

Managing Building Adaptation

A Sustainable Approach



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The making of BK City: The ultimate laboratory for a faculty of architecture

Alexandra Den Heijer

Introduction

On Tuesday May 13, 2008 a huge fire did not just destroy an iconic building and a place of work for thousands of students and staff: an entire community lost its home.

Miraculously, the faculty library was saved, but the fire destroyed the individual and group libraries of professors and researchers, as well as valuable collections and irreplaceable art that individual staff members had brought to their workplaces over the years. On top of that, many students and staff lost their work in progress, at least that part that could not be — or was not — saved digitally. This disaster was unprecedented in its kind, on that scale, in the Netherlands.

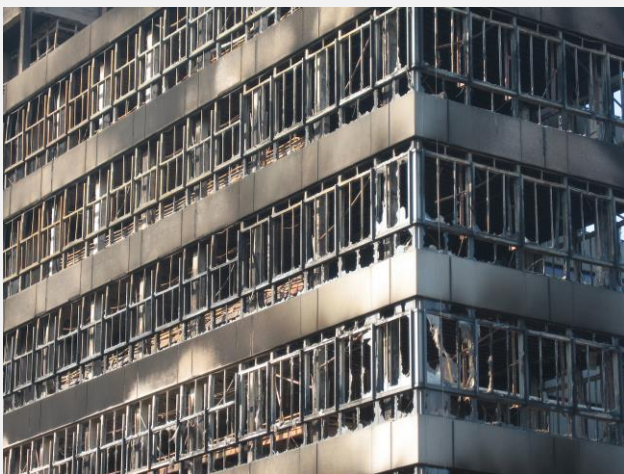


Figure 1

Emergency management

Each student, alumnus, faculty member past and present, staff member or associate of the faculty has a personal story to tell about that tragic day and what the loss of the faculty building means to them. While every individual had to cope with the emotions and find the energy and motivation to move on, the university entered the stage of emergency management. Less than three hours after the fire a crisis team was discussing an immense challenge: where to find temporary accommodation for more than 3000 students and 800 staff. This assignment was twofold: the faculty needed not only an immediate solution for the remaining months of that academic year but also a more permanent solution for the academic year to follow.

Positive energy

From the first press conference and the announcement by the dean, Wytze Patijn, that all faculty activities would resume the following Monday, the energy started to flow. If the university ever needed to demonstrate the value of the network of alumni, fellow universities, related businesses, regional public and private partners and all other associates, this would have been proof enough. It could be measured by the sheer number of expressions of sympathy and support, and the offers of help. Within one day, the faculty had offers from Delft, The Hague and Rotterdam of more than ten times the required floor area. Help from fellow universities varied from sending doubles of books in their libraries to offering shared use of their educational facilities. Within

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the TU Delft practically every faculty offered to accommodate groups of architecture faculty members. The dean of the Faculty of Applied Sciences offered a complete wing of the building to accommodate 70 workplaces for the dean's management team and all supporting staff. As a neighbor of the campus, IKEA supplied all office furniture for these workplaces, with compliments and without publicity. Within three days these 70 workplaces were fully equipped and ready for use on Monday.

Camp site

At the same time large tents turned the sports fields next to the burned-down building into an academic camp site. The faculty's facilities team worked miracles and created a new place

of learning in four days, completely furnished — with wired and wireless internet — and with designated areas for different semesters and space for presentations and meetings. Indeed, all activities resumed on Monday May 19, 2008, less than a week after the fire: an astonishing result. In the next week additional tents were added with workplaces for lecturers and student associations, the faculty pub and cultural events. With lecture halls and modeling facilities housed in other university buildings, 'Camp Campus' was a successful temporary solution for those summer months. It created a place to meet and a home base for a faculty scattered all over the campus. But there had to be a more permanent solution in place for the new academic year.



Figure 2

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Practice what you preach

The process of finding a more permanent solution had already begun a few days after the fire. A team led by the university president, Dirk Jan van den Berg, began exploring alternatives. Many professional associates of the faculty offered their services to rethink, redesign, rebuild, manage or supply facilities. But at this stage and for this process the faculty needed in-house expertise. The irony of this fire happening to the one faculty with professors in all the relevant disciplines was (and still is) striking. Rethinking, redesigning, rebuilding, relocating and managing these processes are the faculty's *raison d'être*. And with many professors, researchers and lecturers combining academic and professional careers, the potential workforce of designers, consultants and managers was available with a single phone call. The message:

'Practice what you preach.'

Teamwork and leadership

Immediately, those involved in the first week of the project knew that there was more at stake than their own reputation in successfully relocating the faculty. Both the process and the result would be closely watched — and criticized — by policymakers, colleagues, professional and academic associates inside and outside the university, and the media. Success or failure would also affect the reputation of faculty and university. The project organization needed to be a close-knit team rather than an assemblage of experienced individuals. Strong leadership was important too. Exploring alternatives From Monday, May 19, the first task of the team was

to explore alternatives to accommodate the faculty as a whole. The process began with five options: two buildings that had previously contained academic functions, two off-campus buildings and a fifth option of erecting a new campus village on the campus sports fields where the tents now stood. Within three days the team — led by the dean and consisting of members of different faculty disciplines — had to present the options to the university's Board of Executives, the director of Finance & Control, the director of Real Estate & Facility Management and representatives of the insurance team. For this unique assignment the team chose to assess all options on various decisive factors. The team agreed on criteria from different perspectives — organizational, functional, financial and technical — matching the theories on campus management.

The ten criteria were as follows:

1. The location in relation to the TU Delft campus;
2. The fitness for use — in terms of accommodating most of the faculty functions — qualitatively and quantitatively;
3. The contribution to the faculty's identity;
4. The availability on September 1, 2008;
5. The availability for a period of several years;
6. The costs, both the initial investment and the annual costs for maintenance and management;
7. The potential for growth and flexibility for change;

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8. The technical condition and required improvements;
9. The number of procedures and their risk to the project's feasibility;
10. The accessibility by public transport and by car, also with regard to the availability of parking places.

Overall, the team had to consider the risks of not meeting the deadline of September 1, 2008. The faculty assured the new group of first year students that they would be welcomed in a new university building.

Selecting alternatives

After just a day of collecting and analyzing data, discussing considerations from all perspectives — an equally thorough and quick analysis — the team narrowed the number of options down to two:

(A) The monumental building on Julianalaan and

(B) A campus village of various temporary structures to be built in the sports fields.

At that time the Julianalaan building (option A) was about to be turned into apartments: the sales process had already begun. This was part of the campus strategy to redevelop the north part of the campus for related functions and to concentrate university functions round the Mekelpark zone. A decision to relocate the faculty in this area would change the use of the whole TU campus. Option B — the new campus village — would give the faculty a creative, innovative campus model, with students and staff involved in continually redesigning and rebuilding it. Whatever the case, the faculty

had to start from scratch. The area could be full of experimental designs and structures. But this experimental character also meant risks, potentially threatening the attractiveness, productivity and satisfaction of the entire faculty community. Options A and B were carefully assessed on all criteria (see fig. 3) in preparation for the ultimate decision at the boardroom table on Thursday May 22, 2008.

On May 23, 2008 — 10 days after the fire — it was announced to the entire faculty community in the Auditorium of the TU Delft that the former main building on Julianalaan was to be their new home. In view of the audience's immediate reaction and spontaneous ovation, the team had one very important criterion confirmed: the decision had been approved by the majority of the future users.

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Project organization

The original team then took a few days to assemble a project organization with the ideal mix of academics, professionals and support staff.. Due to the process ahead of us, the veto criterion for selecting parties and specific persons was a prior knowledge of either the organization or the former or new building. There was no time to waste on background research: the team had to be able to act immediately. On June 2, all project teams set to work simultaneously, challenging all the

theories on project management. Hans Wamelink, professor of Design & Construction Management, guided this exceptional process as the chairman of the project group. The project group included the chairmen of the three parallel teams for brief, design and construction. The design team, consisting of five varied and highly experienced architects, was led by the Faculty Dean and former Government Architect Wytze Patijn. The construction team was led by Johan Hogervorst who has more than 25 years of experience in managing construction

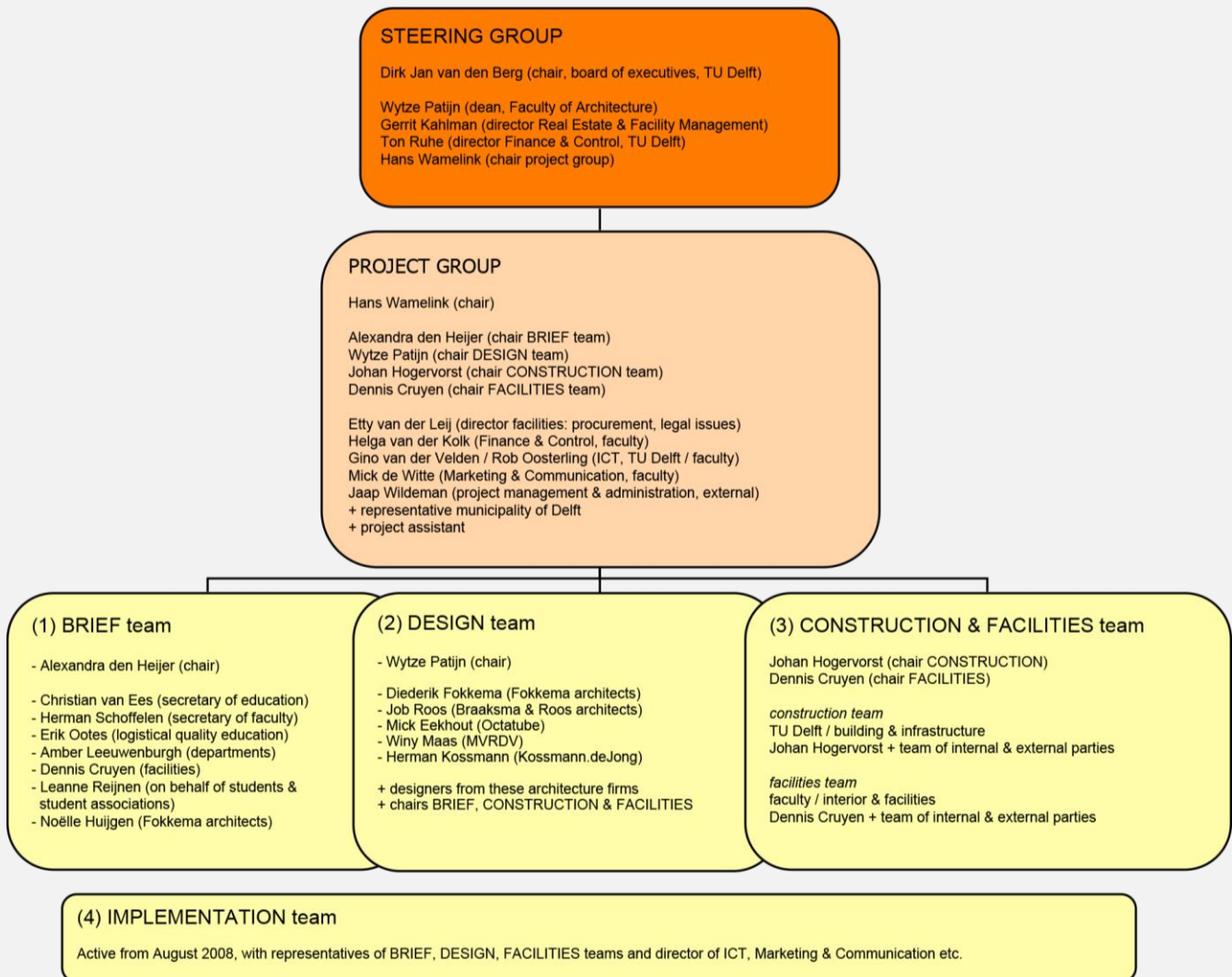


Figure 3

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processes. The facilities team was part of this team and was led by facility manager Dennis Cruyen who had already proved his value in the former building, having managed more than 20 projects with *many* different architects at the same time. Finally, the brief team was led by Alexandra den Heijer, faculty member and campus management specialist who had been attached to the former faculty building for her knowledge of university buildings. Part of this team had already worked closely together in implementing new concepts and trends in the former building. This was a huge advantage in the extremely tight schedule of rethinking faculty processes, redesigning a building with 32,000 m² GFA and refurbishing a monumental labyrinthine structure from the 1920s. With the faculty directors of ICT, Finance & Control, Marketing & Communication and a representative of the municipality of Delft at the table every week, the project group was very decisive and could act fast, very fast.

Brief team

The value of writing policy documents and periodically rethinking ways to study and work was demonstrated at the start of this process. The brief team could make use of the recent study that explored new concepts for studio space and office space, aligning these with the faculty goals and looking ahead to increasing student numbers.⁴ Another important basis for the brief was the functional mix on the floor area of the former building at Berlageweg 1, roughly 42,000 m²GFA. Available data on occupancy and frequency rates and evaluations of users could be used to reconsider quality requirements, in close consultation with the

parties involved. With the homework already done before the fire, the brief team could explore the applicability and feasibility of new design concepts: from restaurant to library, from high-profile conference rooms to creating the ultimate place to meet.

The team, which represented many user groups, took the month of June to involve and inform departments and management. The most important consideration was that the 'new' building at Julianalaan had less floor area available than its predecessor. And even though it might be possible to reduce the demand for space by more facility sharing within the faculty and with the university, a space reduction of 25% was not feasible, especially in the light of increasing student numbers. From the very start, the idea of adding glasshouses was part of the design concept, to accommodate the remaining space requirements and give a prominent place to such functions as modeling studios and exhibition space. The building's labyrinthine structure allowed additional volumes along the central axes. The team discussed the programmatic alternatives in close collaboration with the design and construction team so as to keep the process within tight time limits.

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Figure 4

Design team

Most of the designers in the team were either intensely involved in rethinking the former building, such as Fokkema Architecten (studio and office concepts) and Kossmann.deJong (collective spaces), or designing elements similar to those in the former building, such as Octatube (glass structures), Winy Maas (top-floor studio space) and 2012 Architects (espresso bar). The architecture firm of Braaksma & Roos was invited to join the team for their extensive knowledge of the Julianalaan building and of all the rules and regulations for renovating the monumental new premises. They had made the design to transform it into luxury apartments and were already connected to all the public parties involved. The firm acted as coordinating architect in the design team.

With all their background information Fokkema Architecten were able to be part of both the brief team and the design team. They translated the preliminary brief into many alternatives. The first sketches for the BK City floor plan were on the table by the second week of June. Kossmann.deJong started and

finished the first project of BK City. The new faculty restaurant, Ketelhuis, occupying what used to be the building's boilerhouse, was open before September 1. Their design concept emphasizes the aspect of 'temporary yet sustainable', matching contemporary trends with the purpose of the project. To design the new espresso bar, they cooperated with 2012 Architects who applied their cradle-to-cradle 'Superuse' concept by using window elements from the much debated and recently demolished 'Zwarte Madonna' housing complex. At the same time Octatube and MVRDV began generating many alternatives for the glasshouses.

Braaksma & Roos coordinated all design activities and monitored the quality of the total design, while being closely connected to the construction team. On top of that, they took on the challenge of redesigning the grounds, creating attractive spots to meet outside while guaranteeing accessibility by car and bicycle. In such a rapid process, creativity and feasibility have to proceed in concert.

Construction & facilities team

For decades, the early 20th-century building on Julianalaan was the largest building in the Netherlands. Its volume and long corridors still impress many visitors. This huge building (in a moderate to poor condition) needed to be renovated in a very short time. On top of that, its west side was being used by a student society for its five-yearly celebrations until the beginning of August. At the end of July this society received 20,000 visitors in almost 20 bars and restaurants that had been constructed inside the building. This led to surreal

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situations with the construction team working on the east side and the students working on the west side of the building simultaneously.



Figure 5

The construction team was confronted with a huge maintenance backlog and embarked on an incredible job involving a vast number of construction workers from numerous companies and nationalities. At times there were 350 construction workers simultaneously on site.

At the same time the facilities team had to make sure that all orders were placed and services scheduled to guarantee that the building would not only be ready by September 1 but would be fully equipped and furnished. With more than 3000 students and 800 staff,

this was the ultimate facility challenge. Not to mention the fact that all these people expected properly functioning ICT facilities (mailing, printing and using the data network) from day one.

Lessons for project management

Everything went well, remarkably well considering the circumstances mentioned above. This is a huge achievement for everyone involved and a compliment to university and faculty in their leading roles. And while many academic colleagues and professional associates questioned the tight schedule and tough deadlines (see fig. 6), the team got that extra motivation to prove them wrong and worked harder still.

Meeting so many 'impossible' deadlines confirms that setting a deadline can determine a schedule as well as the other way round. Especially after a tragic event like a fire, when circumstances require and instill a sense of urgency. Having fixed deadlines makes a project organization creative in meeting them. And in this exceptional project no party — public or private — wanted to be the weakest link in the chain, especially with the media attention and the type of client they were dealing with. The inflexibility of deadlines

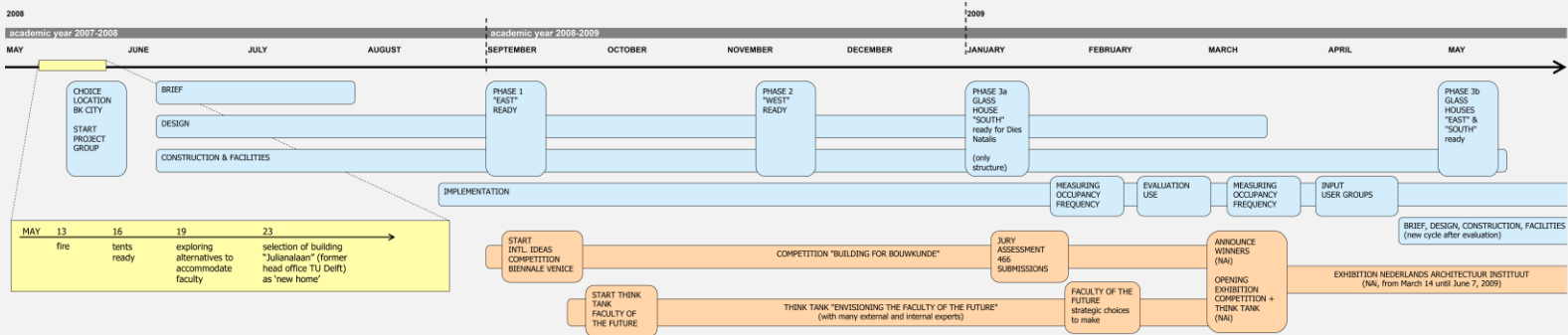


Figure 6

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turned out to be an advantage instead of a disadvantage.

A similar conclusion can be drawn from having to deal with an existing building that restricts the required space, in combination with fixed deadlines. The existing building needs to be worth preserving, of course, whether in terms of cultural history, the attractiveness for its future users or its economic or emotional value. This makes an organization more creative in getting it fit for use. In this case there was an existing building of great value and fixed deadlines. And they both helped to make the project a success.

Campus of the future

The close collaboration between the organization — the university and faculty — and the designers, construction team and facilities managers resulted in a project that is a showcase for future campus management. The mix of creativity, flexibility, practicality and feasibility has produced a building that is both a test case and a showcase for the campus of the future. New concepts for teaching, working, formal and informal meeting, studying, writing and socializing on campus have been implemented, while searching for a new balance between what we share and who we are individually or in specific groups. That balance is also influenced by the pressure on scarce resources, the combined effect of the economic crisis and climate change. The project's result advances the reuse of buildings and more facility sharing and therefore can even be called sustainable. Both building and process can be used as examples in education and research. For a faculty of Architecture, the

building is the ultimate laboratory. Two books are to be published in 2009, one on the design of BK City (*BK City Guide*) and a comprehensive report on the making of BK City. More information about these publications and this project can be found at www.bk.tudelft.nl.

About the author

Alexandra den Heijer is assistant professor in Real Estate Management and specializes in university campuses and buildings, conducting research in collaboration with and co-financed by campus managers of all the Dutch universities. She has written about managing university campuses for almost ten years: about the university and campus of the future, trends and changing concepts at international universities, and generating collective managing information for campus strategies and decisions. She was a member of the project organization and chairperson of the brief team.