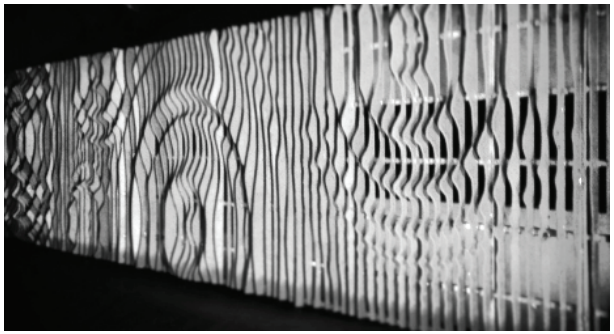
SAVE • SERVE • PROTECT

Portland Fire & Rescue aggressively and safely protects life, property and the environment.



ART WORK

The exterior facade art work is inspired by images of ripples on the surface of water and by the waterways and weather that distinguish the environment of the Northwest. The design is reminiscent of ancient petroglyphs that are found carved into a boulder in Stevenson, Washington by ancient inhabitants of the region.

For firefighters, water is considered to be the antidote to fire, and yet is the adversary to persons in need of rescue from the river.

PROJECT TEAM

owner
City of Portland/Portland Fire and Rescue

architect
Whelton Architecture
in collaboration with David P. Suttle, AIA

fire facility architect / leed
TCA Architecture • Planning Inc

structural / civil engineer
KPFF

mechanical / electrical engineer
Interface Engineering

geotechnical engineer
Geotechnical Resources Inc.

waterfront planning / permitting
Flowing Solutions, LLC

landscape architecture
2.ink Studio

construction cost estimator
JMB consulting Group, LLC

commissioning
Green Building Services, Inc.

artist
David Franklin

contractor
Skanska USA Building

PORTLAND FIRE & RESCUE

FIRE STATION 21

LEED GOLD

5 SE MADISON, PORTLAND, OR

SUSTAINABLE SITE

Choosing this previously developed site has reduced pressure on undeveled land resources. Historically prone to flooding, steps were taken to address the safety of the station location.

The stations proximity to public transport and the esplanade supports walking and biking resulting in reduced pollution and land development impacts from automobile use.

ENERGY/ATMOSPHERE

The project has offset 5.79% of the total energy costs through a roof mounted photovoltaic array reducing environmental and economic impacts associated with fossil fuel energy use.

MATERIALS/RESOURCES

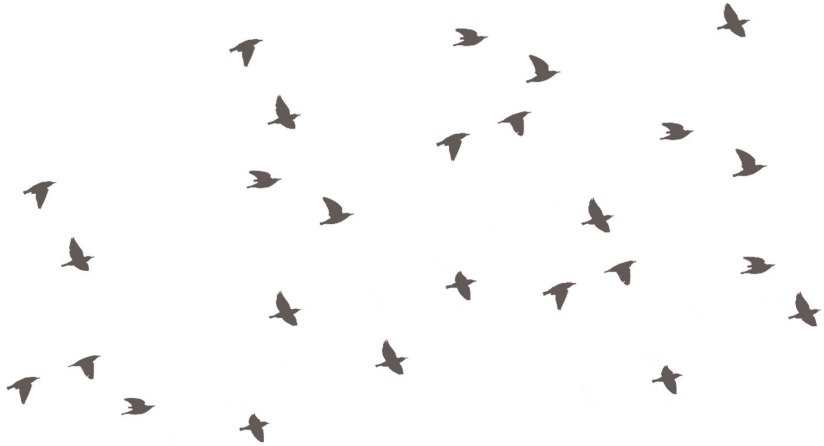
Nearly 15% of the materials used were harvested/extracted and manufactured within 500 miles of the site, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

WATER EFFICIENCY

Potable water use has been reduced by 39%, reducing the burden on municipal water supply and wastewater systems. Landscape irrigation is used only to establish initial plantings.

INDOOR ENVIRONMENT

The building is designed to provide views to the exterior for the occupants from 90% of the regularly occupied spaces.



INNOVATIVE DESIGN

All building facades, including materials, openings, lighting levels on the interior and exterior, are designed to minimize the potential for accidental strikes from birds flying in the area. A monitoring plan was developed and has been implemented by the building occupants to determine if any collisions occur over a one year period and data will be provided to the Portland Audubon's Wildlife Care Center and mitigation measures such as predatory bird calls will be implemented.

FIRE STATION 21

LEED GOLD

HISTORY

Since the station's original construction in 1960, the facility has accommodated personnel and resources to support the protection of life, property and the environment within the City of Portland. As technology and the demands on the fire service has evolved over the last 50 years and the necessary seismic upgrade requirements for this essential facility could not be done cost effectively, the existing facility could no longer support the needs of the Portland Fire & Rescue (PF&R) and the City of Portland. In 2010 the citizens of Portland passed a General Obligation Bond that provided funding to reconstruct Portland Fire & Rescue Station 21.

Located on the on the east bank esplanade of the Willamette river, the two story essential facility includes operational features such as: an apparatus bay, cleaning and decontamination room, equipment support areas, firefighter work area, physical training area, crew living area , a community meeting room and a boathouse for sheltering Portland Fire & Rescue watercraft.

Beyond the stations operational aspects, this state of the art facility brings a meaningful contribution to the community through the integration of Portland Fire & Rescue's mission and the City of Portland's Civic and sustainable values.

PROJECT OVERVIEW

A collaborative effort working with Portland Fire & Rescue, the City project manager and consultant team, the design of Portland Fire Station 21 reflects the collective integration of the extreme complexities of this waterfront LEED Gold facility. The project includes the deconstruction of the existing station 21, river bank stabilization, and the programming and design of a new 8,400 SF rapid response fire and rescue facility and boat house to support river and land operations. The extremely tight site resides directly below an elevated state highway, is constrained to the east by a riverfront esplanade, to the west by the river embankment, to the north by a planned memorial park and to the south by the Hawthorne Street bridge. These significant constraints informed the schematic layout and ultimate two story station configuration. The boathouse design includes workshop space, storage, dock work with access to the station above.