

Michael Adlerstein

Assistant Secretary General, and Executive Director of the Capital Master Plan

"The History and Significance of the United Nations Headquarters"

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Introduction

It's an honour for me to have this opportunity to address today's meeting of the International Women's Forum. I appreciate the opportunity to discuss the historic renovation of the United Nations Headquarters, and would like to thank my friend, Ms. Amy Hamidon, for the invitation.

My career has focused on the sustainable design movement and the historic preservation movement, and where they interconnect. Renovating significant historic structures such as the Statue of Liberty or Independence Hall, within the highly sustainable value system of the US National Park Service provided me with a valuable skill set for the United Nations. The renovation of the United Nations Headquarters – known within the UN as the Capital Master Plan – allows me to apply the lessons I have learned from both the preservation community as well as the sustainability community.

Although I'm sure many of you are familiar with our project, this morning I will bring you up to date on our progress and our plans, a little history of our home, and would also like to discuss the challenges and opportunities related to improving the environmental performance of our facilities.

The Secretary-General

Secretary-General Ban Ki-Moon has taken the leadership position on galvanizing the world's leaders to understand and reduce our impact on the earth's climate, the critical 21st century issue. The Secretary-General demonstrated his commitment by many actions, including the High Level event at Headquarters last year, where world leaders met to emphasize their commitments to reduce the carbon production of the planet, by his leadership in Copenhagen last month, and by his direction on the renovation of our headquarters.

History slide

The focus on climate change relates very much to the work we are doing to modernize and update the UN Headquarters. As I will explain, we have established impressive but achievable targets for reducing the environmental impact of our facilities, including our use of electricity, water, steam, and other impacts. But first I will share with you a little UN architectural and real estate history. The NY headquarters for the UN was designed for

mid 20th century concerns. The story of the planning and design of the UN is a great real estate story.

Roosevelt & Churchill

Roosevelt and Churchill coined the term “United Nations” to refer to the Allies during World War II. The present-day UN was born from the ashes of World War II and the conviction that the institution was needed to avoid World War III.

London

The first meeting of the UN General Assembly was in London in 1946. The group agreed that the UN’s permanent headquarters would be in the United States. This decision started a heated competition in America as to which city would be selected. The Permanent Headquarters Committee, chaired by Colombia, narrowed down the search to Boston, Philadelphia, San Francisco and New York.

New York City, then under the leadership of its Mayor O’Dwyer, was very aggressive for the honor. But the UN member states had their eyes elsewhere. Philadelphia seemed to be winning and was so confident of its bid that, within weeks, it was already considering legislation in their city council to condemn land to assemble a ten-square mile parcel in the suburbs.

As consensus was nearing in the General Assembly for Philadelphia, UN Secretary-General Trygve Lie was contacted by Mayor O’Dwyer. The Mayor had been called by William Zeckendorf, the owner of a large parcel on First Avenue full of docks and slaughterhouses, also known as bloody alley.

Photo of Zeckendorf

Zeckendorf, the head of a prominent NYC real estate family, had been assembling the 17 acre parcel for years. He had planned a large commercial and residential development, known as X City, designed by Wallace Harrison. Harrison, through his wife, was related to the Rockefeller family. For various financial reasons, Zeckendorf was ready and willing to abandon this project. Through Harrison, Zeckendorf contacted Rockefeller and created a coalition between the Mayor and Mr. Rockefeller to advance the proposal that the First Avenue site should be the location of the U.N.

Photo of Rockefeller

Mr. Rockefeller, who had recently completed Rockefeller Center with Wally Harrison, was a strong advocate for New York. In a few days, the Mayor and his City Construction

Coordinator Robert Moses, changed history, disappointed Philadelphians, and reinforced the concept that New York was the symbolic world capital.

Zeckendorf agreed to sell his 17 acres for \$8.5 million, and the funds were provided by Mr. Rockefeller. Harrison hastily redrew the X City designs for Zeckendorf and wrote “General Assembly” over “Opera House” and “Economic and Social Council” and “Security Council” over the other auditoriums that comprised the X City plans.

Ferriss Rendering

The re-use of the X City plans, some beautifully rendered by Hugh Ferriss, was very influential with the U.N. selection committee, and also “established the design character of the world headquarters.” The United Nations quickly appointed Harrison as the Director of Planning, and the design process was started. In the context of today’s United Nations, or in the context of any major project such as this, it is remarkable how quickly the United Nations reached agreement on the Turtle Bay site, and agreed to start design work.

Board of Design photo

Chaired by Harrison, the United Nations Board of Design was selected by the Member States, and comprised some of the world’s outstanding professional architects, each representing a different country. In addition to Harrison, who served as Chief Architect and represented the United States, the Board’s members included Nikolai D. Bassov of the Soviet Union, Gaston Brunfaut of Belgium, Ernest Cormier of Canada, Sven Markelius of Sweden, Oscar Niemayer of Brazil, Howard Robertson of the United Kingdom, and the greatest architect of the era, Le Corbusier of France.

In four months in 1947, the Board hammered out a final design concept that was presented to and accepted by the General Assembly. The UN compound is generally unchanged from that concept, developed in just months by a team that had never worked together. Their success is obvious. The UN is one of the few examples of 20th century architecture, modern architecture, which is today recognized all over the world. The facility has served the UN well for decades.

The UN

The UN complex includes six buildings, totalling about 2.6 million square feet, and houses approximately 6,000 full-time staff. The complex helped define modernism, with its simple and sensual lines, its generous use of glass and the incorporation of post-war high-tech materials like naugahide, formica and stainless steel. And, in a 1950’s manner, it was sustainable, with east-west rather than north south exposures, large open spaces saved for the garden, operable windows and many other green measures. The vision of the day was architecture in nature, or better said as “the machine in the garden”, and many projects of the era incorporated green roofs, vernacular design and the use of local

materials. These features were incorporated not to save energy, but to allow the composition to fit with nature in a more harmonious way than the brick and stone cities of Europe. But they were energy efficient anyway.

UN

At the time it was built, the 17-acre complex was considered to be a highly innovative facility, employing many new technologies. From a design perspective, the modernist planning idea of organizing discrete but interconnected buildings in a poetic manner, and the open space in the UN's chambers, were ideas ahead of their time. With so many glass doors leading staff and delegates out onto the gardens and lawns, the compound was an oasis in a concrete city. And the technology was cutting-edge.

Curtain wall photo

The very high-tech glass, non structural glass wall was the first in the world of its kind on that scale, later followed by thousands of glass buildings. Radiant heat panels were embedded in the Secretariat tower walls and the lobby floor, and East River water was used to naturally cool the chiller plant equipment.

Photo of complex showing open North Lawn

The UN Headquarters was ahead of its time, but now it has aged. The mission of the Office of the Capital Master Plan is to manage the renovation of the United Nations Headquarters in order to create a modern, safe and sustainable work environment. Through the renovation, 20th century modernism and 21st century sustainability will be united.

Ground-breaking

After years of debate and preparation, the construction and fit out of temporary office and conference space began in May 2008. As of today, almost all the temporary office spaces are complete, and we've nearly completed our process of relocating over 6,000 staff from the Headquarters to "swing space." Renovation of the permanent facilities will then commence within 30 days, and the project will be completed at the end of 2013.

Ribbon-cutting

Last Monday, the Secretary-General inaugurated our Temporary North Lawn Building with a ribbon-cutting ceremony which was attended by representatives of more than 50 Member States, including many Permanent Representatives. The Secretary-General and his staff relocated from the 38th floor to the temporary building last month, and we have

successfully migrated many of the functions of the Conference Building into the temporary building so that we can shortly commence with the renovation of the existing Conference Building. The remaining conference rooms will migrate within the next two weeks, except for the Security Council, which in April of 2010 will be relocated to temporary facilities on the 1B level of the General Assembly Building, during the period of renovation of the Conference Building.

Ribbon Cutting 2

Most departments and offices have relocated from the Secretariat Building to “swing space” over the past six months. Within a few weeks we will commence the renovation of the Secretariat Tower. The renovations of the Conference and Secretariat Buildings were only possible due to the space provided by the temporary building.

TNLB Hallway

When the renovation of the Conference Building is complete in about eighteen months, the Temporary North Lawn Building will be reconfigured to serve as a temporary home for the General Assembly, which will take place during the last two years of our five-year project.

Consultants

The projected budget is just under \$2 billion. Our goal is to renovate the entire UN compound, upgrading and modernizing its infrastructure, restoring the character-defining historic spaces, respecting and applying the Host Country and City building, safety and fire codes, and making the UN Headquarters more energy efficient and sustainable. Of course, we also have to meet a very high standard of security.

Technology

The project will incorporate many new technologies to improve the environmental performance in key areas such as energy consumption, reduction of greenhouse gas emissions, reduction of water consumption, use of sustainable materials, and careful waste management. We will use high efficiency lighting and include several “smart building” features such as a Building Management System, occupancy sensors, and automated window shades/blinds. We will use low-flow toilets and lavatories, and we will use a rainwater harvesting system to reduce fresh water consumption.

The renovation of the United Nations will meet very high standards. It will meet high security requirements, required by the conditions in the world today. It will meet the best of the international standards for historic preservation, and it will apply the international

standards of sustainability, including USGBC LEED Gold. But, due to our sovereign international status, the project will not be certified by any organization or jurisdiction.

We will improve the environmental performance of the renovated UN in many ways, which fall into two categories, improving our envelope to reduce our waste of energy, and improving the efficiencies of our use of energy.

Curtain Wall

The curtain wall is one of the many aspects of the UN Headquarters which is showing its age. It is a case study in the fundamental challenge of how to strike a balance between historic preservation and sustainability. The single-pane construction of our 1952 glass curtain wall bleeds energy throughout the year. Our objective for this major feature of our envelope that is so well known throughout the world will be to replicate the appearance of the original glass wall, while improving its environmental and blast performance. We are proceeding with a high-performance double-glazed wall. We will also install automated interior shades and blinds, and highly improved insulation.

The heating and air conditioning system

We will of course make substantial improvements in our heating, ventilating and air conditioning systems. We are installing a hybrid electric-steam chiller plant. We will also be introducing a high-density in-row cooling system for our data center, and we will abandon the overhead ductwork in the tall conference rooms and install under-the-floor air distribution systems, cooling only the bottom several feet of air. Also, much of the original lighting equipment from the 1950s is still operational at the UN. We will install new high-efficiency lamps and ballasts, and a daylight harvesting system will automatically respond to natural light levels.

Photovoltaics

We will also use the headquarters as a demonstration lab for photovoltaic panels. The east-west, rather than southern orientation of the UN does not create ideal conditions to support the wide-scale installation of photovoltaics, but we will use the iconic status of our headquarters as a showcase for emerging technology.

Anticipated Performance

We have a number of different performance metrics. Most importantly, we will reduce total energy consumption of the United Nations headquarters by over 50%, as compared to existing conditions. We will reduce our carbon footprint as related to energy consumption by over 45%, meaning we will cut our CO₂emissions by over 23,000 tons

per year. We will reduce our consumption of fresh water by over 40% as compared to existing conditions. Our initiatives will not only reduce our carbon footprint, but will also save future energy consumption costs. The buildings will appear much as they did in 1952, but our Con Edison bill will be cut in half.

In addition to our reduced usage and consumption of energy, we are also setting high standards to improve atmospheric and indoor environmental quality. Our project will include improving access to natural light, views and air circulation, and the removal of indoor hazardous materials, especially asbestos. We will eliminate the use of ozone-depleting refrigerants and will reduce the use of greenhouse gas HVAC coolants. We will provide green education and outreach programs, and we will seek to use recycled, rapidly renewable and managed materials.

Open Office Furniture

We are adopting open-office layouts for all professional and general service staff, changing the UN culture. This will be an important factor in our improved environmental performance. The open offices will provide increased access to natural light, and will require less energy usage for heating and ventilation.

We will use recycled materials almost everywhere, and regionally-fabricated materials. We also focus on rapidly renewable materials, such as wool, linoleum, cork, sorghum and FSC-certified wood products.

Slide of Historic Lettering and Ashtray

Some of the most important character defining features of the existing headquarters are the small items that provide a unique sense of the age and specialness of the headquarters. Objects like the type of lettering used for the signs, ashtrays, light fixtures, and more substantial items like the beautiful chairs and tables in the lounges. We are doing an inventory of all these items and our plan is to keep as many as possible, although they might incorporate new uses, especially for the ash trays!

Green Operations

Aside from the preceding design decisions, the Capital Master Plan also provides the opportunity to improve our environmental performance through basic operational decisions. We are exploring the purchase of Green Power. We have shifted to 'green housekeeping' – and are using non-toxic cleaning products, and avoiding over-cleaning and overuse of water. This extends to our landscaping, where we will endeavour to reduce the use of pesticides on the UN grounds.

Training is also an important component, and we will undertake training programs to encourage staff to be aware of their energy consumption, as well as be aware of the tools the Secretariat is using to reduce our consumption of resources.

Another key area for improved environmental performance is our use of water. We will replace all fixtures with modern, low-usage models, and will also feature waterless urinals in a demonstration project. In addition, we are incorporating a rainwater harvesting project, and will also introduce new low-water landscaping to reduce our water consumption footprint.

Embodied Energy

I am often asked if it would have been less expensive to completely demolish and rebuild the UN. It's a reasonable question, and the answer is no. Even aside from the obvious loss of the historic and iconic cultural value of the buildings, it would not have been less expensive. And from an overall energy and environmental standpoint, it would have been a significant waste of carbon.

By far our most significant achievement in the area of sustainability is the avoidance of the expenditure of the embodied energy within the existing facilities, the work and energy that was invested in the buildings in 1952. The embodied energy of a material accounts for the energy used to extract, fabricate, deliver, install, demolish and dispose of a particular material. For instance, the steel that forms the frame and holds up the Secretariat started in a iron mine somewhere far away, was extracted by heavy machinery and the ore was carried to a steel mill far from the mine, where it was rolled and shaped into the exact shapes needed here in NY, and was then trucked to NY and erected. Each of these steps required the use of powerful machines that consumed lots of fuel, and produced lots of carbon. This invested energy is the embodied energy.

In the case of the Capital Master Plan, we will preserve up to 95% of the existing exterior walls, floors and roofs, not including windows, and at least 50% of the interior elements, thereby avoiding the equivalent expenditure of years of operational energy by preserving the main elements of the original building instead of demolishing them.

According to the Intergovernmental Panel on Climate Change, energy consumption related to the construction and operation of buildings accounts for over one third of all greenhouse gas emissions worldwide, by far the largest market sector causing carbon production. The world has been focusing on making new construction as sustainable as possible, and this focus has made, and continues to make, a significant contribution to saving energy and raising awareness.

But building greener, more sustainable new buildings will not be enough - we simply must build less.

UN

The renovation of the United Nations demonstrates that even with this iconic complex of historic buildings, with conflicting budgetary, programmatic and security demands, a highly sustainable renovation can be executed while fully respecting the historic features of the buildings. Our project will hopefully be a powerful role model for all to see that recycling an appropriate building should be your first choice, before considering new construction.

The Capital Master Plan is renovating the UN headquarters with the primary objective of providing a safer and more energy efficient meeting and working place. But the deteriorating state of the planet and broad climate changes are becoming more obvious every year.

Today, at the United Nations, the leadership from many nations are committing themselves toward addressing climate change on a multilateral and high-priority basis. Our work within the Capital Master Plan is in pursuit of the same goal.

Thank you for your time this morning. It has been my pleasure to discuss the Capital Master Plan with you.