways, parapets and other architectural features.	cantilever	A structural element that is fixed at one end and free at the other.
balustrade	A railing supported by a row of balusters.	capital	The topmost member of a column.
		cast iron	A group of iron-carbon alloys with a relatively low melting temperature.

chhajja (<i>chajja</i>)	A projecting eave or overhang.	Dravidian style	An architectural idiom in Hindu temple architecture that emerged in the southern part of the Indian subcontinent or South India and in Sri Lanka, reaching its final form by the sixteenth century.	fanlight	A window, often semicircular or semi-elliptical in shape, with glazing bars or tracery sets radiating out like an open fan.
Chinese-style pitched roof	Traditional Chinese roofs generally with upturned eaves on the roof corners and covered with pan and roll tiles.			Federation Queen Anne style	A popular residential style in Australia between 1890 and 1910, showcasing asymmetric gables, white-painted window frames, front verandas with decorative timber features, tiling on the patio floor and entry paths.
Chola Dynasty	A dynasty that ruled over the southern part of India for about 400 years.	drip mould	A projection from a cornice or sill designed to protect the area below from rainwater.		
Classical Revival	An architectural style seen throughout the nineteenth and the early twentieth century employing classical elements, but that is less severe in appearance than Neo-Classical architecture.	Dutch gable	A gable whose sides have a shape made up of one or more curves and has a pediment at the top.	Federation style	A style of Australian domestic architecture from 1901 when the states of Australia joined together as a federation. These designs featured red bricks, turned wood ornaments, half-timbering with rough-cast in the gables, shingled walls and terracotta tiles.
coping	The covering course of a wall usually with a sloping top.	Edwardian Free Classical style	An architectural style common during the turn of the twentieth century to the beginning of the First World War. Buildings belonging to this style are typically symmetrical, with large curved windows and pilasters.		
Corinthian columns	A column with an intricately carved capital with acanthus leaves, foliage or different flowers.	Edwardian Neo-Baroque style	The architectural style of many public buildings built in the British Empire during the Edwardian era (1901-1910). Buildings belonging to this style typically include heavily rusticated basements, mansard roofs, a profusion of dormer windows, colonnades of (sometimes paired) columns in the Ionic order, domes and Dutch gables.	feng shui	Ancient Chinese site analysis method and design philosophy concerned with the positioning and physical characteristics of a place; believed to affect the fortunes of the owner. Used especially in determining the placement and design of houses, cemeteries and gardens.
crenellation	A pattern along the top of a parapet (fortified wall), most often in the form of multiple, regular, rectangular spaces.			finials	An architectural element, used as a decorative feature to enhance the apex of an ornament at the top, end or corner of a building or structure.
dado	The lower part of an interior wall, often demarcated by a dado rail, usually around waist height.			fresco	A mural or wall-painting painted onto wet lime plaster.
diaolou	A watchtower.	Edwardian style	An architectural style popular during the reign of King Edward VII of the United Kingdom (1901-1910), generally less ornate than Victorian architecture.	frieze	Architectural term for the plain or sculptured, decorative horizontal band of the upper part of a wall in a room, immediately below the cornice.
Doric column	A column with a simple circular capital at the top.	entablature	A horizontal part in classical architecture that rests on the columns and consists of architrave, frieze and cornice.		

<i>gaz</i>	A unit of measurement.	Indo-Saracenic	An architectural style representing a synthesis of Muslim designs and Indian materials developed by British architects in India during the late nineteenth and early twentieth centuries.	load-bearing brick wall	A heavy masonry wall that supports the structure above, including the horizontal floor slabs.
Gothic Revival	A movement aimed at reviving the spirit and forms of Gothic architecture, originating in the late eighteenth century but flourishing in the nineteenth century in France, Germany, England and, to a lesser extent, the United States.	jack arch	A structural element in masonry construction that provides support at openings in the masonry. Alternate names are 'flat arch' and 'straight arch'.	louver	A slat on a window or shutter that is angled to admit light and air, but to keep out direct sunlight and rain.
granite	A very hard natural igneous rock formation of visibly crystalline texture.	jaali (jallie)	Carved screen used for privacy and also to allow air-flow through a building.	Malad stone	A common trachyte rock found in the Salsette region of Mumbai, India.
Greek Revival	An architectural movement of the late eighteenth and early nineteenth centuries, predominantly in Northern Europe and the United States, which revived the style of ancient Greek architecture, in particular the Greek temple.	jharoka (jharokha)	A type of overhanging enclosed balcony projecting from an upper storey of a building.	Mangalore tiles	Red tiles made of laterite clay; first produced in the city of Mangalore, India, in the late nineteenth century.
Hakka	Han Chinese people whose ancestral homes are chiefly in the Hakka-speaking provincial areas of Guangdong, Fujian, Jiangxi, Guangxi, Sichuan, Hunan, Zhejiang, Hainan and Guizhou.	joist	Any of the small timbers or metal beams installed parallel from wall to wall in a structure to support a floor or ceiling.	Meiji period	An era of Japanese history which extended from October 23, 1868 to July 30, 1912.
hamam (hammam)	A bath house.	lacework	Objects or patterns resembling lace.	Ming Dynasty	The ruling dynasty of China from 1368 to 1644 following the collapse of the Mongol-led Yuan Dynasty.
haveli	A mansion, often featuring a courtyard found in the Indian sub-continent.	Lane Xang	The Lao Kingdom that existed from 1353 to 1707.	Minton tiles	A type of encaustic tile produced by Mintons Limited, a major English ceramics manufacturing company.
hydraulic lime	A general term for varieties of lime (calcium oxide) or slaked lime (calcium hydroxide) used to make lime mortar which sets through hydration.	laterite	Soil layer rich in iron oxide found in hot and wet tropical areas that is used to form blocks used in construction.	Mughal era	The period associated with early-modern empire in South Asia.
in situ	In its present location.	lath-and-plaster	A construction technique consisting of narrow strips of wood that form wall panels which are then coated in plaster.	mullioned windows	Windows that feature slender vertical members that form divisions between the units of the window.
		lintel	A horizontal beam above a window or door opening that is borne by two vertical supports.	multi-cusp arch	An architectural element of an arch containing multiple foils; symmetrical leaf shapes, defined by overlapping circles.

Neo-Baroque	A period in European architecture and music in the late nineteenth century, characterized by the Baroque style but occurring after the Baroque period.	Portland cement	The most common type of cement in general use around the world as a basic ingredient of concrete, mortar, stucco and non-specialty grout.	shophouse	A building typology used for both residential and commercial purposes that is common throughout the Chinese diaspora.
Neo-Classical	An architectural style movement of the mid-eighteenth century, principally derived from the architecture of Classical Greece and Rome.	Qing Dynasty	The last imperial dynasty of China from 1644 to 1912.	Showa era	The period of Japanese history corresponding to the reign of Emperor Showa (Hirohito) from December 25, 1926 to January 7, 1989.
Neo-Gothic	A style in English and American architecture and decorative arts from the mid-eighteenth century to the mid-nineteenth century. Also known as 'Gothic Revival'.	rafter	One of a series of structural members that extend from the ridge of the roofs to the eave; designed to support the roof deck.	Sino-Portuguese style	A hybrid architecture style incorporating Chinese and the Portuguese architectural styles.
nishijin	A traditional textile of Japan.	rammed earth	A technique for constructing foundations, floors, and walls by compacting a damp mixture of sub-soil that has suitable proportions of sand, gravel, clay and stabilizer (if any) into a formwork.	skirting	A wooden or vinyl board covering the lowest part of an interior wall in order to cover the joint between the wall surface and the floor.
Pahlavi period	The last ruling house of the Imperial State of Iran from 1925 to 1979.	Renaissance Revival	An architectural style popular during several periods of the nineteenth and early twentieth century that drew inspiration from the palazzos of Italy built in the 1400s to the 1600s.	Song Dynasty	An imperial dynasty of China from 960 to 1279.
pediment	A triangular space that forms the gable of a low-pitched roof and that is usually filled with relief sculpture in classical architecture.	render (noun)	A mixture of lime, sand, water and other ingredients that becomes hard when dry and is used for making a smooth surface on walls and ceilings.	splicing	A method of joining two members end-to-end in woodworking.
pilaster	A slightly-projecting column built into, or applied to, the face of a wall.	render (verb)	The act of applying plaster to a wall surface.	stucco	A material made of an aggregate, a binder and water which is applied wet and hardens to a very dense solid. Used as a coating for walls and ceilings and as a sculptural and artistic material.
plinth	A block used as the base of a column or support.	rising damp	The rise of water moisture from the ground through porous wall material via capillary action. The evaporating water leaves salt deposits on the surface, often resulting in staining and damage to the interior finish.	stupa	A Buddhist reliquary.
pointing	A process of pressing mortar into masonry joints so as to make a wall watertight or achieve a desired appearance or effect.			trachyte	A usually light-coloured volcanic rock.
Porbandar stone	A limestone of compact grain that is yellowish white in colour.			transept	The part of a cruciform church that crosses at right angles to the greatest length between the nave and the apse or choir.
portico	A colonnade or covered ambulatory often at the entrance of a building.				

transom	A transverse horizontal structural beam or bar, or a crosspiece separating a door from a window above it.
truss	An assemblage of members (such as beams) forming a rigid framework.
Tudor Revival	An architectural style typically featuring irregular plans, towers, crenellations, large flat and shallow pointed arched openings, tall chimneys, quoins, stone mullioned windows and string courses.
tung oil	China wood oil.
turret	A small tower that projects from a building.
<i>Vastu Shastra</i>	A traditional Indian system of architecture that describes principles of design, layout, measurements, ground preparation, space arrangement and spatial geometry.
veranda	A roofed porch, partially enclosed by a railing.
Vijayanagara Empire	An empire based in the Deccan Plateau region in South India.
voussoir	One of the wedge-shaped pieces forming an arch or vault.
Western Zhou Dynasty	A Chinese dynasty established by King Wu from the eleventh century BC to 771 BC.

INTERNATIONAL AND REGIONAL CHARTERS AND CONVENTIONS

UNESCO

1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict (The Hague Convention)

http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html

- *First Protocol to the 1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict*

http://portal.unesco.org/en/ev.php-URL_ID=15391&URL_DO=DO_TOPIC&URL_SECTION=201.html

- *Second Protocol to the 1999 Convention for the Protection of Cultural Property in the Event of Armed Conflict*

http://portal.unesco.org/en/ev.php-URL_ID=15207&URL_DO=DO_TOPIC&URL_SECTION=201.html

1956 Recommendation on International Principles Applicable to Archaeological Excavations

http://portal.unesco.org/en/ev.php-URL_ID=13062&URL_DO=DO_TOPIC&URL_SECTION=201.html

1968 Recommendation Concerning the Preservation of Cultural Property Endangered by Public or Private works

http://portal.unesco.org/en/ev.php-URL_ID=13085&URL_DO=DO_TOPIC&URL_SECTION=201.html

1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property

http://portal.unesco.org/en/ev.php-URL_ID=13039&URL_DO=DO_TOPIC&URL_SECTION=201.html

1972 Convention Concerning the Protection of the World Cultural and Natural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13055&URL_DO=DO_TOPIC&URL_SECTION=201.html

1972 Recommendation Concerning the Protection, at National Level, of the Cultural and Natural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13087&URL_DO=DO_TOPIC&URL_SECTION=201.html

1976 Recommendation Concerning the Safeguarding and Contemporary Role of Historic Areas

http://portal.unesco.org/en/ev.php-URL_ID=13133&URL_DO=DO_TOPIC&URL_SECTION=201.html

1976 Recommendation Concerning the International Exchange of Cultural Property

http://portal.unesco.org/en/ev.php-URL_ID=13132&URL_DO=DO_TOPIC&URL_SECTION=201.html

2001 Convention on the Protection of the Underwater Cultural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=13520&URL_DO=DO_TOPIC&URL_SECTION=201.html

2001 Universal Declaration on Cultural Diversity

http://portal.unesco.org/en/ev.php-URL_ID=13179&URL_DO=DO_TOPIC&URL_SECTION=201.html

2003 Convention for the Safeguarding of the Intangible Cultural Heritage

http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html

2005 Convention on the Protection and Promotion of the Diversity of Cultural Expressions

http://portal.unesco.org/en/ev.php-URL_ID=31038&URL_DO=DO_TOPIC&URL_SECTION=201.html

2011 Recommendation on the Historic Urban Landscape

http://portal.unesco.org/en/ev.php-URL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html

2015 Recommendation Concerning the Protection and Promotion of Museums and Collections, their Diversity and their Role in Society

http://portal.unesco.org/en/ev.php-URL_ID=49357&URL_DO=DO_TOPIC&URL_SECTION=201.html

2017 Operational Guidelines for the Implementation of the World Heritage Convention

<https://whc.unesco.org/en/guidelines/>

ICOMOS

International Charter for the Conservation and Restoration of Monuments and Sites (The Venice Charter), 1964

https://www.icomos.org/charters/venice_e.pdf

Historic Gardens (The Florence Charter), 1981

https://www.icomos.org/images/DOCUMENTS/Charters/gardens_e.pdf

Charter for the Conservation of Historic Towns and Urban Areas (The Washington Charter), 1987

https://www.icomos.org/images/DOCUMENTS/Charters/towns_e.pdf

Charter for the Protection and Management of the Archaeological Heritage, 1990

https://www.icomos.org/images/DOCUMENTS/Charters/arch_e.pdf

Guidelines for Education and Training in the Conservation of Monuments, Ensembles and Sites, 1993

<https://www.icomos.org/charters/education-e.pdf>

Charter on the Protection and Management of Underwater Cultural Heritage, 1996

https://www.icomos.org/images/DOCUMENTS/Charters/underwater_e.pdf

Principles for the Recording of Monuments, Groups of Buildings and Sites, 1996

<https://www.icomos.org/charters/archives-e.pdf>

International Cultural Tourism Charter: Managing Tourism at Places of Heritage Significance, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/INTERNATIONAL_CULTURAL_TOURISM_CHARTER.pdf

Principles for the Preservation of Historic Timber Structures, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/wood_e.pdf

Charter on the Built Vernacular Heritage, 1999

https://www.icomos.org/images/DOCUMENTS/Charters/vernacular_e.pdf

ICOMOS Charter – Principles for the Analysis, Conservation and Structural Restoration of Architectural Heritage, 2003

https://www.icomos.org/images/DOCUMENTS/Charters/structures_e.pdf

ICOMOS Principles for the Preservation and Conservation-Restoration of Wall Paintings, 2003

https://www.icomos.org/images/DOCUMENTS/Charters/wallpaintings_e.pdf

ICOMOS Charter on Cultural Routes, 2008

https://www.icomos.org/images/DOCUMENTS/Charters/culturalroutes_e.pdf

ICOMOS Charter on the Interpretation and Presentation of Cultural Heritage Sites, 2008

https://www.icomos.org/images/DOCUMENTS/Charters/interpretation_e.pdf

Joint ICOMOS – TICCIH Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes, 2011

https://www.icomos.org/images/DOCUMENTS/Charters/GA2011_ICOMOS_TICCIH_joint_principles_EN_FR_final_20120110.pdf

Valletta Principles for the Safeguarding and Management of Historic Cities, Towns and Urban Areas, 2011

<http://civvi.h.icomos.org/sites/default/files/Valletta%20Principles%20Book%20in%205%20languages.pdf>

ICOMOS-IFLA Principles Concerning Rural Landscapes as Heritage, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-1_RuralLandscapesPrinciples_EN_adopted-15122017.pdf

ICOMOS-IFLA Document on Historic Urban Public Parks, 2017

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Salalah Guidelines for the Management of Public Archaeological Sites, 2017

https://www.icomos.org/images/DOCUMENTS/Charters/GA2017_6-3-3_SalalahGuidelines_EN_adopted-15122017.pdf

Principles for the Conservation of Wooden Built Heritage, 2017

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REGIONAL (ASIA-PACIFIC)

Nara Document on Authenticity, 1994

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ASEAN Declaration on Cultural Heritage, 2000

<http://cultureandinformation.asean.org/wp-content/uploads/2013/11/ASEAN-Declaration-on-Cultural-Heritage.pdf>

Nizhny Tagil Charter for the Industrial Heritage, 2003

<http://ticcih.org/wp-content/uploads/2013/04/NTagilCharter.pdf>

Hoi An Protocols for Best Conservation Practice in Asia, 2005

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NATIONAL (ALPHABETICAL BY COUNTRY)

AUSTRALIA

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<https://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf>

CHINA

Principles for the Conservation of Heritage Sites in China, 2015

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INDIA

Charter for the Conservation of Unprotected Architectural Heritage and Sites in India, 2004

<https://architexturez.net/doc/az-cf-21208>

INDONESIA

Indonesia Charter for Heritage Conservation, 2003

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NEW ZEALAND

ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value, Revised 2010

https://www.icomos.org/images/DOCUMENTS/Charters/ICOMOS_NZ_Charter_2010_FINAL_11_Oct_2010.pdf

THAILAND

Thailand Charter on Cultural Heritage Management

[https://www.icomosthai.org/THcharter/Thailand%20Charter\(1\).pdf](https://www.icomosthai.org/THcharter/Thailand%20Charter(1).pdf)

PROFILES OF JURY MEMBERS (2000 – 2019)

Susan Balderstone, PSM LFRAIA, is an architect who has worked on the conservation of heritage places for over forty years. She holds a BArch (Hons) from the University of Melbourne, Australia, and an MA in Conservation Studies from the University of York, United Kingdom. She is a member of the Advisory Board for the Australian Centre for Architectural History, Urban and Cultural Heritage (ACAHUCH) at the University of Melbourne and an honorary research fellow at the Australian Institute of Archaeology. She was an advisor on World Heritage to the International Council on Monuments and Sites (ICOMOS) from 2008 to 2016 and has participated in various international projects in the Asia-Pacific region, including the Urban Heritage Conservation Strategy for Tianjin, China, and the AusAid Planning and Development Control Project for Hanoi, Viet Nam. As an adjunct professor in the Faculty of Arts at Deakin University, Australia, she was instrumental in setting up the post-graduate coursework programme in Cultural Heritage. (Jury member 2000, 2001)

Arash Boostani is a graduate in Civil Engineering and Architectural Conservation from Azad University in Tehran, Iran. In 1997 he began working in the field of heritage conservation and restoration and has managed a conservation research company since 2000. He has directed conservation projects in Iran, in the Nakhchivan Autonomous Republic (in the Republic of Azerbaijan) and in Afghanistan. His Herat Old City heritage conservation project in Afghanistan was honoured with the Award of Excellence in 2008. He worked as a heritage consultant before taking charge of the Aga Khan Trust for Culture Historic Cities Programme in Herat. In 2009, Mr. Boostani was appointed secretary-general for ICOMOS Iran. He also works as a consultant with the UNESCO office in Tehran. (Jury member 2010-2012, 2014)

Robert G. Boughey established his practice in Bangkok in 1973. His company, which provides various services, including architecture, interior design, project management and construction supervision, has been active in the field for 40 years and has been the recipient of numerous architectural awards for its projects. In 2004, the Association of Siamese Architects named him Architect of the Year. He has given talks at numerous universities and has been on the evaluation panels for various international design competitions. (Jury member 2000, 2003)

Sheridan Burke is a conservation planner and has worked in cultural heritage management for over 35 years – in urban planning, heritage impact assessment and site interpretation. She has specialist interest in twentieth-century heritage and heritage management planning. She has worked in both the government and private sectors, including for the Heritage Council of NSW and the Historic Houses Trust, and is a former partner and director at GML Heritage. She is an adjunct professor at the University of Canberra, Australia, and is an ICOMOS Scientific Council officer and the secretary general of the Twentieth Century Heritage International Scientific Committee. She is an expert member of the Sydney Opera House Conservation Council and its Design Advisory Panel. She is a founding member of the Documentation and Conservation of Buildings, Sites and Neighbourhoods of the Modern Movement (DoCoMoMo) Australia working party and is currently its vice president. She was awarded Australia ICOMOS honorary membership in 2015 and was appointed deputy chair of the NSW Heritage Council in 2018. (Jury member 2015-2019)

Mark Chang teaches at Showa Women's University in Tokyo, Japan. Trained in economics, he has been involved in several collaborative heritage conservation projects between Japan and Viet Nam, including in the UNESCO World Heritage site of Hoi An, Viet Nam. He participated in the Hoi An Town preservation cooperation project and the Vietnamese Traditional Folkhouses project, which received UNESCO Asia-Pacific Heritage Awards in 2000 and 2004. In 2005, he was recognized with a Viet Nam Ministry of Culture and Information medal for distinguished service in the field of cultural heritage. (Jury member 2005)

William Chapman is the Dean of the School of Architecture at the University of Hawaii at Manoa. His work has included assessments of heritage sites and training throughout the Pacific islands and mainland South-East Asia. Professor Chapman, who holds a D.Phil in Anthropology and Archaeology from Oxford University and an advanced degree in Historic Preservation from Columbia University, is a frequent participant in international conferences. He has been a consultant to UNESCO in its traditional building crafts training project in Luang Prabang, Lao PDR, and also to the World Monuments Fund, particularly in its training initiatives in Cambodia. His most recent book is *Ancient Sites of Southeast Asia: A Traveler's Guide through History, Ruins, and Landscapes*. (Jury member 2000-2011, 2013-2017, 2019)

Bundit Chulasai teaches at the Department of Architecture at Chulalongkorn University in Bangkok, Thailand. He studied at Chulalongkorn University, at the University of Illinois at Urbana-Champaign in the United States, and at Unité Pédagogique d'Architecture No. 1 in France. A member of the Association of Siamese Architects (ASA), he served twice as the chair of ASA's Fine Arts Commission, which has promoted greater public understanding of urban and architectural conservation since 1982. His design for the renovation of the Railway Hotel in Hua Hin, Thailand, is one of the country's finer examples of adaptive reuse of historic buildings. His other conservation work includes the renovation of Chulalongkorn University's Ruen Pharoetracha in Bangkok and Daraphirom Museum in Chiang Mai. These projects were recognized with the ASA Architectural Conservation Award. (Jury member 2005)

Dong Wei is UNESCO Chair in Cultural Management at Southeast University's Department of Architecture, director of the Academic Committee of Urban Planning History and Theory, UPSC, and head of the SEU Key Laboratory of Urban and Architectural Heritage Conservation of the Ministry of Education in China. He was educated at the Xi'an Institute of Metallurgy and Building (now Xi'an Architecture University), the Traditional Architecture and Garden Design Institute of Xi'an and Nanjing Institute of Technology (now Southeast University). After obtaining his Ph.D. at the Norwegian University of Science and Technology, he was a post-doctoral researcher at Tsinghua University in Beijing. In 1998, he led an architectural survey of intact traditional buildings in the Xijin Ferry area in Zhenjiang, Jiangsu Province, a project that received a 2001 Award of Merit. He was involved in the restoration of Zhongshan Road in Quanzhou, Fujian Province, a project that was also recognized with an Award of Merit in 2001. (Jury member 2004, 2006, 2017, 2019)

Richard A. Engelhardt was the UNESCO Regional Advisor for Culture in Asia and the Pacific between 1994 and 2008. During his tenure, UNESCO conceived and initiated the Asia-Pacific Awards for Cultural Heritage Conservation programme. After his retirement from UNESCO, Engelhardt served from 2010 to 2015 as a senior research professor in the Faculty of Architecture at the University of Hong Kong. Today he is concurrently the UNESCO Chair Professor of the Conservation and Management of Historic Towns and Urban Centres at the National College of Art in Pakistan; Guest Professor in the School of Architecture and Urban Planning at Southeast University in Nanjing, China; Honorary Professor in the College of Architecture and Urban Planning at Tongji University in Shanghai, China and Visiting Professor in the World Heritage International Research Center at Southwest Jiaotong University in Chengdu, China. Engelhardt has received numerous honours and awards in recognition of his contribution to the conservation of Asian heritage from governments of the region as well as from the Global Heritage Fund. In 1994, H.M. King Norodom Sihanouk of Cambodia knighted him with the title of Commandeur de l'Ordre Royal du Cambodge for his efforts in safeguarding the monuments of Angkor. (Chair 2000-2008, Jury member 2009-2019)

Nobuko Inaba is Professor of World Heritage Studies at the University of Tsukuba, Japan. Trained as a conservation architect and architectural historian, she received her doctoral degree from the Tokyo Institute of Technology. Between 1991 and 2008, she served in the Japanese government's Agency for Cultural Affairs and its affiliated research institute. In April 2008 she took up her current position as professor, while continuing her advisory role to the Japanese central and local authorities on heritage matters. She is a member of the Committee on Cultural Landscapes of the Council for Cultural Affairs and a former member of the Japanese National Commission for UNESCO. (Jury member 2010)

H. Detlef Kammeier was a professor at the Asian Institute of Technology (AIT) in Bangkok between 1976 and 2000, during which time he conducted research and taught in the field of urban, environmental and regional development and planning. Since leaving AIT, he has been engaged in international consulting work in South-East Asia and the Middle East. He also continues to teach as a visiting lecturer in various countries. His long-term interest in urban conservation is reflected in his teaching and research for the postgraduate programme in World Heritage Studies at Brandenburg Technical University in Cottbus, Germany (2002-2005). Since 2005 he has also been part of the international postgraduate programme in Urban Management at the Technical University of Berlin. (Jury member 2000-2002, 2008, 2013, 2014)

Pinraj Khanjanusthiti received her B.Arch. from Chulalongkorn University, her M.Arch from the State University of New York at Buffalo in the United States and her M.A. and Ph.D. in Conservation Studies from the University of York in the United Kingdom. She is currently an associate professor in the Faculty of Architecture of Chulalongkorn University in Bangkok, Thailand. Her areas of specialization include architecture, heritage conservation and cultural heritage management. She is a member of the Association of Siamese Architects (ASA) and has served as a member of ASA's Conservation Commission. She has been a committee member of ICOMOS Thailand Association since 2009. (Jury member 2006-2012, 2015, 2018, 2019)

Anna Sum-yee Kwong is a registered architect in Hong Kong SAR and mainland China and has over 30 years of professional experience. She graduated from the Department of Architecture of Hong Kong University after which she taught at the university as an Adjunct Professor. She served as the conservation architect for many projects commissioned by the Catholic Diocese of Hong Kong, three of which have won UNESCO Asia-Pacific Heritage Awards: Catholic Cathedral of the Immaculate Conception, St. Joseph's Chapel and Salt pans Revitalization in Yim Tin Tsai Island, Sai Kung, Hong Kong SAR of China. She was the president of the Hong Kong Institute of Architects in 2009 and 2010 and a member of the Hong Kong SAR government's town planning board. Her volunteer service to the community was recognized with a Medal of Honour awarded by the Government of Hong Kong SAR, China. (Jury member 2008, 2009, 2016, 2017)

Abha Narain Lambah is a conservation architect based in Mumbai. She has a master's degree in Architectural Conservation from the School of Planning and Architecture, New Delhi, and over two decades of experience in the field. She was awarded the Sanskriti Award, the Eisenhower Fellowship, the Attingham Trust Fellowship and the Charles Wallace Fellowship, and in 2016 was nominated by Arc Vision as one of the Top 20 Women Architects Globally. She has been a consultant to ICCROM, UNITAR, World Monuments Fund, Global Heritage Fund, the Archaeological Survey of India and has served on the heritage committees of both Delhi and Mumbai. Her architectural practice covers historic sites all over India, including ancient Buddhist sites of Ajanta and Bodhi Gaya, fifteenth-century temples in Ladakh and Hampi, medieval mosques, palaces, forts and caravanserais in Rajasthan, Hyderabad, Madhya Pradesh and Punjab, urban and regional conservation sites in Kancheepuram and Shekhawati, nineteenth-century colonial heritage in Delhi, Shimla, Pune, Bangalore and Mumbai and twentieth-century modern heritage in Corbusier's Chandigarh and Art Deco Mumbai. (Jury member 2014)

Rui Leao is a partner and founder of LBA Architecture & Planning Ltd. He has worked in the field of urban design and planning since 1996. He was part of the project team for the Reorganization Plan of Coloane (1995-1997) elaborated by MV Lda. He worked as a consultant for CEEDS to prepare a strategic plan of Macau (2008), for which he wrote the essay 'The City of Cities and the Pearl River Delta' – the Macau Master Plan Guidelines (www.cplan2008.gov.mo) in partnership with Jorge Gaspar and Manuel Vicente. From 1999 to 2012 he was editor of Macau Architecture, published by AAM. From 2016 to 2019, he was president of the International Council of Architects of Portuguese Language (CIALP). His design work has won several awards, including the Arcasia Gold Medal for Architecture (2005, 2009) and a UNESCO Asia-Pacific Heritage Award (2012). (Jury member 2015, 2017)

Lee Sang-hae has two main research interests: the analysis of the characteristics of architectural sites and the study of Korean architecture in the context of East Asian culture and history. After graduating from Seoul National University, Korea, with an architecture degree, he obtained his master's degree in architectural design and his Ph.D. in architectural history at Cornell University, United States. Since 1986 he has been a professor of architecture at Sungkyunkwan University in Korea. Over the years, Professor Lee has been president of the Korean Association of Architectural Historians, president of ICOMOS Korea and an advisory member of the National Committee for Cultural Heritage Administration of Korea. He has written many books, in Korean and English, including *Korean World Cultural Heritage*, *Palace and Confucian Architecture in Korea* and *Hahoe Korean Historic Village*. (Jury member 2012)

Spencer Leineweber (1947–2015), FAIA, was a professor and the director of the Heritage Center at the University of Hawaii at Manoa, as well as the chair of Professional Programs at the university's School of Architecture. Educated at Cornell University, she was a licensed architect in the state of Hawaii. Her architectural design firm, Spencer Architects, Inc., established in 1978, has been recognized for its sensitive design work in Hawaii and throughout the Pacific. The firm is particularly well known for its work within historic districts and new work on historic buildings. Professor Leineweber had a passion with regard to early construction techniques in Hawaii and her project on the Plantation Village ethnic history museum was recognized for outstanding research-supported design with the first Design Honor Award ever given to a project in Hawaii by the American Institute of Architects. (Jury member 2000–2003, 2005–2006, 2008, 2010–2012)

Budi Lim is a Royal Institute of British Architects chartered architect and urban designer with special interests in conservation and restoration. He established his private practice, PT. Budi Lim Architects, in Jakarta, Indonesia, in 1984, shortly after returning from studying and working in England. The revitalization of Jakarta's old city between 1999 and 2009 is one of the many projects that demonstrate Lim's longstanding passion for conservation and restoration. He was the 1998 recipient of the Indonesian Eisenhower Exchange Fellowship and his restoration of Indonesia's National Archive Building won the 2001 Award of Excellence. His team also designed the award-winning Indonesian Pavilion at the 2010 World Expo Shanghai. (Jury member 2002–2009, 2012)

Laurence Loh is recognized as a leading conservation architect and cultural heritage expert in Malaysia and the Asia-Pacific region. Best practice exemplars of his work in Malaysia include Cheong Fatt Tze Mansion (2000 Most Excellent Project), Cheng Hoon Teng Temple (2003 Award of Merit), Stadium Merdeka (2008 Award of Excellence) and Suffolk House (2008 Award of Distinction). His project for the adaptive reuse of the UAB Building in Penang won the Malaysian Institute of Architects 2018 Building of the Year Award. In 2019, the Institute honoured Loh with the PAM Gold Medal Award for Design Excellence for his lifelong contribution to the advancement of architecture in Malaysia and internationally. He lectures annually at the University of Hong Kong and is currently engaged with the Getty Conservation Institute to deliver a bi-annual Urban Conservation Planning course for ASEAN countries. He is an honorary fellow of the Hong Kong Institute of Architectural Conservationists and

a director of Think City, a community-based organization that undertakes urban rejuvenation. (Jury member 2001, 2004-2007, 2009-2015, 2017-2019)

David Lung is a registered architect and held the Lady Edith Kotewall Endowed Professorship in the Built Environment and Professorship of Architecture at the University of Hong Kong until his retirement in 2017. For over three decades Professor Lung researched, taught and published widely in the area of cultural heritage, including a worldwide massive open online course (MOOC), launched via the Harvard/MIT based EdX platform, on the subject of Asian vernacular architecture. Over the course of his career he was a key member of the UNESCO-ICCROM Asian Academy for Heritage Management network. (Jury Member 2002, 2004, 2005 and 2007)

Nimish Patel (1948–2018) studied architecture at the Centre for Environmental Planning and Technology in Ahmedabad, India, and continued his post-graduate studies at the Massachusetts Institute of Technology in the United States. Following his return to India in 1979, he and his partner Parul Zaveri established an architectural practice, Abhikram. Apart from heritage conservation, their focus is on the use of passive human comfort systems in buildings. Aside from their architecture and design work, over the past 40 years they have given lectures, officiated on projects, conducted workshops and published papers, both nationally and internationally. Their work has been recognized with design awards for educational, residential and public buildings, and their conservation projects have received awards. Their project to restore Chanwar Palkhiwalon-ki-Haveli was recognized as an Excellent Project in 2000. (Jury member 2001-2004, 2008-2009, 2012)

Chatvichai Promadhattavedi was Director of the Birasri Institute of Modern Art between 1976 and 1988. Today he works as a designer with his own firm mostly conducting public interior design works. In 2002, he spearheaded the setting up of the Office of Contemporary Arts and Culture within the Ministry of Culture of Thailand and became an advisor to the Ministry of Culture. Chatvichai was appointed chairman of the Sub-committee for Cultural Management Policy, and became its acting director in 2008. He is on the Bangkok Art and Culture Centre Board, is a member of the Executive Committee and acts as its secretary. Chatvichai was an advisor to the Bangkok Governor in 2012 and now chairs the sub-committee for the museum section. He is a member of the Siamese Heritage Trust Steering Committee of the Siam Society of Thailand. (Jury member 2000, 2003, 2004, 2006-2009)

Que Weimin completed his master's degree at Hangzhou University in 1987 and completed his Ph.D. in historical geography at Peking University in 1999. He taught in the Department of Geography at Hangzhou University between 1987 and 1995 as an assistant and lecturer, and later as an assistant professor (1995-1999). Between 2000 and 2004 he was a professor in the Department of History at Zhejiang University and since 2004 he has been a professor in the College of Urban and Environmental Sciences at Peking University. He is also the vice-dean of the Research Center of World Heritage at Peking University. He was the vice-chair of the Executive Committee of UNESCO-AAHM between 2009 and 2018, and formerly was the Chinese representative of TICCIH (2006-2015). Five of Professor Que's conservation projects have won UNESCO Asia-Pacific Heritage Awards: Cangqiao Historic Streets (2003 Award of Merit), Zhangzhou City Historic Streets (2004 Honourable Mention), Houkeng Timber-Arched Corridor Bridge (2005 Award of Excellence), Heritage Buildings in Cicheng Historic Town (2009 Honourable Mention) and Enjoying Snow Yard (2013 Award of Merit). (Jury member 2008, 2010, 2011, 2014, 2016)

Gurmeet S. Rai is a conservation architect and a heritage management specialist based in New Delhi. In 1996, she established CRCI India Pvt Ltd, which has since become a leading firm in heritage practice in India. Some of CRCI's noted conservation and management plans include those for the World Heritage sites of Red Fort, New Delhi and Ellora Cave, Maharashtra, and for the historic settlements of Amritsar and Puri. Other notable projects include sustainable strategies for the development of cultural tourism in Jammu and Kashmir and

integrated conservation and development of tangible and intangible heritage for governments, the private sector, and bilateral and multi-lateral agencies. CRCI has provided expertise in the countries of Nepal, Myanmar and India. Within India, CRCI has worked in Punjab, Rajasthan, Odisha, Madhya Pradesh, Gujarat, Delhi, Jammu and Kashmir, among other states and cities. Rai has directed two projects that have received UNESCO Asia-Pacific Heritage Awards: Krishan Temple and Lakhpat Gurudwara, awarded in 2001 and 2004. She is currently the vice president of ICOMOS India and an expert voting member on the ICOMOS International Scientific Committee on Cultural Tourism. (Jury member 2005-2007, 2010, 2011, 2013, 2015-2019)

Johannes Widodo is an associate professor with the Department of Architecture of the National University of Singapore. He received his degree in architecture from Parahyangan Catholic University in Bandung, Indonesia, his Master of Architectural Engineering from Katholieke Universiteit Leuven in Belgium and his Ph.D. in Architecture from the University of Tokyo, Japan. His research areas include architecture history, typology, morphology and heritage management. He is the director of the NUS Tun Tan Cheng Lock Centre for Asian Architectural and Urban Heritage in Melaka Malaysia, and executive editor of the Journal of Southeast Asian Architecture (JSEAA). He is the founder of the modern Asian Architecture Network (mAAN), an executive committee member of the Asian Academy for Heritage Management (since 2019), a jury member for the UNESCO Asia-Pacific Heritage Awards for Cultural Heritage Conservation, a founding member and director of the ICOMOS National Committee of Singapore, a founding member and director of DoCoMoMo Macao and DoCoMoMo Singapore and the founder and executive director of the International Network of Tropical Architecture (iNTA). He also serves as an advisory board member of the Preservation of Sites and Monuments of the National Heritage Board of Singapore. (Jury member 2002-2011, 2014, 2019)

Yeo Kang Shua is Associate Professor of History, Theory and Criticism at the Singapore University of Technology and Design. He received his Bachelor of Architectural Studies, Master of Architecture and Ph.D. (Architecture) from the National University of Singapore. From 2014 to 2018 he was the inaugural Hokkien Foundation Career Professor in Architectural Conservation. He serves on the boards of numerous non-governmental organizations, including the Singapore Heritage Society and Singapore Society of Asian Studies, and is a founding member of ICOMOS Singapore (National Committee). He also serves as a member of the Heritage Advisory Panel of the National Heritage Board (Singapore) and the Heritage and Identity Partnership of the Urban Redevelopment Authority (Singapore). (Jury member 2015-2018)

Josie Zhou graduated from the University of Oxford with a D.Phil from the Department of Philology (Cognition and Communication), and has since worked for various United Nations agencies and international non-profit institutions. An elected member of the United Kingdom's Society of Authors (1991-2013), she was an initiator of the Peace and Development Foundation and is on the advisory board for the Jackie Chan Charitable Foundation and Bridge-to-China (WZQ) Charitable Foundation. She supports a number of public service and environmental organizations. From 2005 to 2014, she served as the chief advisor for UNDP China in Hong Kong SAR and Macao SAR; and is currently an honorary advisor for the UNESCO Asia-Pacific Awards for Cultural Heritage Conservation programme.

AWARD REGULATIONS

2015 – 2016 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

ARTICLE 1 - OBJECTIVE

- 1.1 The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation ("the Awards") recognize the achievement of the private sector and public-private initiatives in successfully conserving or restoring structures, places and properties of heritage value in the region.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Awards, which are established for an indeterminate period, shall be awarded on an annual basis.
- 2.2 The Awards shall consist of a number of winners to be determined by the Jury in the following categories:
 - a. **Award of Excellence**, which demonstrates exceptional achievement in all criteria and has major catalytic impact at the national or regional level;
 - b. **Award of Distinction**, which demonstrates outstanding achievement in all criteria and has significant impact at the national or regional level;
 - c. **Award of Merit**, which demonstrates superior achievement in all criteria;
 - d. **Honourable Mention**, which demonstrates noteworthy achievement in selected criteria.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The format and number of the Awards may be varied from time to time at the discretion of UNESCO and the Jury.
- 2.6 The Awards will be made out in the name stated on the project entry form.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 To be considered for the Awards, the conserved or restored heritage structure, place or property must be over 50 years old. For settlements and landscapes, the essential historic elements must be more than 50 years old.
- 3.2 The following are eligible for consideration: residential, commercial and institutional buildings; religious properties; urban and rural settlements, historic towns and villages; archaeological heritage; cultural landscapes, parks and gardens; military properties; modern heritage; agricultural, industrial and technological properties; burial monuments and sites; cultural routes; vernacular architecture; and symbolic properties and memorials.
- 3.3 The project must be the result of private sector initiative or public-private partnership. The involvement of private individuals or organizations in terms of ownership, tenancy, financing or other contributions to the project should be clear. Projects that are financed, owned and undertaken wholly by government entities are not eligible.
- 3.4 The work must have been completed within the preceding 10 years at the time of submission. For buildings with a new use, the project must also have been occupied or put to viable use for at least one year at the time of submission.
- 3.5 Entries that have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury, or unless substantial additional restoration has been carried out since the previous submission.

ARTICLE 4 – CRITERIA FOR THE AWARDS

- 4.1 The Awards recipients will have conclusively demonstrated excellence in:
Understanding the Place:
 - a. How well the conservation or restoration work articulates the property's heritage values in order to convey the spirit of place.

- b. How well the conservation or restoration work interprets the property's cultural, social, historical and architectural significance.
- c. Appropriate use or adaptation of the property.

Technical Achievement:

- d. The understanding of the technical issues of conservation/restoration in interpreting the property's significance.
- e. The use and quality control of appropriate building, artisan and conservation techniques.
- f. The use of appropriate materials.
- g. How well any added elements or creative technical solutions respect the character and inherent spatial quality of the property.

Social and Policy Impact:

- h. The overall complexity, sensitivity and technical consistency of the project.
- i. The on-going socio-economic and environmental viability and relevance of the project, and provision for its future use and maintenance.
- j. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum.
- k. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.

ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of:
 - a. 1 representative from UNESCO and
 - b. 8 to 10 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 – CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee, or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.
- 6.2 Each entry must be submitted to UNESCO before **31 March**.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display or communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.
- 6.7 The use of the UNESCO logo for any purposes related to the Awards requires prior written authorization from UNESCO.

ARTICLE 7 – MATERIALS REQUIRED FOR SUBMISSION

Each entry must be submitted with the following documentation in full:

- 7.1 Official entry form
- 7.2 Heritage Awards project description (using the provided official format)

- 7.3 Occupant's comments
- 7.4 Owner consent
- 7.5 Rights authorization form (copyright for drawings, illustrations and photographs)
- 7.6 Drawings, A4 format or A3 format
- 7.7 Photographs
- 7.8 Additional materials (articles, videos, etc.) may be provided, as per the guidelines on the Awards website
- 7.9 CD/DVD (including entry dossier in PDF format, drawings and photographs)

AWARD REGULATIONS

2017 – 2018 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

ARTICLE 1 – OBJECTIVE

- 1.1 The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation ("the Awards") recognize the achievement of the private sector and public-private initiatives in successfully conserving or restoring structures, places and properties of heritage value in the region.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Awards, which are established for an indeterminate period, shall be awarded on an annual basis.
- 2.2 The Awards shall consist of a number of winners to be determined by the Jury in the following categories:
 - a. **Award of Excellence**, which demonstrates exceptional achievement in all criteria and has major catalytic impact at the national or regional level;
 - b. **Award of Distinction**, which demonstrates outstanding achievement in all criteria and has significant impact at the national or regional level;
 - c. **Award of Merit**, which demonstrates superior achievement in all criteria;
 - d. **Honourable Mention**, which demonstrates noteworthy achievement in selected criteria.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The format and number of the Awards may be varied from time to time at the discretion of UNESCO and the Jury.
- 2.6 The Awards will be made out in the name stated on the project entry form.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 The following are eligible for consideration: residential, commercial and institutional buildings; religious properties; urban and rural settlements, historic towns and villages; archaeological heritage; cultural landscapes, parks and gardens; military properties; modern heritage; agricultural, industrial and technological properties; burial monuments and sites; cultural routes; vernacular architecture; and symbolic properties and memorials.
- 3.2 The project must be the result of private sector initiative or public-private partnership. The involvement of private individuals or organizations in terms of ownership, tenancy, financing or other contributions to the project should be clear. Projects that are financed, owned and undertaken wholly by government entities are not eligible.
- 3.3 The work must have been completed within the preceding 10 years at the time of submission. For buildings with a new use, the project must also have been occupied or put to viable use for at least one year at the time of submission.
- 3.4 Entries that have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury, or unless substantial additional restoration has been carried out since the previous submission.

ARTICLE 4 – CRITERIA FOR THE AWARDS

- 4.1 The Awards recipients will have conclusively demonstrated excellence in:

Understanding the Place:

 - a. How well the conservation or restoration work articulates the property's heritage values in order to convey the spirit of place.
 - b. How well the conservation or restoration work interprets the property's cultural, social, historical and architectural significance.
 - c. Appropriate use or adaptation of the property.

Technical Achievement:

- d. The understanding of the technical issues of conservation/restoration in interpreting the property's significance.
- e. The use and quality control of appropriate building, artisan and conservation techniques.
- f. The use of appropriate materials.
- g. How well any added elements or creative technical solutions respect the character and inherent spatial quality of the property.

Social and Policy Impact:

- h. The overall complexity, sensitivity and technical consistency of the project.
- i. The on-going socio-economic and environmental viability and relevance of the project, and provision for its future use and maintenance.
- j. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural and historical continuum.
- k. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.

ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of:
 - a. 1 representative from UNESCO and
 - b. 8 to 10 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 – CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee, or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.
- 6.2 Each entry must be submitted to UNESCO before **31 May 2017**.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display or communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.
- 6.7 The use of the UNESCO logo for any purposes related to the Awards requires prior written authorization from UNESCO.

ARTICLE 7 – MATERIALS REQUIRED FOR SUBMISSION

Each entry must be submitted with the following documentation in full:

- 7.1 Official entry form
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- 7.3 Occupant's comments
- 7.4 Owner consent
- 7.5 Rights authorization form (copyright for drawings, illustrations and photographs)
- 7.6 Drawings, A4 format or A3 format

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- 7.7 Photographs
- 7.8 Additional materials (articles, videos, etc.) may be provided, as per the guidelines on the Awards website
- 7.9 CD/DVD (including entry dossier in PDF format, drawings and photographs)

AWARD REGULATIONS

2019 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION

ARTICLE 1 – OBJECTIVE

- 1.1 The UNESCO Asia-Pacific Awards for Cultural Heritage Conservation ("the Awards") recognize the achievement of the private sector and public-private initiatives in successfully conserving or restoring structures, places and properties of heritage value in the region.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Awards, which are established for an indeterminate period, shall be awarded on an annual basis.
- 2.2 The Awards shall consist of a number of winners to be determined by the Jury in the following categories:
 - a. **Award of Excellence**, which demonstrates exceptional achievement in all criteria and has a major catalytic impact at the national or regional level;
 - b. **Award of Distinction**, which demonstrates outstanding achievement in all criteria and has a significant impact at the national or regional level;
 - c. **Award of Merit**, which demonstrates superior achievement in all criteria;
 - d. **Honourable Mention**, which demonstrates noteworthy achievement in selected criteria.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The format and number of the Awards may be varied from time to time at the discretion of UNESCO and the Jury.
- 2.6 The Awards will be made out in the name stated on the project entry form.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 The following are eligible for consideration: residential, commercial and institutional buildings; religious properties; urban and rural settlements, historic towns and villages; archaeological heritage; cultural landscapes, parks and gardens; military properties; modern heritage; agricultural, industrial and technological properties; burial monuments and sites; cultural routes; vernacular architecture; and symbolic properties and memorials.
- 3.2 The project must be the result of private sector initiative or public-private partnership. The involvement of private individuals or organizations in terms of ownership, tenancy, financing or other contributions to the project should be clear. Projects that are financed, owned and undertaken wholly by government entities are not eligible.
- 3.3 The work must have been completed within the preceding 10 years at the time of submission. For buildings with a new use, the project must also have been occupied or put to viable use for at least one year at the time of submission.
- 3.4 Entries that have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury, or unless substantial additional restoration has been carried out since the previous submission.

ARTICLE 4 – CRITERIA FOR THE AWARDS

- 4.1 The Awards recipients will have conclusively demonstrated excellence in:

Understanding the Place:

- a. The articulation of the heritage property's values in order to convey the spirit of place through the conservation work.
- b. The interpretation of the cultural, social, historical, architectural, scientific and spiritual significance of the heritage property in conservation work.
- c. Appropriate use or adaption to support the long-term sustainability of the property.

Technical Achievement:

- d. Addressing the technical issues of conservation/restoration in interpreting the heritage property's significance.
- e. The selection and execution of appropriate building, artisan, and conservation techniques.
- f. Appropriate use of materials.
- g. How well any added elements or creative technical solutions respect the significance and inherent spatial quality of the property.

Social and Policy Impact:

- h. The engagement of the local community in the conservation process.
- i. The complexity, sensitivity and technical consistency of the project.
- j. The ongoing socio-economic and environmental viability and relevance of the project, and provision for its future use and maintenance.
- k. The manner in which the process and the final product contribute to the surrounding environment and the local community's cultural continuum.
- l. The influence of the project on conservation practice and policy locally, nationally, regionally or internationally.

ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of:
 - a. 1 representative from UNESCO and
 - b. 7 to 10 international conservation experts renowned for their knowledge of conservation in the Asia-Pacific region.
- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 – CONDITIONS OF ENTRY

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- 6.2 Each entry must be submitted to UNESCO before **31 March 2019**.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display or communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for the delivery of their respective entries. Entry materials will not be returned.
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ARTICLE 7 – MATERIALS REQUIRED FOR SUBMISSION

Each entry must be submitted with the following documentation in full:

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- 7.2 The Awards project description (using the provided official format)
- 7.3 Occupant's comments
- 7.4 Owner consent
- 7.5 Rights authorization form (copyright for drawings, illustrations and photographs)

- 7.6 Drawings, A4 format or A3 format
- 7.7 Photographs (before conservation – in process – after conservation – in use/ current state)
- 7.8 Conservation Management Plan should be provided, if applicable
- 7.9 Additional materials (articles, videos, etc.) may be provided, as per the guidelines on the Awards website
- 7.10 CD/ USB Drive (including all documents required in PDF format, drawings and photographs preferably in high-resolution files)

Entries that do not fulfil the requirements will not be presented to the Jury.

AWARD REGULATIONS

2015 – 2016 UNESCO AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

ARTICLE 1 – OBJECTIVE

- 1.1 In addition to the announced Awards, the Jury will, through its special Award for New Design in Heritage Contexts, recognize newly-built structures which demonstrate outstanding architectural design that is well-integrated into historic contexts.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Award for New Design in Heritage Contexts will be given at the discretion of the Jury.
- 2.2 The Award for New Design in Heritage Contexts will consist of a bronze plaque for a selected number of entries.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 Projects should have been undertaken within the framework of a larger conservation project or should be located within or adjacent to a historic area whose essential elements are more than 50 years old.
- 3.2 Building annexes, new extensions, new buildings, new public spaces and new structures such as bridges are all eligible for consideration.
- 3.3 To be considered for the Award for New Design in Heritage Contexts, the work must have been completed within the preceding 10 years at the time of submission. The project must also have been occupied or put to viable use for at least one year.
- 3.4 The submission must demonstrate that no structures of heritage significance were altered or cleared from the site for the purpose of the project submitted for the Award for New Design in Heritage Contexts.
- 3.5 Entries that have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury.
- 3.6 Projects that are new structures built as historic replicas, built against historic façades and historic theme parks will not be considered within the scope of the Award for New Design in Heritage Contexts.
- 3.7 Projects that are submitted for consideration to the conservation category of the UNESCO Heritage Awards in the same year are not eligible for submission for the Award for New Design in Heritage Contexts. Projects which are jointly submitted will be disqualified.

ARTICLE 4 – CRITERIA FOR THE AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

- 4.1 The recipients of the Award for New Design in Heritage Contexts will have conclusively demonstrated excellence in the following areas:
 - a. Outstanding design concept that demonstrates critical thinking in articulating an innovative response to the specific historic context.
 - b. How well the new structure helps to reveal the qualities of the place, including historical, architectural, cultural and social significance.
 - c. The compatibility and appropriateness of the new structure's programme/function in its context.
 - d. How well the new structure integrates with the existing built and natural context. Factors include, but are not limited to, the following: typology, siting, massing, form, scale, character, colour and texture.
 - e. The justification of selection and quality control of materials and building techniques (contemporary, vernacular or a combination of both).
 - f. The manner in which the process and the final product extend the local community's cultural and social continuum.
 - g. The influence of the project on architectural practice and design policy locally, nationally, regionally or internationally.

ARTICLE 5 – SELECTION PROCESS AND JURY

- 5.1 The Awards recipients shall be selected on the proposal of an internal Jury.
- 5.2 The Jury shall be composed of:
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- 5.3 UNESCO shall appoint the Jury for the full period of the Awards process.

ARTICLE 6 – CONDITIONS OF ENTRY

- 6.1 Entries may be submitted by the registered owner, registered lessee, or conservation consultant, architect or designer, any of whom would have had to be involved in the process, preferably throughout the entire project duration.
- 6.2 Each entry must be submitted to UNESCO before **31 March**.
- 6.3 Submission of an entry will be taken to imply granting UNESCO the rights to use, publish, display or communicate all materials and particulars of the successful schemes, without charge to UNESCO.
- 6.4 The wording of plaques and certificates will be based strictly on the details given on the entry form.
- 6.5 All submitting persons or firms will be responsible for delivery of their respective entries. Entry materials will not be returned.
- 6.6 One or more entries may be submitted by the same individual or institution.
- 6.7 The use of the UNESCO logo for any purposes related to the Awards requires prior written authorization from UNESCO.

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Each entry must be submitted with the following documentation in full:

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- 7.5 Drawings, A4 format
- 7.6 Photographs
- 7.7 Additional materials (articles, videos, etc) may be provided
- 7.8 CD / DVD (including entry dossier in PDF format, drawings and photographs)
- 7.9 Rights authorization form (copyright for drawings, illustrations photographs)

AWARD REGULATIONS

2017 – 2018 UNESCO AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

ARTICLE 1 – OBJECTIVE

- 1.1 In addition to the announced Awards, the Jury will, through its special Award for New Design in Heritage Contexts, recognize newly-built structures which demonstrate outstanding architectural design that is well-integrated into historic contexts.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Award for New Design in Heritage Contexts will be given at the discretion of the Jury.
- 2.2 The Award for New Design in Heritage Contexts will consist of a bronze plaque for a selected number of entries.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 Projects should have been undertaken within the framework of a larger conservation project or should be located within or adjacent to a historic area.
- 3.2 Building annexes, new extensions, new buildings, new public spaces and new structures such as bridges are all eligible for consideration.
- 3.3 To be considered for the Award for New Design in Heritage Contexts, the work must have been completed within the preceding 10 years at the time of submission. The project must also have been occupied or put to viable use for at least one year.
- 3.4 The submission must demonstrate that no structures of heritage significance were altered or cleared from the site for the purpose of the project submitted for the Award for New Design in Heritage Contexts.
- 3.5 Entries that have been previously submitted will not be eligible for resubmission unless invited to do so by the Jury.
- 3.6 Projects that are new structures built as historic replicas, built against historic façades and historic theme parks will not be considered within the scope of the Award for New Design in Heritage Contexts.
- 3.7 Projects that are submitted for consideration to the conservation category of the UNESCO Heritage Awards in the same year are not eligible for submission for the Award for New Design in Heritage Contexts. Projects which are jointly submitted will be disqualified.

ARTICLE 4 – CRITERIA FOR THE AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

- 4.1 The recipients of the Award for New Design in Heritage Contexts will have conclusively demonstrated excellence in the following areas:
 - a. Outstanding design concept that demonstrates critical thinking in articulating an innovative response to the specific historic context.
 - b. How well the new structure helps to reveal the qualities of the place, including historical, architectural, cultural and social significance.
 - c. The compatibility and appropriateness of the new structure's programme/function in its context.
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 - e. The justification of selection and quality control of materials and building techniques (contemporary, vernacular or a combination of both).
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- 7.9 Rights authorization form (copyright for drawings, illustrations photographs)

AWARD REGULATIONS

2019 UNESCO AWARD FOR NEW DESIGN IN HERITAGE CONTEXTS

ARTICLE 1 – OBJECTIVE

- 1.1 In addition to the announced Awards, the Jury will, through its special Award for New Design in Heritage Contexts, recognize newly-built projects which demonstrate outstanding design that is well-integrated into heritage contexts.

ARTICLE 2 – AWARD AND FREQUENCY

- 2.1 The Award for New Design in Heritage Contexts will be given at the discretion of the Jury.
- 2.2 The Award for New Design in Heritage Contexts will consist of a bronze plaque for a selected number of entries.
- 2.3 Each Award winner will receive one bronze plaque.
- 2.4 Certificates of recognition will be presented to all parties included on the entry form.
- 2.5 The format and number of the Awards may be varied from time to time at the discretion of UNESCO and the Jury.
- 2.6 The Awards will be made out in the name stated on the project entry form.

ARTICLE 3 – ELIGIBILITY FOR THE AWARDS

- 3.1 Projects should have been undertaken within the framework of a larger conservation project or should be located within or adjacent to a historic area.
- 3.2 Building annexes, new extensions, new buildings, new public spaces and new structures such as bridges are all eligible for consideration.
- 3.3 To be considered for the Award for New Design in Heritage Contexts, the work must have been completed within the preceding 10 years at the time of submission. The project must also have been occupied or put to viable use for at least one year.
- 3.4 The submission must demonstrate that no structures of heritage significance were adversely affected for the purpose of the project submitted for the Award for New Design in Heritage Contexts.
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- e. The justification of selection and quality control of materials and building techniques (contemporary, vernacular or a combination of both).
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Bottom left (p. 366)	Hong Kong Cultural Imaging Workshop
Bottom right (p. 366)	Hong Kong Cultural Imaging Workshop
Top left (p. 367)	Hong Kong Cultural Imaging Workshop
Bottom right (p. 367)	The Mills
Section (p. 366)	The Mills
Plan (p. 367)	The Mills

Regional map (p. 372) Source: Ministry of Natural Resources of the People's Republic of China, GS(2016)1611

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This fourth volume in the *Asia Conserved* series showcases projects that were recognized by UNESCO's Asia-Pacific Awards for Cultural Heritage Conservation between 2015 and 2019. This programme acknowledges achievements in heritage conservation by the private sector and by public-private initiatives.

The featured projects consist of a wide variety of buildings and sites, ranging from fountains to schools, from temples to villages. Commentaries by jury members and reflections from selected winners discuss how the projects illustrate excellence in heritage practice, as framed by UNESCO's competency framework for heritage management within the region.