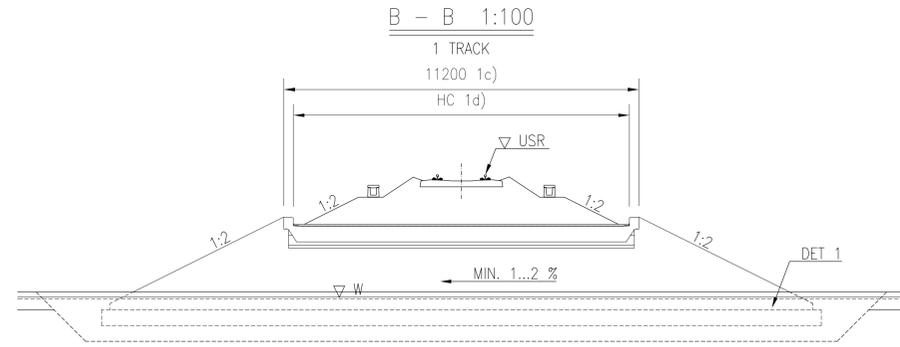
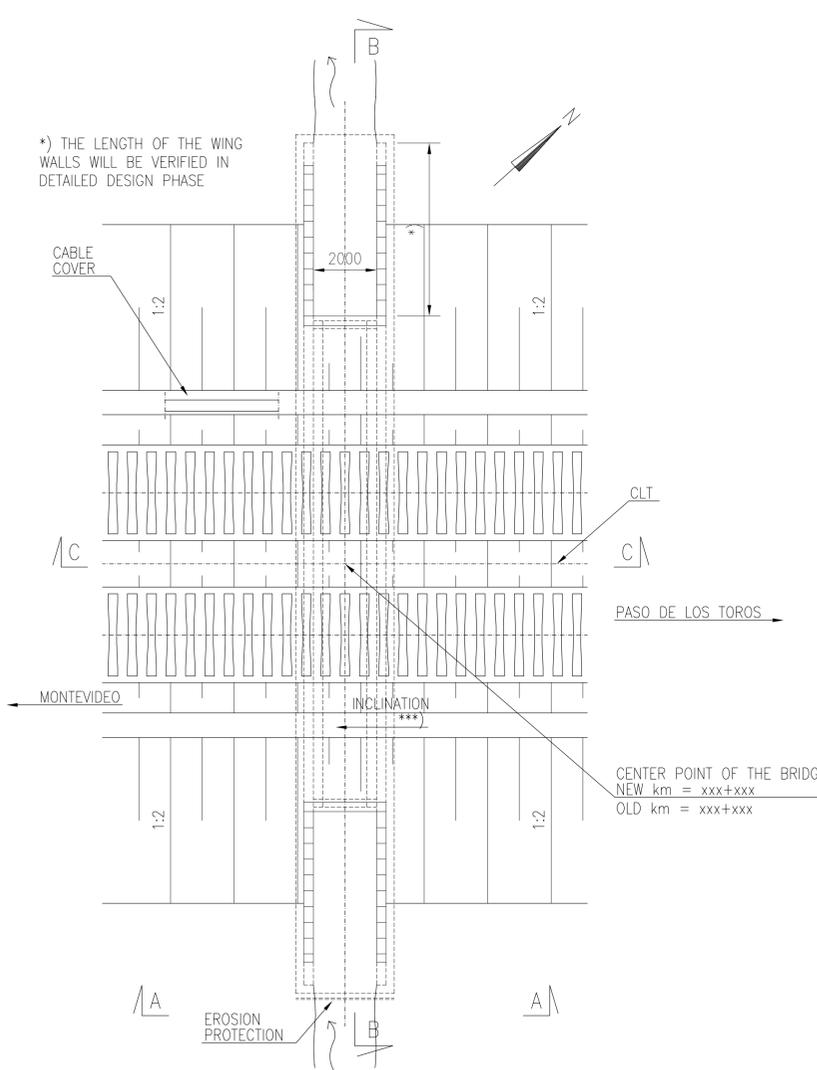
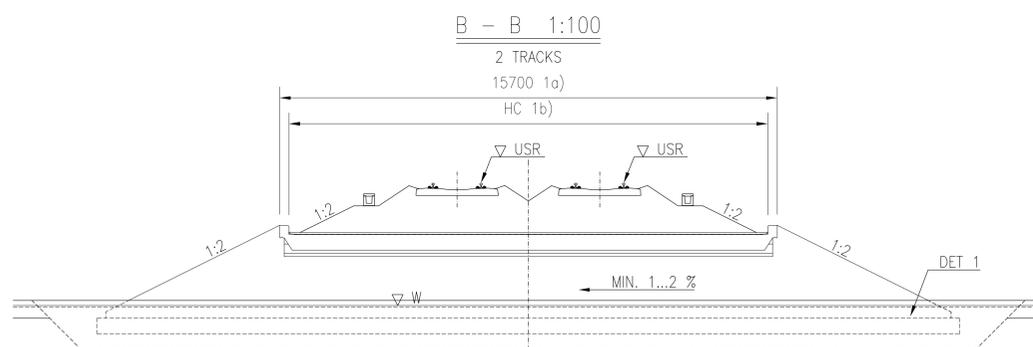


CULVERT BRIDGE 2 m 1:100

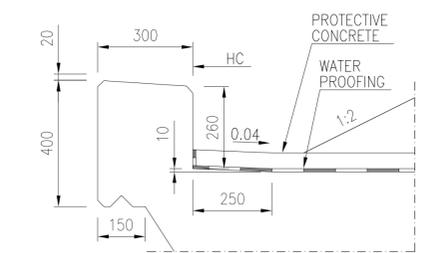


1c) 1d) THE LENGTH OF THE CULVERT BRIDGE AND HC ARE DEPENDING ON THE EMBANKMENT HEIGHT AND AMOUNT OF TRACKS. EACH CULVERT BRIDGE SHALL BE VERIFIED IN THE DETAILED DESIGN PHASE.

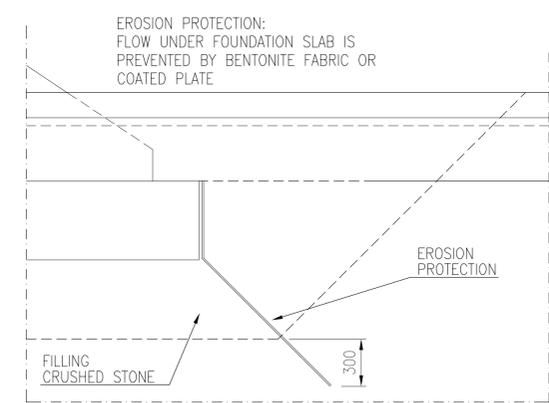


1a) 1b) THE LENGTH OF THE CULVERT BRIDGE AND HC ARE DEPENDING ON THE EMBANKMENT HEIGHT AND AMOUNT OF TRACKS. EACH CULVERT BRIDGE SHALL BE VERIFIED IN THE DETAILED DESIGN PHASE.

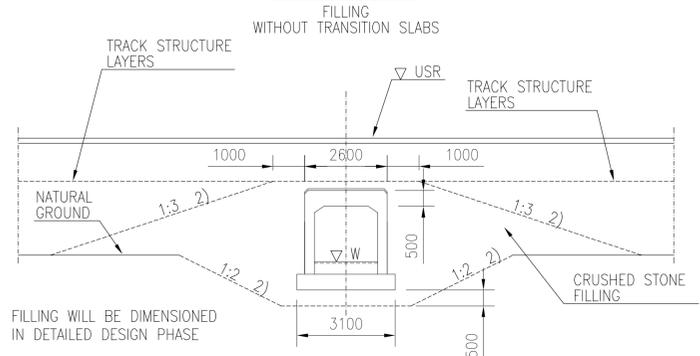
EDGE BEAM 1:10



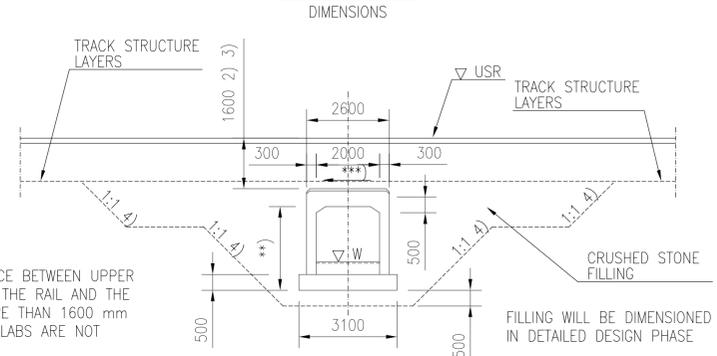
DET 1 1:20



C - C 1:100



C - C 1:100



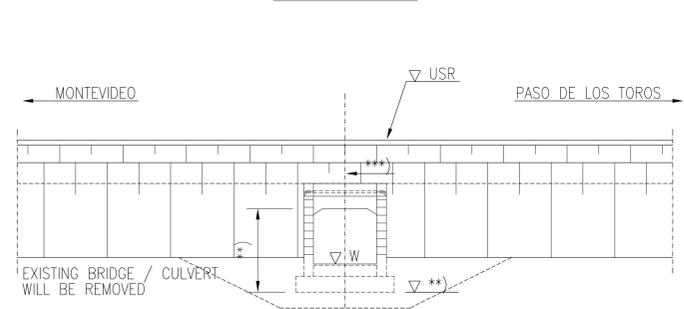
2) IF DISTANCE BETWEEN UPPER SURFACE OF THE RAIL AND THE DECK IS MORE THAN 1600 mm TRANSITION SLABS ARE NOT NEEDED

3) IF DISTANCE BETWEEN UPPER SURFACE OF THE RAIL AND THE DECK IS LESS THAN 1600 mm TRANSITION SLABS AND CANTILEVER BRACKETS ON THE SIDE OF THE FRAME ARE NEEDED FILLING ACCORDING TO NOTE 4)

4) FILLING IF TRANSITION SLABS ARE NEEDED

\*\* BOTTOM LEVEL AND THE HEIGHT OF THE FRAME WILL BE VERIFIED IN DETAILED DESIGN PHASE

A - A 1:100



\*\*\* BRIDGE WILL BE BUILT MIN. 1 % INCLINATION ACCORDING TO VERTICAL GEOMETRY OF TRACK

CULVERT FOR 1 TRACK

ESTIMATED AMOUNT OF CONCRETE  
FOUNDATION SLAB: 35 m<sup>3</sup>  
FRAME: 43 m<sup>3</sup>

ESTIMATED REINFORCING STEEL  
FOUNDATION SLAB: 100 kg  
FRAME: 190 kg/m<sup>3</sup> (CONCRETE)  
TRANSITION SLABS: 325 kg/m<sup>3</sup> (CONCRETE)

CULVERT FOR 2 TRACKS

ESTIMATED AMOUNT OF CONCRETE  
FOUNDATION SLAB: 42 m<sup>3</sup>  
FRAME: 55 m<sup>3</sup>

ESTIMATED REINFORCING STEEL  
FOUNDATION SLAB: 100 kg  
FRAME: 190 kg/m<sup>3</sup> (CONCRETE)  
TRANSITION SLABS: 325 kg/m<sup>3</sup> (CONCRETE)

CONCRETE:

C35/45  
Cmin=40 mm

REINFORCING STEEL:

B500P  
B500K

TRANSITION SLABS:

PREFABRICATED TRANSITION SLABS FOR 1 TRACK  
2 x 4 x 1.0 m x 5,0 m  
OR CAST IN SITU 2 x 4,0 m x 5,0 m

PREFABRICATED TRANSITION SLABS FOR 2 TRACKS  
2 x 2 x 4 x 1.0 m x 5,0 m  
OR CAST IN SITU 2 x 2 x 4,0 m x 5,0 m

CONCRETE C35/45

CONSTRUCTIONAL STEEL:

S355 J2, HOT-DIP ZINC COATED

RAILING / FENCE:

h = 1.1 m  
S355J2H  
HORIZONTAL LINE LOAD 1.0 KN/m  
VERTICAL POINT LOAD 1.0 KN

SURFACE STRUCTURE:

WATER PROOFING MATERIAL 10 mm  
PROTECTIVE CONCRETE 50 mm  
(BALLAST) 550 mm)

FILLING:

REQUIREMENTS ACCORDING TO TRACK INTERMEDIATE LAYER

CLT =

CENTER LINE of the TRACK

HC =

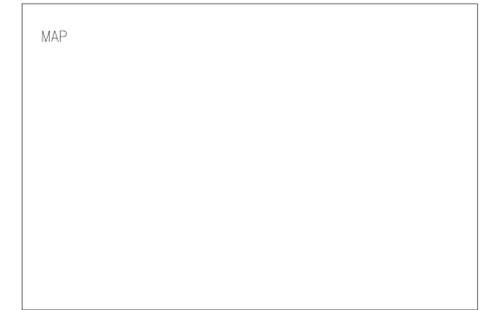
HORIZONTAL CLEARANCE

LSD =

LOWER SURFACE of the DECK

USR =

UPPER SURFACE of the RAIL



BRIDGE TYPE	REINFORCED CONCRETE BRIDGE
	FRAME PLATE
SPANS	2.00 m
HORIZONTAL CLEAR SPAN	—
VERTICAL CLEARANCE	—
HORIZONTAL CLEARANCE	1 TRACK: >6.30 m; 2 TRACKS: >10.80 m

VERSION  
23.10.2017

Revision	Explanation	Date	Designer	Date	Acceptor
Customer	Project Railway Project				
Supplier	Design phase Pre-engineering, Phase 2				
Supplier	Content Culvert bridge 2 m Preliminary general drawing Km+m +-+				
Drawer	23.10.2017	Ilkka Tiito	Loading		LM71-25
Designer	23.10.2017	Ilkka Tiito	Coordinate and elevation reference system		WGS 84 UTM 21
Supervisor	23.10.2017	Reima Nikander	Railway line		
Accept.	-	-	Archive	Type	Number
Cust. acc.	-	-	RB	-	1