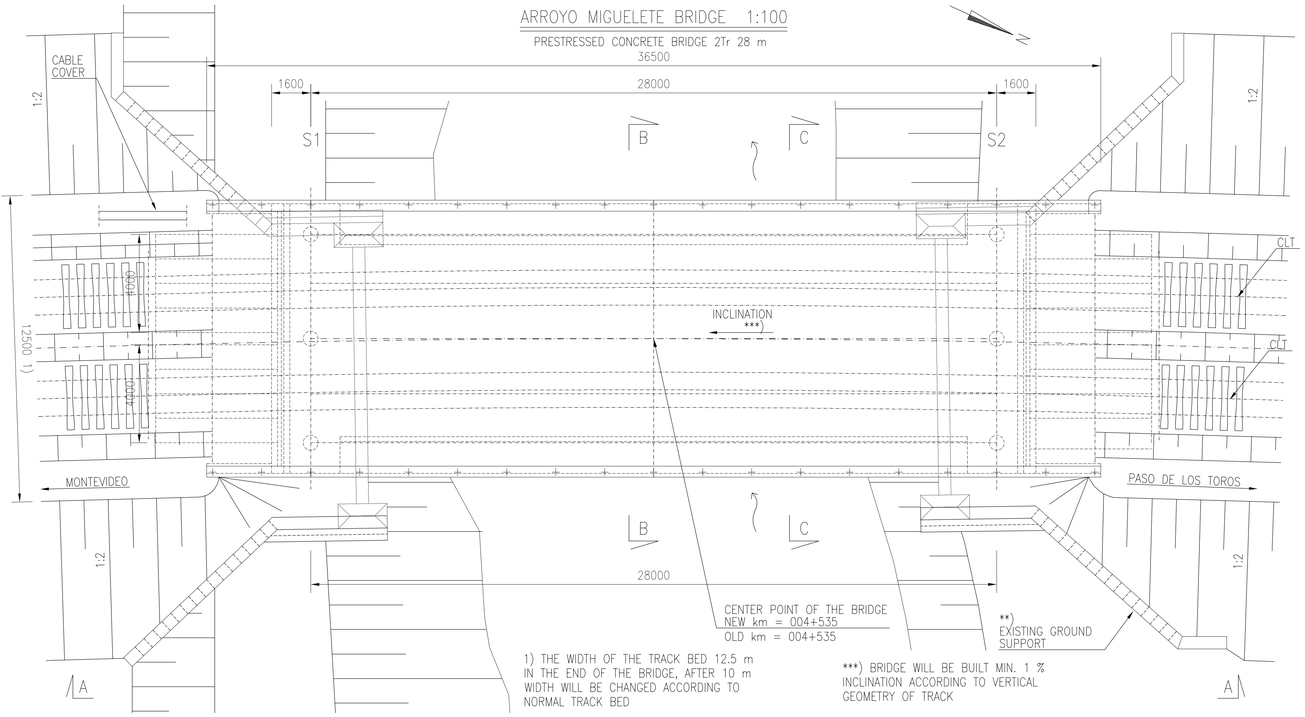
ARROYO MIGUELETE BRIDGE 1:100

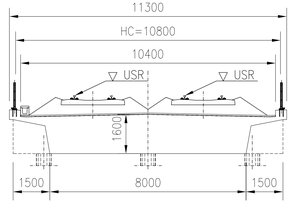
PRESTRESSED CONCRETE BRIDGE 2Tr 28 m



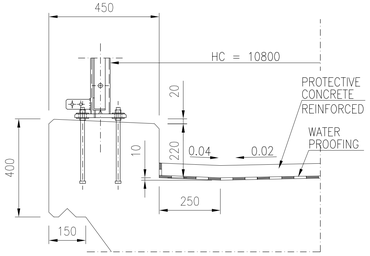
1) THE WIDTH OF THE TRACK BED 12.5 m IN THE END OF THE BRIDGE, AFTER 10 m WIDTH WILL BE CHANGED ACCORDING TO NORMAL TRACK BED

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

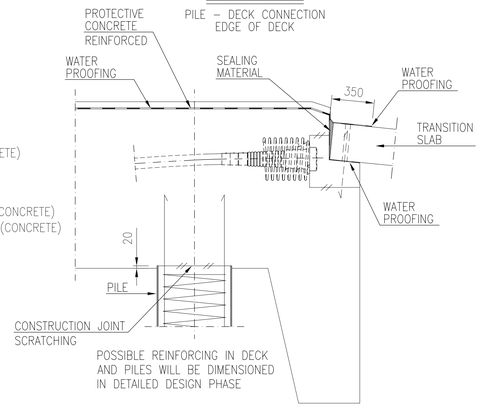
B – B 1:100



EDGE BEAM 1:10



DET 1 1:20



ESTIMATED AMOUNT OF CONCRETE
PILES: 17 m3
SUPERSTRUCTURE: 166 m3

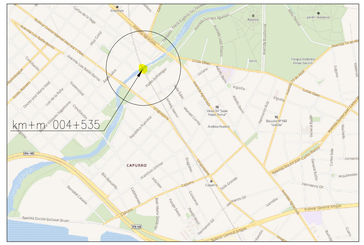
ESTIMATED PRESTRESSING STEEL
SUPERSTRUCTURE: 23 kg/m3 (CONCRETE)

ESTIMATED REINFORCING STEEL
PILES: 1800 kg
SUPERSTRUCTURE: 90 kg/m3 (CONCRETE)
TRANSITION SLABS: 325 kg/m3 (CONCRETE)

PROTECTIVE CONCRETE: 3 kg/m2

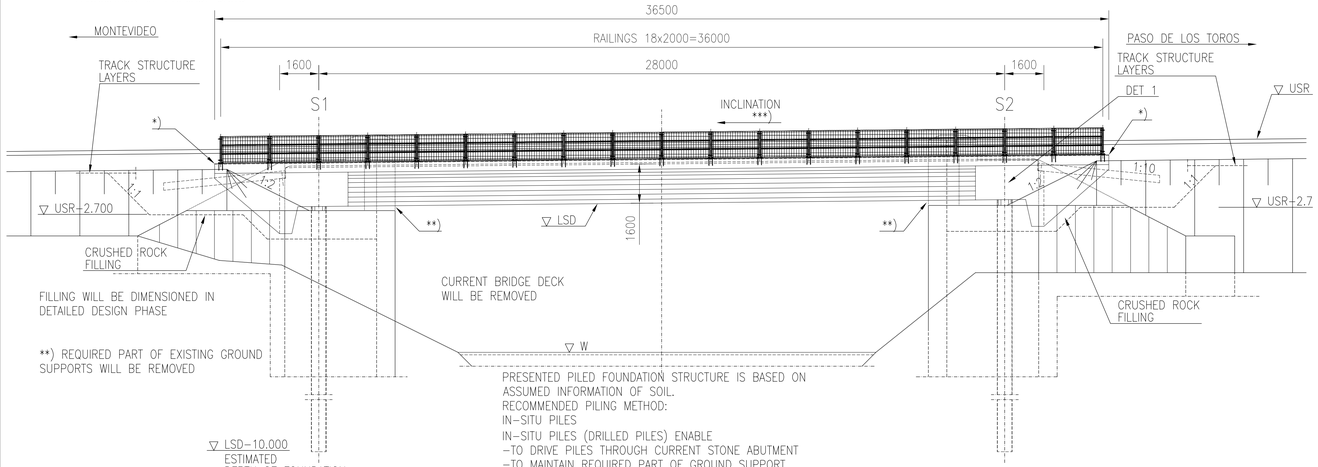
CONCRETE:	C35/45 Cmin=40 mm
PRESTRESSING STEEL: REINFORCING STEEL: REINFORCING MESH:	St 1570 / 1770 B500B B500K
PILES / FOUNDATION:	DRILLED PILES D610x14,2 S355J2H
TRANSITION SLABS:	PREFABRICATED TRANSITION SLABS 2 x 2 x 4 x 1.0 m x 5,0 m OR CAST IN SITU 2 x 2 x 4,0 m x 5,0 m CONCRETE C35/45
CONSTRUCTIONAL 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



*) THE LENGTH OF THE WING WALLS WILL BE VERIFYED IN DETAILED DESIGN PHASE OR BEFORE FABRICATION OF PRECAST UNITS

A – A 1:100



FILLING WILL BE DIMENSIONED IN DETAILED DESIGN PHASE

**) REQUIRED PART OF EXISTING GROUND SUPPORTS WILL BE REMOVED

CURRENT BRIDGE DECK WILL BE REMOVED

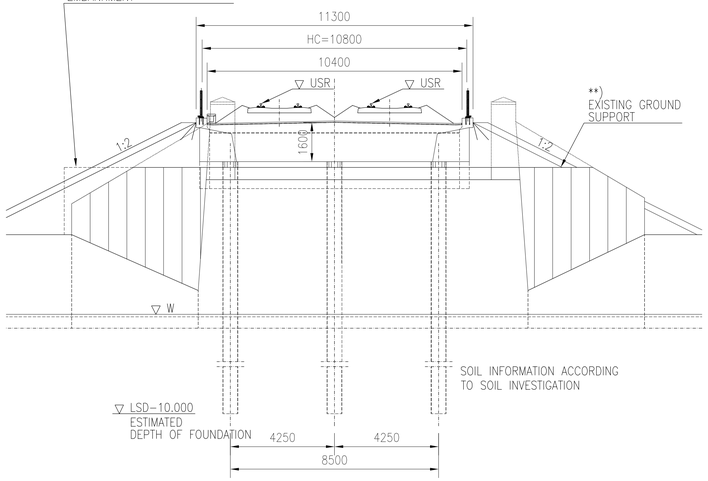
PRESENTED PILED FOUNDATION STRUCTURE IS BASED ON ASSUMED INFORMATION OF SOIL.
RECOMMENDED PILING METHOD:
IN-SITU PILES
IN-SITU PILES (DRILLED PILES) ENABLE
-TO DRIVE PILES THROUGH CURRENT STONE ABUTMENT
-TO MAINTAIN REQUIRED PART OF GROUND SUPPORT
-TO MINIMIZE EXCAVATION AND FILLING IN THE END OF THE BRIDGE
-TO SHORTEN THE NEEDED CONSTRUCTION TIME

LSD-10.000
ESTIMATED DEPTH OF FOUNDATION

DIMENSIONING IN DETAILED DESIGN PHASE ACCORDING TO SOIL INVESTIGATION

LENGTH OF GROUND SUPPORT WILL BE VERIFIED AND DEFINED IN DETAIL DESIGN PHASE ACCORDING TO NEW EMBANKMENT

C – C 1:100



SOIL INFORMATION ACCORDING TO SOIL INVESTIGATION

BRIDGE TYPE	PRESTRESSED CONCRETE BRIDGE CANTILEVER PLATE
SPANS	1.60 m + 28.00 m + 1.60 m
HORIZONTAL CLEAR SPAN	– VERTICAL CLEARANCE –
HORIZONTAL CLEARANCE	10.80 m

VERSION
23.10.2017

Revision	Explanation	Date	Designer	Date	Acceptor

Customer: MINISTERIO DE TRANSPORTE Y OBRAS PÚBLICAS
Supplier: VR TRACK

Drawer	23.10.2017	Ilkka Tiiro
Designer	23.10.2017	Ilkka Tiiro
Supervisor	23.10.2017	Reima Niklander
Accept.	-	-
Cust. acc.	-	-

Project: Railway Project
Design phase: Pre-engineering, Phase 2
Content: Arroyo Miguelete bridge
Preliminary general drawing
Km+m 004+535
Loading: LM71-25
Coordinate and elevation reference system: WGS 84 UTM 21
Railway line
Archive Type Number Rev. Sheet: RB - - 1