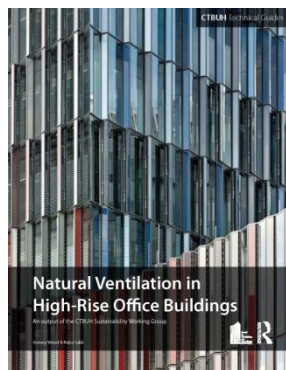
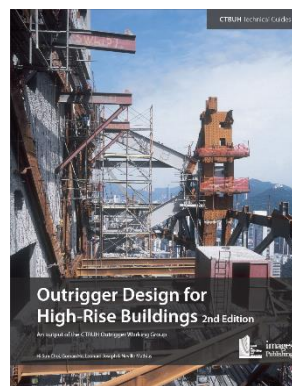
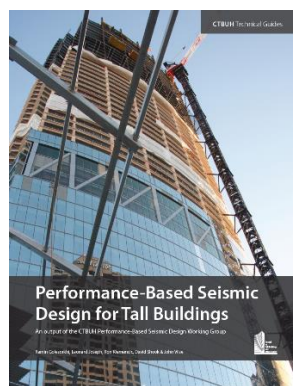
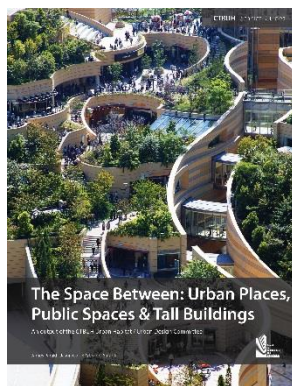


## CTBUH Working Groups & Technical Guides

As of October 2017, seven CTBUH Technical Guides have been published to date, the covers of which are shown below: Urban Habitat & Urban Design (2017), Performance-Based Seismic Design (2017), Outrigger Design II (2017), Green Walls (2014), Natural Ventilation (2013), Wind Tunnel Testing (2012), and Outrigger Design (2011). Guides currently in process include Façade Access & Maintenance, Fire Performance of Façades, Program & Construction Management, Security, Tall Timber, and Vertical Transportation.



### Objective

The primary purpose of a Working Group is to produce a relevant Technical Guide on a focused topic. As such, the structure of a Working Group is closely tied to the authorship of the Technical Guide, ideally consisting of a Working Group Chair or two Co-Chairs, all of whom act as the primary authors of the guide. The Chairs or Co-Chairs / primary authors should represent different companies.

The Chair / Co-Chairs is responsible for the overall steering of the group and the content of the guide. The wider Working Group can embrace members who may be additional contributors to the guide. These members may author one sub-section of the guide and/or peer review the guide overall. As such they would be listed as contributors / peer reviewers of the guide, but not primary authors. The peer review panel should encompass a wide panel of experts with an international spread, who review the work for accuracy and give industry buy-in.

## Subject Matter

CTBUH Technical Guides should focus on a subject matter of current relevance and interest to the tall building industry. Subjects that are too broad or too narrow can be a detriment to the success of a guide. For example, a guide on “Sustainability in Tall Buildings” would encompass far too much material for a single guide to cover. Alternatively, a guide too narrowly focused will not attract the necessary interest or audience. CTBUH Technical Guides should be aimed at a wide cross-section of building industry professionals, including building developer-clients and city officials. The intention then is to pitch the content at people with an interest and background in the subject – not necessarily experts in the subject itself. It is thus important to explain the necessary background in the guide, before developing it into detail.

## Case Studies

All Technical Guides should provide practical, state-of-the-art technical detail and historic perspective. The most successful guides to date have been focused around extensive case studies, which form a large part of the guide content itself (see image below). These case studies not only provide background on the building relative to the subject of the guide, but are extensively analyzed, including sections on ‘strengths’ and ‘limitations/considerations’. Other Chapters in recent guides have typically included: introduction & background, design considerations (drawing out common points across case studies), risks / limitations, recommendations and future research needs. It is important that the guide present a balanced overview of the subject – highlighting both strengths and potential limitations/risks overall. It is also essential that the guides are focused on tall buildings, not buildings generally.

**Building Data:**

**Year of Completion**

- ▶ 2013

**Height**

- ▶ Ashton Tower: 134 meters
- ▶ Skyline Tower: 62 meters

**Stories**

- ▶ Ashton Tower: 32
- ▶ Skyline Tower: 10

**Building Gross Floor Area**

- ▶ 3,794.3 square meters (including both towers and podium)

**Building Function**

- ▶ Residential

**Structural Material**

- ▶ Concrete

**Green Wall Overview:**

**Green Wall Type**

- ▶ Façade-supported green wall (metal mesh)
- ▶ Tree planters on cantilevering balconies

**Location on Building**

- ▶ Ashton Tower: green wall on east and west façades from 1st to 32nd floors; green wall on north and south façades from 1st to 8th floors; tree planters on north façade
- ▶ Skyline Tower: green wall on east and west façades from 1st to 10th floors; tree planters on south façade

**Surface Area of Green Coverage**

- ▶ Ashton Tower: 4,549 square meters (26% of entire façade area)
- ▶ Skyline Tower: 1,301 square meters (17% of entire façade area)
- ▶ Total green coverage of project: 5,850 square meters (23%)

**Design Strategies**

- ▶ Green wall acts as continuous “tree bark,” wrapping both towers
- ▶ Trellis structure supporting climbing vines, off-set from façade by 625 millimeters
- ▶ Planting media for climbing vines set into planters every floor along length of east and west façades of both towers
- ▶ Trees in planters on balconies at north centerline façade of Ashton Tower and the south centerline of Skyline Tower façade
- ▶ Green walls also to 8-story-high car parking podium
- ▶ Vegetation conceals air conditioning units behind



Case Study 2.18  
**IDEO Morph 38 Tower** Bangkok, Thailand

**Local Climate**

Bangkok has an Equatorial / Winter Dry climate, and is recognized as one of the hottest cities in the world (see figure 2.18.1). It has rainy, hot and cool seasons with an average high temperature above 30 °C in the warmest months. Humidity levels remain high throughout the year, however, the period between November and May is considered to be the “dry season.” The rainy season falls between June and October, with short bursts of heavy rain, and the cool season falls between October and February, with the temperature remaining between 25 °C and 28 °C. The mean annual precipitation is 1,450 millimeter, with 300 millimeter of that precipitation coming in September alone. The temperature range in Bangkok is relatively minimal, but precipitation difference can be quite dramatic.

**Background**

The IDEO Morph 38 development is located away from the high density and congestion of Sukhumvit Road, in a green low-rise residential area. The development is separated into two towers to maximize the building plot ratio, with each building targeted to different preferences of potential tenants (see Figure 2.18.2).

The lower tower of the two, Skyline, is entirely comprised of duplexes, marketed to singles or young couples. The lower floor of the smallest unit is 23.3 square meters in area. These duplex units are expressed vertically with varying balcony placements. In contrast, the taller tower, Ashton, emphasizes the horizontal and cantilevered spaces, which are targeted to families. The unit sizes and types vary from a single bed with a reading room, to duplex units with a private swimming pool and a garden on the eighth floor, and a four-bed duplex penthouse at the top.

**Climatic Data:<sup>1</sup>**

**Location**

- ▶ Bangkok, Thailand

**Geographic Position**

- ▶ Latitude 13° 53' N
- ▶ Longitude 100° 35' W

**Elevation**

- ▶ 12 meters above sea level

**Climate Classification**

- ▶ Equatorial, winter dry

**Mean Annual Temperature**

- ▶ 28.5 °C

**Average Daytime Temperature during the Hottest Months (April, May, June)**

- ▶ 33 °C

**Average Daytime Temperature during the Coldest Months (November, December, January)**

- ▶ 31 °C

**Annual Average Relative Humidity**

- ▶ 72% (hottest months); 65% (coldest months)

**Average Monthly Precipitation**

- ▶ 116 millimeters

**Prevailing Wind Direction**

- ▶ South

**Average Wind Speed**

- ▶ 2.9 meters per second

**Solar Radiation**

- ▶ Maximum: 748 Wh/m<sup>2</sup> (December 21)
- ▶ Minimum: 589 Wh/m<sup>2</sup> (March 21)

**Annual Average Daily Sunshine**

- ▶ 7.2 hours

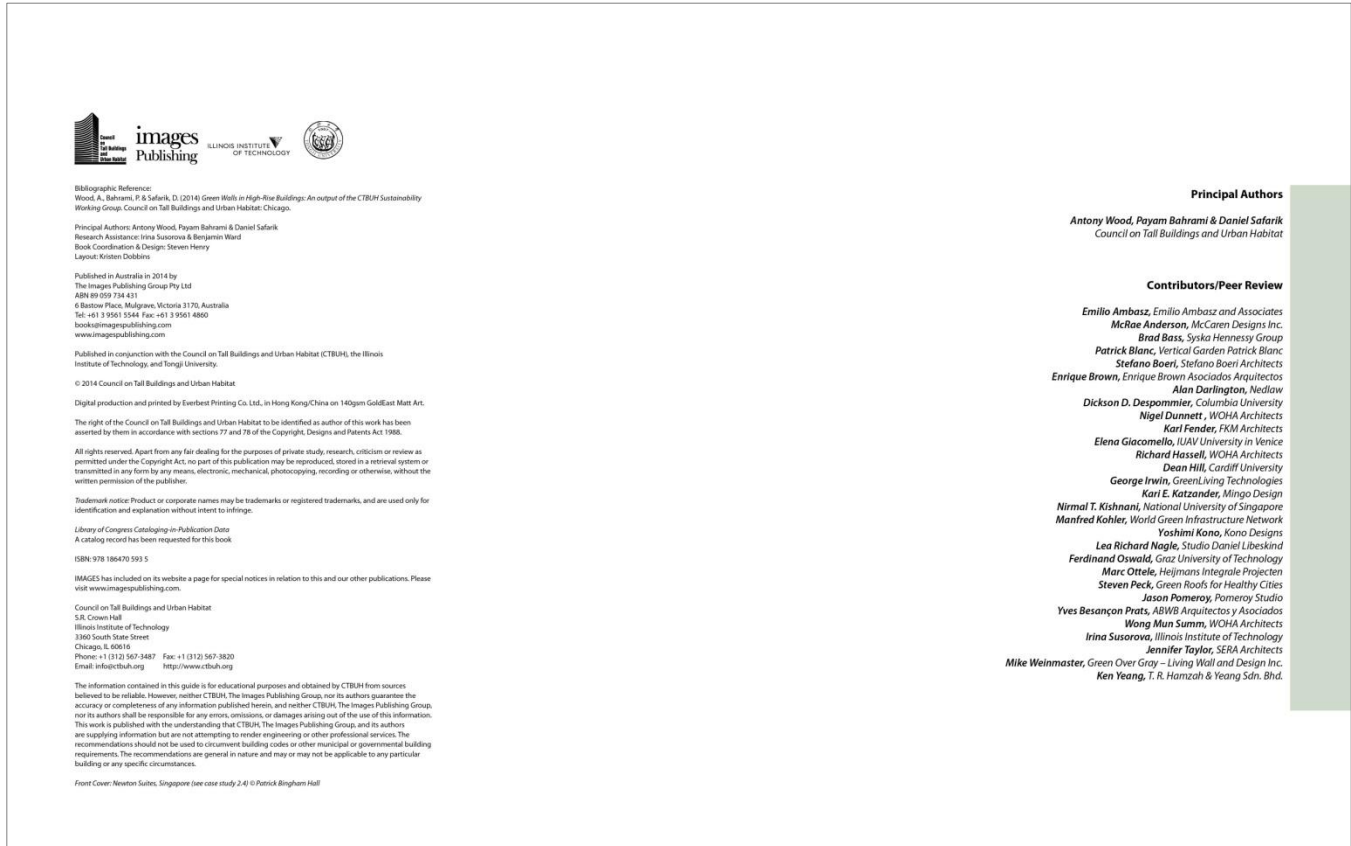
<sup>1</sup> The climatic data listed was derived from the World Meteorological Organization (WMO), British Broadcasting Corporation (BBC) and the National Oceanic and Atmospheric Administration (NOAA).

Case Study: IDEO Morph 38 Tower | 173

Above: Extract of the first two pages of a Case Study from the *Green Walls in High-Rise Buildings* Technical Guide (2014)

## Authorship

A CTBUH Technical Guide will have two or three primary authors who are credited on the front cover of the guide (the Working Group Chair or Co-Chairs). Contributors are those that author sub-sections of the guide focused on their area of expertise, or on a specific case study in which they were involved. Contributors and Peer Reviewers are credited in the opening pages of the guide (see image below).



Above: Extract of the ISBN and Contributor pages from the *Green Walls in High-Rise Buildings* Technical Guide (2014)

## Peer Reviewers

A Peer Review panel should be established for the guide. This group should ideally be made up of 15–20 experts within the topic field, representing a diverse group of companies, geographic locations, and in some cases, professional backgrounds. Peer reviewers will review the guide (in whole, or in part) for accuracy, as well as providing industry buy-in.

## Production Process

- Once an initial proposal has been approved by CTBUH, the Working Group Chair or Co-Chairs will steer the authorship of the guide, write/commission case studies, recruit contributors if needed, etc. Progress drafts should be submitted to CTBUH for periodic review.
- Once a complete draft has been reached (typically a 3–6-month process) it should be sent out for peer review.

- After providing peer reviewers sufficient time to review the document in its entirety (typically 3–4 weeks), feedback should be considered, incorporated, and a final draft produced (typically a further 3–4 weeks).
- At this stage a final draft and corresponding images, drawings, figures, tables, etc. should be submitted to CTBUH.
- CTBUH will then handle the publication layout, final review, and coordination with an external publisher (typically 2–3 months). Please note that the Working Group should provide all high-resolution illustrations with copyright permission alongside their manuscripts, but CTBUH is available to assist in this process if needed.
- CTBUH will typically engage with a publisher once the manuscript has reached an advanced stage of progress (typically prior to the peer review process) to ensure enough time for publisher buy-in and promotion.
- Once layout and final checks are complete it typically takes another 2–3 months for production and delivery.
- The full schedule for Technical Guide production, from start to finish, can thus be anywhere from 9–14 months.

## **Establishing a CTBUH Working Group / Technical Guide**

### **Benefits**

- Working Group Chairs / Co-Chairs and their companies are recognized as primary authors, and thus portrayed as leading industry experts on the subject matter addressed.
- Chairs / Co-Chairs are recognized as CTBUH Leaders enjoying a high profile at all CTBUH events and on the CTBUH website.
- Authors receive a complimentary copy of the final publication, as well as significant discounts on bulk sales. Contributors, peer reviewers, and their companies also receive discount pricing.
- Technical Guides are typically launched at a special event during a CTBUH conference, and promoted heavily to the CTBUH network, thus further promoting the Chairs / Co-Chairs and their companies.

### **Technical Guide Initiation/Application Process**

The first step in the establishment of a new working group is to determine an appropriate subject not yet represented, and put together an initial proposal for review by CTBUH. Proposals should include a synopsis for the Technical Guide, the target audience, a draft chapter plan (sample chapter plans of previous guides are available for reference by request), suggested Co-Chairs and possible contributors/peer reviewers.

Proposals should be submitted to the CTBUH Global Initiatives Assistant Heather Spray at [hspray@ctbuh.org](mailto:hspray@ctbuh.org). Proposals will be reviewed by the CTBUH Board of Trustees.

Working Group Chairs/Co-Chairs must be members of the CTBUH, preferably at the organizational level.