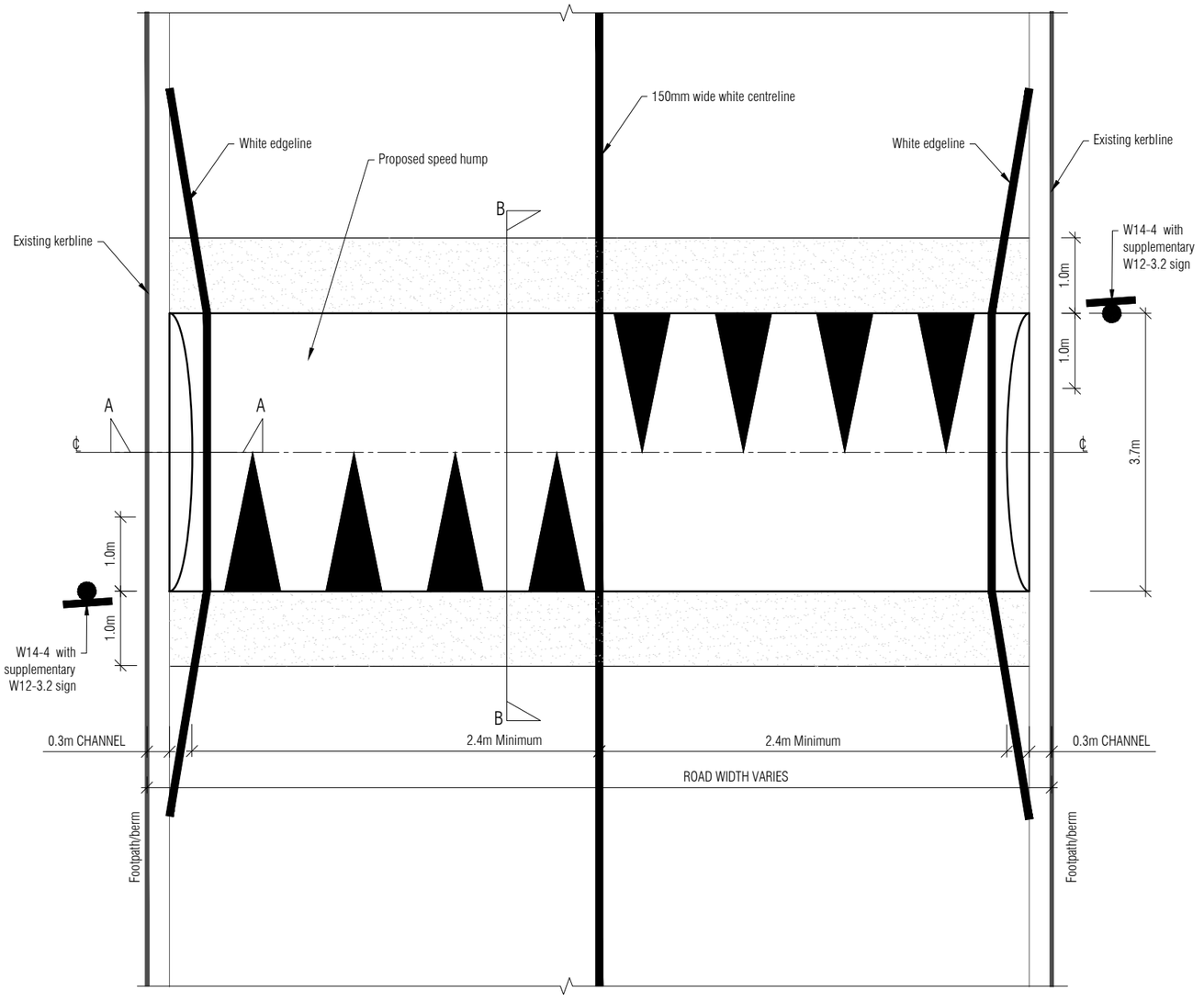
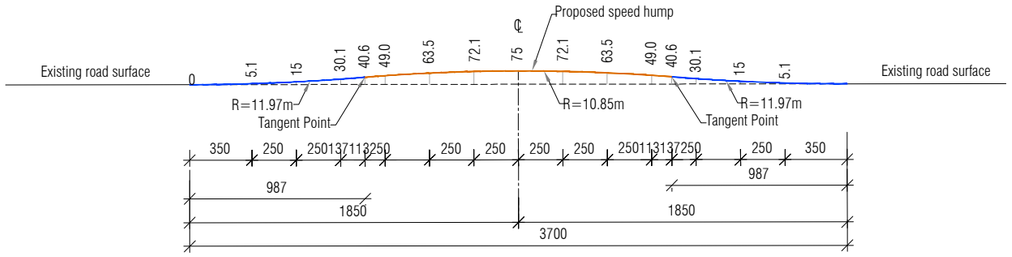
Traffic Calming Infrastructure Index

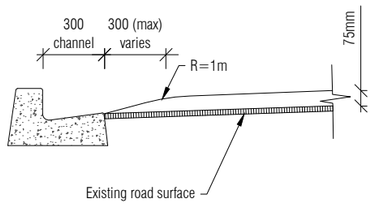
SED_NO	SED_Version	Title	Last Published	Comments
TC0000	G	Traffic Calming Infrastructure Index	14/02/2020 as working draft	Minor changes
TC1000	A	Sinusoidal Speed Hump	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1001	A	Typical Speed Hump with Cycle Bypass	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1010	A	Sinusoidal Speed Hump Pavement Design & Construction Details	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1020	A	Arrangement of Speed Cushions	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1021	A	Arrangement of Speed Cushions for Wider Roads	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1030	A	Asphaltic Concrete Speed Cushion Pavement Design & Construction Details	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1100	A	Standard Speed Table Geometry	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1101	A	Swedish Speed Table Geometry	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1102	A	Swedish Speed Table With Flush Median Island	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1112	A	Speed Table With Pedestrian Crossing	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1113	A	Speed Table With Cycle Lane and Pedestrian Crossing	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1114	A	Swedish Speed Table With Pedestrian Crossing	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1120	A	Standard Speed Table with Kerb and Channel Drain	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1121	A	Raised Intersection	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1200	A	Speed Table with Hollow Kerb Drain	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1201	A	Speed Table with Hollow Kerb Drain and Grated Channel	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1202	A	Speed Table with Grated Channel	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1203	A	Speed Table with Upstream Catchpit	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1220	A	Swedish Concrete Speed Table Pavement Design & Construction Details	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1221	A	Standard Concrete Speed Table Pavement Design & Construction Details	-	New traffic calming drawing numbers supersedes previous drawing numbers
TC1250	A	Asphaltic Concrete Speed Table Pavement Design & Construction Details	-	New traffic calming drawing numbers supersedes previous drawing numbers



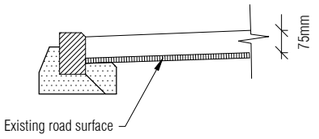
TYPICAL PLAN
NOT TO SCALE



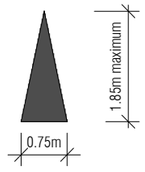
SECTION B-B (75mm Speed Hump)
NOT TO SCALE



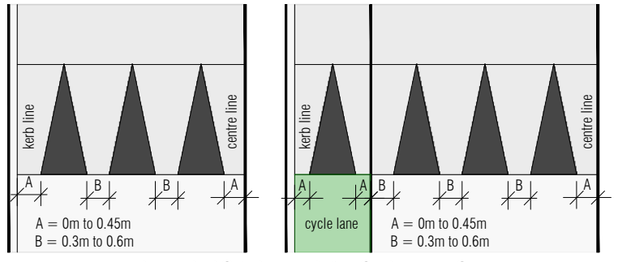
SECTION A-A
NOT TO SCALE



SECTION A-A : ALTERNATIVE - NO DRAINAGE
NOT TO SCALE



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

NOTES:

1. All dimensions are in millimetres unless otherwise stated.
2. Do not scale from this drawing.
3. Contractor to liaise with local service authorities for location of all underground services before any excavation.
4. All exposed saw cut edges are to be sprayed with a hot bitumen sealer.
5. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length
7. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

APPROVED CHIEF ENGINEER

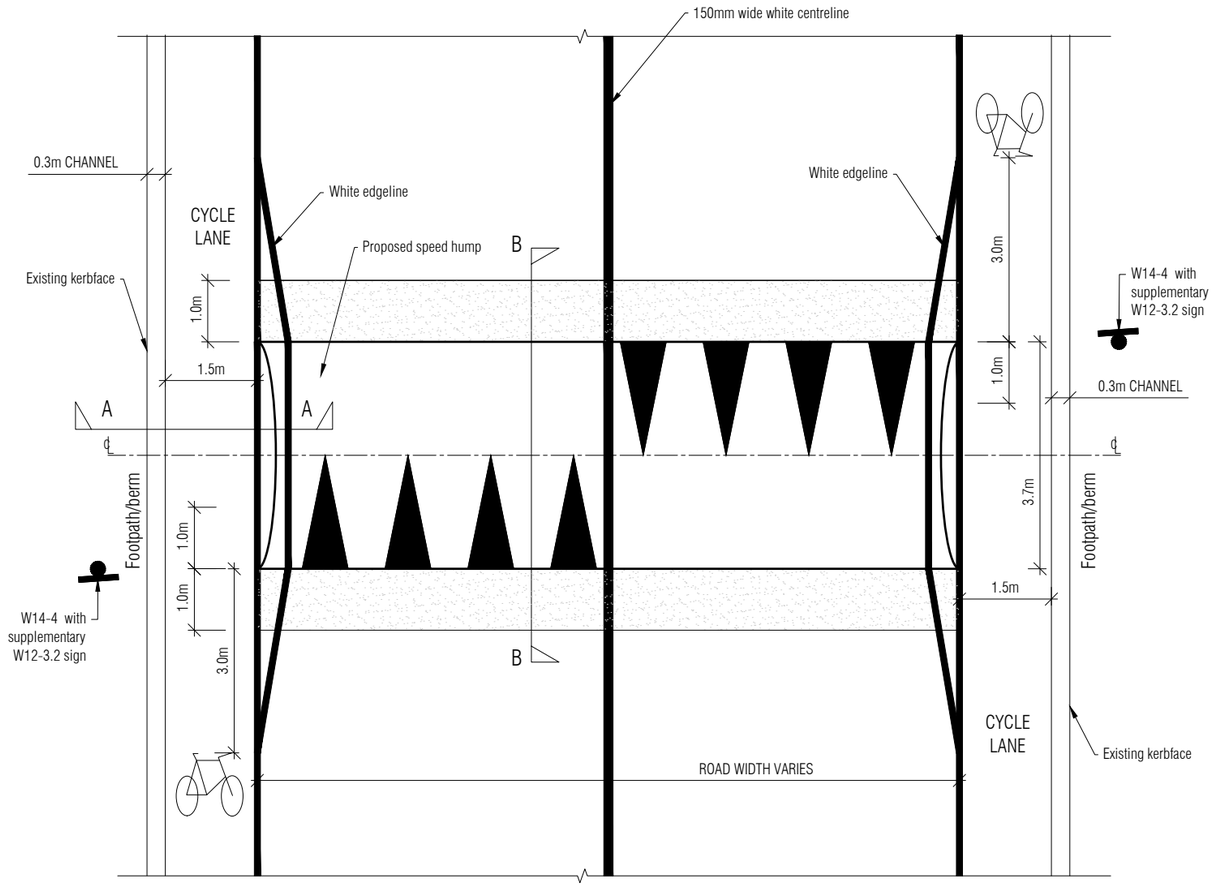
TDM TECHNICAL STANDARDS

Sinusoidal Speed Hump

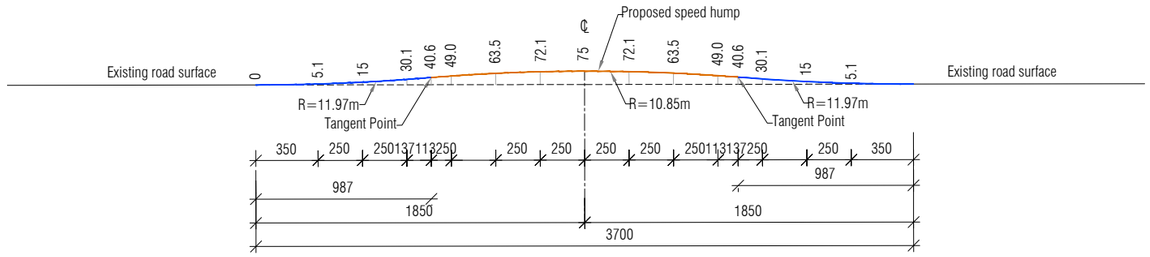
Date: 09/07/2025

SED No. TC1000

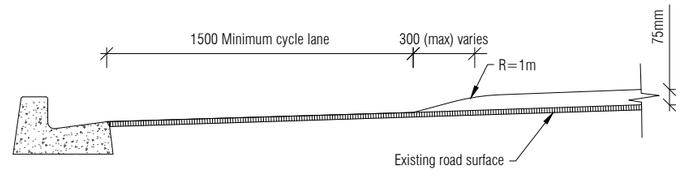
Version A



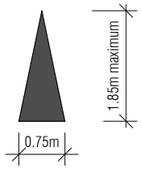
TYPICAL PLAN
NOT TO SCALE



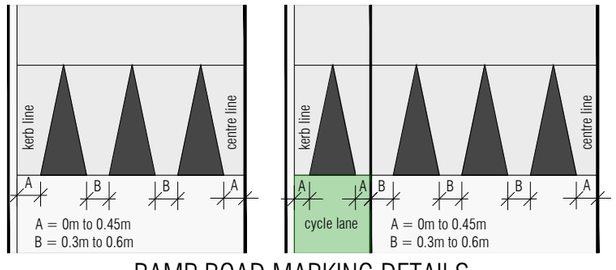
SECTION B-B (75mm Speed Hump)
NOT TO SCALE



SECTION A-A
NOT TO SCALE



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES:
1. All dimensions are in millimetres unless otherwise stated.
2. Do not scale from this drawing.
3. Contractor to liaise with local service authorities for location of all underground services before any excavation.
4. All exposed saw cut edges are to be sprayed with a hot bitumen sealer.
5. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length
6. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

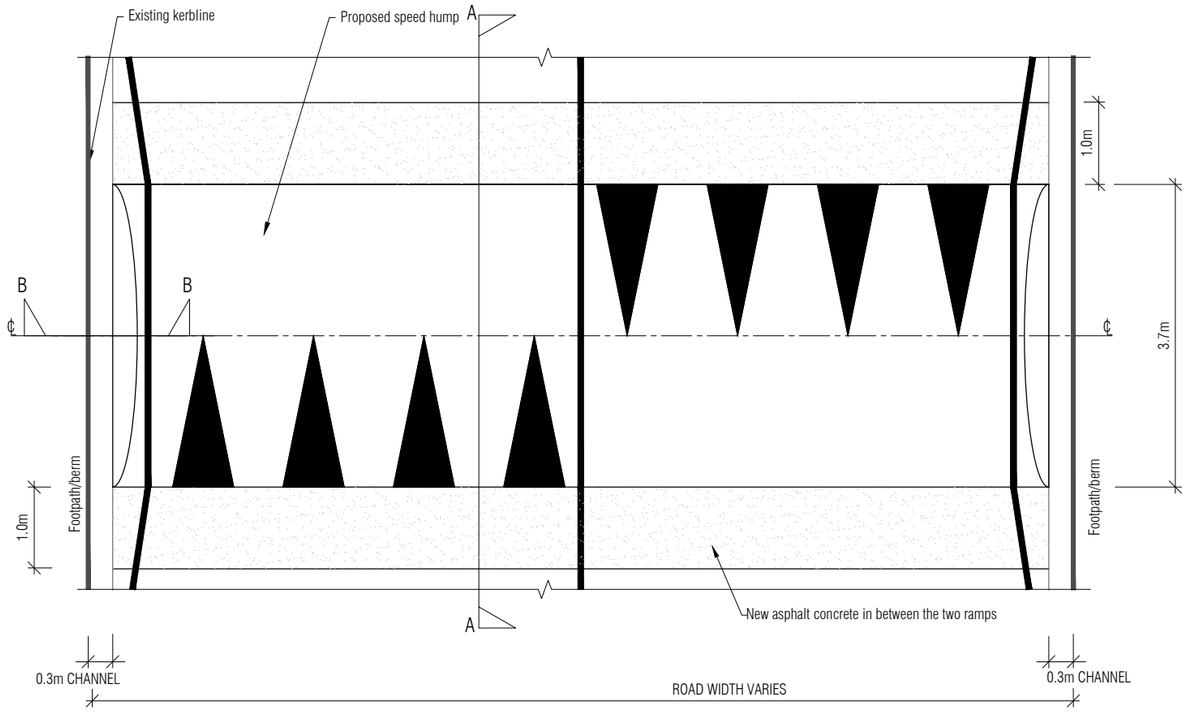
TDM TECHNICAL STANDARDS

Typical Speed Hump with Cycle Bypass

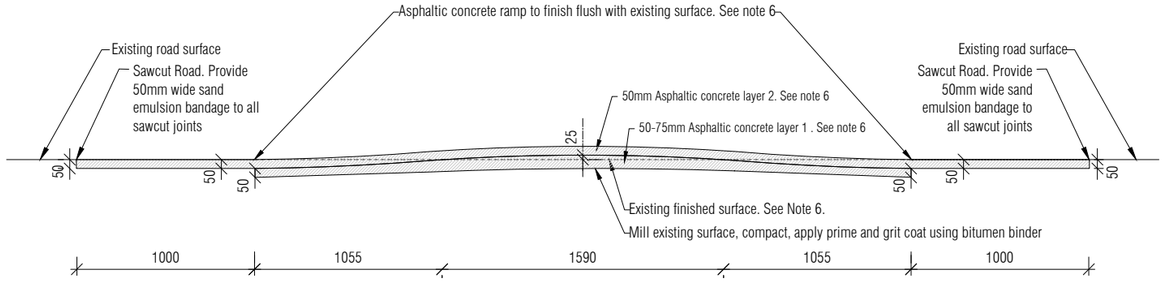
Date: 09/07/2025
SED No. TC1001
Version A

TC1001

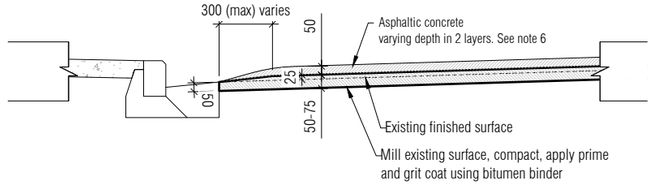
Transport Design Manual | Standard Engineering Details



TYPICAL PLAN
NOT TO SCALE



SECTION A-A (75mm Speed Hump)
NOT TO SCALE



SECTION B-B (75mm Speed Hump)
NOT TO SCALE

NOTES:

1. All dimensions are in millimetres unless otherwise stated.
2. Do not scale from this drawing.
3. Contractor to liaise with local service authorities for location of all underground services before any excavation.
4. All exposed saw cut edges are to be sprayed with a hot bitumen sealer.
5. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length
6. Use DG10/ or AC10 for local road and AC14 for collector road with bus route
7. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

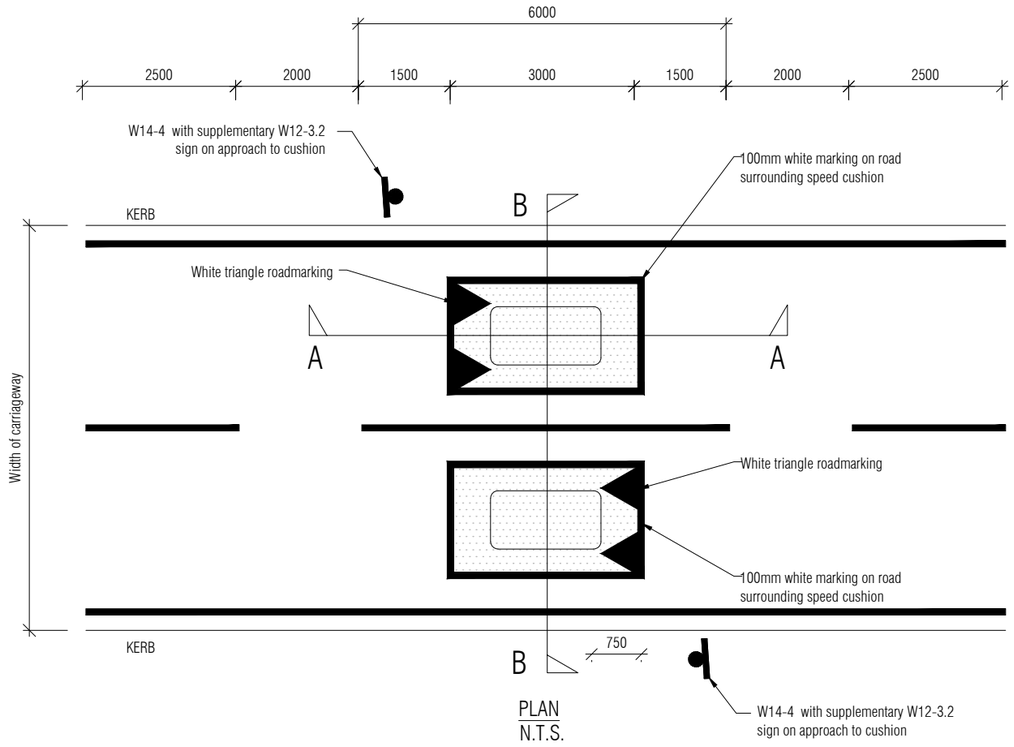
TDM TECHNICAL STANDARDS

Sinusoidal Speed Hump Pavement Design & Construction Details

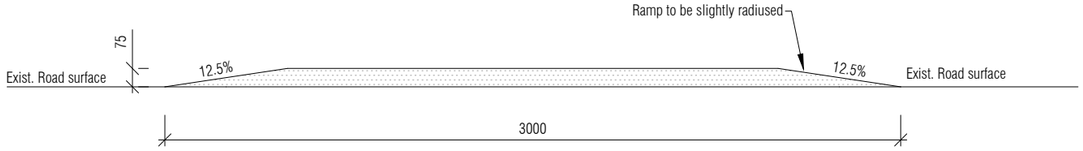
Date: 09/07/2025

SED No. TC1010

Version A

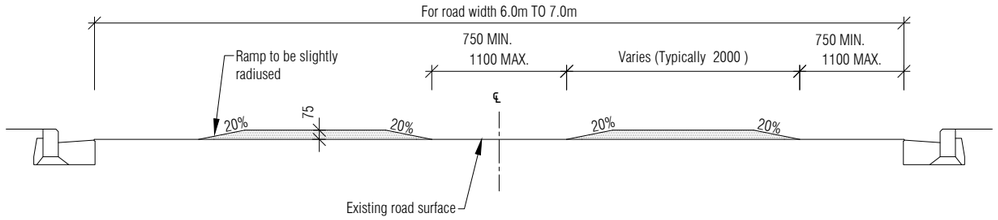


PLAN
N.T.S.

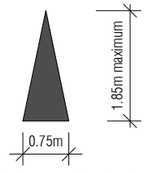


LONG SECTION A-A
N.T.S.

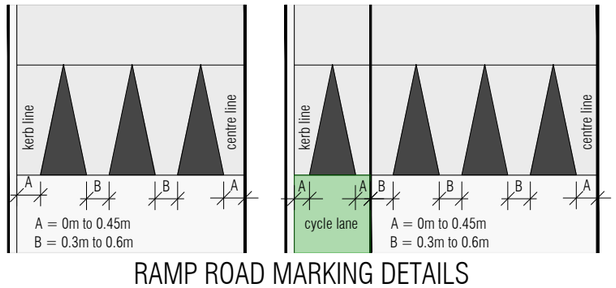
(note: both cushions have similar profiles)



CROSS SECTION B-B
N.T.S.



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS

Adapted from Traffic Control Devices manual part 5

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES

1. All dimensions are in millimetres unless otherwise stated
2. The details shown applies to cushions in roads of width 6.0m to 7.0m unless otherwise stated by the relevant AT Engineer.
3. Maximum height of cushion to be 75mm above existing road surface within tolerance of ±5mm.
4. Lateral gaps between cushions and kerbs to be agreed with Auckland Transport.
5. Cross sectional profile B-B of speed cushion to be same as existing profile of road.
6. All road markings to be in accordance with TCD Manual and must be white thermoplastic material.
7. Arrangement of speed cushions applies to rubber and asphaltic concrete speed cushions
8. Refer to drawing TC1030 for Asphaltic concrete speed cushion pavement details
9. Recycled rubber is not approved for use.
10. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length
11. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

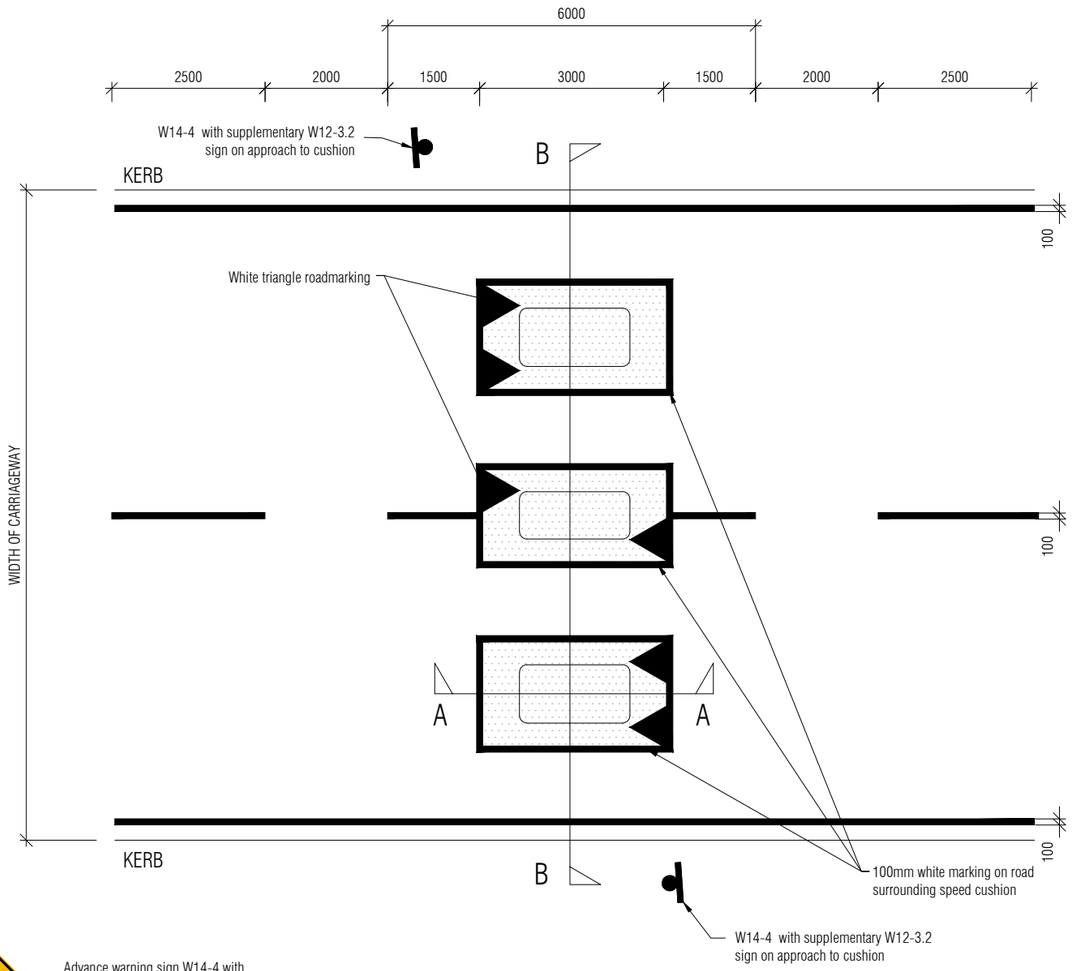
TDM TECHNICAL STANDARDS

Arrangement of Speed Cushions

Date: 09/07/2025

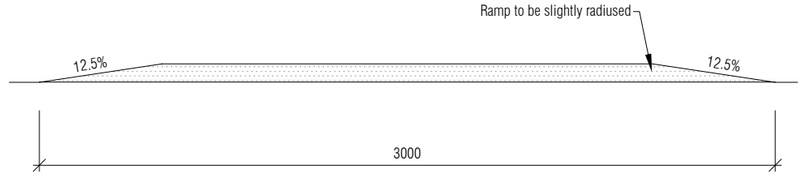
SED No. TC1020

Version A

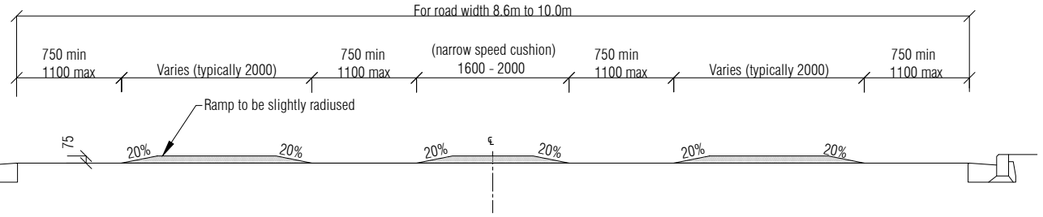


PLAN
N.T.S.

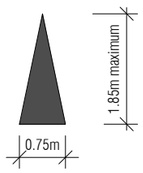
Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions



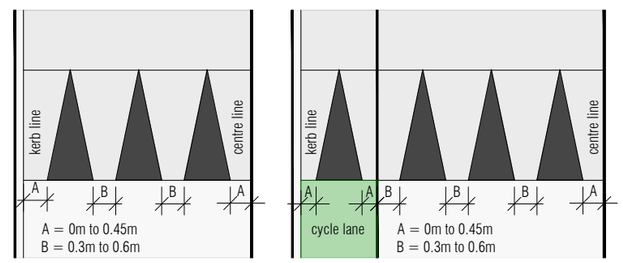
LONG SECTION A-A
N.T.S.



CROSS SECTION B-B
N.T.S.



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

NOTES

1. All dimensions are in millimetres.
2. This detail applies to cushions in roads of width 8.6m to 10.0m unless otherwise stated by the relevant AT Engineer.
3. Maximum height of cushion to be 75mm above existing road surface within tolerance of ±5mm.
4. Lateral gaps between cushions and kerbs to be agreed with Auckland Transport.
5. Cross sectional profile B-B of speed cushion to be same as existing profile of road.
6. All road markings to be in accordance with the TCD Manual and must be white thermoplastic material.
7. Arrangement of speed cushions applies to rubber and asphaltic concrete speed cushions
8. Refer to drawing TC1030 for Asphaltic concrete speed cushion pavement details
9. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length
10. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

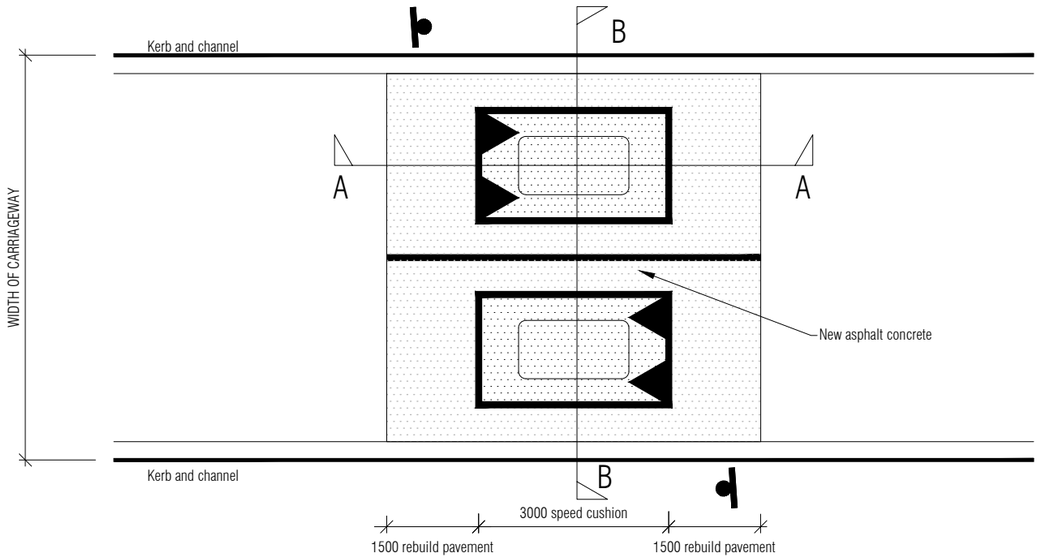
TDM TECHNICAL STANDARDS

Arrangement of Speed Cushions for Wider Roads

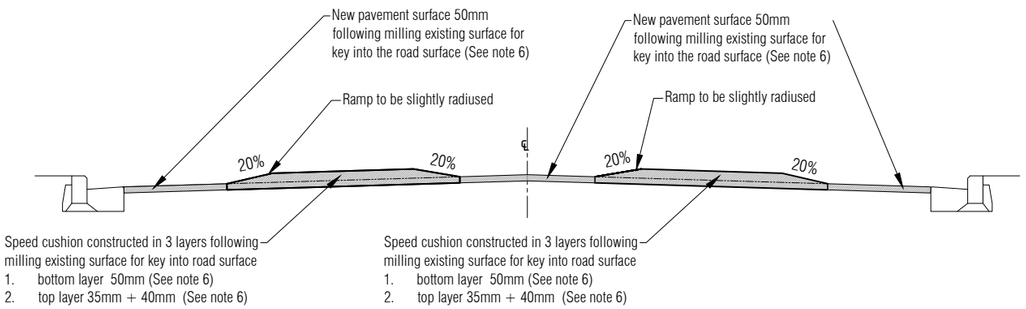
Date: 09/07/2025

SED No. TC1021

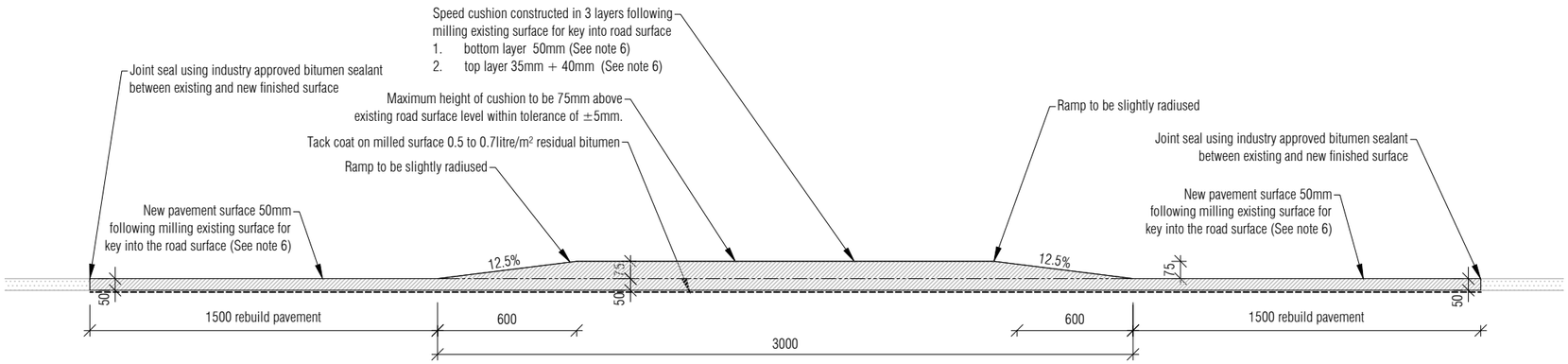
Version A



PLAN
N.T.S.



CROSS SECTION B-B
N.T.S.



LONG SECTION A-A
N.T.S.

NOTES

1. All dimensions are in millimetres.
2. This detail applies to cushions in roads of width 6.0m to 7.0m unless otherwise stated by the relevant AT Engineer.
3. Maximum height of cushion to be 75mm above existing road surface level within tolerance of ±5mm.
4. Lateral gaps between cushions and kerbs to be agreed with Auckland Transport.
5. Cross sectional profile B-B of speed cushion to be same as existing profile of road.
6. Use DG10/ or AC10 for local road and AC14 for collector road with bus route
7. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
8. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length

CHIEF APPROVED ENGINEER

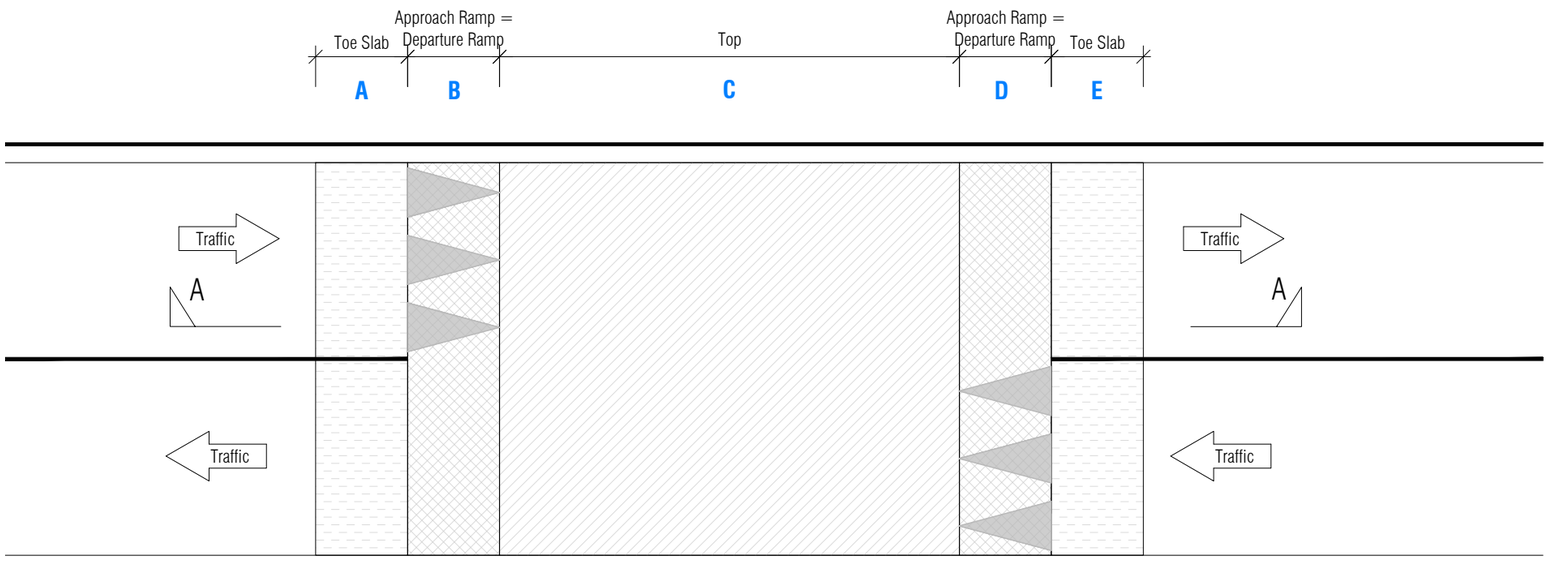
TDM TECHNICAL STANDARDS

Asphaltic Concrete Speed Cushion Pavement Design & Construction Details

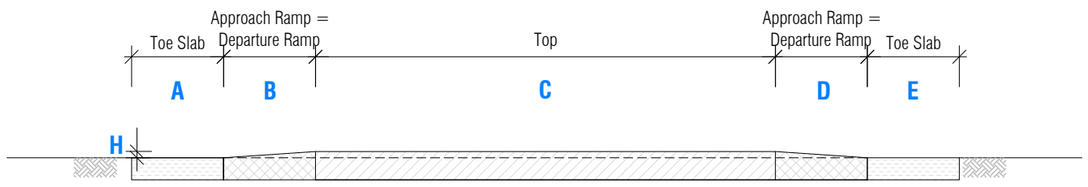
Date: 09/07/2025

SED No. TC1030

Version A



STANDARD SPEED TABLE PLAN
NOT TO SCALE



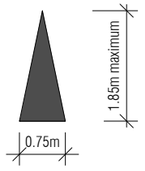
STANDARD SPEED TABLE SECTION A-A
NOT TO SCALE

Type	Approach Speed (km/h)	Profile Standard speed table					
		Nominal grade change	Toe Slab	Approach ramp (Length x Height)	Top	Departure ramp (Length x Height)	Toe Slab
1	70 - 80	1:25, 4.0%	1500 (A)	1875 (B, D) x 75 (H)	6000 (C)	1875 (B, D) x 75 (H)	1500 (E)
2	60	1:20, 5.0%	1500 (A)	1500 (B, D) x 75 (H)	6000 (C)	1500 (B, D) x 75 (H)	1500 (E)
3	50	1:15, 6.7%	1500 (A)	1125 (B, D) x 75 (H)	6000 (C)	1125 (B, D) x 75 (H)	1500 (E)
4	<50	1:15, 6.7%	1500 (A)	1500 (B, D) x 100 (H)	6000 (C)	1500 (B, D) x 100 (H)	1500 (E)

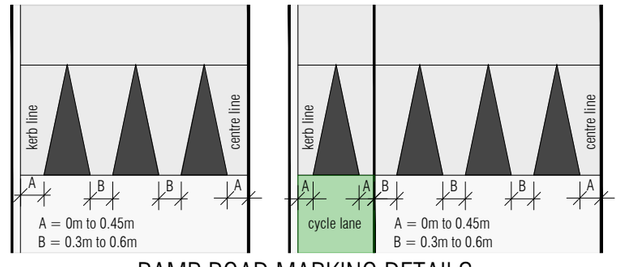
NOTES

1. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Height 'H' is relative to grade line of approach road

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

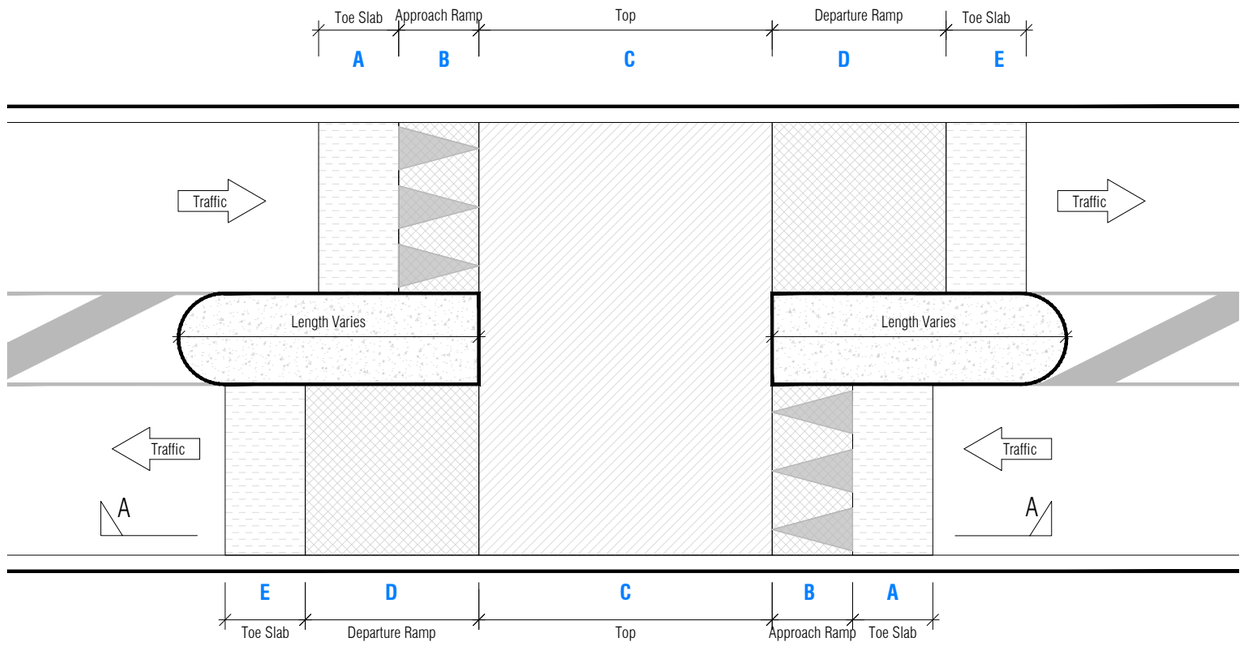
CHIEF APPROVED ENGINEER

TDM TECHNICAL STANDARDS

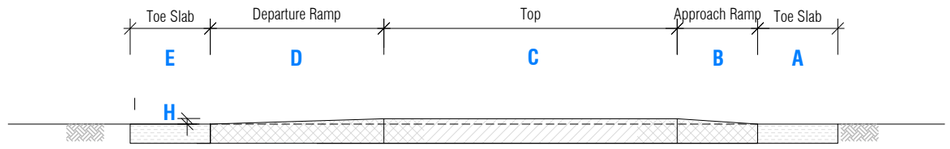
Standard Speed Table Geometry

Date: 09/07/2025

SED No. TC1100 | Version A

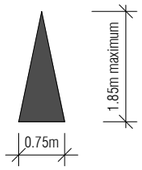


SWEDISH SPEED TABLE PLAN
NOT TO SCALE

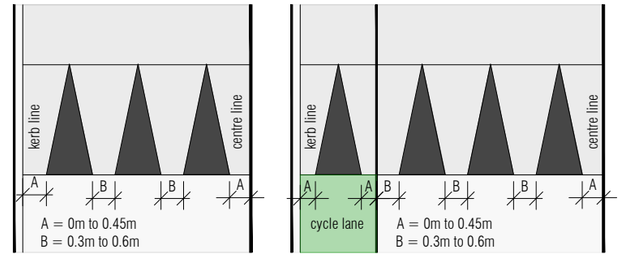


SWEDISH SPEED TABLE SECTION A-A
NOT TO SCALE

Type	Approach Speed (km/h)	Profile Swedish speed table					
		Nominal grade change	Toe Slab	Approach ramp (Length x Height)	Top	Departure ramp (Length x Height)	Toe Slab
1S	70 - 80	1:25, 4.0%	1500 (A)	1875 (B) x 75 (H)	6000 (C)	4500 (D) x 75 (H)	1500 (E)
2S	60	1:20, 5.0%	1500 (A)	1500 (B) x 75 (H)	6000 (C)	3000 (D) x 75 (H)	1500 (E)
3S	50	1:15, 6.7%	1500 (A)	1125 (B) x 75 (H)	4000 (C)	3000 (D) x 75 (H)	1500 (E)
4S	<50	1:15, 6.7%	1500 (A)	1500 (B) x 100 (H)	4000 (C)	4000 (D) x 100 (H)	1500 (E)



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties

NOTES

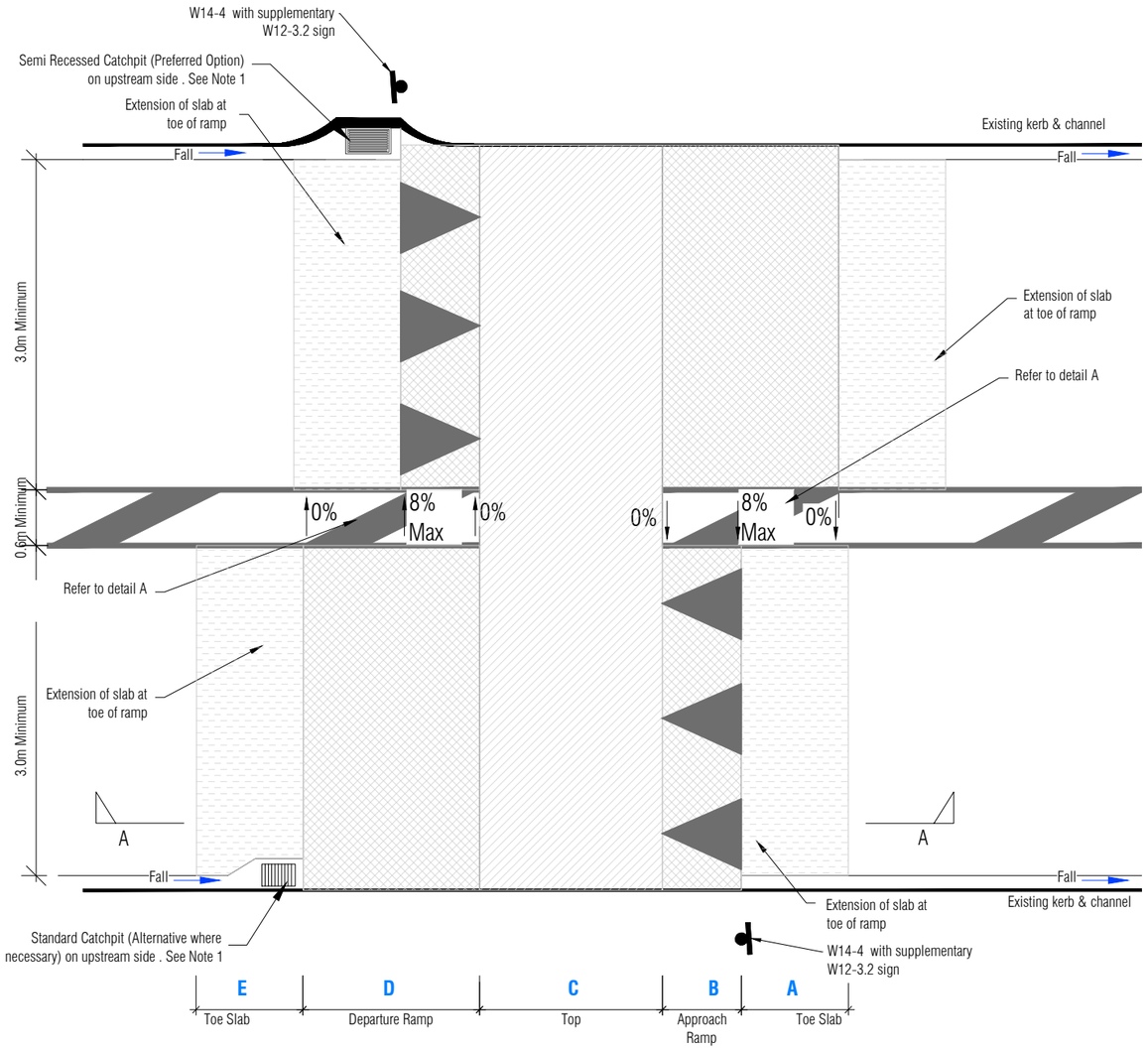
1. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Height 'H' is relative to grade line of approach road

APPROVED CHIEF ENGINEER

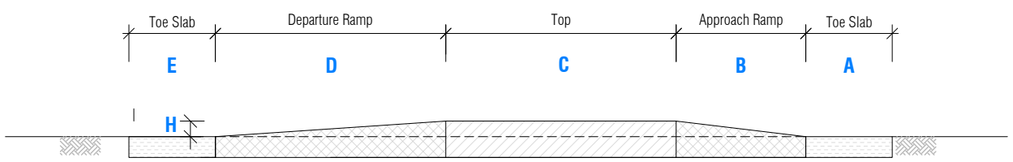
TDM TECHNICAL STANDARDS

Swedish Speed Table Geometry

Date: 09/07/2025
SED No. TC1101
Version A

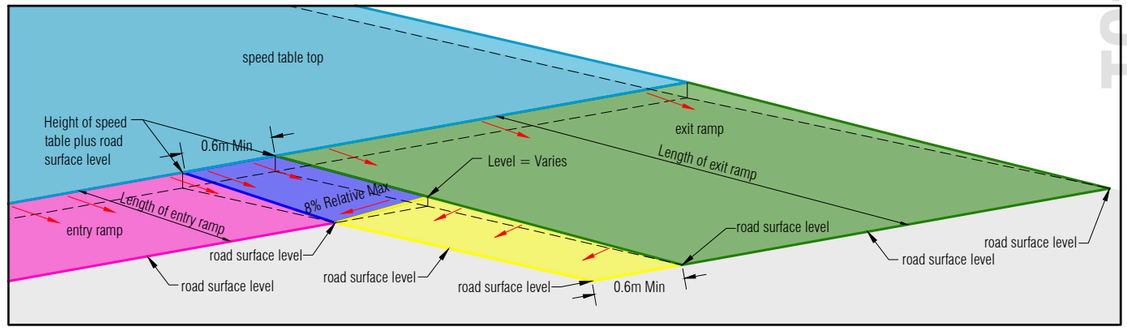


PLAN
NOT TO SCALE

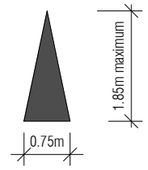


NOTE: Refer to drawings TC1100 and TC1101 for dimensions

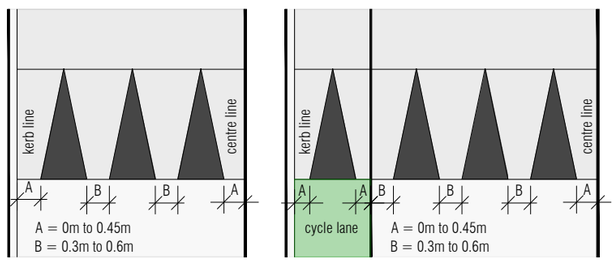
SECTION A-A
NOT TO SCALE



DETAIL A
NOT TO SCALE



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties

NOTES

1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and -50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Reinforcing to be placed on spacers.
4. W14-4 with supplementary W12-3.2 sign as shown to be erected in advance of treatment on both sides of the carriageway facing approaching traffic.
5. Signs and line marking are to be provided as per the design in compliance to the TCD Manual.
6. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
7. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
8. Height 'H' is relative to grade line of approach road

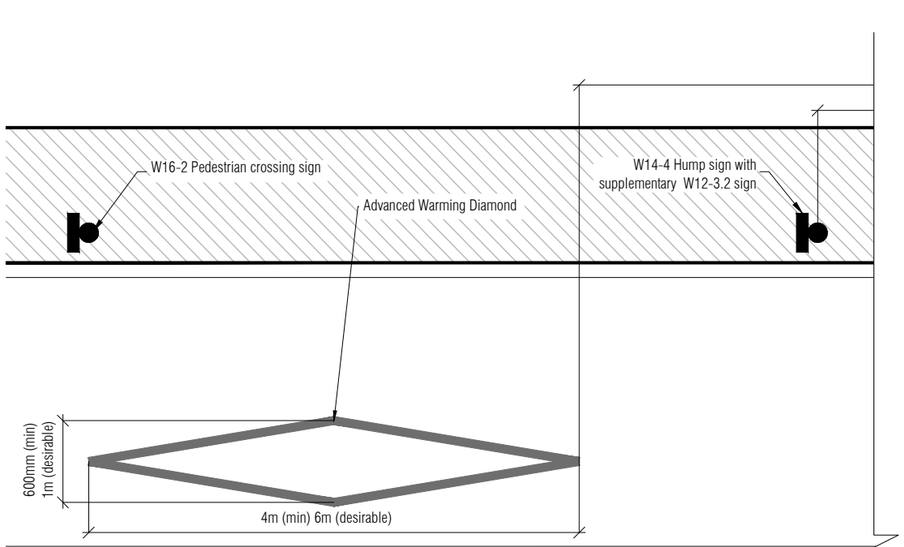
Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

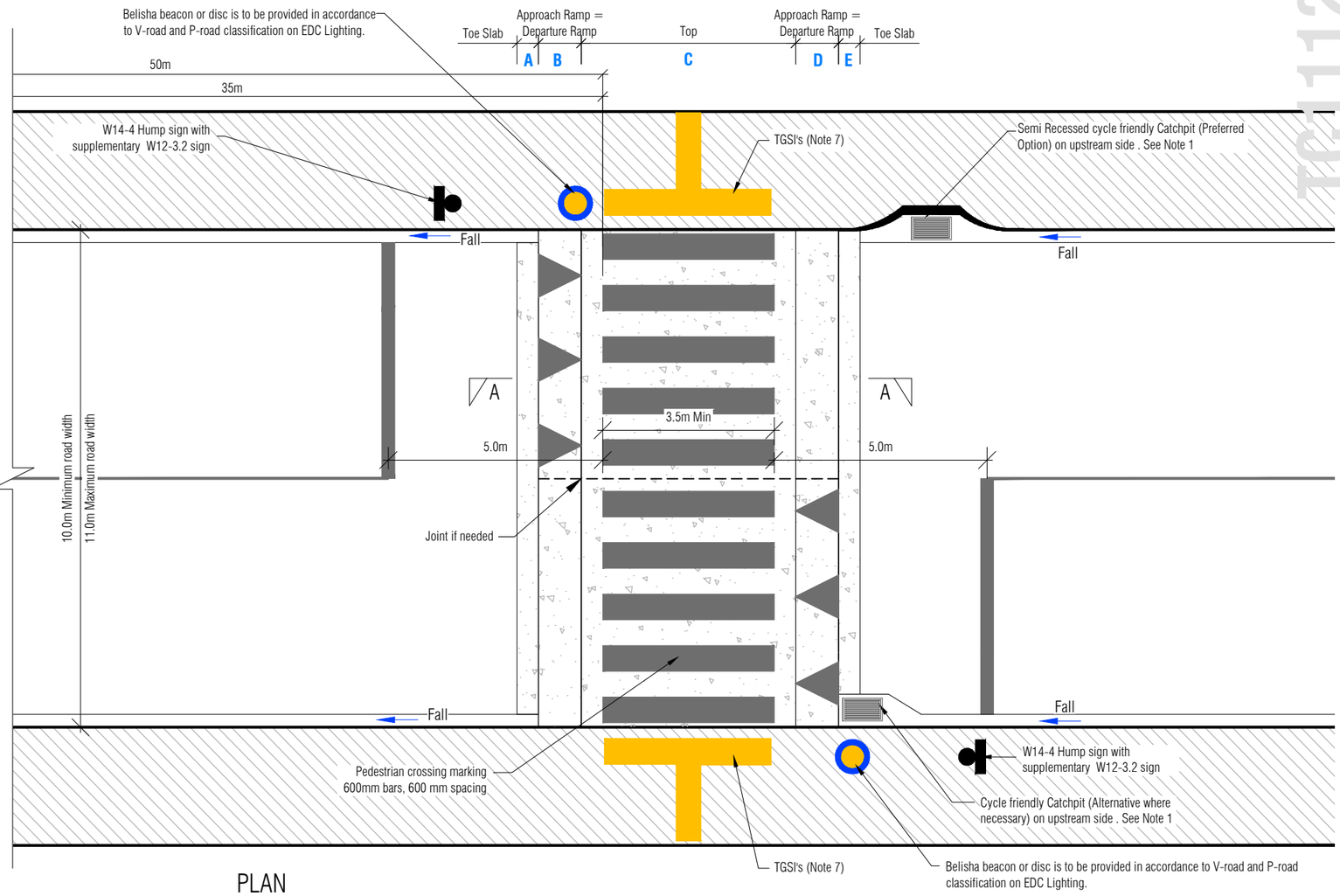
CHIEF ENGINEER APPROVED

TDM TECHNICAL STANDARDS

Swedish Speed Table With Flush Median Island

Date: 09/07/2025
SED No. TC1102
Version A





PLAN
NOT TO SCALE

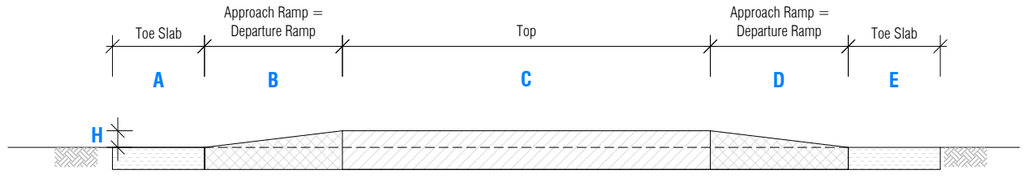
W16-2 Pedestrian Crossing Sign

Belisha beacon or disc is to be provided in accordance to V-road and P-road classification on EDC Lighting.

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES

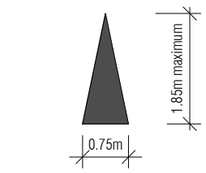
1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Reinforcing to be placed on spacers.
4. W14-4 sign with supplementary as shown to be erected in advance of treatment on both sides of the carriageway facing approaching traffic.
5. Signs and line marking are to be provided as per the design in compliance to the TCD Manual.
6. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
7. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
8. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
9. Height 'H' is relative to grade line of approach road



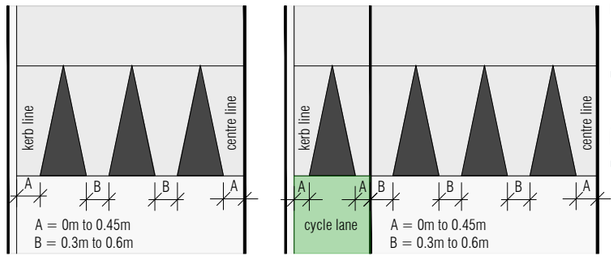
NOTE: Refer to drawings TC1100 and TC1101 for dimensions

SECTION A-A
NOT TO SCALE

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

CHIEF APPROVED ENGINEER

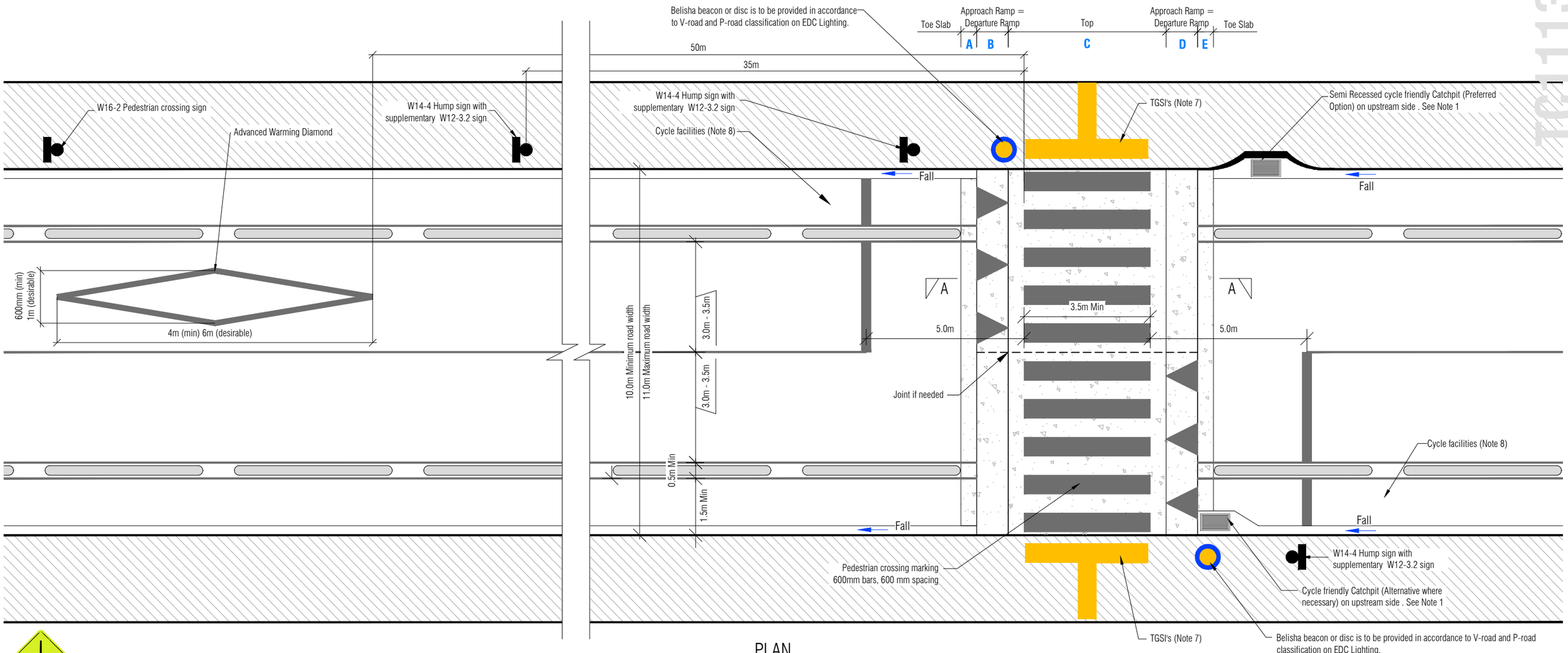
TDM TECHNICAL STANDARDS

Speed Table With Pedestrian Crossing

Date: 09/07/2025

SED No. TC1112

Version A



PLAN
NOT TO SCALE

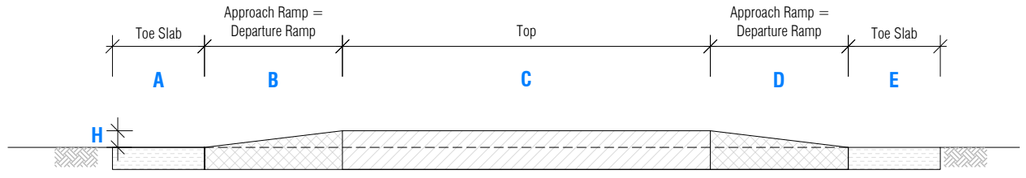
W16-2 Pedestrian Crossing Sign

Belisha beacon or disc is to be provided in accordance to V-road and P-road classification on EDC Lighting.

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES

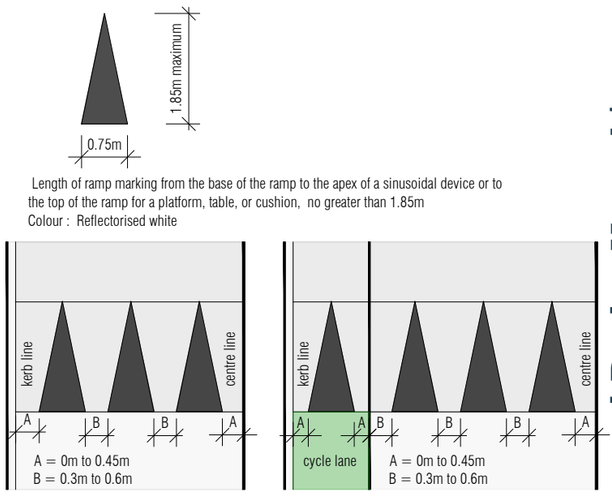
1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Reinforcing to be placed on spacers.
4. W14-4 sign with supplementary as shown to be erected in advance of treatment on both sides of the carriageway facing approaching traffic.
5. Signs and line marking are to be provided as per the design in compliance to the TCD Manual.
6. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
7. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
8. Cycle facility to refer EDC Cycling Infrastructure and PN 04 Cycling Infrastructure - Interim Facilities
9. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
10. Height 'H' is relative to grade line of approach road



NOTE: Refer to drawings TC1100 and TC1101 for dimensions

SECTION A-A
NOT TO SCALE

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white

RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

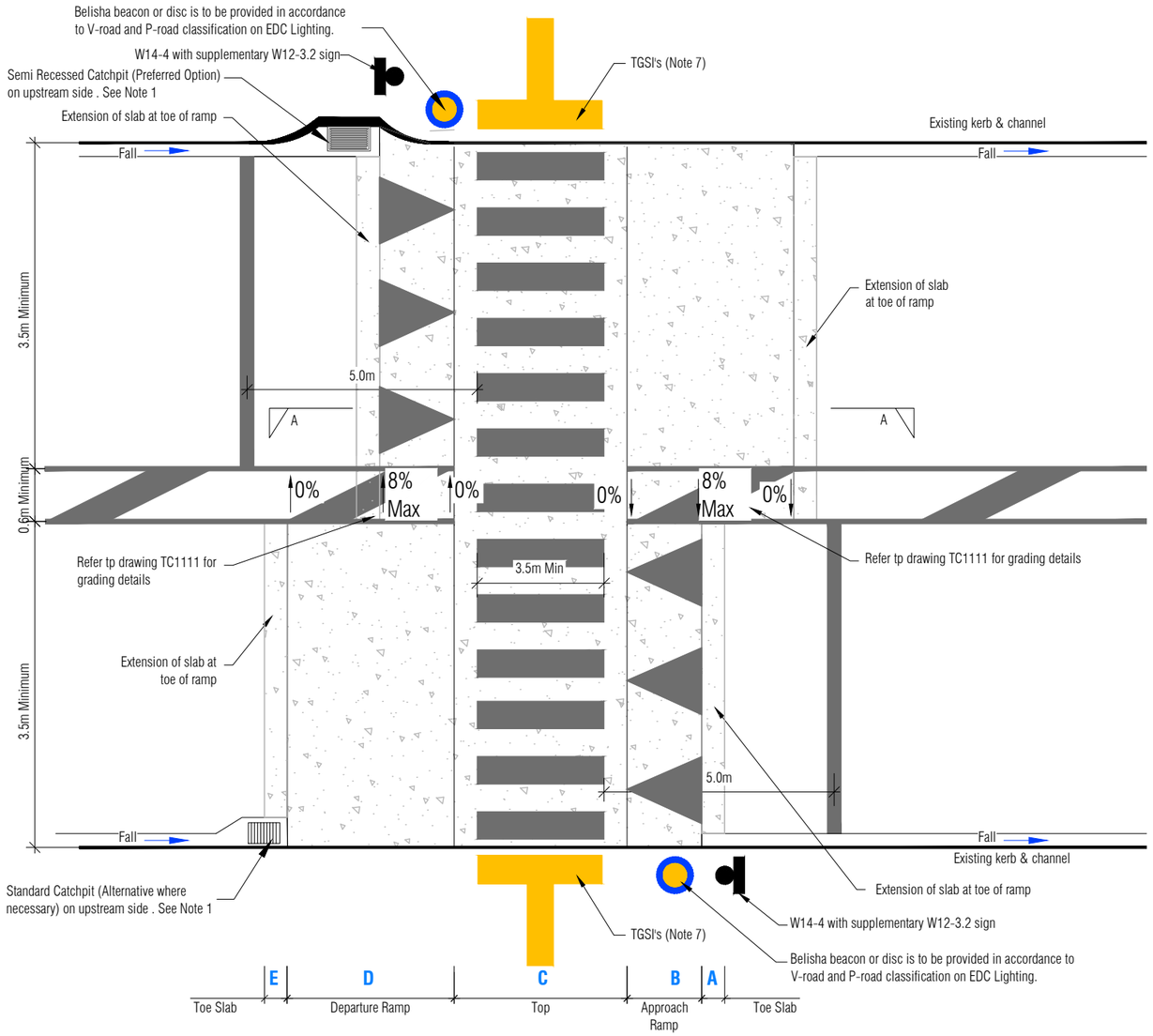
CHIEF APPROVED ENGINEER

TDM TECHNICAL STANDARDS

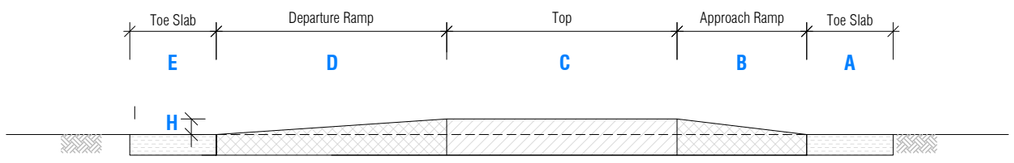
Speed Table With Cycle Lane and Pedestrian Crossing

Date: 09/07/2025

SED No. **TC1113** Version **A**

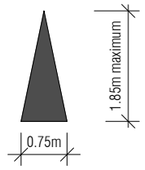


PLAN
NOT TO SCALE

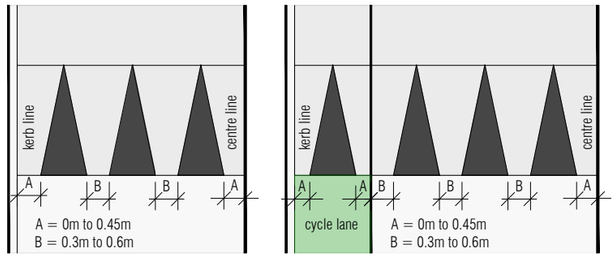


NOTE: Refer to drawings TC1100 and TC1101 for dimensions

SECTION A-A
NOT TO SCALE



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS

Adapted from Traffic Control Devices manual part 5

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

Belisha beacon or disc is to be provided in accordance to V-road and P-road classification on EDC Lighting.

NOTES

1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Reinforcing to be placed on spacers.
4. W14-4 sign with supplementary as shown to be erected in advance of treatment on both sides of the carriageway facing approaching traffic.
5. Signs and line marking are to be provided as per the design in compliance to the TCD Manual.
6. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
7. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
8. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
9. Height 'H' is relative to grade line of approach road

CHIEF APPROVED ENGINEER

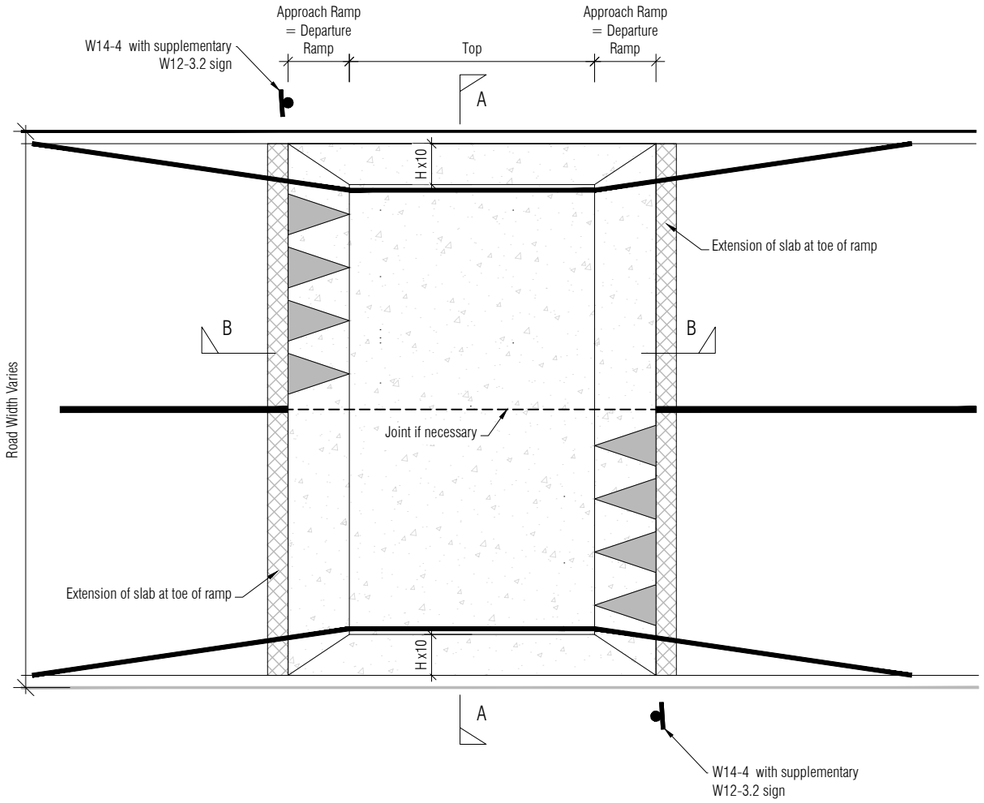
TDM TECHNICAL STANDARDS

Swedish Speed Table With Pedestrian Crossing

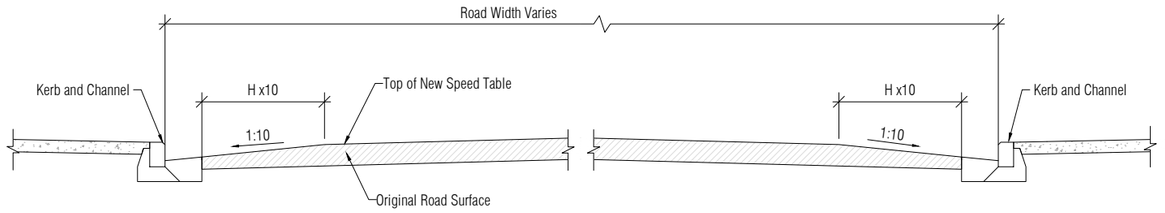
Date: 09/07/2025

SED No. **TC1114**

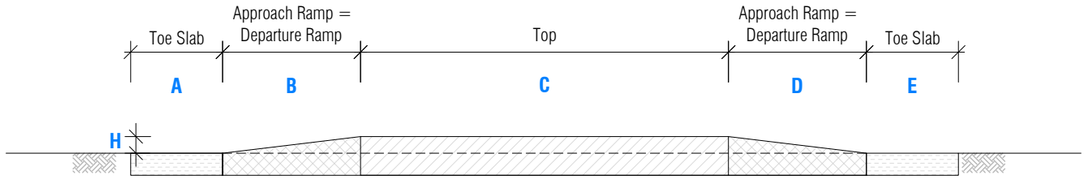
Version **A**



TYPICAL PLAN
NOT TO SCALE



SECTION A-A
NOT TO SCALE



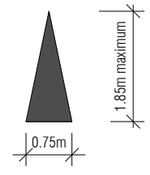
NOTE: Refer to drawings TC1100 and TC1101 for dimensions

SECTION B-B
NOT TO SCALE

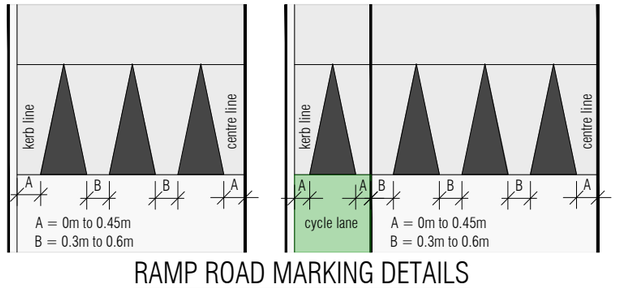
Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES

1. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
2. Longitudinal minimum gradient for all kerb drain shall not be less than 0.5% (1:200).
3. Geometric set out to be carried out and prior to commencing construction
4. Signs and line marking are to be provided as per the design in compliance to the TCD manual.
5. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
6. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
7. Height 'H' is relative to grade line of approach road



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS
Adapted from Traffic Control Devices manual part 5

TC1120

Transport Design Manual | Standard Engineering Details

CHIEF APPROVED ENGINEER

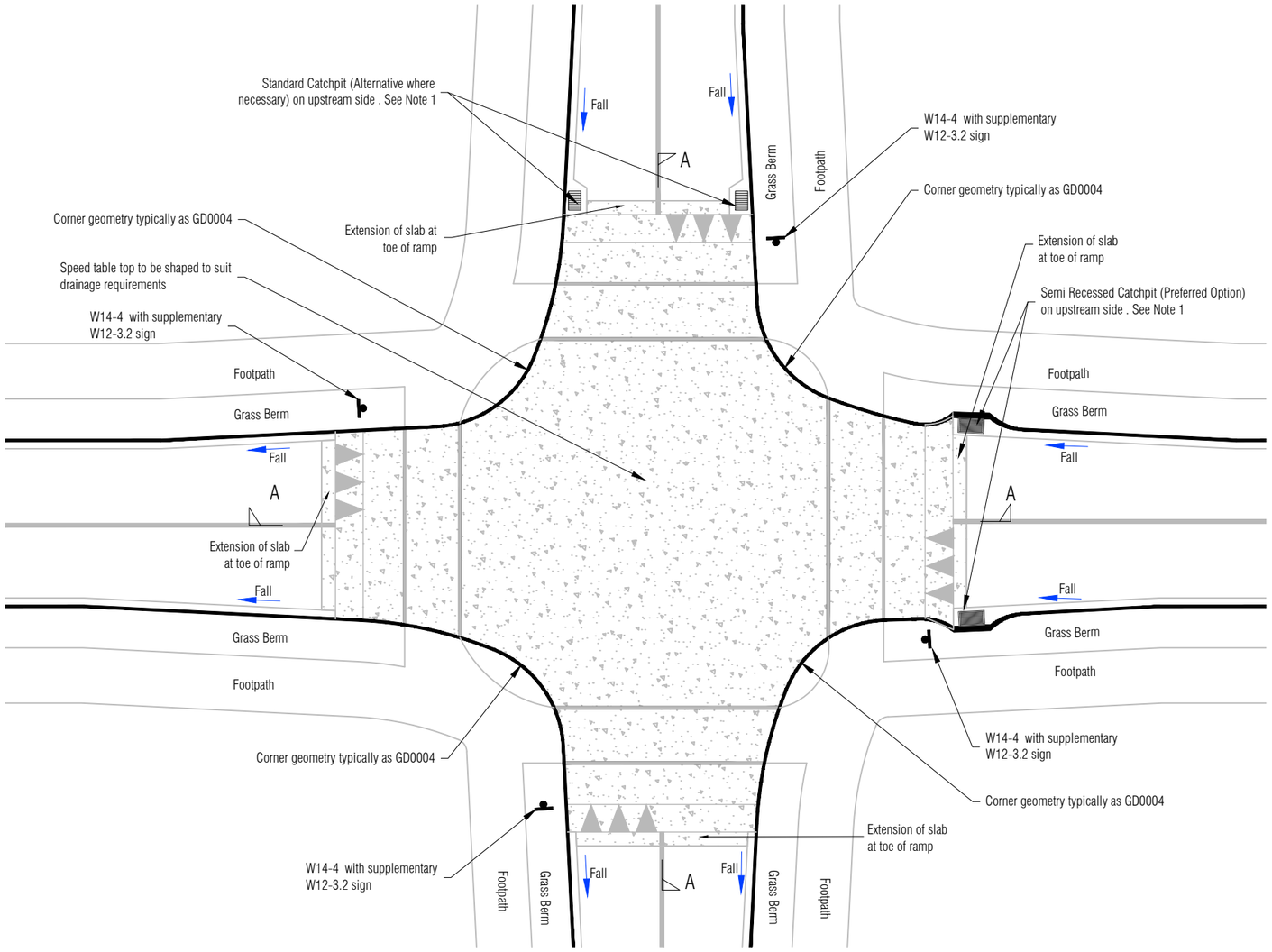
TRANSPORT DESIGN MANUAL

Standard Speed Table with Kerb and Channel Drain

Date: 09/07/2025

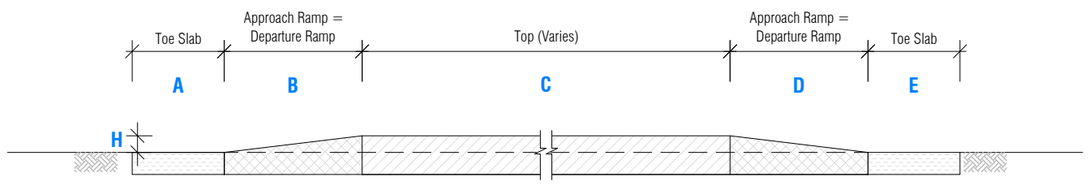
SED No. TC1120

Version A



PLAN

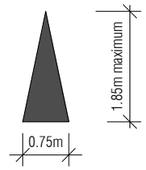
N.T.S.



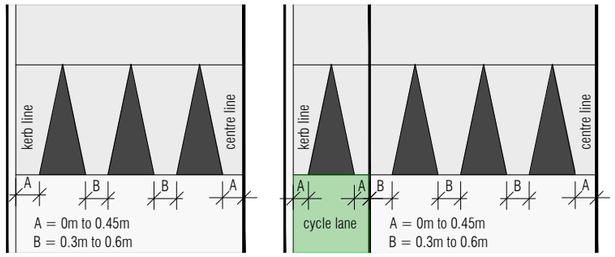
NOTE: Refer to drawings TC1100 and TC1101 for dimensions

SECTION A-A

N.T.S.



Length of ramp marking from the base of the ramp to the apex of a sinusoidal device or to the top of the ramp for a platform, table, or cushion, no greater than 1.85m
Colour : Reflectorised white



RAMP ROAD MARKING DETAILS

Adapted from Traffic Control Devices manual part 5

Advance warning sign W14-4 with supplementary advisory speed sign W12-3.2 to be installed on approaching speed table, speed humps or speed cushions

NOTES

1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Reinforcing to be placed on spacers.
4. W14-4 sign with supplementary W12-3.2 sign as shown to be erected in advance of treatment on both sides of the carriageway facing approaching traffic.
5. Signs and line marking are to be provided as per the design in compliance to the TCD Manual.
6. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
7. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
8. Height 'H' is relative to grade line of approach road

CHIEF ENGINEER APPROVED

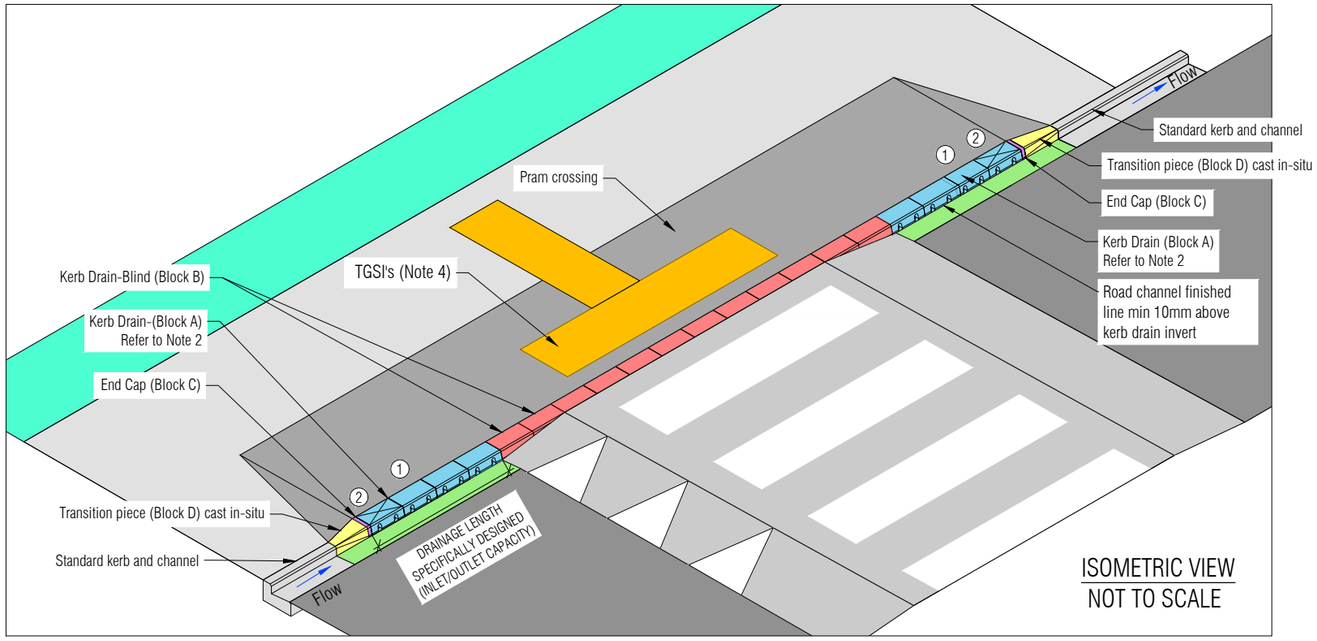
TRANSPORT DESIGN MANUAL

Raised Intersection

Date: 09/07/2025

SED No. TC1121

Version A

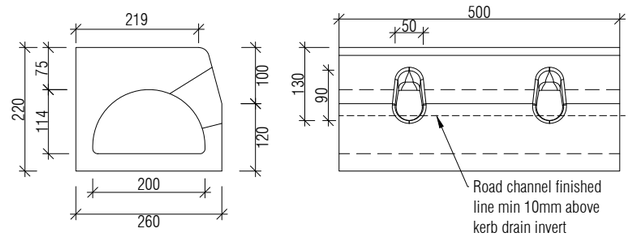


ISOMETRIC VIEW
NOT TO SCALE

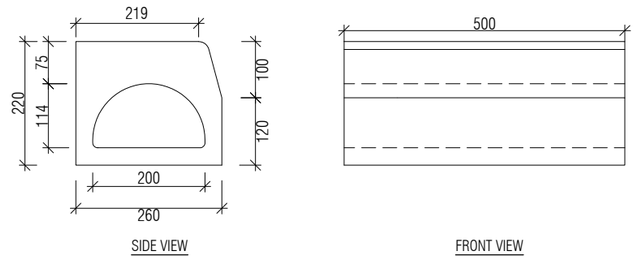
① Block 'A' length inlet/outlet shall be specifically designed based on stormwater flow calculations. Minimum 4 blocks at each end.
② Provide inspection/cleaning lids grate on each end, marked ⊠ with ductile iron locked grate to AS/NZ 3996 standard.
③ Longitudinal minimum gradient for all kerb drain shall not be less then 0.5% (1:200).

NOTES

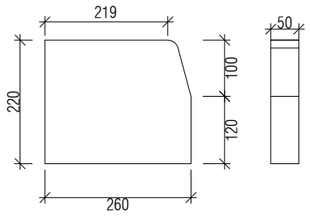
1. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
2. Number of Block A units upstream and downstream must be determined for required upstream catchment inlet capacity.
3. Contractors to verify all dimensions on site.
4. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
5. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction



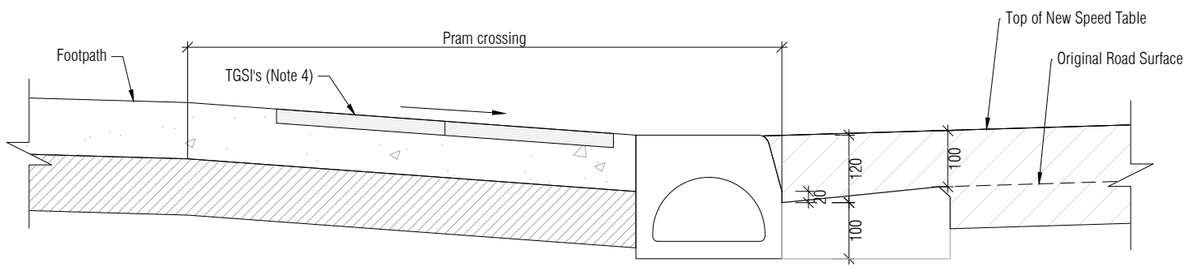
KERB DRAIN (BLOCK A)
NOT TO SCALE



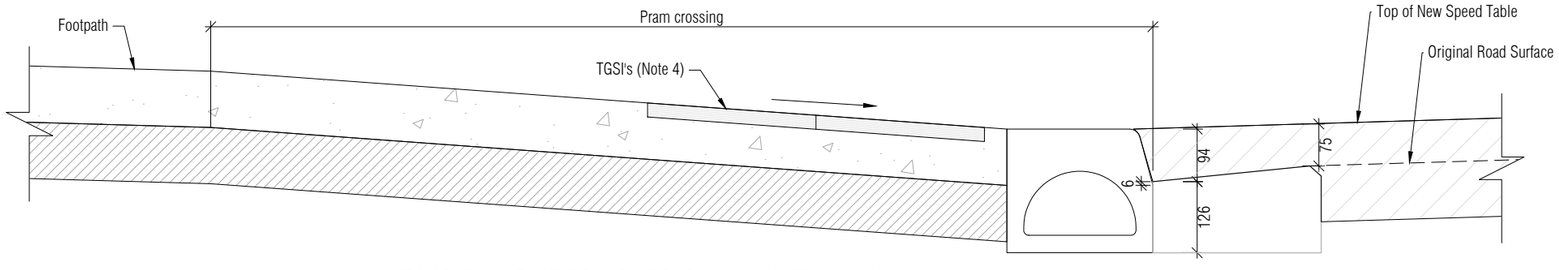
KERB DRAIN - BLIND (BLOCK B)
NOT TO SCALE



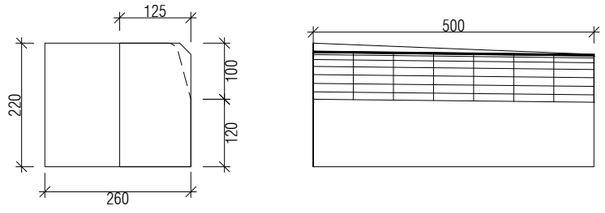
END CAP(BLOCK C)
NOT TO SCALE



KERB DRAIN - STANDARD SPEED TABLE 100mm HIGH
NOT TO SCALE



KERB DRAIN - FREQUENT BUS ROUTE OR HIGH HCVs 75mm HIGH
NOT TO SCALE



TRANSITION PIECE (BLOCK D)
NOT TO SCALE

APPROVED CHIEF ENGINEER

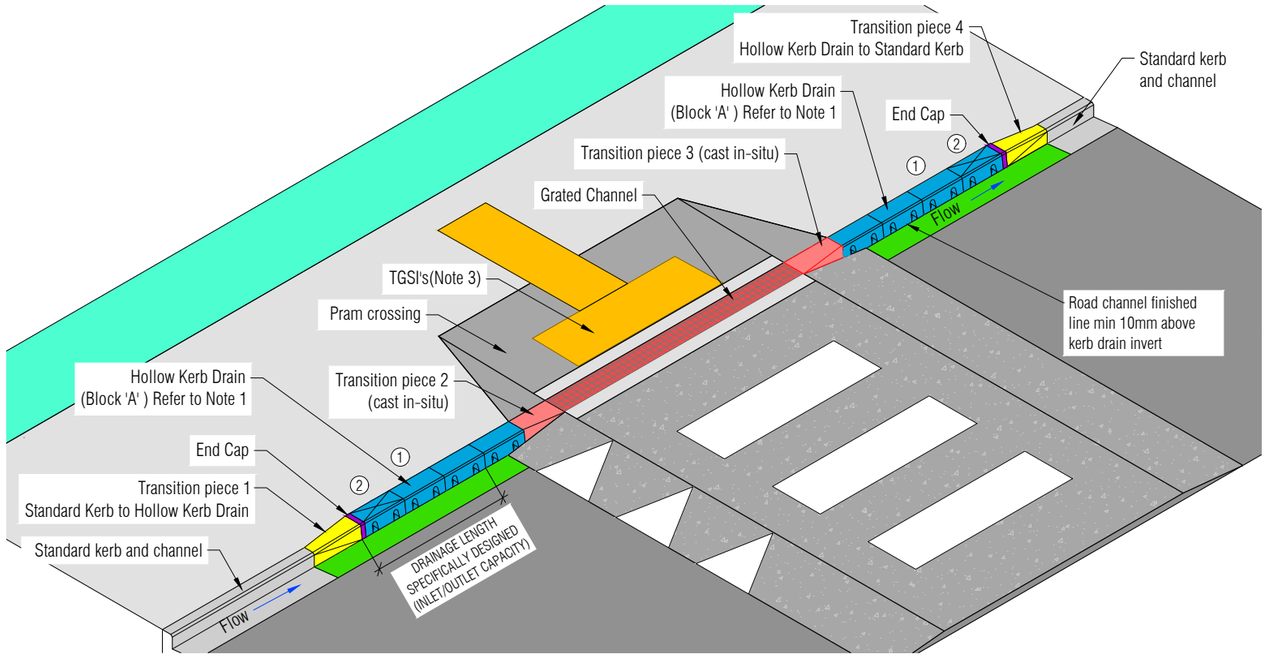
TRANSPORT DESIGN MANUAL

Speed Table with Hollow Kerb Drain

Date: 09/07/2025

SED No. TC1200

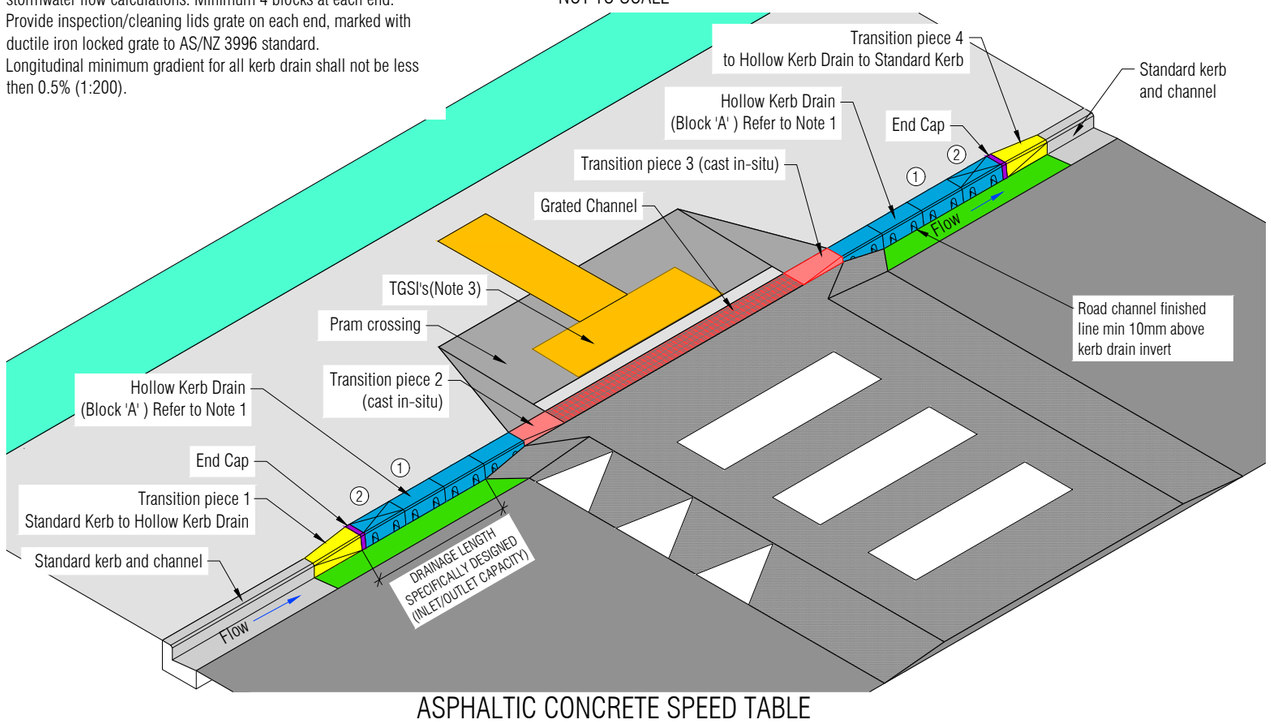
Version A



CONCRETE SPEED TABLE

NOT TO SCALE

① Block 'A' length inlet/outlet shall be specifically designed based on stormwater flow calculations. Minimum 4 blocks at each end.
② Provide inspection/cleaning lids grate on each end, marked with ductile iron locked grate to AS/NZ 3996 standard.
③ Longitudinal minimum gradient for all kerb drain shall not be less then 0.5% (1:200).

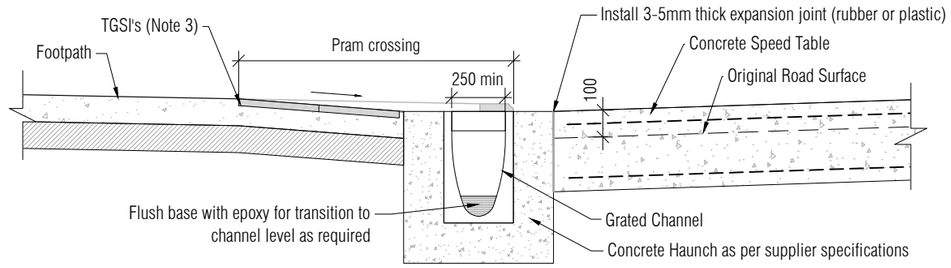


ASPHALTIC CONCRETE SPEED TABLE

NOT TO SCALE

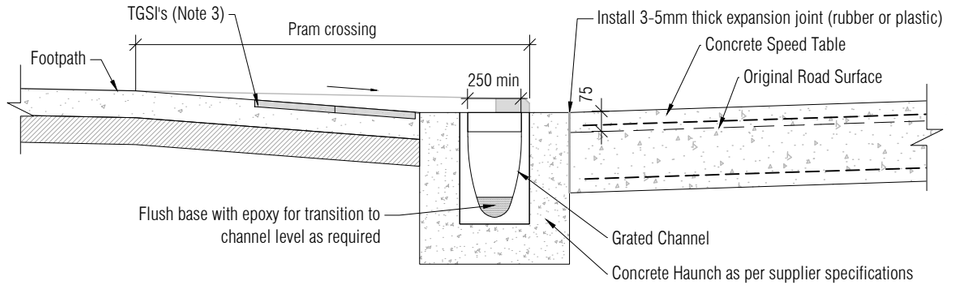
NOTES

1. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
2. Contractors to verify all dimensions on site.
3. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
4. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction



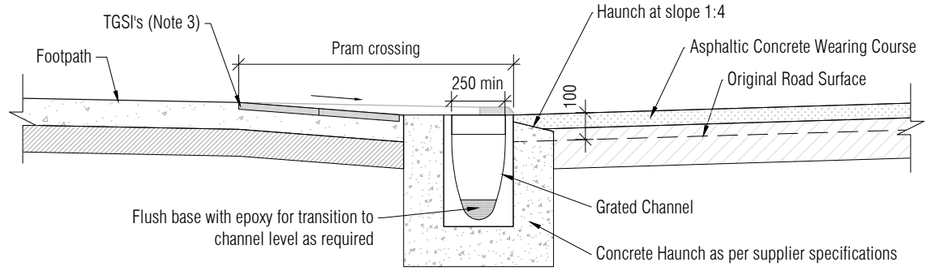
CONCRETE SPEED TABLE - STANDARD 100mm HIGH

NOT TO SCALE



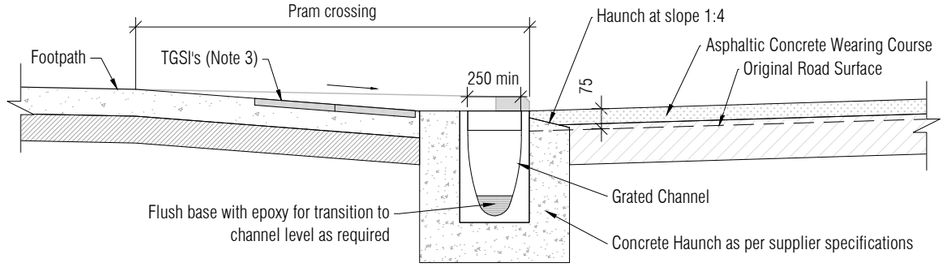
CONCRETE SPEED TABLE- FREQUENT BUS ROUTE OR HIGH HCVs 75mm HIGH

NOT TO SCALE



ASPHALTIC CONCRETE SPEED TABLE - STANDARD 100mm HIGH

NOT TO SCALE



ASPHALTIC CONCRETE SPEED TABLE- FREQUENT BUS ROUTE OR HIGH HCVs 75mm HIGH

NOT TO SCALE

TC1201

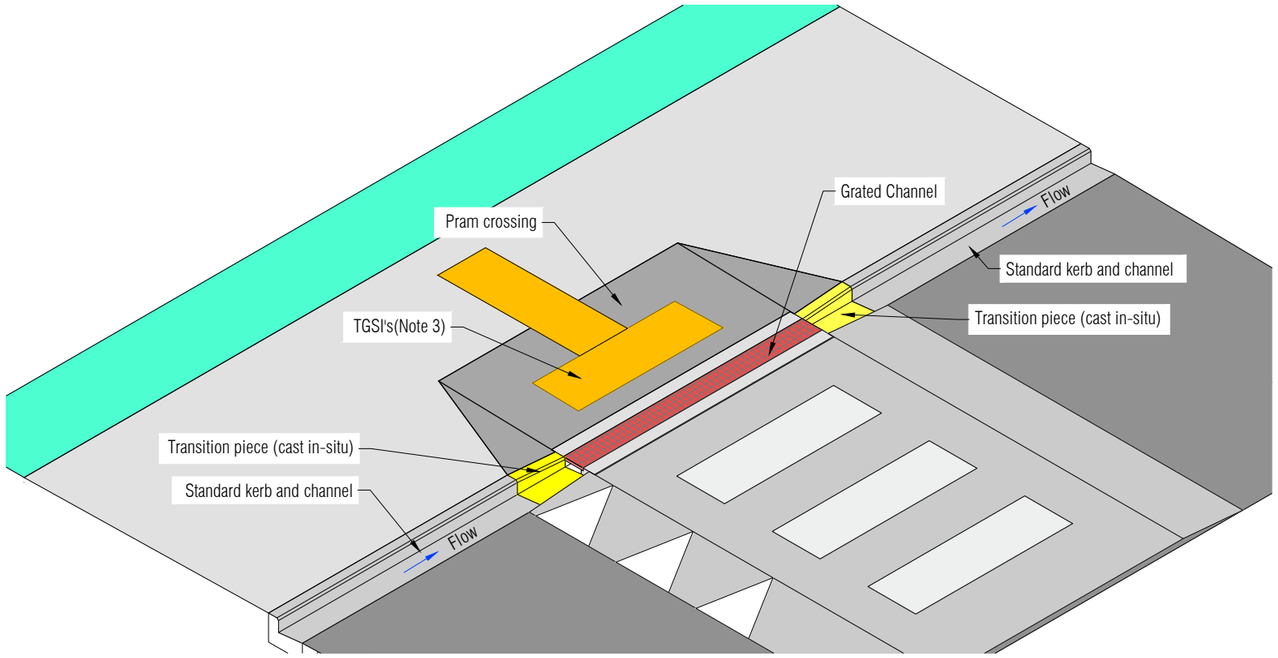
Transport Design Manual | Standard Engineering Details

CHIEF APPROVED ENGINEER

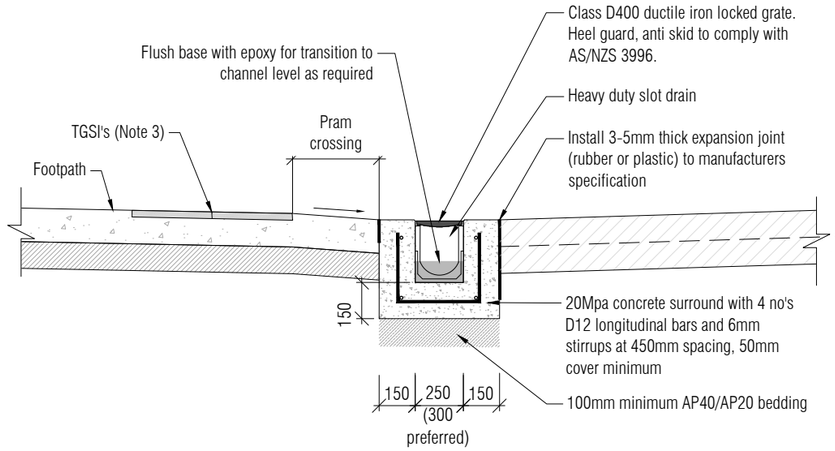
TRANSPORT DESIGN MANUAL

Speed Table with Hollow Kerb Drain and Grated Channel

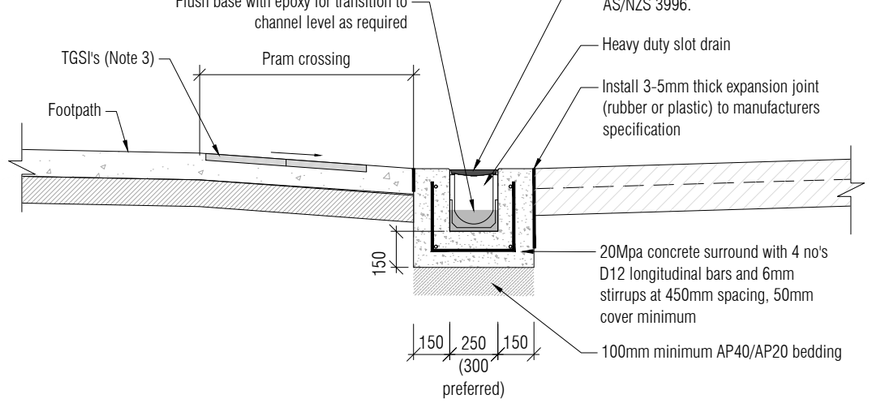
Date: 09/07/2025
SED No. TC1201
Version A



ISOMETRIC VIEW
NOT TO SCALE



STANDARD SPEED TABLE 100mm HIGH
NOT TO SCALE



FREQUENT BUS ROUTE OR HIGH HCVs 75mm HIGH
NOT TO SCALE

NOTES

1. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
2. Contractors to verify all dimensions on site.
3. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
4. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

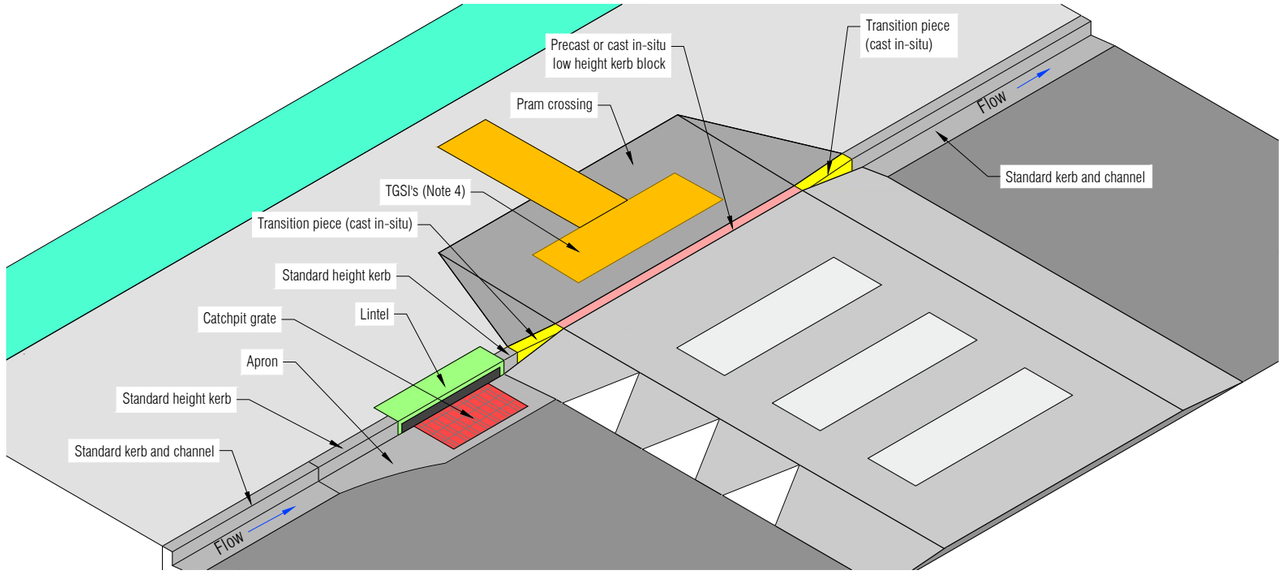
TRANSPORT DESIGN MANUAL

Speed Table with Grated Channel

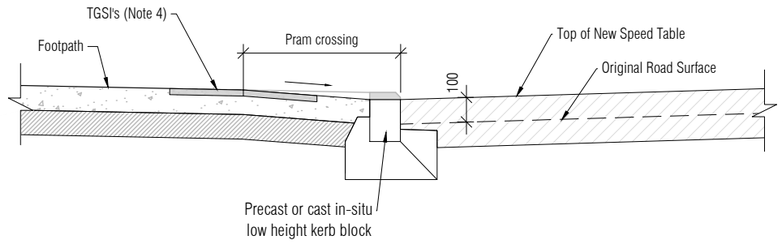
Date: 09/07/2025

SED No. TC1202

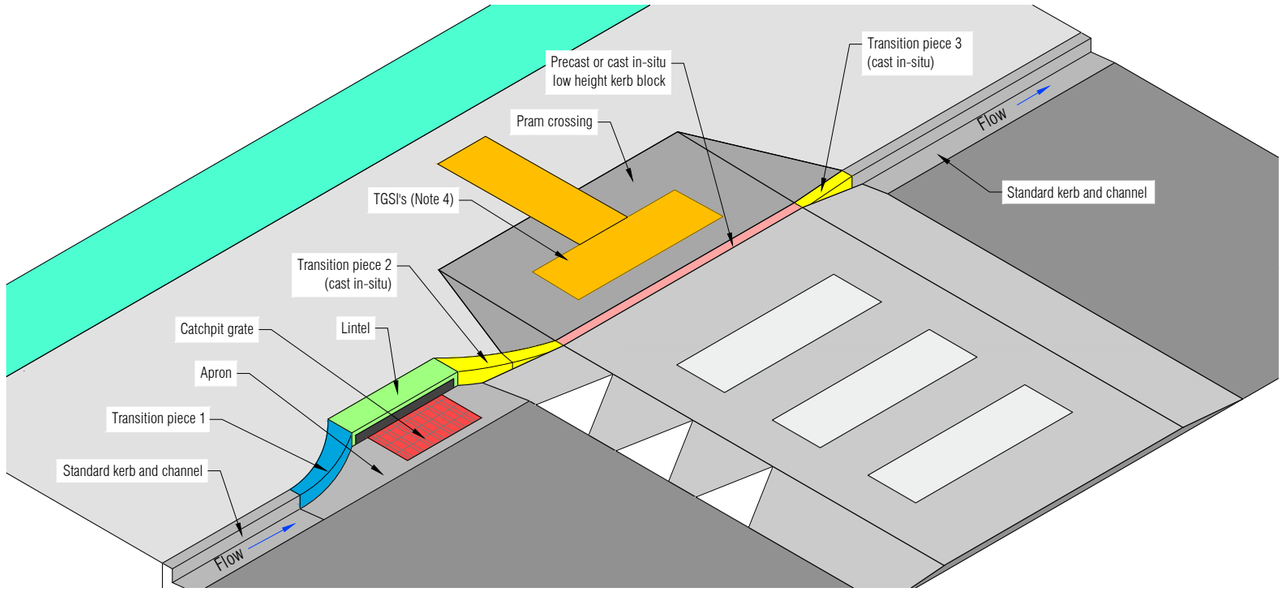
Version A



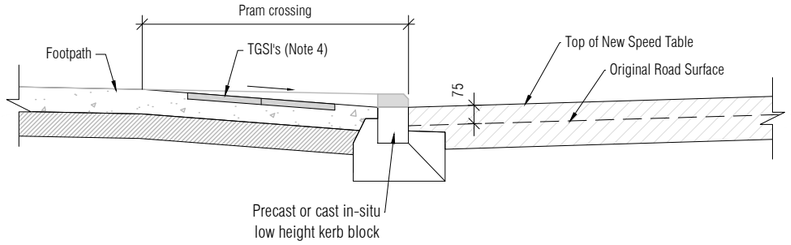
STANDARD CATCHPIT
NOT TO SCALE



STANDARD SPEED TABLE 100mm HIGH
NOT TO SCALE



SEMI-RECESSED CATCHPIT
NOT TO SCALE



FREQUENT BUS ROUTE OR HIGH HCVs 75mm HIGH
NOT TO SCALE

NOTES

1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.
3. Contractors to verify all dimensions on site.
4. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
5. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction

CHIEF APPROVED ENGINEER

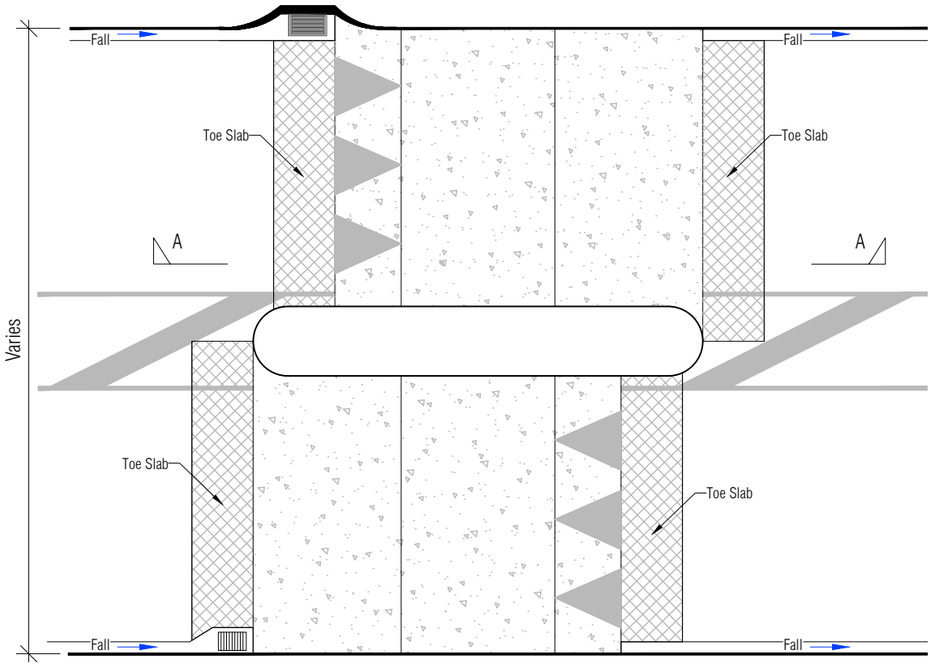
TRANSPORT DESIGN MANUAL

Speed Table with Upstream Catchpit

Date: 09/07/2025

SED No. TC1203

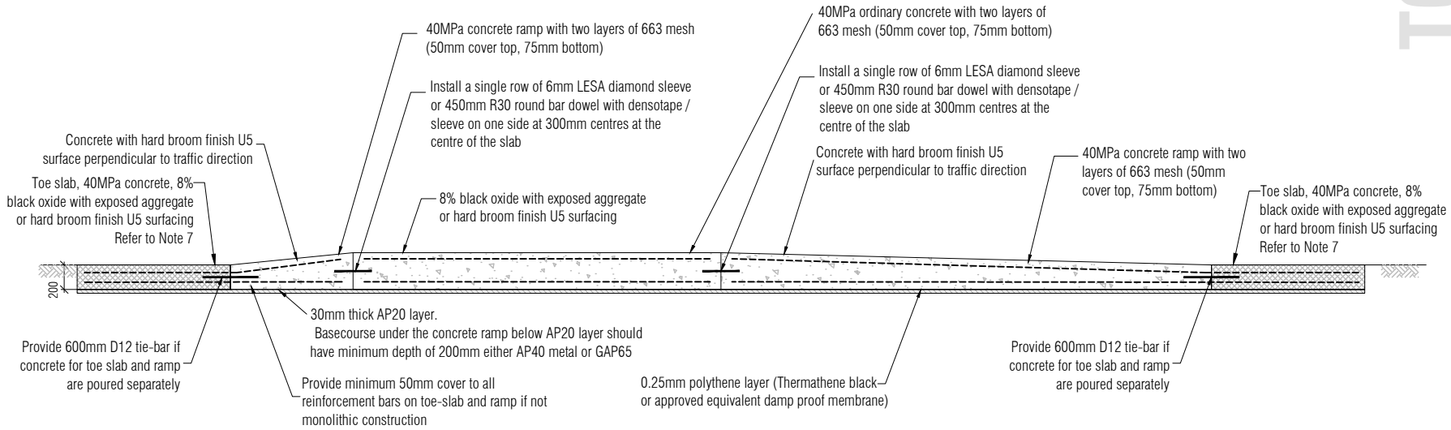
Version A



PLAN

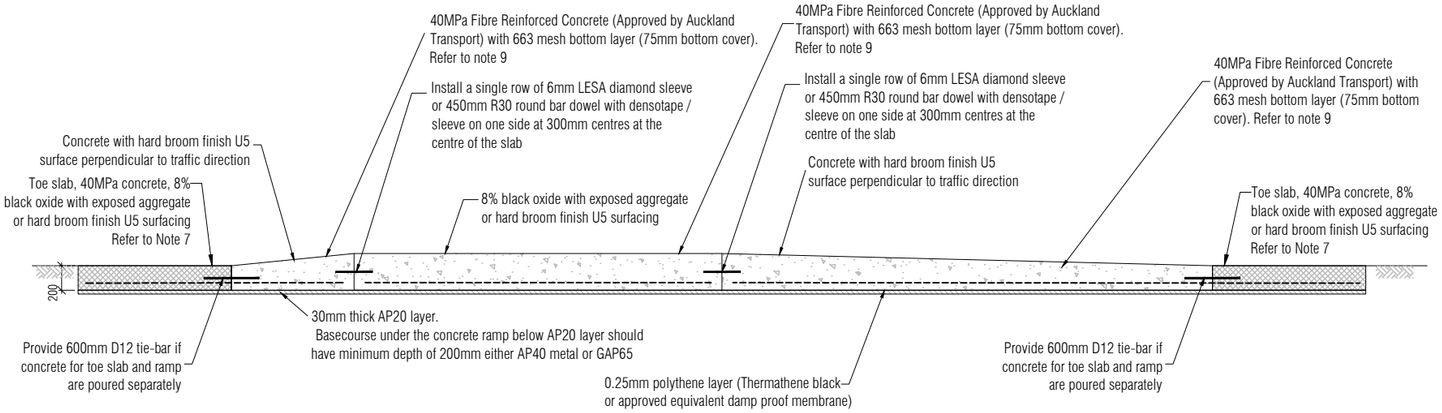
NOT TO SCALE

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties



SECTION A-A

NOT TO SCALE



SECTION A-A (ALTERNATE OPTION)

NOT TO SCALE

NOTES

1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Geometric set out to be carried out and prior to commencing construction
3. Reinforcing to be placed on spacers.
4. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
5. Table top to be 8% black oxide broom finish.
   Ramp to be plain concrete and broom finish.
6. Approved dowel system shall be installed in accordance with manufacturer / supplier recommendations / specifications
7. Concrete toe-slab to have minimum 1.5m length with 40MPa concrete with exposed aggregate finished. Or alternatively structural asphalt concrete - minimum 2m length on both sides using AC20 PG64V - 100mm on existing subbasecourse following heavy tack coat and then surfacing AC14 PG64V or DG10 PG64V - 50mm.
8. Minimum depth of the existing or new subbase course 200mm below AP20 layer. For construction of existing.
9. Fibre-reinforced concrete dosage details to be specified by designer / contractor.Fibre cement to be RADFORCE structural Synthetic Fibre or similar AT approved non-steel fibre.
10. Do not scale from this drawing.
11. All dimensions are in millimetres unless otherwise stated
12. Use 8% black oxide for toe slab, ramp and speed table top. 8% black oxide refers to 8% of cement quantity used
13. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction.
14. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.

CHIEF APPROVED ENGINEER

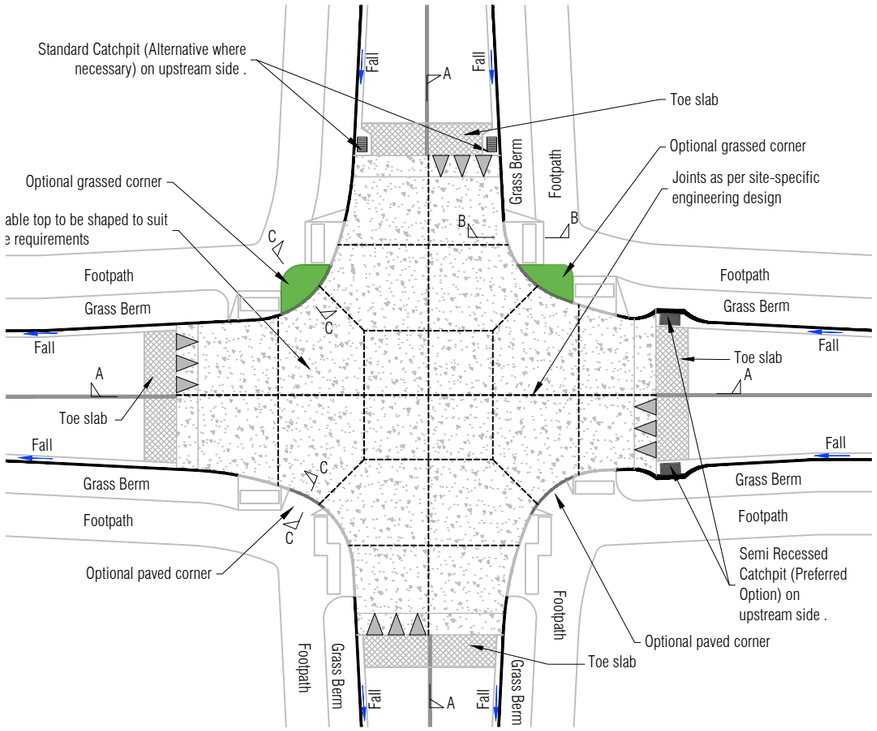
TDM TECHNICAL STANDARDS

Swedish Concrete Speed Table Pavement Design & Construction Details

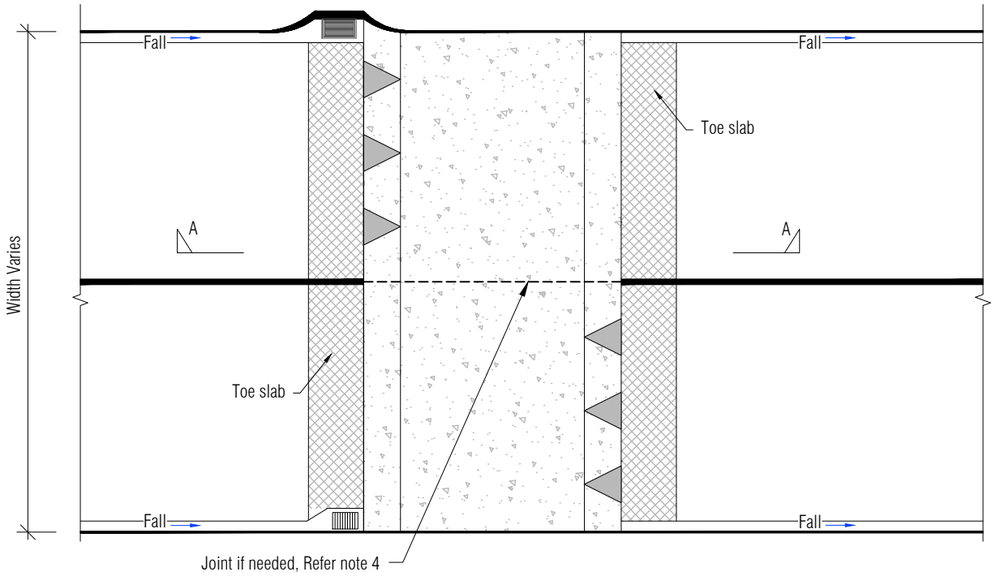
Date: 09/07/2025

SED No. TC1220

Version A



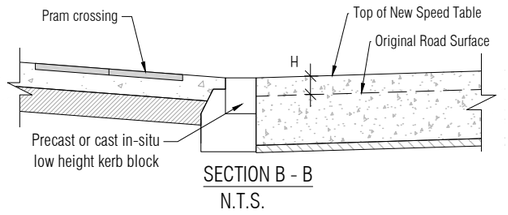
PLAN
NOT TO SCALE



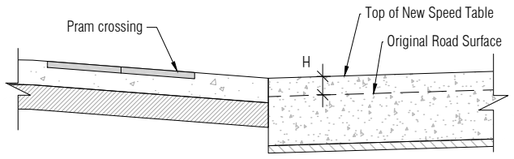
PLAN
NOT TO SCALE

SECTION C - C
N.T.S.

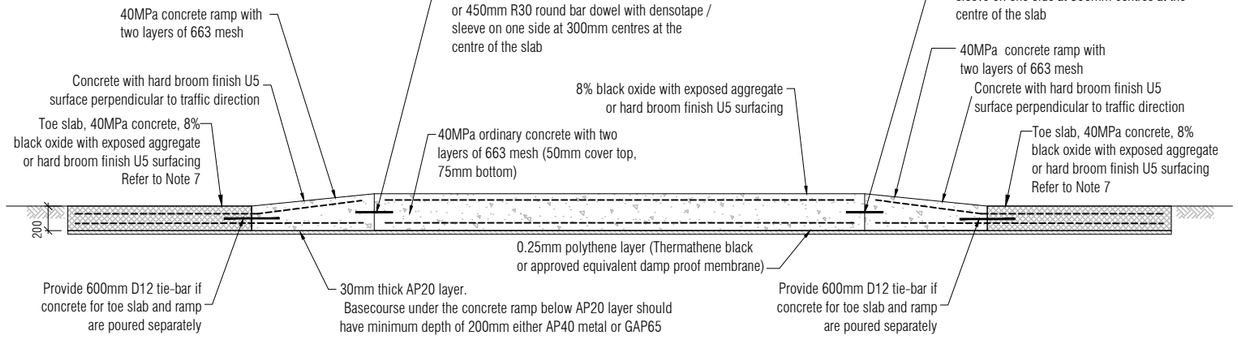
Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties



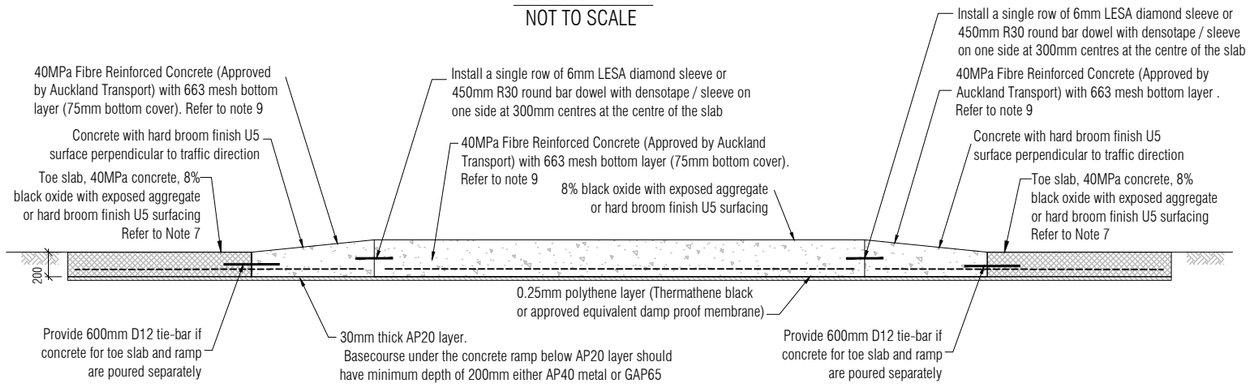
SECTION B - B
N.T.S.



SECTION B - B (ALTERNATE OPTION)
REFER TO DRAWING RP1100, RP1101 AND RP1102 FOR OTHER DRAINAGE OPTIONS
N.T.S.



SECTION A-A
NOT TO SCALE



SECTION A-A (ALTERNATE OPTION)
NOT TO SCALE

NOTES

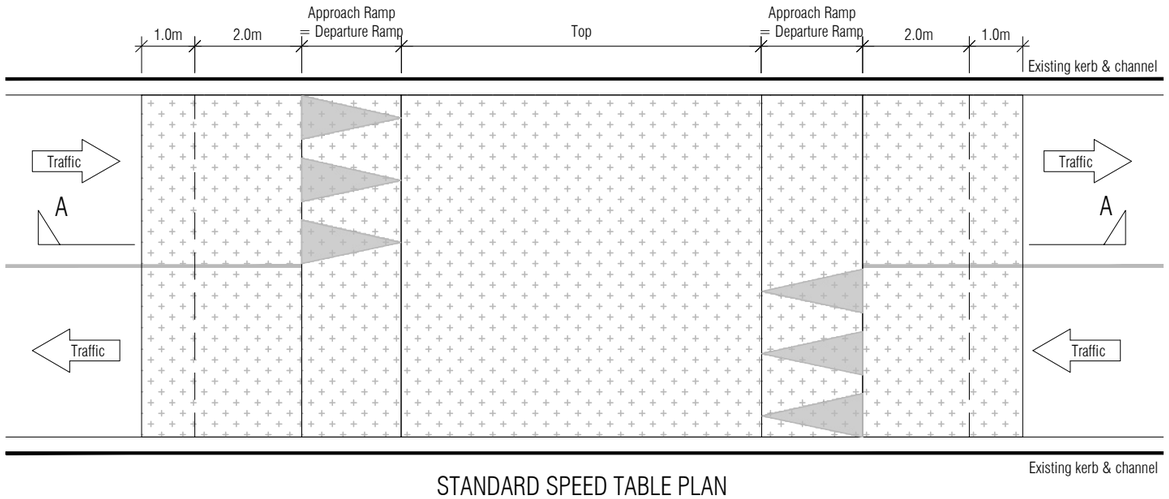
1. See Engineering Design Code - Road drainage for design of catchpits or alternative drainage.
2. Geometric set out to be carried out and prior to commencing construction
3. Reinforcing to be placed on spacers.
4. Where the speed table is greater than 6.0m in width a longitudinal joint shall be created.
5. Table top to be 8% black oxide broom finish.
   Ramp to be plain concrete and broom finish.
6. Approved dowel system shall be installed in accordance with manufacturer / supplier recommendations / specifications
7. Concrete toe-slab to have minimum 1.5m length with 40MPa concrete with exposed aggregate finished. Or alternatively structural asphalt concrete - minimum 2m length on both sides using AC20 PG64V - 100mm on existing subbasecourse following heavy tack coat and then surfacing AC14 PG64V or DG10 PG64V - 50mm.
8. Minimum depth of the existing or new subbase course 200mm below AP20 layer. For construction of existing.
9. Fibre-reinforced concrete dosage details to be specified by designer / contractor. Fibre cement to be RADFORCE structural Synthetic Fibre or similar AT approved non-steel fibre.
10. Do not scale from this drawing.
11. All dimensions are in millimetres unless otherwise stated
12. Use 8% black oxide for toe slab, ramp and speed table top. 8% black oxide refers to 8% of cement quantity used
13. Pedestrian facility refer to EDC/SED Footpath and the Public Realm. TGSI in accordance to RTS14
14. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
15. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.

CHIEF APPROVED ENGINEER

TDM TECHNICAL STANDARDS

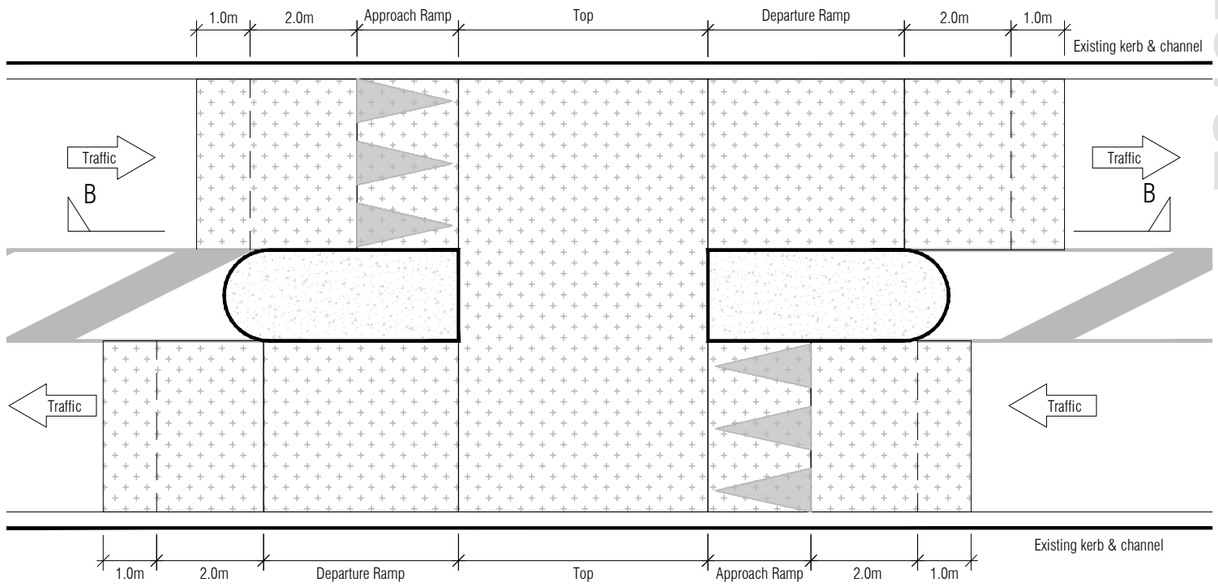
Standard Concrete Speed Table Pavement Design & Construction Details

Date: 09/07/2025
SED No. TC1221
Version A



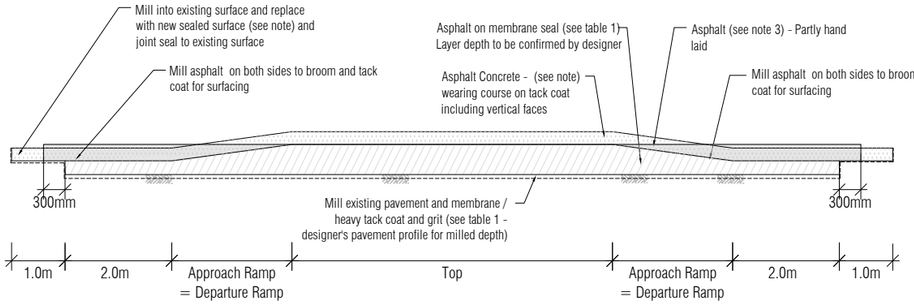
STANDARD SPEED TABLE PLAN

NOT TO SCALE



SWEDISH SPEED TABLE PLAN

NOT TO SCALE



STANDARD SPEED TABLE SECTION A-A

NOT TO SCALE

NOTES

1. Asphalt concrete mixed design to be confirmed by AT pavement engineer following the review of the existing and future traffic loading in compliance to NZTA M/10 and NZTA M/01-A specification. Testing and inspection to be prepared and approved by AT. Mix design to comply with the traffic loading calculated for the site - for DESA >5 million, it is required to use polymer modified binder to both mixes.
2. AC14 basecourse layer may be considered instead of AC20 depending on the constructability. Maximum layer depth of AC20 to be 120mm and AC14 should not be more than 80mm .
3. Geometric set out to be carried out and prior to commencing construction
4. Signs and line marking are to be provided as per the design in compliance to the TDM and MOTSAM standard.
5. Subject to the construction methodology reviewed and approved by AT and extent of milling and filling on the existing pavement surface to confirm the intent of the design.
6. Once milled the existing surface provide a heavy tack coat on the existing surface prior to laying asphalt concrete.
7. Refer Engineering Design Code - Road Drainage for design of catchpits or alternative drainage.
8. Industrial and business collector
   Asphalt concrete AC14 and basecourse AC20 to be made of PG 64 V performance grade binder as per NZTA M01-A. For heavily traffic route including major bus route, it is advised to use polymer modified AC14 surface
9. Local roads:
   Asphalt concrete to be made of PG 64 H performance grade binder as per NZTA M01-a.
10. Membrane sealing to be carried out on milled surface on existing pavement using rapid breaking emulsion RS/2 with grit not less than 1litre/m2.
11. For central defection greater than 2mm a full depth pavement reconstruction may be required subject to the overall pavement depth available. Option to mill and fill AC20 can be adopted - bespoke design to be considered.
12. All Raised Safety Platforms (RSP) / Speed Tables and Humps and Speed Cushions need to comply with the requirements outlined in AT Practice Note 2 (PN2). This includes the quality control & methodology adopted during construction
13. Dimensional tolerances should be ± 5 mm for height and ± 25 mm for length of approach ramps and standard table departure ramps. For Swedish departure ramps, tolerances are + 5 mm for height and - 50mm for length. Lesser height and greater length than designed may be accepted, provided other design dimensions and gradients are achieved.

Traffic Category	Traffic Volume (ESA)	Basecourse - Asphalt Concrete : AC20 (as per NZTA M10) *		Wearing Course	Typical Road Classification
		90%tile Central Deflection on finished surface < 1mm	90%tile Central Deflection on finished surface 1mm to 1.5mm		
Light	< 5 x 10E5	50mm (AC10 or AC14)	80mm (AC10 or AC14)	DG10 / AC10 - 35 to 50mm	Local Roads
Medium	5 x 10E5 to 1 x 10E6	60mm (AC14)	100mm (AC14 / AC20)	DG10 / AC10 - 35 to 50mm	Collector (Residential)
Heavy	1 x 10E6 to 5 x 10E6	75mm (AC14 or AC20)	140mm (AC14 or AC20)	AC14 - 55 to 75mm	Collector (Business)
Very heavy	> 5 x 10E6 to 10 x 10E6	160mm (AC14 or AC20)	160mm (AC14 or AC20)	AC14 PMB 55 to 75mm	Industrial / Collector

Table 1: Asphalt Concrete Pavement Thickness at Speed environment 10km per hour
***AC10 or DG10 can be paved in between 35mm and 60mm and AC14 can be paved up to 75mm**

Geometry to be designed based on specific site conditions to avoid ponding and prevent spilling of surface water from carriageway onto adjacent footpaths and habitable properties

CHIEF APPROVED ENGINEER

TDM TECHNICAL STANDARDS

Asphaltic Concrete Speed Table Pavement Design & Construction Details

Date: 09/07/2025

SED No. TC1250 | Version A