

Macquarie Point Development Corporation
41 Evans St,
Hobart TAS 7000,
Australia

Stuttgart, 20.12.2024

**Macquarie Point Multipurpose Stadium - Statement to address
C.1.6**

Dear Anne,

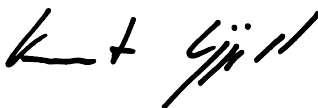
This is to say that the MPMS roof structure is achievable, subject to the final design and associated detailing. The materials used, the geometry in height and spacing chosen form a well-balanced structural system.

It is, of course, assumed that the structure will be erected by a qualified contractor who will be responsible for the erection sequence and associated temporary conditions. Particular attention will need to be paid to the intermediate / temporary conditions and the fabrication and installation tolerances to be guaranteed.

In addition to the detailed structural design (calculations and detailed drawings), it should also be noted that the wind loads are derived from wind tunnel model testing (work currently in progress). A large number of load cases have also been included in the design assumptions to reflect the possible event equipment suspended from the roof of the stadium.

We have no doubt that the selected system and associated materials are an optimal match for the specific site and use cases of the Macquarie Point Multipurpose Stadium.

Best regards



Knut Göppert

Head of Advisory Board of sbp se
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Knut Goeppert Dipl.-Ing.
Board Member | Project Partner

Education

1982 - 1989 Study of Civil Engineering at the Technical Universities of Stuttgart, Karlsruhe and Calgary, Canada, specialization in Structural Engineering, Diplom-Ingenieur degree

Experience Record

since 2023 Board with schlaich bergemann partner, Structural Consulting Engineers, Stuttgart, Germany

since 1998 Partner with sbp

since 1989 Structural Engineer with sbp

Selected projects

since 2023 Grand Stade de Tanger, Tanger, Morocco
concept design of a stadium roof covering 80,000 seats with 51,000 m² as a steel and cable structure following the spoked wheel design principle

since 2020 Hammerbrooklyn, Hamburg, Germany
ensemble with 3 buildings in timber construction, total GFA: 50,000 m²

2019 - 2023 Oman Botanical Garden - Southern Biome, Muscat, Oman
11,000 m² large biome with approx. 2,500 m² façade, double glazing with internal and external shading device

2018 - 2023 New Stadium Karlsruhe, Germany
new construction of stadium for 35,000 spectators

2020 - 2022 Athletic Stadium Budapest, Hungary
spoked wheel structure, spectators: 40,000, value engineering, structural inspection, calculation of rope assembly

2018 - 2022 Sydney Football Stadium, Sydney, Australia
new construction of a football stadium with 45,000 seats, shell construction with membrane roofing

since 2017 Eden Project Qingdao, China
largest single-layer grid shell in China with ETFE cushion facade, covered area: 20,000 m², height: 60 m

since 2015 Kai Tak Sports Park, Hong Kong, China
multi-purpose sports complex, retractable roof for main stadium

2015 - 2020 Stadium Nou Camp Nou, Barcelona, Spain
modification of stadium for 105,000 spectators

2018 - 2020 Building inspection and recalculation of the Munich Olympic Roof
historical cable net structure structure with a total roof area of 74,800 m² incl. connection details and anchorages

2016 - 2019 Extension of Heathrow Airport, London, Great Britain
lightweight long-span enclosure of terminal and passenger interchange buildings

2015 - 2019 Tottenham Hotspurs Stadium, London, Great Britain
new stadium for 61,000 spectators

2014 - 2019 Stade de Luxembourg
new football and rugby stadium

2013 - 2019 Stadium Al Janoub, Al Wakrah, Qatar
retractable membrane roof on cable net

2014 - 2018 VTB Arena Moscow, Russia
stadium roof as spoked wheel structure

2011 - 2016 Stadium FK Krasnodar, Russia
membrane roof, spoked wheel structure with inner glass roof

2012 - 2014 Hazza Bin Zayed Stadium, Al Ain, Abu Dhabi, UAE
cantilever roof structure with membrane cladding, steel structure with membrane panels

2005 - 2014 Airport Berlin Brandenburg Willy Brandt, Germany
passenger terminal: long-span roof structure with pre-stressed steel and glass facades

2010 - 2013 Landwirtschaftlicher Versicherungsverein Münster - LVM 5, Münster, Germany
building ensemble with slightly inclined 18-story office tower, height: approx. 65 m

2009 - 2012 Stadium Maracanã (Estádio Jornalista Mário Filho), Rio de Janeiro, Brazil



Stadium Maracanã, Rio de Janeiro, Brazil | LVM 5, Münster, Germany | BC Place Stadium, Vancouver, Canada

	new membrane roof with pre-stressed cable structure above existing tiers		
2008 - 2012	Brasília National Stadium, Brazil remodeling of existing stadium and expansion with completely new roof	2005 - 2007	Monumento 11M, Madrid, Spain monument dedicated to the victims of the terror attacks, innovative structure of massive glass blocks with internal layer of ETFE foil
2008 - 2011	London Olympic Velodrome, Great Britain cable net roof with timber cassetts cladding	2004 - 2006	TRUTEC Building, Seoul, South Korea office building as composite steel structure with 12 upper and 5 basement stories
2008 - 2011	Rehabilitation of BC Place Stadium, Vancouver, Canada renovation and new roofing of existing multifunctional stadium	2004 - 2006	Porsche Arena Stuttgart, Germany multifunctional hall for 7,500 spectators
2008 - 2011	National Sports Complex Olimpiyskiy, Kiev, Ukraine membrane roof and glass lamella facade	2005	Pabellón de Estado at the airport of Madrid-Barajas, Spain double-layered membrane roof, suspended glass roof, glass facades
2007 - 2011	National Stadium Bucharest, Romania looped cable roof with retractable inner roof	2004 - 2005	Fanuc Robotics Germany, Neuhausen, Germany new office building and exhibition hall, reinforced concrete structure with a hall of steel portal frames
2007 - 2011	National Stadium Warsaw, Poland multifunctional stadium with retractable inner roof	2003 - 2005	Olympic Stadium Berlin, Germany new roof structure within historic context under application of new materials (steel construction/membrane)
1993 - 2011	Mercedes-Benz Arena (former Gottlieb-Daimler Stadium), Stuttgart, Germany retrofit into soccer stadium with expansion of existing roof	2002 - 2005	Commerzbank-Arena Frankfurt (former Waldstadion), Frankfurt am Main, Germany looped cable roof with retractable inner roof
2008 - 2010	Rhine-Main Printing Center, Rüsselsheim, Germany long-span steel hall structure, length x width: 140 x 90 m, gross floor area: 40,600 m²	2002 - 2005	RheinEnergie Stadium, Cologne, Germany prefabricated construction with suspension bridge type roofings
2006 - 2010	SPM Swimming Stadium Delhi, India cable net roof with concrete compression ring	2002 - 2005	Project Südwind (Workshop Building and Sales and Exhibition Building), Neckarsulm, Germany
2006 - 2010	JNS Jawaharlal Nehru Stadium, Delhi, India membrane roof on pre-stressed cable structure	2003	Erzbahnschwinge Bochum, Germany one-sided suspension bridge with S-shaped plan
2006 - 2009	Soccer City Stadium, Johannesburg, South Africa mega ring truss and cantilever structures, seats: 94.000	2002 - 2003	SEW Eurodrive Center for Research and Development, Bruchsal, Germany
2006 - 2009	Cape Town Stadium (Green Point), South Africa glazed suspension roof and membrane facade	2002	Footbridge across Hessenring, Bad Homburg v. d. Höhe, Germany cable-stayed bridge with four-armed central mast made of blocks of natural stone
2006 - 2009	Moses Mabhid Stadium, Durban, South Africa steel arch supported membrane roof	1996 - 2001	Pusan Dome, Pusan, South Korea membrane roof (PTFE glass) on pre-stressed cable structure
2006 - 2009	Nelson Mandela Bay Stadium, Port Elizabeth, South Africa spatial cantilever structure with tubular framework covered with aluminium and membrane	1996 - 2000	Head Office Boehringer, Ingelheim, Germany steel and glass structure and cable net facade
2004 - 2008	Super C, RWTH Aachen, Germany reinforced concrete, height: 27 m, top floor: steel girder construction, cantilever: 17 m	1995 - 1998	Visitor Bridge at Deutsches Museum, Munich, Germany interactive footbridge, length: 27 m
2004 - 2008	Nam June Paik Art Center, Suwon, South Korea 3-story reinforced concrete structure with vierendeel action	1995 - 1998	National Sports Complex, Kuala Lumpur, Malaysia cable supported membrane roofs for athletics stadium and for swimming stadium
2003 - 2008	Employees' Restaurant Boehringer, Ingelheim, Germany with branched columns as freely formed prefabricated exposed concrete elements		



Mercedes-Benz Arena, Stuttgart, Germany | Airport Berlin Brandenburg Willy Brandt, Germany | National Sports Complex Olimpiyskiy, Kiev, Ukraine

Projects in

Germany, France, Luxembourg, Great Britain, Spain, Poland, Hungary, Romania, Ukraine, Marokko, Russia, Qatar, United Arab Emirates, South Africa, India, Malaysia, South Korea, Hong Kong, China, Japan, Canada, Brazil, Venezuela, Australia, Oman

Languages

German (native speaker), English

Professional Societies

Chamber of Engineers Baden-Wuerttemberg
Association of German Engineers
IASS - International Association for Shell and Spatial Structures (Working Group: Retractable Roof Structures)
2010 Convention of Building Culture
Architecture Forum Baden-Wuerttemberg, President

Selected Awards

Structural Awards 2019, Supreme Award for Structural Engineering Excellence and Award for Long Span Structures: Tottenham Hotspur Stadium, London, Great Britain
2019 Structural Steel Design Awards, one of five Awards, and Project of the Year: Tottenham Hotspur Stadium, London, Great Britain
European Steel Design Awards 2015, Award of Excellence Winner: Arena da Amazônia, Manaus, Brazil
Ingenieurpreis des Deutschen Stahlbaues 2015, category buildings, distinction for Estádio do Maracanã, (Estádio Jornalista Mário Filho), Rio de Janeiro, Brazil
Stadium of the Year Competition 2014, for Hazza Bin Zayed Stadium, Al Ain, Abu Dhabi, UAE
13. Ingenieurbau-Preis 2012 for National Stadium Warsaw, Poland
2012 Outstanding Achievement Award Tensile Structures for National Sports Complex Olimpijsky, Kiev, Ukraine
2012 Award of Excellence Miscellaneous for BC Place, Vancouver, Canada
World Stadium Awards 2012, Engineering excellence in stadium development for Moses Mabhida Stadium, Durban, South Africa
World Stadium Awards 2012, Most innovative use of technology in stadium design for National Stadium Warsaw, Poland
IOC/IAKS Award 2011 Gold for Cape Town Stadium, South Africa
Stahlbaupreis 2010 for Greenpoint Stadium, Capetown, South Africa
SAISC Steel Award South Africa 2009 Overall Winner: Moses Mabhida Stadium, Durban, South Africa
Detail Preis 2009 M-11 for Memorial, Madrid, Spain

Balthasar-Neumann-Preis 2008 for Memorial, Madrid, Spain
IABSE Outstanding Structure Award 2007 for the the roof structure of the Commerzbank Arena in Frankfurt
Footbridge Award 2005, Technology (long span) winner: Erzbahn-schwinge Bochum

Selected Publications

Books

Wandelbare Dächer in new move, Birkhäuser Verlag, 2020
multilayered, Birkhäuser Verlag, 2019
Das Speichenrad für Ringseildächer im Leichtbau in Visionäre und Alltagshelden, DETAIL, 2017
Stadium and Arena Design (Stadium Engineering, 2nd edition): Retractable Roof Solutions for Sports Stadia and Arenas, ICE Publishing, 2015
3+1 Stadia for Brazil. Belo Horizonte Manaus Brasília + Rio de Janeiro, Jovis Verlag, 2014
Mobile Spaces, Jovis Verlag, 2014
DETAIL engineering 1, DETAIL-Verlag 2011
3 Stadia 2010: Architektur für einen afrikanischen Traum, Jovis Verlag, 2010
Von Stuttgart nach Seoul in Contemporary Korean Architecture, Jovis Verlag 2007
Membrantragwerke in Stahlbaukalender 2004 und 2009, Verlag Ernst und Sohn
Form und Konstruktion in Bauen mit Membranen, Prestel Verlag 2004
Technical magazines
member of Editorial Committee of „Journal of International Association for Shell and Spatial Structures“
numerous articles in national and international publications like Detail, Bautechnik, Bauingenieur, Stahlbau and many more



Olympic Stadium Berlin, Germany | RheinEnergie Stadium, Cologne, Germany | Head Office Boehringer, Ingelheim, Germany