

## Grand Beach Hotel Surfside in Miami Beach

MB Development



Grand Beach Hotel Surfside © MB Development

What happens when a BIM-savvy developer pulls together an expert team to plan, design and construct a distinctly unique hotel with speed and quality?

In the southeastern U.S., the answer is the Grand Beach Hotel Surfside, the newest family-oriented, luxury hotel to be constructed in the Surfside barrier island town, off the coast of Miami. Designed in-house by a team of architects led by John Perez with a goal of LEED Silver, the more than 400,000 square foot (over 37,000 square meters) hotel includes two distinct and self-contained 13-story structures, each offering panoramic views and a combined total of nine pools and Jacuzzis, a gym and on-site parking. Every facet of the luxury hotel is facilitated through the streamlined application of BIM tools, technologies and workflows to drive collaboration, communication and community connections.



Grand Beach Hotel Surfside © MB Development

## A BIM Standardized Workflow

The Murray Group purchased the Surfside property, former home to the historic Beach House, in 2010. Soon after, John Perez Architecture & Design, working with MB Development, the Murray Group's in-house development team, completed the schematic concept for the new hotel. The MB Development team, which includes designers, architects, construction managers, legal advisors and operational experts with the ability to self-perform most aspects of construction, relies extensively on BIM to facilitate design-to-construction through facility management and operations. Once the project was approved by the planning and zoning board, the MB Development architecture team tackled the challenge of producing thoroughly coordinated construction documents within a very tight schedule. One of the key pre-requisites to joining the MB Development Architecture and MEP team is to be proficient in ArchiCAD, as this is the only CAD program the group uses for construction documents and coordination. MB Development has been using ArchiCAD since 2008.

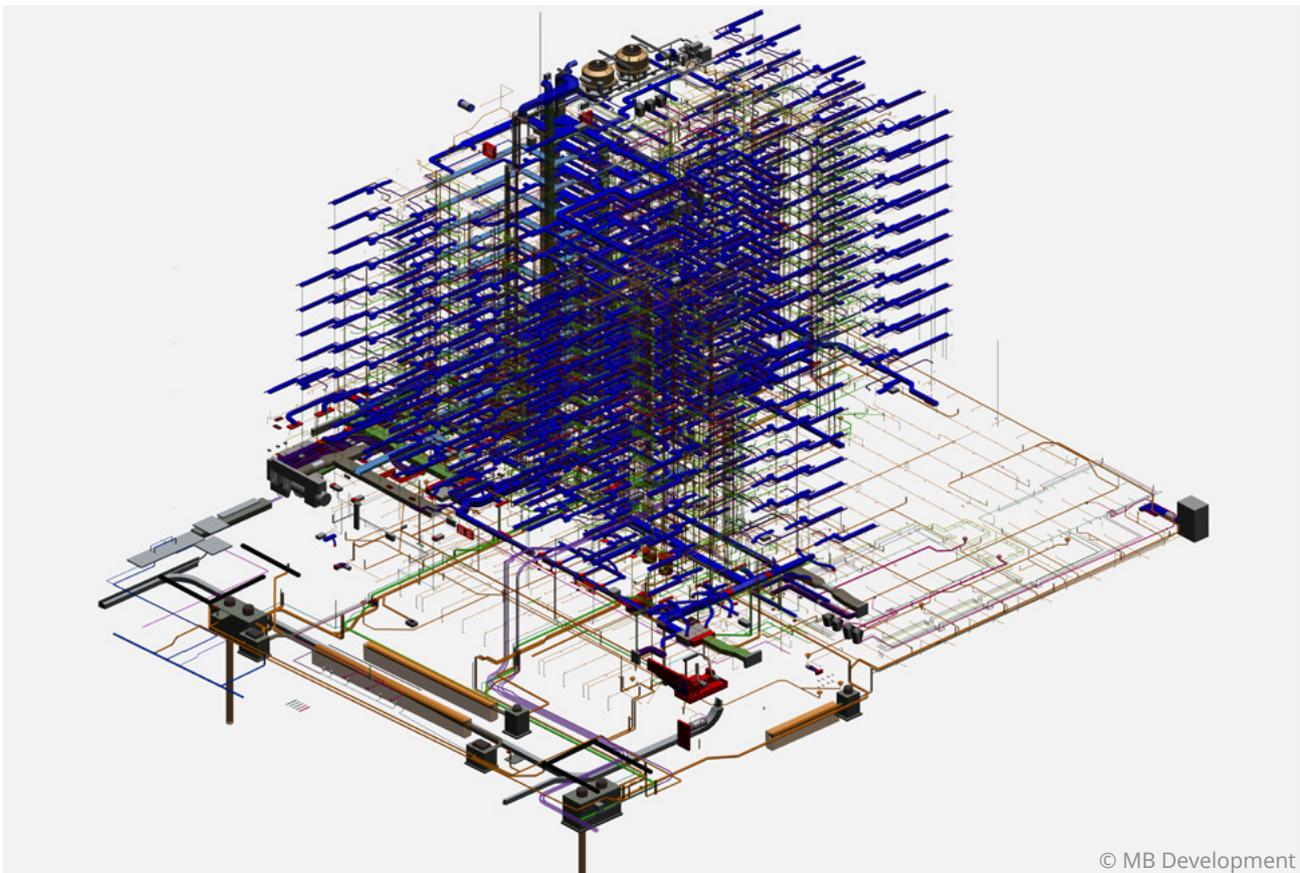
***"Today, we expect that kind of value on all of our projects."***

***Landry Starling, Architectural Designer***

Landry Starling, architectural designer with MB Development, says, "Over the years, we've standardized on ArchiCAD because it offers the right combination of design efficiency while creating the framework to improve communication on the jobsite and drive construction schedules and workflows. The model ultimately becomes an integral part of our hotel management and operations. With BIM, we've realized productivity improvements, time savings, improved communication and coordination with contractors and, most importantly, the delivery of a better quality product. Today, we expect that kind of value on all of our projects." In order to assemble the Architectural and MEP team for the Grand Beach Hotel Surfside, MB Development asked the local GRAPHISOFT reseller, Jon Sage, to provide a list of ArchiCAD proficient architectural designers in Miami who use the solution. From that list, MB Development selected multiple candidates.

## Simplified 2D/3D MEP Connections

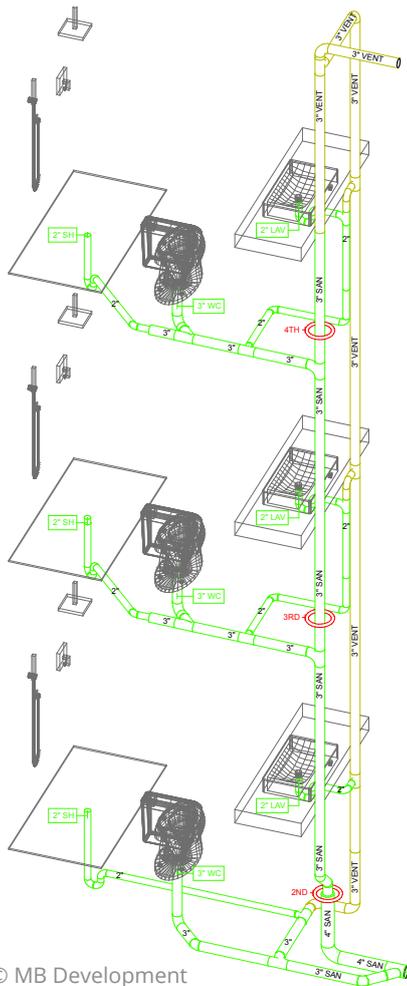
Once the schematic design was completed, the structural engineers proceeded with calculating the column, beam and slab size, which were quickly incorporated into the ArchiCAD model, allowing the architects to coordinate the spaces very quickly. In parallel, MB Development also designed 3D models for the interior space and the MEP/civil/utilities systems. While the interior model was initiated directly within ArchiCAD, the MEP/civil 3D model was developed from 2D CAD drawings (provided by the mechanical, electrical, plumbing, fire protection and civil subcontractors) using ArchiCAD's Virtual Trace functionality. MB Development architects and engineers further expanded the design detail of the MEP elements using ArchiCAD's MEP Modeler tool.



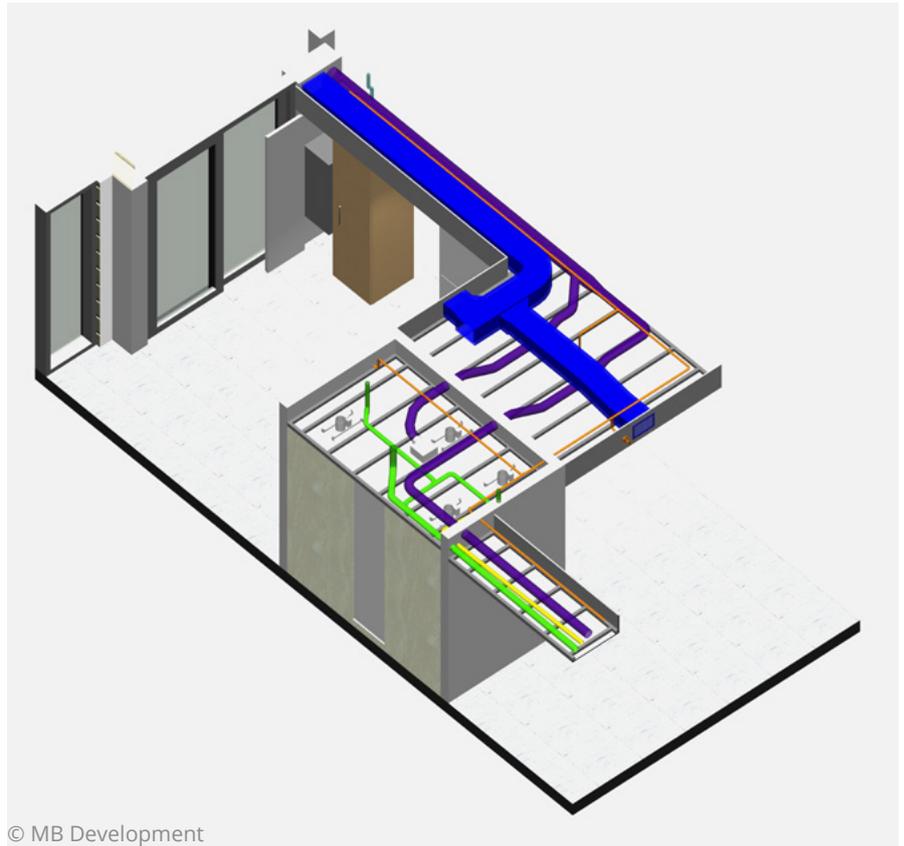
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MEP Model

“Before MEP Modeler there really wasn’t any easy way to fully develop 3D MEP models,” recalls Starling. “Piecing together everything using the complex objects that are available in an object default library is time consuming. With MEP Modeler, all the connections and pieces are easy to work with and easy to place in the drawings—and it’s easy to use. I didn’t need any special training; I just hopped on and got to work.” Starling has even started to use MEP Modeler to include plumbing risers for sanitary, storm, condensate, water, gas and planter drainage in 3D instead of the traditional 2D isometric drawings. He also uses the tool to create models of complex connections so that all members of the team understand how the pieces fit together in a given space. ArchiCAD has also helped streamline the purchasing process. The architects created an in-house objects library, from which schedules are produced, which break down all of the guestroom and common area furniture. Any change in furniture is immediately reflected in the schedules, allowing the architect to closely track the process.



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Top: MEP model in detail

Left: Diagram of Guestroom Sanitary Riser for Small Bathroom

## Model-Based Collaboration

Once the design concepts were complete, all three models—architectural, interior and MEP—were stored on GRAPHISOFT's BIM Server for model-based collaboration. At any one time, 9-10 people are using one or more of the models on any given day. Starling explains, "The BIM server is really our centralized platform for resolving problems during design coordination and in the field during construction. If we need to move a wall to make room for a pipe, then our architects and engineers can make that change in the architectural model, which is immediately reflected in the MEP model." In this way, the models match as-built conditions, which greatly facilitates coordination in the field. "Primarily, I use the models in the field to verify that field activities match design intent," confirms Starling. To ensure the highest level of communication among the various trades working on the building design and construction, MB Development established offices on the construction site, which also offers the project team full access to the BIM model server. File size efficiency is another one of the benefits of working with ArchiCAD. The architectural model is approximately 2,140 MB, while the interior design is approximately 3,730 MB; MEP is approximately 2,288MB. Given the size of the project, these file sizes are relatively small, especially compared to other software solutions, such as Revit/Navisworks. "Other solutions might require many different models to demonstrate the same amount of detail—with ArchiCAD, we have it all in three files," says Starling.



Grand Beach Hotel Surfside Entrances © MB Development

## Modeling to Achieve Lifecycle Value

The Grand Beach Hotel Surfside is scheduled to open in November 2013, one month ahead of original expectations. Because BIM enables maintenance of a building throughout the lifecycle, MB Development will manage the hotel with a dynamic, updated 3D model once the Surfside project is complete. Using BIM as a facility management tool will result in increased savings for the management company in the long term.

Starling concludes, "Our ability to control all aspects of the design and construction process using BIM and self-perform any aspect of the design or construction process enables us to deliver a quality hotel property."

## MB Development

[www.mbdevelopment.net](http://www.mbdevelopment.net)

The MB Development Architecture and MEP team includes: Landry Starling, Carlos Puello, John Perez, Alik Kalashnikov, Carlos Hernandez, Kurt Cira, Rory Ellis, Kelly Kirtland, and Andres Munoz.

The same MB Development team recently completed the 431 room Grand Beach Hotel in Miami Beach, and is working on two more hospitality projects nearby. Given the firm's proven success working with ArchiCAD, these future projects will be designed and built using the full suite of ArchiCAD solutions as well.

## About GRAPHISOFT

GRAPHISOFT® ignited the BIM revolution with ArchiCAD®, the industry first BIM software for architects. GRAPHISOFT continues to lead the industry with innovative solutions such as the revolutionary GRAPHISOFT BIM Server™, the world's first real-time BIM collaboration environment, and the GRAPHISOFT EcoDesigner™, the world's first fully integrated building energy modeling application. GRAPHISOFT's innovative solutions have fundamentally changed the way architects around the world design and collaborate. GRAPHISOFT® has been part of the Nemetschek Group, since its acquisition in 2007.

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