



Victor Buyck Steel Construction

High Rise Steelwork Experience



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HIGH RISE STRUCTURES IN LONDON

The City of London

Exchange House	Broadgate Development	7,000	tonne
59 - 67 Gresham Street		4,000	tonne
Swiss Re		10,500	tonne

Canary Wharf Development

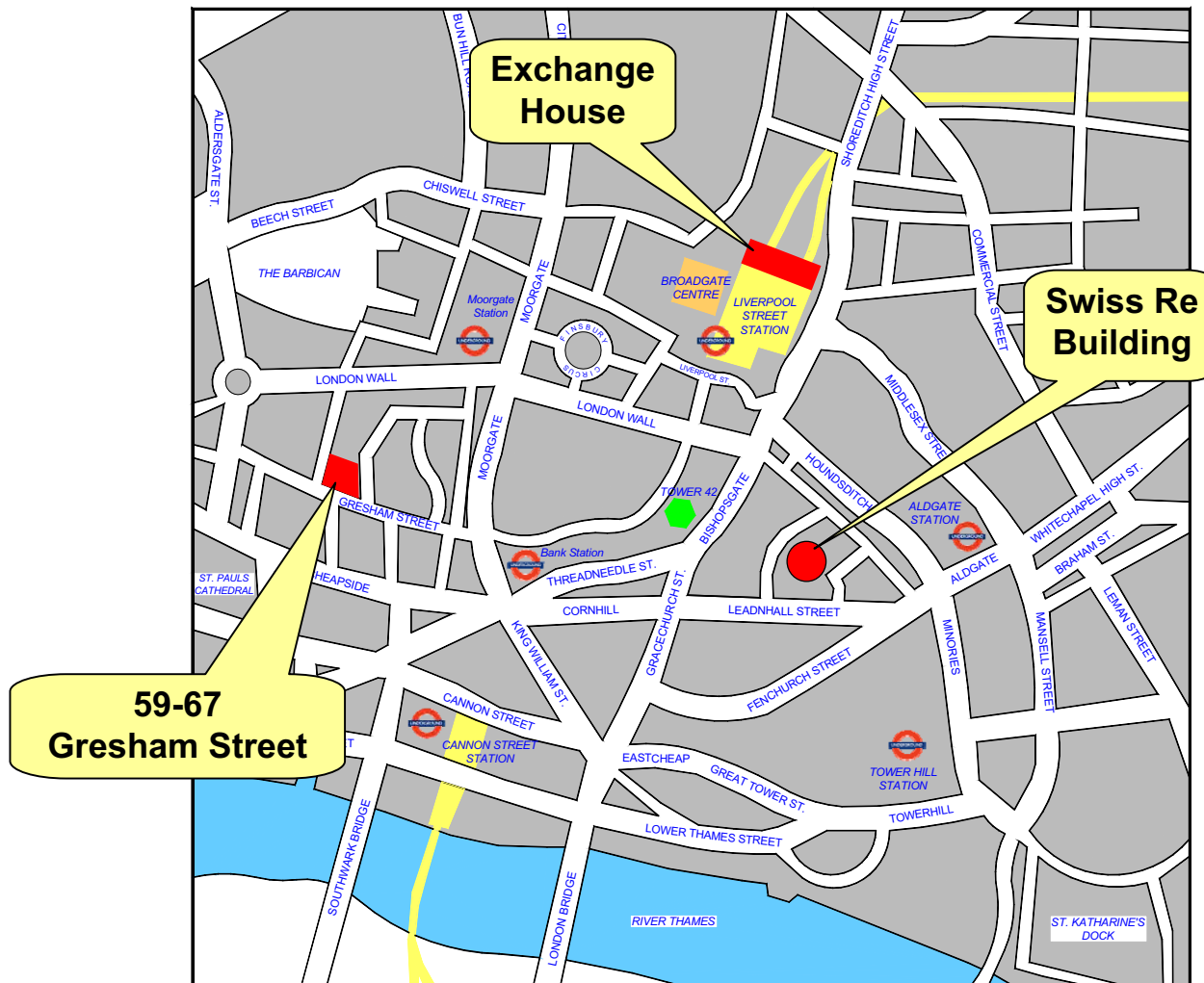
Building FC1	Credit Suisse Group	6,000	tonne
Building FC2	Ogilvy & Mather - Barclays Capital	7,000	tonne
Building FC5	Morgan Stanley Dean Witter	5,500	tonne
Building FC6	London Underground	3,500	tonne
Building DS5	Citigroup	12,000	tonne
Building HQ4	Northern Trust	2,500	tonne
Building HQ2	Lehman Brothers	12,500	tonne
Building BP1	Barclays	10,000	tonne
Building BP3		3,500	tonne
Building BP2		4,500	tonne

Total in London

88,500 tonne



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Site Visit

Exchange House

12th October 2007



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Site Visit

Swiss Re

12th October 2007



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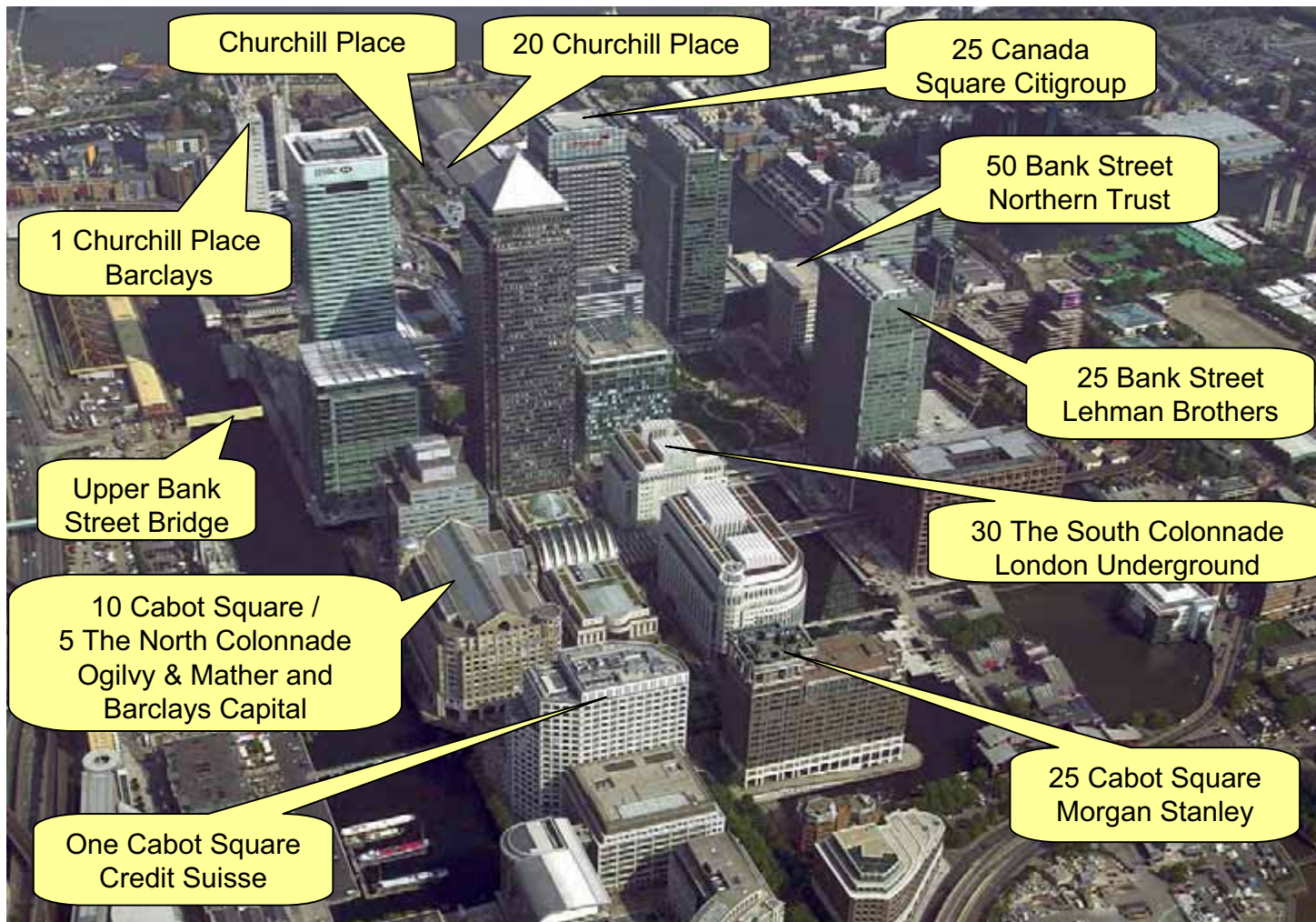
Site Visit

Swiss Re

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Site Visit

Great Wharf Road Bridge

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Site Visit

Citigroup at Canary Wharf

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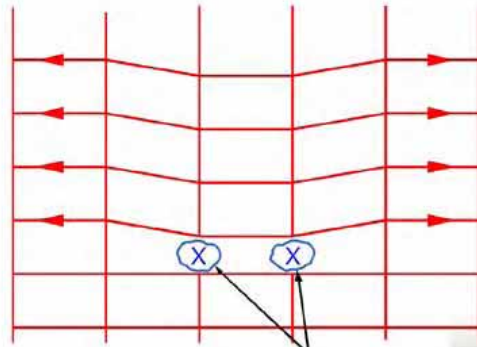
Site Visit

Barclays Canary Wharf

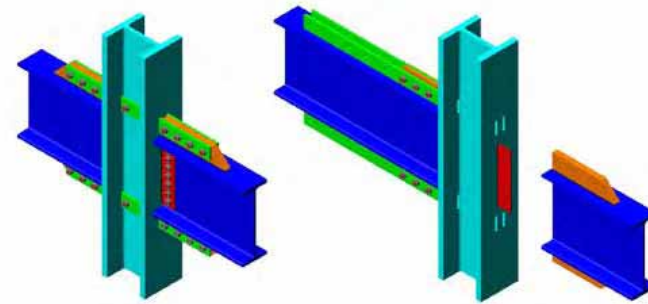
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Two Columns removed by an extreme event



Patent "EXTREME EVENT BEAM LINK" detail

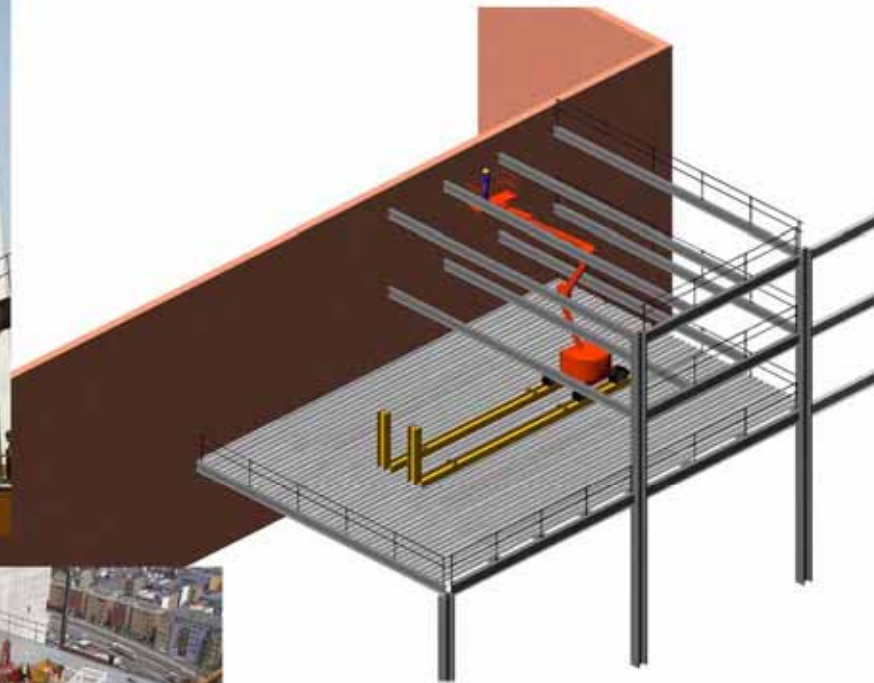
- SIMPLE ERECTION ON SHEAR TABS
- BEAM LINKS INSERTED LATER AND OFF CRITICAL PATH



Extreme Event Beam Link



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**CHERRY PICKER WORKING WITHIN
FULLY EDGE PROTECTED CORRAL**

Erectors do not work on the open steel

Site Visit

Safe Erection

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Site Visit

Canary Wharf Building BP3

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Site Visit

Canary Wharf Building BP2

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Luxembourg



High Wycombe - UK



Gent - Belgium





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HIGH RISE STRUCTURES IN SOUTH EAST ASIA

Kuala Lumpur – Malaysia

421m high Telecommunications Tower

Tower Head & Antenna Mast 1,800 tonne

Suria KLCC Retail Podium 18,000 tonne

Malaysia Telecom Headquarters

77 Storey - 378m high – levels 56 to 77 1,000 tonne



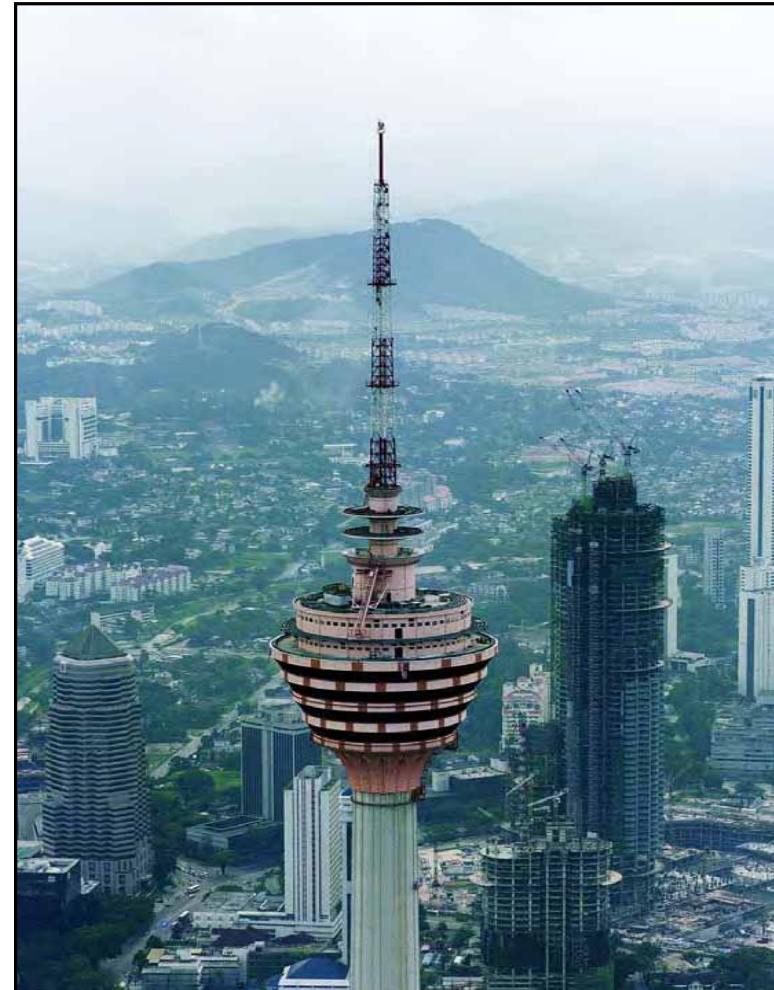
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Telecommunications Tower

Kuala Lumpur – Malaysia

1,800 tonnes

Height 421m





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Malaysia Telecom Headquarters

Height 378m



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Suria KLCC Retail Centre
Kuala Lumpur – Malaysia
18,000 tonnes



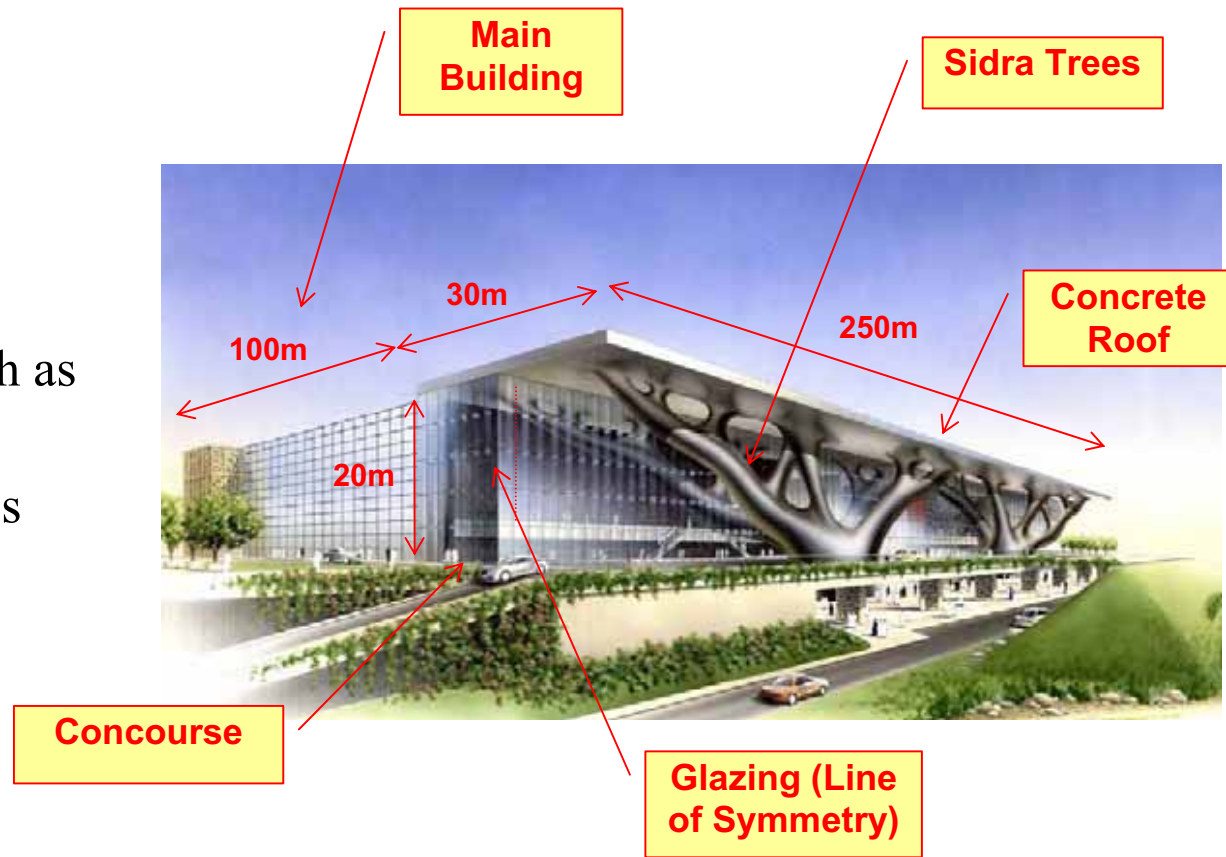
Site Visit

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- 250m long tree
- Half inside the concourse
- Tree trunk as much as 5m diameter
- Free form branches
- Flat concrete roof

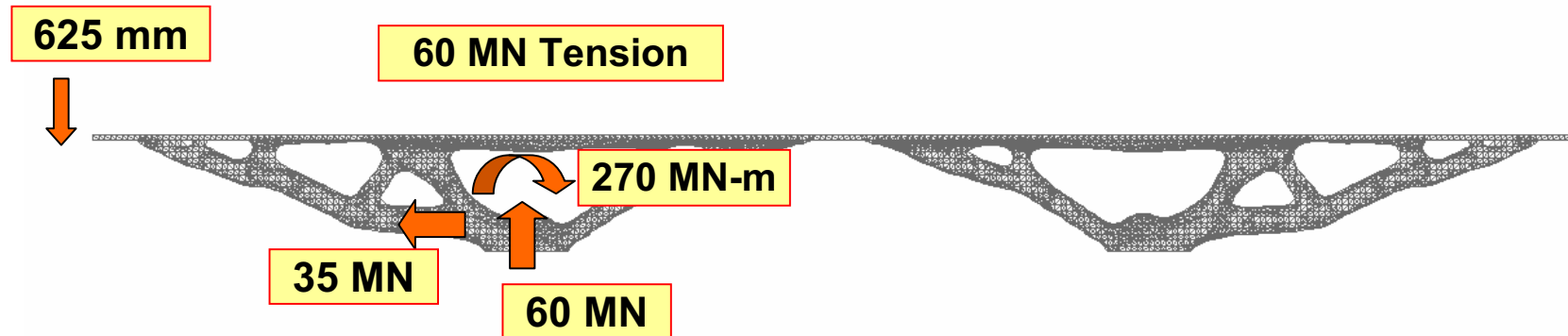


Sidra Trees – Convention Centre – Doha - Qatar



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- Free-form geometry of the tree surface
- Over 60,000 kN tension in the roof (working load)
- 625 mm pre-camber at roof corner
- Prefabrication and transportability



Overview – the challenges



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CANARY WHARF TYPICAL BUILDING LAYOUT

- Concrete core
- Steel frame perimeter
- 9m perimeter column spacing
- 3m secondary beam spacing
- 13.5m secondary beam span
- 4.15m floor to floor height



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CANARY WHARF

Canary Wharf Standard

- Concrete core
- Steel frame perimeter
- Enhanced frame robustness (Since BP1)
- 9m perimeter column spacing
- 3m secondary beam spacing
- 13.5m secondary beam span
- Standard rolled beams
- 4.15m floor to floor height

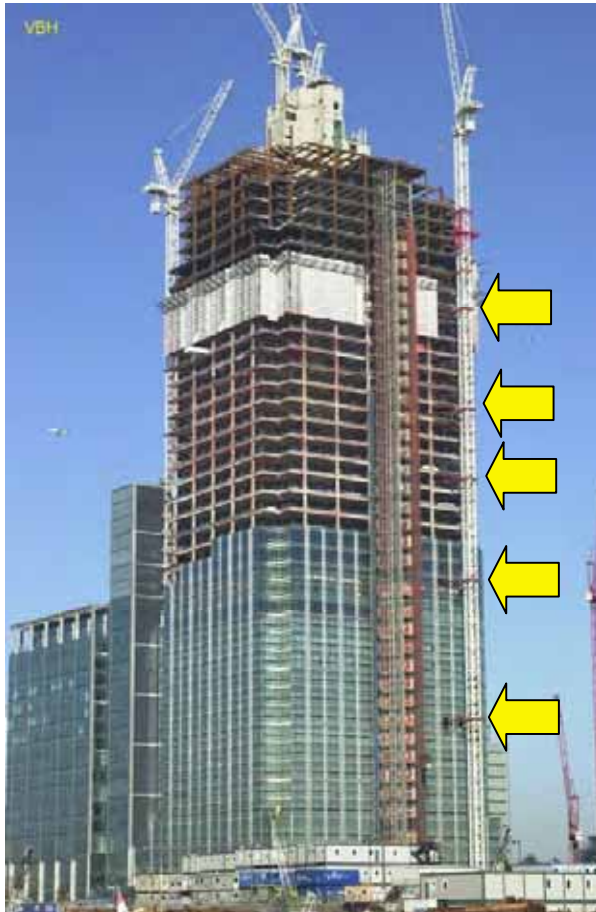
Building BP3 Compared to Standard

- Yes
- Yes
- Yes – Non standard details
- Yes
- Yes
- Yes
- No - Beams with penetrations
- No – Reduced to 3.95m

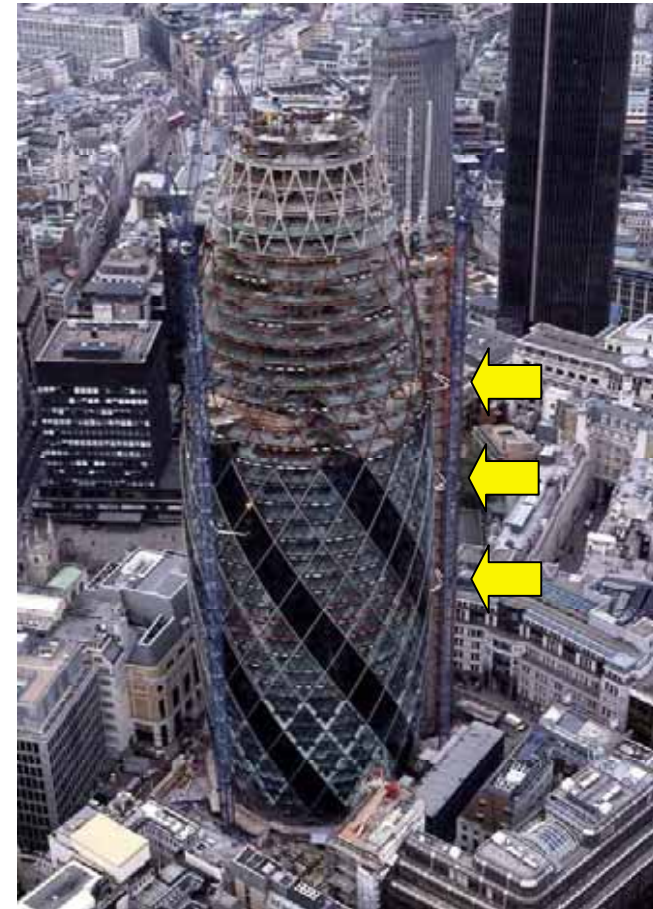
Compare BP3 to Canary Wharf Standard



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Crane
Ties



Canary Wharf Building DS5

Swiss Re



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Canary Wharf Building BP1
Cranes on top of Cores



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Site Visit

The Pinnacle

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Site Visit

Shard at London Bridge

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