



BRIDGE PROJECTS

RAILWAY BRIDGES

HIGH SPEED RAIL
METRO RAIL
LIGHT RAIL



Bridge Design & Engineering Services





BRIDGE PROJECTS

RAILWAY BRIDGES

Wiecon Introduction

About Us

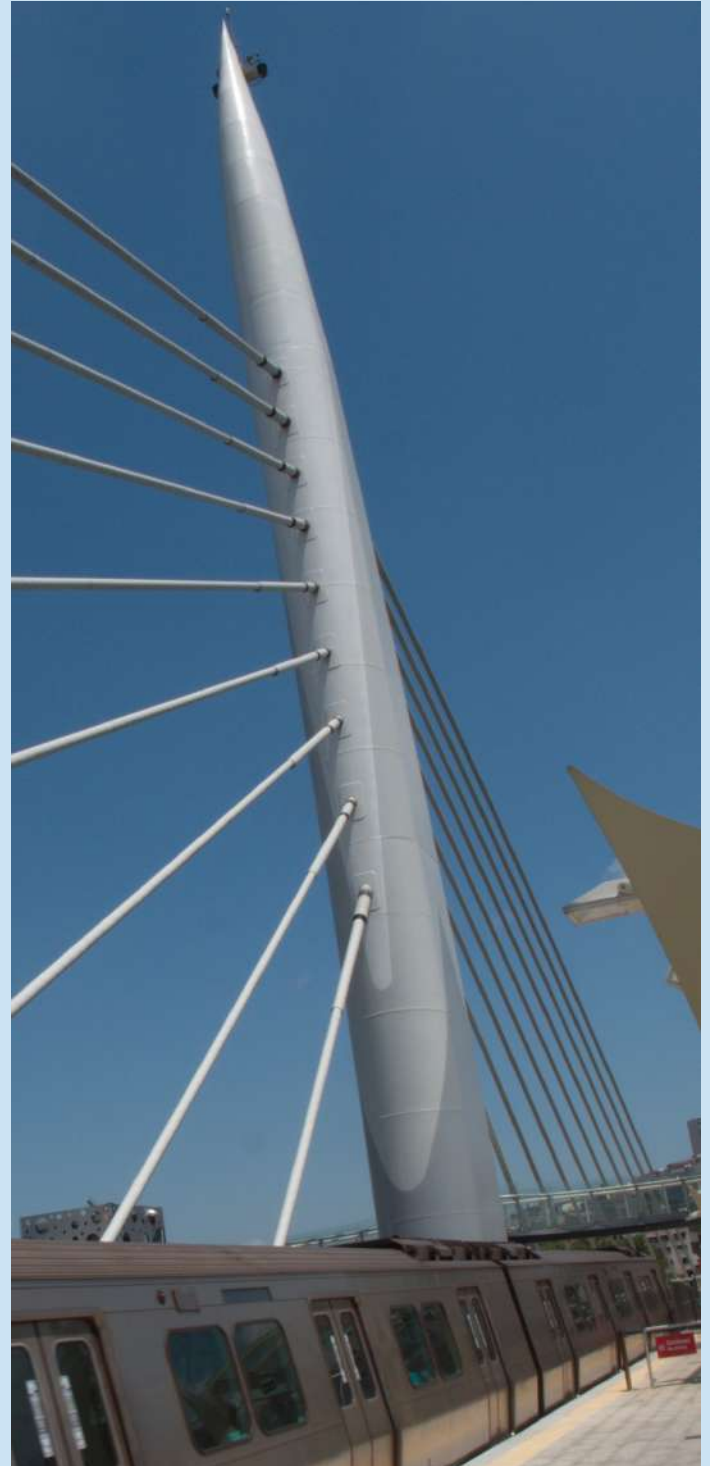
We don't just design bridges; we create engineering benchmarks that stand as testaments to innovation, precision, and excellence. With a legacy spanning three decades, we have emerged as leaders in the field of bridge engineering, driven by an unwavering commitment to pushing boundaries and exceeding expectations.

Our Approach

Our passion for bridge structures is matched only by our dedication to integrating cutting-edge designs and the latest technologies with our vast reservoir of experience and expertise. We provide comprehensive multi-disciplinary engineering consultancy services that encompass every facet of bridge engineering, construction processes, and project management.

30 Years of Excellence

With a rich portfolio spanning over 30 years, WIECON has been at the forefront of bridge engineering projects. Our in-house team of experts offers a diverse range of design services, including precast segmental, full-span erection, balanced cantilever, advanced shoring, incrementally launched, cable stay, suspension, and other specialized bridges. We handle projects from the initial preliminary studies and detailed design stages to the design of bridge construction equipment, major temporary works, and the supervision of the final erection stages.



Design & Engineering Services



Ahmedabad Metro Rail Project Phase II, Gujarat, Republic of India

Client:

Afcons Infrastructure LTD

Services:

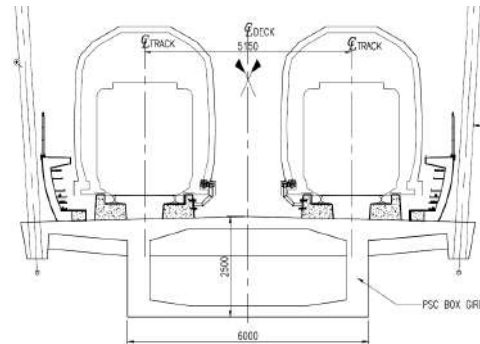
- Construction Engineering
- Contractors Engineer
- Detail Design

Specifications:

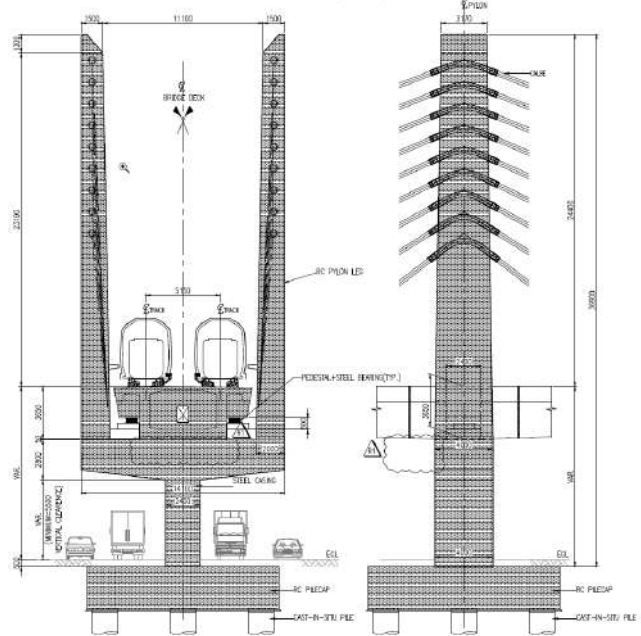
- Total Bridge Length: 303m
- Span configuration:
26.65m+54.35m+145m+54.35m+26.65m
- Deck Width: 11.3m
- Pylon Height: 24.4m (From Deck Level)

Project Duration:

2022-2023



Typical Deck Section



Section Through Pylons



Greater Jakarta LRT, Cililtan Bridge, Republic of Indonesia

Client:

DSI Indonesia

Services:

- Construction Engineering
- Contractors Engineer

Specifications:

- Free Cantilever Construction Method
- Total Bridge Length: 190m
- Span Configuration: 54m+90m+54m
- Deck Width: 9m

Project Duration:

2020



Greater Jakarta LRT, Kuningan Bridge, Republic of Indonesia

Client:

DSI Indonesia

Services:

- Construction Engineering
- Contractors Engineer

Specifications:

- Free Cantilever Construction Method
- Total Bridge Length: 291m
- Span Configuration:
86.5m+148m+86.5m
- Deck Width: 9.15m

Project Duration:

2020



Greater Jakarta LRT, Cikoko Bridge, Republic of Indonesia

Client:

DSI Indonesia

Services:

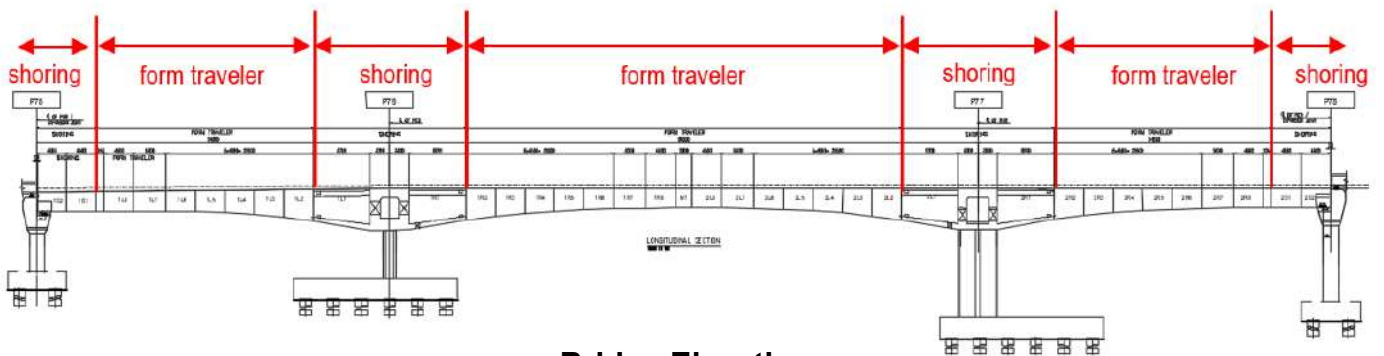
- Construction Engineering
- Contractors Engineer

Specifications:

- Free Cantilever Construction Method
- Total Bridge Length: 198m
- Span Configuration: 54m+90m+54m
- Deck Width: 9m

Project Duration:

2020



Bridge Elevation

Jakarta to Bundung High Speed Rail Project, Republic of Indonesia

Client:

DSI Indonesia

Services:

- Construction Engineering
- Contractors Engineer
- DK1+585.97 Section

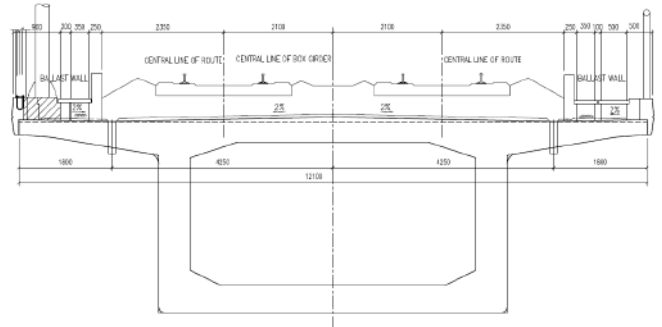
Specifications:

- Free Cantilever Construction Method
- Total Bridge Length: 176m
- Span Configuration: 48m+80m+48m
- Deck Width: 12.1m

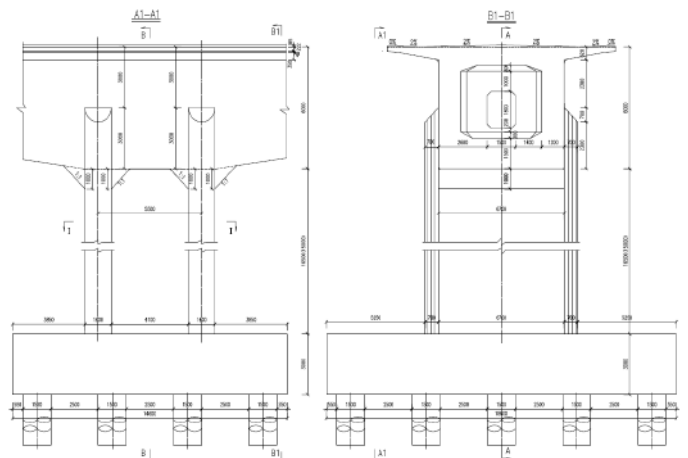
Project Duration:

2020

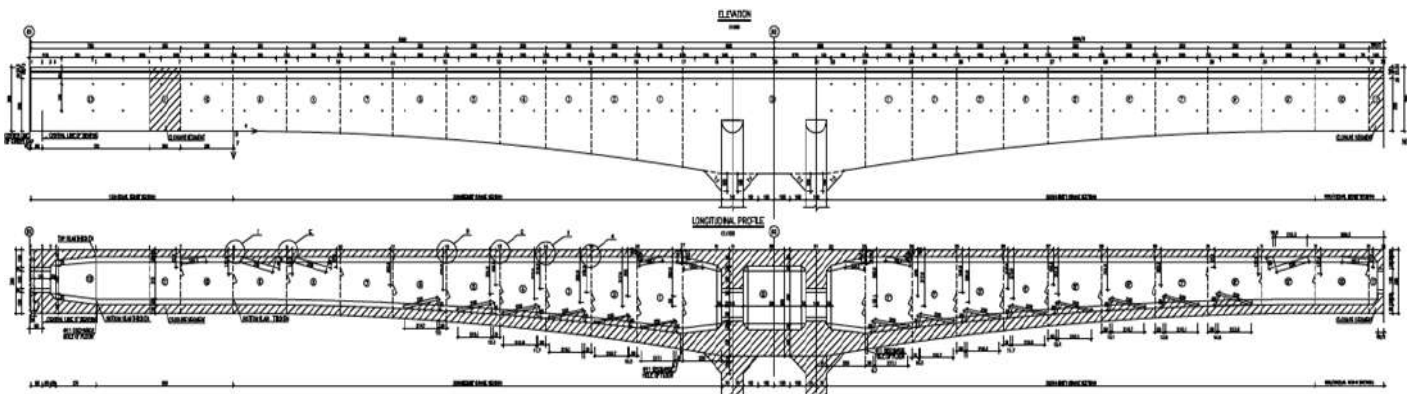
LAYOUT OF STRAIGHT GIRDER BRIDGE DECK OF BALLASTED TRACK
WITH OCS 1:50 WITHOUT OCS



Typical Deck Section



Typical Pier Section



Bridge Elevation

Ankeng Light Rail Cable Stay Bridge, Taiwan

Client:

New Asia / Evergreen Steel

Services:

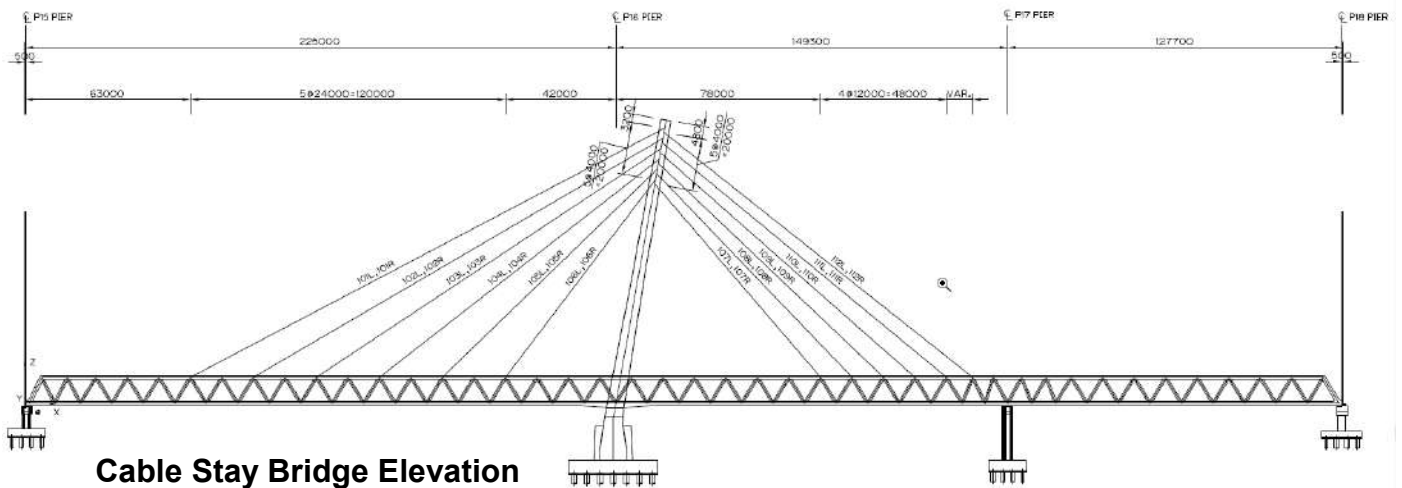
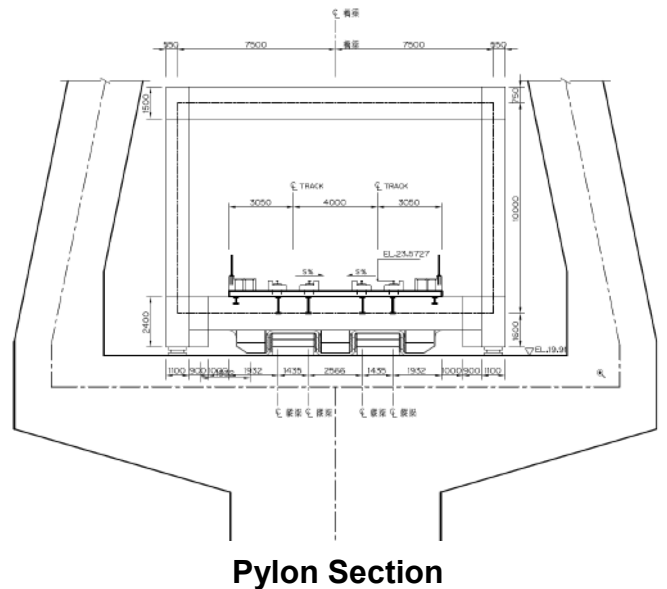
- Construction Engineering
- Contractors Engineer
- Major Temporary Works Design
- Erection Planning



Specifications:

- Total Bridge Length: 502m
- Span Configuration:
225m+149.3m+127.7m
- Pylon Height: 108mm (From Deck Level)
- Deck Width: 16.1

Project Duration: 2018-2019



SanYing MRT Arch Bridge, Taiwan

Client:
MAA

Services:

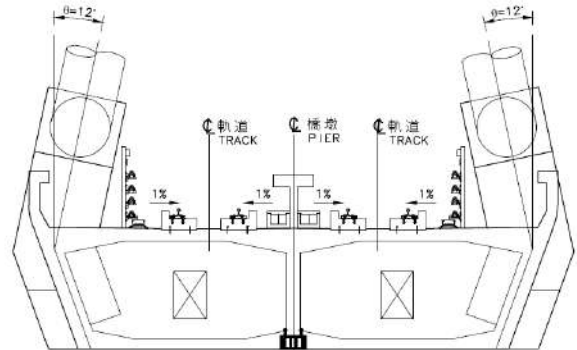
- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer
- Value Engineering

Specifications:

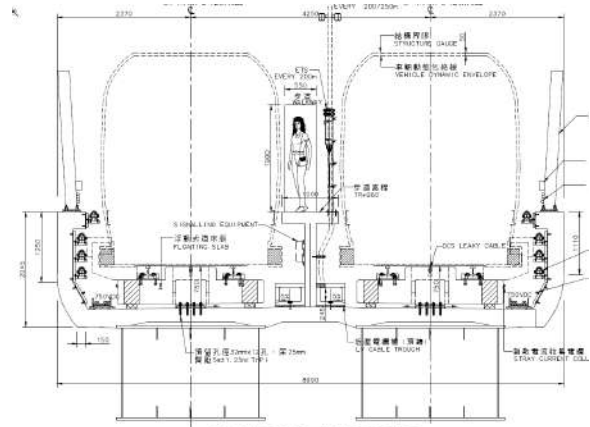
- Total Bridge Length: 275m
- Span Configuration: 75m+125m+75m
- Deck Width: 9m

Project Duration:

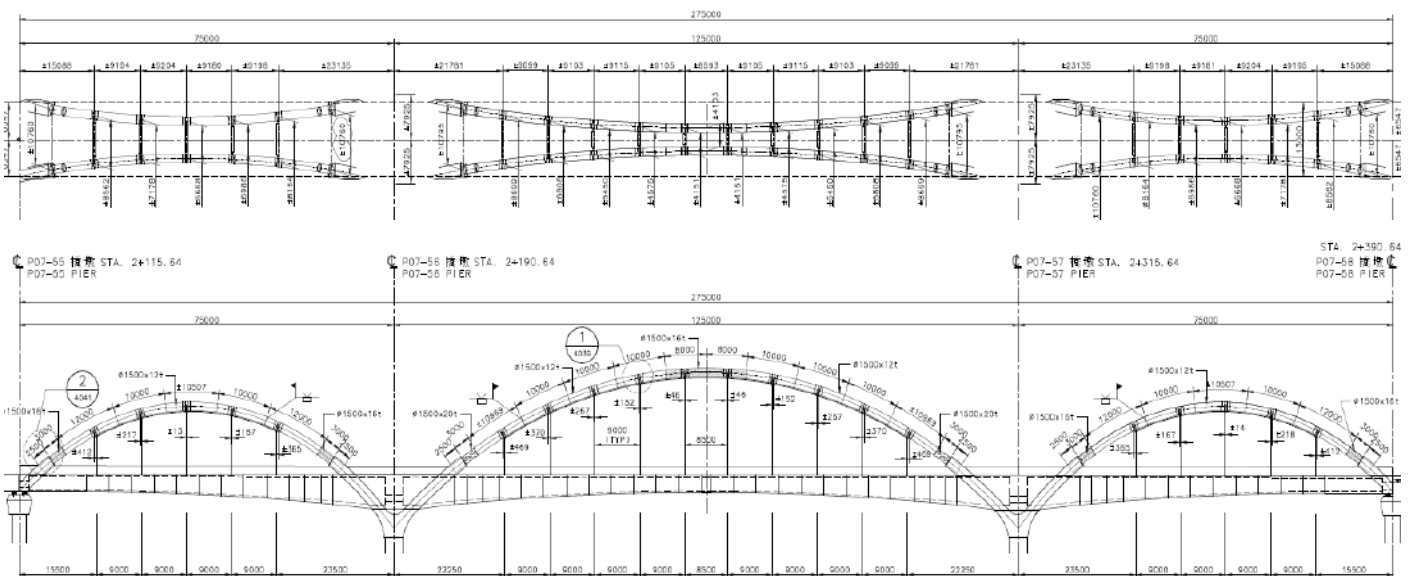
2017-2019



Typical Section Through Arch



Typical Section at Piers



Plan & Section of Arch Bridge

SanYing MRT FCC Bridge 2, Taiwan

Client:
MAA

Services:

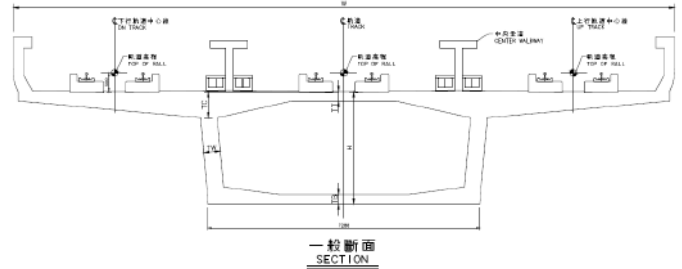
- Construction Engineering
- Detail Design
- Contractors Engineer
- Value Engineering

Specifications:

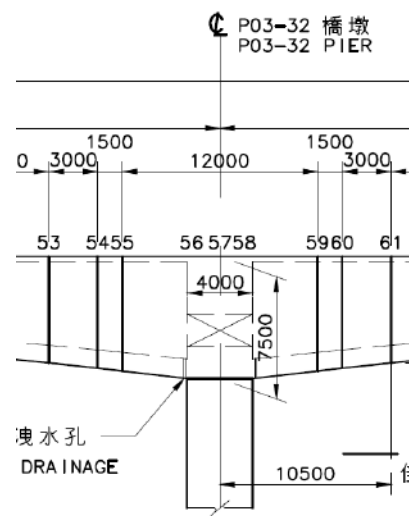
- FCC Free Cantilever Construction
- Total Bridge Length: 350m
- Span Configuration: 97m+150m+103m
- Deck Width: 8.9m ~ 17.9m

Project Duration:

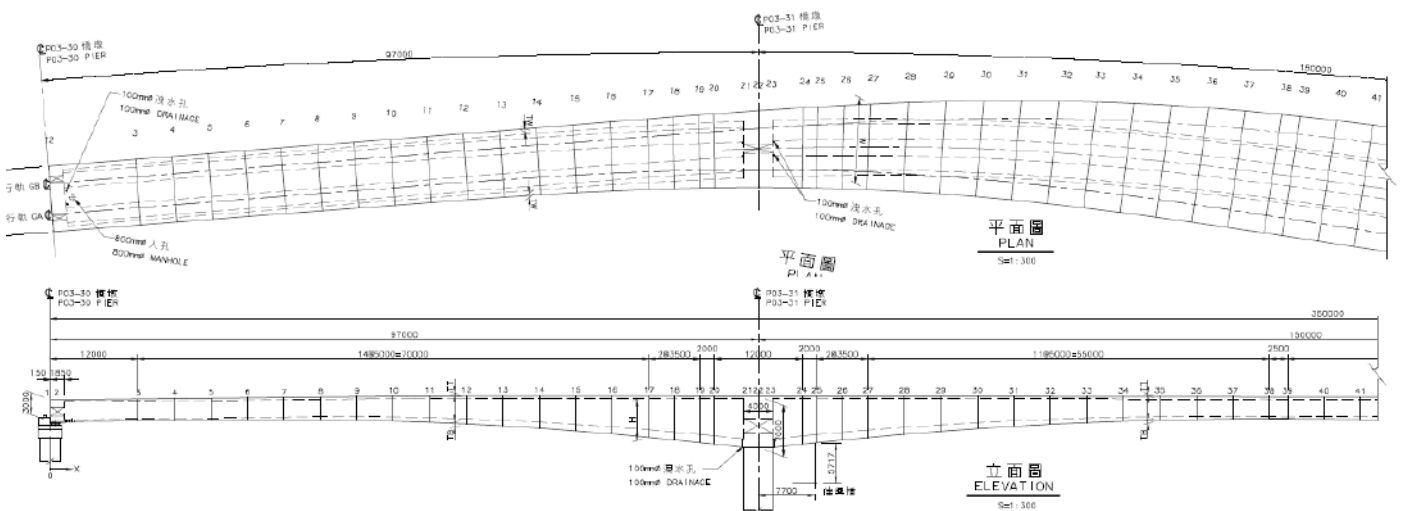
2017-2019



Typical Deck Section



Typical Pier Elevation



Bridge Plan & Elevation

Macau Light Rail MRT, Contract C360, Macau

Client:

Continental Engineering Corporation, (CEC)

Services:

- Construction Engineering
- Independent Checking Engineering for the Precast Segmental Launching Gantry
- Contractors Engineer
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- 7 Precast Segmental Bridges
- Spans Vary:
- Max Span: 35.5m
- Min Span: 25m
- Deck Width: 9.55m

Project Duration: 2012-2017



Paket~Seskoal, JL CMT MRT Project, Jakarta, Republic of Indonesia

Client:

Dywitech Systems, Indonesia

Services:

- Construction Engineering
- Precast Segmental Equipment Design
- Contractors Engineer
- Major Temporary Works Design
- PT Shop Drawings

Specifications:

- **Precast Segmental Construction**
- 9 Units
- Total Project Length: 1.435km
- Max Span: 45m
- Min Span: 21m
- Deck Width: 9m

Project Duration:

2014-2016



High Speed Rail Line Project, Republic of Turkey

Client:

Kolin Construction

Services:

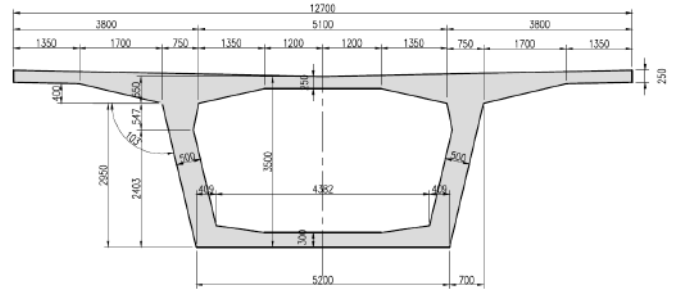
- Detail Design
- Contractors Engineer

Specifications:

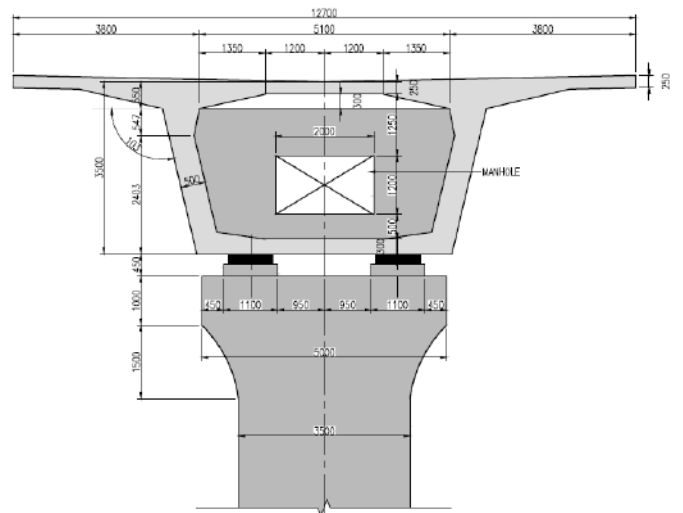
- **Viaduct 5**
- Total Bridge Length: 960m
- Span Configuration: 40m*24
- Deck Width: 12.7m
- **Viaduct 6**
- Total Bridge Length: 840m
- Span Configuration: 40m*21
- Deck Width: 12.7m
- Total Contract Length: 1.8km

Project Duration:

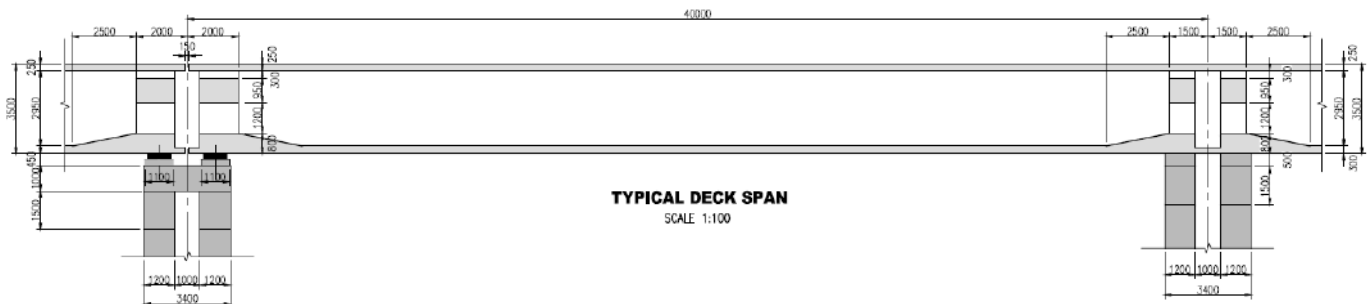
2013



Typical Deck Section



Typical Deck Section at Pier



Elevation of Typical Span

Prai Swing Bridge, Ipoh & Padang Besar, Republic of Malaysia

Client:

MMC Gamuda JV

Services:

- Construction Engineering
- Contractors Engineer

Specifications:

- Double Track Railway Swing Bridge
- Total Project Length: 328km
- Total Bridge Length: 80m
- Span Configuration: 40m+40m
- Deck width: 12m

Project Duration:

2013



Golden Horn Metro Project, Istanbul, Republic of Turkey

Client:

Astaldi Gulermak Joint Venture

Services:

- Construction Engineering
- Shop Drawings
- Lifting Equipment Design

Specifications:

- **South Concrete Approach Viaduct**
- 17+25+25+42+32+27.9 Meter spans
- 68.9m Total Bridge Length.

- **Steel Swing Bridge**
- 50+70 Meter Spans
- 120m Total Bridge Length

- **Steel Cable Stay Bridge**
- 90+180+90 Meter Spans
- 360m Total Bridge Length

- **North Concrete Approach Viaduct**
- 27+36+36+36+36+45+28.5+23.5
- Meter spans
- 268m Total Project Length

- **Total Project Length: 916.9m**
- Deck Width: 14.3m
- Walkways Width: 3.4m (Each side)
- Total Deck Width: 21.1m

Project Duration: 2007-2014



Golden Horn Metro Project, Istanbul, Republic of Turkey

Client:

Hakan Kiran Architects

Services:

- Detail Design

Specifications:

- **South Concrete Approach Viaduct**
- 17+25+25+42+32+27.9 Meter spans
- 68.9m Total Bridge Length.
- **Steel Swing Bridge**
- 50+70 Meter Spans
- 120m Total Bridge Length
- **Steel Cable Stay Bridge**
- 90+180+90 Meter Spans
- 360m Total Bridge Length
- **North Concrete Approach Viaduct**
- 27+36+36+36+36+45+28.5+23.5
- Meter spans
- 268m Total Project Length
- **Total Project Length: 916.9m**
- Deck Width: 14.3m
- Walkways Width: 3.4m (Each side)
- Total Deck Width: 21.1m



Project Duration: 2007-2014



CE01 Taoyuan International Airport MRT Line, Taiwan

Client:

Futzu Construction

Services:

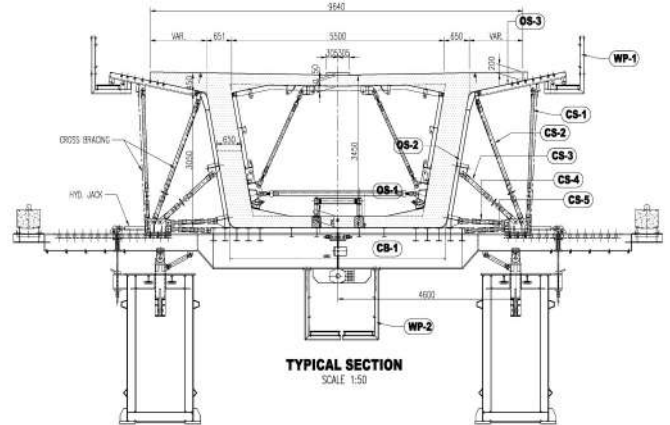
- Construction Engineering
- MSS Equipment Design
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 51.33km
- Max Span: 60m
- Deck Width: 9.64m
- Deck Casting to Tight Radius of 500m

Project Duration:

2009-2011



Typical Deck Section Formwork



CE02 Taoyuan International Airport MRT Line, Taiwan

Client:

Kung Shin Construction

Services:

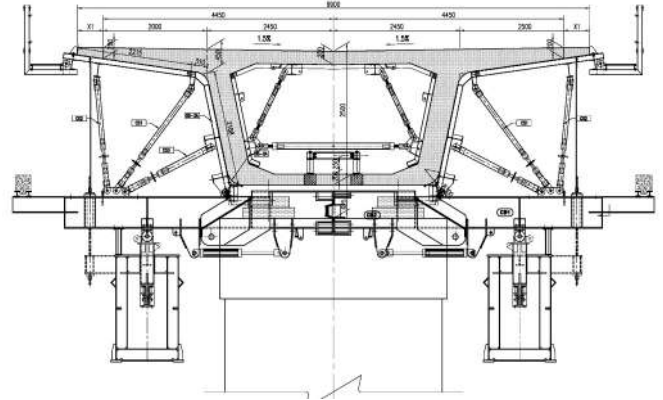
- Construction Engineering
- MSS Equipment Design
- Contractors Engineer
- Major Temporary Works Design

Specifications:

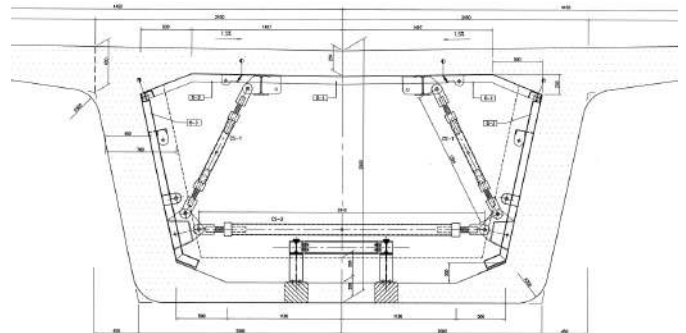
- Total Project Length: 51.33km
- Max Span: 35m
- Min Span: 20m
- Deck Width: 9.9m

Project Duration:

2009-2011



Typical Deck Section Formwork



Typical Deck Inner Form System



Gautrain High Speed Rail Project, Johannesburg, South Africa

Client:

VKE, Bombela Consortium JV

Services:

- Construction Engineering
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

- **Precast Segmental Construction**
- Total Project Length: 80km
- Min Span: 40m
- Max Span: 55m
- V1: 5 Spans, Total Length: 230m
- V3: 13 Spans. Total Length: 638m
- V11: 5 Spans: Total Length: 230m
- V14: 15 Spans: Total Length: 638m
- Deck Width: 10.1m
- Total Contract Bridges Length: 1.736km



Project Duration: 2006-2010



Full Span Girders, Taipei MRT Project, CE01B, Taiwan

Client:

DSI, Taiwan

Services:

- Construction Engineering
- Deck Formwork Casting Design
- Detail Design
- Rebar & PT Shop Drawings
- Casting Yard Design
- Contractors Engineer

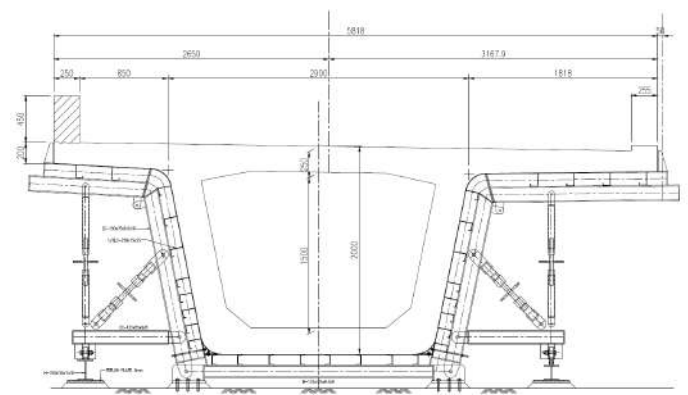


Specifications:

- **Deck Lengths:**
- Type A: 18m, 25m, 27.1m
- Type C: 30m
- Type D: 20m, 24.984m, 25m, 30m, 31.1m
- Type E: 30m, 31.1m
- Type F: 27.1m, 30m, 31.1m
- Type G: 25m, 30m
- Type K: 22.6m

- Deck Widths: 4.350m / 5.81m

- Deck Depth: 2m



Typical Deck Section

Full Span Girders, Taipei MRT Project, CE01C, Taiwan

Client:

Hwang Chung Construction

Services:

- Construction Engineering
- PT Shop Drawings
- Casting Yard & Formwork Design
- Contractors Engineer

Specifications:

Unit No.	Spans (m)	Total Length (m)	Design Type
34	35+31.247	66.247	CIP 02
33	30+30	60	CIP 01
43	28+30+25+22	105	CIP 07
42	30+30+30	90	CIP 06
37	31+31+31.148	93.148	CIP 05
27	43+36	79	CIP 04
35	30+35+30	95	CIP 03
30	40+60+40	140	FCC 01
31	40+60+40	140	FCC 01
32	40+60+40	140	FCC 01
41	30+50+30	110	FCC 01
40	55.5+55.5	111	FCC 05
39	35+50+35	120	FCC 04
36	30+50+30	110	FCC 02
38	46+60+70+50	226	FCC 03
51	35+31.247	66.247	CIP 01
52	35+31.246	66.246	CIP 01
Total Project Length (m):		1817.9	
		(km) 1.8km	

- Deck Widths: 9.1m~17.36m

Project Duration:

2007-2008



Taiwan High Speed Rail Project C250, DU 11.01, Taiwan

Client:

HBP Joint Venture

Services:

- Construction Engineering
- Preliminary Design
- Detailed Design
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- Total Bridge Length: 260m
- Skew Alignment Across Major Highway
- Span Configuration:
40.6m*3+34.550m*3
- Deck Width: 13m

Project Duration:

2001-2003



Taipei Rapid Transit System, Neihu Line, Taiwan

Client:

Kung Shin Contractors

Services:

- Precast Pier Cap Mould Design
- Precast Segmental Mould Design
- Equipment Design for the Deck Segmental Erection
- Contractors Engineer

Specifications:

- Two Long Bed Casting Moulds Designed for the Production of over 400 Precast Segments
- Segment Erection Equipment Max Weight: 65t
- Four Short Bed Casting Moulds were Designed to Produce 227 Precast Pier caps

Project Duration: 2004-2006



Taiwan High Speed Rail Project, Warren Truss Bridges, Taiwan

Client:

THSRC

Services:

- Consulting
- BOT Contractors Engineer
- Site Engineering Services

Specifications:

- Total Project Length: 345km
- Warren Steel Truss Bridges Along the High Speed Rail Route
- Average Width: 13m
- Average Height: 9m

Project Duration:

1999-2007



Taiwan High Speed Rail Project, DU 08 C210, Taiwan

Client:

Obayashi Futsu Joint Venture

Services:

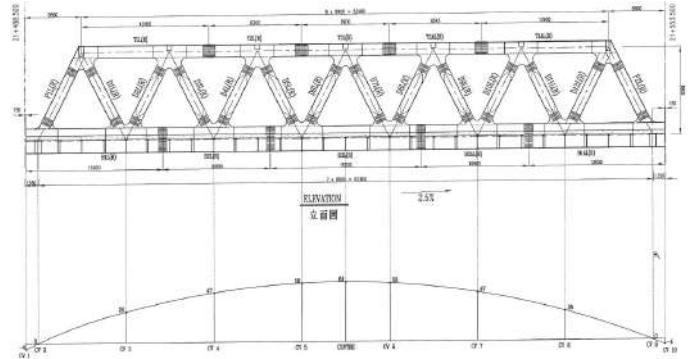
- Construction Engineering
- Preliminary Design
- Detail Design
- BOT Contractors Engineer
- Major Temporary Works Design

Specifications:

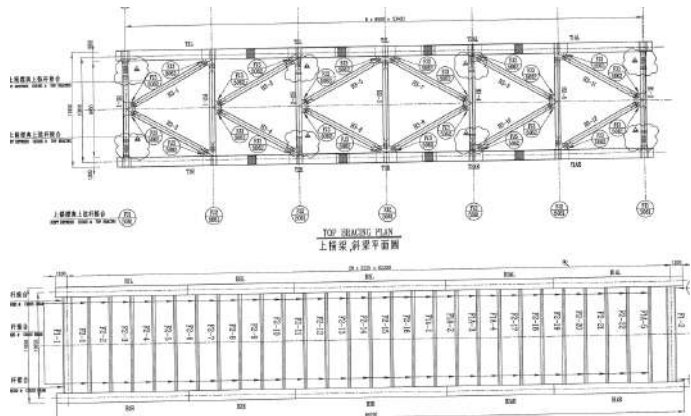
- Total Project Length: 345km
- Total Bridge Length: 65m
- Deck Width: 11.95m
- Total Weight of Bridge: 1800t

Project Duration:

2001-2003



Deck Elevation / Camber Profile



Plan View Top & Bottom



Taiwan High Speed Rail Project, DU 12.03 C250, Taiwan

Client:

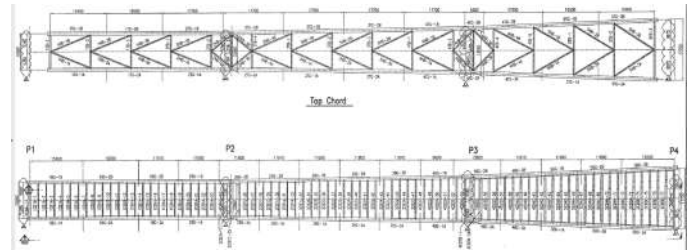
HBP Joint Venture

Services:

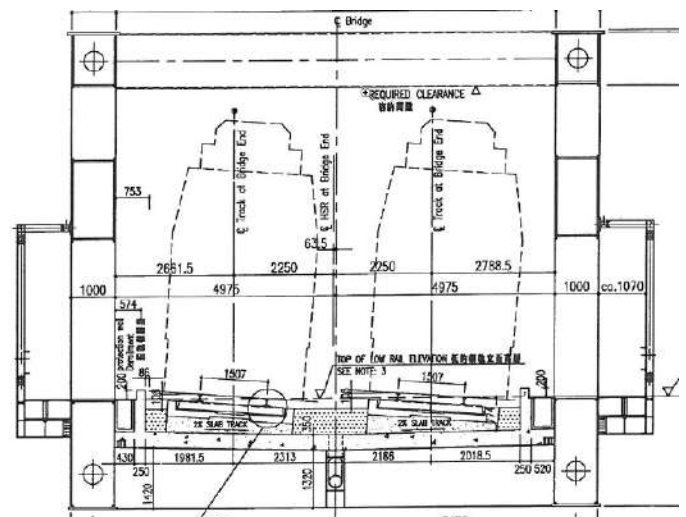
- Construction Engineering
- Preliminary Design
- Detail Design
- BOT Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- Total Bridge Length: 190m
- Span Configuration:
60.1m+70.8m+60.1m
- Deck Width: 10.560m~17.750m
- Total Weight of Bridge: 1800t



Plan View Top & Bottom



Typical Section

Project Duration: 2001-2003



Taiwan High Speed Rail Project, C250 Truss Bridges, Taiwan

Client:

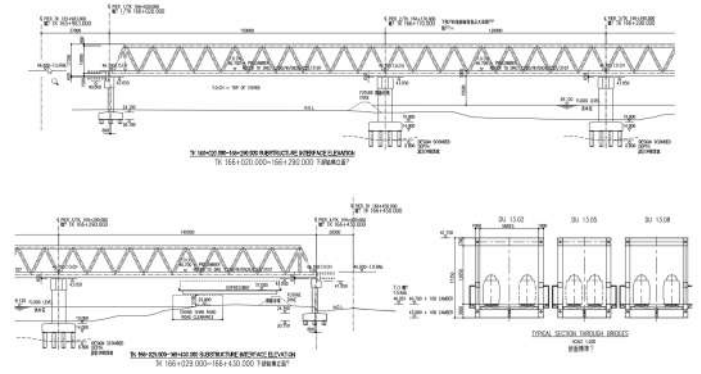
HBP Joint Venture

Services:

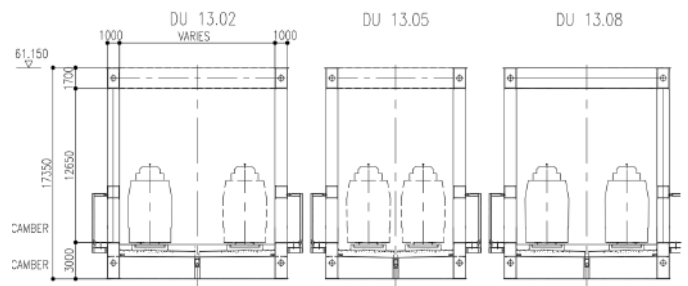
- Construction Engineering
- Preliminary Design
- Detail Design
- BOT Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- DU, 1302, 1305, 1308 Bridges
- Total Bridge Length: 410m (All 3 Bridges)
- Span Configuration: 150m+120m+140m (All 3 Bridges)
- Deck Width: 11.5m~16.9m
- Total Weight of All 3 Bridges: 24,000t



Deck Elevation



Section Through 3 Truss Bridges

Project Duration: 2001-2003



Taiwan High Speed Rail Project, C250 DU 09.01 CIP, Taiwan

Client:

HBP Joint Venture

Services:

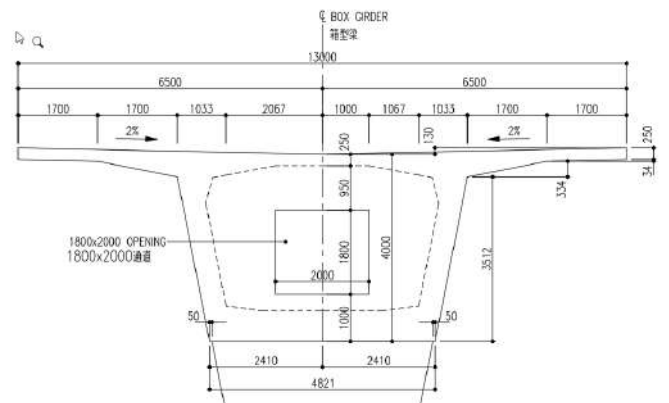
- Construction Engineering
- Preliminary Design
- Detail Design
- BOT Contractors Engineer
- Major Temporary Works Design

Specifications:

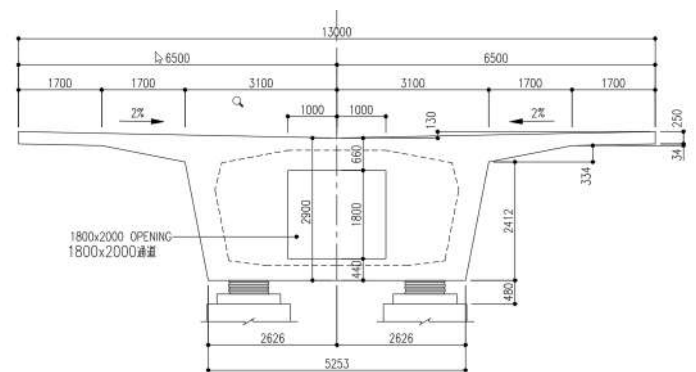
- Total Bridge Project Length: 345km
- Total Bridge Length: 120m
- Span Configuration: 35m+50m+35m
- Deck Width: 130m

Project Duration:

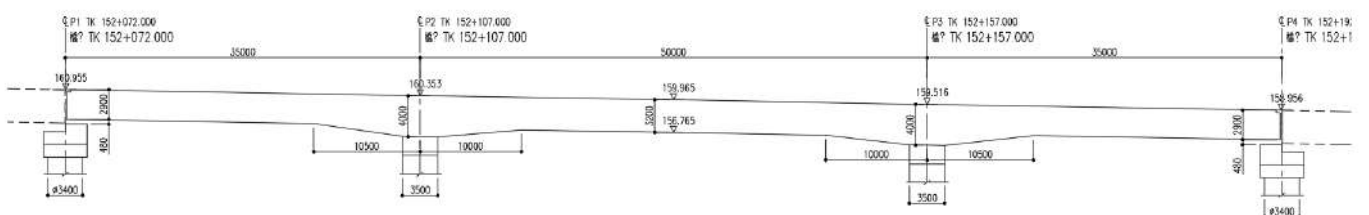
2001-2003



Deck Section at Piers



Deck Section at Midspan



Bridge Elevation

Taiwan High Speed Rail Project, Contract C210, Taiwan

Client:

Obayashi / Futsu Joint Venture

Services:

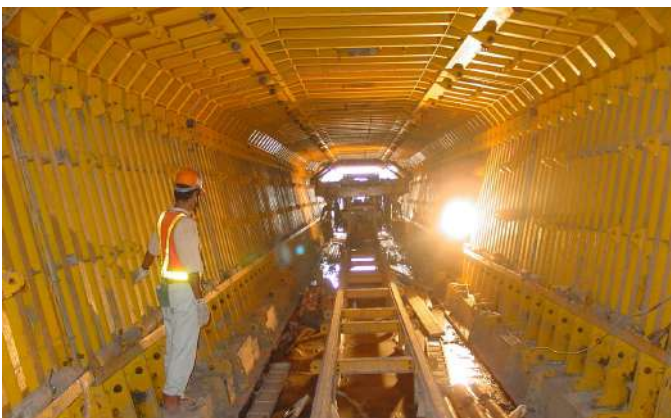
- Construction Engineering
- MSS Equipment Design (2 Sets)
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- MSS Equipment Length: 88m
- Total Contract Length: 2.58km
- Deck Width: 13m
- All Spans 40m

Project Duration:

2000-2003



Taiwan High Speed Rail Project, Contract C215, Taiwan

Client:

Obayashi / Futsu Joint Venture

Services:

- Construction Engineering
- MSS Equipment Design (3 Sets)
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- MSS Equipment Length: 88m
- Total Contract Length: 7.240km
- Deck Width: 13m
- All Spans 40m

Project Duration:

2000-2003



Taiwan High Speed Rail Project, Contract C250, Taiwan

Client:

Hochtief / Ballast Nedam / Pan
Asia HBP Joint Venture

Services:

- DU. 03.04
- Construction Engineering
- MSS Equipment Design
- Detail Design of the Bridge
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- MSS Equipment Length: 110m
- Total Contract Length: 810m
- Span Configuration: 45m*18
- Deck Width: 13m

Project Duration:

2001-2003



Taiwan High Speed Rail Project, Contract C250, Taiwan

Client:

Hochtief / Ballast Nedam / Pan
Asia HBP Joint Venture

Services:

- Bridge DU 14.05
- MSS Equipment Design
- Detail Design of the Bridge
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- MSS Equipment Length: 110m
- Total Contract Length: 152m
- Span Configuration: 48.5m+55m+48.5m
- Deck Width: 13m

Project Duration:

2001-2003



Taiwan High Speed Rail Project, Contract C295, Taiwan

Client:

EIP Joint Venture

Services:

- Construction Engineering
- MSS Equipment Design (15 Sets)
- Contractors Engineer
- Major Temporary Works Design

Specifications:

- Total Project Length: 345km
- MSS Equipment Length: 110m
- Total Contract Length: 15.5km
- All Spans: 35m
- Deck Width: 13m

Project Duration:

2001-2003



Contract C250, DU 0905, Taiwan High Speed Rail, Taiwan

Client:
THSRC

Services:

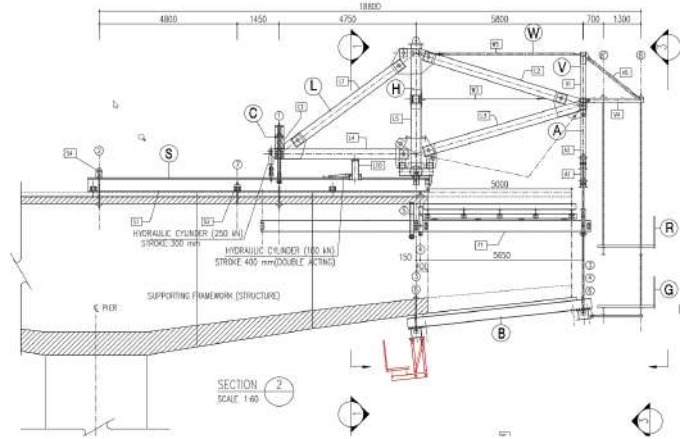
- Construction Engineering
- FCC Form Traveler Design
- Detail Design
- Shop Drawings
- Contractors Engineer

Specifications:

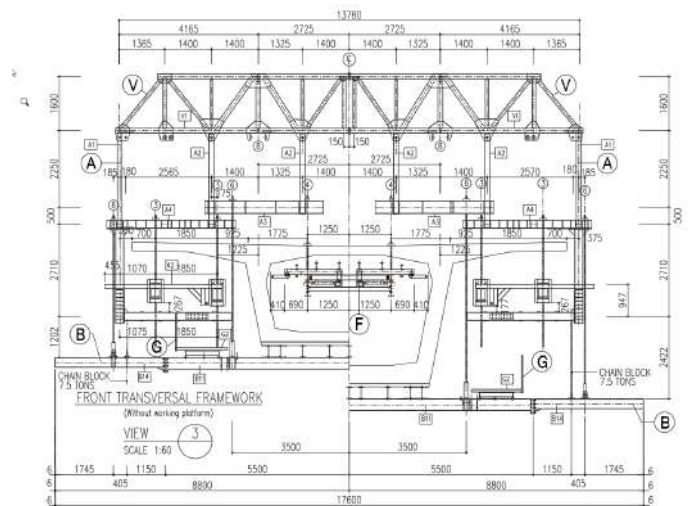
- FCC Balanced Cantilever Bridge
- Total Project Length: 345km
- Total Bridge Length: 155m
- Span Configuration: 45m+65m+45m
- Deck Width: 13m

Project Duration:

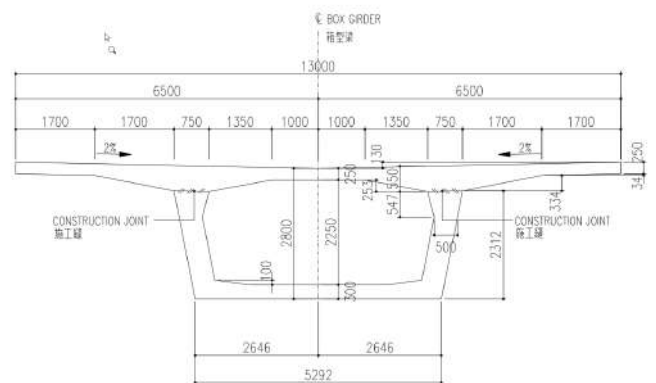
2001-2003



Elevation on Form Traveler



Section of Form Traveler



Typical Deck Section

Full Span Girders, Taiwan High Speed Rail C250, Taiwan

Client:

HBP Joint Venture

Services:

- Construction Engineering
- Detail Design for Two Steel Loading Platforms
- Major Temporary Works Design
- Contractors Engineer

Specifications:

- 70% or 27Km of the Length of Contract C250 comprised of standard precast box section viaducts
- Box Girder Lengths: 25m, 30m, 35m
- Box Girder Weight: 800t Approx
- Box Girder Width: 13m
- Box Girder Depth: 2.8m

Project Duration: 2001-2003



Taiwan High Speed Rail, Contract C260 ILM Bridges, Taiwan

Client:

THSRC / Black Stone Construction

Services:

- Construction Engineering
- Deck ILM Launching Equipment Design
- Deck Formwork System Design
- Contractors Engineer
- Casting Yard Design

Specifications:

- Total High Speed Length: 345km
- C260 Contract Total Length: 37km
- Max Span: 80m
- Min Span: 30m
- Deck Width: 13m

Project Duration:

2001-2003



Taiwan High Speed Rail C250, Overpass Bridges, Taiwan

Client:

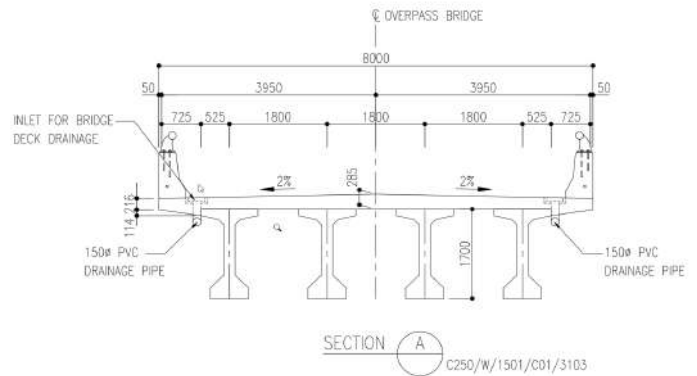
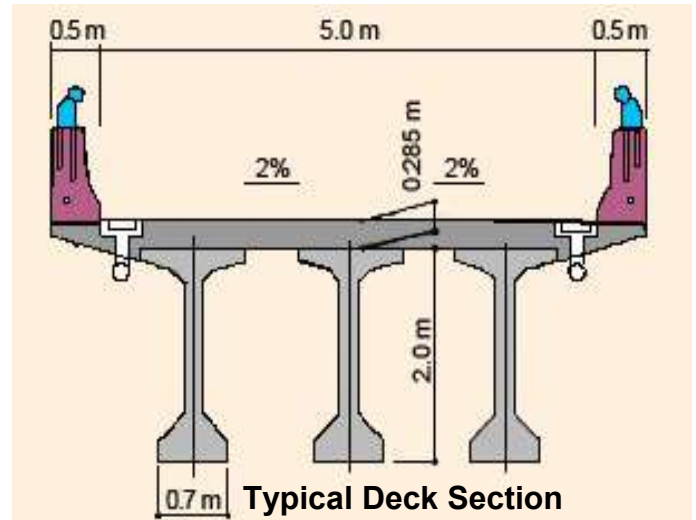
HBP Joint Venture

Services:

- Detail Design
- Construction Engineering
- Shop Drawings
- Contractors Engineer

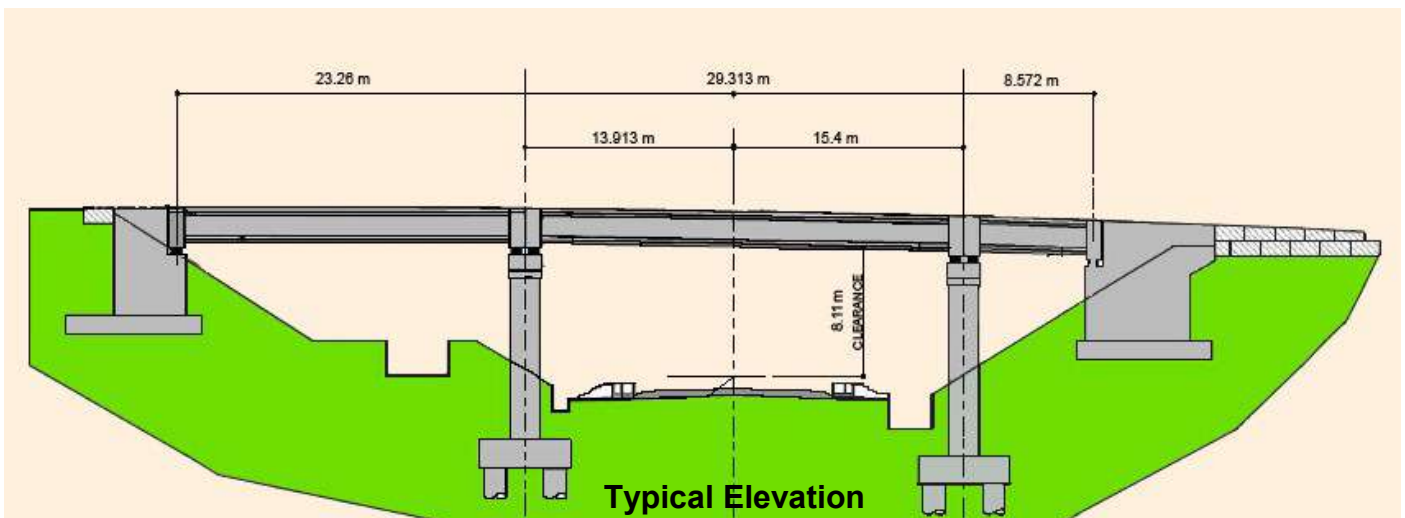
Specifications:

- **Precast I Beam Bridges**
- **DU 04.06**
- Span Arrangement: 25m*7
- Total Bridge Length: 175m
- Deck Width: 8m
- **DU 04.07**
- Span Arrangement:
23.26m+29.313m+8.572m
- Total Bridge Length: 61.145m



Typical Deck Section

Project Duration: 2004-2006





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