Creative Function and Sustainability of Form in Tensile Structures

HOPKINS ARCHITECTS

SCHLUMBERGER CAMBRIDGE RESEARCH FACILITY

PASSIVE LIGHTING:

The fabric roof covers the drilling-rig test station and the main social space known as the 'winter garden'. They mutually benefit from the roof form; The workshop needs the height for drilling, and it's light and shape gives it the character of an outdoor space with ample weather protection for the winter garden.

A "cat's cradle" of cables transmits the weight of the fabric to the ground via four structures like suspension bridges.

The fabric covering is Teflon coated glass fibre. **PTFE** It is uninsulated and transmits about 13% daylight.

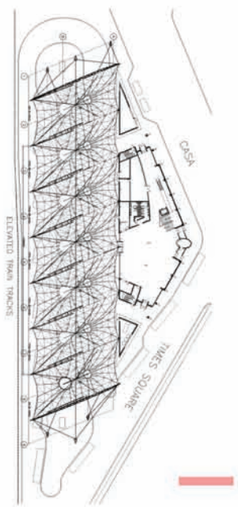
EXOSKELETAL STRUCTURE

FTL DESIGN ENGINEERING STUDIO

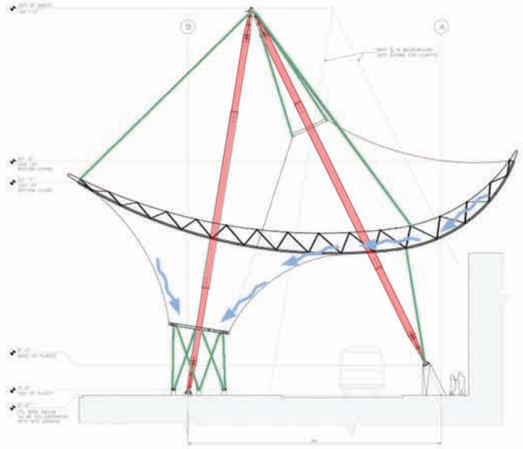
ROSA PARKS TRANSIT CENTER, DETROIT MI

LIGHT STRUCTURE: REDUCED MATERIAL USAGE

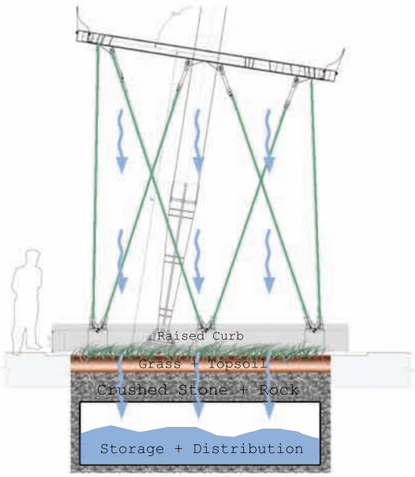
SITE PLAN



DETAIL: **BAY SECTION**



DETAIL: **BASE AND RAINWATER COLLECTOR**



Indicates Compression

Indicates Tension

Indicates Flow of Precipitation

RAINWATER COLLECTION

FOSTER + PARTNERS

KHAN SHATYR ENTERTAINMENT CENTRE, KAZAKHSTAN

INNOVATIVE MEMBRANE MATERIALS

The roof is constructed from Tri-Layer insulating envelope of **ETFE** suspended on a network of cables strung from a central spire. The transparent material allows sunlight through which, in conjunction with air heating and cooling systems is designed to maintain an internal temperature.

PowerMod 1200M™

Recharge Humvees and other Mobile Power Distribution Vehicles

Small Unit Operations (Platoon and Squad)

Mobile Tactical Units: Medical, Refrigeration, Communications

Expedition Base Camps

Average Daily Output: 4.5 KWH
Operating Voltage (V): 24
Operating Current (Amps): 38.4

PHOTOVOLTAIC PANELS

MICHAEL HADDY