



Comments on AS
1428.4 Tactile ...



AS1428.2.ppt (1
MB)

RECEIVED SM
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BY: LACA

Dear Sir,

The Emperor has no clothes!

Since 1992, AS1428.4 has contained quite ordinary engineering examples of how to use DDA tiles and nobody has spoken up.

The latest draft has some cosmetic changes such as re-numbering the Figures and some elaboration but there are fundamental issues that need to be corrected.

My comments are a mixture of comment on this draft and the previous standard for which I apologise and make the usual time excuse.

I have had difficulties using this standard and VicRoads' standards for the EastLink project and previously at Knox Council.

Some of the examples can not be built. Few are acceptable and I am pleased to note that it is proposed to change the one that is downright dangerous.

There are practical reasons why road authorities will not build the examples given. More importantly, there are better ways to achieve your objectives, including satisfying your own clients, besides avoiding unnecessary impositions on the frail.

If only you drew Guidance Lines on the plans, most of the problems and solutions would become plain.

If the blind follow a Guidance Line that is equipped with tiles, push buttons and audio devices, then there is no need to cover the landscape with superfluous tiles as the latest draft does. It follows that kerb ramps with tiles do not need to be steep so the impact on wheelchair users (and all others) is less.

There are better options for the no-tiles case that can actually be built.

Attached are comments on the old code together with a presentation of comments on the Figures.

It pains me that for each project I have to write out the better way to to implement the DDA requirements and include it in the contract. I have not yet done this for Peninsula Link so it is not available for your current deadline.

Wouldn't it be nice if Local Government and State Road Authorities made a significant contribution to the standard.

If I can be of any assistance, please do not hesitate.

Regards

John Cleeland

Comments on AS 1428.4 Tactile Indicators

2.2.2 Requires warning indicators to installed for the full width of the continuous accessible path of travel. This conflicts with Appendix B where they should not be over-prescribed. If Guidance Lines are identified, connected and treated, this should be adequate.

(c) requires a setback of 300 +/- 10 from the hazard. As many kerbs are 300 wide, when the kerb in on an angle, a setback greater than this is required for practical reasons as tiles should not bridge a kerb and a kerb ramp.

3.3 Change of Direction

It is unnecessary to provide warning indicators for a change of direction at Tee junctions such as at bus stops and where Guidance Lines meet and one Guidance Line is clearly defined: only one set of directional tiles is required (see Figure 11).

Appendix B1: advises minimisation of TGSI's on kerb ramps: "Having established the circumstances that assist safe wayfinding, the design industry should not over-use or over-prescribe the installation of TGSI's, but rather make full use of the range of environmental guidance features available so as to minimise the inconvenience to other members of the community." This is interpreted as requiring design of footpaths and road crossings using Guidance Lines, building lines, cut-through kerbs, kerb ramps, and texture contrasts prior to design of TGSI's.

Figure B1 is ill conceived. There is a glaring omission in the standard that is requirement for "Guidance Lines" to be drawn on the plans. (For practical reasons this should be located 600 from the back of the path to avoid conflict of lines and to act as a centreline for DDA tiles. The line type could be lines and circles to symbolise dark glasses.) If you had used Guidance Lines, you would immediately see that two lines of RPM's across the road was not necessary. Tiles, push buttons, audio devices and crosswalk lines should all be located on one side of the crossing, not two!). In any case, crosswalk lines of adequate thickness are a better guide than the RPM's.

Appendix C2 advises: Alternative points of entry should be established within the (crosswalk). This is not supported for the infirm; there is no reason not to provide a full crosswalk width of kerb ramp.

Appendix C3 advises: Where a kerb ramp is 1 in 8 & within 3m, TGSI's are not required. A detailed design should be provided to illustrate this option. (Figure C1(A) does not satisfy drainage requirements, its 166 degree minimum is an error and the 1330 minimum at the base of the ramp is inappropriately provided to allow a wheelchair to turn on the crosswalk.)

Appendix C3 advises principles of good design:

(a)The ramp grade should be oriented in the direction of travel.

(b)Ramps on both sides of the carriageway have to be aligned with one another and the direction of travel.

(c)The transition between the footpath and the ramp should be sharp and at right angles to the direction of travel. If this requirement is not followed on angled roadways, the ramp grade will not be in the direction of travel. On angled roads and bellmouths, compromise is usually required on the setout of the kerb ramp, as each side of the ramp will be of a different length causing different grades on each side of the ramp.

Sloping terrain also causes problems. This compromise may produce a grade of 12% on the wheelchair side of the crossing and 2% on the visually impaired side of the crossing. TGSI's are then required at bellmouths. Why provide a grade where it is not wanted?.

Appendix C3 advises: An important aspect in the design of footpaths for pedestrians with vision impairment is to provide a clear, continuous and accessible path of travel and refers to Austroads Part 13 Figure 2.4 for the dimensions of the obstruction free envelope.

Figure C1A: General, 1 in 8 ramp, Single Creates congestion, drainage unspecified

Figure C1B: R2, F3m, 190K, Single Creates congestion, does not guide visually impaired

Figure C1C: R2, F3m, 150K, Single Creates congestion, does not guide visually impaired

Figure C1D: R2, F3m, 190K, Dual, Separate Unsuitable for the infirm

Figure C1E: R2, F3m, 150K, Dual, Combined Confusing, guidance line away from traffic signal

Figure C1F:R2,F3m,150K,Single Creates congestion, does not guide visually impaired
 Figure C1G:R2,F4m,190K,Dual,Combined Suitable for R2 & wide verge
 Figure C1H:R2,F4m,190K,Dual,Separate Unsuitable for the infirm
 Figure C2:MidB,F5m,190K,Dual,Separate Unsuitable for the infirm
 Figure C3:MidB,F3m,0K,Dual,Combined Drainage unspecified, excessive tiles
 Figure C4:MidB,F3m,100K,Dual,Separate Unsuitable for the infirm
 Figure C5:R2,F5m,190K,Dual,Separate Unsuitable for the infirm
 Figure C6:R2,F3m,100K,Dual,Separate Unsuitable for the infirm
 Figure C7:45Deg,R2,F5m,190K,Dual,Separate Unsuitable for the infirm
 Figure C8:45Deg,R2,F3m,0K,Dual,Combined Drainage unspecified, excessive tiles, dangerous...
 Figure C9a:45Deg,Med2,0K,Dual,Combined Suitable for median cut throughs
 Figure C9b:90Deg,Med2,0K,Dual,Combined Suitable for median cut throughs
 Figure C9c:90Deg,Med4,190K,Dual,Separate Unsuitable for the infirm
 Figure C10a:Slip,190K,Dual,Separate Unsuitable for the infirm
 Figure C10b:Slip,0K,Dual,Separate Unsuitable for the infirm
 Figure D2:POS,190K,Dual,Combined Excessive tiles

- Of the 21 examples of kerb ramps in AS 1428.4 (2002), only 3 are acceptable and one is dangerous. The examples should not be recommended.
- None address the common case of kerb ramps in bellmouths with kerb radii in the range 8m to 15m.
- At bellmouths, attempts to provide 1 in 8 grades while retaining a consistent Guidance line produce useless grades for the visually impaired but steep grades for the wheelchairs.
- Attempts to ignore drainage and construction practices risk accumulation of mud in the crossing.
- Interpretation of the requirement for a continuous accessible path of travel by the Pedestrian Council of Australia and VCAT (in DAIS v Stonnington) is :
 - “Part of a continuous accessible path of travel is having a guidance line on which a visually impaired person can rely to guide them along the path of travel”
 - “the building line is the only appropriate guidance line on Council footpaths” and
 - “tactile indicators were not an entirely satisfactory alternative as they may be of little use to the elderly”

AS1428.4, Figure C1(A) No Tiles Option

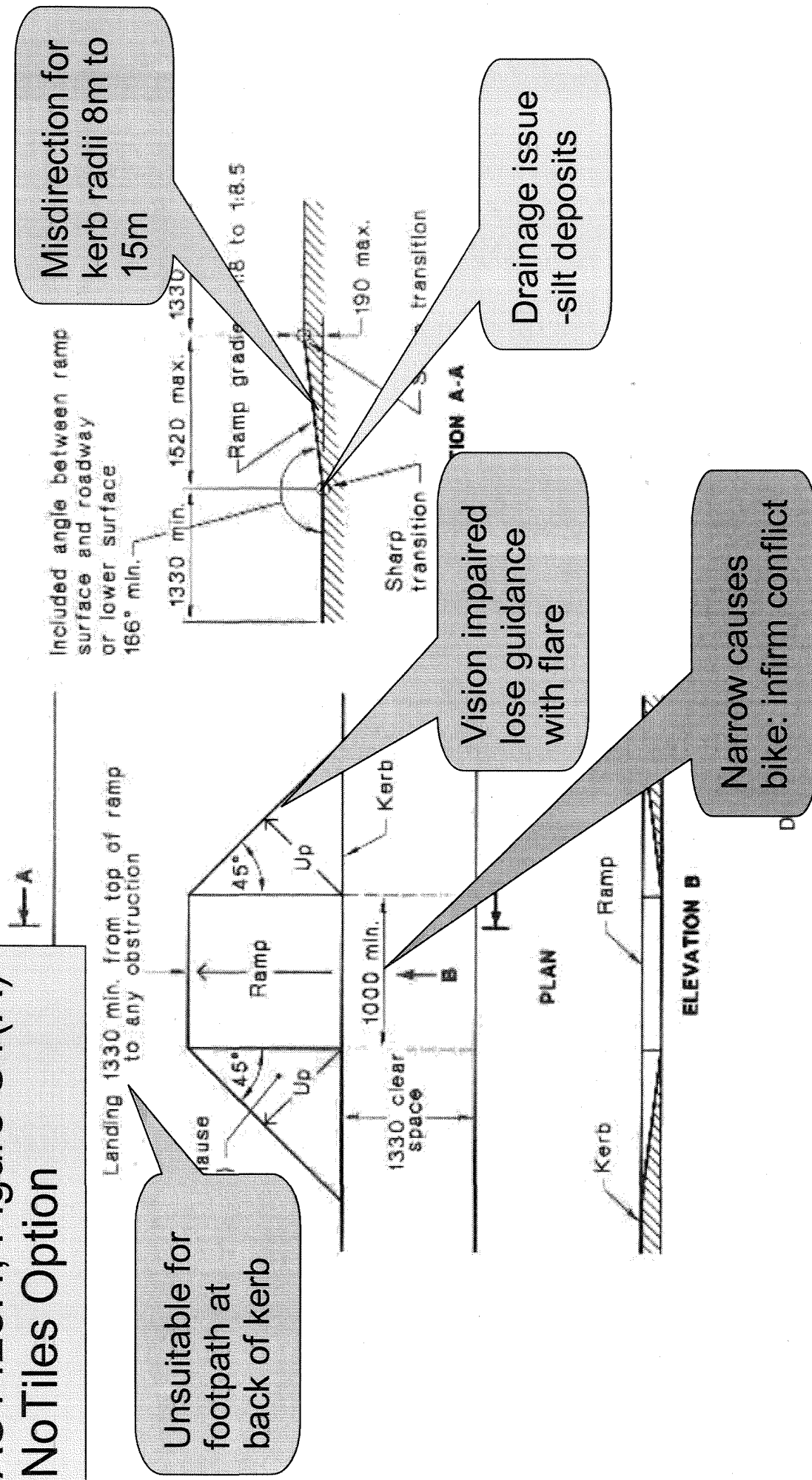
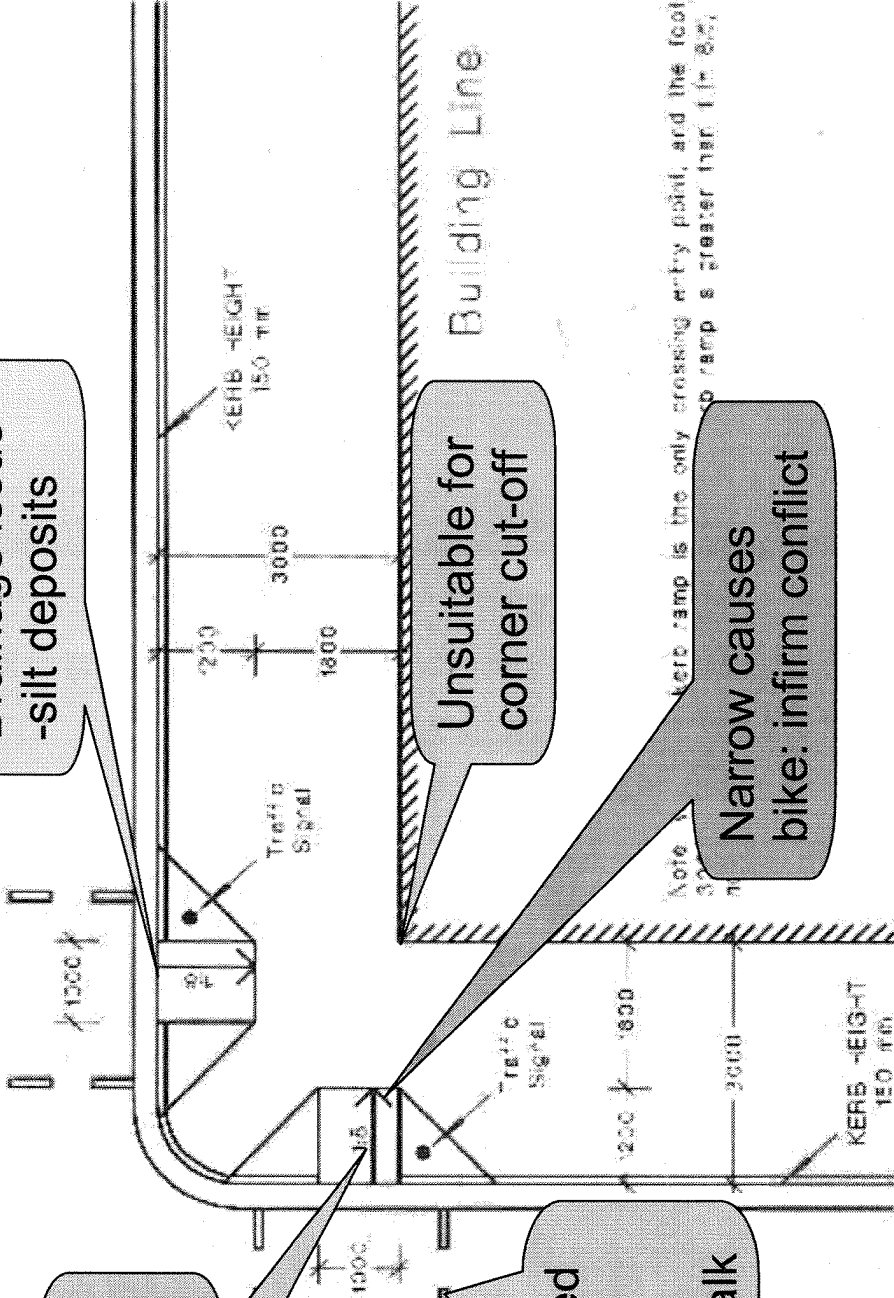


FIGURE C1(A) DESIGN CRITERIA FOR KERB RAMPS

AS1428.4, Figure C2(B)
3m verge, no tiles

Misdirection
for kerb radii
8m to 15m

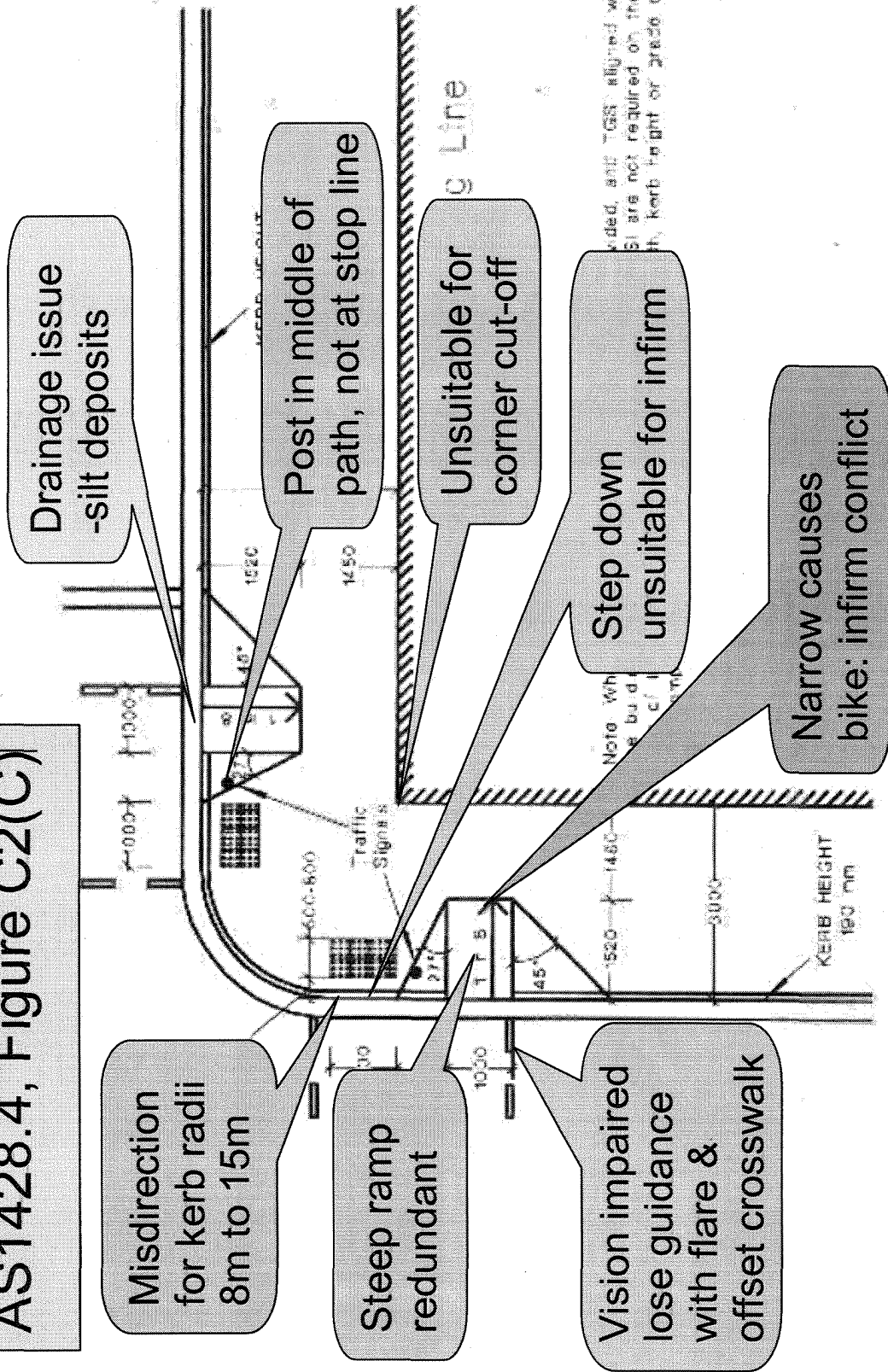
Drainage issue
-silt deposits



DIMENSIONS IN MILLIMETRES

FIGURE C1(C) RIGHT ANGLE INTERSECTION 3000 FOOTPATH, 150 KERB HEIGHT
90° 1.8 KERB RAMPS

AS1428.4, Figure C2(C)



DIMENSIONS IN MILLIMETRES

FIGURE C1(D) RIGHT ANGLE INTERSECTION DUAL SEPARATE ENTRY CROSSING 3000 FOOTPATH, 190 HIGH KERB 90° 1:8 KERB RAMPS

AS1428.4, Figure C2(D)
offset crosswalk

Drainage issue
-silt deposits

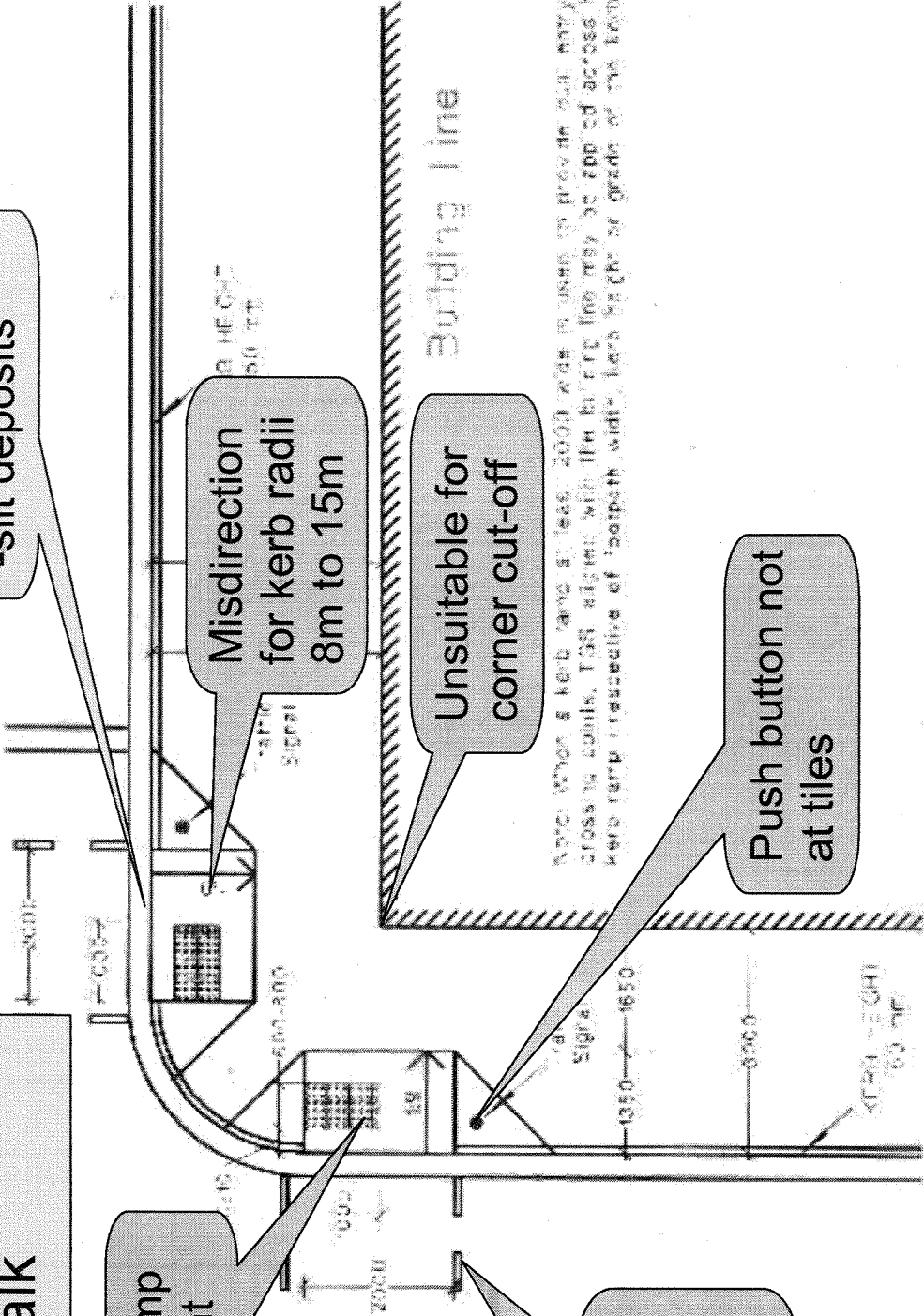
Steep ramp
redundant

Misdirection
for kerb radii
8m to 15m

Unsuitable for
corner cut-off

Vision impaired
lose guidance
with flare &
offset crosswalk

Push button not
at tiles



DIMENSIONS IN MILLIMETRES

FIGURE C1(E) RIGHT ANGLE INTERSECTION DUAL ENTRY CROSSING 3000 FOOTPATH, 150 HIGH KERB 90° 1:9 KERB RAMPS

AS1428.4, Figure C2(E)
narrow ramp

32

Drainage issue -
silt deposits

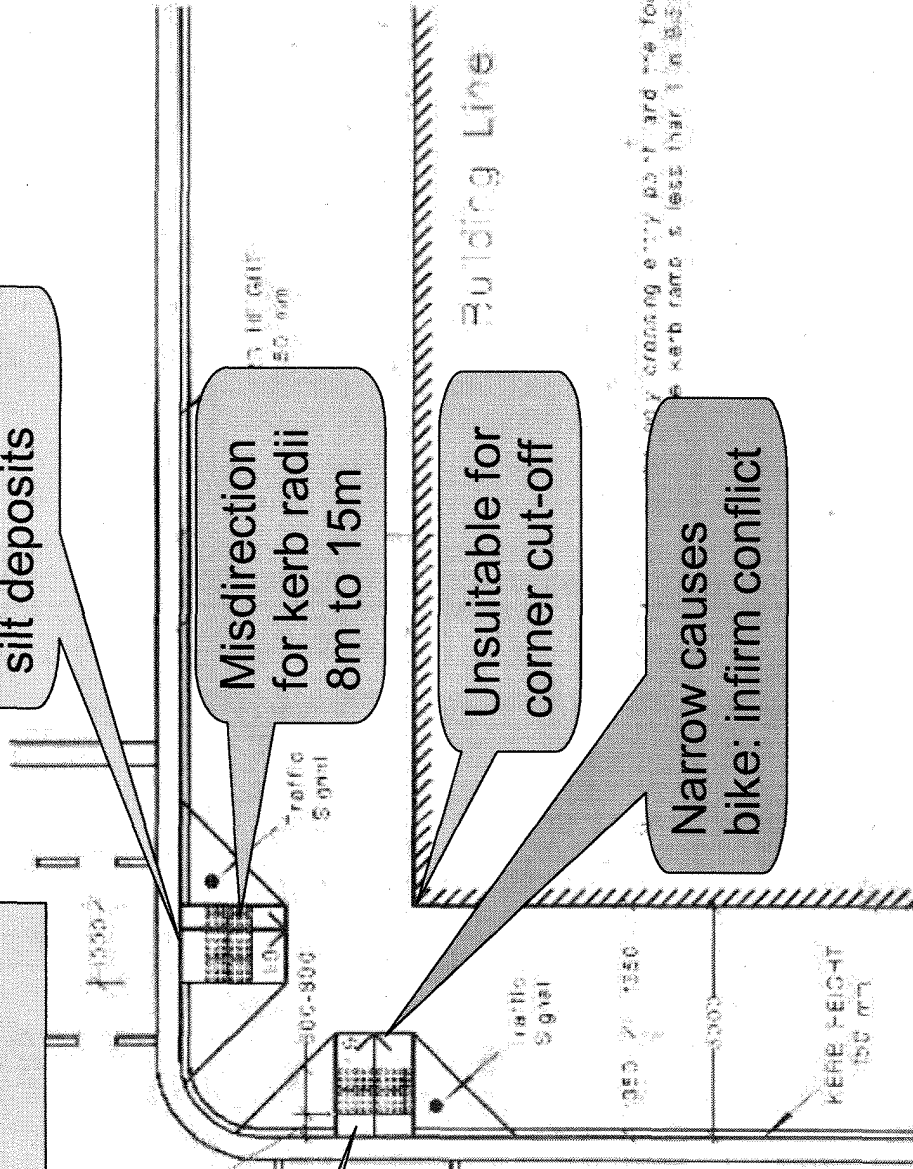
Steep ramp
redundant

Misdirection
for kerb radii
8m to 15m

Unsuitable for
corner cut-off

Narrow causes
bike: infirm conflict

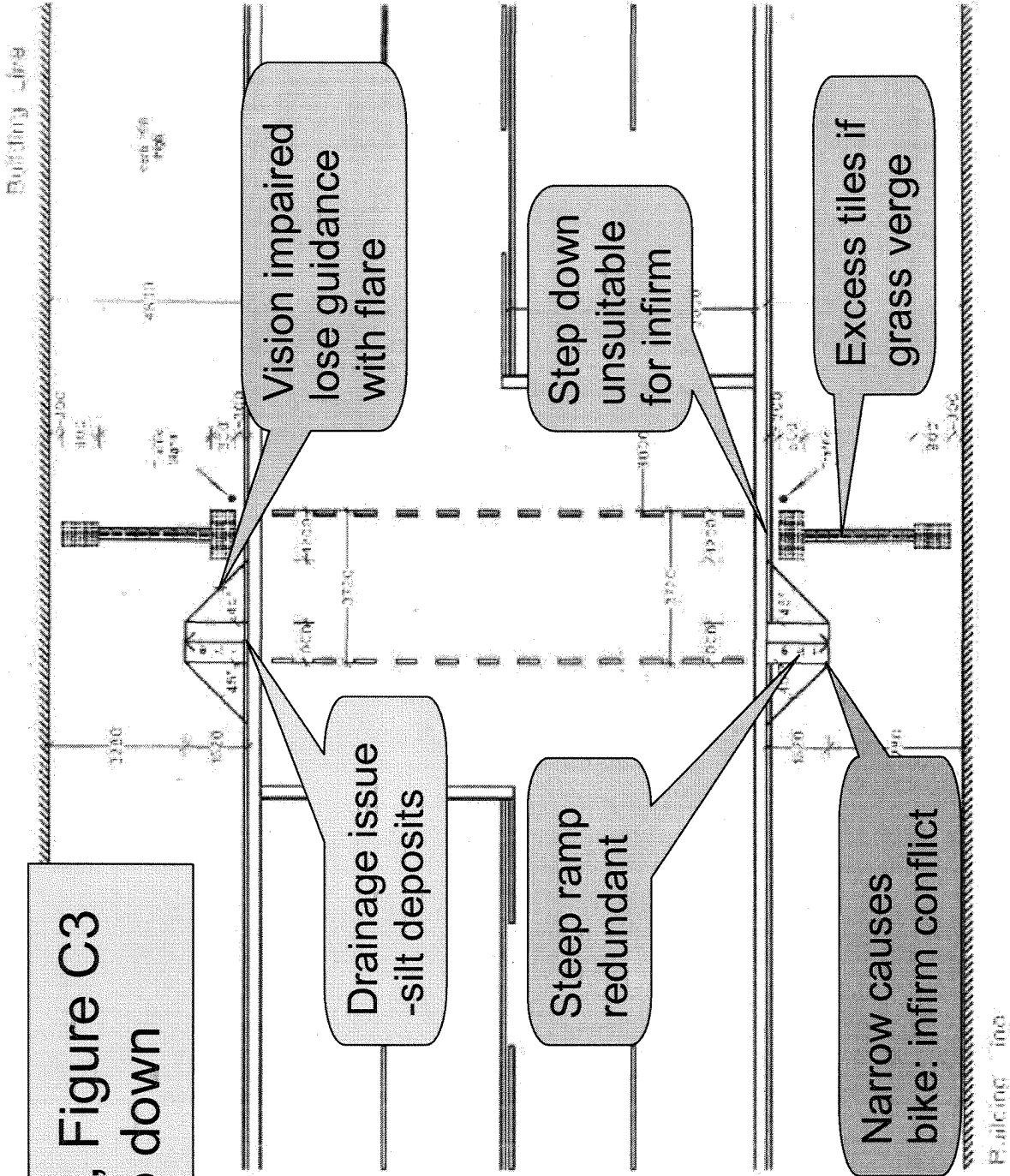
Vision impaired
lose guidance
with flare &
offset crosswalk



DIMENSIONS IN MILLIMETRES

FIGURE C1(F) RIGHT ANGLE INTERSECTION 3000 FOOTPATH, 150 KERB HEIGHT
90° 1:9 KERB RAMPS

AS1428.4, Figure C3
 POS, step down



DIMENSIONS IN MILLIMETRES

FIGURE C2 MID-BLOCK CROSSING FOOTPATH 3000 OR GREATER—90° KERB RAMPS

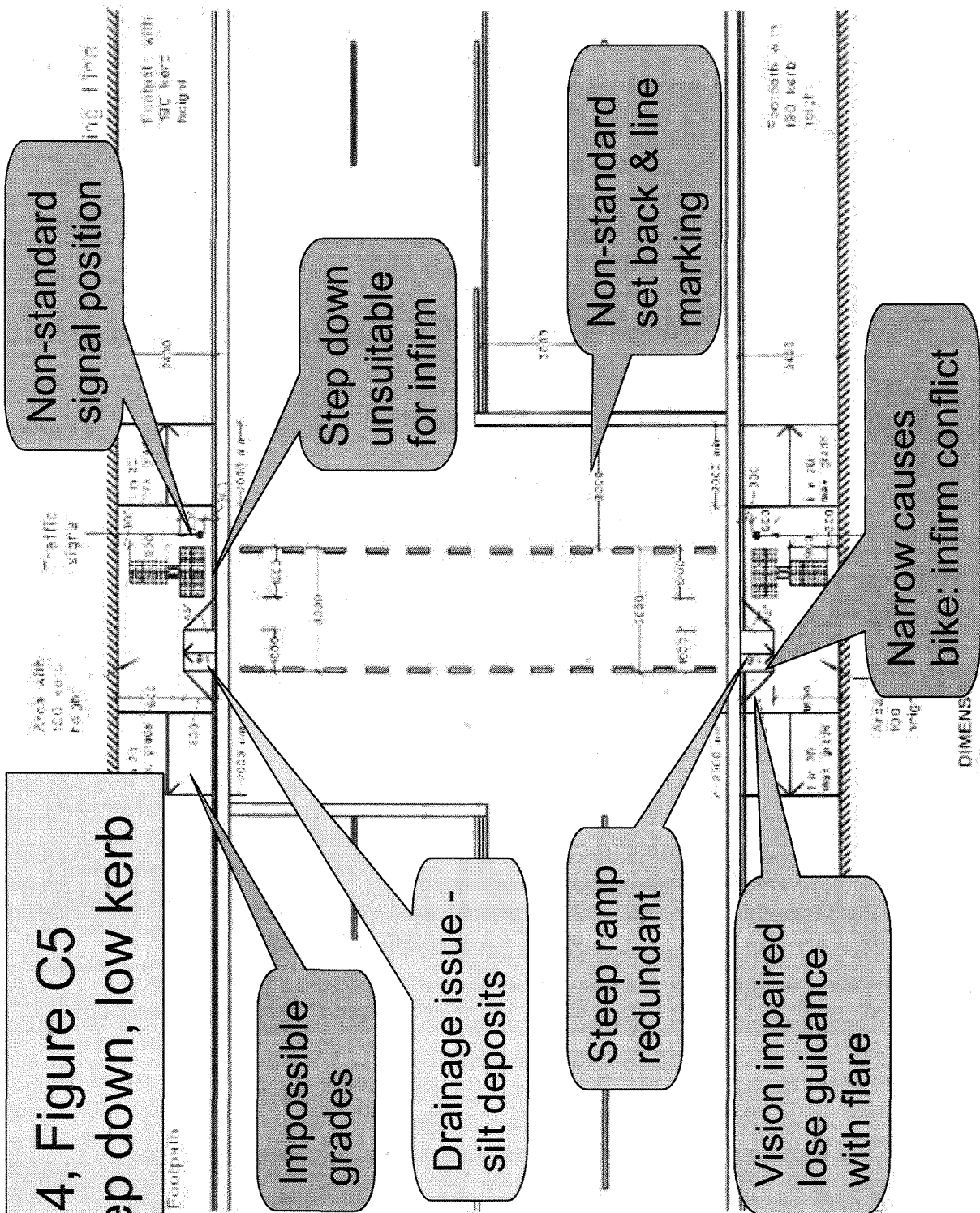


FIGURE C4 MID-BLOCK CROSSING FOOTPATH 2200 TO 3000—LOWERED KERBS—90° KERB RAMPS

AS1428.4, Figure C6
wide verge

Misdirection
for kerb radii
8m to 15m

Excess tiles
if grassed

Steep ramp
redundant

Drainage issue:
silt deposits

Step down
unsuitable
for infirm

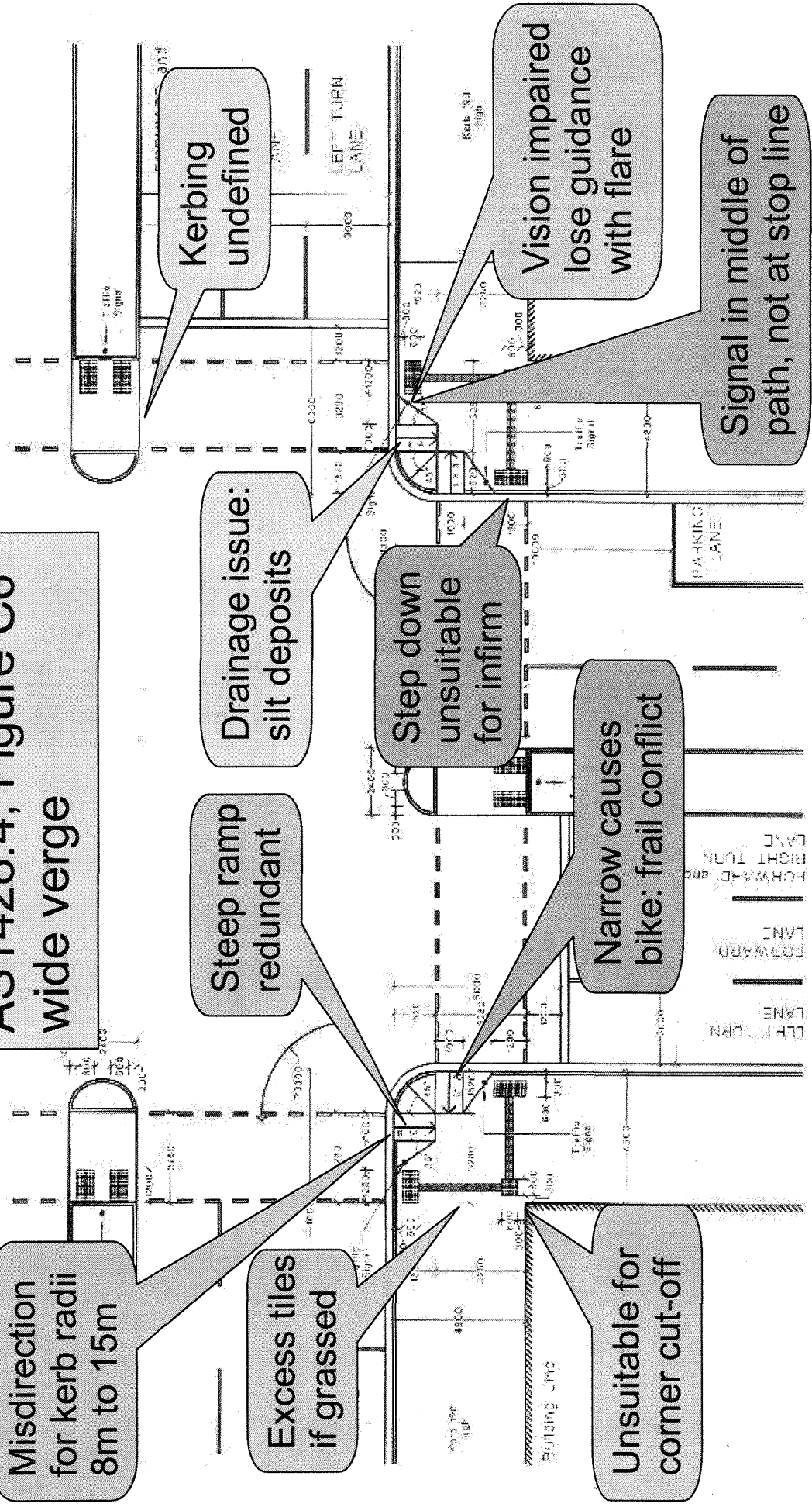
Narrow causes
bike: frail conflict

Unsuitable for
corner cut-off

Kerbing
undefined

Vision impaired
lose guidance
with flare

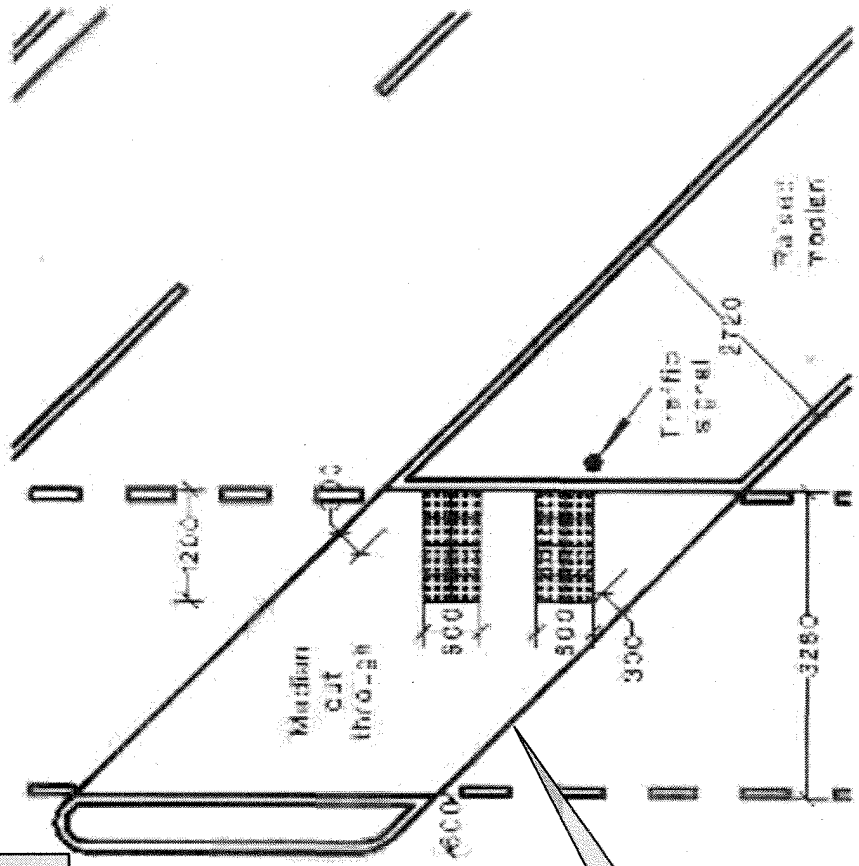
Signal in middle of
path, not at stop line



DIMENSIONS IN MILLIMETRES

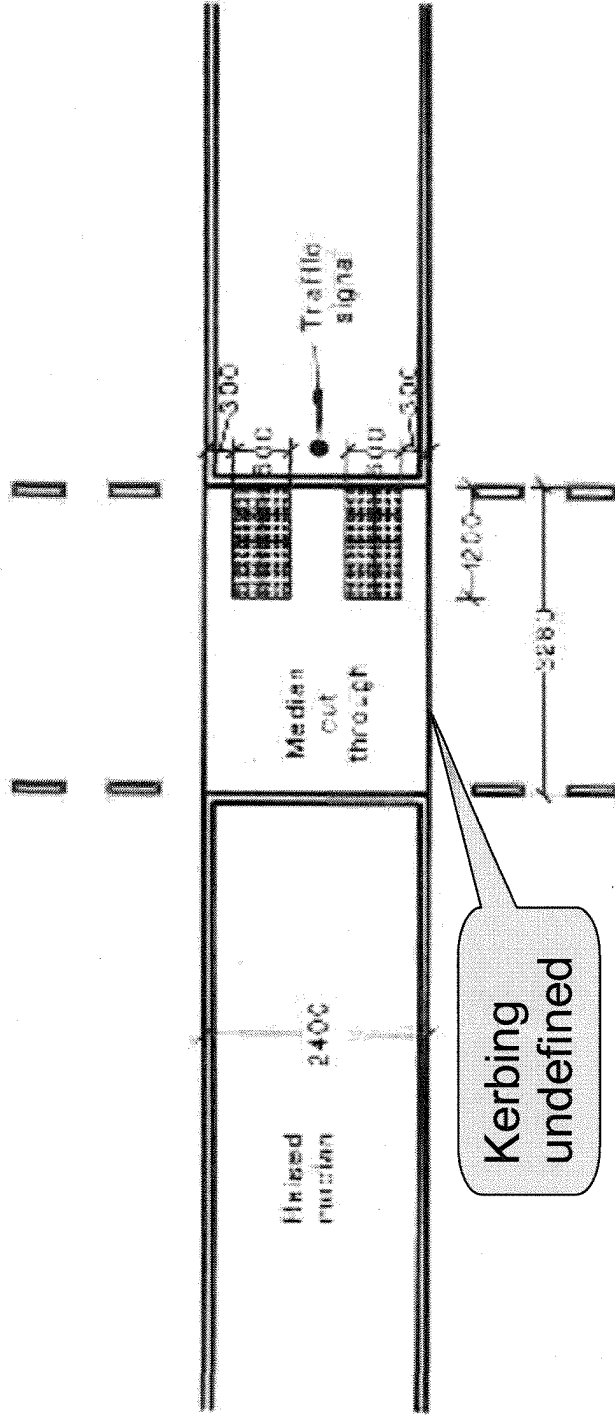
FIGURE C5 RIGHT ANGLE INTERSECTION FOOTPATH 3000 or GREATER—90° KERB RAMPS

AS1428.4, Figure C10(a)
median cut-through, angle



(a) Median crossing - Oblique crossing, median cut through

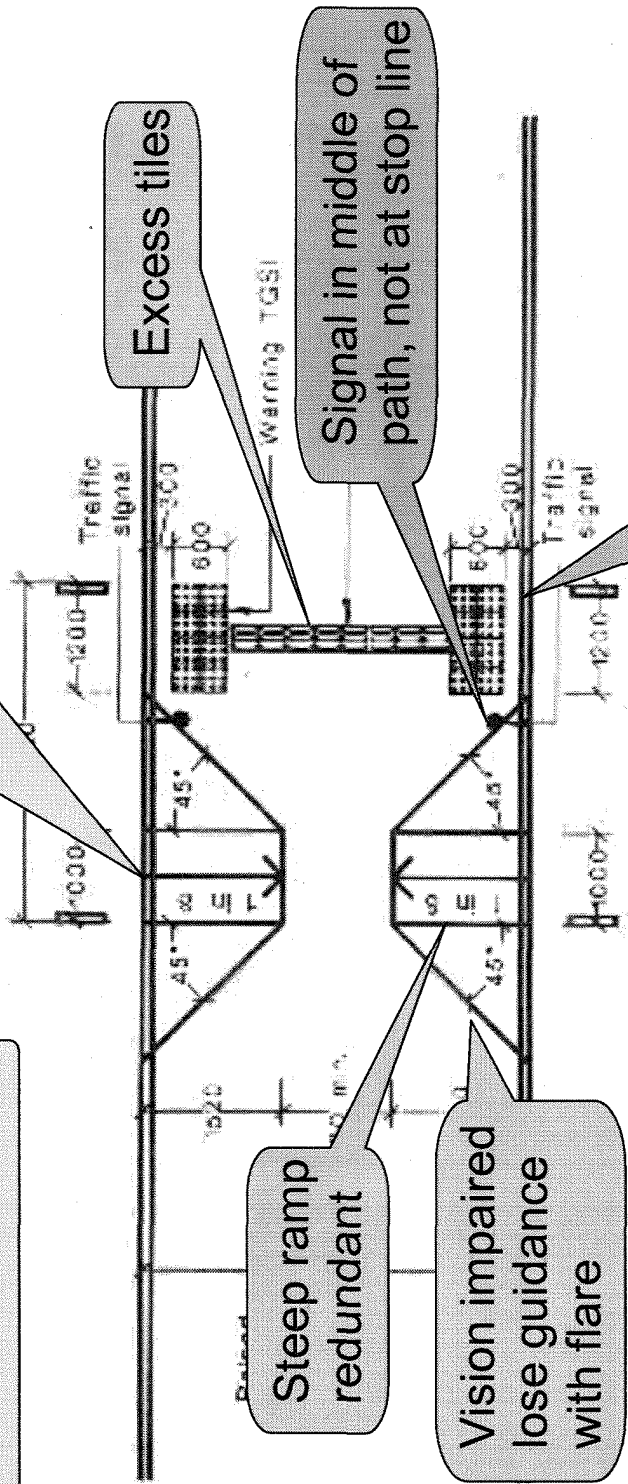
AS1428.4, Figure C10(b)
median cut-through



(b) Median crossing - Right angle crossing, median cut through

AS1428.4, Figure C10(c)
 median, step down

Narrow causes
 bike: infirm conflict

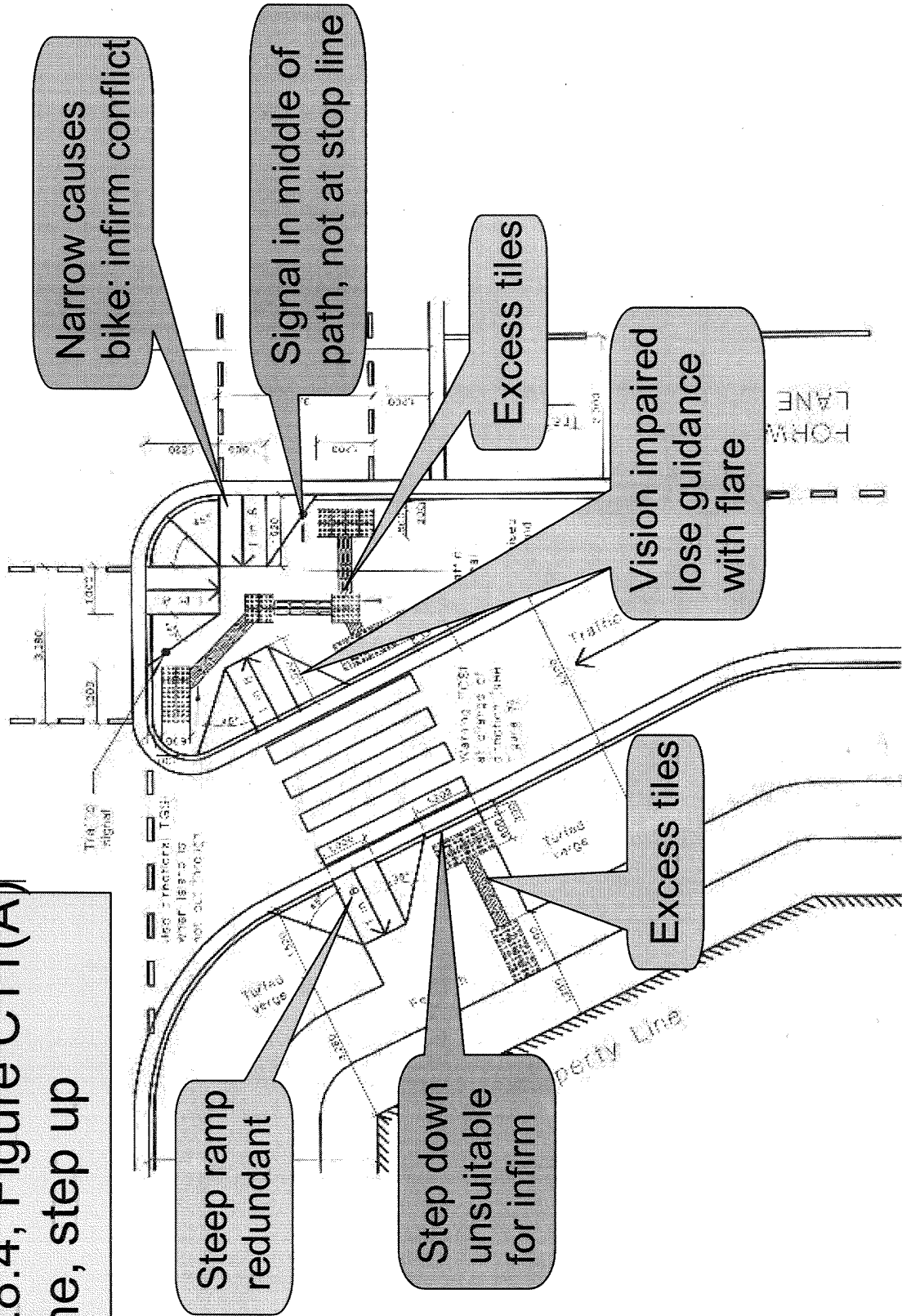


(c) Median crossing - Right angle crossing, 90 degree kerb ramps

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FIGURE C9 MEDIAN CROSSINGS

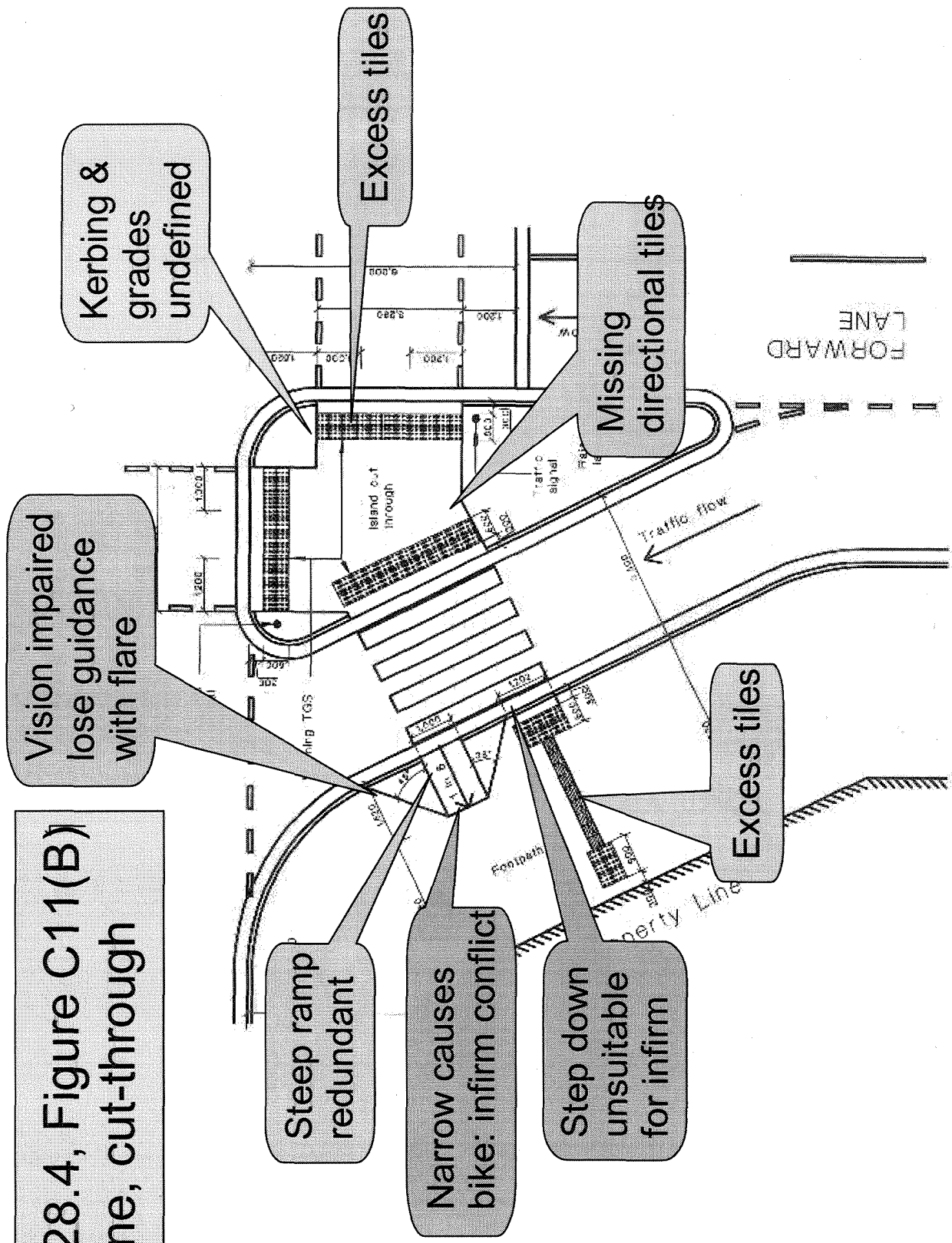
**AS1428.4, Figure C11(A)
slip lane, step up**



DIMENSIONS IN MILLIMETRES

FIGURE C10(A) SLIP ROAD CROSSING WITH RAISED ISLAND—KERB RAMP

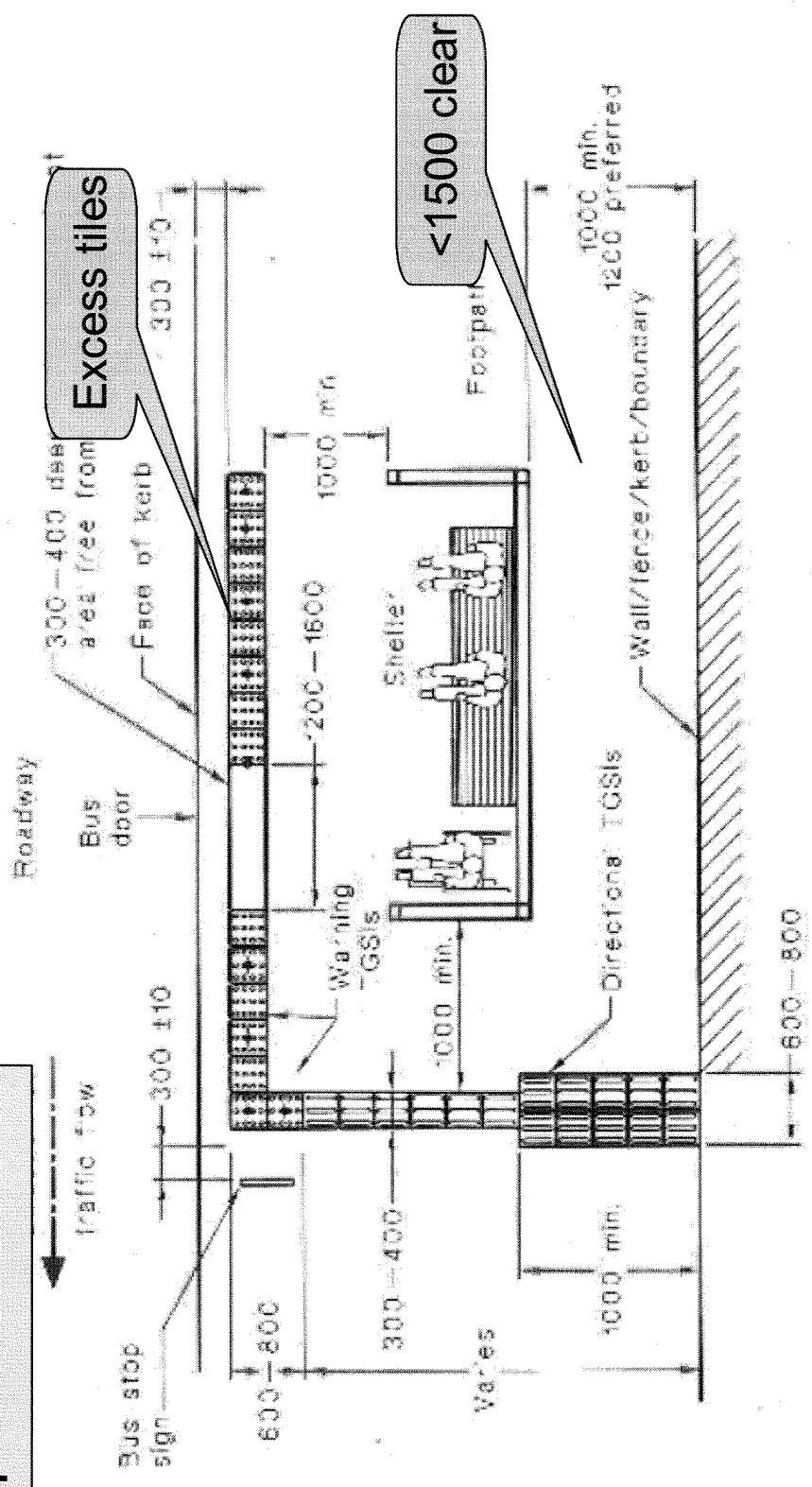
**AS1428.4, Figure C11(B)
slip lane, cut-through**



DIMENSIONS IN MILLIMETRES

FIGURE C10(B) SLIP ROAD CROSSING WITH RAISED ISLAND—CUT THROUGH

AS1428.4, Figure D1
bus stop



DIMENSIONS IN MILLIMETRES

FIGURE E1 TGSIs AT BUS STOPS