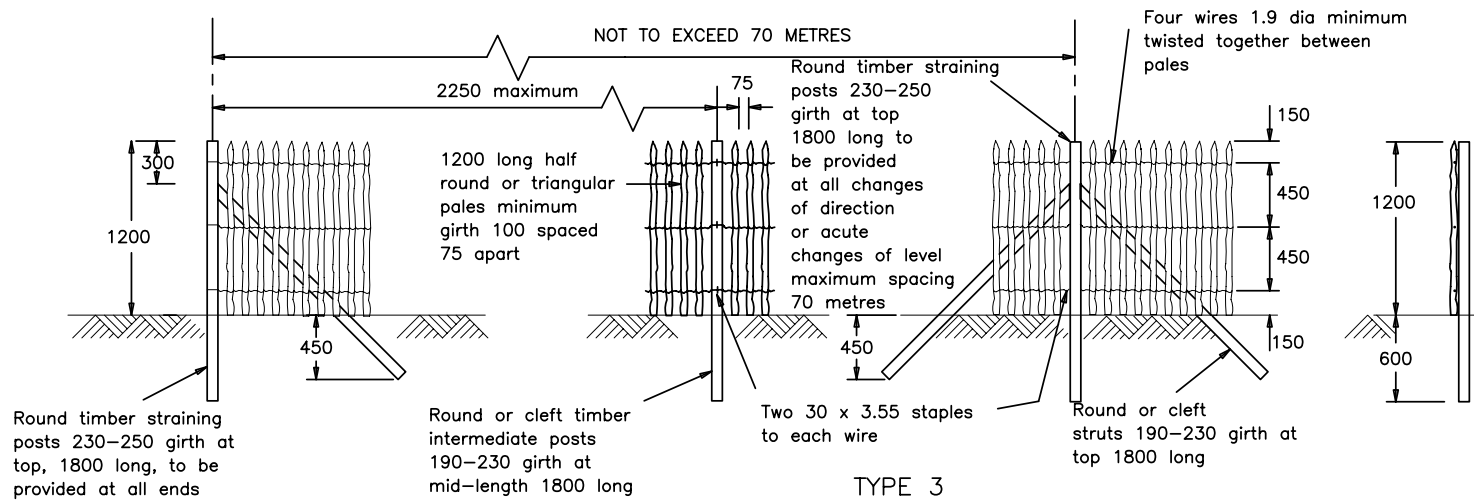


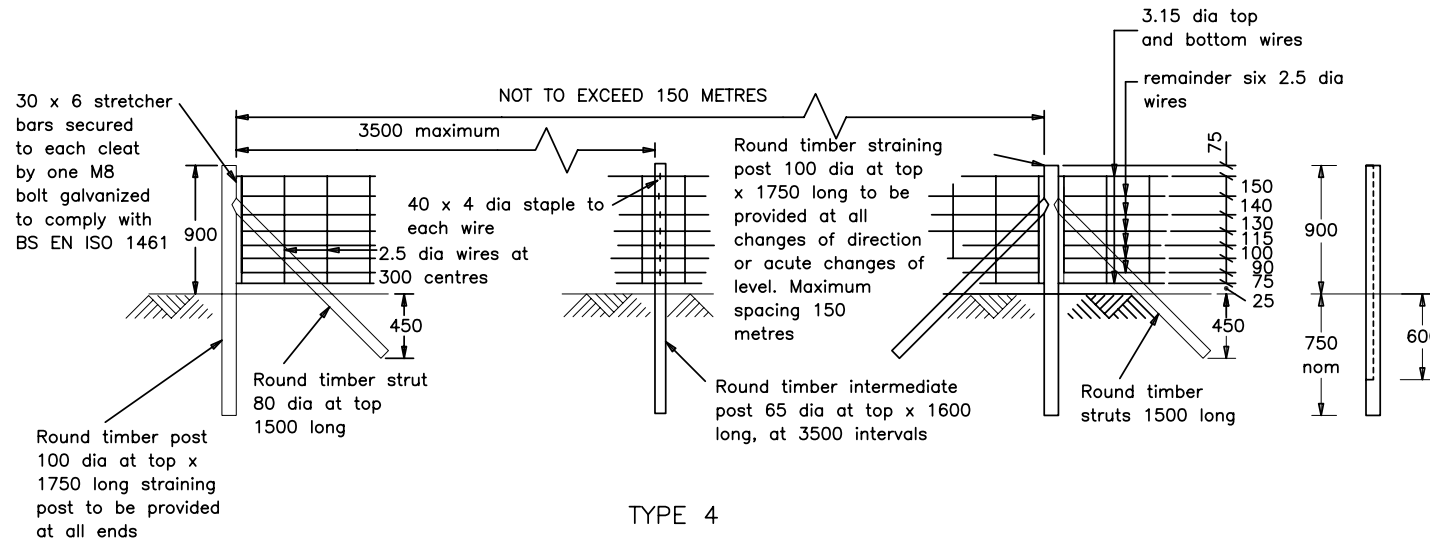
NOTES

1. The following are two of the four standard temporary fences that are suggested for highway works and the type required or any variations of these details shall be as shown on the Drawings:
Type 1 - BS 1722 Part 2 Type SW120 with mild steel barbed wire complying with BS 4102 fixed to the top line wire and the third line wire from the ground and as shown on this detail;
Type 2 - BS 1722 Part 2 and as shown on this detail.
2. All line wire, stirrup wire and barbed wire shall be zinc coated to comply with BS EN 10244-2.
3. When these type fences or variation of these are used for accommodation work fences, the requirements are included in Appendix 1/15 and on the Drawings.
4. ALL DIMENSIONS ARE IN MILLIMETRES.

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	C	MAY 04	TEMPORARY FENCES TYPES 1 & 2	Drawing No.
		B	MAY 01		H1
		A	DEC 91		
		Issue	Date		



TYPE 3

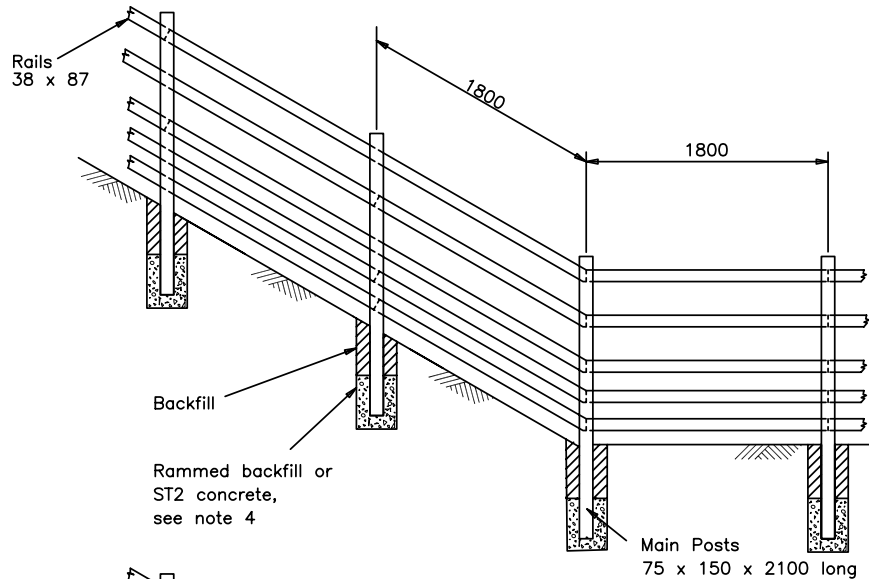


TYPE 4

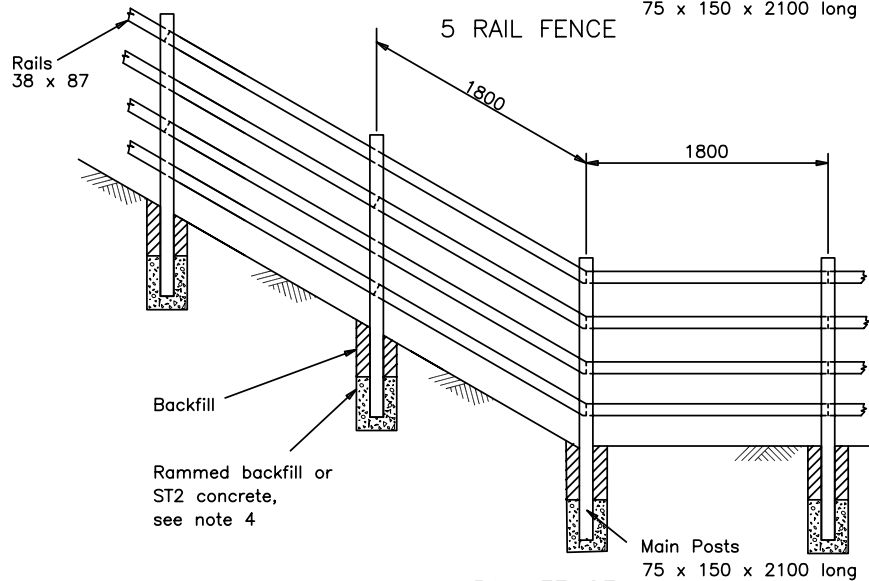
NOTES

1. The following are two of the four standard temporary fences that are suggested for highway works and the type required, or any variations of these details shall be as shown on the Drawings:
Type 3 - BS 1722 Part 4 Type CW120 and as shown on this detail;
Type 4 - BS 1722 Part 2 Type C8/80/30 and as shown on this detail.
2. All line wire, stirrup wire and barbed wire shall be zinc coated to comply with BS EN 10244-2.
3. If posts are to be driven then bottom end shall be pointed for 225.
4. When these type of fences or variations of these are used for accommodation work fences the requirements are included in Appendix 1/15 and on the Drawings.
5. ALL DIMENSIONS ARE IN MILLIMETRES.

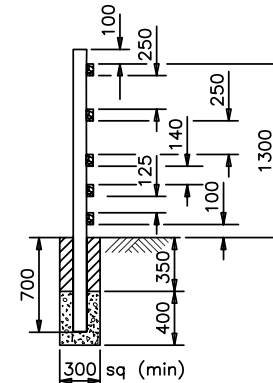
HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	B	MAY 04	TEMPORARY FENCES TYPES 3 & 4	Drawing No.
		A	DEC 91		H2
		Issue	Date		



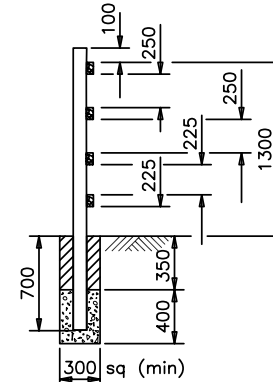
5 RAIL FENCE



4 RAIL FENCE



SECTION THROUGH
Q OF MAIN POSTS



SECTION THROUGH
Q OF MAIN POSTS

NOTES

1. Specification Clause 306 applies unless otherwise stated in Appendix 3/1 or Appendix 1/15.
- 2a). Where plain or barbed wire is required in Appendix 3/1 or Appendix 1/15 it shall be zinc coated and comply with BS 4102.
- 2b). 4 rail fence – BS 1722 Part 7 Type SPR 13/4 applies unless otherwise stated.
- 2c). 5 rail fence – BS 1722 Part 7 Type SPR 13/4 applies (except for the addition of a fifth rail, rails spaced as shown) unless otherwise stated.
3. Where the fence forms a boundary between the highway and private property, the rails shall be fixed to the private property side unless otherwise stated in Appendix 3/1 or 1/15.
4. Posts can be supported by rammed backfill or ST2 concrete unless Appendix 1/15 or Appendix 3/1 require ST2 concrete to be used.
5. ALL DIMENSIONS ARE IN MILLIMETRES.

HIGHWAY CONSTRUCTION DETAILS

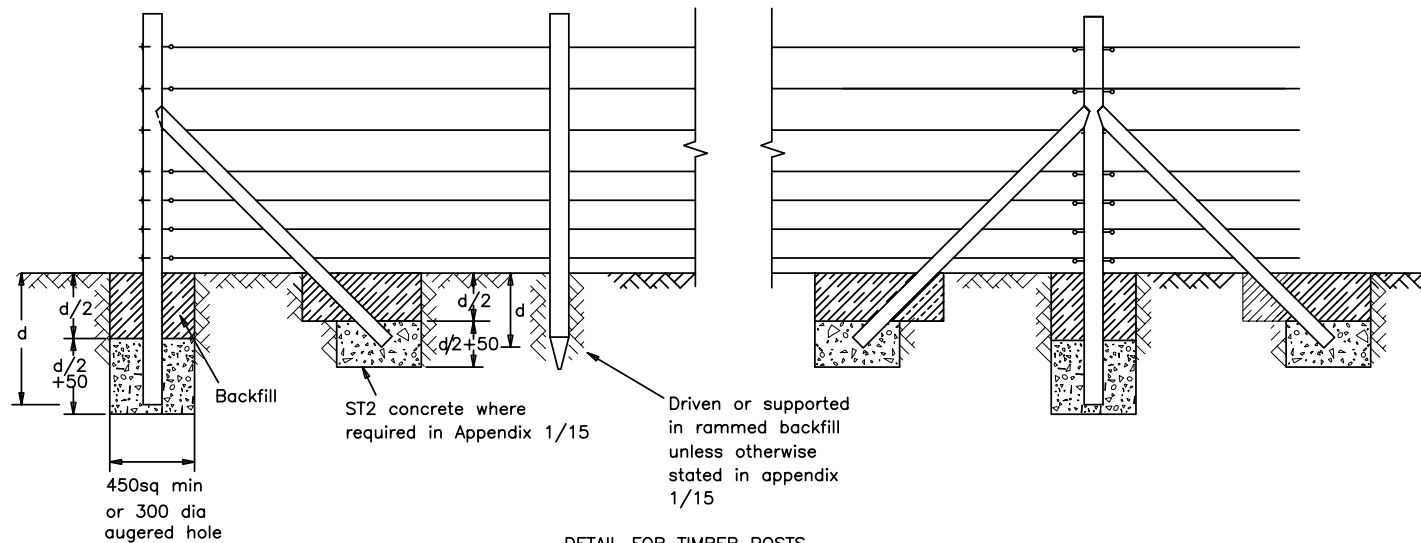
FENCES, STILES &
GATES

D	MAY 04
C	MAR 98
B	AUG 93
A	DEC 91
Issue	Date

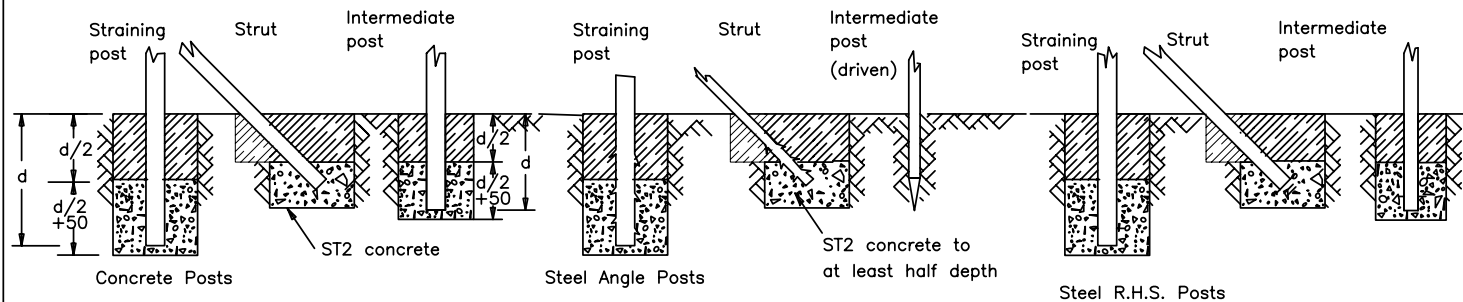
MOTORWAY AND ACCOMMODATION WORKS
TIMBER POST AND 4 (OR 5)
RAIL FENCES

Drawing No.

H3



DETAIL FOR TIMBER POSTS



VARIATIONS FOR POSTS OF MATERIALS OTHER THAN TIMBER

NOTES

1. B.S. 1722 Part 2 applies unless otherwise stated.
2. Dimensions of foundation, type and sizes of posts, struts and wire etc. shall be taken from B.S.1722 Part 2 as appropriate to the height and purpose of the fence and with any other requirements described in Appendix 1/15 and on the Drawings.
3. All timber shall comply with Specification Clause 304 unless otherwise stated in Appendix 1/15.
4. When plastic coating is required in Appendix 1/15 it shall comply with Specification Clause 2604 and 2605.
5. Details of posts and connections shall be in accordance with Drawing Nos. H7 to H10.
6. Where a fence forms a boundary between the highway and private property, the wire shall be fixed on the highway side unless otherwise stated in Appendix 1/15
7. Plastic coating material will not be acceptable where serious damage has occurred to the coating before or during erection. Minor defects must be sprayed with an approved plastic paint within 24 hours of erection.
8. Timber posts and struts may be supported in rammed backfill unless otherwise stated in Appendix 1/15.
9. ALL DIMENSIONS ARE IN MILLIMETRES.

HIGHWAY CONSTRUCTION DETAILS

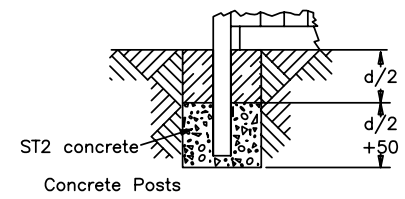
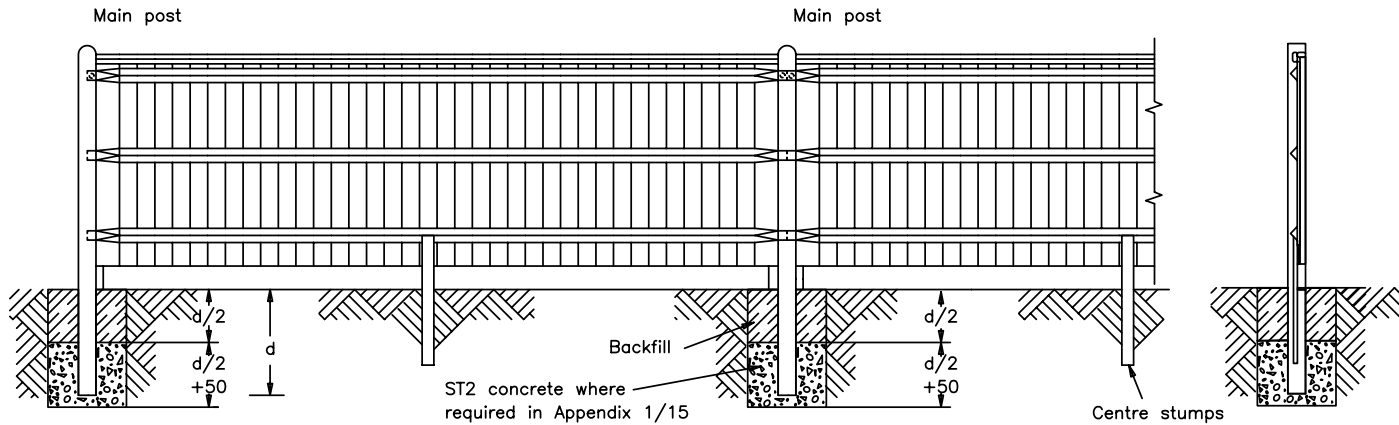
FENCES, STILES &
GATES

E	MAY 04
D	MAY 01
C	MAR 98
B	AUG 93
A	DEC 91
Issue	Date

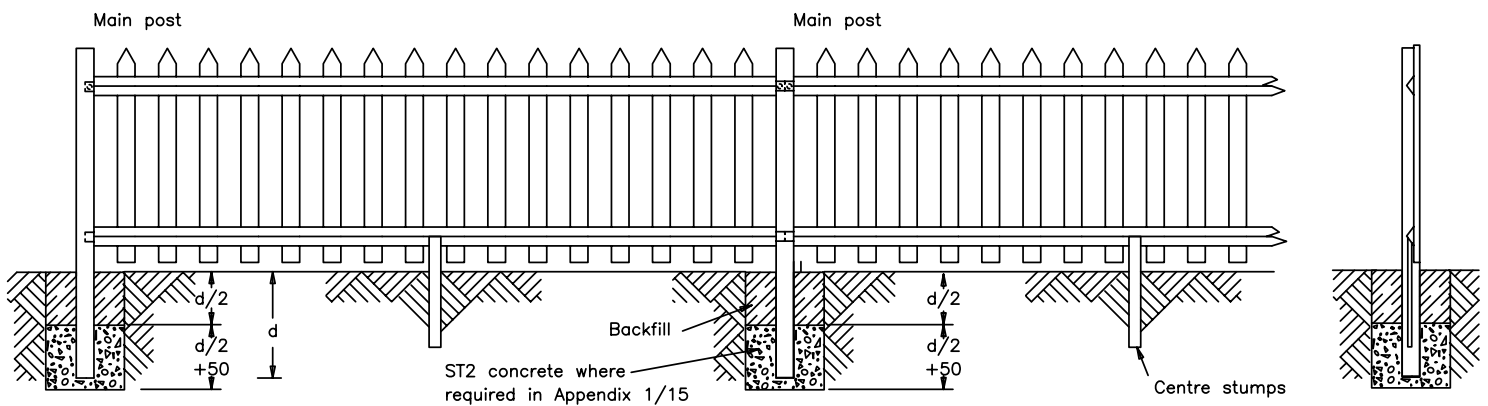
ACCOMMODATION WORKS
STRAINED WIRE FENCES
(GENERAL PATTERN)

Drawing No.

H13



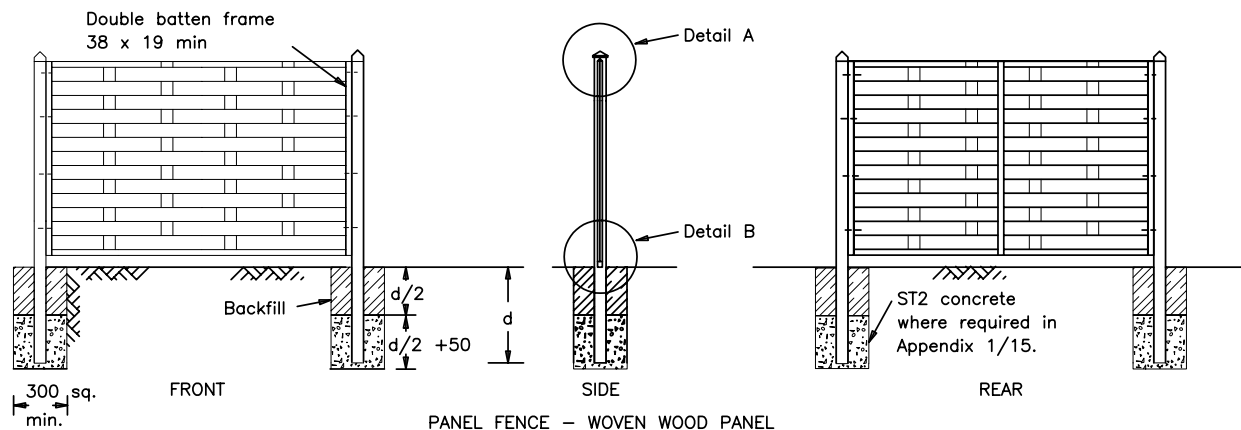
FENCE - Timber Posts
(B.S. 1722 Part 5)



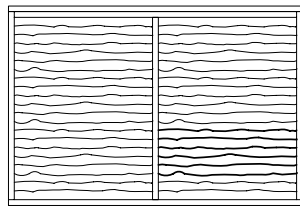
FENCE - Timber Posts
(B.S. 1722 Part 5)

- NOTES
1. B.S. 1722 Part 5 applies unless otherwise stated.
 2. Dimension d and types and sizes of posts, rails, palisades and feather edged board fitting shall be taken from B.S. 1722 Part 5 as appropriate to the height and type of fence and with any other requirements described in Appendix 1/15 and on the Drawings.
 3. All timber shall comply with Clause 304 unless otherwise stated in Appendix 1/15.
 4. Timber posts may be supported in rammed backfill unless otherwise stated in Appendix 1/15.
 5. ALL DIMENSIONS ARE IN MILLIMETRES.

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	E	MAY 04	ACCOMMODATION WORKS TIMBER PALISADE AND CLOSE BOARDED FENCES	Drawing No.
		D	MAY 01		
		C	MAR 98		H14
		B	AUG 93		
		A	DEC 91		
		Issue	Date		



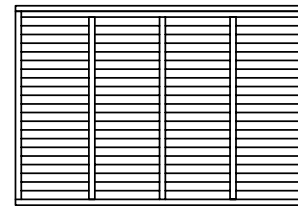
PANEL FENCE – WOVEN WOOD PANEL



FRONT

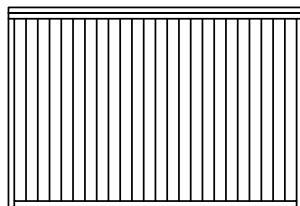


SIDE



REAR

PANEL FENCE – OVERLAPPING HORIZONTAL BOARD PANEL



FRONT

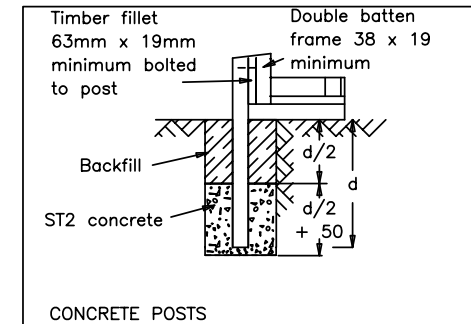
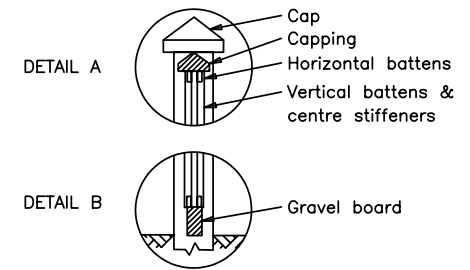


SIDE



REAR

PANEL FENCE – OVERLAPPING VERTICAL BOARD PANEL



CONCRETE POSTS

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. BS 1722 Part 11 applies unless otherwise stated.
 3. Dimension d and sizes of posts, and infill shall be taken from BS 1722 Part 11 as appropriate to the height and type of fence described in Appendix 1/15 and on the Drawings.
 4. All timber shall comply with Specification Clause 304 unless otherwise stated in Appendix 1/15.
 5. Timber posts may be driven or supported in rammed backfill unless otherwise stated in Appendix 1/15.

HIGHWAY CONSTRUCTION DETAILS

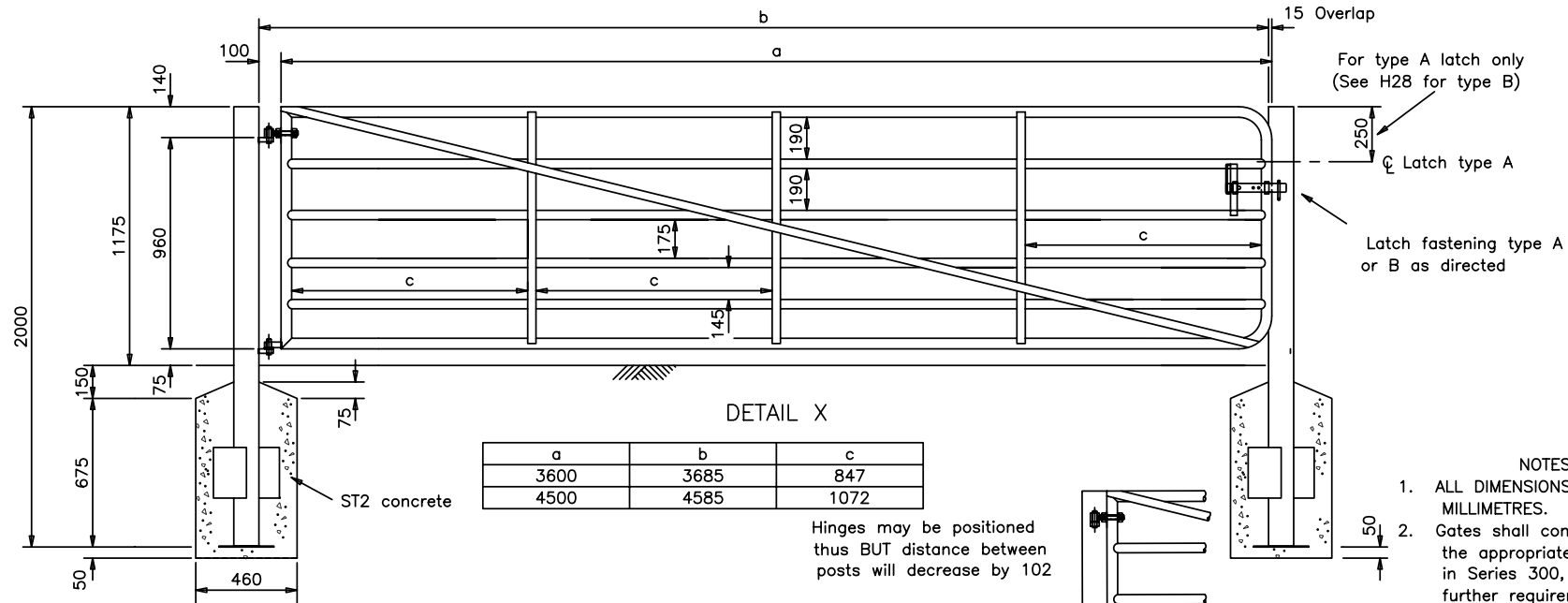
FENCES, STILES &
GATES

C	MAY 04
B	AUG 93
A	DEC 91
Issue	Date

ACCOMMODATION WORKS
WOVEN AND LAP BOARDED
PANEL FENCES

Drawing No.

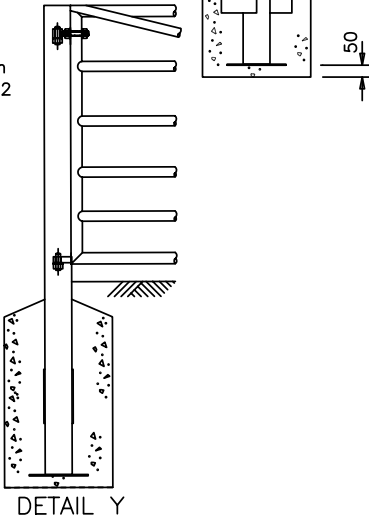
H16



a	b	c
3600	3685	847
4500	4585	1072

Hinges may be positioned thus BUT distance between posts will decrease by 102

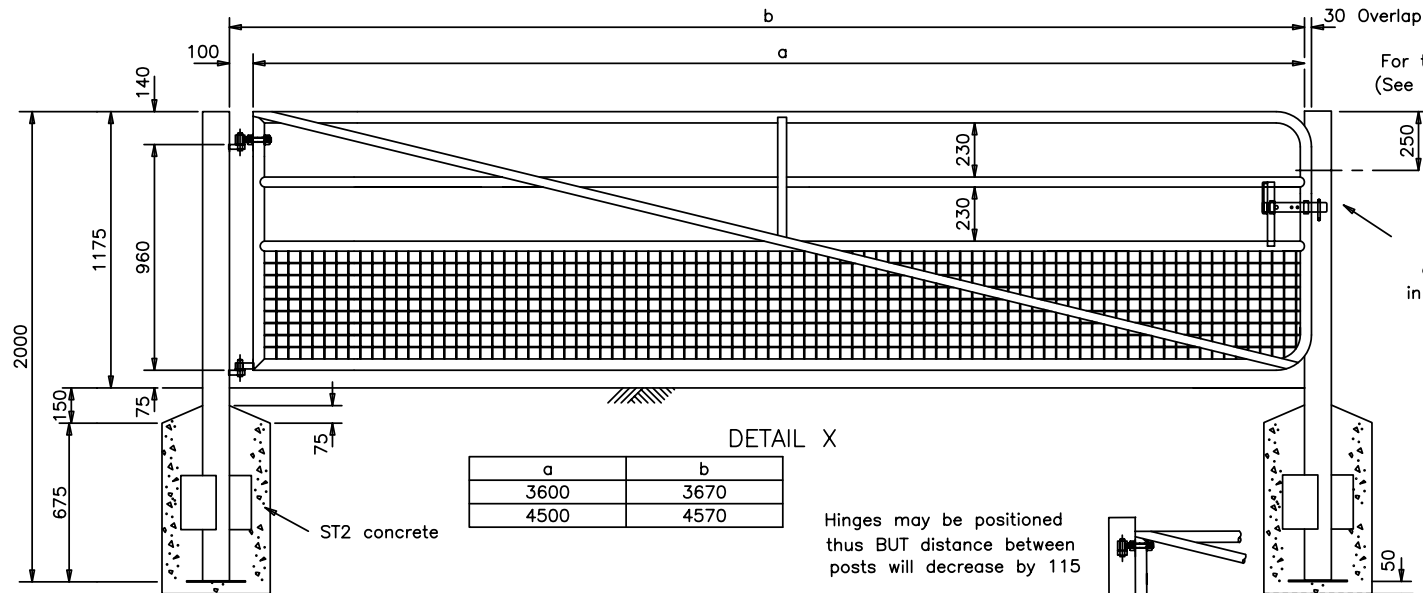
DESCRIPTION OF MATERIAL	SIZE	FIXINGS AND FITTINGS
Hanging post (Tubular steel)	114.3 outer dia.x 3.6 thick	Top capping plate 4.8 thick Two 230x150x4.8 wing plates stitch welded to post
Shutting post (Tubular steel)	88.9 outer dia.x 3.2 thick	Base plate 250x250x4.8 Cap and base plates to be continuously flush welded to tube
Outer frames	48.3 outer dia.x 2.9 thick	} Fillet welded to each gate member crossed by braces
Infilling horizontal rails (All tubular steel)	42.4 outer dia.x 2.6 thick	
Vertical braces (steel flat)	Three 38x4.8	
Diagonal braces (steel flat)	Two 38x4.8	



Alternative position of hinge to give a full 180° opening when required in Appendix 1/15 or 3/1

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETRES.
 2. Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1, and with BS 3470. (Cattle yard).
 3. For details of latches and fittings see Drawing Nos. H26, H27 & H28.
 4. Gate stops to be provided in accordance with Drawing No. H33.
 5. The gate shall open into the owner's property.
 6. The corners of the main frame may be rounded, rounded and mitred (as drawn), mitred, saddled or crimped.
 7. Protective treatment to be as described in Appendix 1/15 or 3/1.

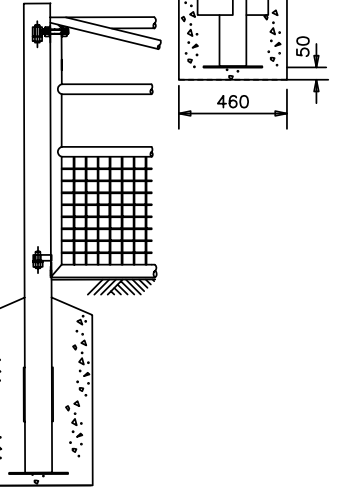
HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	B	MAY 04	STEEL SINGLE FIELD GATE	Drawing No.
		A	DEC 91		H17
		Issue	Date		



DETAIL X

a	b
3600	3670
4500	4570

Hinges may be positioned thus BUT distance between posts will decrease by 115



DETAIL Y

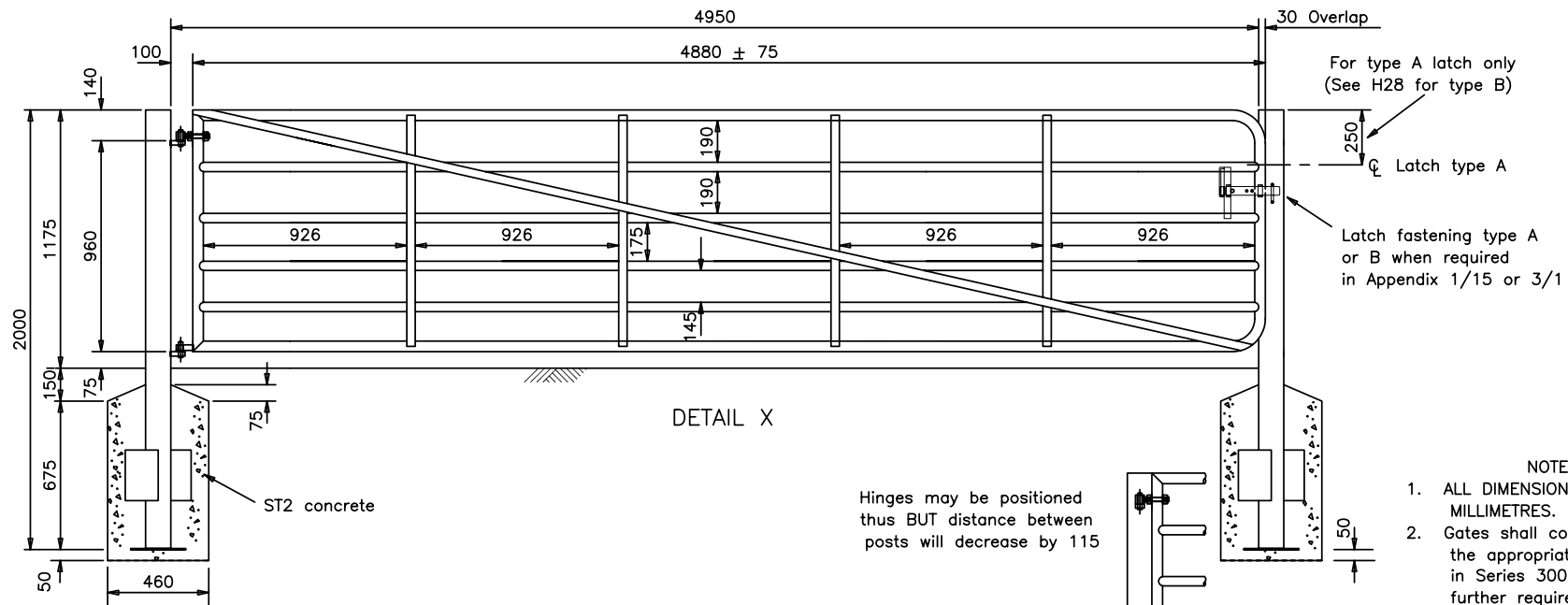
Alternative position of hinge to give a full 180° opening when required in Appendix 1/15 or 3/1

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1 and with BS 3470. (Cattle yard).
3. For details of latches and fittings see Drawing Nos. H26, H27 & H28.
4. Gate stops to be provided in accordance with Drawing No. H33.
5. The gate shall open into the owner's property.
6. The corners of the main frame may be rounded, rounded and mitred (as drawn), mitred, saddled or crimped.
7. Protective treatment to be as described in Appendix 1/15 or 3/1.

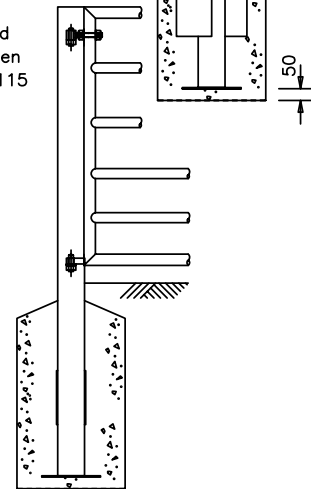
DESCRIPTION OF MATERIAL	SIZE	FIXINGS AND FITTINGS
Hanging post (Tubular steel)	139.7 outer dia.x 4.5 thick	Top capping plate 4.8 thick Two 230x150x4.8 wing plates stitch welded to post
Shutting post (Tubular steel)	114.3 outer dia.x 3.6 thick	Base plate 250x250x4.8 Cap and base plates to be continuously flush welded to tube
Outer frames	48.3 outer dia.x 2.9 thick	} Fillet welded to each gate member crossed by braces
Infilling horizontal rails (All tubular steel)	42.4 outer dia.x 2.6 thick	
Vertical braces (steel flat)	One 38x4.8	} Fillet welded to each gate member crossed by braces
Diagonal braces (steel flat)	Two 38x4.8	
Steel square welded mesh fabric	51 square x4.1dia.	

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	B	MAY 04	STEEL HALF MESH SINGLE FIELD GATE	Drawing No.
		A	DEC 91		H18
		Issue	Date		



DETAIL X

Hinges may be positioned thus BUT distance between posts will decrease by 115



DETAIL Y

Alternative position of hinge to give a full 180° opening when required in Appendix 1/15 or 3/1

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1, and with BS 3470. (Cattle yard).
3. For details of latches and fittings see Drawing Nos. H26, H27 & H28.
4. Gate stops to be provided in accordance with Drawing No. H33.
5. The gate shall open into the owner's property.
6. The corners of the main frame may be rounded, rounded and mitred (as drawn), mitred, saddled or crimped.
7. Protective treatment to be as described in Appendix 1/15 or 3/1.

DESCRIPTION OF MATERIAL	SIZE	FIXINGS AND FITTINGS
Hanging post (Tubular steel)	139.7 outer dia.x 4.5 thick	Top capping plate 4.8 thick Two 230x150x4.8 wing plates stitch welded to post
Shutting post (Tubular steel)	114.3 outer dia.x 3.6 thick	Base plate 250x250x4.8 Cap and base plates to be continuously flush welded to tube
Outer frames	48.3 outer dia.x 2.9 thick	} Fillet welded to each gate member crossed by braces
Infilling horizontal rails (All tubular steel)	42.4 outer dia.x 2.6 thick	
Vertical braces (steel flat)	Four 38x4.8	
Diagonal braces (steel flat)	Two 38x4.8	

HIGHWAY CONSTRUCTION DETAILS

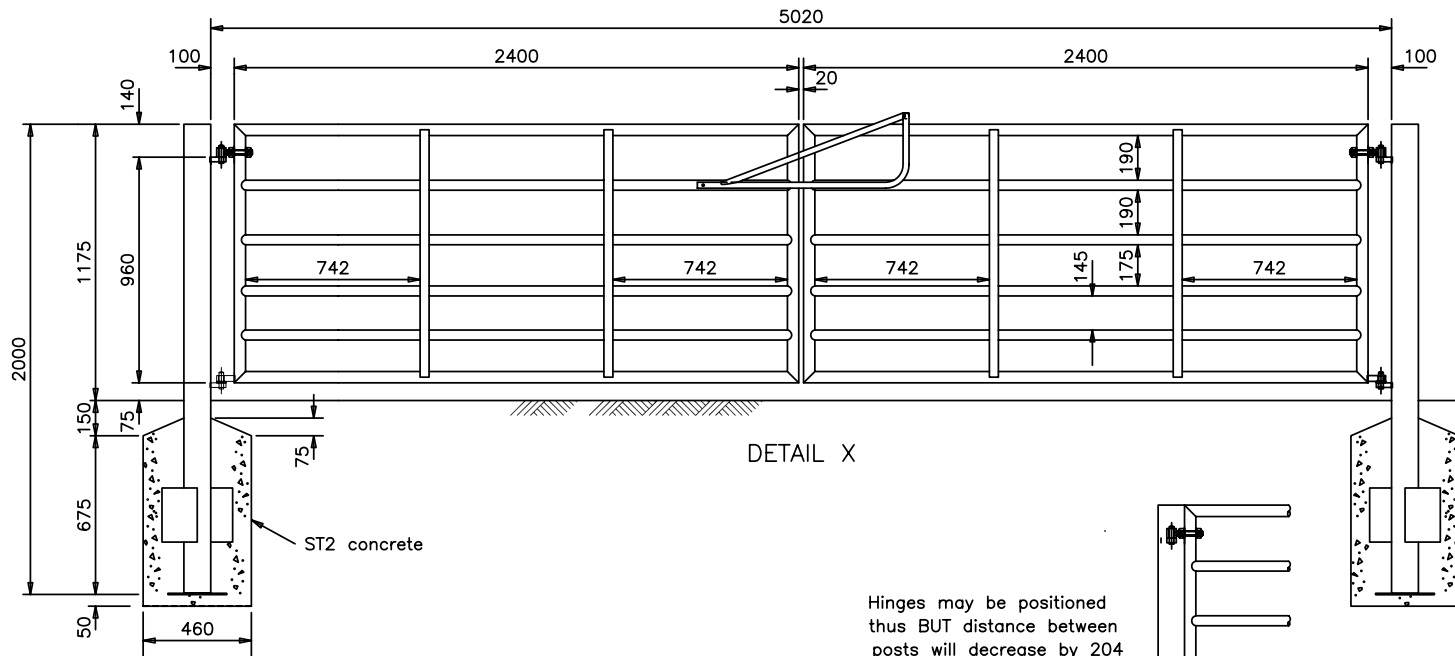
FENCES, STILES &
GATES

B	MAY 04
A	DEC 91
Issue	Date

STEEL EXTRA WIDE
SINGLE FIELD GATE

Drawing No.

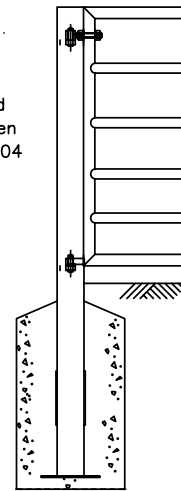
H19



DETAIL X

Hinges may be positioned thus BUT distance between posts will decrease by 204

DESCRIPTION OF MATERIAL	SIZE	FIXINGS AND FITTINGS
Posts (Tubular steel)	114.3 outer dia.x 3.6 thick	Top capping plate 4.8 thick Two 230x150x4.8 wing plates stitch welded to post Base plate 250x250x4.8 Cap and base plates to be continuously flush welded to tube
Outer frames	48.3 outer dia.x 2.9 thick	
Infilling horizontal rails (All tubular steel)	42.4 outer dia.x 2.6 thick	
Vertical braces (steel flat)	Four 38x4.8	Fillet welded to each gate member crossed by braces



DETAIL Y
Alternative position of hinge to give a full 180 opening when required in Appendix 1/15 or 3/1

NOTES

- ALL DIMENSIONS ARE IN MILLIMETRES.
- Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1 and with BS 3470. (Cattle yard.)
- For details of latches and fittings see Drawing Nos. H26 and H29
- Gate stops to be provided in accordance with Drawing No. H33.
- The gate shall open into the owner's property.
- The corners of the main frame may be rounded rounded and mitred, mitred (as drawn), saddled or crimped.
- Protective treatment to be as described in Appendix 1/15 or 3/1.

HIGHWAY CONSTRUCTION DETAILS

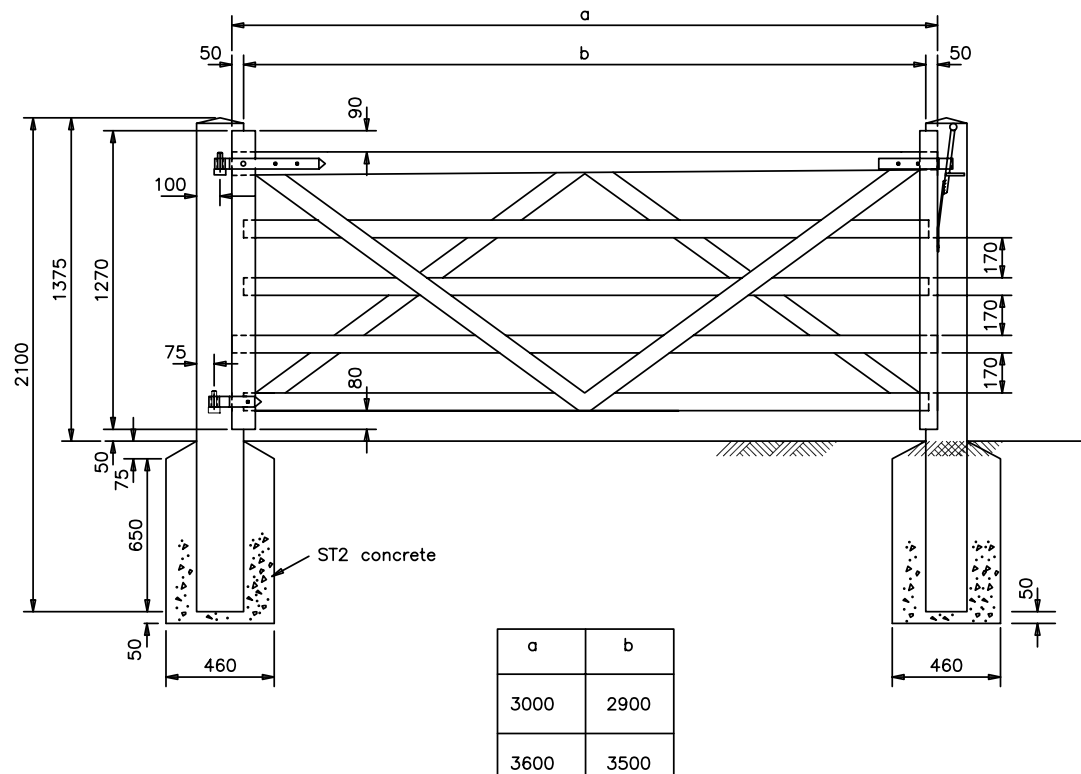
FENCES, STILES &
GATES

B	MAY 04
A	DEC 91
Issue	Date

STEEL DOUBLE FIELD GATE

Drawing No.

H20



DESCRIPTION OF TIMBER MATERIALS	SIZE
Hanging post	200x200x2100 long
Shutting post	175x175x2100 long
Hanging stile	100x75 for 3m gate 125x75 for 3.6m gate
Shutting stile	75x75
Top rail	100x75 for 3m gate 125x75 for 3.6m gate both tapering to 75x75
Under rails	75x25
Braces housed in top rail	75x25

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1 and with BS 3470.
3. All through tenons shall be pegged with 13 dia oak dowels.
4. For details of fittings for hanging and fastening see Drawing Nos. H30 and H31.
5. The gate shall be hung as shown for self closing with self latching stop post as shown on Drawing No. H33.
6. The gate shall open into the owner's property.

HIGHWAY CONSTRUCTION DETAILS

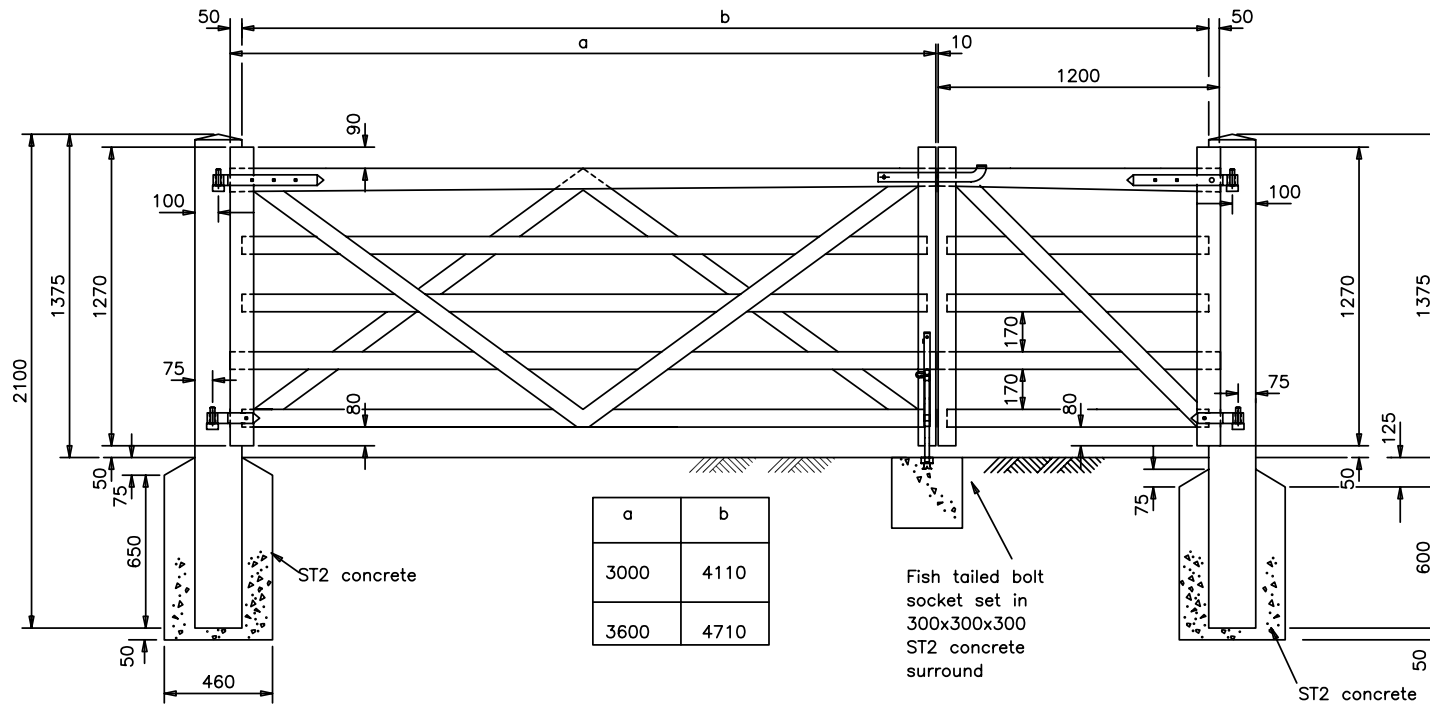
FENCES, STILES &
GATES

B	MAY 04
A	DEC 91
Issue	Date

TIMBER SINGLE
FIELD GATE

Drawing No.

H21



a	b
3000	4110
3600	4710

DESCRIPTION OF TIMBER MATERIALS	SIZE
Hanging post for both gates.	200x200x2100 long
Hanging stile	100x75 for 3m gate 125x75 for 3.6m gate
Shutting stile for both gates.	75x75
Top rail	100x75 for 3m & 1.2m gate 125x75 for 3.6m gate all tapering to 75x75
All other rails	75x25
Braces housed in top rail	75x25

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Gates shall comply with the appropriate Clauses in Series 300, any further requirements in Appendix 1/15 or 3/1 and with BS 3470.
3. Drop bolts and catches shall be galvanized to comply with BS 729.
4. All through tenons shall be pegged with 13 dia oak dowels.
5. For details of fittings for hanging and fastening see Drawing Nos. H30 and H32.
6. The gate shall be hung as shown for self closing with self latching stop post as shown on Drawing No. H33.
7. The gate shall open into the owner's property.

HIGHWAY CONSTRUCTION DETAILS

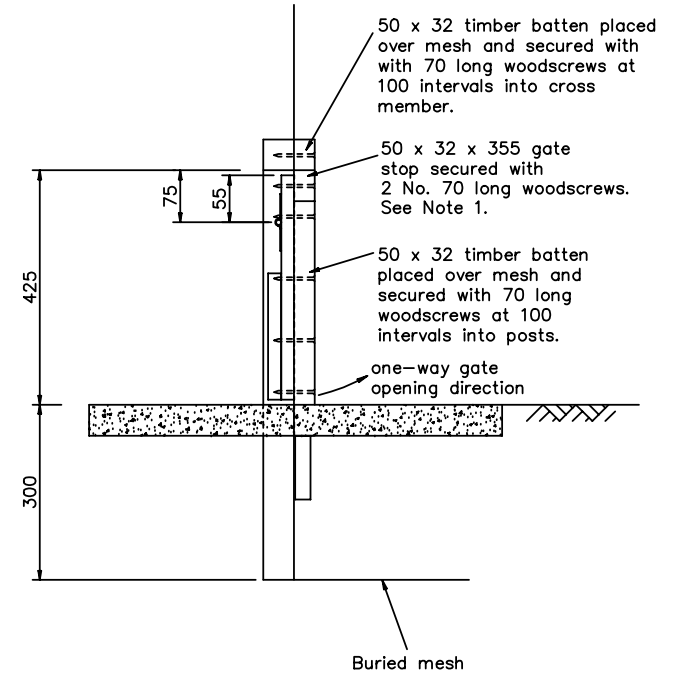
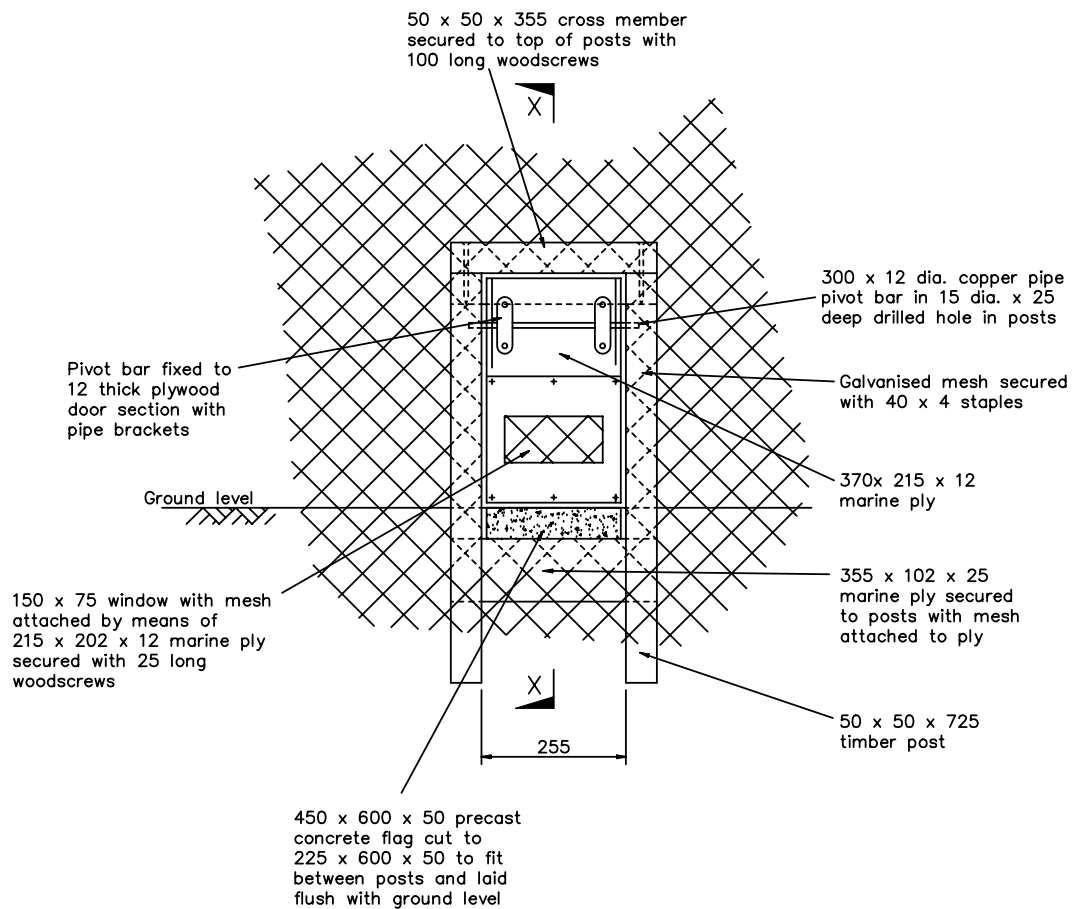
FENCES, STILES &
GATES

B	MAY 04
A	DEC 91
Issue	Date

TIMBER DOUBLE
FIELD GATE

Drawing No.

H22

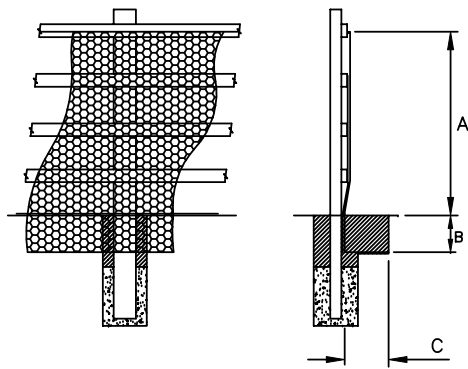


SECTION X-X

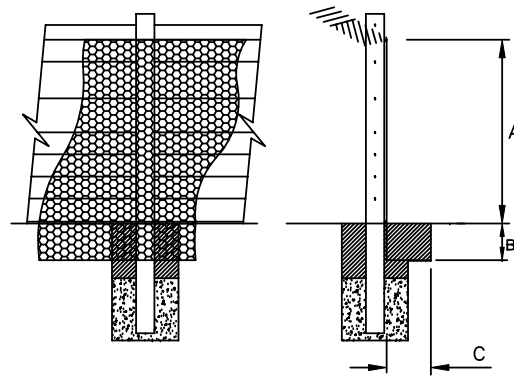
NOTES

1. Gate stop shall be omitted where two-way access gate is specified in Appendix 3/1.
2. All woodscrews to be galvanised or similarly treated to prevent rust.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

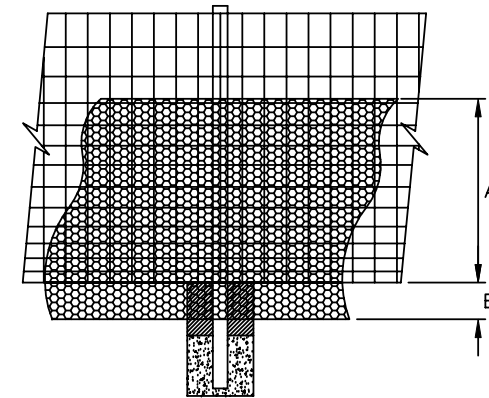
HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	A	MAY 01	BADGER GATE	Drawing No.
		P1	MAR 95		H45
		Issue	Date		



ATTACHMENT OF MESH TO WOODEN POST AND 4/5 RAIL FENCE



ATTACHMENT OF MESH TO A STRAINED WIRE FENCE

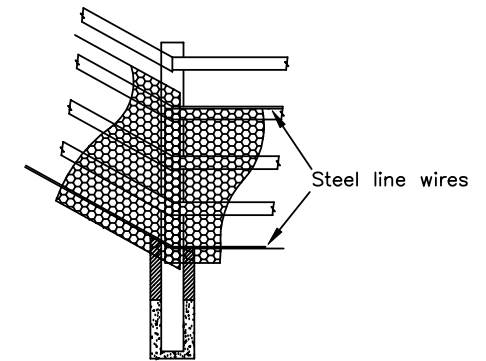


ATTACHMENT OF MESH TO A RECTANGULAR WIRE MESH FENCE

	WIRE MESH	DIMENSION A	DIMENSION B	DIMENSION C	LINE WIRES See Note 6
Type 1 - Rabbit	Hexagonal steel wire netting to BS EN 10223-2 Classification 31 x 1050 x 18	800	100	150	2 No.
Type 2 - Muntjac Deer (+ Rabbit)	Hexagonal steel wire netting to BS EN 10223-2 Classification 31 x 1200 x 18	950	100	150	2 No.
Type 3 - Badger See Note 3	Steel wire woven hinged joint fencing to BS EN 10223-5 Classification H2. 160/15/8. See Note 4	1000	300	300	0
	Steel wire chain link fencing to BS EN 10223-6 Zinc/zinc alloy and black organic coating 50 mesh x 2.5/3.55 gauge, 1800 height	1250	250	300	2 No.
Type 4 - Badger & Rabbit See Note 3	Hexagonal steel wire netting to BS EN 10223-2 Classification 31 x 1200 x 18 AND	950	250	0	0
	Steel wire woven hinged joint fencing to BS EN 10223-5 Classification H2. 160/15/8. See Notes 4 & 5	1000	300	300	0
	Hexagonal steel wire netting to BS EN 10223-2 Classification 31 x 1200 x 18 AND Steel wire chain link fencing to BS EN 10223-6 Zinc/zinc alloy and black organic coating 50 mesh x 2.5/3.55 gauge, 1800 height. See Note 5	1250	250	300	2 No.

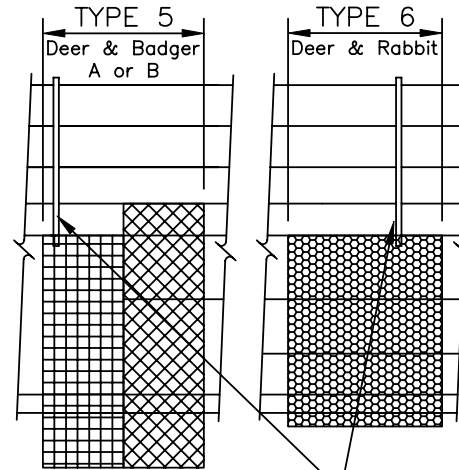
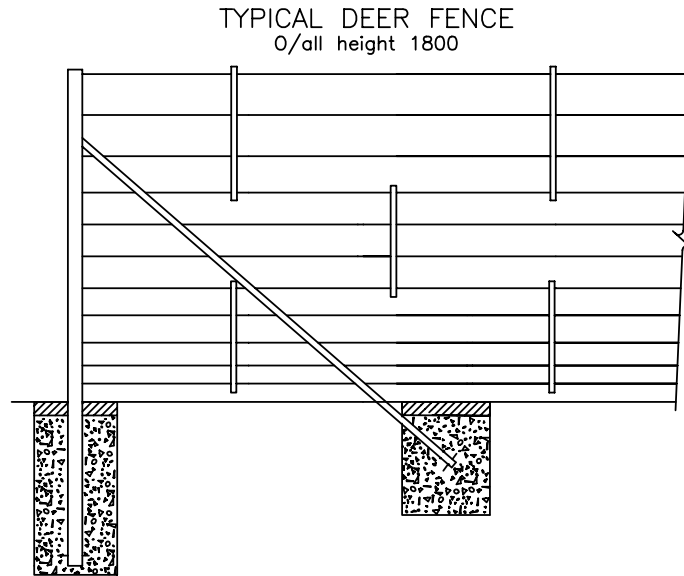
NOTES

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. Fencing Types 1, 3 and 4 apply to new fencing and to the attachment of wire mesh (and additional line wires) where the existing fence height is greater than Dimension A. Fencing Type 6 is required instead of Type 2 if the existing fence height is less than 1350.
3. Two alternatives are given for this type.
4. Alternatives within height range 1580 to 1700 are acceptable, but horizontal spacing of vertical stay wires must not exceed 100.
5. Where two layers of wire mesh are required, dimensions A, B & C are given in order inner/outer mesh.
6. Hexagonal mesh and chain link fencing attached to additional line wires at top of mesh and at ground level.
7. BS 1722:Part 2 shall apply unless otherwise stated. Wire mesh to be attached to fence with a minimum of 16 No. anchorages per square metre of mesh.

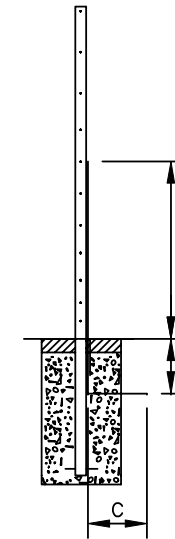


MESH TO BE JOINED AND SECURED TO POSTS AS REQUIRED BY PROFILE OF FENCING

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES	A	MAY 01	ATTACHMENT OF WIRE MESH TO FENCING (SHEET 1 OF 3)	Drawing No.
		P1	MAR 95		H46
		Issue	Date		



925 dropper required for Fence Types 5A and 6 instead of 765 dropper. See Note 7



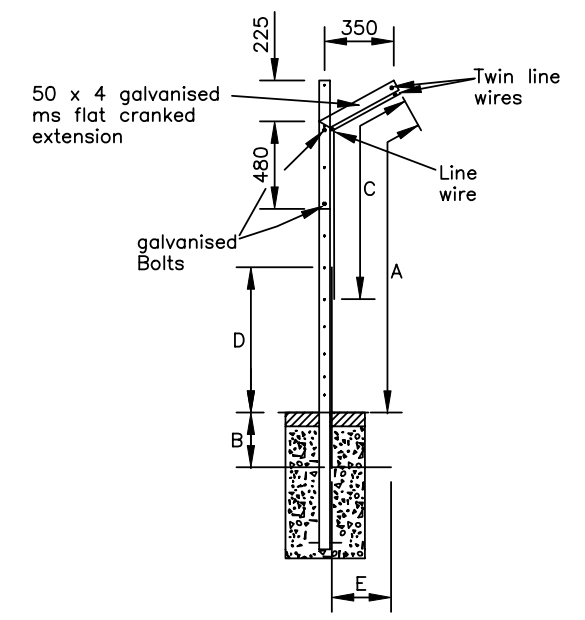
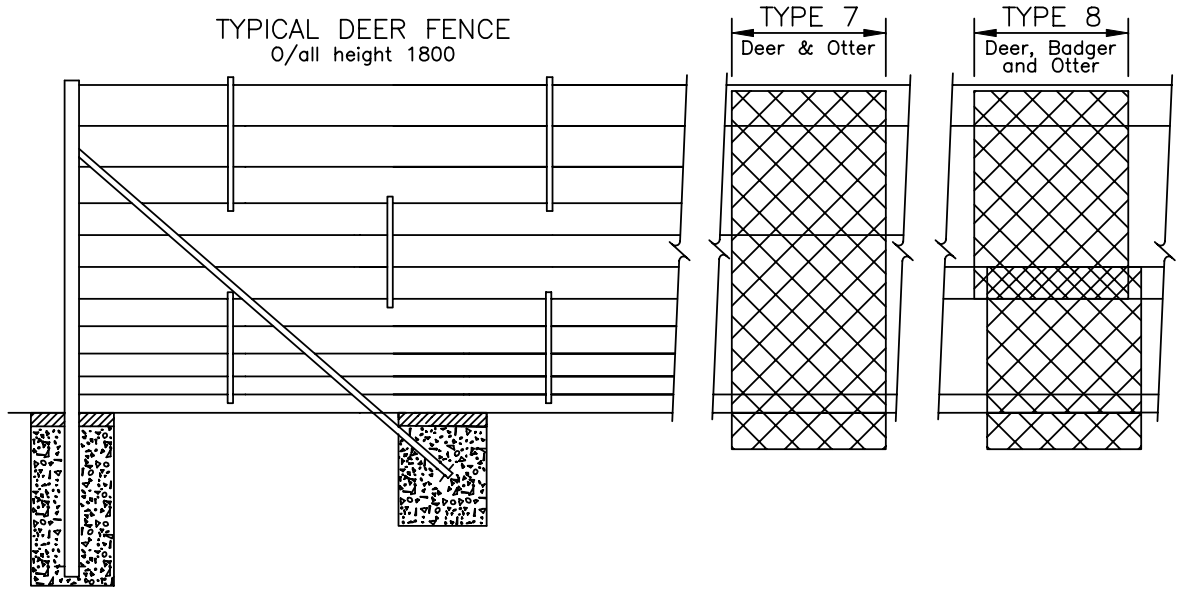
ATTACHMENT OF MESH
TYPES 5 & 6

NOTES

1. Specification Clause 306 applies unless otherwise stated in Appendix 3/1 or 1/15.
2. Details of general arrangements shall be in accordance with Drawing Nos. H8, H9 & H10.
3. When a fence forms a boundary between a highway and private property the wire mesh shall be fixed on the private property side unless otherwise described in Appendix 3/1 or 1/15.
4. Plastic coating shall comply with Specification Clauses 2604 and 2605. Plastic coated material will not be acceptable where damage has occurred to the coating before or during erection unless the Overseeing Organisation agrees that minor defects can be sprayed with a plastic paint within 24 hours of erection.
5. Two alternatives are given for Type 5 fence.
6. Alternatives within height range 1580 to 1700 are acceptable, but horizontal spacing of vertical stay wires must not exceed 100. Dimension C to be adjusted accordingly.
7. Where wire mesh is attached at time of erection of high tensile strained wire fencing, some wires may be omitted as shown and longer droppers incorporated where necessary.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

FENCE TYPE	WIRE MESH	DIM A	DIM B	DIM C
Type 5 – Deer & Badger See Note 5	Steel wire woven hinged joint fencing to BS EN 10223-5 classification H2. 160/15/8. see Note 6.	975	300	325
	Steel wire chain link fencing to BS EN 10223-6 zinc/zinc alloy and black organic coating 50 mesh x 2.5/3.55 gauge, 1800 height.	1150	300	350
Type 6 – Deer & Rabbit	Hexagonal steel wire netting to BS EN 10223-2 classification 31 x 1200 x18	975	75	150

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES			ATTACHMENT OF WIRE MESH TO FENCING (SHEET 2 OF 3)	Drawing No.
		A	MAY 01		H47
		Issue	Date		



ATTACHMENT OF MESH
TYPES 7 & 8

	WIRE MESH	DIM A	DIM B	DIM C	DIM D	DIM E
Type 7 – Deer & Otter	Steel wire chain link fencing to BS EN 10223-6 zinc/zinc alloy and black organic coating 50 mesh x 2.5/3.55 gauge, 2150 height.	1950	200	–	–	–
Type 8 – Deer, Badger & Otter	Steel wire chain link fencing to BS EN 10223-6 zinc/zinc alloy and black organic coating 50 mesh x 2.5/3.55 gauge, 1400 height x 2 No.	–	300	1400	800	300

NOTES

1. Specification Clause 306 applies unless otherwise stated in Appendix 3/1 or 1/15.
2. Details of general arrangements shall be in accordance with Drawing Nos. H8, H9 & H10.
3. When a fence forms a boundary between a highway and private property the wire mesh shall be fixed on the private property side unless otherwise described in Appendix 3/1 or 1/15.
4. Plastic coating shall comply with Specification Clauses 2604 and 2605. Plastic coated material will not be acceptable where damage has occurred to the coating before or during erection unless the Overseeing Organisation agrees that minor defects can be sprayed with a plastic paint within 24 hours of erection.
5. Where wire mesh is attached at time of erection of high tensile strained wire fencing, droppers and some line wires may be omitted as shown.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.

HIGHWAY CONSTRUCTION DETAILS	FENCES, STILES & GATES			ATTACHMENT OF WIRE MESH TO FENCING (SHEET 3 OF 3)	Drawing No.
		A	MAY 01		H48
		Issue	Date		