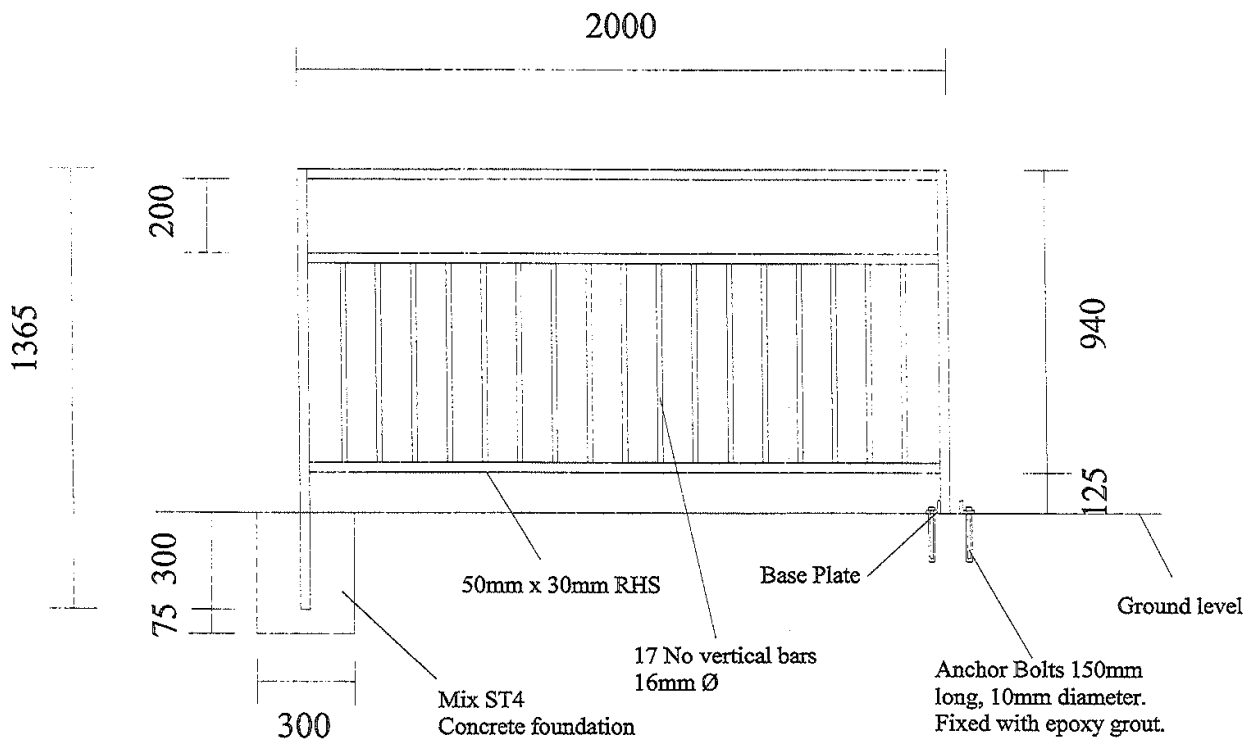
VOLUME 3

CONTRACT-SPECIFIC DRAWINGS



NOTES

1. General

1.1 All dimensions in millimetres unless stated

1.2 Clause numbers refer to clauses in the Department of Transport Specification for Highway Works.

1.3 The fence is to comply in all respects to BS 3049

2 Construction.

2.1 Welding to be in accordance with BS 5135

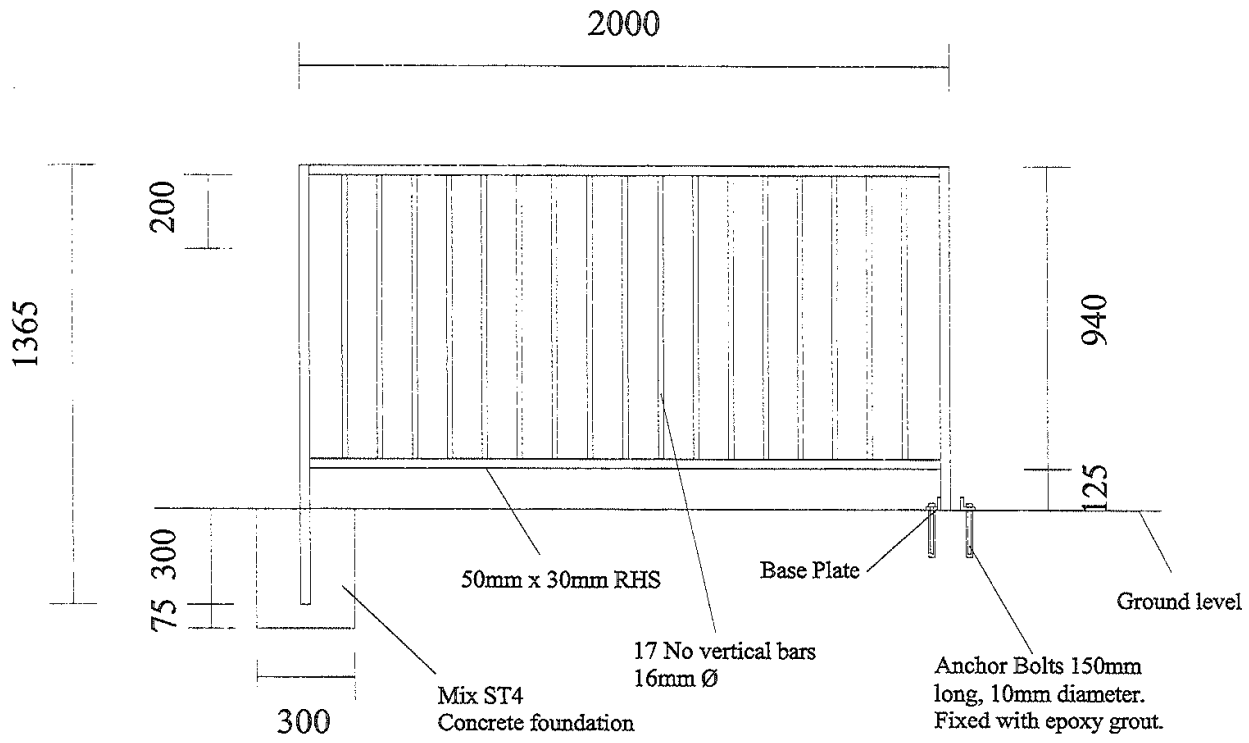
2.2 The face of the guardrail to be positioned 450mm from the face of the kerb. Unless otherwise specified.

3 Finishes

3.1 The guardrail shall be finished by the process of hot dip galvanising in accordance with Clause 1911

Last Revised		
Revision	Date	By
-	30/06/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	SAFETY FENCES & PEDESTRIAN GUARDRAILS	GAURD RAIL WITH SIGHT GAP	SD 04a



NOTES

1. General

1.1 All dimensions in millimetres unless stated

1.2 Clause numbers refer to clauses in the Department of Transport Specification for Highway Works.

1.3 The fence is to comply in all respects to BS 3049

2 Construction.

2.1 Welding to be in accordance with BS 5135

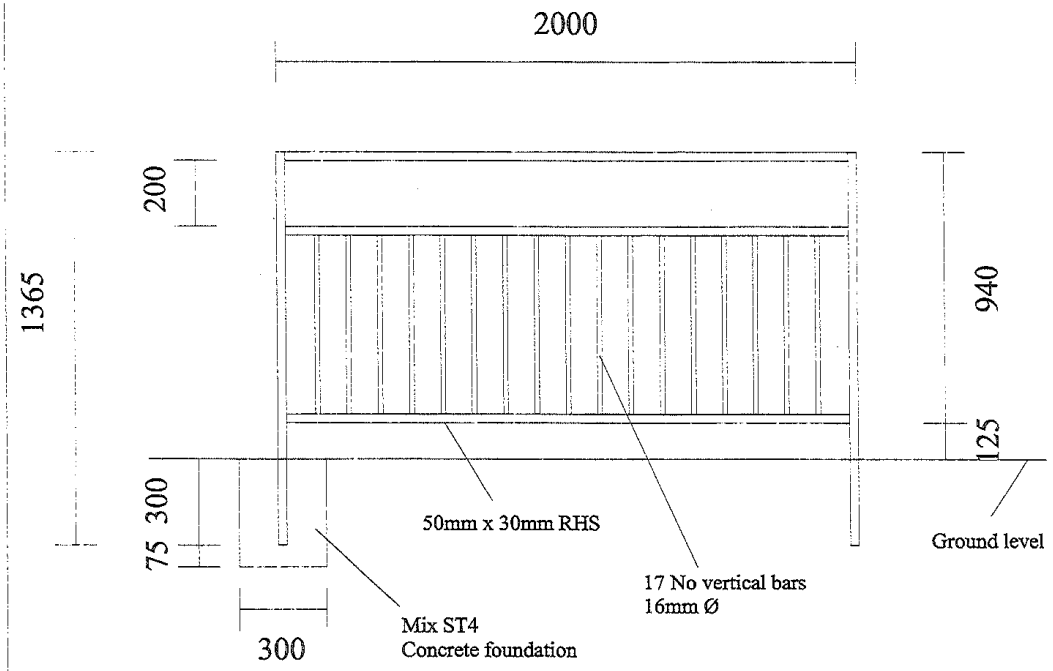
2.2 The face of the guardrail to be positioned 450mm from the face of the kerb. Unless otherwise specified.

3 Finishes

3.1 The guardrail shall be finished by the process of hot dip galvanising in accordance with Clause 1911

Last Revised		
Revision	Date	By
-	30/06/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	SAFETY FENCES & PEDESTRIAN GUARDRAILS	Gaurd Rail with base plate at one end	SD 04b



NOTES

1. General

1.1 All dimensions in millimetres unless stated

1.2 Clause numbers refer to clauses in the Department of Transport Specification for Highway Works.

1.3 The fence is to comply in all respects to BS 3049

2 Materials.

2.1 The fence panel to be Visirail or similar approved

3 Construction.

3.1 Welding to be in accordance with BS 5135

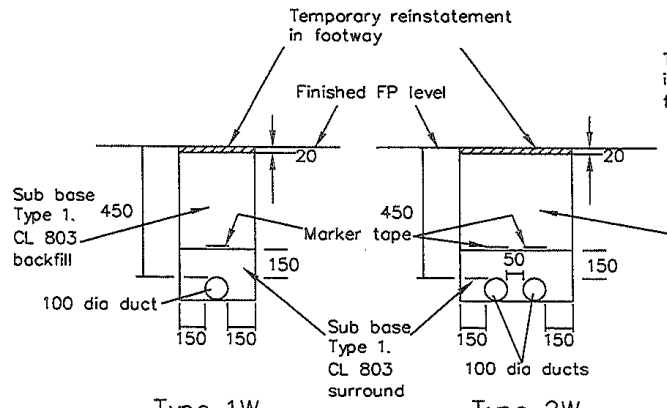
3.2 The face of the guardrail to be positioned 450mm from the face of the kerb. Unless otherwise specified.

4 Finishes

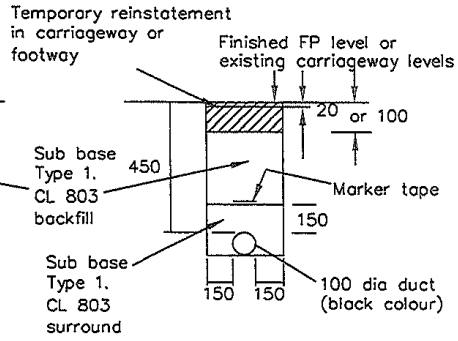
4.1 The guardrail shall be finished by the process of hot dip galvanising in accordance with Clause 1911

Last Revised		
Revision	Date	By
-	28/11/03	RDS

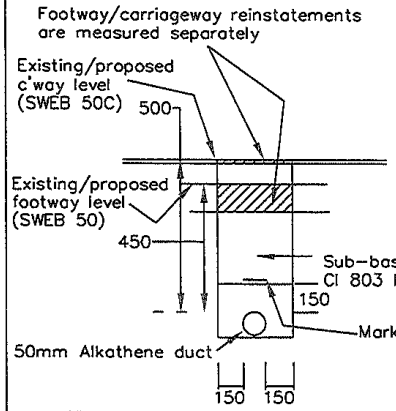
TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	SAFETY FENCES & PEDESTRIAN GUARDRAILS	Gaurd Rail with sight gap	SD 04c



Type 1W. Type 2W.

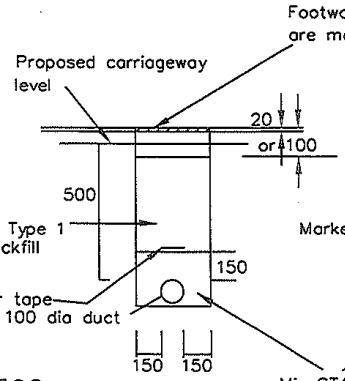


Type 100 CCTV DUCT.

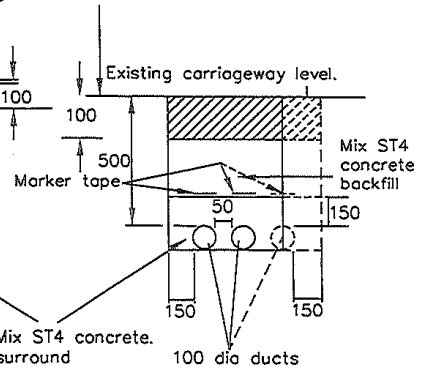


Type SWEB50 and SWEB 50C

NOTE: detail shows SWEB 50
For SWEB 50C backfill and surround to be Mix ST4 concrete



Type 1WC.



Type 2WC/3WC.

NOTES :-

1. General.

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to Clauses in the Department of Transports Specification for Highway Works.

2. Materials.

2.1 Signals ducting to be medium density polyethylene, 100mm dia. with smooth internal bore, min. single wall thickness of 5mm, ORANGE in colour. Cooper Clark standard or similar approved. Twin wall flexible duct will be permitted provided the internal wall is smooth.

2.2 50mm alkathene duct, marker tape and draw rope to be supplied by SEC. The contractor is to collect from Lummaton Quarry Depot approx. 2 miles from site Contact Neil Luscombe – 01803 326130

2.3 For type 100 CCTV duct the colour of the duct is to be plain BLACK .

3. Construction.

3.1 Positions and Types of duct to be as shown on the ducting plan.

3.2 Draw ropes to be provided in each duct run.

4. Measurement.

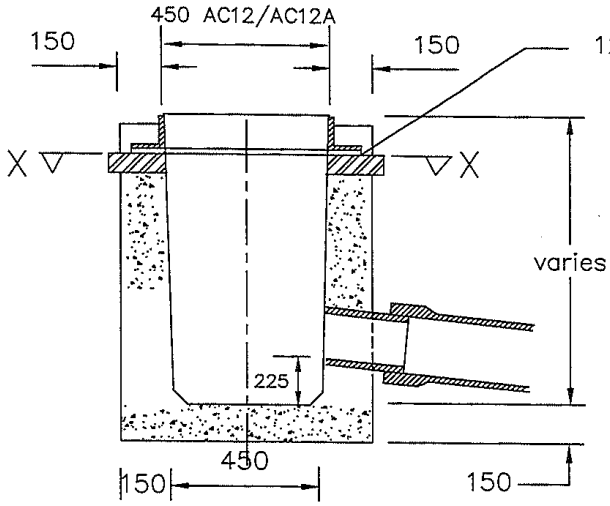
4.1 All reinstatements to be measured seperately

4.2 Surround to pipe measured separately

4.3 Backfill to trench measured separately

Last Revised		
Revision	Date	By
-	12/12/03	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	DRAINAGE AND DUCTING	TRAFFIC SIGNAL CCTV AND SWEB DUCTS	SD 05a



NOTES

1. GENERAL
1.1 All dimensions are in mm.

2. MATERIALS
2.1 Concrete for the gully to be mix ST4.

2.2 The gully grating and frame shall be Aquafall heavy duty, List no.5804

3. CONSTRUCTION

3.1 The excvation hole that forms the external shutter to the concrete must be cut out accurately to give a wall thickness of at least 150mm. Any overdig will be filled with concrete at the same time that the gully is cast at the Contractors expense.

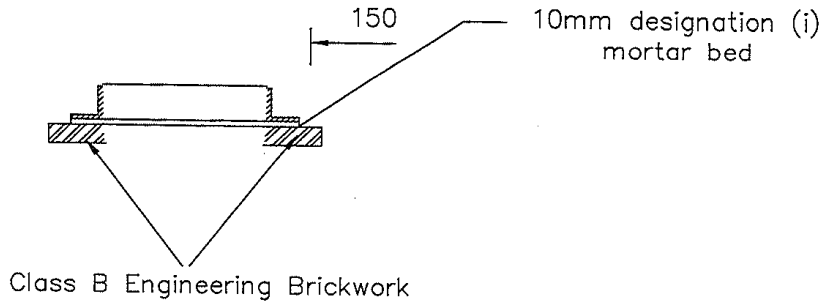
3.2 The gully frame shall be bedded on one course of Class B Engineering bricks.

4 MEASUREMENT

4.1 Gullies measured separately

Last Revised		
Revision	Date	By
-	06/08/04	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	DRAINAGE & DUCTING	Gully type AC12	SD 5C



NOTES

1. GENERAL
1.1 All dimensions are in mm.

2. MATERIALS
2.1 Concrete for the gully to be mix ST4.

2.2 The gully grating and frame shall be Aquafall heavy duty, List no.5804

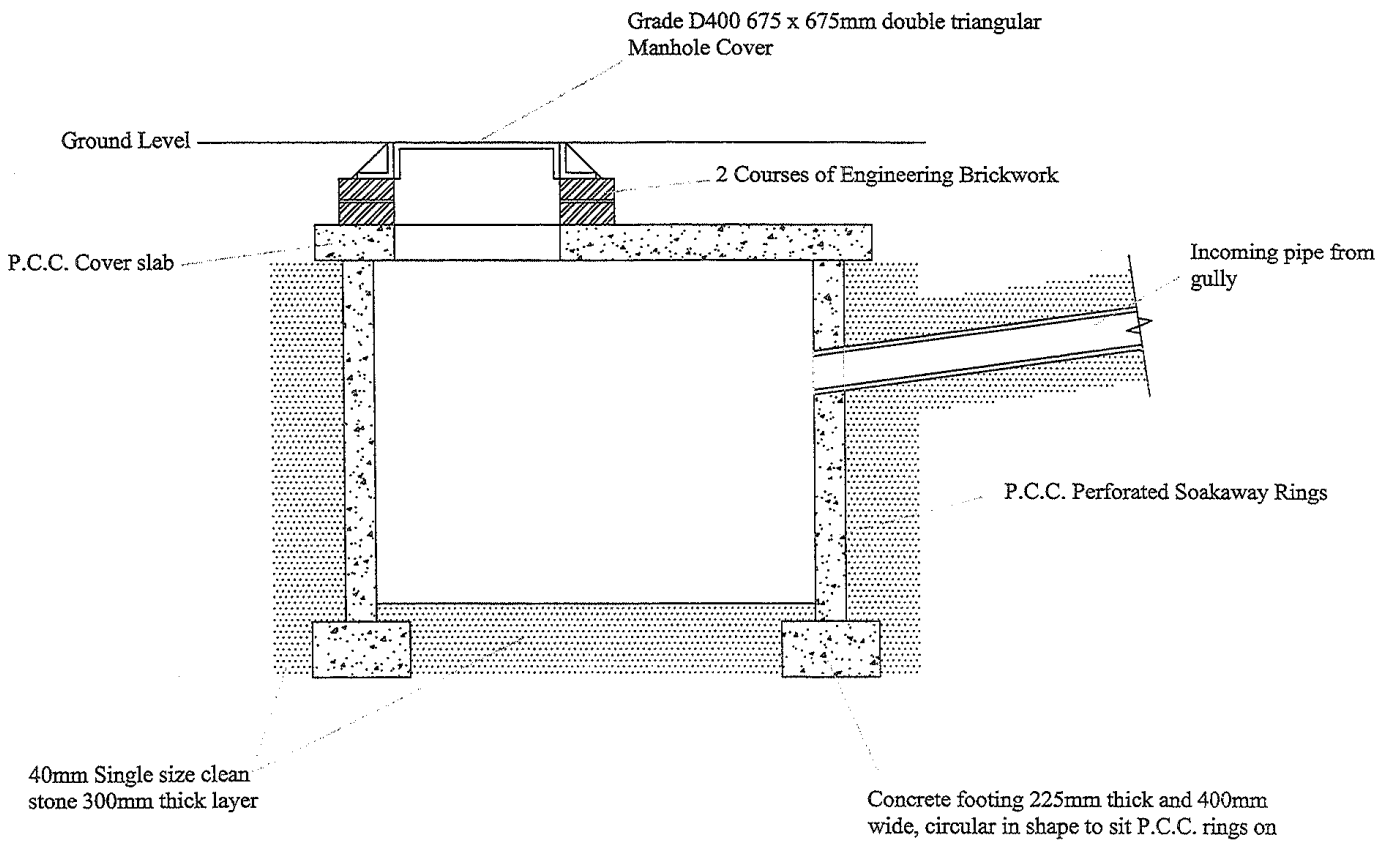
3. CONSTRUCTION

3.1 The gully frame shall be bedded on one course of Class B Engineering bricks.

Last Revised		
Revision	Date	By
-	25/10/04	IDJ

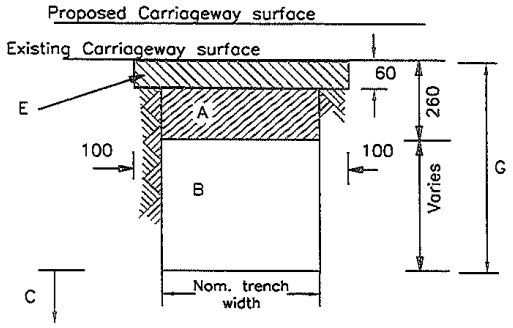
TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	DRAINAGE & DUCTING	Replacement Carriageway Gully Gratting	SD 5D

Date :28 JUN 2001

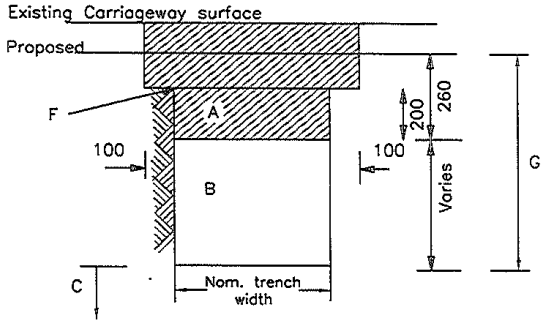


TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	DRAINAGE AND DUCTING	SOAKAWAY DETAILS	SD 05f

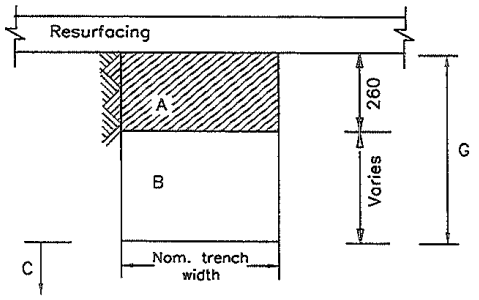
PR/1 TRENCH REINSTATEMENT WHERE PROPOSED ROAD SURFACE IS LESS THAN 100mm ABOVE EXISTING ROAD SURFACE



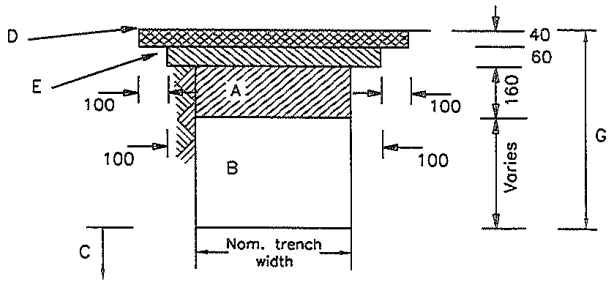
PR/2 TRENCH REINSTATEMENT WHERE PROPOSED ROAD SURFACE IS BELOW EXISTING ROAD SURFACE



PR/3 TRENCH REINSTATEMENT WHERE PROPOSED ROAD SURFACE IS 100mm OR GREATER ABOVE EXISTING ROAD SURFACE



PR/4 TRENCH REINSTATEMENT IN EXISTING CARRIAGEWAYS WHICH ARE NOT TO BE RESURFACED



NOTES

1. GENERAL

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transport Specification for Highway Works,

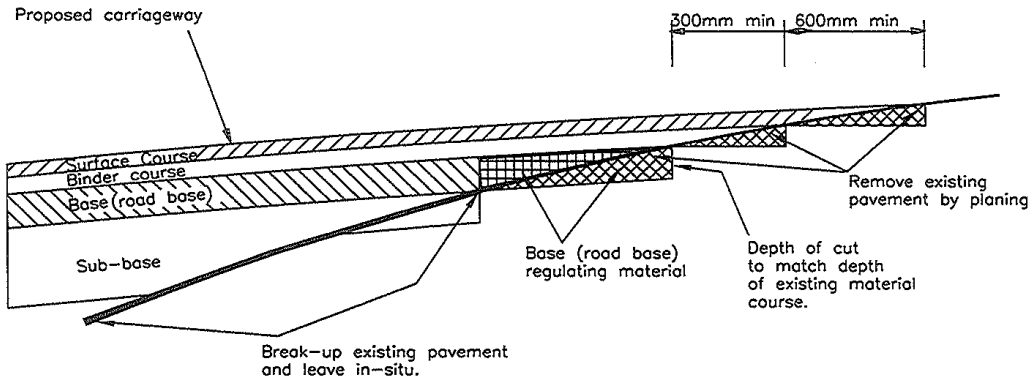
1.3 Vertical faces of joints in wearing course shall be saw cut and hot bitumen applied to the exposed face. All other exposed faces in wearing course and Base course shall have a tack coat applied.

KEY

A	Road Base in 20mm nominal dense macadam Base Course material to Clause 906
B	Mechanically compacted granular Sub-base material Type 1 to Clause 803
C	For trench and bedding details for drains, ducts and statutory undertakers apparatus see relevant Standard Details
D	Surface course material as shown in Contract
E	20mm nominal size Dense Macadam Binder Course to Clause 906.
F	Layer joint at underside of proposed base course to facilitate removal to receive new surfacing
G	Depth for measurement purposes

Last Revised		
Revision	Date	By
-	02/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	PAVEMENTS	PERMANENT TRENCH REINSTATEMENT IN EXISTING CARRIAGEWAY	SD 07a



NOTES

1. GENERAL

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works.

2. MATERIALS

2.1 See scheme drawings for details of pavement construction.

3. CONSTRUCTION

3.1 The existing pavement at the tie-in is to be planed to provide neat vertical joints to depth which match the abutting new pavement courses. Additional planing down to the next pavement course may be necessary to remove unacceptable material and the voids so created are to be reinstated with regulating material.

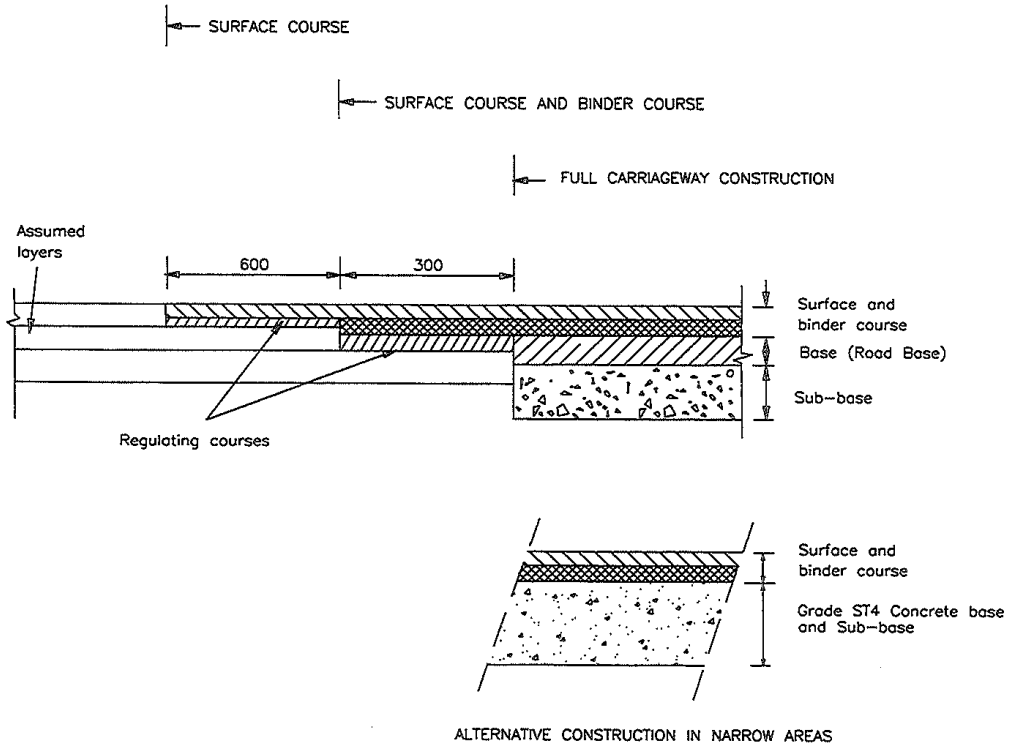
3.2 Prior to laying the new binder course or surface course on the existing pavement the surface shall be brushed cleaned and a tack coat applied to the requirement of clause 920.

3.3 All vertical joints to be coated with asphalt cement (hot bitumen) prior to the laying of the new surface and binder courses.

3.4 Surface Course to be 35mm thickness
Binder Course to be 60mm thickness
Base to be 150mm thickness
Sub – Base to be 225mm thickness

Last Revised		
Revision	Date	By
-	02/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	PAVEMENTS	DETAILS OF TRANSVERSE TIE-IN TO EXISTING CARRIAGEWAY	SD 07b



ALTERNATIVE CONSTRUCTION IN NARROW AREAS

NOTES

1. GENERAL

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works.

2. MATERIALS

2.1 See scheme drawings for details of pavement construction.

3. CONSTRUCTION

3.1 The existing pavement at the tie–in is to be planed to provide neat vertical joints to depth which match the abutting new pavement courses. Additional planing down to the next pavement course may be necessary to remove unacceptable material and the voids so created are to be reinstated with regulating material.

3.2 Prior to laying the new binder course or surface course on the existing pavement the surface shall be brushed cleaned and a tack coat applied to the requirement of clause 920.

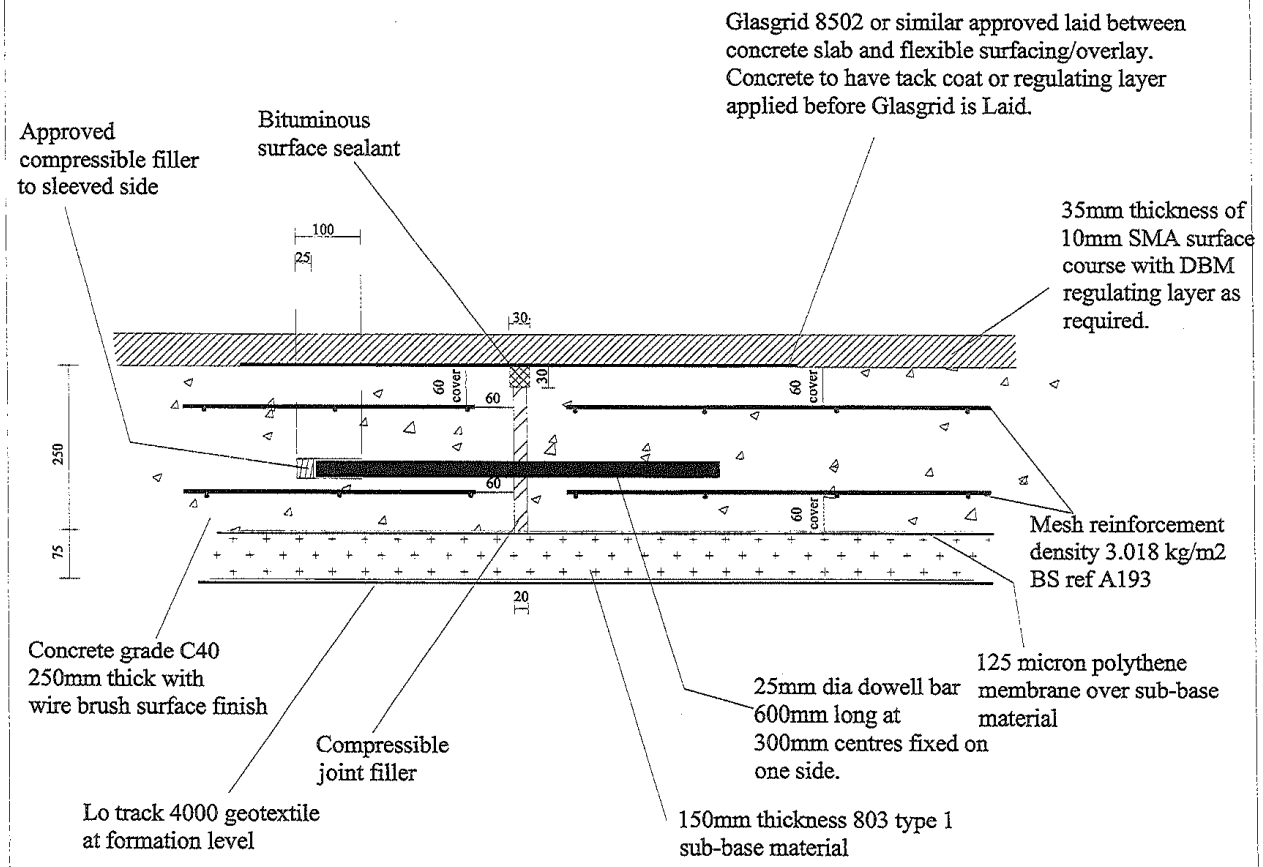
3.3 All vertical joints to be coated with asphalt cement (hot bitumen) prior to the laying of the new surface and binder courses.

3.4 Surface Course to be 35mm thickness
Binder Course to be 60mm thickness
Base to be 150mm thickness
Sub – Base to be 225mm thickness

3.5 In narrow areas the construction shall be 35mm thickness surface course, 60mm thickness Binder Course on 375mm thickness grade ST4 Base and Sub Base. This construction only to be used where specifically instructed by the Engineer.

Last Revised		
Revision	Date	By
-	19/12/03	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	PAVEMENTS	PAVEMENT TIE IN - LONGITUDINAL JOINT	SD 07c



NOT TO SCALE

NOTES

1 General

1.1 All dimensions in millimetres unless otherwise indicated

1.2 Clause numbers refer to Clauses in the Department of Transport's Specification for Highway Works.

2 Materials and Construction

2.1 All materials and method of construction shall be in accordance with the 1000 series of clauses of the Specification, except where shown differently on this detail.

3 Measurement

3.1 The measurement for expansion joints shall include for the location and installation of concrete, steel mesh, dowell bars,caps, waterproof membrane, joint sealant, fillers and lubricants, formwork and supports.

3.2 Clause 803 type 1 sub-base material measured separately

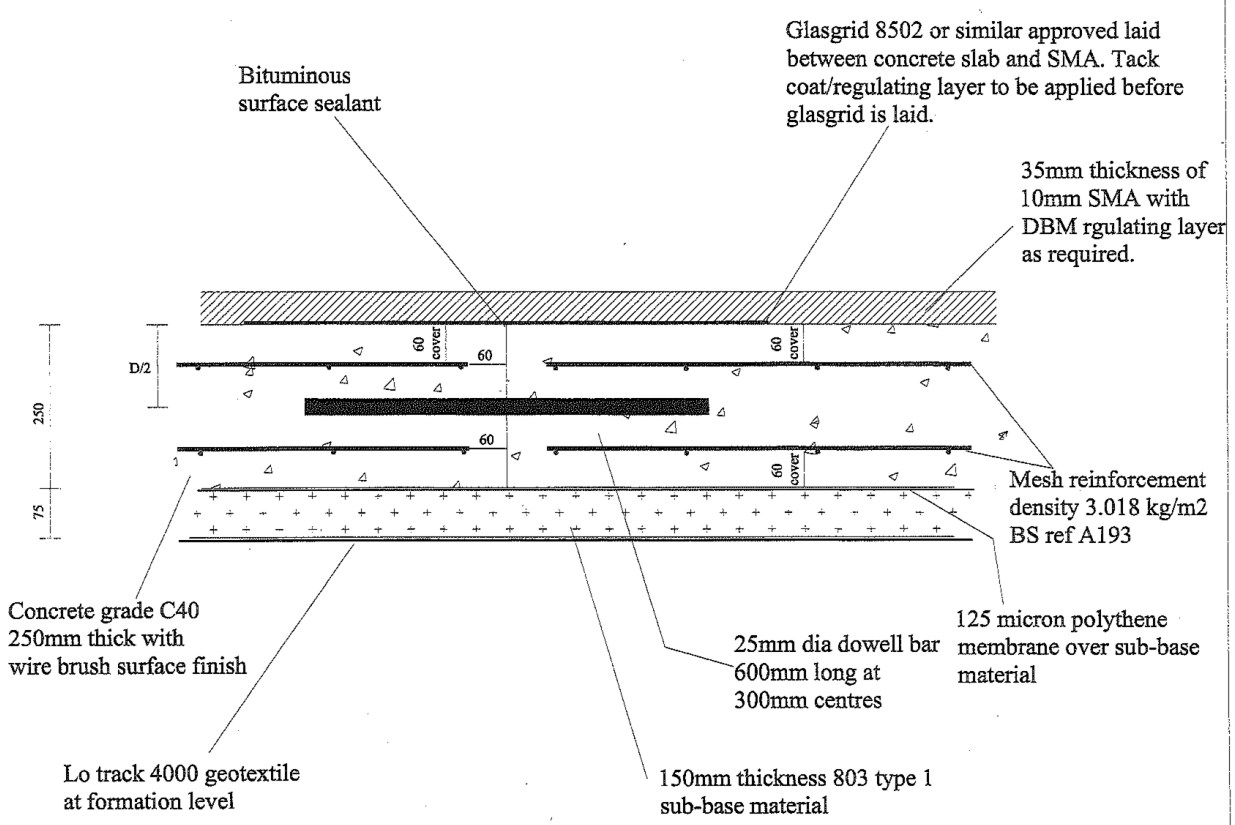
3.3 Lo track 4000 geotextile measured separately

3.4 Bituminous surfacing to be measured separately

3.5 Glasgrid to be measured separately

Last Revised		
Revision	Date	By
-	15/01/04	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	PAVEMENTS	Reinforced concrete slab expansion joint detail with overlay joint repair	SD 07e



NOTES

1 General

1.1 All dimensions in millimetres unless otherwise indicated

1.2 Clause numbers refer to Clauses in the Department of Transport's Specification for Highway Works.

2 Materials and Construction

2.1 All materials and method of construction shall be in accordance with the 1000 series of clauses of the Specification, except where shown differently on this detail.

3 Measurement

3.1 The measurement for contraction joint shall include for the location and installation of concrete, steel mesh, dowell bars,caps, waterproof membrane, joint sealant, fillers and lubricants, formwork and supports.

3.2 Clause 803 type 1 sub-base material measured separately

3.3 Lo track 4000 geotextile measured separately

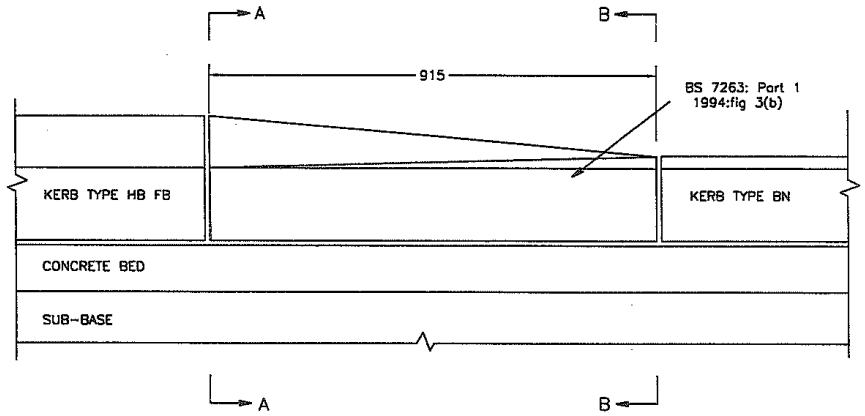
3.4 Bituminous surfacing to be measured separately

3.5 Glasgrid to be measured separateley.

NOT TO SCALE

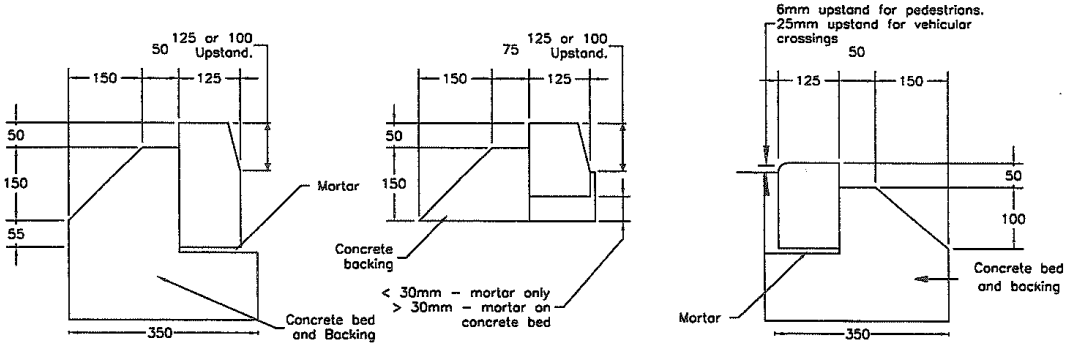
Last Revised		
Revision	Date	By
-	17/01/04	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	PAVEMENTS	Reinforced concrete slab contraction joint and overlay detail	SD 07f



Type DL1.

(Type DR1 Opposite Hand).



Section" A-A".
Type HB.

Type HB-B.

Section"B-B".
Type BN.

NOTES:

1. GENERAL

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification Highway Works.

2. MATERIALS

2.1 Concrete bed and backing to kerbs to be mix ST4 in accordance with Clause 2602.

2.2 Concrete bed and backing to kerbs at vehicle crossings to be mix ST4 in accordance with Clause 2602.

2.3 Mortar bed to be designation (i) in accordance with Clause 2404.

2.4 600mm wide strip 35mm deep to be removed by planing and replaced with 35mm of 10mm nom bitmac to form regular kerb face.

2.5 For radii of 12m or less kerbs of appropriate radius shall be used.

3. CONSTRUCTION

3.1 Kerbs shall be bedded on 10mm thick mortar bed.

3.2 The finished surface of the kerbs shall not deviate from the specified line and levels by more than 5mm.

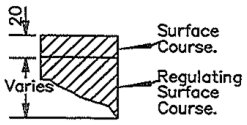
3.3 The depth of concrete bed to be at least 150mm. Where the top of sub base is more than 150mm below the bottom of kerb, the depth of concrete bed is to be increased accordingly.

3.4 The depth of concrete at vehicle crossings is to be at least 200mm. Where the top of subbase is more than 200mm below the bottom of kerb, the depth of concrete bed is to be increased accordingly.

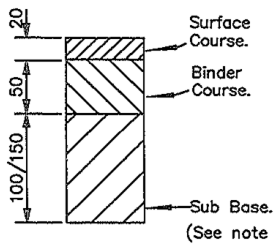
3.5 Where paving is to be layed behind kerbs the backing shall be lowered to accommodate the thickness of the paving and bed.

Last Revised		
Revision	Date	By
-	28/11/03	RDS

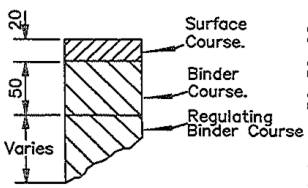
TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	KERBS FOOTWAYS AND PAVED AREAS	KERB PRECAST CONCRETE KERB TYPES	SD 11a



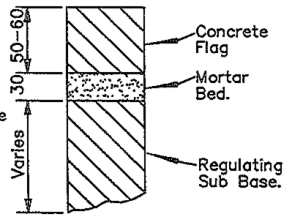
Type F1 & RF1



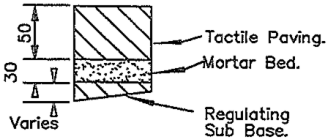
Type F2/F2V &Type RF2/RF2V



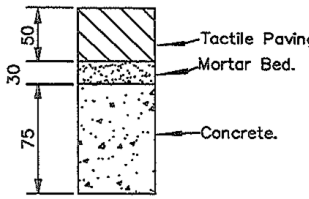
Type F3 & RF3



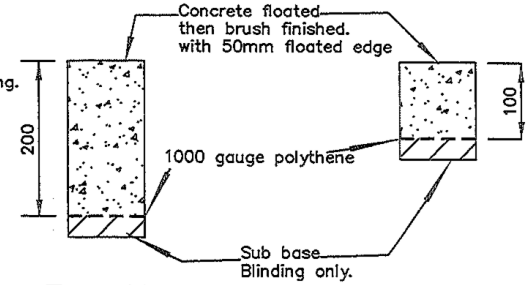
Type F6.



Type TPE.



Type TPV.



Type V1.

Type V2.

NOTES

1.0 GENERAL

1.1 All dimensions in millimetres.
1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works.

2.0 MATERIALS

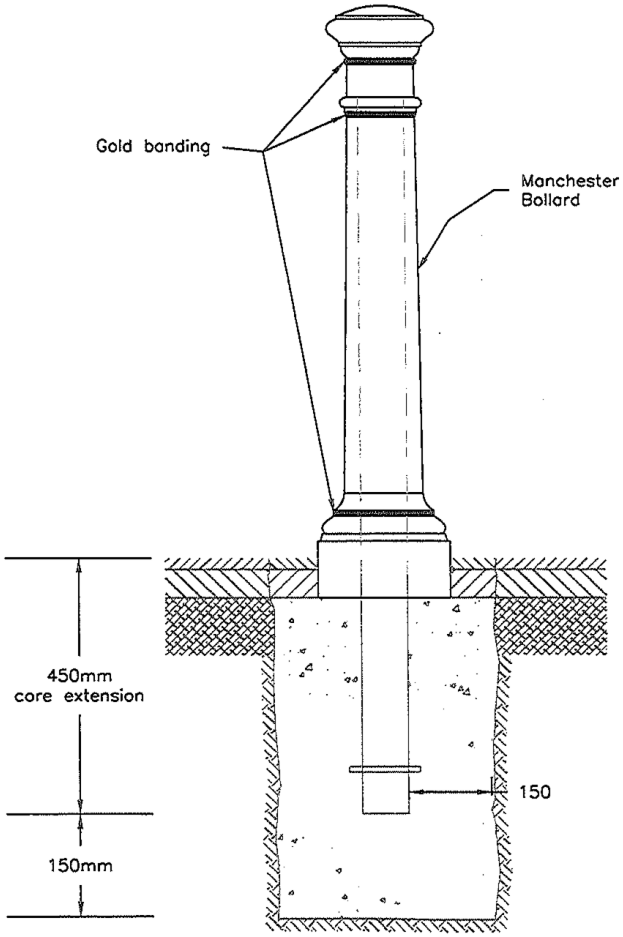
2.1 Surface course for Type F1, F 2 & F3 footway shall be stone mastic asphalt with 6mm nominal size aggregate or 0/6mm nominal size close graded macadam to Cl.909 and BS 4987 Part 1 2003 cl 7.5 with PSV 55, binder 100 pen.
2.2 Surface course for Types RF1, RF2 & RF3 shall be as stated in note 2.1 but RED in colour.
2.3 Binder course for Type 1, 2 & 3 footway shall be 0/20mm nominal size dense macadam to Cl.906. and BS 4987 Part 1 2003 cl 6.5 100 pen binder
2.4 Concrete for Type TPV, V1 & V2 footway shall be mix C30. LIMESTONE AGGREGATES MUST NOT BE USED.
2.5 Sub base shall be Type 1 to Cl.803 laid to cl 801 (125mm for Type F2V).
2.6 Flags to be laid on 30mm thick designation (i) mortar. Jionts shall be 2mm wide and filled with sand. Jionting and bedding to comply with Cl.1104.
2.7 400x400x50 Tactile paving slabs to BS 7263 Pt.1, Colour Pink/Buff.

3.0 CONSTRUCTION

3.1 The finished surface of the footway shall not deviate from the specified line and levels by more than 5mm.
3.2 Adjacent slab levels shall not differ in level by more than 2mm.
3.3 Concrete footway construction placed in 2m bays with 25mm preservative treated timber joints, to be sealed at the surface. Surface finish to be wooden floated then brushed with 50mm floated edge to bays. THE USE OF LIMESTONE AGGREGATE IS PROHIBITED.

Last Revised		
Revision	Date	By
-	12/12/03	IPJ
-	28/01/04	IDJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	TORBAY COUNCIL STANDARD DETAILS	KERBS, FOOTWAYS AND PAVED AREAS	FOOTWAYS TYPE F1,RF1,F2,RF2,F3,RF3,F6, TPE, TPV, V1 & V2	SD 11b



NOTES

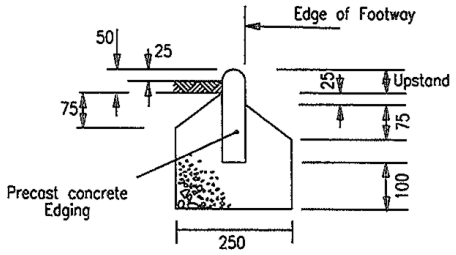
1.0 GENERAL

1.1 All dimensions in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transports Specification Highway Works.

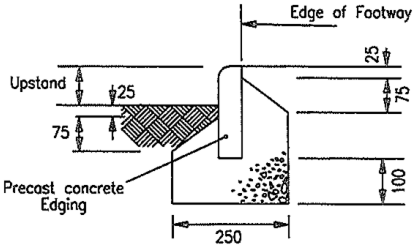
2.0 MATERIALS
2.1 Manchester bollard in Ferrocast polymer with steel core by The Great British Bollard Company is to be black polymer coated with gloss black polyurethene paint and gold markings to Torbay standard design.
2.2 Concrete foundation and surround to be mix ST4 in accordance with Clause 2602.

Last Revised		
Revision	Date	By
-	02/07/03	RDS

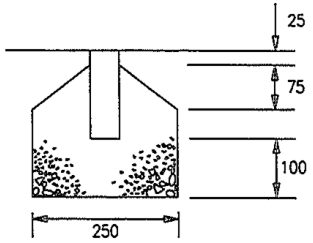
TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	KERBING, FOOTWAYS AND PAVED AREAS	MANCHESTER BOLLARD INSTALLATION	SD 11c



TYPE E/1 TO E/4 CONCRETE EDGING



TYPE E/5 TO E/9 CONCRETE EDGING



TYPE E/10 CONCRETE EDGING

EDGING TYPE	EDGING SIZE	UPSTAND
E/1	50 x 150	25
E/2	50 x 200	50
E/3	50 x 200	75
E/4	50 x 250	100
E/5	50 x 150	20
E/6	50 x 150	25
E/7	50 x 200	50
E/8	50 x 200	75
E/9	50 x 250	100
E/10	50 x 150	0

NOTES

1. GENERAL

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works, 1991.

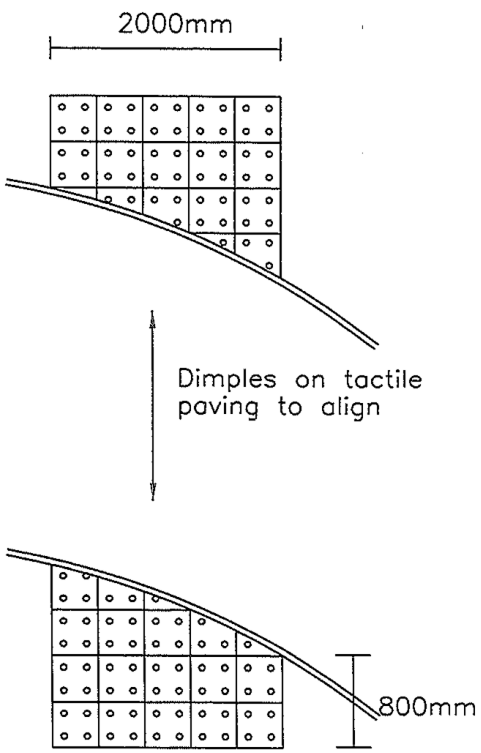
2. MATERIALS

2.1 Precast concrete edging in accordance with BS 7263: Part 1.

2.2 Concrete bed and backing to edging to be mix ST2 in accordance with Clause 2602.

Last Revised		
Revision	Date	By
-	12/12/03	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	ABBEY ROAD TWO WAY TRAFFIC SCHEME	KERBS FOOTWAYS AND PAVED AREAS	PRECAST CONCRETE EDGING KERBS	SD 11f

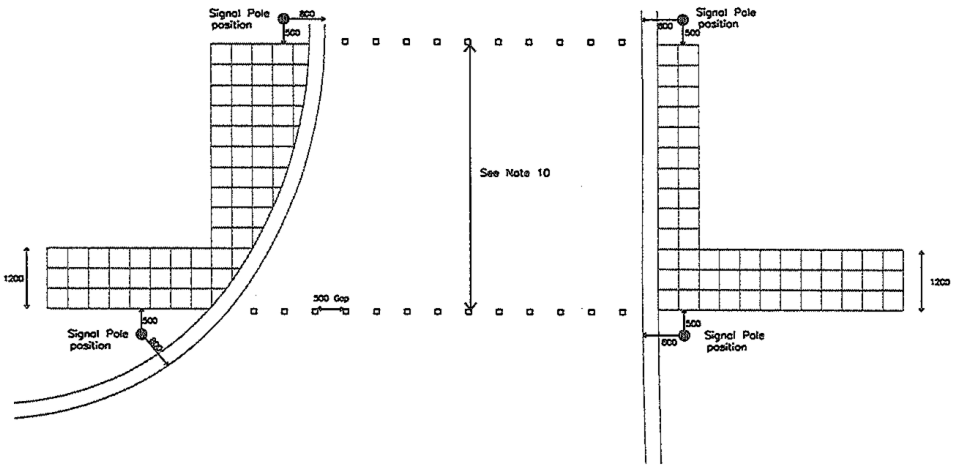


NOTES

1. All dimensions in millimetres unless otherwise stated.
2. Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works, 1998.
3. Tactile paving to be constructed using 400 x 400 x 50 tactile paving slabs to BS7263 Part 1, and to conform with Department of Transports Disability circular 1/19 final colour buff
4. The pattern of the flags at the kerb should be aligned with the direction of safe crossing.
5. Flags to be laid on 30mm designate (i) mortar bed
   Joints shall be 2–4mm wide and filled with sand. Jointing and bedding to comply with Clause 1104.
6. Where practical footway ramped to give a maximum gradient of 1:12.
7. The alignment and shape of tactile pavings to be as shown on the scheme drawings
8. All slabs to be cut off site within Contractors compound using a table mounted disc cutter with a water attachment to minimise dust

Last Revised		
Revision	Date	By
-	27/12/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	KERBS, FOOTWAYS AND PAVED AREAS	Tactile Paving type TP(u) (Uncontrolled crossing)	SD 11g

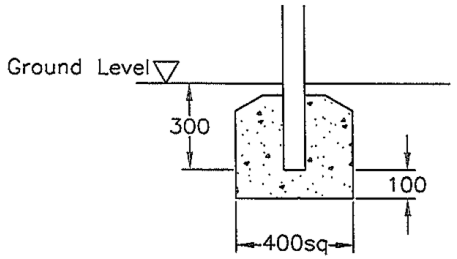


NOTES

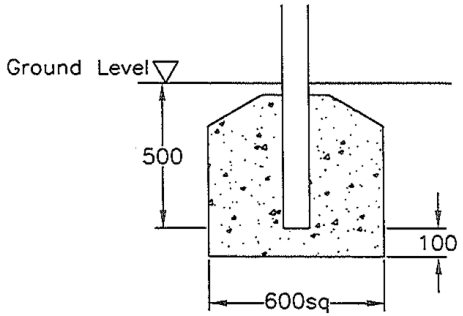
1. All dimensions in millimetres unless otherwise stated.
2. Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works, 1998.
3. Tactile paving to be constructed using 400 x 400 x 50 tactile paving slabs to BS7263 Part 1, and to conform with Department of Transports Disability circular 1/19 final colour red
4. The pattern of the flags at the kerb should be aligned with the direction of safe crossing.
5. Dropped kerbs shall have a 6mm upstand
6. Flags to be laid on 30mm designate (i) mortar bed
   Joints shall be 2–4mm wide and filled with sand. Jointing and bedding to comply with Clause 1104.
7. Where practical footway ramped to give a maximum gradient of 1:12.
8. The alignment and shape of tactile pavings to be as shown on the scheme drawings
9. All slabs to be cut off site within Contractors compound using a table mounted disc cutter with water attachment to minimise dust
10. Distance of all crossings to be 4800mm execpt crossing from Nationwide to Warrens where the crossing width shall be 5200mm

Last Revised		
Revision	Date	By
-	27/12/03	RDS

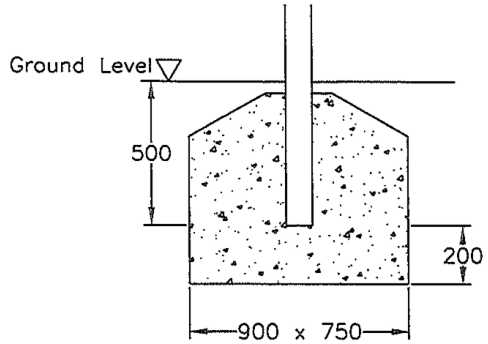
TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	KERBS, FOOTWAYS AND PAVED AREAS	Tactile Paving type TP (c) Controlled	SD 11h



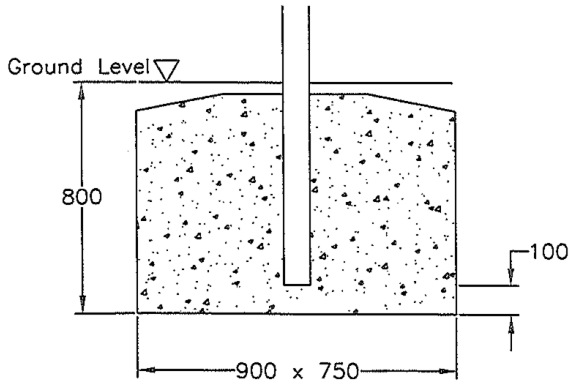
TYPE A



TYPE B



TYPE C



TYPE D

NOTES

1. GENERAL

1.1 All dimensions are in mm unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works.

2. MATERIALS

2.1 Concrete to be mix ST4 in accordance with clause 2602.

2.2 Refer to sign schedule for post sizes

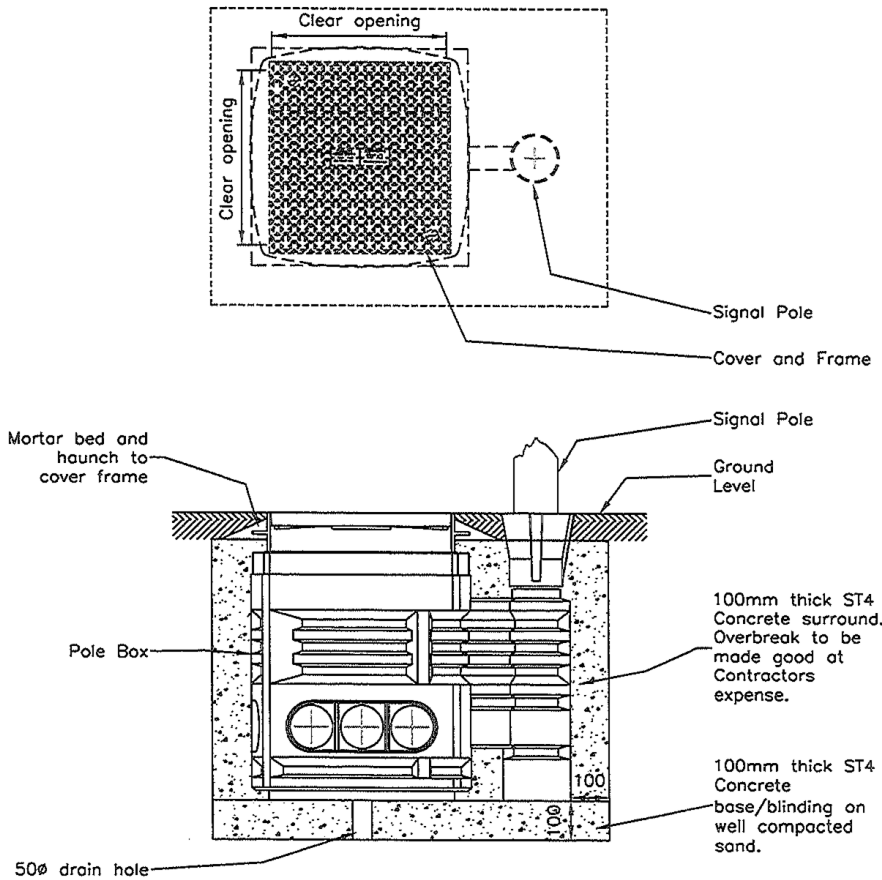
3. CONSTRUCTION

3.1 Over excavation to be filled with concrete.

3.2 Footway construction or reinstatement to be neatly taken up to edge of posts.

Last Revised		
Revision	Date	By
-	03/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNS AND ROAD MARKINGS	ROAD SIGN FOUNDATION TYPES	SD 12a



NOTES

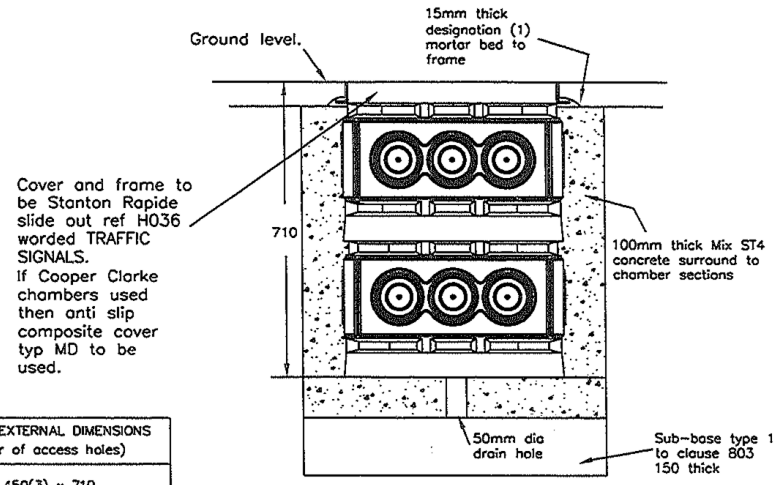
1.0 General
1.1 All dimensions in millimetres unless otherwise stated. Clause numbers refer to clauses in the Department of
1.2 Transports Specification Highway Works.

2.0 Materials
2.1 Concrete to be mix ST4 in accordance with Clause 2602.
2.2 Mortar bed to be designation (i) in accordance with Clause 2404.
2.3 Chamber to be Cooper Clarke type CPB4 or IDS type PCSQ2 with P2 pole adaptor with 450mm clear openings, with knockout sections to accept 50/100mm duct entry . Smaller section chambers may be used where appropriate subject to the express approval of the Engineer.
2.4 Cover and frames shall be Multi-directional anti-slip composite cover from Cooper Clarke Group Ltd or Stanton Rapide Slide Out ductile iron cover and frame, black, (of appropriate size) badged 'TRAFFIC SIGNALS', with average SRV of dry 84, wet 50. The cover shall be locked as standard and meet the requirements of BS EN124 B125.
2.5 Traffic signal pole to be provided free of charge for erection. Liaison with traffic signal installer is required.

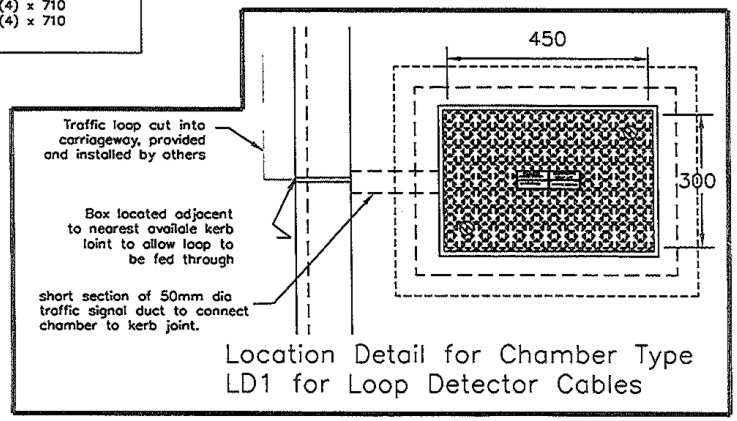
3.0 Construction
3.1 Excavation for ducts and chambers to Clause 502. Backfilling to Clause 505.
3.2 Ducts in carriageway and footway to be as Standard Details.
3.3 Draw cords to be provided to each duct run.
3.4 Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.
3.5 Where the pole chamber is to be increased in depth then the bottom is to be cut off and a suitable riser section inserted beneath.
3.6 Upon insertion, the signal pole is to be fixed in position, using the anti-rotational locking device supplied.

Last Revised		
Revision	Date	By
-	12/12/03	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	DUCT CHAMBER AND POST FOUNDATION TYPE SPB	SD 12b



CHAMBER SECTION	NOMINAL EXTERNAL DIMENSIONS (Number of access holes)
LD1	300(2) x 450(3) x 710
D1	450(3) x 450(3) x 710
D2	450(3) x 600(4) x 710
D3	600(4) x 600(4) x 710



Location Detail for Chamber Type LD1 for Loop Detector Cables

NOTES

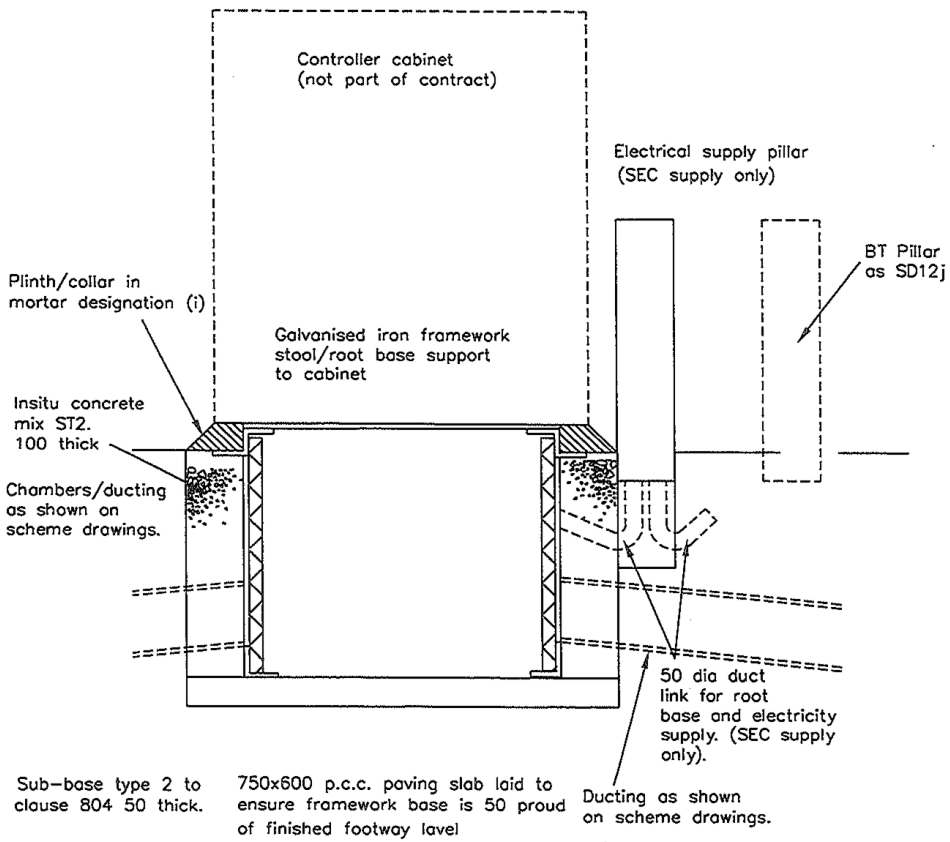
1. General.
1.1 All dimension in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works 1998.

2. Materials.
2.1 Concrete to be mix ST4 in accordance with clause 2602.
2.2 Mortar bed to be designation (i) in accordance with clause 2404.
2.3 Chamber all Types are to be of one piece construction and rotationally moulded with knockout sections to accept 50/100mm duct entry IDS MC or Cooper Clarke CU range
2.4 Where more than one chamber section is required they are to be one above the other
2.5 Chambers should be braced with lengths of duct until final reinstatement is complete.

3. Construction.
3.1 Excavation for ducts and chambers to Clause 502.
3.2 Backfilling to Clause 505.
3.3 Ducts in carriageway and footway to be as Standard Detail.
3.4 Draw cords to be provided to each duct run.
3.5 Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.

Last Revised		
Revision	Date	By
-	12/12/03	IPJ

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	INTERMEDIATE DUCT CHAMBER TYPE LD1 & D1-D3	SD 12c



NOTES

1.0 General.

1.1 All dimensions in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works 1998.

2.0 Materials.

2.1 Controller cabinet stool/root base and installation detail to be supplied free of charge of Contractor.

3.0 Construction.

3.1 Excavation for ducts and chambers to Clause 502.

3.2 Backfilling to Clause 505.

3.3 Ducts in carriageway and footway to be as Standard Detail.

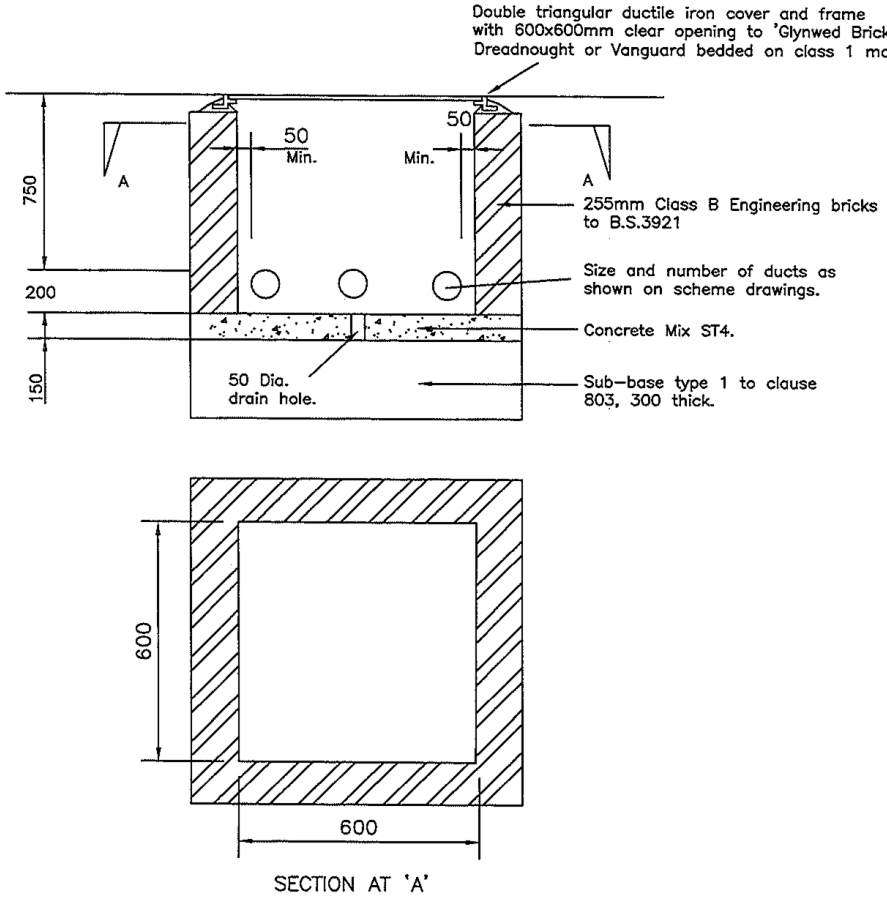
3.4 Draw cords to be provided to each duct run.

3.5 Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.

3.6 Actual size of controller base to be measured prior to construction of the base.

Last Revised		
Revision	Date	By
-	30/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	FOUNDATION FOR TRAFFIC SIGNAL CONTROLLER BOX & ELECTRICAL PILLAR TYPE FC1	SD 12e



NOTES

1. GENERAL

1.1 All dimension in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works 1991.

2. MATERIALS

2.1 Cover as manufactured by Glynwed Brickhouse, or equivalent.

2.2 Ducting to be medium density polyethylene, with a smooth internal bore, minimum thickness of 5mm and minimum specification to BS50086. Orange in colour and have TRAFFIC SIGNALS printed along its length.

2.3 All mortar to be designation (ii).

3. CONSTRUCTION

3.1 Excavation for ducts and chambers to Clause 502.

3.2 Backfilling to Clause 505.

3.3 Under carriageway trenches to be as Highway Construction Detail 12 with 750mm cover to ducts.

3.4 Under footway and verge trench to be minimum 450mm wide with 450mm cover to ducts

3.5 For trenches under carriageway reinstatement to be as reinstatement Standard Detail

3.6 Draw cords to be provided to each duct run.

Last Revised		
Revision	Date	By
–	05/01/04	I.P.J.

TORBAY COUNCIL

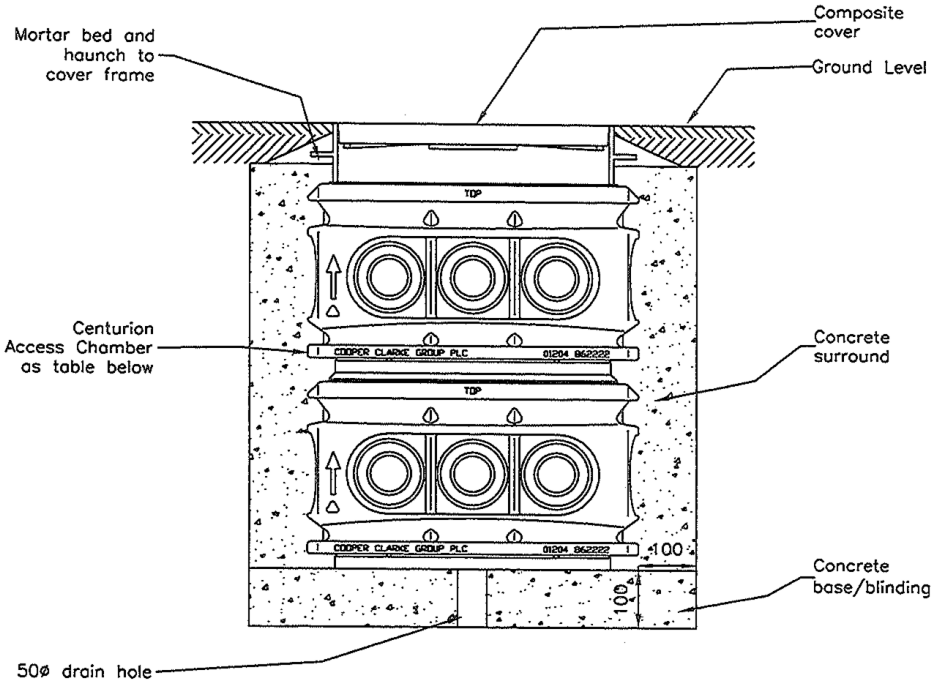
CIVIL & STRUCTURAL ENGINEERING GROUP

SCHEME TITLE

TRAFFIC SIGNALS

BRICK ACCESS CHAMBER

SD 12i



CHAMBER SECTION	NOMINAL EXTERNAL DIMENSIONS (Number of access holes)
CU3/2	300(2) x 450(3) x 640
CU4/2	450(3) x 450(3) x 640
CU5/2	450(3) x 600(4) x 640
CU7/2	600(4) x 600(4) x 640

NOTES

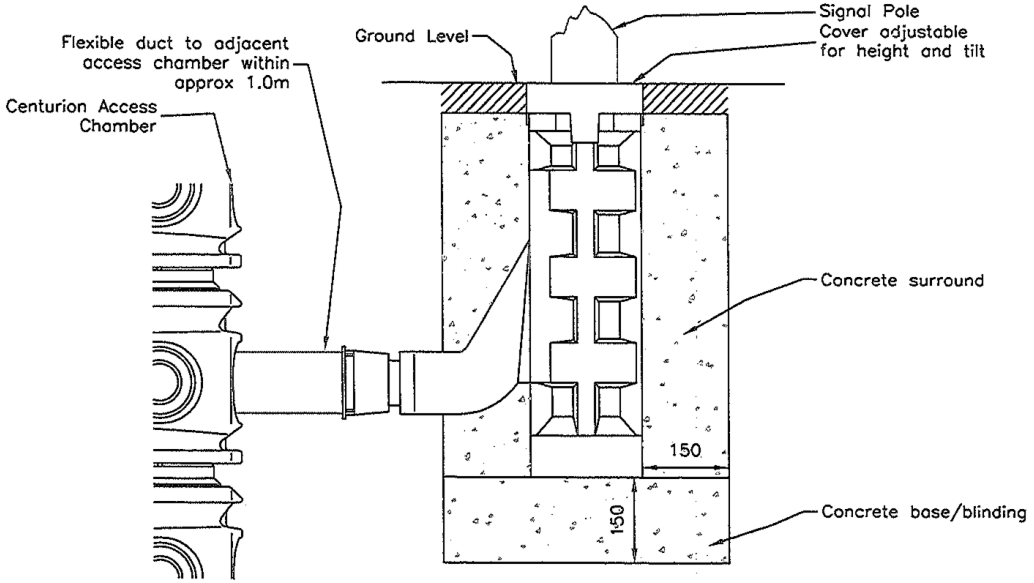
1.0 General
1.1 All dimensions in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transports Specification Highway Works.

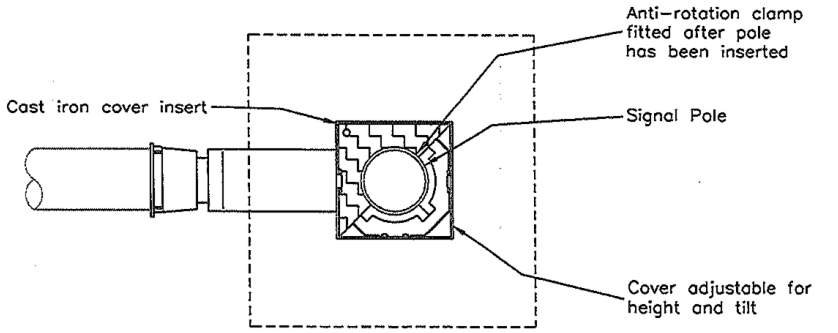
2.0 Materials
2.1 Concrete to be mix ST4 in accordance with Clause 2602.
2.2 Mortar bed to be designation (i) in accordance with Clause 2404.
2.3 Chambers to be as noted on scheme drawings, with knockout sections to accept 50/100mm duct entry all from Cooper Clarke Group Ltd.
2.4 Multi-directional anti-slip composite cover from Cooper Clarke Group Ltd, black, (of appropriate size) badged 'TRAFFIC SIGNALS', with average SRV of dry 84, wet 50. The cover shall be locked as standard and meet the requirements of BS EN124 B125.

3.0 Construction
3.1 Excavation for ducts and chambers to Clause 502.
3.2 Backfilling to Clause 505.
Ducts in carriageway and footway to be as
3.3 Standard Details.
3.4 Draw cords to be provided to each duct run. Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.
3.5 Where the chamber is to be increased in depth then the bottom is to be cut off and a suitable riser section inserted beneath.

Last Revised		
Revision	Date	By
-	30/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	INTERMEDIATE TRAFFIC SIGNAL DUCT CHAMBERS TYPE CU	SD 12f





NOTES

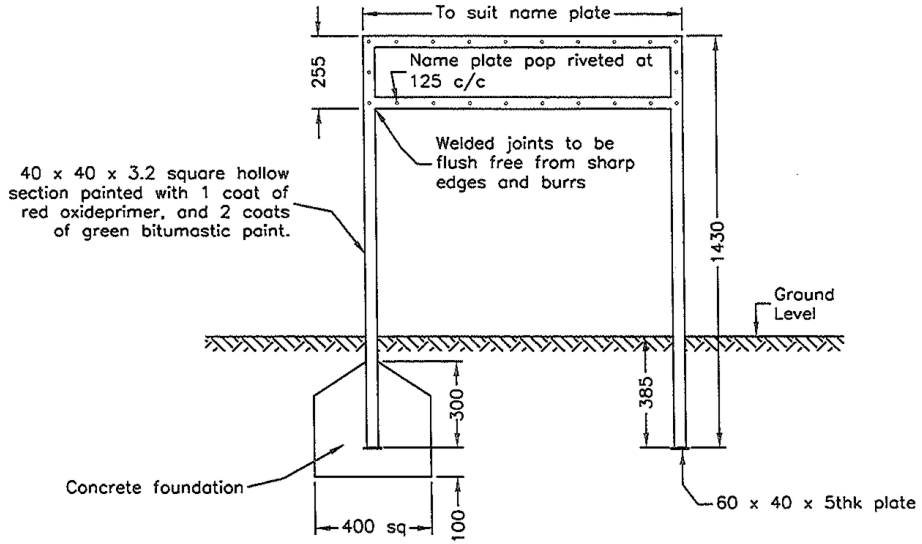
1.0 General
1.1 All dimensions in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transports Specification Highway Works.

2.0 Materials
2.1 Concrete to be mix ST4 in accordance with Clause 2602.
2.2 Mortar bed to be designation (i) in accordance with Clause 2404.
2.3 The Pole Housing Unit shall be (115mm/140mm) diameter with 100mm duct, entry all from Cooper Clarke Group Ltd. The unit shall allow surfaces to be finished prior to pole installation and shall be capable of height adjustment by way of an adjustable raising section and bonded at surface level to prevent rotation of the installed pole.
2.4 Cover to be adjustable for height and tilt.
2.5 Traffic signal pole to be provided free of charge for erection. Liaison with traffic signal installer is required.

3.0 Construction
3.1 Excavation for ducts and chambers to Clause 502.
3.2 Backfilling to Clause 505.
3.3 Ducts in carriageway and footway to be as Standard Details.
3.4 Draw cords to be provided to each duct run. Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.
3.5 Where the pole chamber is to be increased in depth then an adjustable raising section is to be added.
3.6 Upon insertion, the signal pole is to be fixed in position, using the anti-rotational locking device supplied.

Last Revised		
Revision	Date	By
-	30/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	REMOTE TRAFFIC SIGNAL POLE HOUSING (PH116)	SD 12g



NOTES

1. GENERAL

1.1 All dimensions are in mm unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works.

2. MATERIALS

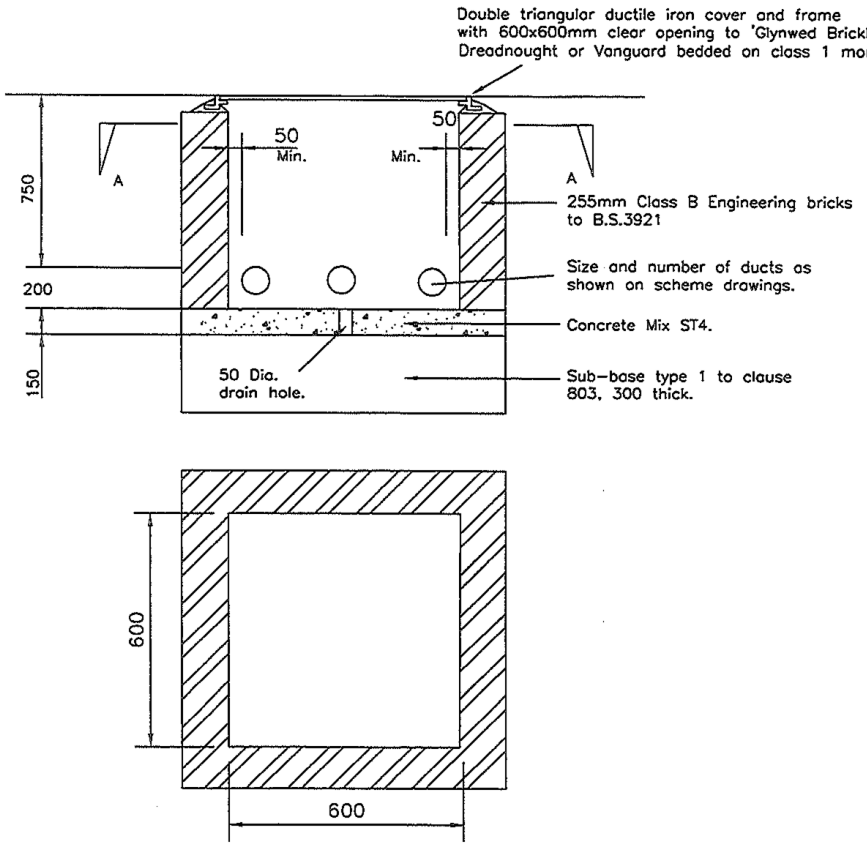
2.1 Concrete foundation to be type A, mix ST4 in accordance with clause 2602.

3. CONSTRUCTION

3.1 Over excavation to be filled with concrete.

Last Revised		
Revision	Date	By
-	30/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNS AND ROAD MARKINGS	STREET NAME PLATE FRAME	SD 12h



NOTES

1. GENERAL

1.1 All dimension in millimetres unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works 1991.

2. MATERIALS

2.1 Cover as manufactured by Glynwed Brickhouse, or equivalent.

2.2 Ducting to be medium density polyethylene, with a smooth internal bore, minimum thickness of 5mm and minimum specification to BS50086. Orange in colour and have TRAFFIC SIGNALS printed along its length.

2.3 All mortar to be designation (ii).

3. CONSTRUCTION

3.1 Excavation for ducts and chambers to Clause 502.

3.2 Backfilling to Clause 505.

3.3 Under carriageway trenches to be as Highway Construction Detail I2 with 750mm cover to ducts.

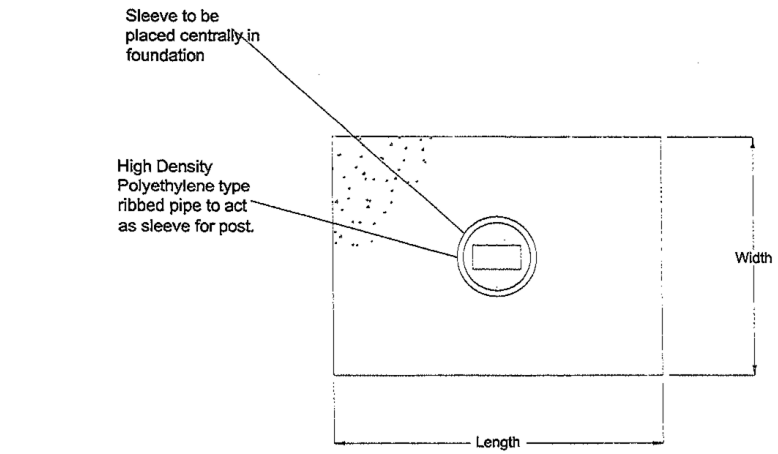
3.4 Under footway and verge trench to be minimum 450mm wide with 450mm cover to ducts

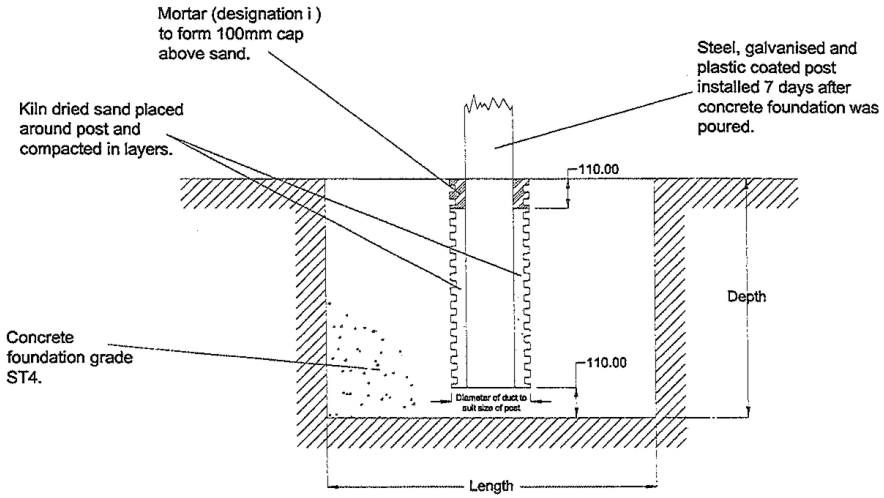
3.5 For trenches under carriageway reinstatement to be as reinstatement Standard Detail

3.6 Draw cords to be provided to each duct run.

Last Revised		
Revision	Date	By
–	05/01/04	I.P.J.

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	BRICK ACCESS CHAMBER	SD 12i





NOTES

1. GENERAL

1.1 All dimensions are in mm unless otherwise stated.

1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works.

2. MATERIALS

2.1 Concrete to be mix ST4 in accordance with clause 2602.

2.2 Refer to sign schedule for post sizes

3. CONSTRUCTION

3.1 Over excavation to be filled with concrete.

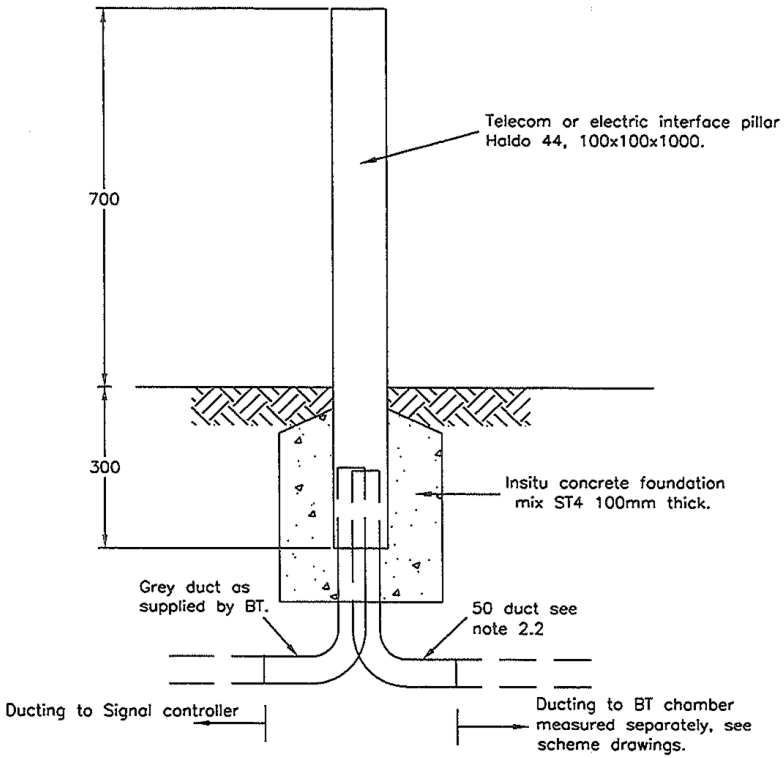
3.2 Footway construction or reinstatement to be neatly taken up to edge of posts.

Post Size	Sleeve Diameter
76mm Ø	150mm
89mm Ø	150mm
118mm Ø	225mm
150mm Ø	225mm
120 x 80mm RHS	225mm
160 x 80mm RHS	300mm

Base Sizes Type	Length	Width	Depth
A	600	600	600
B	750	700	700
C	900	750	750
D	1100	800	800
E	1200	900	900
F	1400	1000	1000
G	1500	1100	1100
H	1700	1200	1200

Last Revised		
Revision	Date	By
-	04/02/04	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	TORQUAY SEA FRONT VMS SIGNING SCHEME	TRAFFIC SIGNS	CONCRETE FOUNDATION FOR SLEEVED SIGN POST	SD 12j



NOTES:

1. General.

1.1 All dimensions in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transports Specification for Highway Works,seventh edition 1998.

2. Materials.

2.1 BT or SEC HALDO pillar to be supplied free of charge including delivery to site.
2.2 Ducting 50mm ø supplied free of charge by BT or SEC

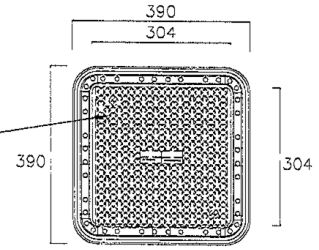
3. Construction.

3.1 Excavation for ducts and chambers to Clause 502
3.2 Bedding,laying and surrounding of ducts to Clause 503.
3.3 Backfilling to Clause 505.
3.4 Interface pillar to be installed at back of footway with door facing carriageway or as directed by the Engineer.

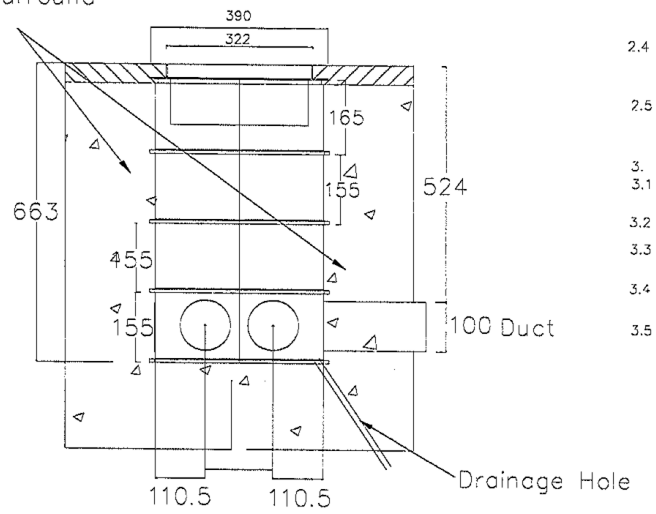
Last Revised		
Revision	Date	By
-	30/07/03	RDS

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	SCHEME TITLE	TRAFFIC SIGNALS	BT OR SWEB HALDO PILLAR	SD12d

Fully adjustable cover and frame to be multi-directional anti-slip composite cover from NAL or Similar, black, badged 'TRAFFIC SIGNALS' with average SRV of 84 dry 50 wet. The cover shall be locked as standard and meet the requirements of BSEN124 B125



150mm ST4
Concrete Surround



CHAMBER SECTION	NOMINAL EXTERNAL DIMENSIONS (Number of access holes)
NAL1	300(2) x 300(2) x 665
NAL2	300(2) x 450(3) x 665
NAL3	450(3) x 450(3) x 665
NAL4	450(3) x 600(4) x 665
NAL5	600(4) x 600(4) x 665

NOTES

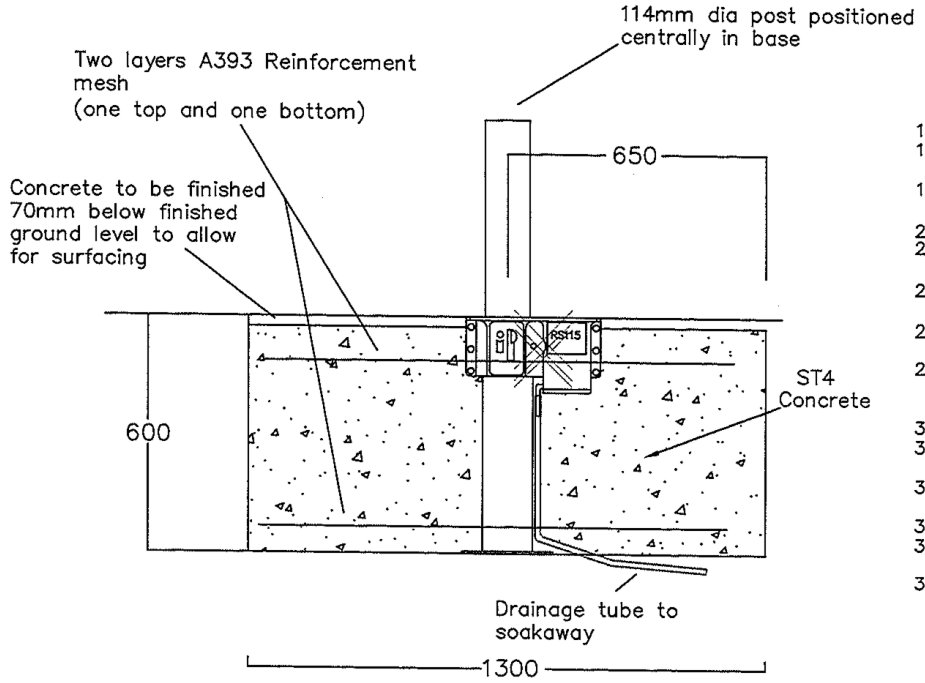
1. General.
1.1 All dimension in millimetres unless otherwise stated.
1.2 Clause numbers refer to clauses in the Department of Transport's Specification for Highway Works 1998.
1.3 Example box shown is NAL1 box

2. Materials.
2.1 Concrete to be mix ST4 in accordance with clause 2602.
2.2 Mortar bed to be designation (i) in accordance with clause 2404.
2.3 Chambers to be NAL Stakkabox from NAL Limited, 1 Battenhall Place, Worcester Worchestershire, WR5 2DT
2.4 Where more than one chamber section is required they are to be one above the other
2.5 Chambers should be braced with lengths of duct or timber until final reinstatement is complete.

3. Construction.
3.1 Excavation for ducts and chambers to Clause 502.
3.2 Backfilling with ST4 concrete
3.3 Ducts in carriageway and footway to be as Standard Detail.
3.4 Draw cords to be provided to each duct run.
3.5 Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.

Last Revised		
Revision	Date	By
-	-	-

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	BOLTON CROSS, BRIXHAM JUNCTION REPLACEMENT	TRAFFIC SIGNALS	INTERMEDIATE DUCT CHAMBER TYPE NAL1, NAL2, NAL3, NAL4, NAL5	SD 12n



NOTES

1.0 General
1.1 All dimensions in millimetres unless otherwise stated. Clause numbers refer to clauses in the Department of
1.2 Transports Specification Highway Works.

2.0 Materials
2.1 Concrete to be mix ST4 in accordance with Clause 2602.
2.2 Mortar bed to be designation (i) in accordance with Clause 2404.
2.3 Socket to be RS115DF from NAL Limited, 1 Battenhall Place, Worcester, Worcestershire, WR5 2DT.
2.4 Traffic signal pole to be provided free of charge for erection. Liaison with traffic signal installer is required.

3.0 Construction
3.1 Excavation for ducts and chambers to Clause 502. Backfilling to Clause 505.
3.2 Ducts in carriageway and footway to be as Standard Details.
3.3 Draw cords to be provided to each duct run.
3.4 Numbers, sizes and positions of duct runs to be as shown on Scheme Drawings.
3.5 Upon insertion, the signal pole is to be fixed in position, using the anti-rotational locking device supplied.

Last Revised		
Revision	Date	By
-	-	-

TORBAY COUNCIL	CIVIL & STRUCTURAL ENGINEERING GROUP	BOLTON CROSS, BRIXHAM JUNCTION REPLACEMENT	TRAFFIC SIGNALS	TRAFFIC SIGNAL SOCKET TYPE NAL115DF	SD 12p

VOLUME 4

SCHEDULE OF RATES

PREAMBLE TO THE SCHEDULE OF RATES

1. The Schedule of Rates shall be read in conjunction with the Conditions of Contract and Specification. They have been drawn up generally in accordance with the 4th Edition of the Civil Engineering Standard Method of Measurement published by the Institution of Civil Engineers and incorporating the additions and amendments and the special methods of measurement stated herein.

2. A price or rate shall be inserted against each item in the Schedule of Rates, whether quantities are stated or not. Items against which no price is entered will be considered as covered by the other prices or rates in the Schedule. The schedule is in two parts one being the main section and an annex for items to support the main schedule on occasions when required.

3. The cost of complying with the Conditions of Contract shall be covered by the rates quoted in the carious items in the Schedule of Rates. The prices in the Schedule of Rates shall be the full inclusive cost of the work described and of all general liabilities and obligations set forth or implied in the documents on which the tender is based including the following unless expressly stated otherwise.

   a) Labour and all costs in connection therewith

   b) The supply of materials, goods, storage and costs in connection therewith including waste and delivery to site

   c) All signing and traffic control to the current edition of Chapter 8 of the Traffic Signs Manual

   d) Plant and costs in connection therewith

   e) Fixing, erecting and installing or placing of materials and goods in position

   f) Disposal of waste materials and all costs in connection therewith

   g) Temporary works, and temporary fencing/hoardings etc

   h) The cost of travelling between sites as necessary in the carrying out of works

   i) Establishment charges, overheads and profit

   j) Establishment charges on completion of the works

   k) The effect on the phasing of the works or any element of the works to the extent set forth or reasonably implied in the documents on which the tender is based

   l) General obligations, liabilities and risks involved in the execution of the works set forth or reasonably implied in the documents on which the tender is based

   m) Attendance and transport for sampling and testing carried out by the Engineer supply results of tests carried out by the Contractor and providing test certificates

   n) Complying with Quality Assurance schemes and providing certificates of conformity

   o) Awaiting approvals and consents

p) Communication equipment for the contractor

4. General directions and description of works and materials are not necessarily repeated in the Schedule of Rates and reference shall be made to the Conditions of Contract and to the Specification for this information. For the convenience of the Contractor, certain Clauses in the Conditions of Contract and the Specification may be referred to in the description column of some of the items in the Schedule of Rates, but where this is not done, the omission of such reference will not relieve the contractor of any of his obligations under the Contract.

5. Where quantities are set out in the Schedule of Rates they are the estimated quantities of the work and they are not to be taken as the actual quantities of the works to be executed by the Contractor in the fulfillment of his obligations under the Contract. All work will be measured on completion, and only the amount of work executed in accordance with the contract will be paid for at the rates given in the Schedule of Rates or at rates analogous thereto. All provisional quantities are to be expended if and when directed by the engineer, or deducted in whole or in part if not required.

6. Any items measured and paid for at the rates included for out of hours/Sunday working shall be only such works as are expressly ordered by the Engineer. The additional rate shall not be paid for works carried out outside normal working hours or on Sundays at the request or decision of the Contractor.

7. All measurements will be for actual net measurements of finished work unless otherwise stated and all thicknesses specified are to be finished thickness.

8. The information as to the whereabouts of existing services and mains cannot be guaranteed and the contractor shall not be relieved thereby of his obligations under the contract. The Contractor shall include in his rates and prices for locating and taking measures for the support and full protection of pipes, cables and other apparatus during the process of the works, obtaining the written consent of the appropriate authority to interrupt the service or supply and for keeping the engineer informed of all arrangements he makes with the owners of privately owned services or supplies, Statutory Undertakers and Public Authorities as appropriate.

9. The Contractor shall allow in his rates and prices for taking measures to deal with the existing flow of water, sewage and the like.

10. The Contractor shall allow in his rates and prices for complying with any limitations and constraints on the use of the site, and for maintaining access for shops, pedestrians, deliveries and emergency vehicles throughout the Contract period.

11. The Contractor shall carry out the works in such a manner that no damage occurs to adjacent buildings or to any associated cellars which may exist. The Contractor shall allow in his rates and prices for taking any precautions necessary to comply with this requirement.

12. Where the Contractor offers an equivalent product or material in place of the one identified or specified, which is accepted for incorporation into the Works by the Engineer, then the rates and prices in the Schedule of Rates shall be deemed to include for all the obligations and any costs associated with the incorporation of the equivalent into the Works, including design, provision of the data and drawings, certificates, awaiting approvals, re-submissions and modifications and amendments to the Works.

13. Where the Contract requires part(s) of the Permanent Works to be designed by the Contractor, the rates and prices in the Schedule of Rates shall include for all

obligations and costs associated with the incorporation of the Contractor's design into the Works, including design, provision of date and drawing, certificates, awaiting proposals and approvals, re-submissions and modifications and amendments to the Works.

14. Details and rates for Dayworks are covered in Class A of the Schedule of Rates. The Contractor shall enter rates in the schedule for works carried out on a Daywork only basis and these rates shall apply whether the works are incidental to other measured works or not.

Traffic Safety and Management

15. a) Items for establishment and removal for basic layouts for traffic control shall be measured once only for each site instruction. Where a site instruction refers to a series of non contiguous locations then the total length of the areas shall be taken as the overall length of works as detailed in the item description.

(b) Where a site instruction details both footway and carriageway works then appropriate items for establishment and removal of basic layouts for both carriageway and footway works shall be measured. Basic layouts for carriageways shall not be measured where footway works require temporary footways or when there are kerbing works requiring adjacent carriageway reinstatement. basic layout for footways shall not be measured when carriageway works involve any kerbing and adjacent footway reinstatement.

(c) The rates for Diversion Signs shall be taken to mean the actual number of diversion and any associated road closure signs required on site by the Engineer. The rates shall be deemed to include for any additional signage, barriers etc required to implement a lane or road closure relating to the diversions and all contractors overheads in relation to the closure.

(d) The items for continuing operation and maintenance of traffic safety and management shall be measured at the daily rate for each day of operation of the required layout including any weekends up to a maximum of 14 days. Where works are in excess of 14 days then the weekly rate shall apply from the date of commencement for each full week of the duration of the works with any additional days being charged at $1/7^{th}$ of the rate for each additional day.

(e) Items for continuing operation and maintenance of traffic safety and management shall be deemed to include for any changes to the layout required to facilitate the works, the placement of additional signs or barriers as required by the Engineer, any out of hours call outs to reinstate any traffic management and any storage of any items on site.

(f) Extra over traffic regulation items for temporary traffic signals shall be deemed to include for power and all required additional signing required in addition to the basic layout to comply with the requirements of chapter 8. Any changes to the timings of temporary lights required by the Engineer shall be deemed to be included within the continuing maintenance items.

(g) Extra over traffic regulation items for Stop and Go boards shall be deemed to include additional labour to operate the traffic control and all additional signing required in addition to the basic layouts to comply with the requirements of Chapter 8. The contractor may use electronically operated Stop and Go boards subject to the express approval of the Engineer, for which the same rates will be deemed to apply.

16. Items for liaison with Statutory Undertakers or Service Companies shall not be deemed to include any works, provision of labour, plant or other resources provided by the main contractor in connection with any works carried out by Statutory Undertakers or Service Companies. Where such works are required they shall be measured under the appropriate items within the Schedule of Rates, unless the works are deemed to be in connection with the Contractors obligations to identify and protect service companies apparatus in which case they shall not be measured separately.

Earthworks

17. For excavation purposes “Rock “ shall be defined as any naturally occurring geological strata or deposit that requires the use of blasting (if approved) or approved pneumatic tools for its removal or mechanical breakers using a chisel point – but excluding any individual masses less than $0.3m^3$ in trenches or less than $0.5m^3$ in bulk – excavation, or re-excavation through rock fill. The Contractor should note that blasting is not approved in this contract.

18. The rates for all items of excavation shall include for all double handling (other than which is expressly required). The rates for all items of excavation for disposal shall include for disposal directly off site and from any stockpiles, which the contractor may have chosen to use. The contractor should note that any reference in the specification or Drawings to stockpiling shall not be construed as an express requirement for double handling.

19. Except where described as such in the documents excavation by hand will only be paid when ordered in writing by the Engineer.

20. The rates for Topsoiling to slopes shall include for the trimming of the surface of the topsoil.

21. The rates and items for geotextiles shall include for overlaps.

Concrete

22. The rates for concrete shall include for any admixture or partial replacement of cement with PFA if specified in the documents.

23. The rates for formwork shall include for all necessary cutting for whatever purpose.

24. The rates for formwork shall include for forming 25mm x 25mm or 50mm x 50mm chamfers to exposed arisings.

25. The rates for roughen up top surface to form key to receive new concrete shall include for all works necessary in complying with clause 1727 AR of the Specification. Drilling, providing dowel bars and the fixing of such shall be measured separately.

26. Concrete with a minimum amount of reinforcement included such as dowel bars provided to form a key between old concrete or rock and new concrete or concrete with mesh between lifts and to steps and to faces and bases of walls and slabs shall be classed as mass concrete, in placing of concrete. Where the thickness of concrete is less than 500mm with nominal mesh reinforcement, concrete shall be classed as reinforced concrete in placing of concrete. Dowel bars and mesh are measured separately.

27. The rates described as standard mix concrete shall include for designed and prescribed “designed” mix concrete where the contractor prefers their use and where such use is permitted by the Specification.

Pipework

28. The rates for clay or upvc flexibly sleeved pipes shall include for all standard couplings at joints.

29. The rates for pipework – pipes shall include for excavation in rock fill.

30. The rates for concrete beds, haunches, surrounds, backfill, stools, thrust blocks, pipe supports, granular bed and surround and backfill shall include for formwork or any geotextile or other synthetic retention material such as polythene etc, or for joint breaking layers such as flexcell etc. as required or as specified or shown in the Contract Documents and Drawings.

31. The rate for tail walls shall include for the complete construction including for concrete (including placing), formwork, reinforcement if necessary, excavation and disposal, backfilling, upholding the sides of excavation, geotextiles, gabion mattresses or other retention materials, finishing to concrete, etc., and any temporary works etc. to enable construction of the item as detailed on the relevant drawings.

32. The rates for channels shall include for any cutting required of channel sections to suit required length or to form junctions etc.

33. Items for service crossings shall include for all work in connection with constructing sewers and duct runs under statutory undertakers mains or services, including excavation, temporary and permanent support as required by the respective undertakers.

34. Mains or services crossing the line of the sewer at an angle of 45 degrees or less shall be short crossings measured numerically. Mains and services crossing the line of the sewer at an angle greater than 45 degrees shall be long crossings and shall be measured as the length of the sewer over which the main or service lies within the nominal trench width.

35. No items have been included for crossing below overhead power lines, overhead telephone lines etc. The contractor shall allow in his rates for all costs in connection with this.

36. The quantities of items for excavation of existing sewer pipes shall be deemed to include for the total volume inclusive of pipe, pipe bedding and internal void space.

Roads and Pavings

37. The bituminous paving to carriageways in Class R are to be to the requirements of BS 594987 and to be machine laid. Hand laying will take place only at the specific approval of the Engineer. Any necessary hand laying work will be at the general rate for machine lay.

38. Items and rates for kerbing, channeling and edging shall include for formwork to concrete beds and haunches, specialist admixtures to the bedding mortars and for the priming of the underside of the units prior to laying.

39. Items and rates for kerbing, channeling and edging shall include for any cutting to enable the smooth construction of kerblines to a radius.

40. Items for raising or lowering of service covers shall include for providing and laying new brickwork on mortar bed and for aligning covers square to new paving slabs or blocks if used except where existing chambers do not allow such re-alignment.

41. Items and rates for laying of paving slabs shall include for all cutting and shaping where jointing to service covers and frames including formation of flange recesses to underside of slab. Mortar pointing against such covers in place of such cut slabs shall not be permitted unless approved by the Engineer.

42. Items and rates for laying paving slabs shall include for all cutting and reshaping against street furniture, kerbs, channels, back of footway and other obstructions. Mortar joints in place of such cut slabs shall not be permitted unless approved by the Engineer and in any case should not exceed 10mm width.

43. Items and rates for laying of Granite slab paving shall include for specialist admixtures to the bedding and jointing mortars, and for the priming of the underside of the units and substrate layers prior to laying.

44. Where paving items provide for slabs or blocks with chamfered edgings, the rates shall include for manually chamfering any cut or split edgings to such slabs or blocks.

45. When a site instruction has a specific requirement for modular paving materials not listed under any item under this Schedule of Rates, the items for “Lay only” shall apply. In addition, where the Contractor has supplied the materials directly, the Engineer shall, subject to prior agreement, reimburse the Contractor’s costs in supplying the said materials. Such reimbursements shall include the material cost as invoiced by the supplier, any additional percentage adjustment stated in the materials item in the “Schedule of Dayworks” and any agreed amount of wastage. Where a minimum delivery amount applies to any special materials, any additional or unused materials shall remain as the property of the Engineer.

Brickwork, Blockwork and Masonry

46. Items and rates for random rubble limestone masonry pitching shall include for the complete construction, measured in m^2 including for masonry and jointing and bedding on class 1 coloured mortar, beds of concrete and formwork, excavation and disposal and for laying between angles of 10 degrees to 45 degrees to the horizontal.

47. The items and rates for masonry walling shall include for using all new limestone or re-using approved old limestone recovered and cleaned from demolition where required or available, evenly distributed and mixed with new limestone in the proportion of approximately 50% old and 50% new stone. The old stone may include approved second hand cleaned light to mid grey random rubble limestone. The rate shall include inter alia for providing, sorting, selecting, cleaning, dressing and disposing of surplus materials and mixing of the old masonry stone and for setting the material in mid-grey class 3 mortar with joints max 20mm wide recessed 10 to 12mm to show a clean edge to the walling stone.

48. The items and rates for masonry walling shall include for forming square or angular corners to quoins or at expansion joints or ends of construction or angular bends to the general alignment.

49. Specialist surfacing materials shall assume a programme equivalent to a minimum purchase order from his supplier.

50. The contractor is encouraged to propose alternative materials to enhance quality where possible.