**DC WATER HEADQUARTERS**

**FACT SHEET**

PROJECT FACTS

* Size: 150,000 sf
* Levels: 6
* Completion: November 2018
* LEED: Pursuing LEED Platinum

PROJECT TEAM

* SmithGroup – Architecture, MEP Engineering, Energy Modeling, Lighting Design, Fire Protection Engineering, Sustainable Design
* Skanska USA Building Inc. – Design/Build Contractor
* Oehme van Sweden – Landscape Architecture
* The SK&A Group – Structural Engineering
* Wiles Mensch Corporation – Civil Engineering

PROJECT RATIONALE

* The headquarters project provides space for DC water to consolidate its workforce which is currently scattered in various locations, and in some cases, rented space. 350 staff have moved into the headquarters.
* Moving staff to the headquarters building opens space at Blue Plains needed for treatment processes. The consolidation will save leasing expenses of $44 Million in 30 years. (*source: George Hawkins zoning testimony 10-26-2015*)
* The site is already owned by DC Water, by utilizing it for their new headquarters building, they improve the utilization of the site.
* The project was a competition resulting in the selection of the design-build team Skanska + SmithGroup.

SITE

* Building on DC Water’s site with its existing c. 1960’s O Street pump station presented a challenge—the pump station had to remain operational and accessible during and after construction.
* The site contains critical underground infrastructure to service more than two-thirds of the city’s outflow that is transmitted through the site. All this infrastructure remained undisturbed. The building’s structural system carefully weaves its foundations between the delicate web of pipes and tunnels below.
* To ensure the headquarters building is one-foot above the 500-year flood plain, the site grading has been raised approximately three feet. Fill was added to the site, however to avoid impact on the below grade utilities, heavy soil had to be excavated and lightweight fill added.
* The project beautifies the Anacostia waterfront, consistent with District of Columbia comprehensive plan. The planned site will fit into the future planned grid of streets.
* The site is bordered by planned future developments to the north and west.

FORM

* The building form may appear to be purely sculptural, however it is a pragmatic response to the constraints of the site and the desire to create a high-performance building.
* The geometry of the concave south facade is self-shading in the morning and afternoon to reduce cooling loads/energy costs.
* South-facing 2-ft overhangs per floor reduce heat load in the summer but let in low angle winter sun which reduces energy costs.
* The facade features a 2nd layer of tinted glass in areas identified to receive harmful solar gain which reduces energy costs.
* The facade geometry also maximizes views of the river so that all employees are connected to the water.
* The building is only 40% glazing, with metal panels on the north side, mitigating heating and cooling loads.
* An innovative structural system includes a 200-ft long, 5-story steel truss that allows the HQ to span over the pump station. The balance of the structure is conventional structural steel. The truss allows the HQ to be structurally independent of the pump station, allowing for the pump station to be modified as needed over time.

MATERIALS

* The green painted aluminum panels reference patina copper. Copper piping has been used for water transmission for millennia.
* The variegation of color in the aluminum panels is a representation of the annual solar radiation that the surface of the building receives.
* High performance insulated glass is used throughout the project on both layers of the facade.
* The second layer of glass is applied in areas where an energy model determined there was too much solar gain. This layer of glass is tinted in three different shades of green to provide subtle variation and is also fritted to further reduce solar gain.
* Interior materials are simple and durable, befitting of a utility agency. The lobby features ground polished concrete floors, wood benches and a wood slat ceiling. The typical office floors feature raised access floor with carpet, modular glass walls, and a variety of systems furniture configurations.

WORKSPACE

* The serpentine floorplate and higher-than-typical ceiling heights allow daylight to extend deep into the space.
* The core is placed in the deepest portion of the floorplate where daylight is less desirable.
* Raised access floor allows for low-impact future reconfiguration of interior spaces.
* Use of glass in offices and conference space brings borrowed light into spaces.
* Motorized blinds are individually controlled optimizing the control of daylighting, heat gain, and glare. The mechanization assures that the blinds are raised when the sun is not causing glare, maximizing daylighting.

BUILDING SYSTEMS

* The building is one of the most energy-efficient in the Washington, DC region due to its use of a sanitary wastewater energy exchange system paired with a Direct Outside Air System (DOAS) for outside air.
* The headquarters is the first commercial building in the US to use a sanitary wastewater energy exchange system (SWEE), whose brand name is SHARC.
* The SHARC takes advantage of what might normally be considered a drawback of the site—extensive sewer infrastructure—by utilizing a previously untapped energy source, wastewater as a heat sink and source.
* SHARC is more economical and more energy-efficient than other green energy systems, like geothermal. The headquarters building will use 48% less energy than a typical code-compliant office building.
* Sanitary wastewater energy exchange systems like SHARC reduce carbon emissions significantly—for the 150,000-sf headquarters building it cuts approximately 838 metric tons per year.
* The SHARC system transfer heat between the wastewater piping and a separate clean water loop. Then either heated or cooled clean water is then pumped through ceiling units to condition air in a space.
* A small cooling tower has been incorporated into the project to work in conjunction with the SHARC. It uses rainwater (no potable water) for evaporation make-up and provides a backup cooling source.

LANDSCAPE ARCHITECTURE

* Vegetation on the site filters rainwater.
* Rain gardens on the roof and near the autocourt collect rainwater for the 40,000-gallon cistern. This graywater is used for 100% of the irrigation and toilet flushing demand.
* Shallow channels in the paving of the autocourt visually express the path of rainwater for collection in the cistern.
* Unusually, the building’s green roof is mounded. Its deeper soil supports more lush native plantings that filter rainwater, but also provide some protection of the roof terraces from the wind.

PUBLIC AMENITIES

* The lobby wall will feature interpretive material telling the story of DC Water’s environmental stewardship as implemented in the headquarters, its site, and DC Water’s other off-site facilities
* Integrated into the interpretive wall, a window from the lobby into the existing O Street pump station displays the SHARC system and a peek behind-the-scenes of the pump station.
* A rainwater tank and filtration equipment in the lobby demonstrates for visitors on a smaller-scale the water-saving technology of the larger 40,000-gallon cistern below grade in another location on the site.
* The roof features a large terrace and generous contoured planted areas. It takes full advantage of the riverfront site with sweeping views of the Anacostia River, Nationals Stadium, the U.S. Capitol Building, and the activity of the Navy Yard neighborhood.