



CIVIC SPIRIT

A police HQ in Virginia pays homage to its heritage as well as its sustainable future.



The Alexandria Police Facility is a symbol of Alexandria's civic spirit—past, present and future. These evident qualities are what pushed it to the forefront of *EDC's* Excellence in Design Awards in the Government/

Institutional category for new construction.

From its brick façades that pay homage to the city's rich colonial heritage, to the facility's state-of-the-art sustainable design that embraces Alexandria's commitment as an Eco-

City, this new police headquarters embodies the values of the city it serves. For more than a decade, the city envisioned a consolidated, centralized police headquarters that could better serve the citizens of Alexandria and eliminate the

Eco-Cities are places where people can live healthier and economically productive lives while reducing their impact on the environment.

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The City of Alexandria has earned Platinum level certification, the highest level of recognition by the Virginia Municipal League's (VML) Green Government Challenge, for five straight years.

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vast inefficiencies of maintaining multiple facilities. The city's choice to remediate and redevelop a brownfield site in the center of Alexandria and to certify the project under the Leadership in Energy and Environmental Design (LEED) rating system demonstrate Alexandria's commitment to forging a more sustainable future.

In 2001, the need for a new consolidated police facility was identified by the City of Alexandria after a study concluded that existing facilities lacked sufficient space for growth and were unable to support the operational mission of the police department. Furthermore, the decentralized nature of the police facilities created difficulty for



2012 Institutional/Government New Construction Winner

NAME: Alexandria Police Facility

LOCATION: Alexandria, Va.

DATE COMPLETED: Nov. 9, 2011

SIZE: 126,036 square feet

COST: \$94,778,062

SUBMITTED BY: HDR Architecture, Inc.

CERTIFICATIONS: LEED-NC v2.2 Gold

Winning Team

OWNER: City of Alexandria

ARCHITECT OF RECORD: HDR Architecture, Inc.

GENERAL CONTRACTOR: The Whiting-Turner Contracting Company

ARCHITECTURE CONSULTANT: Dewberry

SUSTAINABLE DESIGN: HDR Architecture, Inc.

LEED CONSULTANT: EMO Energy Solutions

PROGRAMMING CONSULTANT: Carter Goble Lee

STRUCTURAL ENGINEERING: HDR Architecture, Inc.

MEP ENGINEERING: HDR Architecture, Inc.

CIVIL ENGINEERING: Dewberry

GEOTECHNICAL ENGINEERING: Schnabel Engineering

LANDSCAPE ARCHITECT: Rhodeside & Harwell

PARKING GARAGE CONSULTANT: Desman Associates

ACOUSTICAL CONSULTANT: Acentech Inc.

COMMISSIONING CONSULTANT: Chinook Systems

ENERGY MODELING CONSULTANT: EMO Energy Solutions

SECURITY DESIGN: HDR Architecture, Inc.

BLAST CONSULTANT: Hinman Consulting Engineers

ARCHEOLOGICAL SURVEYING: John Milner Associates

MATERIALS TESTING & INSPECTION: ECS Mid-Atlantic, LLC

TRAFFIC IMPACT STUDY: Sabra, Wang & Associates

COST ESTIMATING: Lewicki Estimating Services

communication, response time and overall operational coordination. It also required a costly duplication of security systems, support infrastructure and personnel. In the city's 2004 strategic plan, a new police headquarters was listed as a top priority, and a city-owned site was chosen for the new consolidated police facility. This same strategic plan outlined a sustainable vision for the City of Alexandria, which led to the development and adoption of the city's Eco-City Charter in 2008. This charter serves as the founding document for Alexandria's sustainable future. The design of the Alexandria Police Facility was borne during this time



period, and it answers the Eco-City Charter's call for city departments to embrace a sustainable future and "lead by example."

SUSTAINABLE BY DESIGN

The new building accommodates 500 law enforcement and emergency communications personnel. Plans emphasized security, functionality and streamlined operations, while encouraging community access and use. Public meeting space is available on the first level, adjacent to the atrium lobby. The lower level houses the Patrol Operations Bureau, with interview rooms, report writing areas, lockers and showers. The second level accommodates an advanced criminal investigations lab, secure property and evidence storage, and administrative offices. The third floor features a new emergency communications center that consolidates the communications functions of the city's police and fire departments.

From conceptual design through construction and into operation, the new Alexandria Police Facility required an integrated, holistic approach. The high level of sustainability achieved by the project is due in large part to the collaboration, commitment and diligence of the entire design team, construction contractors, owner and building occupants.

"Everyone from the city to the contractor was dedicated to making this project the most sustainable it could be," says Sustainable Design Manager Shannon Roberts of HDR, "and I think that this dedication and teamwork is reflected in the project earning a LEED Gold rating."

This integrated design approach yielded benefits across the sustainability spectrum. For example, by leveraging efficiencies in mechani-



In November 2005, the Sierra Club recognized the City of Alexandria as a “Cool City.”

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SOME OF THE PROJECT'S SUSTAINABLE FEATURES AND STRATEGIES INCLUDE:

- ▣ Brownfield redevelopment
- ▣ Rainwater harvesting and a condensate water system for irrigation
- ▣ Biofiltration rain gardens
- ▣ Water-efficient fixtures
- ▣ Recycling more than 95 percent of construction waste
- ▣ Use of regional materials
- ▣ Daylight harvesting and optimization
- ▣ Low-emitting materials

cal, electrical and lighting design, the building is projected to achieve 31.8 percent energy savings relative to a similarly designed building. The sundrenched atrium is an inviting community space while infusing light deep into the building and improving the indoor environmental quality for both staff and visitors. Establishing goals and parameters for building materials—such as durability, recycled content, regionally sourced and low-emitting—allowed the project stakeholders to develop a sustainable palate of materials. The materials chosen for the project also needed to meet the city's expectation for a facility that would endure the next 50 years with little or no maintenance. For instance, the building's cladding materials were selected based not only on their historical aesthetic value, but also on time-tested durability. The same held true for the interior finishes that need to perform under intensive use, though this was carefully balanced with the desire to reduce negative

THE PROJECT'S PUBLIC AMENITIES INCLUDE:

- ◻ Landscaped entry plaza and provisions for public art
- ◻ Sunlit, three-story atrium with centralized access to public service counters
- ◻ Dedicated community meeting room for citizen groups

LEADING BY EXAMPLE: Alexandria Police Facility



SITE PLAN

A map of the Alexandria Police Facility shows the site's sustainable features.
COURTESY OF HDR ARCHITECTURE, INC.

impacts on indoor air quality. The integrated design approach combined optimal energy consumption with durable, ecologically friendly materials to produce a highly sustainable civic project that revised its initial expectations of Silver certification to achieve Gold while still meeting the budget.

But implementing sustainable options did run into some difficulties. City code required the project to install an irrigation system because of a turf-enforced fire lane. As Roberts explains, the cistern as it was originally designed wasn't going to keep up with the modeled irrigation demand for the month of August.

This challenge was overcome thanks to the integrated approach described earlier. Multiple meetings between the client, contractor, design team, landscape architect and irrigation system designer led to a solution that met everyone's needs.

"Since only a portion of the site would be served by the irrigation system, and only the fire lane by city code required irrigation, it was determined that during times of drought (or August), water resources would be concentrated and applied only to the fire lane areas," says Roberts. "The irrigation system was zoned and programmed to measure water levels in the cistern against irrigation needs. This allowed the project to meet the city code without using potable water to meet irrigation needs."

REDEFINING CIVIC

The Alexandria Police Facility project is one of many civic projects undertaken in recent years by the City of Alexandria to "lead by example" and create a more sustainable future for the city's residents. Beyond achieving the pro-

Materials

FLOORING

CARPET: Interface FLOR GlasBac Tile; Shaw Carpet Block Print Tile

EPOXY FLOOR: Dex-O-Tex Aero-Flor 100; Dex-O-Tex Décor Flor Troweled; Terroxy – Epoxy Thin Set

FLOOR TILE: Crossville Porcelain Stone EcoCycle

CEILING

ACOUSTICAL CEILING TILES/PANELS: Armstrong Ultima; Armstrong Optima Open Plan – Plank; Armstrong Optima Open Plan – Large Sizes

WOOD

DOORS: C.H. Edwards, Incorporated Wood Doors – Stave Core FSC Smartwood 70% Mixed

PLYWOOD: Allegheny Millwork Allegheny Plywood FSC

ROOFING

Carlisle Sure-Weld Reinforced TPO Membrane—White

INTERIOR FINISHES AND FURNISHINGS

COUNTERTOPS/MILLWORK: DuPont Corian; DuPont Zodiaq; Formica Laminat

DESK: Lamin-Art

PAINTS AND WALLCOVERINGS

Sherwin Williams ProGreen 200

ENERGY EFFICIENCY

LIGHTING CONTROL SYSTEM: Lighting Controls & Design

BUILDING ENVELOPE

WINDOWS: Viracon Insulating Low-E

BRICK FAÇADE: Glen-Gery Corporation Prince William Red Modular

PLUMBING FIXTURES

FAUCET: Zurn AquaSense Battery Powered Faucet

URINAL: Zurn AquaSense 'AV' Exposed Urinal Flush Valve

WATER CISTERN

XERXES Water Tank – 30,000 Gallon

grammatic goals established by the police department, this project capitalizes on its sustainable design features to provide public amenities for the community. This project exemplifies how civic architecture is being redefined in the 21st century, creating buildings for the public that are economically and environmentally sustainable. This project transformed 6.7 acres of reclaimed land into a new civic landmark of sustainability for the City of Alexandria. edc

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