MetroWest Phase 1 - Summary of sloped ramp / path measurements and features.

Updated 09/11/2017

Structure	Gradient	Width	Length	Landing / turning area size*	Comments
Trinity School Footbridge	1:15	2.5m	North side ramp: 108m South side ramp: 145m Bridge deck length: 10m Total (inc. bridge): 263m	2 x landing areas, part way along length at: 2m x 2.5m 2 x turning areas: 5m x 2.5m Bridge deck provides a further landing area at: 10m x 2.5m.	• Gradient based on NR/CIV/SD/445 amended access ramp with 1:15 (explanatory text in italics from Network Rail below on 30 November 2015 which was sent to the North Somerset Council, Access Officer to consult with North Somerset Council Disability Forum) *"BS8300:2009+A1:2010 (which is for the design of buildings and their approaches) allows for ramps to be between 1:20 and 1:12 as an absolute maximum. Table 1, section 5.8.2 states that for a ramp of 1:15, there should be a maximum rise of 333mm over 5m between landings. There is a clear difference here between the NR standard and BS8300. Section 5.8.2 does state however, that "Different design solutions might be needed in transport infrastructure" and refers you to a Department of the Environment Transport and the Regions publication "Inclusive mobility – A guide to best practice on access to pedestrian and transport infrastructure". This acknowledges that physically fitting in the ramp can be problematic and it identifies the difficulties for wheelchair users with longer ramps.* *There is clearly no definitive answer. The inclusive mobility guide states that "It is not clear how practicable ramps of this length [76m to 126m] would be for wheelchair users. Many manual wheelchair users would probably not be able to manage these distances unaided, though what constitutes a reasonable maximum length is not known; this is an area where further research is needed. The report of the European COST 335 project on Passengers Accessibility of Heavy Rail Systems states that ramps should never be longer than 132 metres in total and preferably no longer than 50 metres. The preferred figure (50 metres) means that ramps should not be used to bridge between platforms. No individual flight of a ramp should have a length of more than 10 metres or rise more than 500mm." Clearly, the ramp needs to be more than 50m long and is required. For the 1:15 ramps at Trinity School, because of the bridge height required for electrification, the ramps are circa 140m long. This would increase to circa 190m long if the gradient was reduced to 1:20."* • The North Somerset Council, Access Officer consulted with the Disability Forum on this and there was an acceptance of the need for a compromise between length and gradient as set out by Network Rail.
Pill Station Platform Access Path	1:22	2m	109m	1 x turning area: 4m x 2m	• Handrails with lighting are provided. • Subsequent to the first issue of the Form 001 design the 1 in 20 ramp has been replaced with a 1 in 22 path, removing the intermediate landings and therefore reducing the total length of the ramp.
Ashton Vale Access Ramp	1:21	3.5m	110m	Turning area not required. No landing area part way along.	• Following BD 29/04 Part 8, Design criteria for Footbridges, a 3.5m deck width would be acceptable for combined footway and cycle use and appropriate for a peak flows of 233 persons per minute. • The drainage issues at the foot of the structure and requirements for maintenance access prevent a wider footbridge being constructed at this location. • The connecting footways are no wider than 3m.

*A landing area, is a level area of the ramp / path to allow wheelchair users an opportunity to stop. A turning area, is a landing area that is situated at a change in direction to the ramp / path as it doubles back on itself.