

Greening Boston City Hall Plaza

A Place for Renewal

Overview

A new Boston City Hall Plaza (BCHP) could transform how we function and feel when going about our daily lives in downtown Boston. When properly done, it can renew and recharge both its workers and visitors. We suggest, to this end, a whole systems approach to makeover this vacuous plaza. This process might be achieved by adopting the fundamental green building certification program of the [Living Building Challenge](#) (LBC). At the very least, its seven petals of site, water, energy, health, materials and equity, and beauty serve as an ideal outline Mayor Walsh can adopt to insure a lasting and effective revitalization of BCHP.

Graphic courtesy Living Building Challenge



This RFI Team is supported by our Green Team (GT); a compilation of professionals engaged in sustainability, academic research and higher education committed to sustainability. This flagship project can become a [trim tab](#) for the city, a key concept coined by Buckminster Fuller. He believed in leveraging comprehensive and sustainable change from one particular event to guide future change. All of the current events happening on the plaza will be strengthened by these changes.

This GT (see attached list of individuals below) is hoping that Mayor Walsh and the city will integrate many or all of these recommendations as fundamental program elements in the potential RFP to follow. The imperative to move forward now should not be over shadowed by developers

interests in short term ROI's. With the pressing realities of adaptation to sea level rise, climate change, growing social inequity and other stresses of modern life, we believe the city has the opportunity to teach and lead the next generation towards a resilient and regenerative future.

The business concept and operating structure envisioned for this project can evolve from a public/private partnership with Boston businesses and institutions qualified to respond to the components of an RFP the city may be creating. We believe that finding the economic support from charitable foundations and trusts will be forthcoming once the vision is fully articulated.

Lastly, the revitalization of BCHP can become an international model of green urban planning and design, appropriate as Government Center approaches its 50th birthday.

Site: Restoring a healthy coexistence with nature

1. Limits to Growth

City Hall Plaza is an eligible site that is not adjacent to sensitive ecological habitats, prime farmland, or within the 100-year flood plain. Landscape could be native and/or naturalized species planted to support succession. The indigenous plants can include nut trees, other edibles and ornamentals with educational plaques to help people so that people could more get acquainted with our native plants.

Some of this green space would be interactive, where tourists and citizens can sit, talk, eat or perhaps, like Post Office Square, participate in after-work yoga.

2. Urban Agriculture or Growing

There are a number of factors encouraging widespread interest and growth of businesses devoted to urban agriculture here in Massachusetts, including historic droughts on the west coast (pushing up food prices) and the tremendous fossil fuel costs required to transport food.

We see the opportunity on BCHP to showcase and demonstrate sustainable urban growing could be a series of linked greenhouses. These 1 to 3 story structures (including cafes and small shops) can work as a pedestrian spine or pathway to shelter people from one end of the plaza to the other. Interior winter garden spaces with shops geared to green focused businesses could feed out to trellises that can continue to protect people from the elements. Elements from [Kew Gardens](#) in London and [Post Office Square](#) in Boston can find their way into this barren hardscape. An access road bordered with plantings like, can provide necessary service and also serve as space for food trucks serving local food, shielding pedestrians from poor weather.

This complex would lend itself to educational programs for our citizens - such as The Urban Farm Institute, City Sprouts and the Food Project. City Soil, producer of our city's best compost,

is currently working a similar project in Mattapan with the Mass Dept of Agricultural Resources. It states:

This project will become a centerpiece of the educational missions of the Boston Public Schools and the Massachusetts Audubon Society's Boston Nature Center. It will create year-round employment opportunities in one of Boston's most underserved neighborhoods. The greenhouse and landscape around it can employ young adults already trained in horticultural skills by the Urban Farm Institute, the Food Project, and Youth Build.

Ideally these greenhouses would demonstrate effective urban growing employments such as aquaponics, hydroponics and vertical growing. A company such as Boston Natural Areas Network could help manage and harvest this space.

Didi Emmons wrote a short essay published on the Boston Globe on November 10, 2013 entitled [An Urban Farming Revolution](#) outlining a series of steps we can take right here on the plaza.

3. Habitat exchange (50% development, 50% ecosystems)

For each square foot of the roughly 5 +/- acres on City Hall Plaza we submit that half the land be reserved for thriving ecosystems. We envision consolidating the hard space for large gatherings (65,000 square feet for 20 to 30,000 person gatherings) at the lower section of the plaza off Congress Street, adjacent to the stage and north entry of City Hall. This space is comparable in size to the Hatch Shell outdoor amphitheater on the Esplanade.

This area of the lower plaza possesses a partial bowl shape appropriate for an amphitheater space. This area can double as a revived entry to Boston City Hall with pathways tying into extended spine of trellises outlined above. Adding this 65,000 square feet of amphitheater to the 50,000 square feet of developed area identified in section 2, and accounting for the greenhouses as supporting habitat as well, 1/2 of the 5.5 acres can be serving ecosystems.

4. Car Free Living

Bicycle access at BCHP needs a full analysis. Bike racks and bike stations can be geared to service, support and inform Boston's growing bike community.

As part of the [Greening of Boston City Hall](#), the replacement of the lower level parking stalls behind the great brick wall facing Faneuil hall marketplace has long been identified as useful potential real estate that should be captured for walk through shops and open arcades .

Water: Creating water independent sites, buildings and communities

5. Net Zero Water

The authors of the comprehensive [Greening America's Capitol's , Boston MA](#) , an EPA sponsored project, outline how urban trees can perform as living infrastructure and can intercept up to 40% of rainfall on the plaza, while cooling the landscape up to 20 degrees in the summer months. We suggest exploring the water needs on the plaza, and even those within City Hall. Water could possibly come through captured precipitation or closed loop water systems, without the use of chemicals.

6. Ecological Water Flow

Similarly, in this study, raising up the existing tarmac of bricks on the site and installing a lower level of soil with drainage systems to reverse the current massive run-off now happening on the plaza, is key. Reaching the 100% of storm water and building water discharge managed on-site and integrated into a comprehensive system to feed the project's demands is also a worthy study to take on. We would assume the square footage of the roof of City hall would also be included into these calculations.

Certainly water features on various parts of the site would factor into the calculations and provide synergistic development around the use of water.

Energy: relying only on current solar income

7. Net Zero Energy

The Energy Petal promotes design dependent on renewable energy sources and eliminating pollution. The petal calls for net zero energy and focuses on clean, renewable energy sources, such as solar power. It also promotes innovation to design highly efficient buildings.

With the new structures suggested on the site, Net Zero Energy should explore Solar PV on rooftops in the sunniest area of the site with the least amount of shade and shadow. There is also an added potential of greenhouse harvest heat co-generated from the leaves and yard debris as is being developed by City Soil on the Mattapan project. This project will also demonstrate technology for capturing odors, to be featured at the BioCycle Compost Conference hosted by Boston in October. It is also a compelling eco-technology demonstration to support the City's bid to host the Olympics in 2024.

In addition, members of this Green Team urge action for the significant potential for energy efficiency in City Hall itself while reclaiming over 130,000 square feet of useable real estate on the building. A phased project in itself, with 40,000 square feet potentially reclaimed on the 4th level alone, this space has been identified as a possible future site for the Boston Museum. These

efforts are documented in this 2 page [Letter to the Mayor Elect Walsh Transition Team](#) in December 2013.

Health: Maximizing Physical, Psychological Health and Well Being.

8. Civilized Environment

Every occupiable space must have operable windows that provide access to fresh air, views, and daylight. Certainly all of the new structures in the plaza would meet this goal, also taken into consideration with the [Green City Team Presentation to the Boston City Council in 2008](#).

9. Healthy Air

This project could take precautionary measures to maintain a nourishing indoor environment. These concerns would be fully implemented with any of the new buildings on the plaza by integrating heat recovery ventilation, allowing fresh air for the new buildings and greenhouses. These fundamentals are also outlined in the [Deep Energy Retrofit Program](#), authored by the Rocky Mountain Institute in 2013.

10. Biophilia

The project can be designed to include elements that nurture the innate human attraction to natural systems and processes. There are many examples of designing with nature here in New England that can find their place in the specific elements of a revived BCHP landscape. [Patterns of Biophilic Design](#) are clearly evident in the new park at Post Office Square and the Boston Common, where downtown workers flock to at lunchtime. Certainly these elements and their capacity to renew and recharge are at the core of what is possible at BCHP as well.

Materials - Truly Sustainable Products and Processes

This section relates to all of the landscape materials used as well as those for new and existing buildings. While of prime importance for the renewal of the BCHP effort, this section moves into the realm of construction documents and specifications for later stages of implementation. A project of this scope would have an enormous ability to leverage the effective use of materials.

11. The Red List

The project cannot contain any of the listed worst-in-class materials or chemicals that are ubiquitous in the building industry and need to be avoided.

12. Embodied Carbon Footprint

The project must account for the total footprint of embodied carbon from its construction and projected replacement parts through a one-time carbon offset

13. Responsible industry

The project must advocate for the creation and adoption of third-party certified standards for sustainable resource extraction and fair labor practices.

14. Appropriate Sourcing

The project must incorporate place-based solutions and contribute to the expansion of a regional economy rooted in sustainable practices, products and services.

15. Conservation + Reuse

All project teams must strive to reduce or eliminate the production of waste during design, construction, operation, and end of life in order to conserve natural resources.

Equity: Supporting a Just Equitable World

This would be fundamental principal of any responsible government, and the principals of the overarching Vision articulated by the Mayor in this RFI.

* Contributing to the Vitality of City Hall and the surrounding neighborhoods.

* Attracting people to the plaza to relax, engaging in entertainment, educational, cultural and athletic activities.

16. Human Scale + Humane Places

The project must be designed to create human-scaled rather than automobile-scaled places, so that the experience brings out the best in humanity and promotes culture and interaction.

17. Democracy + Social Justice

Reasonable steps must be taken to ensure that all people, regardless of background, age and socioeconomic class, can benefit from the externally focused infrastructure created by the project.

18. Rights to Nature

The project may not block access to, nor diminish the quality of, fresh air, sunlight and natural waterways for any member of society or adjacent developments.

Beauty: Celebrating Design that Creates Transformative Change

19. Beauty and Spirit

The project must contain design features intended solely for human delight, serenity, and the celebration of culture, spirit and place appropriate to its function.

20. Provide Inspiration and Education

Educational materials about the performance and operation of the project must be made public to share successful solutions and to motivate others to make change.

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