

# UC Berkeley

## Places

### Title

Reflecting Absence

### Permalink

<https://escholarship.org/uc/item/5nf4t3k6>

### Journal

Places, 21(1)

### ISSN

0731-0455

### Author

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### Publication Date

2009-05-19

Peer reviewed

# Reflecting Absence

Michael Arad

*We begin the second half of this theme section with a narrative by Michael Arad concerning his winning design for the World Trade Center Memorial. Our intent is to provide a record, a memory, of the origins of this project.*

*The notion of “project” certainly applies here. From its inception, this memorial was intended to serve as an object of multiple cultural, emotional, and societal valences, which would exist in our present as well as in the “here and now” of many, unimaginable, futures. A project is launched with the understanding that it will follow a vector, a path, that is mostly unforeseen. The invention is controlled, but the final form and its eventual meaning can never, even under the best of circumstances, be fully mapped or anticipated. A project is made of ideas, forms, and intentions that are literally projected from the architect to the plurality of recipients in the present as well as in the future.*

*The World Trade Center Memorial described here is under construction. However, when it is complete, it will not be as the architect originally envisioned. External forces have already exerted their pull; budgets, different contingencies of interested and affected parties, security issues, etc., have contributed to significant changes. The underground galleries described here have been eliminated; other material qualities have been*

*altered; changes have been made to the program; and the boundaries of the memorial itself have been renegotiated as a result of the complex process of recovering the WTC site.*

*But in Arad’s own words we are offered a rare glimpse of the designer’s original concept. The story presents a fascinating record of how a complex process began—how a design vision was born, and how it germinated in personal reflections about the meaning of tragedy and the requirements for its memorialization. The story further indicates how initial personal ideas were developed in collaboration with a team of specialists, and how they were finally accepted as the official representation of a larger culture through a public process.*

*The life of this memorial will continue its unpredictable course. When it opens to the public and becomes part of world consciousness, its interpretation will follow a trajectory reflecting many processes: the limitations of its production, its dissemination through the media, its place in national consciousness, its use for future events, its upkeep—the list is almost endless. And, for a project dedicated to memory, the irony will be that much of its original formulation will be lost.*

—Harris Dimitropoulos

I would like to begin by evoking the image of a window in the pastry shop beneath my apartment building. The cake they put there after September 11, with a depiction, in frosting, of the twin towers surrounded by the words “We Will Never Forget 9-11-01,” was sweeter and more ephemeral than most memorials. When I first saw it I thought it was in poor taste, but walking by it day after day, I came to think about it differently. So many people in New York were trying to define meaning. I started to see this as an attempt to relate to the events and create a memorial.

A year later I found myself trying to create a memorial in the same vein. The first idea I had was to carve two huge voids in the middle of the Hudson River, with water flowing into them yet never filling them up. You would be able to stand on the shore and see these inexplicable voids, but you would not be able to go up to them. The idea was

to create a constant sense of absence, an inexplicable sense.

I thought about this idea for a few months and sketched it through, and eventually decided to build a model. I had plenty of time, because with the slowdown of the economy, I was unable to go back to work. So I went to a model shop I had used often when I was at Kohn Pedersen Fox, and asked the owner, Jimmy Awad, if I could borrow their laser cutter for about half an hour. I ended up staying two days, and they helped me put it together.

Essentially, the model was a small fountain. To work, it had to be precisely crafted. Although it looks simple, it consisted of three tanks, and there was a small pump that we took out of a desktop fountain, the type you might find at Bed Bath & Beyond. It was a magical moment when we first poured some water in and turned it on. You could hear the water welling up and flowing over into these voids. I had thought about how it might look for a long time, but actually seeing it and hearing it took it out of my head. I thought, okay, I have it: this is how I imagined it, with the city reflected in the voids in the river. But I really did not know what to do with it, and so I set it aside.

**Opposite above:** The author’s earliest model viewed on a New York rooftop. Photo by author.

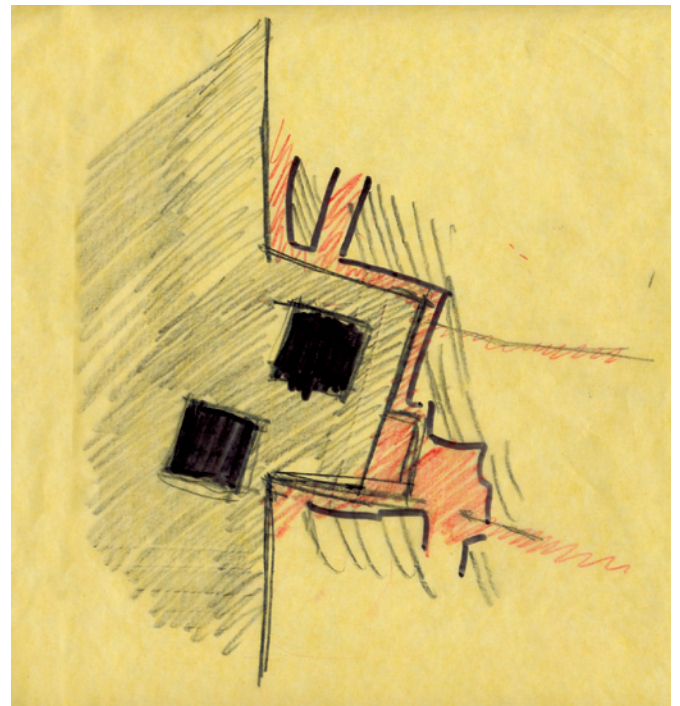
**Opposite below:** Initial concept sketch, showing two voids adrift in the Hudson River. Drawing by author.



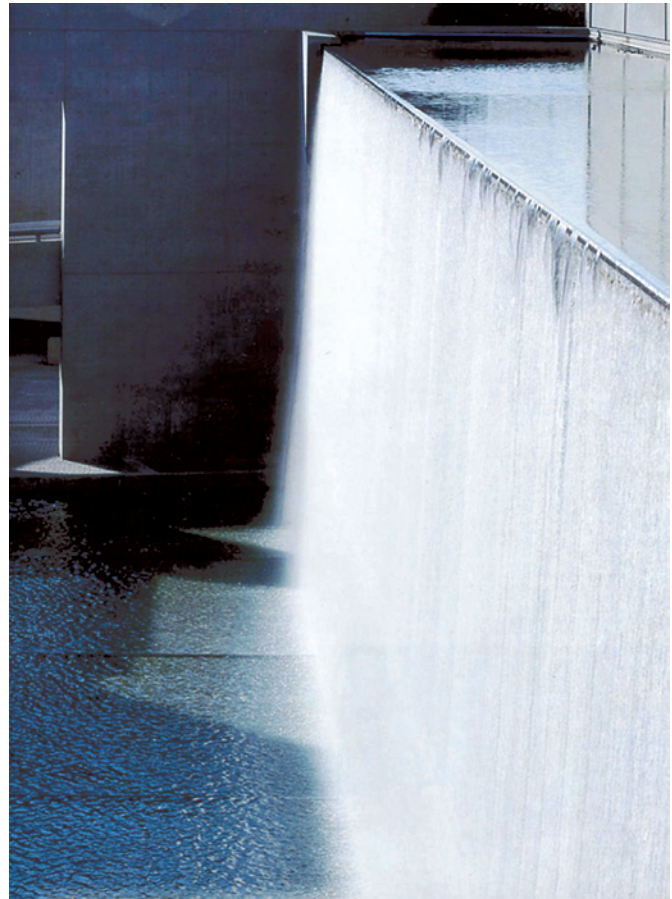
### The Initial Concept

About a year later, the design by Daniel Libeskind was selected as the master plan for the site. It subdivided the sixteen acres into four unequal quadrants, and set the largest aside for the memorial. It also reintegrated the site into the city by bringing Greenwich Street back through, running north to south, and Fulton Street going east to west. Like many other New Yorkers, I found this concept of great interest, with many positive qualities. But I also thought that it created an overwhelmingly large space for the memorial.

In a sense, I drew from my own experiences in New York in thinking about the memorial space. I remember walking around New York after September 11, going to places like Washington Square Park at two or three o'clock in the morning. I would stand there in silent contemplation with a small group, about a dozen people. What was special was the ability to come together to share a moment but also have it be one of intimate isolation. When I looked at the images from the master plan, I thought, "How will we have the ability to do that?" I also realized the plan severed the site from the city, despite the reintegration of Greenwich and Fulton Streets.







When I decided to enter the memorial competition I was aware the idea I had developed the year before would have to be very different if it were to be placed on the memorial site. But I still thought about the site as the plane of the river, a surface which would be punctured by two large voids marking the footprints. Each would be ringed with water, which would cascade into a pool at the bottom.

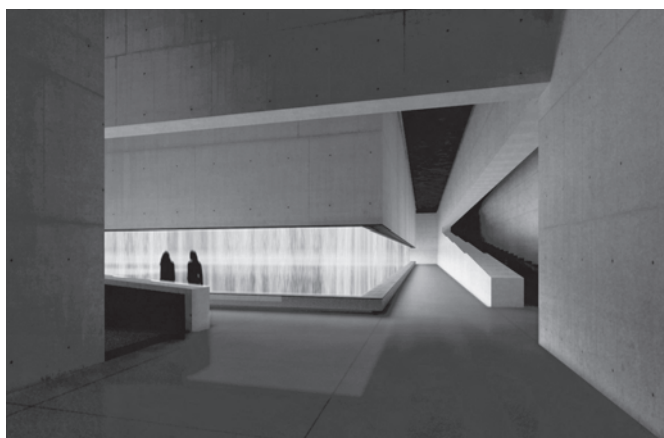
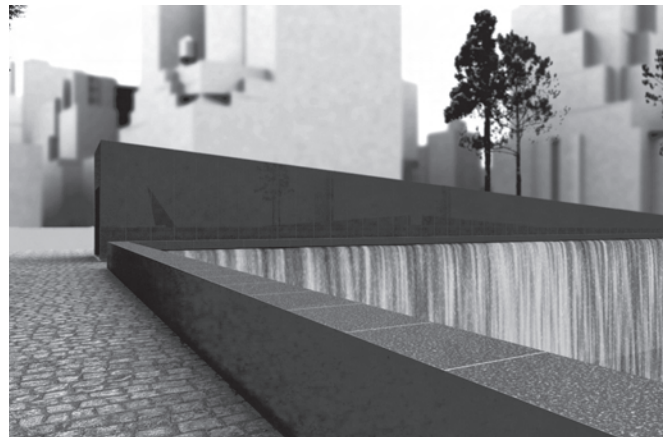
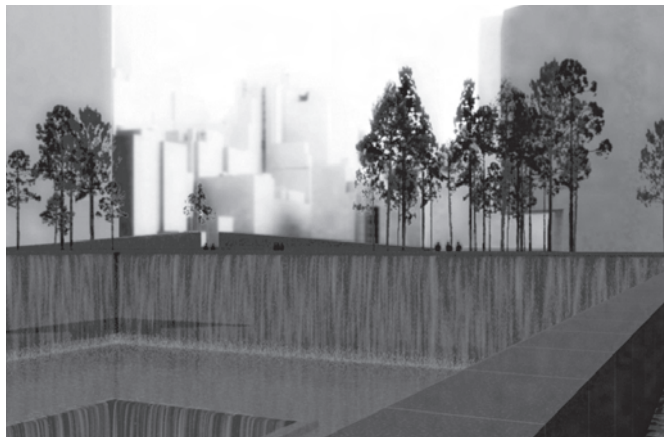
My idea was that you would be able to stand on the plaza above, and look down into the north and south pools. I thought the edge of this void would be where you would come to understand the enormity of the event, and of the destruction. You could then go underground, to a more enclosed and intimate space, and look through a curtain of water, and this would be where the names would be inscribed.

The idea of marking a voyage was important. But other images were also evocative for me as I was developing my scheme. The quarry demonstrates the presence of what is absent. There was a small one I came across near South

Orange, New Jersey, whose precise geometry expressed the idea of ruin and rebirth, present in the rubble, the water, and the trees.

In the design entry I sent in, you can see the development of what I have been talking about: bringing the site up to grade and tying it directly into the city, and then carving these two enormous voids. That was the primary move, marking the presence of absence. Then coming underground into a space that would be more intimate. I linked the elevation of the memorial gallery to the height of the water in the pool. As you walk down, I imagined your very first experience would be to walk up to the edge of the pool. Having seen it from above, all of a sudden you would be behind the falling water looking up. That is where the names of the victims would be, inscribed around each pool.

There were architectural influences too. I have admired the way Louis Kahn used light and simple materials to delineate space. Tadao Ando also uses light and rhythm



to create a space with simple materials. Ada Karmi, from Israel, has also set up space through repetition, through the use of light, through the use of shadow.

The sense of heavy excavation was also important. Peter Zumthor's work has used the juxtaposition of excavated elements with a tracery of light up top. Finally, there was a project by Tadao Ando that used water almost as an architectural element, as a wall. You see it forming an end wall that defines a space, but when you are standing behind it, you have clear views out. When I saw this, I thought, "this has already been done, and it is great."

On the issues of materiality and scale I remember being fascinated as a student by the monumental nature of the highway structures in Atlanta, the way they create spaces that are uninhabited, but could be. I was always struck by their evocative and beautiful nature, and I tried to integrate some of that feeling into the design.

Materiality is not only the material itself but also its history. Daniel Libeskind spoke eloquently about the

slurry wall, essentially a big retaining wall that defines the perimeter of the site. Despite Rafael Vignoli's criticism that "it is nothing more than a wailing wall," I think when you actually stand next to it, all the rhetoric disappears, and the experience is incredible. Part of the subterranean space surrounding the memorial will include the slurry wall.

When I first went on a visit the site as one of eight finalists another one of the things I remember were these cut-off columns, which used to lead to the towers' foundations. The perimeter of each tower is actually inscribed on the site. When they finished the cleanup operations, they torched off the columns and left this tracery behind, which will also be incorporated into the memorial center.

**Above:** Computer renderings developed as part of the author's initial proposal. Images by sQuared Design Lab.

**Opposite:** Precedents for the initial design. Left: A quarry in New Jersey and a free-way overpass in Atlanta. Photos by author. A wall of water designed by Tadao Ando.



## Refinement

What I have described until now is essentially the development of the idea. I sent it in a form that complied with the competition requirements, and promptly forgot about it.

A few months later there was an email waiting in my inbox from the Lower Manhattan Development Corporation that was cryptic, stating that a question had come up about my submission. Of course, I only found it around two o'clock on a Saturday morning. I had the whole weekend to think, "I wonder what I did wrong?"

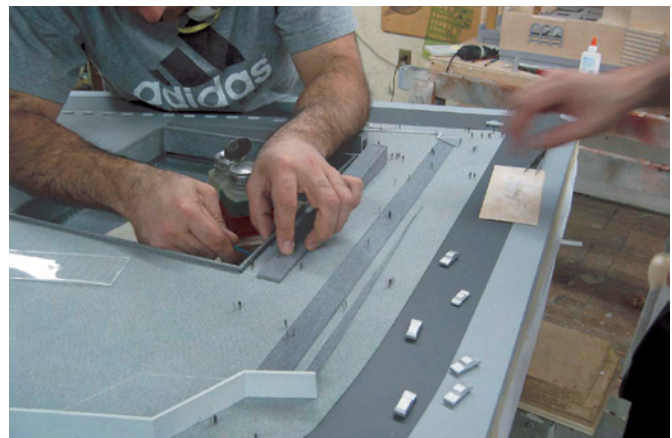
It turned out it was part of being told I was one of the finalists. I didn't know at the time there were eight. They told me I would have two months and a budget to develop the design from one board to a complete presentation to the jury. I also had to answer questions from the jury and from the LMDC. One concerned the integration of cultural facilities, which I had not put into the plan, thinking the entire site should be dedicated to the memorial.

Our anonymity as finalists needed to be maintained so our projects would be judged and not us. I thought at the beginning there would be no way they could keep the competitors' names secret. But everybody who was part of the competition respected the need for anonymity, and I think that is a credit of all the finalists.

I went back to Jimmy Awad's model shop, this time as a paying customer. The models came together over a few short days. Jimmy is from Syria, and the people who work at the shop are from everywhere...China, Ecuador, Egypt. I am from Israel, so I was somewhat nervous, because I had never worked on a project that had so much publicity, and I wasn't sure what Jimmy's reaction was going to be. I was wrong to worry. Among the greatest rewards of this process for me were my friendships with Jimmy and his crew. I worked there literally night and day. They were extremely dedicated, and much of the design's development came through testing it as we built the models there.

If I were able to return to that stage of the project, I would be happy. But the process takes you to other places, too. The model we put together for presentation to the jury included a cultural building that created a large mass on the edge of the site. We were trying to keep the site as open as possible and to define an edge.

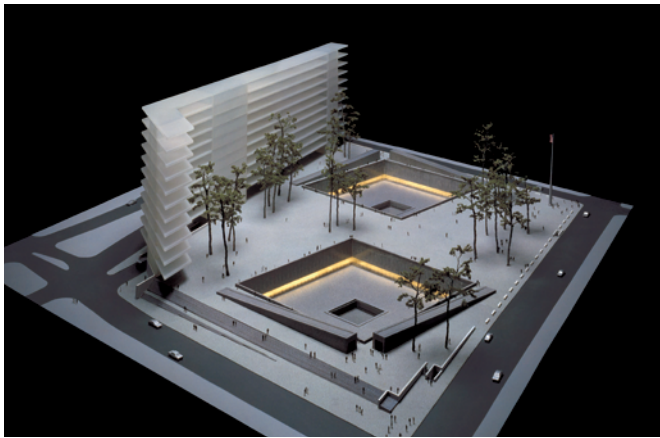
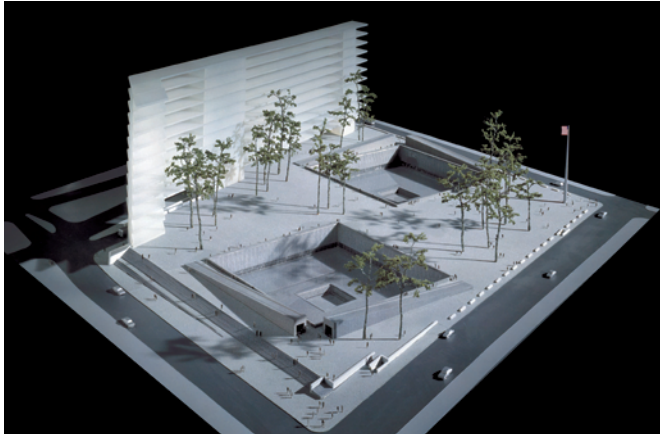
I was also working with a couple of graduate students at MIT to develop the animation and renderings. Our collaboration was both a pleasure and a curse, because I had to convince them of every move I was making. Throughout this process I was helped by many people. At times that help can be difficult to accept, and at others it pushes the project in the right direction.



In the final materials I presented to the jury I further developed the idea of a curtain of water falling into the pool and a structure flanking the pool and leading you underground to a gallery space. There was a connection between the two pools, the would lead up to the edge where the names would be inscribed. In the development of the plaza and the below-ground spaces, there were some elements which were important for me to preserve; the most important was retaining a strong sense of the two voids.

I was hesitant about landscaping on the plaza. I remember my mother-in-law, who was at our house over the summer after our son Nathaniel was born, said, "put benches and trees"—which was good advice. But I had a hard time finding the right pattern.

One of the other models we built was of a slice through the project. It showed people standing at the plaza level, the descent ramps, the memorial gallery, the pool, and then the void at the center. The void was cut in such a way



that when you stood at the plaza level, or at the galleries, all you would see was a sheet of water running out in front of you and then disappearing into an inexplicable abyss that never fills up.

When this model was put on display at the Winter Garden with work by the other finalists, the exhibition curator did not like it. He said they did not want anything with running water. I insisted that it was really important for transmitting the idea. But I didn't realize that the model was going to be under hot lamps. And so every week the water would just evaporate out of the pools completely. I had to come in with gallon jugs and get permission from the security guards to open the vitrine, walk behind the glass, and refill the models.

There would be tourists there all the time. The first time I filled it up, I was self-conscious, as if it were an act of performance art. They were all taking pictures of me, and I felt like an animal on display. But soon it became routine.

### Responding to Comments

One issue which came up during final jury deliberations was their concern that the plaza was too stark and austere and that it was overly dedicated to memorial uses. I can understand where that criticism came from, because in bringing the plaza up to grade, tying it into the city, I had always intended to make it part of the city. This would be a place where you could go not just because there was a memorial but also because, for example, you happened to work across the street or lived nearby. I wanted to strike a balance between the needs of the memorial and of the city at large, and to try and heal this site, something that was important to me.

**Above:** Initial models developed at Awad Architectural Models. Photos by Jock Pottle.

**Opposite:** Preparing a model in Jimmy Awad's shop. Photos by author.





When I got that feedback from the jury, I knew I needed to find the right way to deal with it. But I also did not want to create a pattern on the plaza that would distract from or diminish the two voids. I was influenced by a project by Roberto Burle Marx that also had an unexpected void in it, and I was also drawn to its strong figural patterns.

In thinking about landscaping, I found myself talking a lot to my former professor Doug Allen. One of the most cryptic comments he made was, “Why don’t you

start thinking of the plaza as a tablecloth?” And I was, like, “Okay, I’m not going to say anything.” But two days later, I started to understand his meaning. An image in a book by James Corner was influential, because it showed two systems of information on top of each other: a glacial landscape which streaks diagonally and a Jeffersonian landscape with roads intersecting at right angles. In between you have unexpected configurations where the two meet, or don’t meet, or both change.

When I had to deal with the request from the jury to address how the plaza looked, two approaches crystallized: one was a surface scatter-shot approach...just throw more trees on there and see what happens. I am sure that could work, but I didn’t think it was the appropriate response. In contemplating Doug’s comment about a tablecloth, I started to consider a series of bands, which would run across the site. These would pick up significant edges—the edge of the pool and the surround—and would allow bands of trees to be arranged in perfect alignment, almost like beads on an

**Above:** Precedents for the plaza design. Top: Trees in a forest plantation. Photo © Alan Ward. From *American Designed Landscapes* (Berkeley, CA: Spacemaker Press, 1998). Bottom left: Garden design. From Marta Iris Montero, *Roberto Burle Marx: The Lyrical Landscape* (Berkeley: University of California Press, 2001). Bottom right: Layered landscape. Photo by Alex MacLean. From James Corner, *Taking Measures Across the American Landscape* (New Haven: Yale University Press, 1996).

**Opposite:** The eventual plaza design. Renderings by Peter Walker and Partners Landscape Architecture.



abacus. But as you turned and faced this same arrangement from 90 degrees, the order would completely disappear, and it would resemble a forest. There was an intrinsic order underlying it, but it would not always be apparent. It seemed that was the way to bring landscaping to the project in a much lower register and a softer key that would not compete with the first move, to create the two voids.

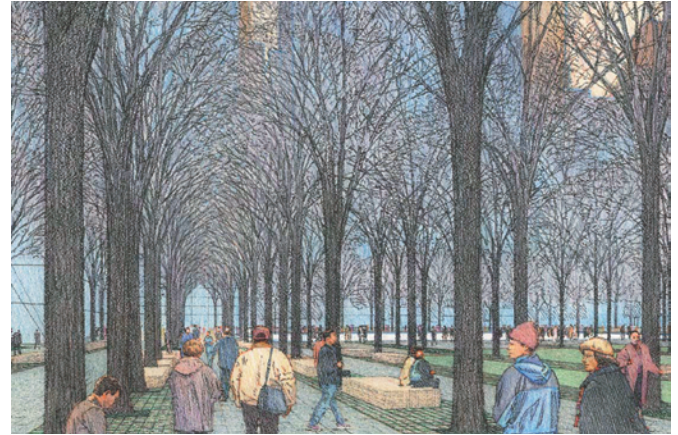
The idea of bringing in trees while preserving openness at eye level was also important. This picture captures that. The tree trunks would partially screen the view, but for the most part it would be open so you could appreciate the entirety of the plaza.

I came back to the jury with these quick interim renderings showing the development of the idea. It is remarkable how similar these were to the model that actually came out of the landscape architect Peter Walker's office one year later. At the time I showed the jury this material I had the opportunity to put together another model, because I felt the earlier one was too disembodied. It just bound the site with four streets, without a sense of the urban context in which the memorial was going to sit.

I went back to Jimmy with some chipboard (instead of Plexiglas) under my arm, and I was lucky—he wasn't busy that week. They generously built another model for me, this time with the entire site, including the World Financial Center and the five towers of the Libeskind master plan. This effort gave me the opportunity to develop the more inclusive idea within a larger model and to show it to the jury. You see here an attempt to make the cultural building shorter, wider, and more useful for exhibition purposes, and still keep it on the periphery.

There was another element of this nerve-racking two-to three-month process. When it began, I told my employers at the New York City Housing Authority I was going on paternity leave, which raised an eyebrow. I had only been there for six months...there are benefits to being a government employee. But the real reason was to go into hiding to work on the Memorial project. I thought it would be for just two months, and that would be it. But it turned out to be a much longer process because of the jury deliberations.

The way it would work was, I would get emailed questions from the jury and LMDC at the same time—at times contradictory—which tried to tease out what part of the design was inviolable and what could be changed, how it could be improved. While I was addressing these comments I was following what was going on at Ground Zero more closely. I became aware of how important bedrock was, and still is, to family members. Reaching it marked the end of the cleanup and excavation process; it was the



last place where unidentified remains were found; and it is a significant touchstone for family members.

It is called bedrock, although it is not literally bedrock. It is the top of the last slab of the lowest basement of the World Trade Center, and it is where family members go every year to commemorate 9/11. Up to that point, the design had ended essentially at the central void. Now, I thought, what if you were to remove the bottom of that pool and create a room below it that was open to the sky and that would sit on bedrock? The room to me was associated with unidentified remains, with a place for family members.

Several projects by the installation artist James Turrell influenced me in developing the idea for this room, a symbolic mausoleum at the center that would be open to the sky. The water cascading into the central void would be captured by a channel that would surround this oculus. As much as possible, in developing this idea, we were hoping to keep the cracked and broken foundation slab that is down there.





**Final Presentation**

With the selection of the design, there followed an insane week of trying to take all the work and bring it up to speed for final public presentation at Federal Hall in New York. I had flown out to Berkeley to see Peter and to work with him on development of the materials. We flew back and we were meeting with Daniel Libeskind, and the culture buildings came up again.

Originally, there were to be about 400,000 square feet devoted to cultural uses in a building with two wings. In talking with Daniel, we found a way to reduce that to about 250,000, which helped shrink its bulk and allow it to be moved to the northeast corner of the site.

**Above:** Final presentation of the design. Bird's-eye view, showing the relocated cultural buildings. Ground-level view. Underground view.

**Opposite:** The proposed mausoleum room at bedrock with its central oculus. Renderings by dbox.

I went back to Jimmy again, for the second time as a paying customer, and we put together a more formal version of the chipboard model that we had built for the jury. It showed the increasing development of the scheme.

In the following two years we had to push the design further, understanding all the constraints the site imposed. Some elements from the original design were lost for a variety of reasons, and that has been hard. But today the memorial is being constructed.

Recently I found a schematic diagram of the site in the *New York Times* that captured the complexity of the recovery effort. It is not just a memorial, it is also the museum center, it is a train station, it is a shopping concourse, it is office towers. All of these have to work together, and they are all being run by different project teams, jockeying for real estate.

Throughout this process the primary principle I have tried to hold on to has been marking with absence, creating a significant and clear void, finding a place for people to gather and contemplate.



