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PLATFORM
BRUGGEN





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Even voorstellen



Waarom een tijdelijke brug?



Benodigde gegevens



Wat wel en niet doen




Voorbeelden



JANSON
BRIDGING

Verhuur en verkoop
van modulaire stalen brugsystemen

- 
- ✓ Nederlands familiebedrijf
 - ✓ Opgericht in 1972
 - ✓ Verhuur uit voorraad
 - ✓ Marktleider



Vestigingen

Kantoren in 8 Europese landen

 Lokale vestigingen

 Opslag voor snelle plaatsing





≈ 28.000 ton brug-
materiaal in voorraad



Snelle levering



Gemiddeld 160 projecten
in de verhuur in Europa

Wat kan Janson leveren



- Standaard brugoplossing
- Engineering van brug (reactiekrachten & SC)
- Tekenwerk van tijdelijke brug
- Voormontage op onze werf
- Transport naar bouwplaats
- Montageplan en hijsplan
- Montage door ervaren personeel
- Inspecties tijdens huurperiode
- Demontage en afvoer
- Hergebruik van brugelementen



Even voorstellen



Waarom een tijdelijke brug?



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Voorbeelden

Waarom een tijdelijke brug



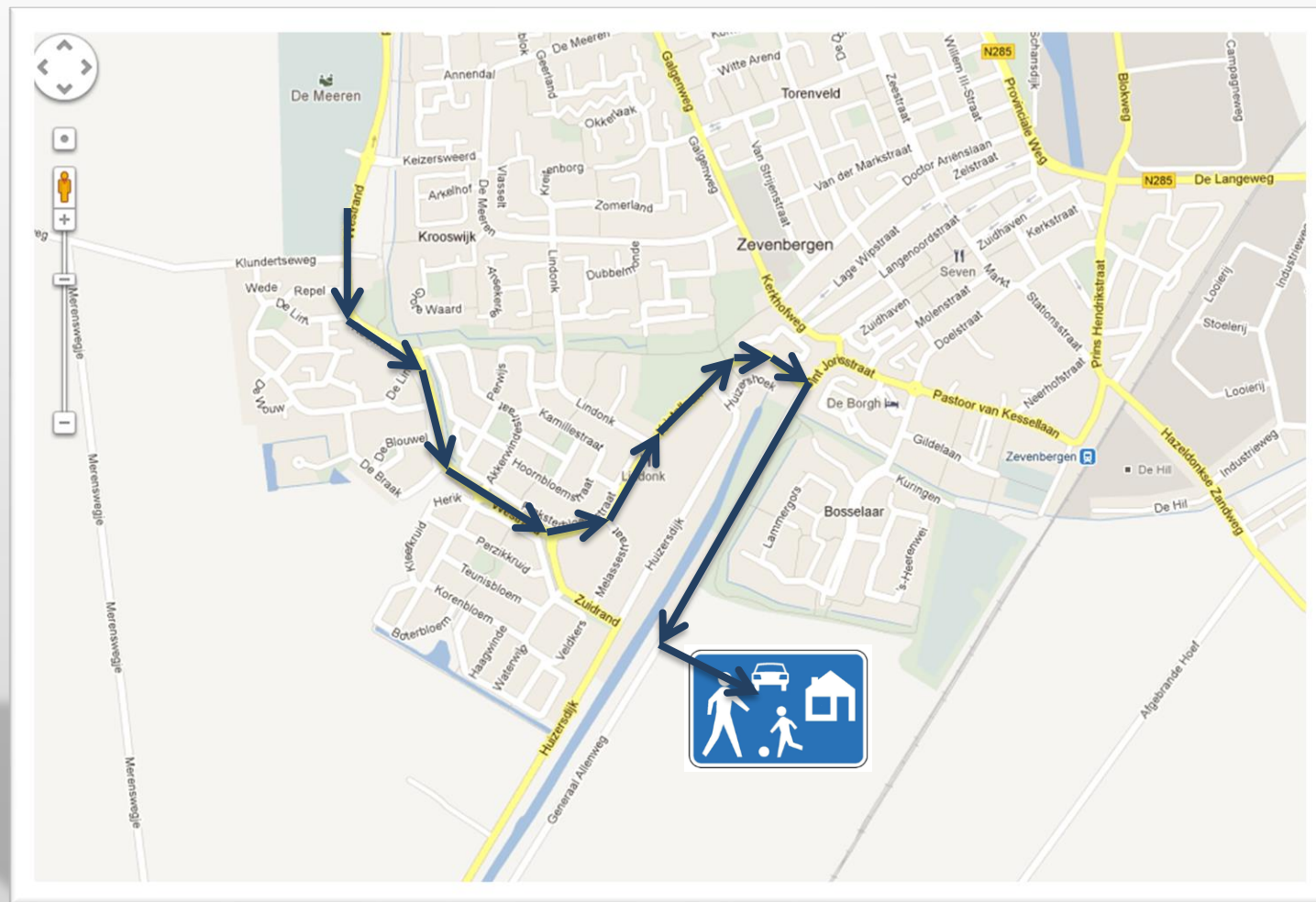
- Minder hinder voor verkeer
- Veilig werkgebied voor aannemer
- Minder omrijden / stilstaan = minder CO2
- Gedegen oplossing
- Veiligheid voor weggebruiker
- Oplossing is circulair
- Snelle montage en demontage
- Minder schade aan wegen door omrijden
- Minder kans op ongelukken
- Bouwverkeer scheiden van openbaar verkeer

Typische projecten



- Aannemer moet met vrachtauto's over een sloot
- Autosnelweg moet tijdelijk verlegd worden
- Tijdelijke voetgangersoversteek bij evenement
- Fietsbrug naar een school
- Scheuren gevonden in een brug
- Brug over een tunnelbouw project
- Brug weggespoeld door hoogwater
- Tijdelijke werkweg langs nieuwe weg
- Werkverkeer moet openbaar verkeer kruisen
- Tijdelijke beweegbare brug bij renovatie

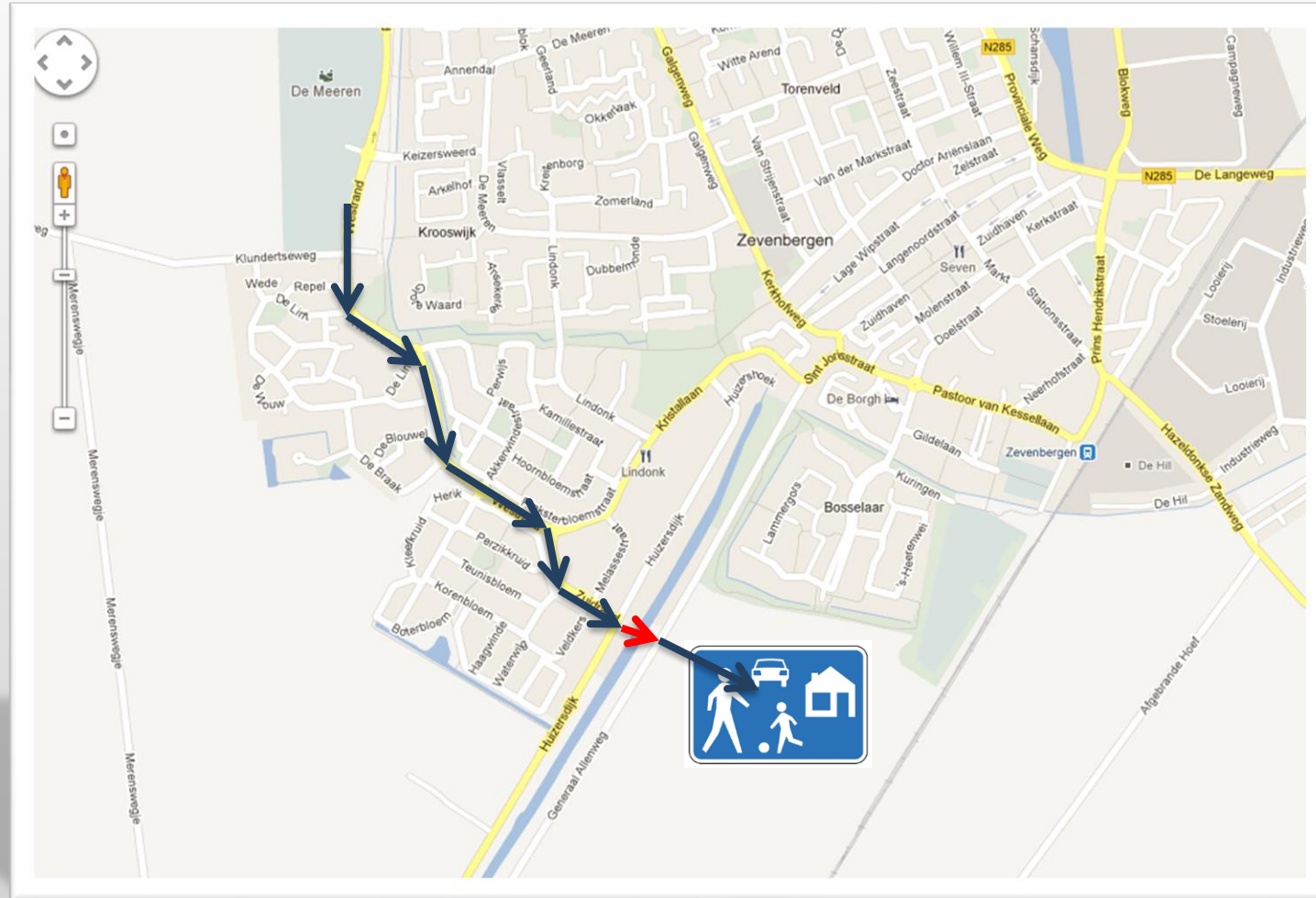
Een voorbeeld



Een voorbeeld



Een voorbeeld



Een voorbeeld





Even voorstellen



Waarom een tijdelijke brug?



Benodigde gegevens



Wat wel en niet doen



Voorbeelden

Benodigde gegevens



- Lengte van de brug
- Breedte van het benodigde rijdek
- Type verkeer
- Ontwerpnorm
- Uitvoering landhoofden
- Mogelijke tussensteunpunten
- Wanneer is de brug nodig
- Wat is de geschatte huurtijd
- Zijn er speciale eisen
- Economisch meest voordelige oplossing



Even voorstellen



Waarom een tijdelijke brug?



Benodigde gegevens



Wat wel en niet doen



Voorbeelden

Wat wel doen



- Standaard oplossing nastreven
- COTS (stel je op de hoogte van beschikbaarheid)
- Realistisch kijken wat er nodig is
- Brug moet veilig gelegd én gedemonteerd worden
- Brug moet veilig gebruikt kunnen worden
- Kies voor een volwaardige oplossing
- Accepteer gebruikte materialen
- Hergebruik nastreven (oog voor vermoeiing)
- Eurocode toetsing
- Toezicht op geleverde produkt
- Milieu impact meenemen

Wat niet doen



- Volledige Eurocode belasting wanneer niet nodig
- Tijdelijke brug behandelen als een definitieve brug
- Technische levensduur eisen >50 jaar
- CE-certificering
- Architectonische eisen
- Opstapelen van eisen

Document nr	Title
NEN-EN 1990	Grondslagen van het constructief ontwerp, 1990+A1+A1/C1:2011 + NB:2011
NEN-EN 1991-2	Verkeersbelastingen op bruggen, 1991-2+C1:2011 + NB:2011
NEN-EN 1993-1-1	Staalconstructies, Algemene regels en regels voor gebouwen, 1993-1-1+C2:2011 + NB:2011
Appendix 1	Gates A9 Project
Appendix 2	Drawings of the sub-structures and temporary bridges

Being the hierarchy of these documents as follows:

1. Contract requirements*
2. Further RWS guidelines* Included in Annex IX
3. Standards (EC+NB/CUR/CROW/NEN)* As long as not conflicting with "bouwbesluit"

All bridges according to Eurocode. The consequence class is Main highway A9 temporary bridges CC3, underlying road network CC2.

Document nr NEN 1991-2- fatigue checks need to be carried out according to fatigue load model 4 (FLM4), maximum load is 2 MLN heavy vehicles per year for highway bridges.

The Appendixes listed above are attached to the contract, in them different conditions and requirements to be complied with regarding traffic routes, areas, and materials are stated.

The Contractor shall from an environmental point of view work on sustainable methods and innovations. All personnel will be appropriately trained on environmental issues prior to the start of operations. The Contractor's equipment must be well maintained and serviced.

Programma van eisen / voorbeeld

The Contractor must comply with the following documents to the extent they are applicable for the execution or development of the Works. The documents can be found in detail under the following links:

Data Room ID	Issuing Organisation	Document Name	code	version	date
10676	Directorate-General for Public Works and Water Management (RWS)	Basic Guidelines for Camera Labels North West Netherlands Region	-	1.3	23 October 2013
10677	Directorate-General for Public Works and Water Management (RWS)	Basic Specification for TTI of RWS Tunnel System	-	1.2.5 SP2	09-12-2016
	NEN.	Operation of Electrical Installations - Low Voltage	NEN 3140	-	-
	CROW	Policy and Process for Working Safely on Roads.	Publication 516	Including changes until 28-02-2019 in accordance with the CROW knowledge base, available	23-06-2014
	NEN.	Assessment of existing structures in case of reconstruction and disapproval - Geotechnical structures	NEN 8700:2011	-	September 2018
	NEN.	Assessment of existing structures in case of reconstruction and disapproval - Basic rules.	NEN 8700:2011	-	01-12-2011
10678	Directorate-General for Public Works and Water Management (RWS)	Roadside DRIP - IDD, Interface Design-Description, IDD	-	1.6	17-10-2014
10679	Directorate-General for Public Works and Water Management (RWS)	Roadside DRIP - IRS - Interface Requirement-Specification, IRS	-	3.3	17-10-2014
	NEN.	Corrosion protection of steel structures by protective paints systems - Assessment of, and acceptance criteria for, the adhesion/cohesion (fracture strength) of a dry film - Part 1: Pull-off testing.	NEN-EN-ISO 16276-1:2007 and	-	01-06-2007
10567	Directorate-General for Public Works and Water Management (RWS)	Descriptive Place-designation System (DPS)	-	-	01-08-2005

Data Room ID	Issuing Organisation	Document Name	code	version	date
	SIKB	Construction or Repair of a Liquid-Tight Facility	BRL 7700	1.3	30 October 2014
10674	Directorate-General for Public Works and Water Management (RWS)	Network Access Application Form for Third Parties	-	4.1	-
11189	RWS	Addendum OCD	-	1	April 2019
11007	RWS	Aerodrome Design Manual - Part 6 Frangibility.	-	-	2006
10728	Directorate-General for Public Works and Water Management (RWS)	Image of desired solution WNN for A9R off-lane near km 23	-	-	20 March 2018
	NEN.	Restraint Systems for Roads - Part 2: Performance Classes, Impact Test Assessment Criteria and Test Methods for Safety Barriers Including Vehicle Parapets	NEN-EN 1317-2:2010	-	01-07-2010
10731	Urban Development Department	Assessment framework for construction noise during construction and demolition of long-term projects	-	Final	1 March 2018
10975	Directorate-General for Public Works and Water Management (RWS)	Structural Finishing Schedule	-	-	21 November 2016
10974	Directorate-General for Public Works and Water Management (RWS)	Finishing Schedule - Kitchen/Pantry and Wet Areas	-	-	21 November 2016
11010	Directorate-General for Public Works and Water Management (RWS)	Road Design Deviations in relation to ROA2017.	-	4.0	7 March 2019
	NEN.	General actions - Actions on structures exposed to fire.	NEN-EN 1991-1-2+C1:2011	-	01-12-2011
10746	Directorate-General for Public Works and Water Management (RWS)	ALM TB2017	-	-	-
10747	Directorate-General for Public Works and Water Management (RWS)	ALM TBSAA2011	-	-	-

Data Room ID	Issuing Organisation	Document Name	code	version	date
					2010
11100	Schiphol	Certification Specifications and guidance material for aerodrome design (CS-ADR-DSN)	-	4	-
10682	Directorate-General for Public Works and Water Management (RWS)	Component Specifications for Road Lighting	-	3.2	September 2017
10659	Directorate-General for Public Works and Water Management (RWS)	Component specification for Supporting structure for traffic signs and traffic control systems (Load-bearing Traffic Structures)	-	3	01-03-2012
10660	Directorate-General for Public Works and Water Management (RWS)	Concession Lot Amsterdamse Bos	-	-	August 2018
10661	Directorate-General for Public Works and Water Management (RWS)	Concession Lot Ronde Hoep	-	-	22-01-2018
	NEN.	Condition assessment built environment - Part 1: Methodology.	NEN 2767-1:2017 nl	-	01-01-2017
	NEN.	Condition assessment of building and installation components - Part 2: Lists of faults.	NEN 2767-2:2008 nl	-	01-06-2008
	SDU Publishing Company	Control Rooms (AI-46)	-	-	01-11-2017
10667	Arcadis	Convergence and divergence points in and near tunnels	-	1	21-09-2008
10980	Directorate-General for Public Works and Water Management (RWS)	CS R07 Logging Guideline	-	1	27 May 2016
	CUR	CUR Report 166:2012 + Corrections:2014 Sheet Pile Wall Structures.	-	-	4 August 2018
10813	Directorate-General for Public Works and Water Management (RWS)	Cyber Security Implementation Guidelines for RWS Objects	-	1.4	04 August 2015
	NEN.	Doors, windows, curtain walls, grating fences and hatches - Burglary resistance - Requirements and classification	NEN-EN 1627	-	05-2011
10685	Directorate-General for Public Works and Water Management (RWS)	Documentation for Specification of RWS Data Networks	-	1.5	31 March 2017
11203	RWS	Deflection Crossbeams of Wide Moveable Bridges	-	-	2019
10715	Directorate-General for Public Works and Water Management (RWS)	Verge Requirements	-	5	12 October 2017

Data Room ID	Issuing Organisation	Document Name	code	version	date
10663	Directorate-General for Public Works and Water Management (RWS)	Buffer Plate Requirements	RTD 1011	1.0	01-03-2014
10721	Directorate-General for Public Works and Water Management (RWS)	Vehicle Restraint System Requirements	-	1	20-09-2017
11061	NVAF / RWS	Requirements for Foundation Works Alongside Roads and Motorways and Infrastructure Works With an Increased Safety Risks for the Public Environment	-	-	01-07-2004
10665	Directorate-General for Public Works and Water Management (RWS)	Requirements for expansion joints	RTD 1007-2	3.0	01-12-2014
	NEN.	Electrical Installations for Low Voltage	NEN 1010	-	2015
	NEN.	Electromagnetic Compatibility (EMC) - Parts 1 to 6	NEN-EN-IEC 61000	-	various
	NEN.	Ergonomic design of control centres	NEN-EN-ISO 11064-1:2001 en	-	01-02-2001
10822	Directorate-General for Public Works and Water Management (RWS)	Aesthetic Schedule of Requirements	-	5.0	20 May 2019
10690	Directorate-General for Public Works and Water Management (RWS)	Functional Requirements Package for Signalling Posts (Subsystem Specification, SSS)	-	2.0	01-02-2013
10691	Directorate-General for Public Works and Water Management (RWS)	Functional Requirements for the Camera System of the Alternating Lane	-	Final	11 January 2018
11136	RWS	Noise Model 2010 A9BAHO	-	-	February 2019
	NEN.	Geotechnical Design of Structures - Part 1: General Rules	NEN 9997-1/C2	-	01-11-2017
	Groenkeur	Groenkeur Evaluation Guideline for Sustainable Nursery Products	-	-	2014
10666	Directorate-General for Public Works and Water Management (RWS)	Emergency and Traffic Crossovers Manual	-	Final	01-01-2013
10695	Directorate-General for Public Works and Water Management (RWS)	Security Manual Part I to VI	-	3.2	07-06-17

VOORBEELD

Data Room ID	Issuing Organisation	Document Name	code	version	date
				until 28-02-2019 in accordance with the CROW knowledge base, if available	
10697	Directorate-General for Public Works and Water Management (RWS)	Manual for Traffic Engineering Management of Third-Generation Ramp Metering Systems	-	1.1	27-07-2007
10698	Directorate-General for Public Works and Water Management (RWS)	Manual for Preparation and Design of Third-Generation Ramp Metering Systems	-	1.3	1-5-2014
10817	Rijnland Water Authority	Manual on Shoring and Sheet Pile Walls in Regional Water Barriers	-	-	May 2015
10997	Directorate-General for Public Works and Water Management (RWS)	Signposting Layouts Manual.	-	1.1	2 March 2017
10701	Rijnland Water Authority	Manual on Cables, Pipelines and Conduits in Regional Water Barriers and Seepage Polders	-	-	-
	Stowa	Manual on Design & Improvement of Secondary dykes	STOWA 2009-06	-	04-06-2009
10700	Directorate-General for Public Works and Water Management (RWS)	HDD Central Emergency Stop Facility	-	1.0	09-05-2017
	NEN.	Design of Moveable Bridges - Safety	NEN 6787:2003 nl	-	01-07-2003
	Directorate-General for Public Works and Water Management (RWS)	Guidelines for RWS Construction Signs.	-	2.1	May 2018
10720	NCSC (National Cyber Security Centre)	ICT Web Application Security Guidelines	-	2.0	04-11-2010
10718	Directorate-General for Public Works and Water Management (RWS)	IDD CIP/ENIP orientated protocols, Interface Design Description CIP/ENIP	-	1.3	6-7-2009
10719	Directorate-General for Public Works and Water Management (RWS)	IDD Emergency Refuge Area Presence Detection (ERAD), Management Services Rush-hour lanes, Interface Design Description ERAD	-	1.4	25-02-2009
	NEN.	Burglary resistance - Roof or façade elements with	NEN EN12536	-	12-2007

Data Room ID	Issuing Organisation	Document Name	code	version	date
	Management (RWS)				
10824	Directorate-General for Public Works and Water Management (RWS)	IRS & IDD Central Operation Alternating Lane - Local Operation Alternating Lane	-	7.0	27-02-2017
10827	Directorate-General for Public Works and Water Management (RWS)	IDD Emergency Refuge Area Presence Detection (ERAD), Management Services Rush-hour lanes, Interface Requirements Specification ERAD	-	2.0	22-08-2006
10829	Directorate-General for Public Works and Water Management (RWS)	Framework for Management of Green Areas 2013	-	2013	2013
10842	Directorate-General for Public Works and Water Management (RWS)	Framework for Traffic Safety Part A: Main document	-	2.0	19 April 2017
10843	Directorate-General for Public Works and Water Management (RWS)	Framework for Traffic Safety Part B: Methods and Background Information	-	2.0	19-04-2017
	Amstel, Gooi and Vecht Water Board	AGV Accreditation 2017	-	-	28 February 2017
	NEN.	Colour measurement - Part 4: CIE 1976 L*a*b Colour Space.	NEN-EN-ISO 11664-4:2011 and	-	01-04-2011
	CROW	Quality Catalogue for Public Space 2013	Publication 323	Including changes until 28-02-2019 in accordance with the CROW knowledge base, if available	03-09-2013
10844	Directorate-General for Public Works and Water Management (RWS)	LBS	-	3.1	-
	Amstel, Gooi and Vecht Water Board	AGV Register	-	-	-
	Rijnland Water Authority	Rijnland Register	-	-	-
	STOWA	Guidelines for the Assessment of the Safety of Regional Flood Defences	STOWA 2015-15	-	28-05-2015
	STOWA	Guidelines on Water Retention Engineering			2014

VOORBEELD



Even voorstellen



Waarom een tijdelijke brug?



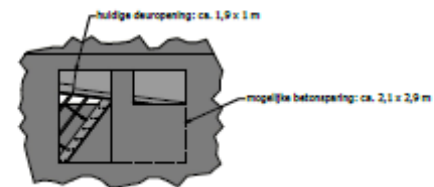
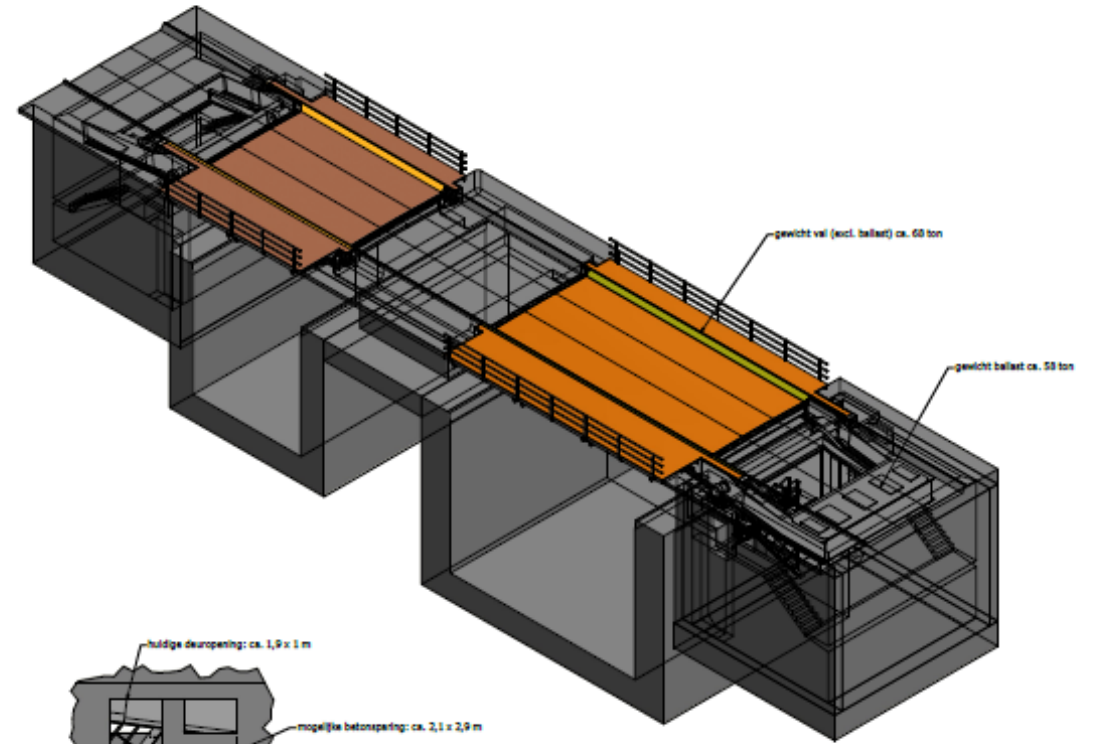
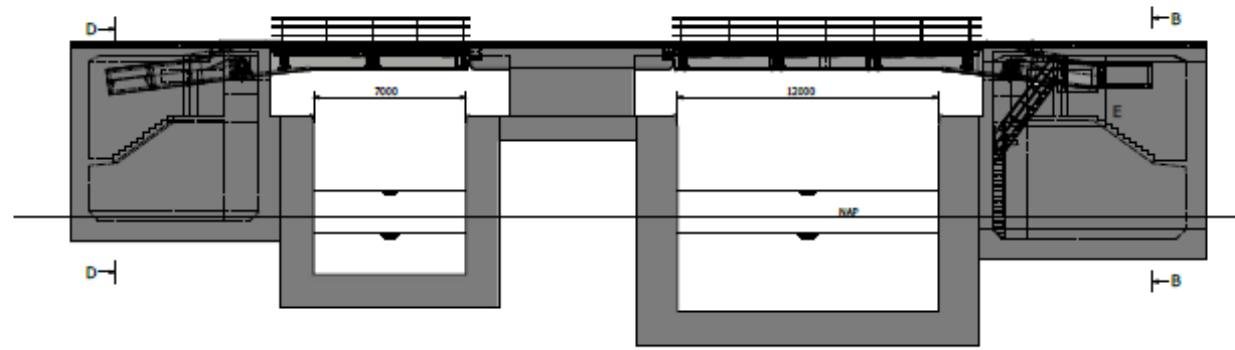
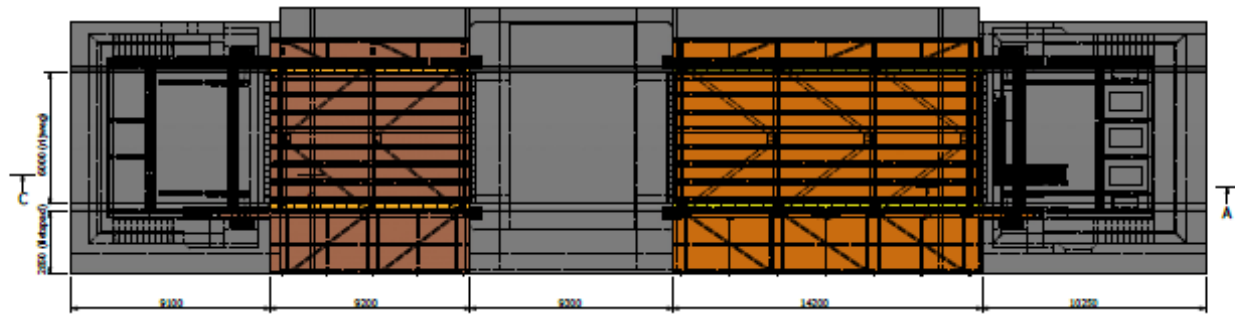
Benodigde gegevens



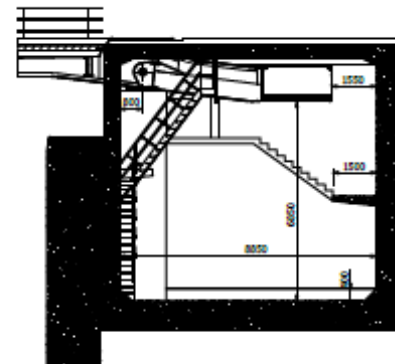
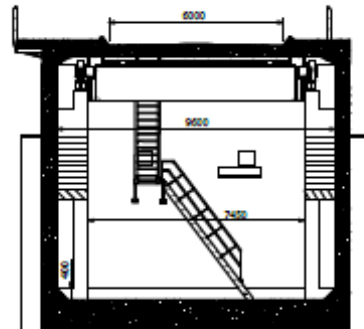
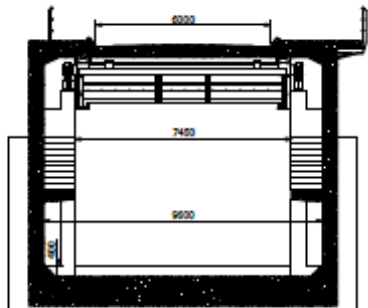
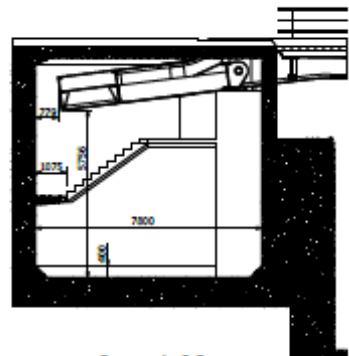
Wat wel en niet doen

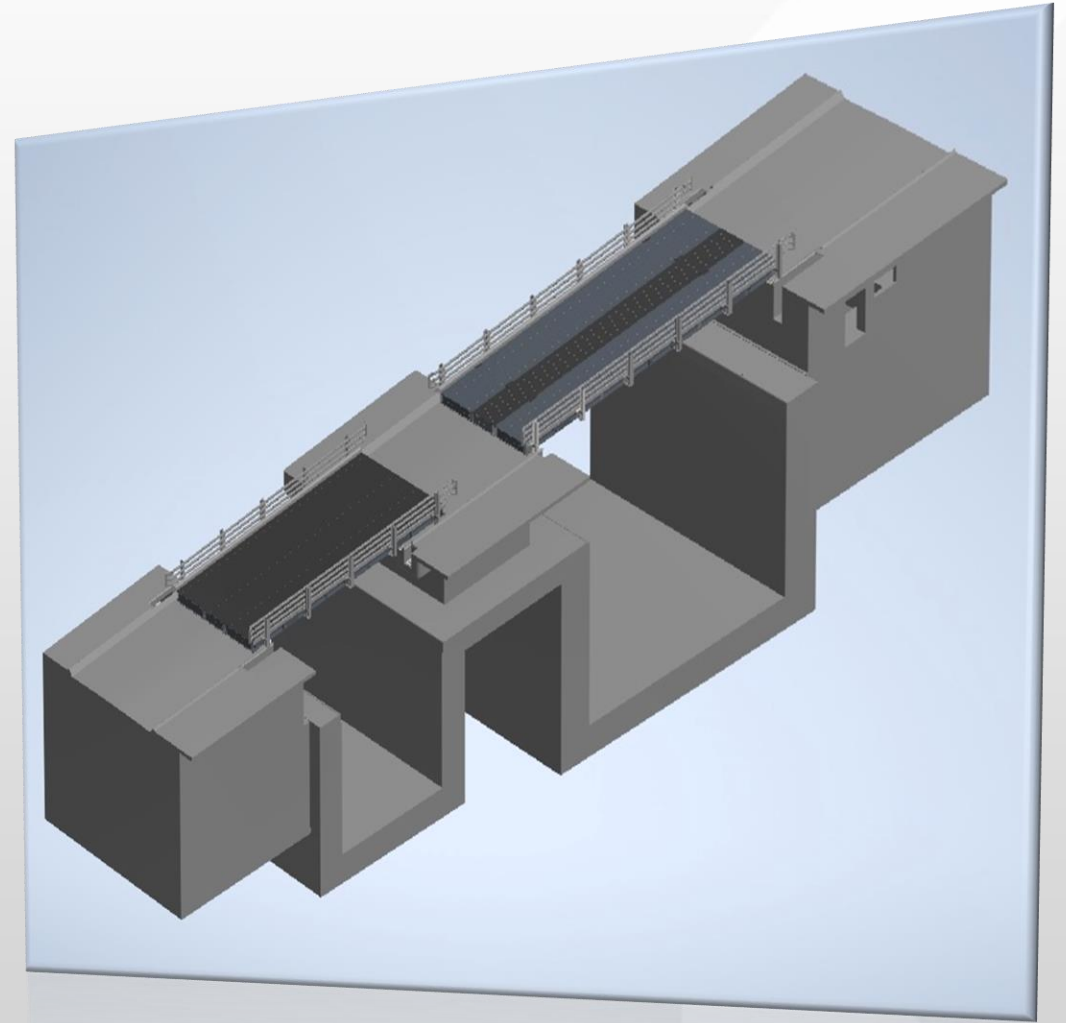
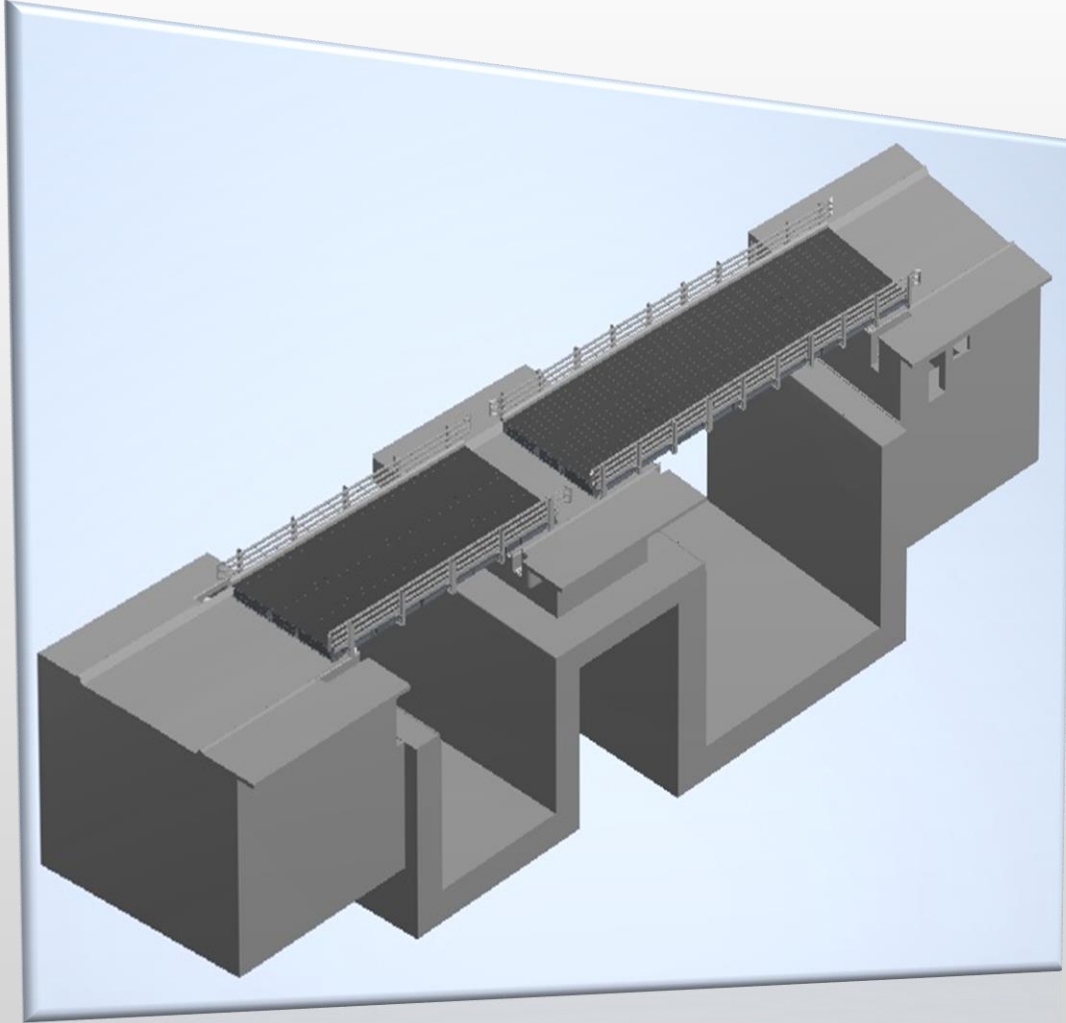


Voorbeelden



Detail E
(Schaal 1 : 50)







- Brug plateau verankeren aan haringvlietbrug ivm doorbuiging
- Extra tussensteunpunt
- Lossen opleggingen (niet scharnierend) met dubbele zadels
- Aandacht voor maatvoering !!
- JSB200 met Halve Step Barrier / H2
- Incl. Hemelwater Afvoer
- Overspanning max 30mtr (snelweg / zware belasting LM1/CC2)
- Doorlooptijd eng. Ca. 4wkn na opdracht.
- Verwachte bouwtijd ca.



VRAGEN EN ANTWOORDEN

