

# appendix E

PARKING STANDARDS

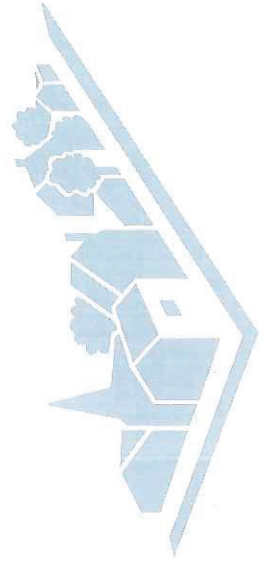


# F

# appendix

## PARKING STANDARDS

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# APPENDIX E - PARKING STANDARDS

## STANDARDS

1.1 The County Council has published a document entitled "A Guide to Parking Provision" which gives guidance for a wide variety of developments and sets out the standards for parking associated with residential development.

### Houses and Flats

2.1 Where the provision for residents' car parking is within the curtilage:-

One garage or car space per dwelling for residents where the dwelling has a gross floor space less than 112m<sup>2</sup> and two garage or car spaces per dwelling unit where the floor space exceeds this figure, plus a minimum of one additional parking space per dwelling for visitors in either case.

2.2 Where the provision for residents car parking is outside the curtilage:-

As above but the provision for visitor parking will be one space per two dwellings.

2.3 For one bedroom dwellings including flats/flatlets - one garage or car space for residents per dwelling unit plus one additional space for visitors per three units of accommodation.

2.4 In line with current government advice, a flexible approach to parking requirements will be taken where necessary to provide good quality affordable development.

### Aged Persons Dwellings

3.1 One space per two dwellings for use by residents and visitors.

### 4.1 Sheltered Housing - Warden Aided Accommodation

One space per four dwellings for use by residents (excluding staff) and visitors plus one space per two non-resident members of staff normally present.

Note:-

Wardens' dwellings, etc will be treated as normal residential units and provision made for the parking needs of all resident staff in accordance with the standard for dwellings.

## LAYOUT OF PARKING SPACES

### Driveways

5.1 In order to accommodate a car parked in front of a garage and to enable the garage door to be opened without the car projecting beyond the curtilage onto a footway or shared surface the length of the driveway should be not less than 6.0 metres.

5.2 Where it is intended to incorporate gates at the entrance to the driveway an additional length of driveway should be provided or, alternatively, the gates should be set back at least 4.5 metres from the edge of the adjacent carriageway. Gates should open inwards in order to avoid obstructions to footways or carriageways.

5.3 In order to provide sufficient width to allow access to both sides of a car and at the same time allow a pathway to the house, the width of the driveway should be at least 3.2 metres. Where a separate pathway is provided the driveway width may be reduced to 3.0 metres, or 2.6 metres where access to only one side of the car is required. A greater width of driveway should be provided at dwellings designed for occupation by wheelchair users.



5.4 The gradient of the driveway should not normally exceed 12.5% for a distance of 6 metres from the nearside edge of the adjacent carriageway.

### Communal Parking

6.1 A typical layout for grouped parking bays is given in Figure 6.1. The forecourt depth of 6.0 metres may be reduced to 5.5 metres by widening the parking bays from 2.4 metres to 3.0 metres.

6.2 Figure 6.2 shows grouped parking bays in a parallel layout. The bay width of 2.4 metres may be reduced to 2.0 metres where the bay is bounded by a footway or hardened verge of at least 0.8 metres width. The forecourt depth may be reduced to 3.5 metres for one-way traffic.

6.3 For grouped garages in two rows the layout may be in accordance with Figure 6.3. The forecourt depth may be reduced to 6.5 metres where the width of each garage is at least 3.0 metres and the door width is at least 2.1 metres.

### Cycle Parking

7.1 In order to encourage the use of cycles, thereby reducing reliance on the car, communal parking areas and other areas of concentrated public activity should incorporate facilities for secure cycle parking.

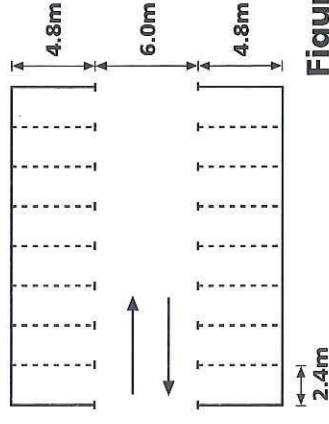


Figure 6.1

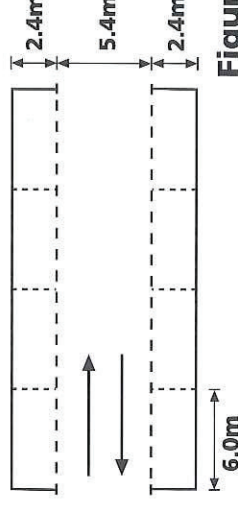


Figure 6.2

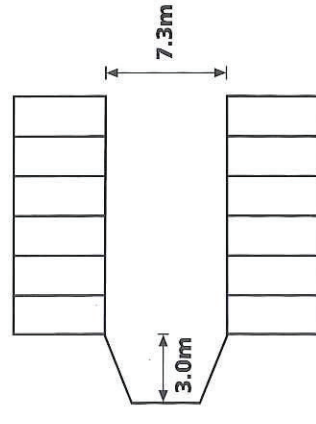


Figure 6.3

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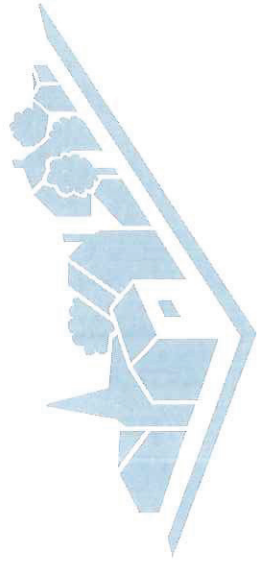
SPEED RESTRAINT MEASURES



# Appendix F

## SPEED RESTRAINT MEASURES

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# APPENDIX F - SPEED RESTRAINT MEASURES

## Types of Measures

1. There are essentially two categories of traffic calming measures which may be employed separately or in combination. Firstly there are measures which involve changes in horizontal alignment. The Highways (Traffic Calming) Regulations 1993 provide the necessary powers to enable construction of particular measures for traffic calming purposes. These measures include the following:-

**'Build-outs'** - a means of narrowing the carriageway on one side of the highway by extending a verge, footway or cycle track into the alignment of the carriageway;

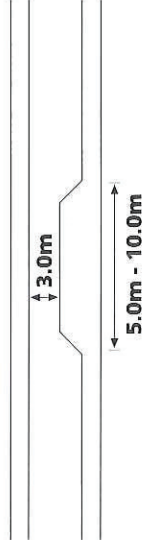
**'Chicanes'** - a series of build-outs on alternate sides of the carriageway.

**'Gateways'** - objects or structures located adjacent to the verge or footway to warn of and indicate the commencement of a traffic calming scheme. They may be used in combination with other measures as they are not in themselves physical speed reducing measures. The County Council will not adopt such objects or structures and therefore they will need to be located outside proposed highway limits.

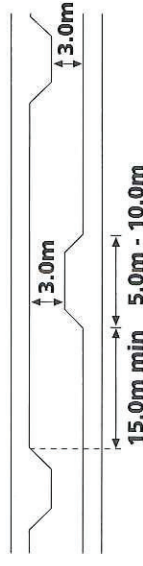
**'Islands'** - measures such as reservations or false roundabouts (ie serving no side roads) in the centre of the road to reduce carriageway widths or deflect the path of traffic.

**'Overrun areas'** - an area of carriageway which may be constructed either to form a raised surface or in contrasting materials so as to create an appearance of a narrower carriageway. This may be achieved either at the nearside of the road or at an island. For the safety of cyclists and motorcyclists no vertical face should exceed 6mm and the slope angle should

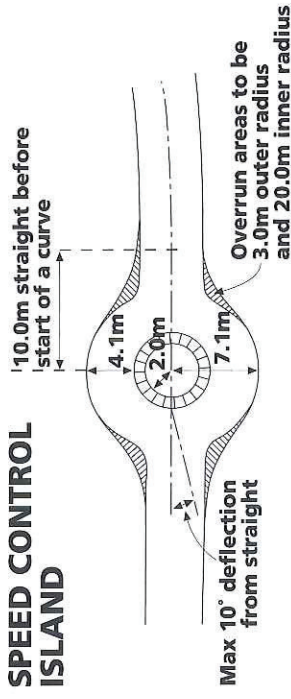
### BUILD OUT



### CHICANE



### SPEED CONTROL ISLAND



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not exceed 15 degrees. This measure may be particularly effective at junctions but care must be exercised where pedestrians are likely to cross the road since they may be tempted to stand in the overrun area.

**'Pinch points'** - where build-outs are constructed opposite each other in order to narrow the road.

**'Rumble devices'** - devices intended to generate noise or vibration in vehicles passing over them. They must not exceed 15mm in height and no vertical face must be greater than 6mm. For the safety of cyclists a gap of not less than 750mm should be allowed between the device and the kerb to permit free passage. **These devices are generally unlikely to be acceptable within 200 metres of residential development due to the traffic noise generated by vehicles crossing them.**

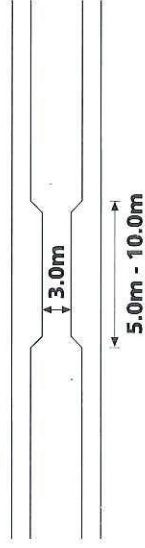
2. The second category of measures involve changes in vertical alignment. The Highways (Road Humps) Regulations 1990 permit the provision of road humps within residential development subject to the satisfaction of certain criteria. The basic forms of road humps are:-

**'Short length humps'** - may be round or flat topped and with or without tapered sides according to drainage considerations. Not normally suitable for use on potential bus routes because of passenger discomfort.

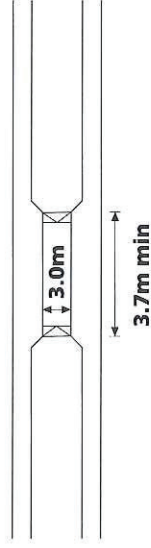
**'Speed tables'** - flat topped raised areas of carriageway which may extend across the full width or be used in conjunction with build-outs. Generally suitable for use on potential bus routes.

**'Speed tables at junctions'** - flat topped raised areas of carriageway extending throughout the whole of a junction.

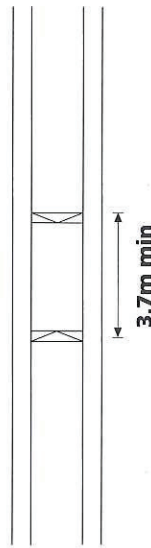
### PINCH POINT



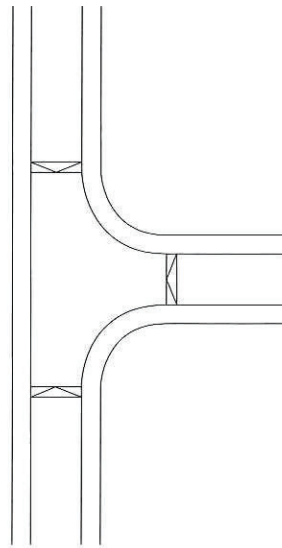
### ROAD NARROWED SPEED TABLE



### FULL WIDTH SPEED TABLE



### RAISED JUNCTION SPEED TABLE



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3. The developer will be responsible for the design layout of development roads incorporating traffic calming measures. Further information is obtainable from the Department of Transport, Traffic Advisory Unit, Room C10/12, 2 Marsham Street, London SW1 3EB, including the following publications which are particularly relevant:-

- (i) Traffic Advisory Leaflet 1/87 - Measures to Control Traffic for the Benefit of Residents, Pedestrians and Cyclists.
- (ii) Traffic Advisory Leaflet 2/90 - Speed Control Humps.
- (iii) Traffic Advisory Leaflet 7/93 - Traffic Calming Regulations.

#### **Alternative Forms of Traffic Calming**

4. Alternative forms of traffic calming measures proposed by developers may be approved where they can be shown to conform with the guidelines and general principles contained herein, and also be shown to be cost-effective in terms of likely future maintenance. It should be noted, however, that special authorisation may be required from the Department of Transport for construction of 'non-standard' traffic calming measures.

5. Developers should provide drawings showing the locations and types of proposed traffic calming measures. In order to satisfy both highway safety and environmental considerations it is recommended that developers should consult both with the local planning authority and highway authority prior to submission of a planning application. The agreement of a scheme of traffic calming measures at this stage will assist in the earlier determination of the application.

#### **Entry Features**

6. The entrance to the site will require a specific type of entry feature which will reduce the entry speed of traffic. Such entry feature is likely to be either a junction (possibly controlled by signals, roundabout, etc

dependent on a number of factors) or a bend of relatively tight alignment within the prescribed design parameters. Thereafter, the carriageway alignment and scheme of traffic calming measures should be designed to maintain the moderated traffic speed through the site.

7. The design concepts proposed by the developer must be shown to adequately reflect a number of factors. In particular the effects of proposed traffic calming measures on anticipated movements throughout the development must be considered. For example, certain roads within the development could become bus routes. In most cases, such roads are likely to be 'local distributors' and 'major access roads'. Certain types of traffic calming measures, notably road humps, have been found to cause discomfort and difficulties for bus passengers and operators. Other forms of traffic calming measures may be appropriate in such circumstances.

8. Care will also be needed to ensure, as far as possible, that the creation of traffic-calmed roads within a new development does not result in vehicles using other roads, either new or existing, as 'rat-runs', thereby creating problems elsewhere.

9. The Highways (Road Humps) Regulations 1990 contain specific requirements in respect of the entry points to a traffic calming scheme. The entry point will usually be a junction with another highway. However, where the proposed development is to be served by an extension to an existing highway the entry point may comprise a horizontal bend which changes the direction of the carriageway by not less than 70 degrees within a distance of not more than 32 metres. The regulations also specify the spacing of humps. Particular note should be made of the maximum spacing of the first hump from the entry point to the site. This is the first speed control point and is therefore critical in establishing the desired restriction of vehicle speeds. Beyond the first hump the following guidelines will assist in determining a design layout appropriate to the design speed of the particular development road within the hierarchy:

- (i) *For design speeds below 30 kph (20 mph) along shared surface roads the spacing between humps should normally not exceed 40 metres.*
- (ii) *For design speeds around 30 kph (20 mph) along traditional roads the spacing should normally not exceed 60 metres.*
- (iii) *For design speeds up to 48 kph (30 mph) along higher category roads the spacing should normally be between 80 and 120 metres.*

### **Signs, Road Markings and Lighting**

10. Traffic signs are required to indicate to road users the presence of road humps as traffic calming measures. The signs shall be in accordance with Diagram 557.1 in combination with plates 557.2, 557.3 or 557.4 in Schedule 1 of the Traffic Signs Regulations and shall be illuminated during the hours of darkness. Such signs shall be erected at the entry to the road humps system and at any other locations considered necessary by the County Council.

11. To ensure that road humps are readily visible, two triangular road markings will be required on the humps on the approach side of each traffic lane. These markings vary in size according to whether the hump has a round or flat top. In addition, edge of carriageway markings are also required.

12. No special provision is required for the lighting of road humps provided that there is a system of street lighting which meets the County Council's prevailing specification for development roads and also provides a minimum of three lamps sited no more than 38 metres apart. However, where the County Council determines that there are exceptional circumstances, there may be a requirement for additional lighting.

13. The incorporation of horizontal devices as traffic calming measures under the Highways (Traffic Calming) Regulations 1993 is not controlled

by prescriptive standards in terms of spacing between devices. Nevertheless the County Council will need to be satisfied that the layout of the roads incorporating traffic calming devices within the site will prevent the build-up of speed between devices. As with vertical alignment devices it is essential that vehicles entering a residential area should not be allowed to build up speed before reaching the first speed restraint. In order to achieve this it is considered that the first point of restraint, be it a vertical alignment device, a junction or other design feature, should be no more than 60 metres from the entry point to the development. Thereafter it may be appropriate to consider the spacing of horizontal alignment devices in terms of the spacings suggested for vertical alignment devices in paragraph 9 above.

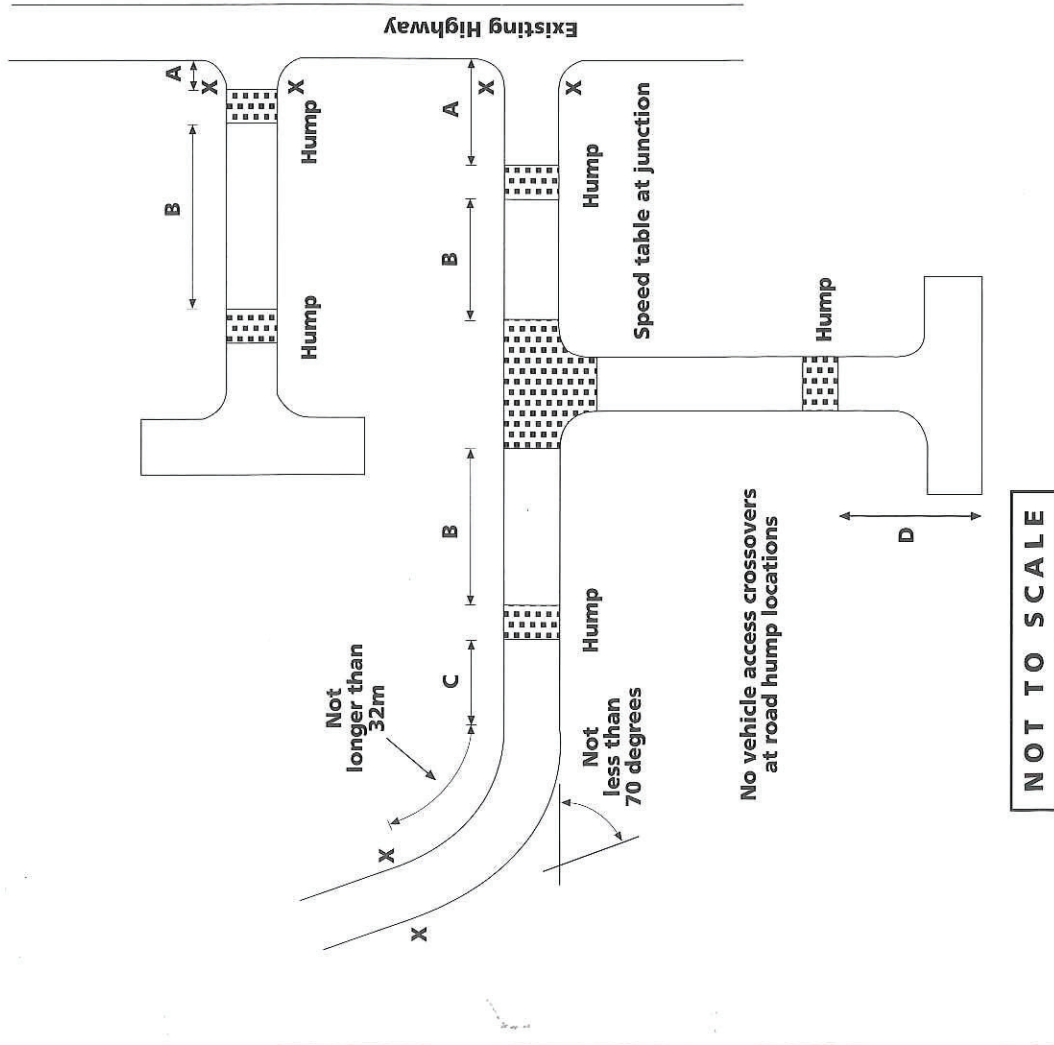
14. In view of the range and variations of horizontal alignment devices permitted by the Regulations no specific details of these devices are contained herein. Accordingly, there will be some scope for developers to produce innovative site layouts incorporating horizontal alignment devices, provided that the individual devices within the scheme conform with the general requirements contained in the Regulations.

15. The provision of street lighting, traffic signs and road markings at individual devices will be at the discretion of the County Council according to the particular circumstances at that location.

16. Where the developer proposes to utilise both vertical alignment and horizontal alignment traffic calming devices in a development layout, the requirements of the Highways (Road Humps) Regulations 1990 shall take precedence. Thus the requirements for traffic signs at the site entry point and the spacing of humps shall be within the prescribed limits notwithstanding the presence of horizontal alignment devices. It is possible to incorporate humps within horizontal alignment devices, for example at build-outs and pinch points, where it is considered that additional benefits may accrue.

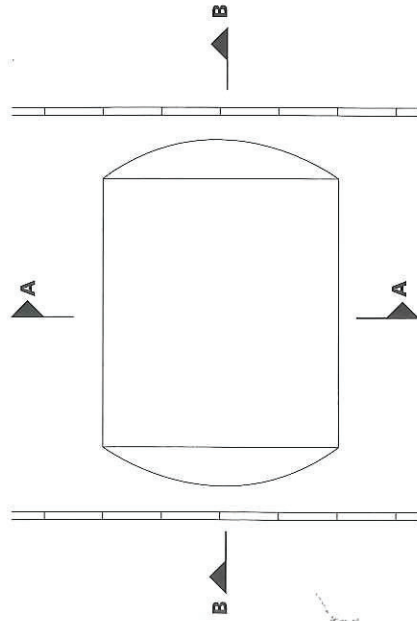


## NOTIONAL DIAGRAM OF ROAD HUMPS LOCATIONS



- A =** Not less than 5 metres nor greater than 40 metres from junction
- B =** Not less than 20 metres nor greater than 150metres between humps
- C =** Not greater than 40 metres from a bend where change of direction is not less than 70 degrees in not greater than 32 metres
- D =** Not greater than 40 metres from end of cul-de-sac
- X =** Typical locations of traffic signs diagram 557.1

**ROUND TOP HUMPH WITH TAPERED SIDES**

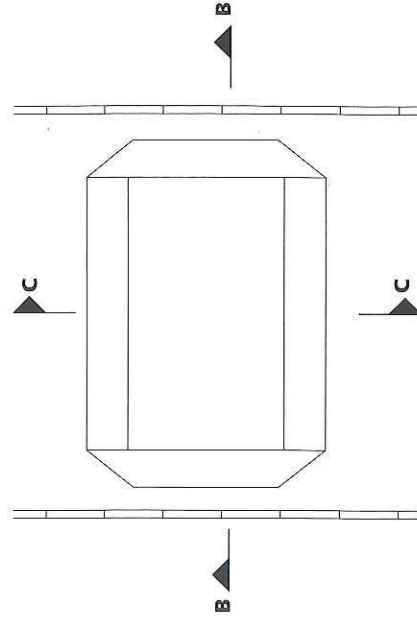


**Plan View**

3700mm

**Section A-A**

**FLAT TOP HUMPH WITH TAPERED SIDES**

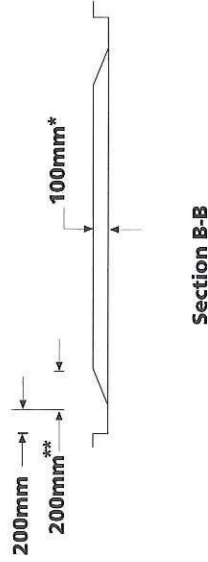


**Plan View**

2500mm min

600mm

**Section C-C**

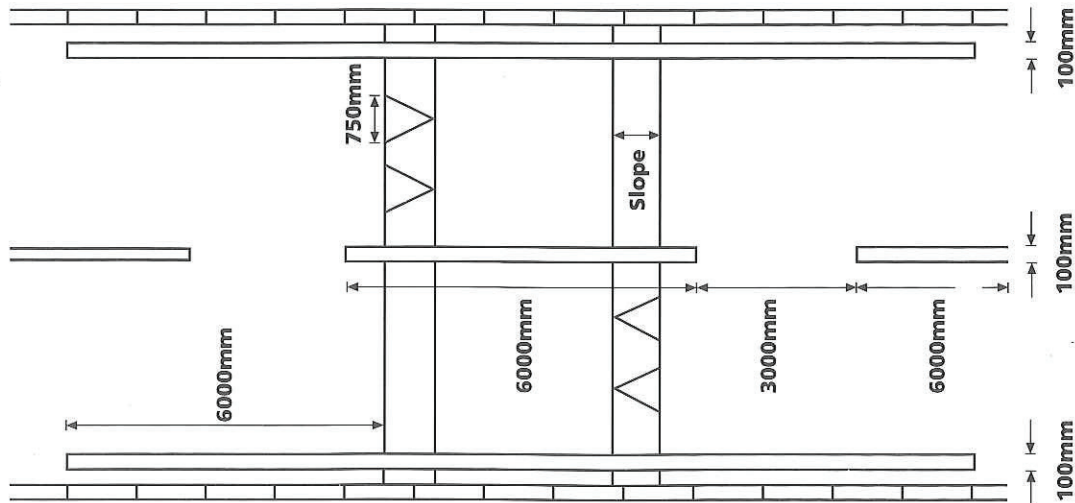


**Section B-B**

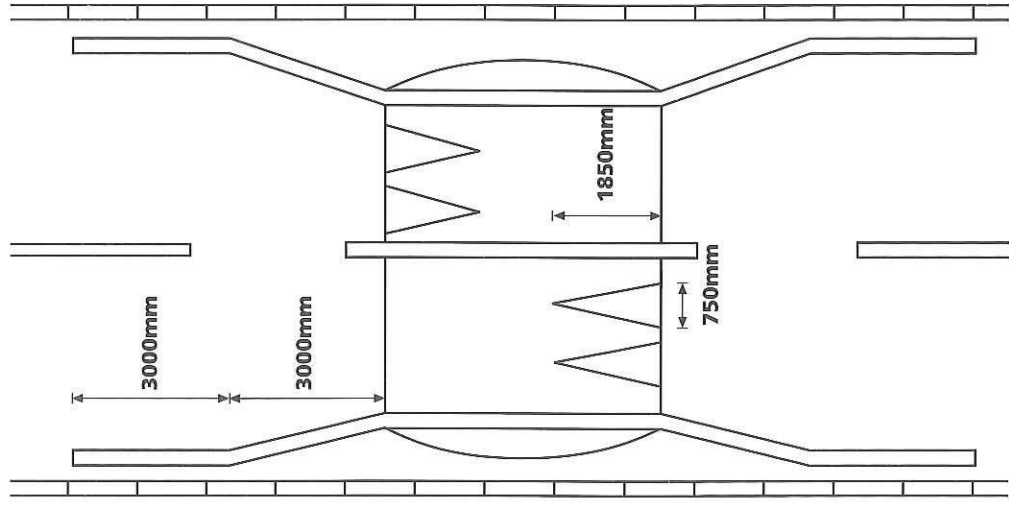
- \* - Depth may vary between 50mm and 100mm but shall remain constant on each hump.
- \*\* - Width may vary between 150mm and 300mm but shall remain constant on each hump.

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# SIGNS AND MARKINGS FOR HUMPS

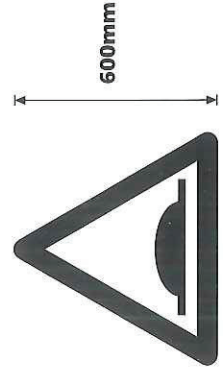


**FLAT TOP HUMPS - Full Width**



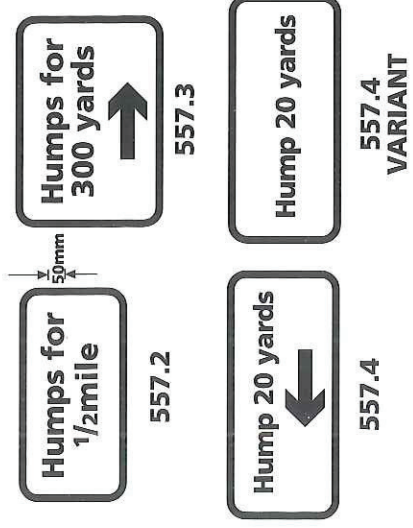
**ROUND TOP HUMPS - Tapered Edge**

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**ROAD HUMPS AHEAD**

**DIAGRAM 557.1**



**PLATES FOR USE WITH SIGN IN DIAGRAM 557.1**