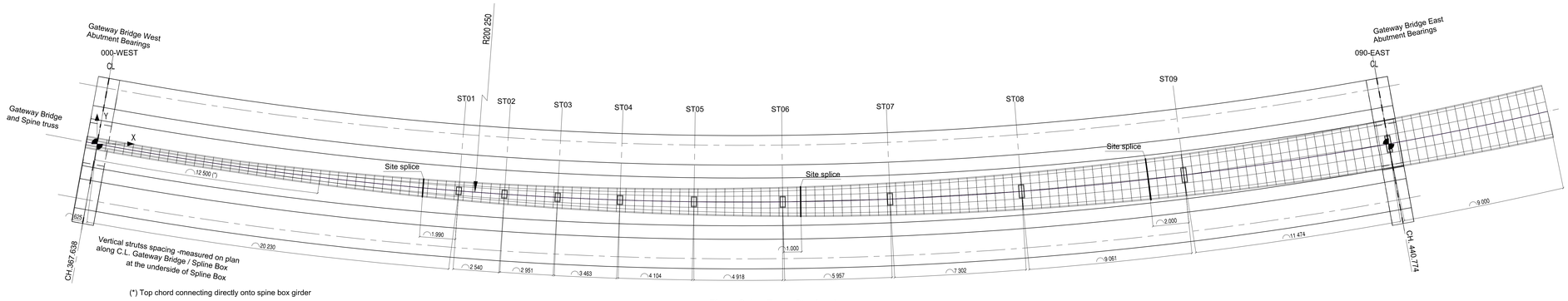
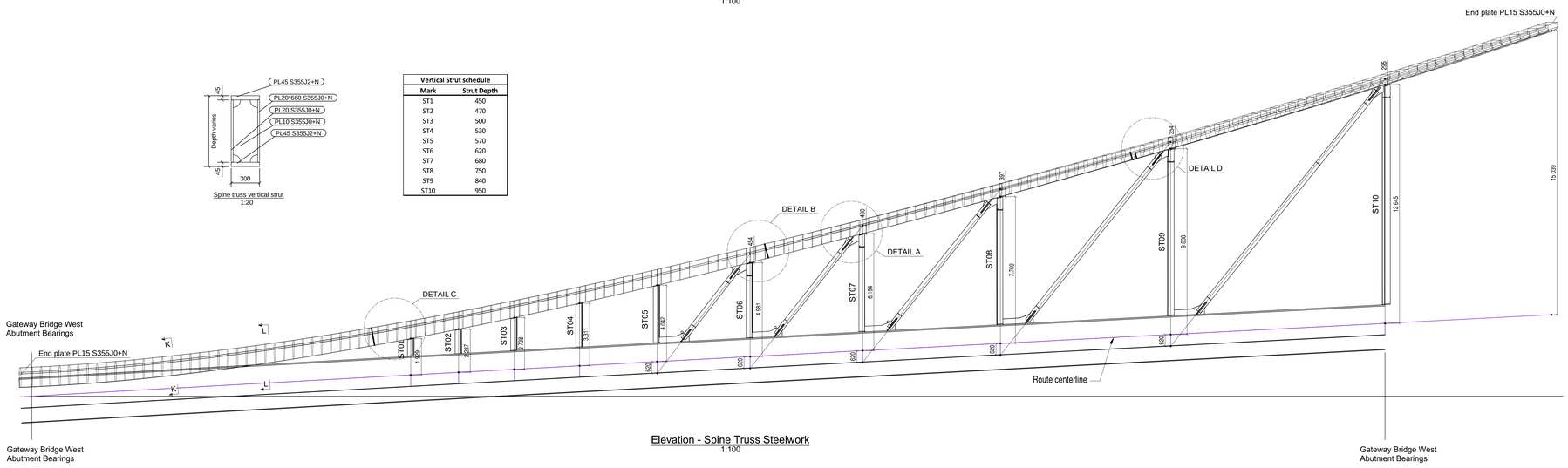


(*) Top chord connecting directly onto spine box girder

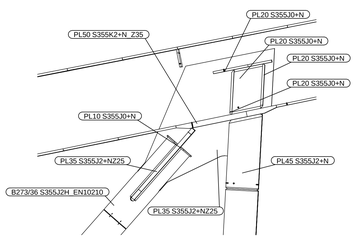
Plan - Spine Truss Steelwork
1:100

Spine truss vertical strut
1:20

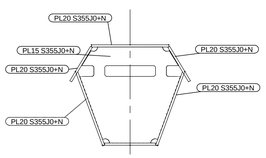
Vertical Strut schedule	
Mark	Strut Depth
ST1	450
ST2	470
ST3	500
ST4	530
ST5	570
ST6	620
ST7	680
ST8	750
ST9	840
ST10	950



Elevation - Spine Truss Steelwork
1:100

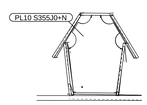


Detail A , 1:20

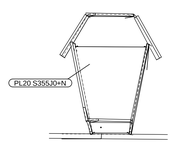


Typ section Spine Truss top chord 1:20

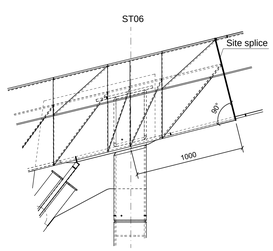
Typ section Spine Truss diagonal , 1:20



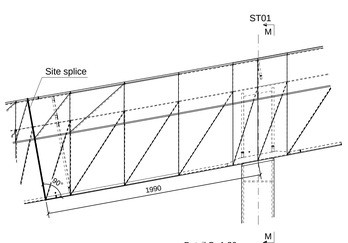
Section K - K , 1:20



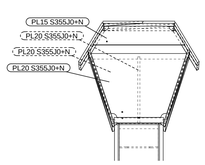
Section L - L , 1:20



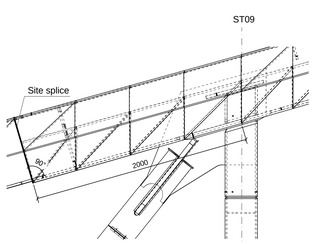
Detail B , 1:20



Detail C , 1:20



Section M - M , 1:20
(Strut 1-5)



Detail D , 1:20

General notes:

(unless indicated otherwise)

1 - Steel quality to be weathering grade S355

All bridge spine box en deck box (grade S355 according to BS EN 10025):

- S355J0W+N : thickness ≤ 35 mm
- S355J2W+N : thickness > 35 ≤ 50 mm
- S355K2W+N : thickness > 50 ≤ 60 mm

- Through thickness Z - quality:
Z25 for gusset and spade plates of Spine Truss Diagonal B5-B9
Z35 for Spine Box top flange, web and bearing plates and trimmer beam web and top flange.

All Top Chord and vertical struts, Lifting lug or temporary fixing cleats that remain permanent (grade S355 according to BS EN 10025-2):

- S355J0+N : thickness ≤ 35 mm
- S355J2+N : thickness > 35 ≤ 50 mm
- S355K2+N : thickness > 50 ≤ 60 mm
- Through thickness Z - quality:
Z25 for gusset and spade plates of Top Chord Nodes ST6-ST10

All Diagonal bracings to be grade S355J2H to BS EN 10210

2 - Shear studs :

- Type SD1 S235J2+C450, Ø19mm x 175mm according to BS EN 13918 u.n.o

3 - Welds

- All welds are to be continuous and form a continuous seal
- All welds are indicated. Seams not to be welded are stated explicitly
- When no specific detail is to be used, welds are indicated by throat size (a = ...)
- Grinding direction: see grinding drawing C12768-VTB-SBR-GB-DR-W-3003
- See welding catalogues C12768-VTB-SBR-GB-DR-W-3004/3005
- Welded splices to be ground flush to provide uniform finish surface.
- Weld surface may need roughening to provide adequate key to protective coating to adhere properly.
- All visible welds along bottom flanges and inclined webs to be ground flush and provide uniform finish surface

4 - Bolted assemblies :

10.9 Bolts according to BS EN 14399-10 and BS EN 1090 (TCB)
weathering grade s10t in accordance to following specification:
HRC Bolt according to BS EN 14399-10
HRD Nut according to BS EN 14399-10
Washer according to BS EN 14399-6
Bolts to be tightened with HRC method

5 - Execution class :

EXC 3 for entire steelconstruction of Gateway Bridge , with additionnal requirements as specified by Series 1800

6 - Annotations :

- Measures are in mm

7 - C.O.G.:

- Center of gravity
- Weight is indicated for each assembled girder

8 - Corrosion protection :

- See drawing C12768-VTB-SBR-GB-DR-W-3002

9 - Overlength :

- See drawing C12768-VTB-SBR-GB-DR-W-3001

Iss	Description	By	Chkd/Appd	Date
P01	First issue - for stage approval and construction	OPR	SMA	31-01-2

For Construction Approval — S4

London Luton Airport Ltd
A Luton Council company

London Luton Airport Limite
Luton Borough Council
London Luton Airport Operations Limited
Airport Way, Luton LU2 9LY

Sheet Size:	Scale:	Drawn By:	Approved By:
A0	As indicated	BDR	SMA

Project Name:
Luton DART Project

Contract Name:
C12768 - Luton Direct Air to Rail Transit

Drawing Title:
Gateway Bridge - Spine Truss Steelwork
MATERIAL MEMBER SCHEDULE

Drawing No.:
C12768 -VTB -SBR -GB -DR -W-3008