Floor Module

COORDINATED SYSTEMS

The structural floor system of the GBB incorporates mechanical, electrical, communications, fire suppression and lighting systems into a single, integrated assembly. Constructed using precast concrete structural sections measuring 45 feet by 8 feet span the width of the floor plane and are translated to be 14 inches deep, one-half of the traditional floor depth. This savings in floor depth is achieved by eliminating the ceiling and floor cavities and interweaving them within the necessary structural depth. Incorporated within the precast concrete elements are hydraulic cooling/heating loops to maintain proper building temperature, integral air terminals to distribute supply and return air, and a cast-in-place system for electrical and communications routing.

The precast elements are fabricated off-site in a factory setting where all of the building mechanical and electrical systems can be pre-built. As the building elements arrive on-site, they are simply bolted off the delivery trucks and set directly in place. A tagging system ties the individual components to create a continuous development and the necessary systems are connected.
Systems Integration

THE HIGH-PERFORMANCE WORKPLACE

The OBF will be filled with natural light and fresh air and respond to the specific needs of each inhabitant. Its occupants will demand floorplates that allow domestic and external access in the building perimeters. The OBF will be organized as a narrow building that maximizes light, air and views in and through both sides of the building. With pleasant spaces in the ceiling and floor, deployed more efficiently, space is freed up to produce significantly higher ceiling heights. Where natural ventilation is not possible, fresh air can be supplied through a matrix of small floor-mounted vents to provide each occupant the options to control local flow. Inexpensive mechanical radiant heating and cooling will efficiently maintain the proper temperature.

01 Cross Ventilation Across Building Floorplate
02 Fresh Air From Floor Vents
03 Exhaust Air Through Ceiling
04 Radiant Cooling Heating From Exposed Concrete Ceiling
05 Tank Lighting
06 Dimmable Fluorescent Space Lighting
07 Roller Shades
08 Access To Floor Plenum
09 Vertical Solar Shades With BIPV Solar Collector
10 Cost-inflation