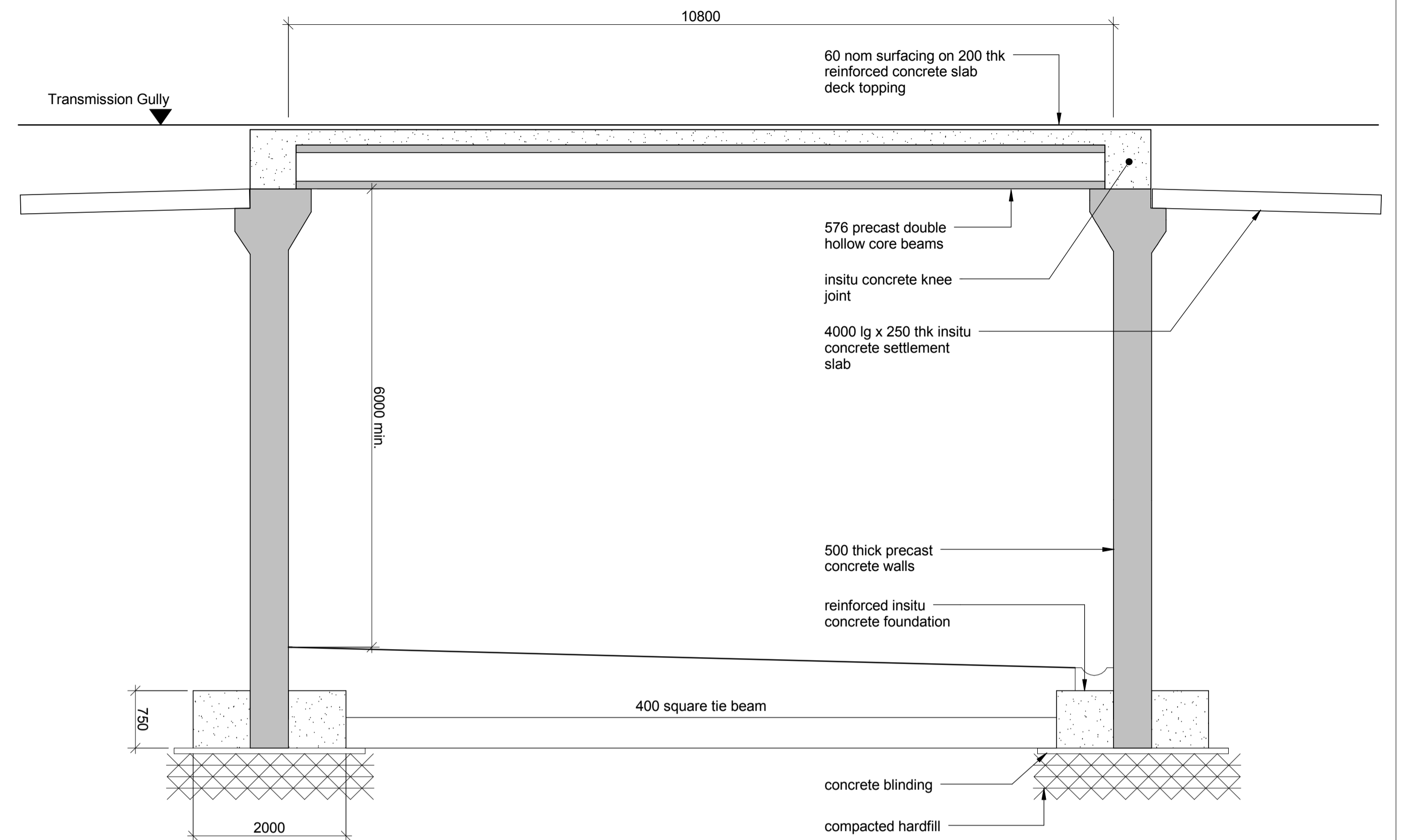
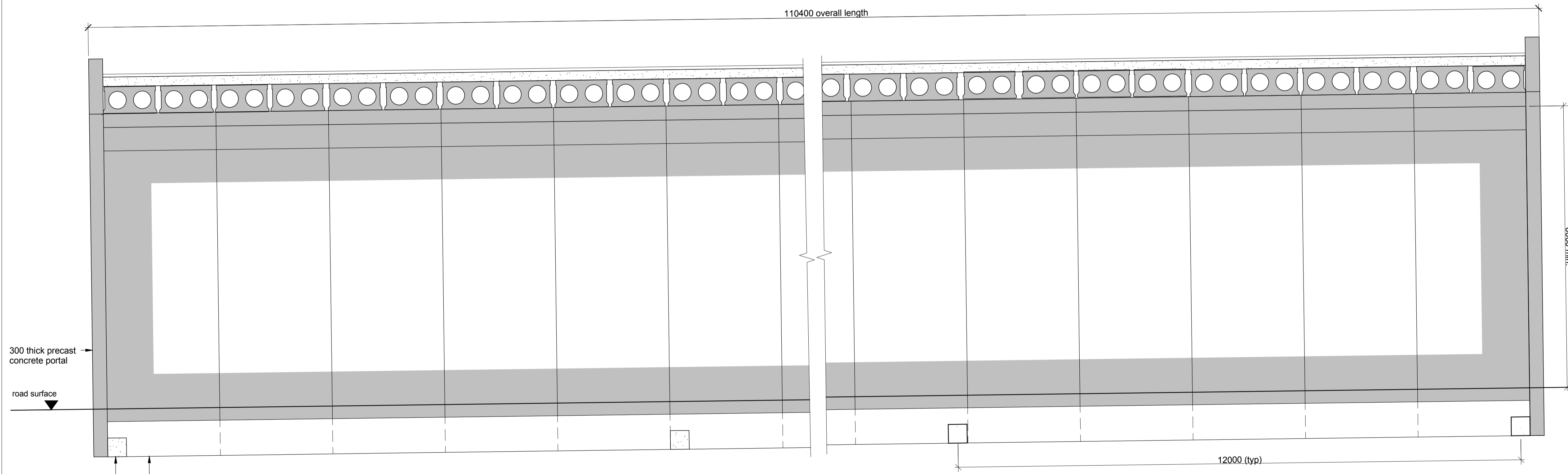


bridge no. 1 plan
 1 : 500



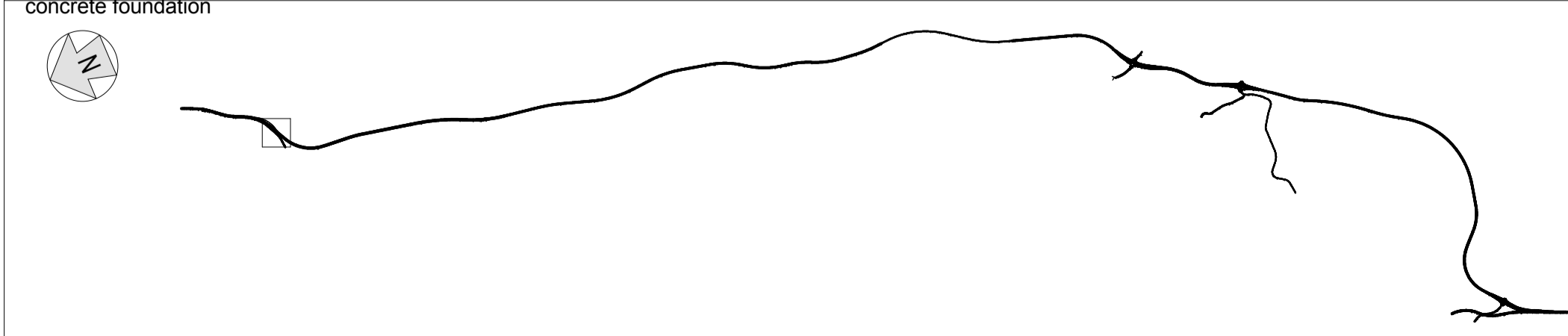
typical cross section
 1 : 50



bridge no. 1 longitudinal section
 1 : 50

notes:

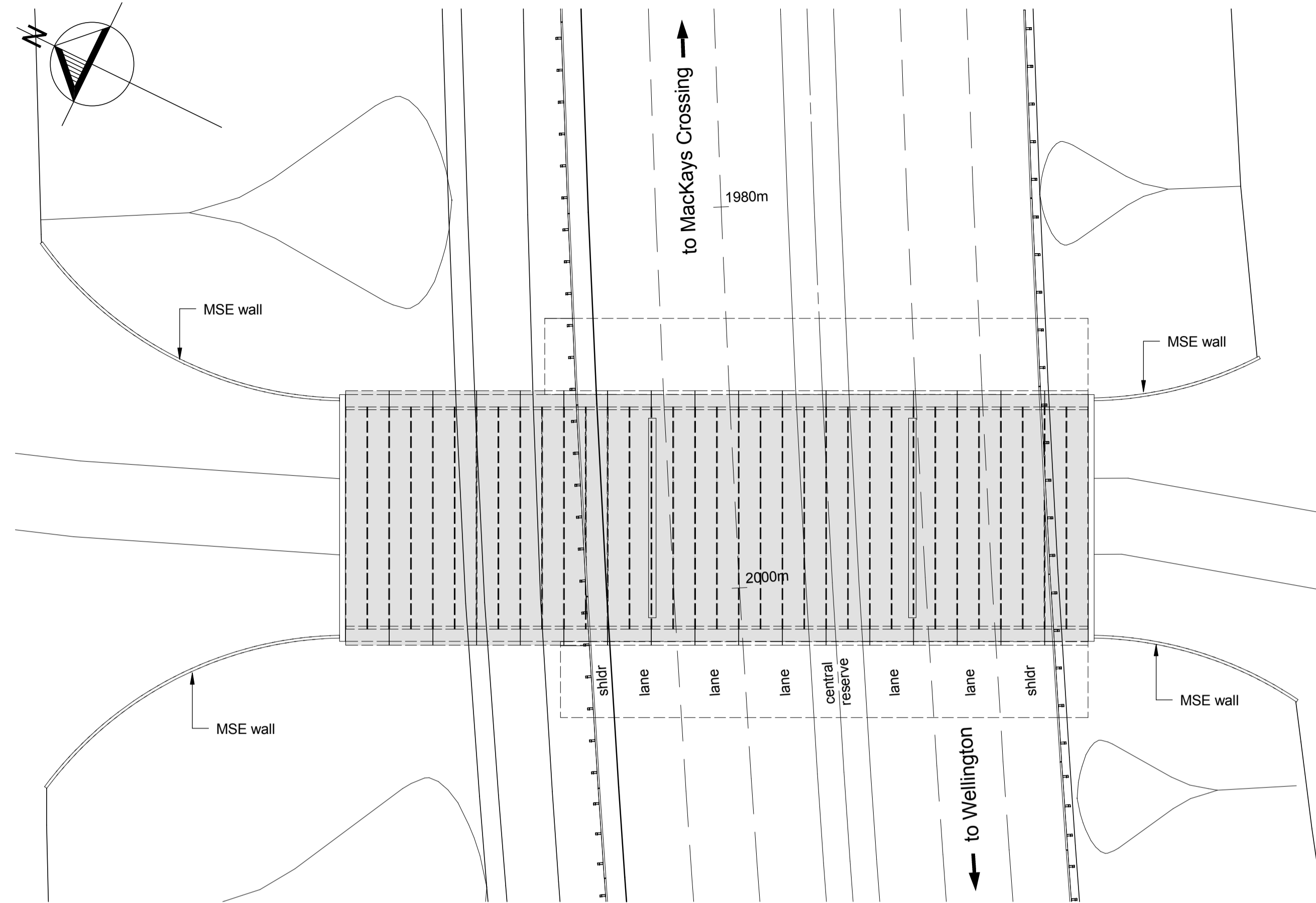
1. Other viable option for Bridge 1: Precast prestressed hollow core deck units supported each end on reinforced concrete banks seats that are founded on top of MSE abutment retaining walls.
2. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services and drainage details not shown.



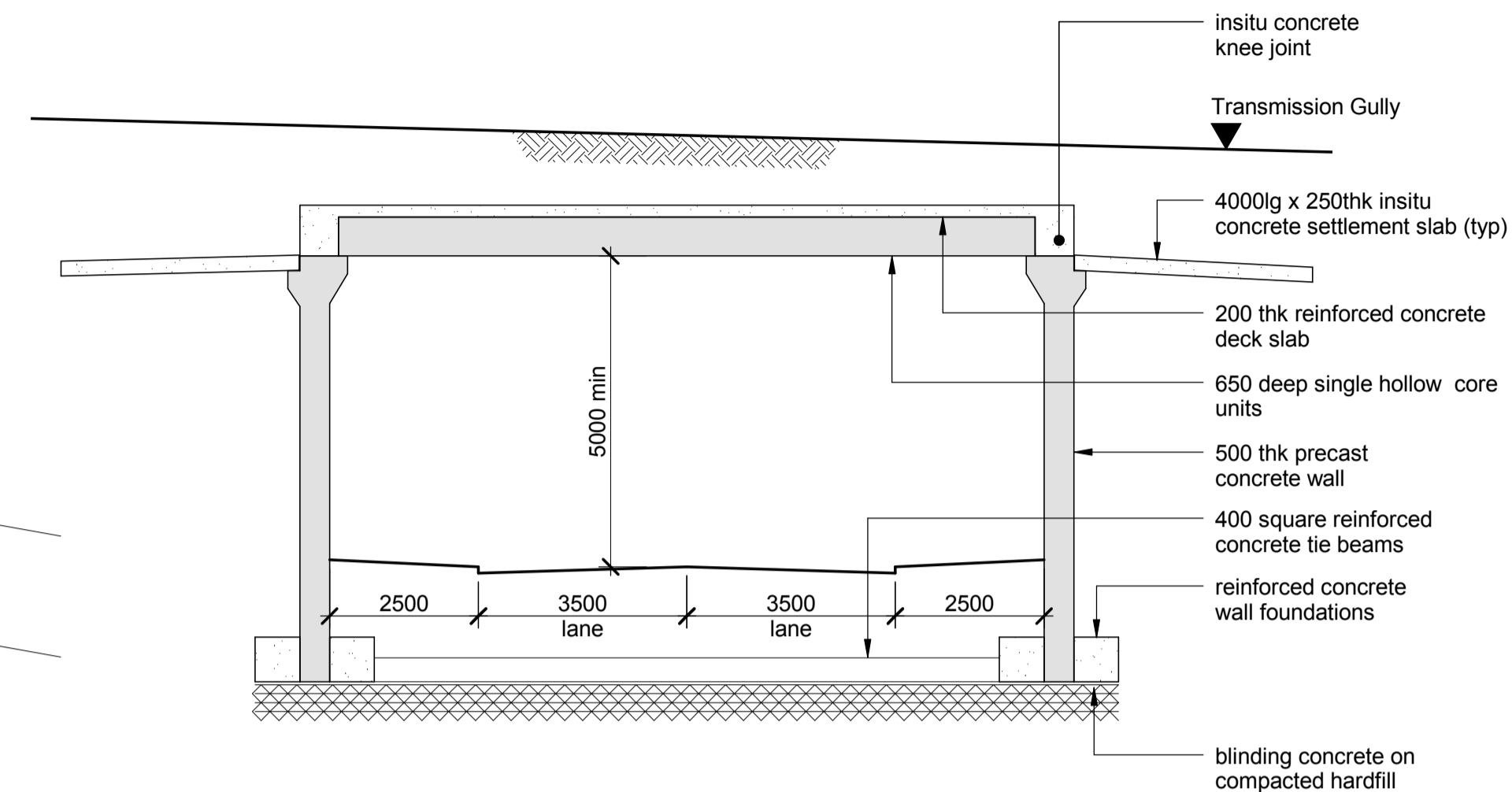
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



Project. TRANSMISSION GULLY PROJECT		Status. For consenting
Title. Bridge no. 1 Plan and Sections		Version No. 1
Sheet No. S01-01		



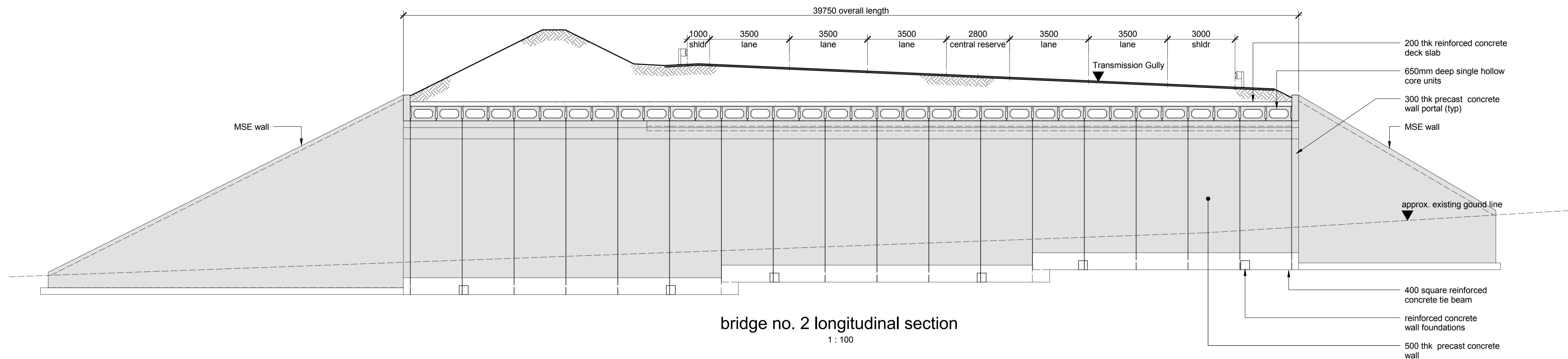
bridge no. 2 plan
1 : 200



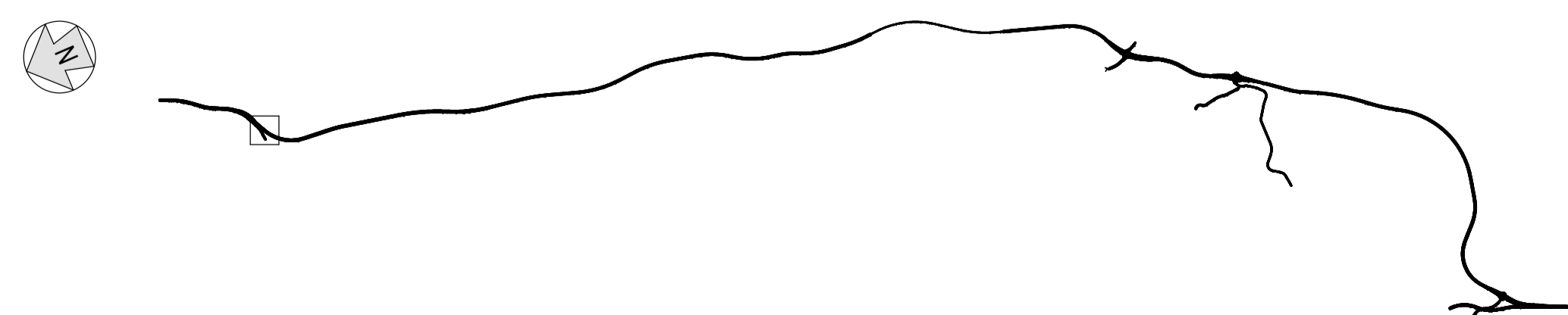
bridge no. 2 typical cross section
1 : 100

notes:

- Other viable options for Bridge 2:
 - Precast prestressed hollow core deck units supported each end on reinforced concrete banks seats that are founded on top of MSE abutment retaining walls.
 - Proprietary precast reinforced concrete arch.
- Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.



bridge no. 2 longitudinal section
1 : 100



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



Project. TRANSMISSION GULLY PROJECT

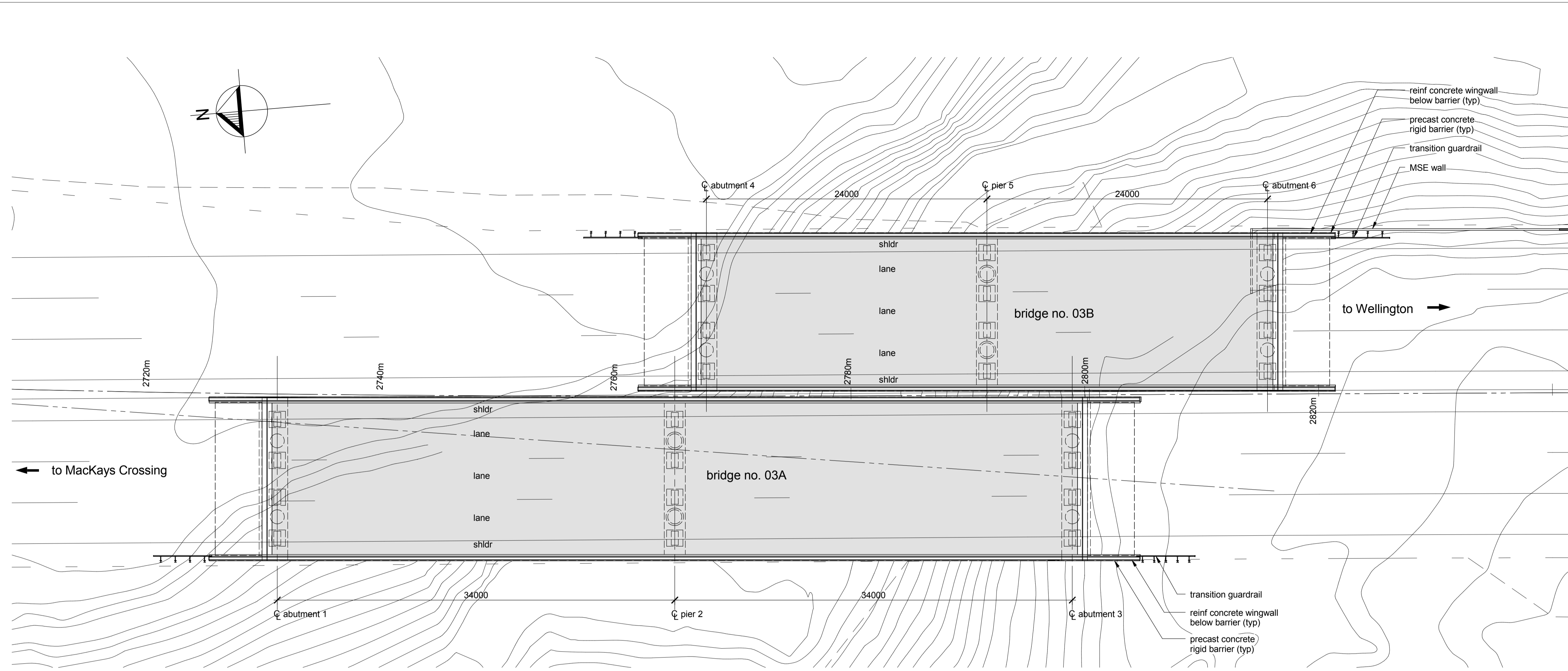
Title. Bridge no. 2
Plan and Section

Status. For consenting

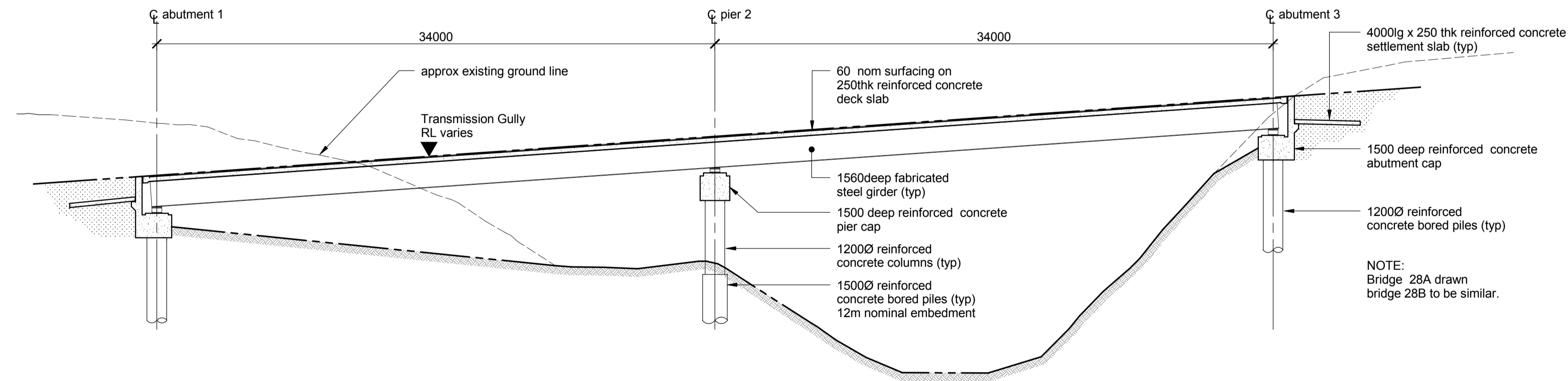
Sheet No. S02-01
Version No. 1

notes:

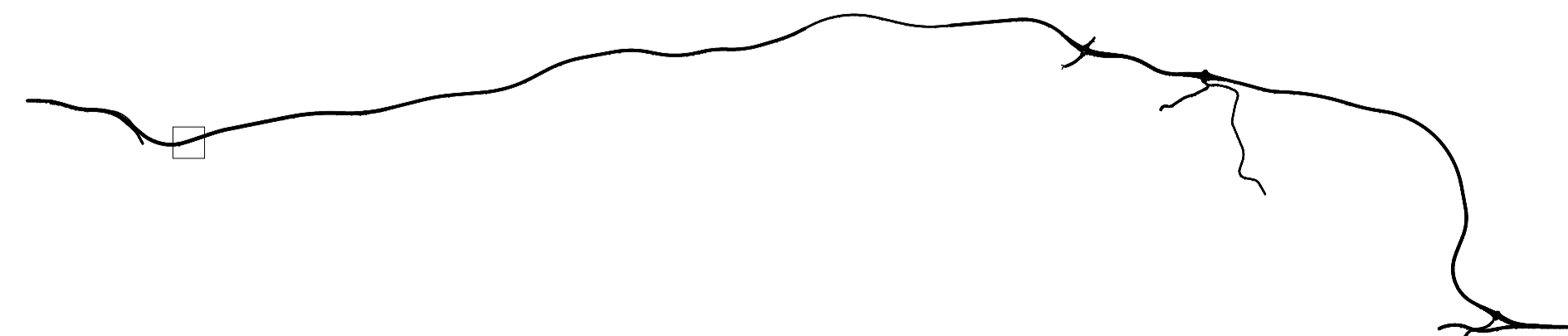
1. Linkage bars, shear keys and other provisions for resisting seismic loads not shown.
2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services and drainage details not shown.



bridge no. 03 plan
1 : 200



bridge no. 03A long section
1 : 200



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11

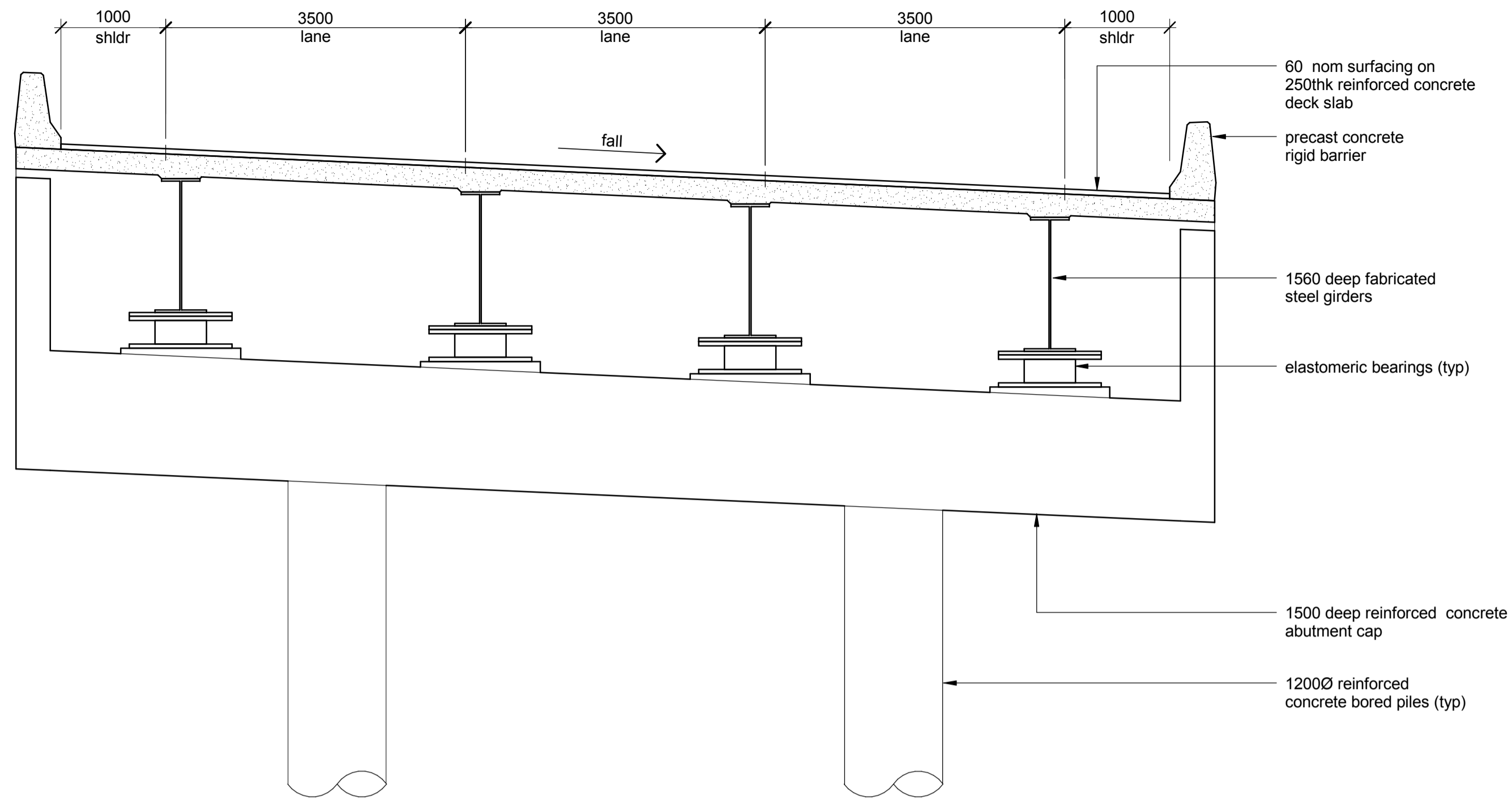


Project: **TRANSMISSION GULLY PROJECT**

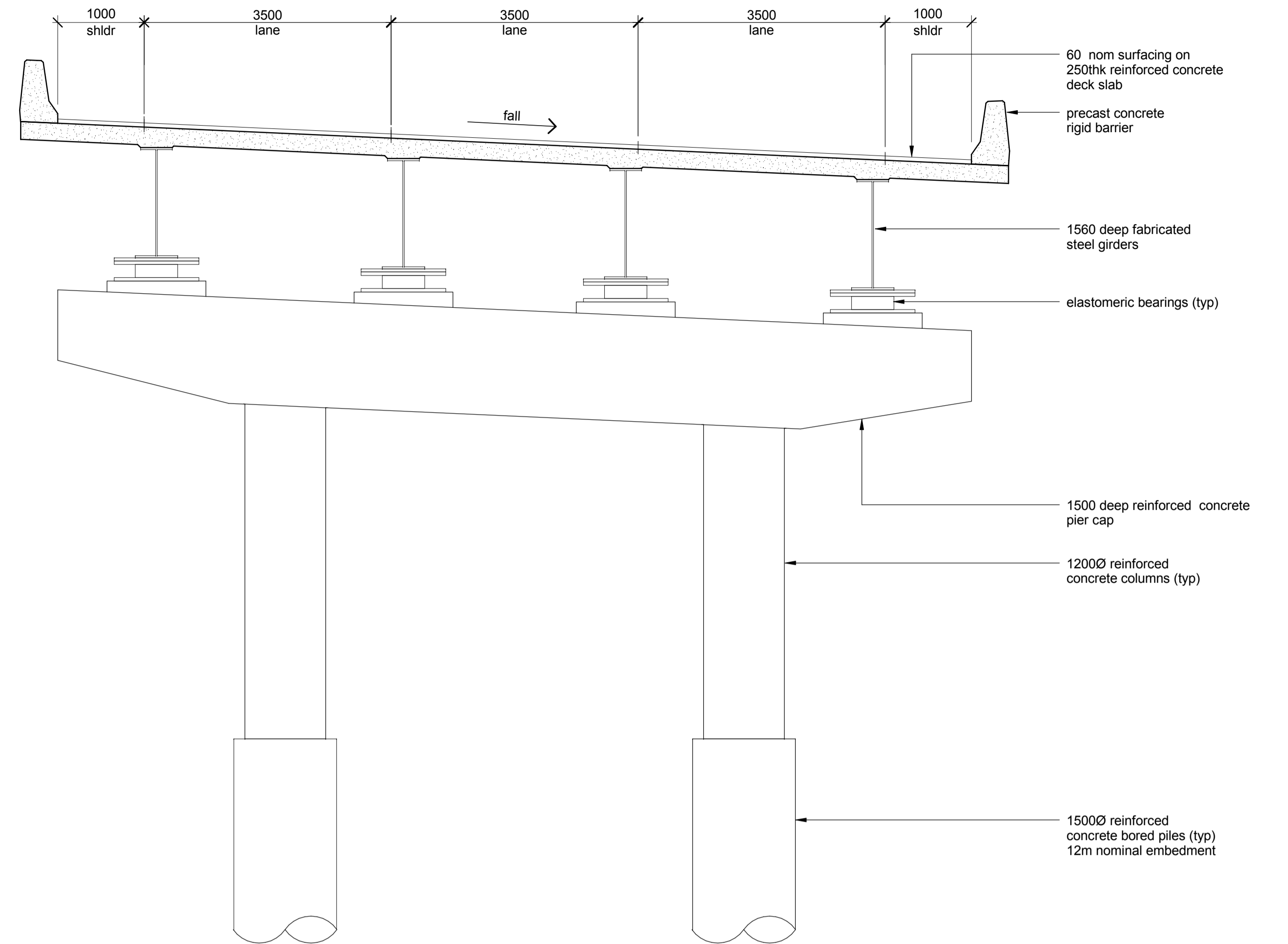
Title: **Bridge no. 03
Plan and Long Section**

Status: **For consenting**

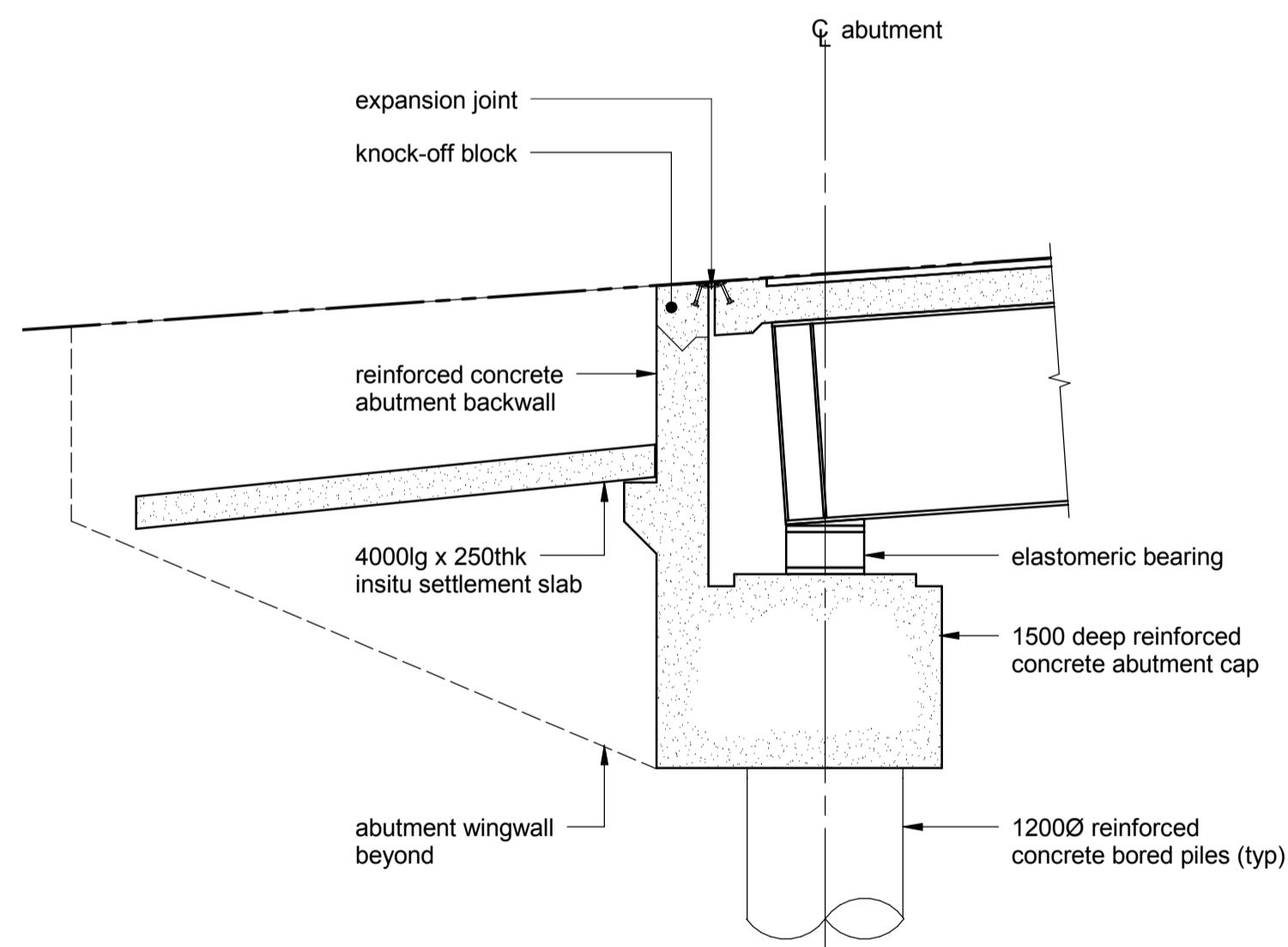
Sheet No. **S03-01** Version No. **1**



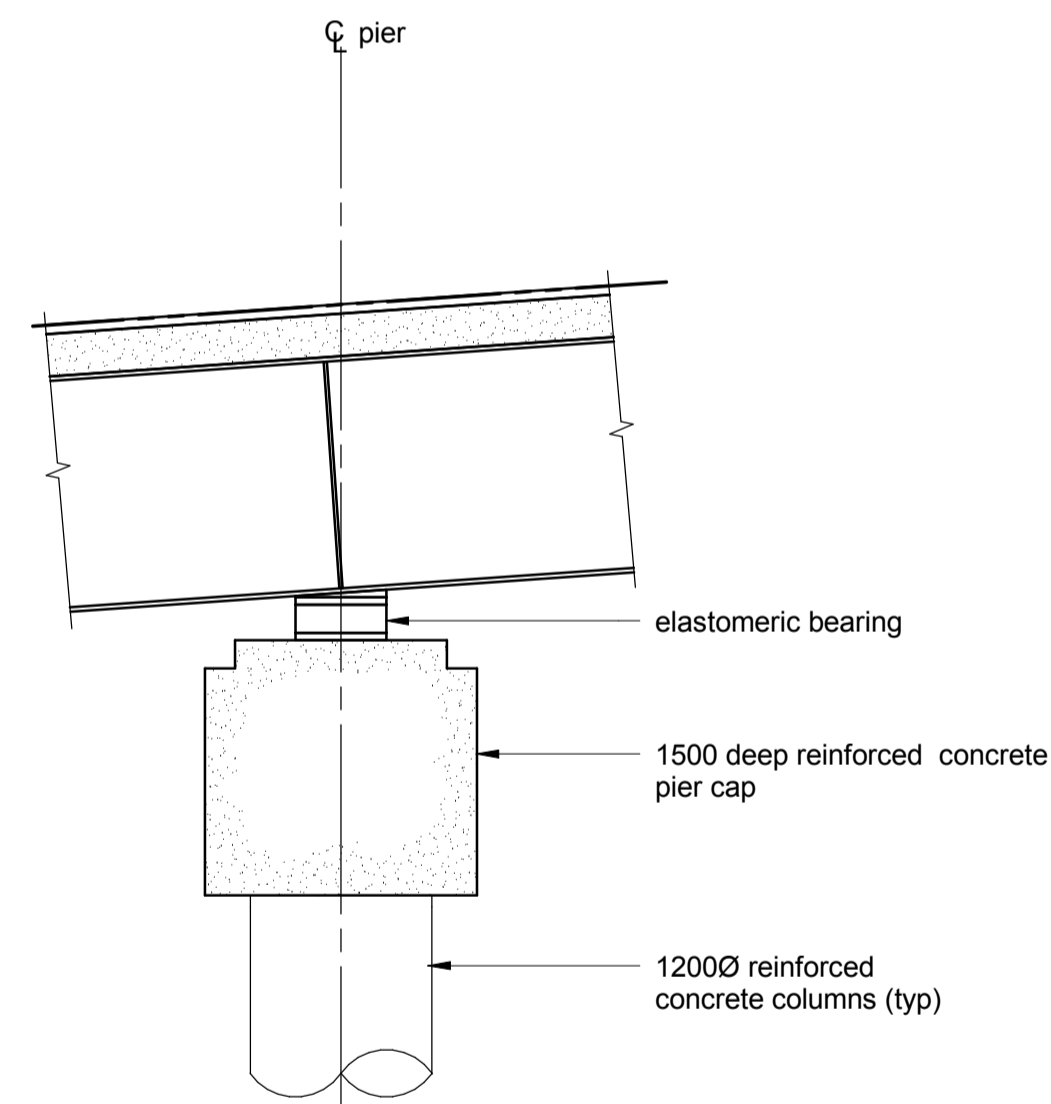
bridge no. 03 typical cross section along abutment
1 : 50



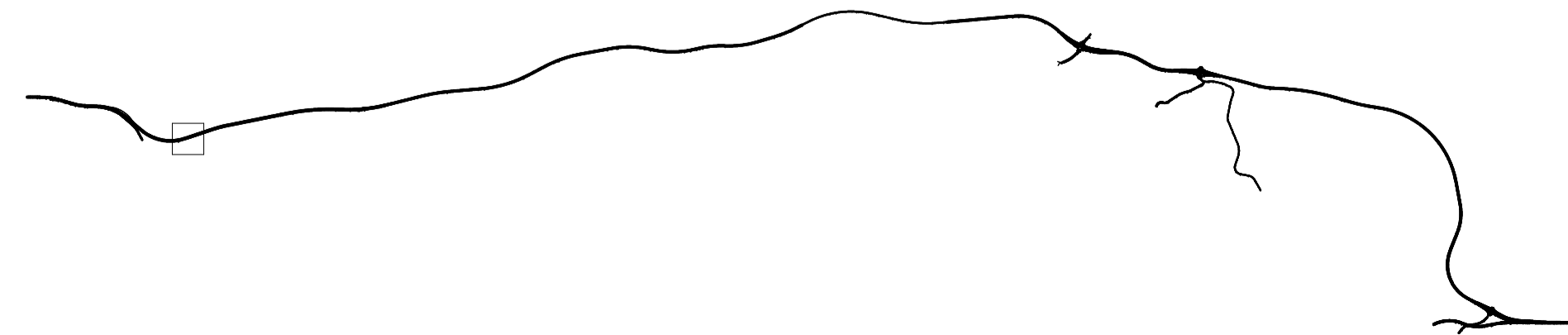
bridge no. 03 typical cross section along pier
1 : 50



typical abutment section
1 : 50



typical pier section
1 : 50



Revision	Amendment	Approved	Date
1	Issue for information	PG	20/12/10

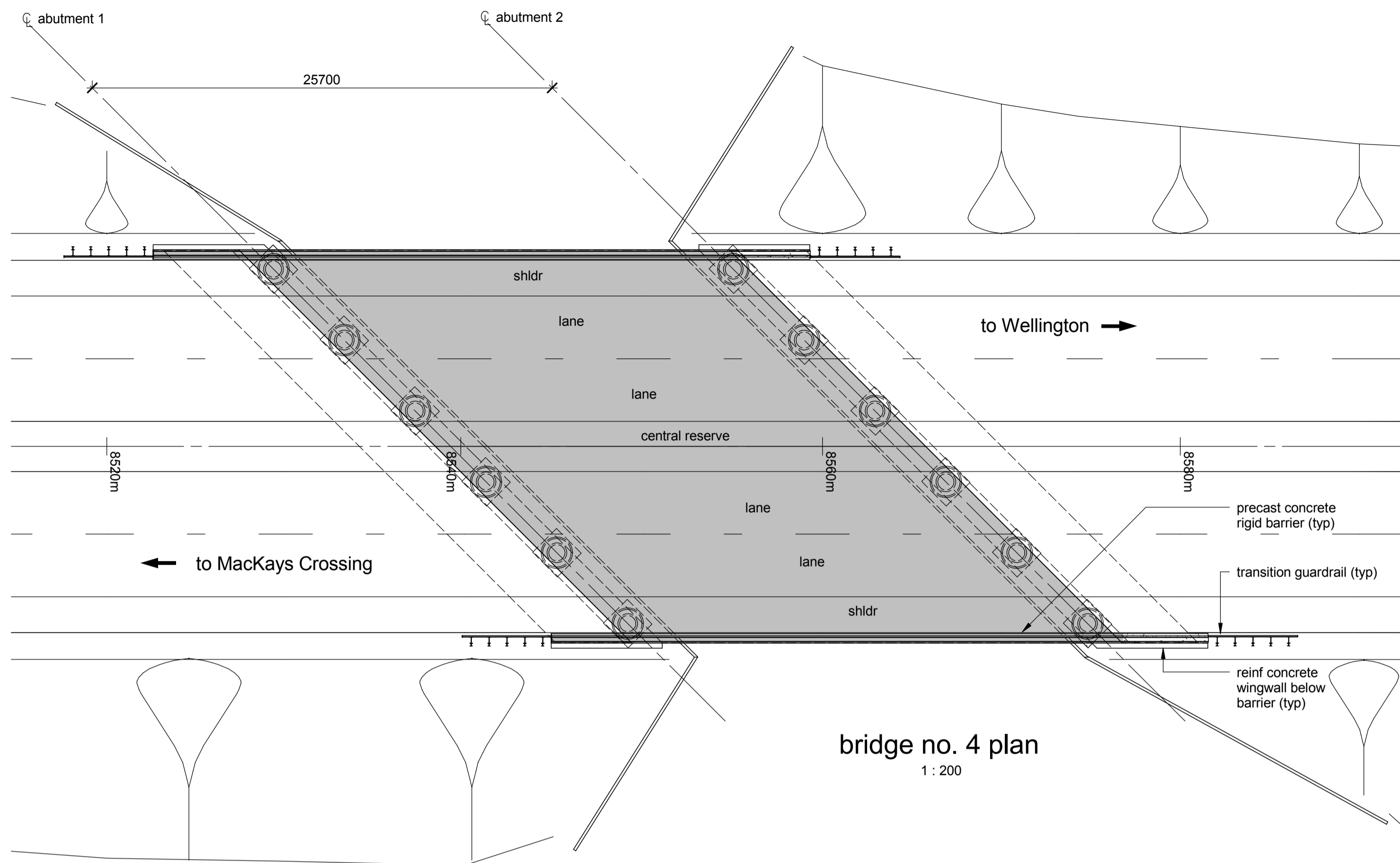
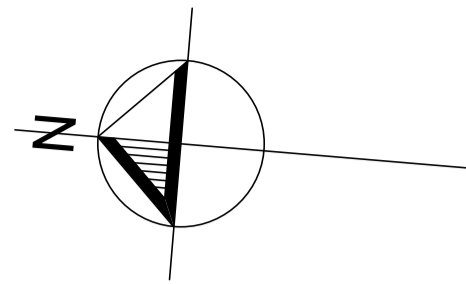


Project: **TRANSMISSION GULLY PROJECT**

Title: **Bridge no. 03
Cross Sections
and details**

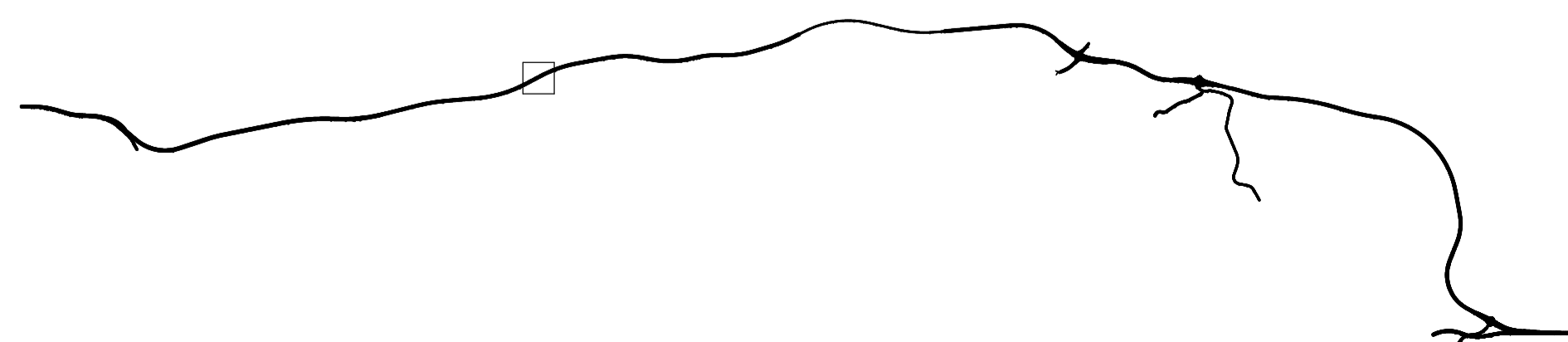
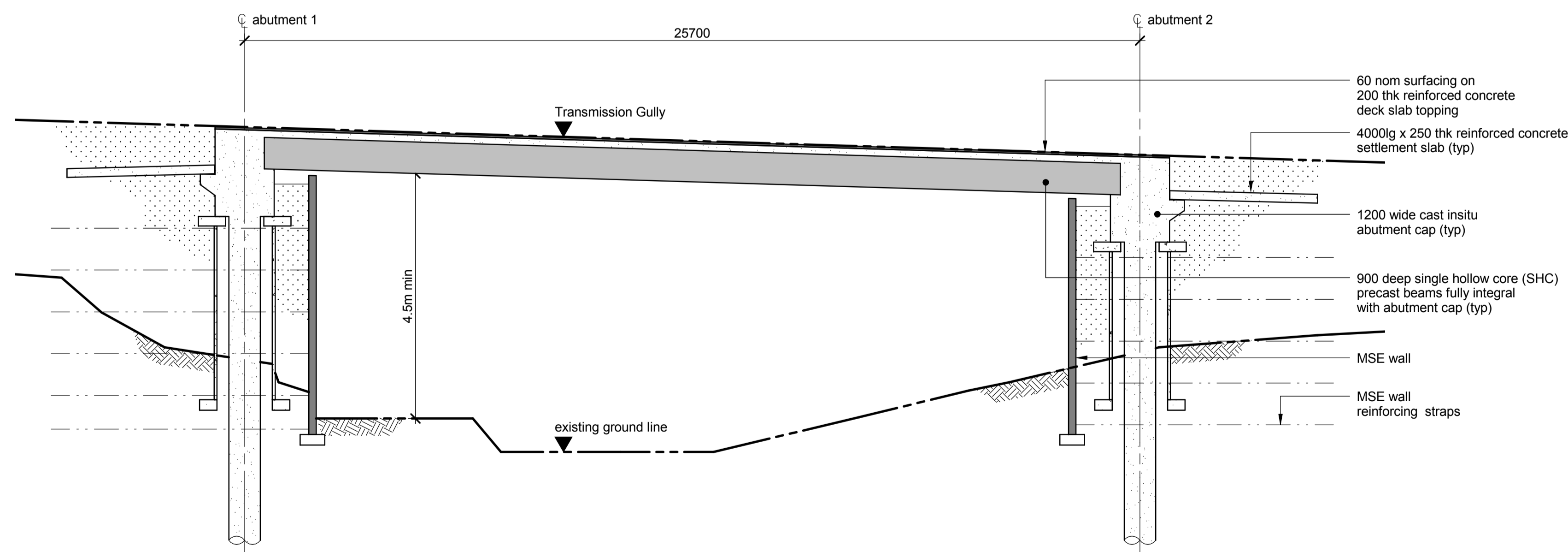
Status: **For consenting**

Sheet No. **S03-02**
Version No. **1**



notes:

1. Another viable solution for the bridge deck is a Super T girder arrangement with insitu slab.
2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. The base of the MSE abutment walls and wingwalls will be protected with rip rap.
4. Utility services and drainage details not shown.



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date

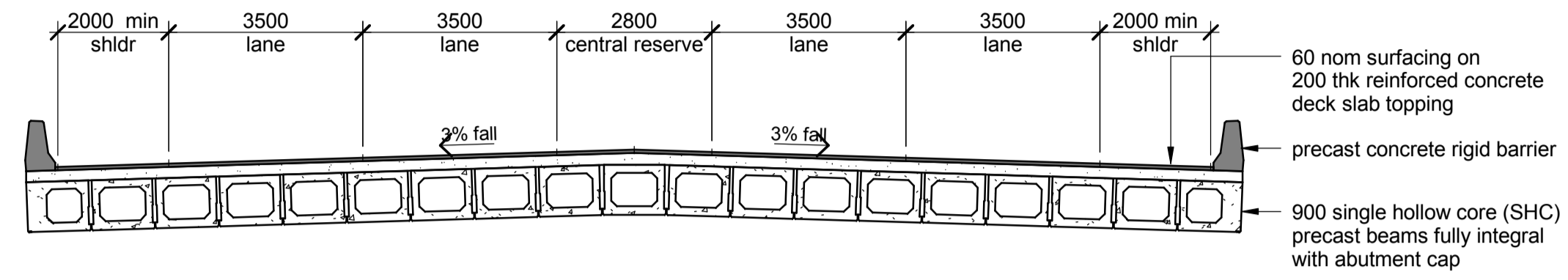


Project: **TRANSMISSION GULLY PROJECT**

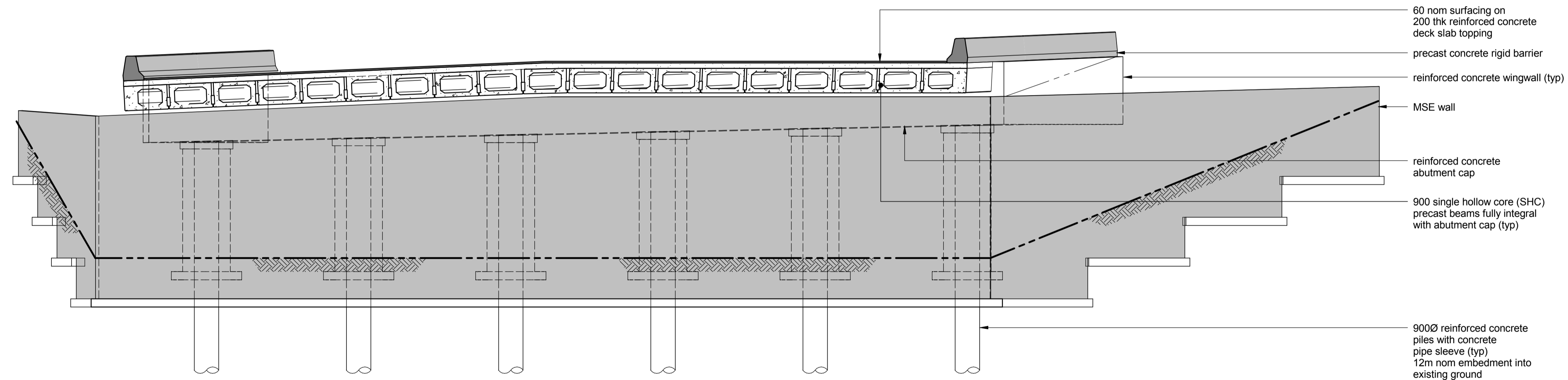
Title: **Bridge no. 4
Plan and Section**

Status: **For consenting**

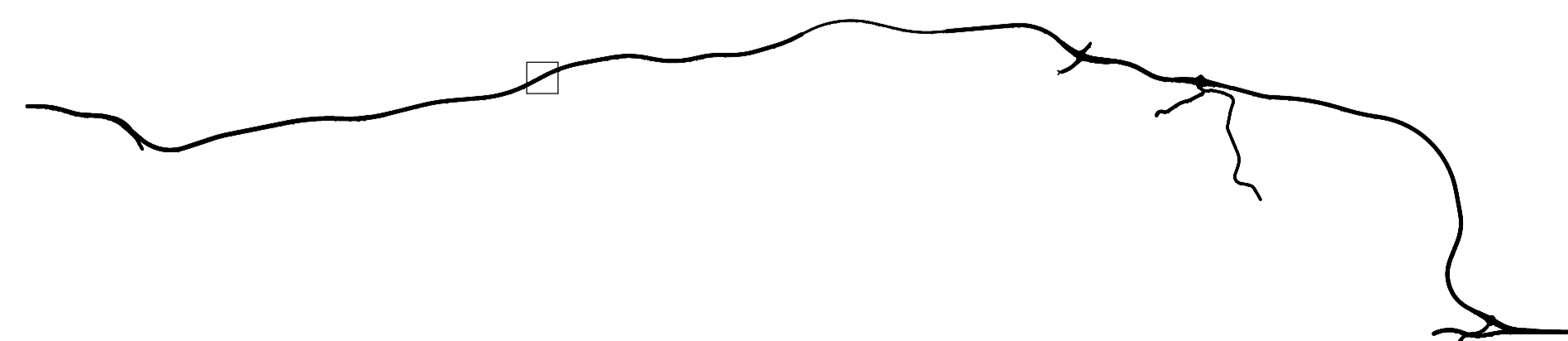
Sheet No. **S04-01**
Version No. **1**



bridge no. 4 cross section at mid-span
1 : 100



bridge no. 4 cross section along abutment 1
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11

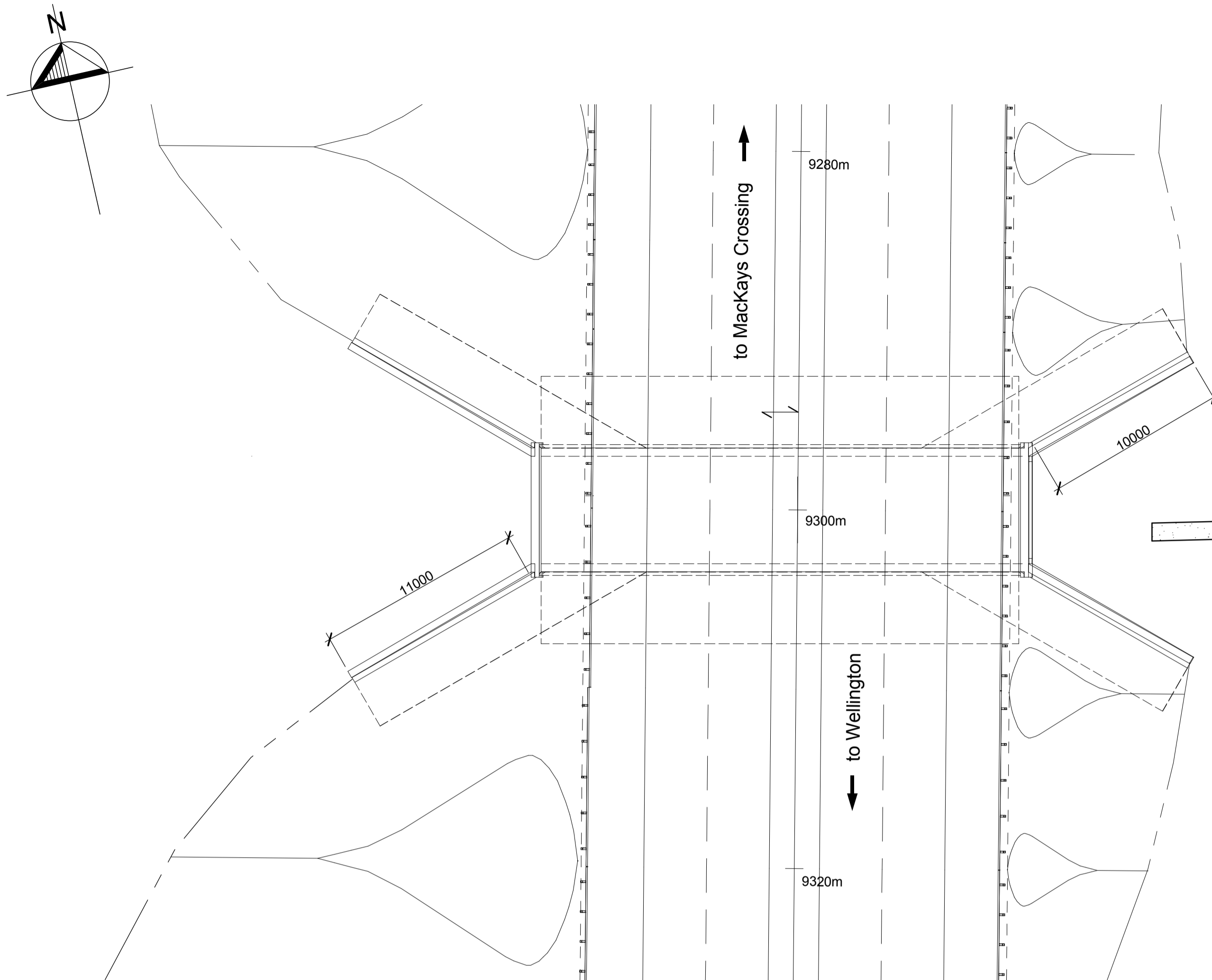


Project: TRANSMISSION GULLY PROJECT

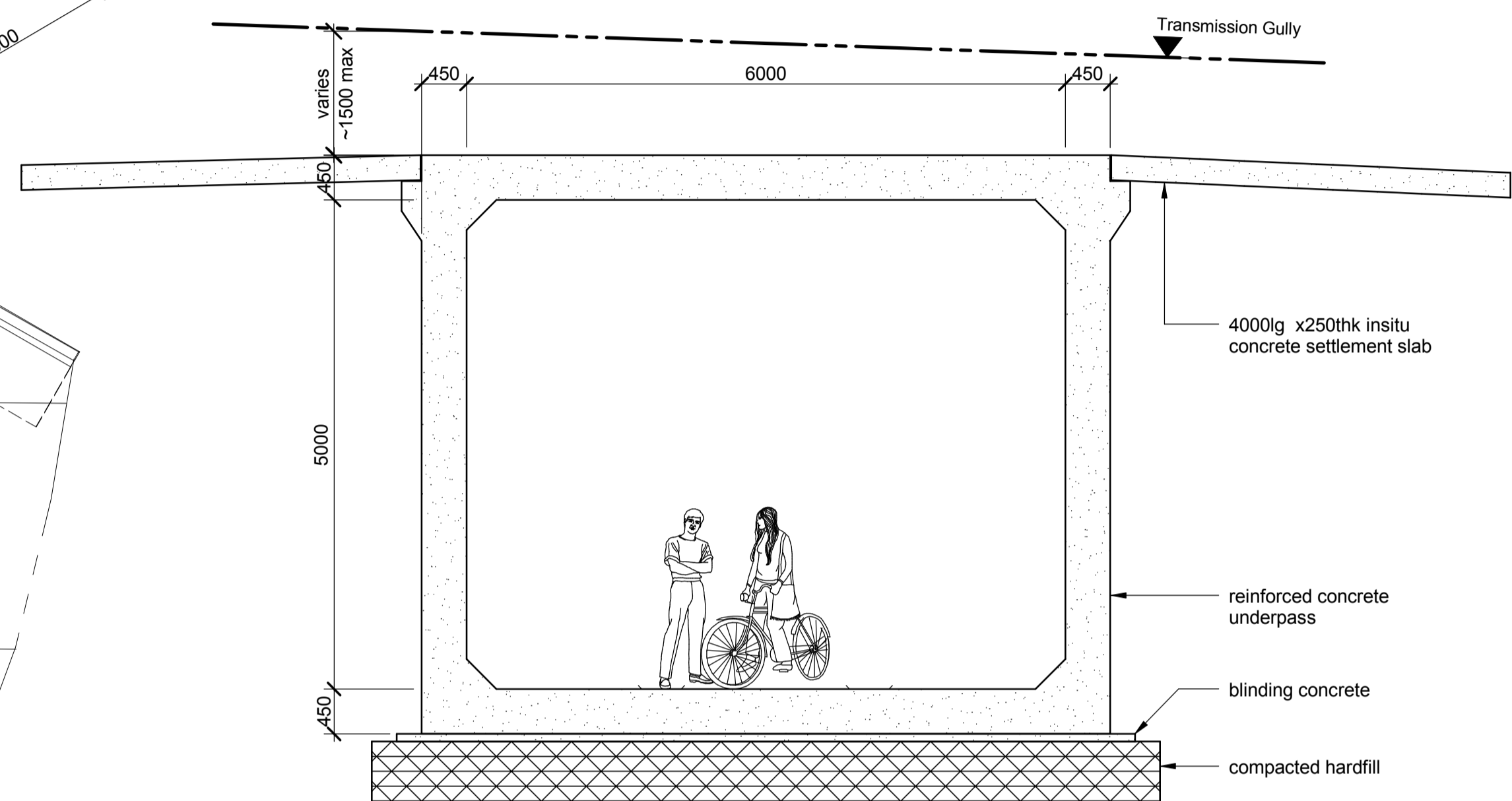
Title: Bridge no. 4 Sections

Status: For consenting

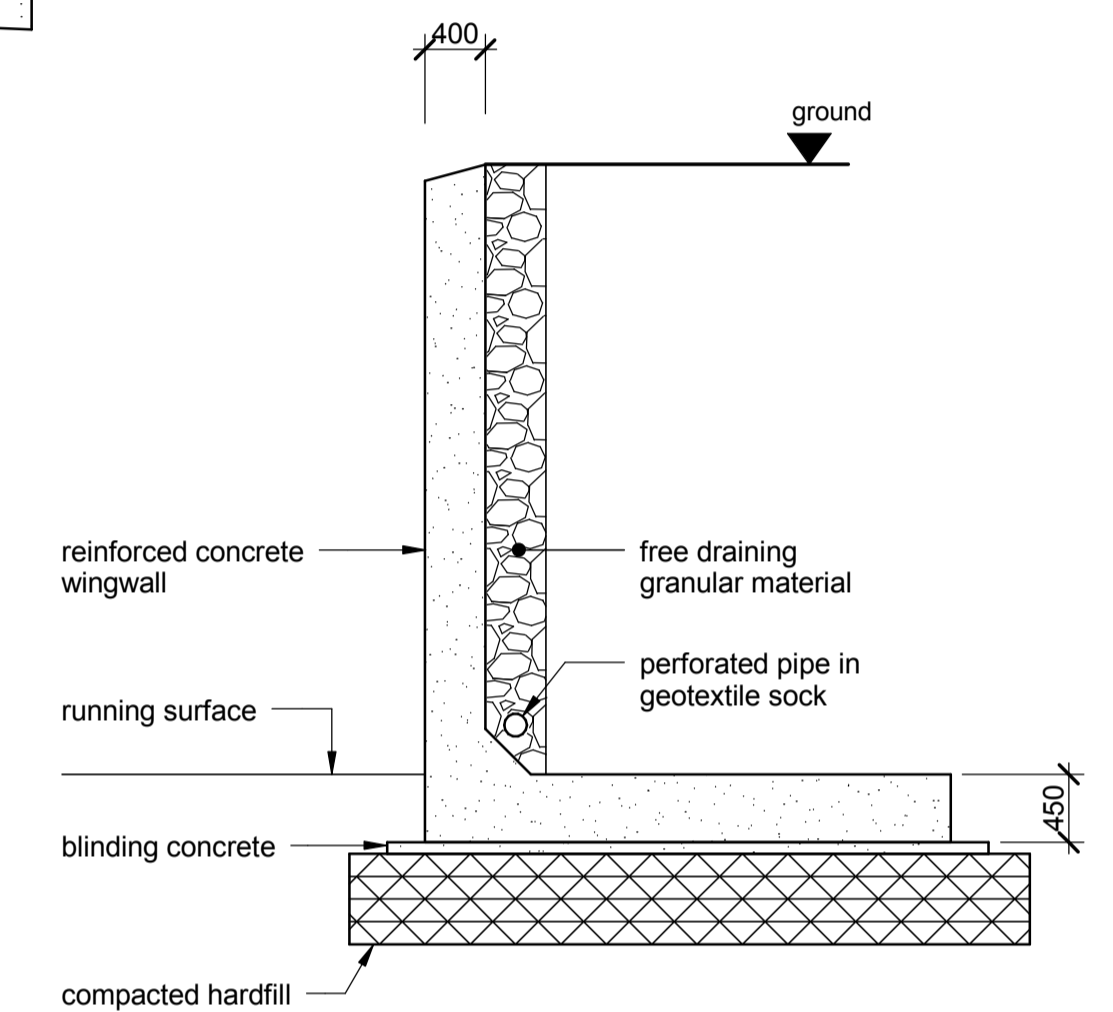
Sheet No. S04-02
Version No. 1



bridge no. 5 plan
1 : 200



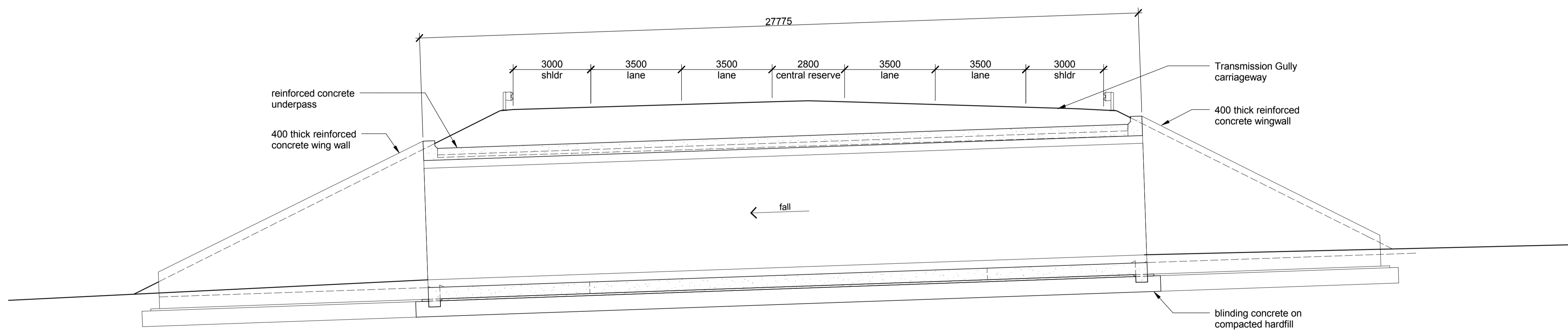
typical bridge cross section
1 : 50



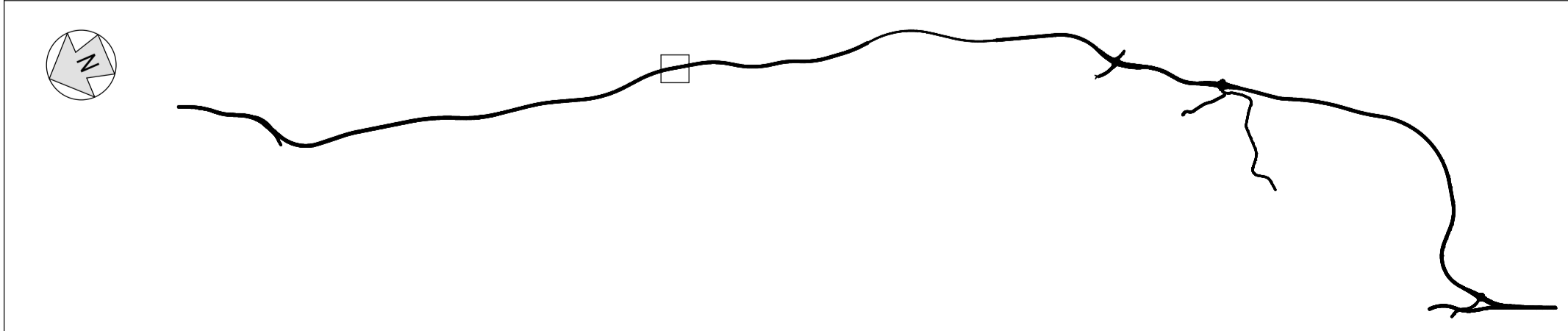
typical wing wall section
1 : 50

notes:

- Other viable options for Bridge 4:
 - Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 - Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
 - Proprietary precast reinforced concrete arch.
- Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
- Utility services and drainage details not shown.



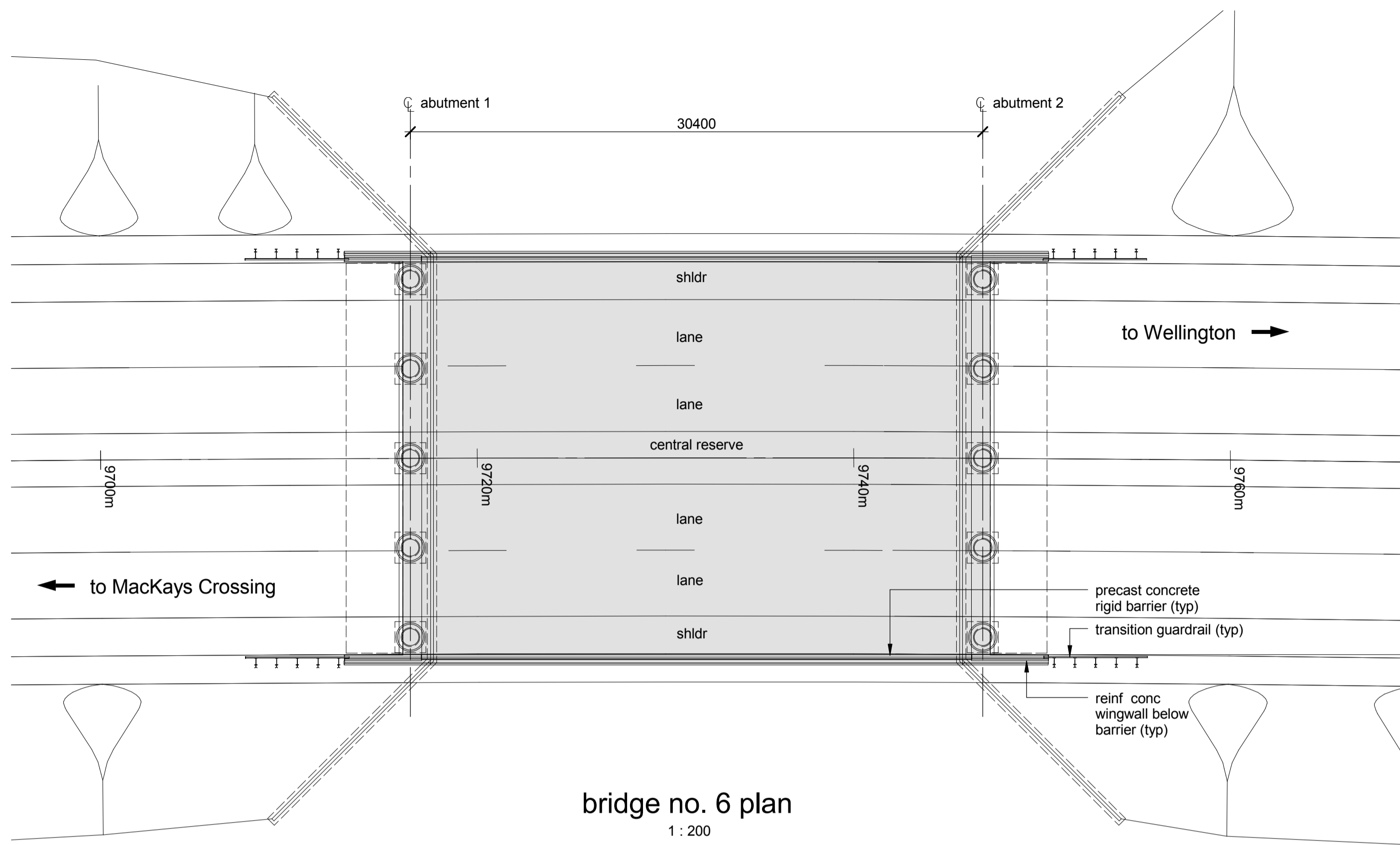
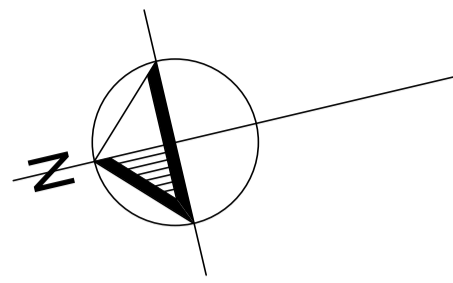
bridge no. 5 longitudinal section
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



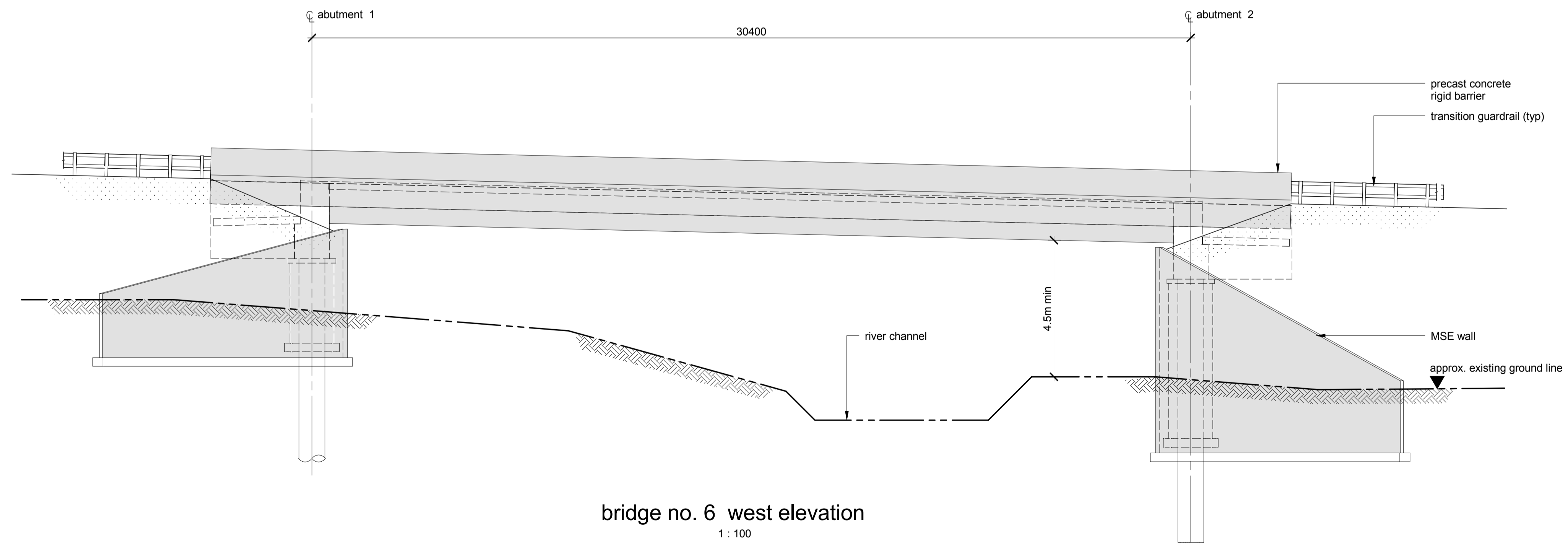
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 5 Vehicular Underpass Plan and Sections	Status: For consenting
Sheet No. S05-01	Version No. 1



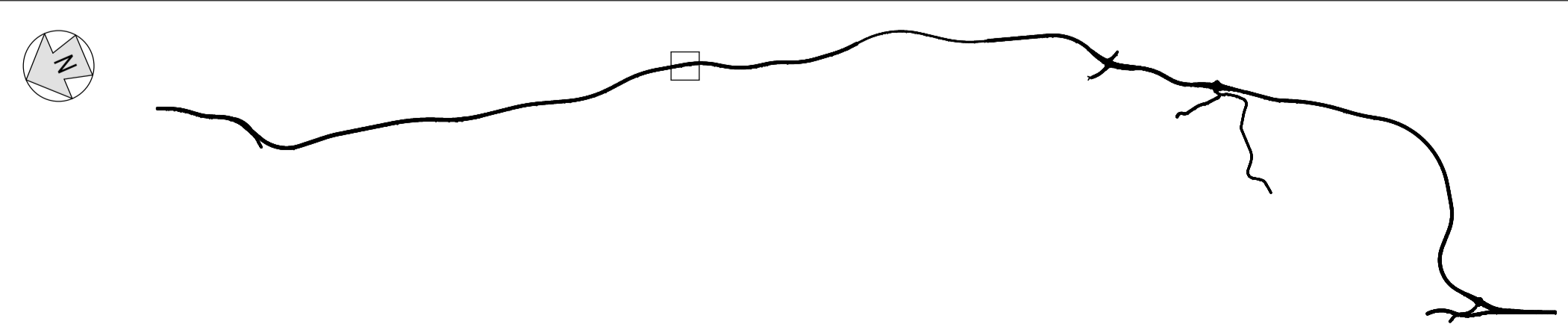
bridge no. 6 plan
1 : 200

notes:

1. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. The base of the MSE abutment walls and wingwalls will be protected with rip rap.
3. Utility services and drainage details not shown.



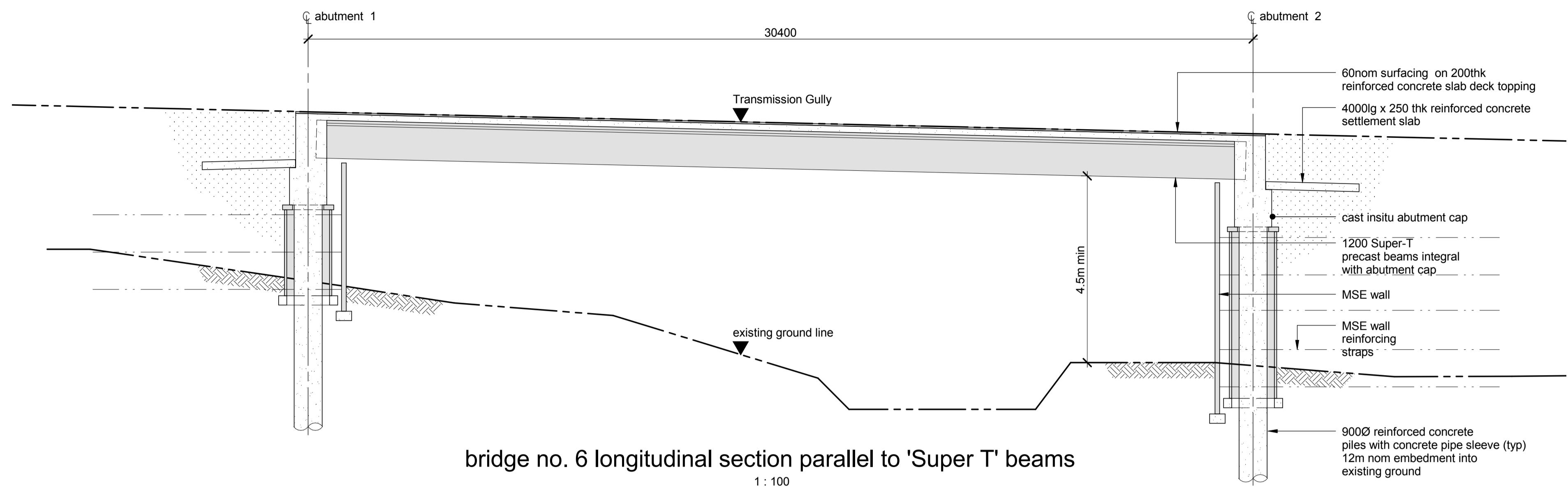
bridge no. 6 west elevation
1 : 100



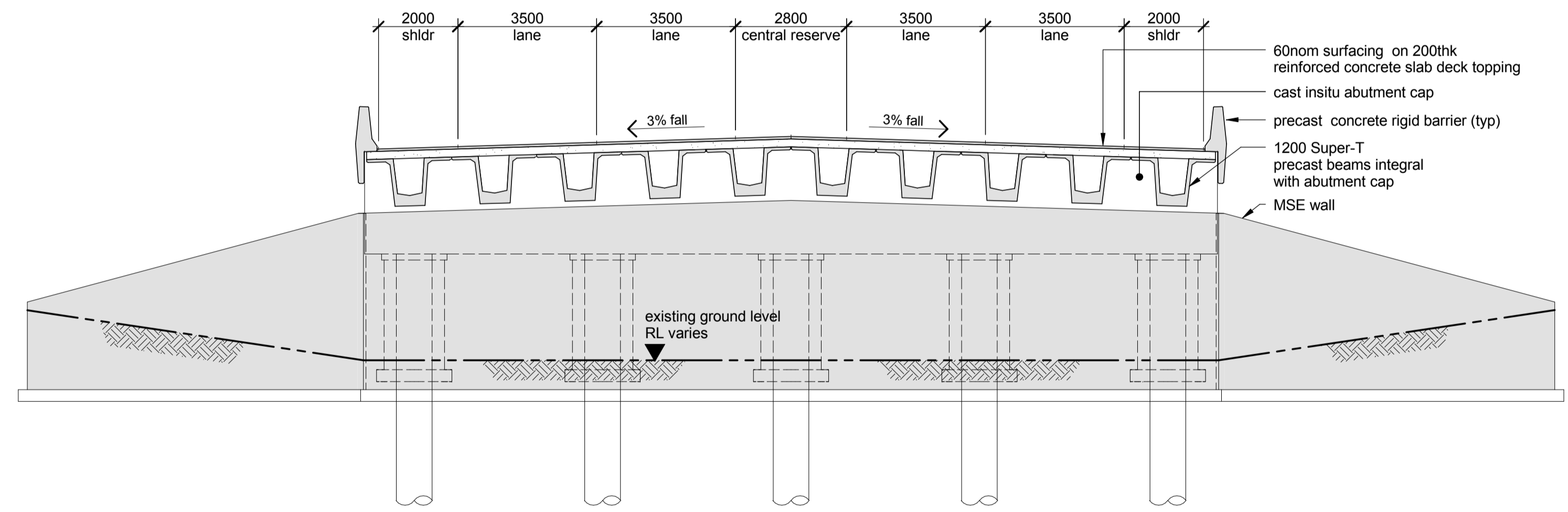
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



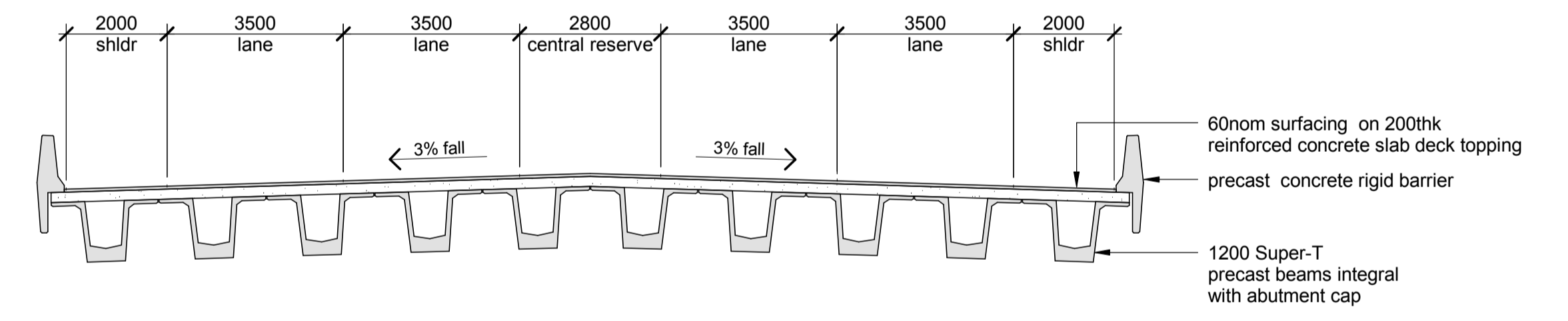
Project: TRANSMISSION GULLY PROJECT		Status: For consenting
Title: Bridge no. 6 Plan and Elevation		Version No. 1
Sheet No. S06-01		



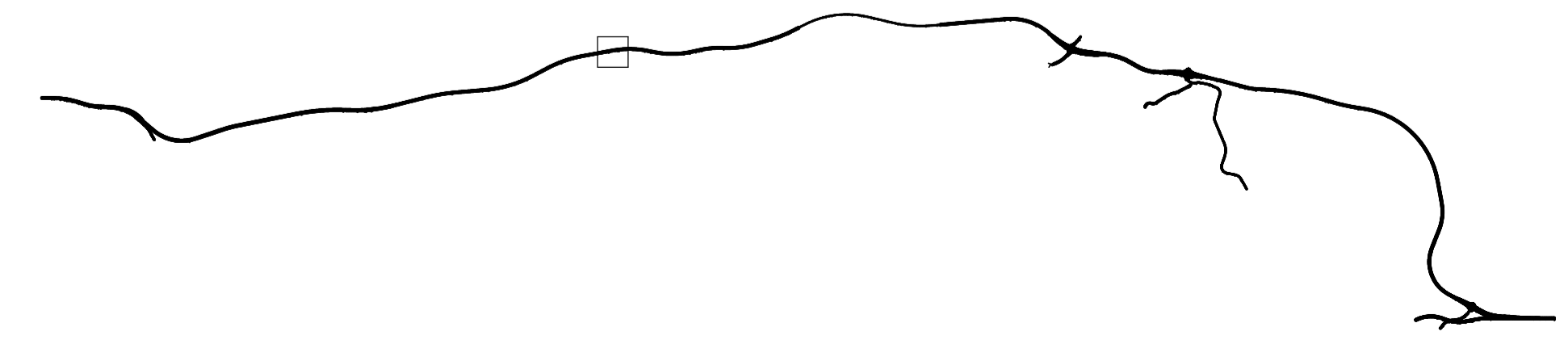
bridge no. 6 longitudinal section parallel to 'Super T' beams
1: 100



bridge no. 6 cross section along abutment 1
1: 100



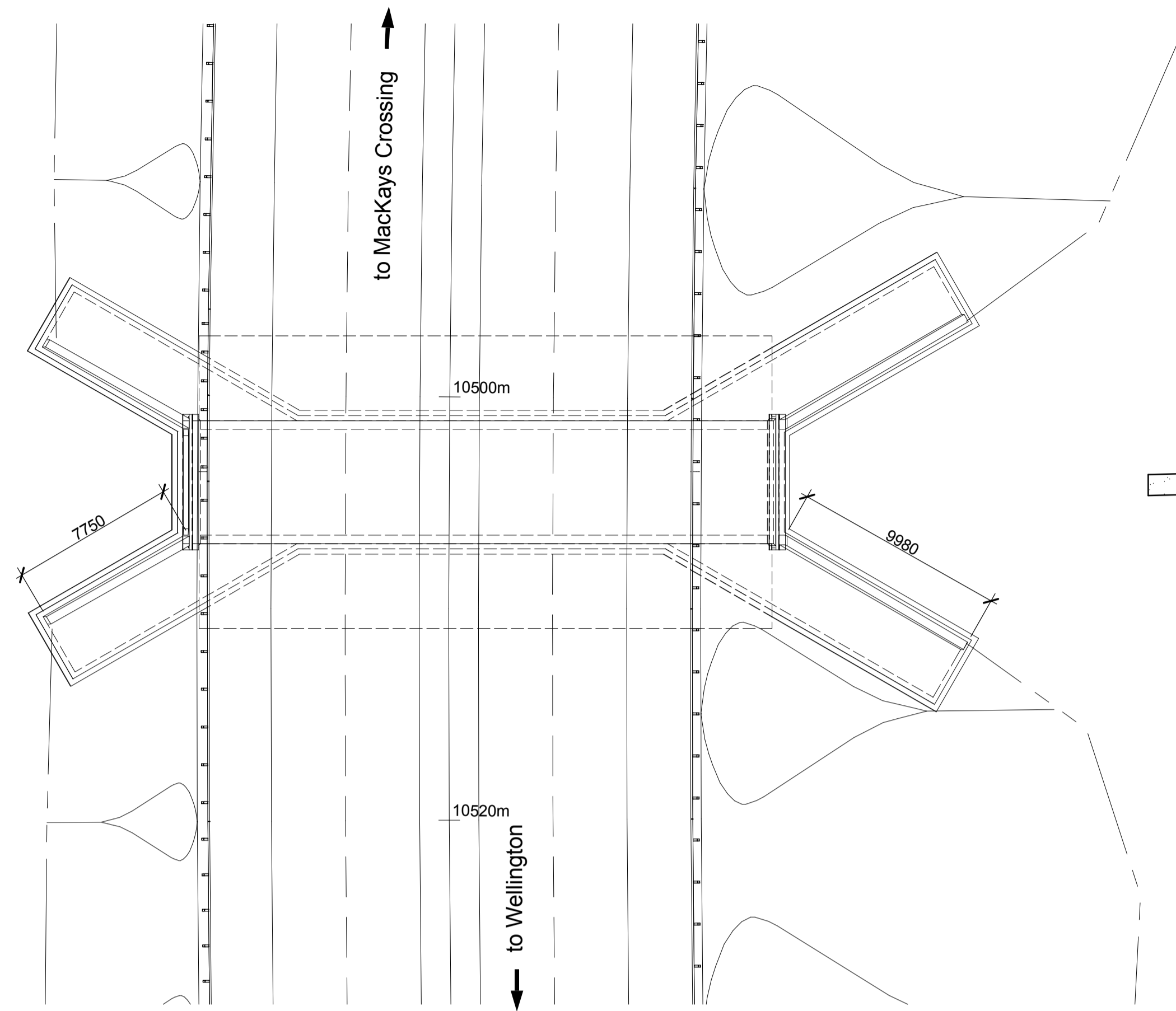
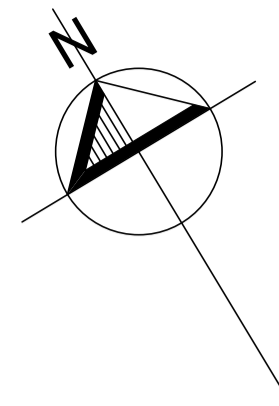
bridge no. 6 cross section at mid-span
1: 100



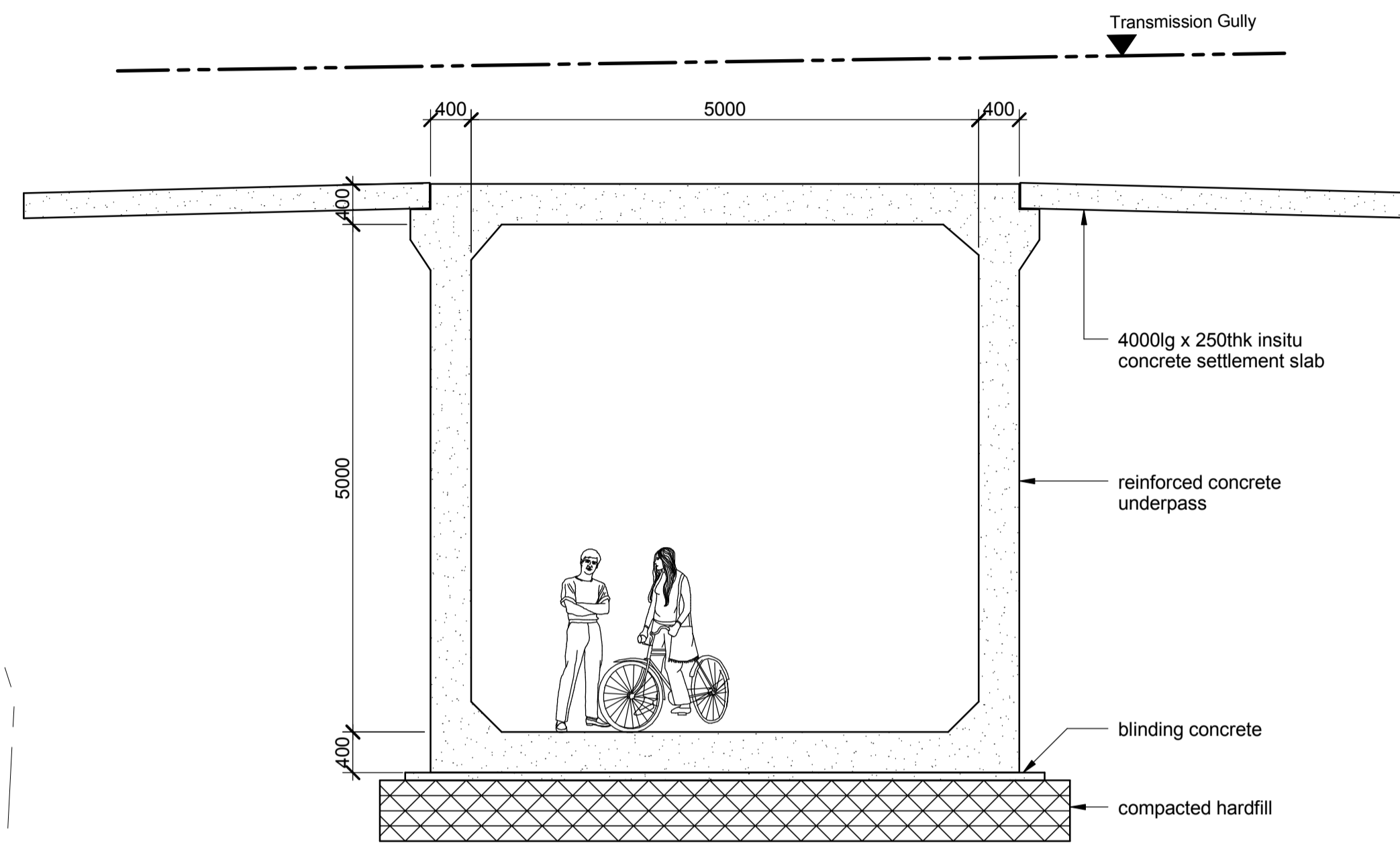
1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



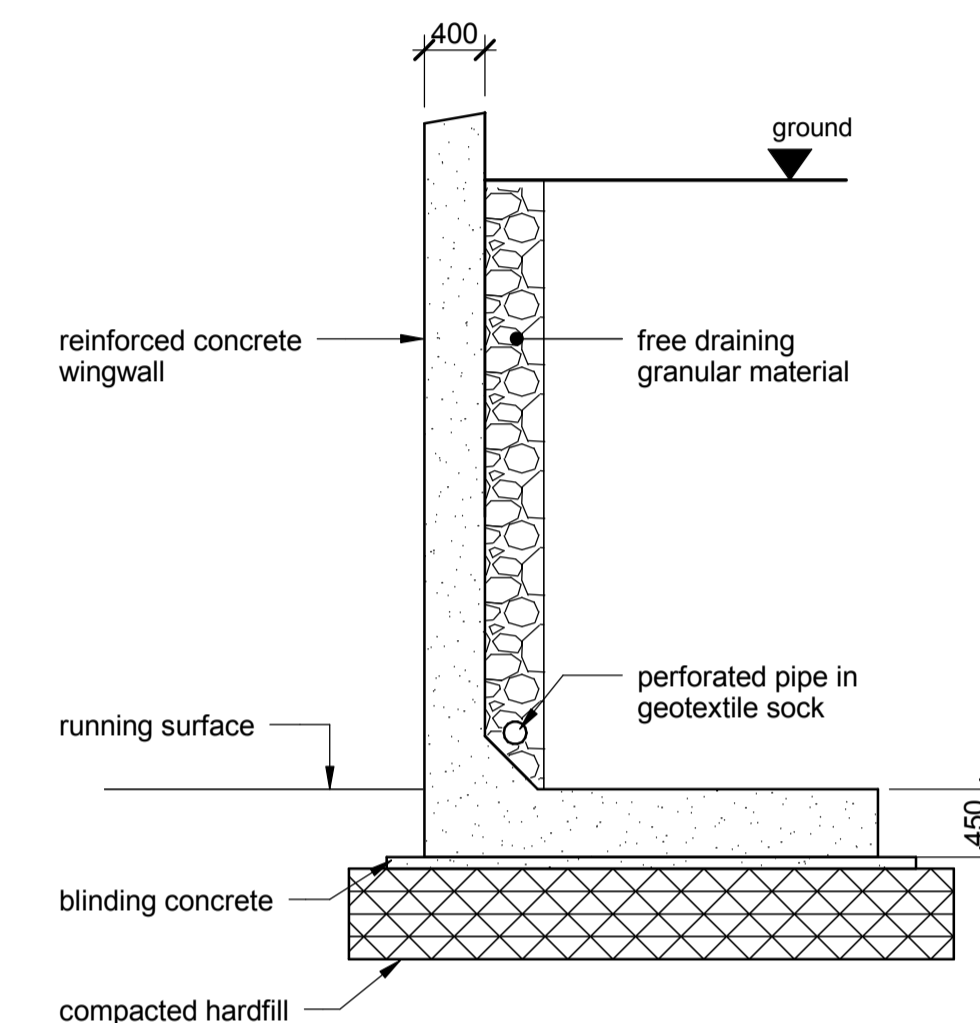
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 6 Elevations and Sections	Status: For consenting
Sheet No. S06-02	Version No. 1



bridge no. 7 plan
1 : 200



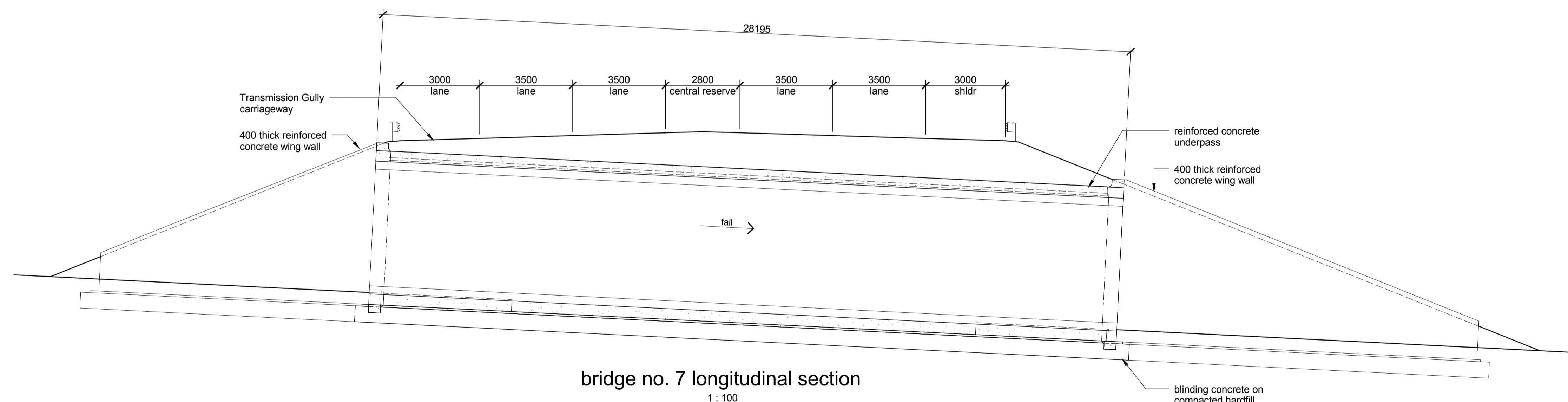
typical cross section
1 : 50



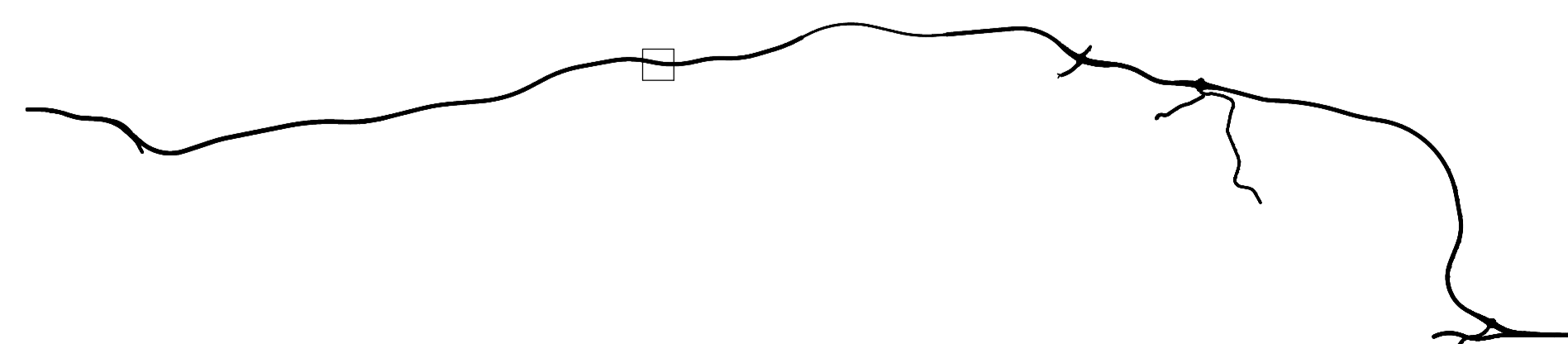
typical wing wall section
1 : 50

notes:

- Other viable options for Bridge 6:
 - Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 - Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
- Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
- Utility services and drainage details not shown.



bridge no. 7 longitudinal section
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



Project: **TRANSMISSION GULLY PROJECT**

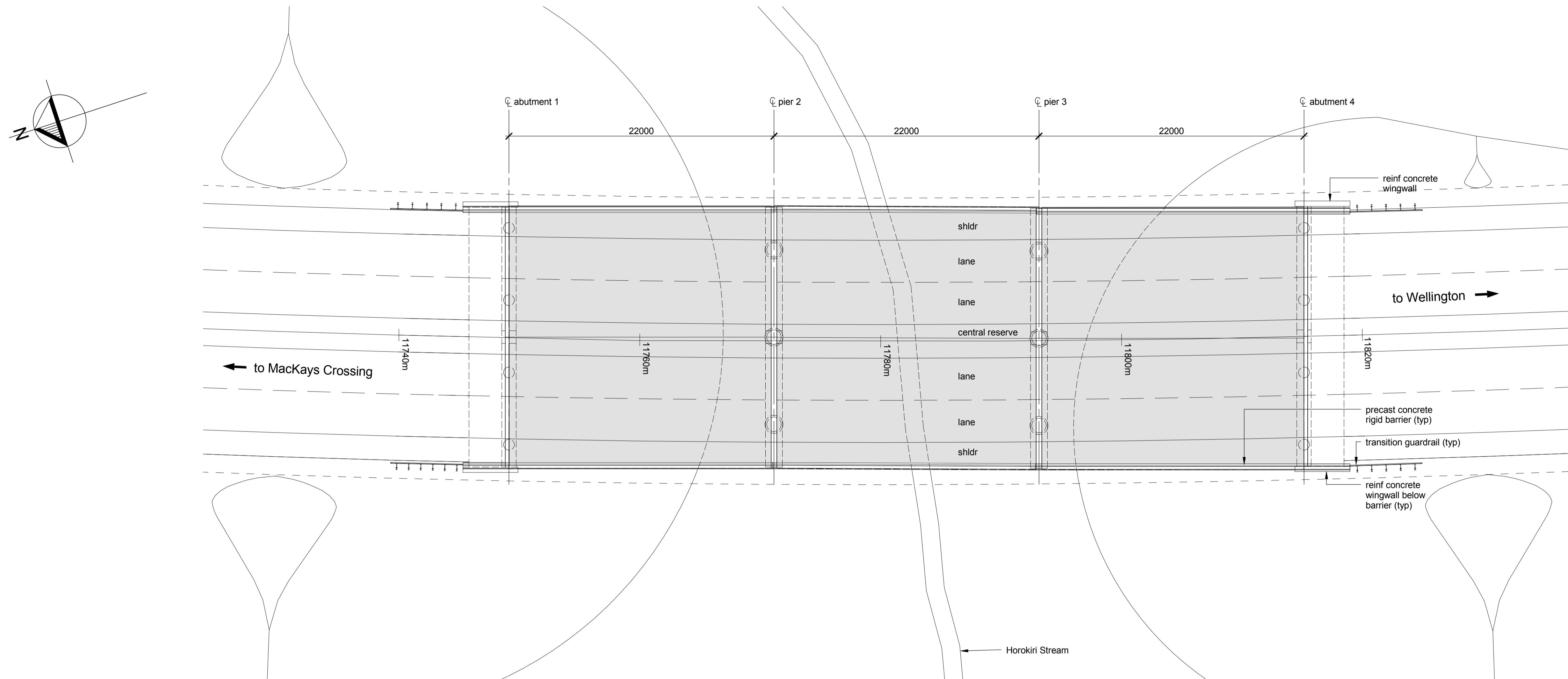
Title: **Bridge no. 7
Vehicular Underpass
Plan and Sections**

Status: **For consenting**

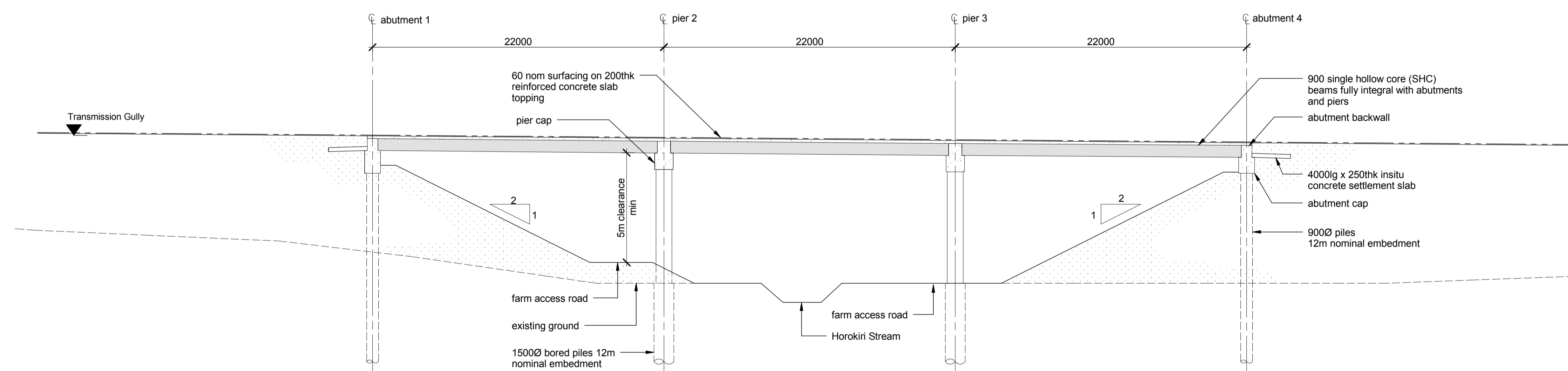
Sheet No. **S07-01**
Version No. **1**

notes:

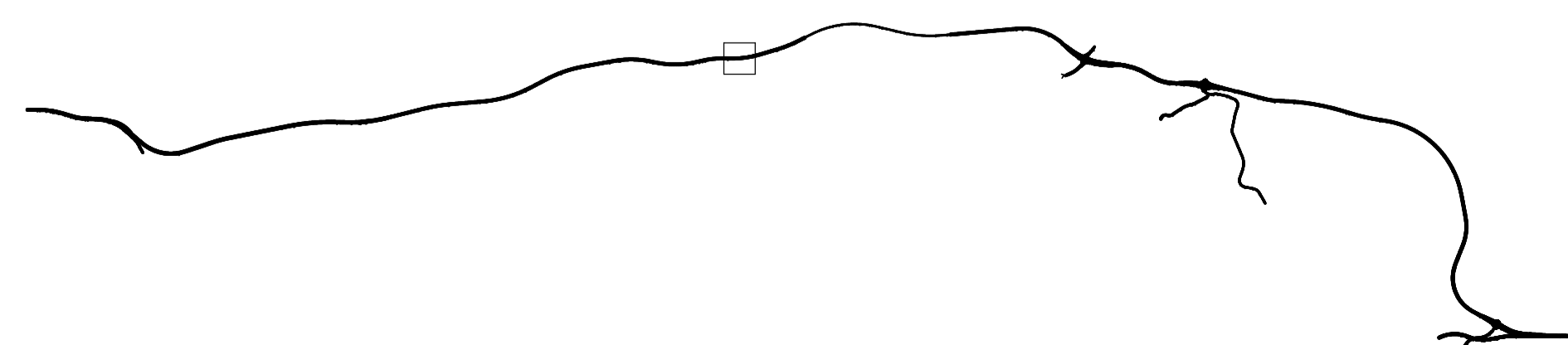
1. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



bridge no. 8 plan
1 : 200



bridge no. 8 longitudinal section parallel to SHC beams
1 : 200



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date

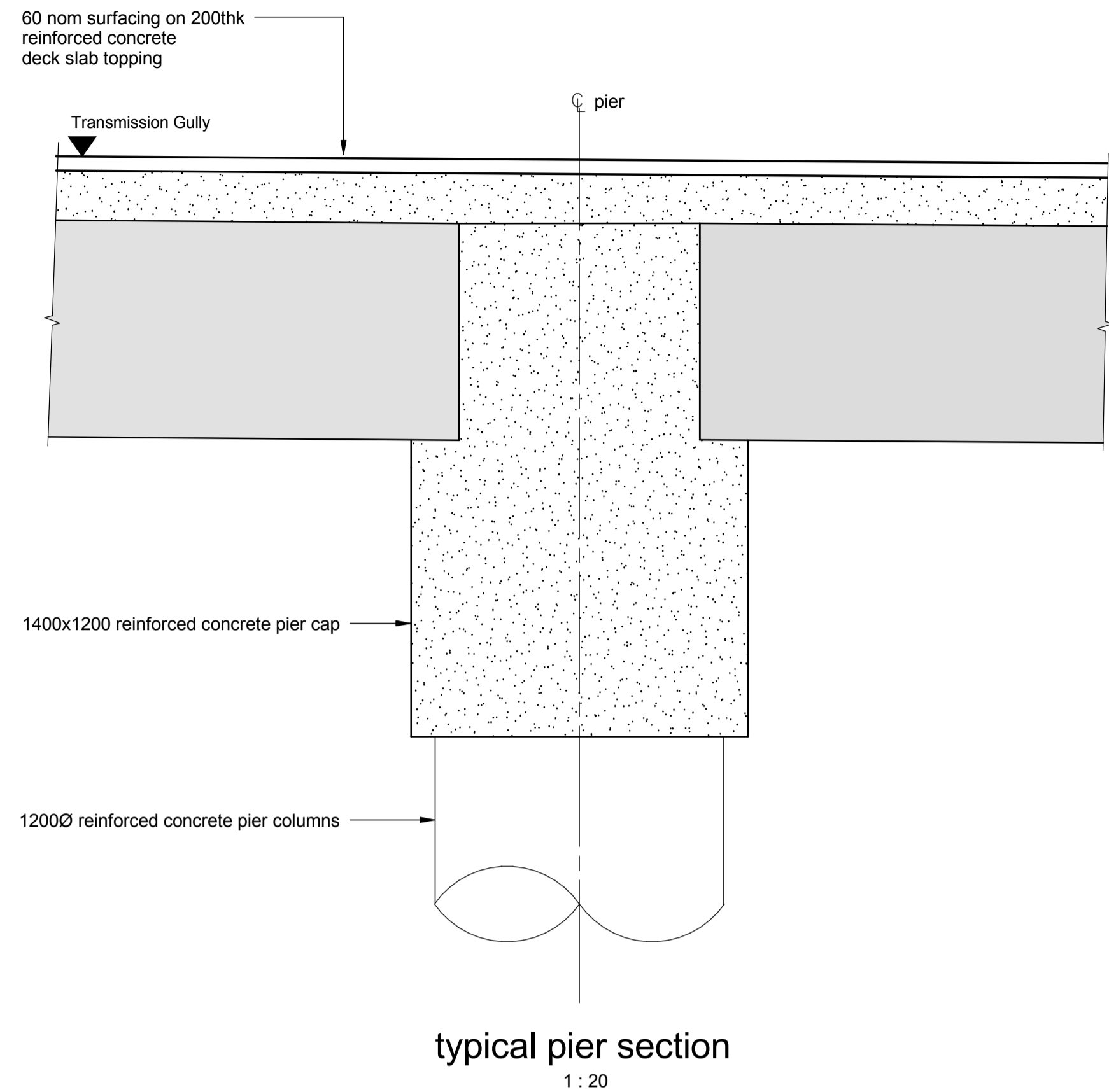


Project: TRANSMISSION GULLY PROJECT

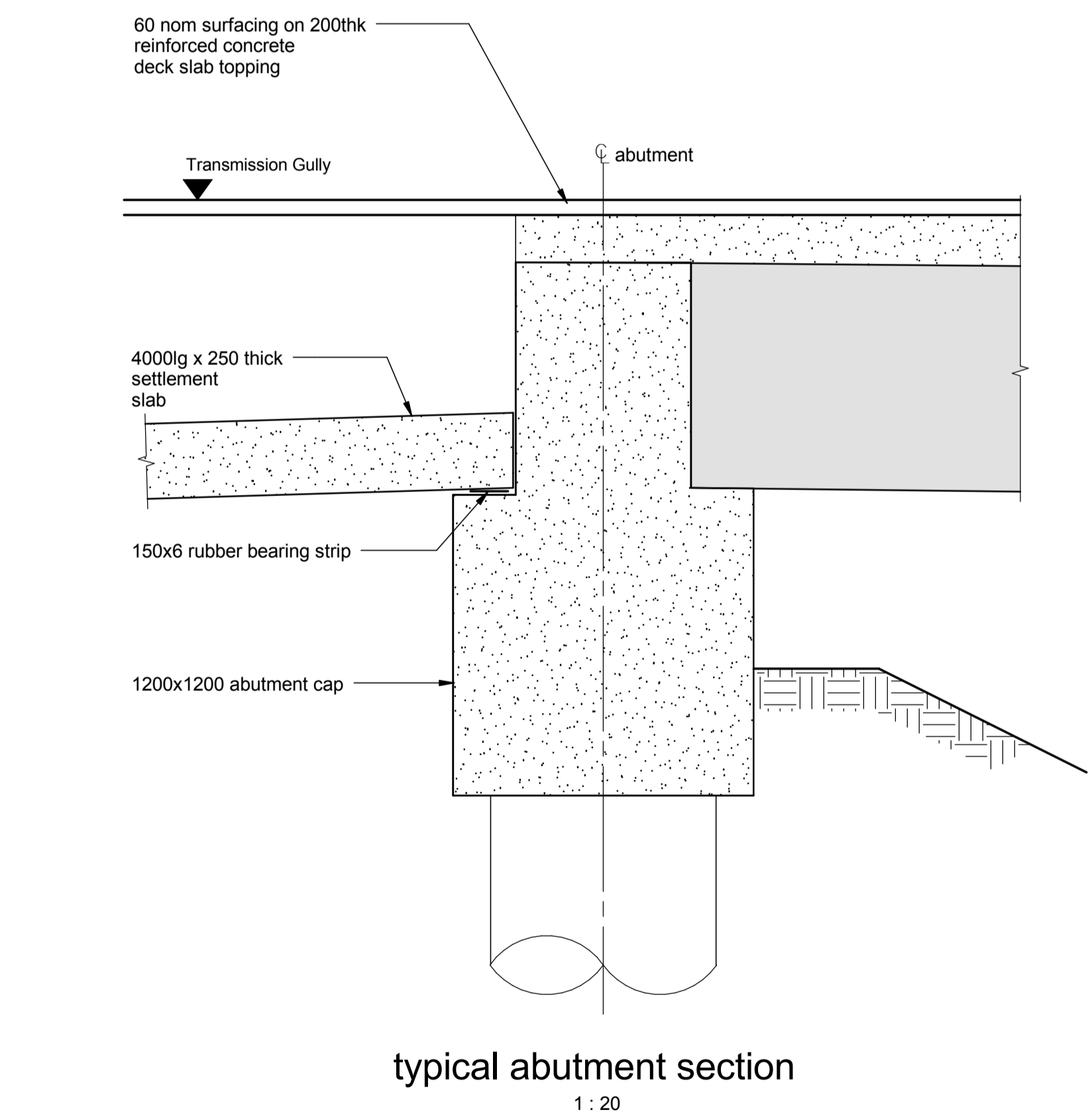
Title: Bridge no. 8
Plan and Long Section

Status: For consenting

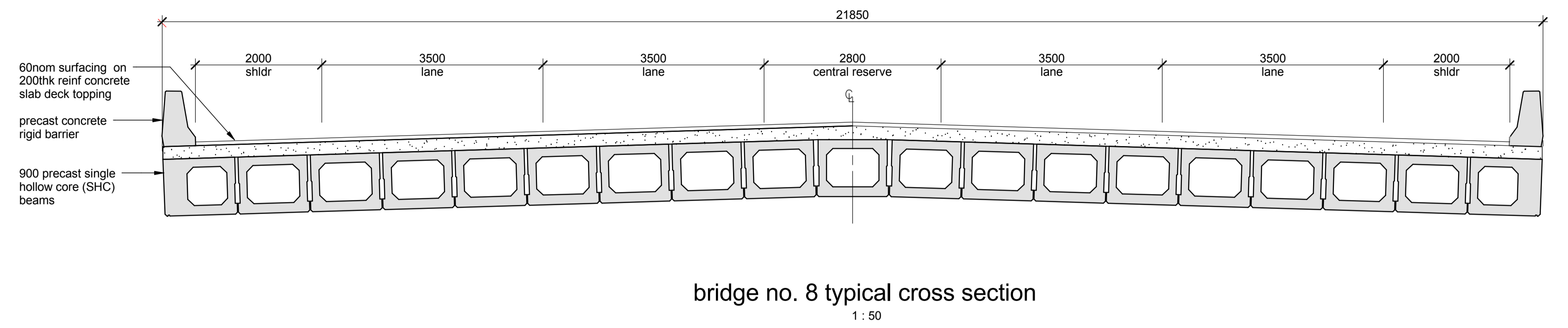
Sheet No. S08-01
Version No. 1



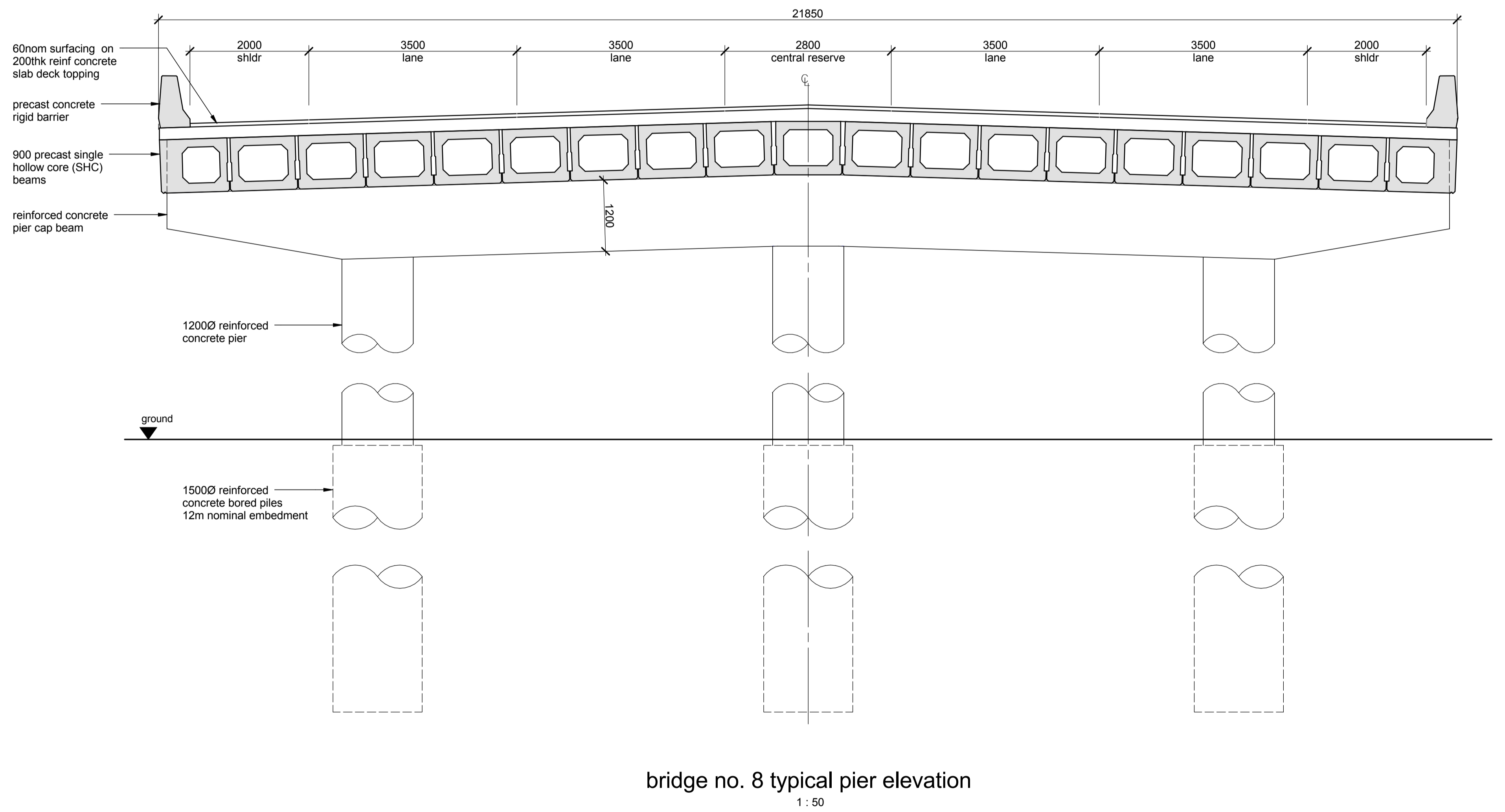
typical pier section
1 : 20



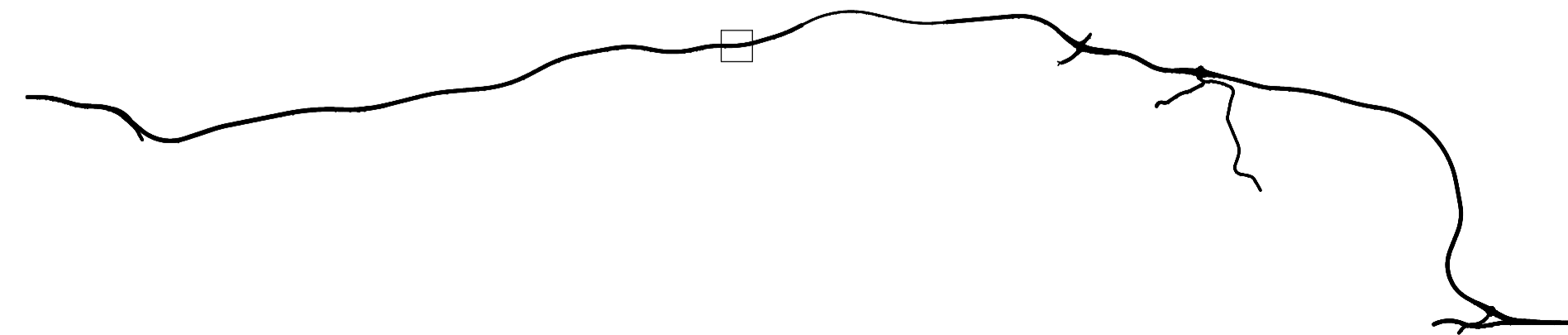
typical abutment section
1 : 20



bridge no. 8 typical cross section
1 : 50



bridge no. 8 typical pier elevation
1 : 50



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11

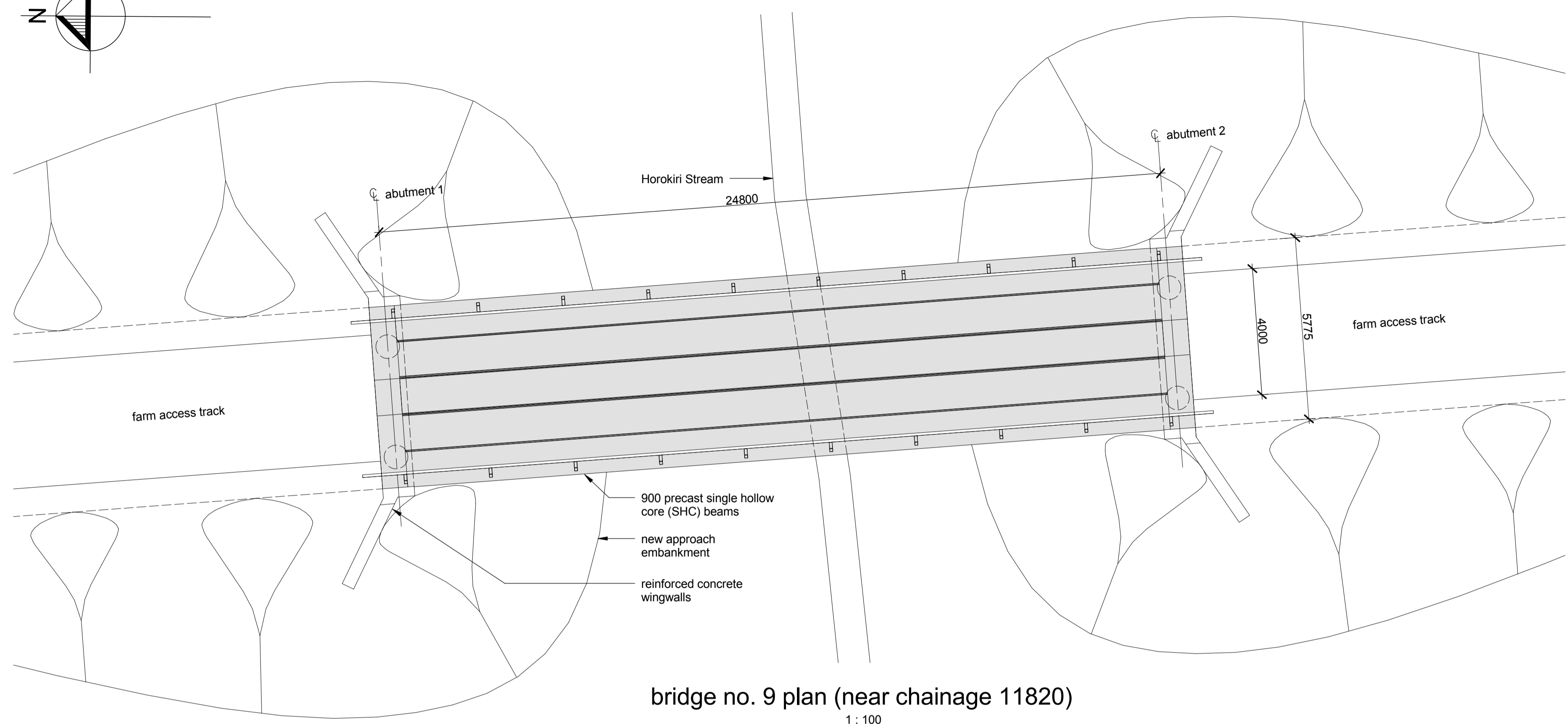
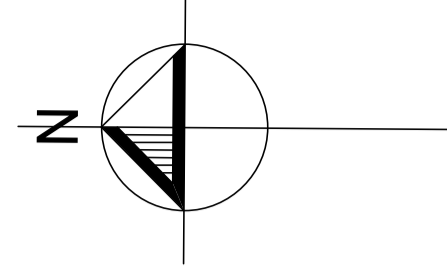


Project. **TRANSMISSION GULLY PROJECT**

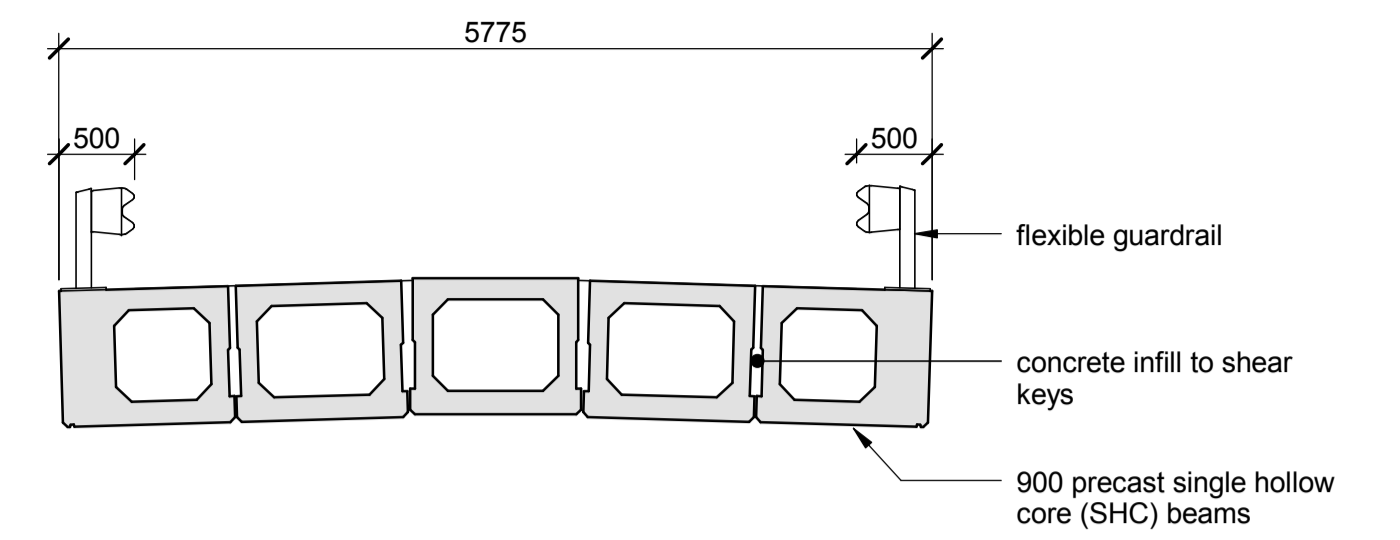
Title. **Bridge no. 8
Details**

Status. **For consenting**

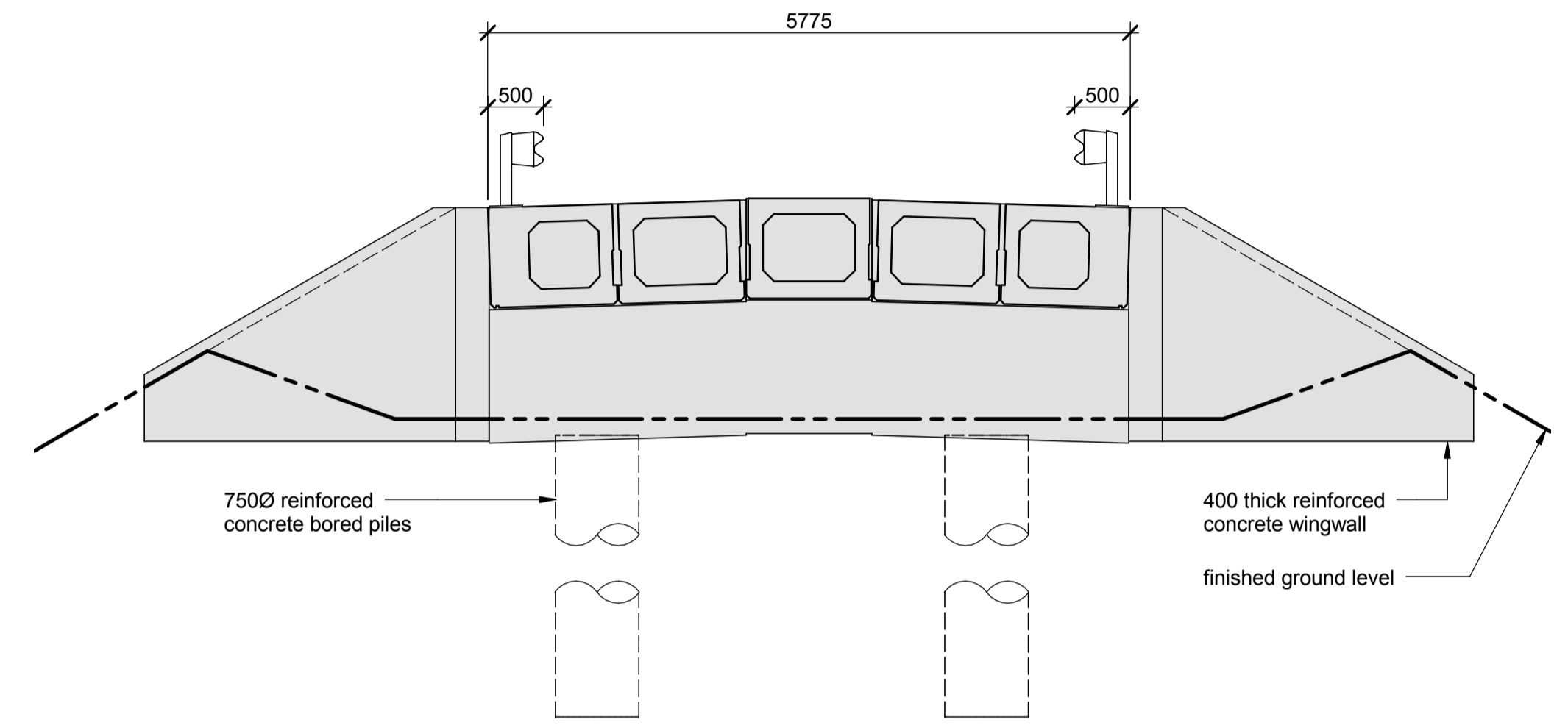
Sheet No. **S08-02**
Version No. **1**



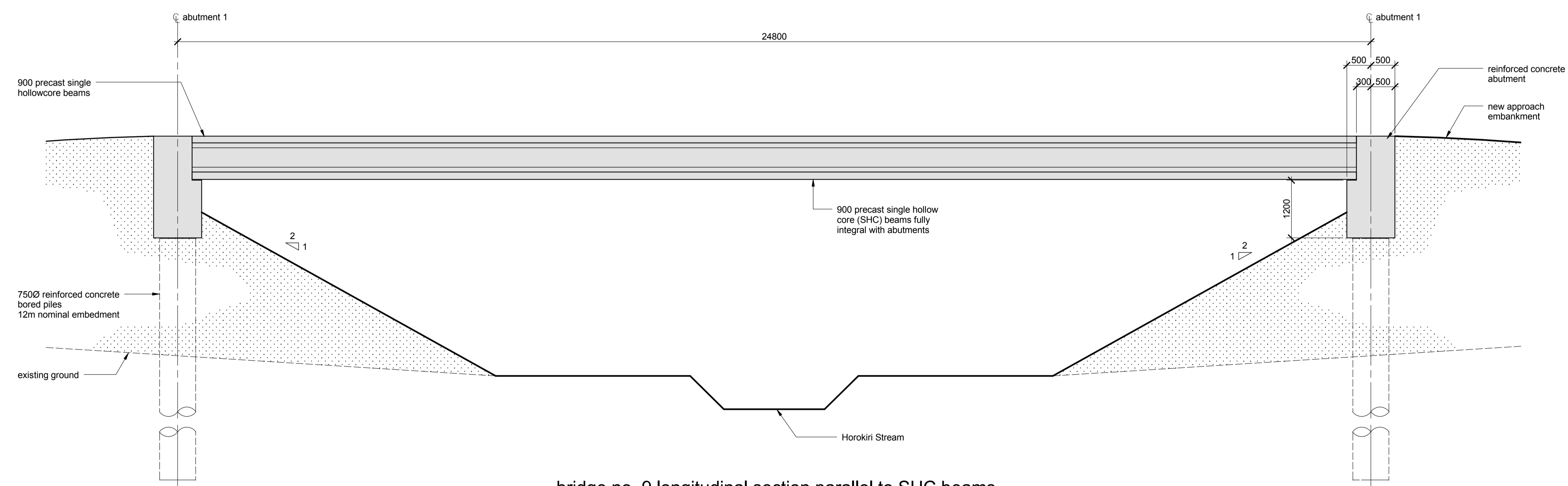
bridge no. 9 plan (near chainage 11820)
1:100



bridge no. 9 cross section at mid-span
1:50

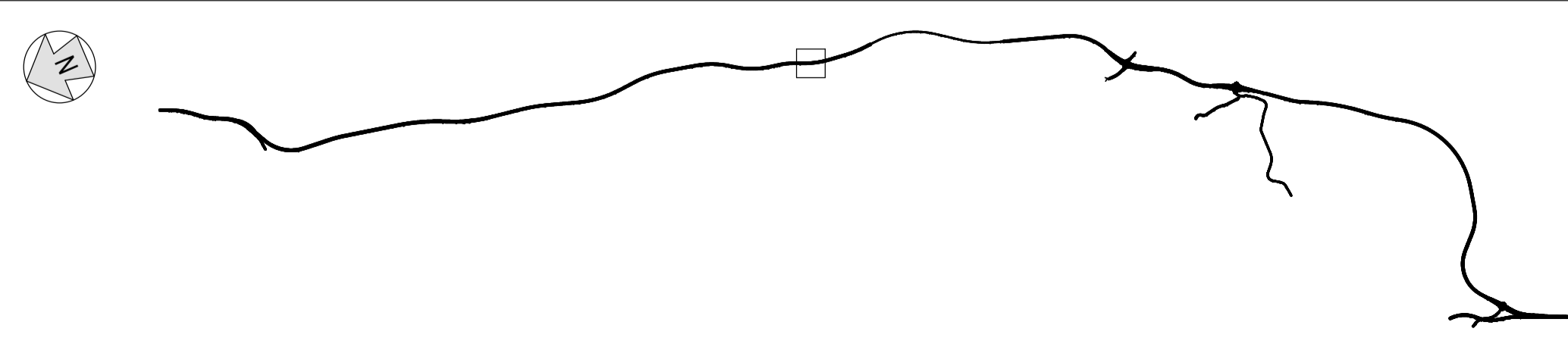


bridge no. 9 typical abutment section
1:50



bridge no. 9 longitudinal section parallel to SHC beams
1:50

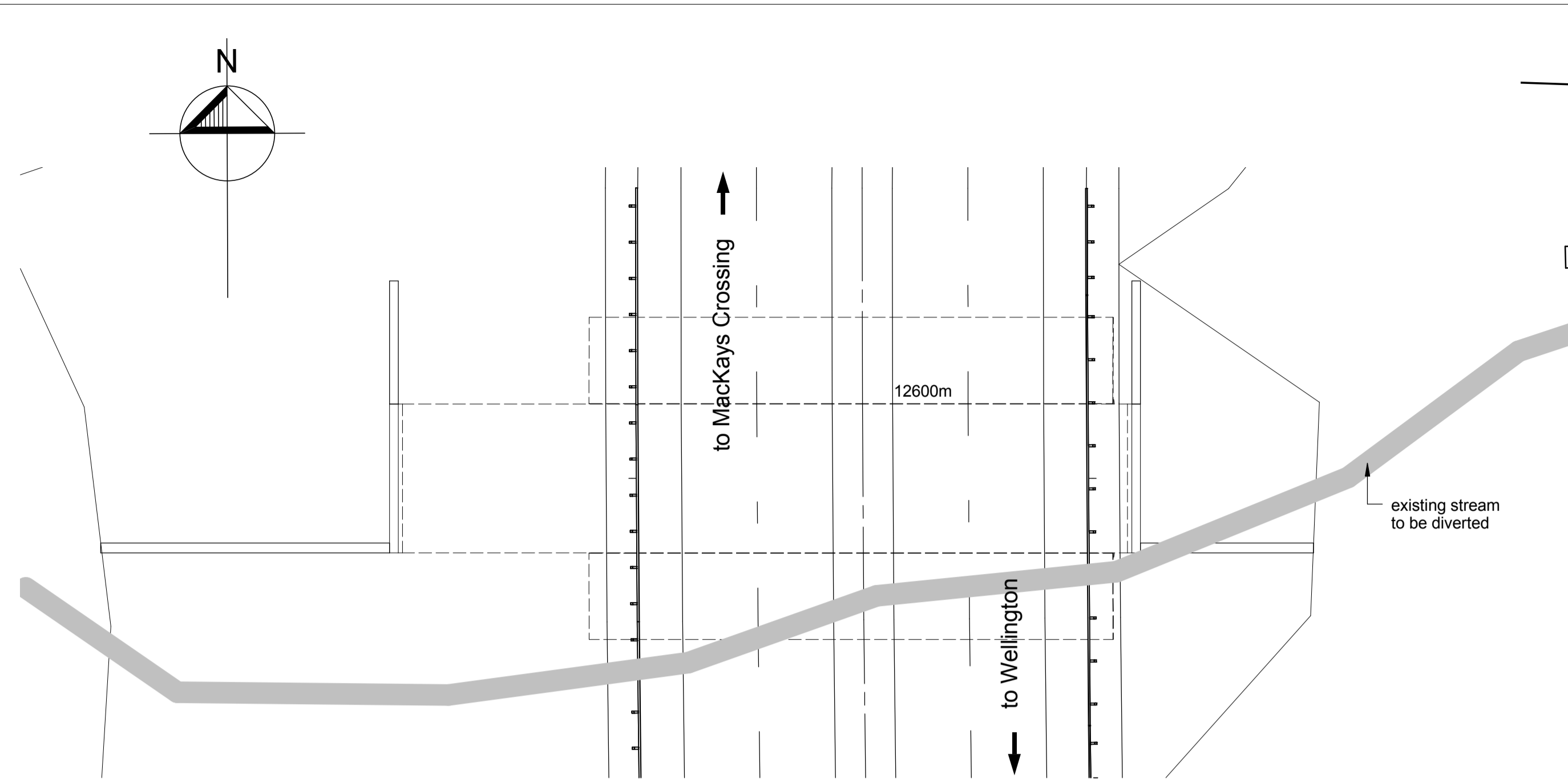
notes:
1. Utility services and drainage details not shown.



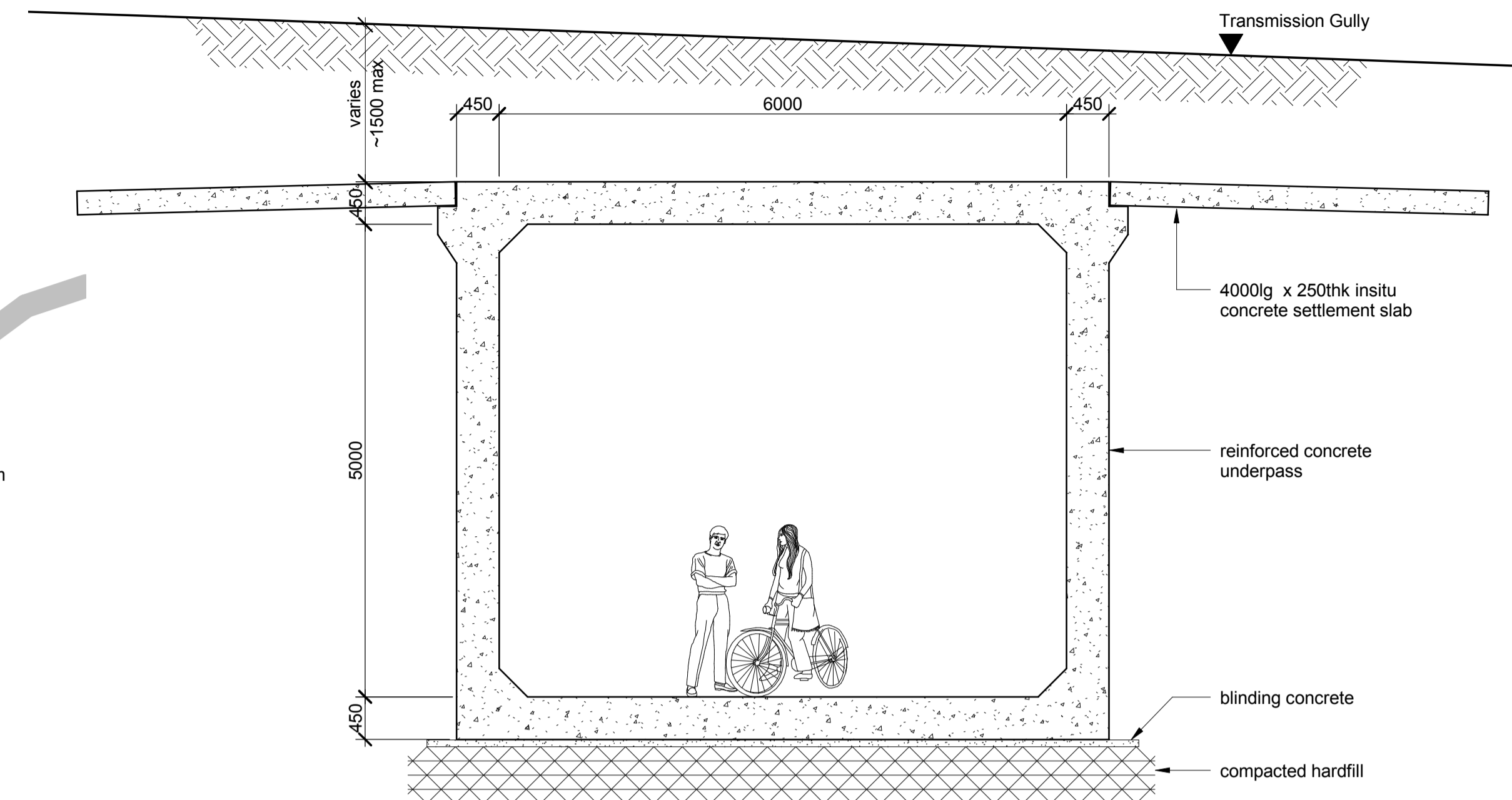
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 9 Plan and Sections	Status: For consenting
Sheet No. S09-01	Version No. 1

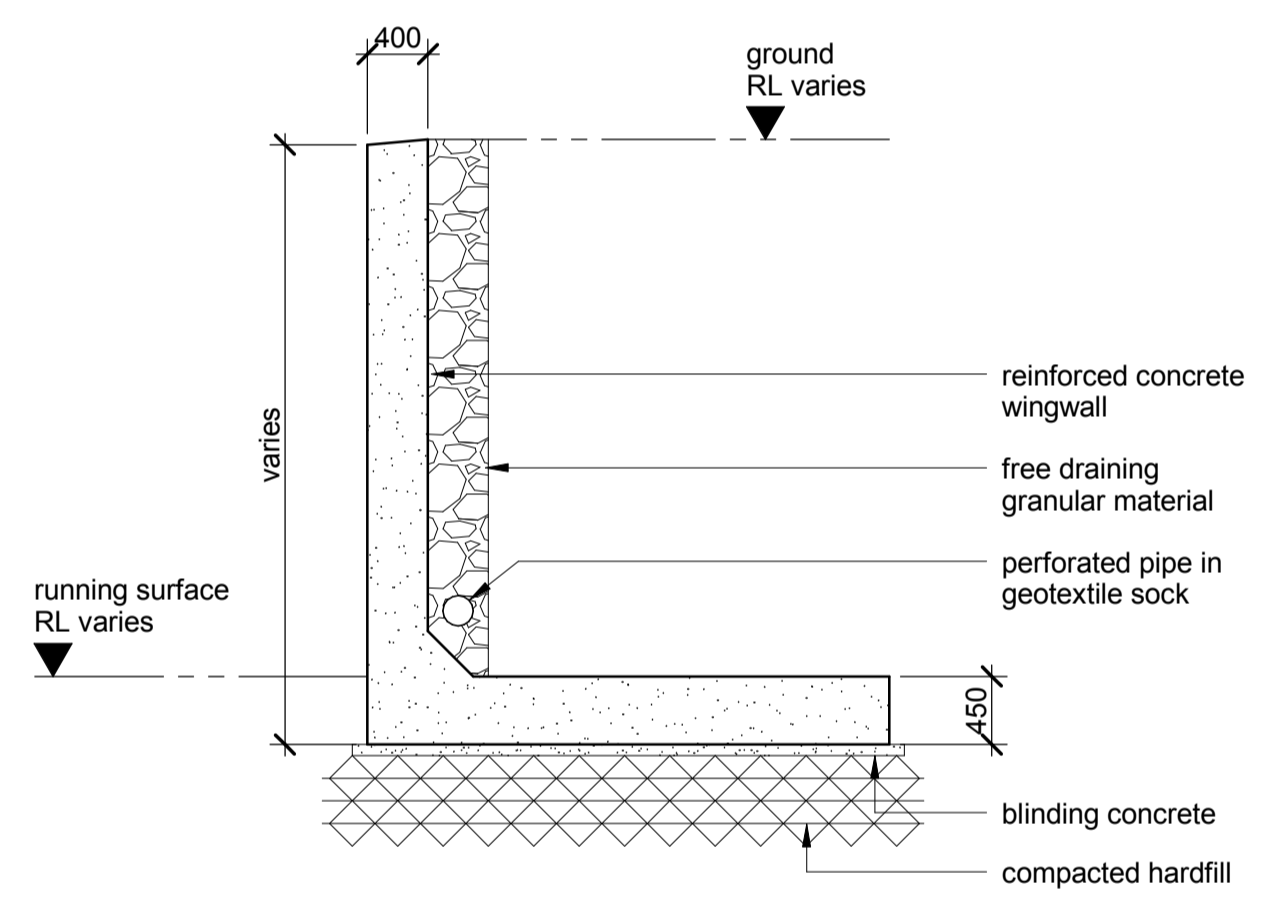


bridge no. 10 plan
1 : 200

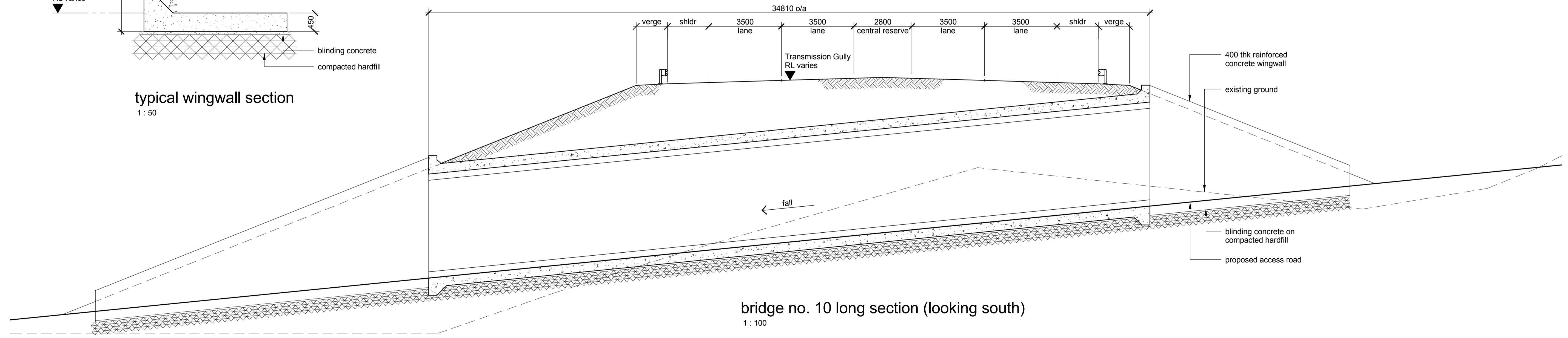


bridge no. 10 cross section
1 : 50

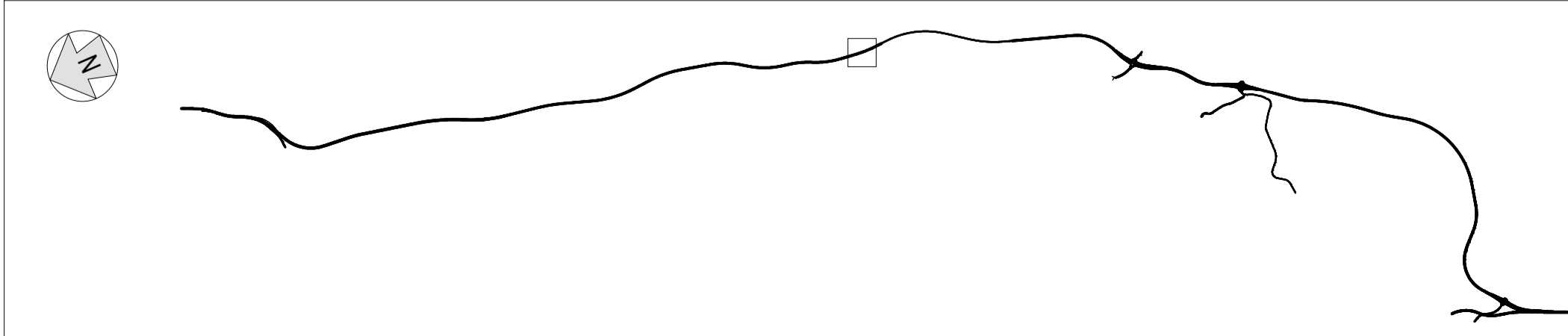
- notes:
- Other viable options for Bridge 9:
 - Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 - Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
 - Proprietary precast reinforced concrete arch.
 - Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
 - Utility services and drainage details not shown.



typical wingwall section
1 : 50



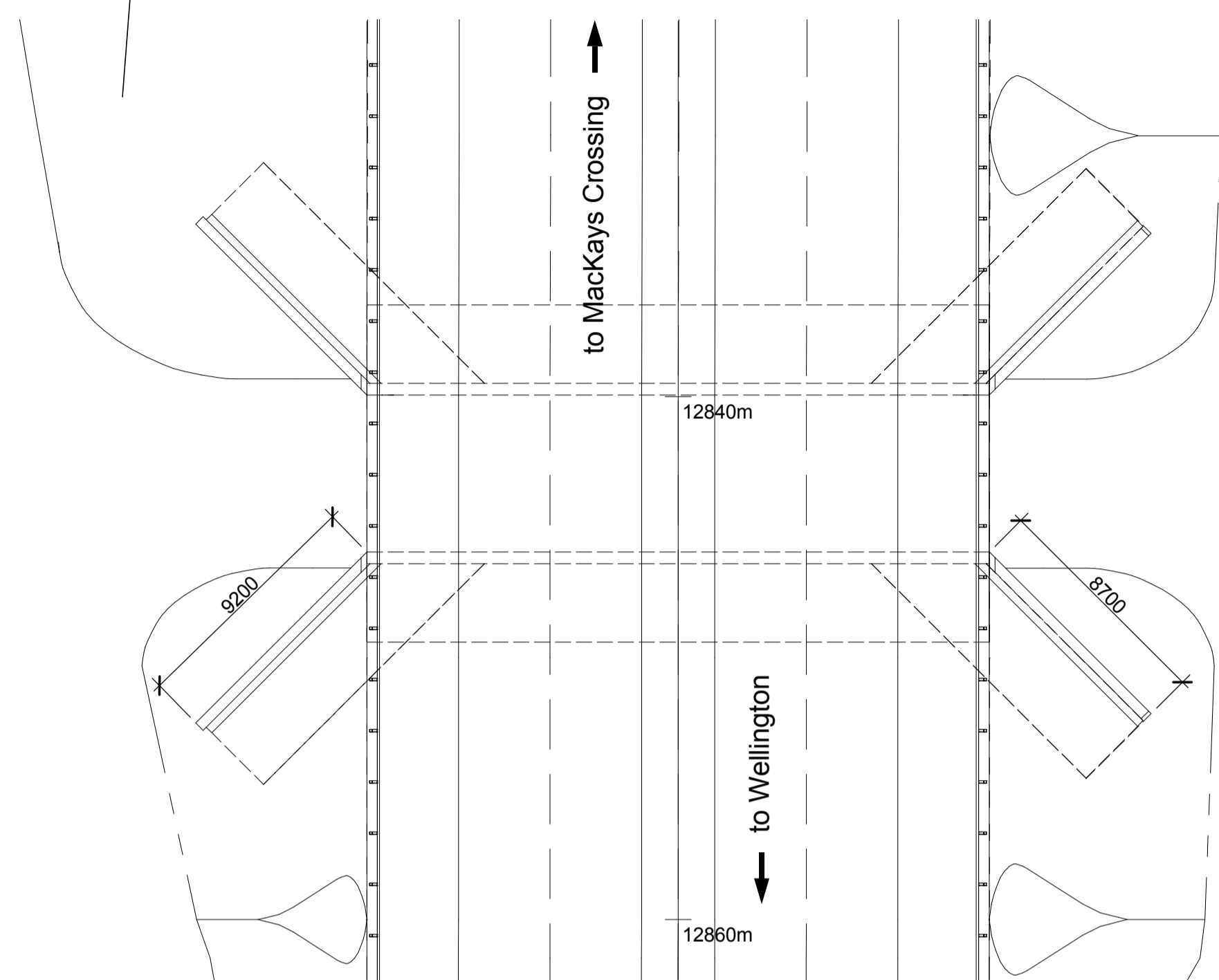
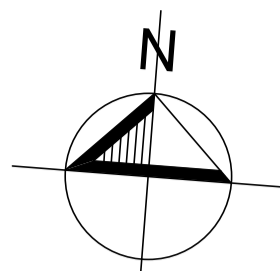
bridge no. 10 long section (looking south)
1 : 100



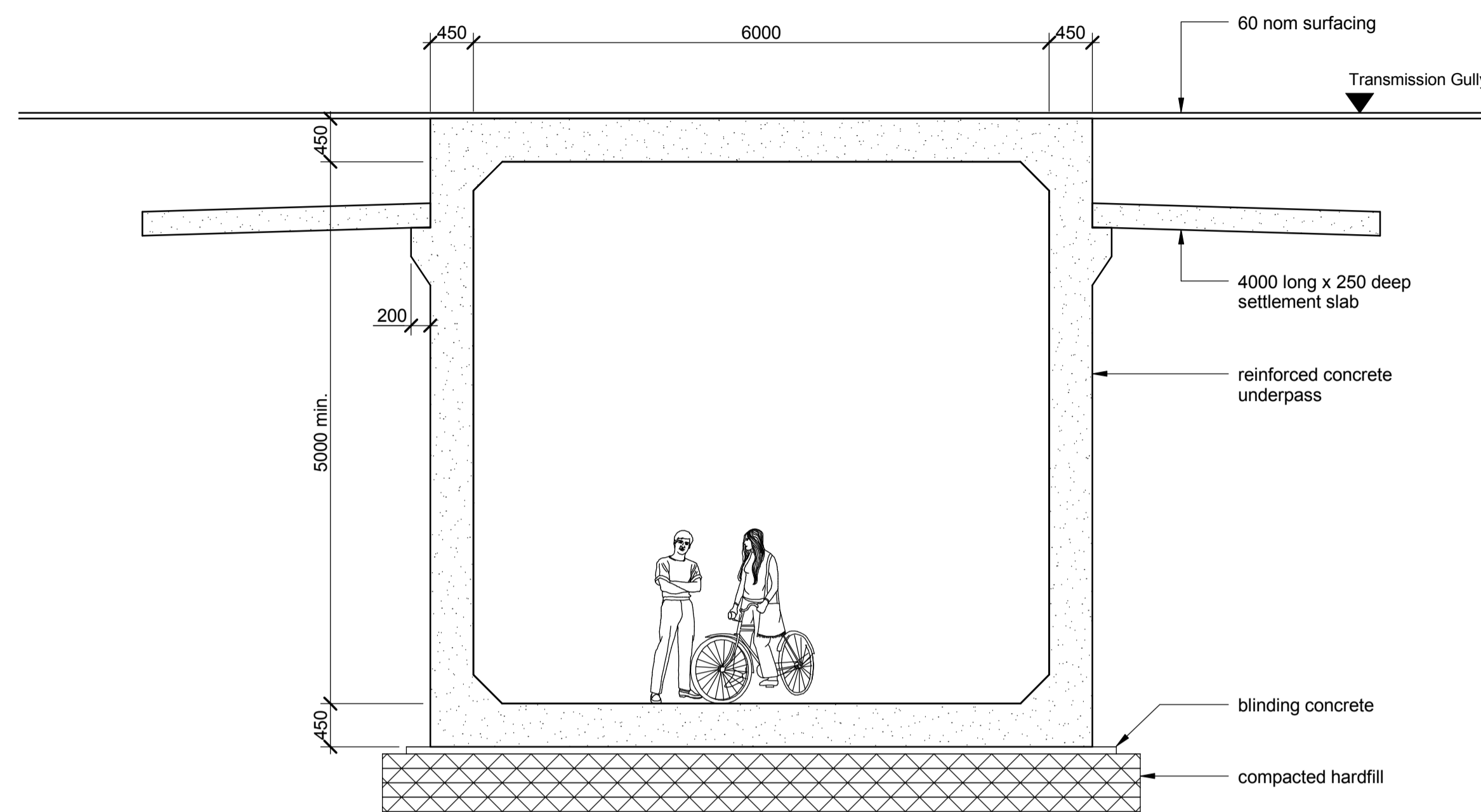
Revision	Amendment	PG	08/04/11
1	Issue for consenting	PG	08/04/11
		Approved	Date



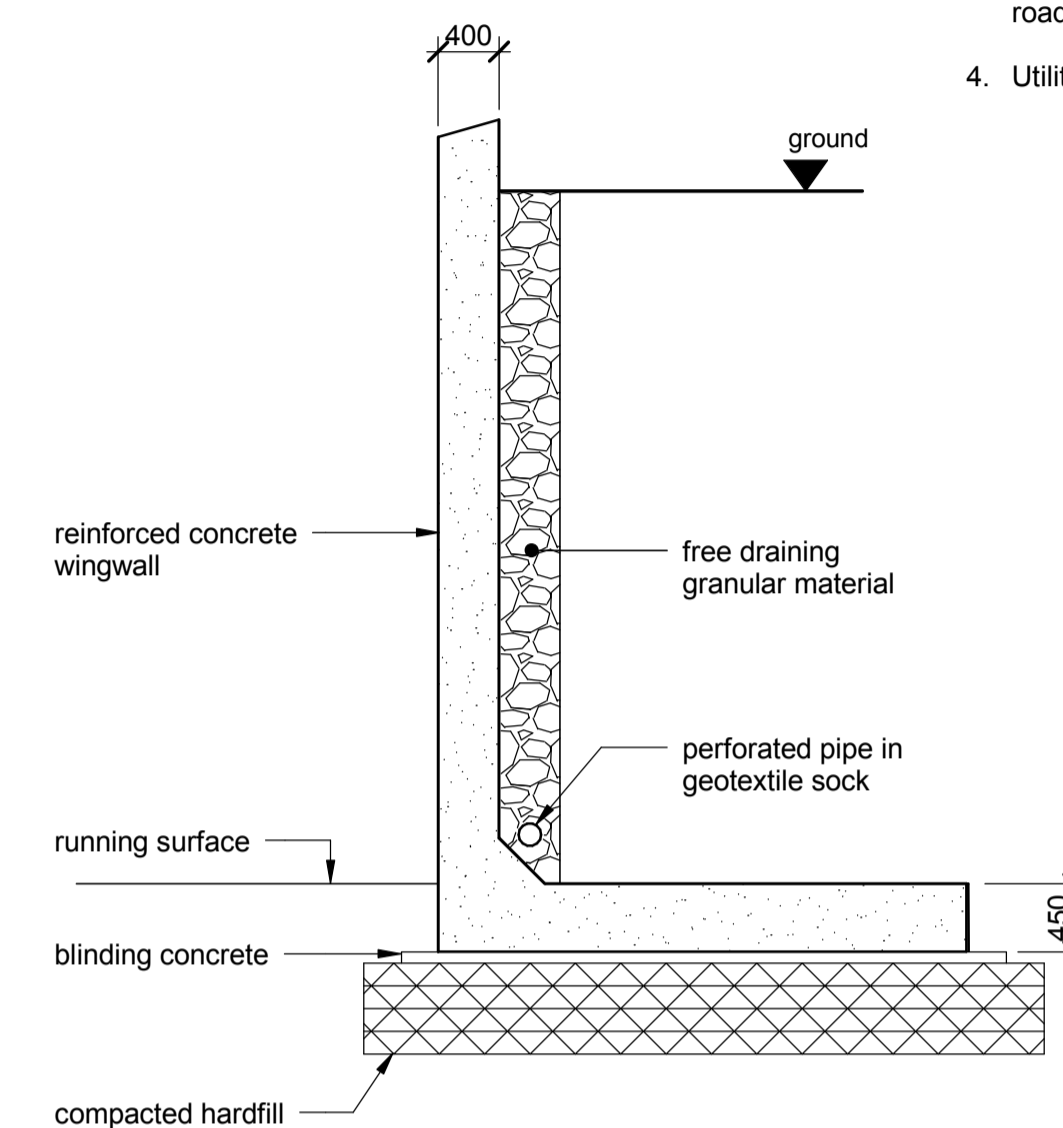
Project: TRANSMISSION GULLY PROJECT		Status: For consenting
Title: Bridge no. 10 Vehicular Underpass Plan and Section	Sheet No. S10-01	Version No. 1



bridge no. 11 plan
1 : 200



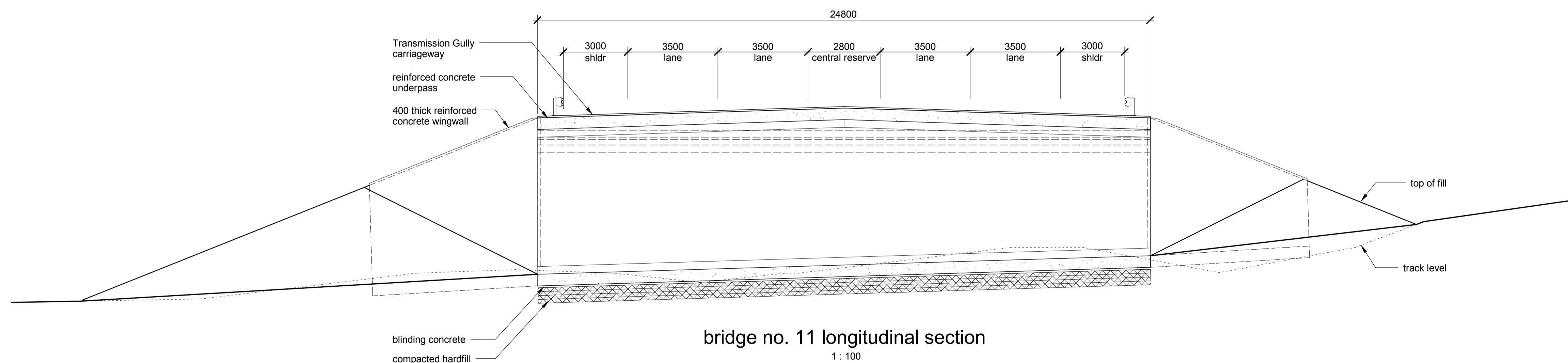
typical cross section
1 : 50



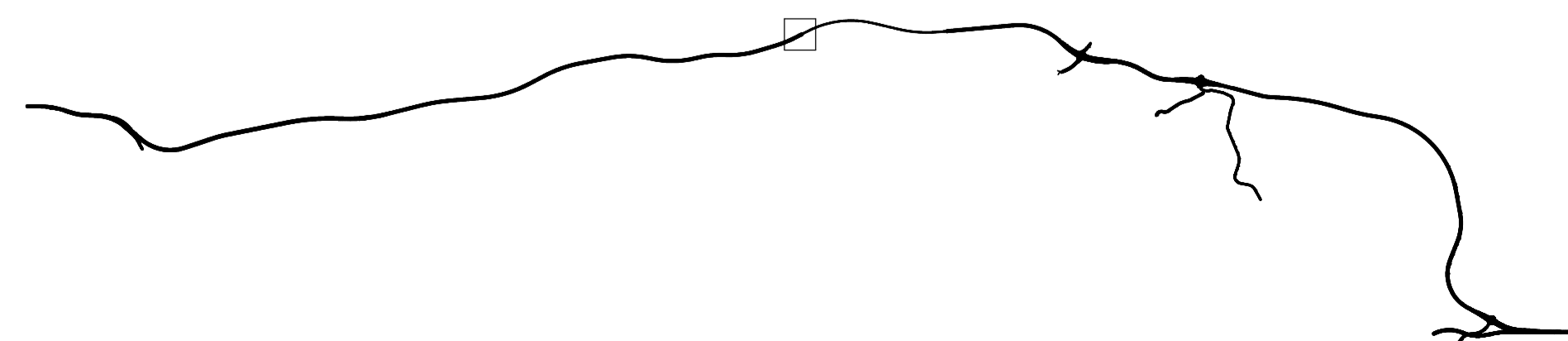
typical wingwall section
1 : 50

notes:

- Other viable options for Bridge 10:
 - Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 - Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
- Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
- For barrier details over the underpass refer to the roading drawings.
- Utility services and drainage details not shown.



bridge no. 11 longitudinal section
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11

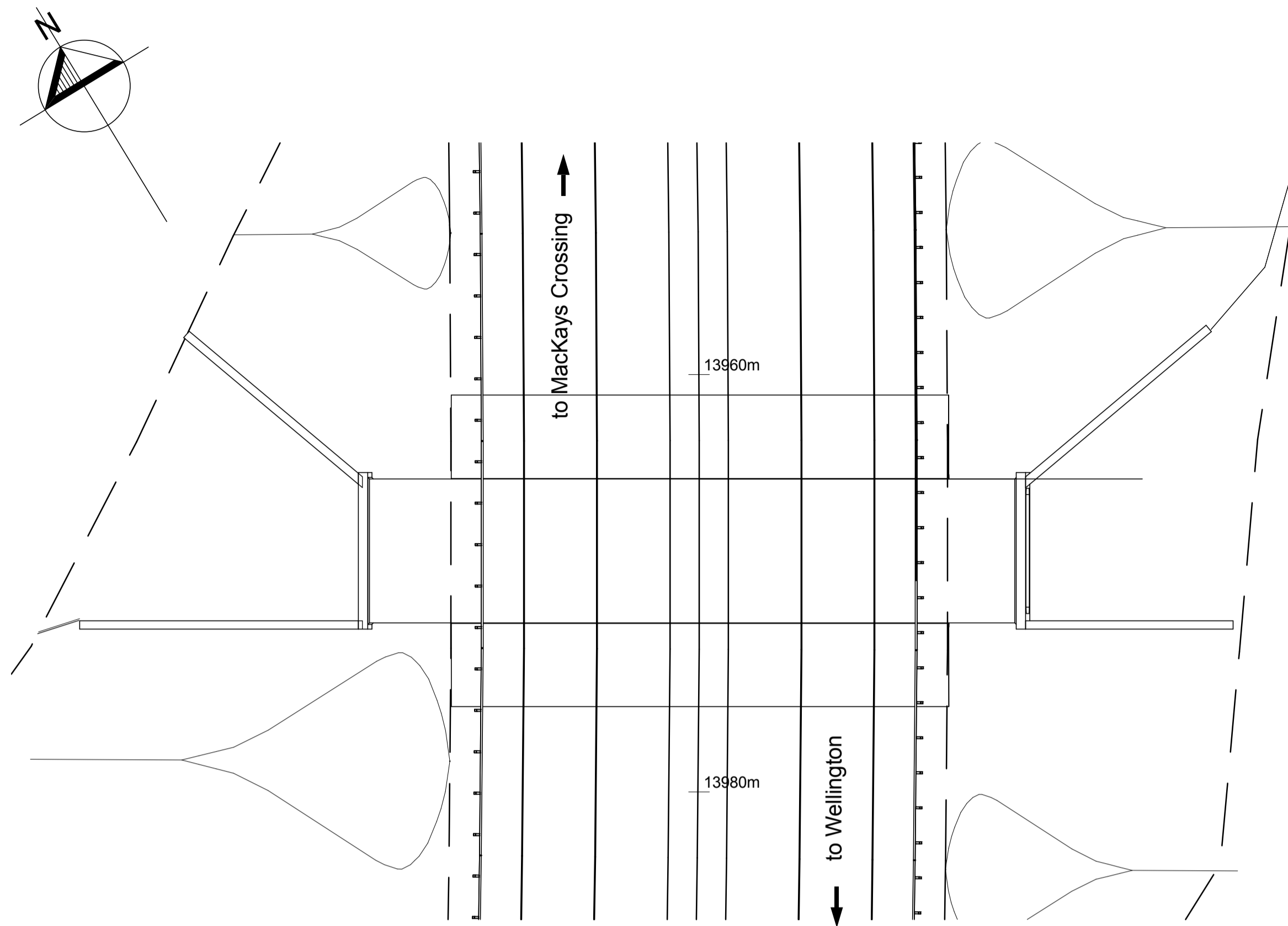


Project: **TRANSMISSION GULLY PROJECT**

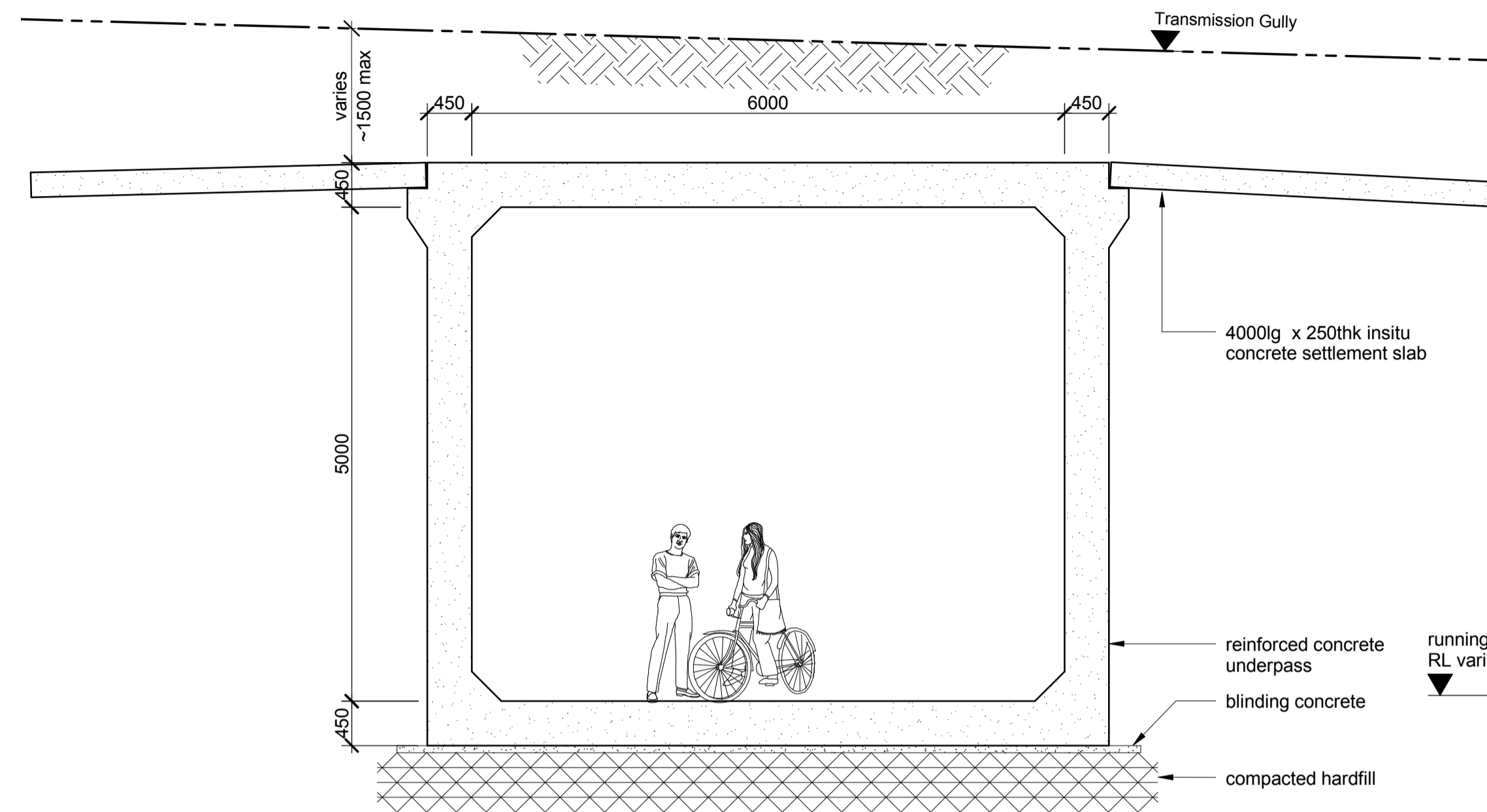
Title: **Bridge no. 11
Vehicular Underpass
Plan and Sections**

Status: **For consenting**

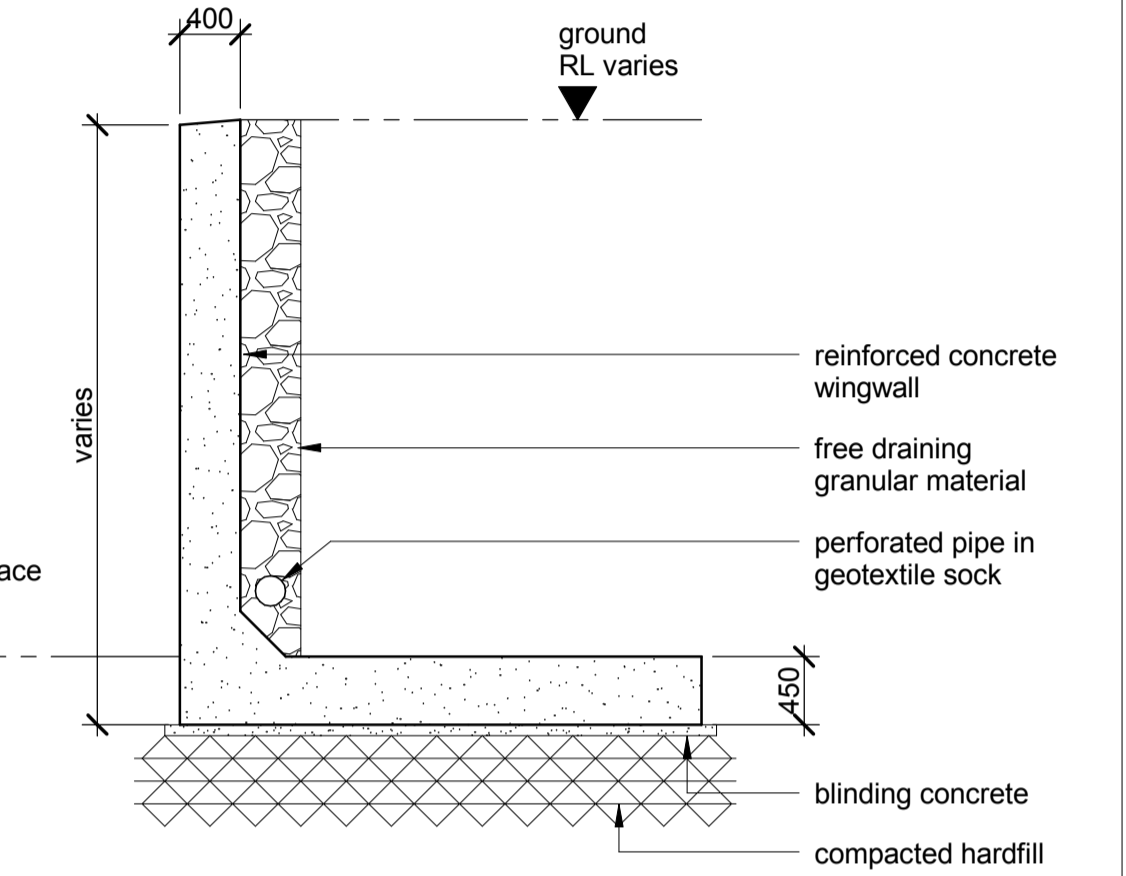
Sheet No. **S11-01**
Version No. **1**



bridge no. 12 plan
1 : 200



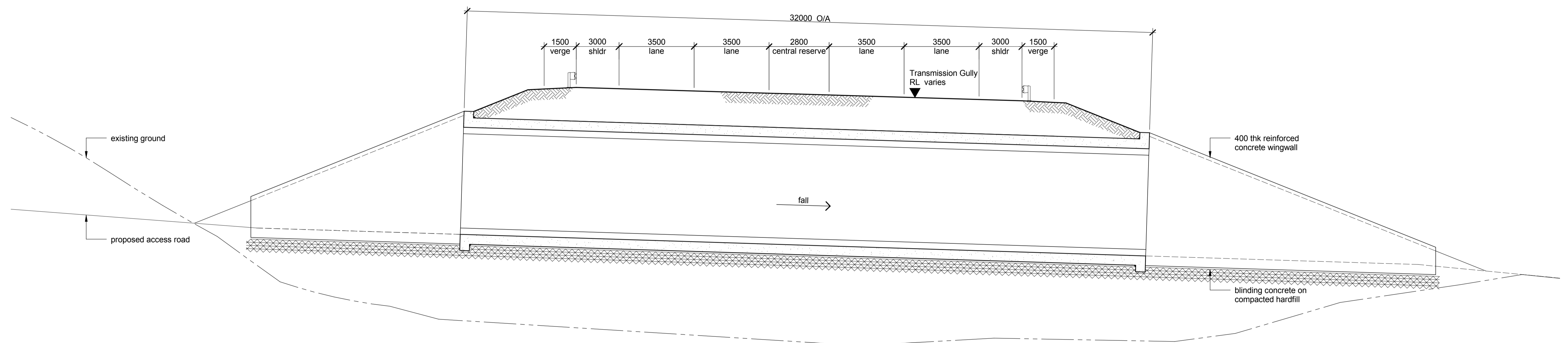
bridge no. 12 cross section
1 : 50



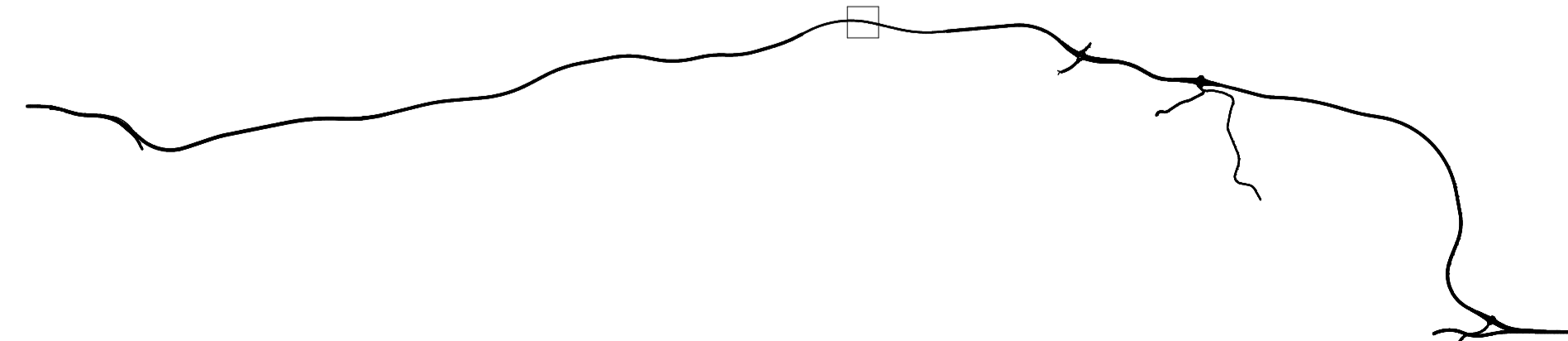
typical wingwall section
1 : 50

notes:

- Other viable options for Bridge 29:
 - Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 - Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
 - Proprietary precast reinforced concrete arch.
- Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
- Utility services and drainage details not shown.



bridge no. 12 long section (looking south)
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



Project: **TRANSMISSION GULLY PROJECT**

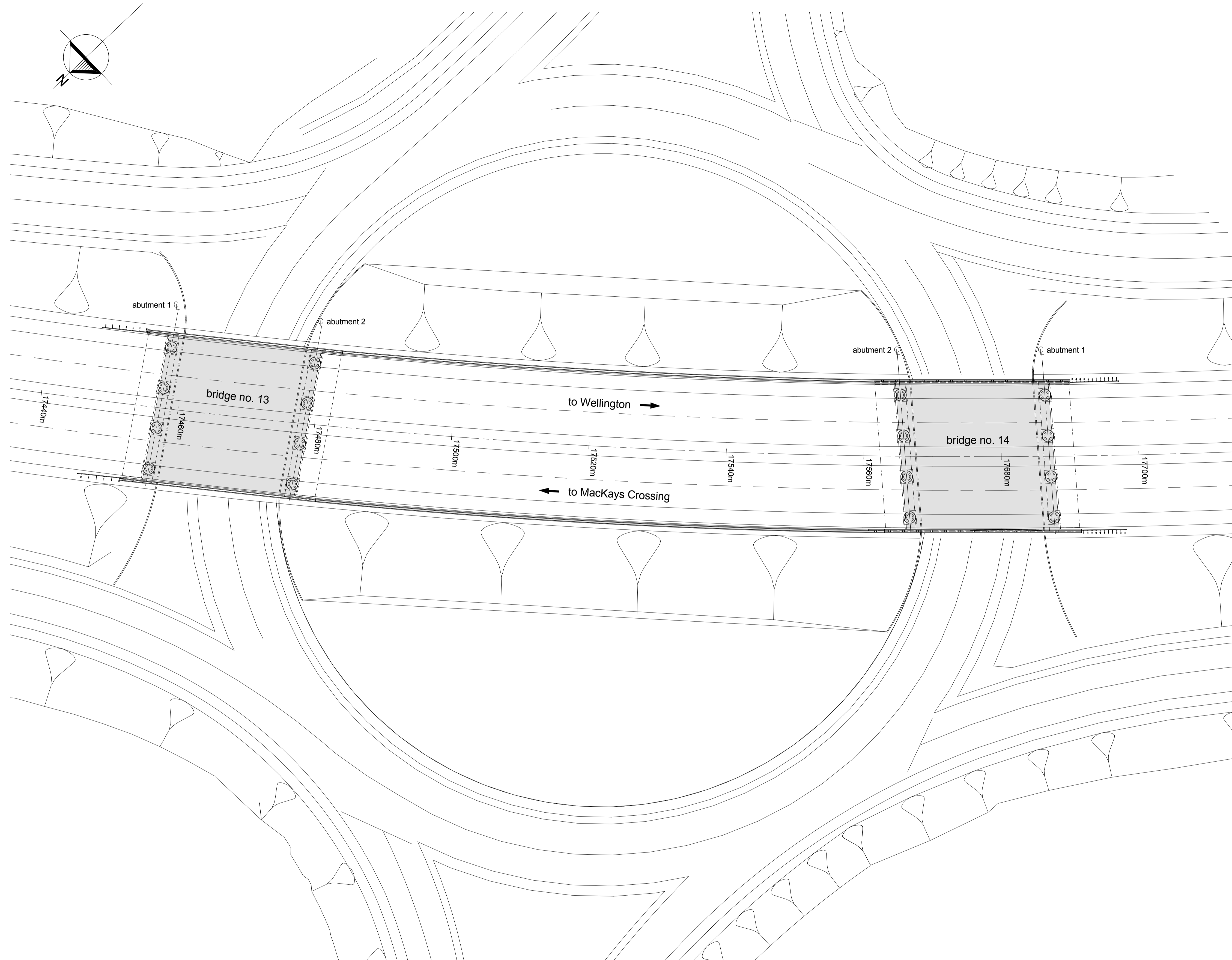
Title: **Bridge no. 12
Vehicular Underpass
Plan and Section**

Status: **For consenting**

Sheet No. **S12-01**
Version No. **1**

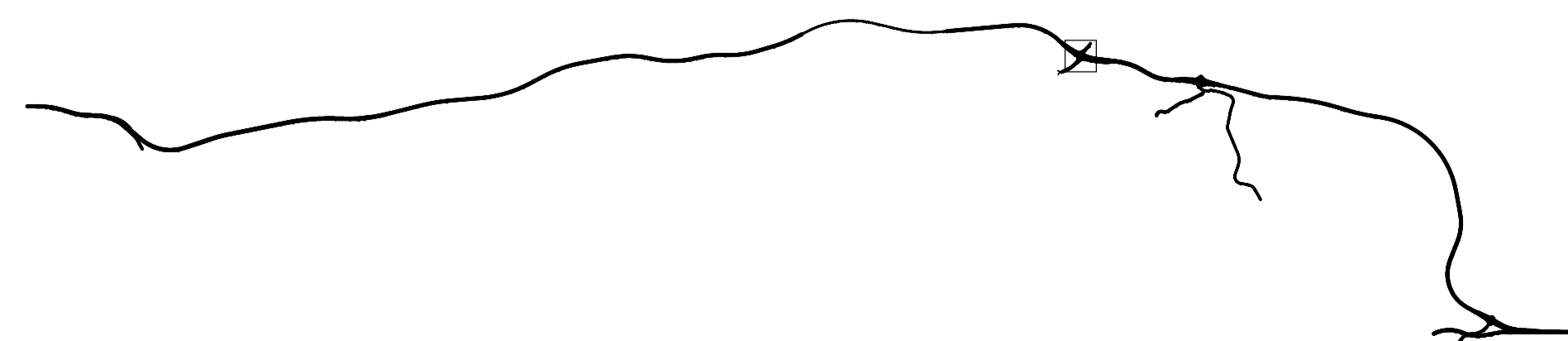
notes:

1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



bridge nos. 13 & 14 plan

1 : 300



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



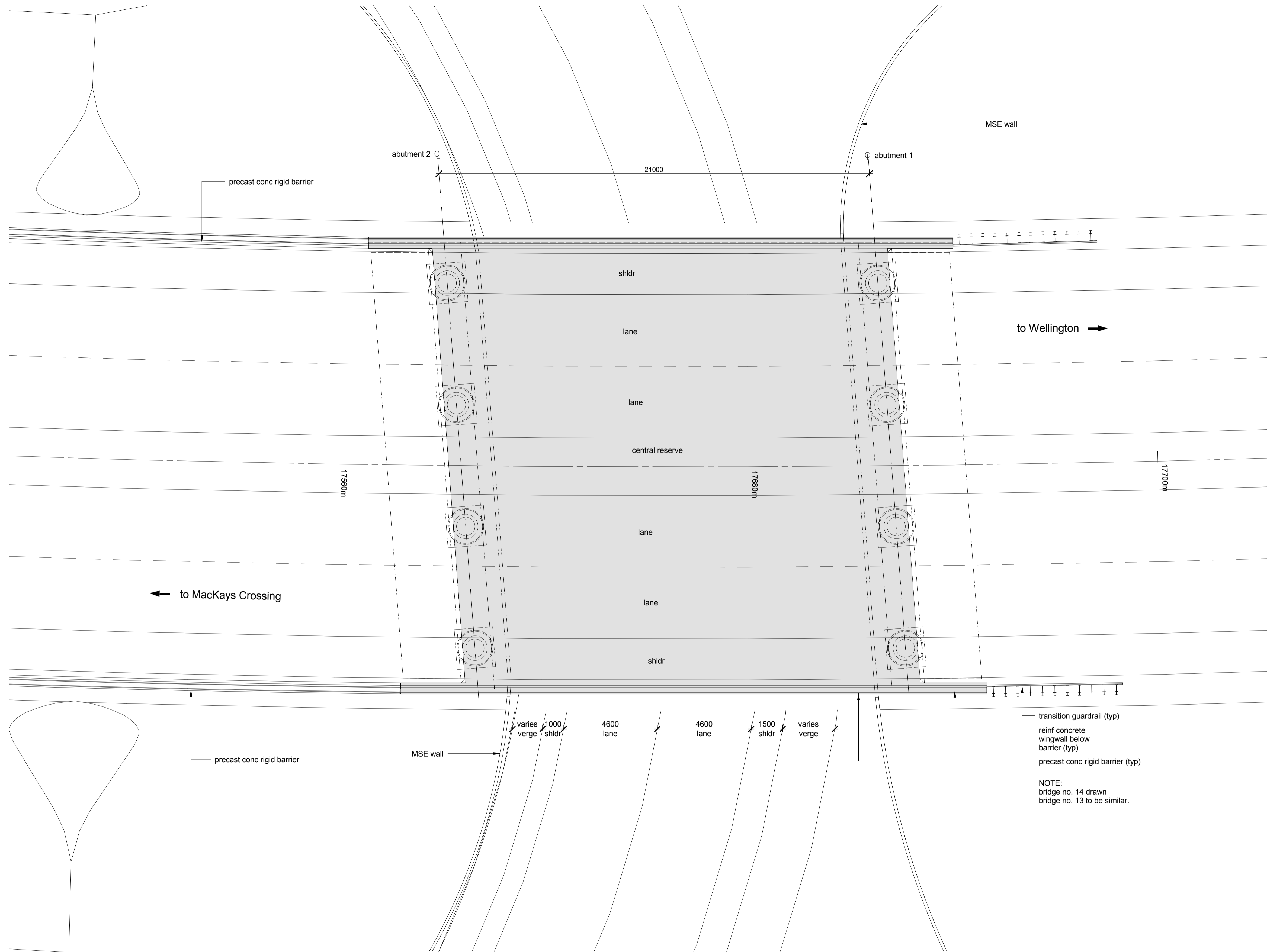
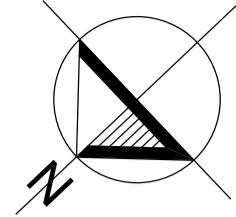
Project: TRANSMISSION GULLY PROJECT

Title: Bridge nos. 13 & 14 Plan

Status: For consenting

Sheet No. S13-01

Version No. 1



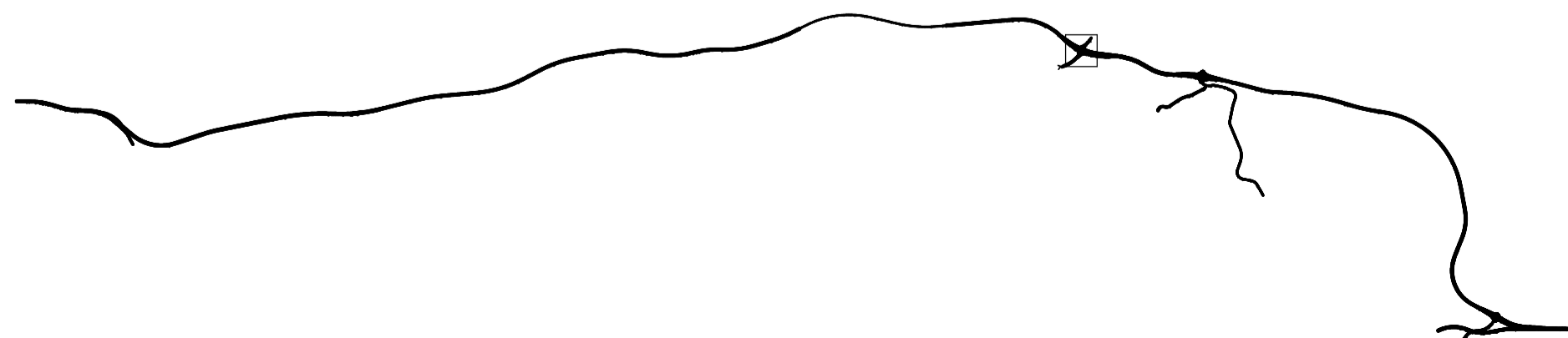
to Wellington →

← to MacKays Crossing

bridge no. 14 plan
1:100

- transition guardrail (typ)
- reinf concrete wingwall below barrier (typ)
- precast conc rigid barrier (typ)

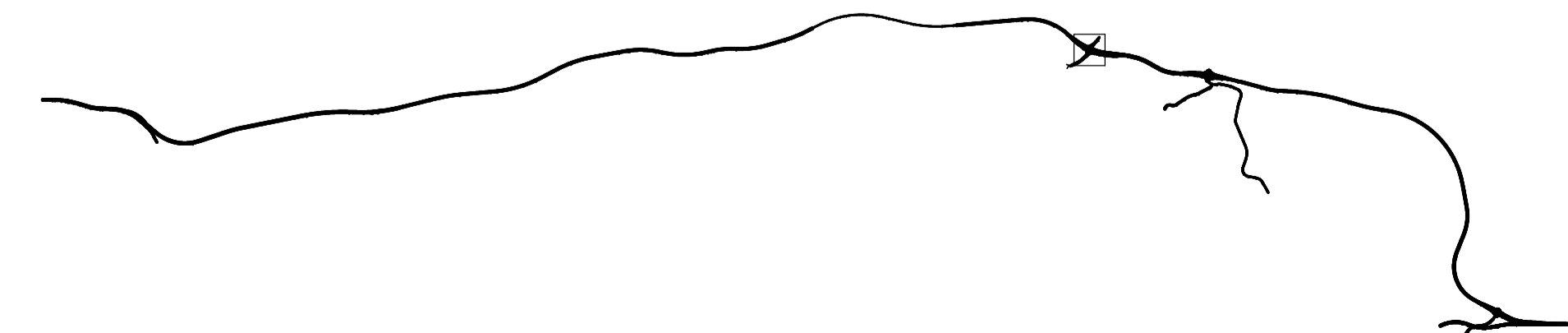
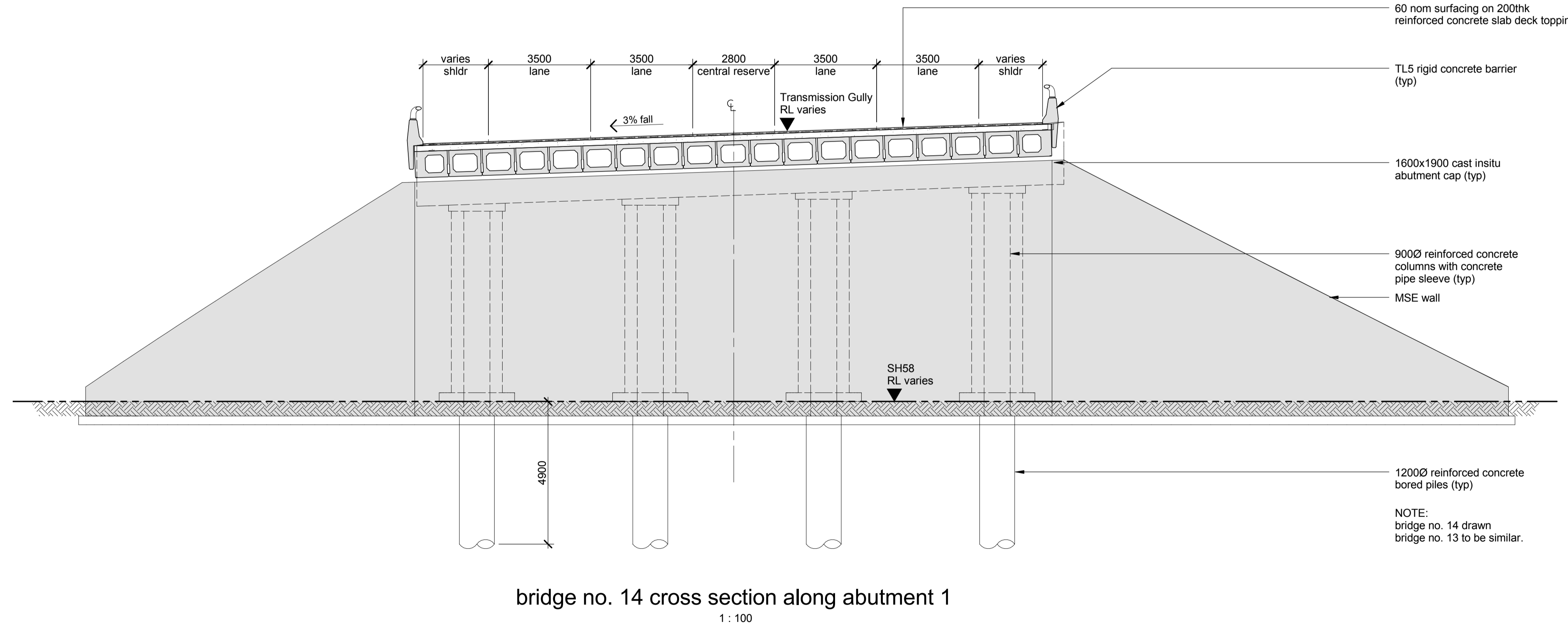
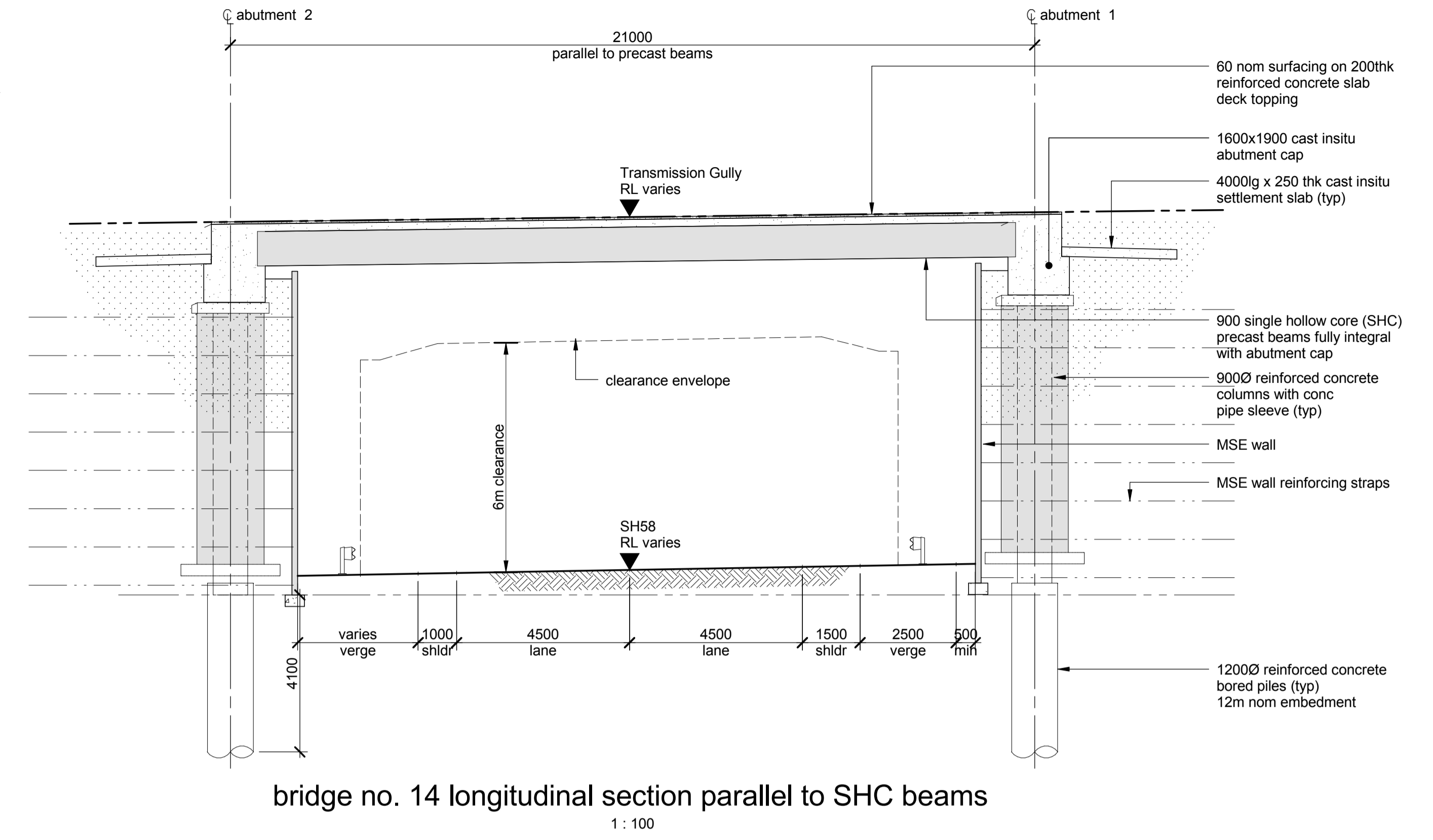
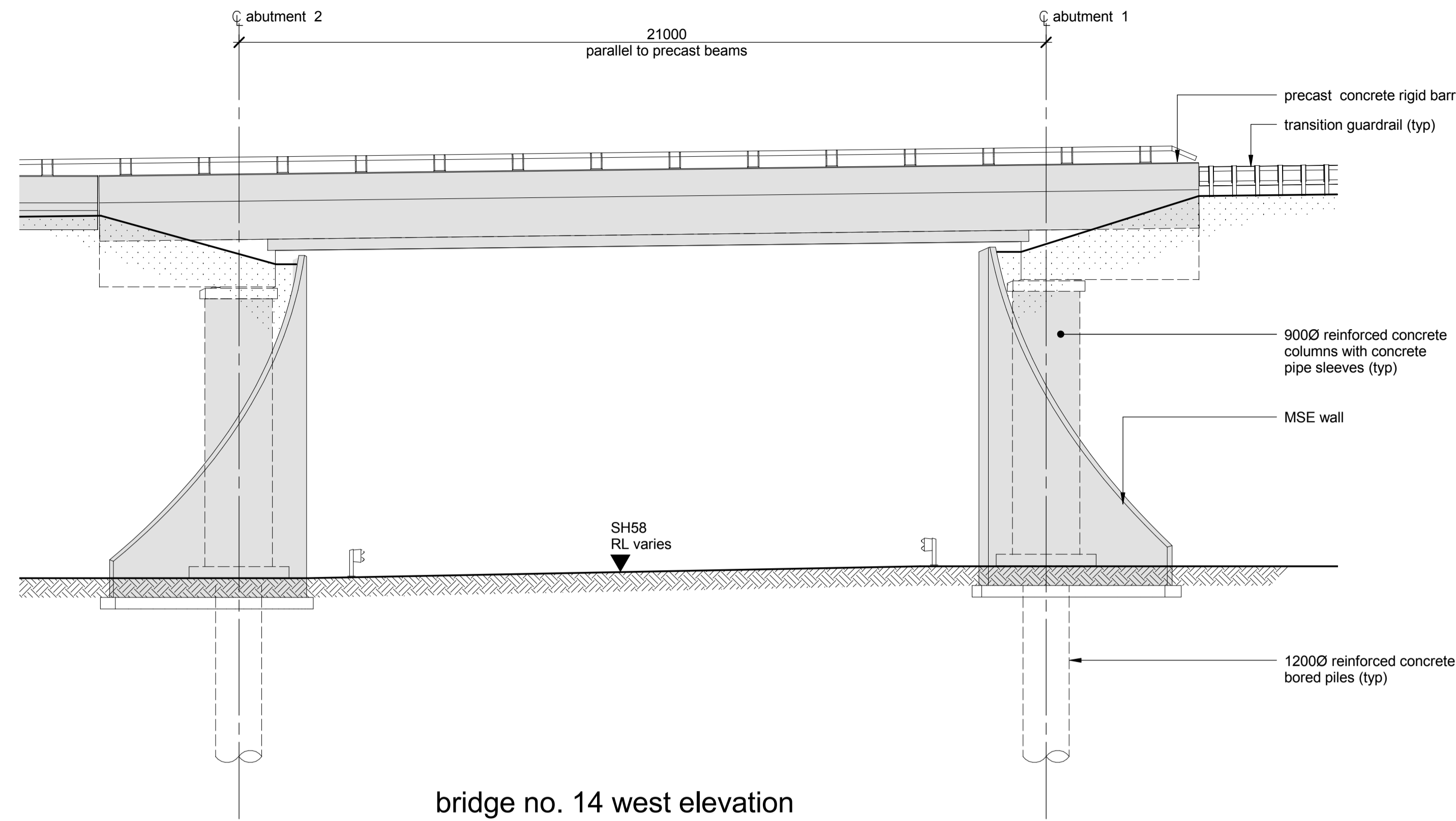
NOTE:
bridge no. 14 drawn
bridge no. 13 to be similar.



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



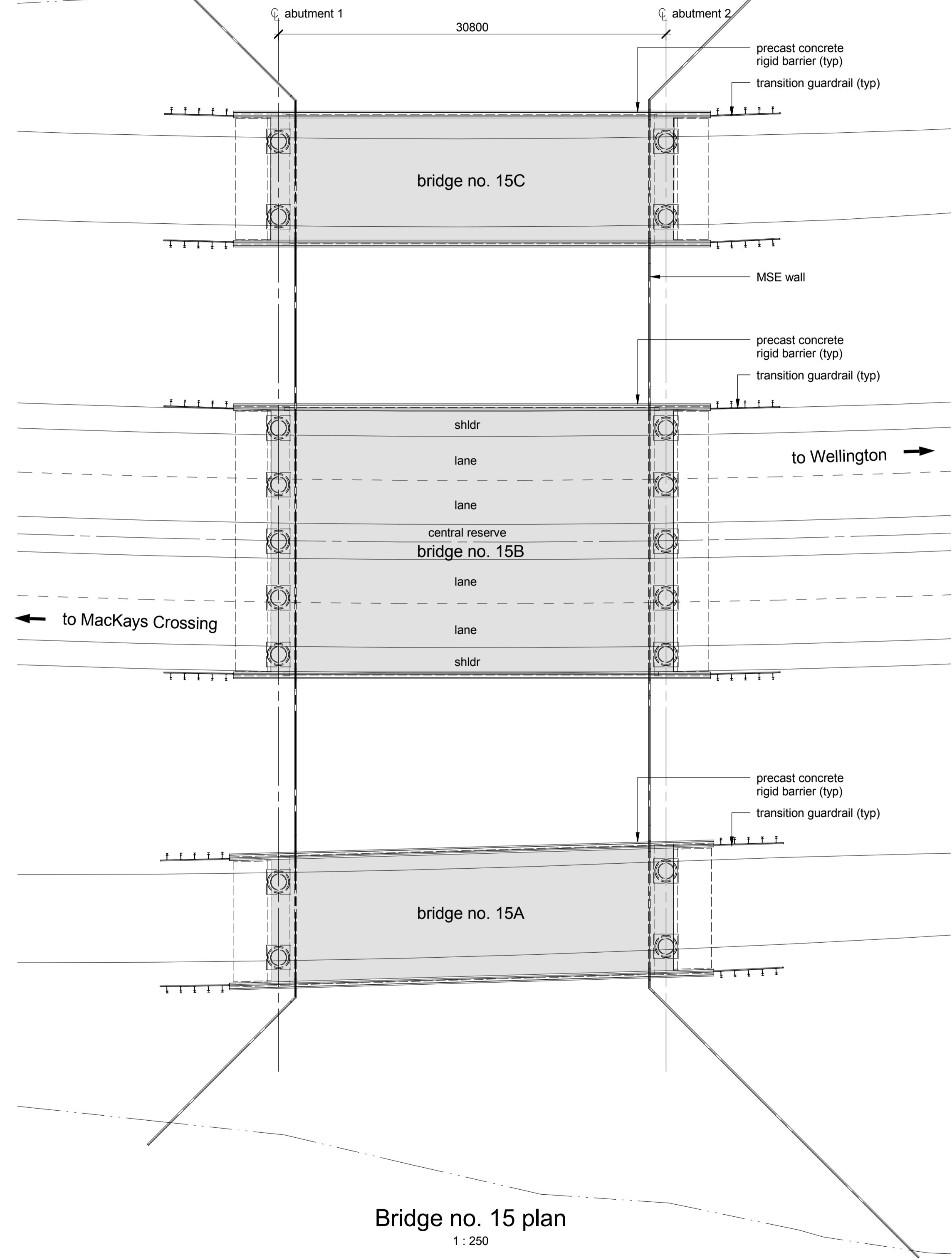
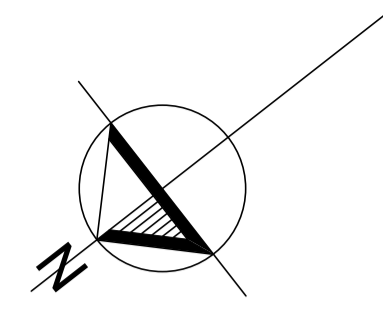
Project.		TRANSMISSION GULLY PROJECT	
Title.	Bridge no. 14 Plan	Status.	For consenting
Sheet No.	S13-02	Version No.	1



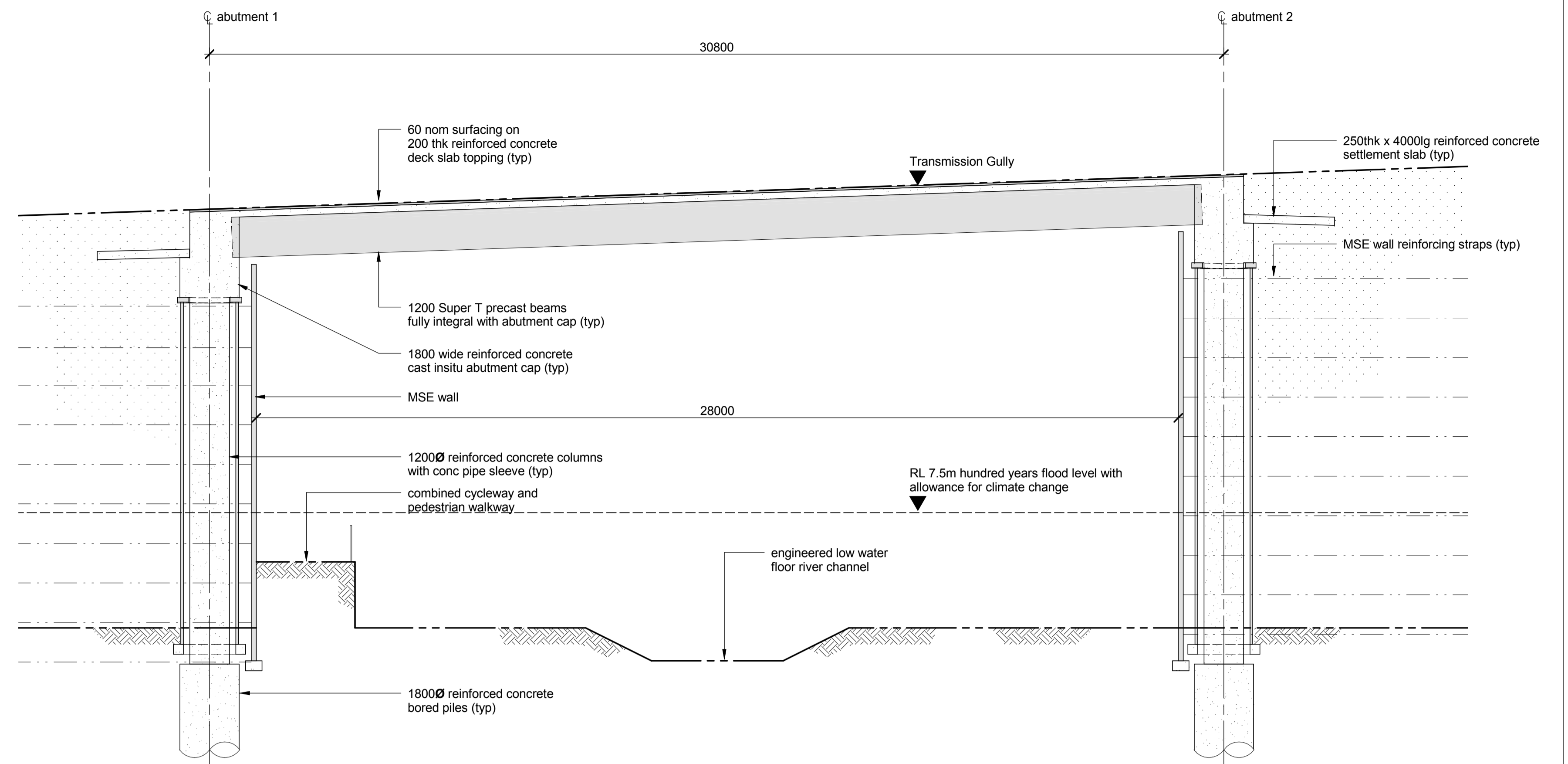
1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



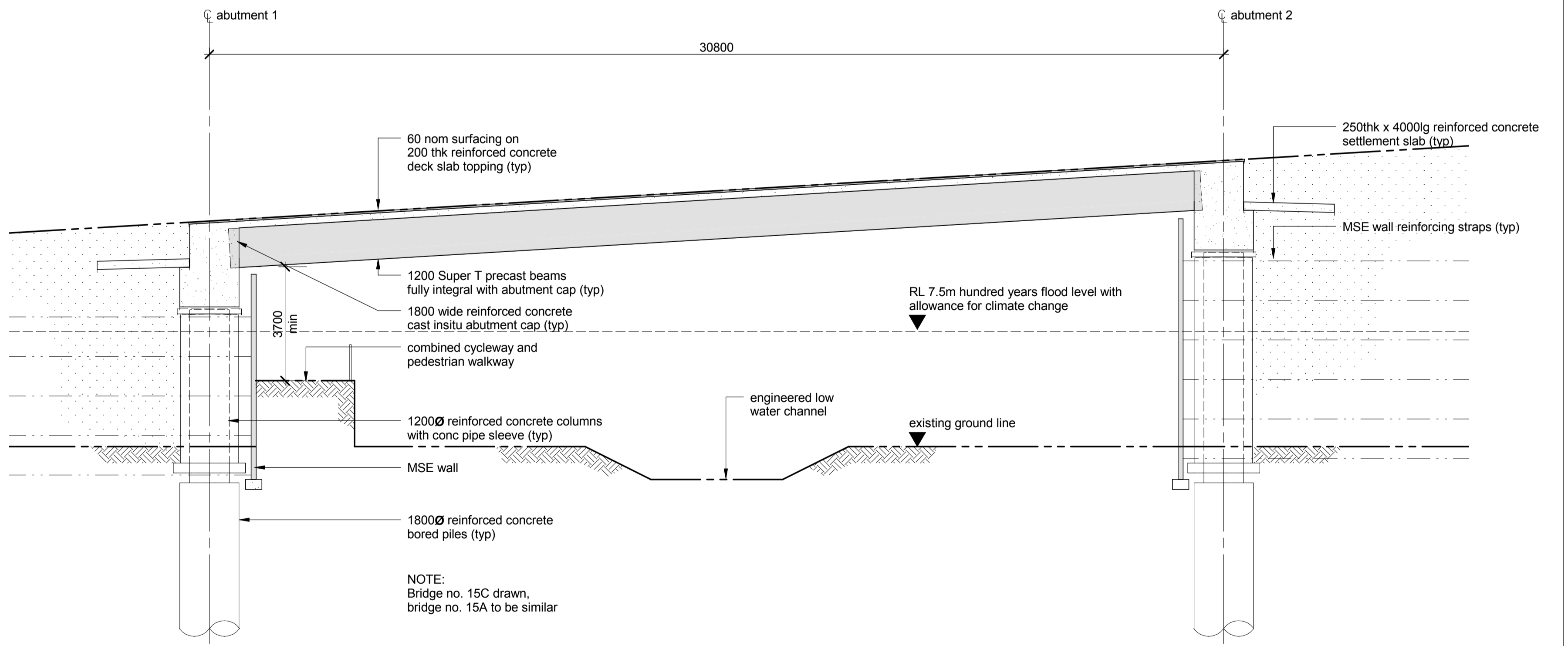
Project. TRANSMISSION GULLY PROJECT	
Title. Bridge no. 14 Elevation and Sections	Status. For consenting
Sheet No. S13-03	Version No. 1



Bridge no. 15 plan
1 : 250

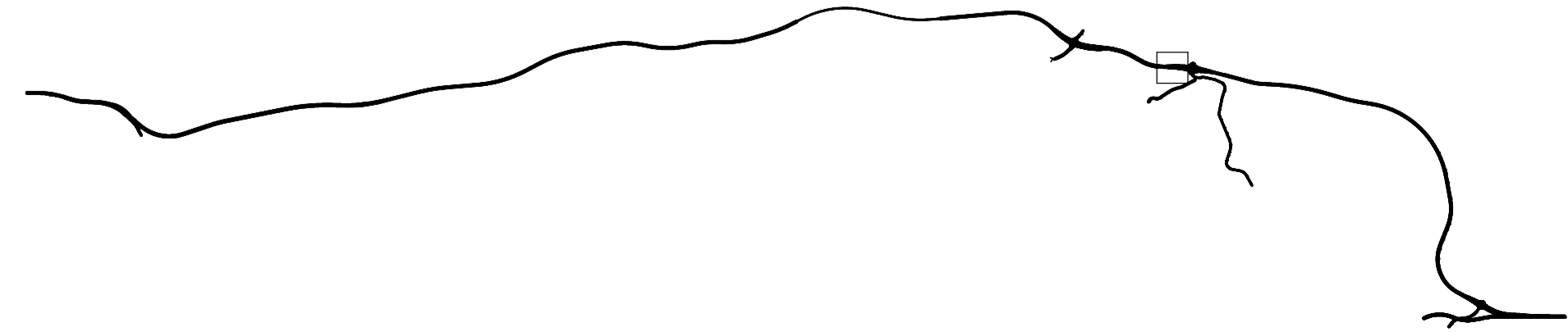


bridge 15B long section parallel to 'Super T' beams
1 : 100



bridge 15C long section parallel to 'Super T' beams
1 : 100

NOTE:
Bridge no. 15C drawn,
bridge no. 15A to be similar



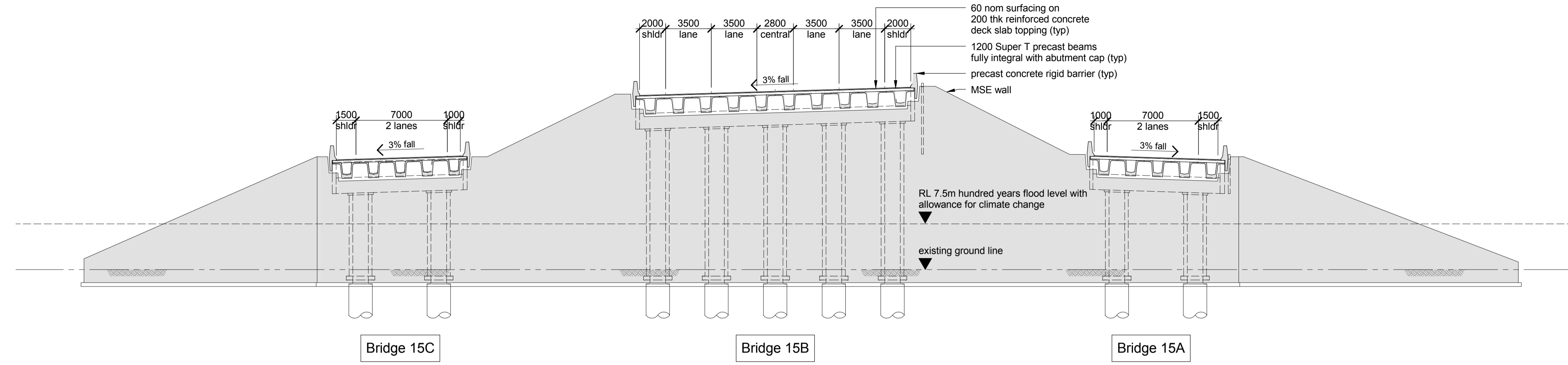
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



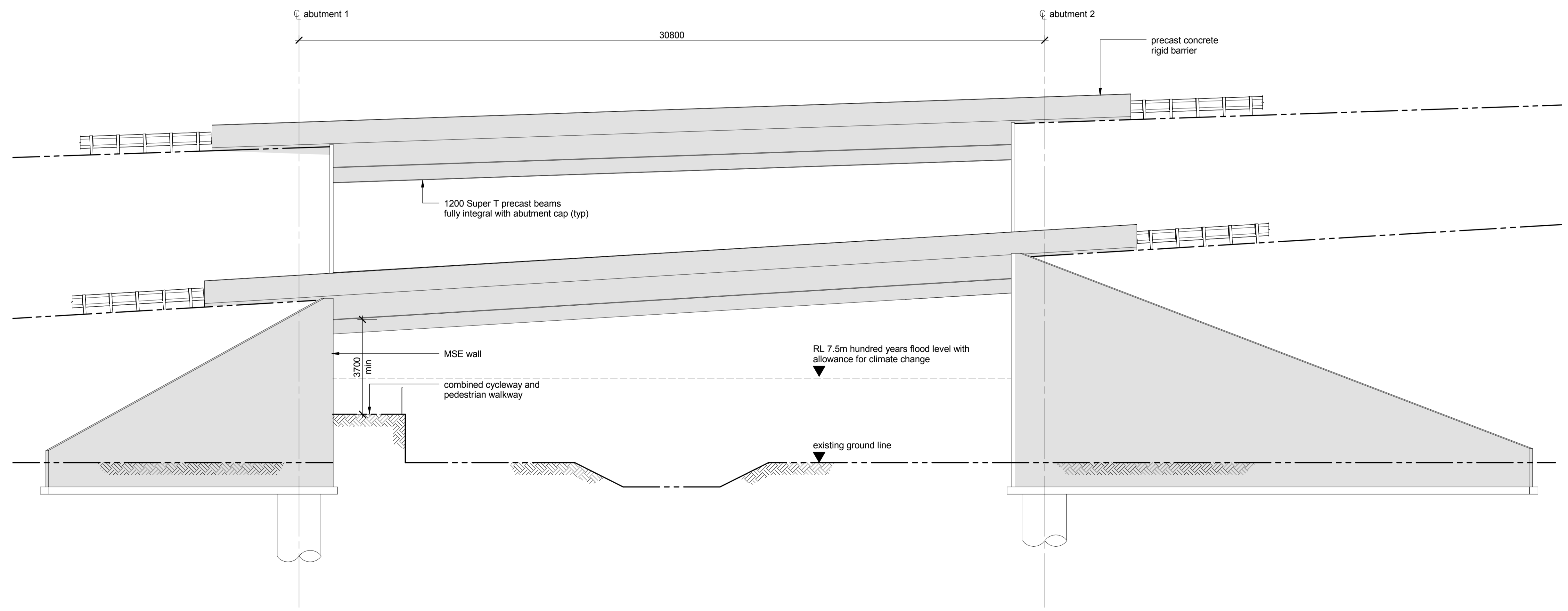
Project: TRANSMISSION GULLY PROJECT		Status: For consenting
Title: Bridge nos. 15A - 15C Plans and Long Sections		Version No. 1
Sheet No. S15-01		

notes:

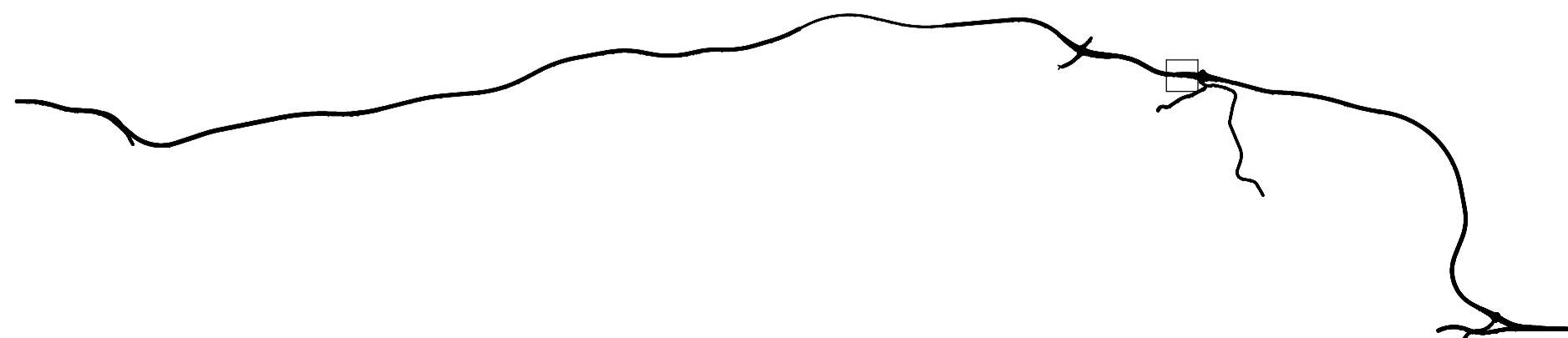
1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. The base of the MSE abutment walls and wingwalls will be protected with rip rap.
3. Utility services and drainage details not shown.



bridge no. 15 cross section along abutment 2
1 : 200



bridge no. 15 west elevation
1 : 100



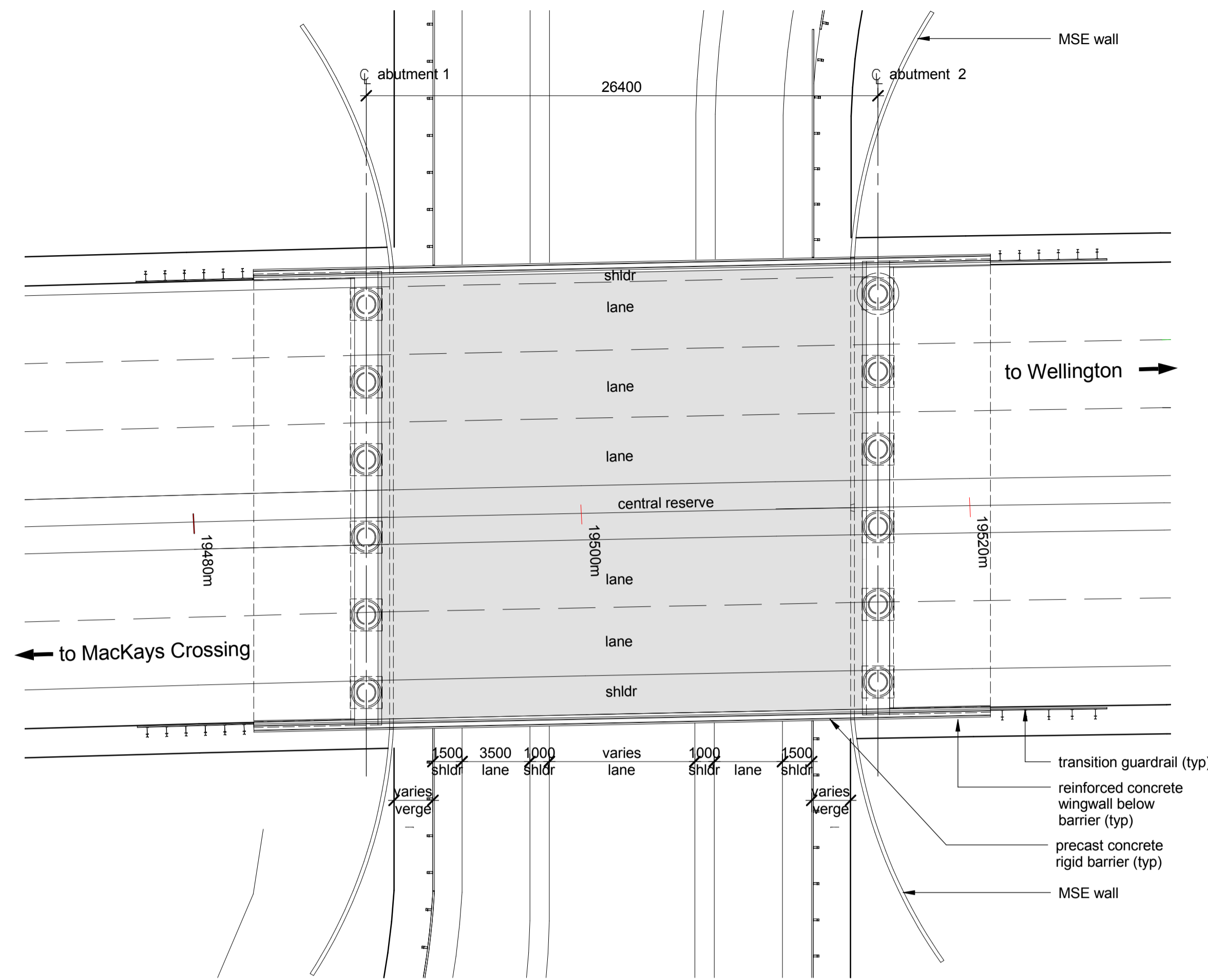
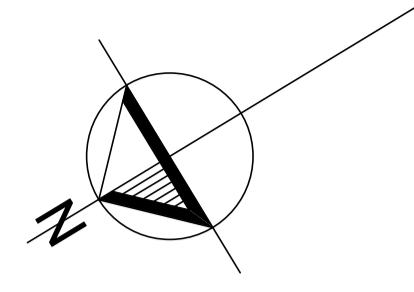
1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



Project: **TRANSMISSION GULLY PROJECT**

Title: **Bridge nos. 15A - 15C
Cross Sections and Elevation**

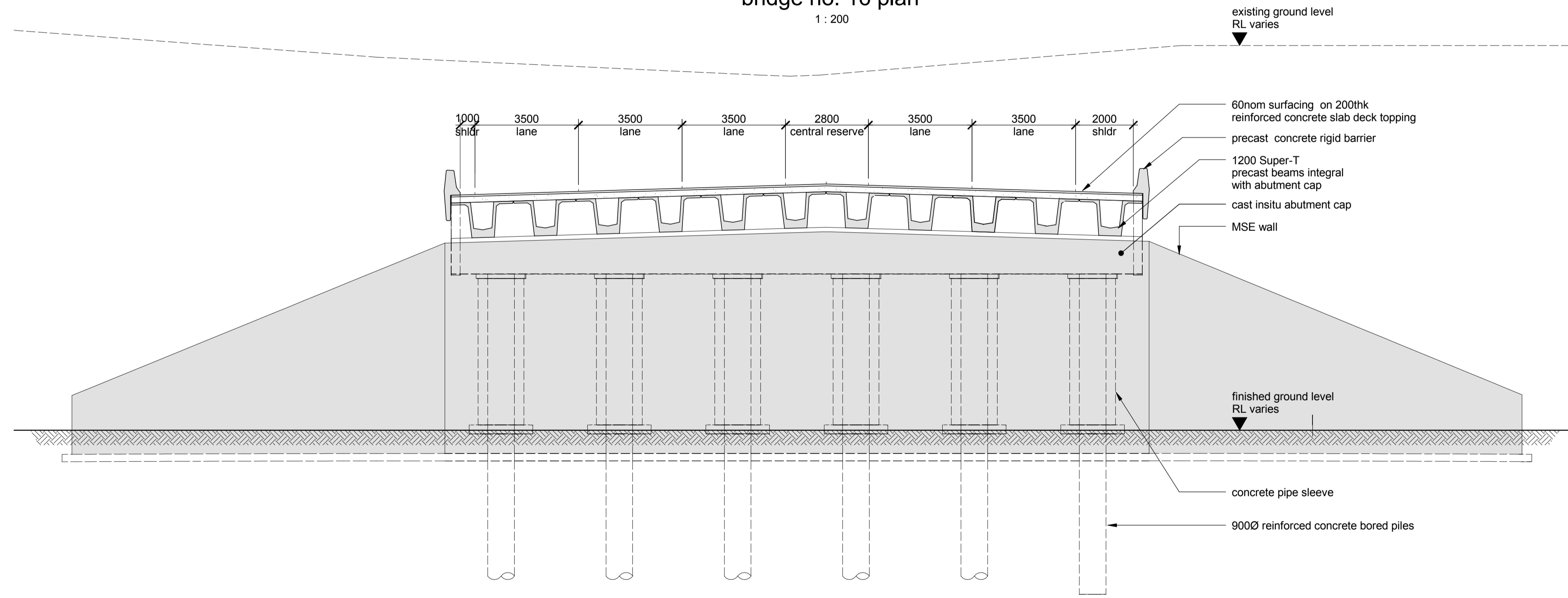
Status:	For consenting
Sheet No.	S15-02
Version No.	1



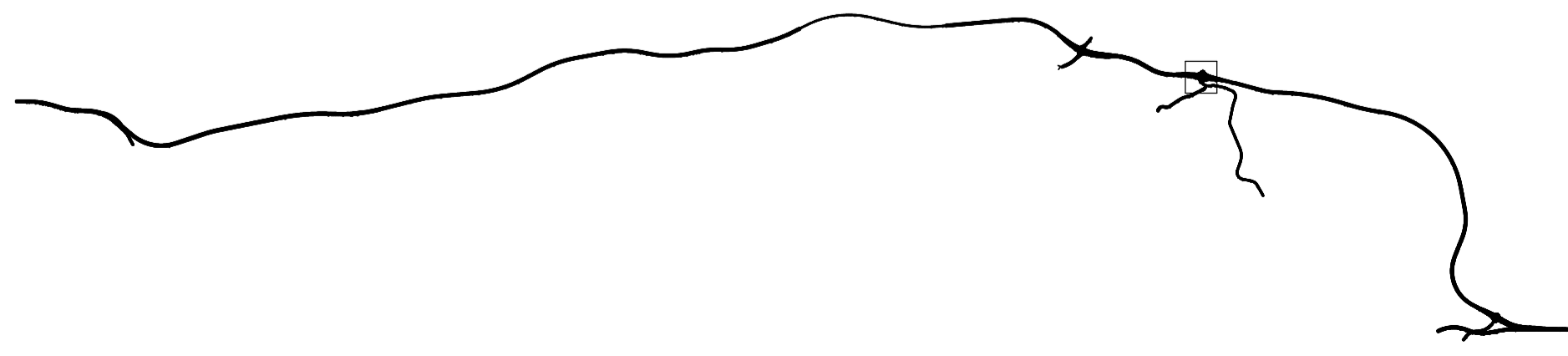
bridge no. 16 plan
1 : 200

notes:

1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



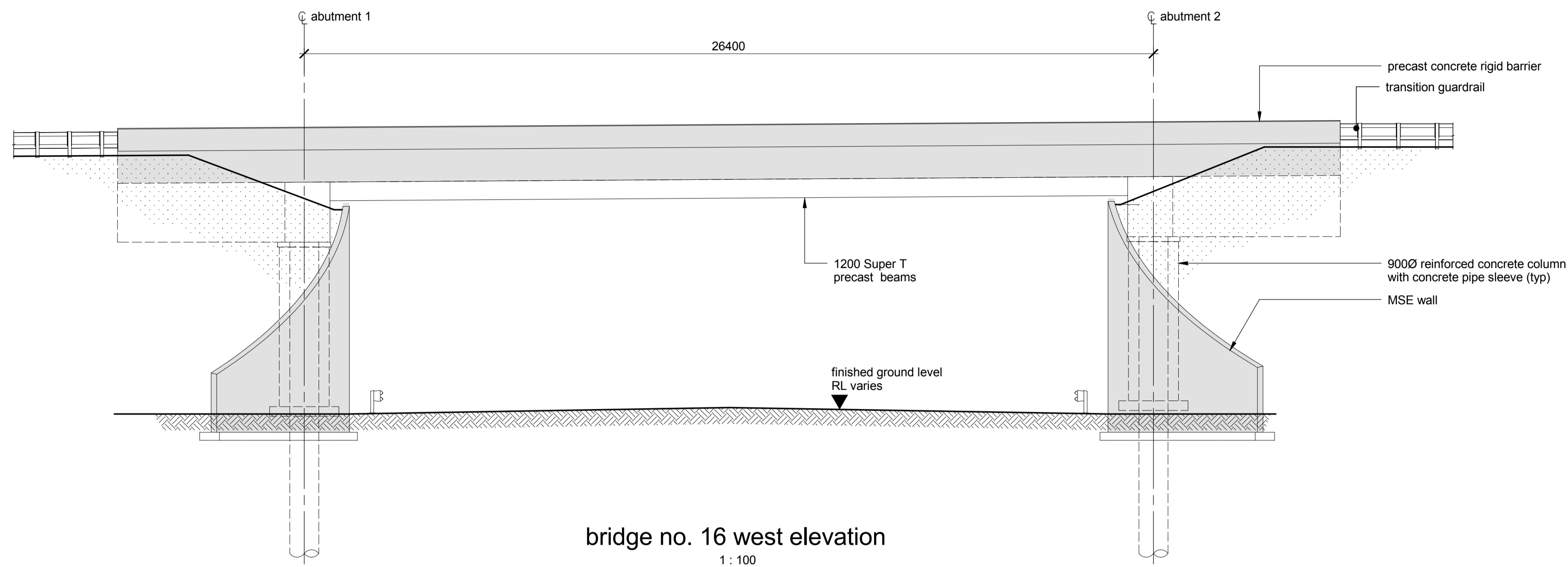
bridge no. 16 cross section perpendicular to 'Super T' beams
1 : 100



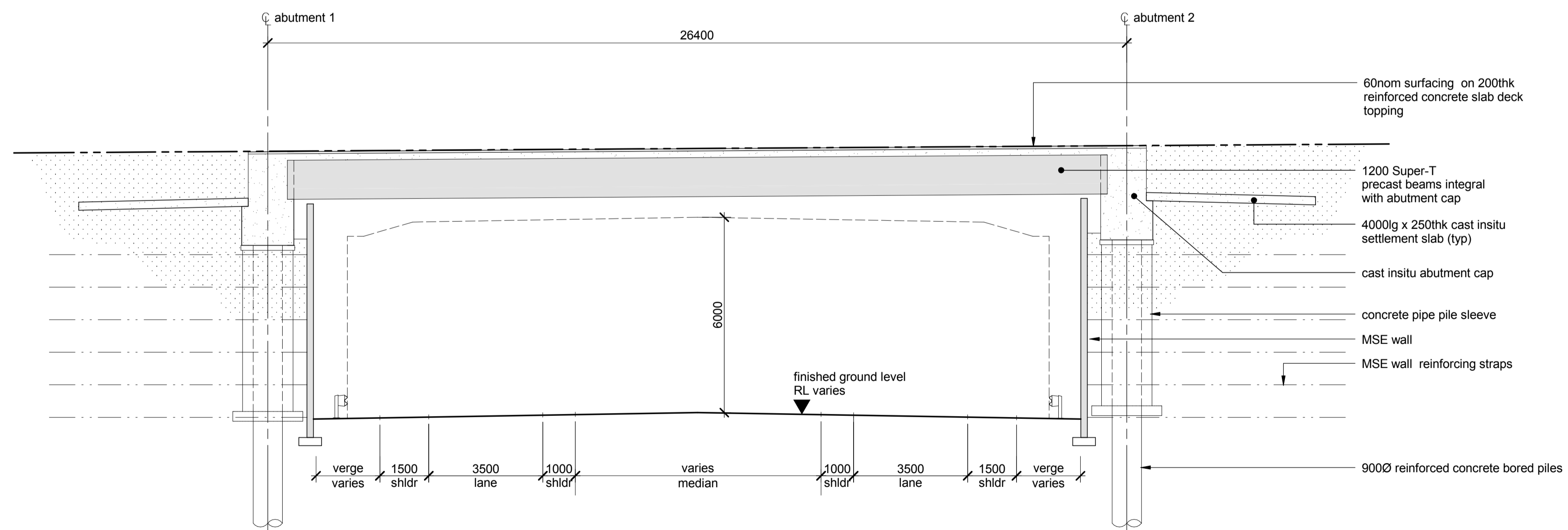
Revision	Amendment	PG	07/04/11
1	Issue for consenting	PG	07/04/11
		Approved	Date



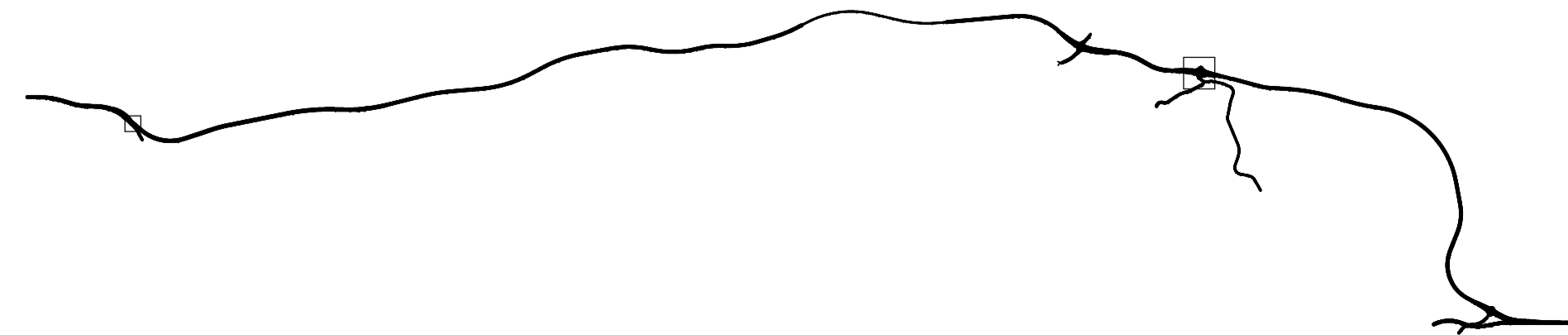
Project. TRANSMISSION GULLY PROJECT	
Title. Bridge no. 16 Plan and Section	Status. For consenting
Sheet No. S16-01	Version No. 1



bridge no. 16 west elevation
1 : 100



bridge no. 16 longitudinal section parallel to 'Super T' beams
1 : 100



1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date

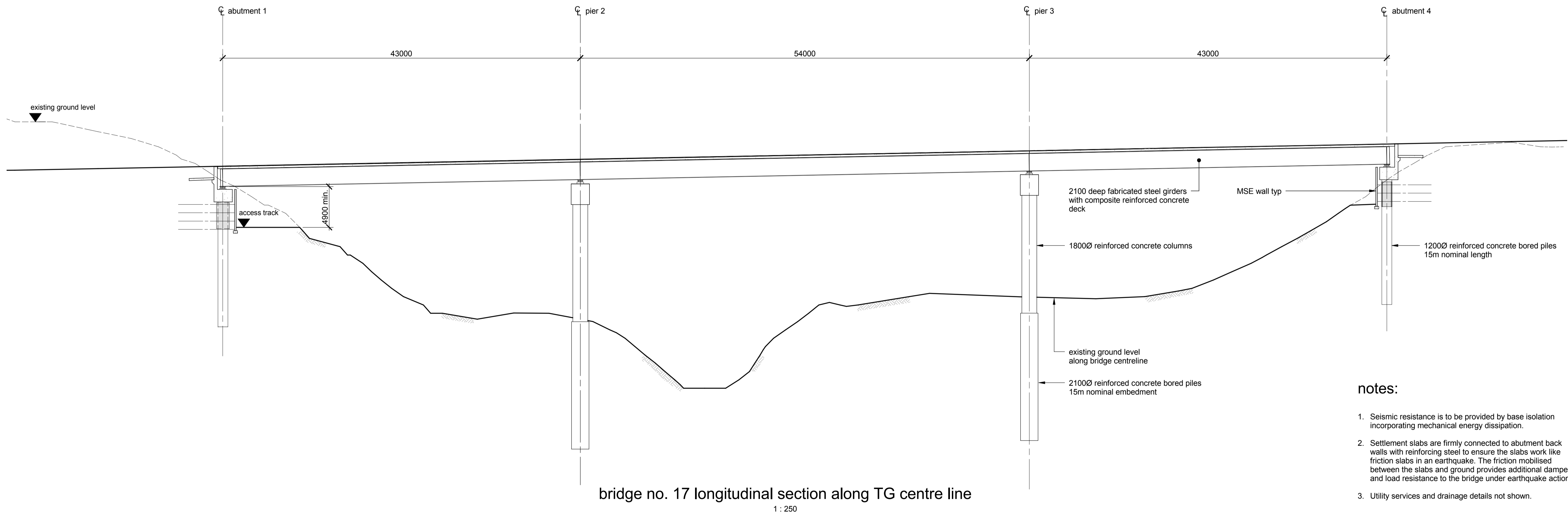
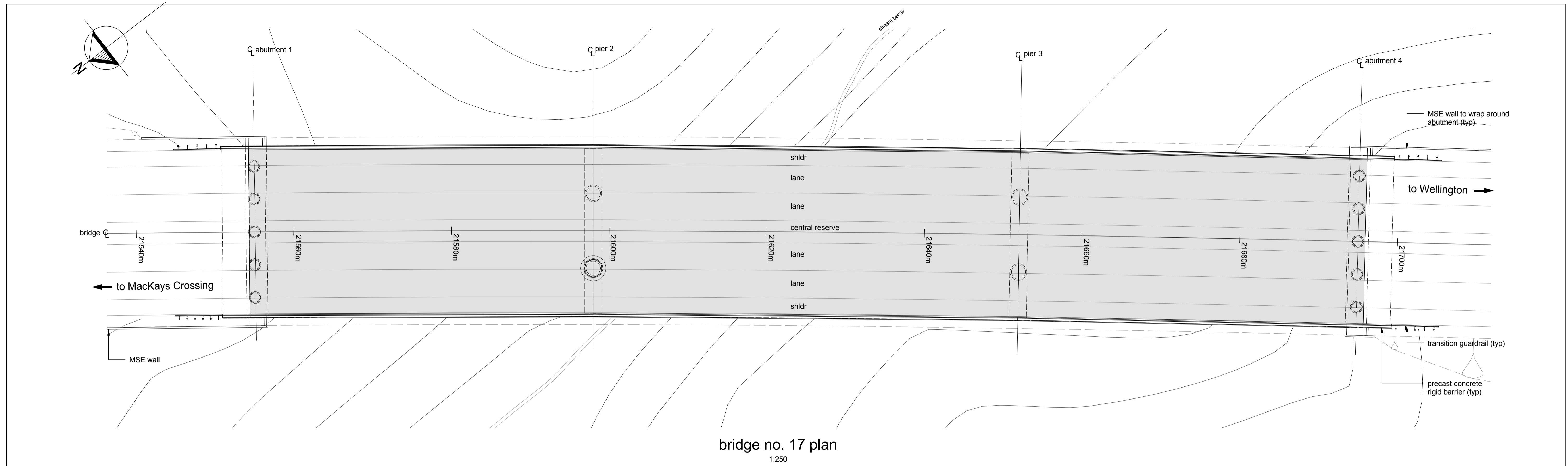


Project: **TRANSMISSION GULLY PROJECT**

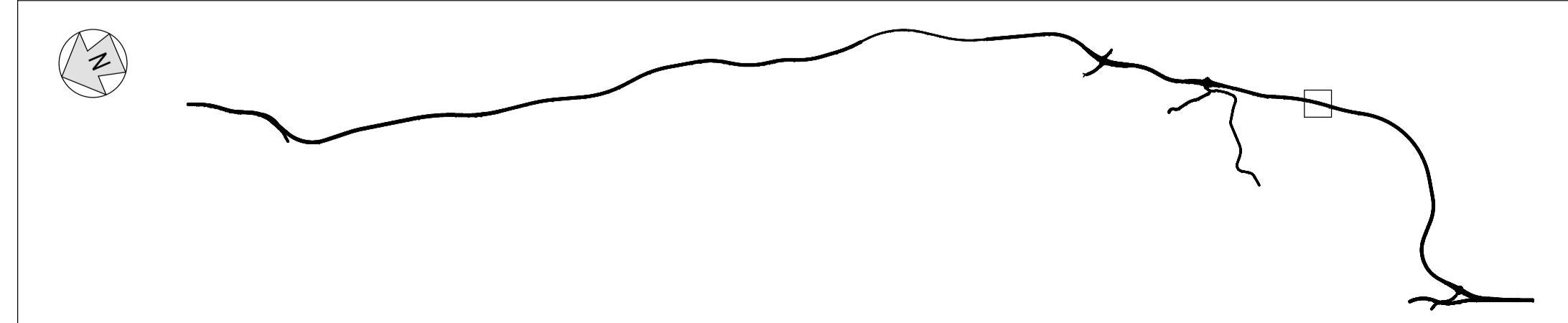
Title: **Bridge no. 16
Elevation and Section**

Status: **For consenting**

Sheet No. **S16-02** Version No. **1**



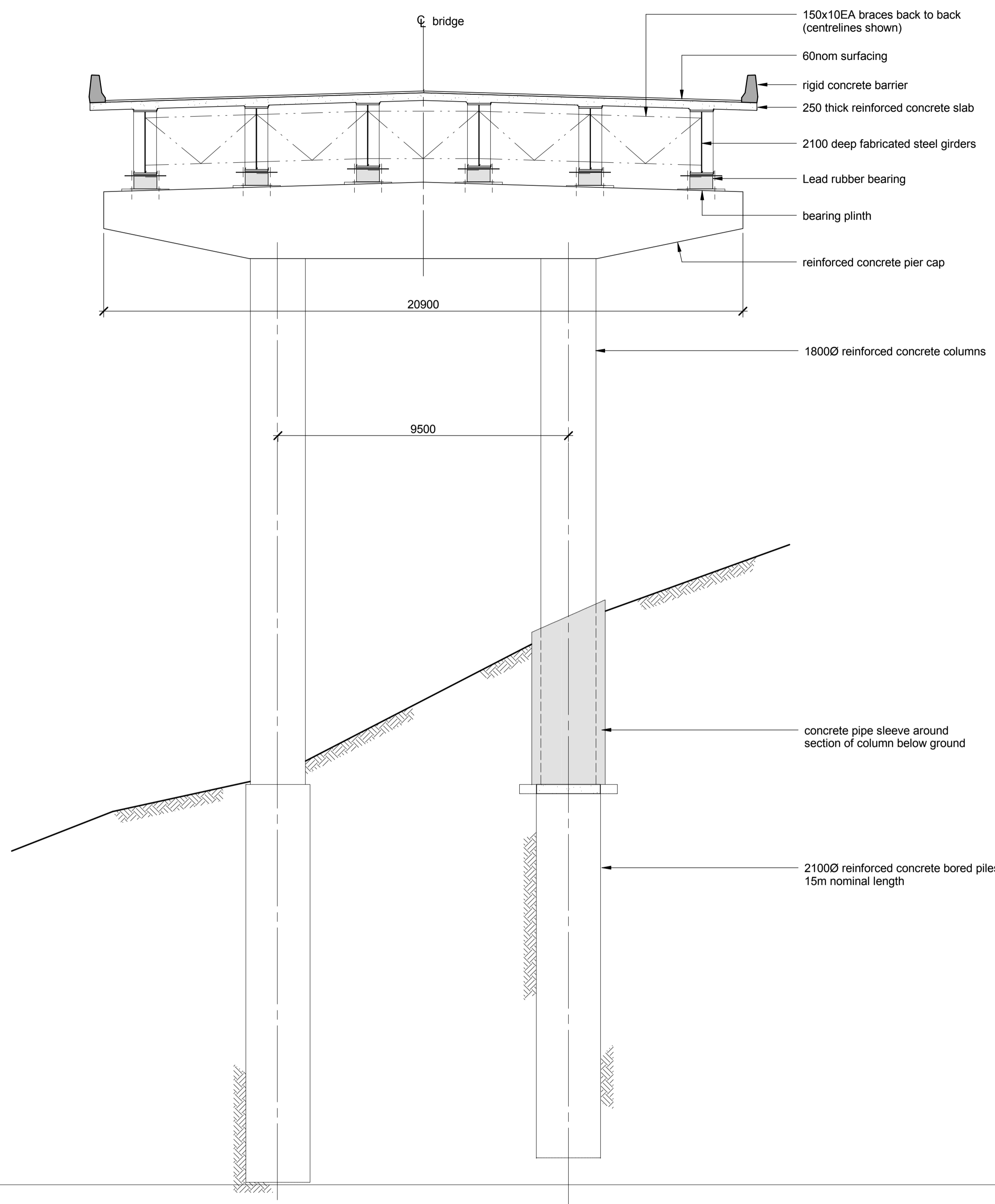
- notes:**
1. Seismic resistance is to be provided by base isolation incorporating mechanical energy dissipation.
 2. Settlement slabs are firmly connected to abutment back walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
 3. Utility services and drainage details not shown.



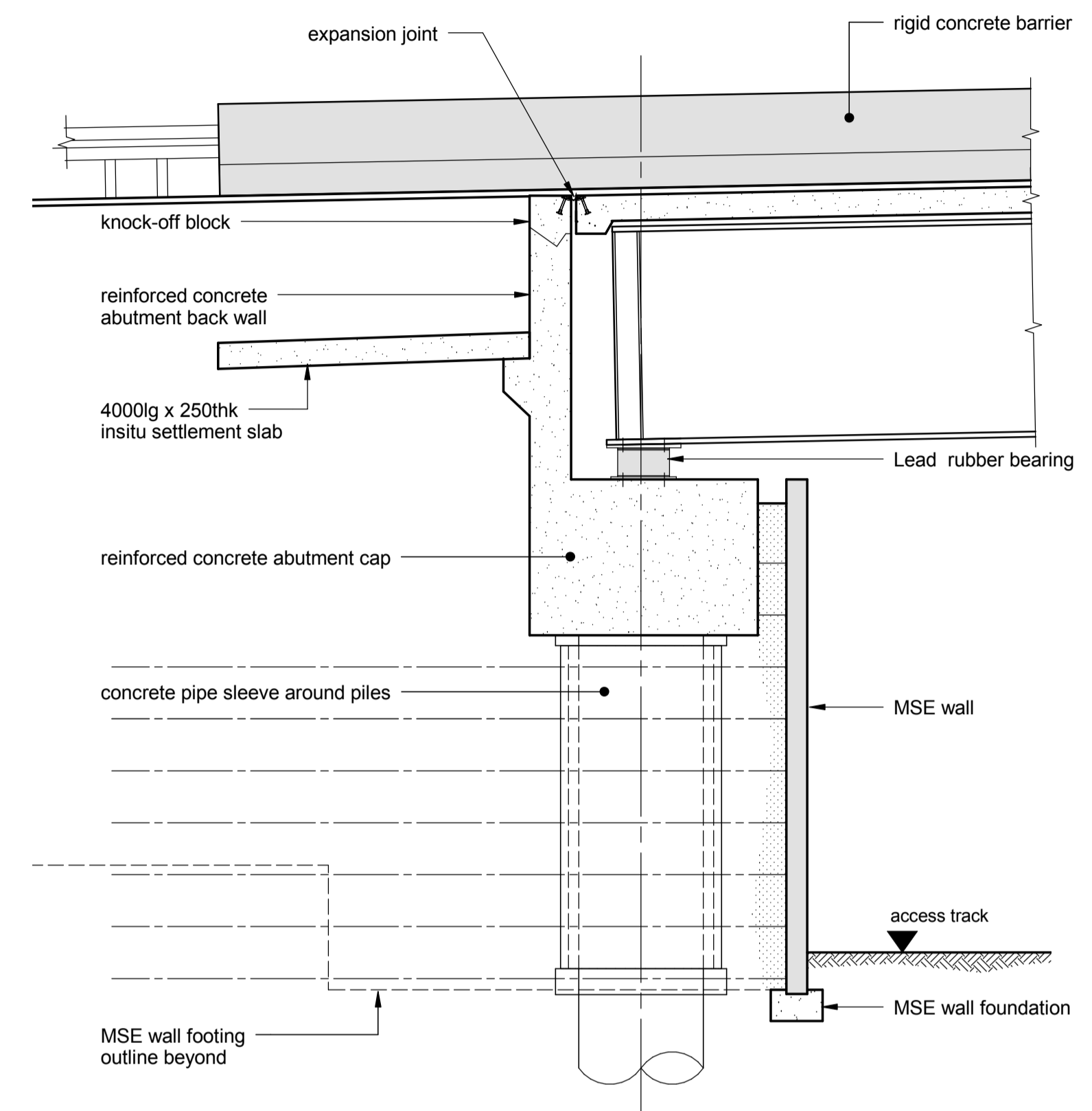
1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



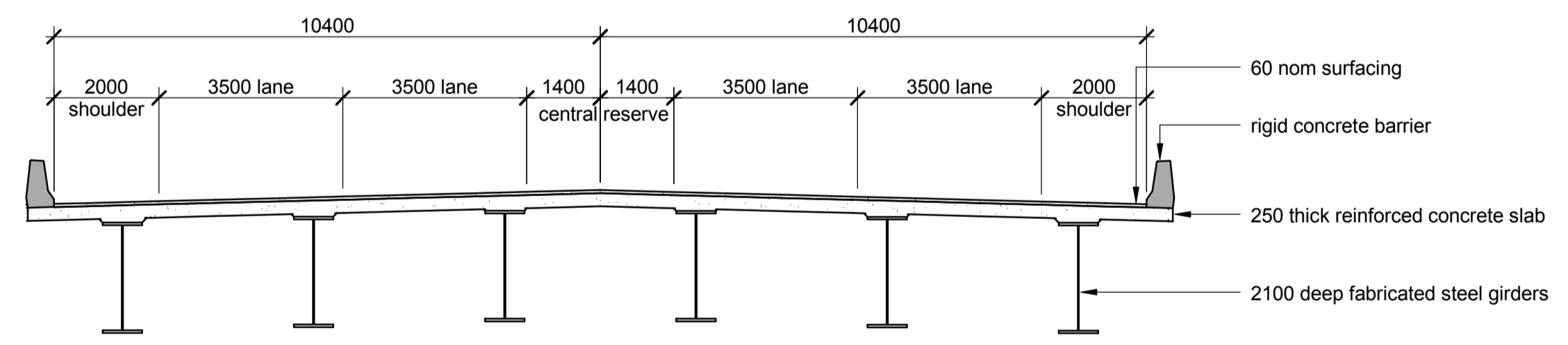
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 17 Plan and Long Section	Status: For consenting
Sheet No. S17-01	Version No. 1



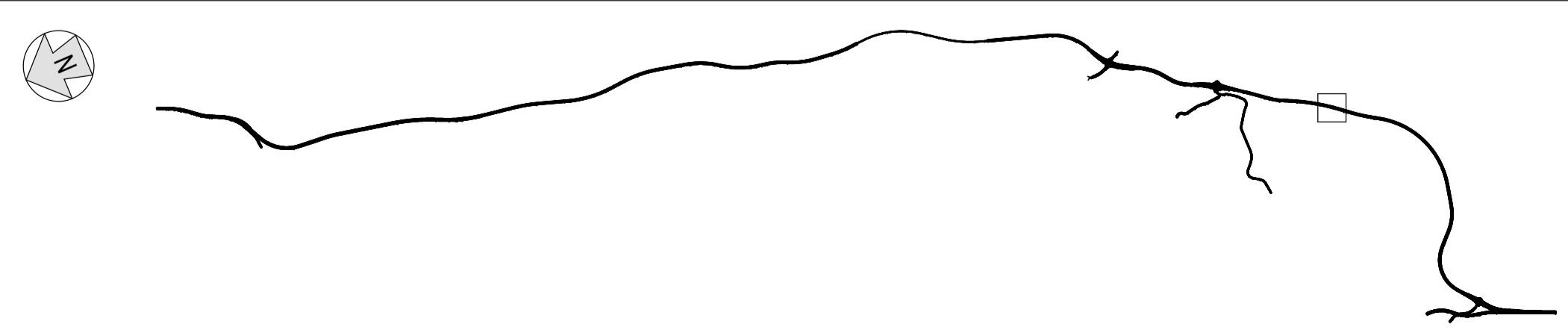
typical cross section at pier
1 : 100



typical abutment section
1 : 50



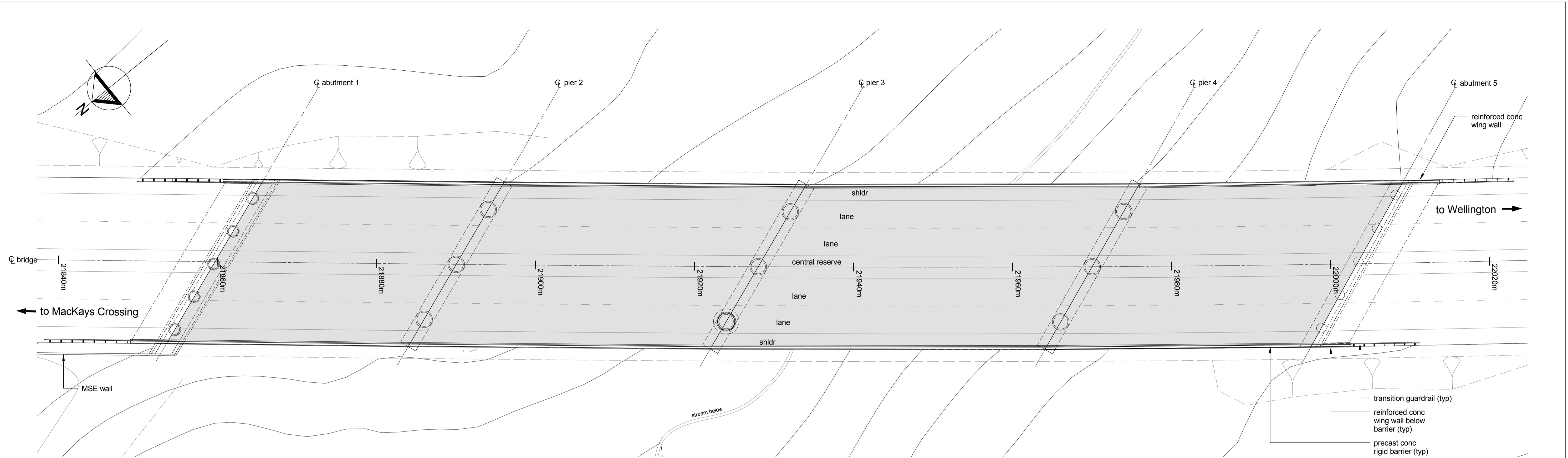
typical cross section
1 : 100



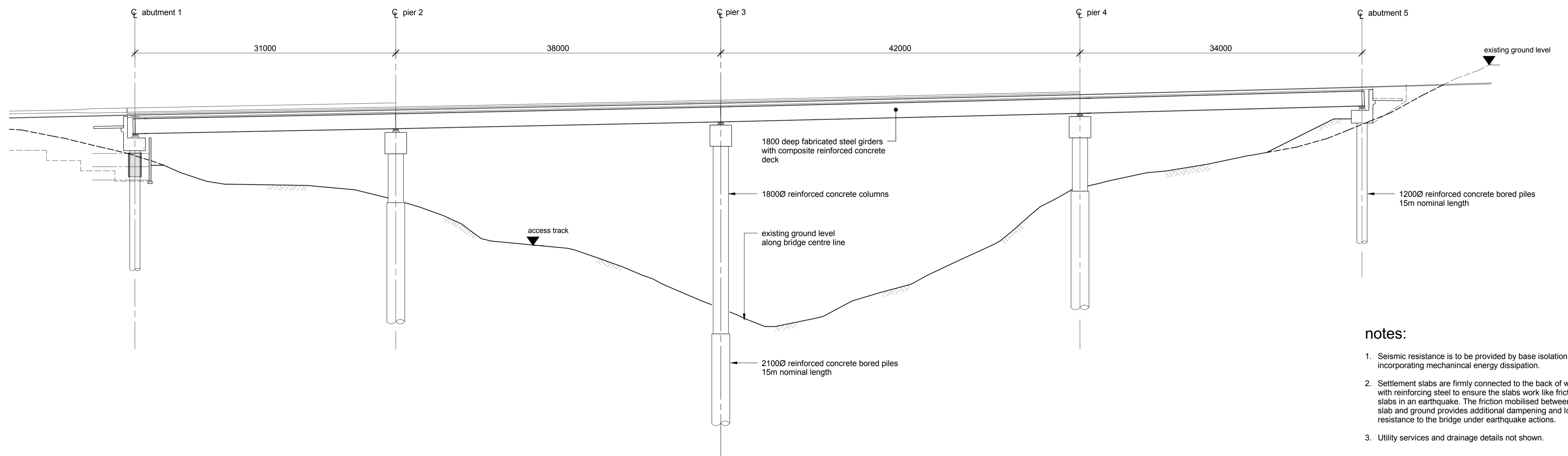
1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



Project.		TRANSMISSION GULLY PROJECT	
Title.	Bridge no. 17 Sections	Status.	For consenting
Sheet No.	S17-02	Version No.	1



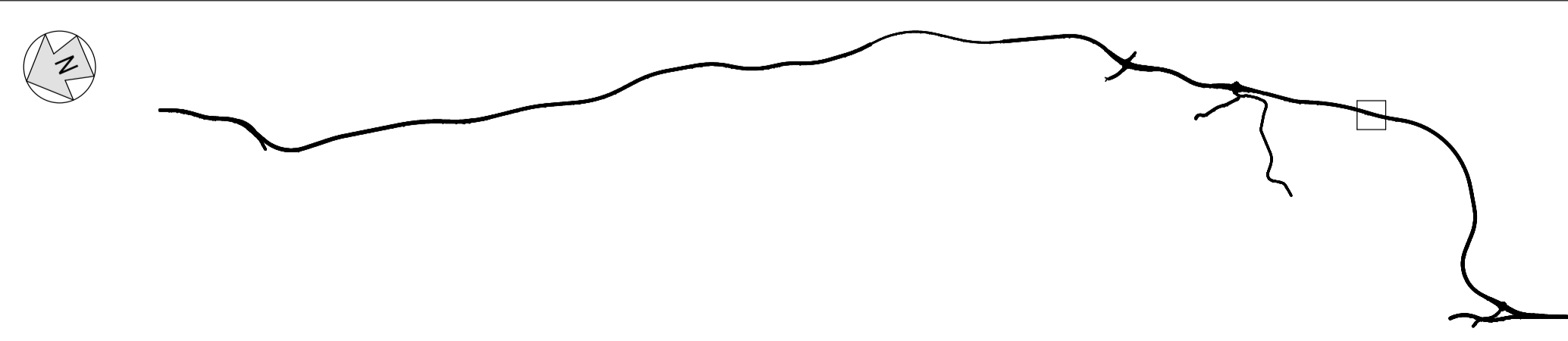
bridge no. 18 plan
1 : 250



bridge no. 18 longitudinal section along TG centre line
1 : 250

notes:

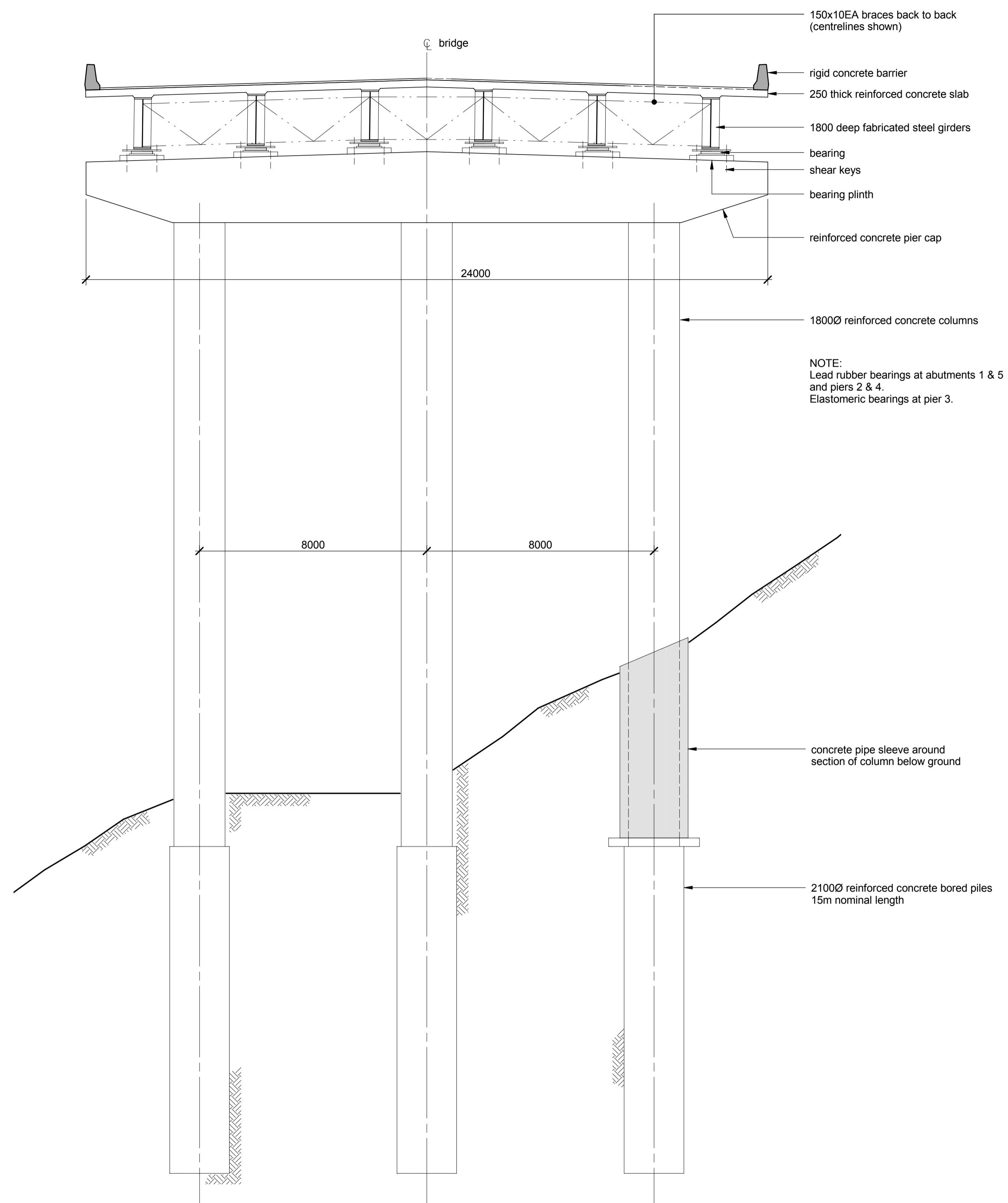
1. Seismic resistance is to be provided by base isolation incorporating mechanical energy dissipation.
2. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services and drainage details not shown.



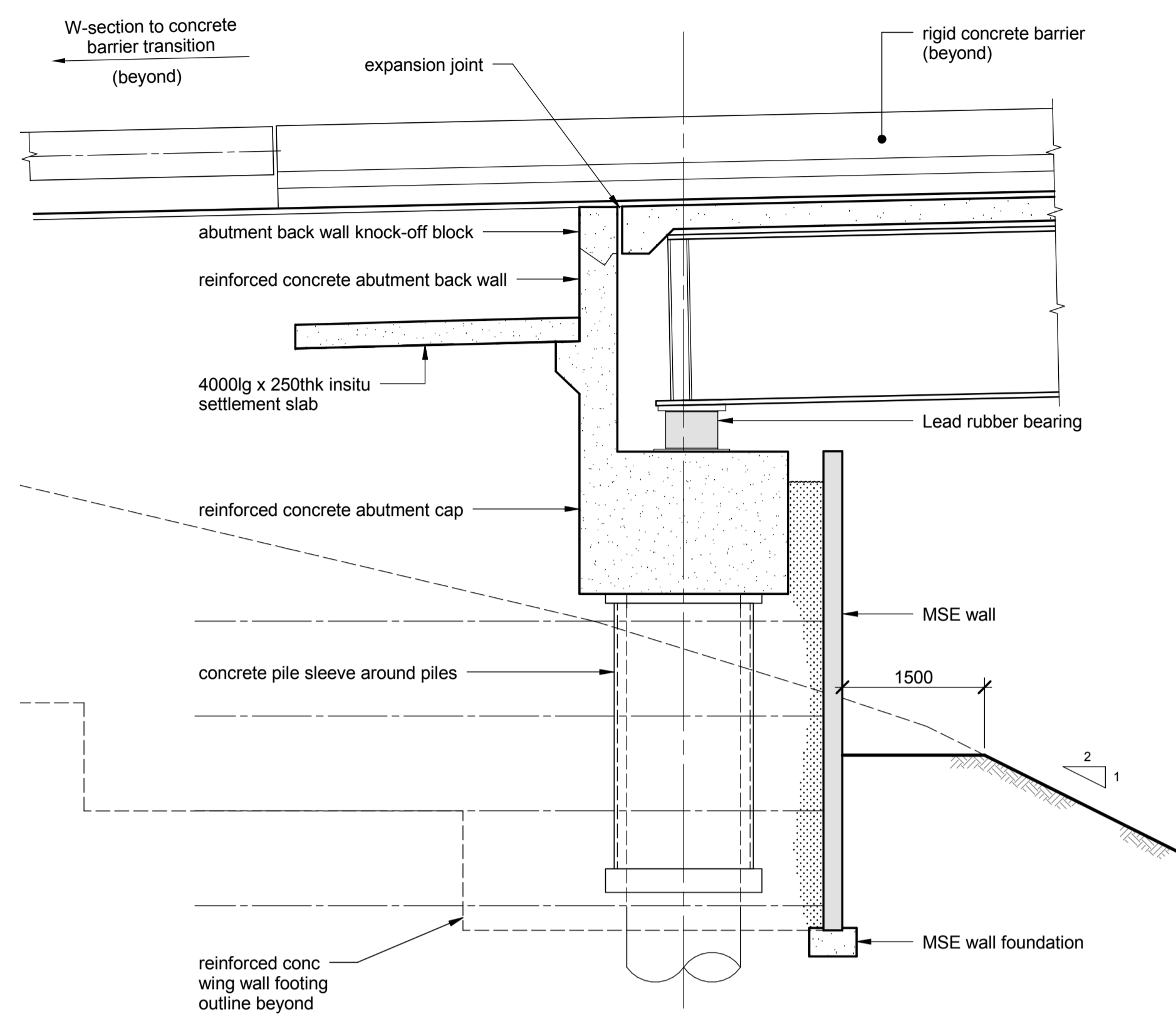
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



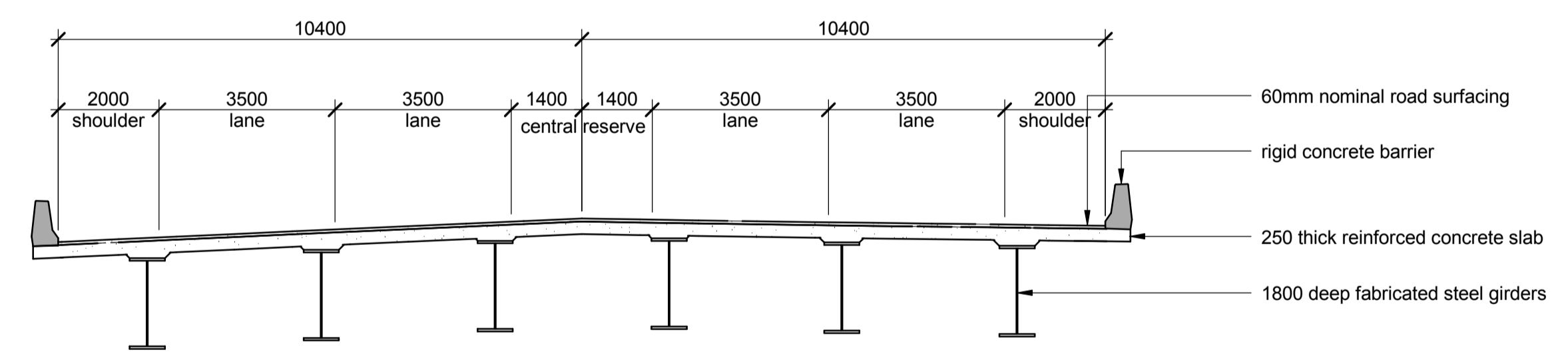
Project. TRANSMISSION GULLY PROJECT	
Title. Bridge no. 18 Plan and Long Section	Status. For consenting
Sheet No. S18-01	Version No. 1



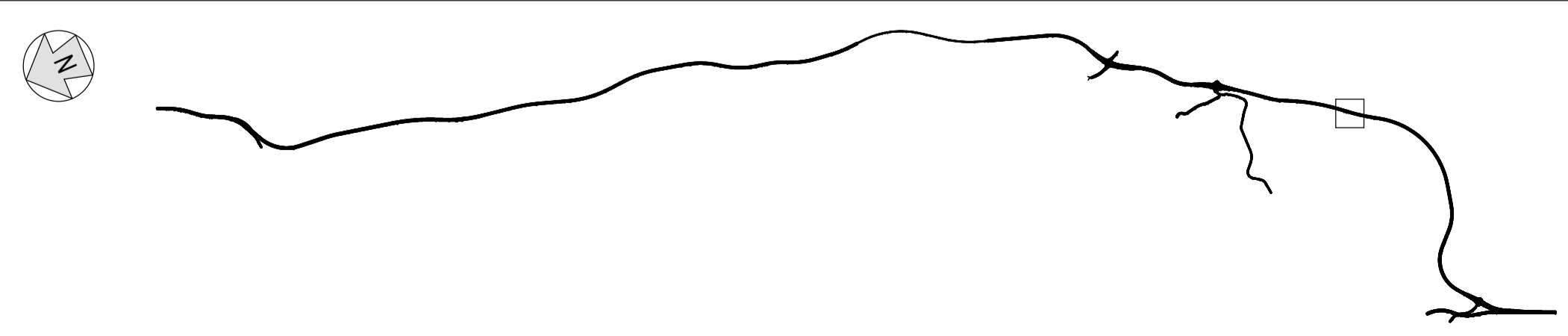
bridge no. 18 typical cross section along pier
1 : 100
section parallel to pier 3



north abutment section
1 : 50



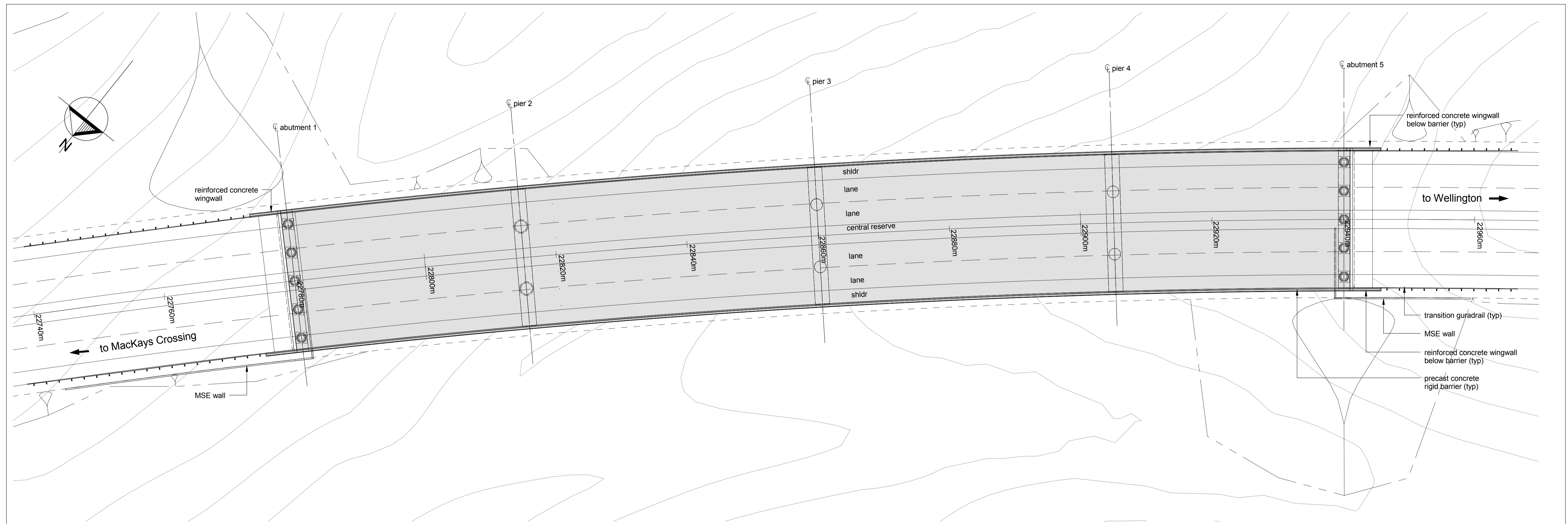
bridge no. 18 typical cross section
1 : 100



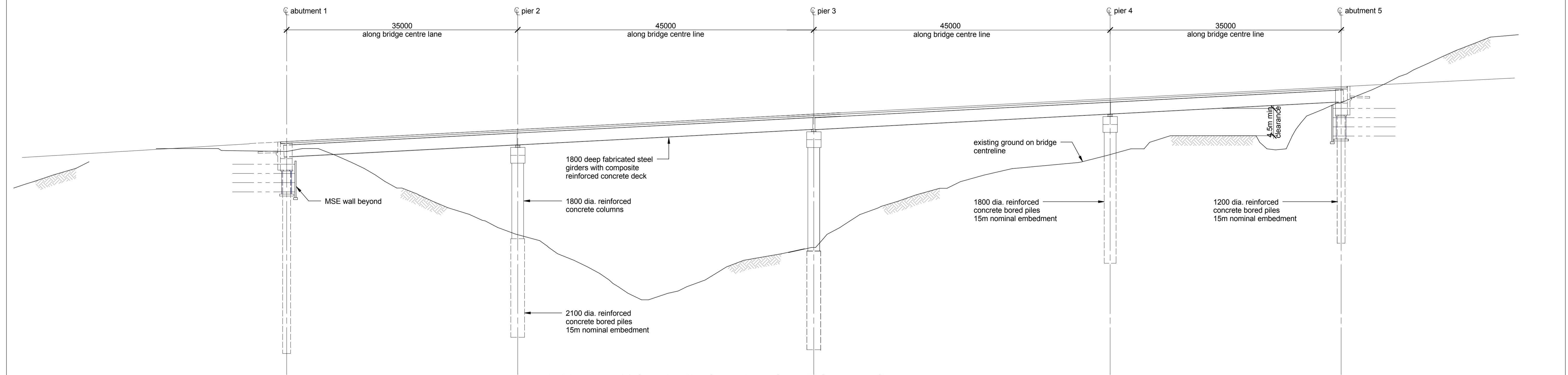
1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



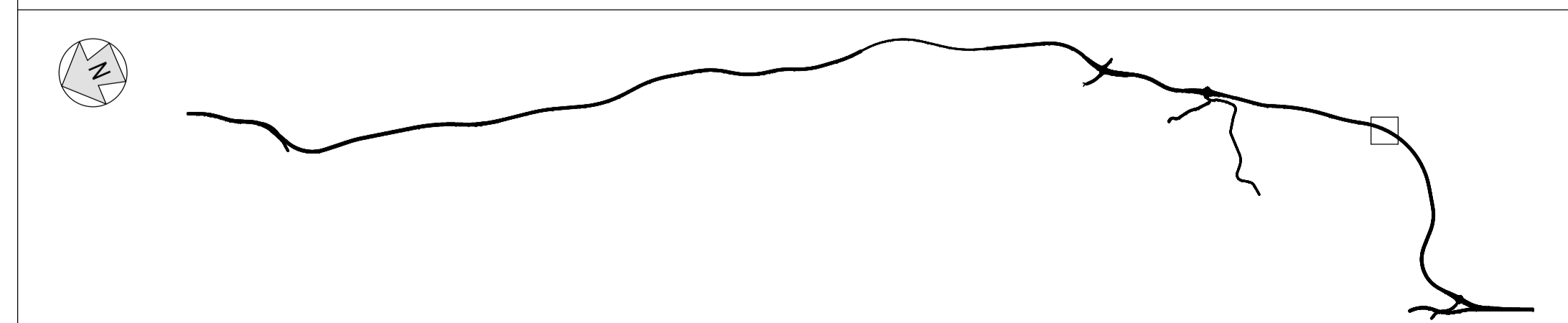
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 18 Sections	Status: For consenting
Sheet No. S18-02	Version No. 1



bridge no. 19 plan
1 : 300



bridge no. 19 longitudinal section along TG centre line
1 : 300



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11

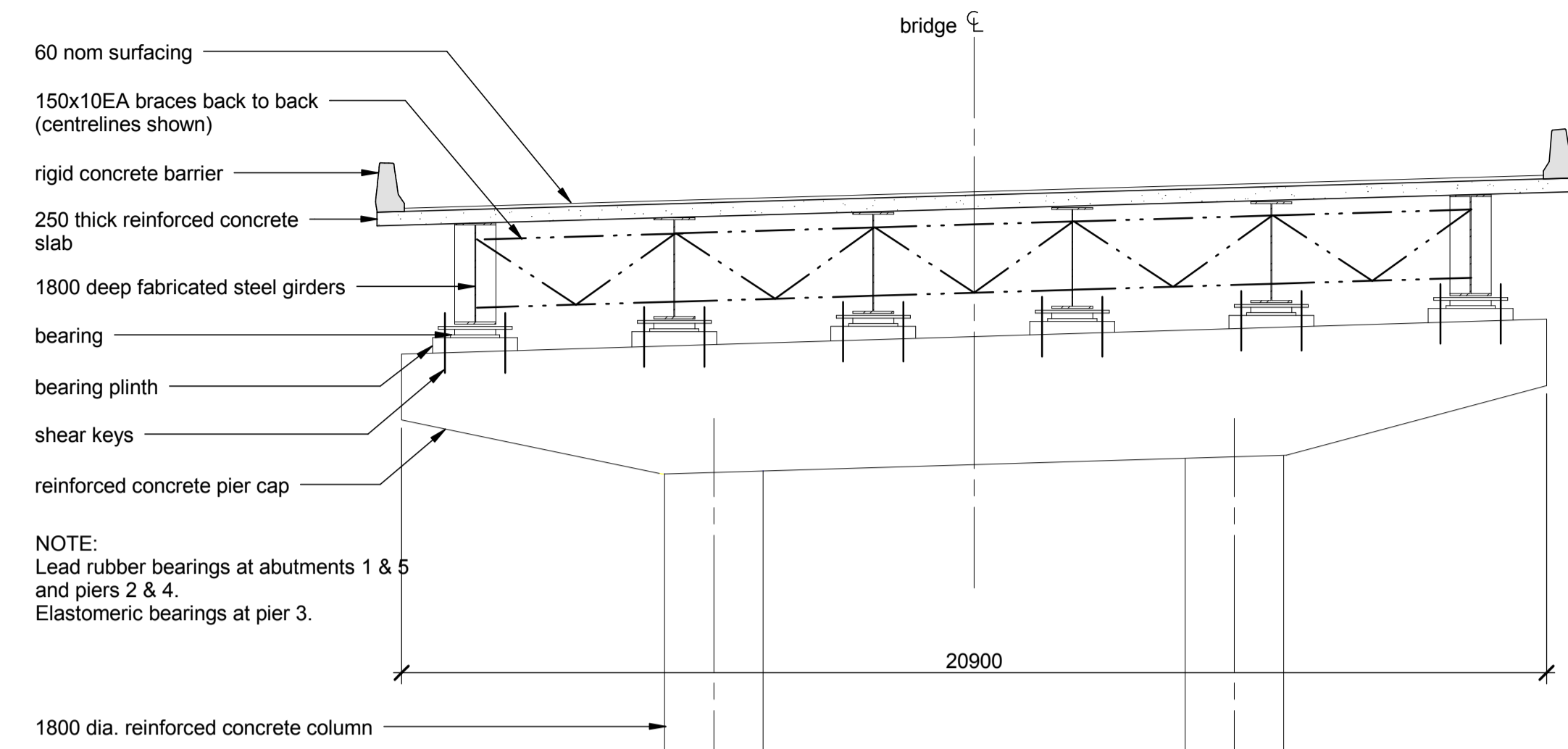


Project: TRANSMISSION GULLY PROJECT

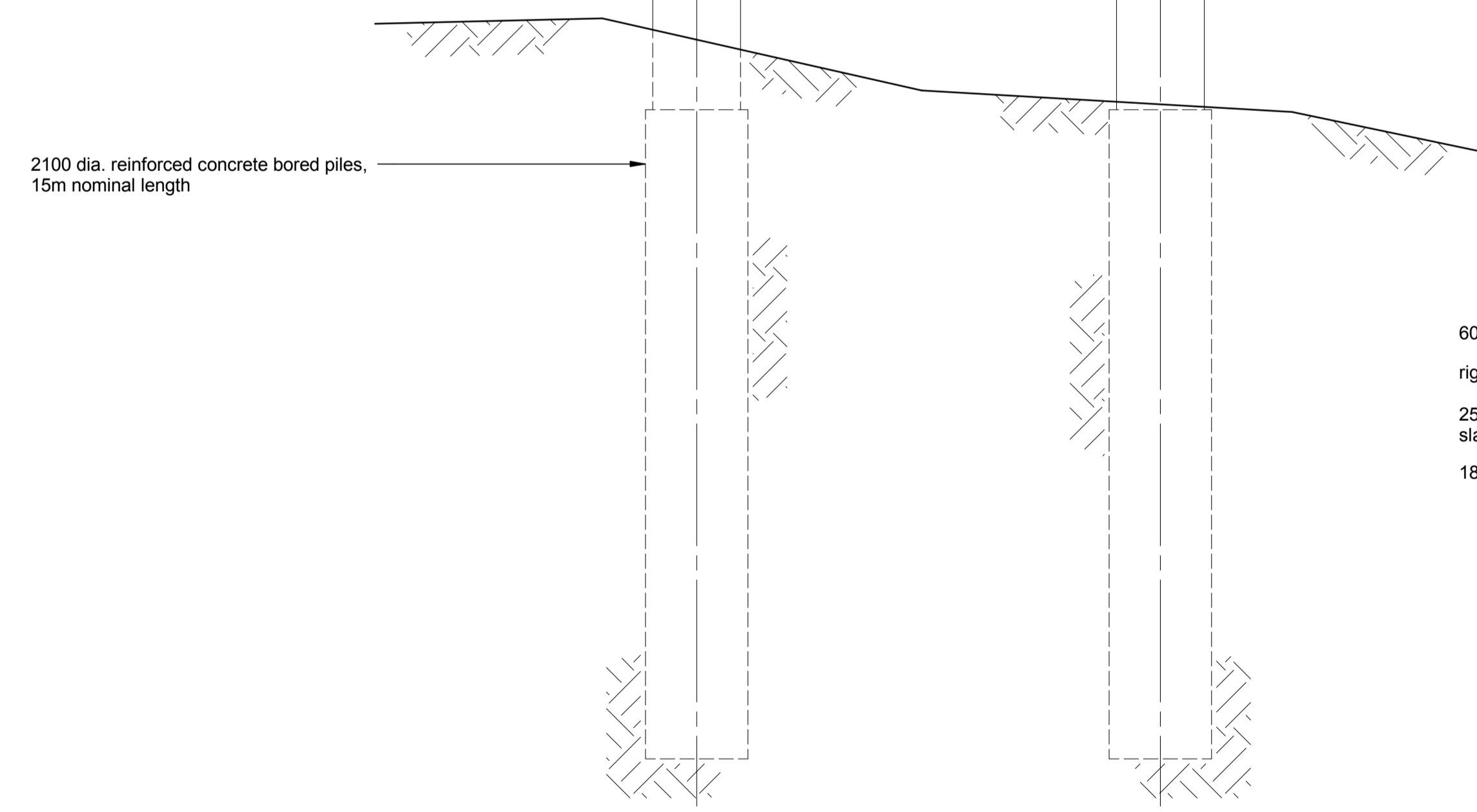
Title: Bridge no. 19
Plan and Long Section

Status: For consenting

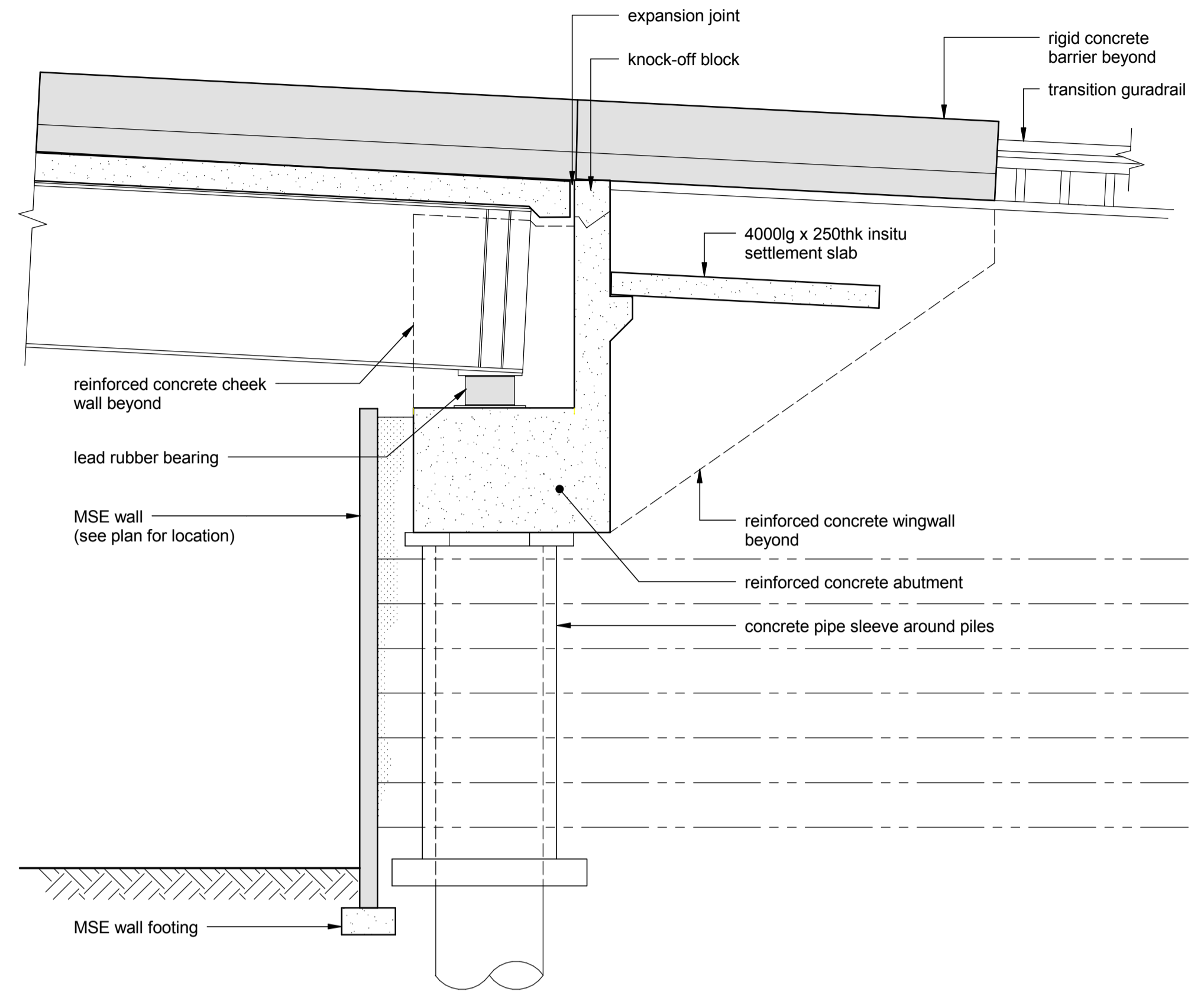
Sheet No. S19-01
Version No. 1



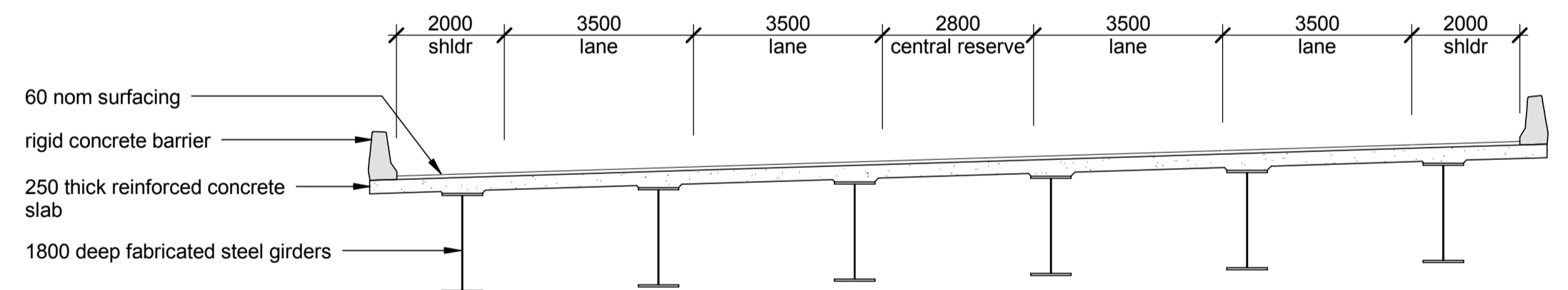
NOTE:
Lead rubber bearings at abutments 1 & 5
and piers 2 & 4.
Elastomeric bearings at pier 3.



typical cross section at pier
1 : 100



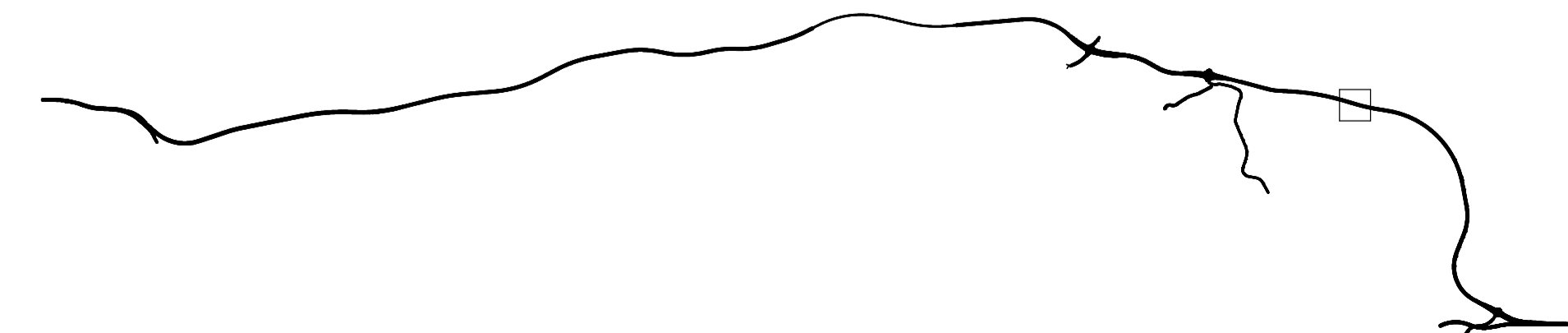
typical abutment section
1 : 50



typical cross section
1 : 100

notes:

1. Seismic resistance is to be provided by base isolation incorporating mechanical energy dissipation.
2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services and drainage details not shown.



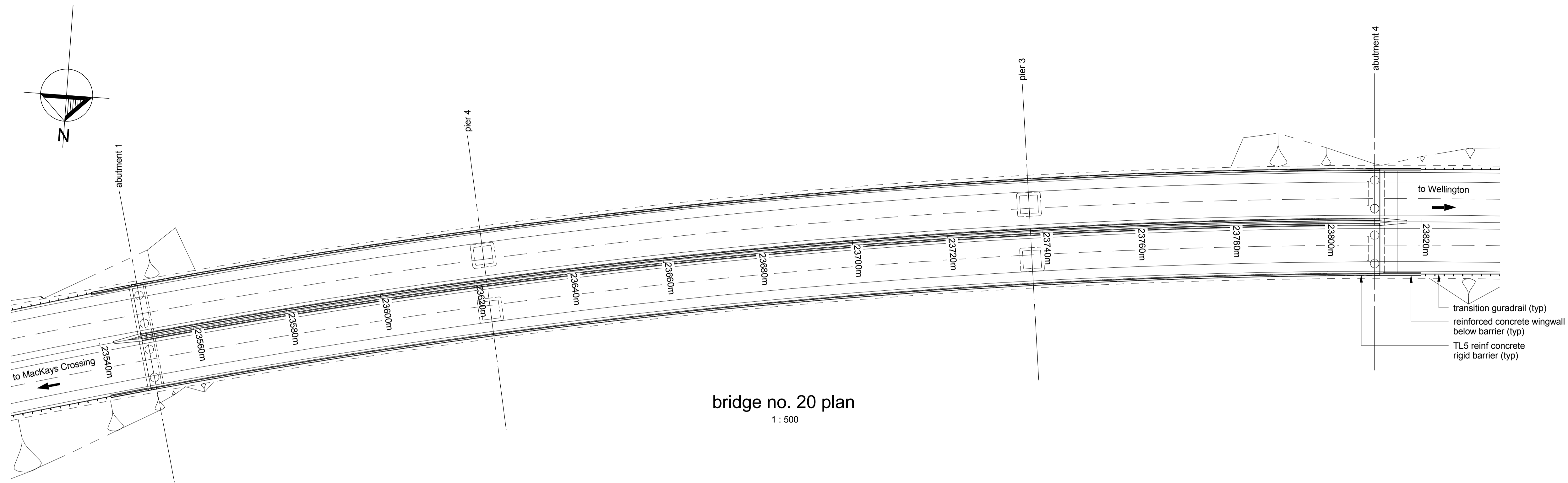
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



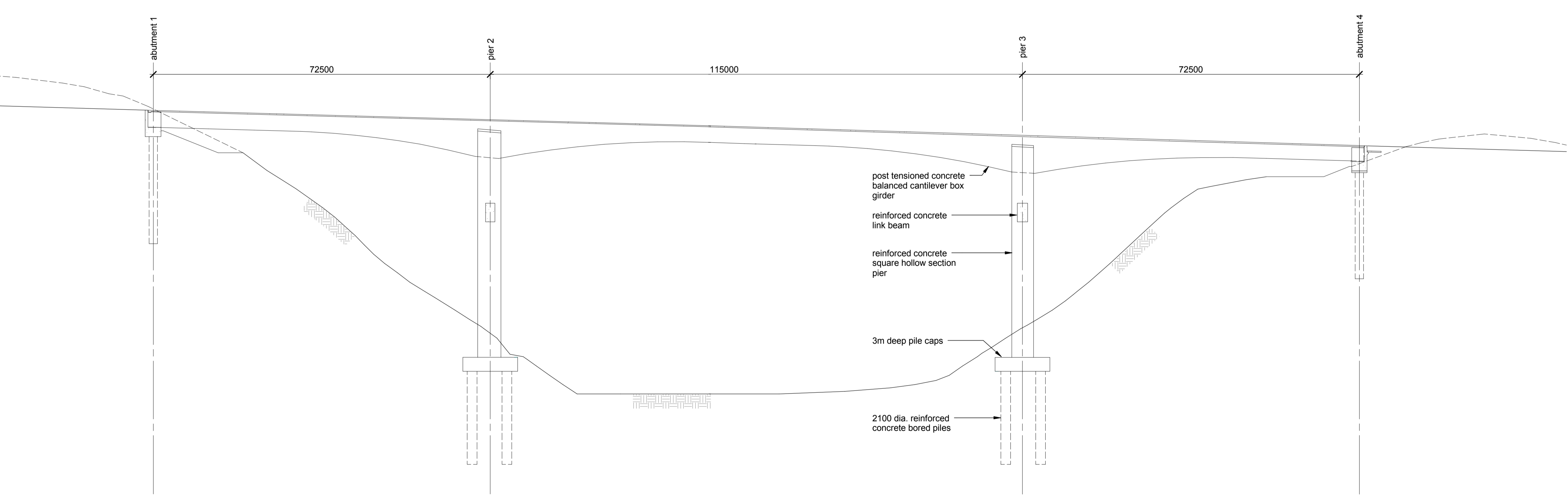
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 19 Sections	Status: For consenting
Sheet No. S19-02	Version No. 1

notes:

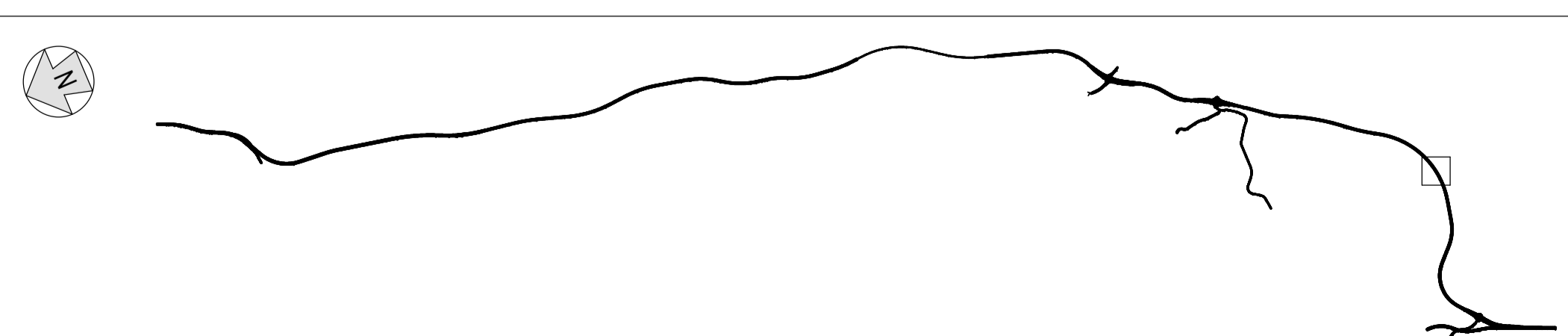
1. Permanent access hatches are to be provided to hollow piers to enable repair of enclosed pier faces following a major earthquake.
2. Alternatively solid pier sections located at plastic hinges zones could be considered. This may eliminate the need to enter the piers to carry out post earthquake repairs. This alternative will be investigated further in later design phases.
3. Access will be provided to the main box girders for inspection and repair activities.
4. Utility services and drainage details not shown.



bridge no. 20 plan
1 : 500



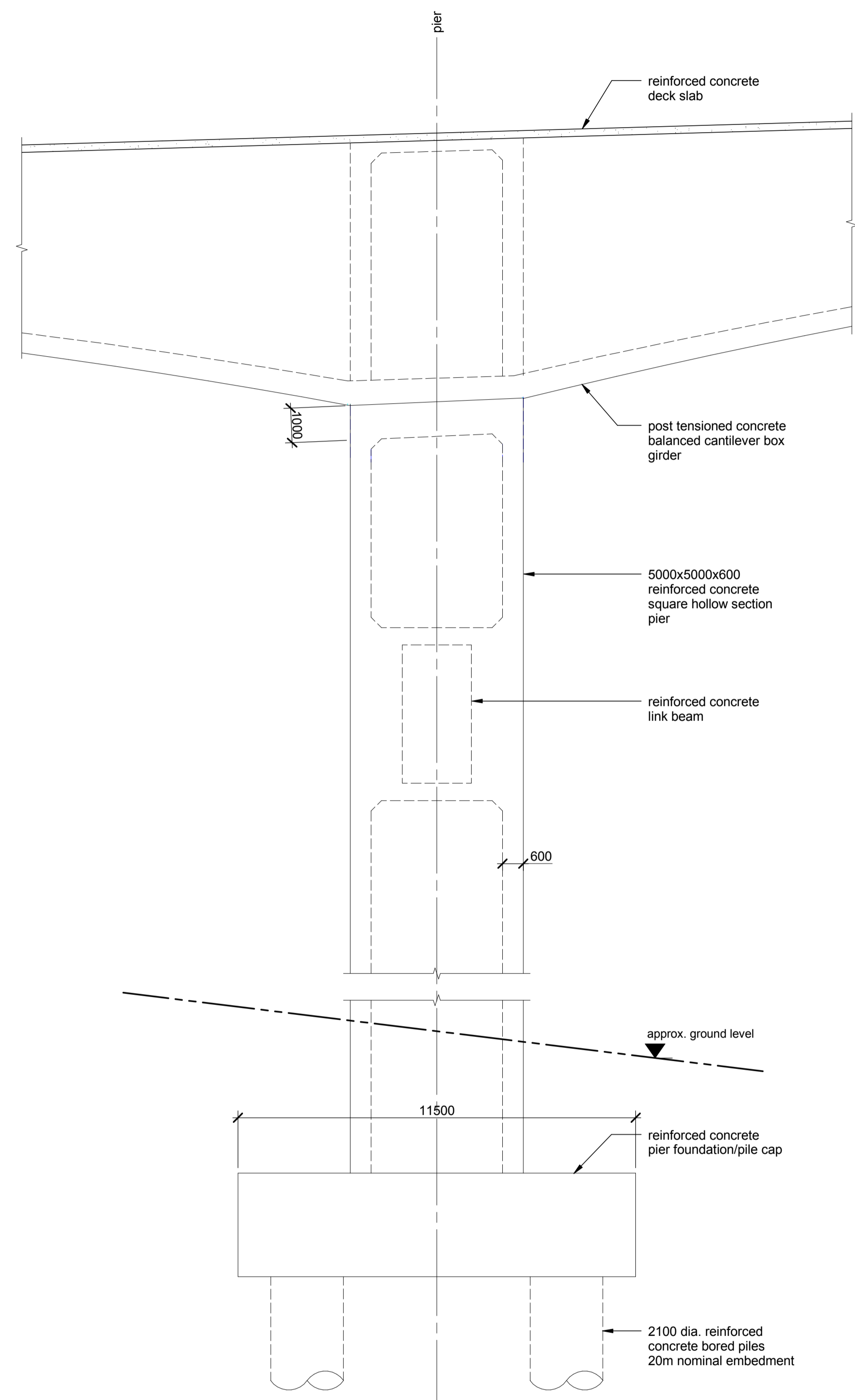
bridge no. 20 longitudinal section along TG centre line
1 : 500



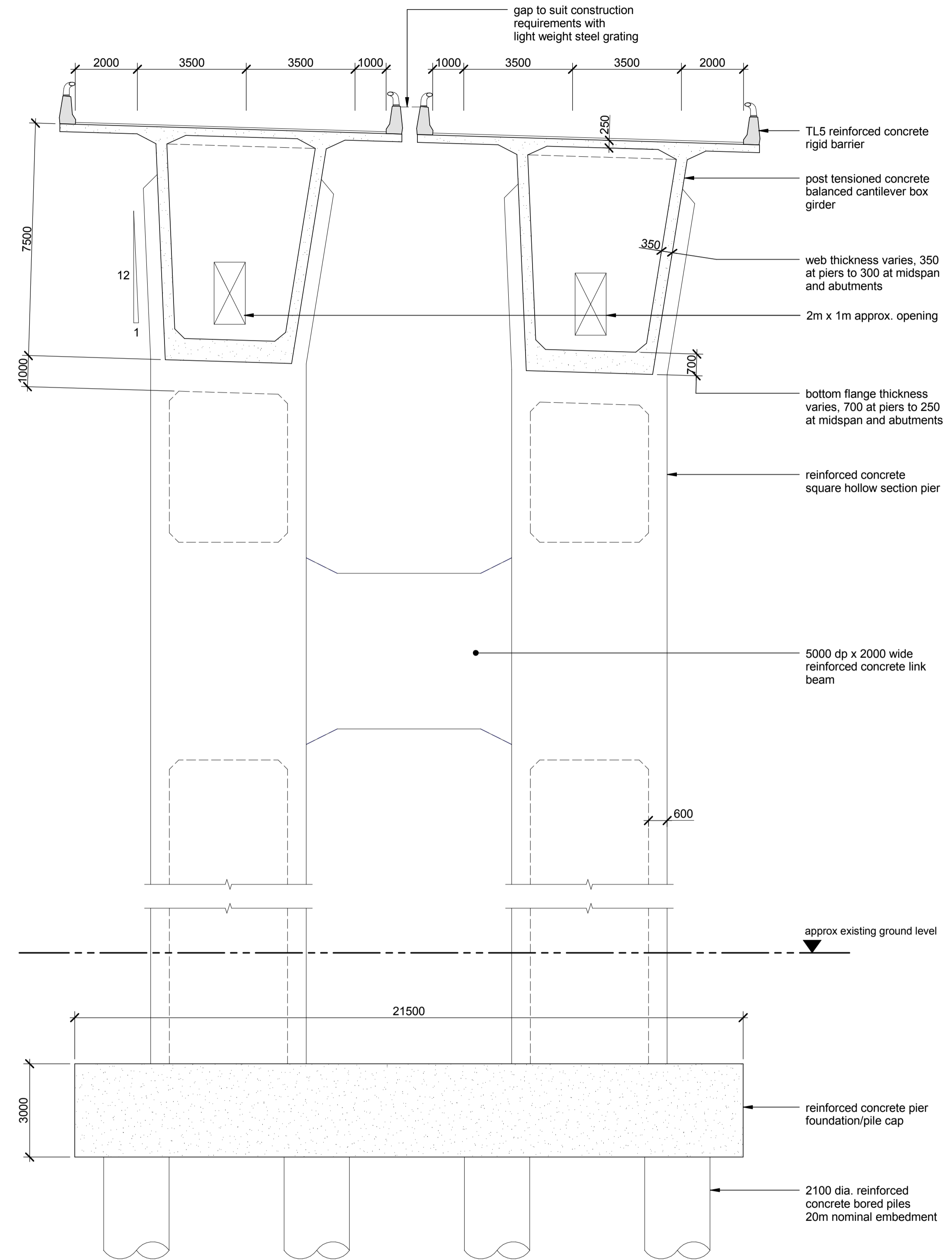
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



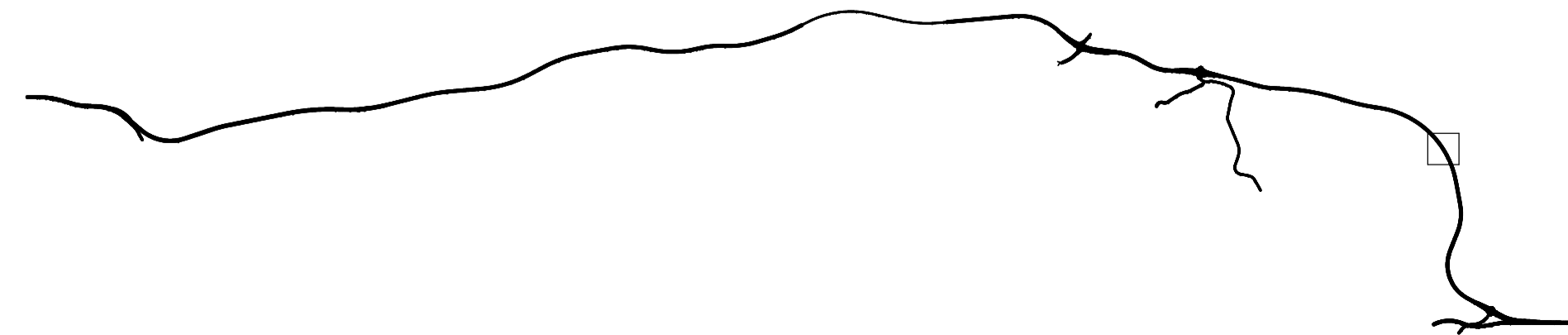
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 20 Plan and Elevation	Status: For consenting
Sheet No. S20-01	Version No. 1



bridge no. 20 pier elevation
1 : 100



bridge no. 20 pier sectional elevation
1 : 100



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11

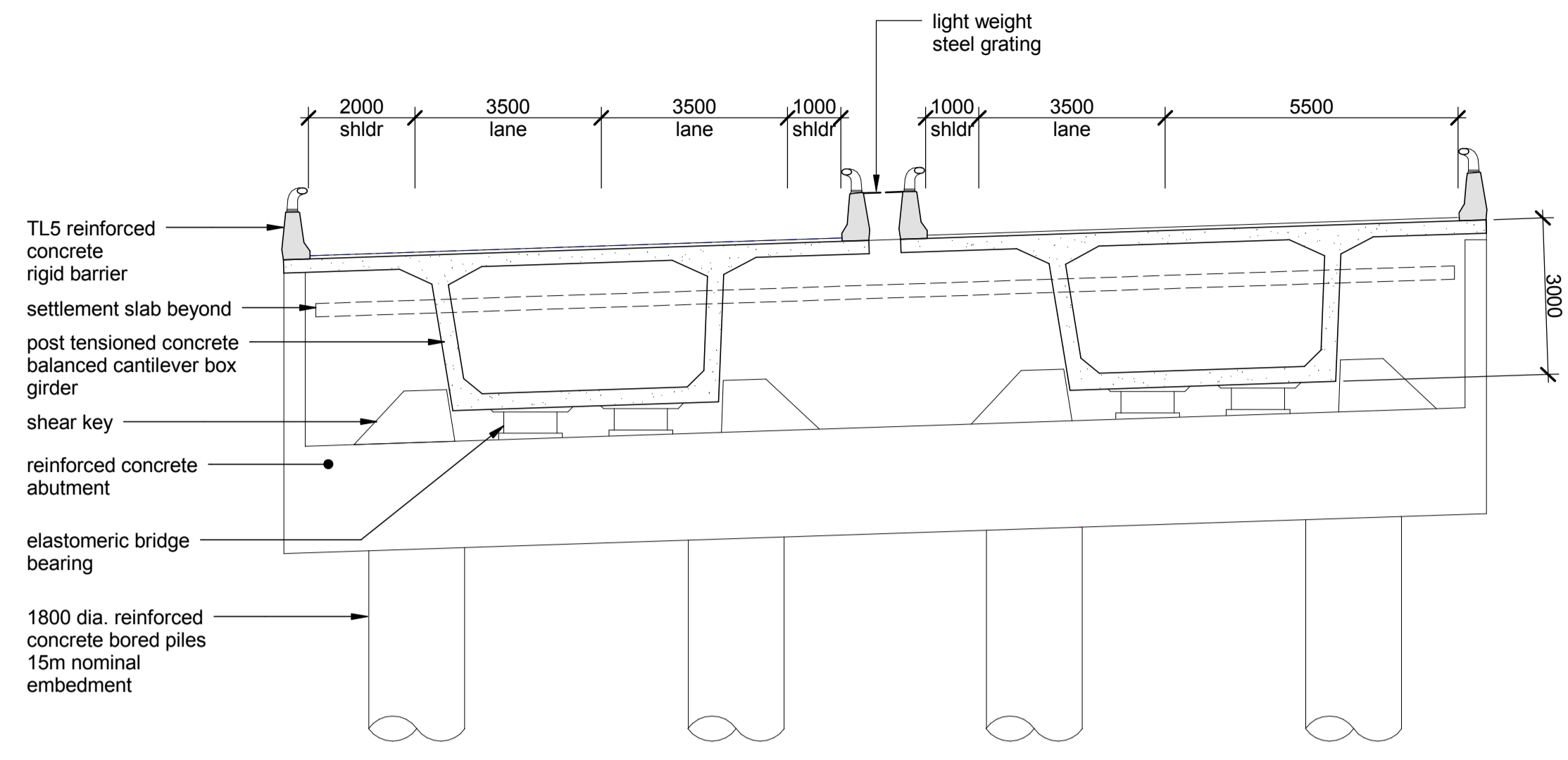


Project: **TRANSMISSION GULLY PROJECT**

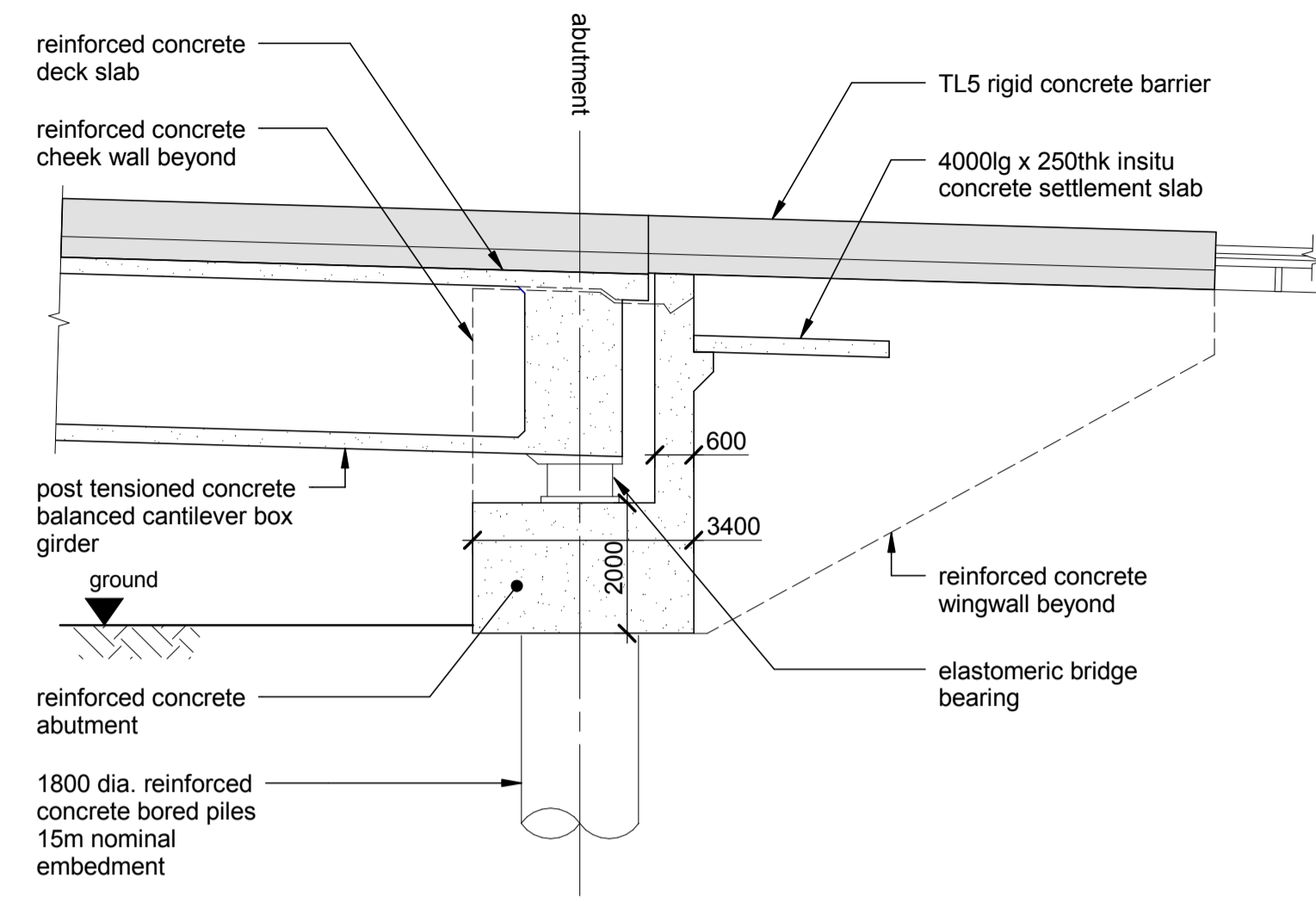
Title: **Bridge no. 20 Sections**

Status: **For consenting**

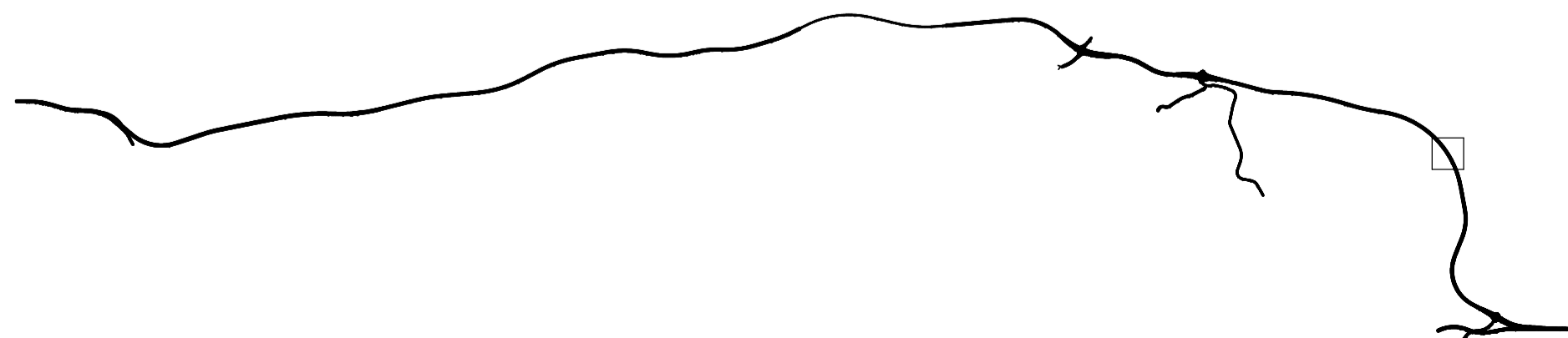
Sheet No. **S20-02** Version No. **1**



bridge no. 20 abutment elevation
1 : 100



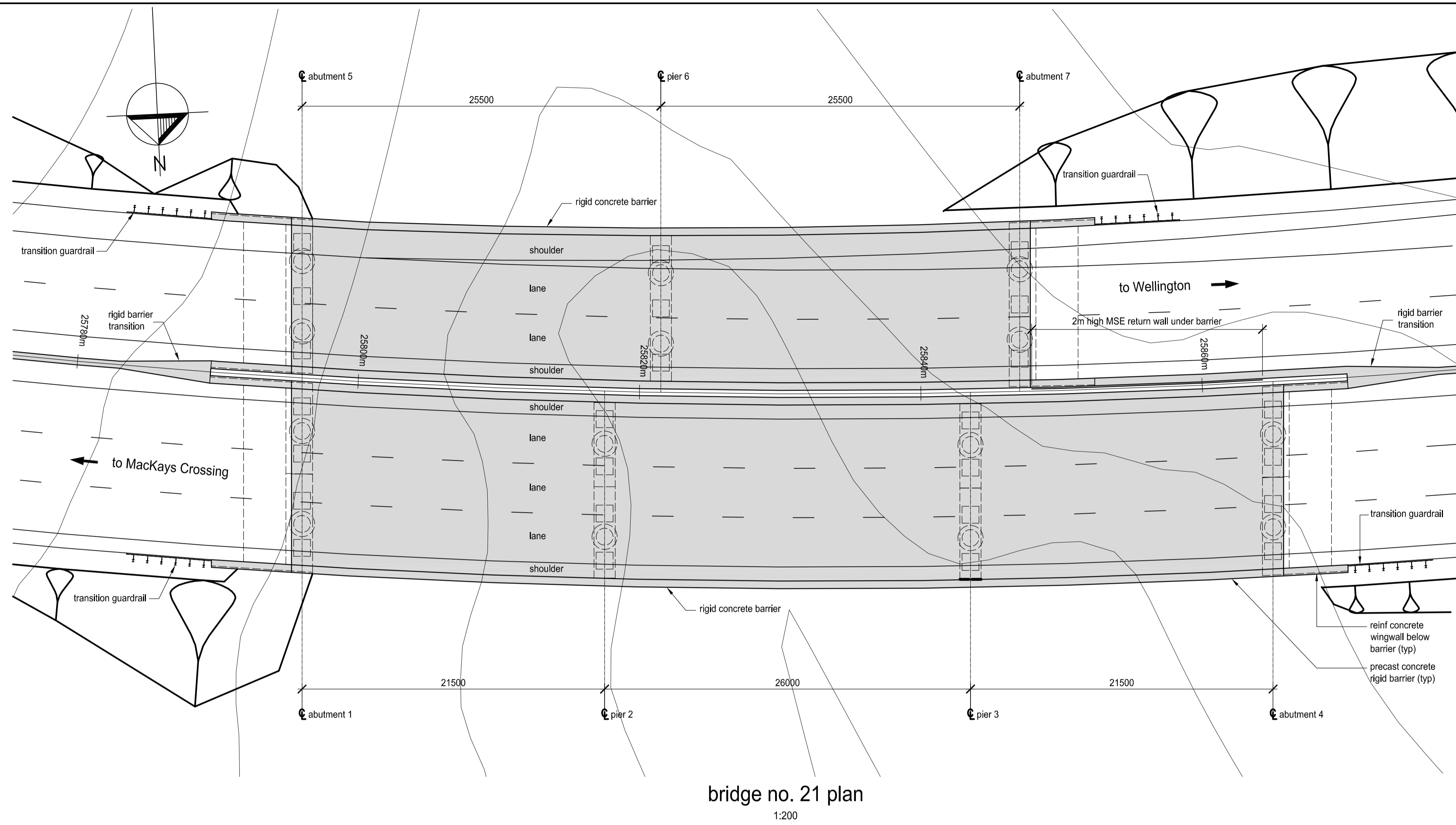
abutment section
1 : 100



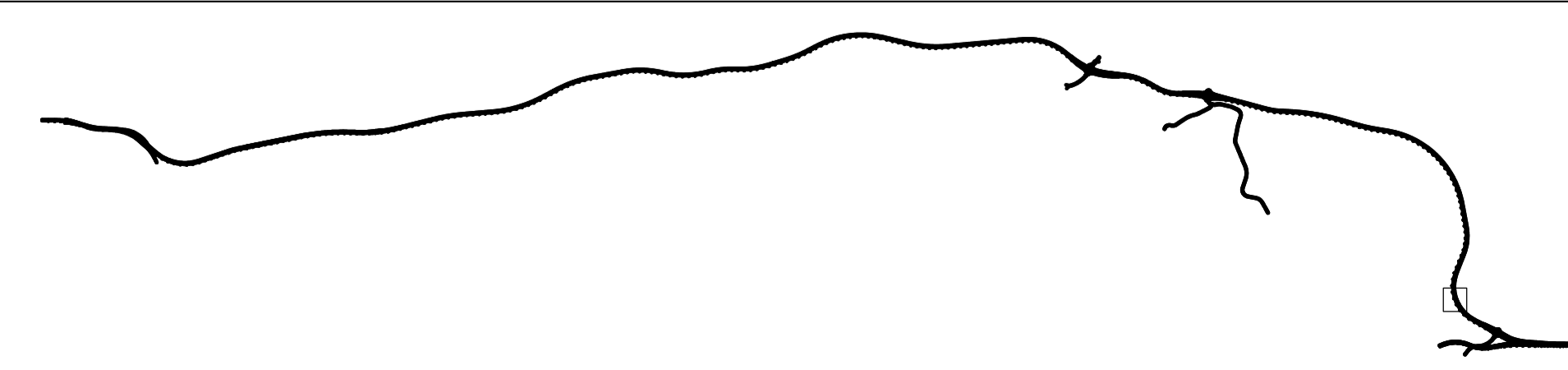
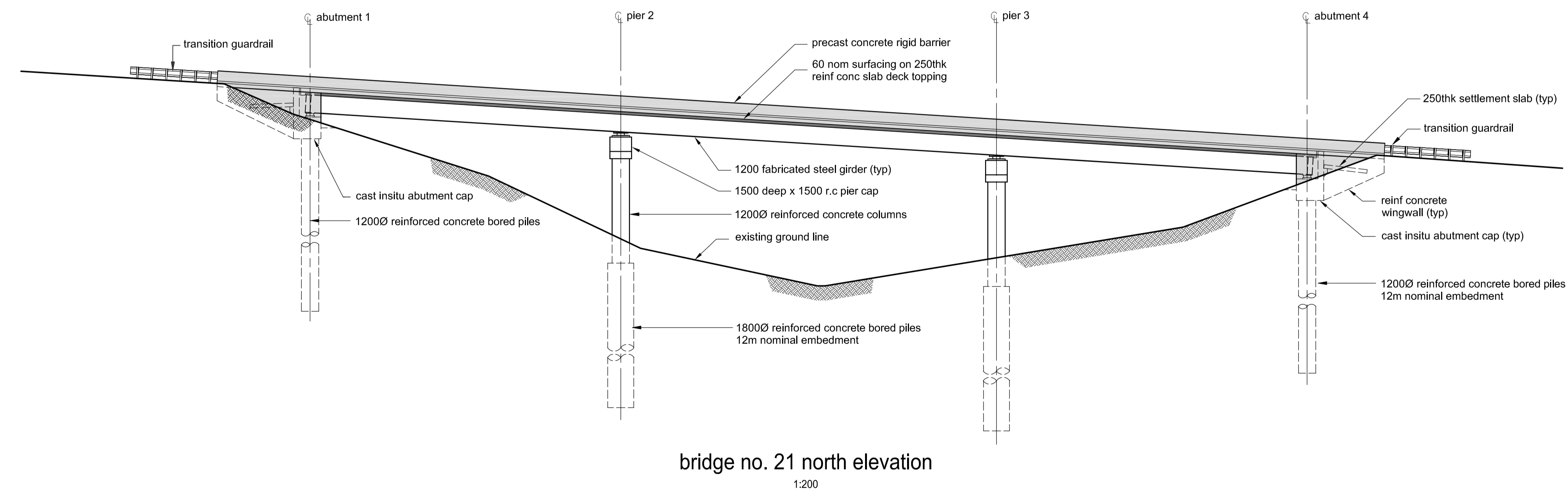
1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 20 Abutment Details	Status: For consenting
Sheet No. S20-03	Version No. 1



- notes:
1. Linkage bars, shear keys and other provisions for resisting seismic loads not shown.
 2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
 3. Utility services & drainage details not shown.



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



Project. **TRANSMISSION GULLY PROJECT**

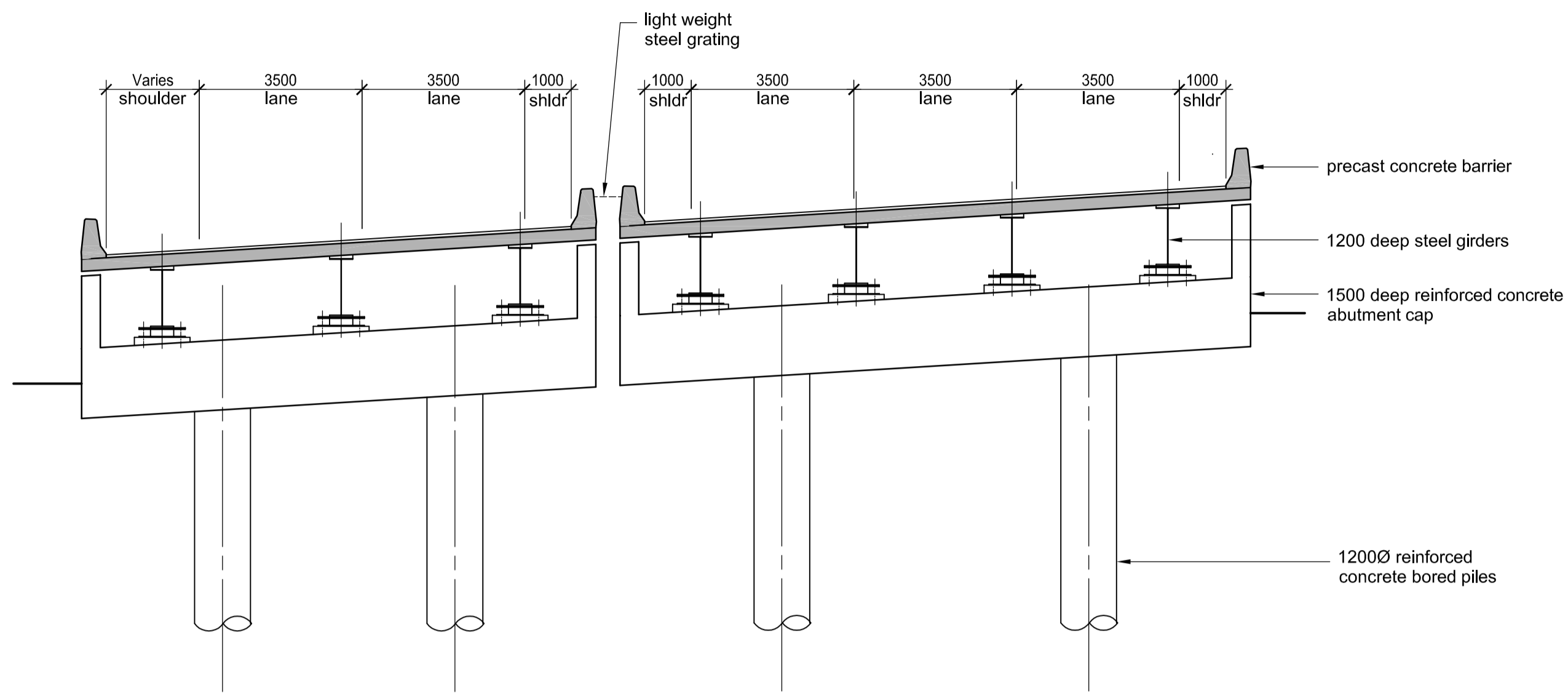
Title. **Bridge no. 21 Plan and Elevation**

Status. **For consenting**

Sheet. No. **S21-01** Version No. **1**

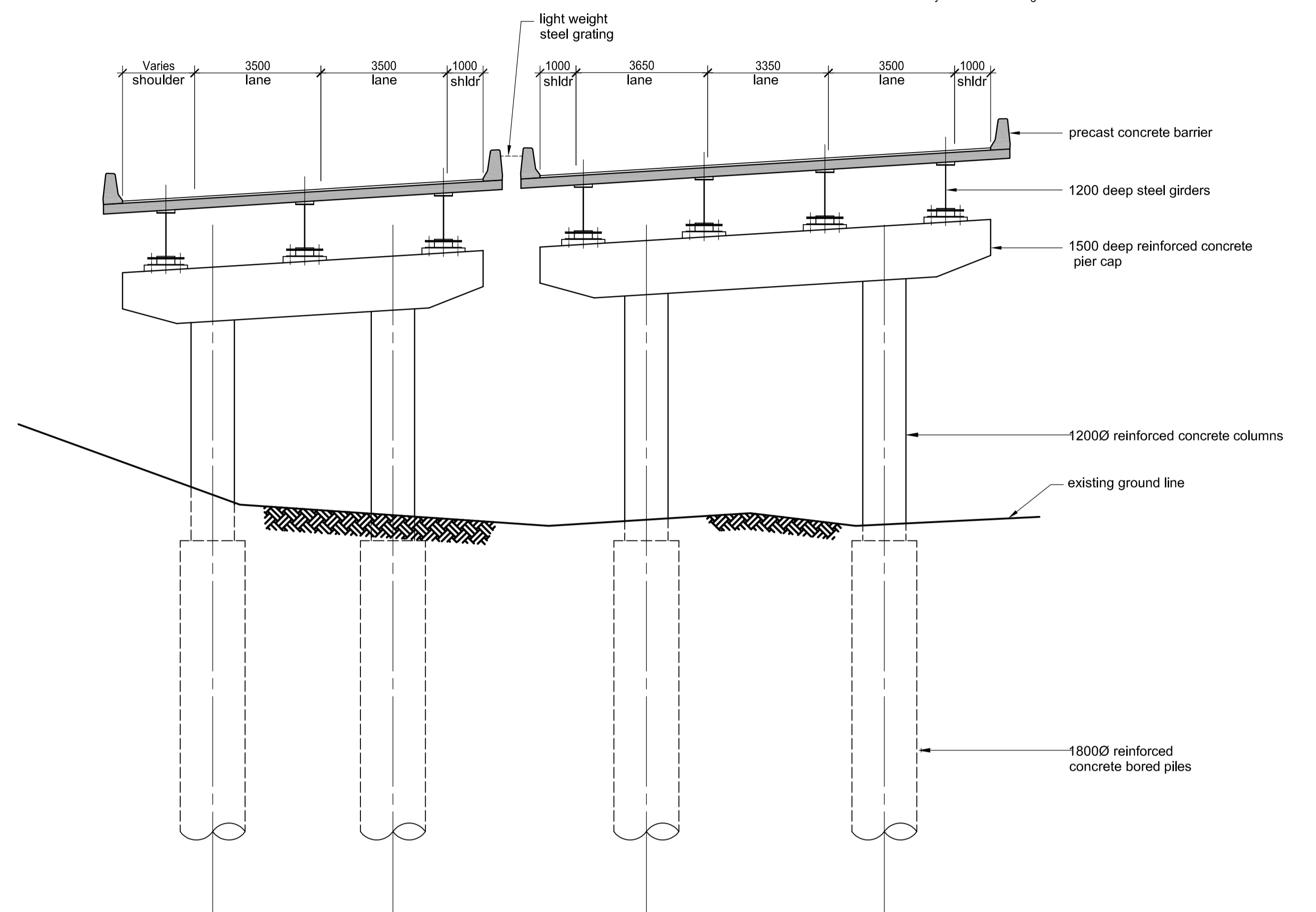
notes:

1. Linkage bars, shear keys and other provisions for resisting seismic loads not shown.
2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services & drainage details not shown.



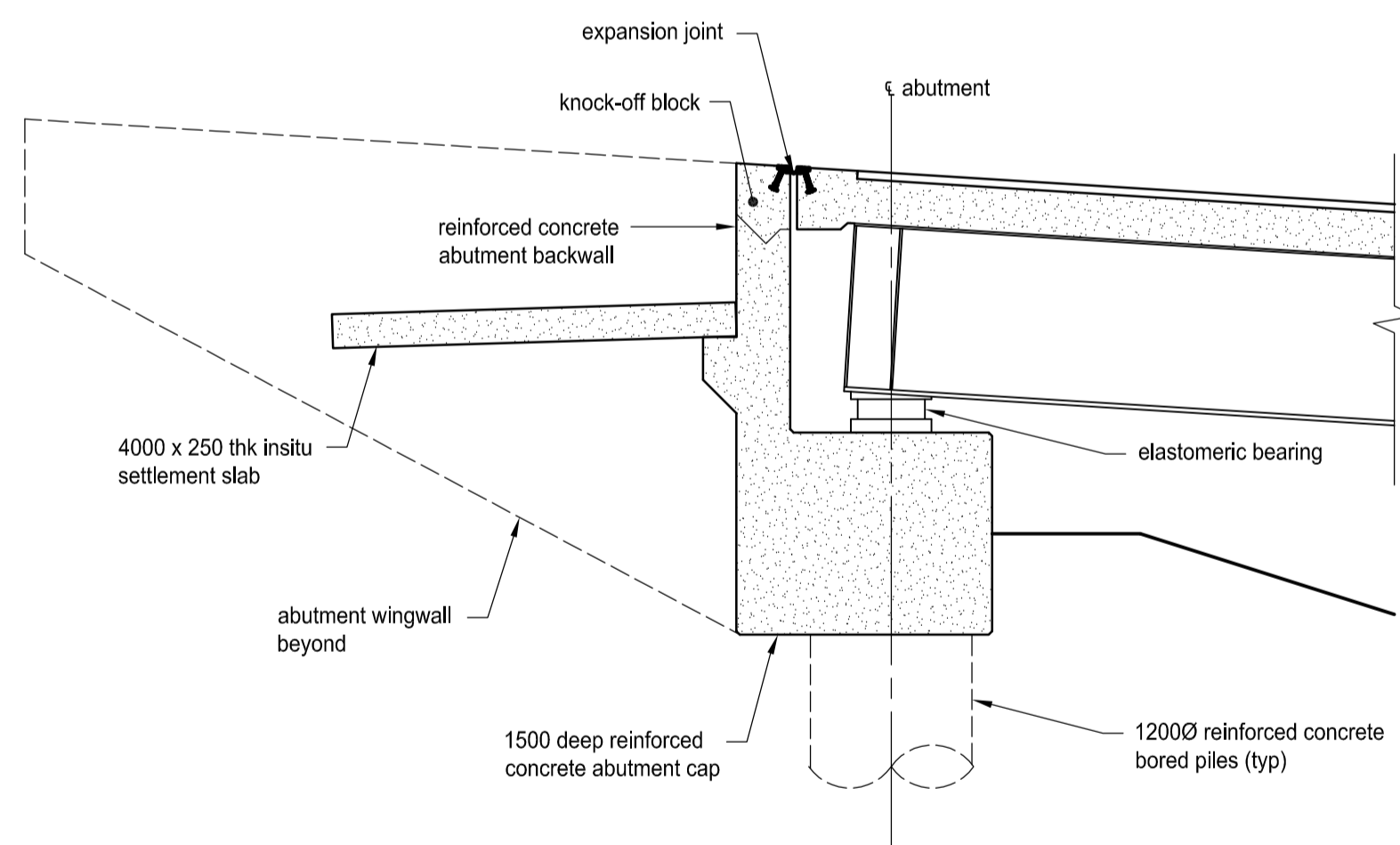
bridge no. 21 cross section along abutment

1:100



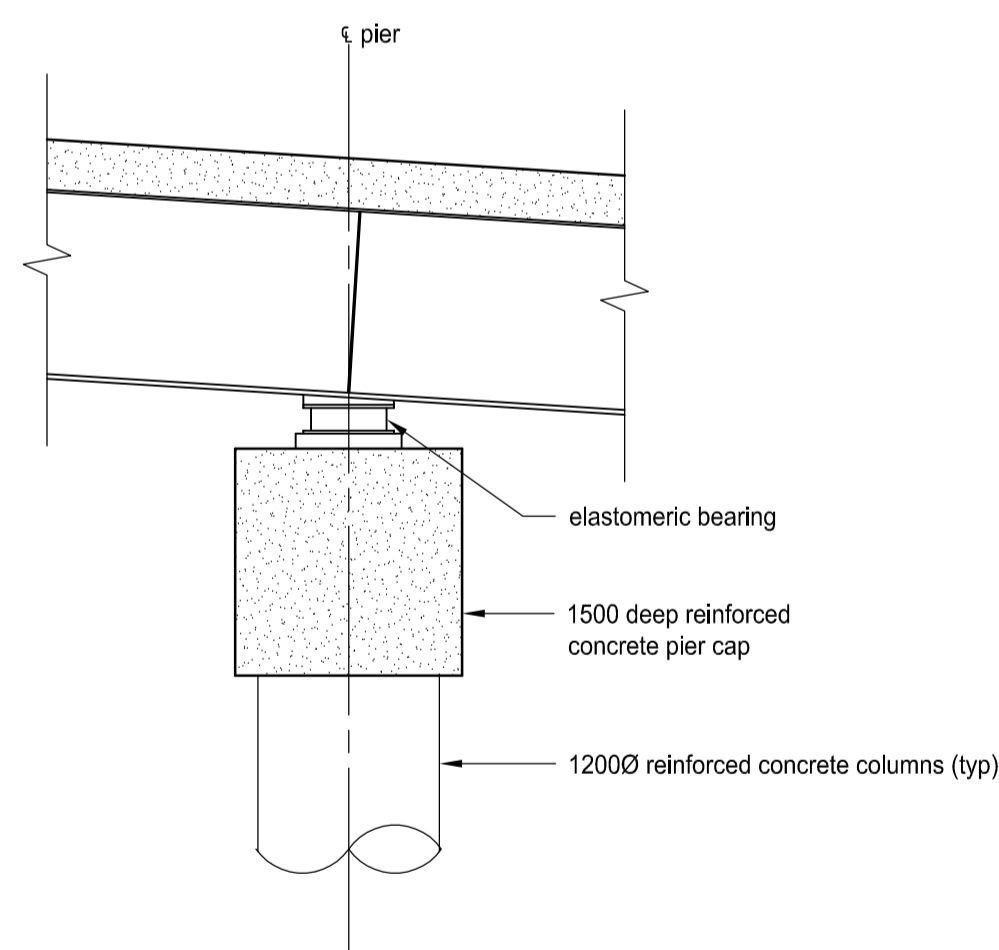
bridge no. 21 cross section along pier

1:100



bridge no. 21 typical abutment section

1:50



bridge no. 21 typical pier section

1:50



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



Project.

TRANSMISSION GULLY PROJECT

Title.

Bridge no. 21
Sections

Status.

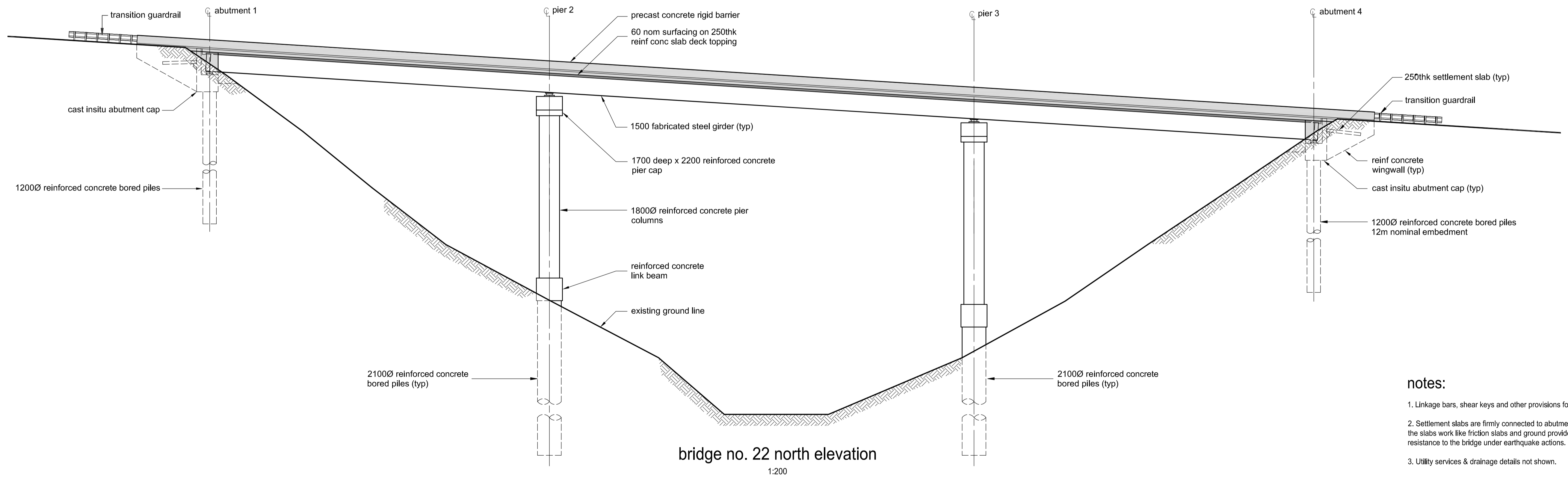
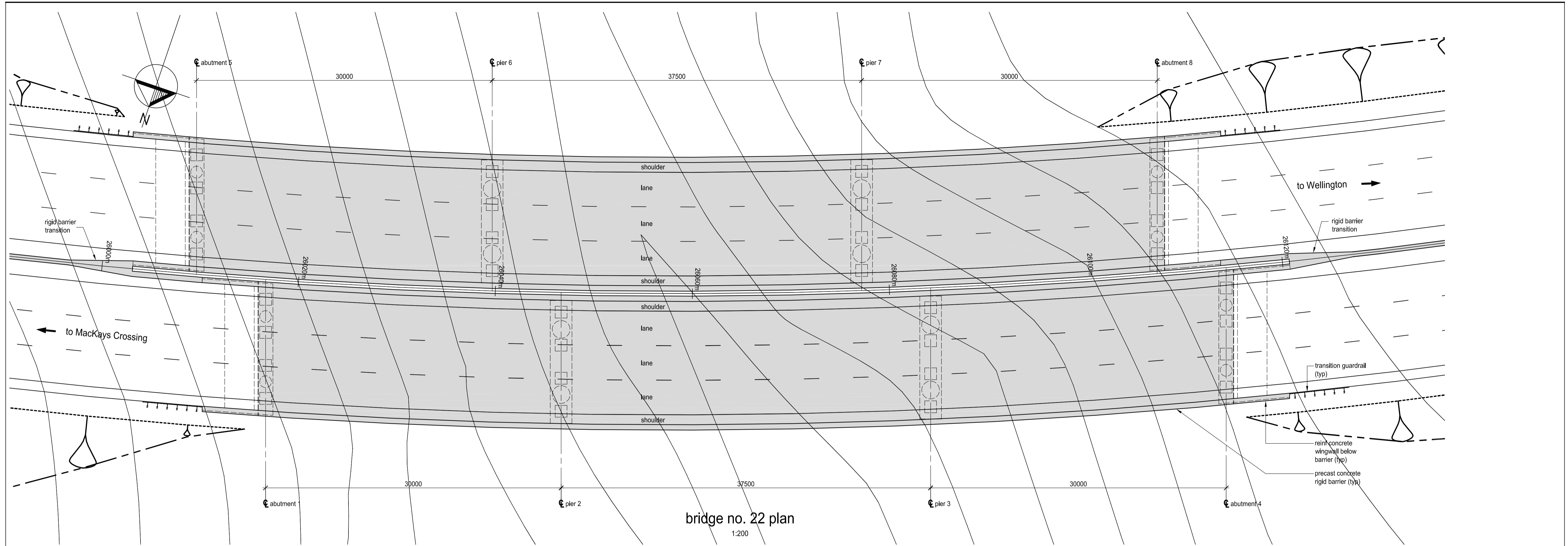
For consenting

Sheet No.

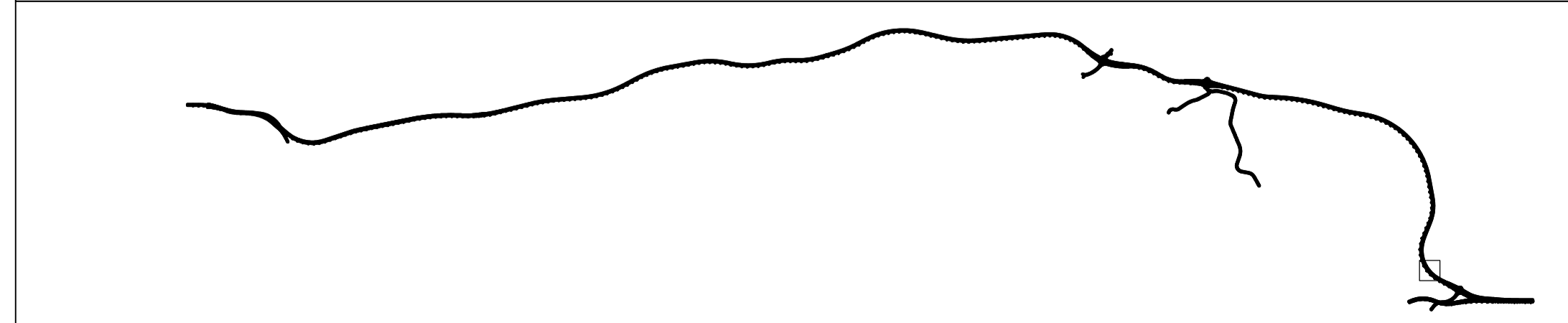
S21-02

Version No.

1



- notes:
1. Linkage bars, shear keys and other provisions for resisting seismic loads not shown.
 2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
 3. Utility services & drainage details not shown.



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



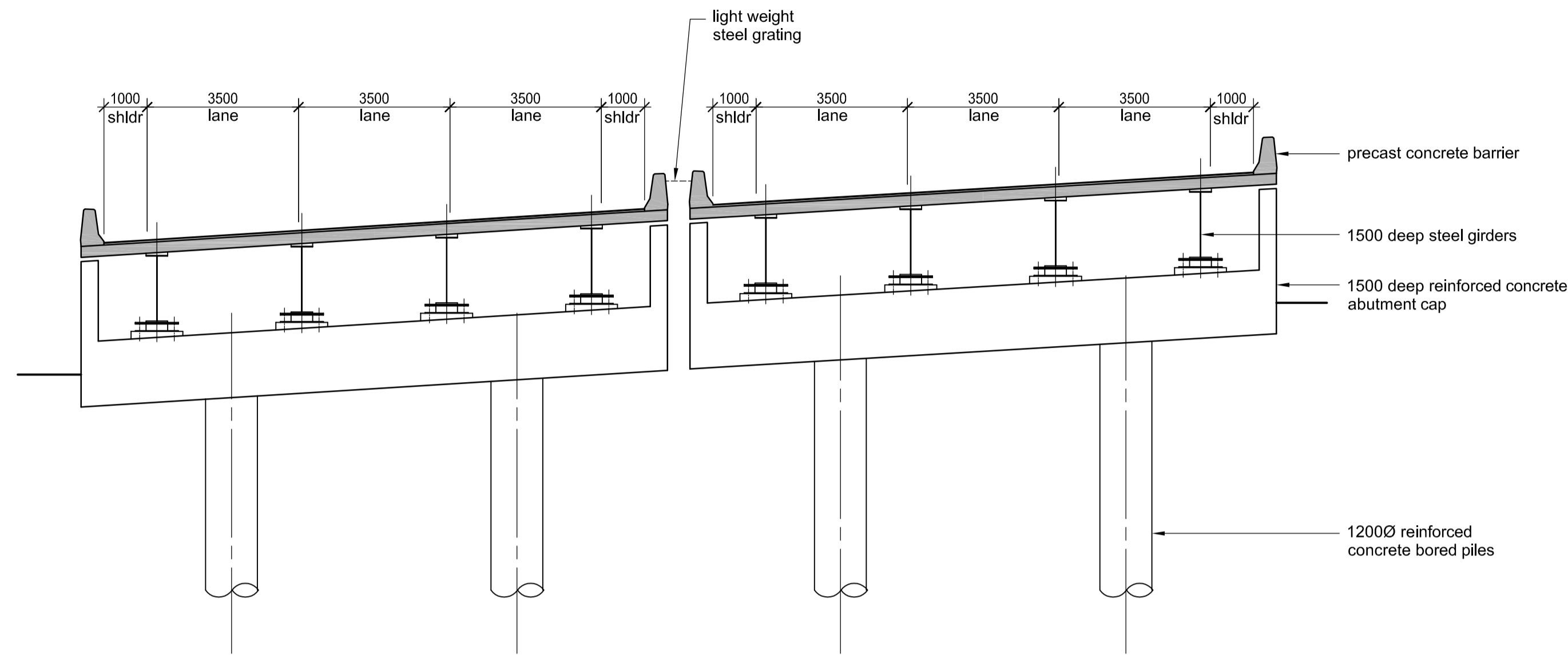
Project: **TRANSMISSION GULLY PROJECT**

Title: **Bridge no. 22 Plan and Elevation**

Status: For consenting
Sheet No. S22-01
Version No. 1

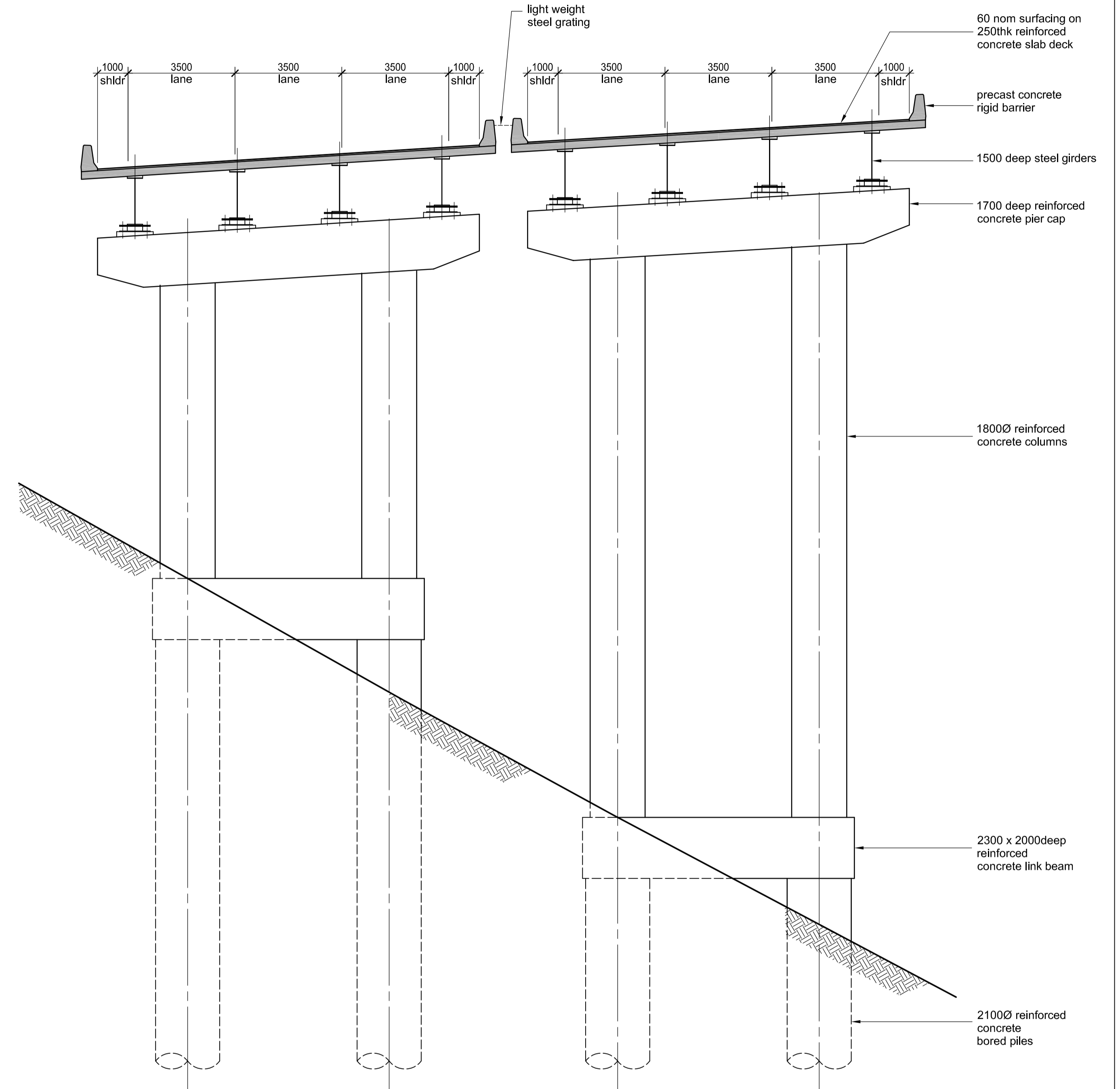
notes:

1. Linkage bars, shear keys and other provisions for resisting seismic loads not shown.
2. Settlement slabs are firmly connected to abutment cap with reinforcing steel to ensure the slabs work like friction slabs and ground provides additional dampening and load resistance to the bridge under earthquake actions.
3. Utility services & drainage details not shown.



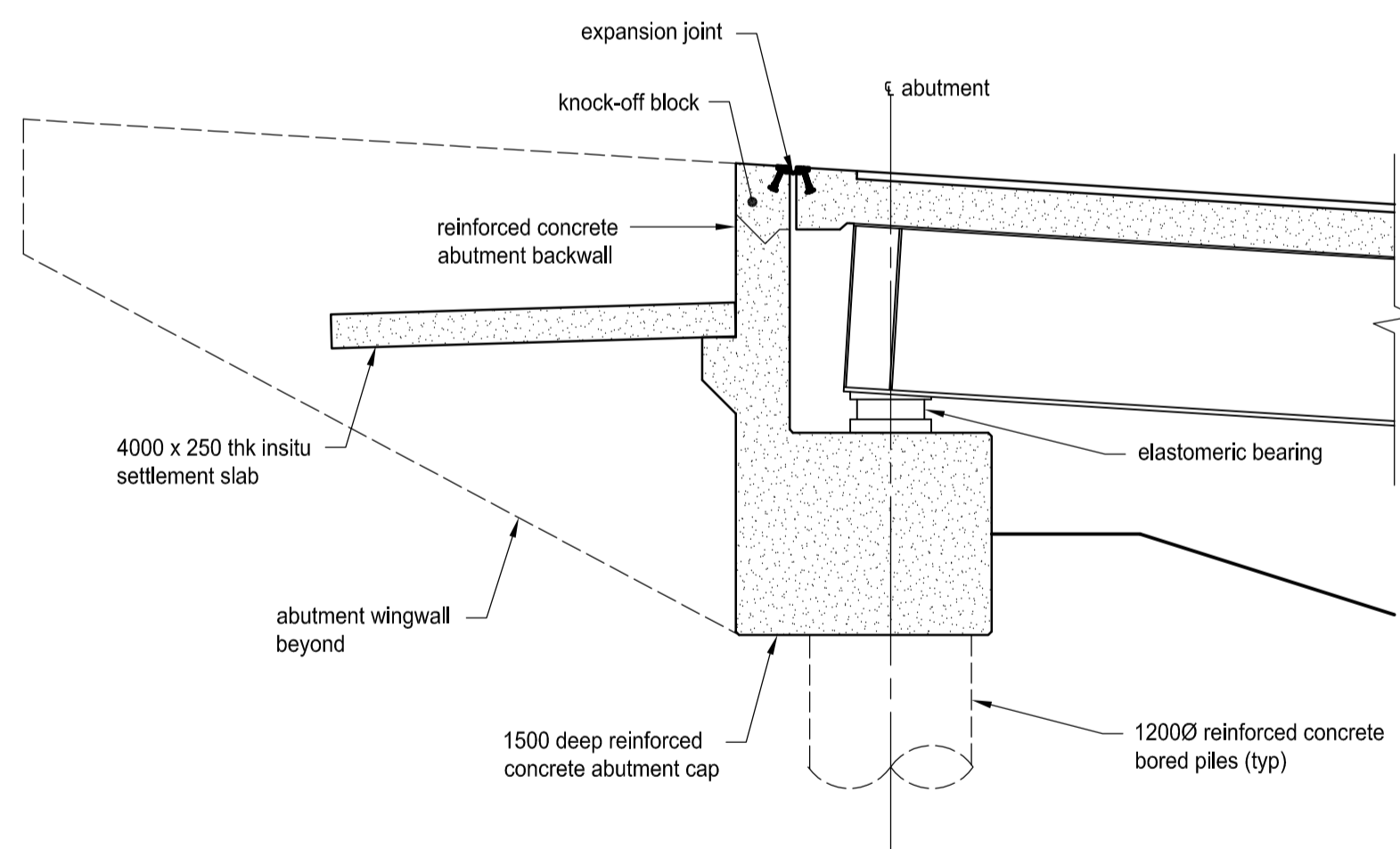
bridge no. 22 typical cross section along abutment

1:100



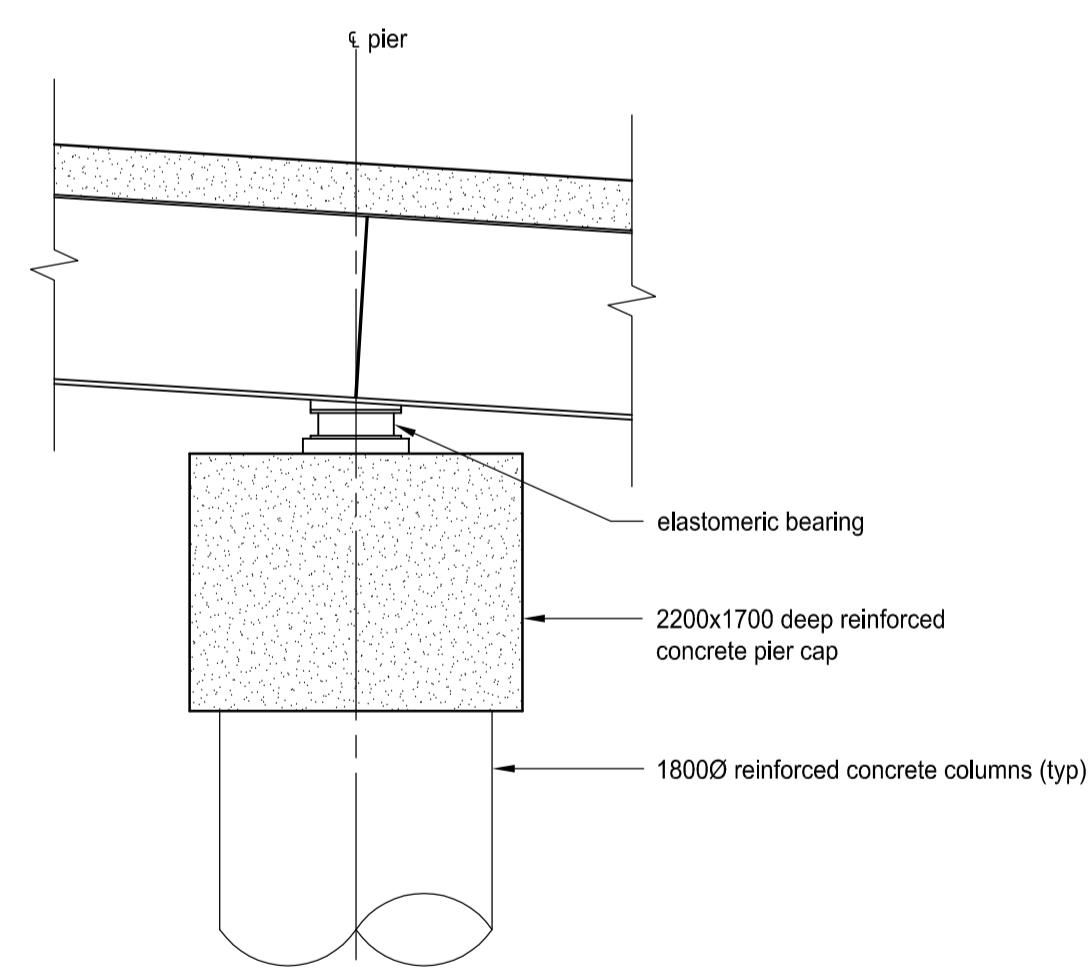
bridge no. 22 typical cross section along pier

1:100



typical abutment section

1:50



typical pier section

1:50



1	Issue for consenting	PG	08/04/11
Revision	Amendment	Approved	Date



Project. TRANSMISSION GULLY PROJECT

Title. Bridge no. 22 Sections

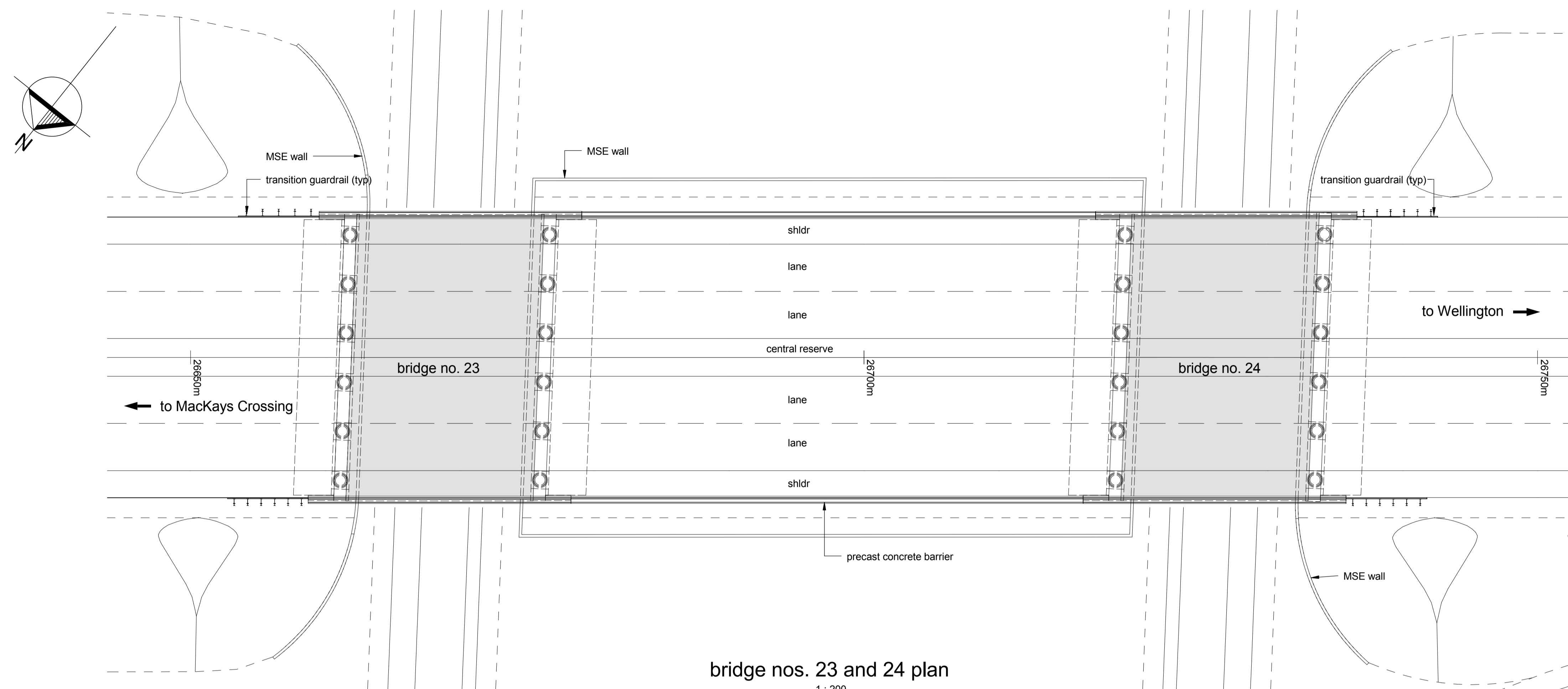
Status. For consenting

Sheet No. S22-02

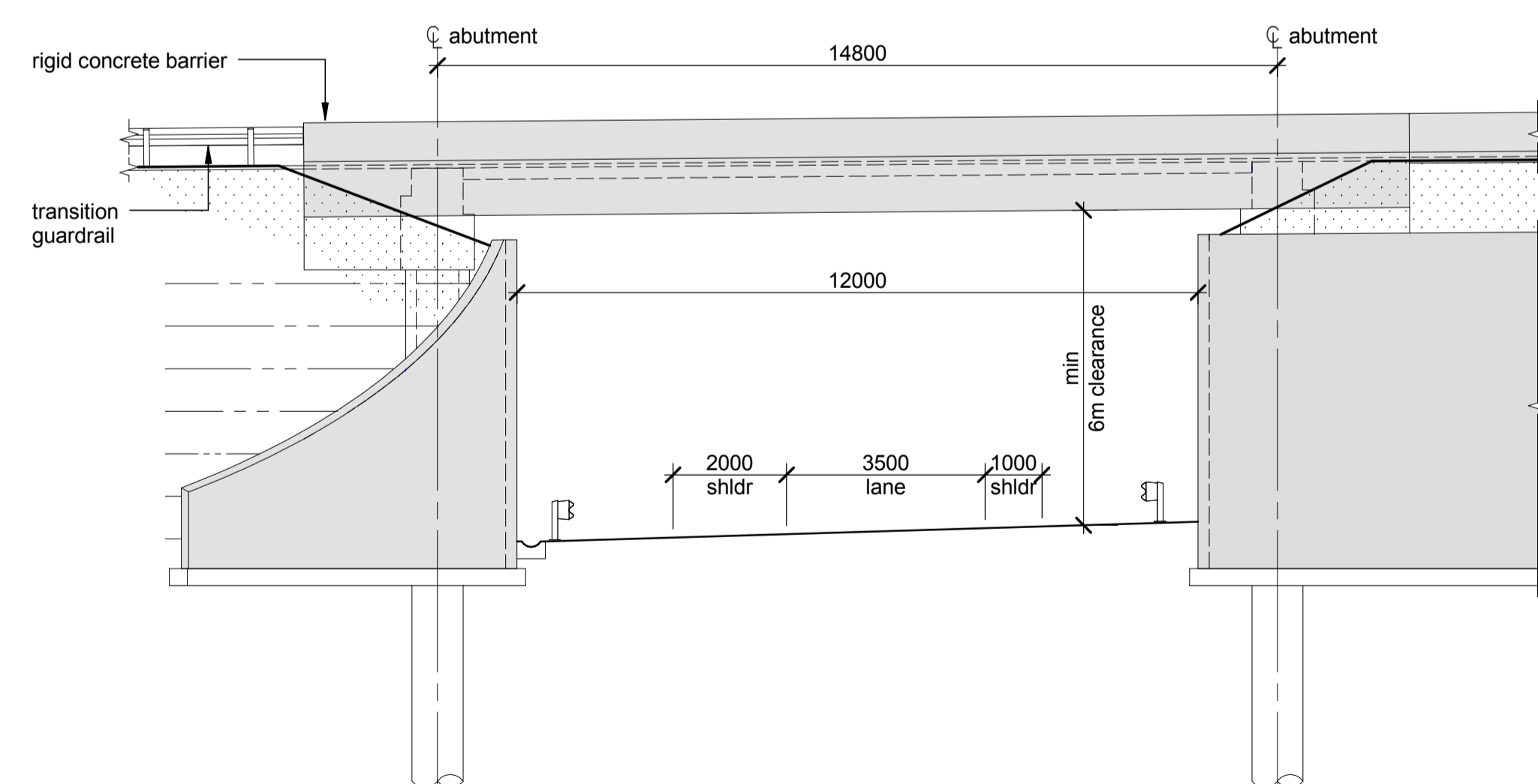
Version No. 1

notes:

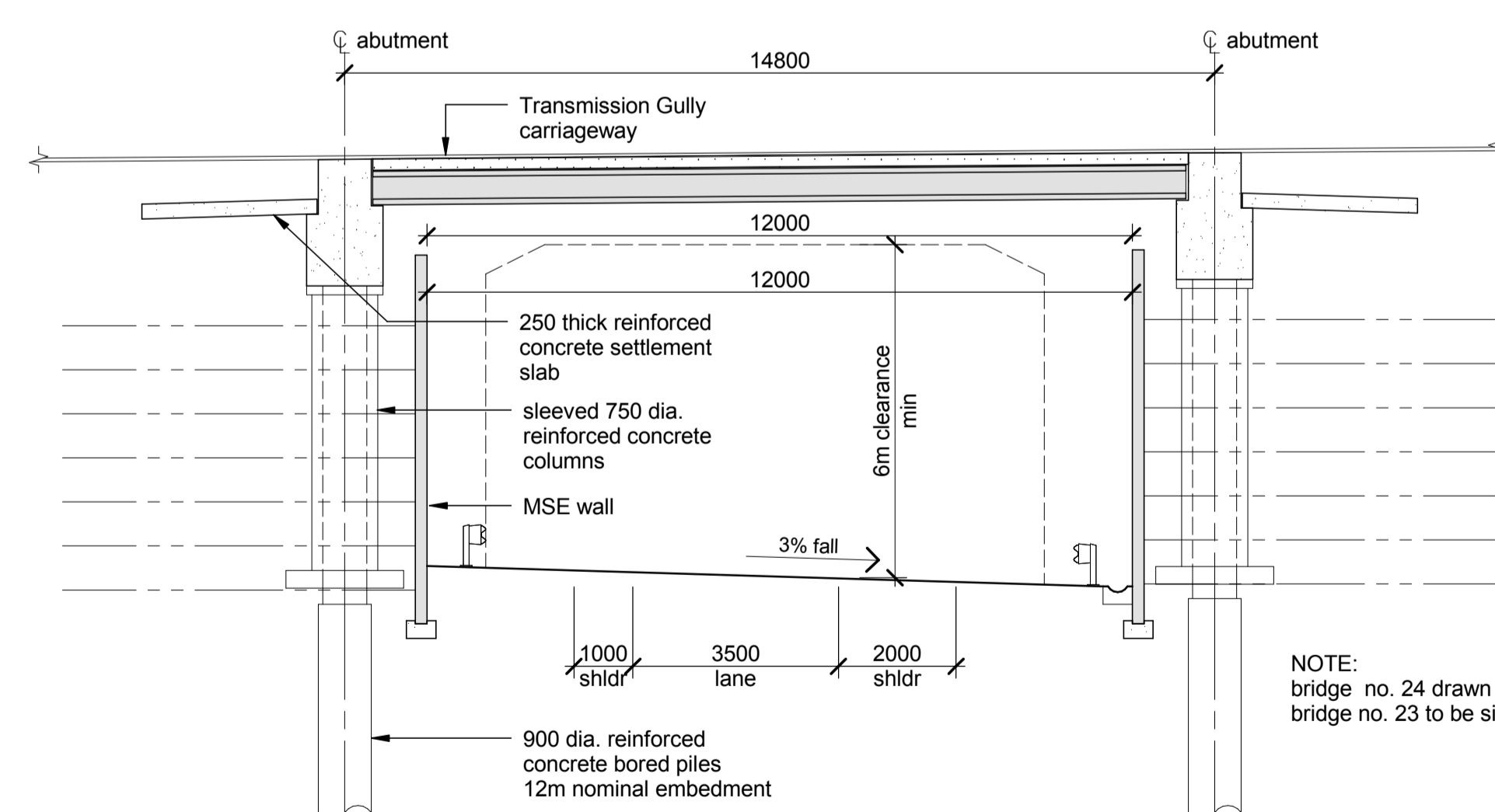
1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



bridge nos. 23 and 24 plan
1 : 200

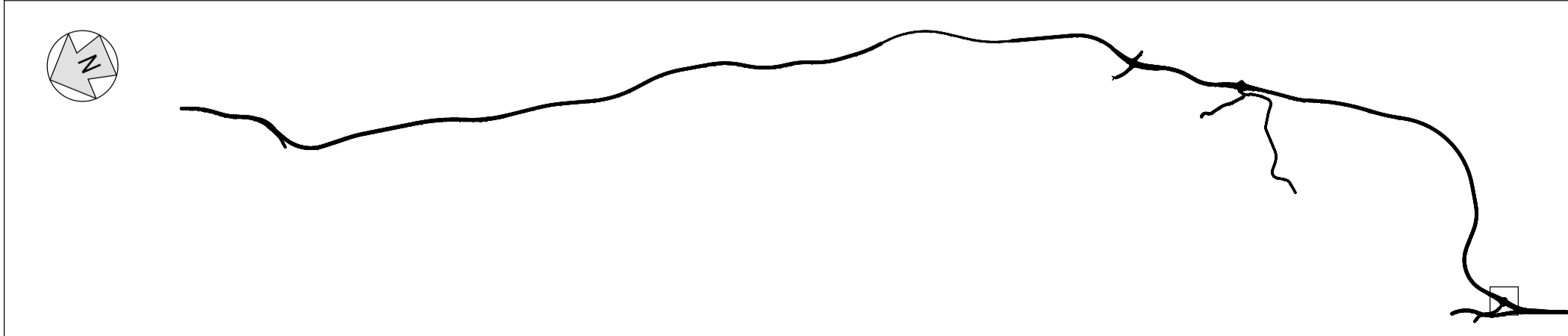


bridge no 23 elevation
1 : 100



bridge no 24 longitudinal section
1 : 100

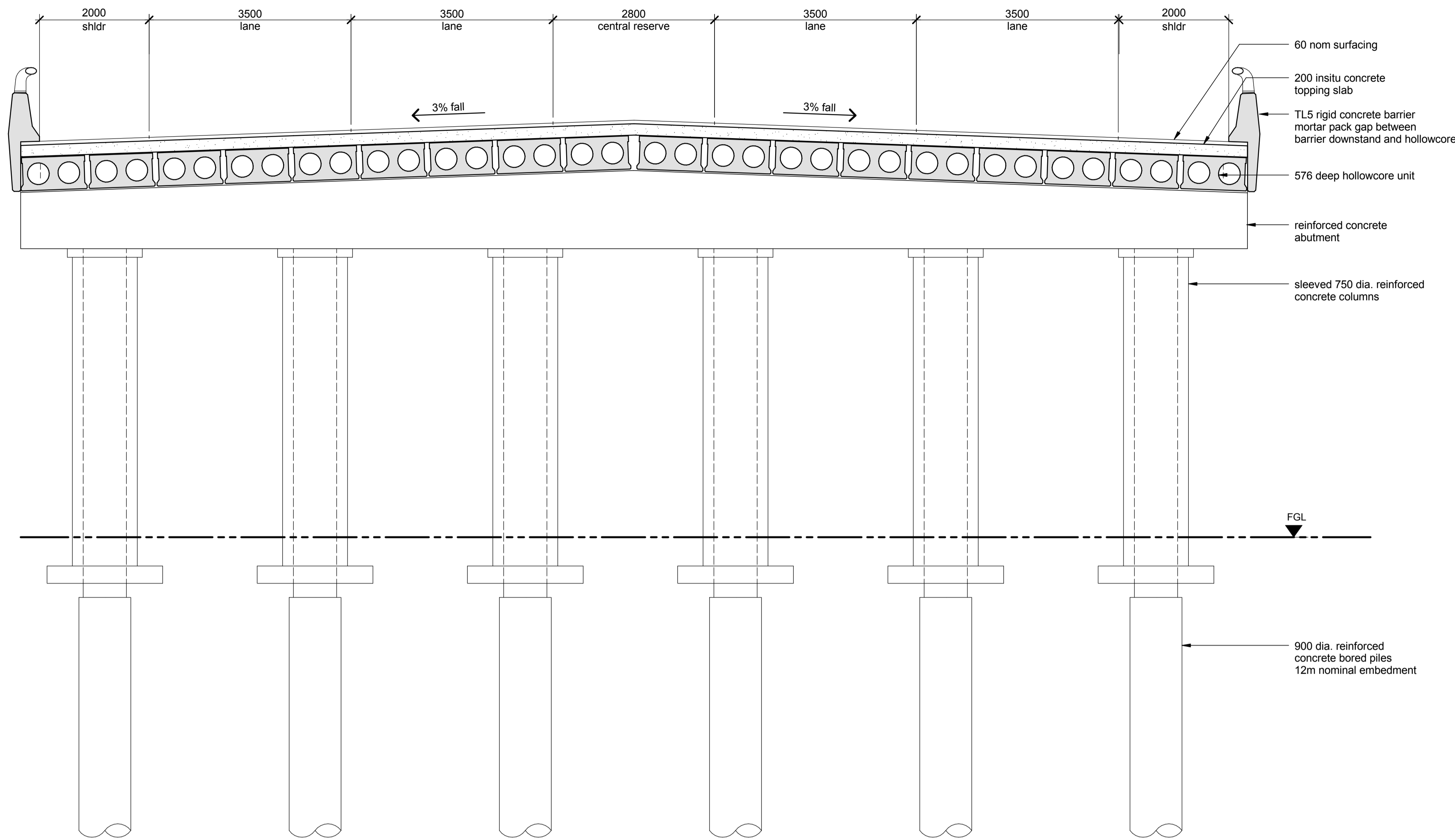
NOTE:
bridge no. 24 drawn
bridge no. 23 to be similar



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11

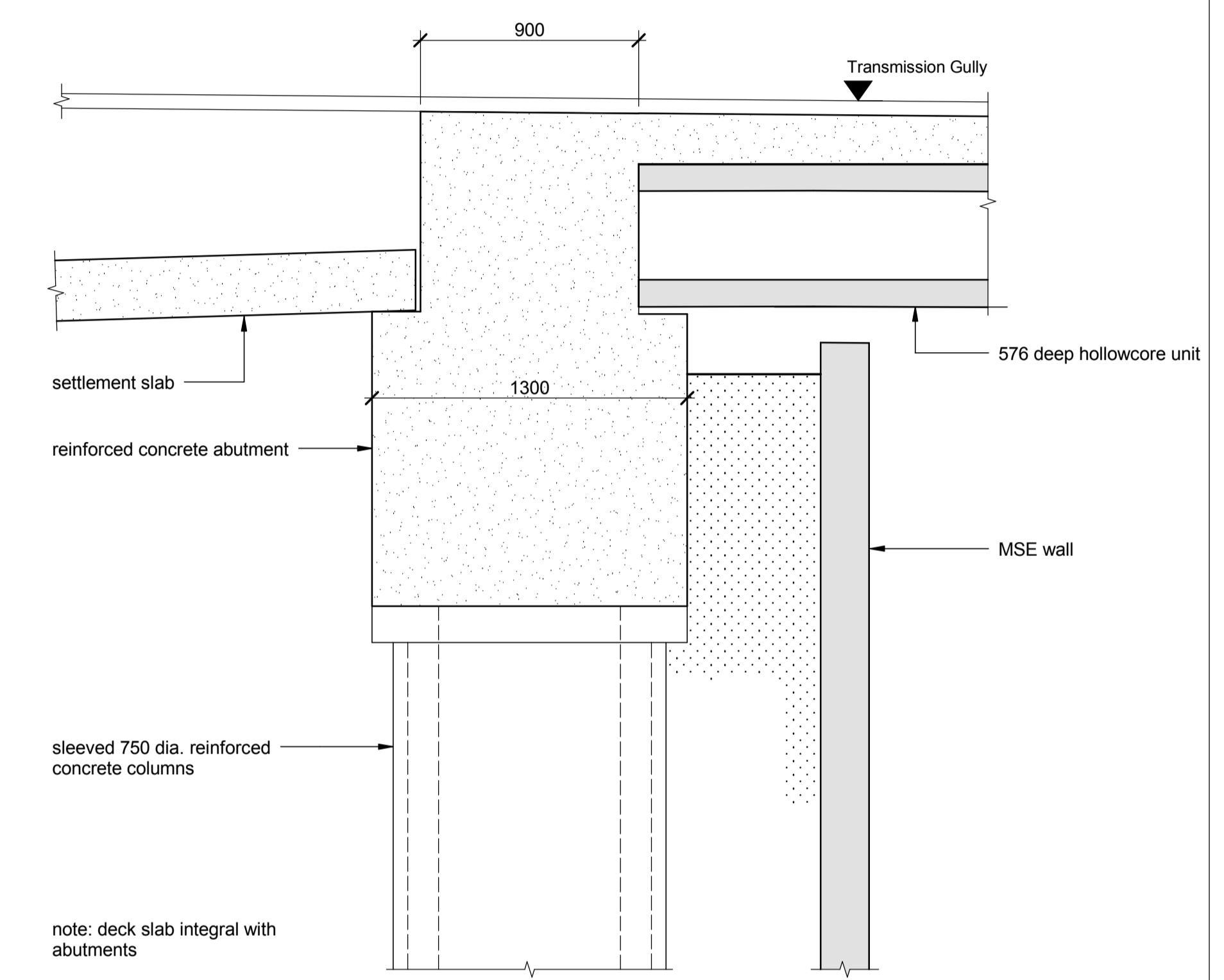


Project. TRANSMISSION GULLY PROJECT	
Title. Bridge no. 23 and 24 Plan and Sections	Status. For consenting
Sheet No. S23-01	Version No. 1

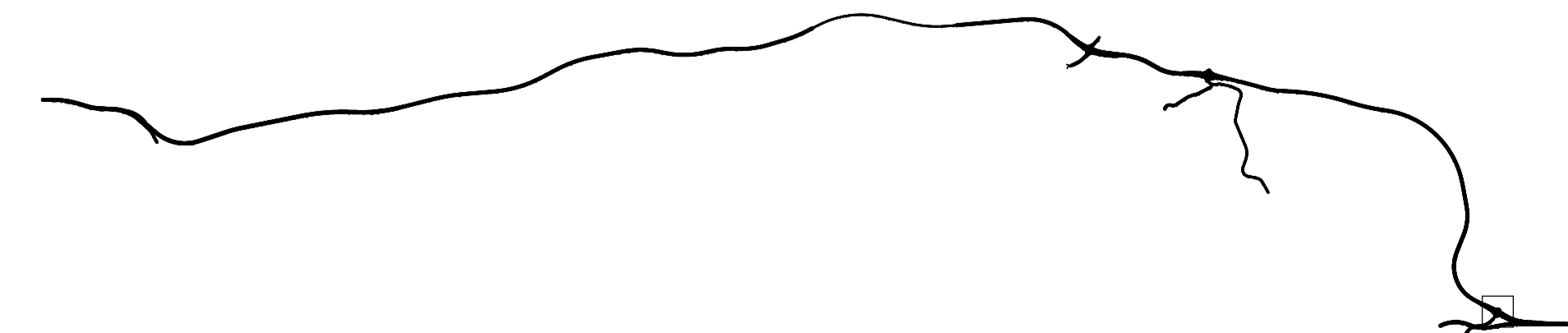


typical abutment elevation
1 : 50

NOTE:
MSE wall not shown for clarity



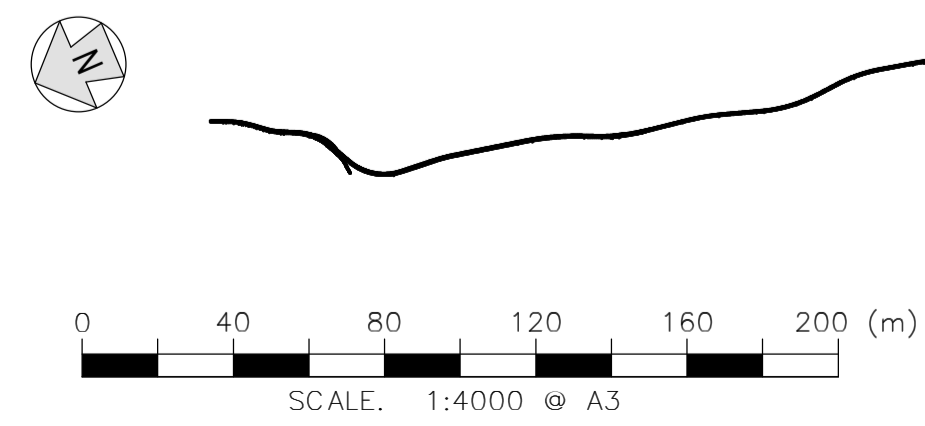
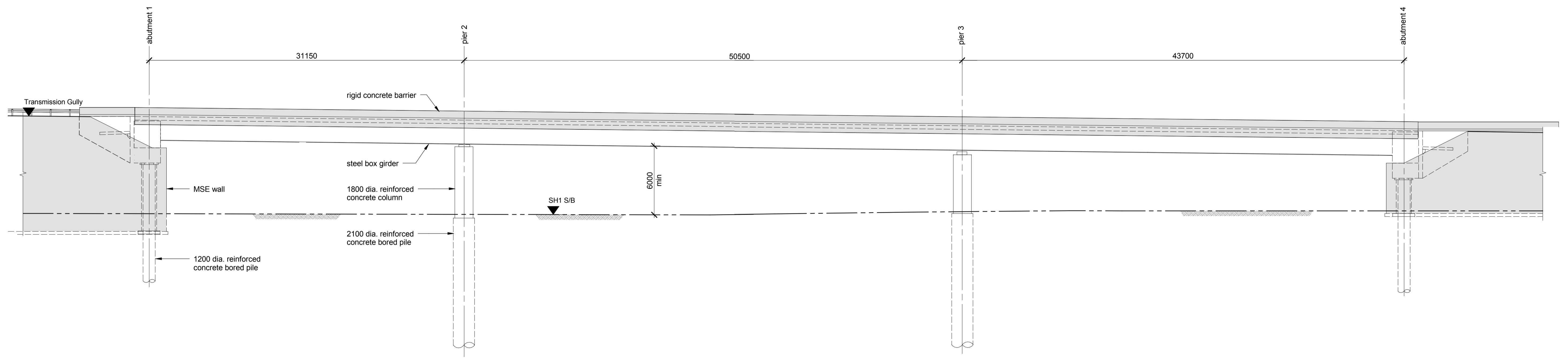
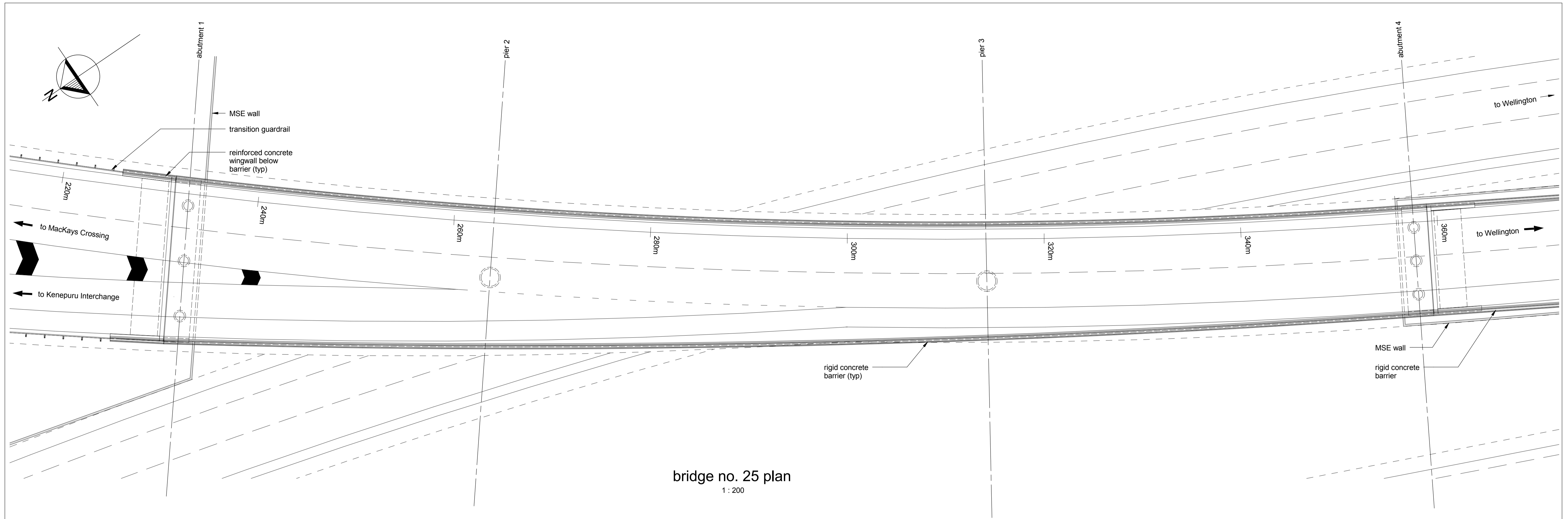
abutment cap detail
1 : 20



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



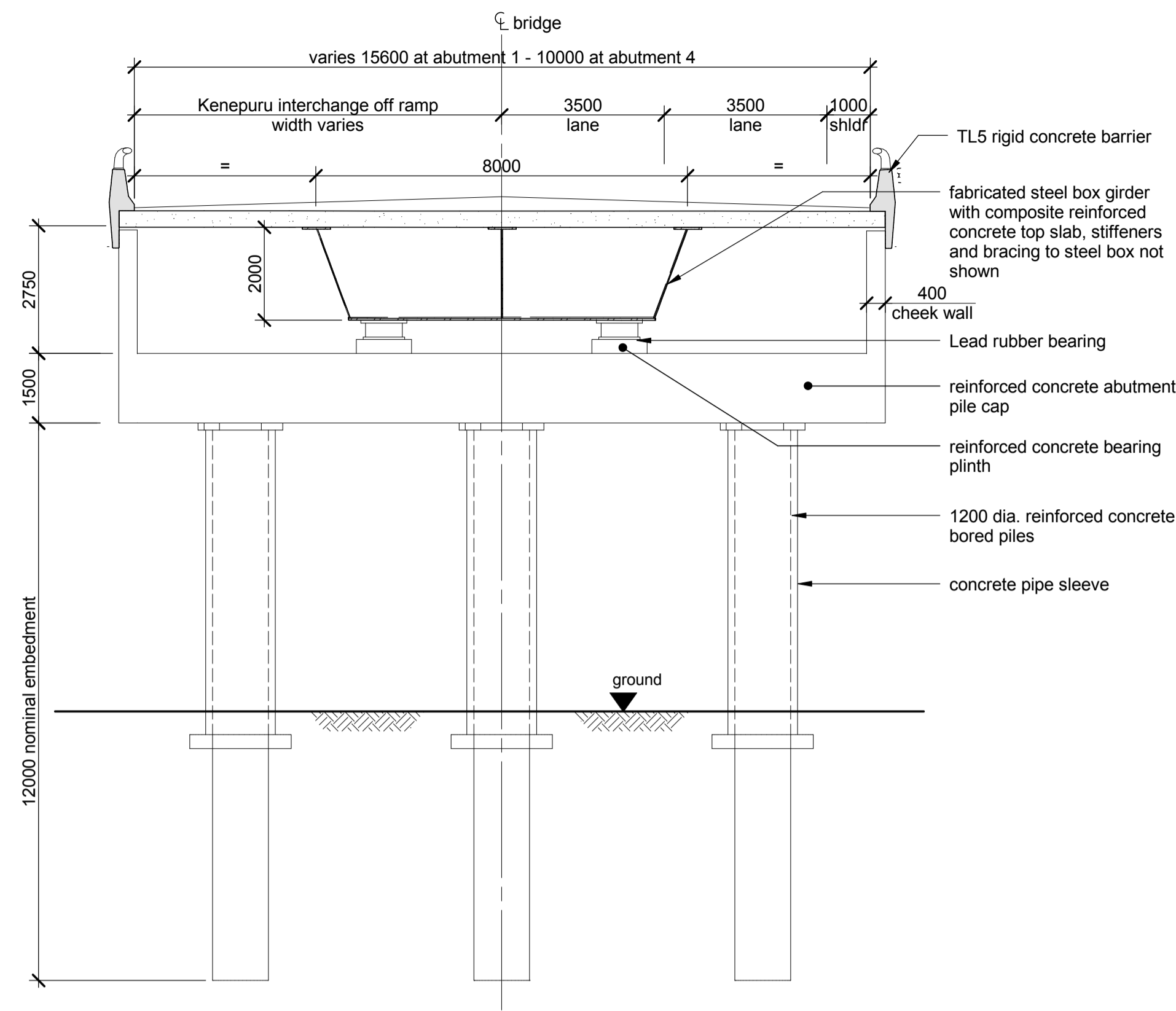
Project. TRANSMISSION GULLY PROJECT	
Title. Bridge no. 23 and 24 Sections	Status. For consenting
Sheet No. S23-02	Version No. 1



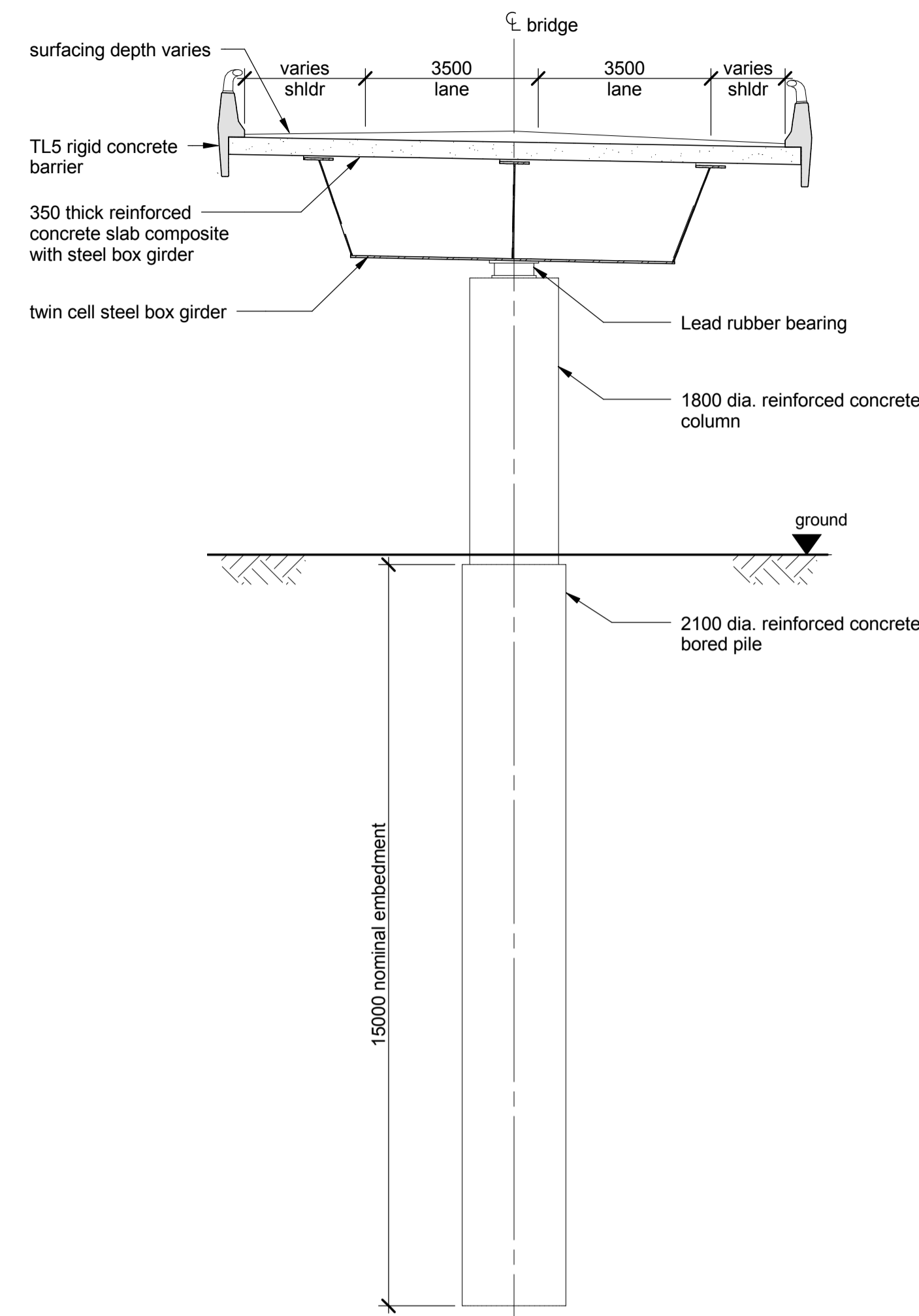
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



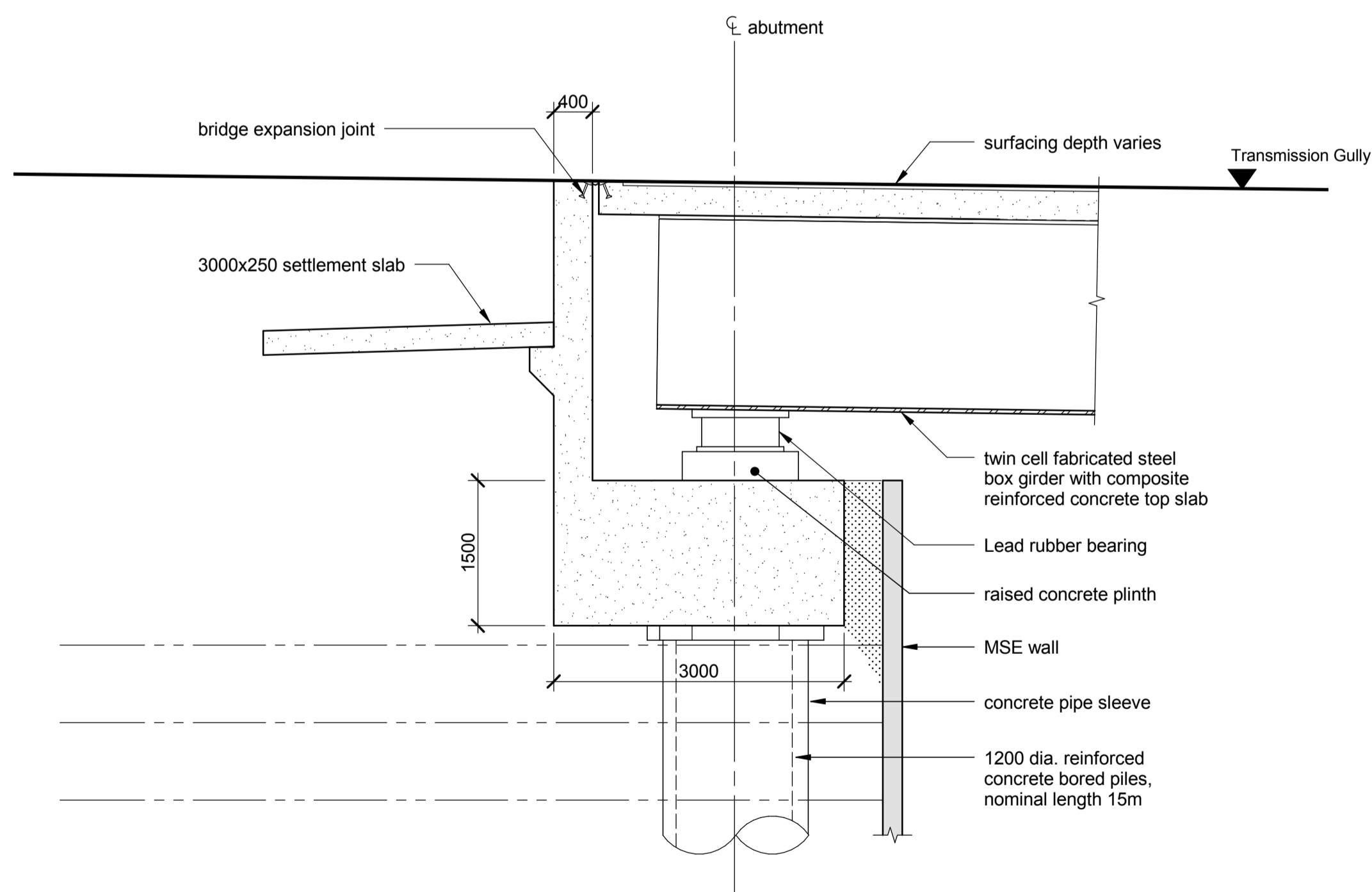
Project: TRANSMISSION GULLY PROJECT	
Title: Bridge no. 25 Plan and Long Section	Status: For consenting
Sheet No. S25-01	Version No. 1



cross section at abutment 1
1 : 100



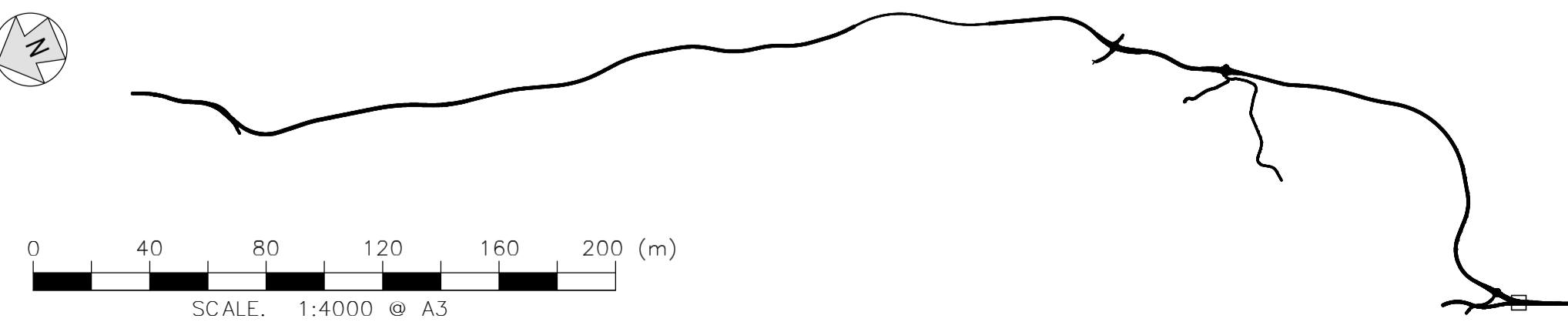
typical cross section at pier
1 : 100



typical abutment section
1 : 50

notes:

1. In the first instance seismic resistance is assumed to be provided by base isolation incorporating mechanical energy dissipation.
2. If the analysis shows that additional torsion rigidity is required of the structure, this could be achieved by making the pier columns integral with the box girders. Deck torsions are resisted by pier columns working in bending mode with this approach. Column hinging is the seismic mechanism if integral piers are adopted.
3. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.



1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date

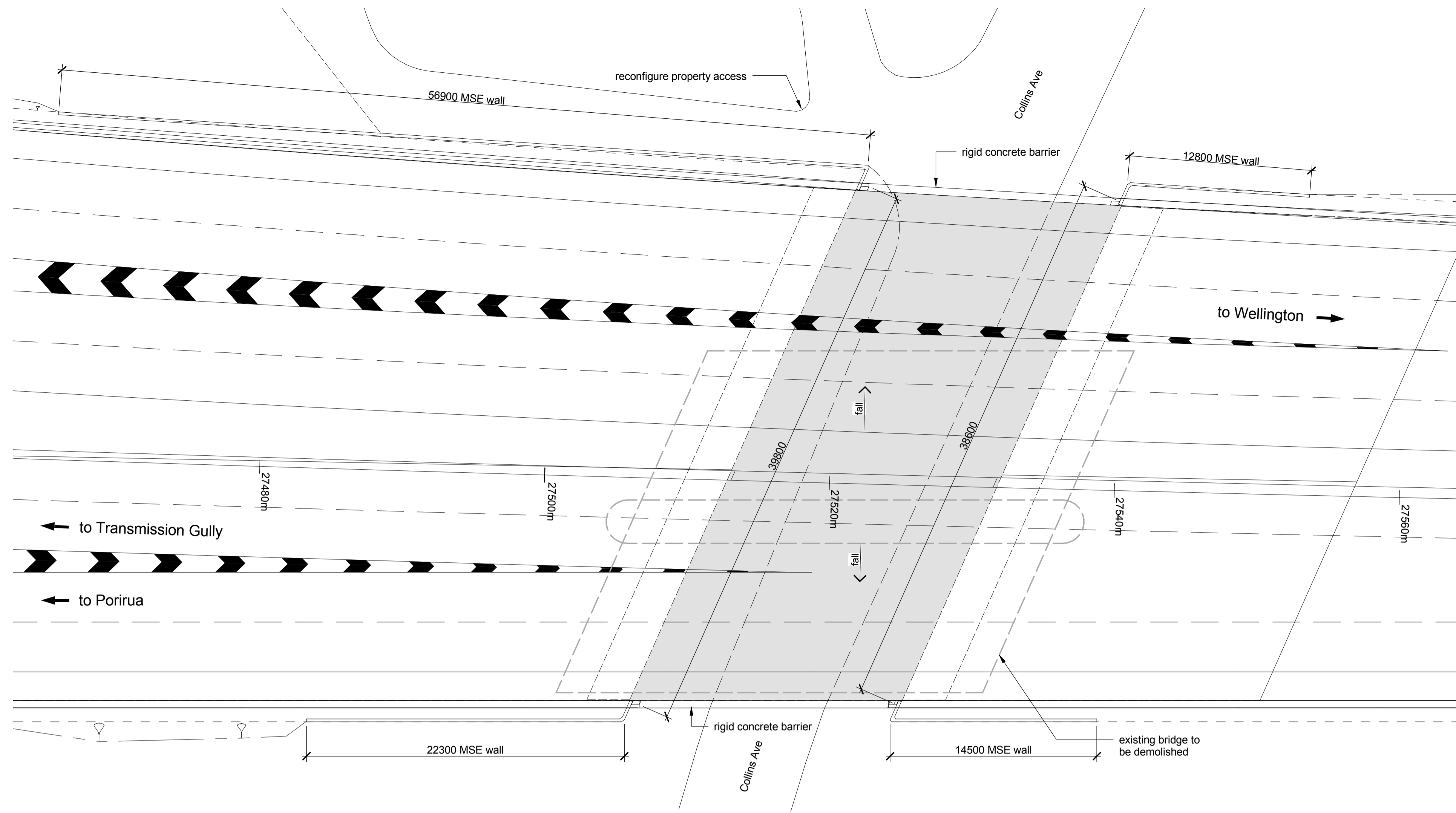
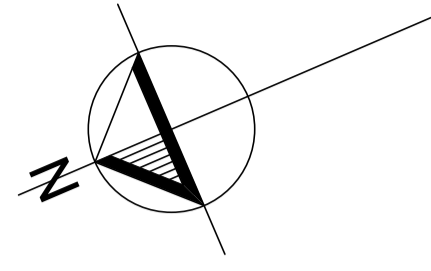


Project. **TRANSMISSION GULLY PROJECT**

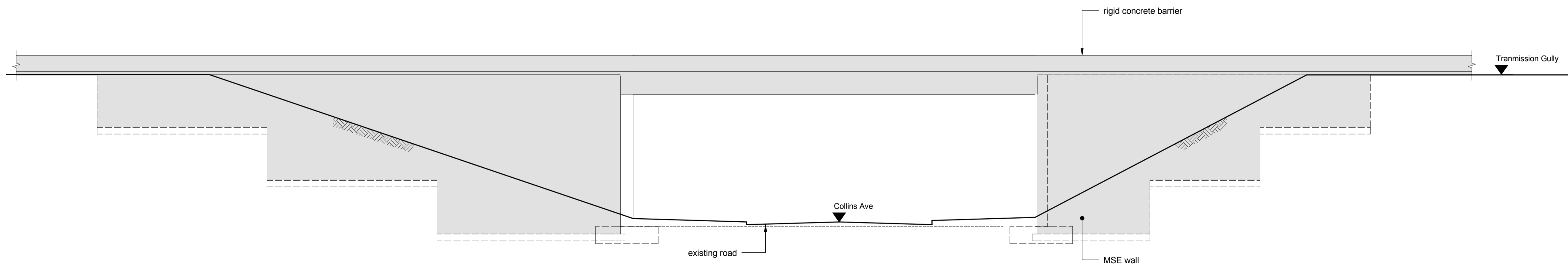
Title. **Bridge no. 25 Sections**

Status. **For consenting**

Sheet No. **S25-02** Version No. **1**



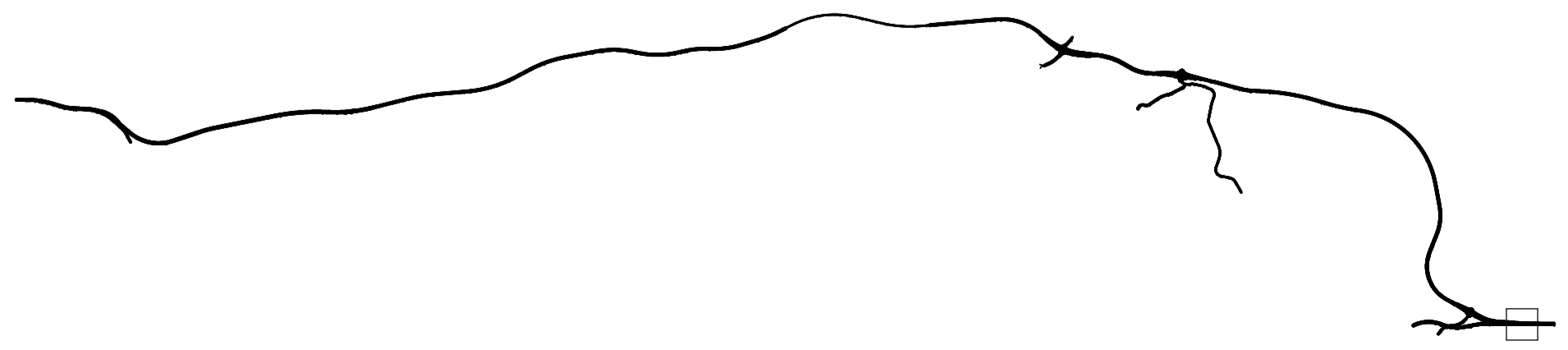
bridge no. 26 plan
1 : 200



bridge no. 26 elevation
1 : 100

notes:

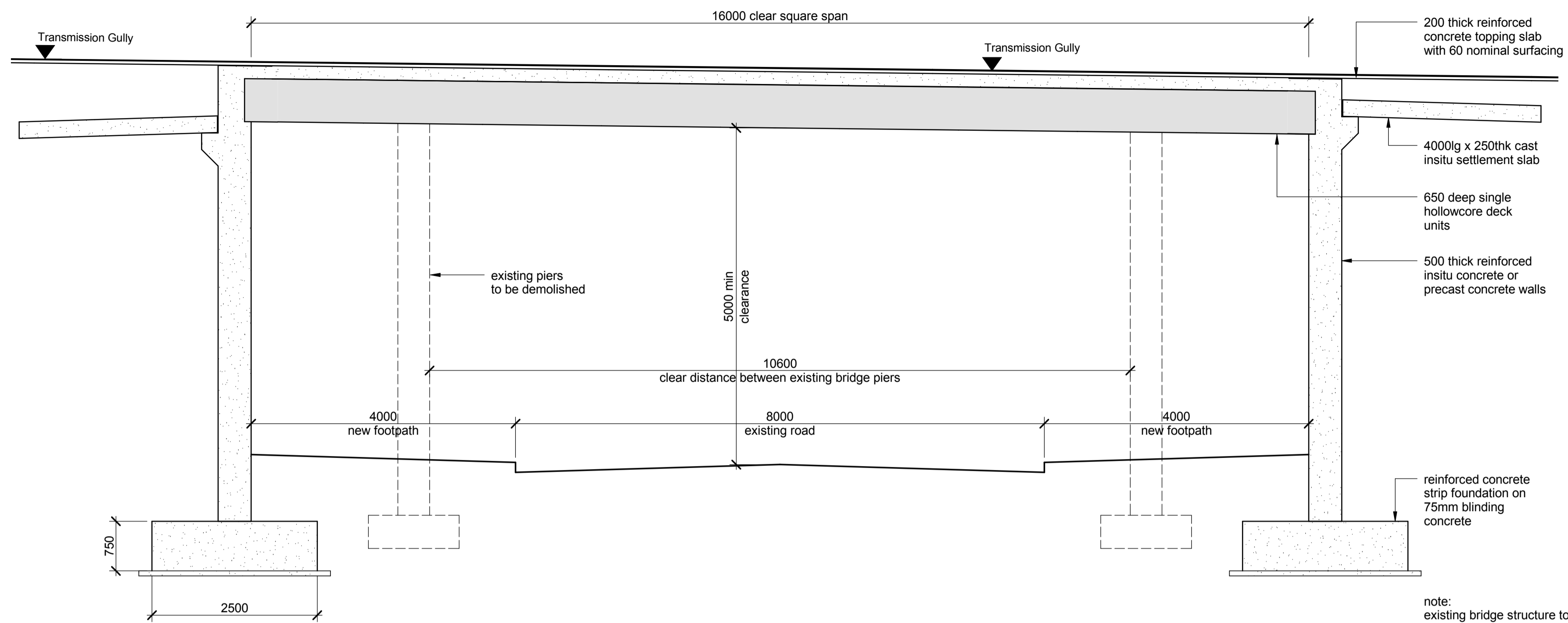
1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



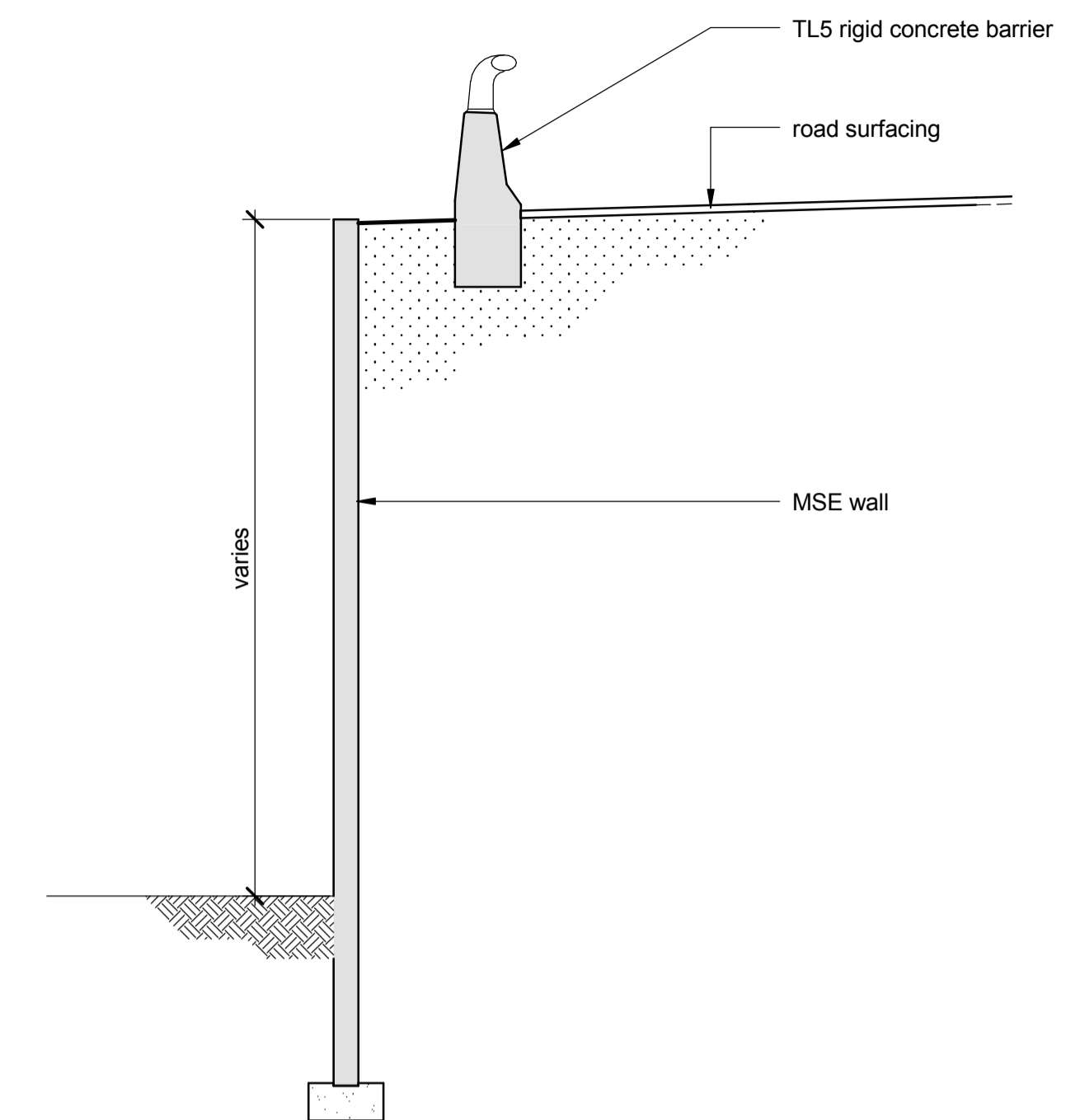
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



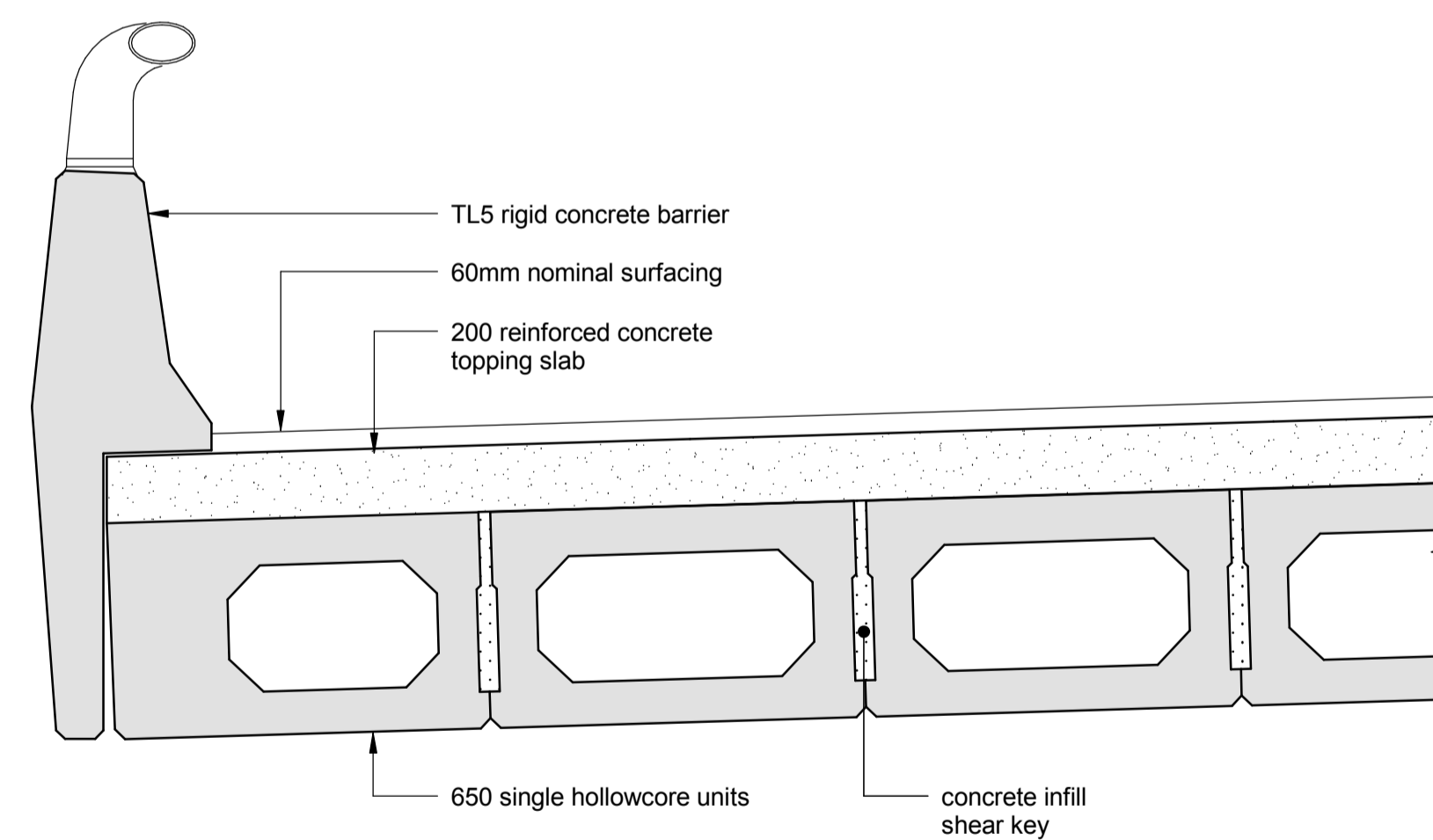
Project TRANSMISSION GULLY PROJECT		Status. For consenting
Title. Bridge no. 26 Plan and Elevation		Version No. 1
Sheet No. S26-01		



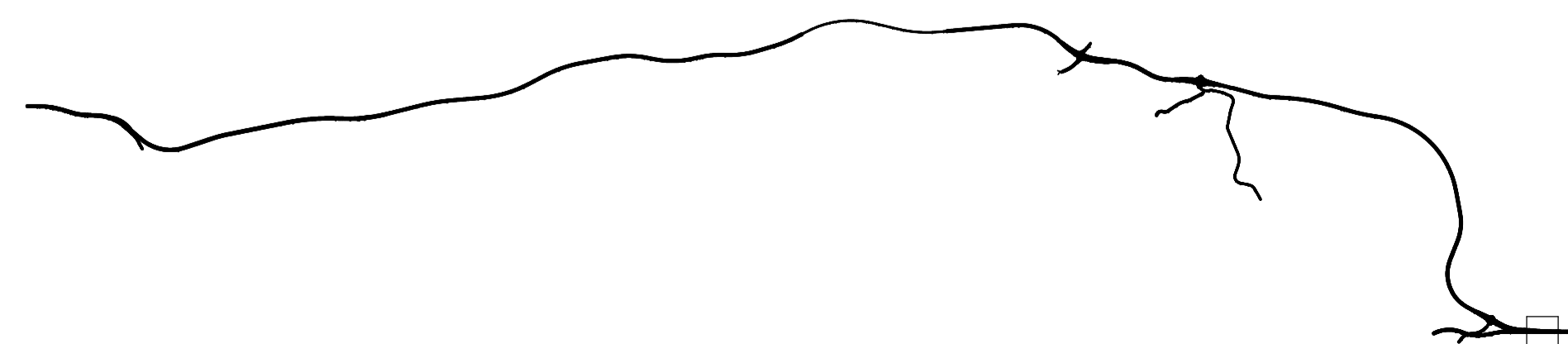
bridge no. 26 section perpendicular to walls
1 : 50



typical MSE wall section
1 : 50



road edge section
1 : 20



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



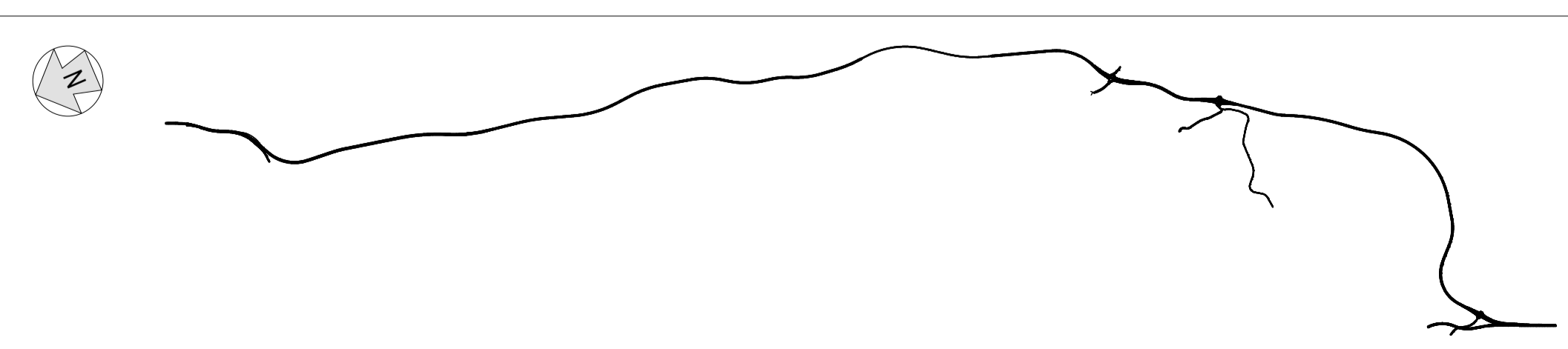
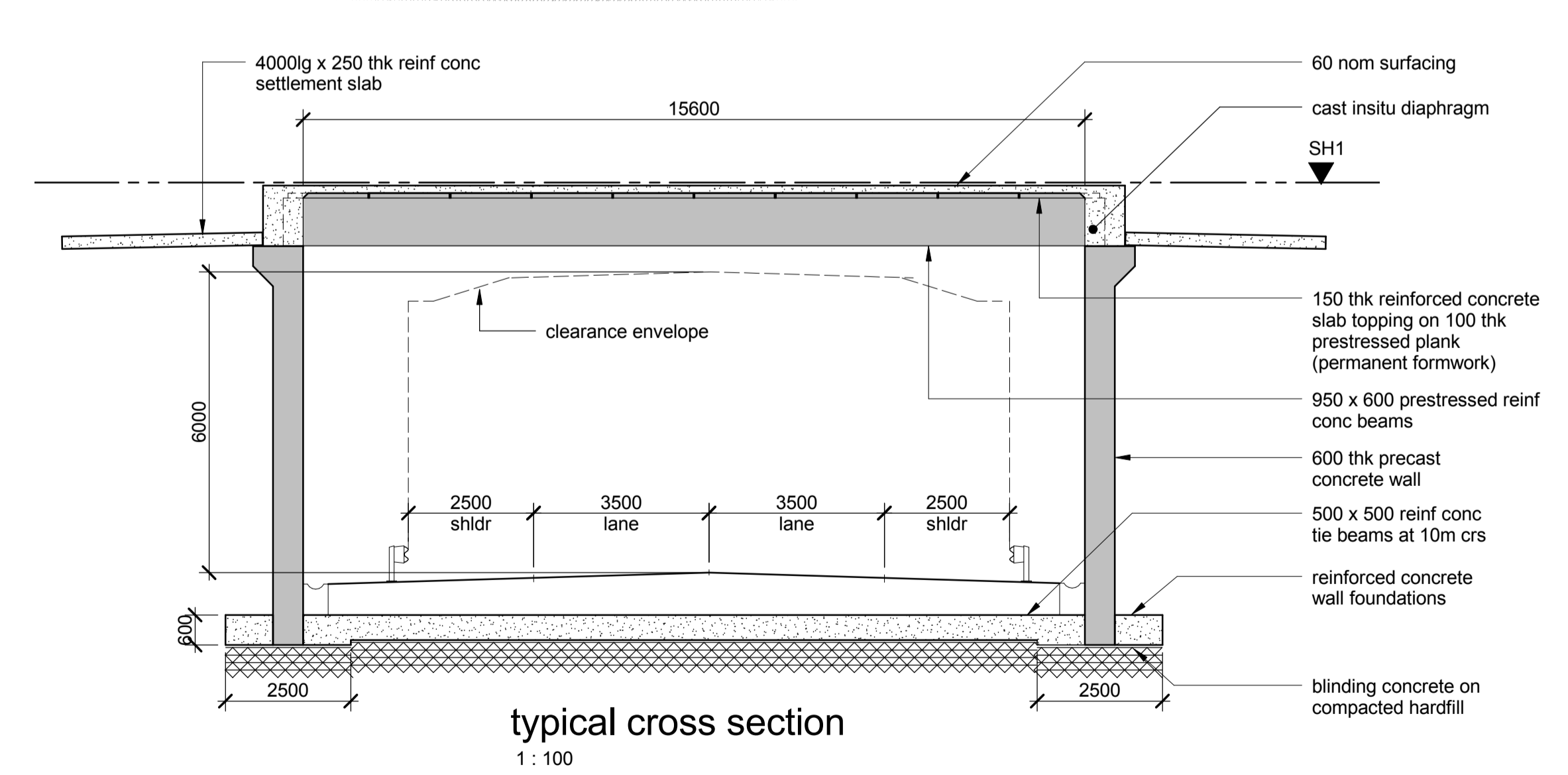
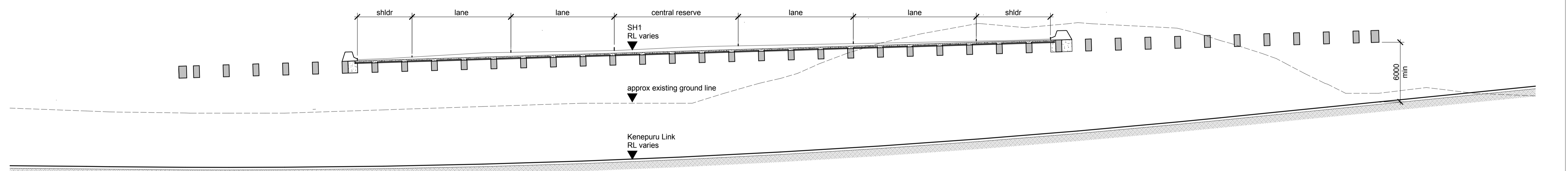
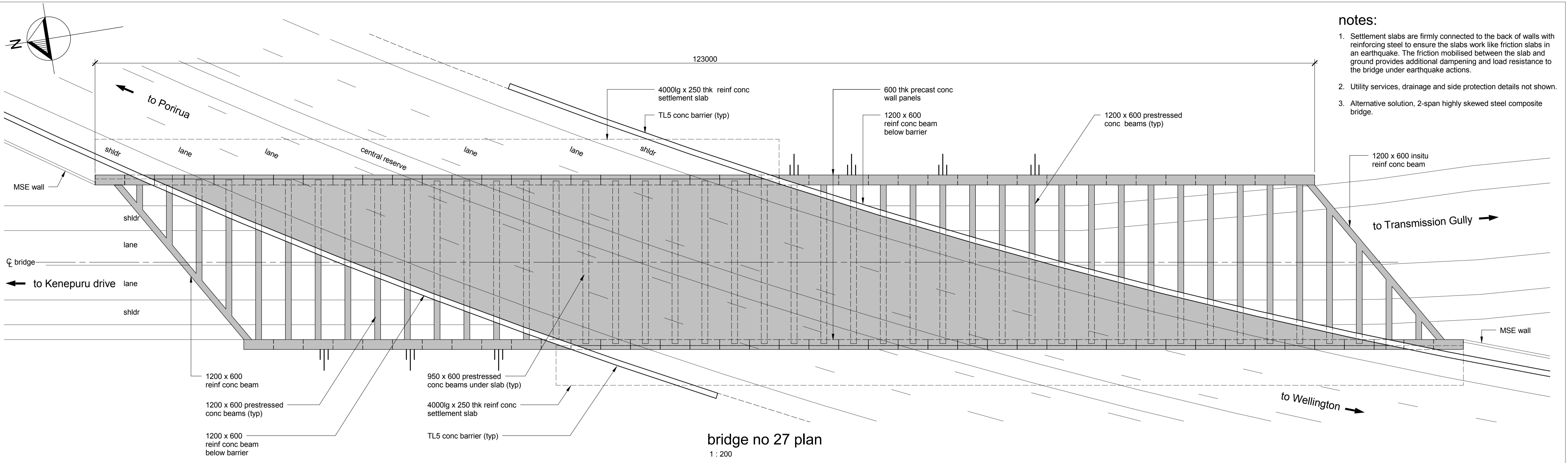
Project: **TRANSMISSION GULLY PROJECT**

Title: **Bridge no. 26 Sections**

Status: **For consenting**

Sheet No. **S26-02**

Version No. **1**



1	Issue for consenting	PG	07/04/11
Revision	Amendment	Approved	Date



Project: **TRANSMISSION GULLY PROJECT**

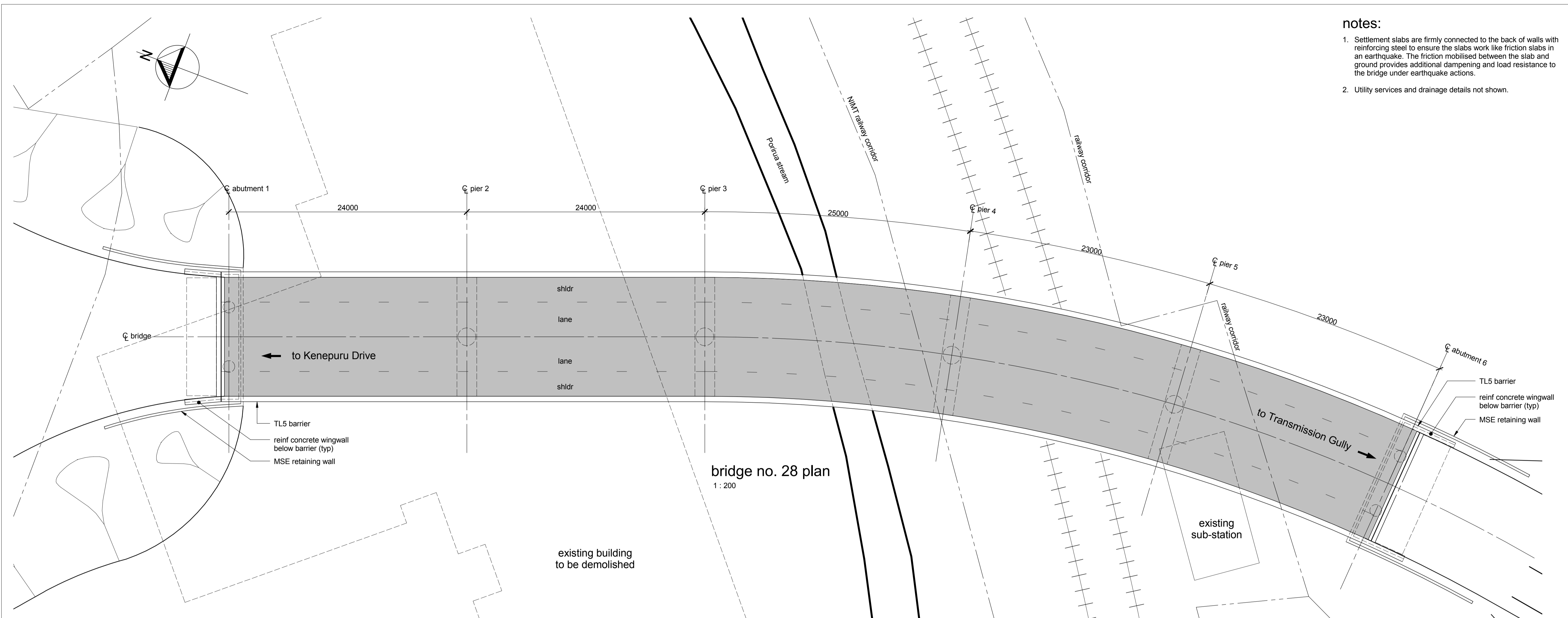
Title: **Kenepuru Link Road Bridge no.27 Plan and Sections**

Status: **For consenting**

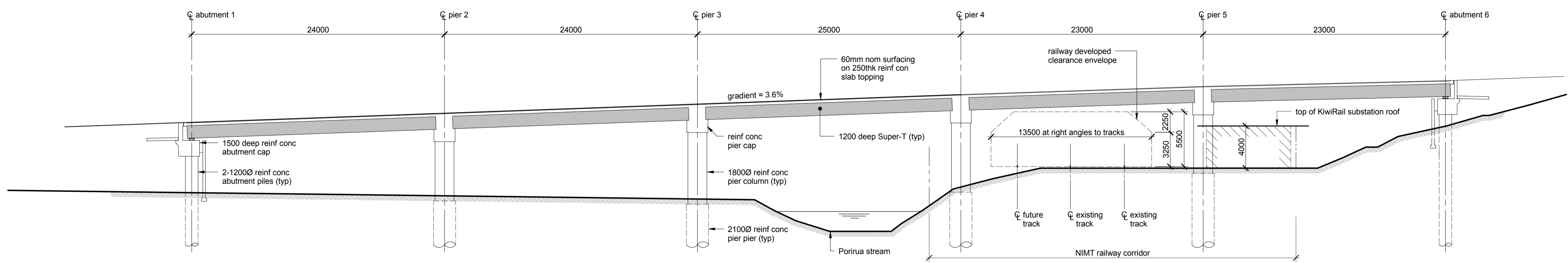
Sheet No. **S27-01** Version No. **1**

notes:

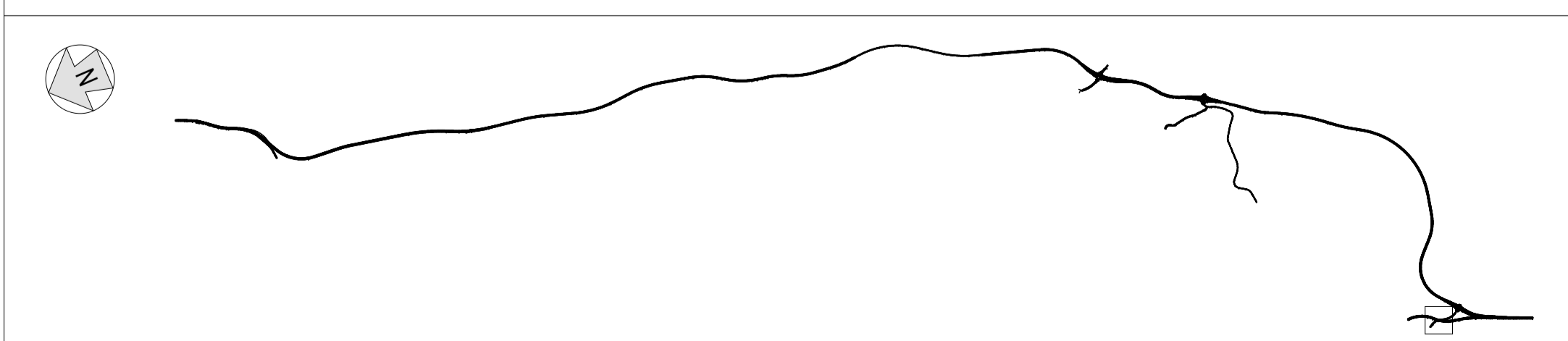
1. Settlement slabs are firmly connected to the back of walls with reinforcing steel to ensure the slabs work like friction slabs in an earthquake. The friction mobilised between the slab and ground provides additional dampening and load resistance to the bridge under earthquake actions.
2. Utility services and drainage details not shown.



bridge no. 28 plan
1 : 200



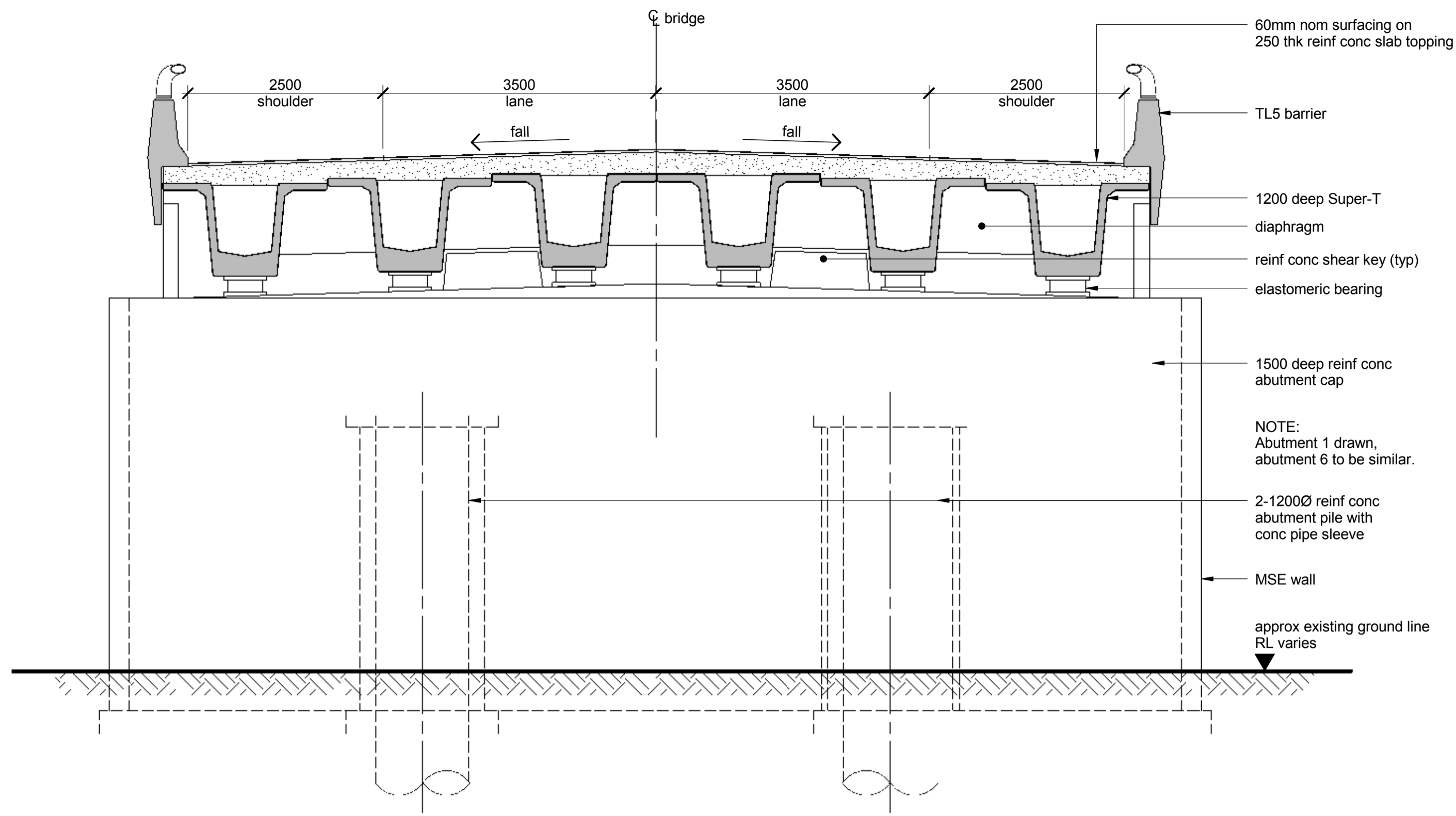
bridge no. 28 longitudinal section along bridge centre line
1 : 200



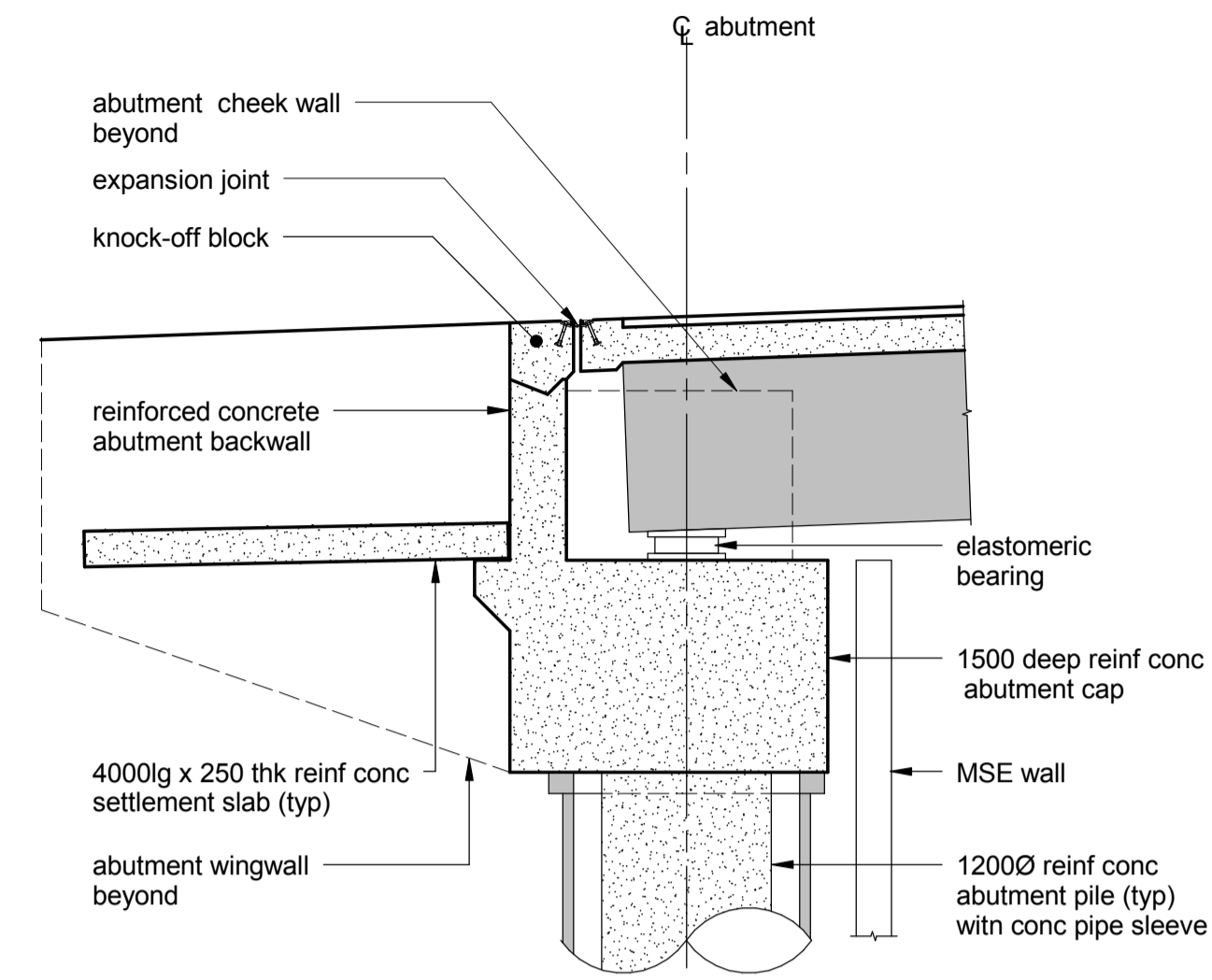
Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11



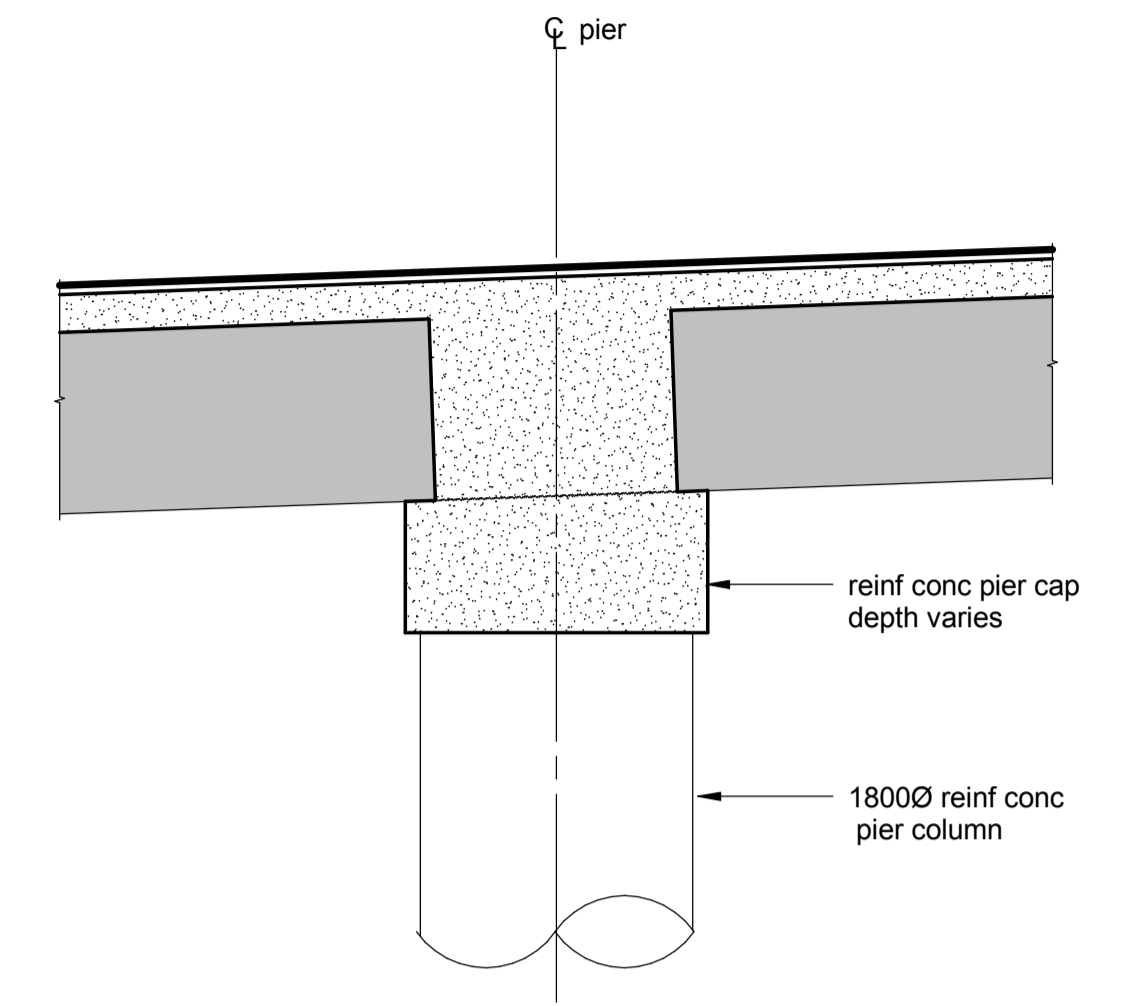
Project: TRANSMISSION GULLY PROJECT	
Title: Kenepuru Link Road Bridge no. 28 Plan and Long Section	Status: For consenting
Sheet No. S28-01	Version No. 1



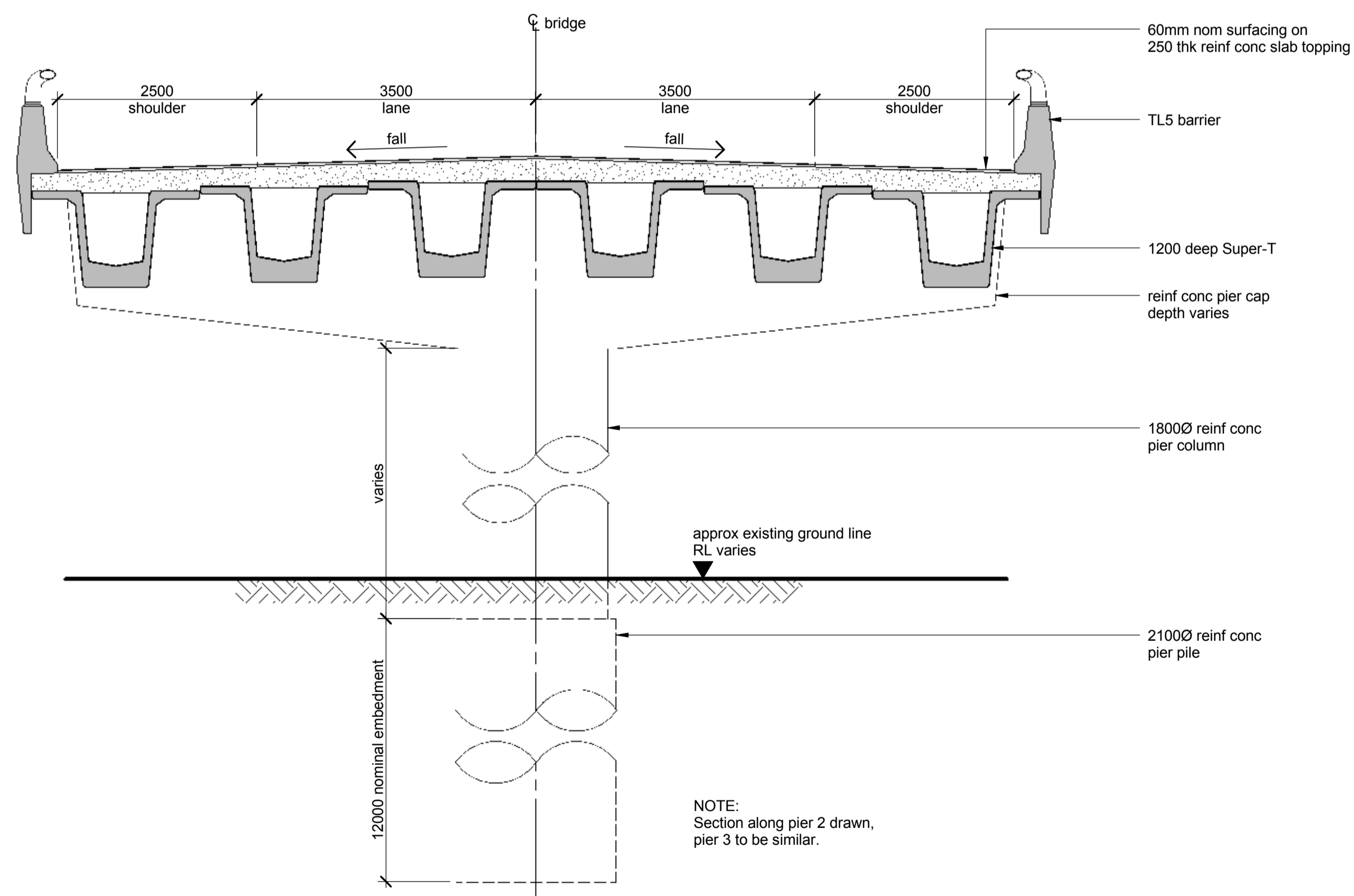
bridge 28 cross section along abutment 1
1 : 50



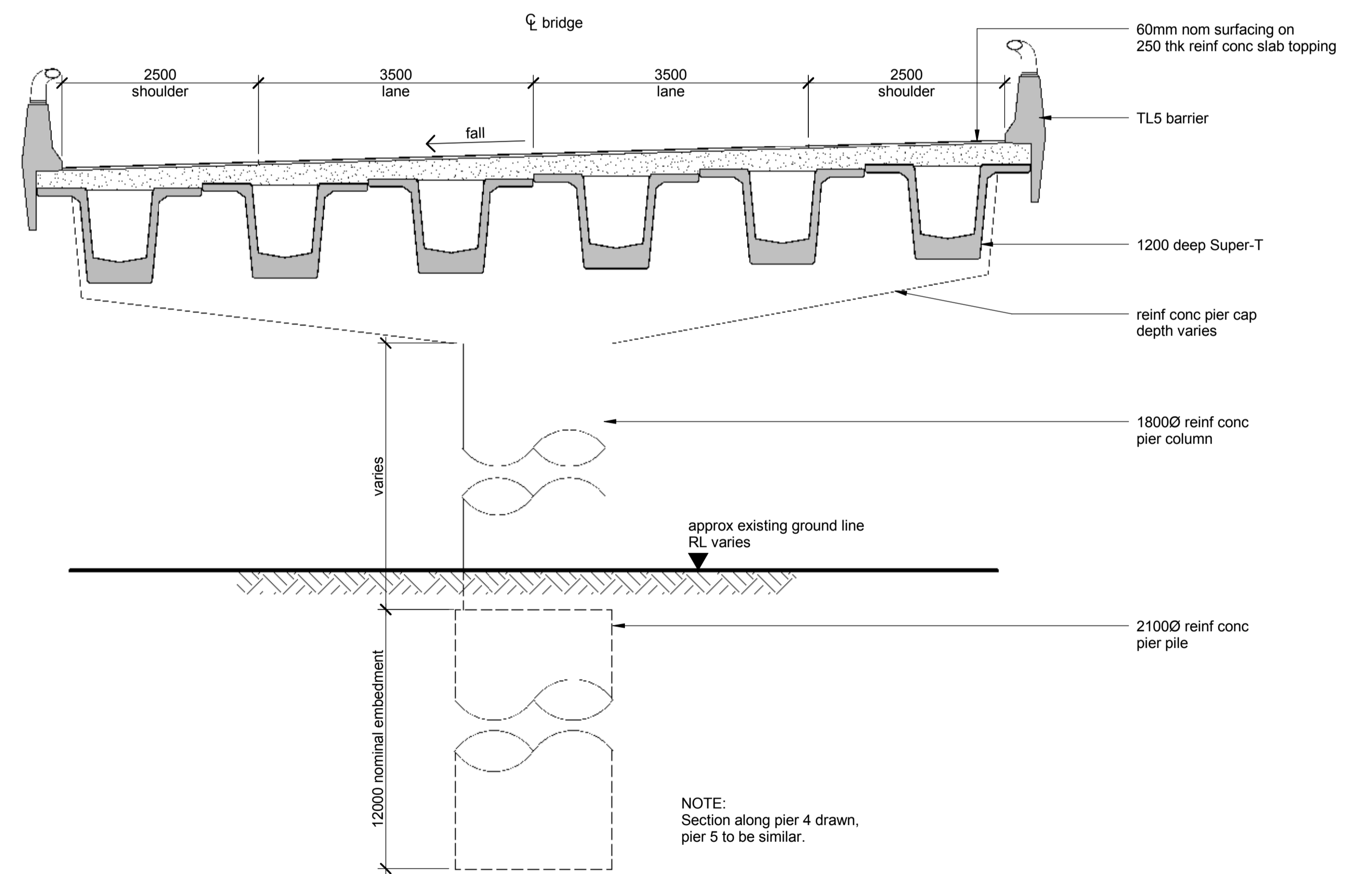
typical abutment section
1 : 50



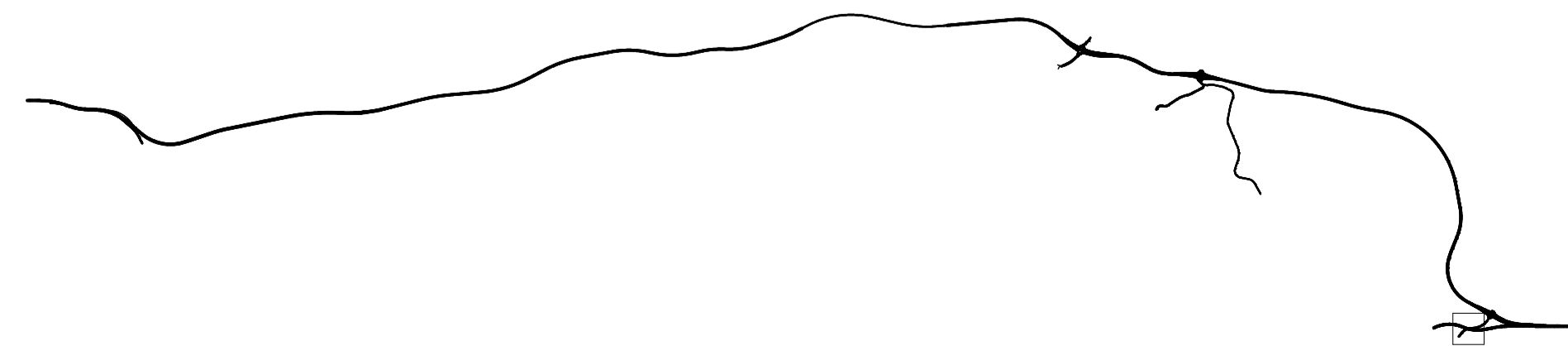
typical pier section
1 : 50



bridge 28 cross section along pier 2
1 : 50



bridge 28 cross section along pier 4
1 : 50



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	08/04/11

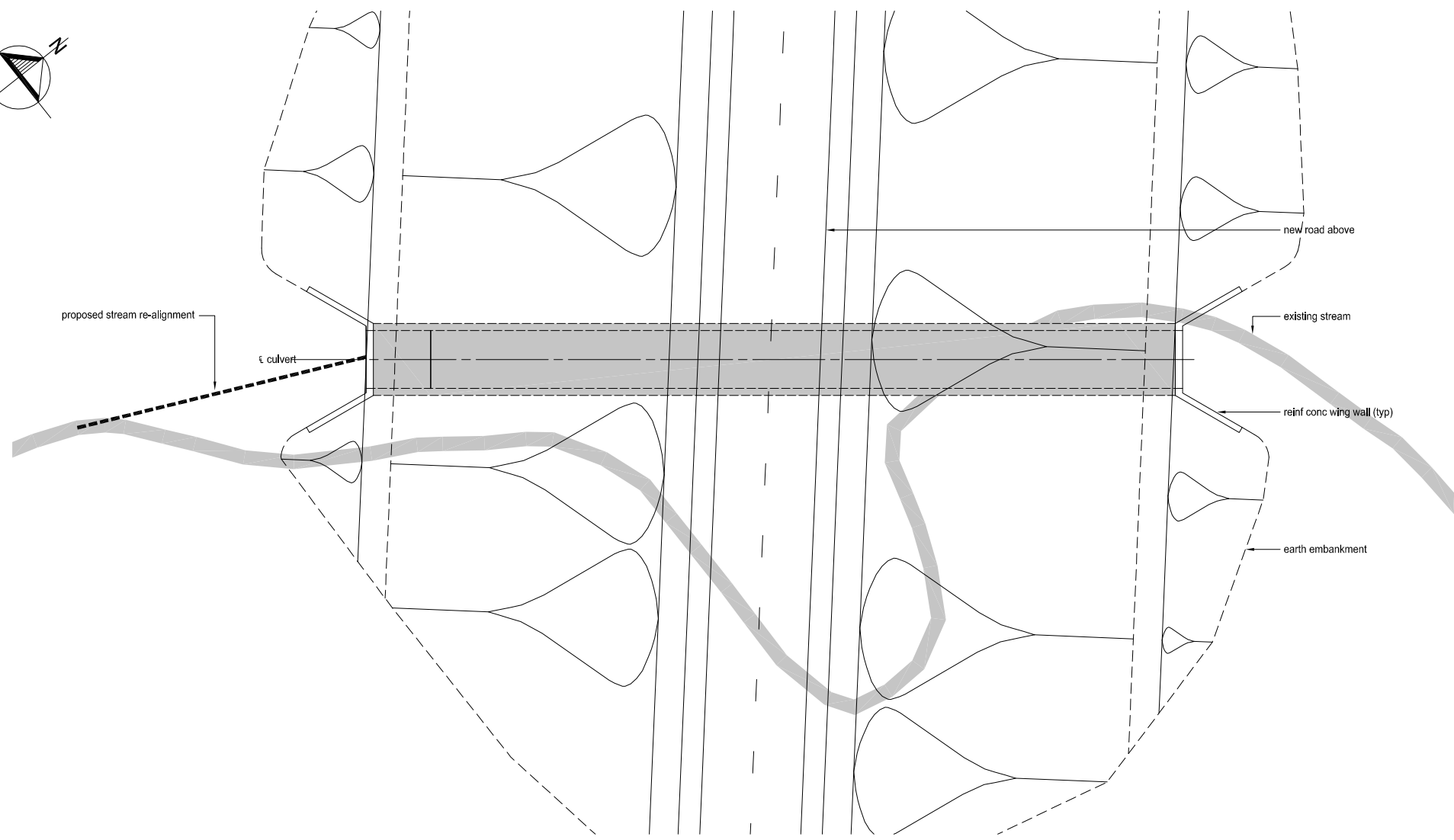
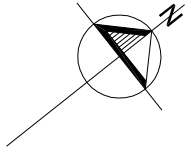


Project: **TRANSMISSION GULLY PROJECT**

Title: **Kenepuru Link Road
Bridge no. 28
Sections**

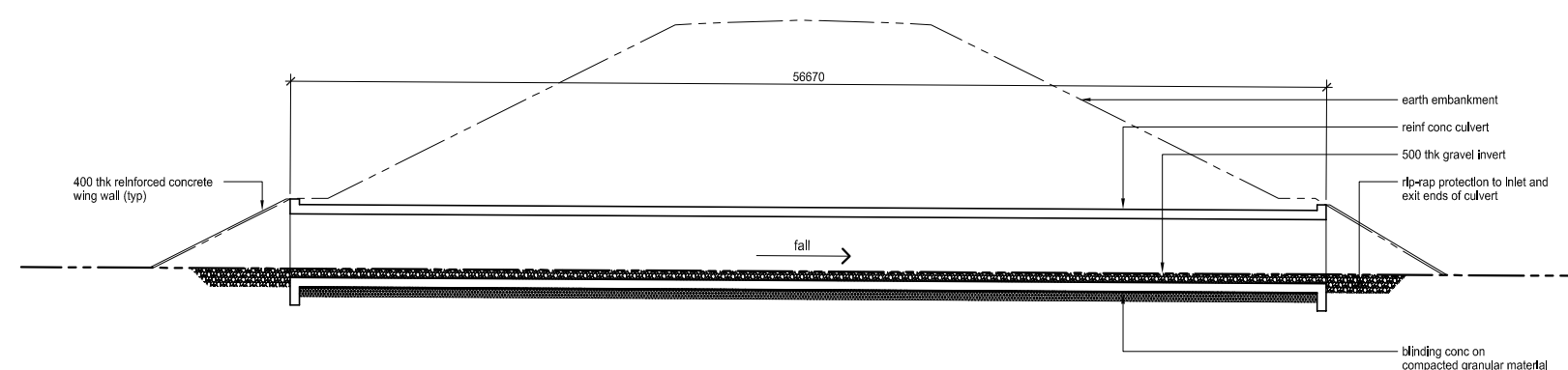
Status: **For consenting**

Sheet No. **S28-02**
Version No. **1**

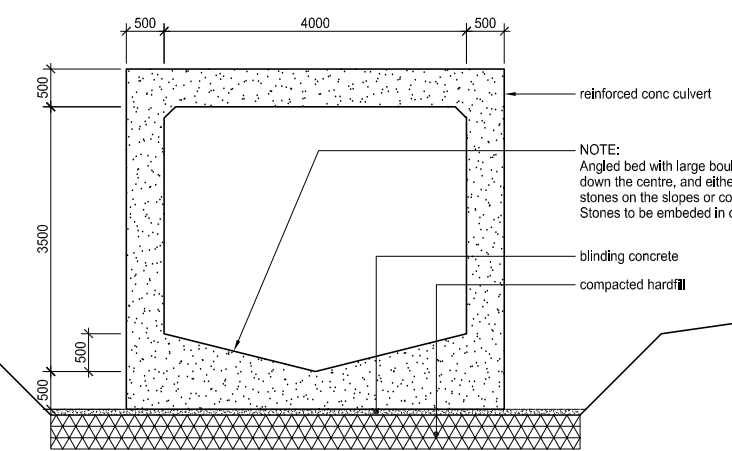


bridge no. 29 culvert plan

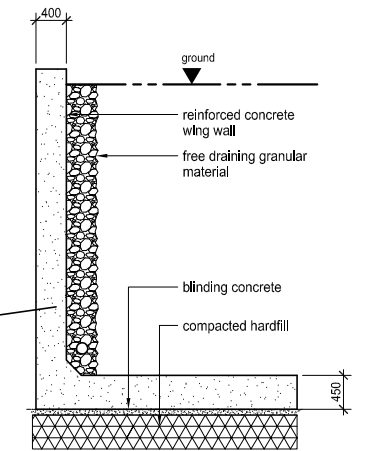
- notes:
- Other viable options for Bridge 16:
 Part precast part insitu reinforced concrete construction. Foundations are insitu concrete, walls are precast concrete and the deck is partial depth precast with an insitu concrete topping.
 Precast reinforced concrete 'u' shaped units. The box consists of bottom precast 'u' shaped units supporting identical but inverted top 'u' shaped sections.
 Proprietary precast reinforced concrete arch.
 - Reinforced concrete arch.
 - Utility services & drainage details not shown.



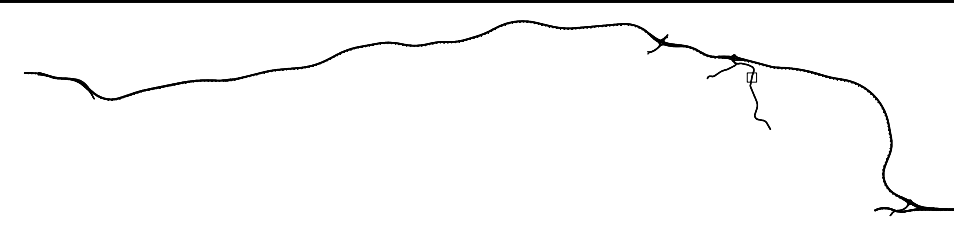
bridge no. 29 longitudinal section



cross section



typical wing wall section



Revision	Amendment	Approved	Date
1	Issue for consenting	PG	07/04/11



Project. **TRANSMISSION GULLY PROJECT**

Title. **Porirua Link Roads
Bridge no. 29
Plan and Section**

Status. **For consenting**

Sheet. No. **S29-01**

Version No. **1**