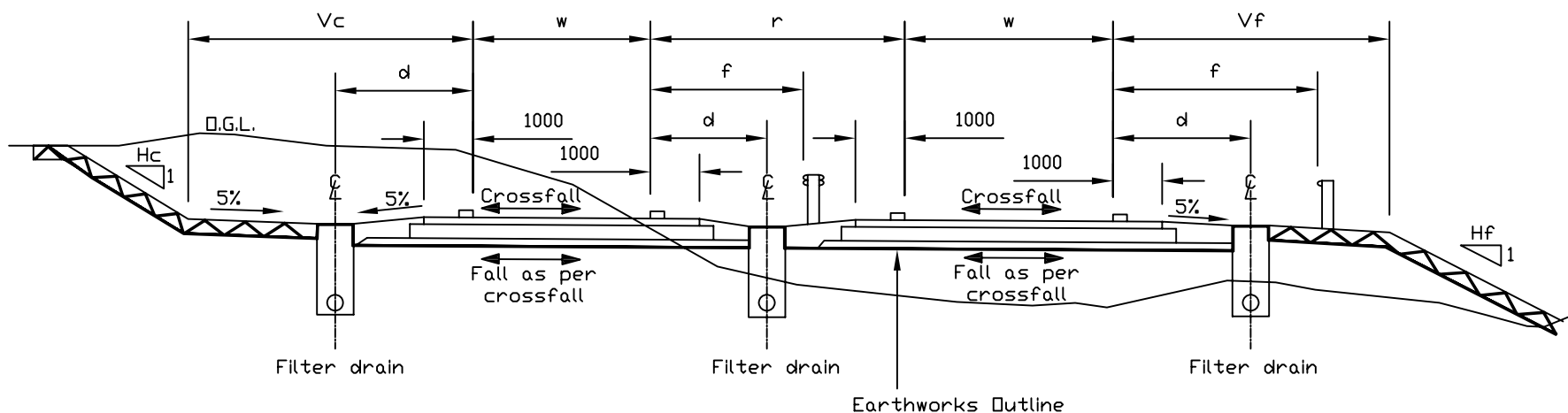


NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.	
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A70

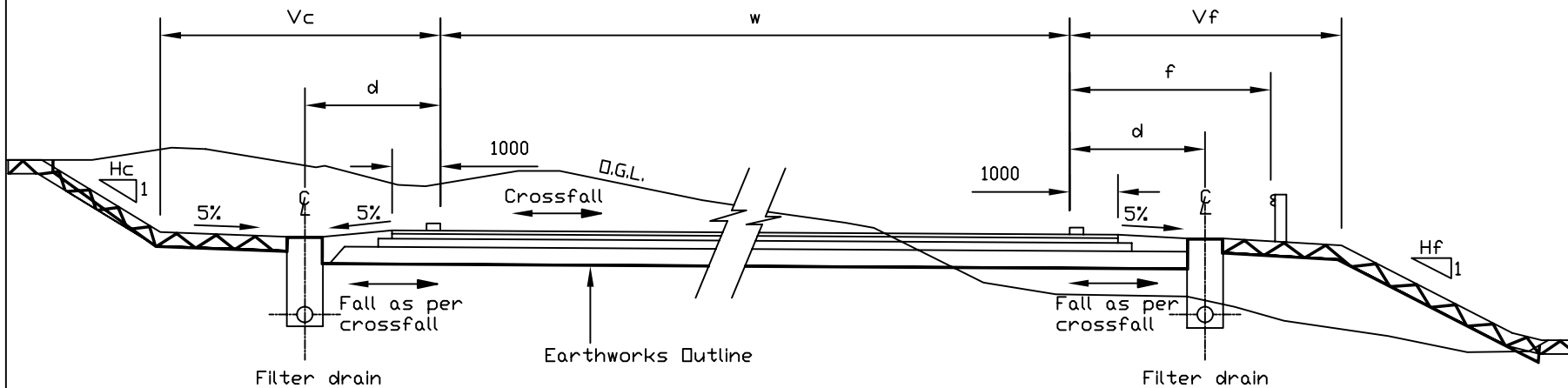
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION DUAL CARRIAGEWAY GROUP 1
--

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.	
-------------	--

A71

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

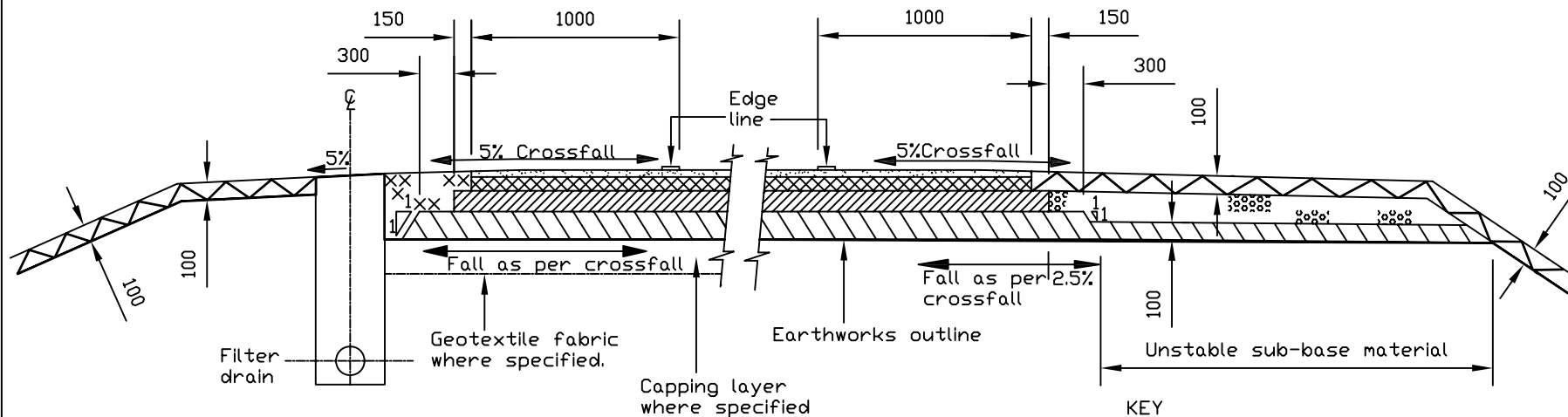
FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY
GROUP 1

EMBANKMENT (WITH FILTER DRAIN)

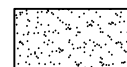
EMBANKMENT (WITHOUT FILTER DRAIN)

NOTES

1. All dimensions are in millimetres unless otherwise stated.



KEY



surface course



binder course



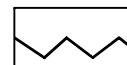
base



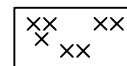
Sub-base



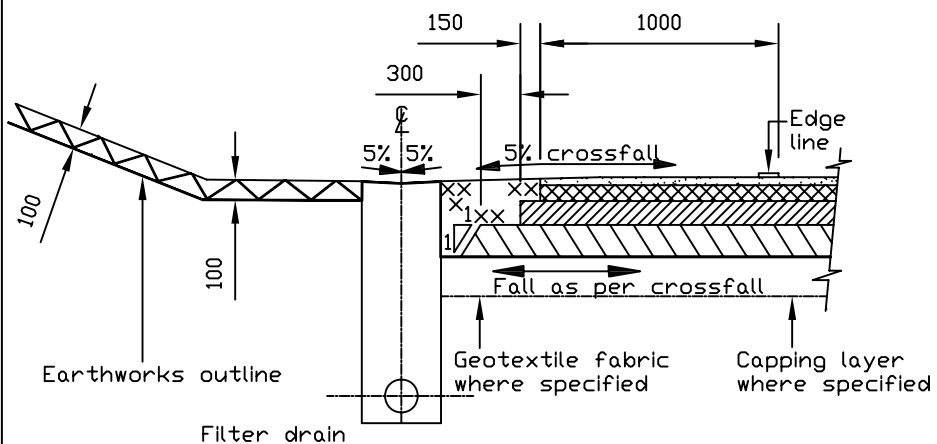
Granular fill Class 1



Topsoil



Contiguous filter material



CUTTING

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

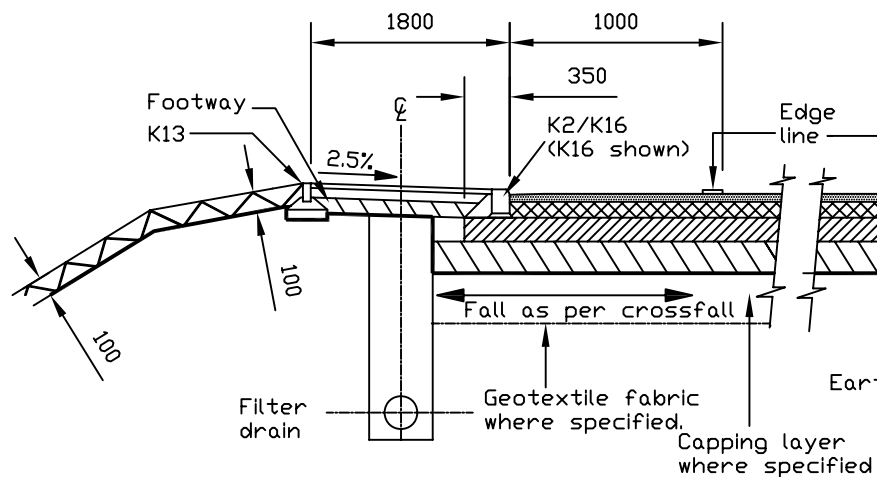
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD GRASS VERGE VG1
GROUP 1

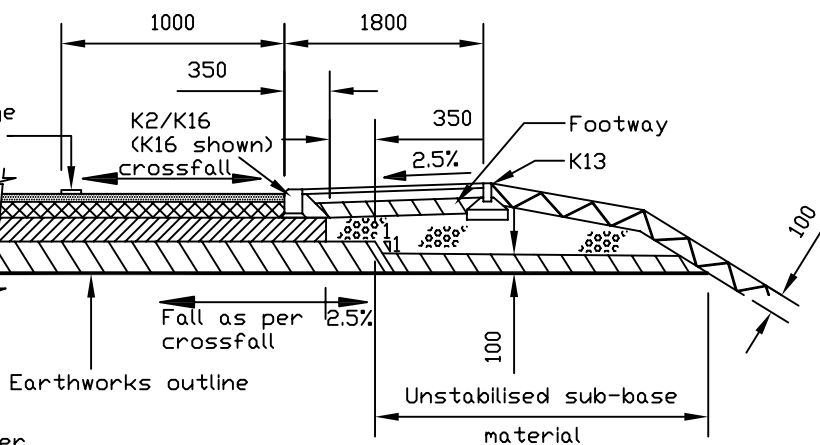
Drawing No.

A72

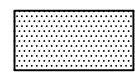
EMBANKMENT (WITH FILTER DRAIN)



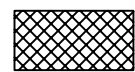
EMBANKMENT (WITHOUT FILTER DRAIN)



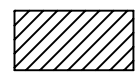
KEY



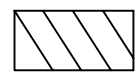
surface course



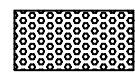
binder course



base



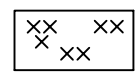
Sub-base



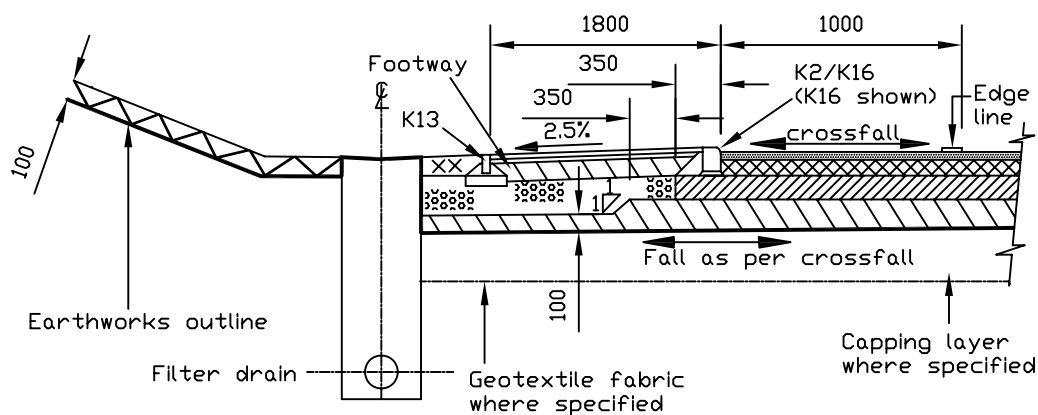
Granular fill Class 1



Topsoil



Contiguous filter material



CUTTING

NOTES

- All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

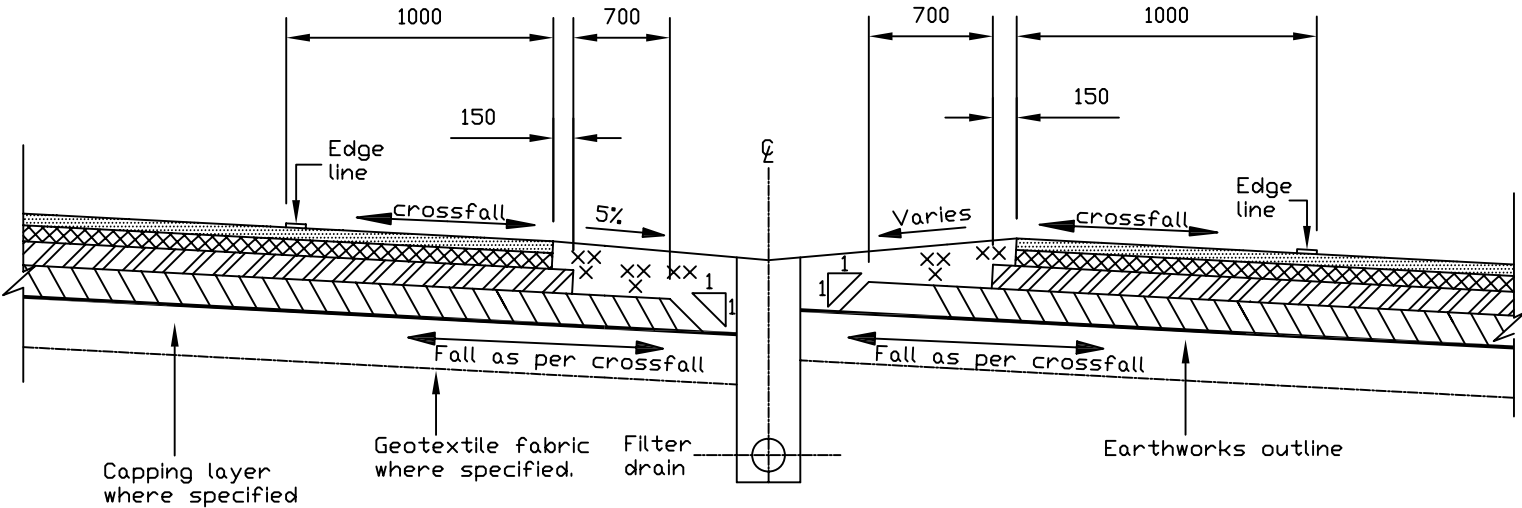
FLEXIBLE/COMPOSITE CONSTRUCTION
VERGE WITH FOOTWAY VF1
GROUP 1

Drawing No.

A73

NOTES

1. All dimensions are in millimetres unless otherwise stated.



KEY

	surface course
	binder course
	base
	Sub-base
	Contiguous filter material

No.	Date	Description
AMENDMENTS		
Drawing No.		
A74		

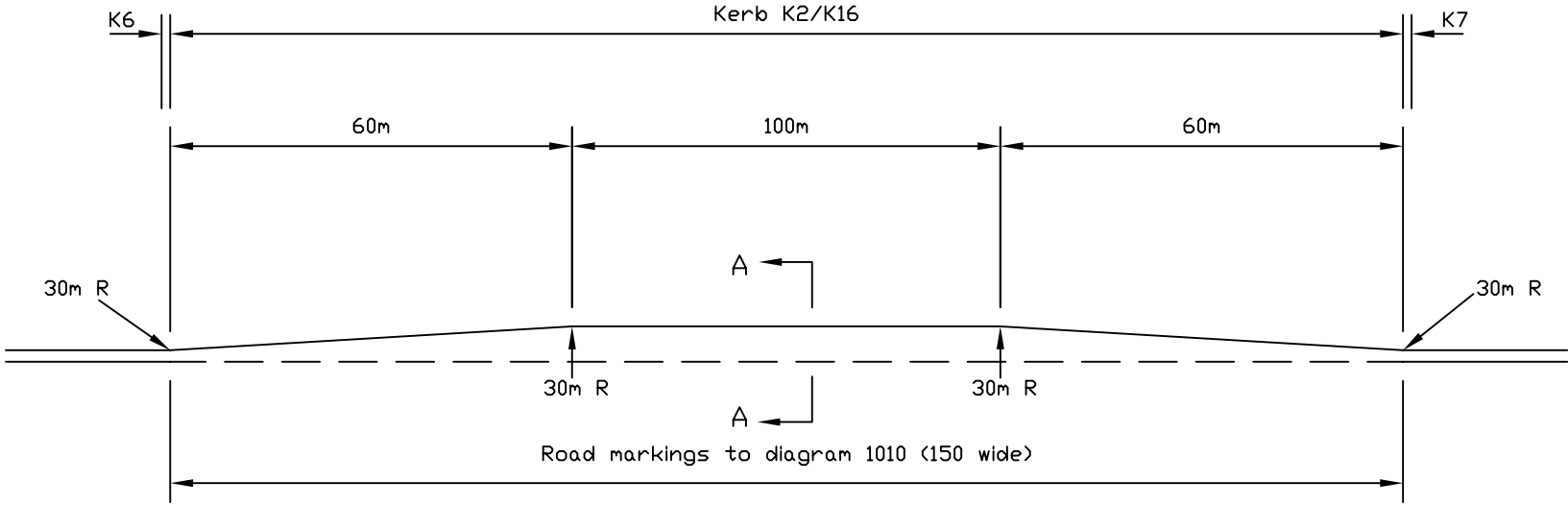
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

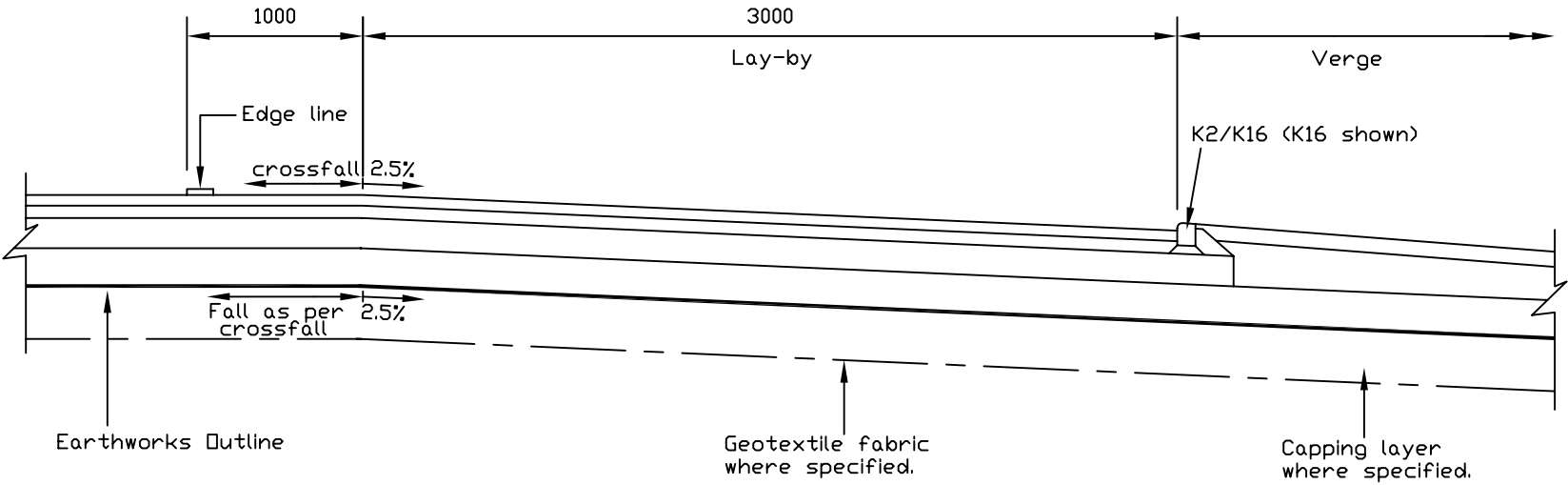
FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD CENTRAL RESERVE CR1
GROUP 1

NOTES

1. All dimensions are in millimetres unless otherwise stated.



PLAN



SECTION A - A

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

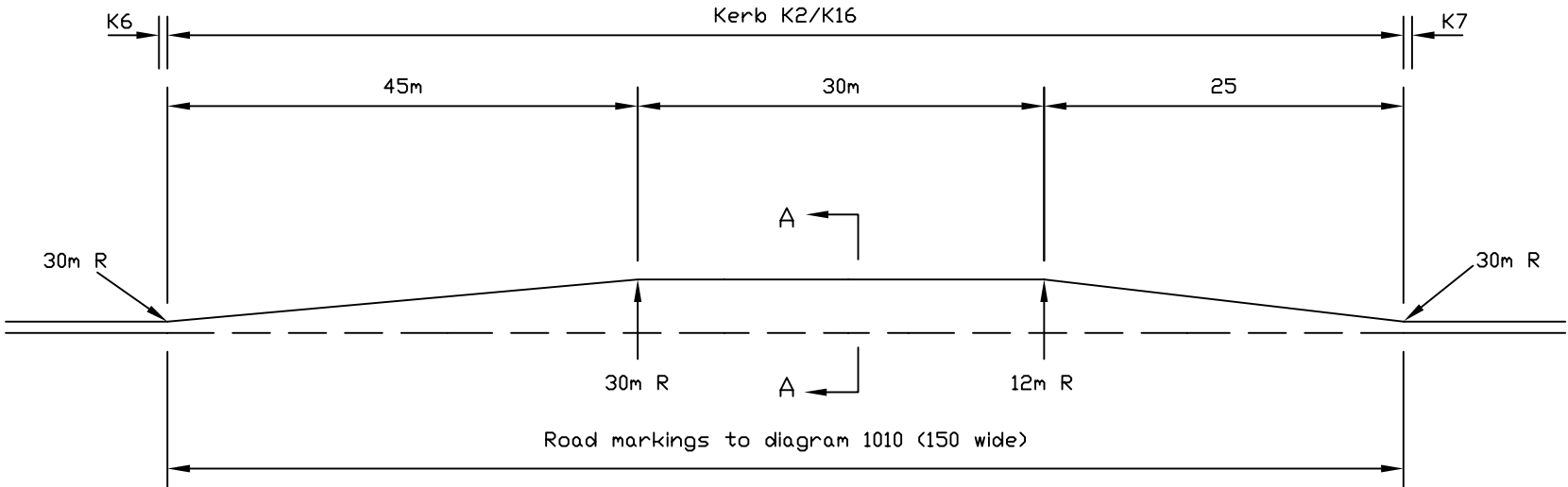
FLEXIBLE/COMPOSITE CONSTRUCTION
DUAL CARRIAGEWAY LAY-BY
GROUP 1

Drawing No.

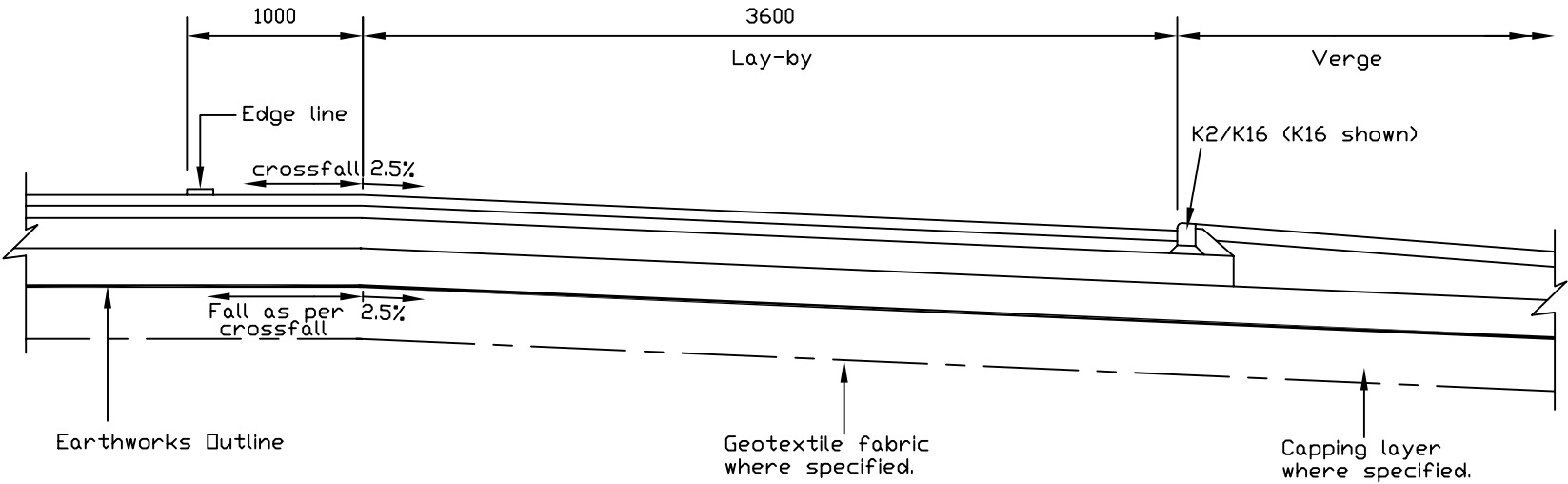
A75

NOTES

1. All dimensions are in millimetres unless otherwise stated.



PLAN



SECTION A - A

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

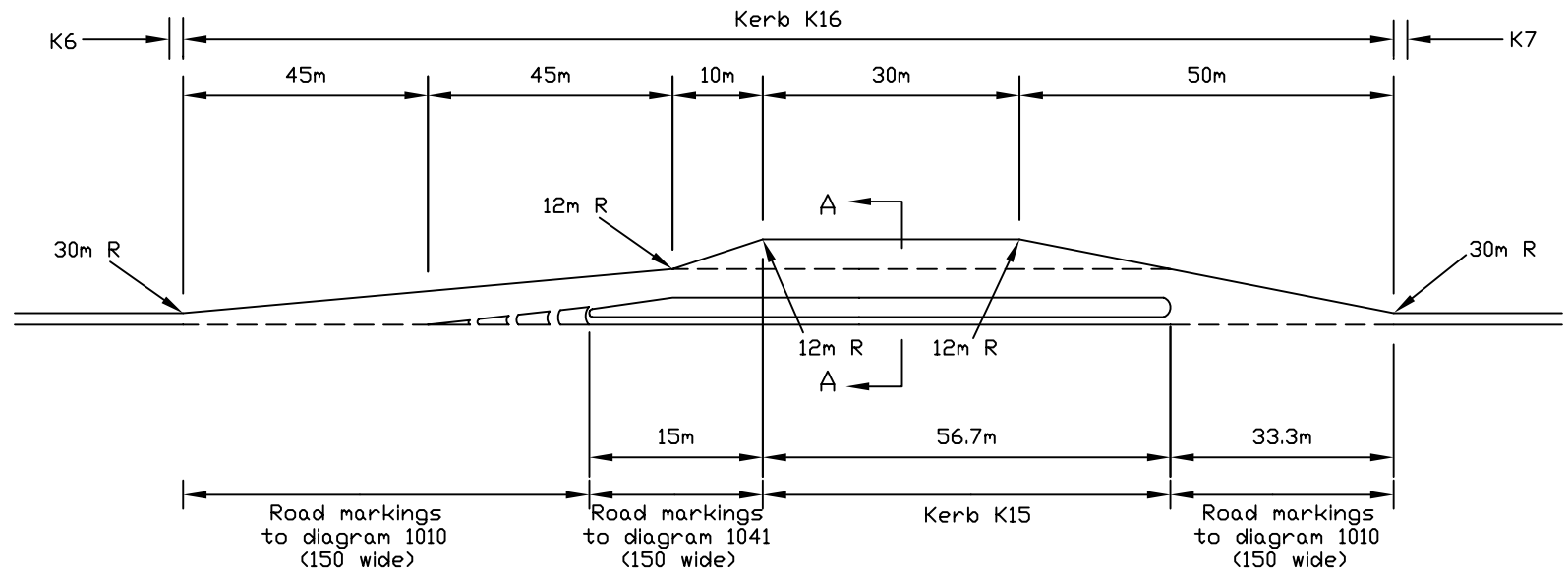
FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY LAY-BY TYPE 1
GROUP 1

Drawing No.

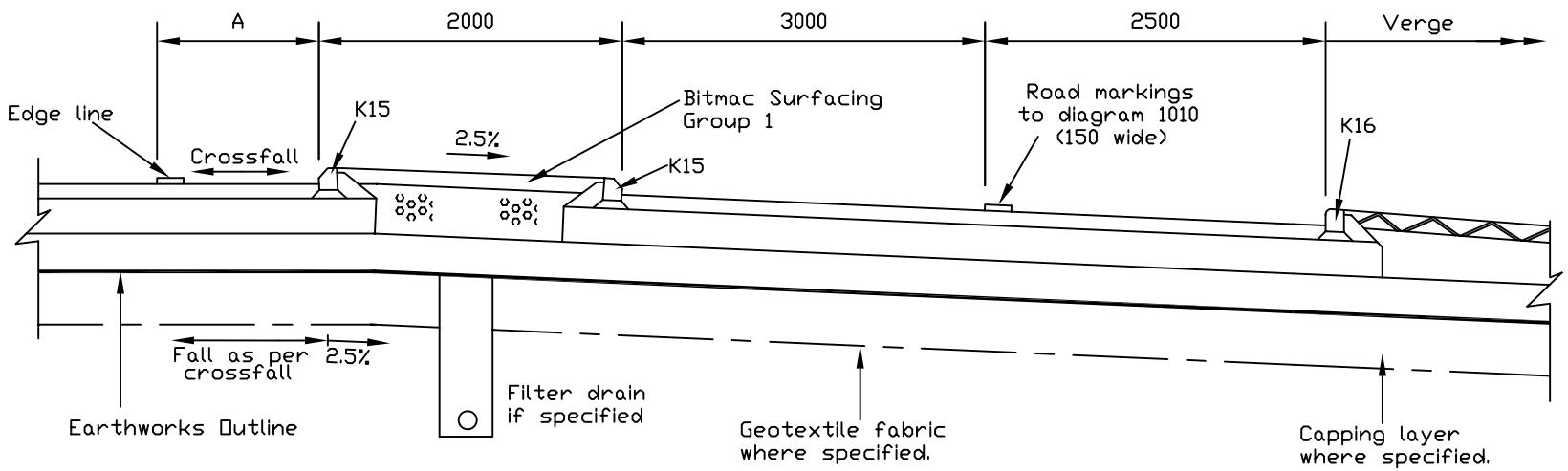
A76

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Where hard strips are used dimension A is 1000. Elsewhere dimension A is 225.
- 3. Separation island construction to consist of granular fill Class 1 placed on top of sub-base layer.



PLAN



SECTION A - A

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

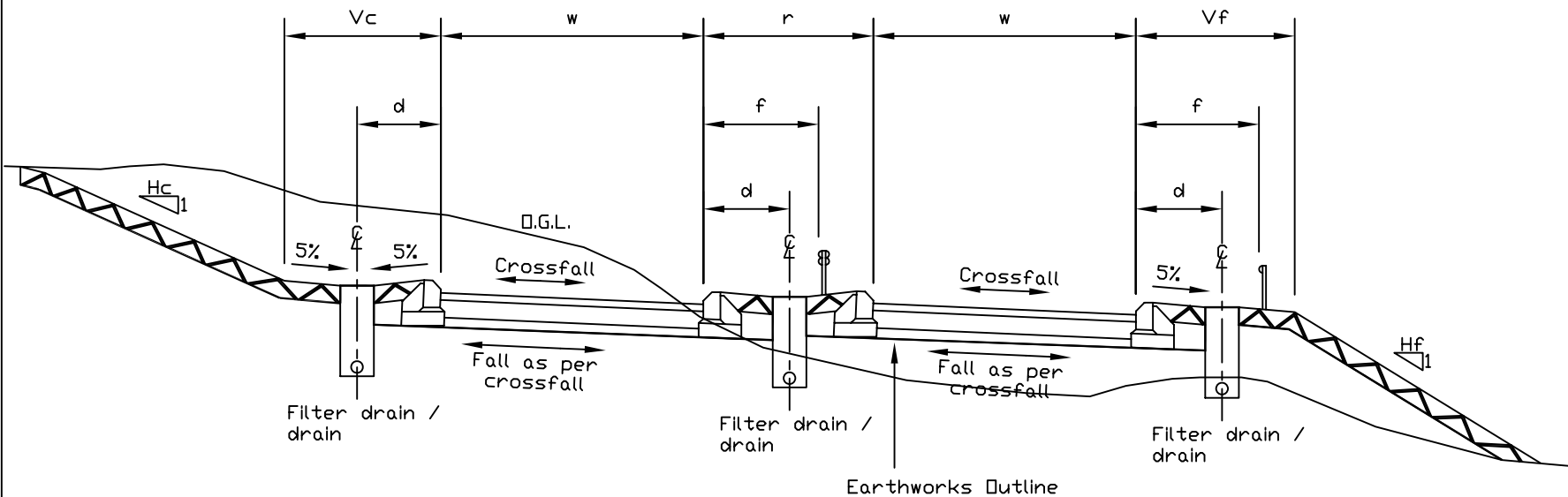
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY LAY-BY TYPE 2
GROUP 1

Drawing No.
A77

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.

A80

HIGHWAY CONSTRUCTION DETAILS

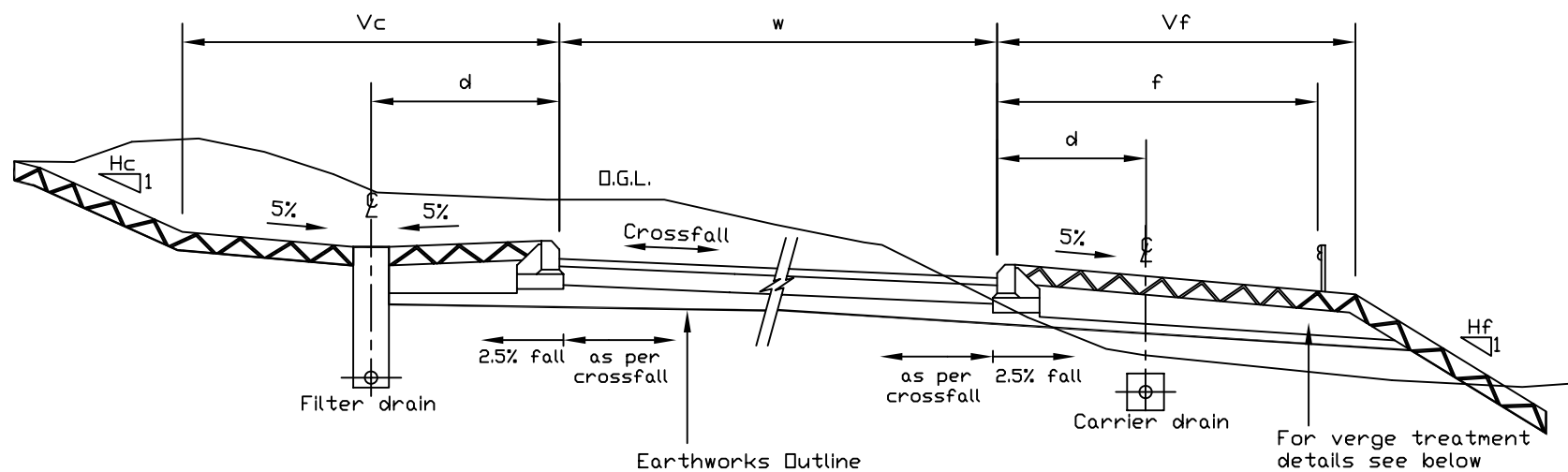
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION DUAL CARRIAGEWAY GROUP 2A

Drawing No.

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.	
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A81

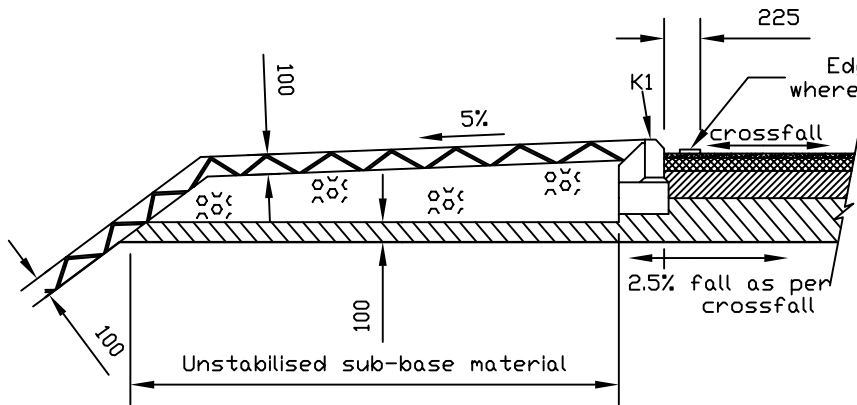
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

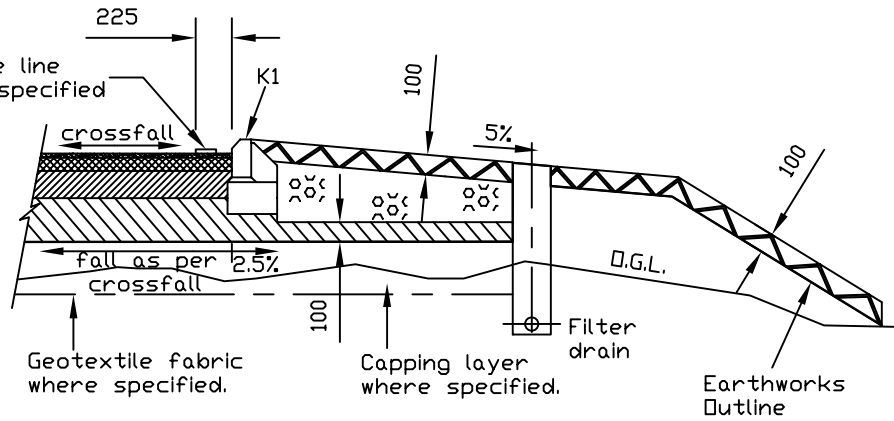
FLEXIBLE/COMPOSITE CONSTRUCTION SINGLE CARRIAGEWAY GROUP 2A

NOTES

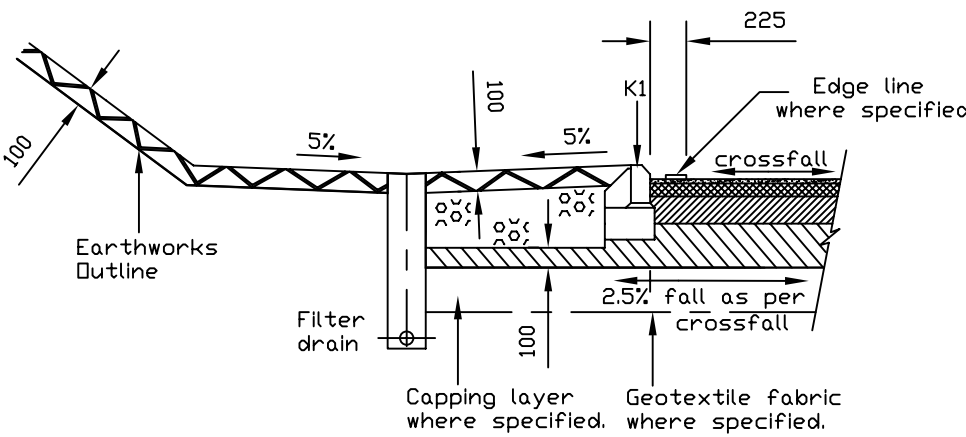
1. All dimensions are in millimetres unless otherwise stated.



EMBANKMENT



LOW EMBANKMENT



CUTTING

KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

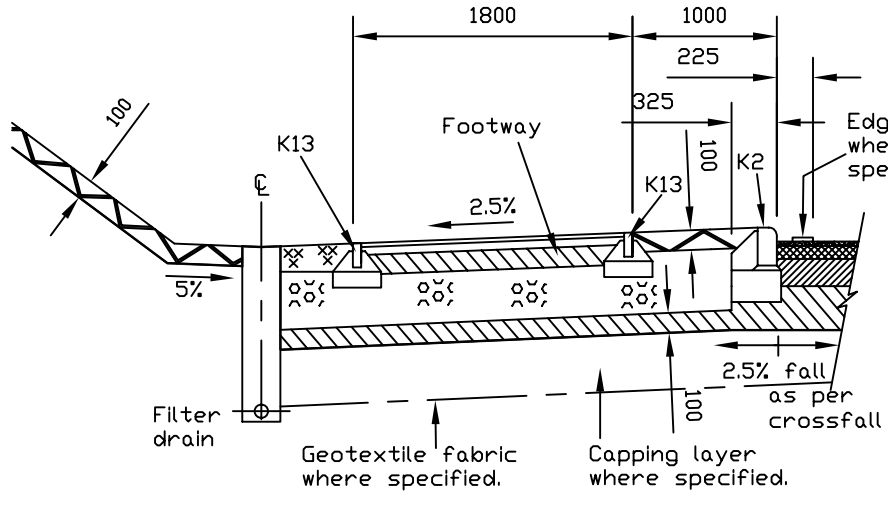
FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD GRASS VERGE VG2A
GROUP 2A

Drawing No.

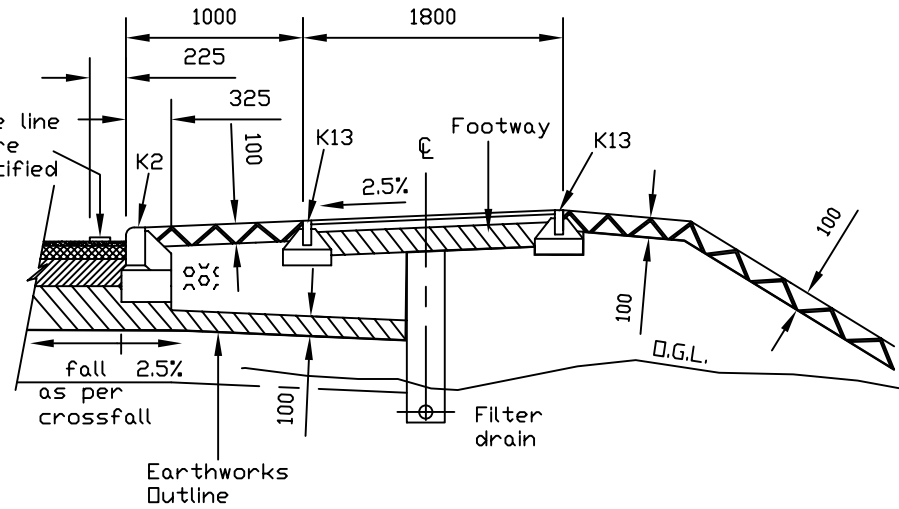
A82

NOTES

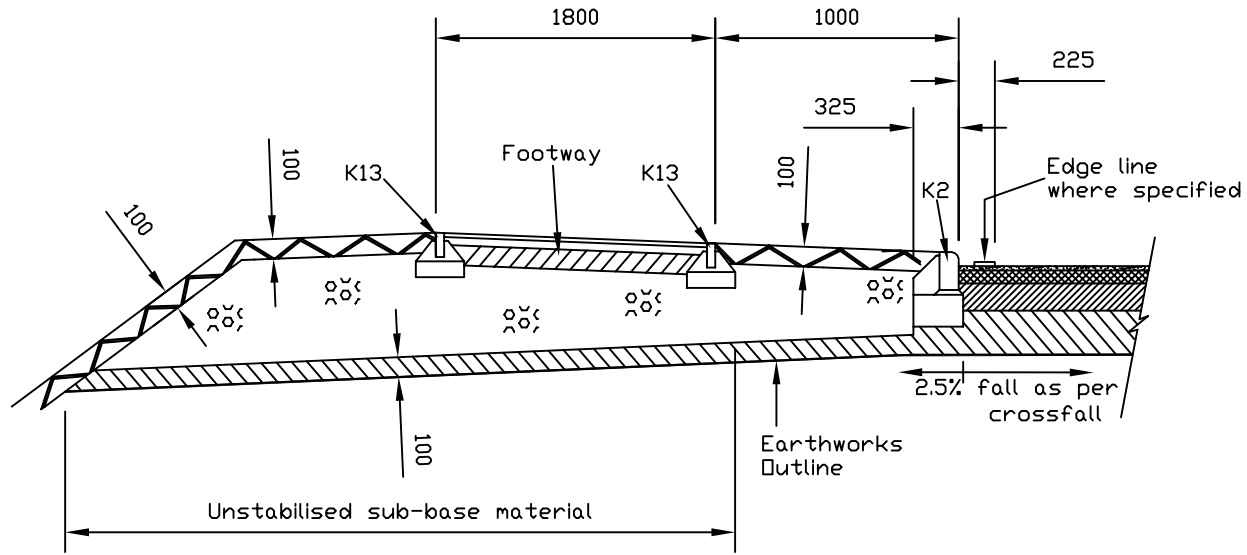
1. All dimensions are in millimetres unless otherwise stated.



CUTTING



LOW EMBANKMENT



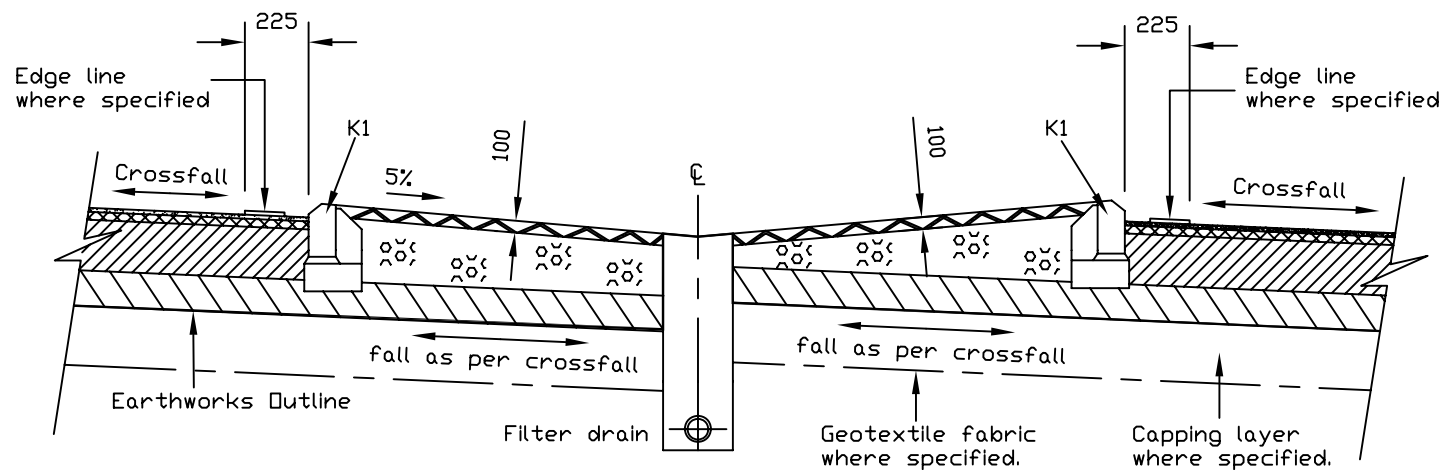
EMBANKMENT

KEY







- surface course
- binder course
- base
- Sub-base
- Granular fill class 1
- Topsoil
- Contiguous filter material

NOTES

1. All dimensions are in millimetres unless otherwise stated.



KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

No.	Date	Description
↑		AMENDMENTS

Drawing No.
A84

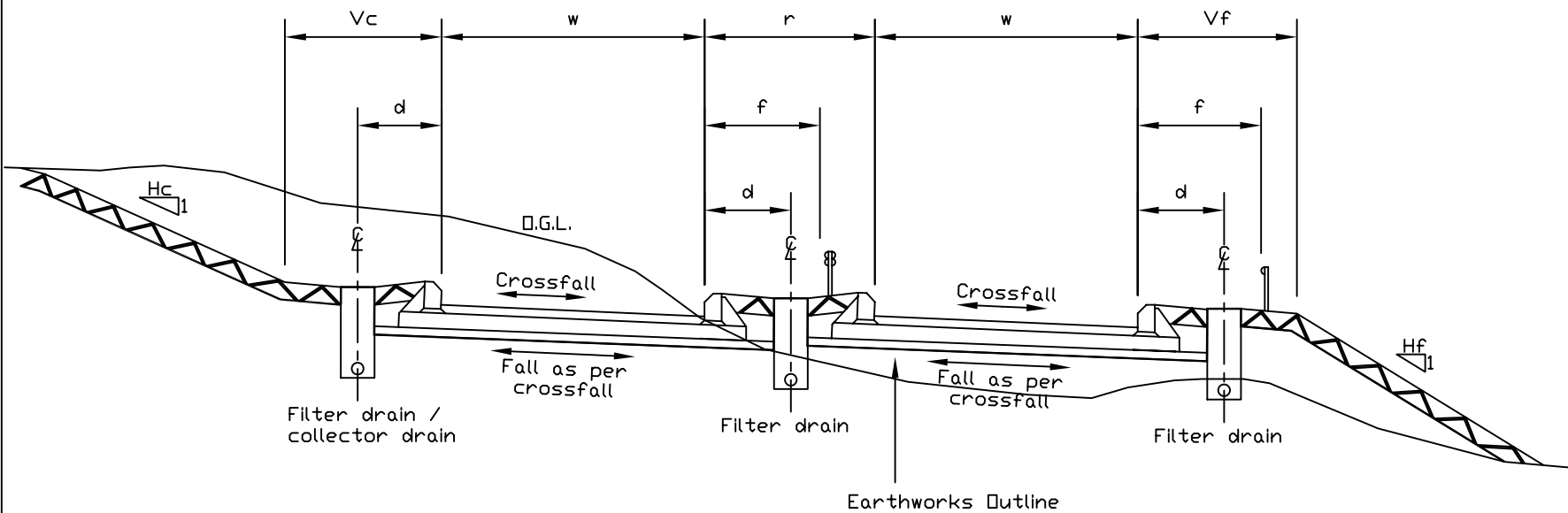
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD CENTRAL RESERVE CR2A
GROUP 2A

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.	
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A86

HIGHWAY CONSTRUCTION DETAILS

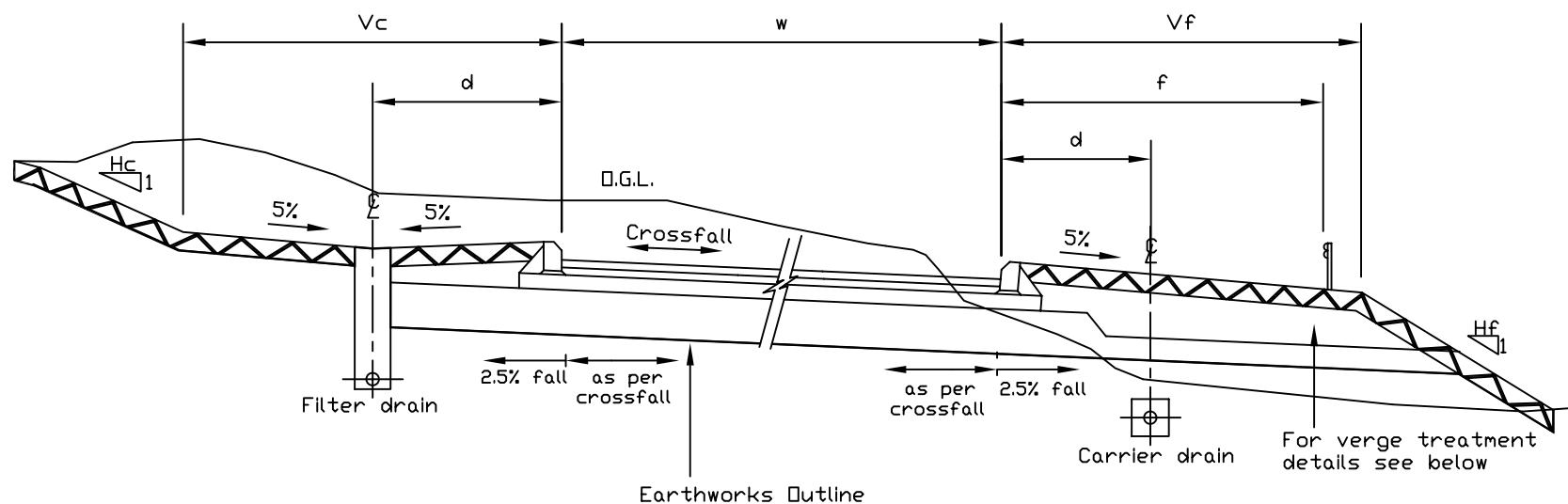
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION DUAL CARRIAGEWAY GROUP 2B

Drawing No.

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

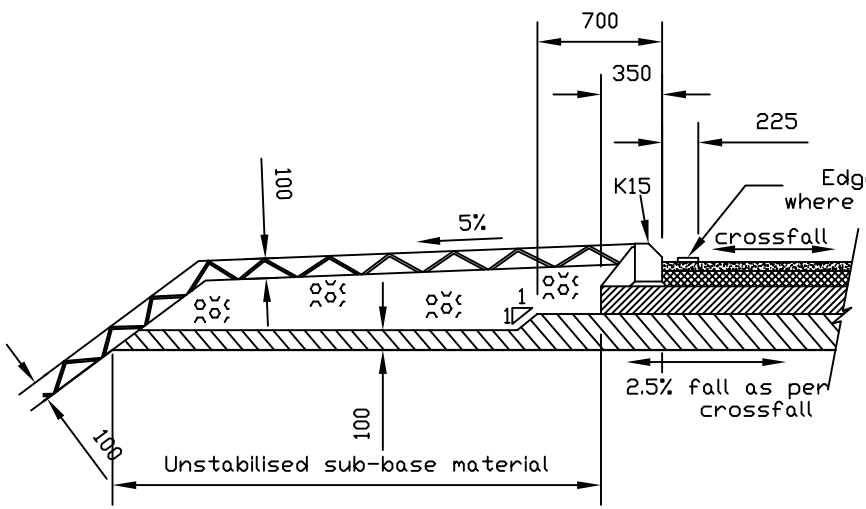
No.	Date	Description
		AMENDMENTS

Drawing No.	
-------------	--

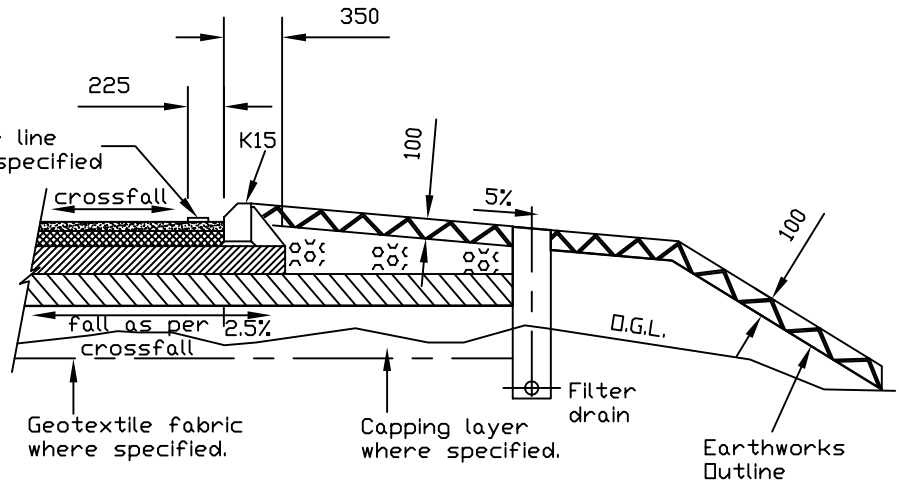
A87

NOTES

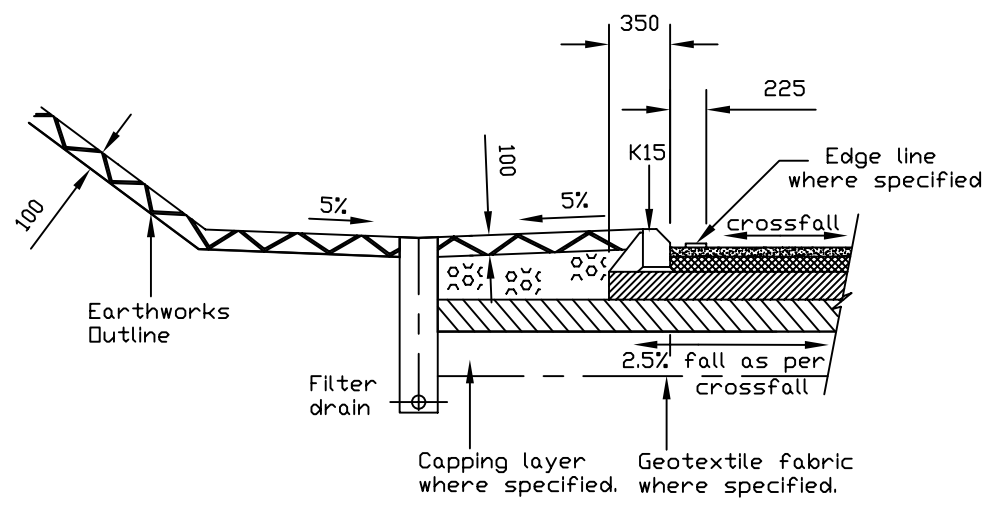
1. All dimensions are in millimetres unless otherwise stated.



EMBANKMENT



LOW EMBANKMENT



CUTTING

KEY

- surface course
- binder course
- base
- Sub-base
- Granular fill class 1
- Topsoil

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

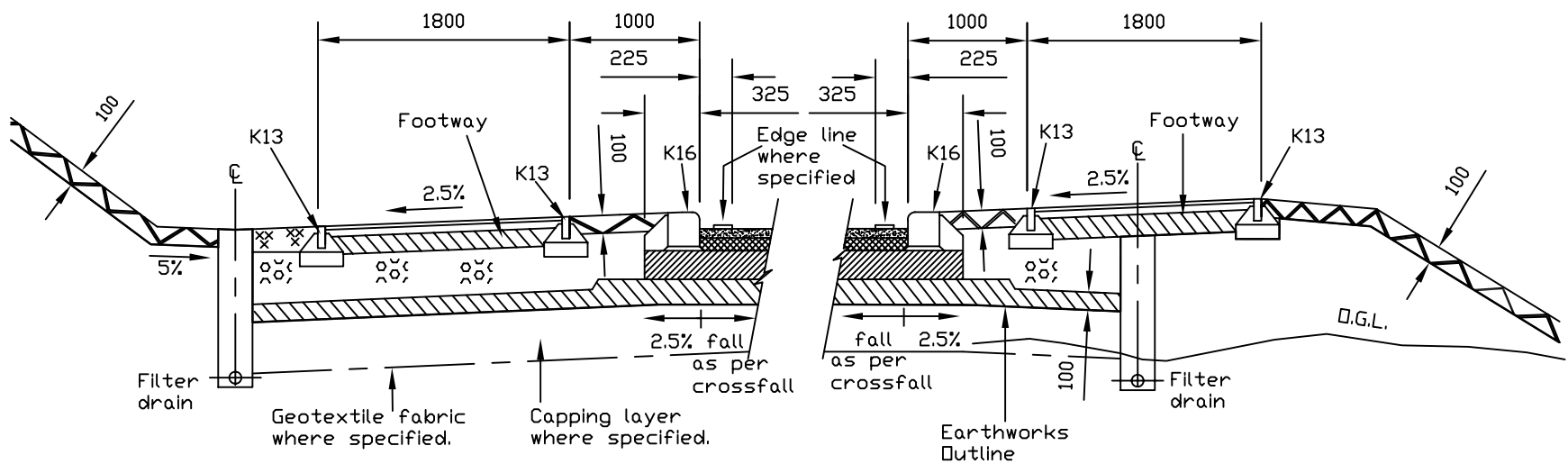
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD GRASS VERGE VG2B
GROUP 2B

Drawing No.
A88

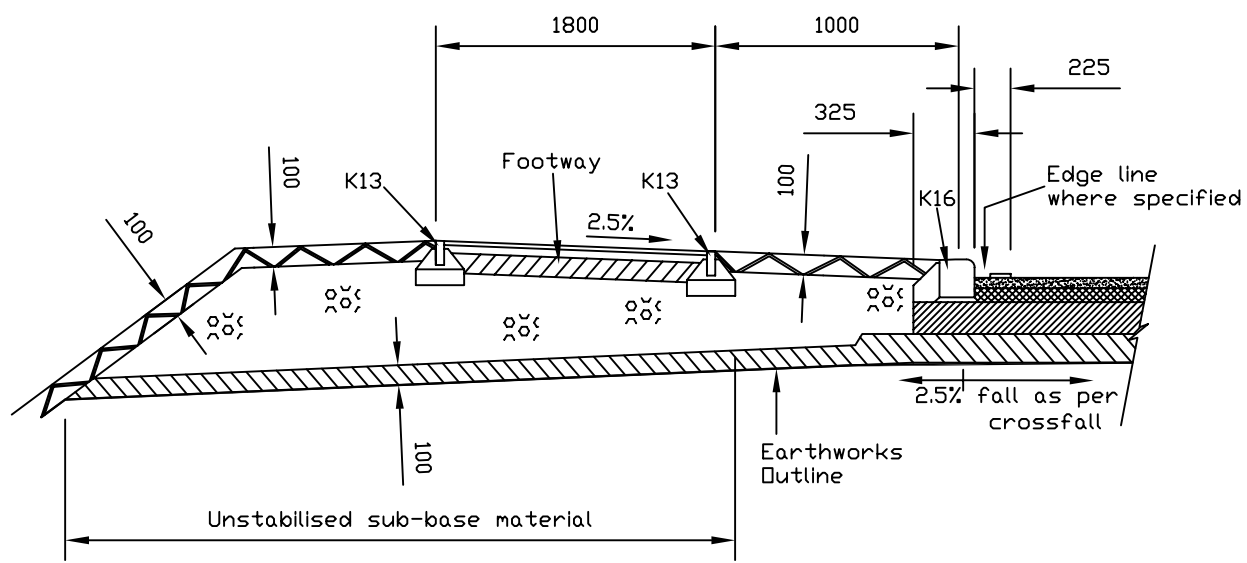
NOTES

1. All dimensions are in millimetres unless otherwise stated.



CUTTING

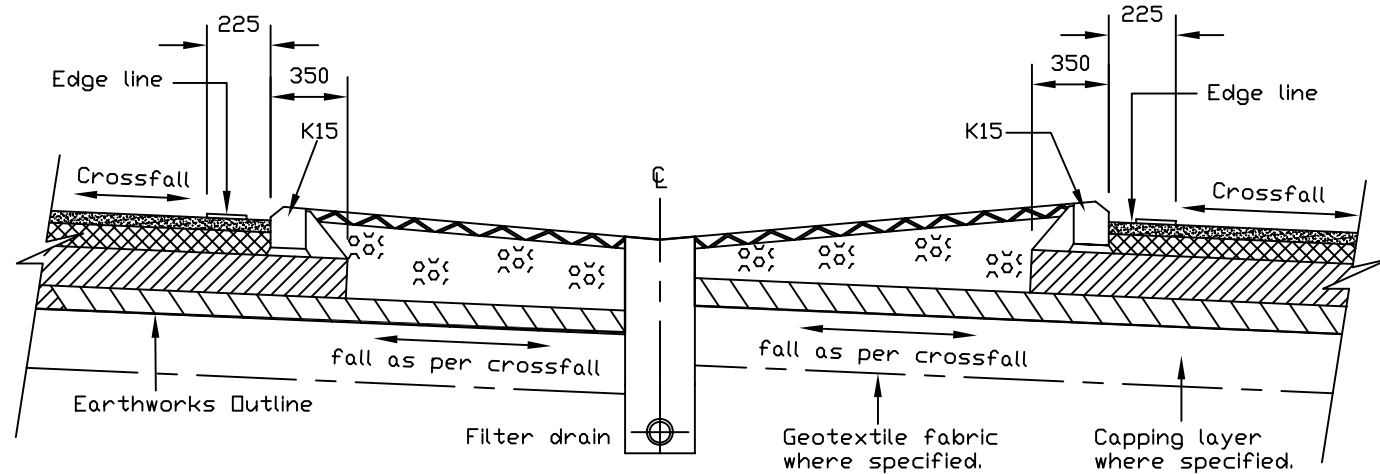
LOW EMBANKMENT



EMBANKMENT

KEY

- surface course
- binder course
- base
- Sub-base
- Granular fill class 1
- Topsoil
- Contiguous filter material



KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

NOTES

- All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
		AMENDMENTS

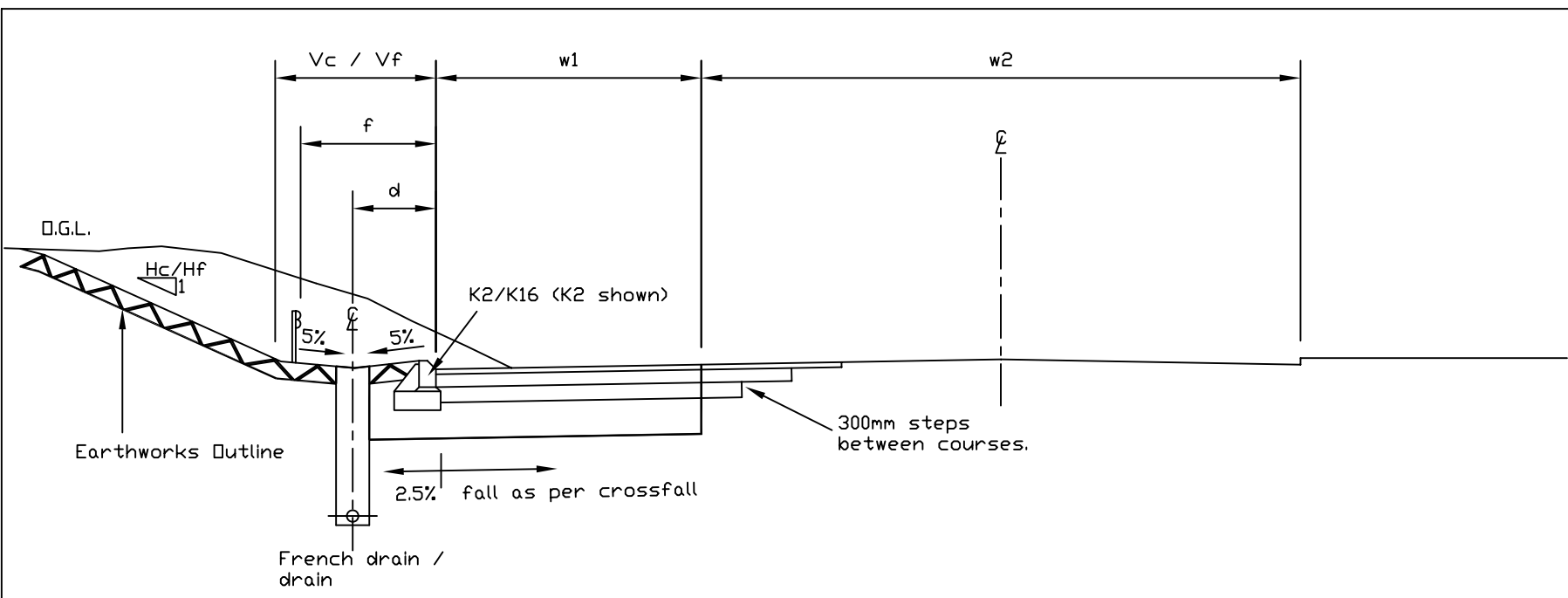
Drawing No.

A90

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD CENTRAL RESERVE CR2B
GROUP 2B



NOTES

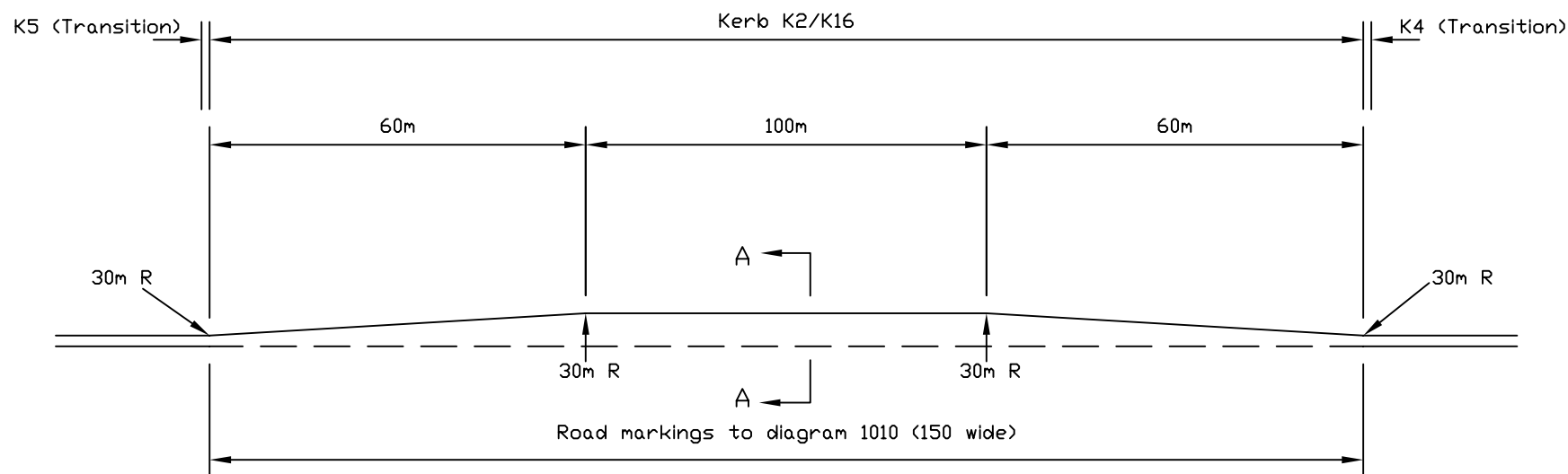
1. All dimensions are in millimetres unless otherwise stated.

Chainage (m)	Widening LHS or RHS	Widened Lane Width	Verge Details				Existing Carriageway Width	Distance to Drain	Set Back to Safety Fence	Verge / Footway Type
			Verge Widths		Side Slopes					
		Cut Vc	Fill Vf	Cut Hc	Fill Hf	w2	d	f		
		w1								

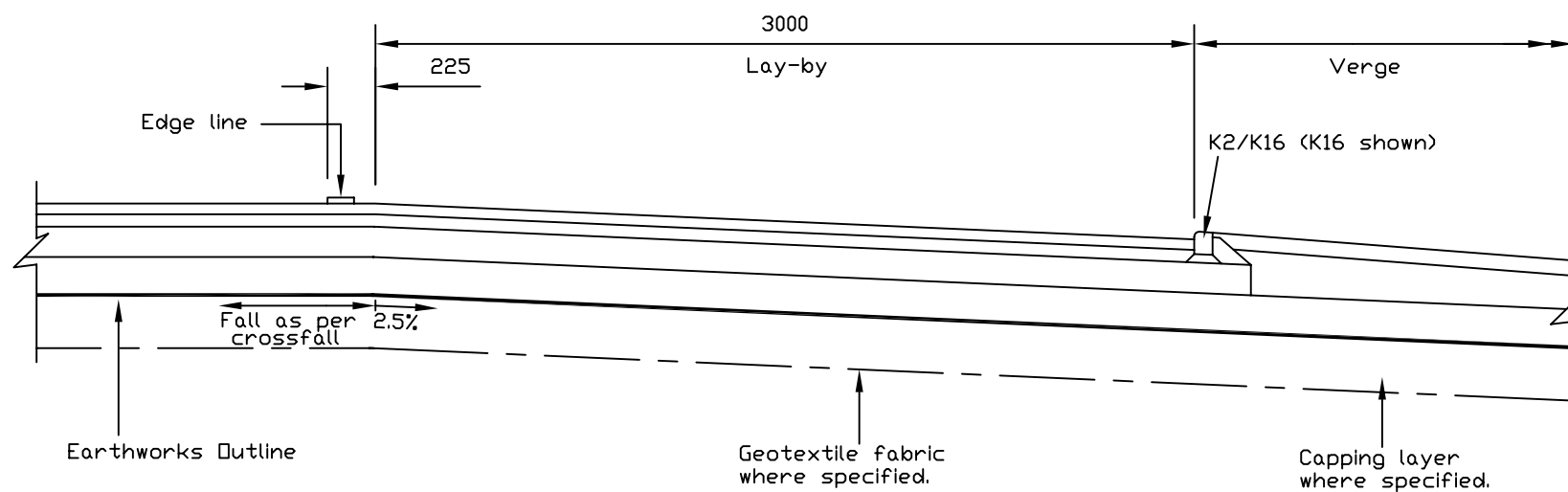
No.	Date	Description
↑		AMENDMENTS
		↓

NOTES

1. All dimensions are in millimetres unless otherwise stated.



PLAN



SECTION A - A

No.	Date	Description
		AMENDMENTS

Drawing No.

A92

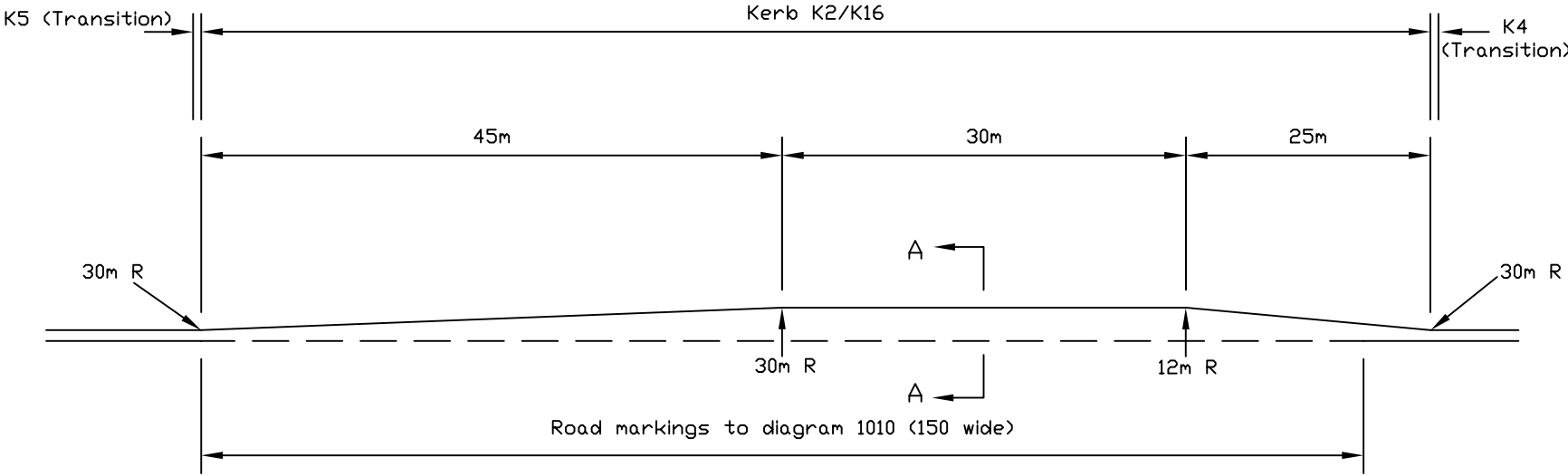
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

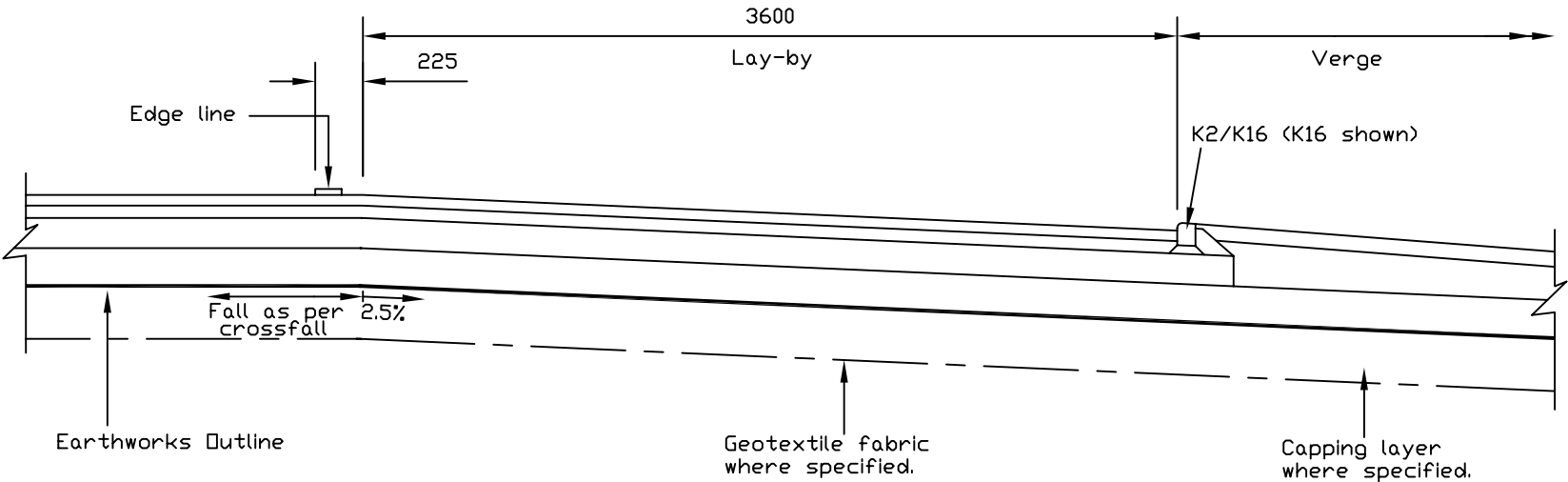
FLEXIBLE/COMPOSITE CONSTRUCTION
DUAL CARRIAGEWAY LAY-BY
GROUP 2A/2B

NOTES

1. All dimensions are in millimetres unless otherwise stated.



PLAN



SECTION A - A

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

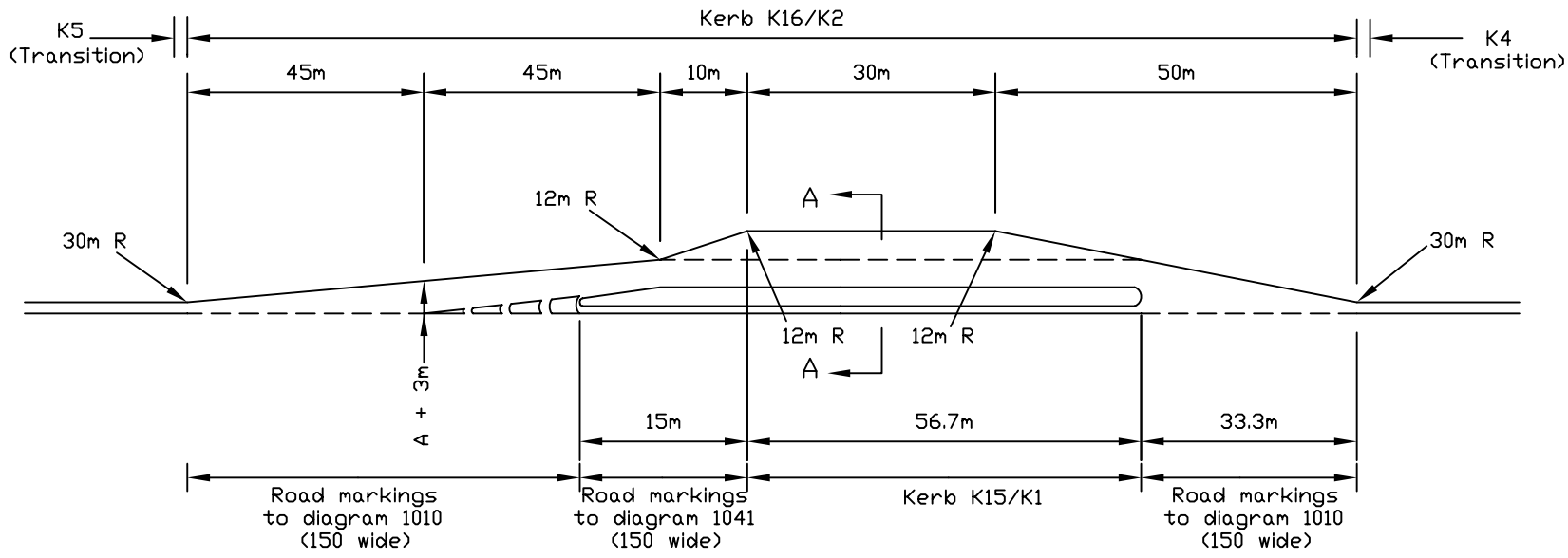
FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY LAY-BY TYPE 1
GROUP 2A/2B

Drawing No.

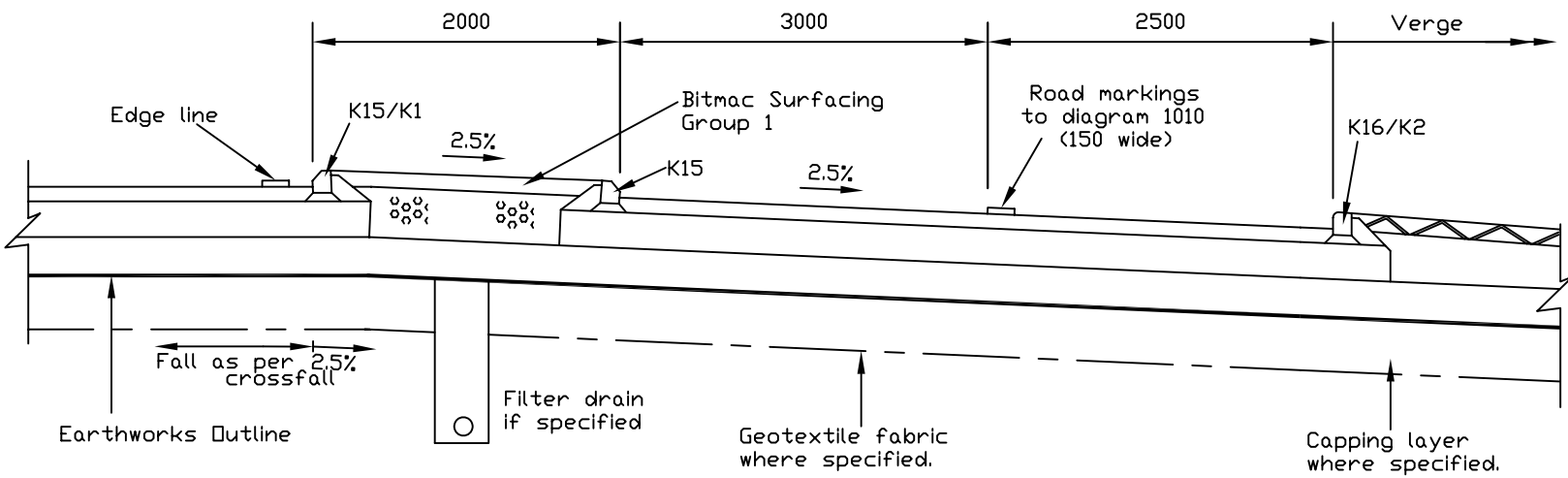
A93

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Where hard strips are used dimension A is 1000. Elsewhere dimension A is 225.
- 3. Separation island construction to consist of granular fill Class 1 placed on top of sub-base layer.



PLAN



SECTION A - A

No.	Date	Description
↑		AMENDMENTS
		↓

HIGHWAY CONSTRUCTION DETAILS

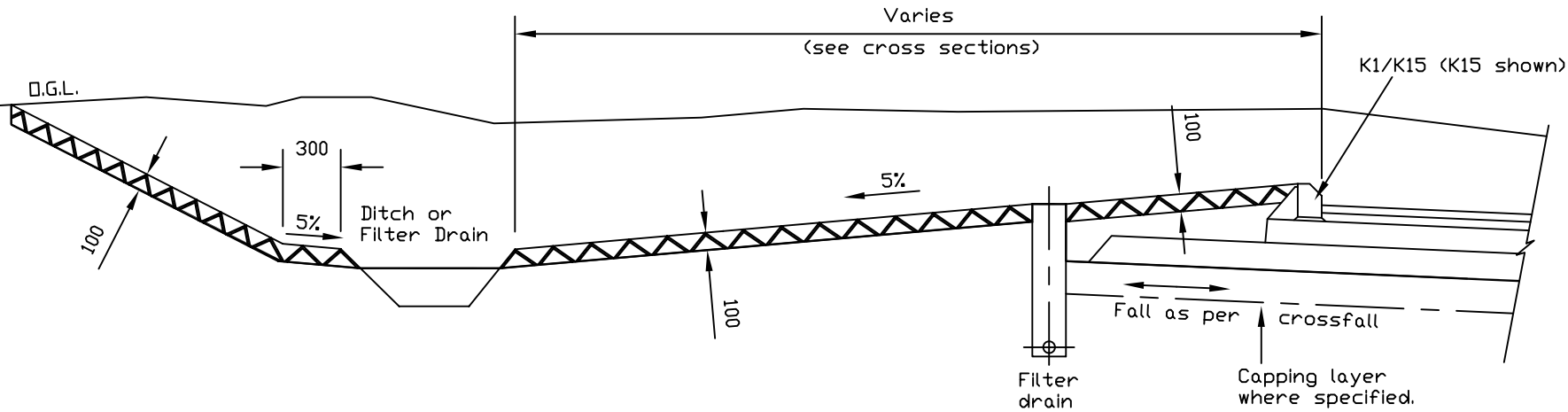
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY LAY-BY TYPE 2
GROUP 2A/2B

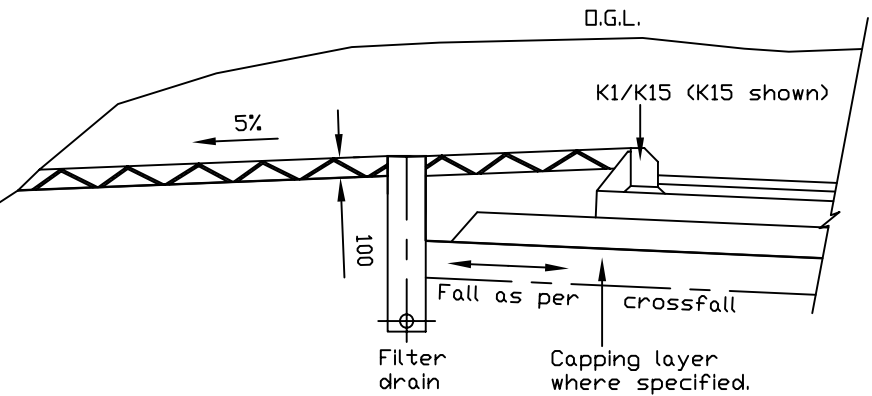
Drawing No.
A94

NOTES

1. All dimensions are in millimetres unless otherwise stated.



VERGE TYPE VG(W)1



VERGE TYPE VG(W)2

KEY

	Topsoil
	Earthworks outline
	Geotextile fabric where specified.

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

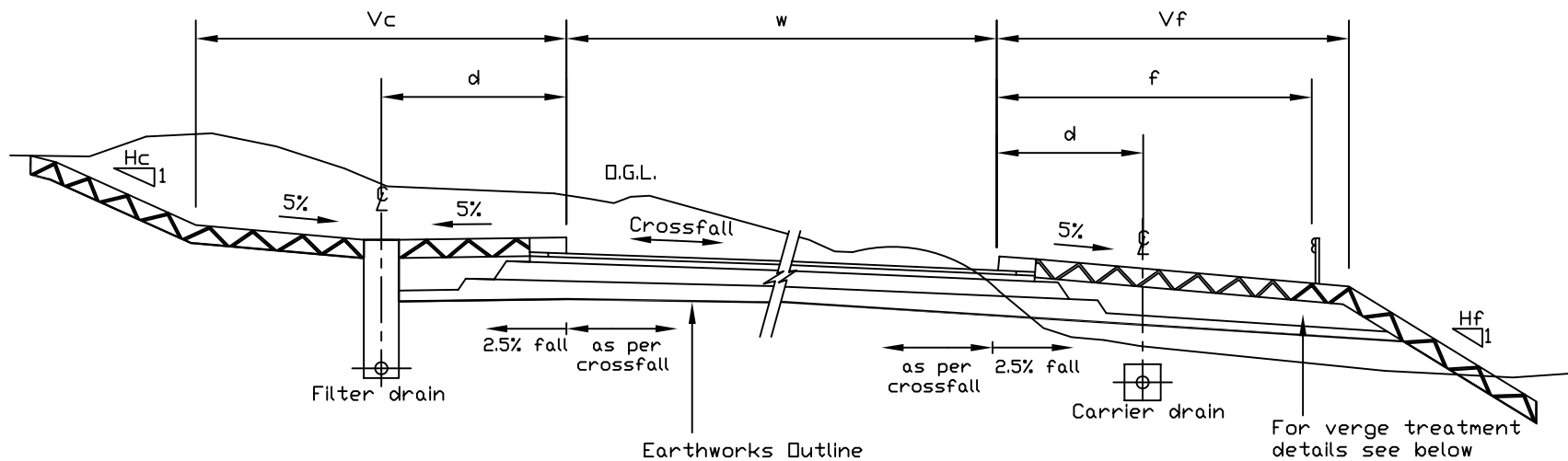
FLEXIBLE/COMPOSITE CONSTRUCTION
WIDENED GRASS VERGE VG2A/2B(W)
GROUP 2A/2B

Drawing No.

A95

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.

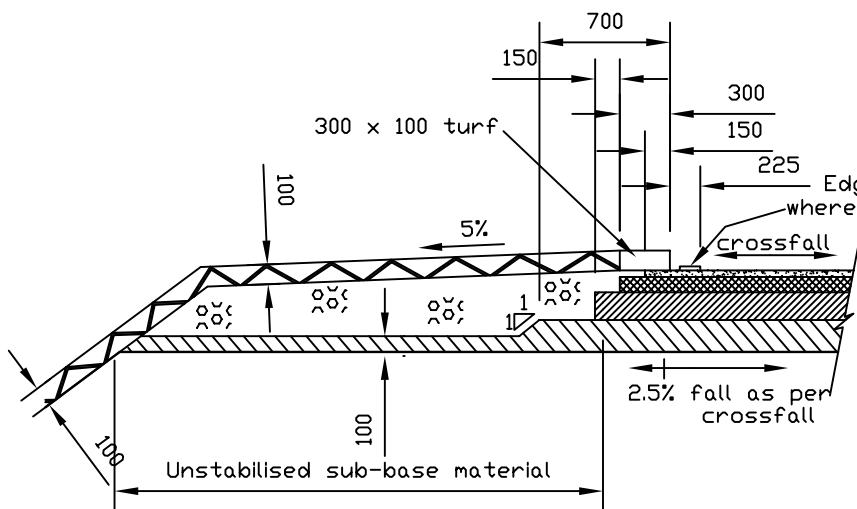
A97

HIGHWAY CONSTRUCTION DETAILS

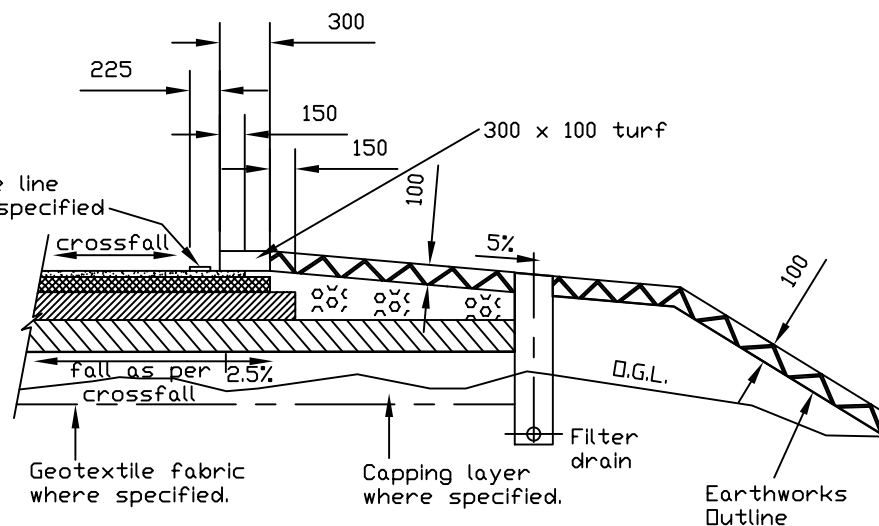
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY
GROUP 3

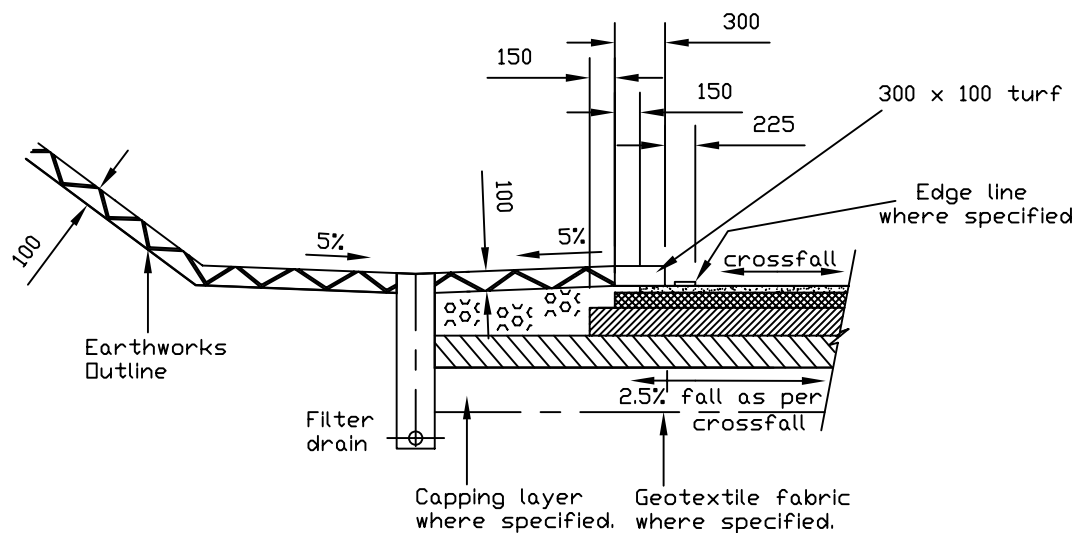
Drawing No.



EMBANKMENT



LOW EMBANKMENT



CUTTING

KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

NOTES

1. All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

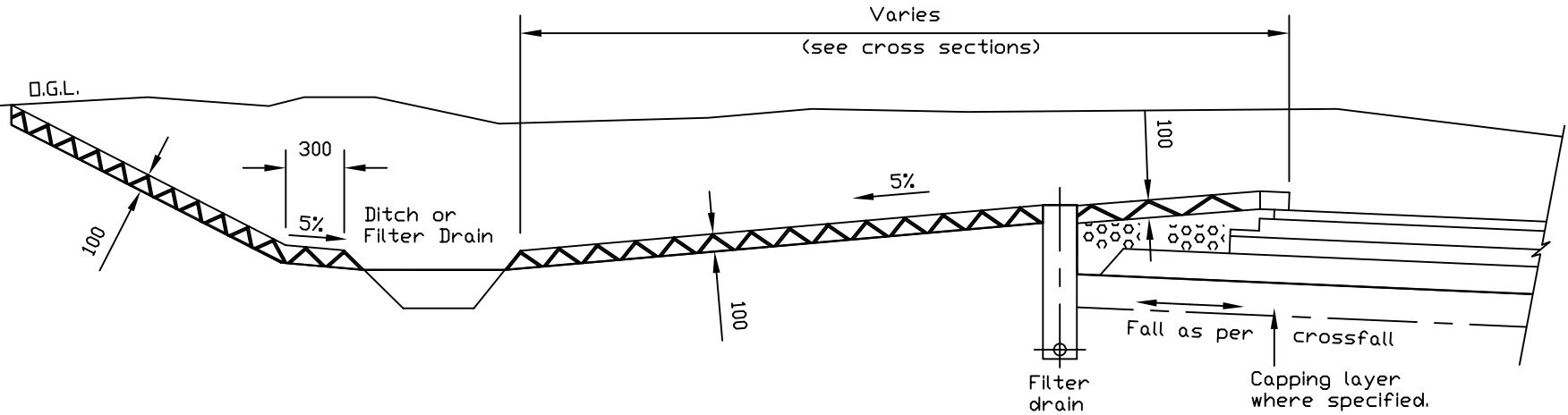
FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD GRASS VERGE VG3
GROUP 3

Drawing No.

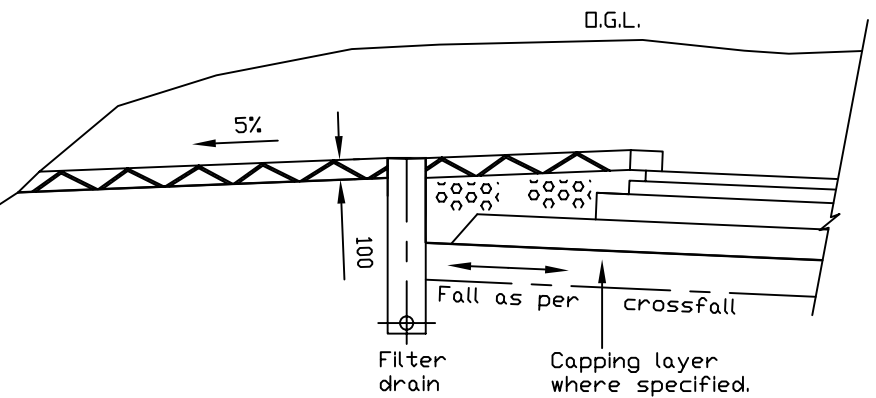
A98

NOTES

1. All dimensions are in millimetres unless otherwise stated.



VERGE TYPE VG14



VERGE TYPE VG15

KEY

- Granular fill Class 1
- Topsoil
- Earthworks outline
- Geotextile fabric where specified.

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

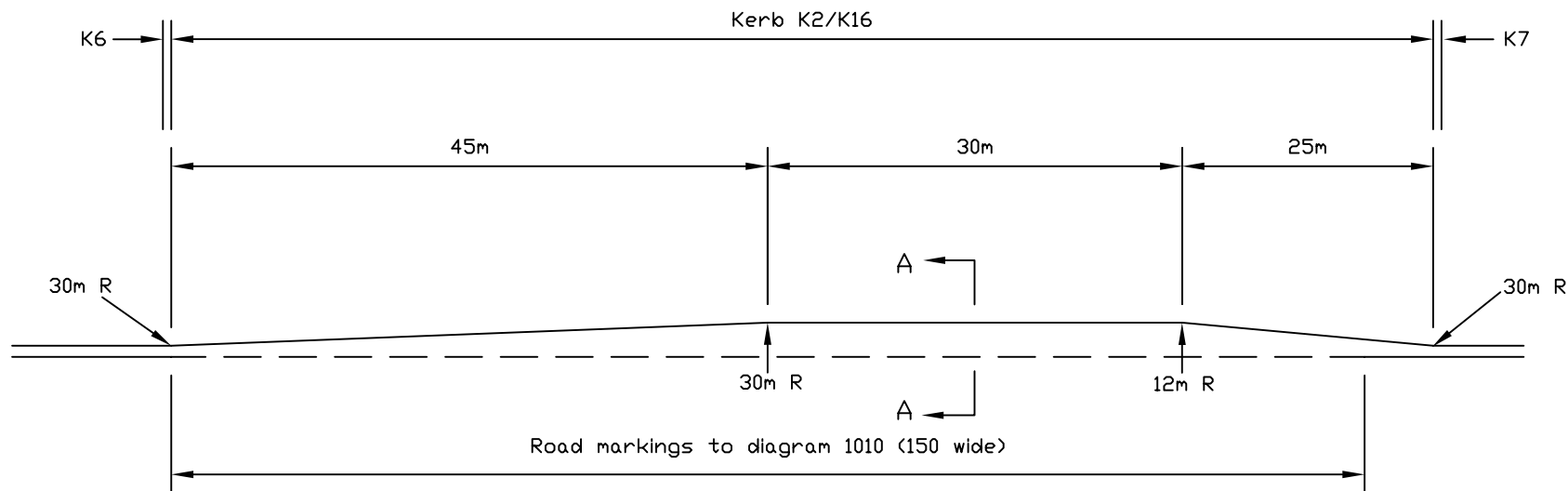
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
WIDENED GRASS VERGE VG3 (W)
GROUP 3

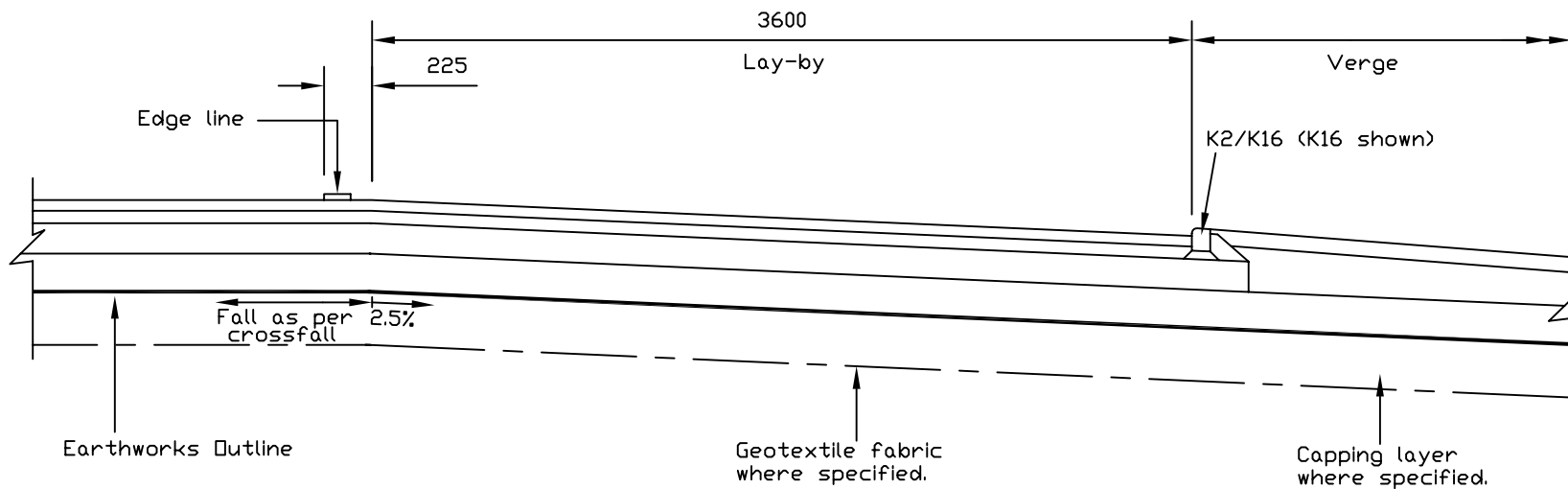
Drawing No.
A99

NOTES

1. All dimensions are in millimetres unless otherwise stated.



PLAN



SECTION A - A

No.	Date	Description
		AMENDMENTS

Drawing No.

A100

HIGHWAY CONSTRUCTION DETAILS

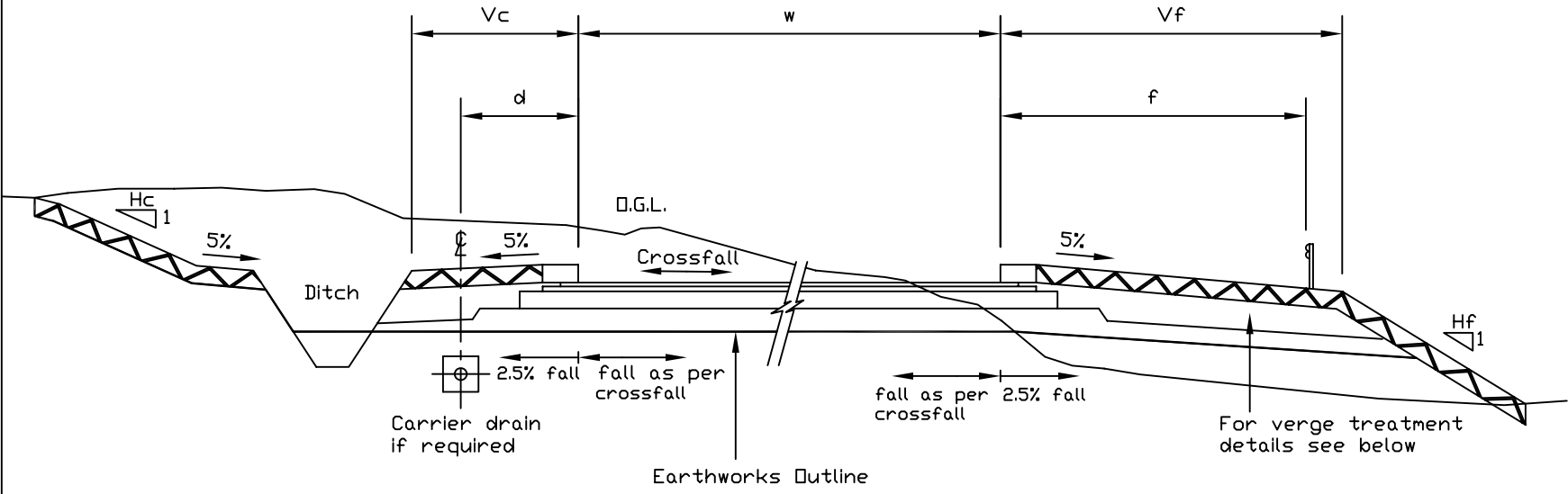
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY LAY-BY
GROUP 3

Drawing No.

NOTES

1. All dimensions are in millimetres unless otherwise stated.

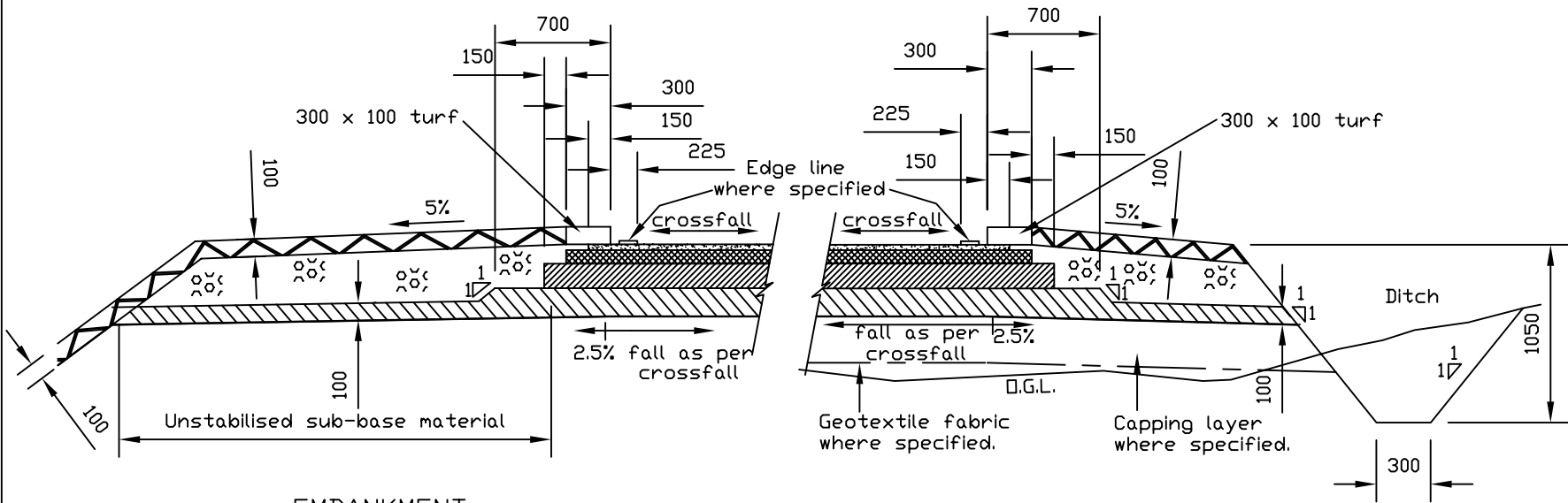


Chainage (m)	Dimensions (m)													Verge Type	
	Left Hand Side				Carriageway Width	Right Hand Side				Distance to Drain ℓ		Set Back To Safety Fence			
	Side Slopes		Verge Widths			Verge Widths		Side Slopes							
	Cut Hc	Fill Hf	Cut Vc	Fill Vf		w	Cut Vc	Fill Vf	Cut Hc	Fill Hf	Left d	Right d	Left f	Right f	Left

No.	Date	Description
		AMENDMENTS

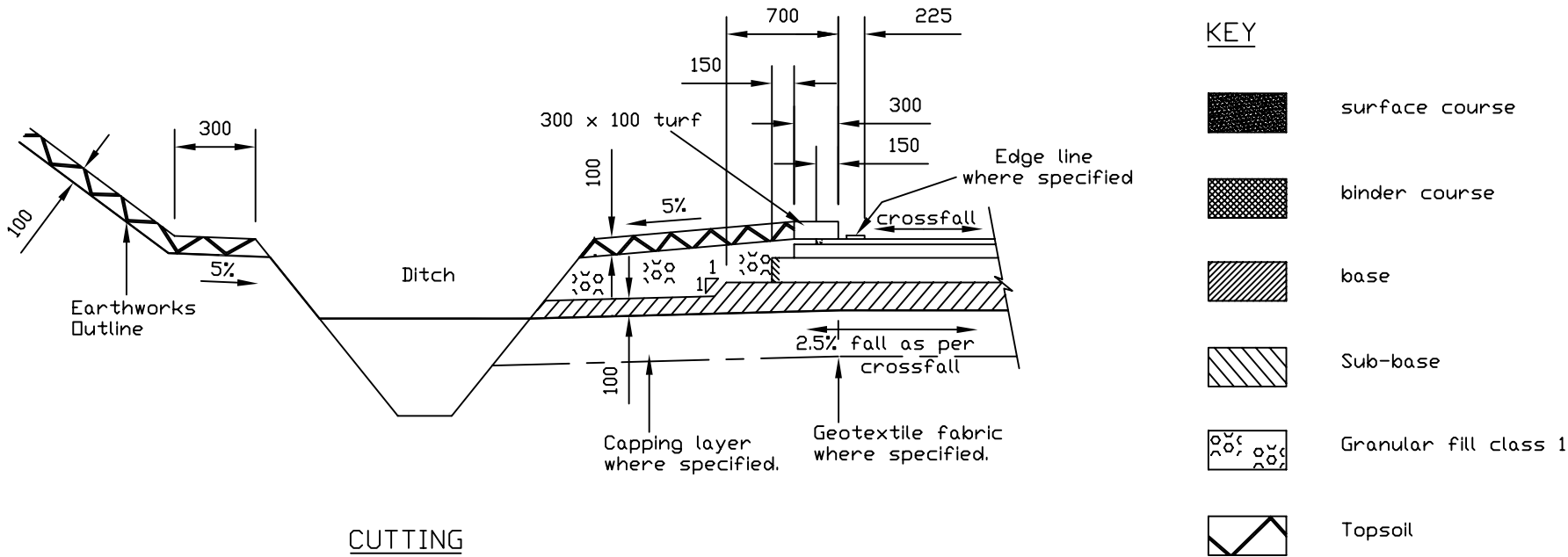
NOTES

1. All dimensions are in millimetres unless otherwise stated.



EMBANKMENT

LOW EMBANKMENT



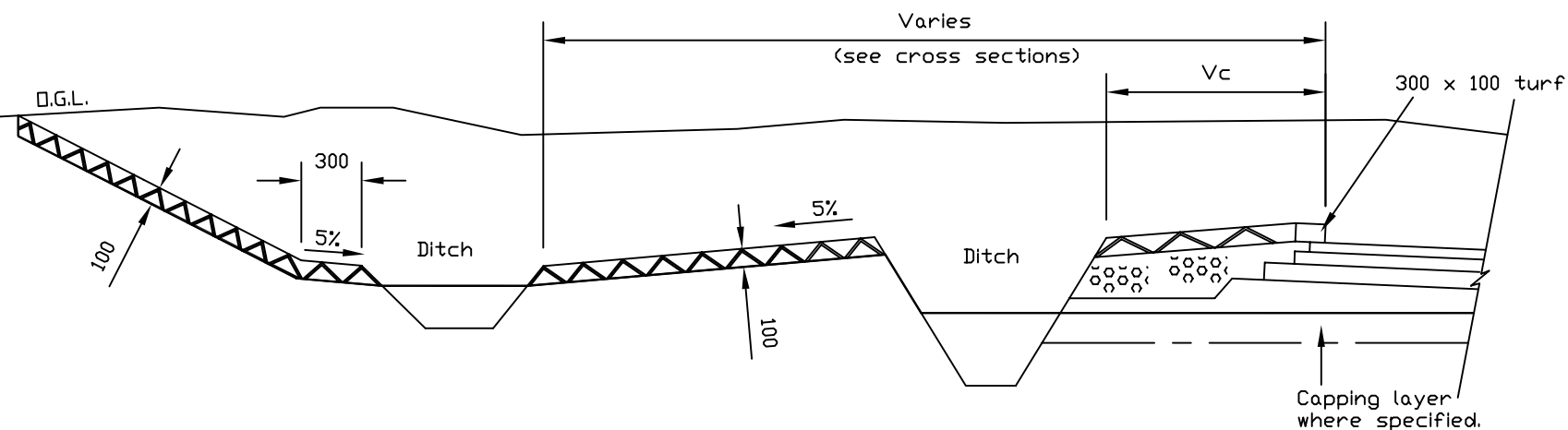
CUTTING

KEY

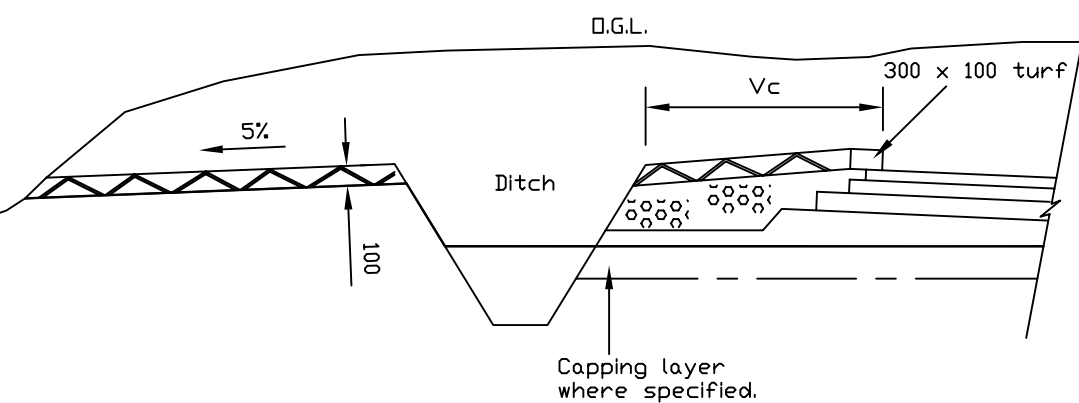
	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

NOTES

1. All dimensions are in millimetres unless otherwise stated.







VERGE TYPE VG4(W)1



VERGE TYPE VG4(W)2

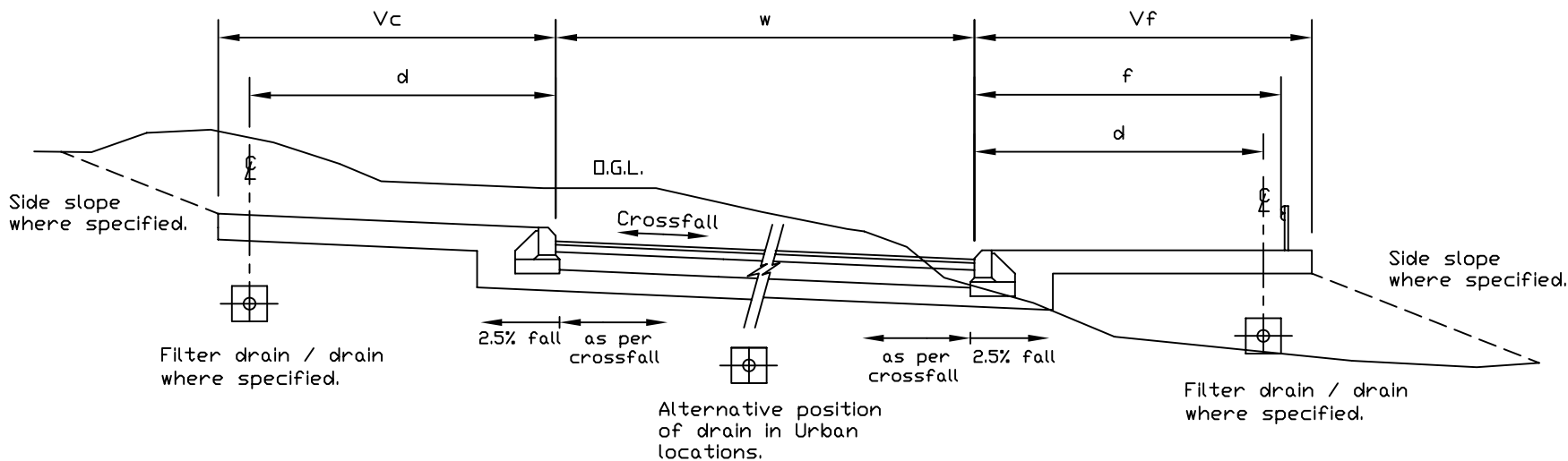
KEY

	Granular fill Class 1
	Topsoil
	Earthworks outline
	Geotextile fabric where specified.

No.	Date	Description
		AMENDMENTS
		Drawing No.
		A104

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.

A107

HIGHWAY CONSTRUCTION DETAILS

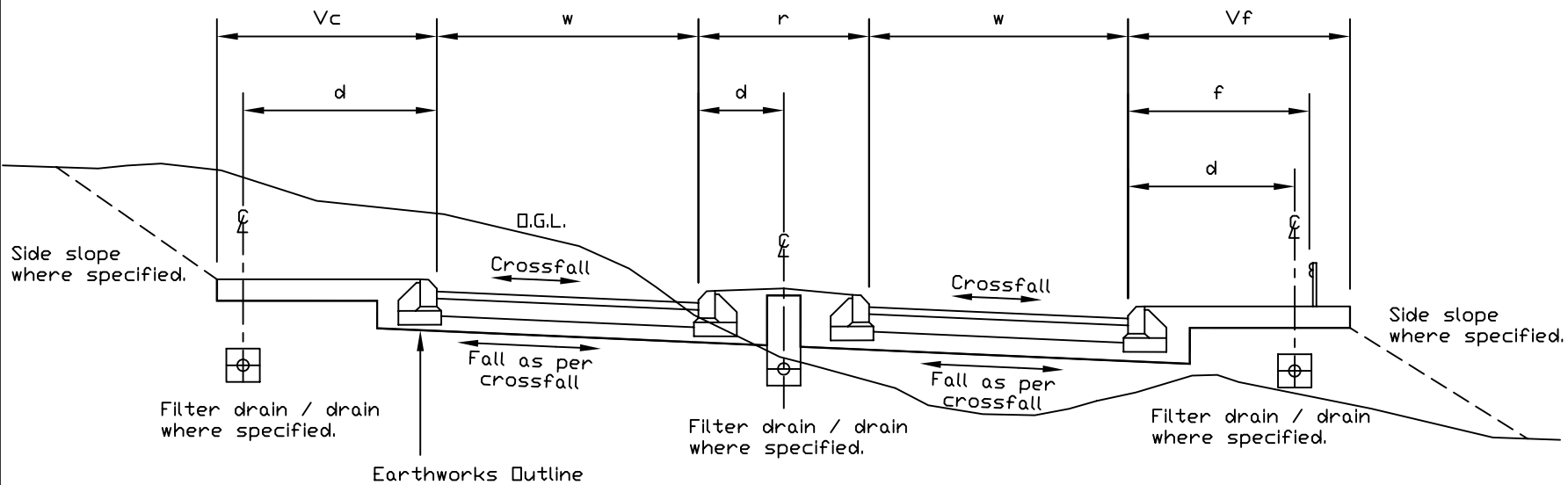
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
SINGLE CARRIAGEWAY
GROUP 5

Drawing No.

NOTES

1. All dimensions are in millimetres unless otherwise stated.

[illegible]

No.	Date	Description
		AMENDMENTS

Drawing No.

A108

HIGHWAY CONSTRUCTION DETAILS

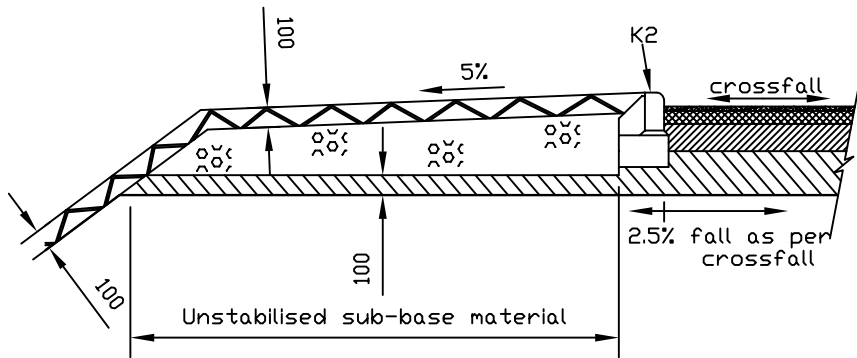
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
DUAL CARRIAGEWAY
GROUP 5

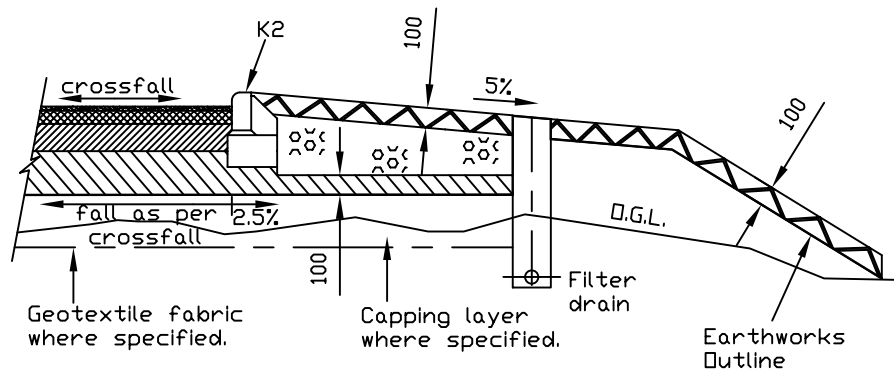
Drawing No.

NOTES

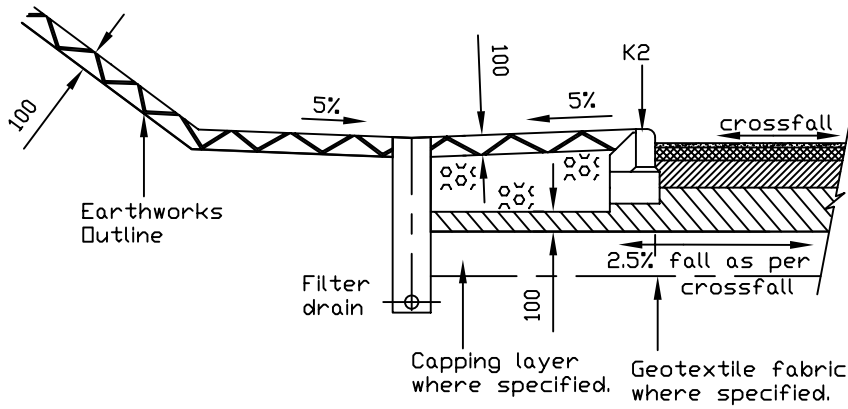
- All dimensions are in millimetres unless otherwise stated.



EMBANKMENT



LOW EMBANKMENT



CUTTING

KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

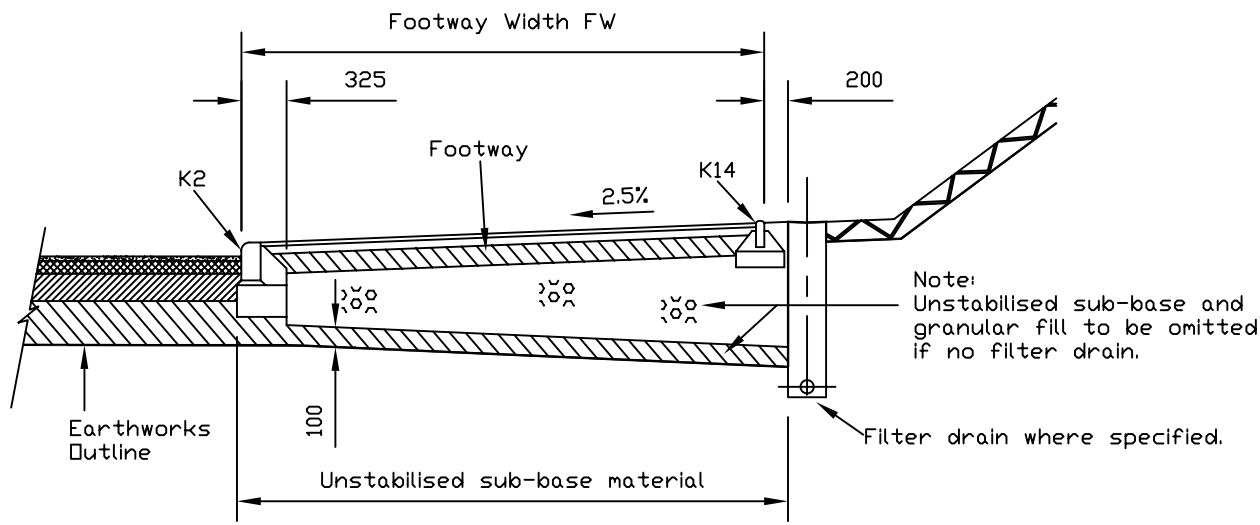
HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD GRASS VERGE VG5
GROUP 5

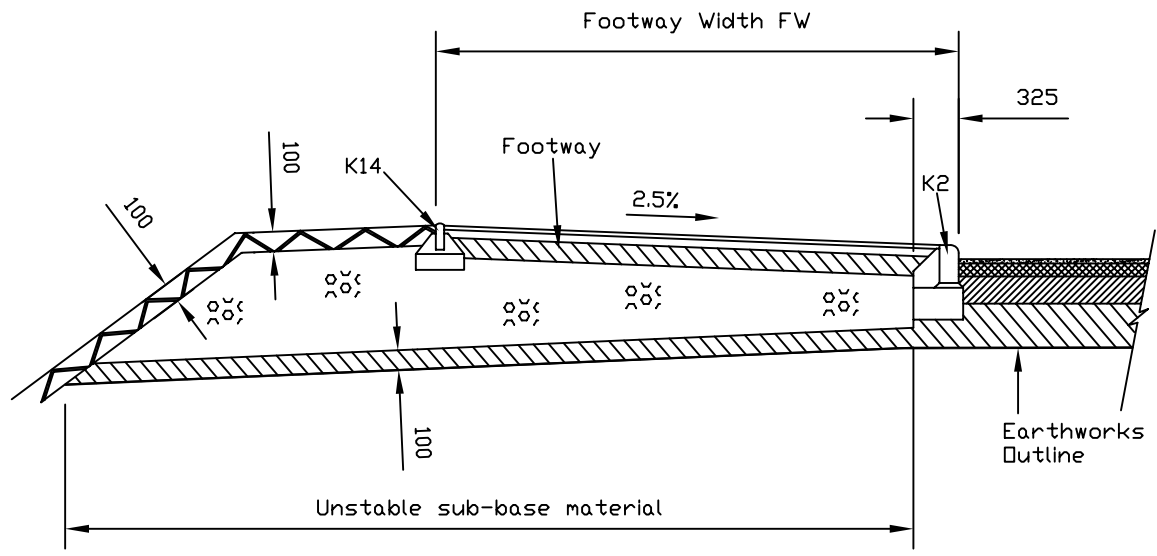
Drawing No.
A109

NOTES

1. All dimensions are in millimetres unless otherwise stated.



CUTTING



EMBANKMENT

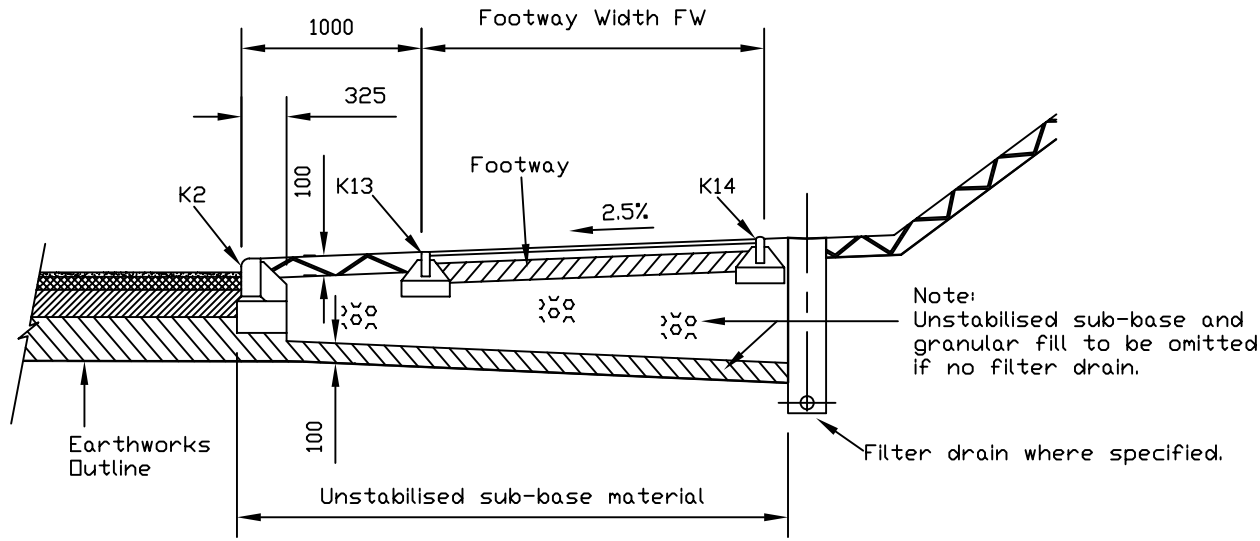
KEY

- surface course
- binder course
- base
- Sub-base
- Granular fill class 1
- Topsoil

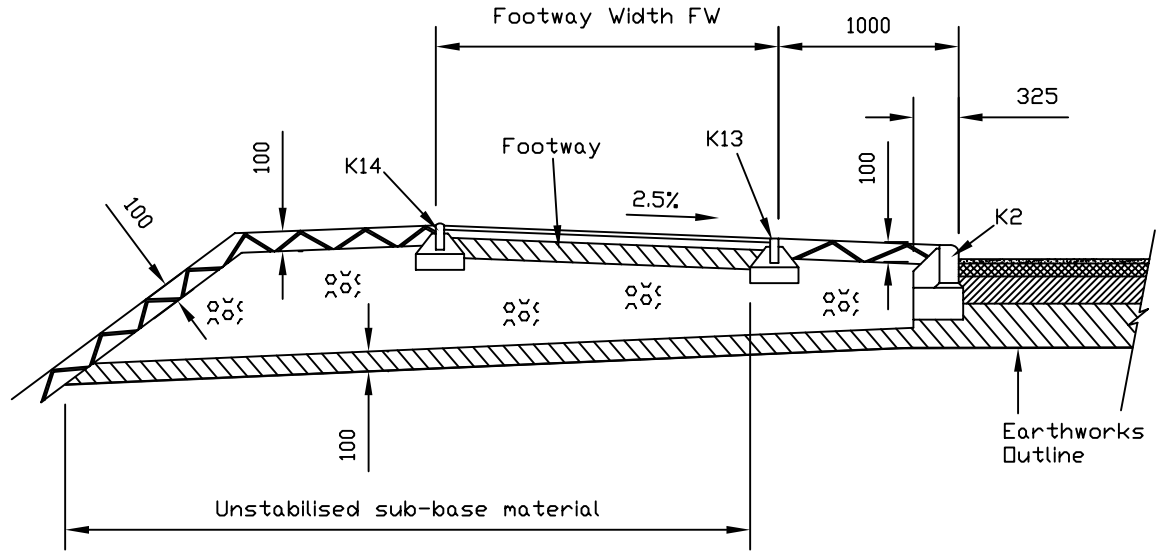
No.	Date	Description
		AMENDMENTS

NOTES

1. All dimensions are in millimetres unless otherwise stated.



CUTTING

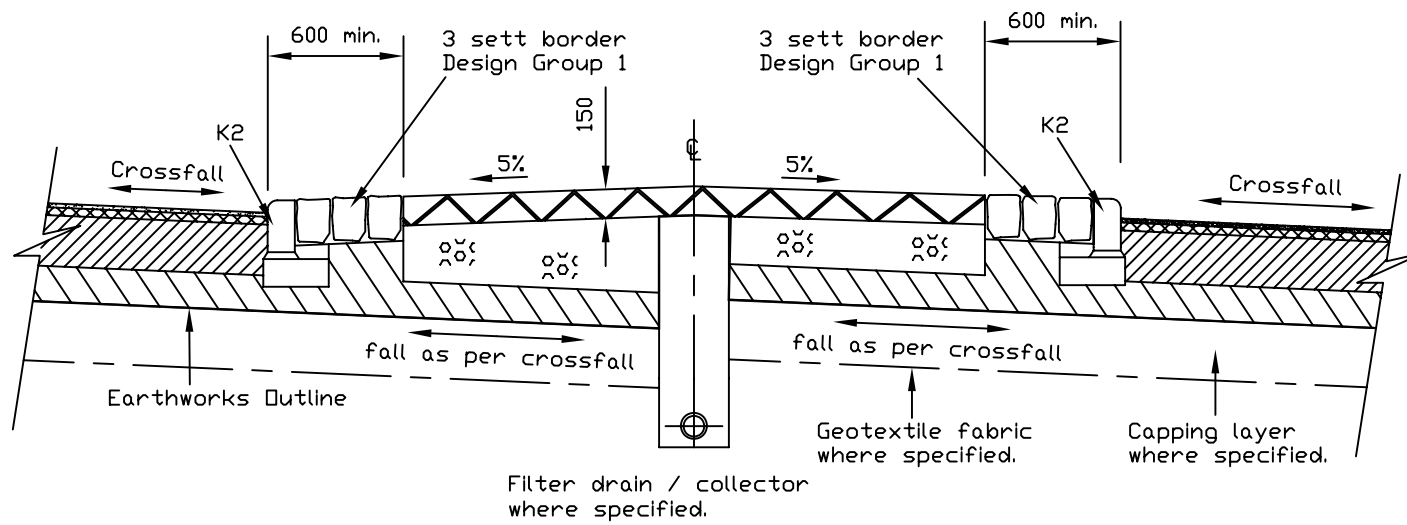


EMBANKMENT

KEY

- surface course
- binder course
- base
- Sub-base
- Granular fill class 1
- Topsoil

No.	Date	Description
		AMENDMENTS



KEY

	surface course
	binder course
	base
	Sub-base
	Granular fill class 1
	Topsoil

NOTES

1. All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
↑		AMENDMENTS

Drawing No.
A112

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
STANDARD CENTRAL RESERVE CR5-1
GROUP 5

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. The following Specifications Clauses relate to suffix : A,B,C etc.

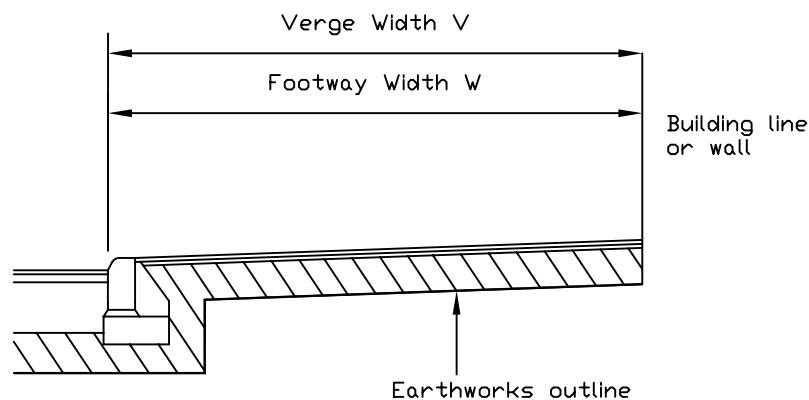
A - Group A Appendix 11/1.

B - Group B Appendix 11/1.

C - Group C Appendix 11/1.

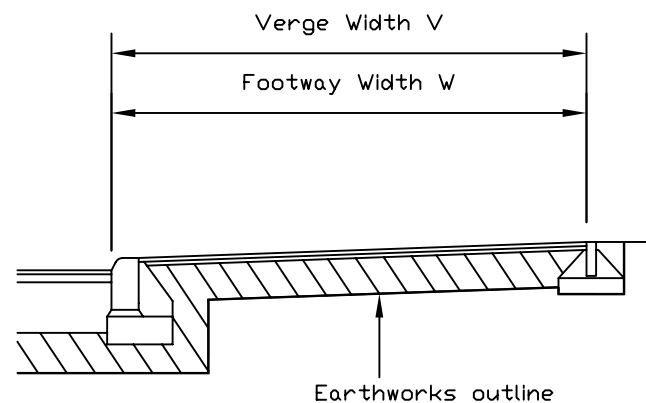
D - Precast Concrete Slabs Appendix 11/1.

E - Small Element Precast Concrete Slabs Appendix 11/1.



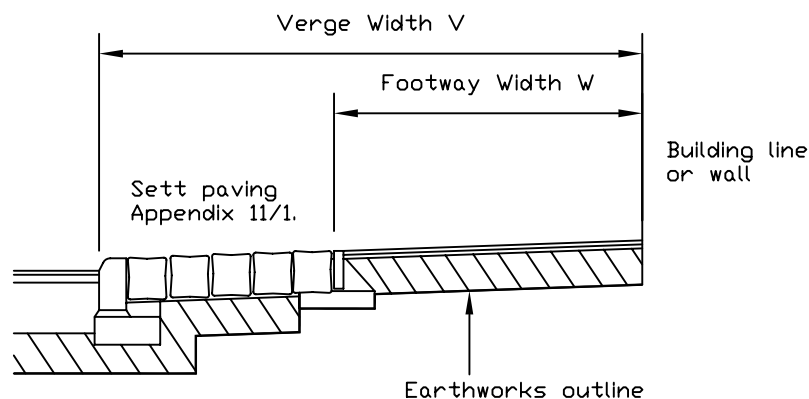
FOOTWAY TYPE F1 (A,B,C,D & E)

(See note 2)



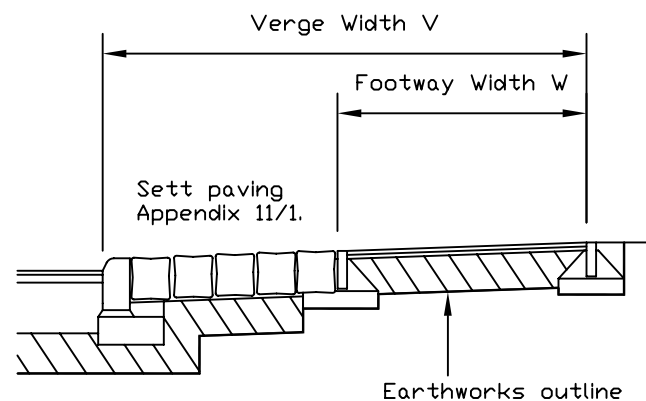
FOOTWAY TYPE F3 (A,B,C,D & E)

(See note 2)



FOOTWAY TYPE F2 (A,B,C,D & E)

(See note 2)



FOOTWAY TYPE F4 (A,B,C,D & E)

(See note 2)

No.	Date	Description
		AMENDMENTS

Drawing No.

A114

Verge Width VW

Footway Width FW

Building line
or wall

Set paving
Appendix 11/1.

Earthworks outline

FOOTWAY TYPE F5 (A,B,C,D & E) DROPPED FOOTWAY

SECTION A - A

A

Road

Footway

A

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. The following Specifications Clauses relate to suffix : A,B,C etc.
 - A - Group A Appendix 11/1.
 - B - Group B Appendix 11/1.
 - C - Group C Appendix 11/1.
 - D - Precast Concrete Slabs Appendix 11/1.
 - E - Small Element Precast Concrete Slabs Appendix 11/1.

No.	Date	Description
↑		AMENDMENTS

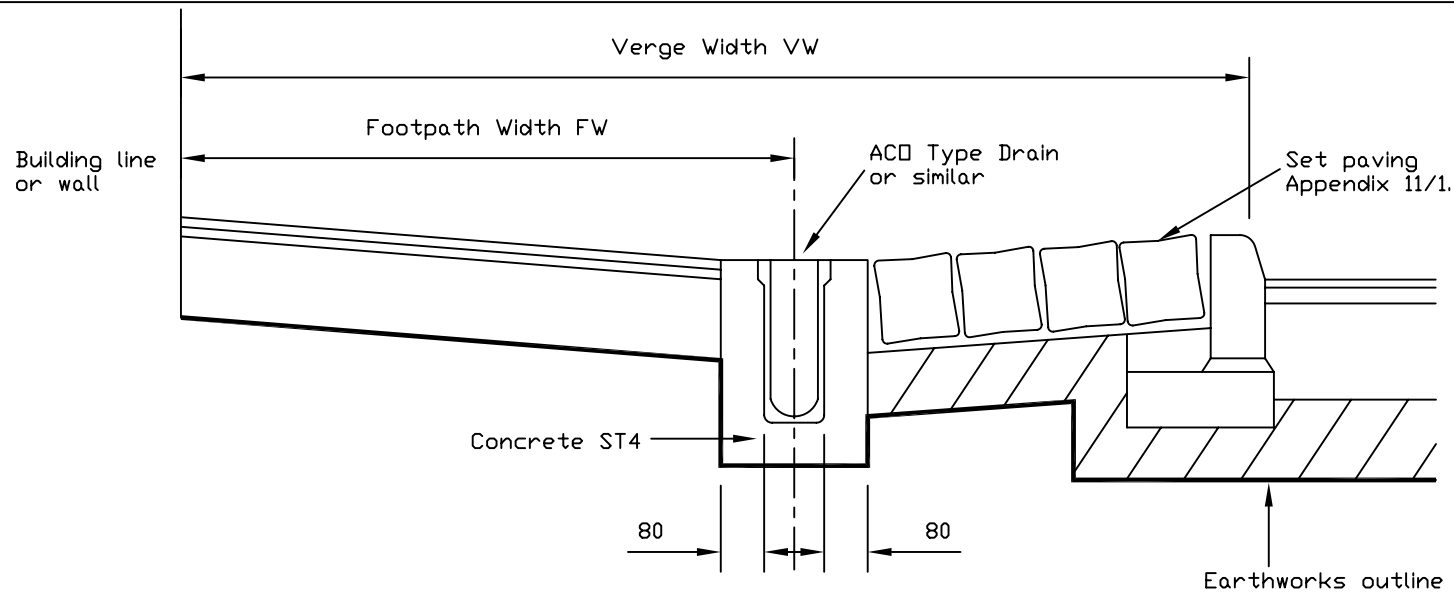
HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

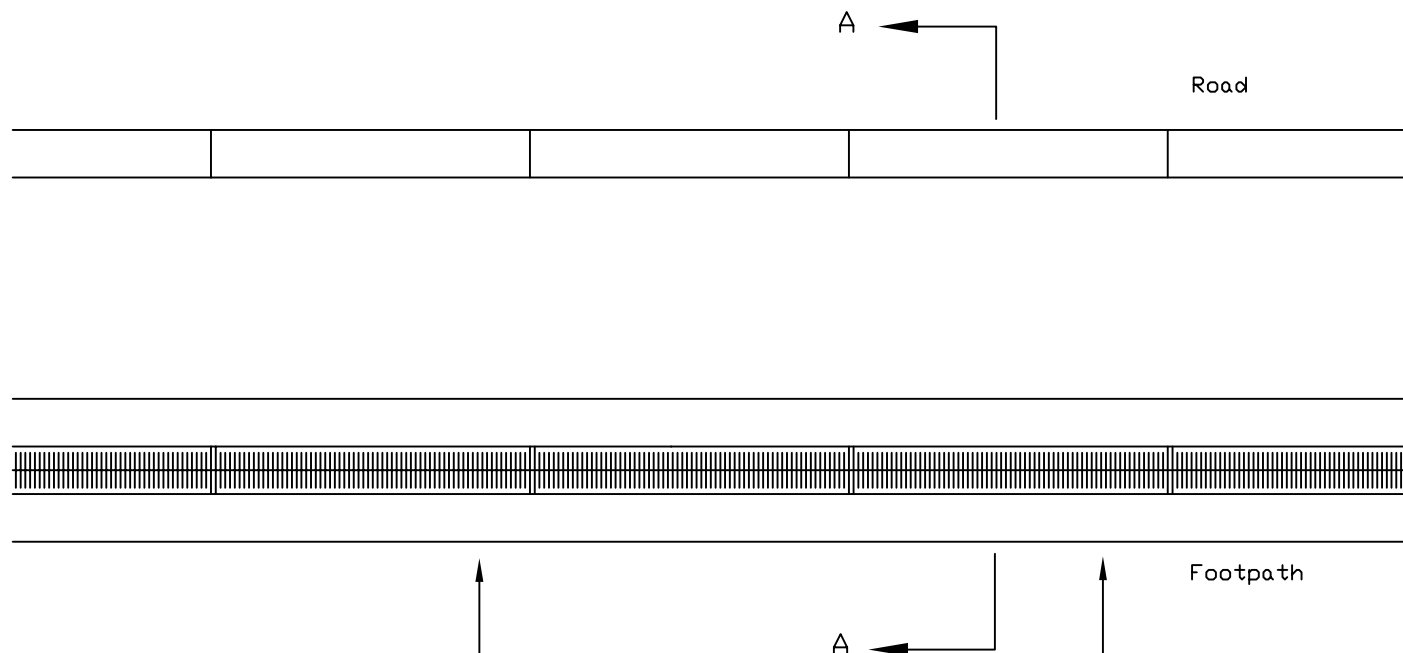
FLEXIBLE/COMPOSITE CONSTRUCTION
FOOTWAY TYPES 5
GROUP 5

Drawing No.

A115



FOOTWAY TYPE F6 (A,B,C,D & E) DROPPED FOOTWAY
SECTION A - A



NOTES

- All dimensions are in millimetres unless otherwise stated.
- The following Specifications Clauses relate to suffix : A,B,C etc.
 - A - Group A Appendix 11/1.
 - B - Group B Appendix 11/1.
 - C - Group C Appendix 11/1.
 - D - Precast Concrete Slabs Appendix 11/1.
 - E - Small Element Precast Concrete Slabs Appendix 11/1.

No.	Date	Description
		AMENDMENTS

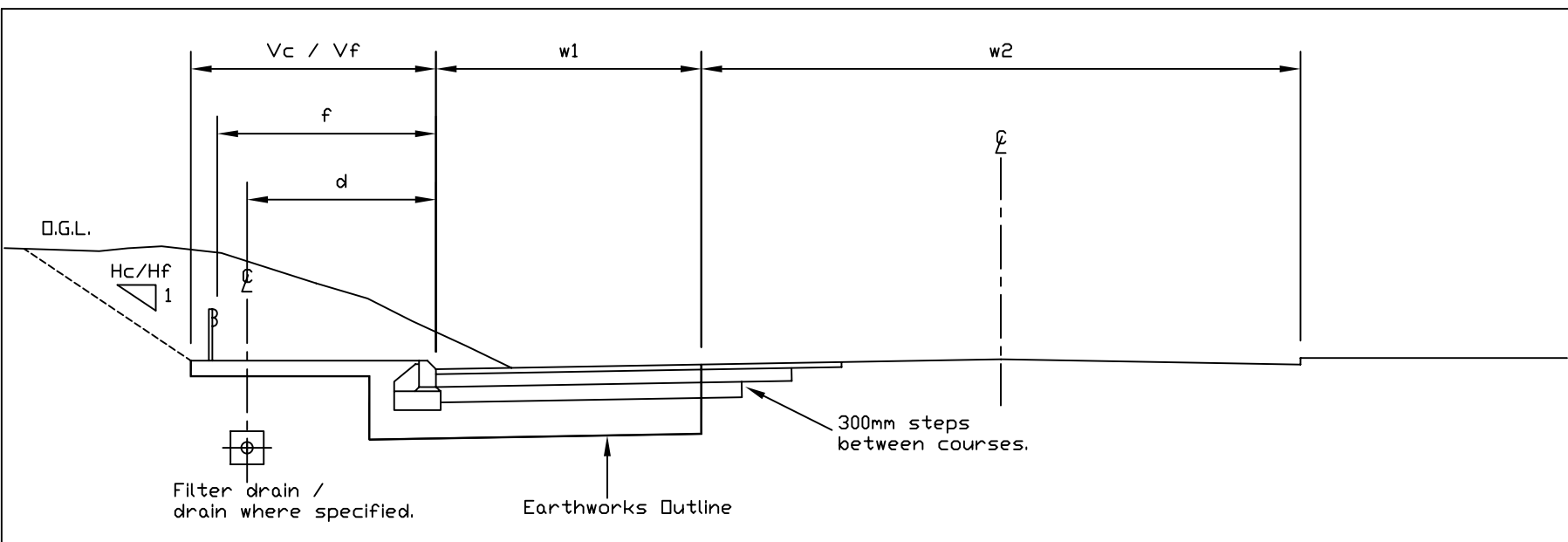
Drawing No.

A116

HIGHWAY CONSTRUCTION DETAILS

HIGHWAY CROSS SECTIONS

FLEXIBLE/COMPOSITE CONSTRUCTION
 FOOTWAY TYPES 6
 GROUP 5

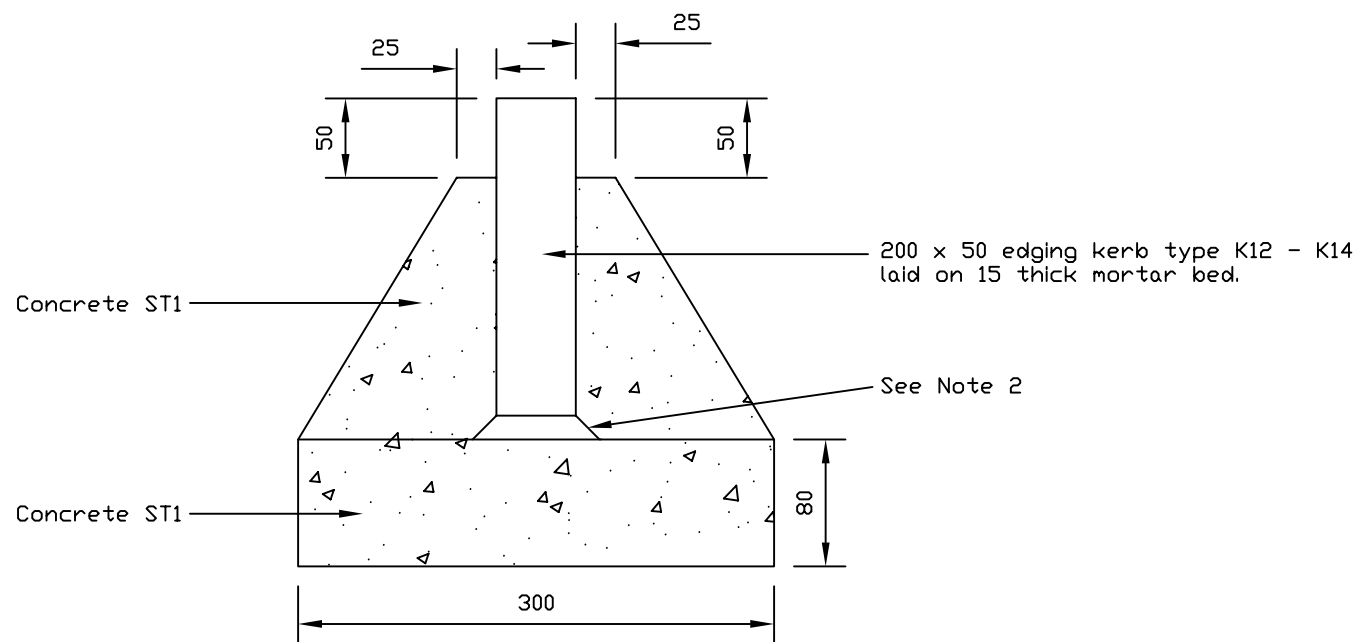


NOTES

- 1. All dimensions are in millimetres unless otherwise stated.

Chainage (m)	Widening LHS or RHS	Widened Lane Width	Verge Details				Existing Carriageway Width	Distance to Drain	Set Back to Safety Fence	Verge / Footway Type
			Verge Widths		Side Slopes					
		w1	Cut Vc	Fill Vf	Cut Hc	Fill Hf	w2	d	f	

No.	Date	Description
↑		AMENDMENTS
		↓



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Concrete base and haunching may be formed in one, and mortar bed omitted.
3. Kerbs to be laid on 1 : 3 cement / sand mortar bed as per BS 7263

Kerb Type	Reference BS 7263 Part 1 1994	Type	Dimensions
K12	ER	Round Top Edging	50 x 200
K13	EF	Flat Top Edging	50 x 200
K14	EBN	Bullnosed Edging	50 x 200

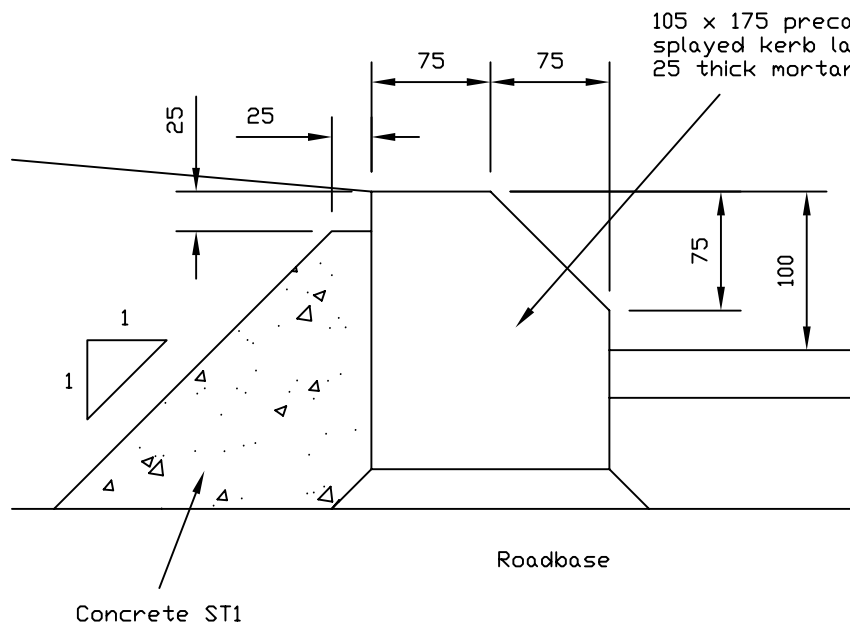
No.	Date	Description
↑		AMENDMENTS

Drawing No.
B71

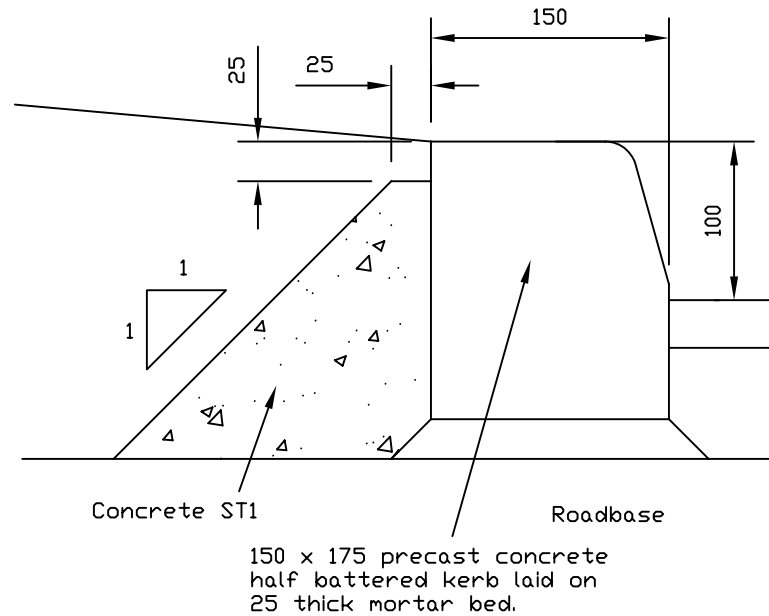
HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

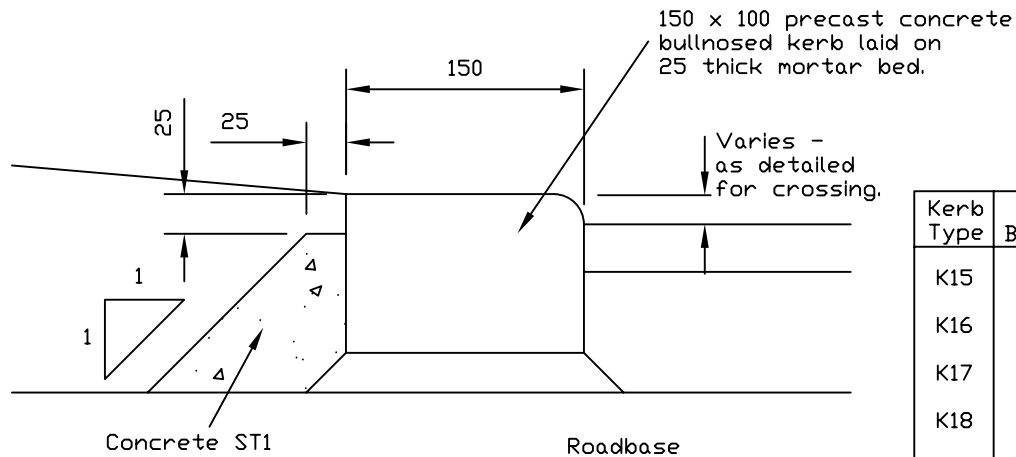
PRECAST CONCRETE EDGING
K12 - K14



KERB TYPE K15



KERB TYPE K16



KERB TYPE K17

Kerb Type	Reference BS 7263 Part 1 1994	Type	Dimensions
K15	-	45°Splayed	150 x 175
K16	-	Half Battered	150 x 175
K17	-	Bullnosed	150 x 100
K18	QSP	Quadrant - Splayed	455 x 150
K19	QHB	Quadrant - Half Battered	455 x 150

NOTES

- All dimensions are in millimetres unless otherwise stated.
- Precast concrete kerbs and quadrants must comply with the requirements of BS 7263 Part 1 1994. Precast concrete kerbs must be hydraulically pressed.
- The failing loads of kerbs tested in accordance with BS 7263 Part 1 1994 shall be not less than the following:
K15 /K16 11.5KN
K17 8KN
- Kerb haunch at rear of kerb to be lowered to suit when setts and footways positioned behind kerbs.
- Where check varies at crossings mortar bed to be adjusted to suit.
- Kerbs to be laid on 1 : 3 cement / sand mortar bed as per BS7263

No.	Date	Description
		AMENDMENTS

Drawing No.

B72

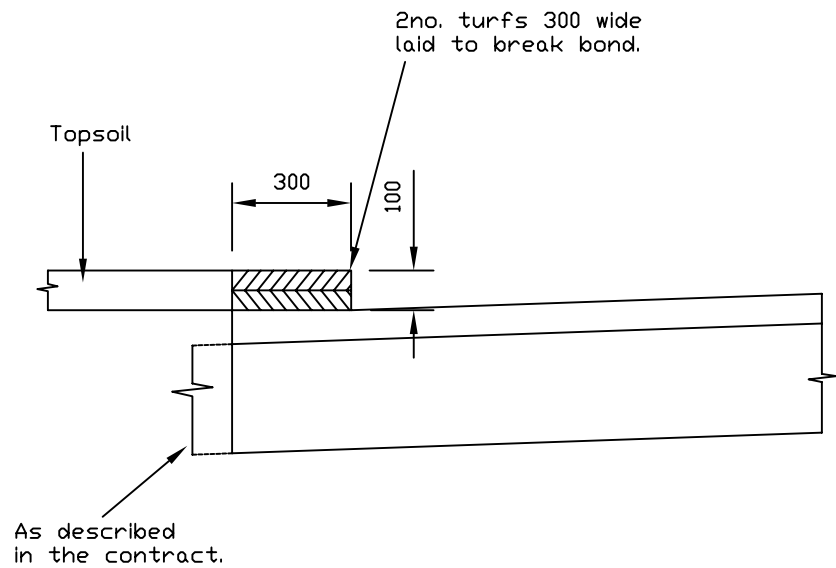
HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

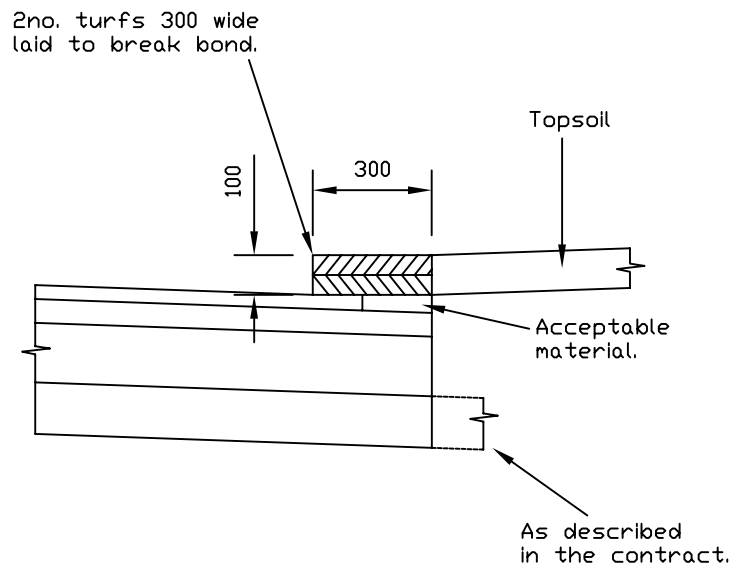
PRECAST CONCRETE KERBS
K15 - K19

NOTES

1. All dimensions are in millimetres unless otherwise stated.



TURFING TYPE T1



TURFING TYPE T2

No.	Date	Description
↑		AMENDMENTS
		↓

HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

TURF EDGING TYPES 1 & 2

Drawing No.

B73

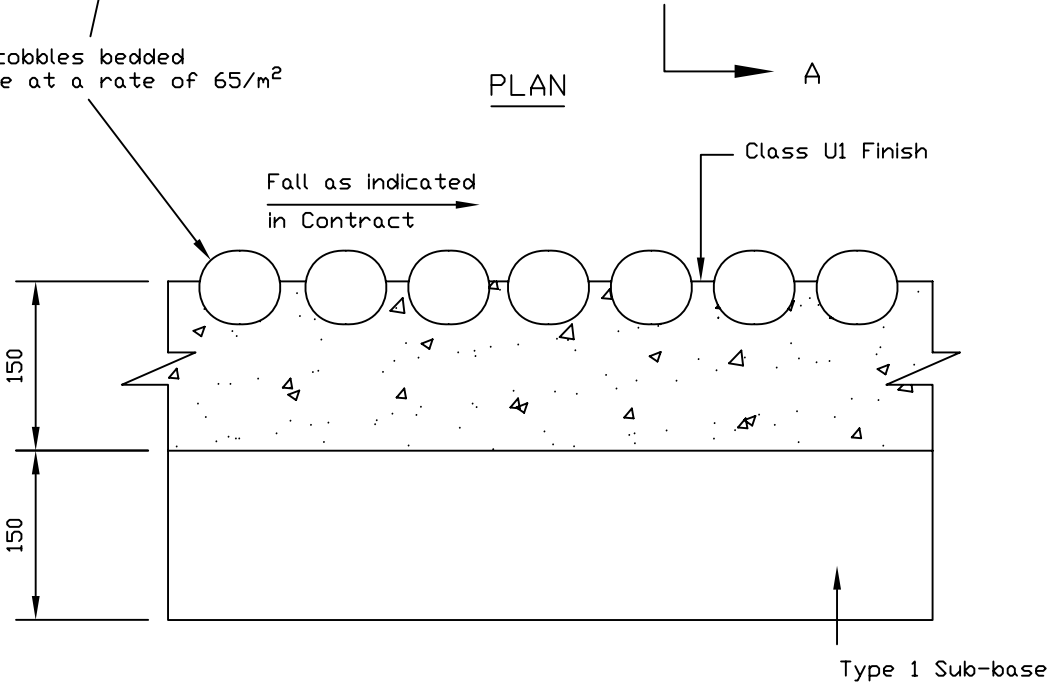
NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. For detail of layout see contract drawing.



100mm nominal diameter cobbles bedded
2/3 deep in ST5 concrete at a rate of 65/m²

PLAN



SECTION A - A

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

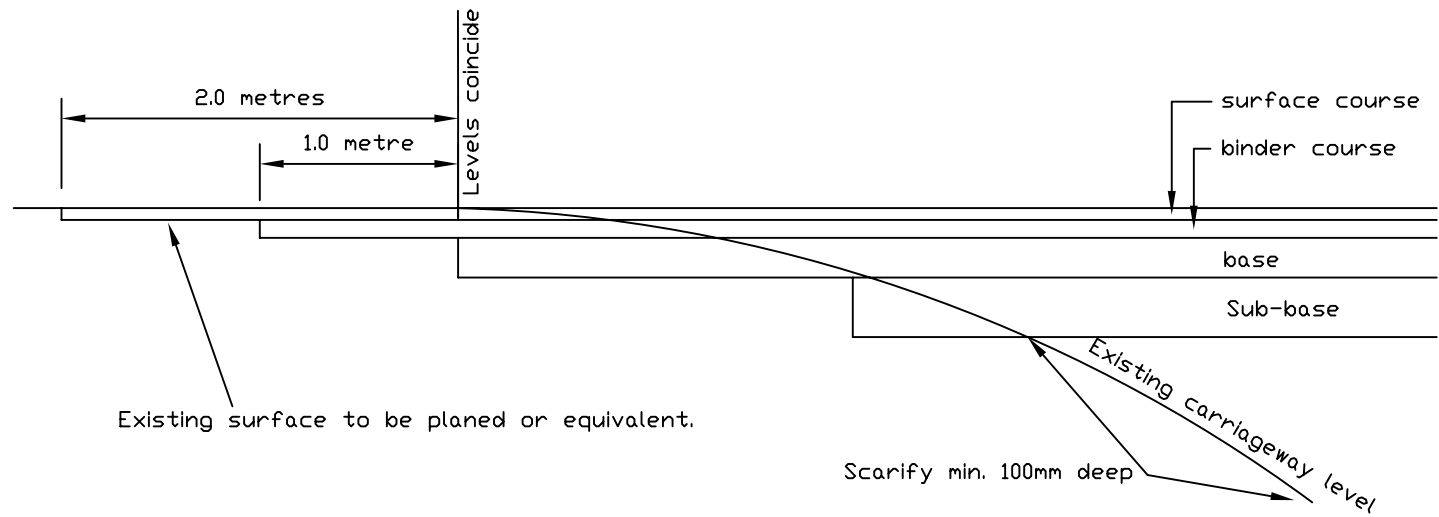
EDGE OF PAVEMENT DETAILS

DETERRENT PAVING
TYPE 1 (COBBLES)

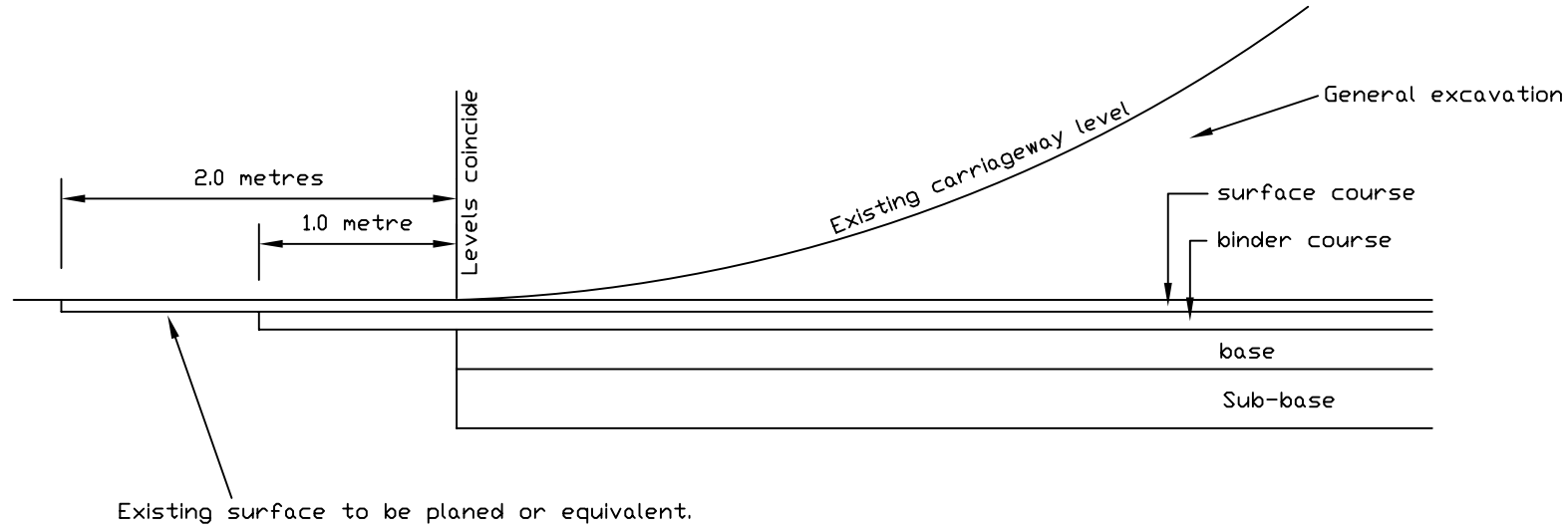
Drawing No.
B74

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Planning is defined as removal of the blacktop surfacing by means of a planer or equivalent.
- 3. Scarify is defined as breaking up existing surface by means of 'ripper' tooth or equivalent to allow free passage of water.



NEW CONSTRUCTION ABOVE EXISTING CARRIAGEWAY

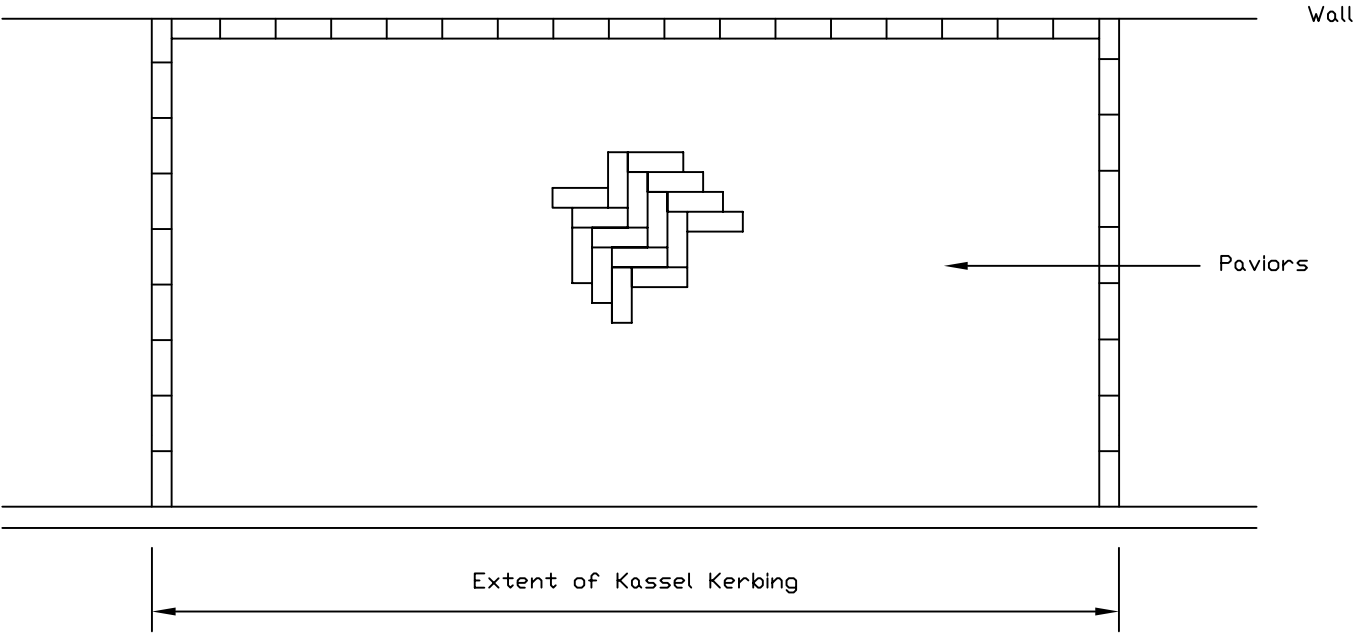


NEW CONSTRUCTION BELOW EXISTING CARRIAGEWAY

No.	Date	Description
↑		AMENDMENTS

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Lock block to be laid with 90° herring-bone in centre stretcher band around perimeter. See Appendix 11/1.



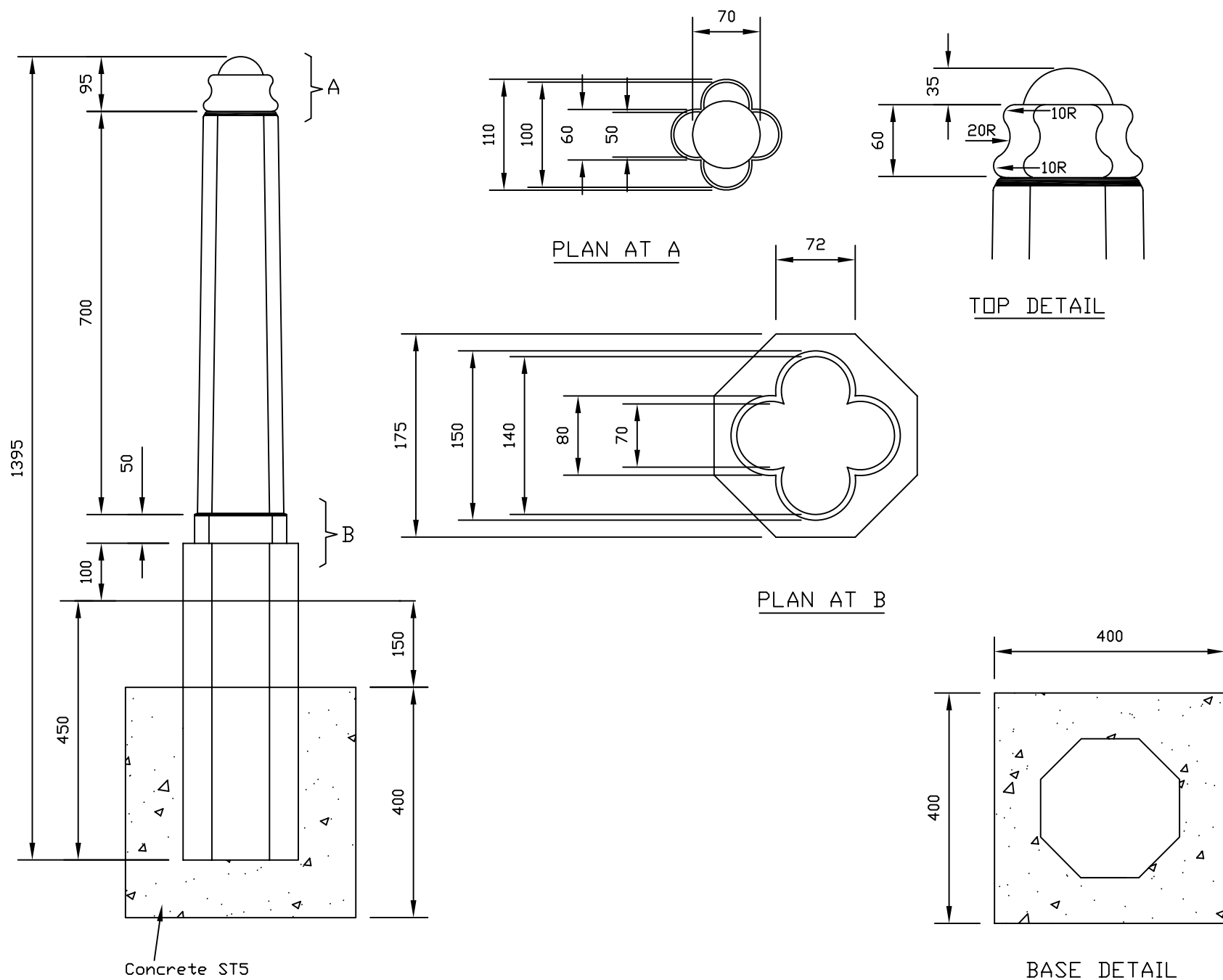
No.	Date	Description
↑		AMENDMENTS
		↓

HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

PAVIOR DETAIL AT
KASSEL KERBS

Drawing No.
B76



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Bollard to be painted in accordance with Appendix 19/1.

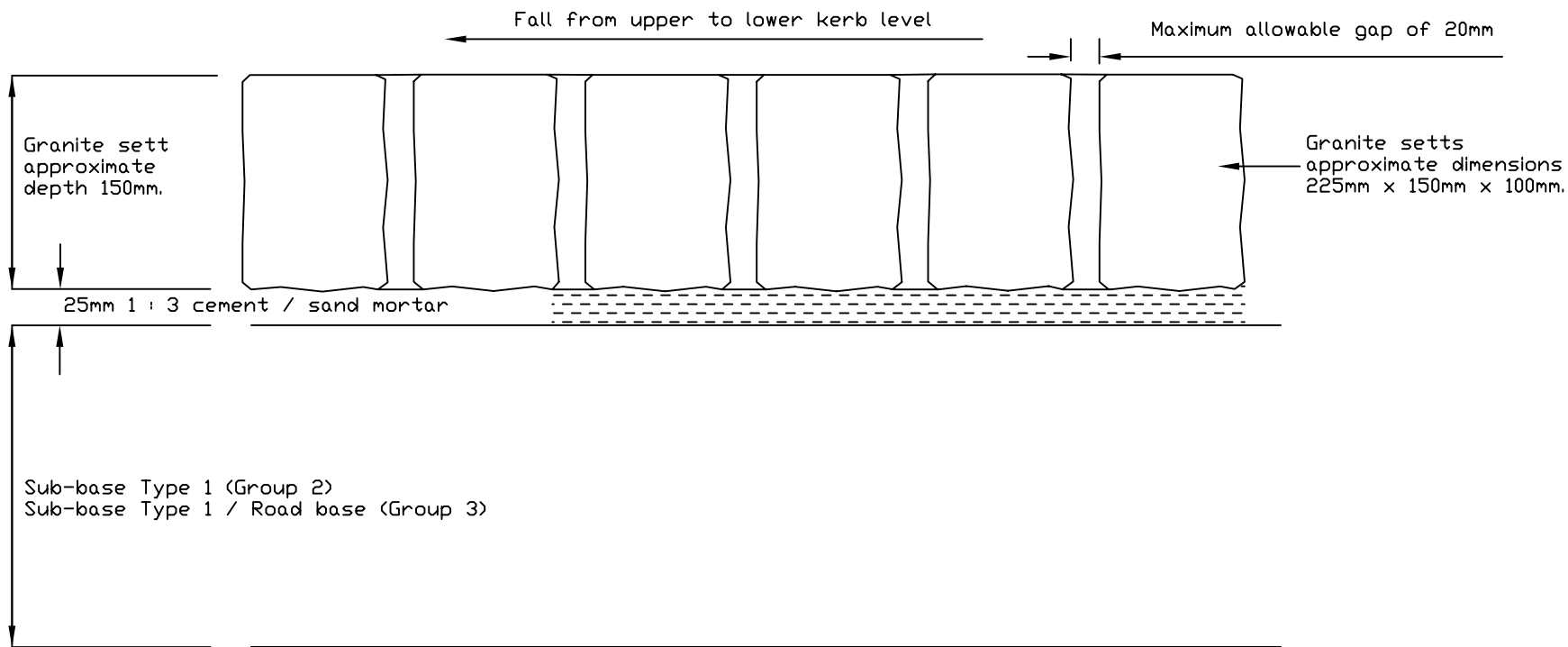
No.	Date	Description
AMENDMENTS		

Drawing No.
B77

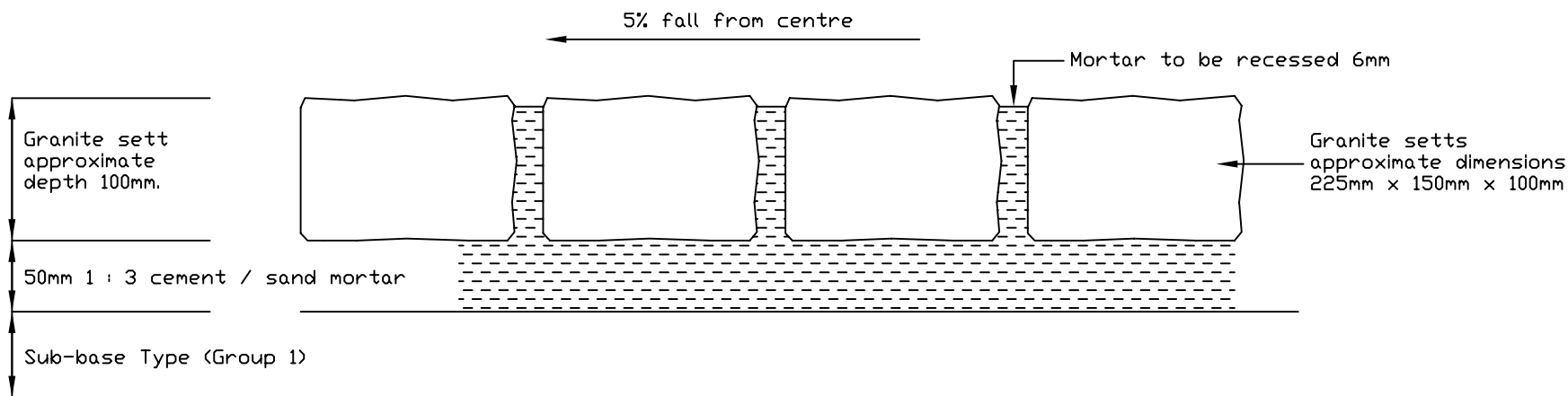
HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

CAST IRON 'ABERDEEN' BOLLARD



GRANITE SETT PAVING GROUPS 2 & 3



GRANITE SETT PAVING GROUP 1

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. See Appendix 11/71 for jointing details.

No.	Date	Description
AMENDMENTS		

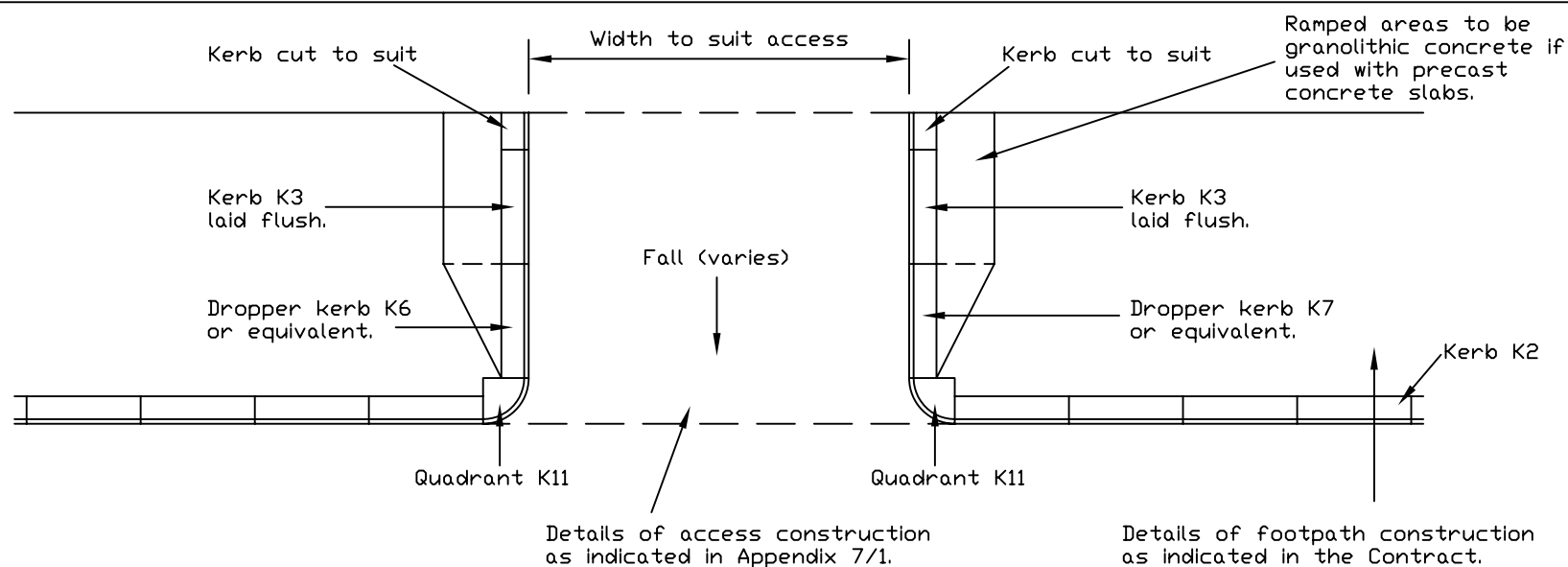
Drawing No.

B78

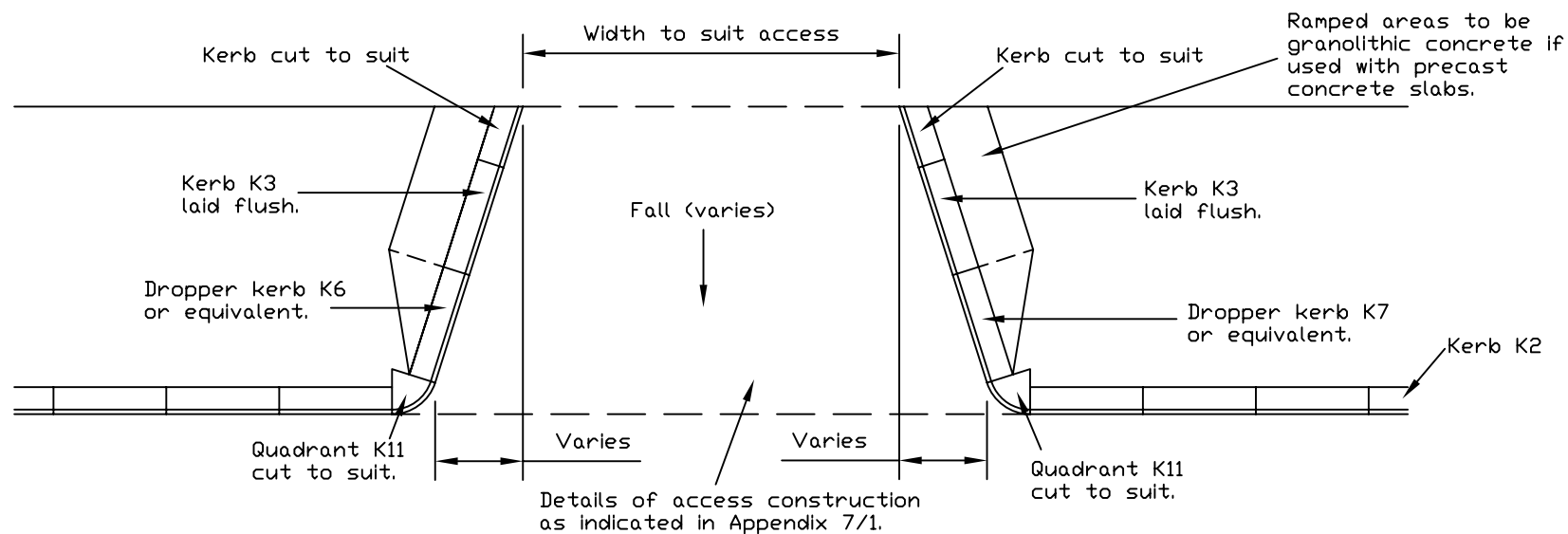
HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

GRANITE SETT PAVING
GROUPS 1, 2 & 3



ACCESS TYPE 1



ACCESS TYPE 2

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. For detail of layout of access see contract drawings.
3. For details of Flush Kerb see Drg. no. B82.

No.	Date	Description
		AMENDMENTS

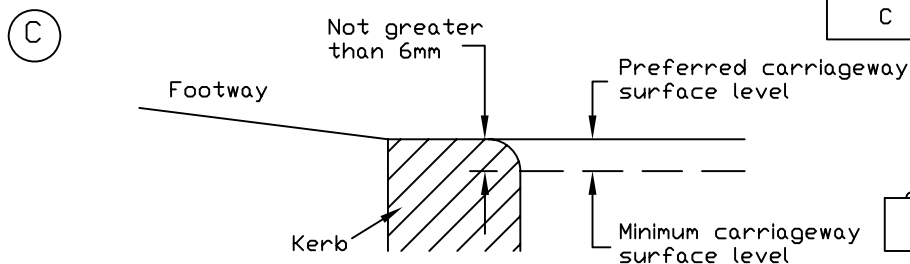
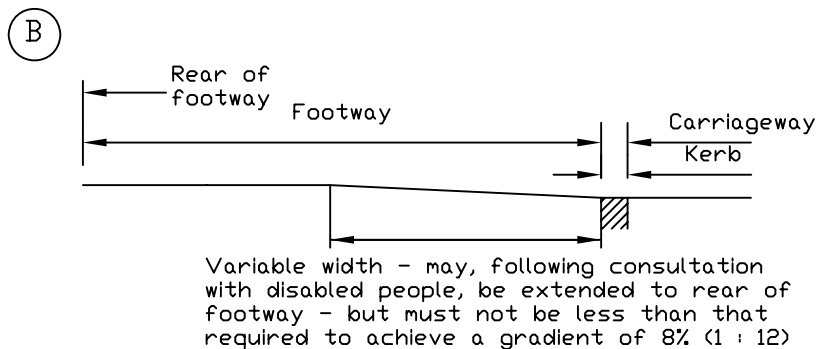
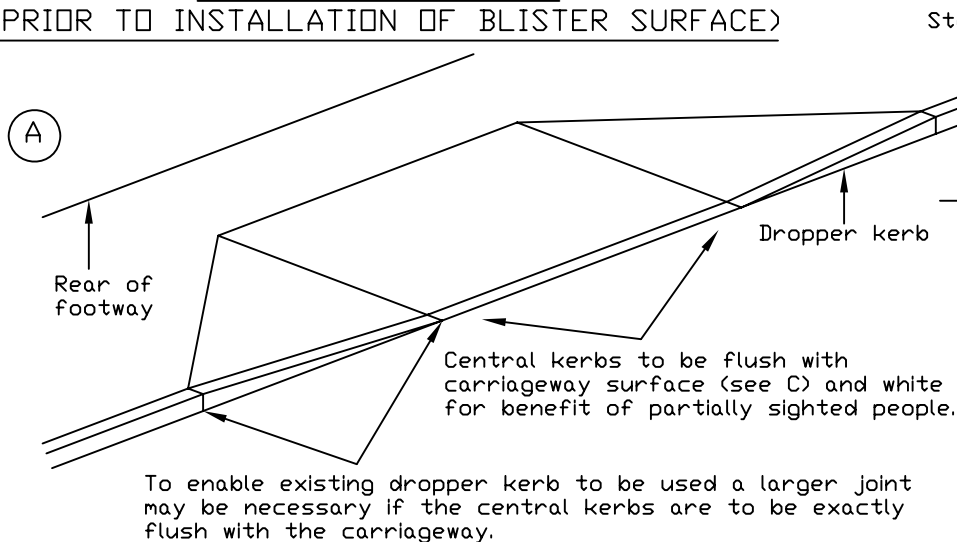
Drawing No.
B79

HIGHWAY CONSTRUCTION DETAILS

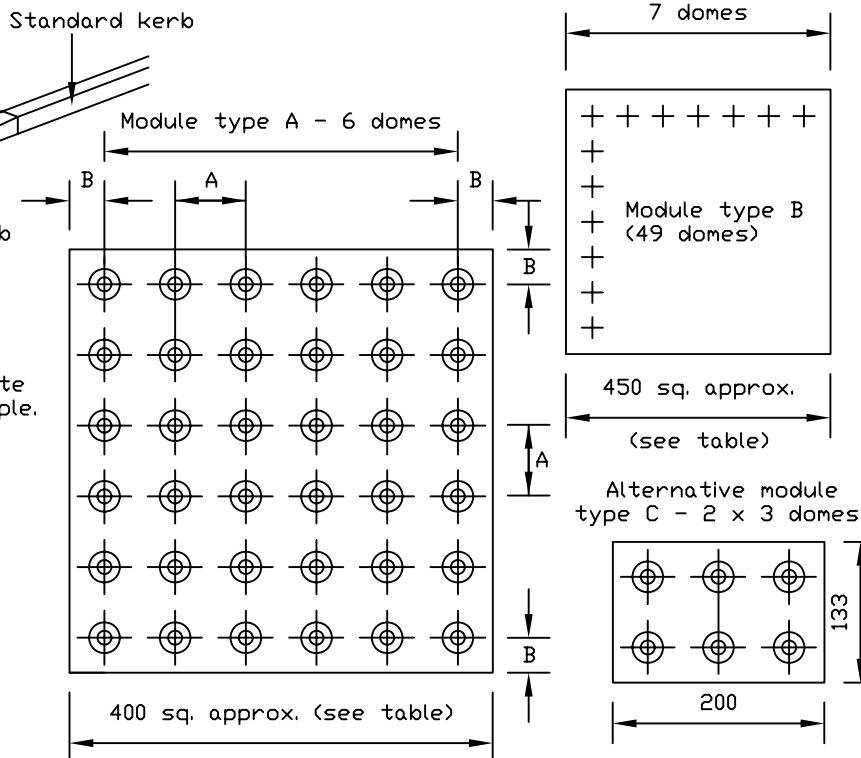
EDGE OF PAVEMENT DETAILS

ACCESS TO LIGHT INDUSTRIAL
PROPERTY
URBAN TYPES 1 & 2

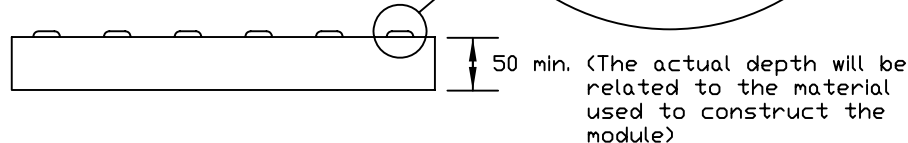
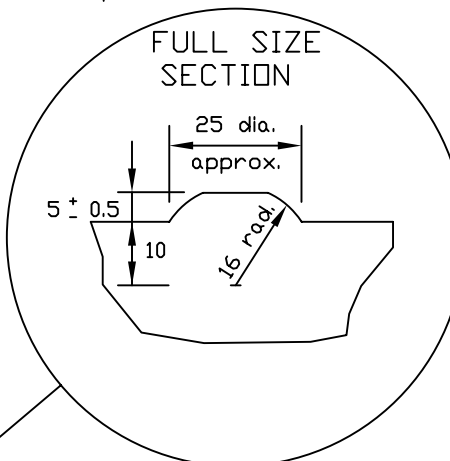
DROPPED KERB DETAIL (PRIOR TO INSTALLATION OF BLISTER SURFACE)



PROFILE & PLAN OF BLISTER SURFACE



Module Type	Size	Pitch dimensions	
		A	B
A	400sq.	64	33
B	450sq.	66.8	33
C	200 x 133	67	33



NOTES

- All dimensions are in millimetres unless otherwise stated.

HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

TEXTURED FOOTWAYS AT
PEDESTRIAN CROSSINGS

No.	Date	Description
		AMENDMENTS

Drawing No.

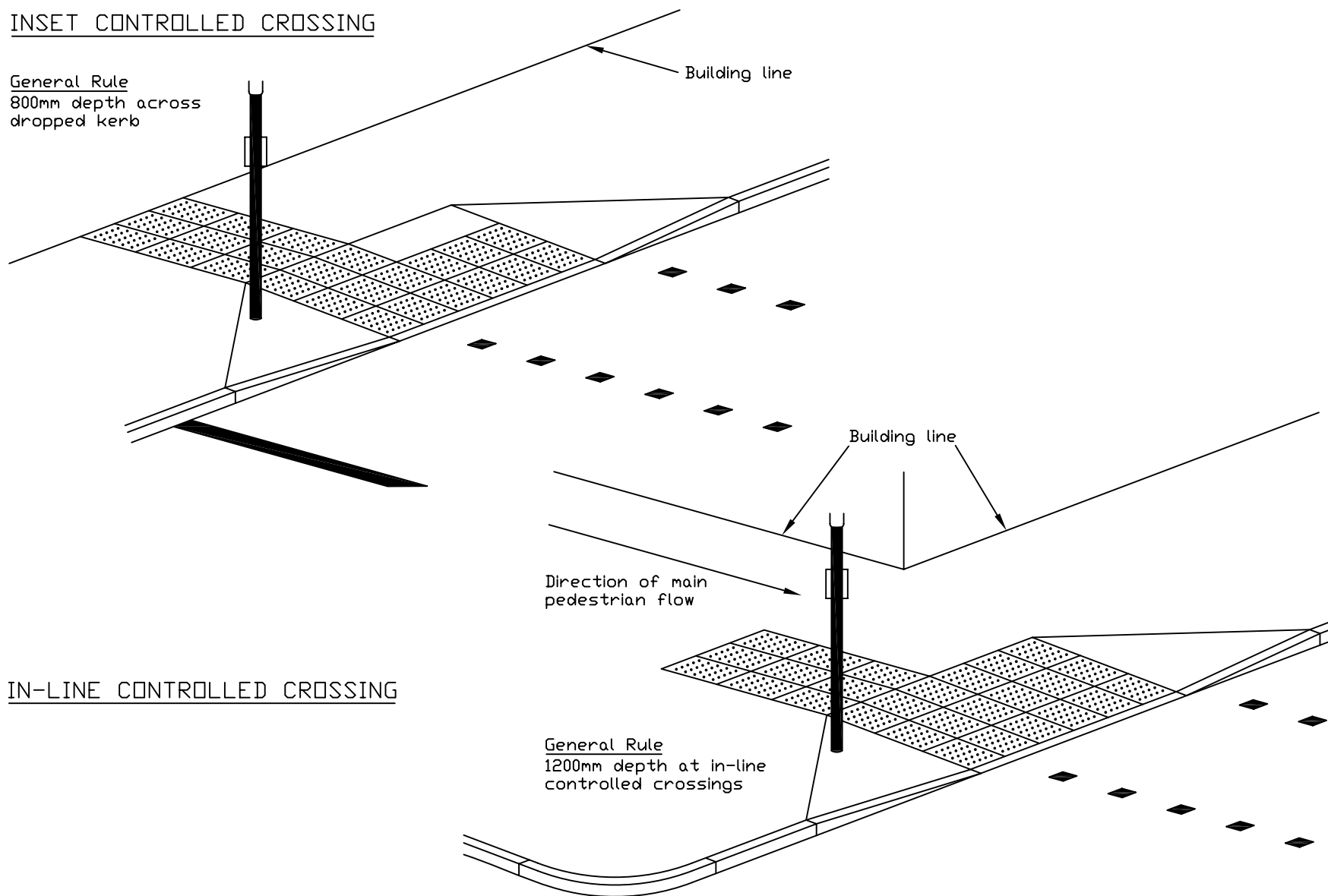
B80

LAYOUT OF BLISTER SURFACE AT CONTROLLED CROSSING POINT

"L" Pattern Tactile Surface Arrangement For Use At
Zebras, Pelicans And Other Signalised Crossings

INSET CONTROLLED CROSSING

General Rule
800mm depth across
dropped kerb



IN-LINE CONTROLLED CROSSING

General Rule
1200mm depth at in-line
controlled crossings

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Crossing shown is a pelican.
3. Further advice on the design of controlled crossings is given in Local Transport Note 2/95, "The design of pedestrian crossings".

No.	Date	Description
↑		AMENDMENTS
		↓

HIGHWAY CONSTRUCTION DETAILS

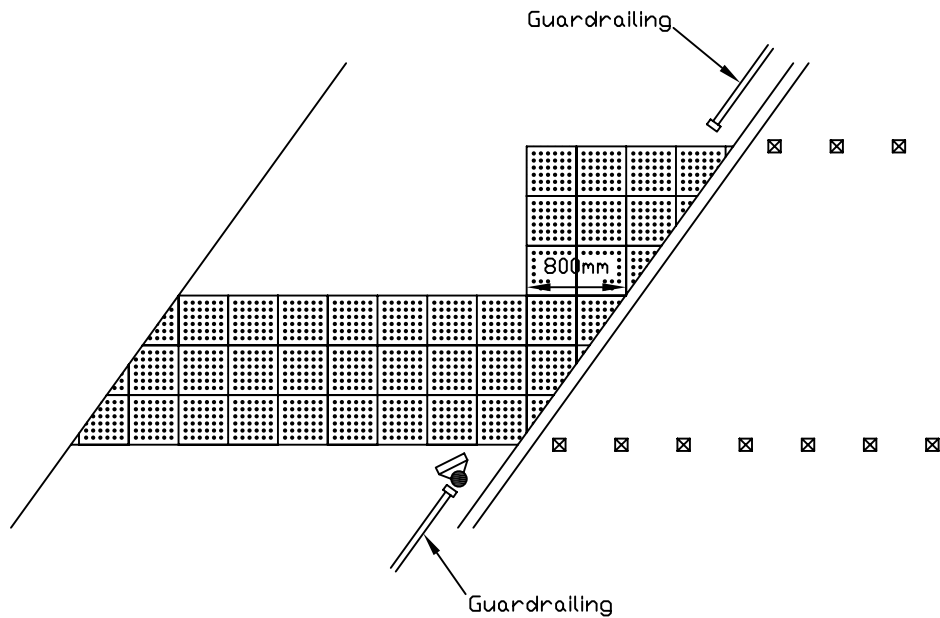
EDGE OF PAVEMENT DETAILS

TEXTURED FOOTWAYS AT
PEDESTRIAN CROSSINGS

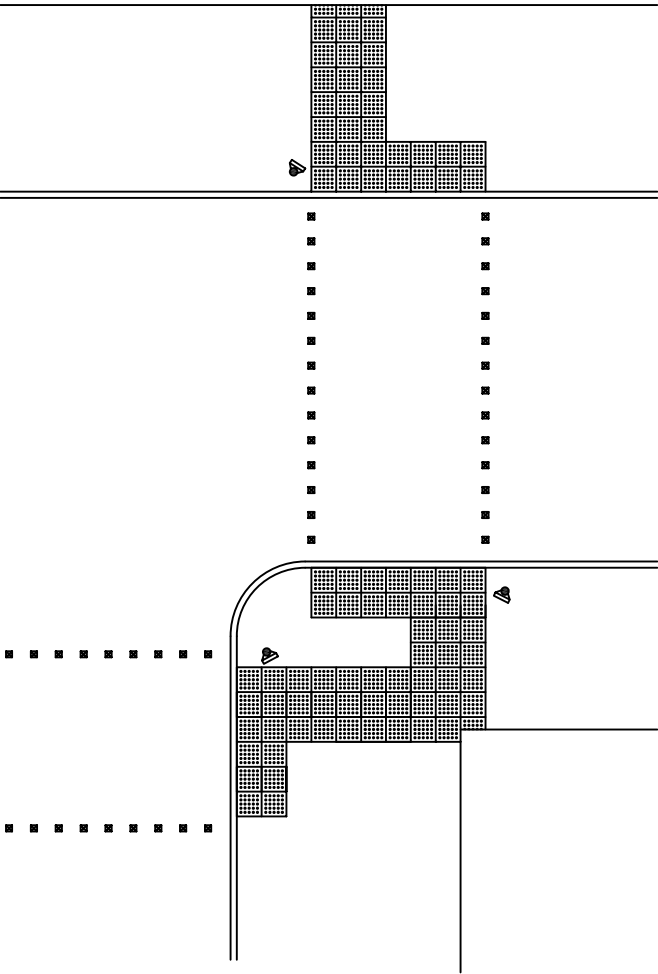
Drawing No.

B81

LAYOUT OF BLISTER SURFACE AT CONTROLLED CROSSING WHERE
THE BACK EDGE OF THE TACTILE IS NOT PARALLEL TO THE KERB



OVERLAPPING CONTROLLED
CROSSING



NOTES

1. All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
↑		AMENDMENTS

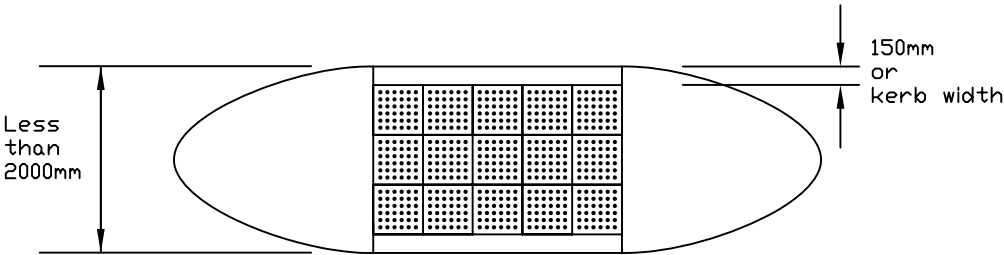
HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

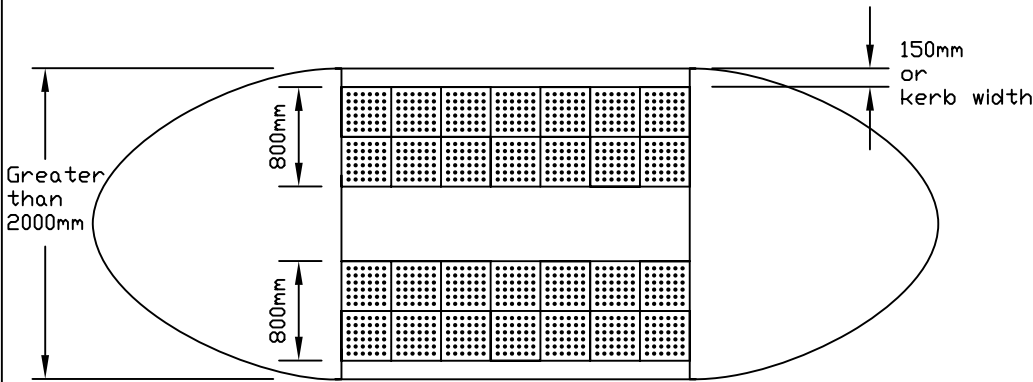
TEXTURED FOOTWAYS AT
PEDESTRIAN CROSSINGS

Drawing No.
B82

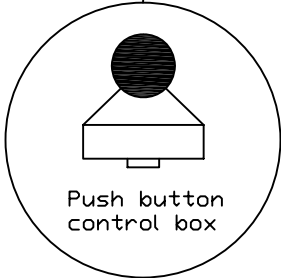
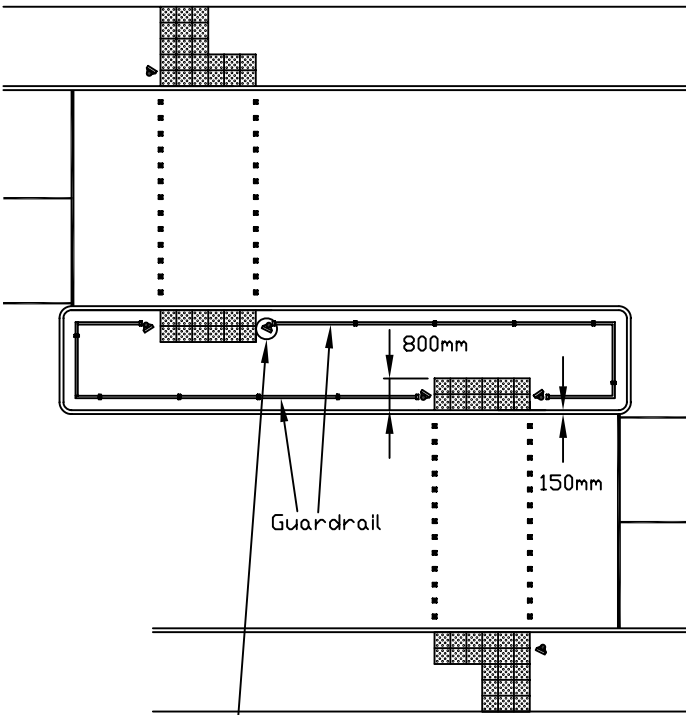
LAYOUT OF BLISTER SURFACE ON STANDARD REFUGE
LESS THAN 2m WIDE



LAYOUT OF BLISTER SURFACE ON STANDARD REFUGE
GREATER THAN 2m WIDE

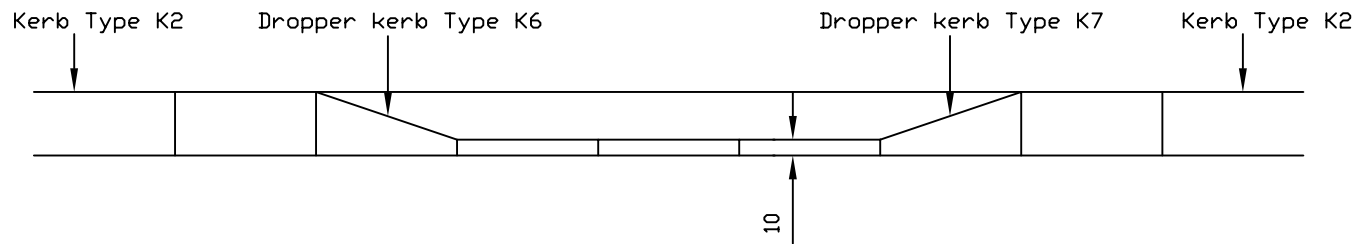


LAYOUT OF BLISTER SURFACE ON A STAGGERED
PEDESTRIAN ISLAND

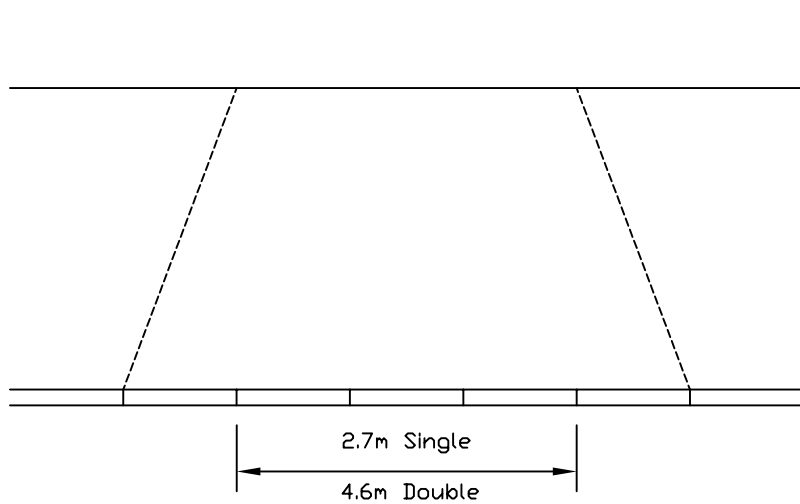


- NOTES
1. All dimensions are in millimetres unless otherwise stated.
 2. Traffic signals omitted for clarity.

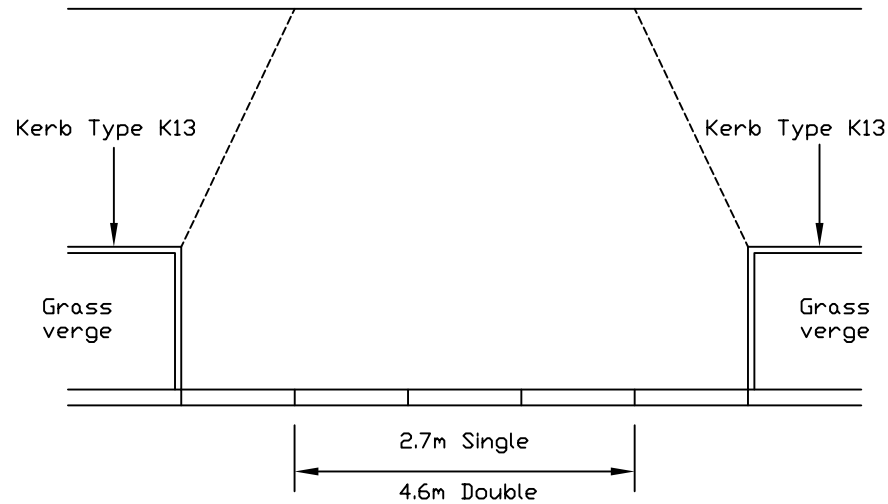
No.	Date	Description
↑		AMENDMENTS



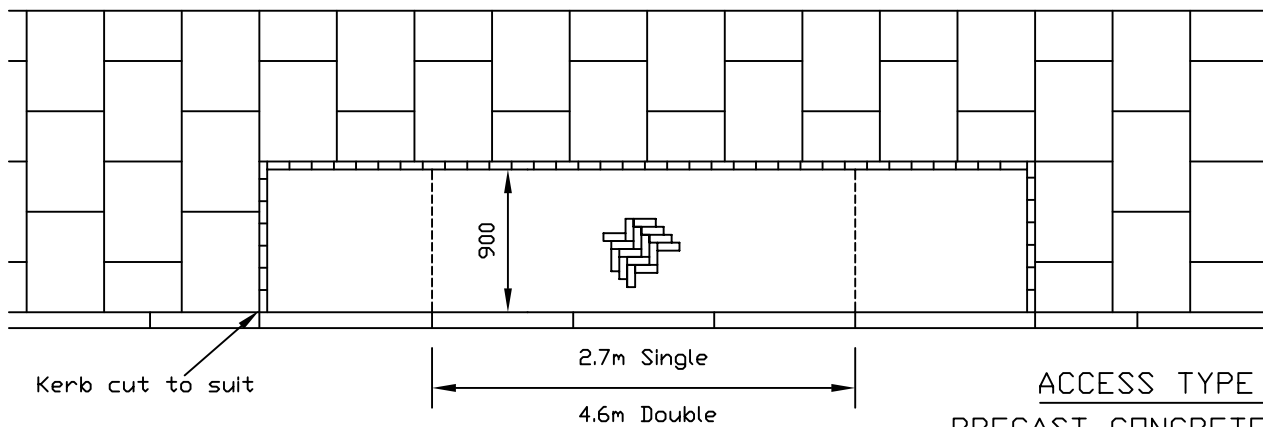
ELEVATION



ACCESS TYPE DF1



ACCESS TYPE DF2



ACCESS TYPE DP1
PRECAST CONCRETE PAVING

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Lock block to be laid with 90° herring-bone in centre stretcher band around perimeter. See Appendix 11/1.

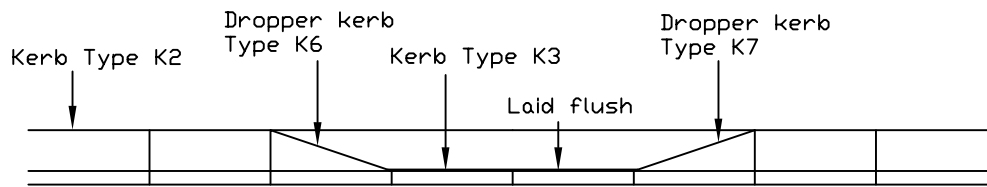
No.	Date	Description
↑		AMENDMENTS
		↑

Drawing No.
B84

HIGHWAY CONSTRUCTION DETAILS

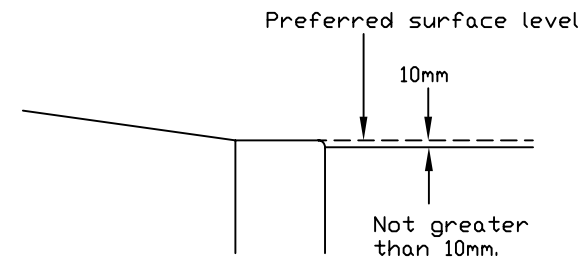
EDGE OF PAVEMENT DETAILS

VEHICULAR ACCESS TO
DOMESTIC PREMISES

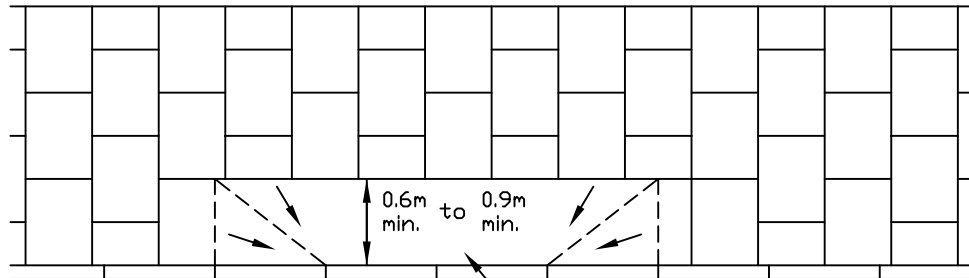


ELEVATION

Channel

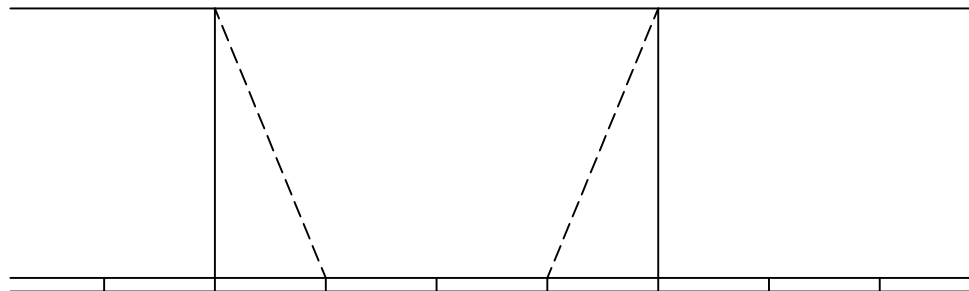


FLUSH KERB DETAIL



PLAN
PRECAST CONCRETE PAVING

Precast concrete paving Clause 1104.



PLAN
FLEXIBLE SURFACING

NOTES

1. All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

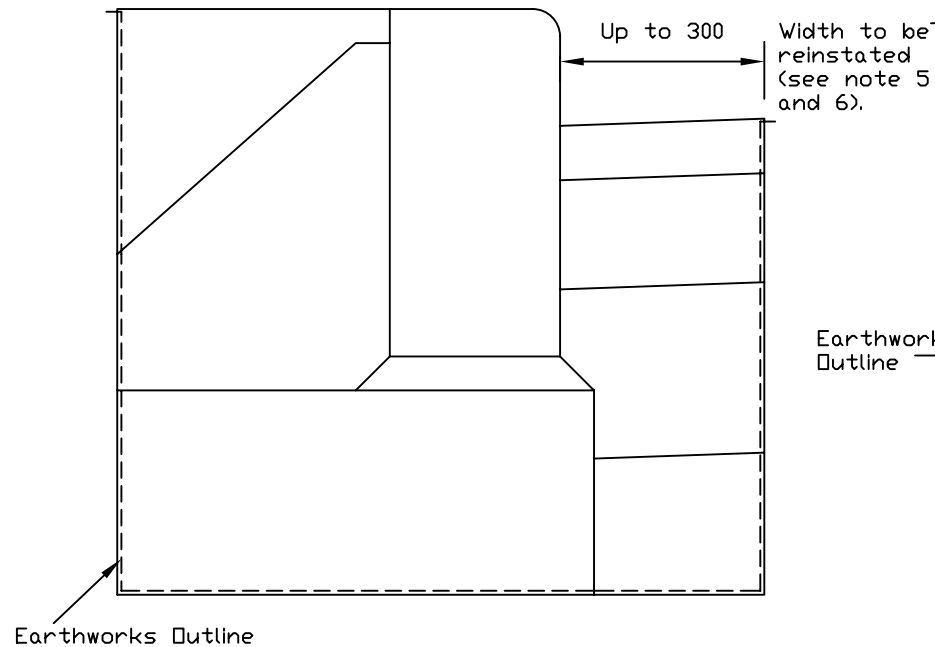
EDGE OF PAVEMENT DETAILS

PEDESTRIAN CROSSING DETAILS

Drawing No.

B85

For details of kerbs
see drawings B70 - 72

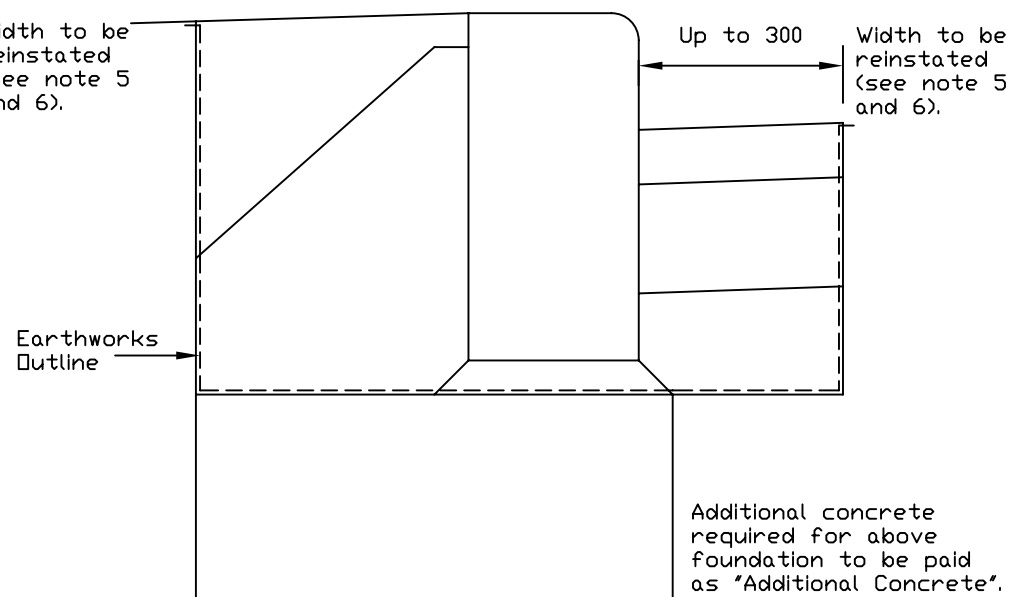


LAYING AND RELAYING KERB ON NEW FOUNDATION.

KERB TYPE N

(Note - Design groups E and N to be prefixed with 1, 2 etc.
to indicate kerb type eg. kerb type 1N.)

For details of kerbs
see drawings B70 - 72



LAYING AND RELAYING KERB
ON EXISTING FOUNDATION.

KERB TYPE E

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Excavation of all material within Earthworks Outline to be measured under Series 600.
3. Rate for kerb to include for reinstatement in front and rear of kerb. This work to exclude new footway wearing course which is to be remeasured.
4. Existing kerb, foundation and blacktop considered to be Hard Material.
5. Reinstatement of a width of up to 300mm to be allowed for in kerbing rate. Additional areas of reinstatement to be paid in Series 700 (Reinstatement) if instructed by the Engineer.
(Note : The contractor may wish to choose to reinstate a width less than 300mm.)
6. Where a settled channel has been removed in the site clearance section, the Earthworks Outline will be at the bottom of sett level.
7. Where the engineer wishes to reconstruct a further section of road, this will be indicated in the Contract and measured in Series 700.

No.	Date	Description
↑ AMENDMENTS ↓		

Drawing No.

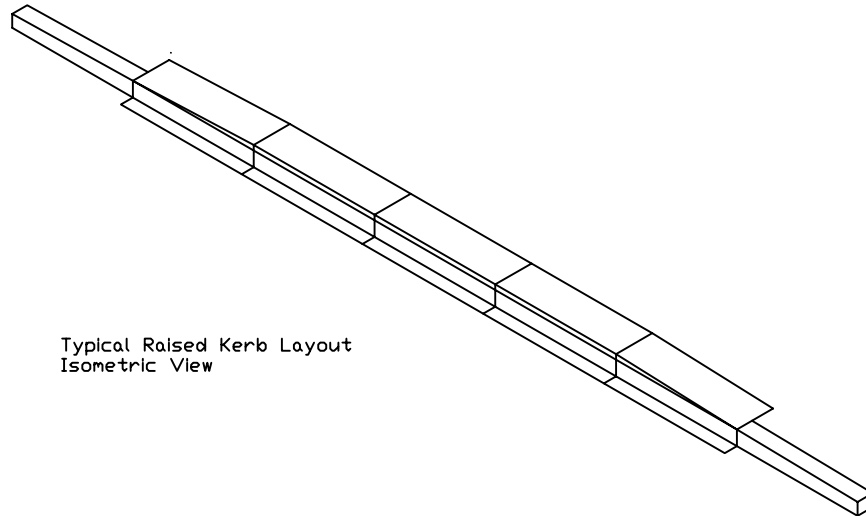
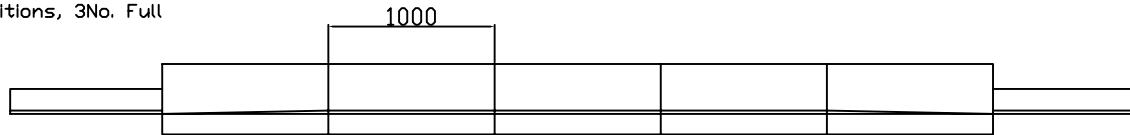
B86

HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

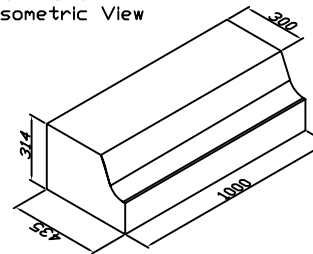
REPLACEMENT OF EXISTING KERB
ON NEW AND EXISTING FOUNDATION

Typical Raised Kerb Layout
Plan
(2No. Transitions, 3No. Full
Height)

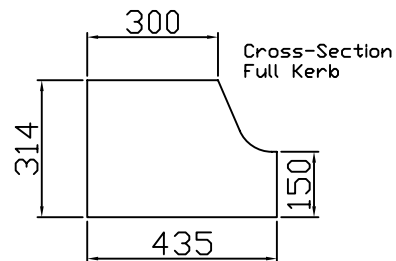
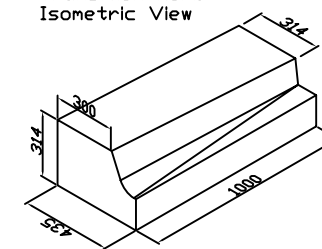


Typical Raised Kerb Layout
Isometric View

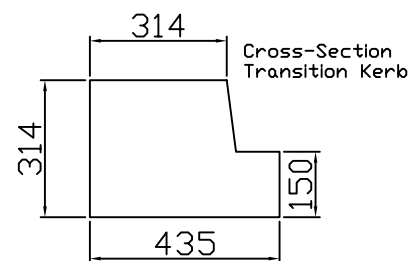
Full Kerb
Isometric View



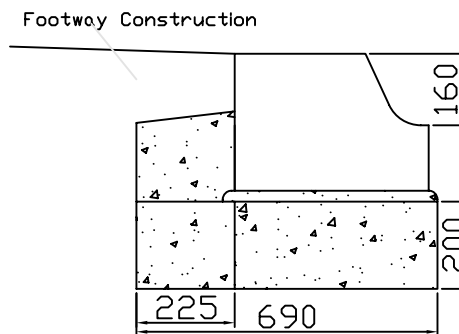
Transition Kerb
Isometric View



Cross-Section
Full Kerb



Cross-Section
Transition Kerb



Typical Cross Section

NOTES:

1. All dimensions are in millimetres unless otherwise stated.
2. Kerbs to be laid on 1:3 cement/sand mortar bed as per BS7263.
3. See Appendix 11/1 where road construction does not practicably permit construction of kerb log on sub-base.

1: 03/04/06 Isometric View
Amended.

No. DATE DESCRIPTION

AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

EDGE OF PAVEMENT DETAILS

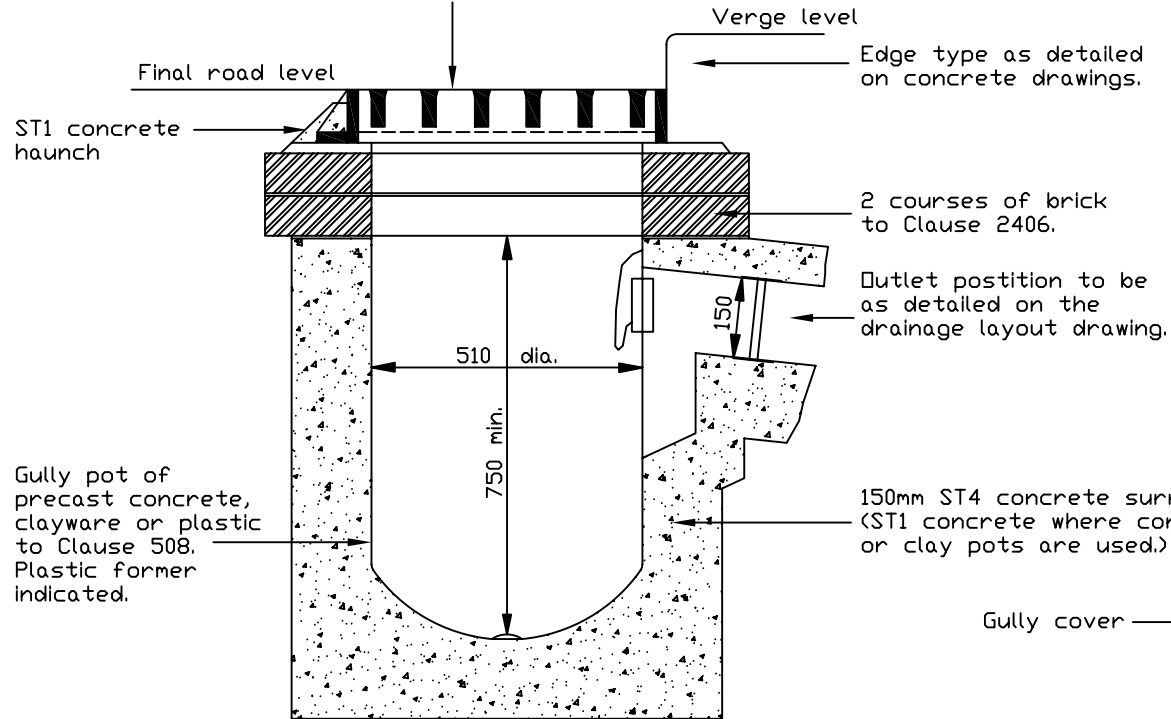
RAISED BUS BOARDING KERBS

DRAWING No.

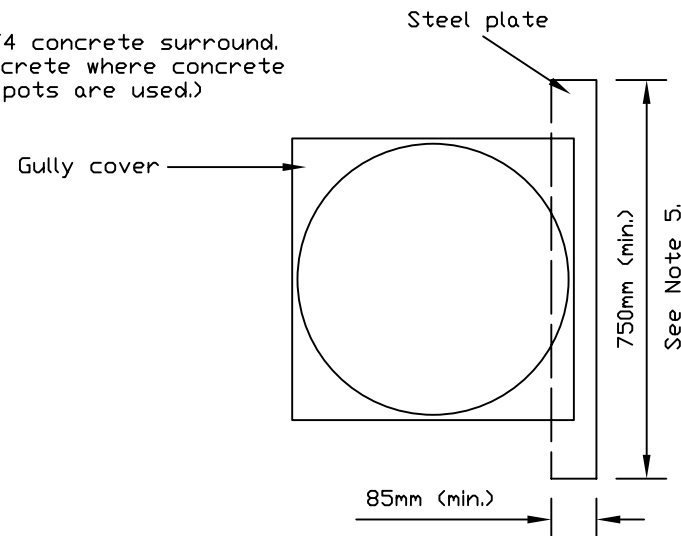
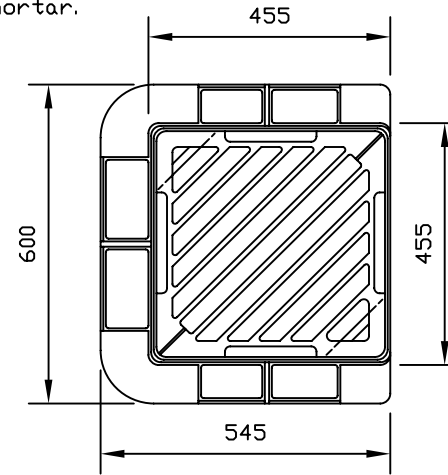
B88

(See Note 3 for Gully Types)

Grating and frame to comply with
BS EN124 : 1994 Class D400 (Double Triangular)
Set 6mm below road surface and to fall.
Frame to be 100mm deep.



Frame to be bedded on
10 to 20mm of
Class 1
cement mortar.



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. See typical layout of gullies for connection details.
3. Gully types :
G1 - Trapped
G2 - Untrapped
4. All road gully gratings and frames will require to be Kitemarked in accordance with Appendix B (Volume 1).
5. A 5mm thick steel 'fish' plate shall be used where support for a kerb log is required due to position of gully pot.

No.	Date	Description
AMENDMENTS		

Drawing No.

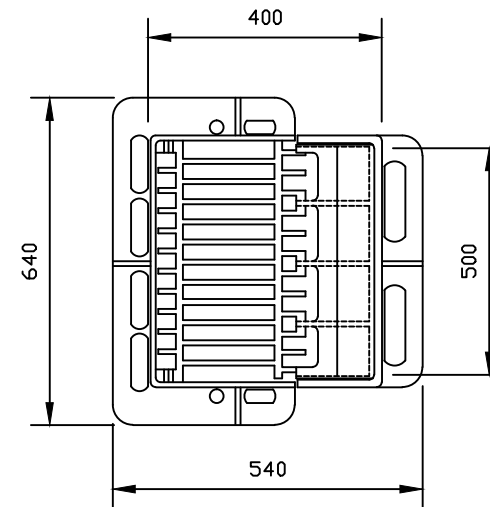
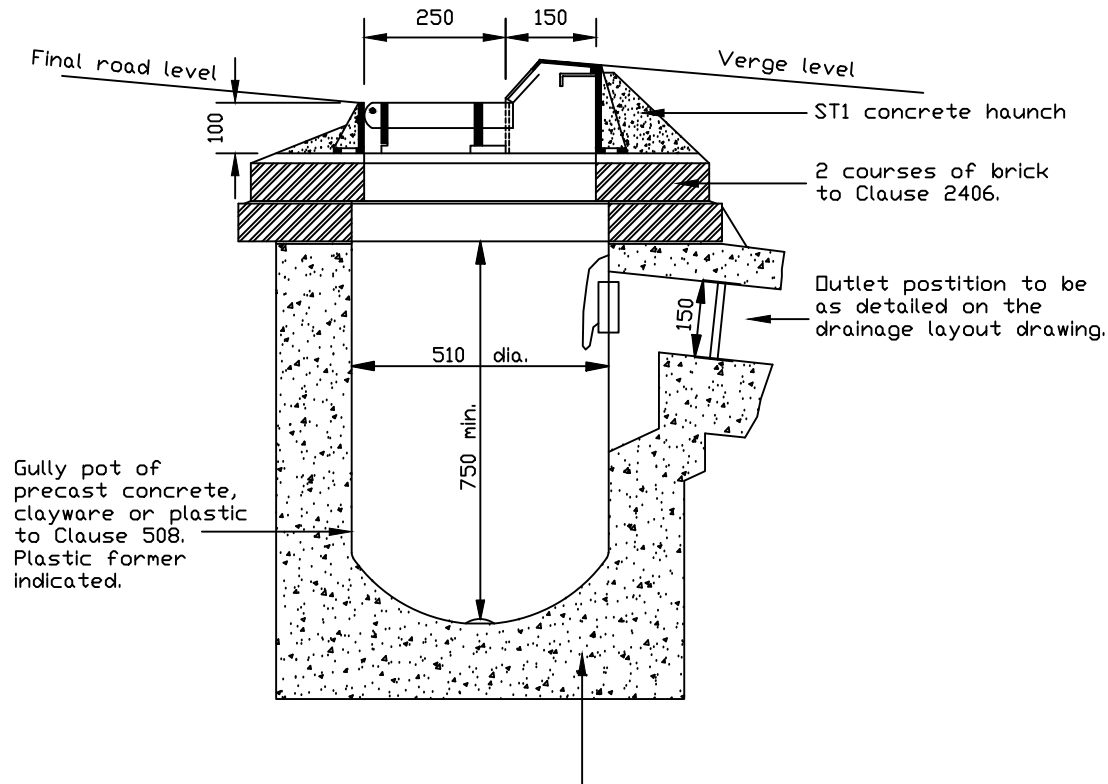
F70

HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

GULLIES
CHANNEL - TYPES G1 & G2

(See Note 3 for Gully Types)



Interlocking lockable four part gully grating, cover and frames. Grade A Class D400 complying with the requirements of BS EN124 : 1994

Frames to be bedded on Class 1 cement mortar complying with Clause 2404.

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. See typical layout of gullies for connection details.
3. Gully types :
G3 - Splayed
G4 - Splayed (Untrapped)
G5 - Half Battered
G6 - Half Battered (Untrapped)
4. All road gully gratings and frames will require to be Kitemarked in accordance with Appendix B (Volume 1).
5. See Drawing F70 for use of 'fish' plate.

No.	Date	Description
AMENDMENTS		

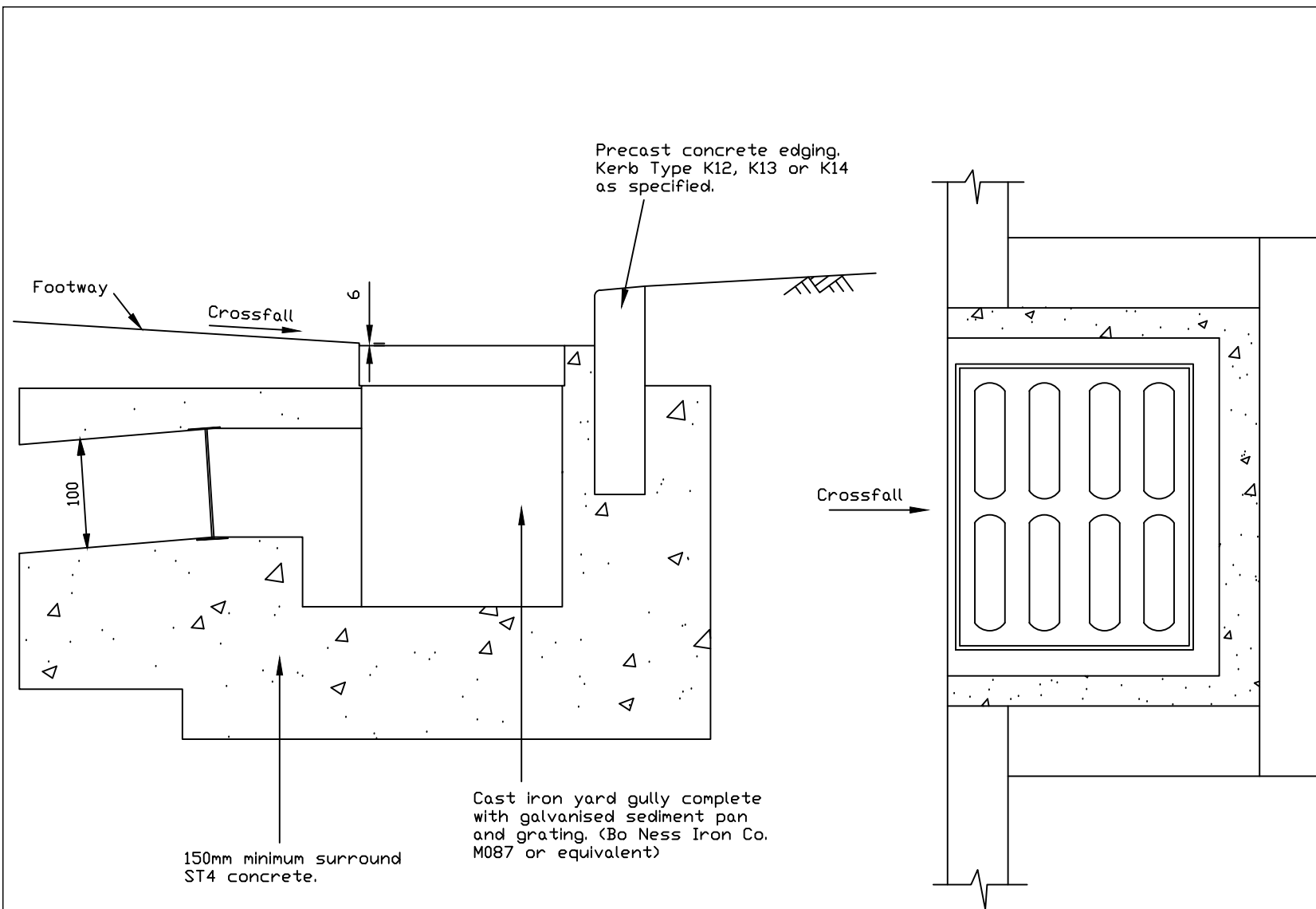
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

GULLIES
COMBINATION TYPES G3, G4, G5, & G6

Drawing No.

F 71



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. All road gully gratings and frames will require to be Kitemarked in accordance with Appendix B (Volume 1).

No.	Date	Description
AMENDMENTS		

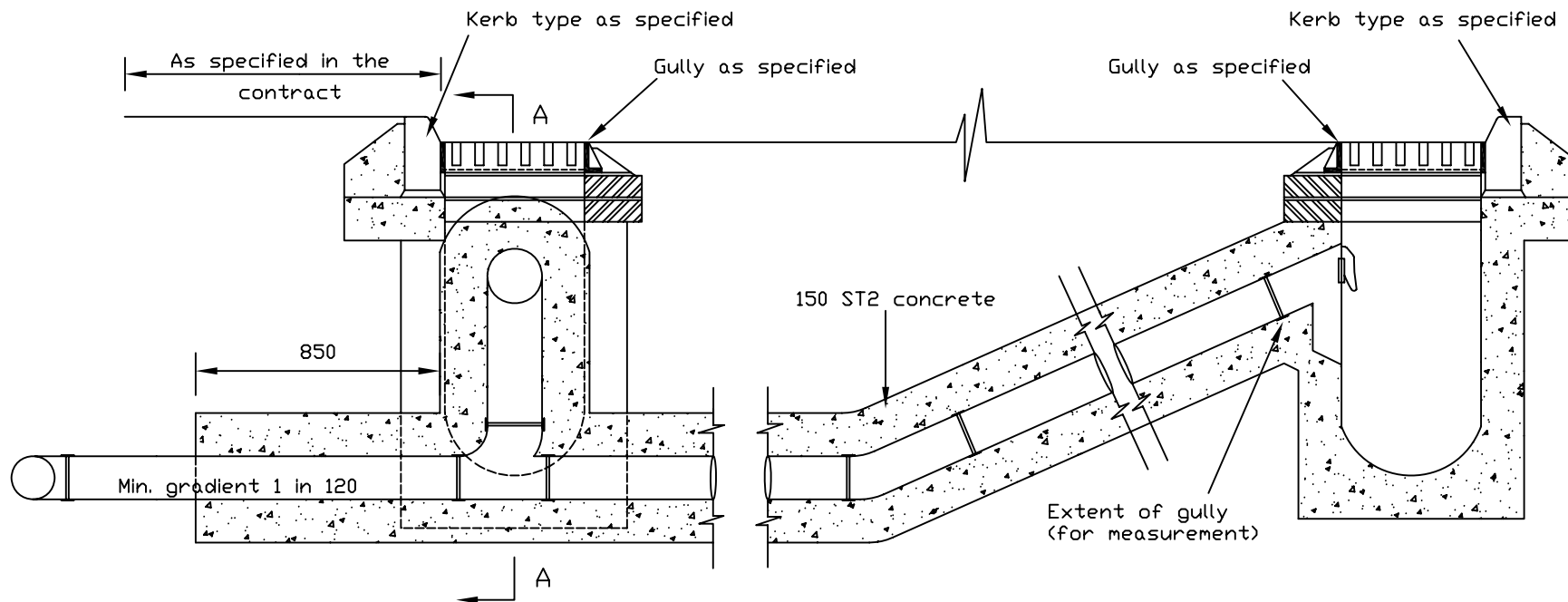
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

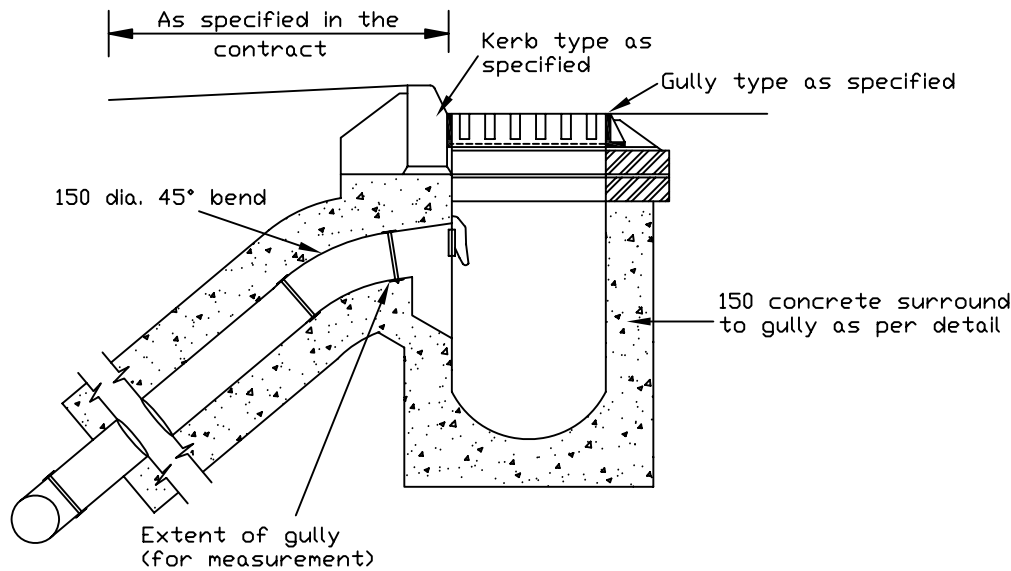
GULLIES
FOOTWAY - TYPE G7

Drawing No.

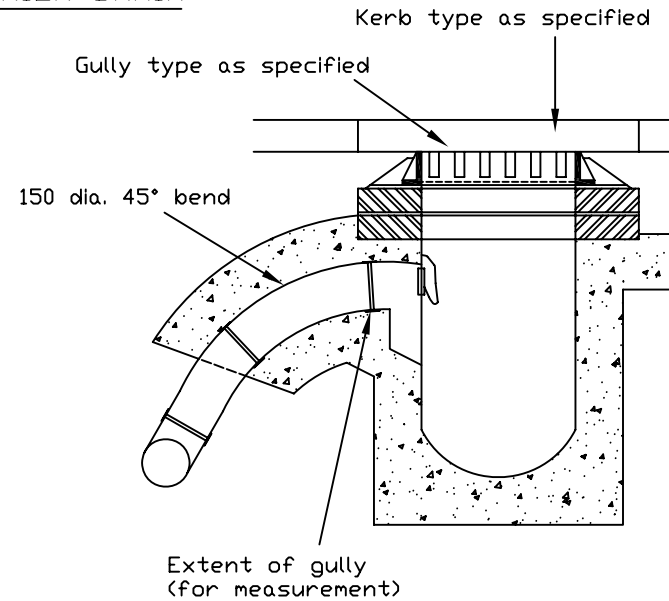
F72



DOUBLE GULLY TO CARRIER DRAIN



SINGLE GULLY TO CARRIER DRAIN



SECTION A - A

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. For details of permitted pipe material see Appendix 5/1.
3. Pipework measured and paid as separate item.
4. All pipes with less than 900mm cover to Earthworks Outline to be concrete surrounded.
5. No bends in horizontal plane permitted.
6. Bends in vertical plane to be no greater than 45°.
7. Flexible joint to be provided at termination of concrete surround.

No.	Date	Description
↑		AMENDMENTS
↓		

Drawing No.

F73

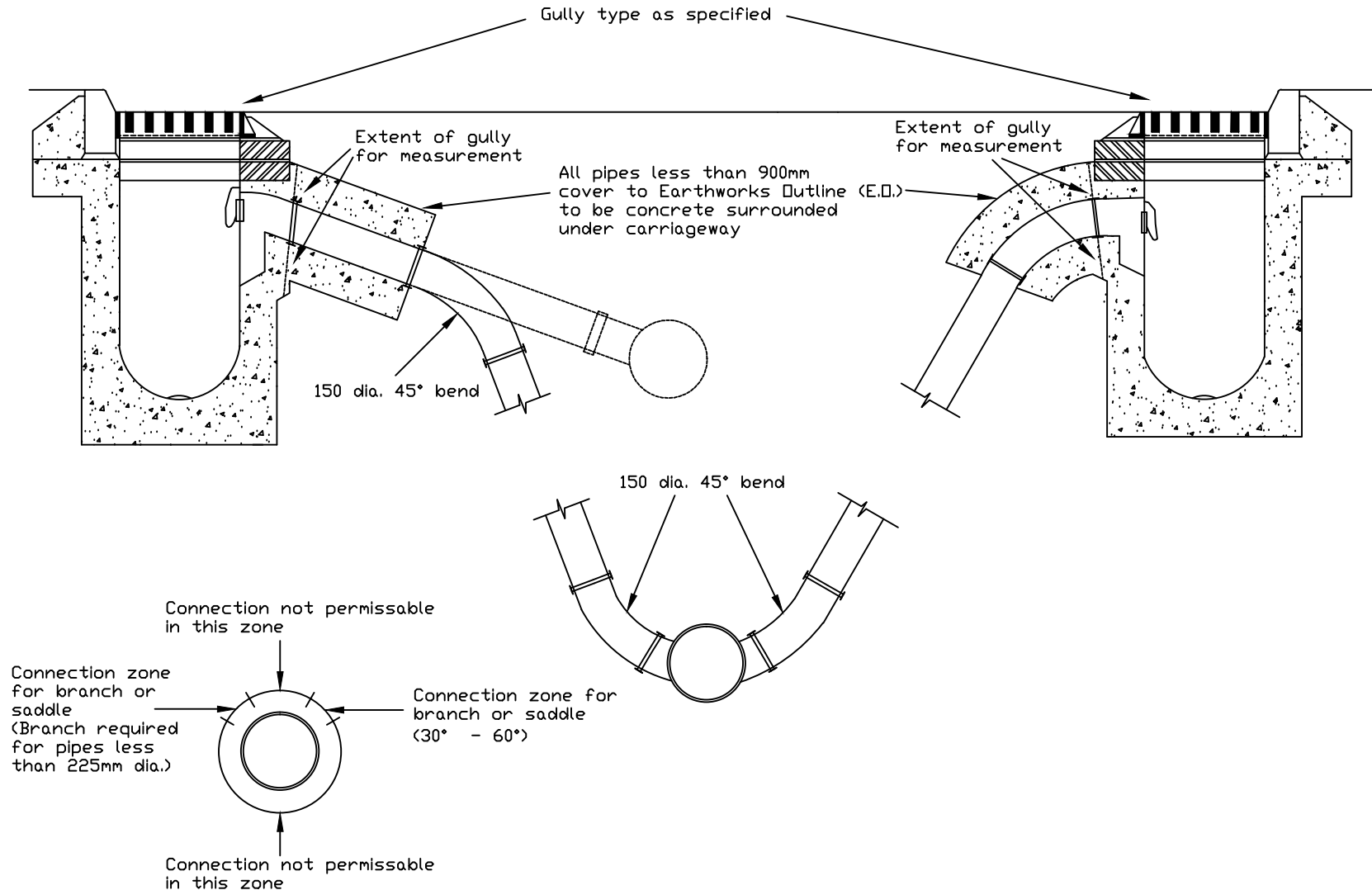
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

TYPICAL GULLY LAYOUT
RURAL LOCATION

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Arrangement of pipes show only typical case, position may be altered to suit services etc..
3. All pipes with less than 900mm cover to E.D. to be concrete surrounded under carriageway.
4. No bends in horizontal plane permitted.
5. Bends in vertical plane to be no greater than 45°.
6. Connection to existing surface water drain up to 225mm to be formed via a branch, connection to larger pipes to be made with a saddle.



SECTION THROUGH EXISTING DRAIN

No.	Date	Description
AMENDMENTS		

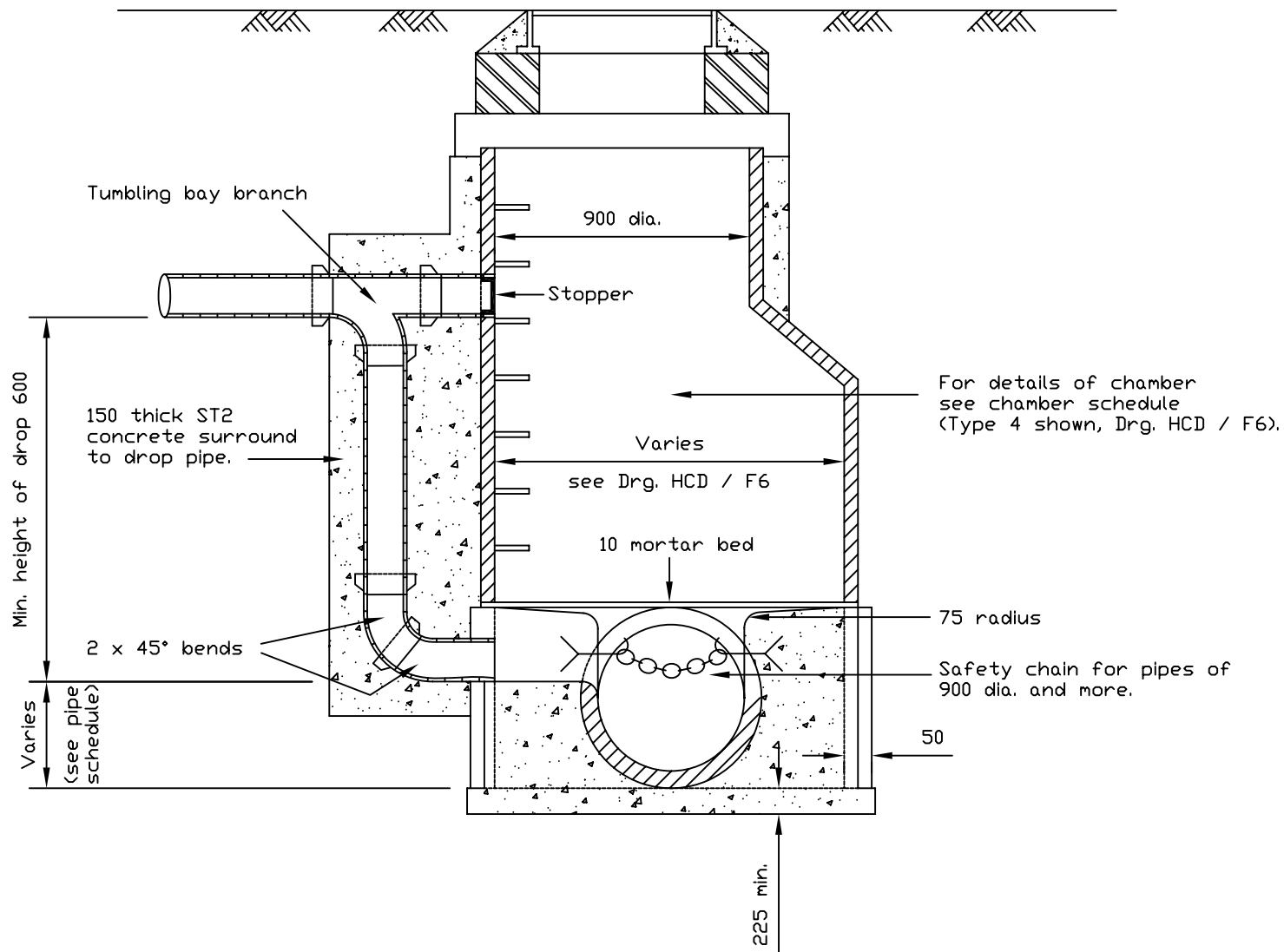
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

TYPICAL GULLY LAYOUT
URBAN LOCATION

Drawing No.

F74



DETAILS OF BACKDROP MANHOLE

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Type of chamber to be as described in the chamber schedule. Type 4 shown.
3. For sizes of pipes see drainage schedule.
4. Suffix BD to manhole type indicates backdrop to be used.
5. Mortar to be designation (I) to SHW series 2400.

No.	Date	Description
AMENDMENTS		

Drawing No.

F80

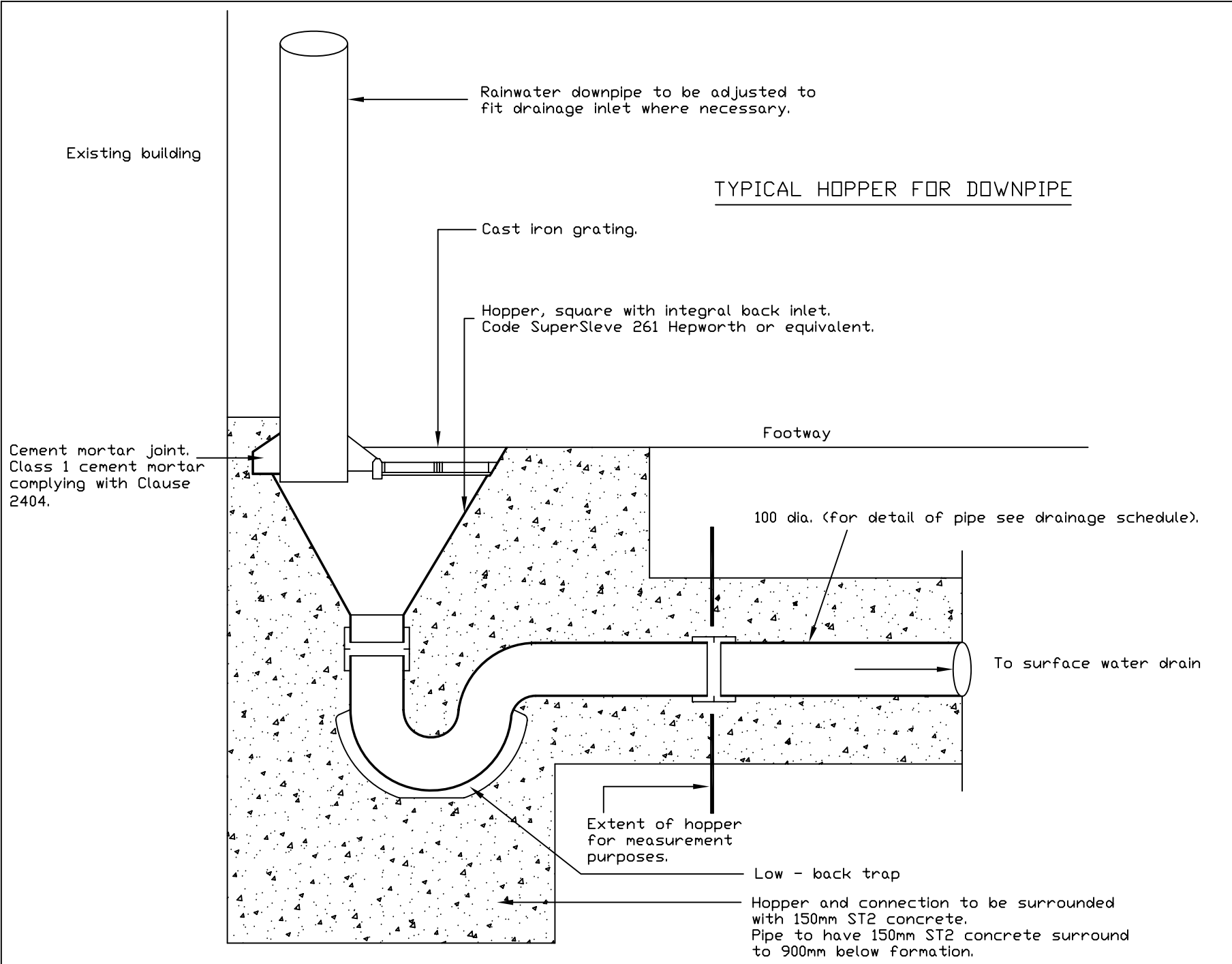
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

MANHOLE (BACKDROP)
TYPE (X) BD

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. For details of pipes etc. see Appendix 5/1.



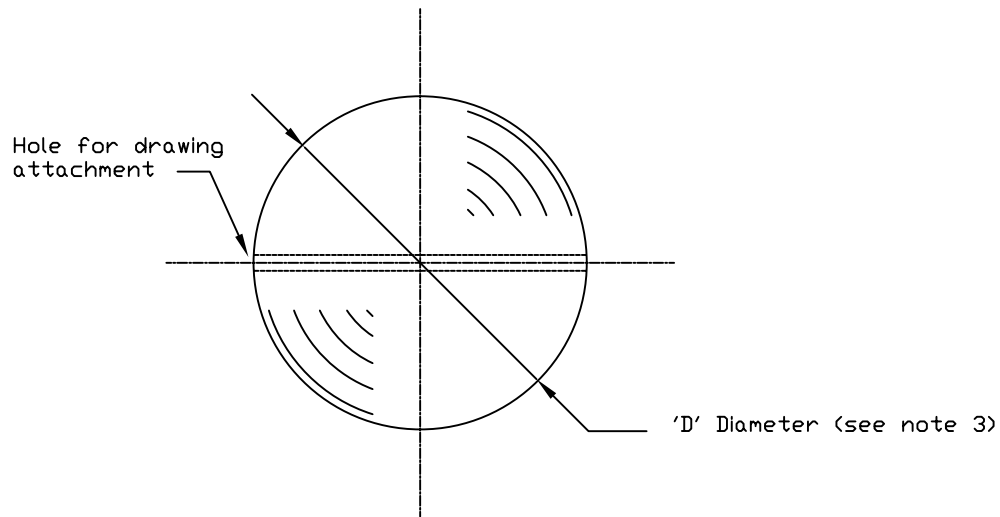
No.	Date	Description
↑		AMENDMENTS
		↓

HIGHWAY CONSTRUCTION DETAILS

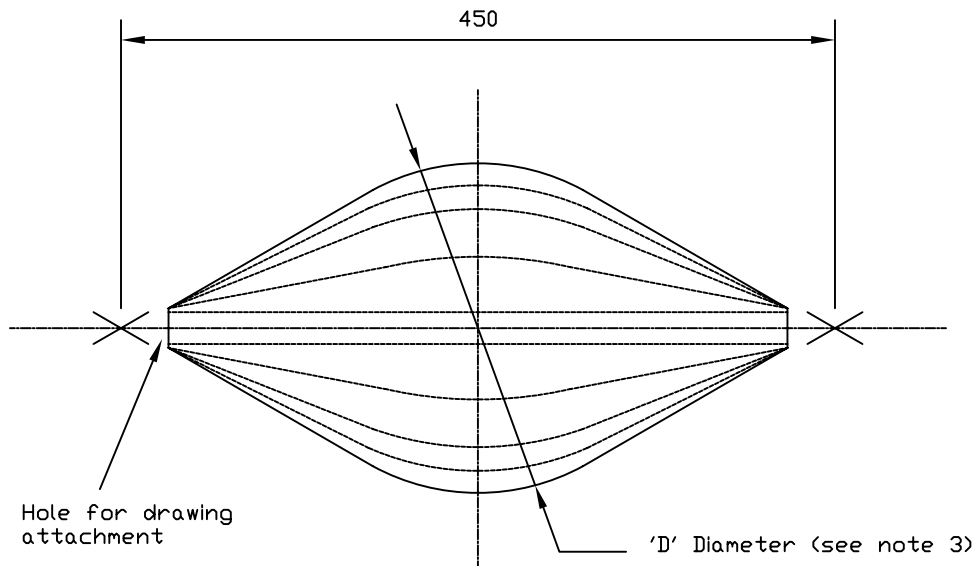
DRAINAGE

TYPICAL HOPPER FOR DOWNPIPE

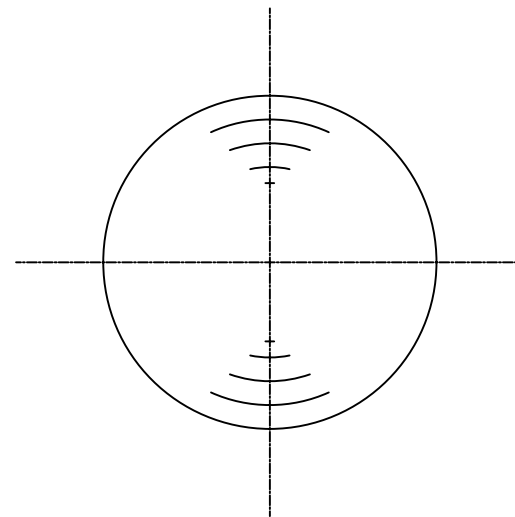
Drawing No.
F81



SPHERICAL



CONICAL



END VIEW

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. For use in drains not exceeding 350mm dia..
3. 'D' = nominal internal pipe diameter less 20mm.
4. Mandrel can be spherical or conical and may be manufactured of any rigid material.

No.	Date	Description
↑		AMENDMENTS

Drawing No.

F82

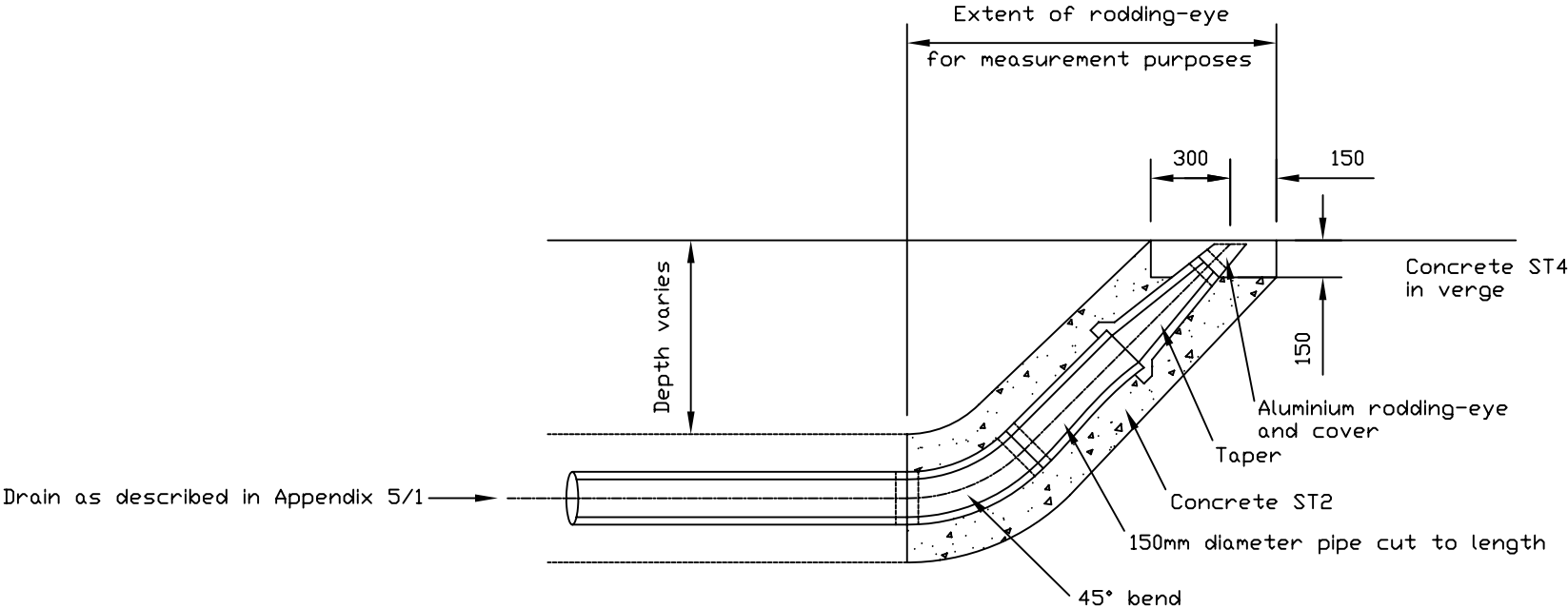
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

MANDREL (FOR USE IN DRAINS)

NOTES

1. All dimensions are in millimetres unless otherwise stated.



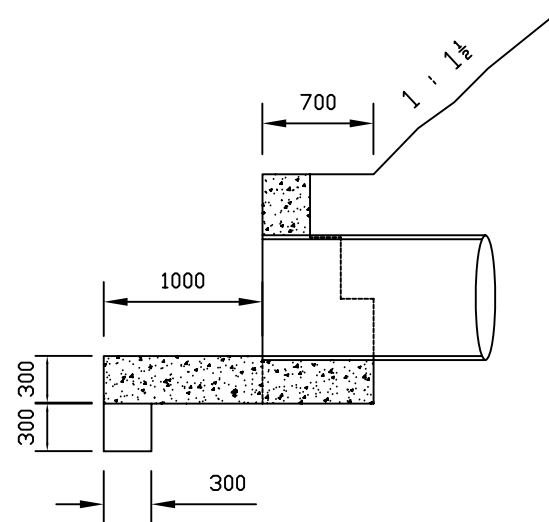
No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

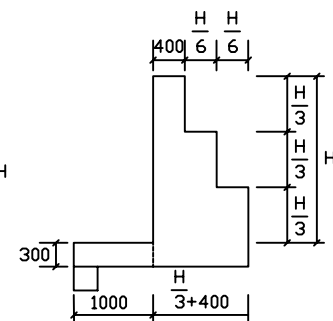
RODDING-EYE DETAIL

Drawing No.
F84



1. All dimensions are in millimetres unless otherwise stated.
2. All concrete to be Class 30/20 unless otherwise shown.
Maximum water/cement ratio = 0.5.
3. Nib not required where rock exists.

1. Invert level and headwall level shown on contract drawings.
2. All exposed arrises to be 25 x 25 chamfers.



H = 2001 to 3000

HEADWALL SECTIONS FOR VARYING HEIGHTS

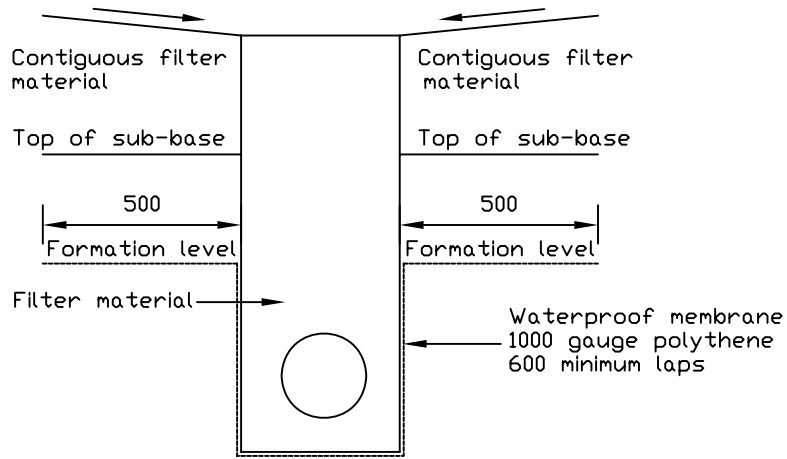
No.	Date	Description
		AMENDMENTS

Drawing No.

F85

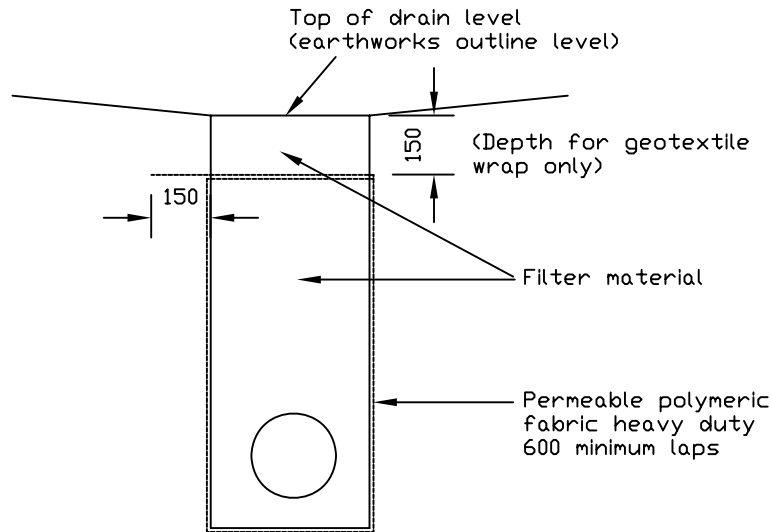
NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. To be read in conjunction with Drawing no. F2.
3. The minimum vertical lap between sections of fabric to be 300mm.



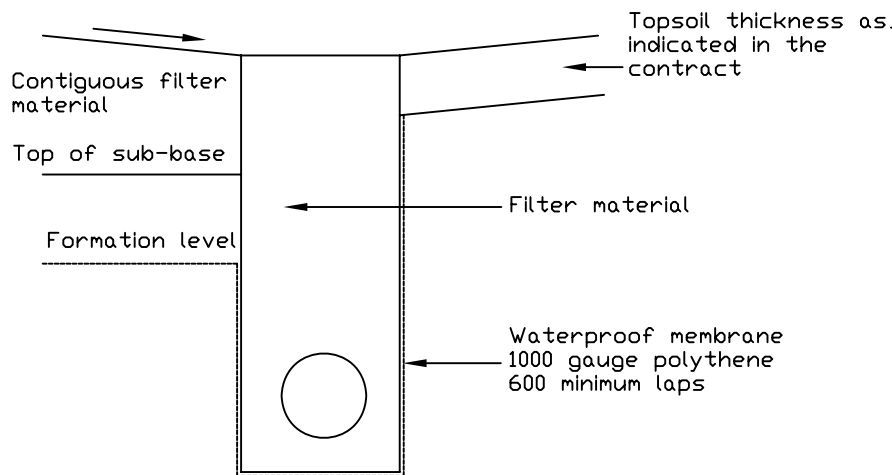
TYPE A

For details of drains
see Appendix 5/1

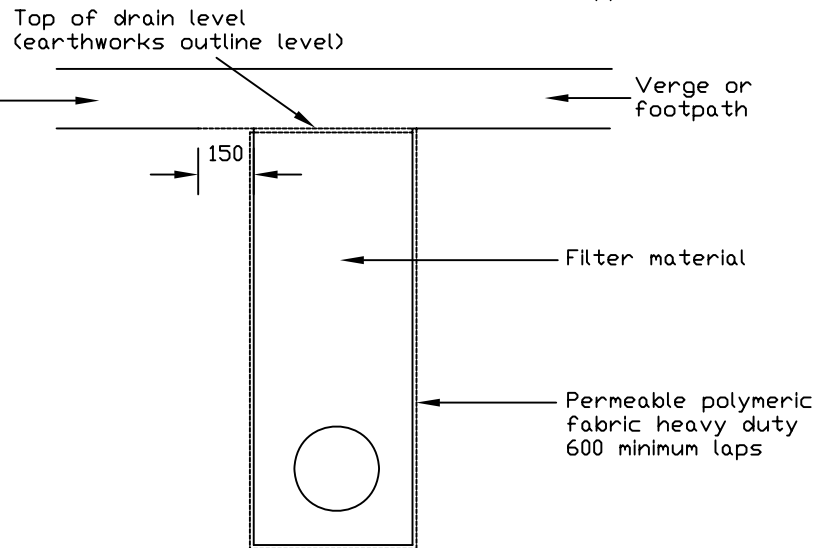


TYPE C

For details of drains
see Appendix 5/1



TYPE B



TYPE D

No.	Date	Description
↑		AMENDMENTS

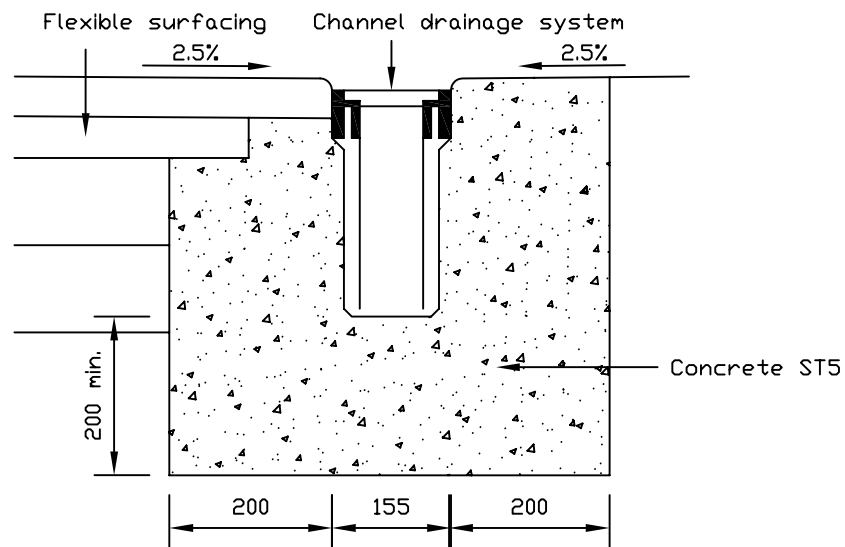
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

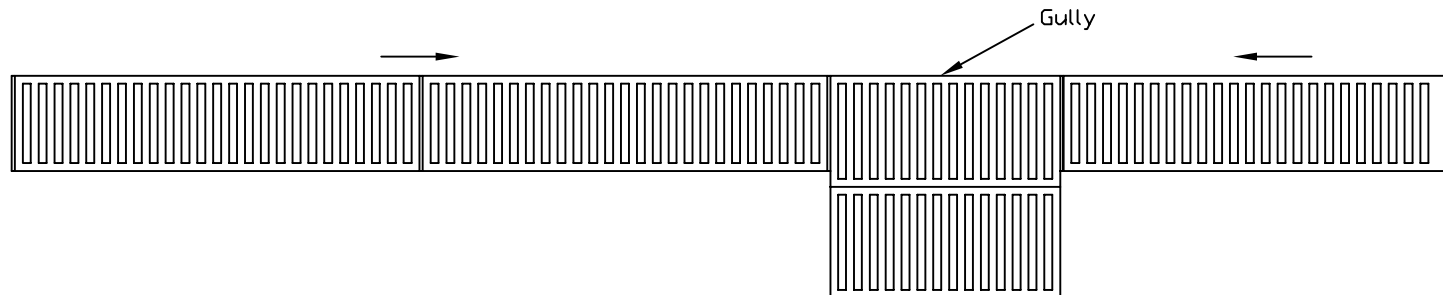
GEOTEXTILE AND POLYTHENE WRAP
TO DRAINS

Drawing No.

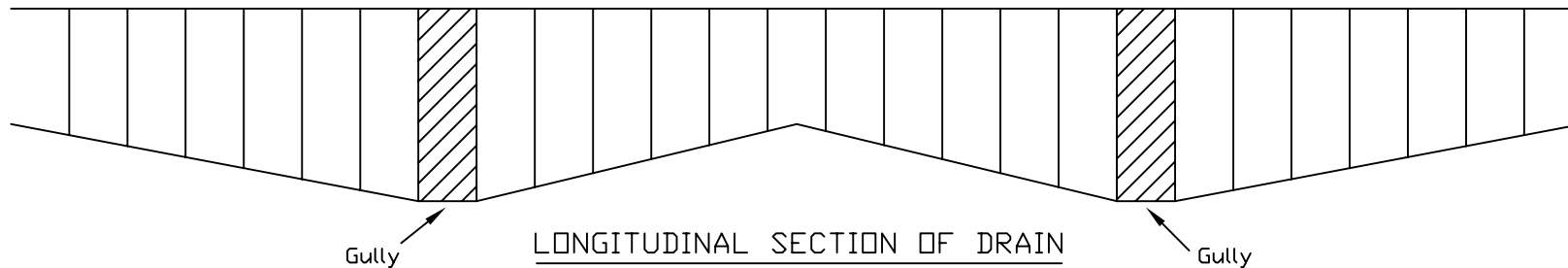
F86



CROSS SECTION OF DRAIN



PLAN OF DRAIN



LONGITUDINAL SECTION OF DRAIN

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Capacity of gully to be greater or equal to 94 litres.
3. Details of layout etc. are shown on the Contract Drawings together with position of gullies. From this information the Contractor will be required to submit final detail of the system he proposes to use for the Engineers approval.
4. Unless otherwise indicated in the Contract, system to be Heavy Duty type (Public Roads).

No.	Date	Description
↑		AMENDMENTS

Drawing No.

F87

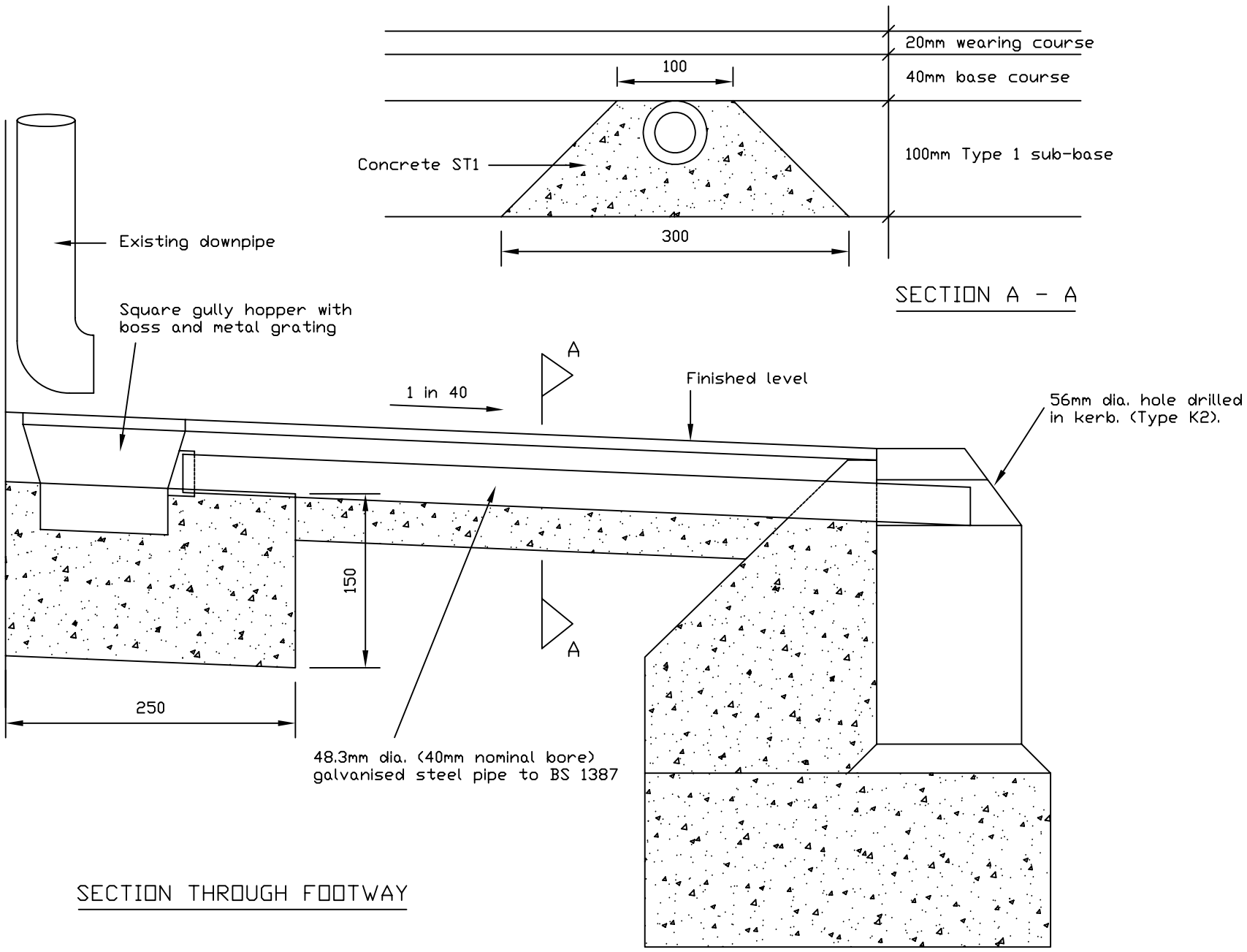
HIGHWAY CONSTRUCTION DETAILS

DRAINAGE

CHANNEL DRAINAGE
PROPRIETARY TYPE

NOTES

1. All dimensions are in millimetres unless otherwise stated.

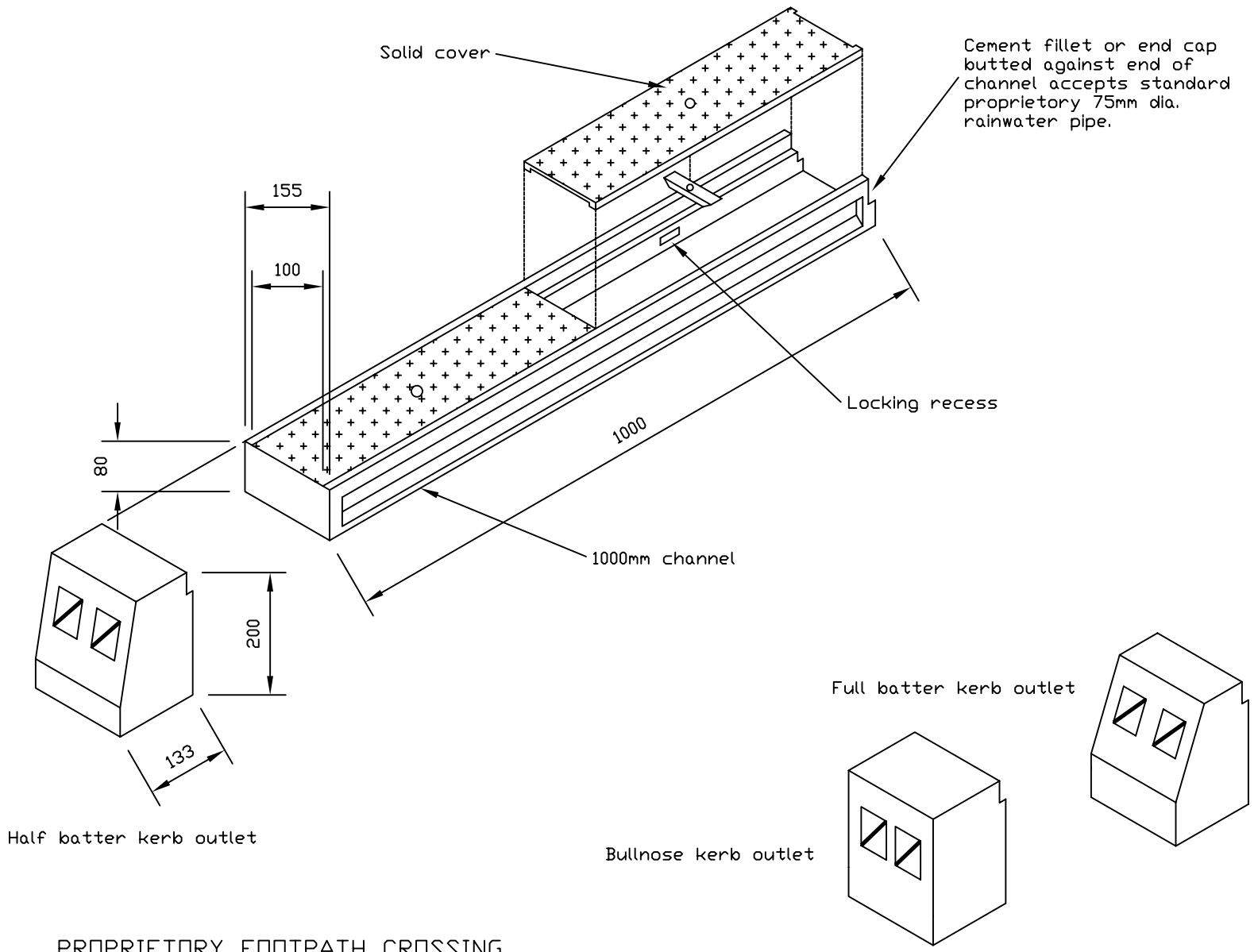


No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS	DRAINAGE	CONNECTION OF DOWNPIPE THROUGH FOOTWAY	Drawing No. F88
------------------------------	----------	--	--------------------

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Channel to be fitted with solid cover as shown.
- 3. Channel, cover, downpipe connector, kerb outlet and cover locks to be from an approved proprietary surface drainage system.
- 4. Dimensions shown are minimum values.
- 5. Kerb outlet units to be made from polymer concrete.



PROPRIETARY FOOTPATH CROSSING

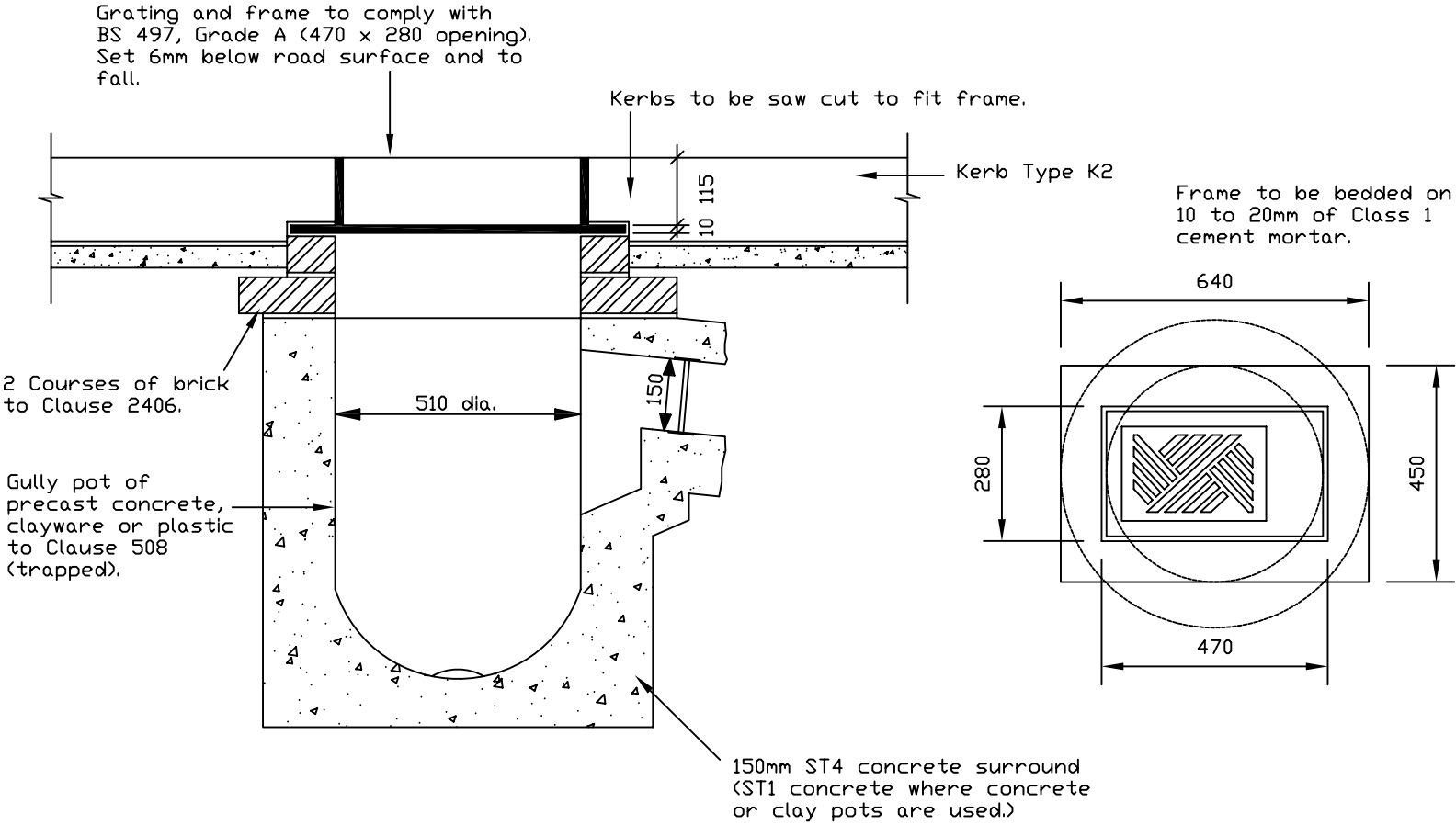
KERB OUTLETS

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS	DRAINAGE	DETAIL FOR PROPRIETARY FOOTPATH CROSSING	Drawing No. F89
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NOTES

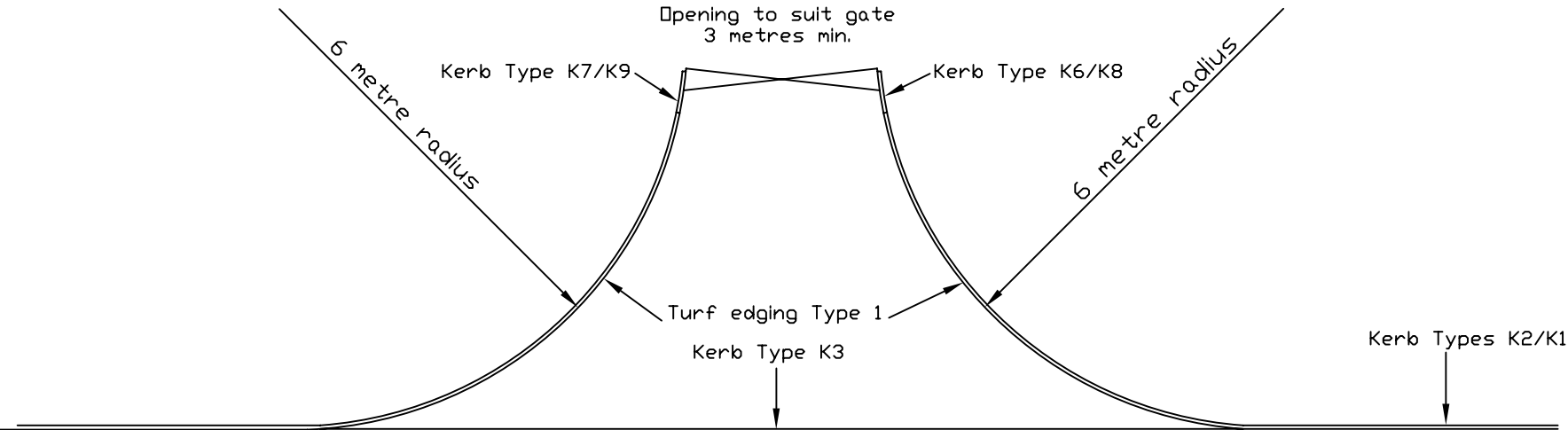
- 1. All dimensions are in millimetres unless otherwise stated.
- 2. See typical layout of gullies for connection details.
- 3. All road gully gratings and frames will require to be Kitemarked in accordance with Appendix B (Volume 1).



No.	Date	Description
↑		AMENDMENTS

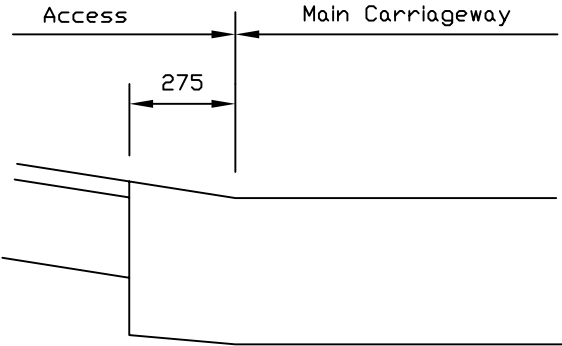
NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Where main carriageway uses turf edging as support it shall be carried round into access and channel formed as for edge of carriageway detail.



PLAN

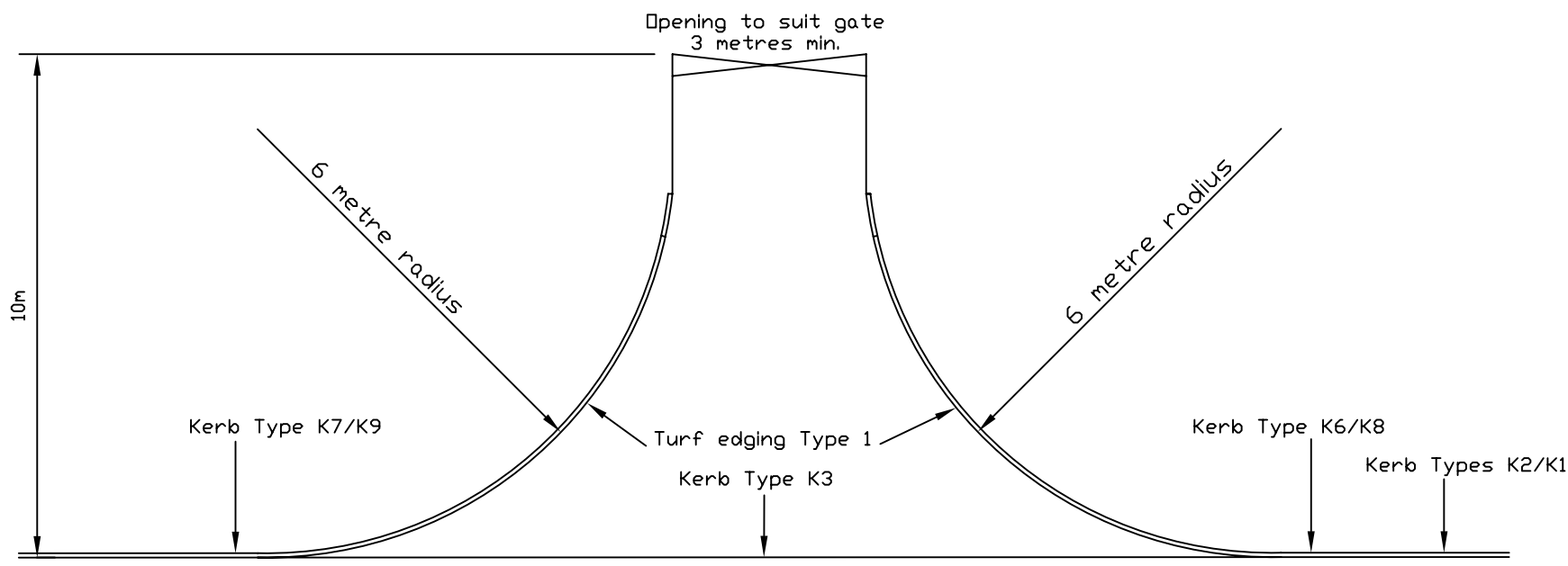
Alternatives (as indicated in the contract)
Half Battered Kerbing Kerb Types K7, K6 & K2
45° Splayed Kerbing Kerb Types K9, K8 & K1
Turf Edging (see note 2)



EDGE OF CARRIAGEWAY

ACCESS PAVEMENT		
Surfacing	75	Dense Bitumen Macadam Binder course Cl.6.5 (BS4987)
Sub-base	250	Sub-base Type 1

No.	Date	Description
↑		AMENDMENTS



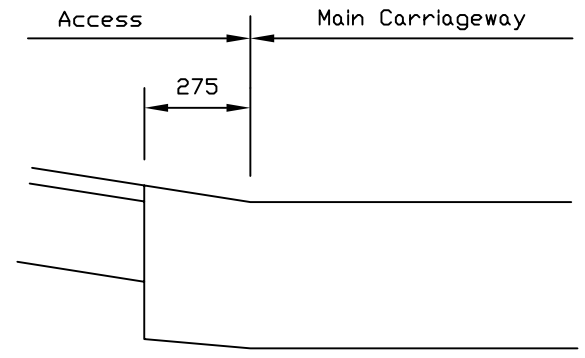
PLAN

Alternatives (as indicated in the contract)

Half Battered Kerbing Kerb Types K7, K6 & K2

45° Splayed Kerbing Kerb Types K9, K8 & K1

Turf Edging (see note 2)



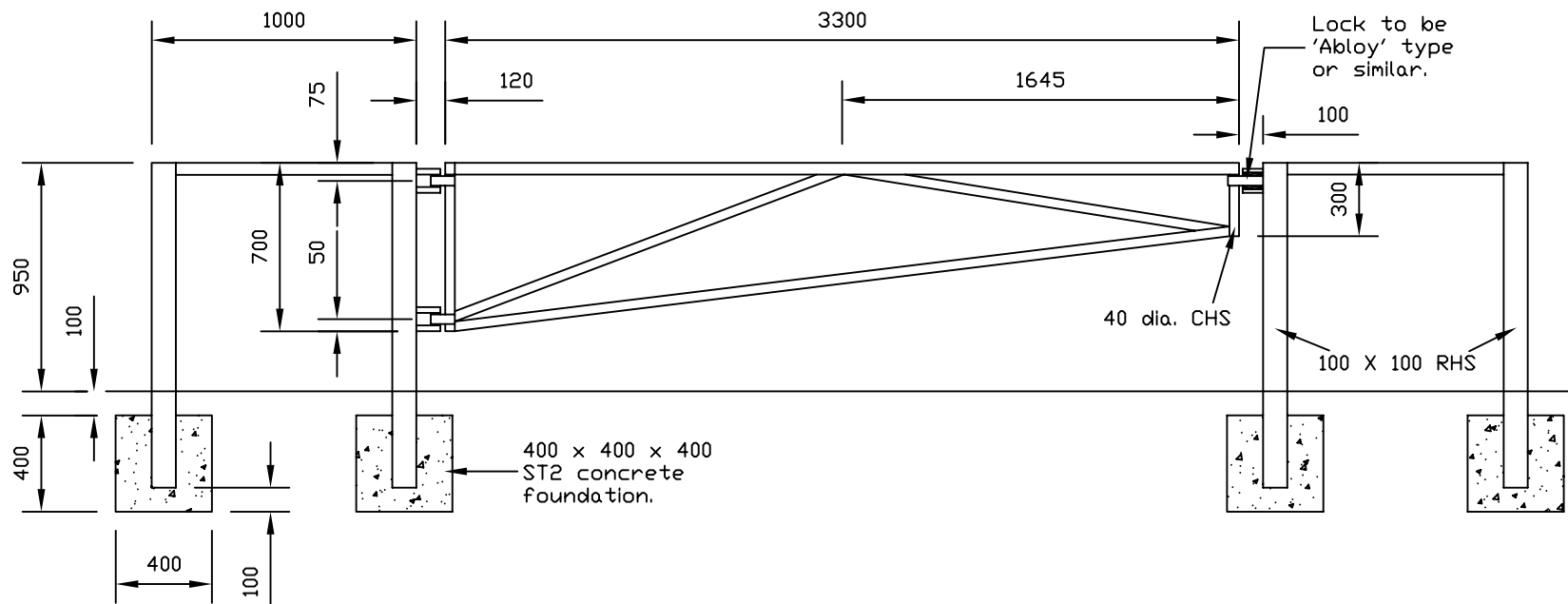
EDGE OF CARRIAGEWAY

ACCESS PAVEMENT		
Surfacing	75	Dense Bitumen Macadam Bindercourse Cl.6.5 (BS4987)
Sub-base	250	Sub-base Type 1

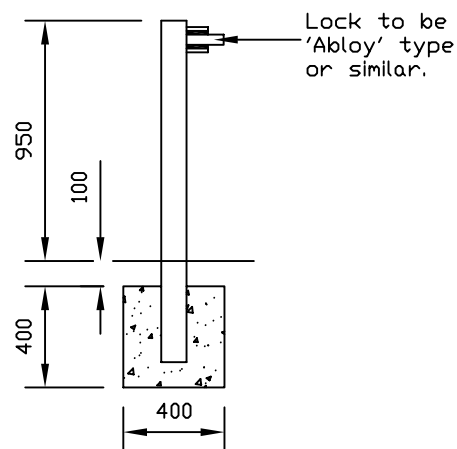
NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Where main carriageway uses turf edging as support it shall be carried round into access and channel formed as for edge of carriageway detail.
3. 10 metres from kerbs or edge of carriageway where hardstrip specified.

No.	Date	Description
↑		AMENDMENTS
		↓



ELEVATION OF GATE



LOCKING POST DETAIL

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. All steel sections to be 40 x 40 RHS unless otherwise stated.
3. End panels altered to suit.
4. Protective system to be as per Appendix 19/1.

No.	Date	Description
AMENDMENTS		

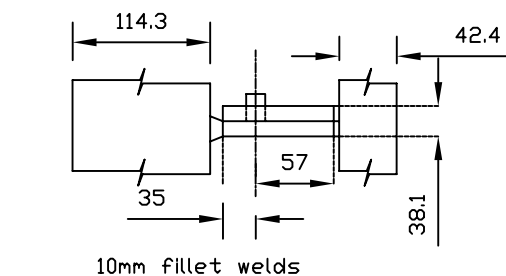
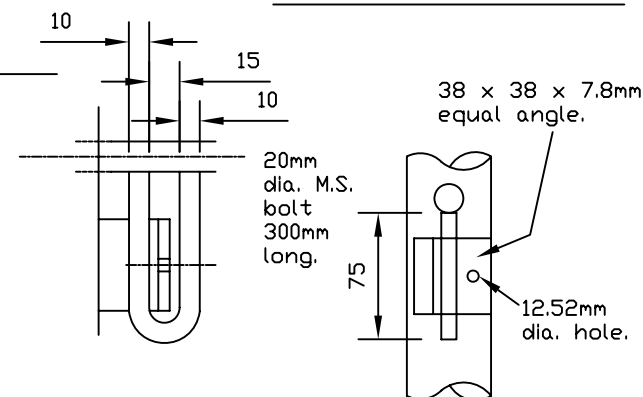
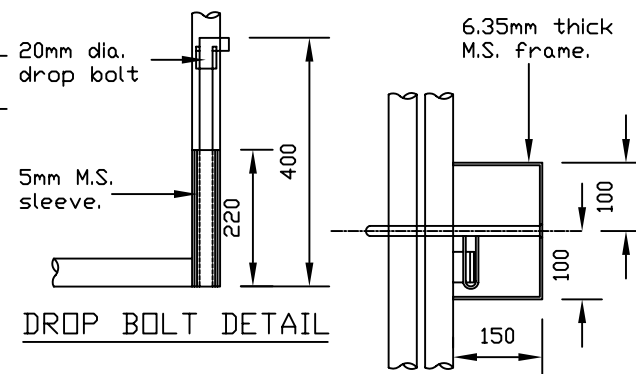
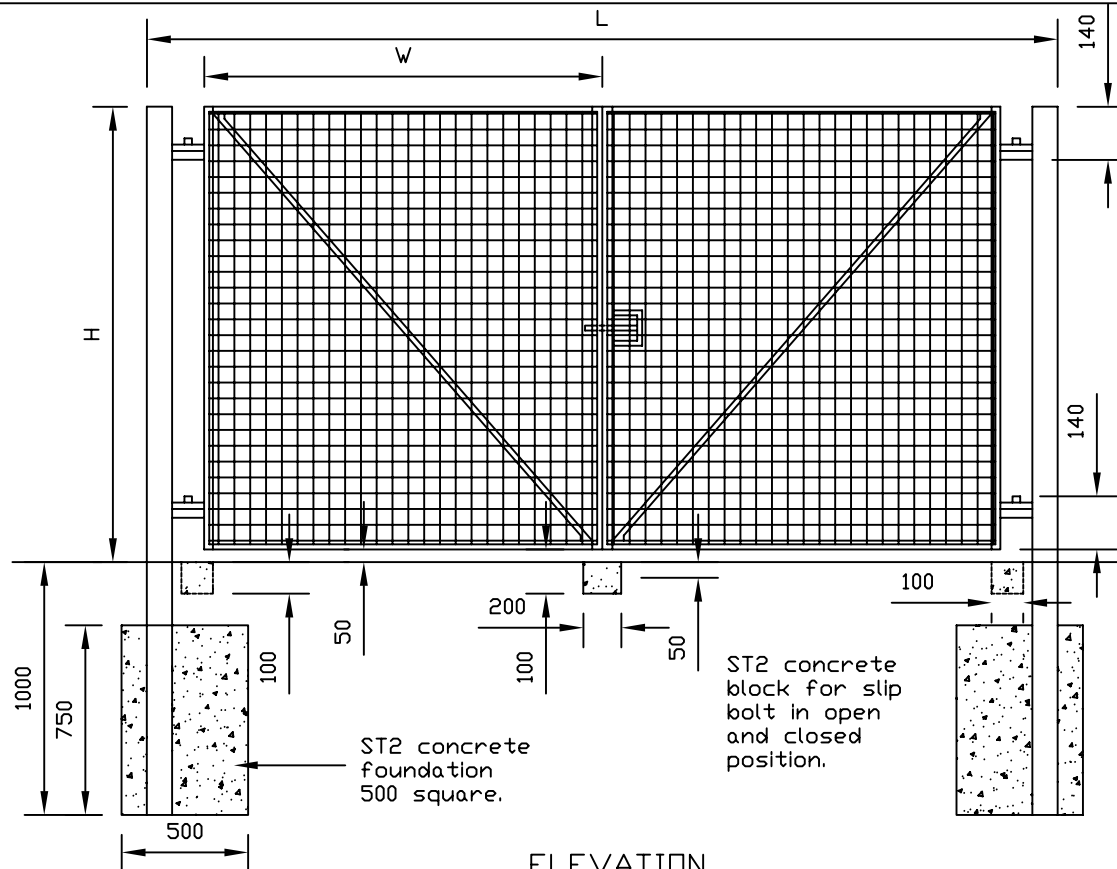
HIGHWAY CONSTRUCTION DETAILS

FENCES, STYLES AND GATES

CAR PARK LOCKING GATE

Drawing No.

H72



Type	H	L	W
1	1800	3600	1573.7
2	2600	3600	1573.7
3	1800	5000	2273.7

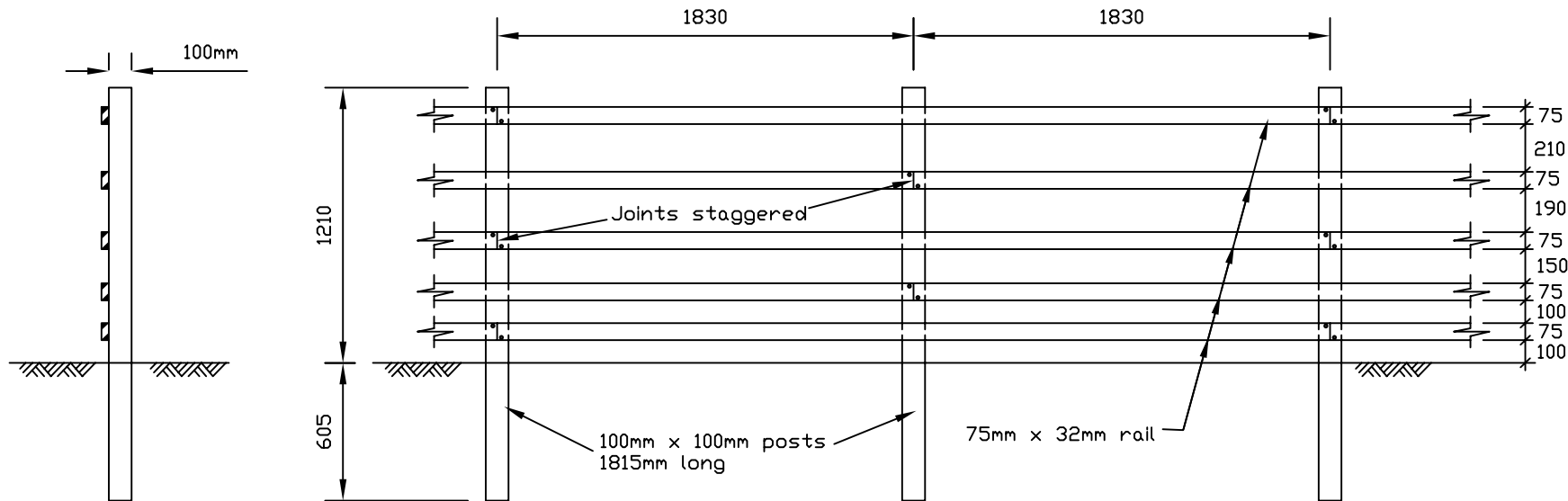
SPECIFICATION

1. Framework 42.4mm \square /D x 2.6mm thick steel tube to BS EN 10056 -1 : 1999 6mm welds throughout.
2. Cladding 50.8 x 50.8 x 4.05mm welded mesh spot welded to frame.
3. Hinge 19.05mm dia. M.S. hinge pin and eye.
2 no. 92 x 38.1 x 10mm thick M.S. plates.
4. Posts 114.3mm \square /D x 3.6mm thick tubular steel posts to BS EN 10056 -1 : 1999. 6.3mm plates welded to top of posts (3mm weld).
5. Padlock To suit gate complete with two keys.
6. Erection For 180° opening hinges to be set to rear of post.

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. All steelwork to be hot dipped galvanised.

No.	Date	Description
		AMENDMENTS



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. All wood to comply with BS 1722 Appendix S & Cl. 2614.

No.	Date	Description
↑		AMENDMENTS

Drawing No.
H75

HIGHWAY CONSTRUCTION DETAILS

FENCES, STYLES AND GATES

WOODEN POST & FIVE RAIL FENCES
(AGRICULTURAL)

Line wires to be tightly strained between straining posts, secured and fixed to posts and stobs by staples driven to a running fit.

All wires shall be strained using ratchet winders of mild steel straps 44 wide, fitted with 25 steel spindle and ratchet device, all galvanised staples shall be galvanised mild steel No.8 Gauge and 40 long.

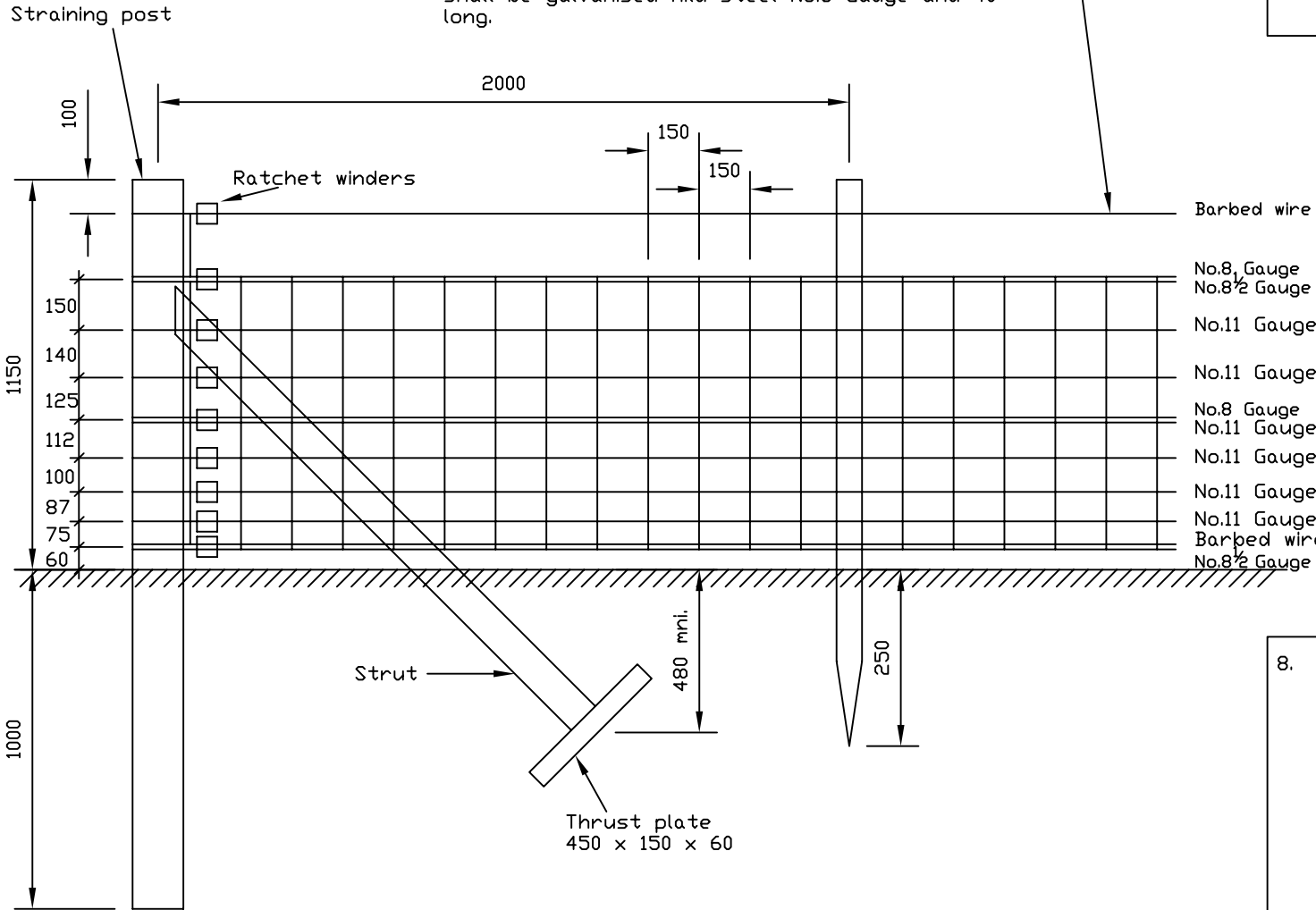
7. Woven wire shall be made from galvanised steel wire and shall be B832/6 heavy style. Top and bottom horizontal wires shall be No. 8½ Gauge and intermediate horizontal and vertical wires shall be strained between strainers.

NOTES

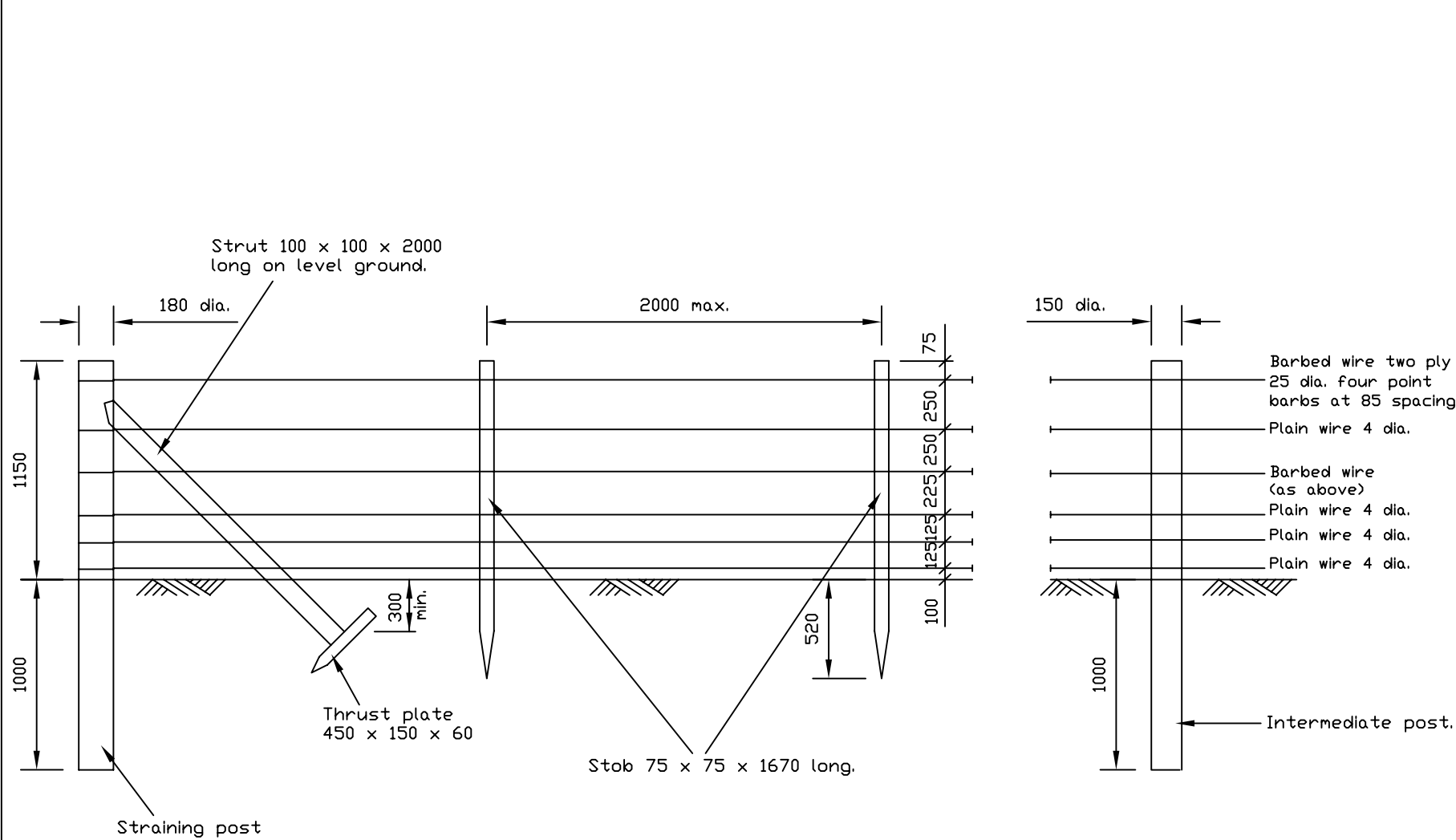
- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Timber shall be sound, well seasoned and if mature European larch or oak is used it can be untreated. All other timber is to be barked and pressure treated with an approved preservative Cl.2641.
- 3. Straining posts shall be at least 2150 long and 180 diameter at top. They shall be securely set not less than 1000 in the ground and placed at ends and corners, at acute variations of level and at not more than 150 metre intervals on straights.
- 4. Turning posts shall be at least 2150 long and 150 diameter at top, and set at least 1000 in the ground at changes of direction.
- 5. Struts shall be 1800 long at least and 100 diameter if sawn 100 x 100 and shall be fitted to all straining posts in the direction of each line of fencing. The ends below ground shall rest on a base-plate.
- 6. Stobs shall be at least 1670 and 75 x 75 square. They shall be placed at 2000 centres and driven at least 520 into the ground.

8. Line wire shall be made from galvanised mild steel wire. Barbed wire to be attached to the bottom of the woven wire, another barbed wire to be placed 100 below top of posts. No.8 Gauge wire to be attached to the middle and top of the woven wire.

9. Woven wire to be Rylock or similar approved make.



No.	Date	Description
↑		AMENDMENTS
		↓



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. All timber to comply with Cl.2641. Other materials and fittings to B.S.1722 part 3.
3. Intermediate posts shall be provided at changes of direction and at acute variations of level.
4. Straining posts to be provided at all ends and corners and at intervals not exceeding 150m in straight lengths of fencing.
5. Standard wire arrangement as shown, alternative wires may be indicated on contract drawings.

No.	Date	Description
↑		AMENDMENTS

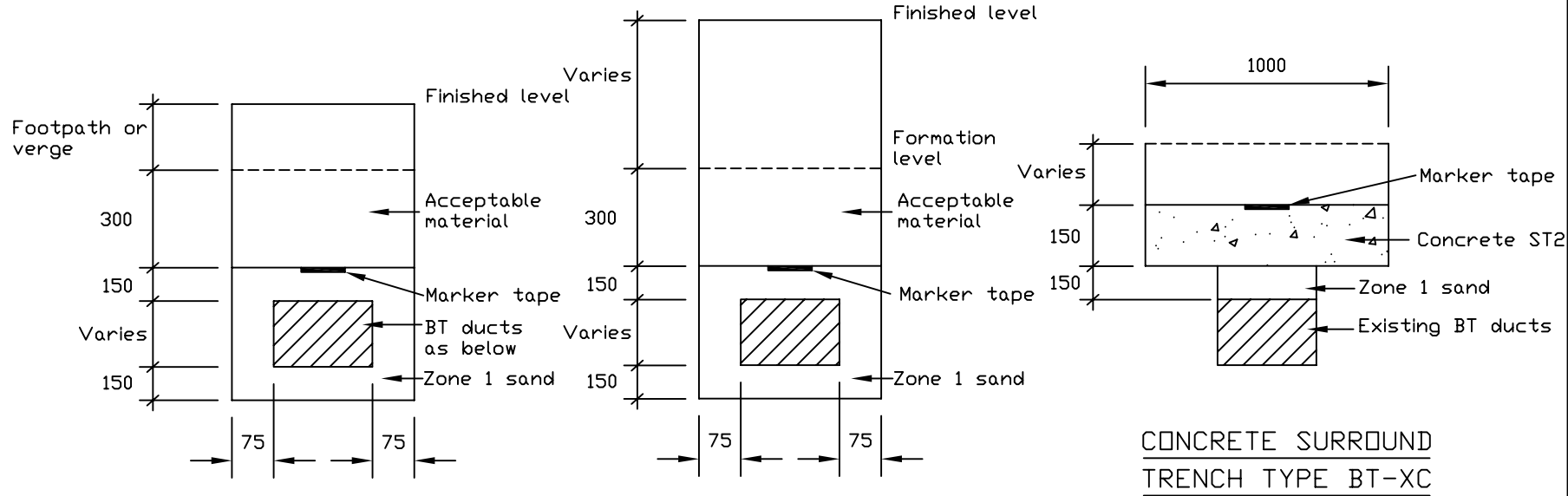
FENCES, STYLES AND GATES

WOODEN POST AND 6 WIRE FENCE

H77

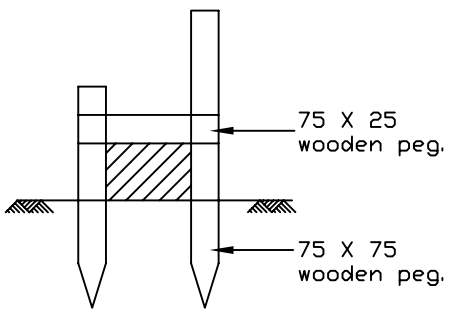
NOTES

- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Ducts to be laid as per the general requirements of LN139
- 3. For details of layout of ducts see contract drawings.
- 4. When S suffix is added this indicates Steel Pipes.



(VERGE OR FOOTPATH) TRENCH TYPE BT-XF (ROAD) TRENCH TYPE BT-XR

TRENCH TYPE-X	TYPICAL ARRANGEMENT
1	○
2	○○
4	○○○
6	○○○○
9	○○○○○

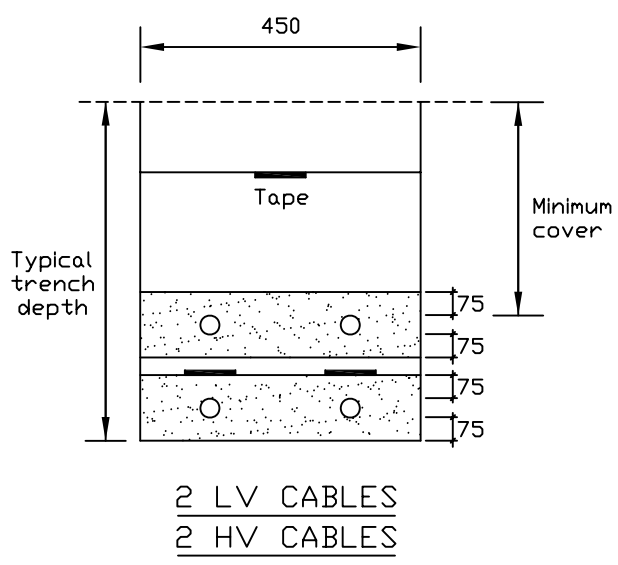
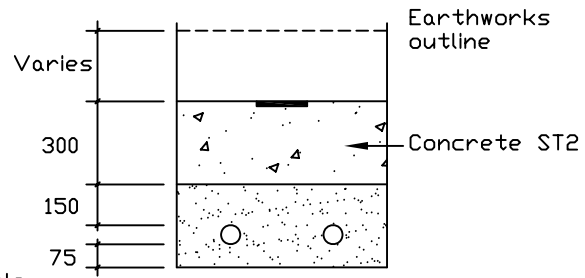
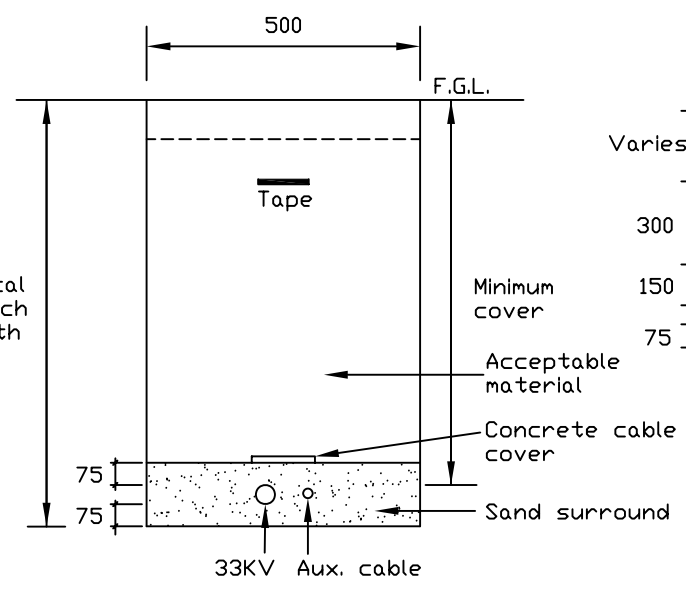
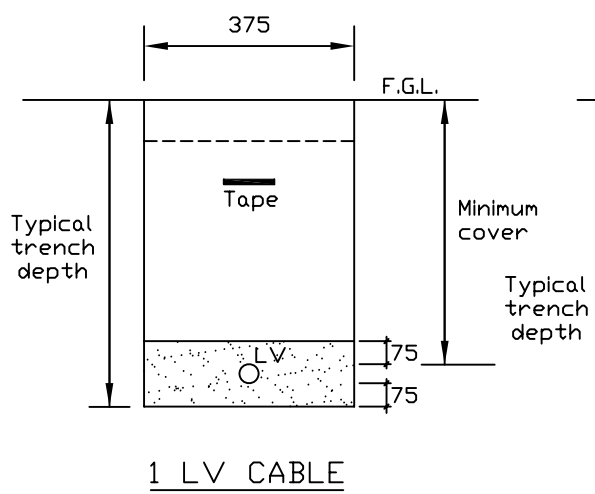


OVERLAND DUCT TRENCH TYPE BT-XQ

No.	Date	Description
↑		AMENDMENTS

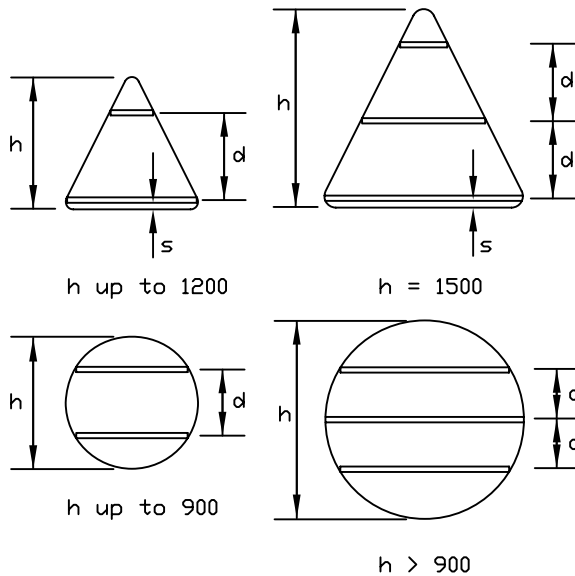
NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Tape to be positioned 200mm below finished footpath / verge level or 200mm below formation level in road.
3. Cables to be laid as per Hydro Electric Underground Installation Manual.

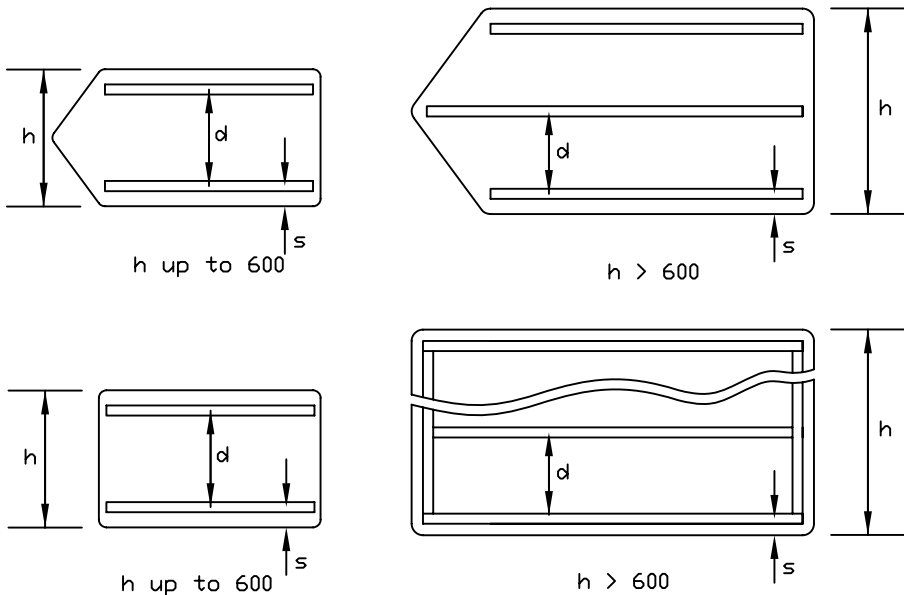


Cable	Depth of trench		Min. Cover of Cable	
	Footpath or Verge	Road	Footpath or Verge	Road
33KV	1150	1150	1000	1000
11KV	850	975	750	850
LV	550	850	450	750
Service	500	850	450	750

No.	Date	Description
↑		AMENDMENTS
		↓



NOTE Circular and rectangular sign faces should normally be applied to square or rectangular backing plates.



STRENGTHENING BAR REQUIREMENTS

TRIANGULAR	Sign Height h	300	450	600	750	900	1200	1500
	No. of bars	-	-	2	2	2	2	3
	Offset from horiz. edge(s)	-	-	40	60	80	100	100
	Bar spacing (d)	-	-	400	400	600	775	500
CIRCULAR	Bar size (see note 3)	-	-	Small	Small	Med.	Large	Large
	No. of bars	2	2	2	2	2	3	3
	Bar spacing (d)	200	250	300	400	500	400	500
	Bar size (see note 3)	Small	Small	Small	Med.	Med.	Large	Large

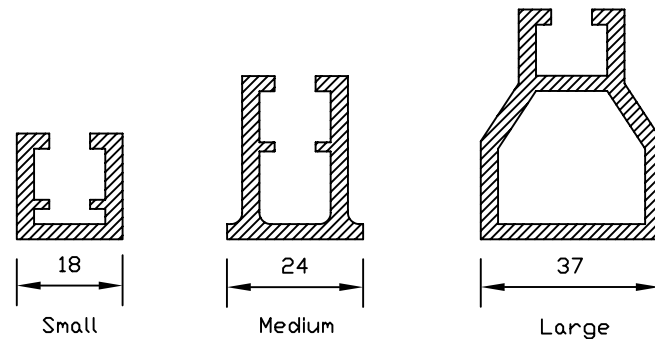
9. Cont'd.

less than 600 shall be provided with Small horizontal bars.

10. Wherever possible, sign faces shall be constructed from a single sheet of aluminium in accordance with Clause 1205. If vertical joints are necessary, they shall be constructed by means of a strip of aluminium 50 wide, fixed along the entire length of the joint with rivets in accordance with Note 3 above. Horizontal joints shall be constructed in accordance with the recommendations of the channel manufacturers.

11. Framing

Signs less than 1m² in area- Stiffening and double sided tape.
Signs greater than 1m² in area- Channel framing. Where possible corners of signs should have a radius, although the smallest available radius (50mm) on 40mm channel will not be suitable for smaller signs.



TYPICAL CHANNEL CROSS SECTIONS

Sign Height h	Up to 600	>600
Offset from horiz. edge	25 min. 60 max.	60
Bar spacing (d)	-	600 max.
Bar size	(see note 9)	

NOTES

- All dimensions are in millimetres unless otherwise stated.
- Extruded aluminium channels for use as backing bars to comply with BS1474. Wall thickness of extrusion to be 2.5mm nominal.
- The stiffening of sign plates must be achieved in a manner such that sign face material is not punctured or otherwise damaged.
- Signs to be attached to posts either by stainless steel channel clips, or stainless steel banding applied as per manufacturer's instructions. Signs are to be attached to posts at each incidence of post and channel.
- Clips to be manufactured from AISI 304 stainless steel alloy to BS970 and attached to the channel with 13mm square-headed M8 AISI 304L alloy bolts, tightened to a torque load of $1.33 \times 10^4 \text{ Kg f / m}^2$.
- Banding to be manufactured from type 201 stainless steel to BS970, 0.76mm (0.030") thick, 13.0mm wide, buckles and other fixings to be of type 201 alloy.
- Vertical spacing of horizontal backing bars shall not exceed 600. All signs shall have a minimum of two horizontal bars.
- Rectangular signs exceeding 600 vertically shall be provided with vertical backing bars along each vertical edge.
- On rectangular signs not exceeding 1500 overall width when erected on one post, 2300 width on two posts or 3000 width on three posts, horizontal backing bars shall be Medium, vertical Small. Signs with width exceeding the above values shall be provided with Large horizontal and Medium vertical bars. Signs with width

No.	Date	Description
AMENDMENTS		

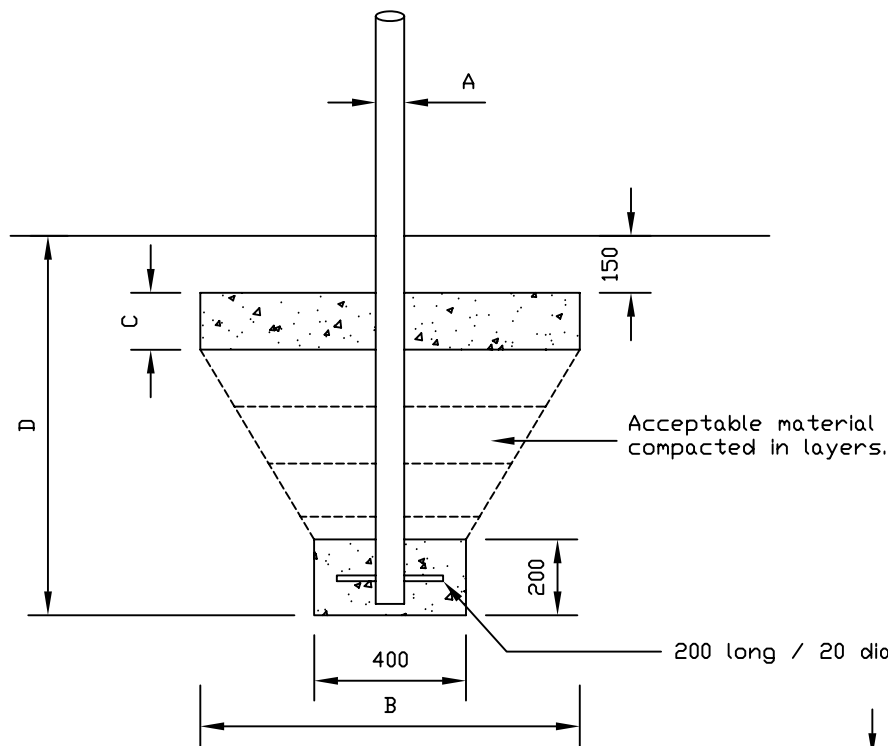
HIGHWAY CONSTRUCTION DETAILS

TRAFFIC SIGNS

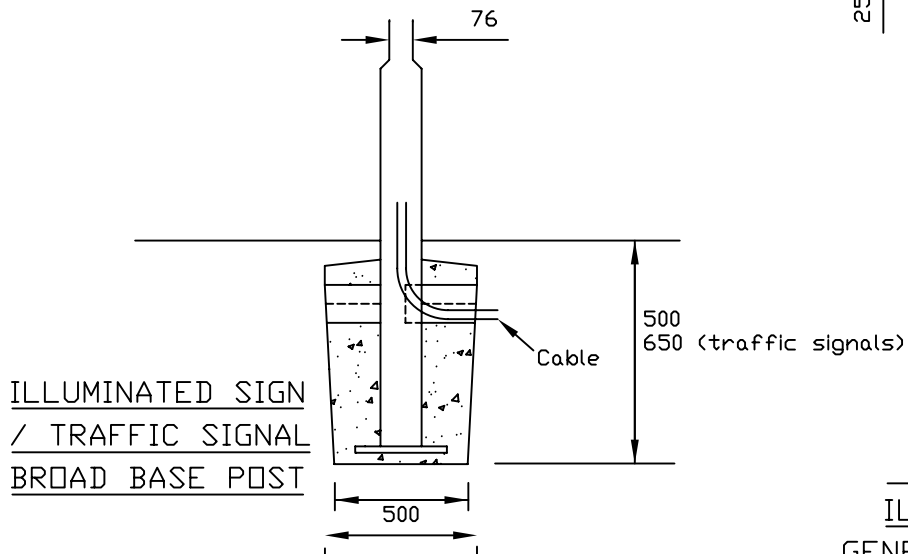
SIGN FACE CONSTRUCTION DETAILS

Drawing No.

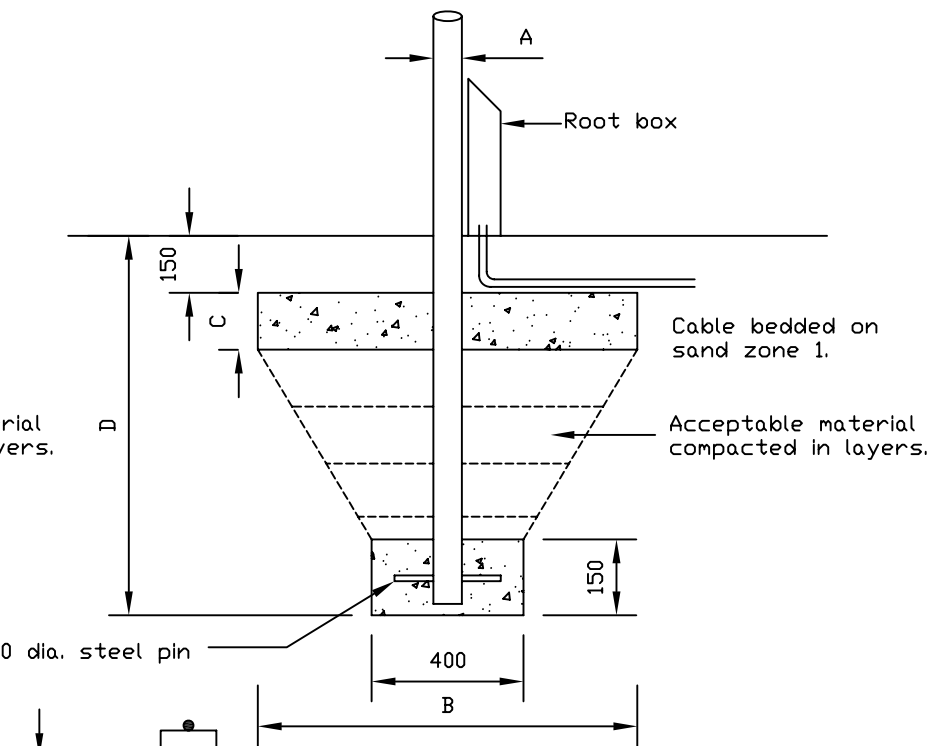
K70



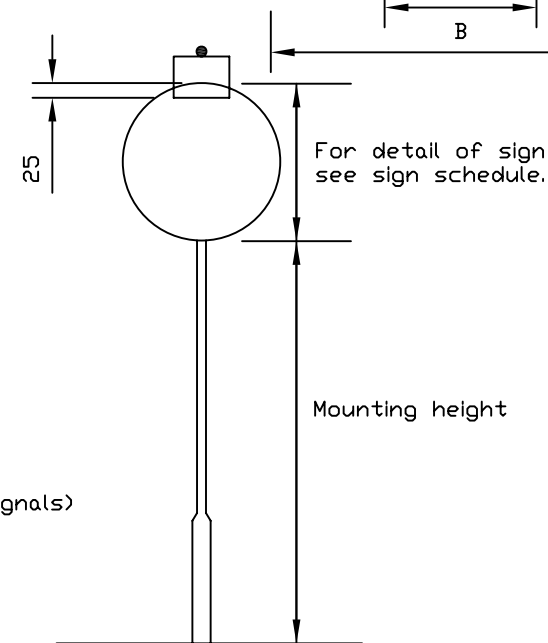
NON - ILLUMINATED SIGN



ILLUMINATED SIGN
/ TRAFFIC SIGNAL
BROAD BASE POST



ILLUMINATED SIGN POST
WITH ROOT BOX



ILLUMINATED SIGN
GENERAL ARRANGEMENT

A	B	C	D
75	1000	100	700
115	1000	150	1000
140	1200	200	1250

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Where foundation is sited in an embankment, increase footing depth by 300mm.
3. Batter of hole may be varied to suit depth and soil conditions.
4. Fill material to be well rammed in layers not exceeding 150mm thickness.
5. Concrete to be Class C10P.
6. Clearance from kerb to the edge of the sign,
Urban - min. = 0.5m,
desirable = 1.0m,
Rural - min. = 1.0m,
desirable = 3.0m.
7. Unless otherwise described in the Contract the mounting height shall be 2250 (Footpath and Paved Area). 1500 (Verges). For erection details refer to Chapter 13 of the Traffic Signs Manual.
8. The sign must be level and the post tops should not appear above the sign unless sign lit.
9. Signs should be angled at about 5° away from the road.
10. The ground around the sign must be left tidy and re-soiled and sown if necessary.
11. If a sign is externally illuminated the bottom of the light unit must be between 0 - 25mm below the top of the sign.

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

TRAFFIC SIGNS

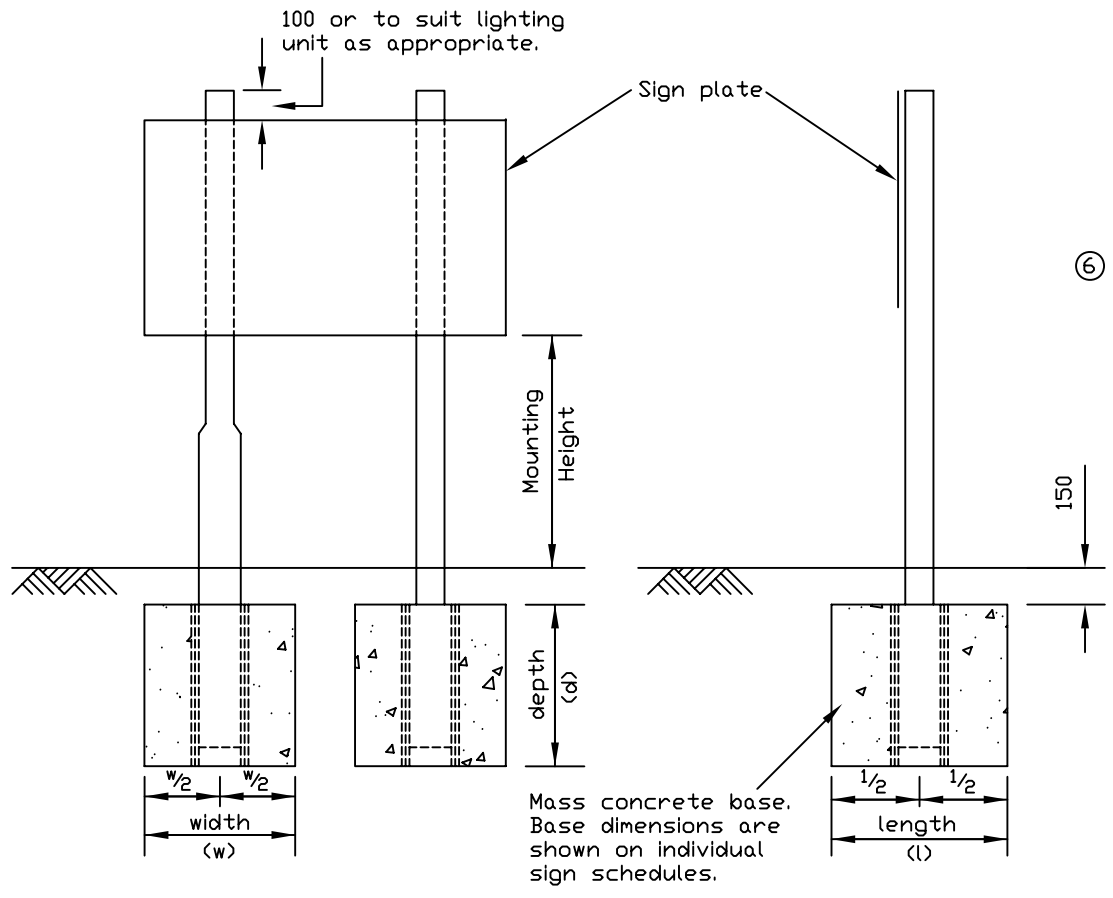
TRAFFIC SIGNS SUPPORT DETAILS
STANDARD SIGNS UP TO 140 DIA.

Drawing No.

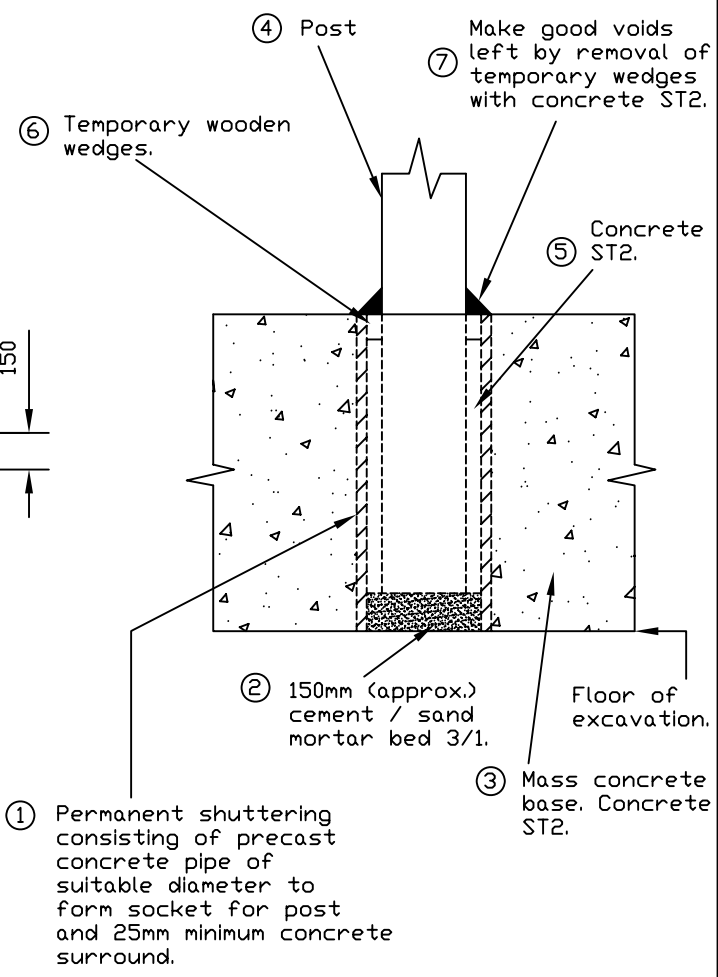
K71

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. If required by the contractor poles may be placed directly into wet concrete.
3. For details of sizes of sign foundations see sign schedule.
4. Care to be taken when excavating foundation in the vicinity of existing services. Existing services to be split ducted and surrounded with 150mm sand. Work to be agreed with the utility prior to pouring concrete.
5. Unless otherwise described in the contract the mounting heights shall be : 2300 (Footpaths and Paved Areas), 1500 (Verges).
6. Clearance from kerb to the edge of the sign, Urban - min. = 0.5m, desirable = 1.0m, Rural - min. = 1.0m, desirable = 3.0m.



TYPICAL ARRANGEMENTS OF POST BASES
FOR LEVEL SITES



STAGES IN THE ERECTION OF POSTS
FOR LARGE SIGNS 1 - 7

No.	Date	Description
		AMENDMENTS

NOTES

- 1. All dimensions are in millimetres unless otherwise stated.

G:\D03\DOCUMENT\Standard Details\K73.JPG

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

TRAFFIC SIGNS

GROUND LIGHT BOLLARD

Drawing No.
K73

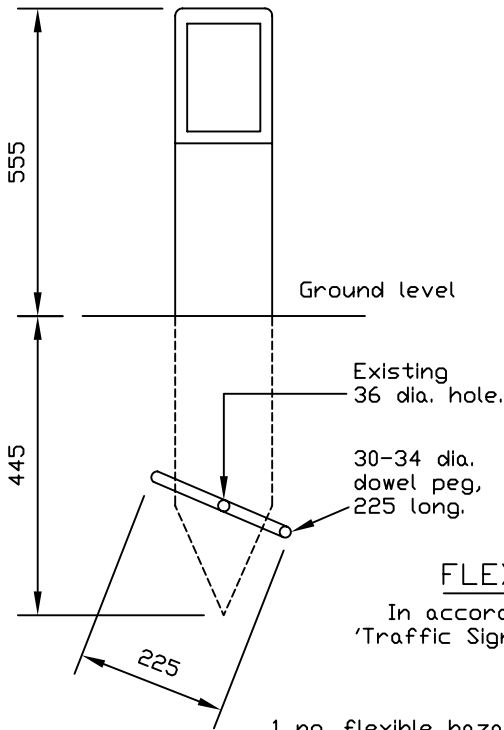
CHEVROFLEX ROUNDABOUT UNITS
LIGHTING DETAILS

NOTES

1. All dimensions are in millimetres unless otherwise stated.

Grade 2
red reflector
showing on nearside.

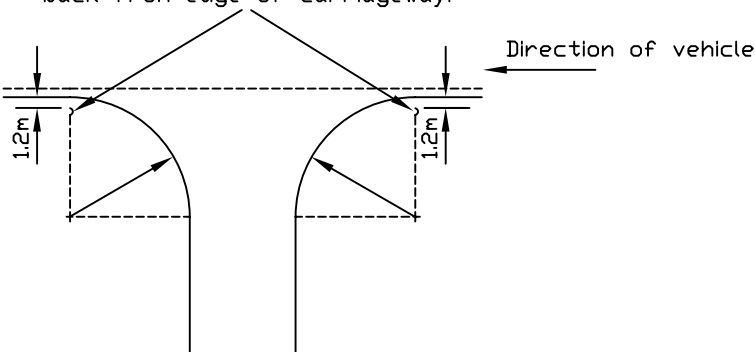
Grade 2
white reflector
showing on offside.



FLEXIBLE HAZARD MARKER POST

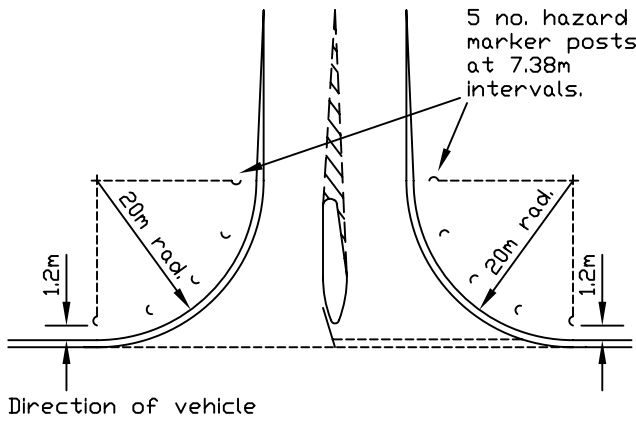
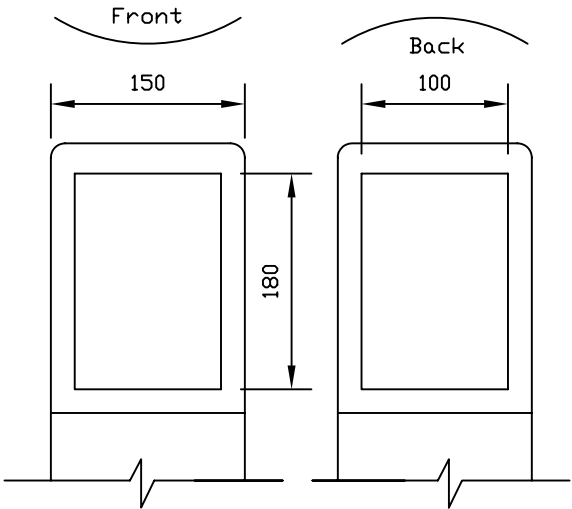
In accordance with Diagram Nos. 560 & 561 of the 'Traffic Signs Regulations and General Directions, 1981.'

1 no. flexible hazard marker post to be erected on both tangent points at 1.2m back from edge of carriageway.



DELINEATION OF OTHER VEHICULAR ACCESSES WITH FLEXIBLE HAZARD MARKER POSTS

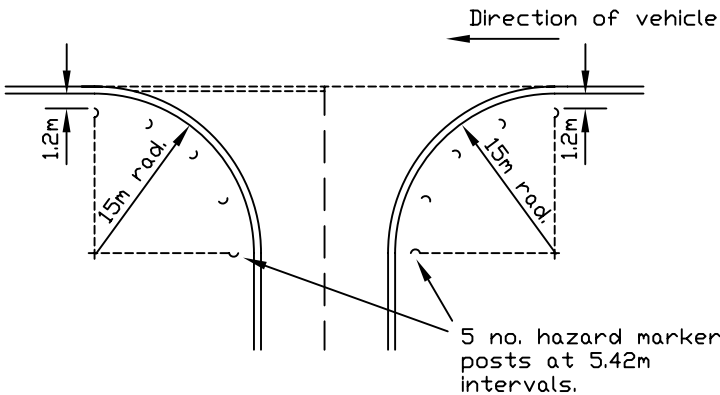
Only to be used at those sites where a traffic problem has been identified.



DELINEATION OF JUNCTIONS WITH FLEXIBLE HAZARD MARKER POSTS

5 no. flexible hazard marker posts to be erected at equal intervals between tangent points of radius kerbs, at 1.2m back from edge of carriageway.

Examples show typical layouts at junctions with 15m and 20m radius kerbs.



No.	Date	Description
		AMENDMENTS

Drawing No.
K75

HIGHWAY CONSTRUCTION DETAILS

TRAFFIC SIGNS

DELINEATION OF JUNCTIONS WITH
HAZARD MARKER POSTS

Entry / Exit (Diags. 833,
834, 835 and 836).

Height Restriction
(Diag. 530)

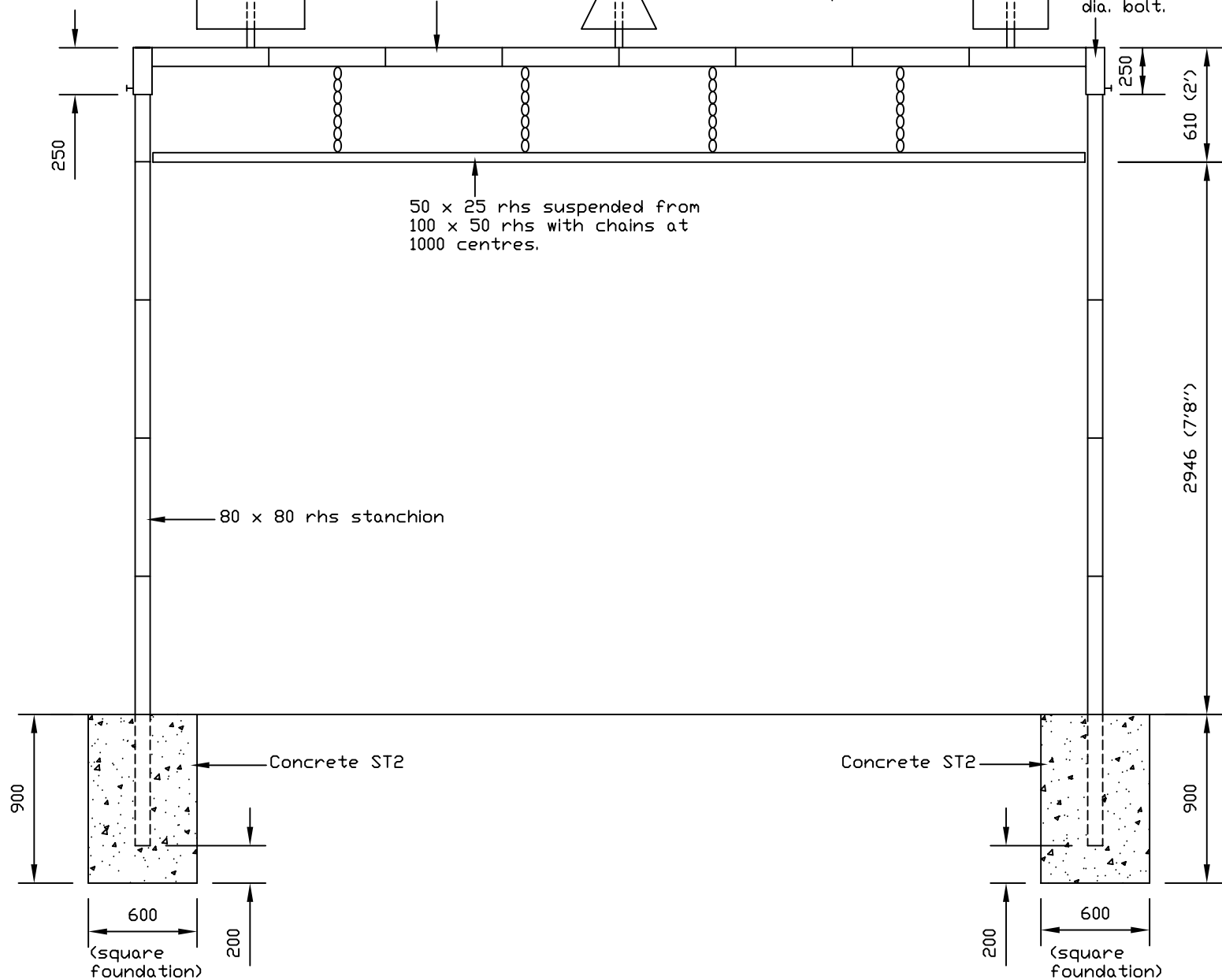
Parking
(Diag. 801)

100 x 100 rhs
sleeve fitted
with cap plate.

100 x 50 rhs welded
at each end to 250mm
long 100 x 100 rhs.

All signs fixed to frame
through 50 x 50 rhs
welded to top bar.

100 x 100 x 5 rhs
sleeve over 80 x 80
rhs stanchion
secured with 12mm
dia. bolt.



NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Protective system to be as Appendix 1/19 (red and white 600 gaps) including suspended bar.

No.	Date	Description
AMENDMENTS		

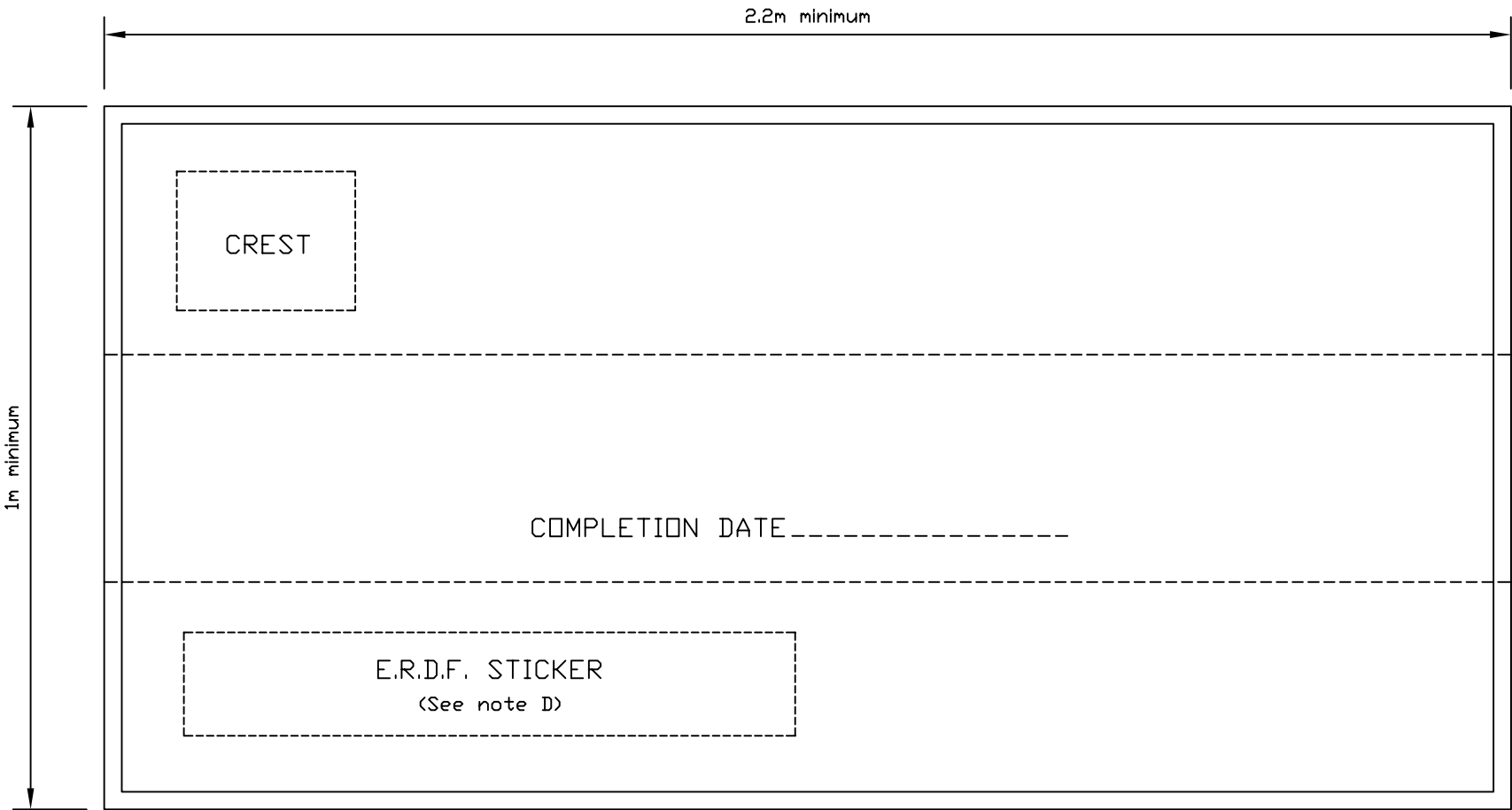
HIGHWAY CONSTRUCTION DETAILS

TRAFFIC SIGNS

CAR PARK ENTRANCE BAR

Drawing No.

K76



NOTES

1. All dimensions are in millimetres unless otherwise stated.

NOTES

- A - Sign to be made in 3 panels.
B - X heights to be 50mm, 37.5mm and 25mm Transport Heavy.
C - Black lettering on yellow background.
D - Additional E.R.D.F. note sticker to be positioned as shown when relevant.

This Scheme is partly financed by the
European Regional Development Fund.

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

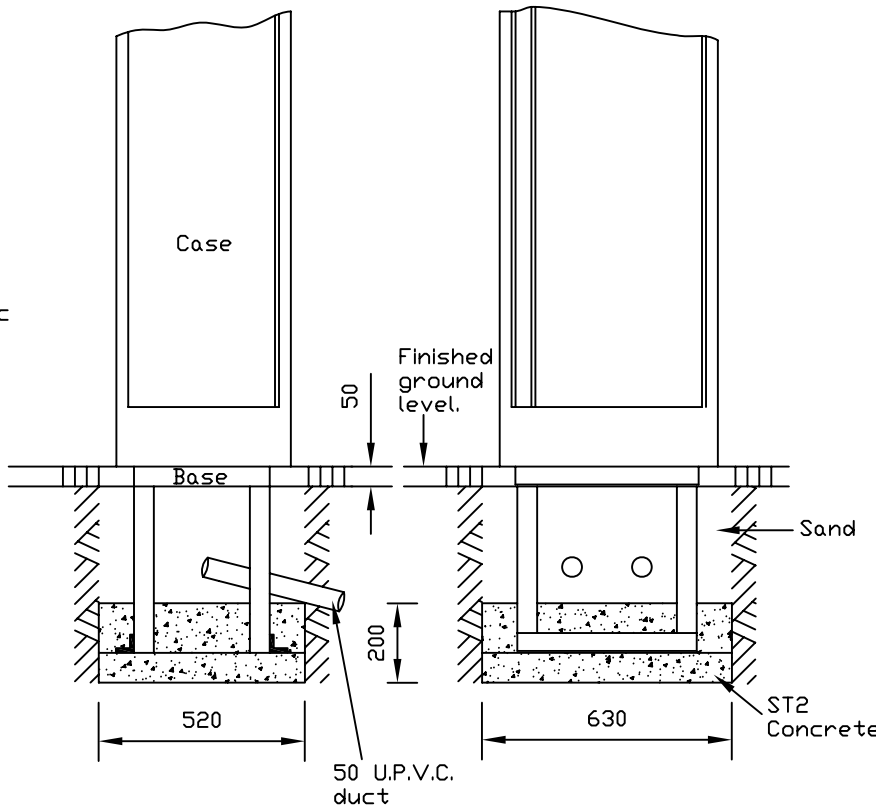
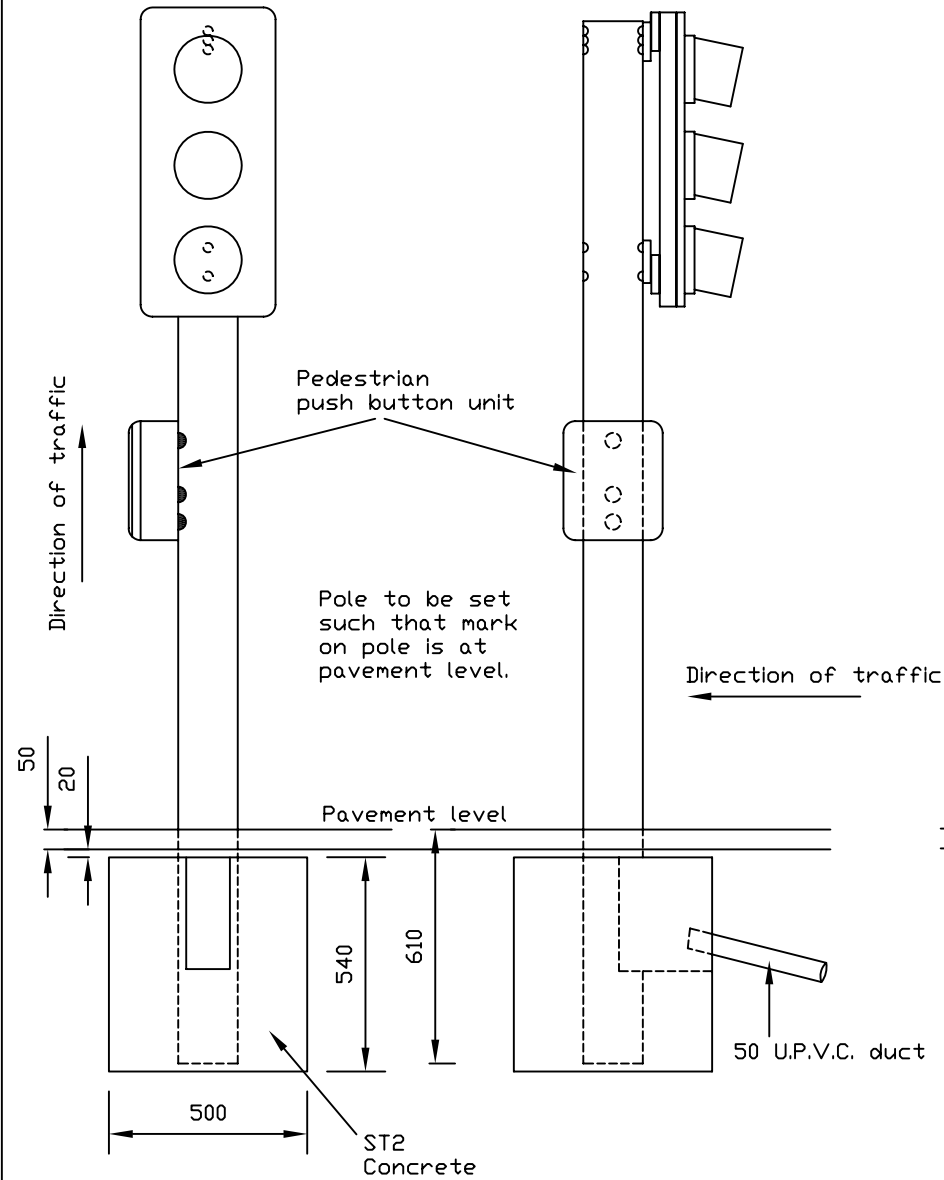
TRAFFIC SIGNS

INFORMATION BOARD

Drawing No.
K77

NOTES

1. All dimensions are in millimetres unless otherwise stated.



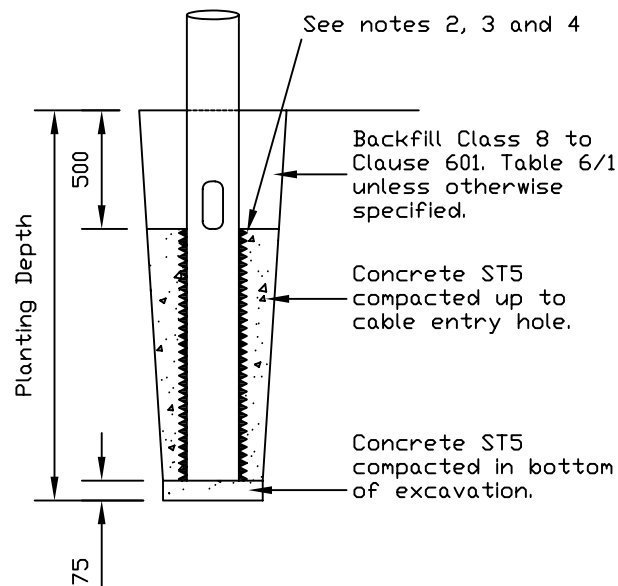
SIDE VIEW

FRONT VIEW

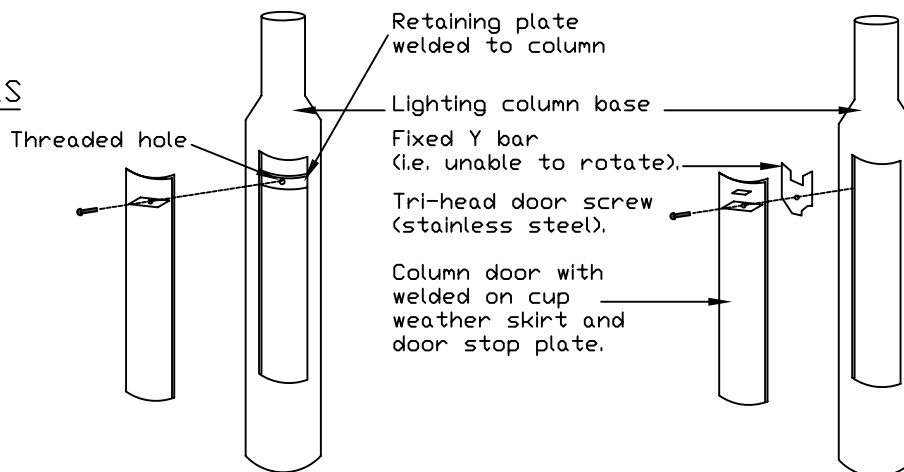
No.	Date	Description
		AMENDMENTS

Nominal Height of Column	Planting Depth	Min. Door Opening
12m	1700mm	600 x 125
10m	1500mm	600 x 125
8m	1200mm	600 x 120

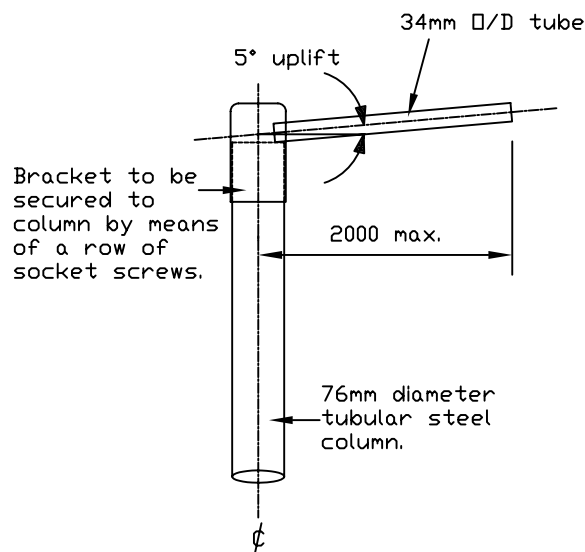
COLUMN DETAILS



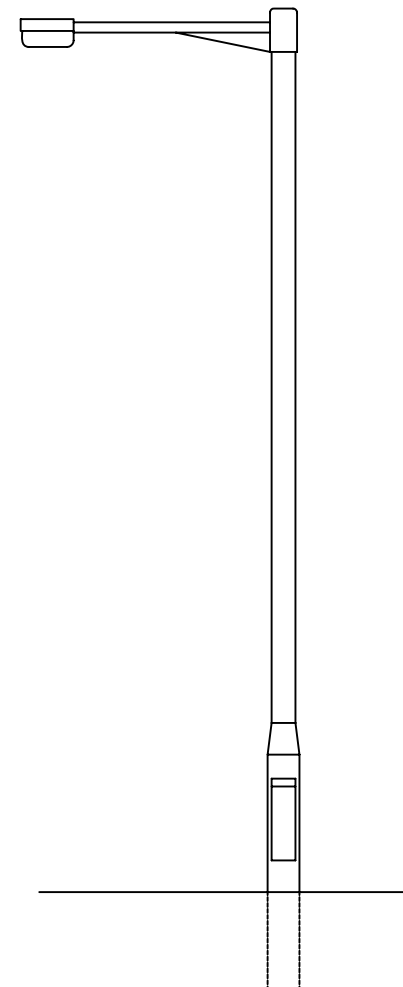
PLANTING DETAILS



ALTERNATIVE ARRANGEMENT FOR DOOR OPENINGS



PROJECTION BRACKET SPIGOT CAP



STANDARD COLUMN

NOTES

- All dimensions are in millimetres unless otherwise stated.
- Alternative Foundation. The contractor may use a polypropylene duct to form a socket type road.
- Duct to be high impact polypropylene a minimum of 30mm larger in diameter than column tube.
- Fast set cementitious grout to be placed between duct and column tube to grout column in place. (To achieve 40N/mm² in 3 days and 65N/mm² in 28 days).

No.	Date	Description
		AMENDMENTS

Drawing No.
K81

HIGHWAY CONSTRUCTION DETAILS

ROAD LIGHTING

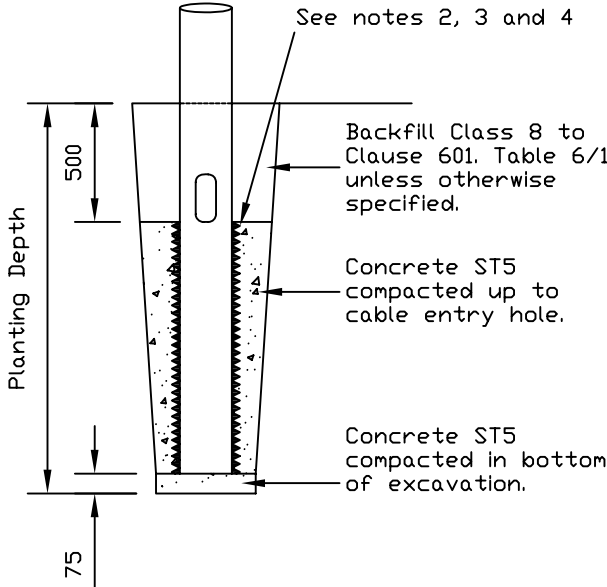
STANDARD COLUMN
8 - 12 METRES

NOTES

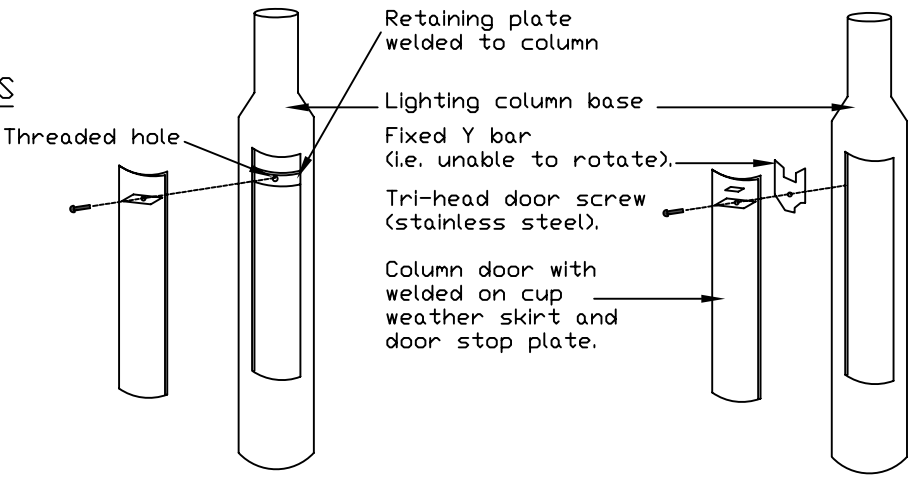
- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Alternative Foundation. The contractor may use a polypropylene duct to form a socket type road.
- 3. Duct to be high impact polypropylene a minimum of 30mm larger in diameter than column tube.
- 4. Fast set cementitious grout to be placed between duct and column tube to grout column in place. (To achieve 40N/mm² in 3 days and 65N/mm² in 28 days).

Nominal Height of Column	Planting Depth	Min. Door Opening
4/5m	1000m	500 x 100

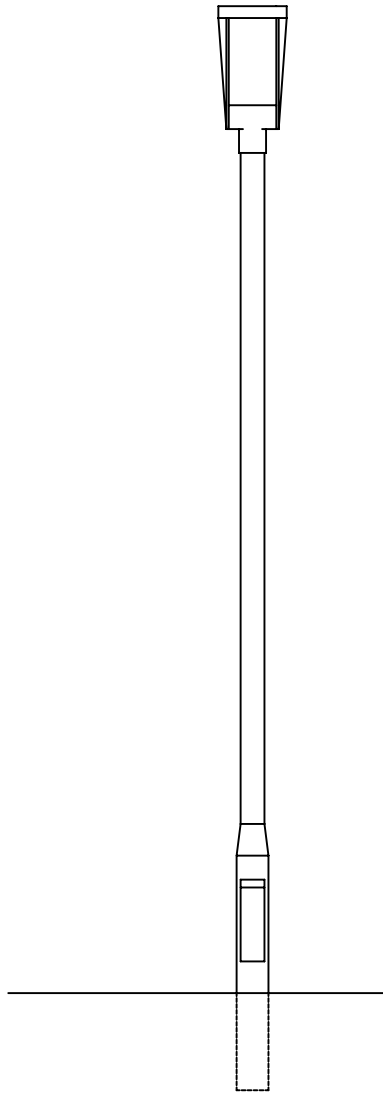
COLUMN DETAILS



PLANTING DETAILS



ALTERNATIVE ARRANGEMENT
FOR DOOR OPENINGS



STANDARD COLUMN

No.	Date	Description
		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

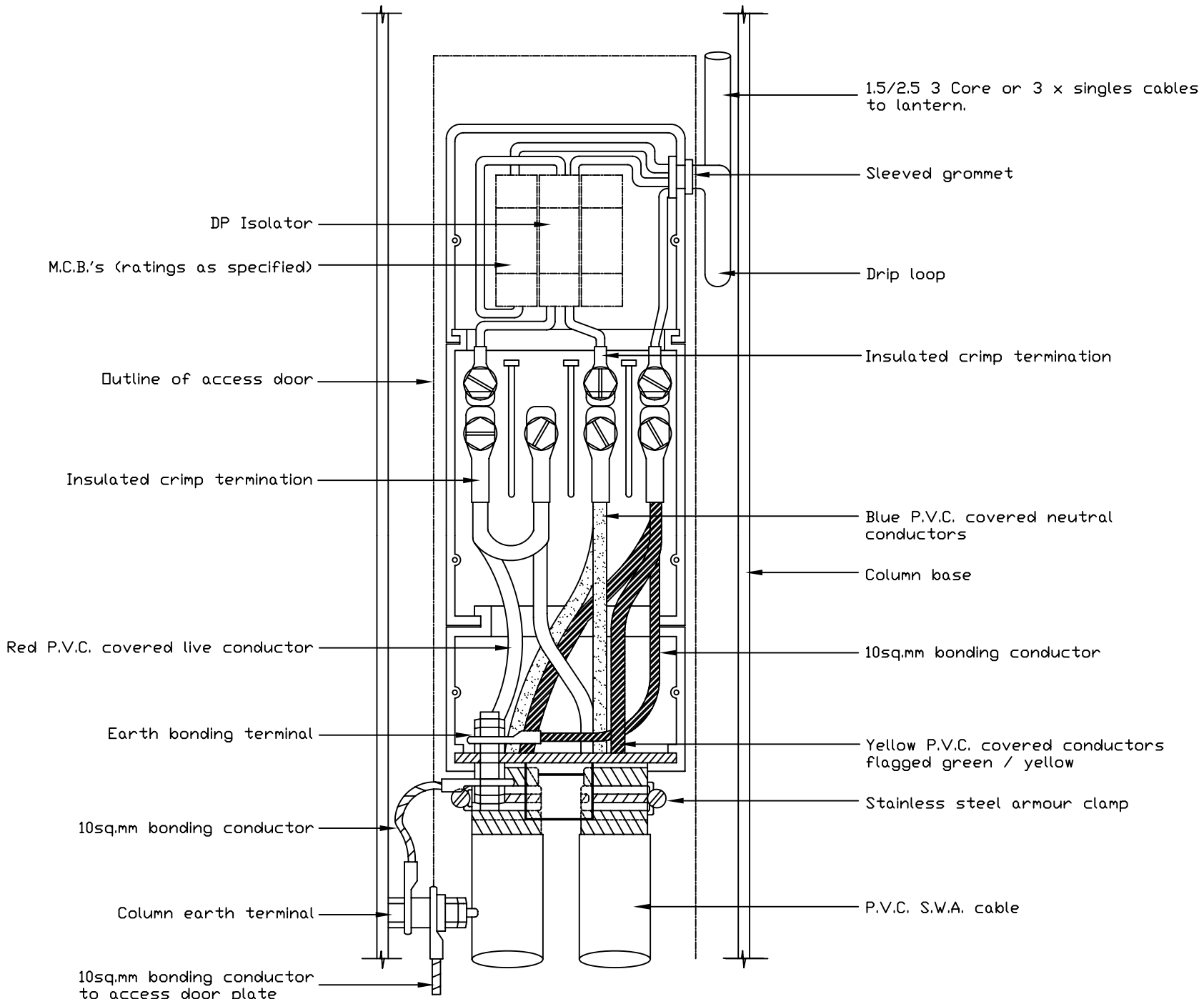
ROAD LIGHTING

POST TOP COLUMN
4/5 METRES

Drawing No.
K82

NOTES

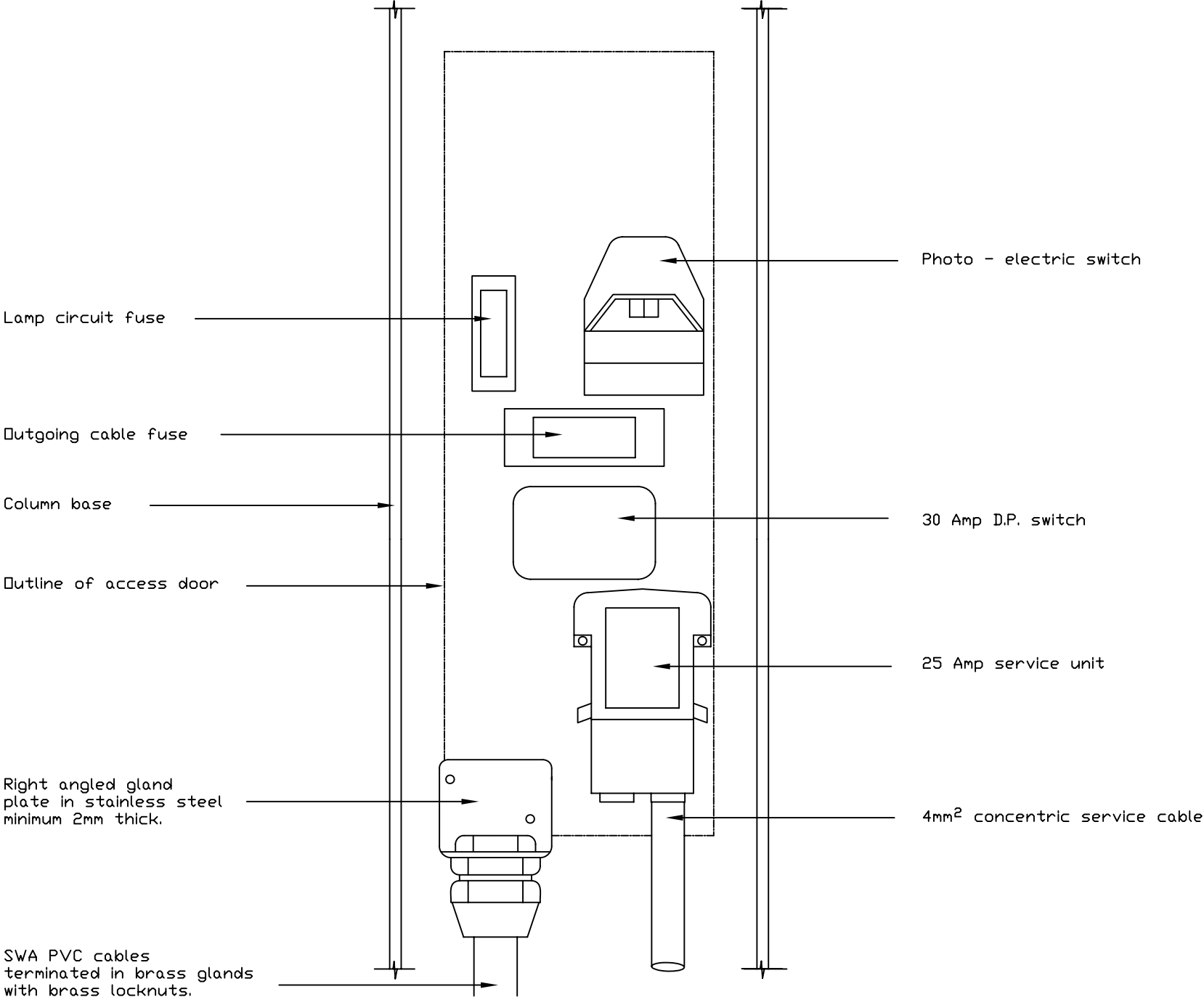
- 1. All dimensions are in millimetres unless otherwise stated.
- 2. Cut-out unit is shown covers off for clarity.



No.	Date	Description
↑		AMENDMENTS
		↓

NOTES

1. All dimensions are in millimetres unless otherwise stated.



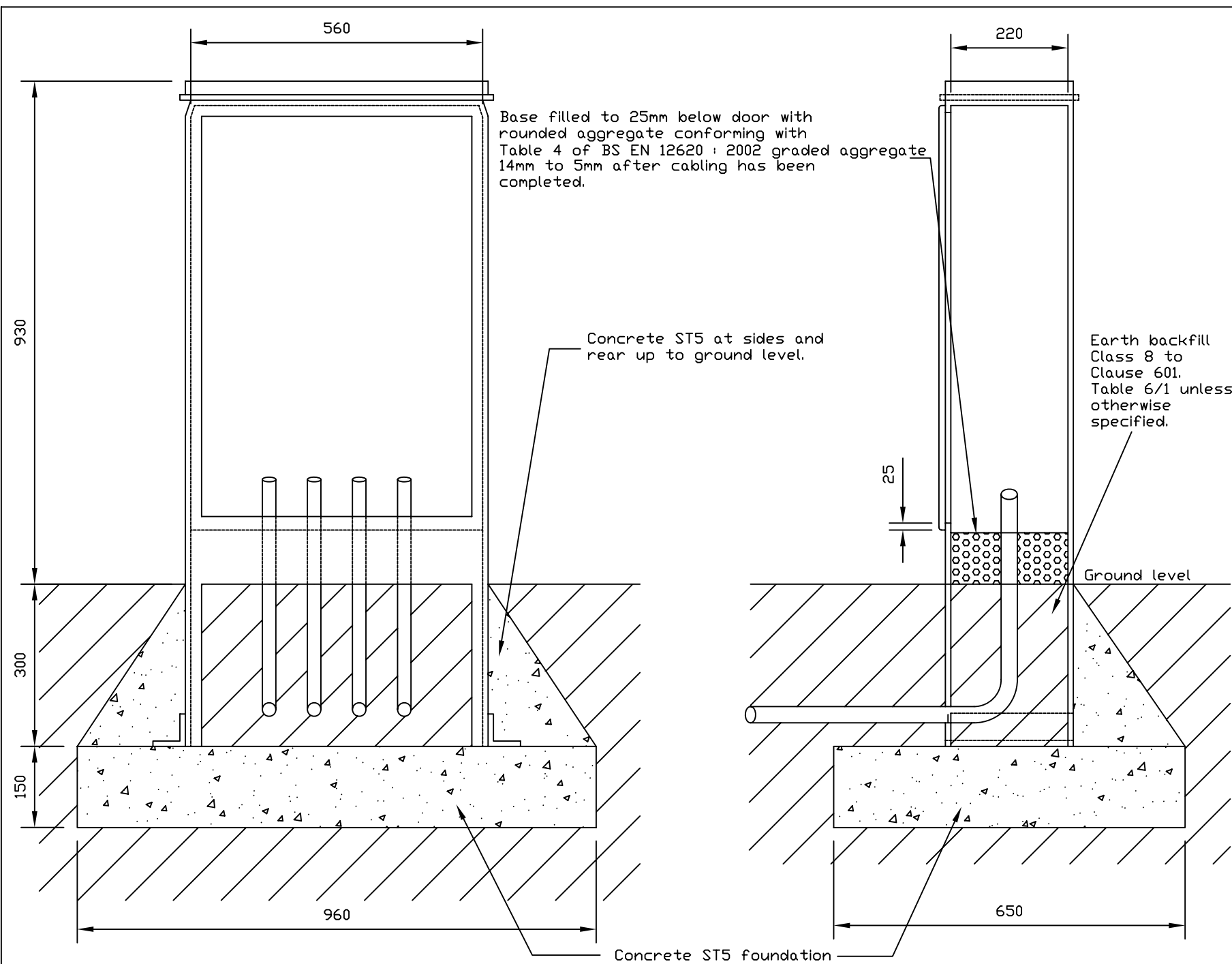
No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

ROAD LIGHTING

COLUMN BASE LAYOUT
LIVE SERVICE TYPE

Drawing No.
K84



NOTES

1. All dimensions are in millimetres unless otherwise stated.

No.	Date	Description
↑		AMENDMENTS

HIGHWAY CONSTRUCTION DETAILS

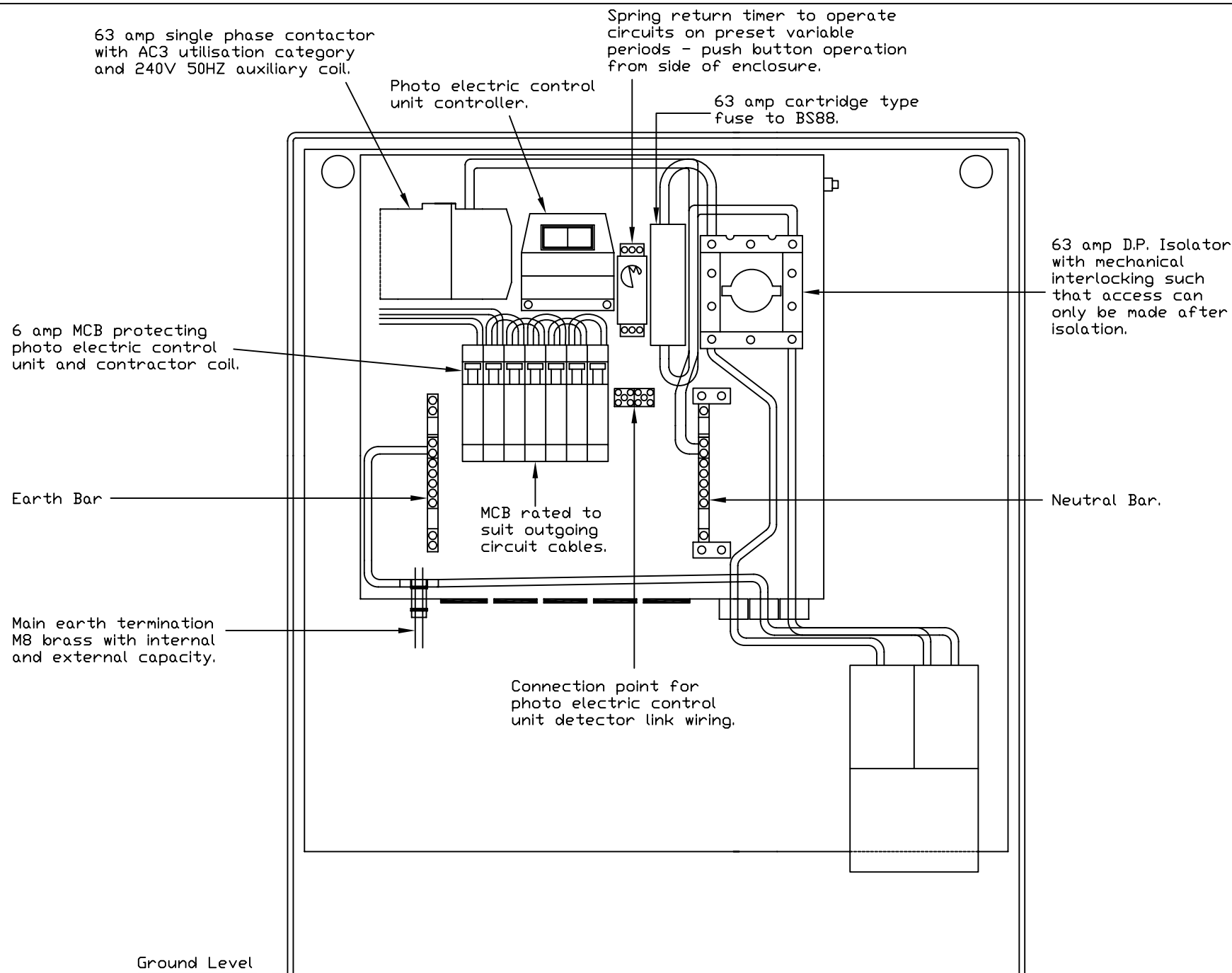
ROAD LIGHTING

FEEDER PILLARS
TYPICAL PLANTING DETAILS

Drawing No.
K85

NOTES

- All dimensions are in millimetres unless otherwise stated.



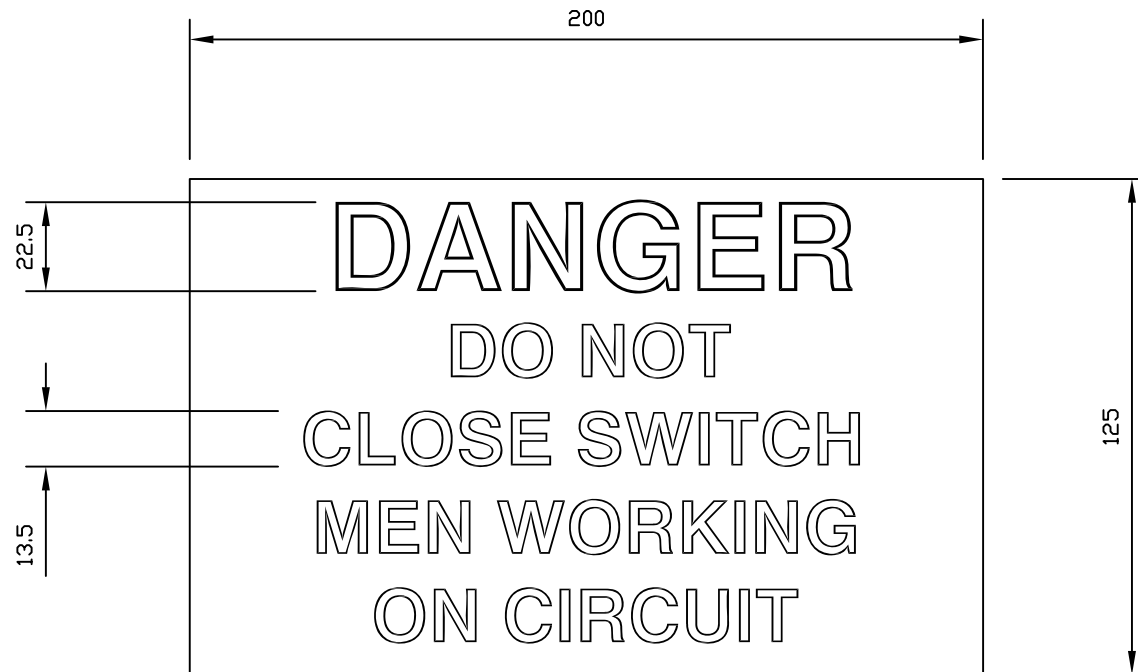
No.	Date	Description
↑		AMENDMENTS

Drawing No.
K86

HIGHWAY CONSTRUCTION DETAILS

ROAD LIGHTING

PILLAR DISTRIBUTION PANEL



ELECTRICAL WARNING NOTICE SIGN

NOTES

1. All dimensions are in millimetres unless otherwise stated.
2. Lettering to be in red on a white background.

No.	Date	Description
↑		AMENDMENTS

Drawing No.

K88

HIGHWAY CONSTRUCTION DETAILS

ROAD LIGHTING

ELECTRICAL WARNING NOTICE