





NEY

+PARTNERS WOW

TIMBER ENGINEERING

Glued GLVL panels for a new footbridge over the Brussels ring road

FORUM HOLZBAU INTERNATIONAL
4.-6. Dezember 2024

NEY +PARTNERS WOW
TIMBER ENGINEERING

WOW : A SPECIALIZED TIMBER DESIGN OFFICE

Location



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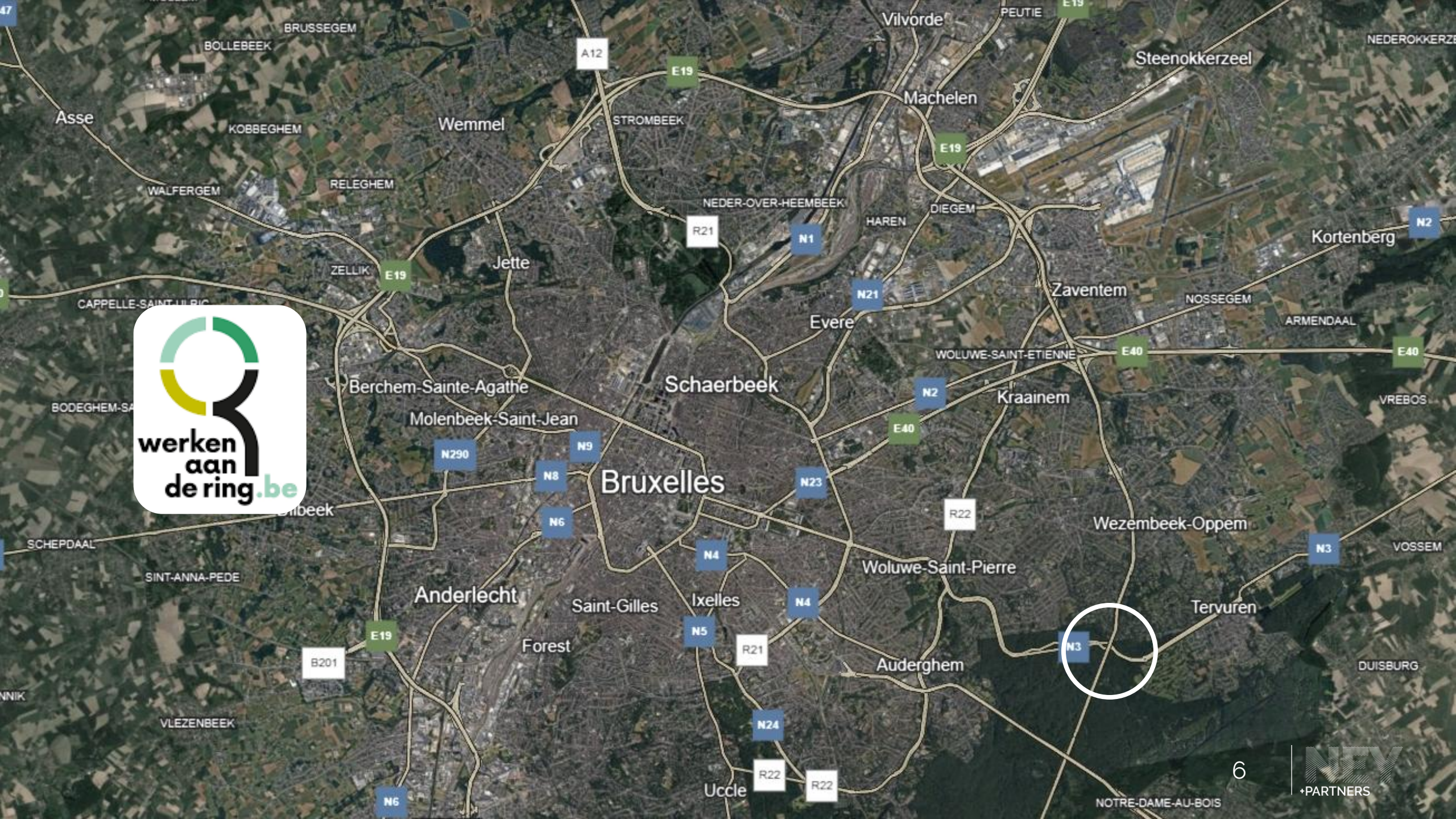




R0-TERVUREN TIMBER FOOTBRIDGE

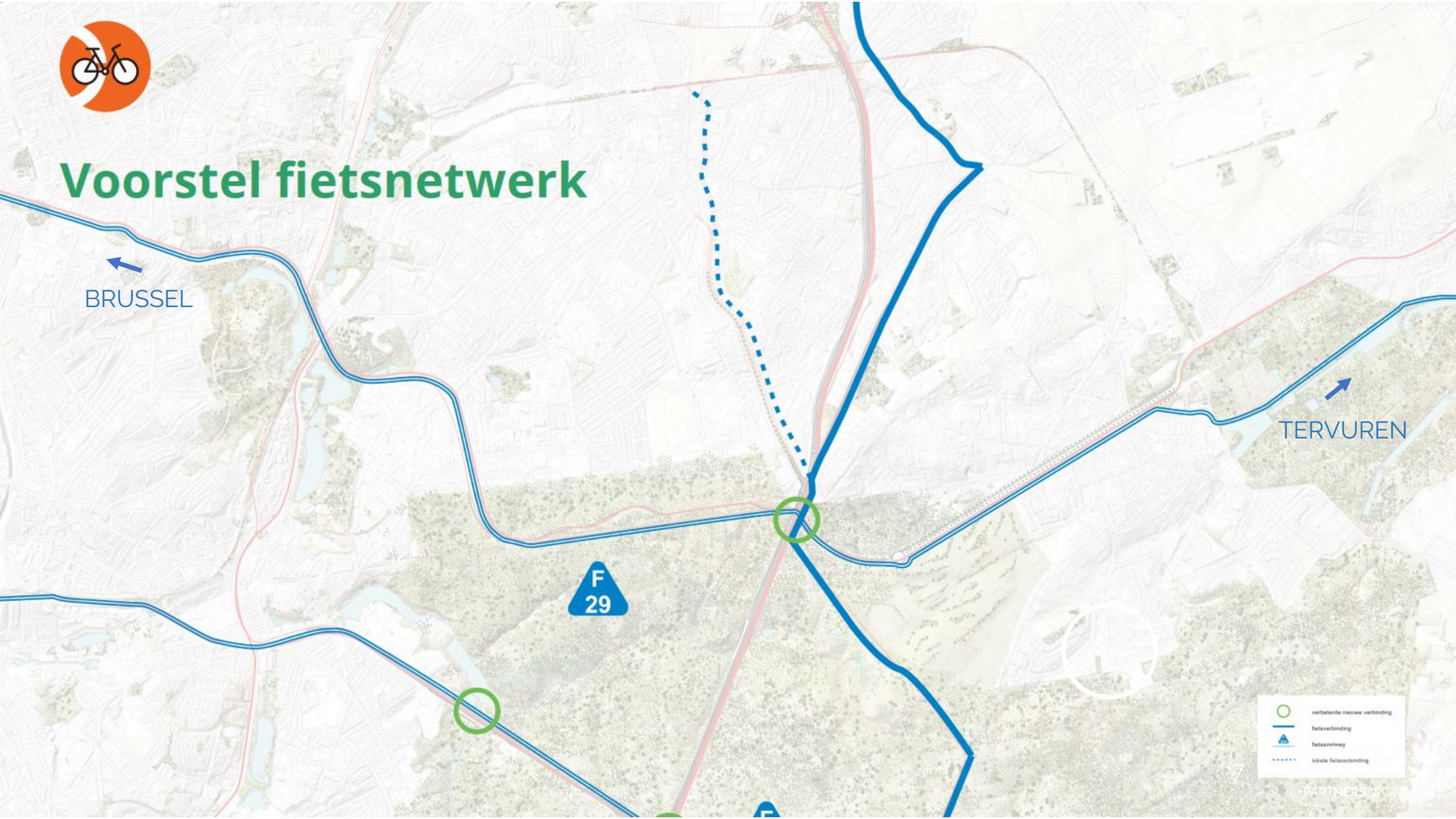
- **LOCATION :** VIER ARMEN, 3080 TERVUREN, BELGIUM
- **STUDY :** 2021
- **EXECUTION :** 2022-2024
- **ARCHITECT :** NEY AND PARTNERS
- **CLIENT :** FLEMISH GOVERNMENT & DE WERKVENNOOTSCHAP (DWV)
- SPAN OF 67.5m
- WIDTH OF 6m

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Voorstel fietsnetwerk



Location



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Design features



Design features



RO-TERVUREN TIMBER FOOTBRIDGE

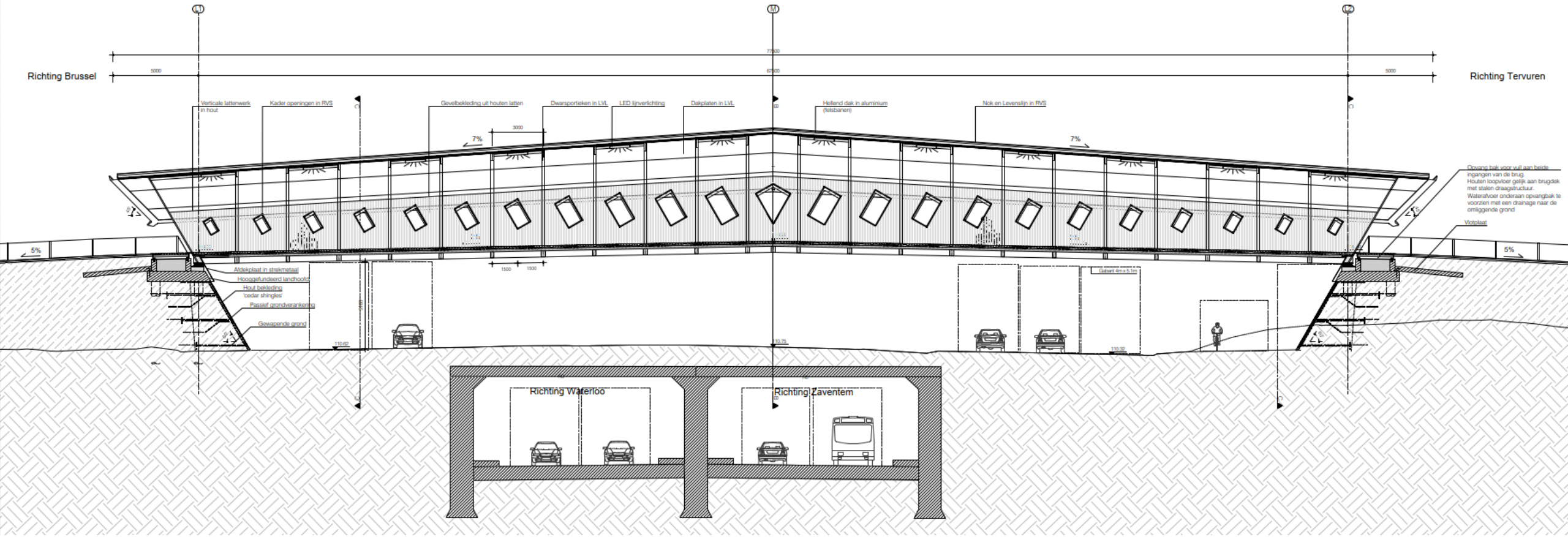
Design features



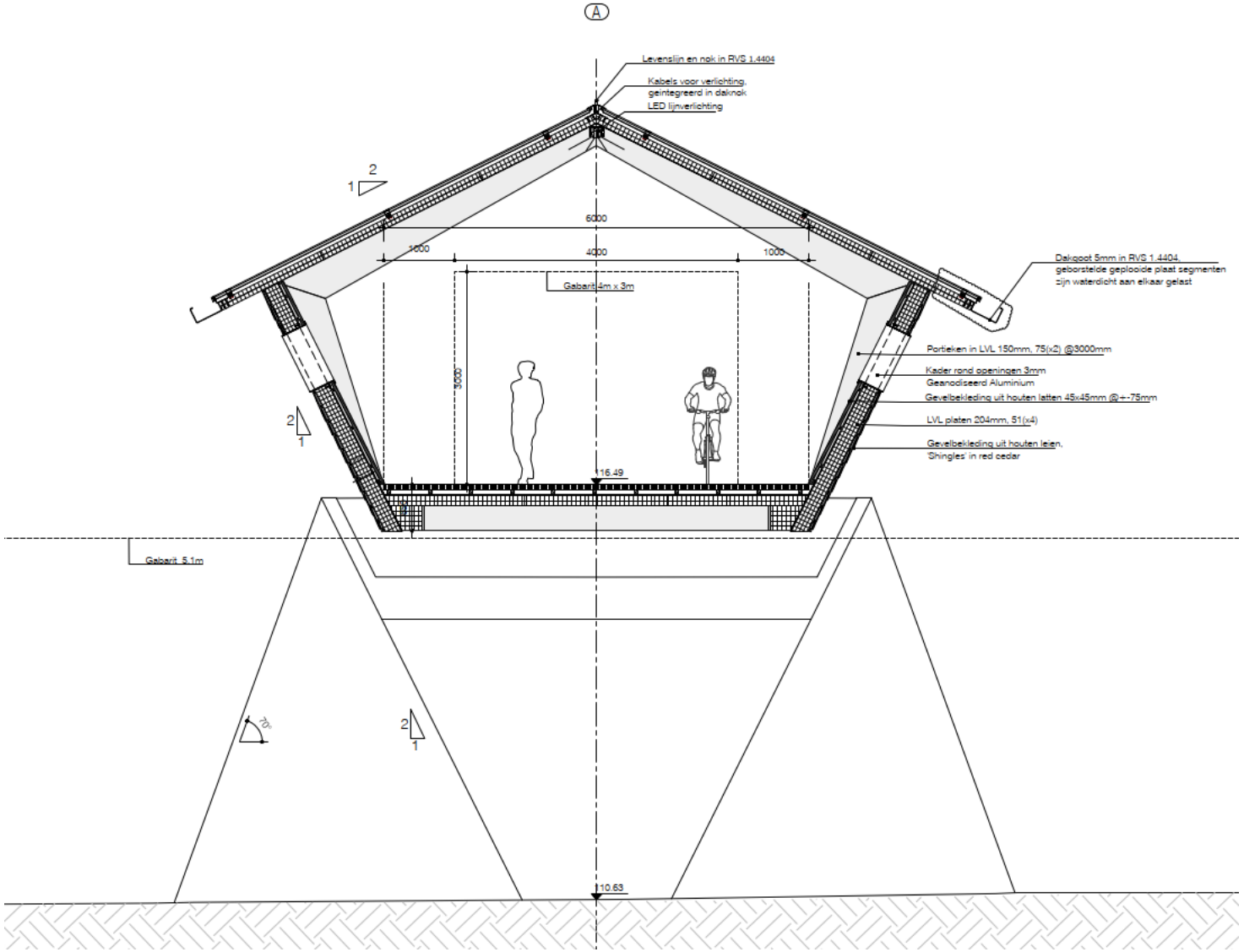
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Ro-TERVUREN TIMBER FOOTBRIDGE

Design features



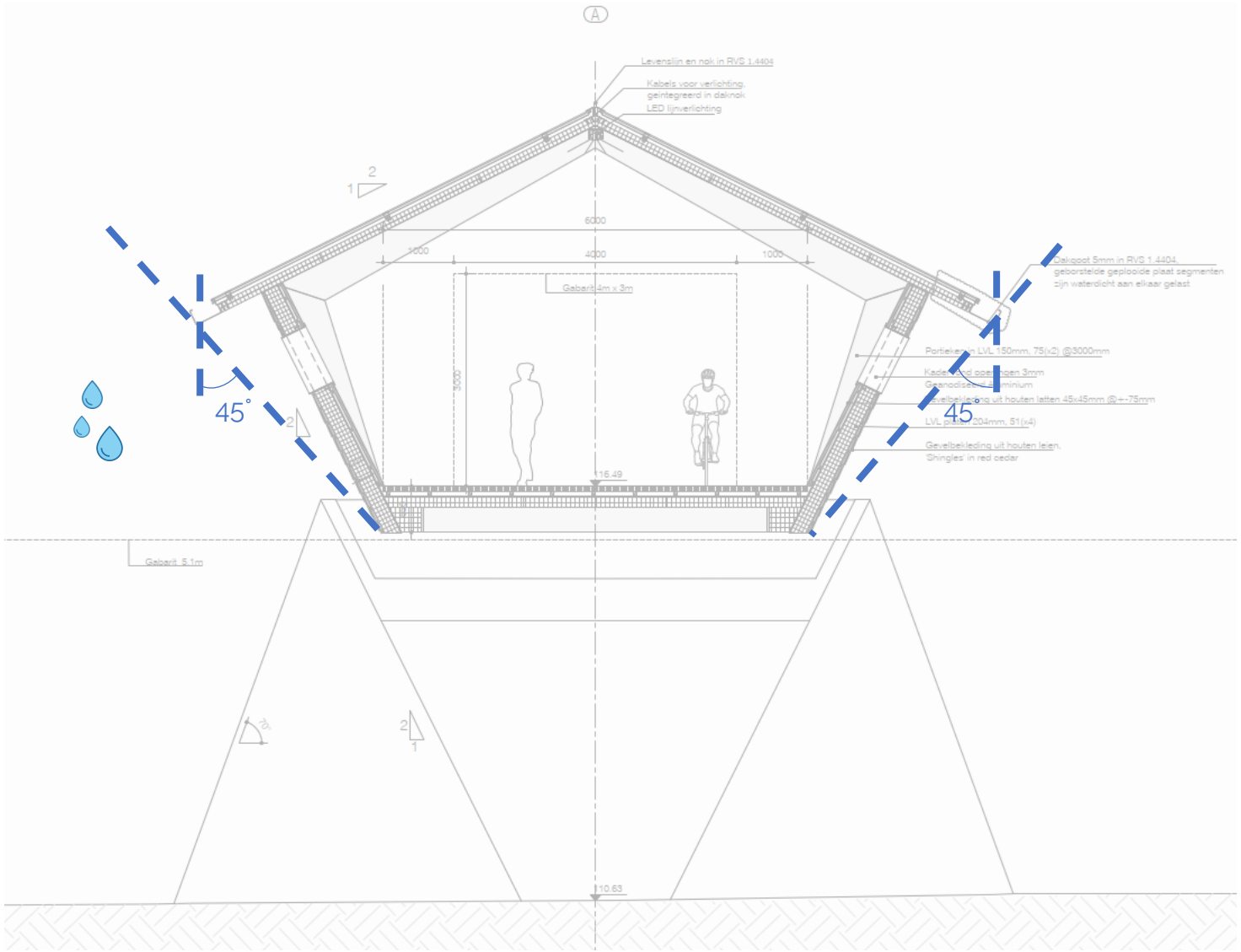
Design features



Footbridge design



Water management



Ro-TERVUREN TIMBER FOOTBRIDGE

Monitoring

Leakage detection :

Sensor membrane SL



Sensor stripe SS

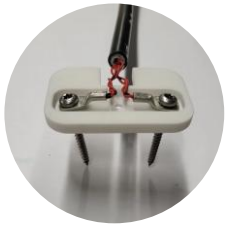


PROGEO®
the monitoring people



Moisture content measurements:

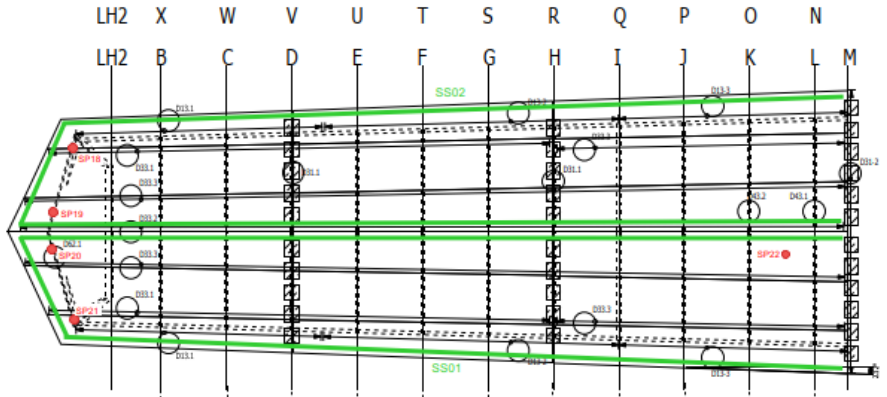
Sensor point SP



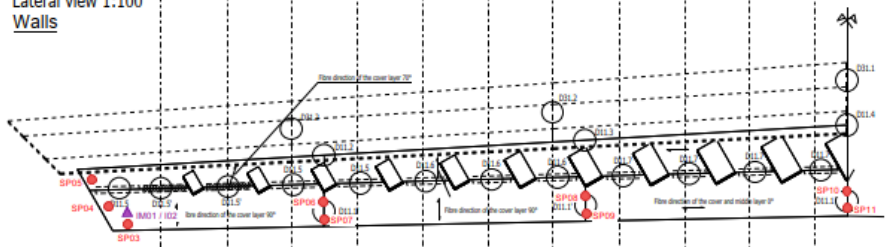
Bridge displacements:

Inclinometer IM

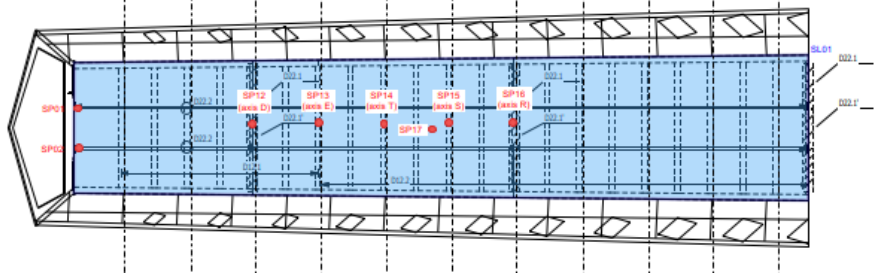
Roof - ground plan 1:100



Lateral view 1:100
Walls



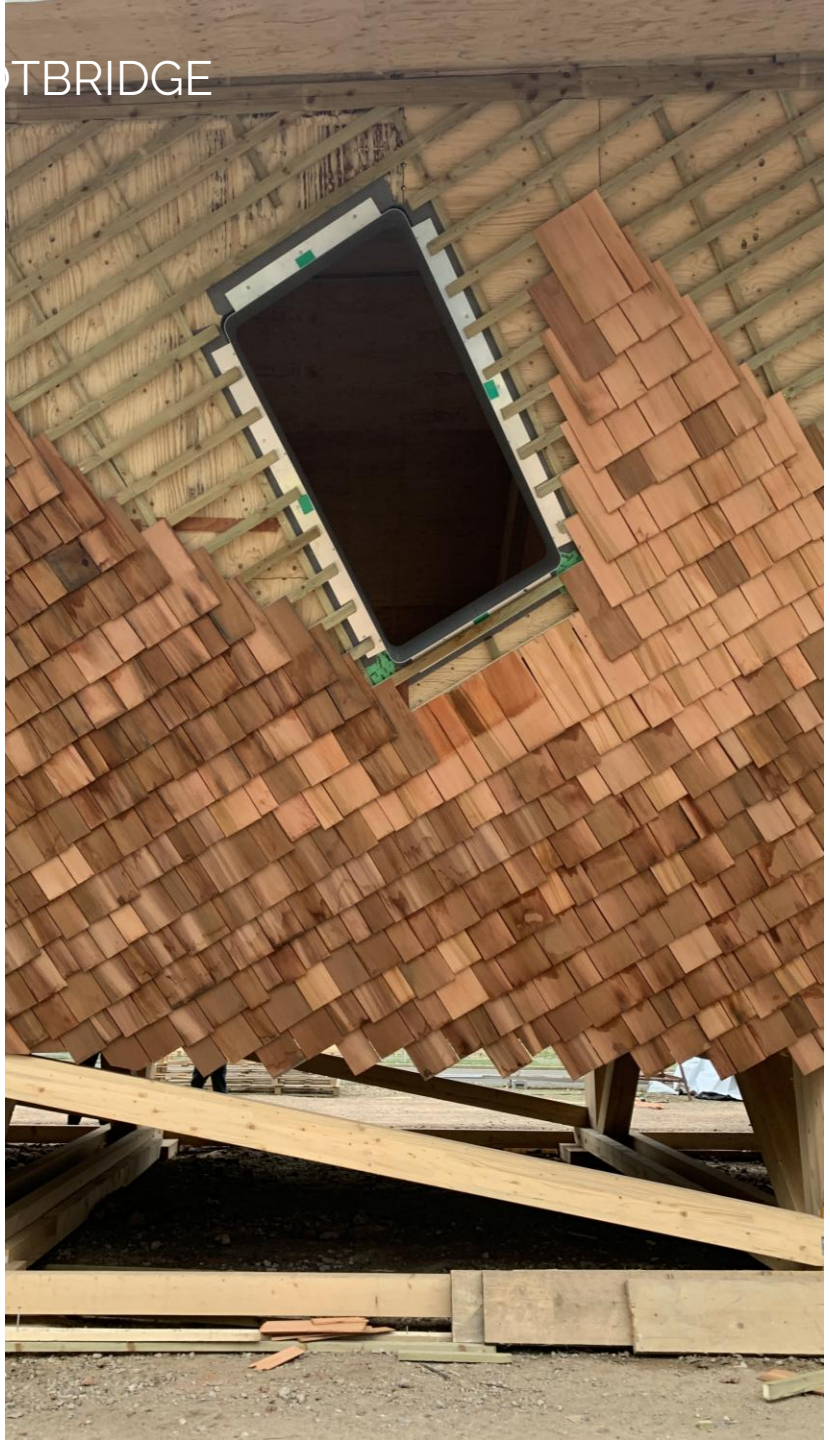
Deck - ground plan 1:100



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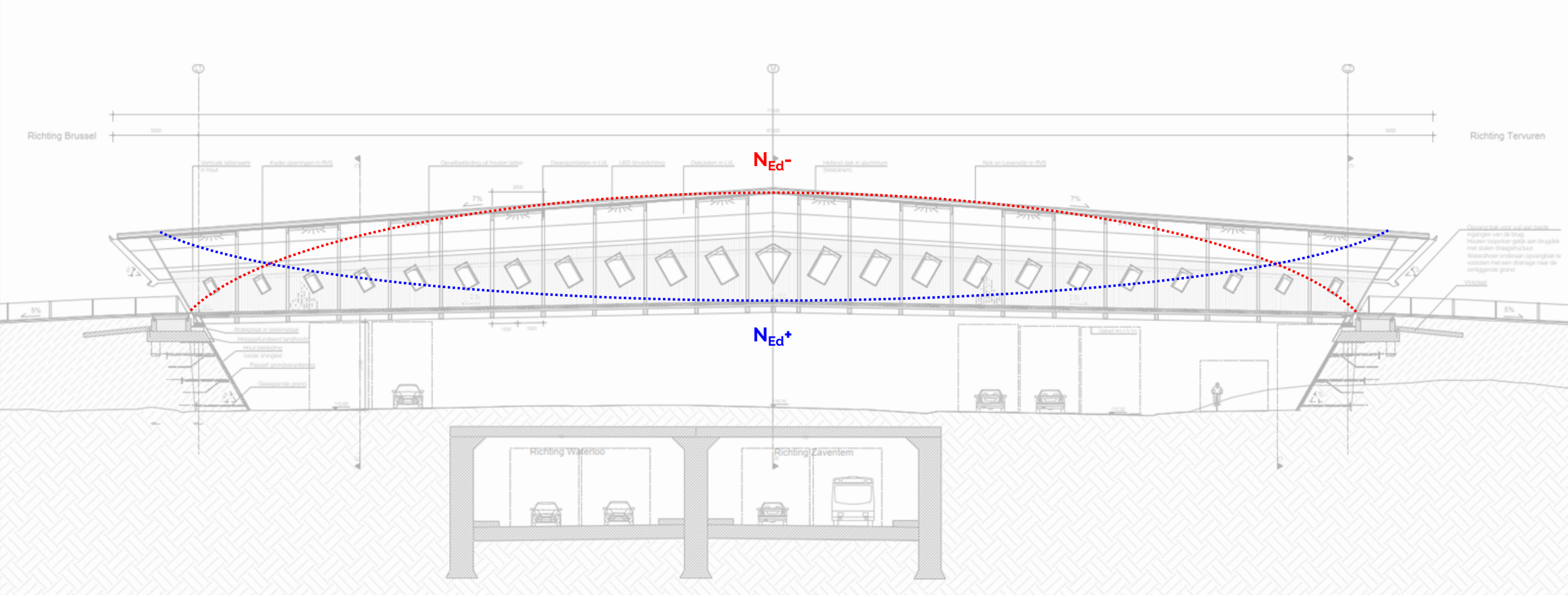
Finishes



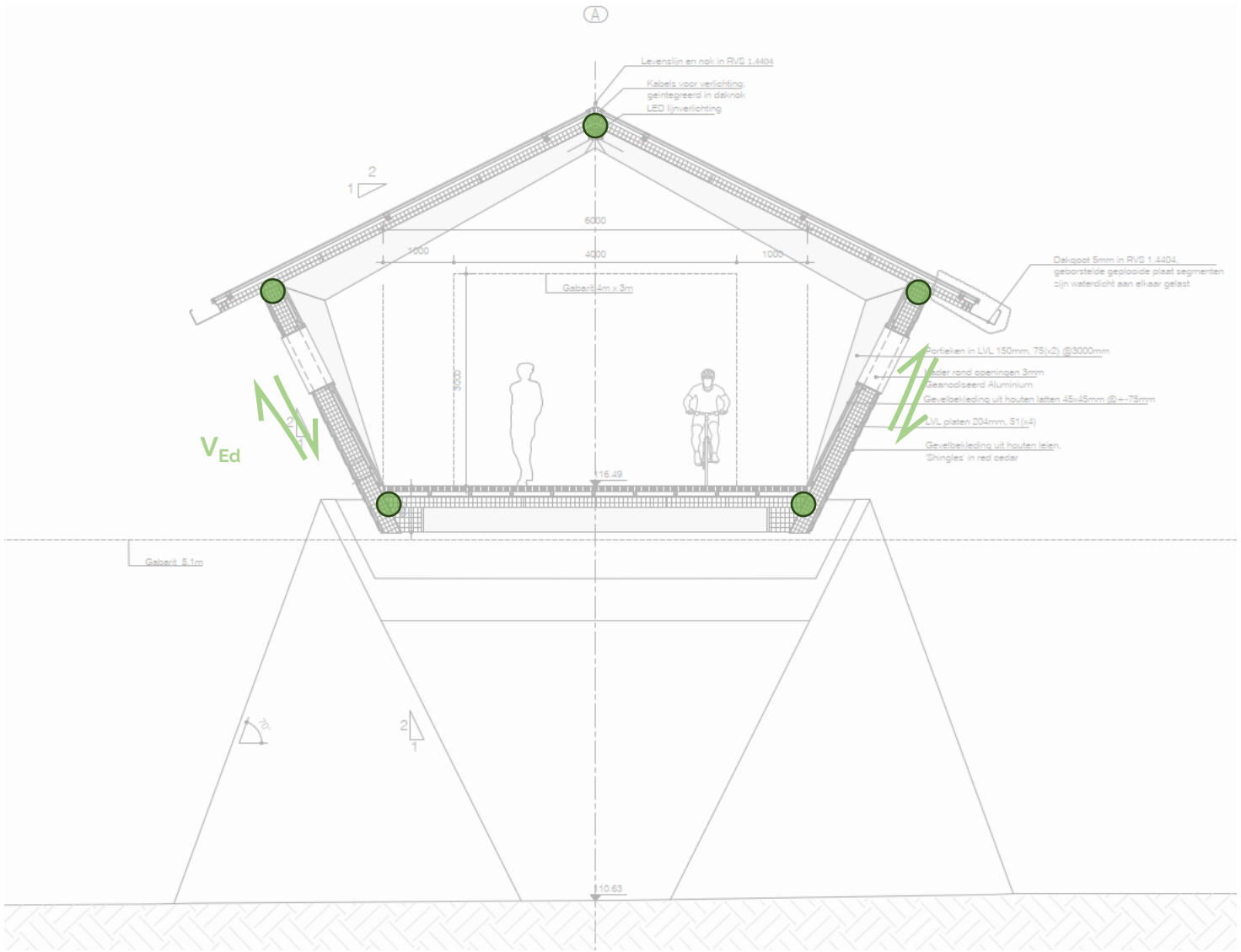




Timber box girder

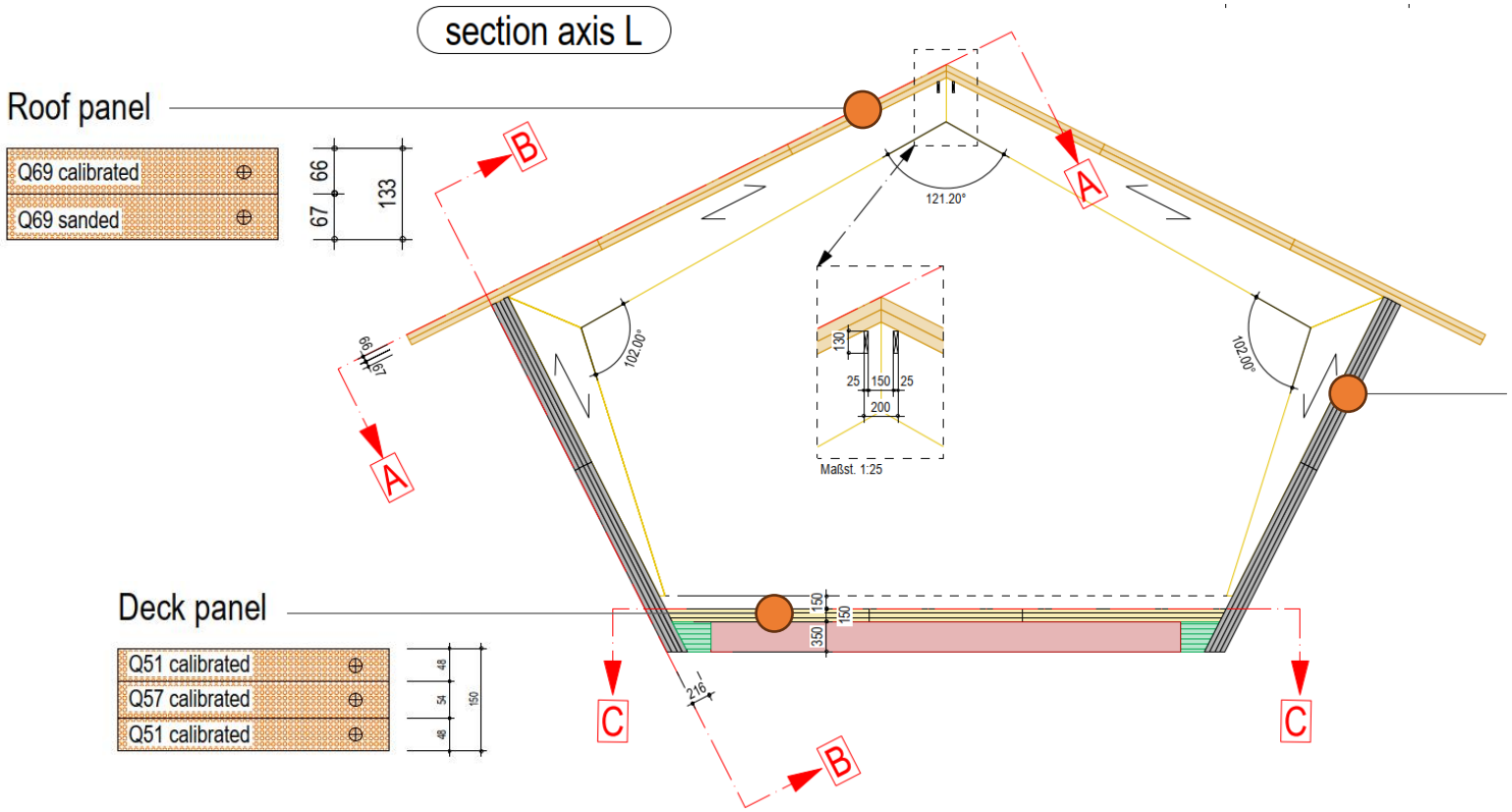


Timber box girder

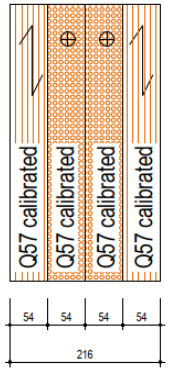


Timber box girder

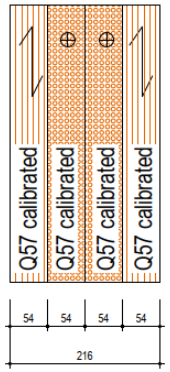




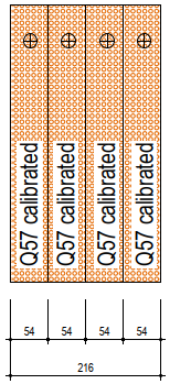
Wall panel
W1+W3+W4



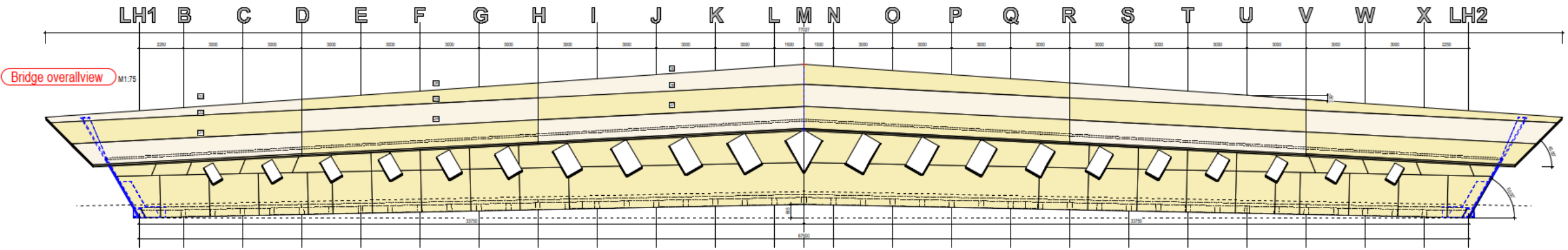
Wall panel
W2 top layer 20°

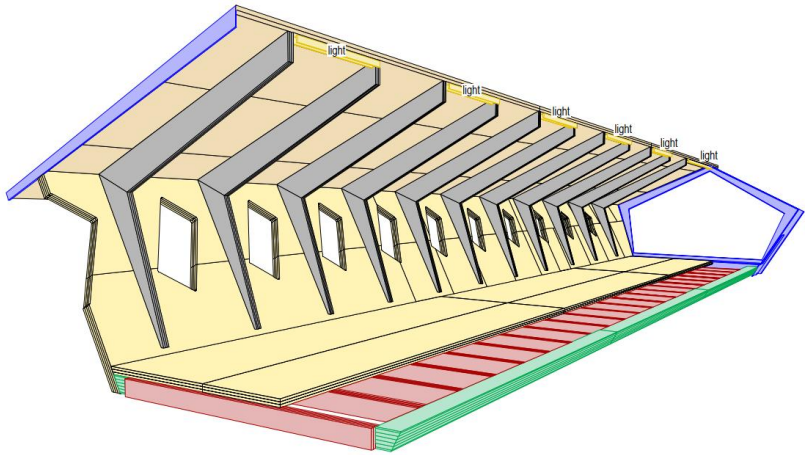


Wall panel
W5+W6



Timber box girder

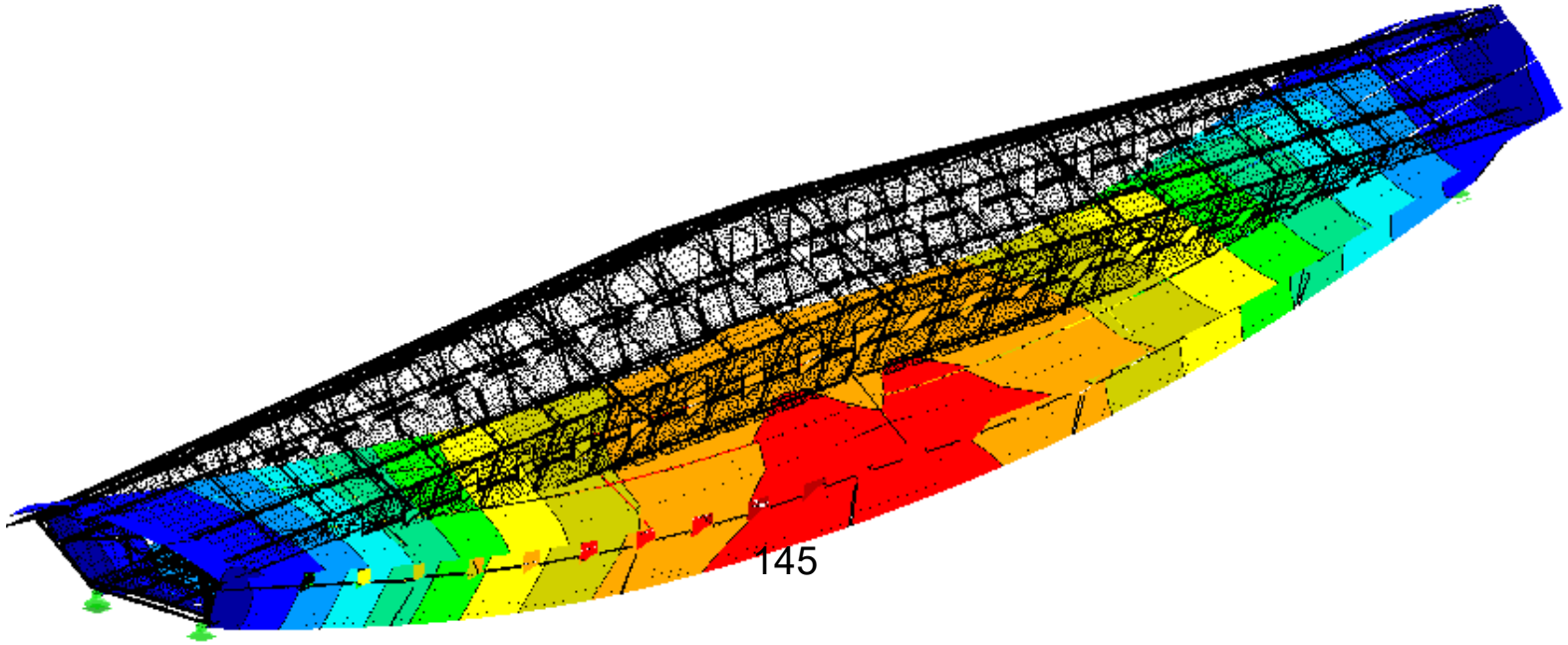




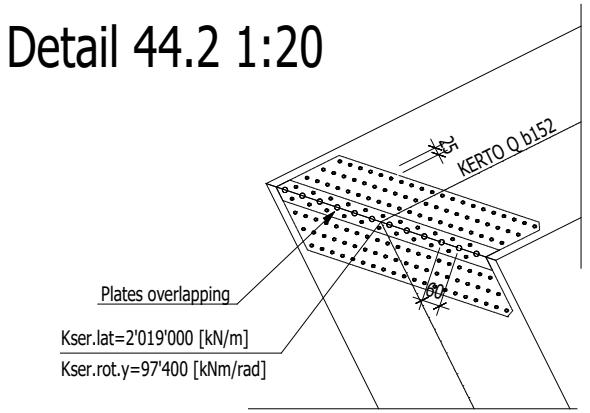
Timber box girder

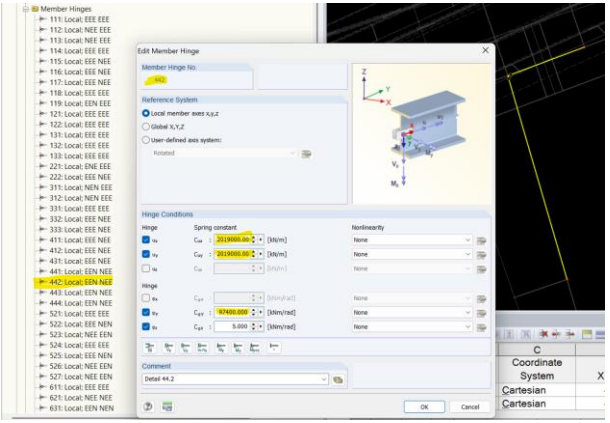


Structural modelling



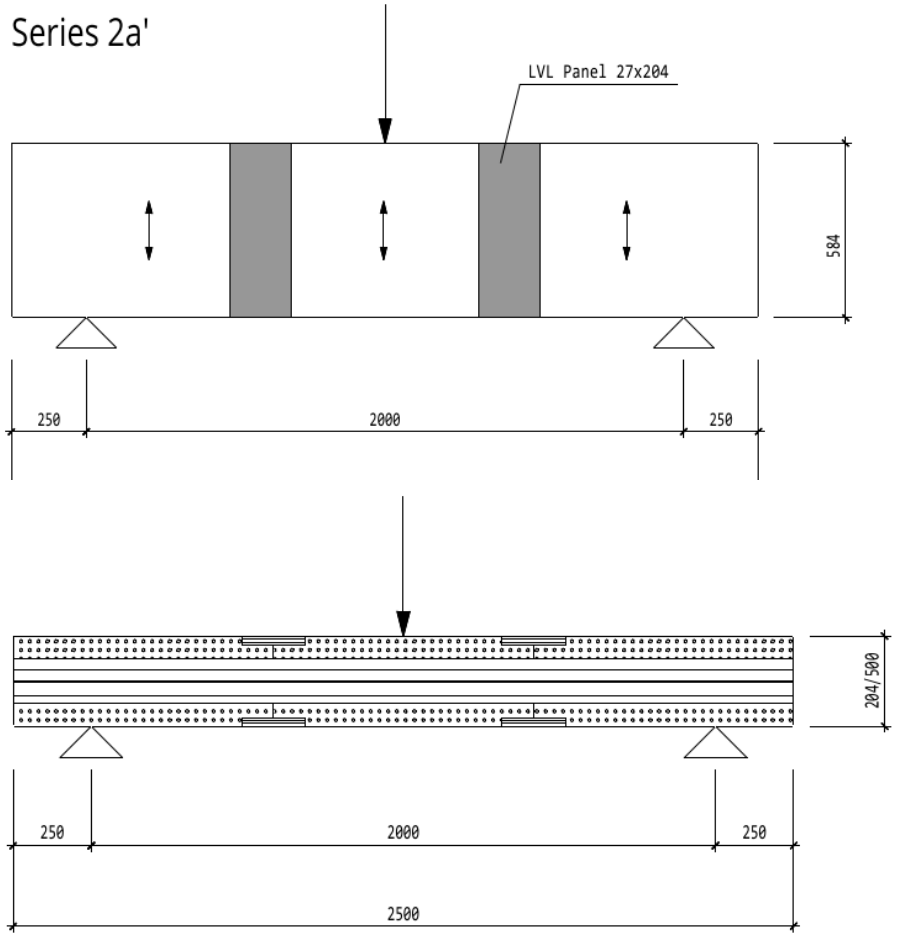
Vertical deformation of the bridge under self-weight (less than 5% variation to measurement)
©sblumer

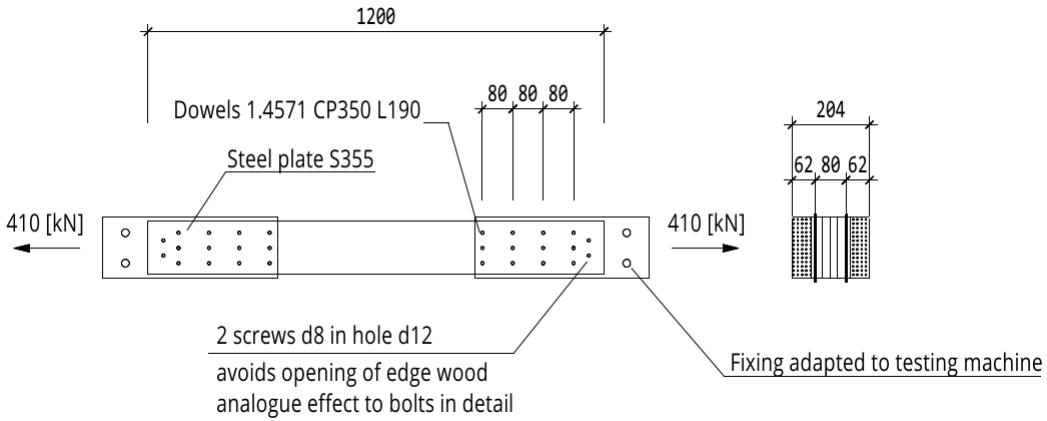




Consistent connection modelling: Detail Nr. 44.2 correpsond hinge 442.
©sblumer

Experimental tests





Experimental tests

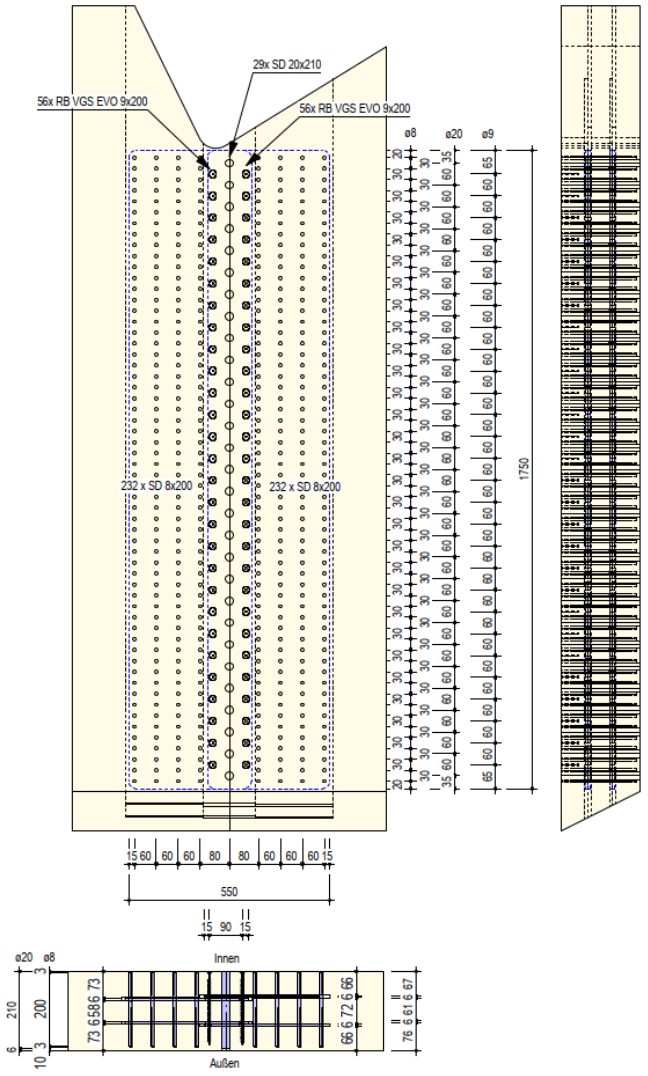






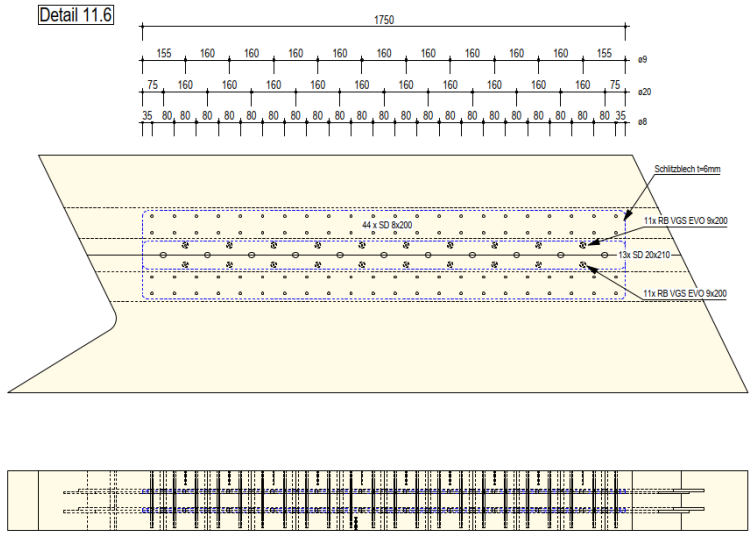


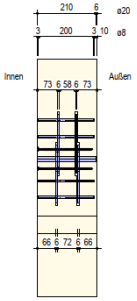
Connection details



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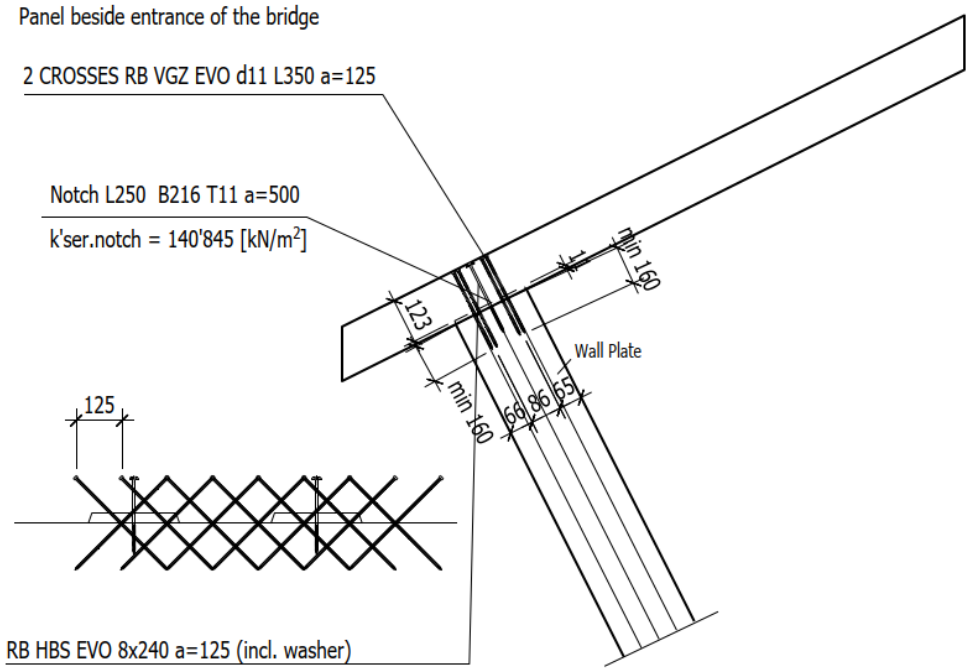
Connection details







Connection details



Reinforcement of the notches

Prefabrication



On-site mounting



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On-site mounting



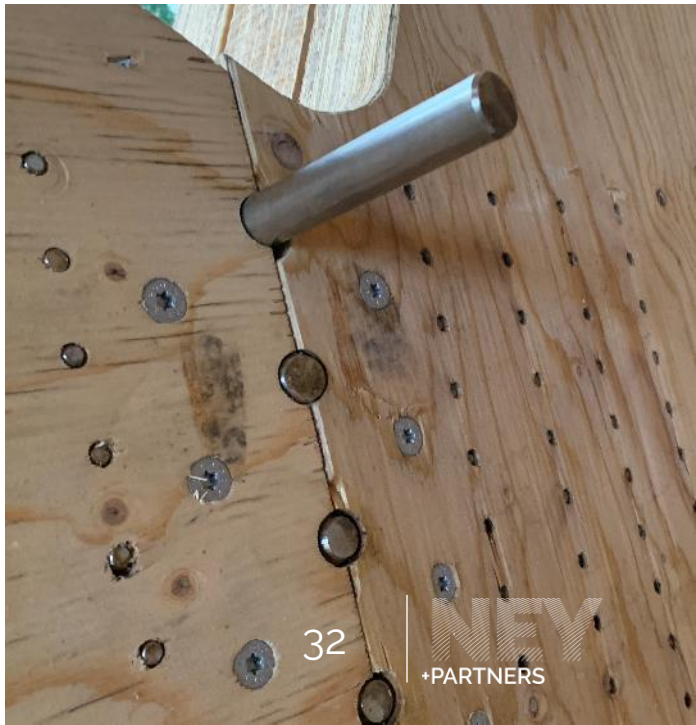


On-site mounting









On-site mounting

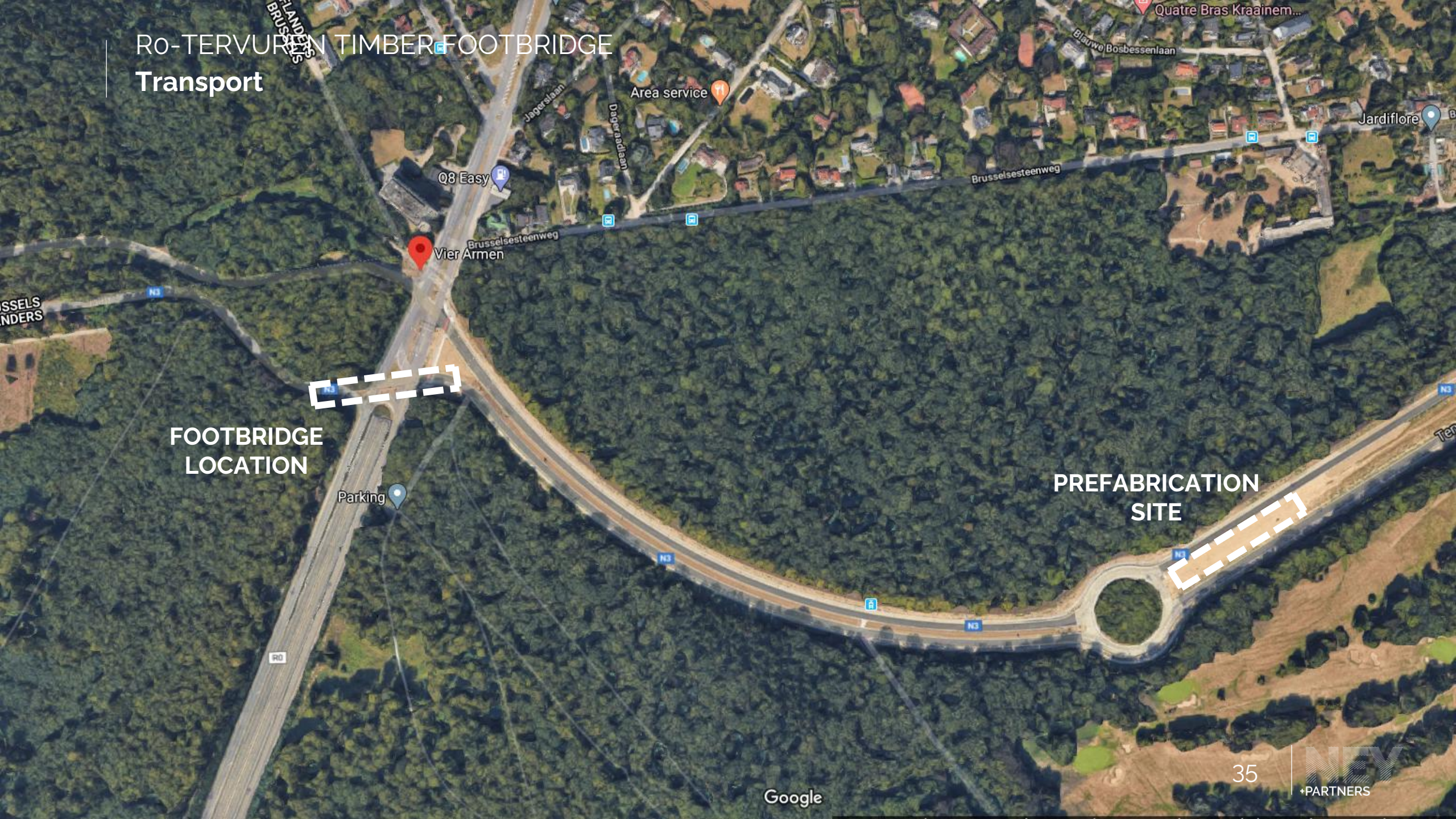




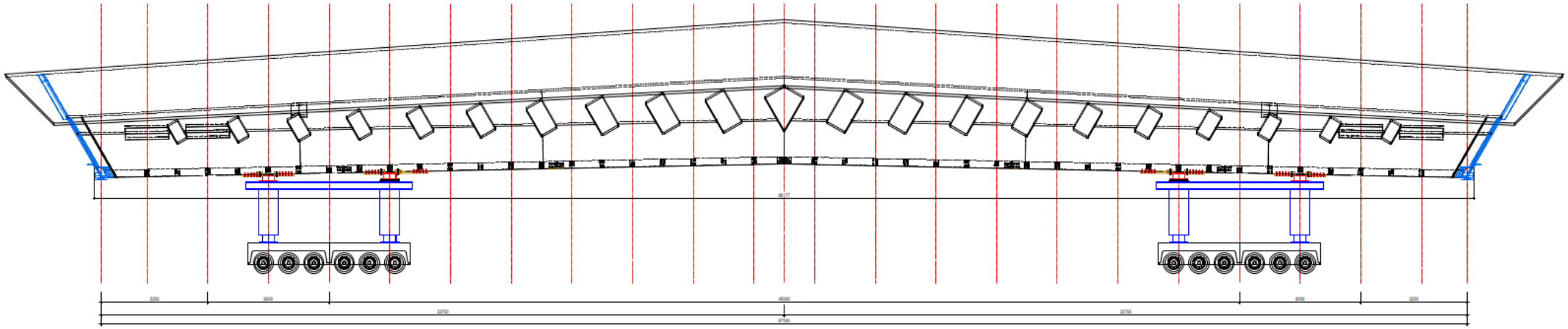
On-site mounting

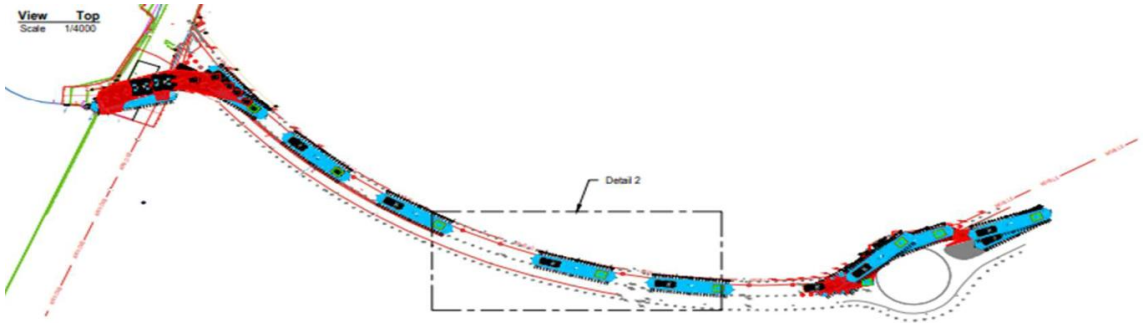


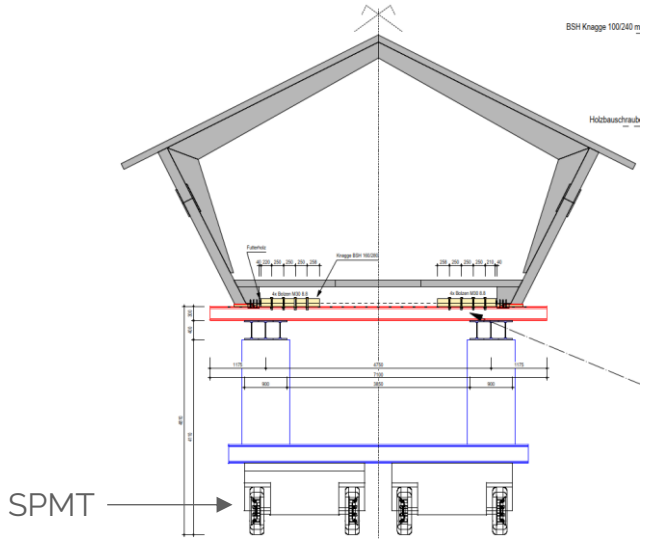
Transport


FOOTBRIDGE LOCATION
PREFABRICATION SITE
Vier Armen
Parking
Area service
Q8 Easy
Brusselsesteenweg
Jagerslaan
Dagerraadlaan
Blauwe Bosbessenlaan
Quatre Bras Kraainem...
Jardiflore
N3
R0
Google

Transport




View Top
Scale 1:4000
Detail 2


BSH Knagge 100/240 m
Holzbauschraub
SPMT

Transport



Transport



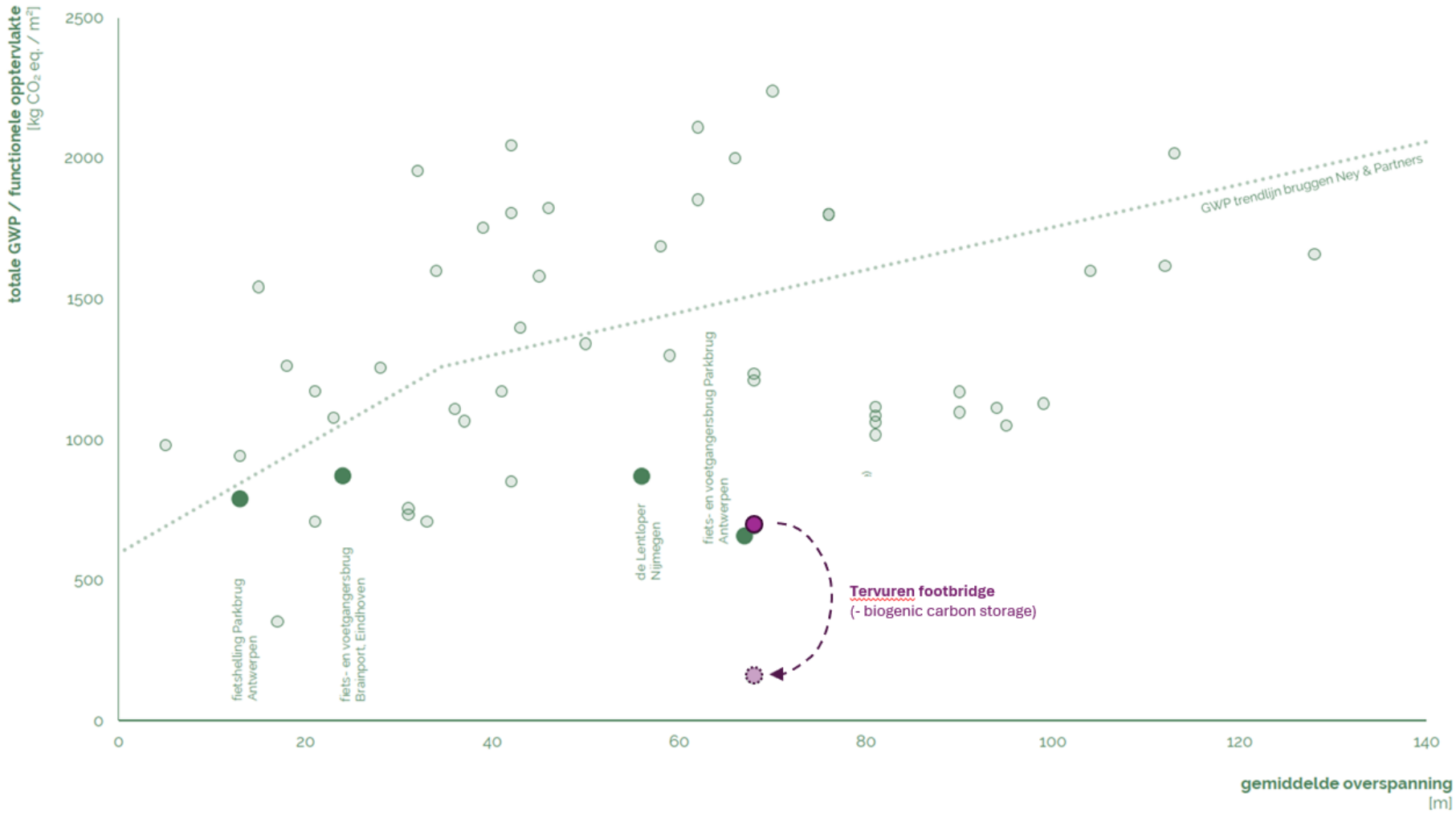
Transport



Ro-TERVUREN TIMBER FOOTBRIDGE
As built



GWP comparison of Ney & Partners bridge projects



Acknowledgement

Projectteam:	Fietsbrug over Vierarmenkruispunkt
Client:	De Werkvennootschap BE-1210 Brussel
Architect, structural design:	Ney & Partners Ney & Partners WOW- Timber engineering BE-1170 Brussel
General contractor:	Viabuild! BE-2870 Puurs-Sint-Amands
Timber construction:	Holzbau Amann GmbH DE-79809 Weilheim-Bannholz
Executive timber engineering:	sblumer ZT A-8042 Graz
Tests GLVL and joints:	FMPA Stuttgart DE-70569 Stuttgart
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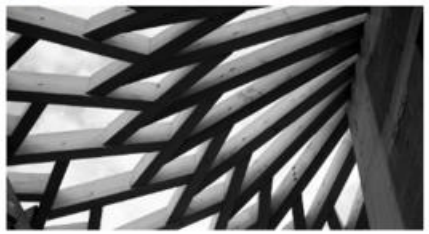














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