

Description:

- Route of boardwalk to be set out with Client Rep. (CR) prior to construction. Undertake preliminary grading works as agreed to reduce slope changes along length of boardwalk (B/W), which should not exceed 1:20. Cross-slopes should be avoided.
- Overall length of B/W is c. 216 m and incorporates c. 13 no. direction changes of 120-175 degrees (inside angle) with each change being largely unique. Allow for accommodating this variation in carpentry and for neat handrail junctions with additional posts as required.
- Allow for 5 no. passing places comprising widened sections of boardwalk (1.8 m clear width). Agree setting out with CR.
- Beneath B/W allow for shallow scrapes in 3 no. of places providing 0.5 m headroom to allow passage of mammals. Agree locations with CR.

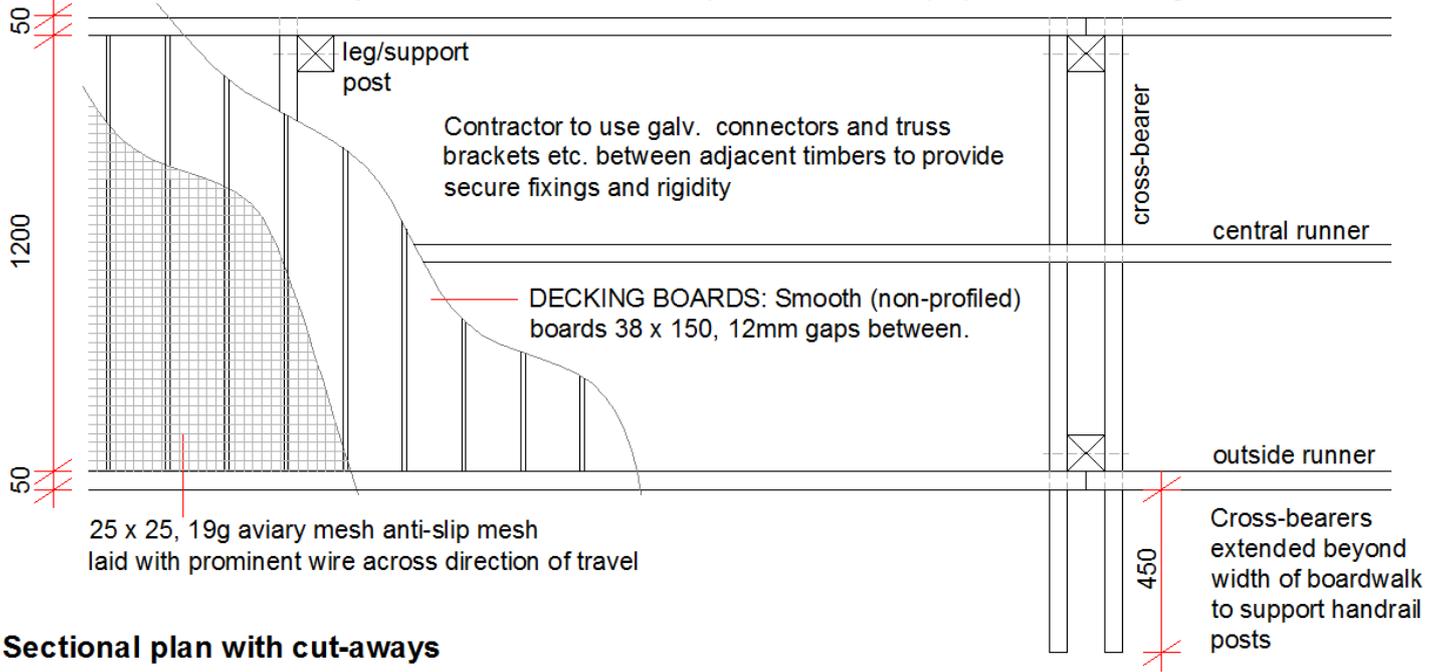


Scale: Not to scale
Drawn: March 2018
Client: Harpenden Town Council
 Town Hall, Leyton Road
 Harpenden, Hertfordshire AL5 2LX
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Batford Springs NR
Proposed Boardwalk
Arrangement and
Setting-out Plan
BSBW-101

Single post/strut/cross bearer required where handrail joint does not occur i.e. usually 4.2m centres

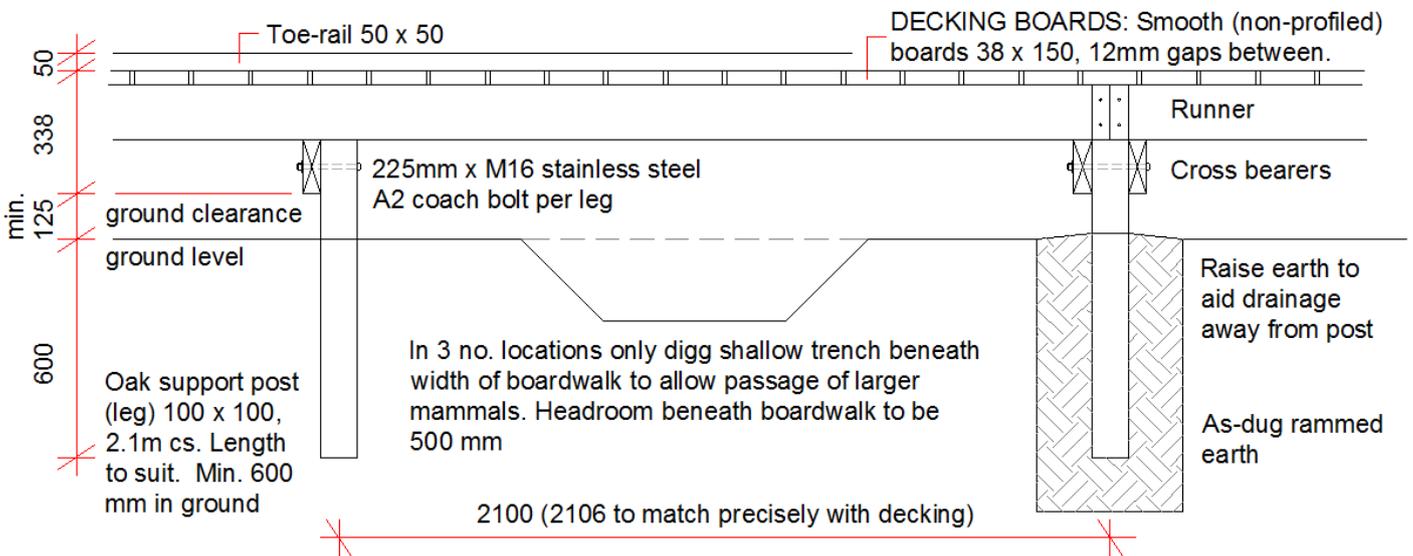
Double posts/struts/cross bearers required where handrail joint occurs i.e. usually 4.2m centres but more frequently where required for structural purposes and at changes of direction



Sectional plan with cut-aways

Contractor to set post into dug hole backfilled with rammed earth and final surface finish slightly proud as shown. Make allowance for changes in level by setting the deck level from the outset to minimise height variations in decking as the boardwalk crosses uneven ground.

Note: Washers to be used on all bolt fixings. All exposed threads to be cut back so as to not exceed 12mm and then treated to prevent unauthorised removal. Aviary mesh to be nailed/stapled to decking. Contractor to discuss method prior to commencement



Side sectional elevation

All drawings are for guidance only and circumstances may require variation. Agree variations with Client Representative prior to implementation.

DETAILS OF BOARDWALK DECK AND SUB-STRUCTURE (Handrails not shown - Refer to dwg. BSBW-202)

All dimensions in mm

Batford Springs NR:
Wetland Boardwalk:
Boardwalk - Basic Details
BSBW-201

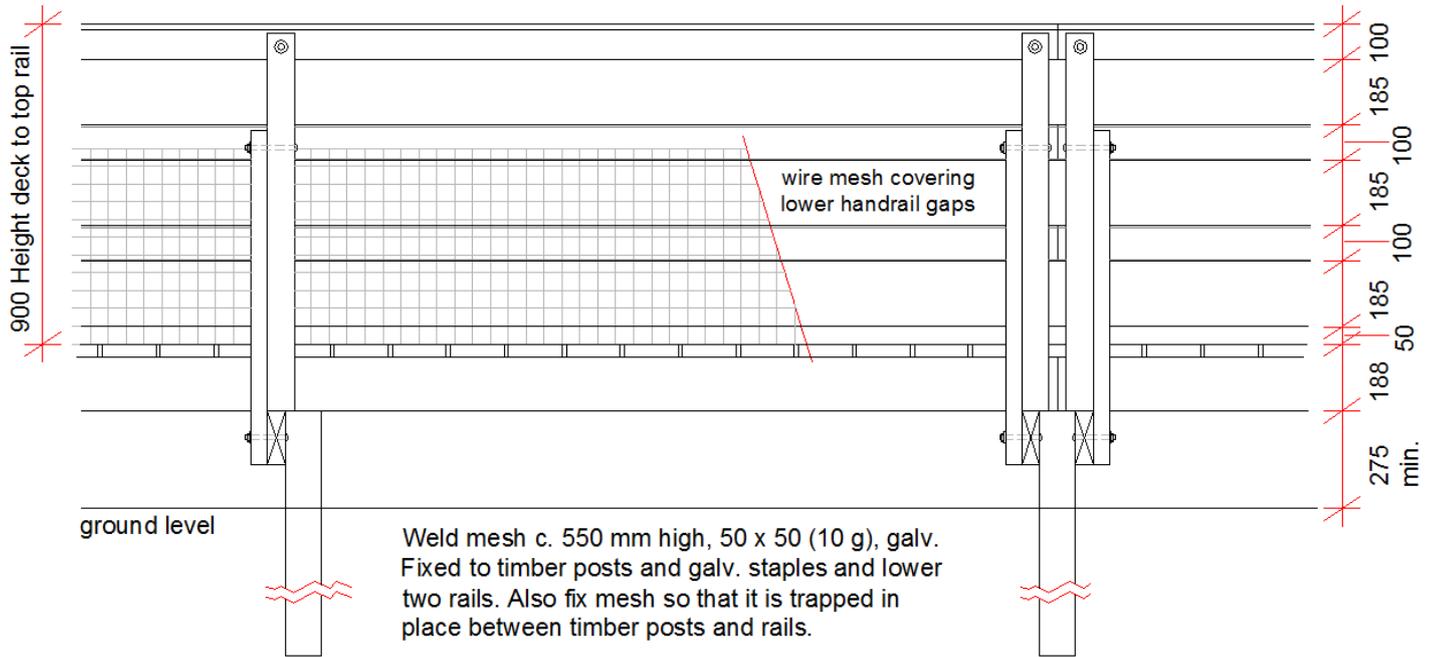
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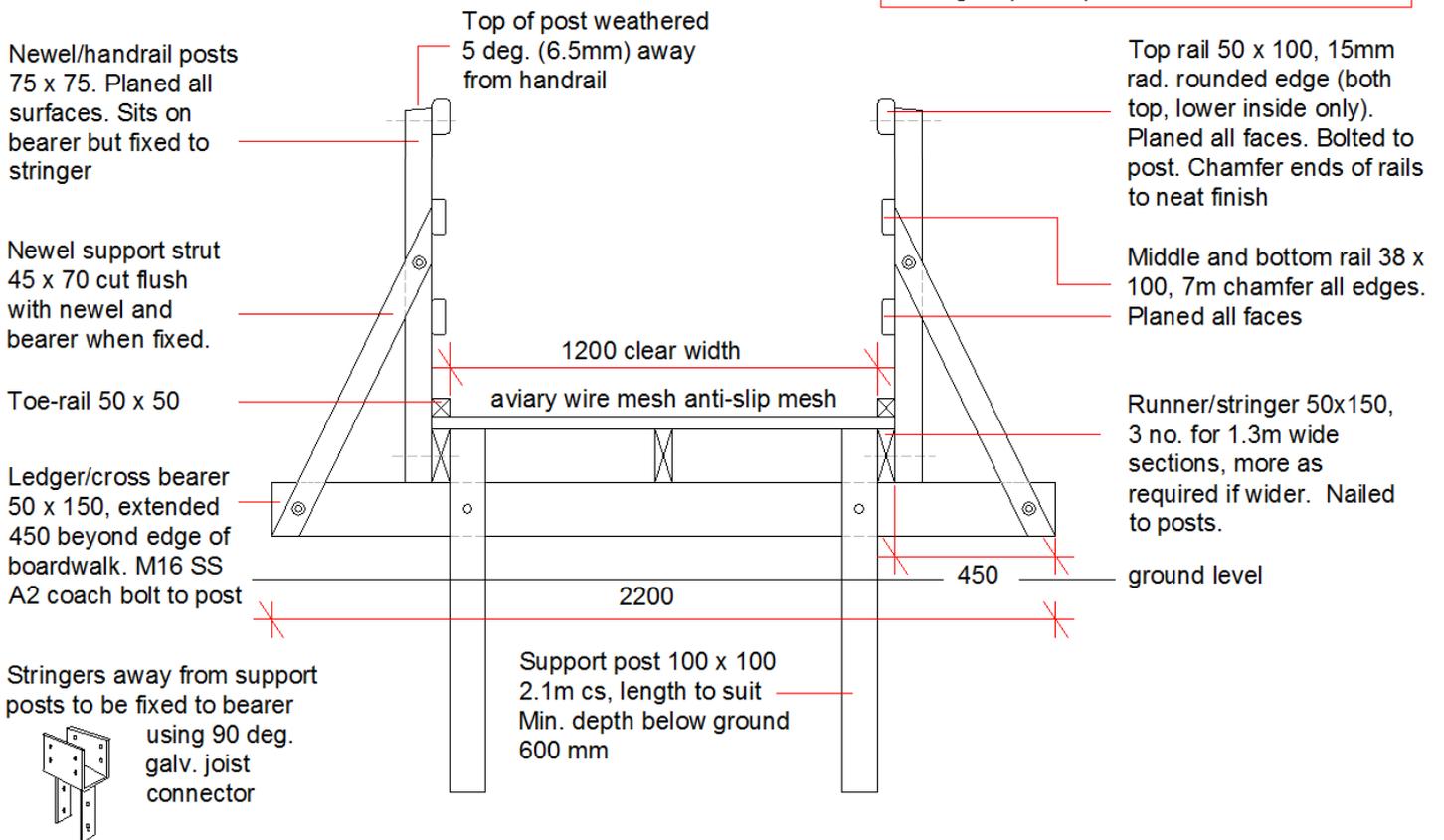
Single post/strut/cross bearer required where handrail joint does not occur i.e. usually 4.2m centres

Double posts/struts/cross bearers required where handrail joint occurs i.e. usually 4.2m centres but more frequently where required for structural purposes and at changes of direction



Side sectional elevation

Take great care not to over-tighten fixings and damage top rails/posts



Section (Refer to drawing BSBW-201 for basic construction)

All dimensions in mm

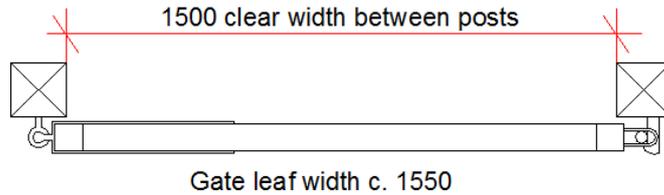
Batford Springs NR:
Wetland Boardwalk
 Boardwalk - Handrail Details
BSBW-202

Scale: Not to scale
 Drawn: March 2018
 Client: **Harpenden Town Council**
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 Harpenden, Hertfordshire AL5 2LX
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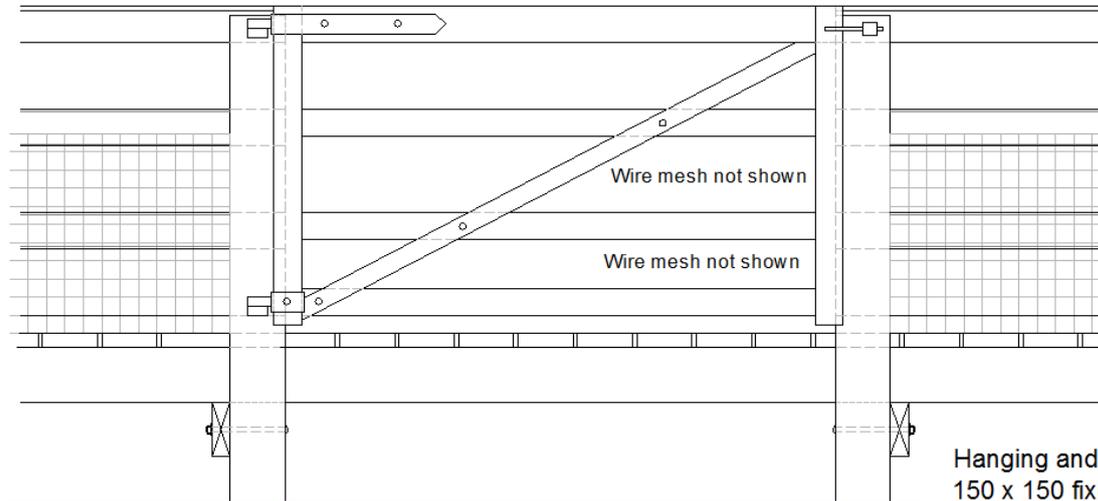
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Galv. hinge and latch set (provide lockable latch) and additional non-locking sliding bolt at base



Gate type shown is illustrative. Allow for sourcing/manufacturing gate that functions as shown and matches appearance of adjacent handrails

Gate Plan (Note: Gates opens outwards)



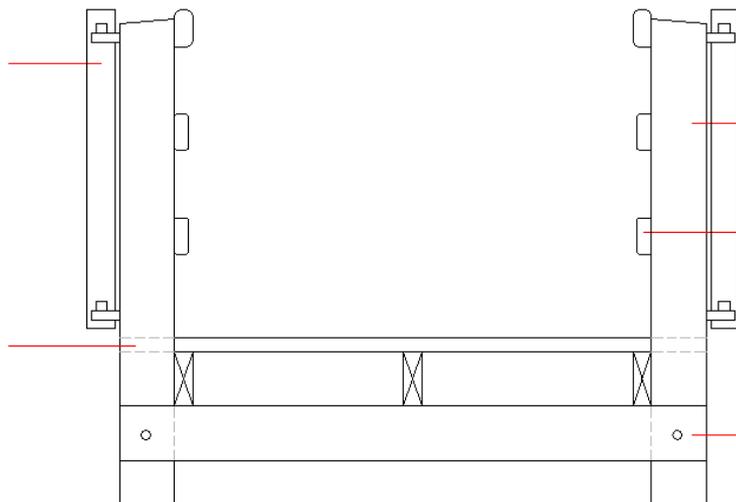
Hanging and shutting posts 150 x 150 fixed directly in to ground next to boardwalk with handrail and gate fixed. Allow for extra ground penetration given longer length of post (min. 700 below ground)

Gate locations: To be agreed on site. Arrangements include 2 no. gates opposite each other; a single gate on one side only; gates associated with passing places; and gates not associated with passing places

Side elevation (Note: Wire mesh not illustrated on gate, but to match adjacent handrail sections)

Gate hinged outside of line of posts to ensure wide opening and unrestricted width (see plan at page top)

Decking boards extended to align with outside edge of gate posts, ensuring that there is no significant gap between base of gate and boardwalk. Toe rail removed for gate opening only



Gate posts to be seasoned oak free from splits and shakes.

Handrails fixed to posts

Cross bearer immediately associated with gate posts do not extend beyond the boardwalk as elsewhere

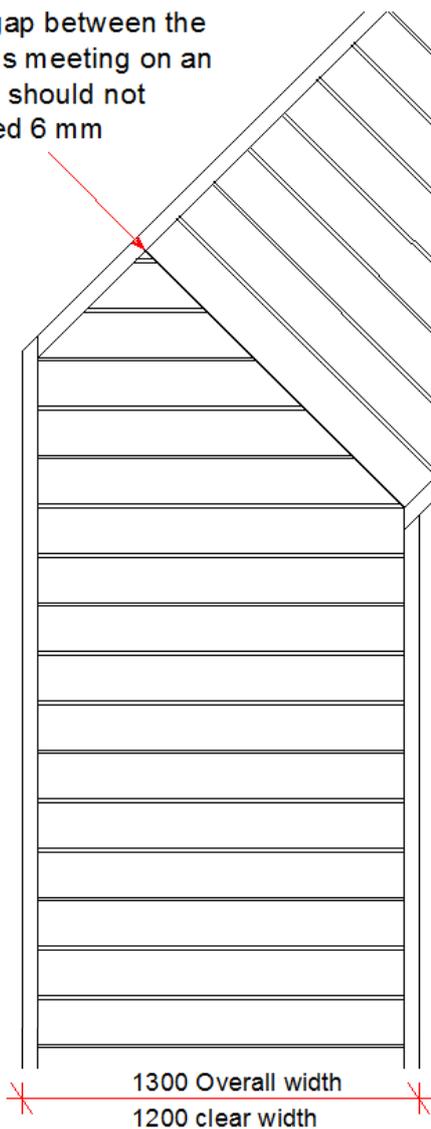
Section (Refer to drawing BSBW-202 for adjacent handrail section details)

All dimensions in mm

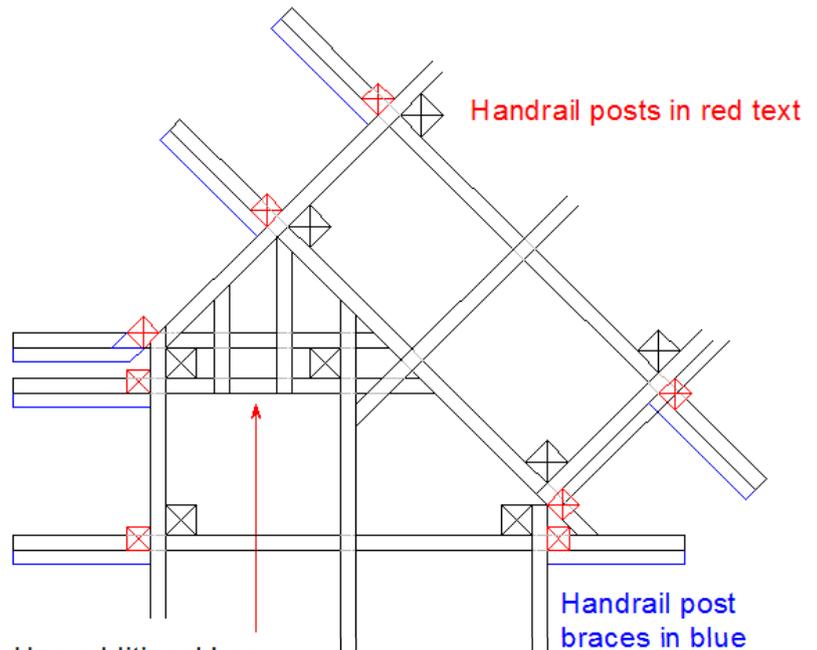
The gap between the boards meeting on an angle should not exceed 6 mm

Small triangular shaped decking boards at junction are acceptable so long that they are very securely fixed. Contractor to seek confirmation from CR if in any doubt.

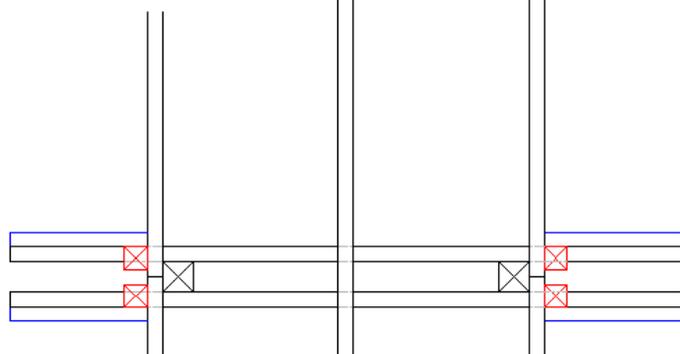
Contractor to use galv. connectors and truss brackets etc. between adjacent timbers to provide secure fixings and rigidity



Plan showing decking level



Use additional bearers and stringers as required to ensure deckboards are well supported and have adequate fixing points at junctions



Plan showing sub-structure

Handrail posts in red text

Handrail post braces in blue

This detail demonstrates the approach to be taken at all changes of direction (these vary throughout the route from c.120-175 degrees). The approach shown is indicative only and the contractor will produce a solution that is durable, neat and to the clients requirements.

All dimensions in mm

PLAN VIEW OF DECKING AND SUB-STRUCTURE ARRANGEMENT

Note: Fixing details not shown.

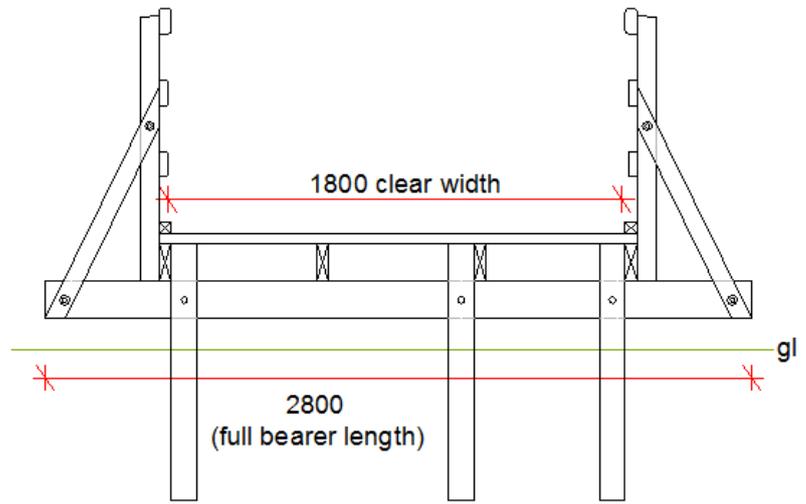
**Batford Springs NR:
Wetland Boardwalk**
Boardwalk - Change in direction
BSBW-204

Scale: Not to scale
Drawn: March 2018
Client: **Harpenden Town Council**
Town Hall, Leyton Road
Harpenden, Hertfordshire AL5 2LX
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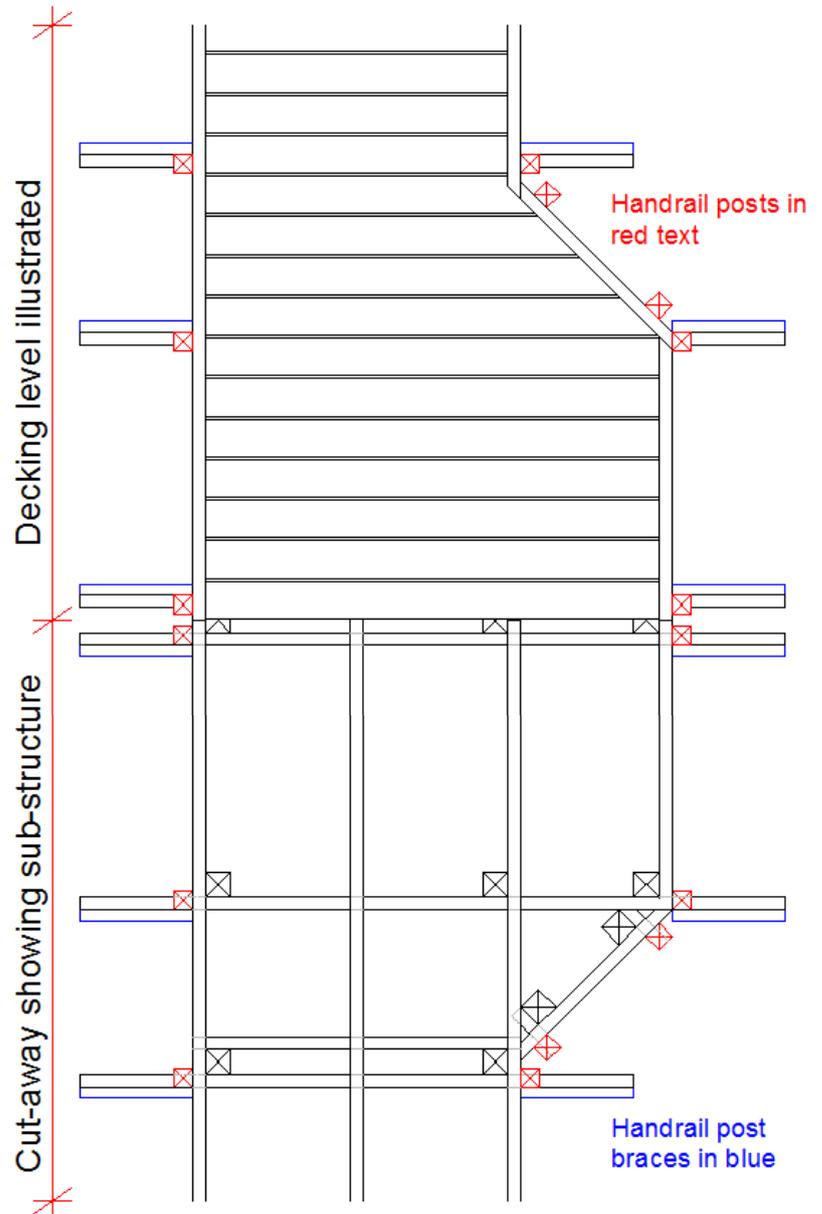


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Fixing of handrail posts over sections where overall width is increased may require an alternative approach (i.e. not resting on cross-bearer with brace). Approach should be agreed with CR prior to commencing.



Section (Showing additional width of passing place)



Drawing illustrates suggested passing place detail. Specific locations may vary from this detail. However min. width of 1.8 m (clear width) should be achieved with handrails that are neatly organised to ensure strong and clean joints.

All dimensions in mm - fixings not shown

PLAN VIEW OF DECKING AND SUB-STRUCTURE ARRANGEMENT

Batford Springs NR:
Wetland Boardwalk
 Boardwalk - Passing Places
BSBW-205

Scale: Not to scale
 Drawn: March 2018
 Client: **Harpenden Town Council**
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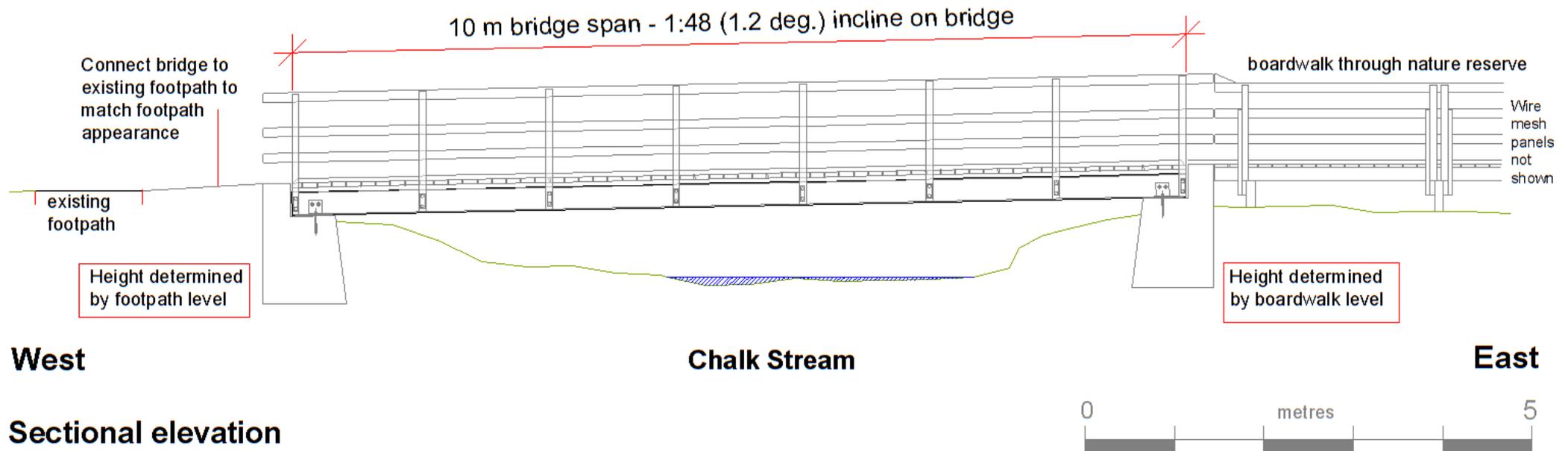


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General Specification:

Note: Drawing and specification are indicative only. All measurements and calculations to be done by contractors, ensuring pier size and specifications are suitable for bridge of this span and user loading given the specific ground conditions and soil strength.

- Width to match boardwalk with 1.2 metre clear width with anti-slip treatment (weld mesh matting). Top of handrail to be 1.0 m high above deck level with three rails and lower two to match handrail on boardwalk. Handrail posts shown at 1.42 m centres. Mesh covering two lower handrails not shown but allow for supply and fixing.
- Bridge comprising two universal steel beams braced with lattice of horizontal angle irons, all bolted together (suggested beams 254 x 146, 31.1 kg/m) for a 10 metre span
- Foundations in mass concrete (typically C25/30) but to a grade determined by the contractor in accordance with the strength requirements of the project.
- Fixing/holding down bolt and bearing pad details to be determined by the contractor/bridge supplier (typically 20 mm dia. bolts 375 long, 300 cast in bearing, 12 mm natural rubber bearing pad between beam and bearing. Bolt down bolts fixed at one end and allowed to slide in slots on other bank to allow for expansion/contraction.
- beams typically Grade 43 steel to current European/British Standards, painted 2 no. coats zinc chromate primer (after wire brushing and cleaning) and 2 no. coats micaceous iron oxide pigment oleoresinous paint to a min. dry film thickness of 150 microns. Colour: Dark (Dulux Natural) grey.
- All materials and methodologies to be in accordance with the current British/European Standards (BS EN 206-1/BS 8500).
- Approach to bridge on western side (1.3 m distance) to match and marry-in with existing footpath.



Batford Springs NR Proposed Footbridge Basic Arrangement BSBW-301

Scale: Not to scale
Drawn: March 2018
Client: **Harpenden Town Council**
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All dimensions shown in mm and for guidance purposes only

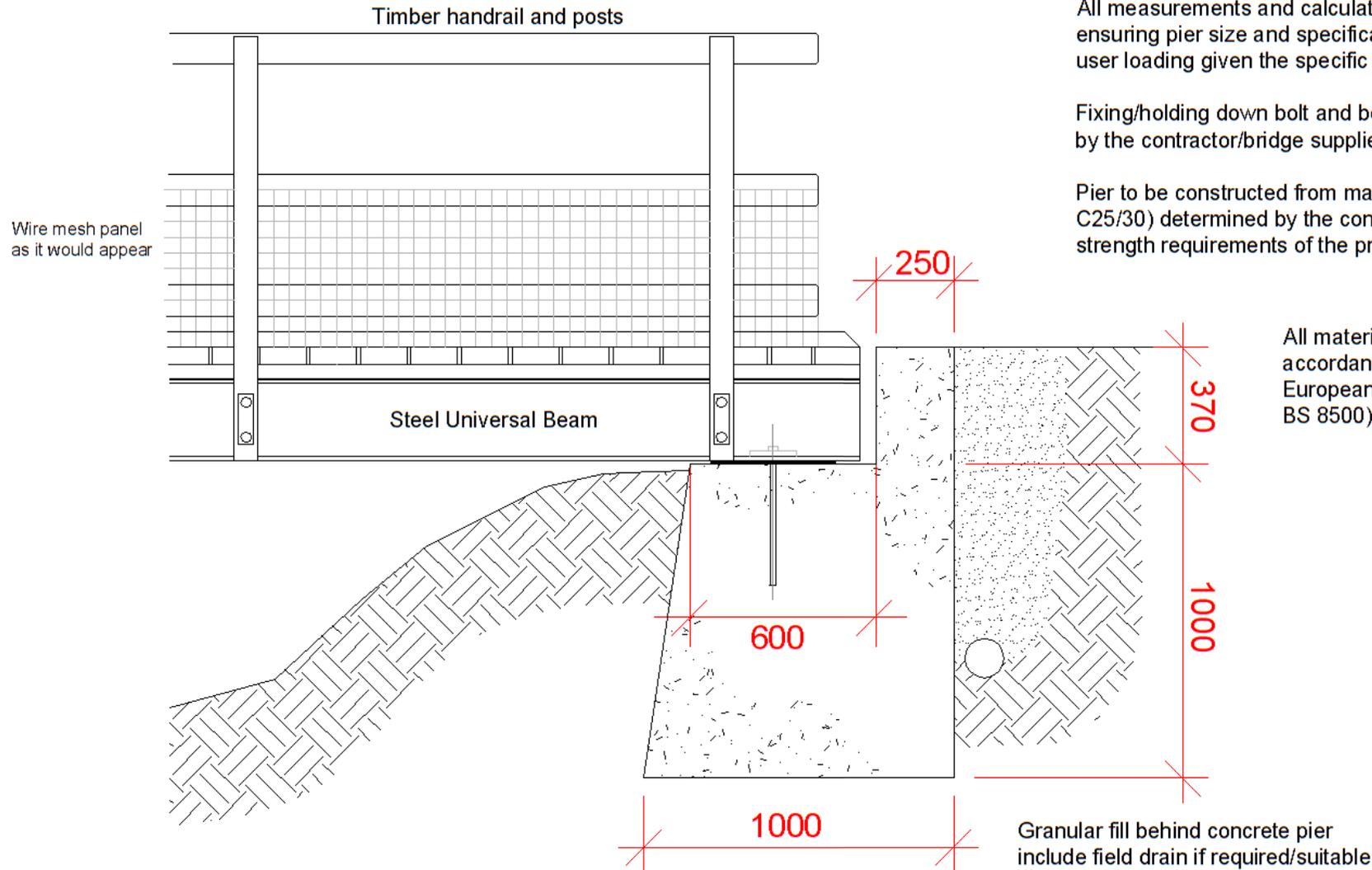
General Specification: Note - Drawing is indicative only

All measurements and calculations to be done by contractors, ensuring pier size and specifications are suitable for bridge and user loading given the specific ground conditions and soil strength.

Fixing/holding down bolt and bearing pad details to be determined by the contractor/bridge supplier.

Pier to be constructed from mass concrete to a grade (typically C25/30) determined by the contractor in accordance with the strength requirements of the project.

All materials and methodologies to be in accordance with the current British/ European Standards (BS EN 206-1/ BS 8500).



Batford Springs NR
Proposed Footbridge
Bearings (indicative)
BSBW-302

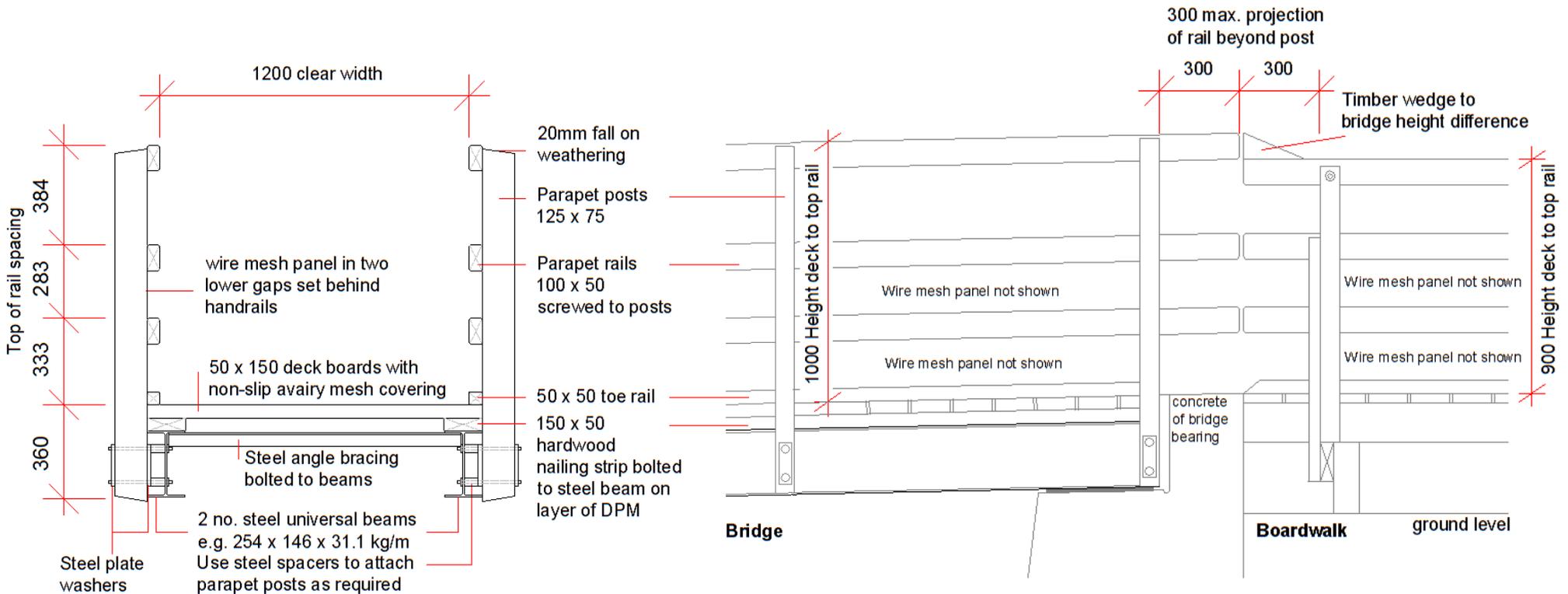
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General Specification:

- Drawings provided for general guidance only with all structural elements, measurements, calculations and fixings to be determined by contractor.
- All timbers to be pressure tanalised softwood Grade SC3. Timber to be free of shakes, splits and warping. All surfaces liable to come into contact with users to be planed including all handrails and parapet posts.
- All steelwork to be Grade Fe 430 A and galvanised after fabrication. All fixings to be galvanised Grade 4.6 and vandal resistant.



Bridge Section

Elevation: Bridge/boardwalk interface

All dimensions shown in mm and for guidance purposes only

Batford Springs NR
Proposed Footbridge
Handrail
BSBW-303

Scale: Not to scale
 Drawn: March 2018
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