

Bollards exhibited
in MoMA

ARTFUL SECURITY

BY FREDRICK REEDER

*The first time we heard about **Rick Reeder**, owner of the firm **designStream**, was in the article in **CSO Internet** magazine "Artful security: Design elements that ensure security, but also emphasize style" by Joan Goodchild which inspired us to write about these problems in our first issue of **SEC&AS**. Rick was responsible for the design of perimeter security of FleetBoston tower (now renamed to **100 Federal Street**). His broken "kayak", sculpture in black granite, is one of the best examples of modern art which is in the service of a landscape security. And his protective bollards have been exhibited in the **Museum of Modern Art (MoMA)**. He quickly answered our inquiry and sent us his photos and drawings. Thanks to his kindness Polish readers can find more practical information about creating landscape security.*

Joanna Tomczak, SEC&AS (J.T.): *Mr. Reeder can you tell SEC&AS readers about your professional career?*

Fredrick Reeder, designStream (F.R.): I started my architectural firm, designStream, as a moonlighting interest that eventually became a full-time practice. I have been building things since I was a little boy, and I'm now well-respected among clients, peers and contractors for my technical skills, construction knowledge, experience with a broad range of materials, superb understanding of three dimensional space and light, and ability to think creatively and unconventionally. All of which brings a direct, distinctive and beautiful essence to all levels of my work, which has been exhibited in the **Museum of Modern Art** in NY and has appeared in **The Wall Street Journal**, books and several periodicals.



I obtained undergraduate and graduate degrees in architecture and planning in Oklahoma, Rensselaer Polytechnic Institute (RPI) and Harvard, and spent much of my professional career with a large Boston architectural firm. My broad experience encompasses high profile commercial, residential, cultural and civic projects in the United States of America and abroad.

J.T. *And can you tell us more about your company?*

F.R. designStream is a full service architecture, planning and product design firm, with specialized skill in landscape integrated aspects of physical security.

We are interested in a comprehensive approach to architectural and landscape design where everything is seamlessly integrated, and we view security as just another design parameter. In the integration of physical security, we try to balance everyday use with rare, exceptional circumstances. Artful security means making security beautiful, understated, invisible or any combination of these characteristics.

J.T. *I heard that your firm is involved in product design also.*

F.R. Yes, in addition to architecture and planning, designStream specializes in artful force protection (perimeter security) and other landscape furnishings. Several of our works have been patented and some have received prestigious **Red Dot** Product Design Awards for creativity. We design custom force protection on commission. Through past experience and current broad interest in architectural and landscape design, we encourage clients to integrate good design into perimeter security solutions in order to enhance property value and to beautify the streetscape and landscape, rather than diminish the quality of their properties with purely utilitarian, visually overstated security installations.

J.T. *Can you explain to SEC&AS readers force protection basics in architecture?*

F.R. There are four aspects of physical protection in architecture: protection against progressive collapse,



Anti – Ram bench



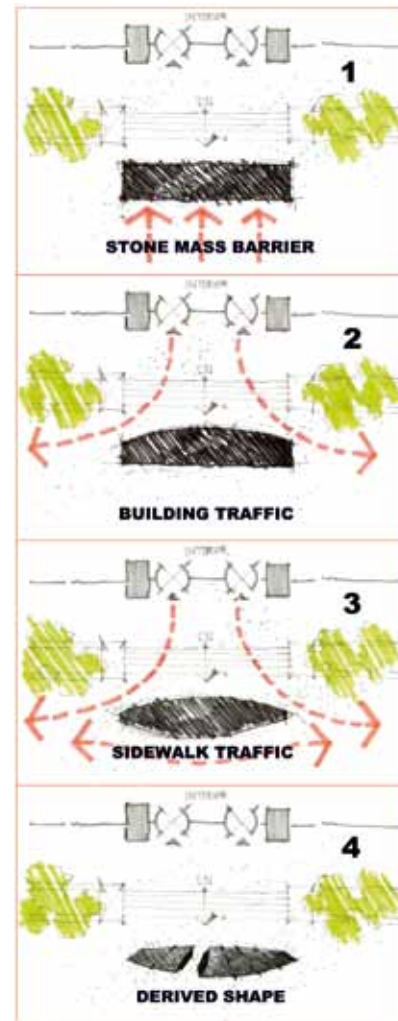
isolation of internal threats, debris mitigation and last but not least peripheral & perimeter security.

J.T. Can you give us examples as an explanation of these points?

F.R. Of course. An example of a protection against progressive collapse – if a vertical structural column is lost in an explosion, there needs to be enough redundancy in remaining adjacent structure to support the additional loads, formerly carried by the lost column. Isolation of internal threats means, for example, to screen individuals entering a building and their belongings; and to screen vehicles entering parking garages and loading docks. In debris mitigation, we attempt to contain and restrain lethal objects sent flying through the air by an explosive event. Glass shards can be controlled somewhat with an applied, heavy-duty, invisible security film. An example of a perimeter security can be a barrier to VBIED's (Vehicle Born Improvised Explosive Devices) with small openings (a filter) to enable pedestrians to penetrate the barrier and proceed to building entrances.

J.T. In this issue of SEC&AS magazine we are especially focusing on perimeter security, can you explain this concept to the readers?

F.R. The purpose of creating a perimeter barrier is to establish a “standoff zone” surrounding the occupied building in order to keep a large explosive charge as far away as reasonably possible. In general, the standoff distance depends on: – available space – Larger standoff dimension is more achievable in suburban and rural areas, – security level of the building and its occupants – for example an embassy or defence facilities verses normal office facilities. Banks (symbols of capitalism)



Anti – Ram bench,
Phases of designing

verses professional offices, – costs – the larger the standoff dimension the longer the perimeter and the cost of the barrier increases commensurately. In balance, the complement of that increased perimeter barrier cost is that less money needs to be spent on “hardening” the actual building. Standoff distances at many secure government sites vary from 50 feet to 100 feet, more or less, depending on the nature of the site and the perceived threat level. For peripheral & perimeter hardening elements we are using: bollards, wedge plates; hardened planters, trees, walls, benches, flagpoles, street lights, kiosks... And other landscape structures like: moats: water (new U.S. Embassy in London, for example), concealed concrete or foam, weak and collapsible to vehicles but strong enough to walk over without collapse. Boundary conditions affect the strength of protection required. When a bomb-laden vehicle is able to approach a property at high speed, higher strength protection is required. With traffic calming devices, such as short approach streets, lower strength protection may be satisfactory.

J.T. Thank you for your comprehensive explanations. We plan to write an article about anti-ram & anti-terror protective elements mounting techniques based on the example of your standard Sentinel bollards.

All pictures from designStream |Fredrick Reeder.