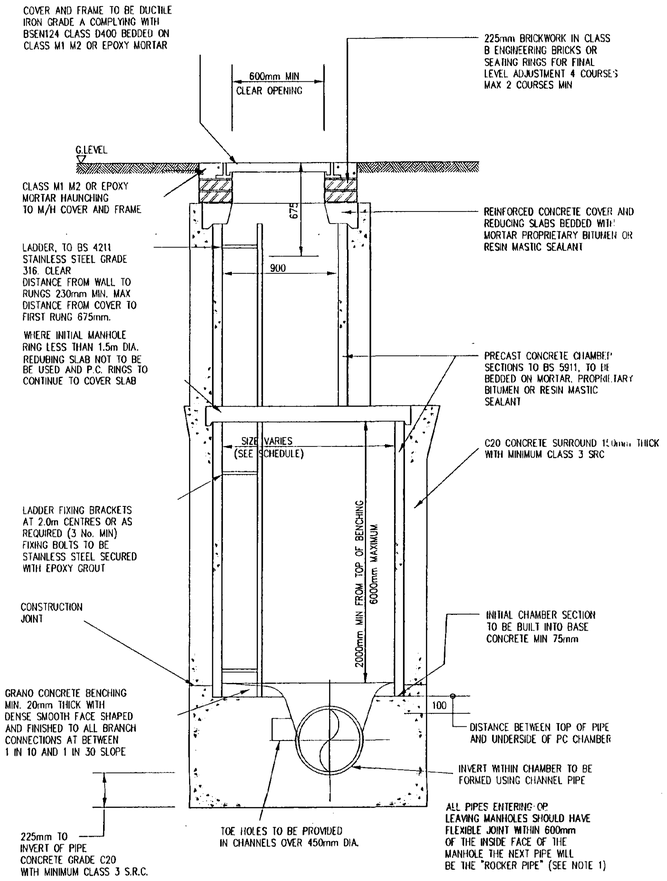
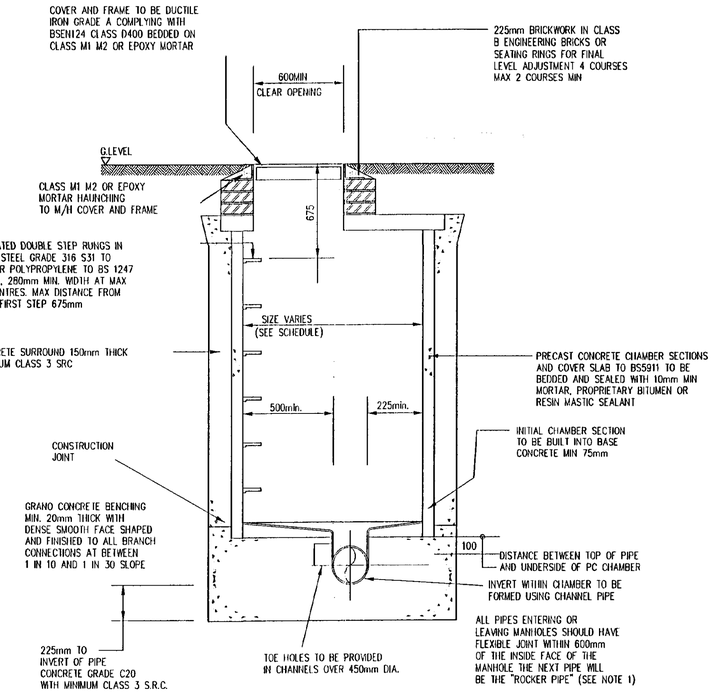
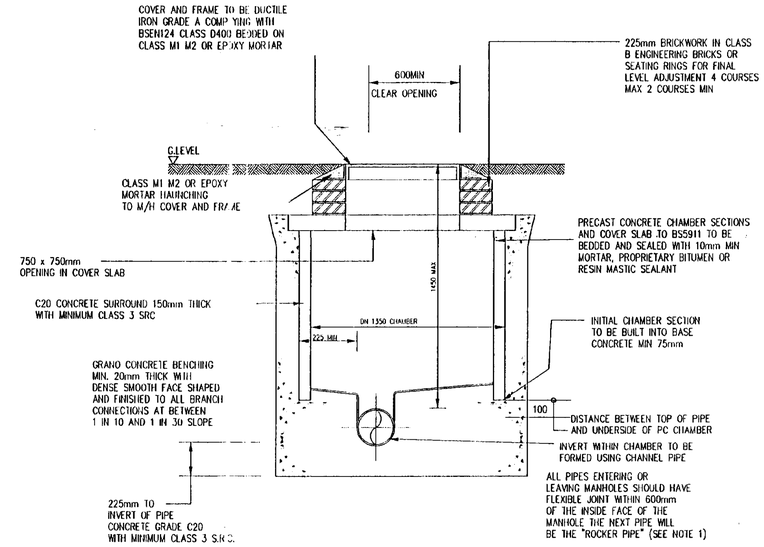
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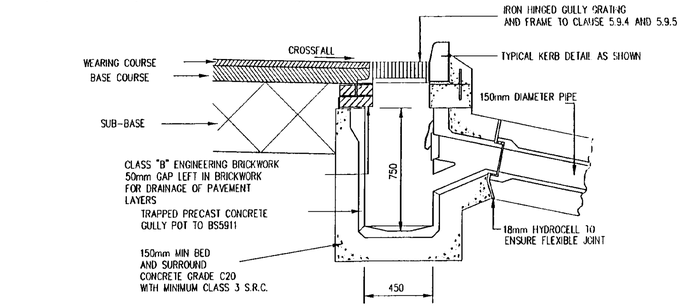
TYPE A MANHOLE TYPICAL SECTION
(MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3.0m–6.0m)
(Scale 1:20)



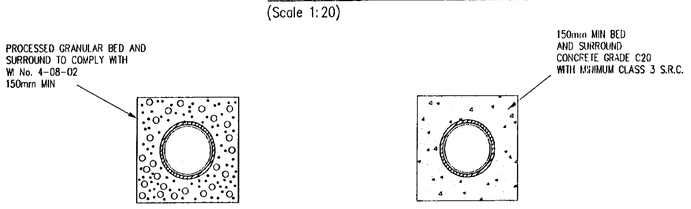
TYPE 'B' MANHOLE TYPICAL SECTION
(MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 3.0m, MINIMUM DEPTH FROM TOP OF BENCHING TO UNDERSIDE OF BISCUIT 900mm)
(Scale 1:20)



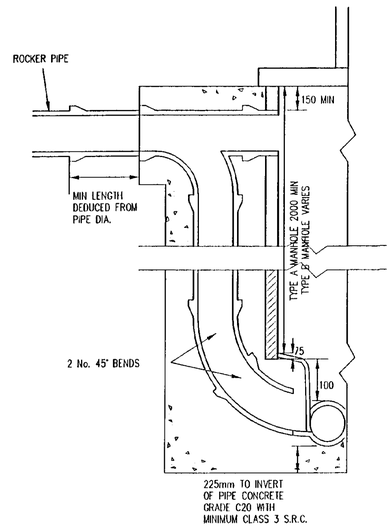
TYPE 'X' MANHOLE TYPICAL SECTION
(MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE 1.45m)
MANHOLE TO BE 1350mm DIAMETER
(Scale 1:20)



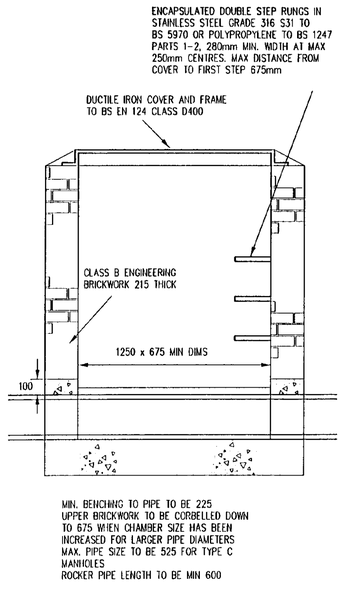
TYPICAL GULLY DETAIL
(Scale 1:20)



TYPICAL PIPE BED AND BACKFILL DETAIL
(Scale 1:20)



BACKDROP DETAIL
(Scale 1:20)



TYPE C MANHOLE
(Scale 1:20)

MANHOLE CHAMBER SIZES

DIA. LARGEST PIPE IN MANHOLE	CHAMBER SECTION DIA. REQUIRED
< 375	1200
375 – 450	1350
500 – 700	1500
750 – 900	1800

THE SIZES STATED ABOVE ARE THE MINIMUM ACCEPTABLE, WHERE TWO OR MORE PIPES ENTER THE MANHOLE THE CHAMBER SIZE MUST BE SUFFICIENT TO ACCOMODATE THE REQUIRED BENCHING SHOWN.

NOTES:

1. ROCKER PIPE DETAILS

SEWR DIA. (mm)	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 750	1000
825 AND OVER	1250

2. ALL JOINTS BETWEEN PRECAST CONCRETE MANHOLE COMPONENTS SHALL HAVE A MINIMUM UNCOMPRESSED THICKNESS OF 10mm OF PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT
3. CHAMBERS AND MANHOLES WITH OUTGOING PIPES OF GREATER THAN 800mm DIA. SHALL BE FITTED WITH REMOVABLE STAINLESS STEEL (GRADE 316) SAFETY CHAINS OR POLYPROPYLENE ROPE
4. MANHOLES GREATER THAN 6m IN DEPTH SHALL BE SUBJECT TO SPECIFIC DESIGN
5. ALL MANHOLE COVERS ARE TO BE MARKED "FW" OR "SW" AS APPROPRIATE AND SHALL CARRYTHE "AW" LOGO
6. ALL SEWERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROCEDURES AND SPECIFICATIONS CONTAINED IN "SEWERS FOR ADOPTION" (4th Edition May 1995)
7. STORM AND FOUL BRANCH CONNECTIONS ARE TO BE LAID AT GRADIENTS OF BETWEEN 1:10 AND 1:80 AND SHALL BE 150mm IN DIAMETER
8. GULLY CONNECTIONS TO BE LAID AT GRADIENTS OF AT LEAST 1:150 AND SHALL BE 150mm IN DIAMETER UNLESS OTHERWISE SPECIFIED
9. ALL IN-SITU CONCRETE SHALL BE MINIMUM GRADE C20 AND SHALL CONTAIN A MINIMUM CLASS 3 SRC (GEN 3 TO BS5328)
10. PRECAST CONCRETE COVER AND REDUCING SLABS TO BE HEAVY DUTY REINFORCED CONCRETE TO BS 5911
11. BACKDROPS ARE ONLY TO BE USED WHERE GRADIENTS STEEPER THAN THE MAX PERMISSIBLE ARE UNAVOIDABLE, THE BACKDROP RODDING EYE IS NOT PERMITTED IN THE UPPER ACCESS SHAFT OF TYPE A MANHOLES
12. PIPES UP TO 225mm DIA TO BE CLAY IN ACCORDANCE WITH BS EN 295 AND BS 65
PIPES 300mm DIA AND ABOVE TO BE CONCRETE IN ACCORDANCE WITH BS 5911 : PART 100
RISING MAINS SHALL BE BLACK HDPE SDR11 AS WI 4-32-03 AND JOINTS AND FITTINGS TO BE IN ACCORDANCE WITH WI 4-32-04
OTHER APPROVED PIPE MATERIALS TO BE IN ACCORDANCE WITH THEIR RELEVANT BS.

DETERMINED PLAN
20 April 2001

NOTES

DO NOT SCALE THIS DRAWING.

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.

Rev.	Amendments	Revd By	Date
C	Various minor amendments	JB	Jul 00
B	Various minor amendments	JB	Jun 00
A	Various minor amendments	JPB	May 00

Client: STANDARD DETAILS

Project: DRAINAGE DETAILS

Title: PROPOSED MANHOLE AND TYPICAL GULLY DETAILS

Job No:

Drawing No: STND/SEW/01C

Status: STANDARD DETAILS

Scale: SHOWN | Date: MAY 00

Project Engineer: PW | Drawn By: JPB | Checked By:

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Consulting Civil & Structural Engineers
Unicorn House, Northgate, Sleaford, Lincs., NG34 7BY
Tel 01529 415904

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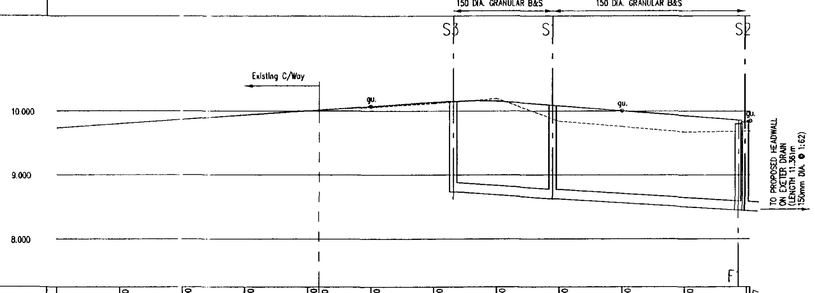
NOTES

1. DO NOT SCALE THIS DRAWING.
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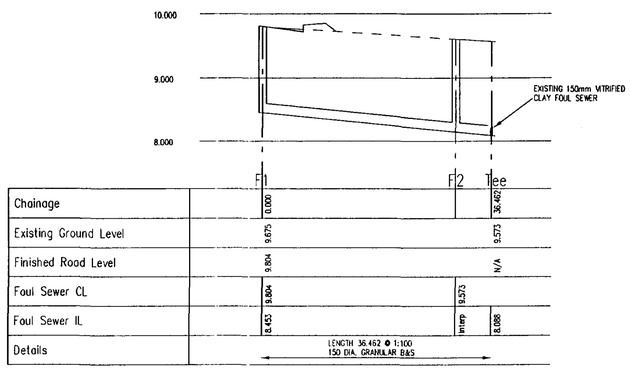
NOTES

1. STRUCTURAL CONCRETE TO BE IN ACCORDANCE WITH BS 5328 AND TO BE NOT LESS THAN GRADE FND2 WHEN REINFORCED AND GRADE GEN3 IN ALL OTHER SITUATIONS
2. CAST CONCRETE SHALL BE FINISHED TO PRODUCE A "FAIR" SURFACE WHERE EXPOSED AND SHALL HAVE A "ROUGH" FINISH IN ALL OTHER AREAS (Finishes as defined in CIVI Engineering Specification for the Water Industry—4th Edition)
3. STEELWORK TO BE IN ACCORDANCE WITH BS 4483
4. EXTERNAL CORNERS OF CAST CONCRETE SHALL HAVE 30mm CHAMFERS

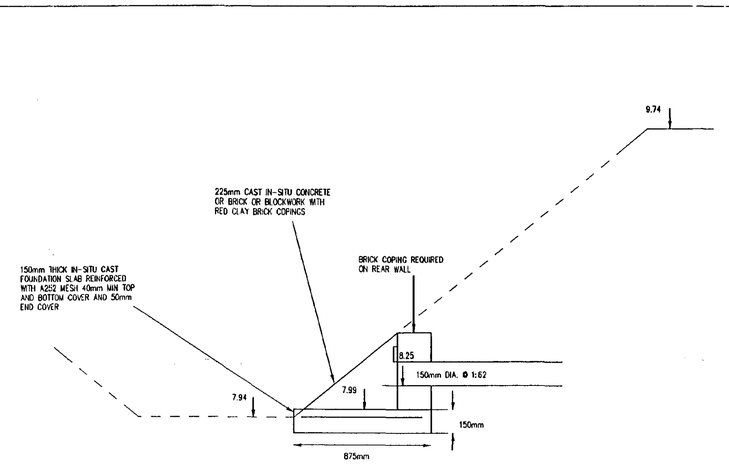
Highway Details	VERTICAL GRADE 1:150 LENGTH 59.494	VERT CURVE 100m RAD. ARC LEN. 14.454	VERTICAL GRADE −1:130 LENGTH 36.562
Chainage	0.000 | 10.000 | 20.000 | 30.000 | 40.000 | 50.000	60.000 | 70.000	80.000 | 90.000 | 100.000 | 110.537
Storm Sewer CL		10.159	10.097 | 9.834
Storm Sewer IL		8.752	8.844 | 8.434
Details		LENGTH 16.247 @ 1:150 150 DIA. GRANULAR B&S	LENGTH 31.501 @ 1:150 150 DIA. GRANULAR B&S



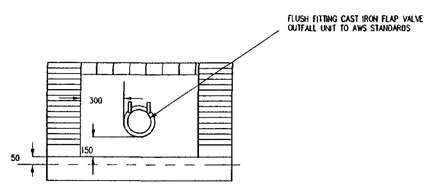
Chainage	0.000 | 10.000 | 20.000 | 30.000 | 40.000 | 41.790 | 50.000 | 60.000 | 70.000 | 80.000 | 90.000 | 100.000 | 110.537
Existing Ground Level	9.736 | 9.737 | 9.866 | 9.939 | 10.005 | 10.061 | 10.118 | 10.196 | 9.845 | 9.780 | 9.675 | 9.688
Finished Road Level	9.726 | 9.737 | 9.866 | 9.939 | 10.005 | 10.072 | 10.139 | 10.162 | 10.085 | 10.008 | 9.931 | 9.850
Foul Sewer CL	9.804
Foul Sewer IL	8.453 | 8.804
Details	



Chainage	0.000	36.462 Toe
Existing Ground Level	9.675	9.573
Finished Road Level	9.804	N/A
Foul Sewer CL	9.804	9.573
Foul Sewer IL	8.453	Intersp 8.888
Details	LENGTH 36.462 @ 1:100 150 DIA. GRANULAR B&S	



SECTION THROUGH DRAIN AND OUTFALL UNIT



OUTFALL UNIT FRONT ELEVATION

OUTFALL DETAILS INSET SCALE 1:50

DETERMINED PLAN

Rev.	Amendments	Rev'd By	Date
D	Tee connection shown on section	JB	13/09/00
C	M/H F1 and F2 added to section.	JB	11/09/00
B	Modifications to drainage sections	JB	06/07/00
A	Modifications to outfall detail	JPB	13/06/00

Client: BROADGATE HOMES

Project: MULBERRY WAY SPALDING

Title: DRAINAGE AND ROAD LONG SECTIONS

Job No: 32364

Drawing No: 32364/A1/03D

Status: CONSTRUCTION

Scale: 1:500 Horiz. | Date: MAY 00

Project Engineer: PW | Drawn By: JPB | Checked By:

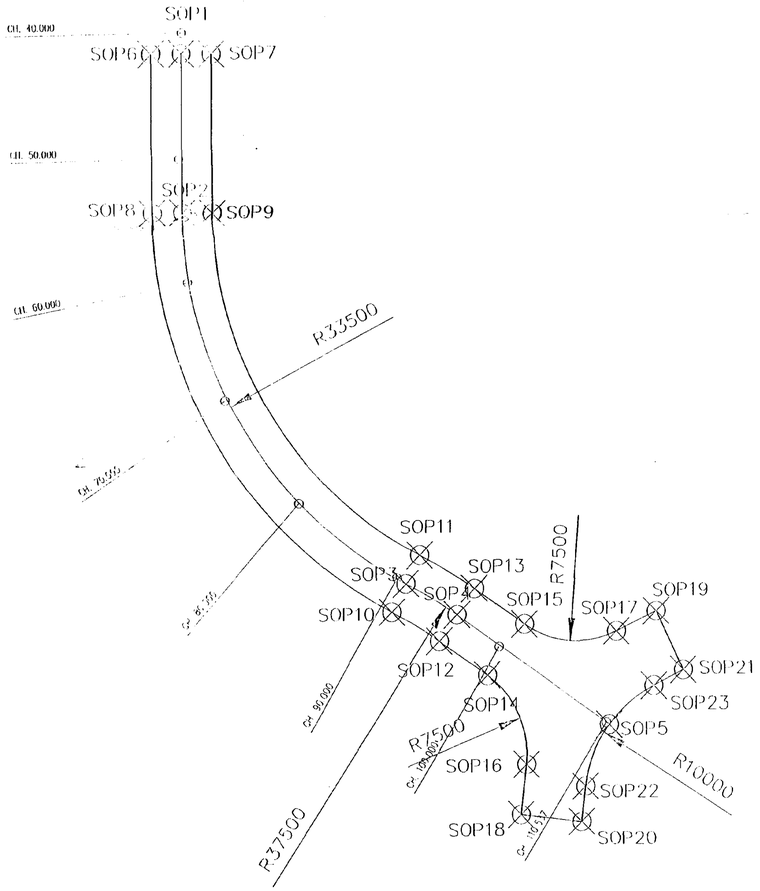
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Consulting Civil & Structural Engineers
Lindum House, Northgate, Sleaford, Lincs., NG34 7BX
Tel. 01529 415909
Fax. 01529 414644
E-mail. Waldeck@ipcmedia.co.uk

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NOTES

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SOP	E	N
1	554.219	534.120
2	554.264	521.488
3	572.485	491.792
4	576.663	489.296
5	589.134	480.701
6	551.719	534.111
7	556.719	534.129
8	551.764	521.479
9	556.764	521.496
10	571.345	489.567
11	573.625	494.017
12	575.244	487.238
13	578.082	491.354
14	579.157	484.541
15	582.205	488.512
16	582.355	477.534
17	589.722	487.934
18	581.909	473.536
19	592.963	489.498
20	586.867	472.983
21	595.203	484.860
22	587.180	475.789
23	592.771	483.686



DETERMINED PLAN

DC
2001
Ref: 04/0101

Rev.	Amendments	Rev'd By	Date

Client: BROADGATE DEVELOPERS

Project: MULBERRY WAY SPALDING

Title: SETTING OUT

Job No: 32364

Drawing No: 32364/A1/04

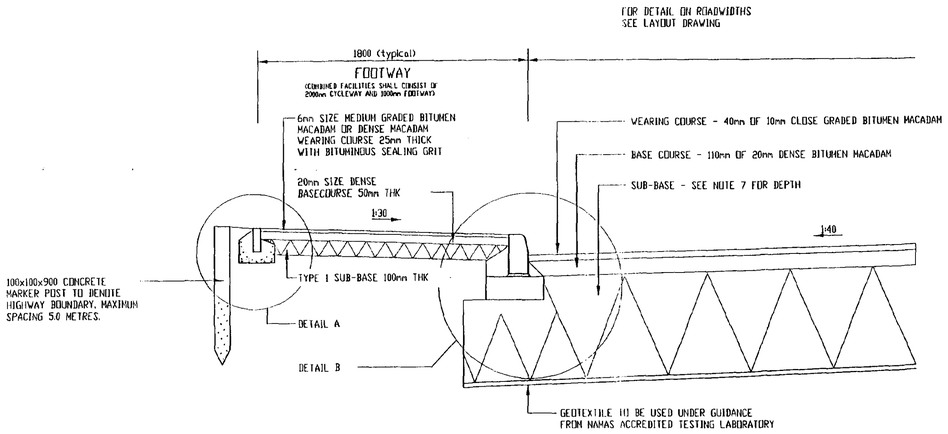
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Scale: 1:500 | Date: SEPT 00

Project Engineer: JPB | Drawn By: JPB | Checked By:

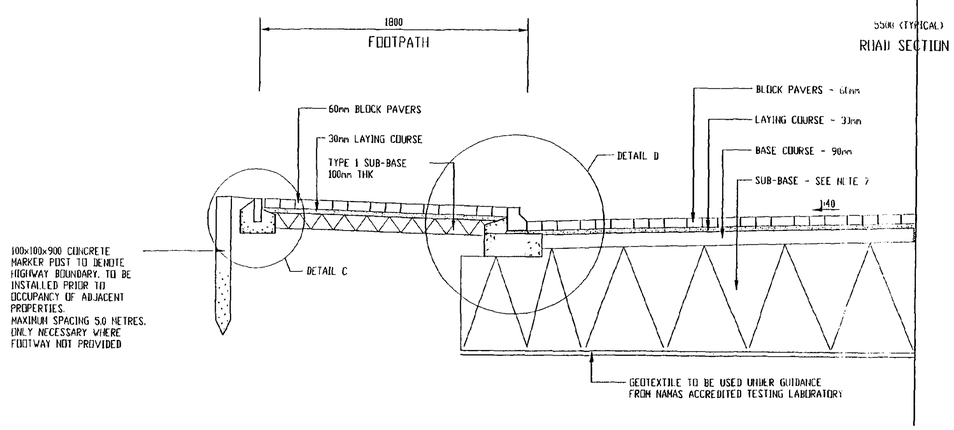
Waldeck Associates
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Bankside Business Centre
2 Kestrel Street
Stafford

FLEXIBLE CONSTRUCTION

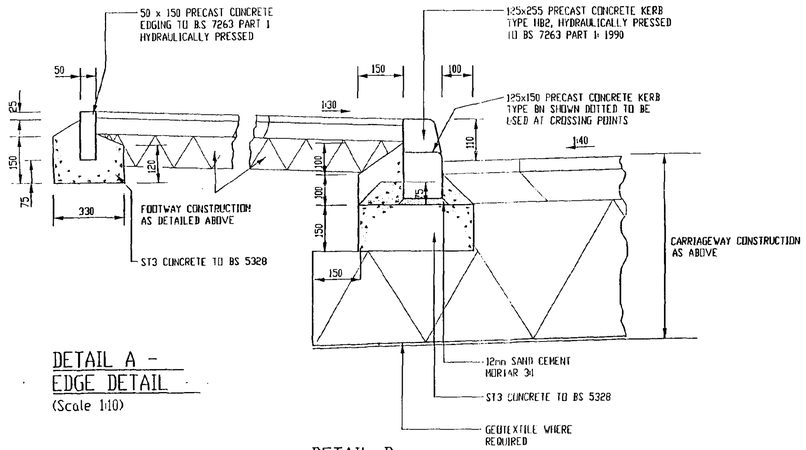


TYPICAL SECTION FLEXIBLE CONSTRUCTION
(Scale 1:20)

SMALL BLOCK PAVERS

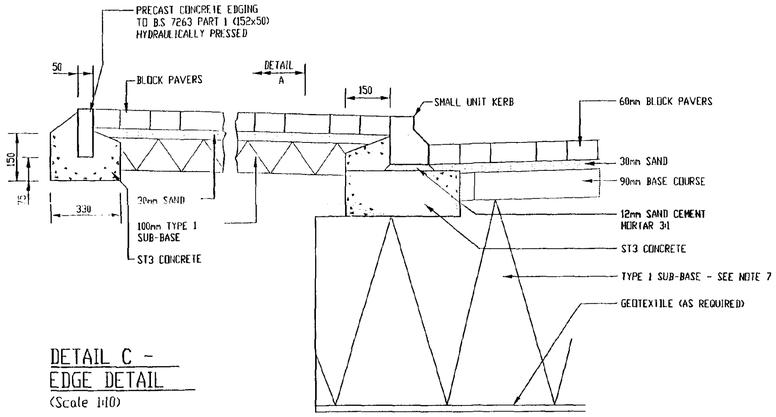


TYPICAL SECTION THROUGH BLOCK PAVED ROAD
(Scale 1:20)



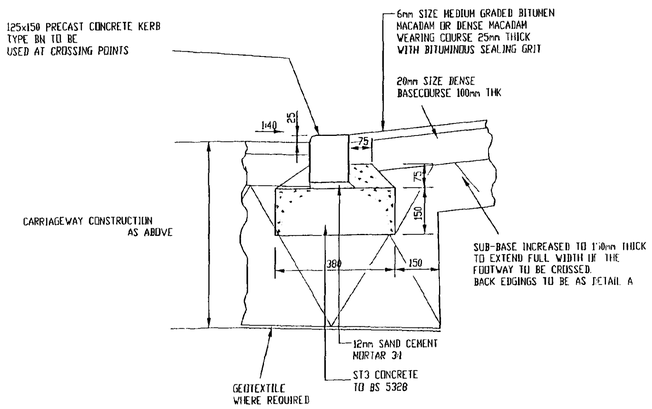
DETAIL A - EDGE DETAIL
(Scale 1:10)

DETAIL B KERB EDGE DETAIL
(Scale 1:10)

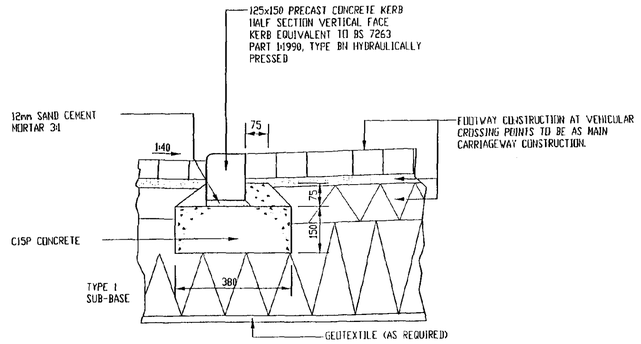


DETAIL C - EDGE DETAIL
(Scale 1:10)

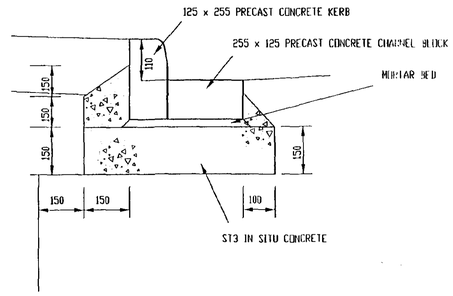
DETAIL D KERB EDGE DETAIL
(Scale 1:10)



TYPICAL VEHICULAR CROSSING DETAIL
(Scale 1:10)



TYPICAL DROP KERB DETAIL
(Scale 1:10)



CHANNEL BLOCK DETAIL
(Scale 1:10)

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NOTES

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3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
4. NAMAS ACCREDITED LABORATORY CBR TESTS ARE TO BE UNDERTAKEN AND ENGINEER TO BE INFORMED OF RESULTS.
5. BULKFILLING BENEATH ROADS UP TO SUB-BASE LEVEL TO INFILL VOIDS OR SOFT SPOTS TO BE TYPE 6F2 GRANULAR MATERIAL COMPACTED IN LAYERS TO CLAUSE 6.8
6. ALL WORKS TO BE IN ACCORDANCE WITH LINCOLNSHIRE COUNTY COUNCIL HIGHWAYS AND PLANNING 'DEVELOPMENT ROAD SPECIFICATION AND CONSTRUCTION 1999'
7. NO ON SITE WORKS SHALL COMMENCE UNTIL A SITE INVESTIGATION REPORT TO BE CARRIED OUT BY A UKAS ACCREDITED COMPANY FROM LINCOLNSHIRE COUNTY COUNCIL APPROVED LIST, HAS BEEN SUBMITTED AND APPROVED BY L.C.C.
8. SUB-BASE THICKNESSES

   CBR < 1% USE TESTING LABORATORY DESIGN
   CBR 1% 630mm CONSISTING 330mm GRANULAR FILL TO CLAUSE 6.8 AND 300mm TYPE 1 SUB-BASE
   CBR 2% 400mm TYPE 1 SUB-BASE
   CBR 3% 310mm TYPE 1 SUB-BASE
   CBR 4% OR GREATER, 300mm TYPE 1 SUB-BASE

   NOTE: WHERE SUB-GRADE NON FROST SUSCEPTIBLE SUB-BASE DEPTHS CAN BE REDUCED AS FOLLOWS
   CBR 4% 260mm OF TYPE 1
   CBR 5% 225mm OF TYPE 1
   CBR 6-15% 200mm OF TYPE 1
   CBR > 15% 150mm OF TYPE 1
9. TACTILE CROSSINGS FOR PEDESTRIANS AS CLAUSE 1.8 SHALL BE PROVIDED AT ALL ROAD JUNCTIONS SERVED BY FOOTWAYS AND WILL HAVE A MIN 2 No. DROPPED KERBS
   FINAL LOCATIONS TO BE AGREED WITH LCC REP.
10. VEHICLE CROSSINGS SHALL BE PROVIDED FOR ALL DRIVEWAY ENTRANCES IN ACCORDANCE WITH CLAUSE 1.6
11. WHERE CARRIAGEWAY LONGITUDINAL FALLS ARE LESS THAN 1:150 CHANNEL BLOCKS ARE REQUIRED ADJACENT TO KERBING AND WHERE FALLS ARE LESS THAN 1:250, THE CHANNEL BLOCKS SHOULD BE LAID TO FALSE FALLS
12. SMALL BLOCK PAVERS SHALL BE MADE IN CLAY TO BS 6677 PART 1 OR CONCRETE TO BS 6717 PART 1 AND SHALL BE RECTANGULAR TYPE PB CHAMFERED
13. PRECAST CONCRETE PAVING BLOCKS SHALL BE LAID ON 30mm BEDDING LAYER IN ACCORDANCE WITH BS 7533 PART 3 OR IN ACCORDANCE WITH CLAUSE 10.4 OR 16.6(C) AS INDICATED
14. CYCLEWAY CONSTRUCTION TO BE AGREED WITH LCC SIGNS AND MARKINGS TO BE SUPPLIED AT THE REQUEST OF THE HIGHWAYS MANAGER

Rev.	Amendments	Rev'd By	Date
D	Minor annendments	JB	Jul 00
C	Minor annendments	JB	Jul 00
B	Notes amended	JB	Jun 00
A	Addition of block paving details	JPB	May 00

Client: STANDARD DETAILS

Project: CARRIAGEWAY DETAILS

Title: STANDARD DETAILS LCC ROADS UPTO 0.25 MSA

Job No:

Drawing No: STND/LCC/01D

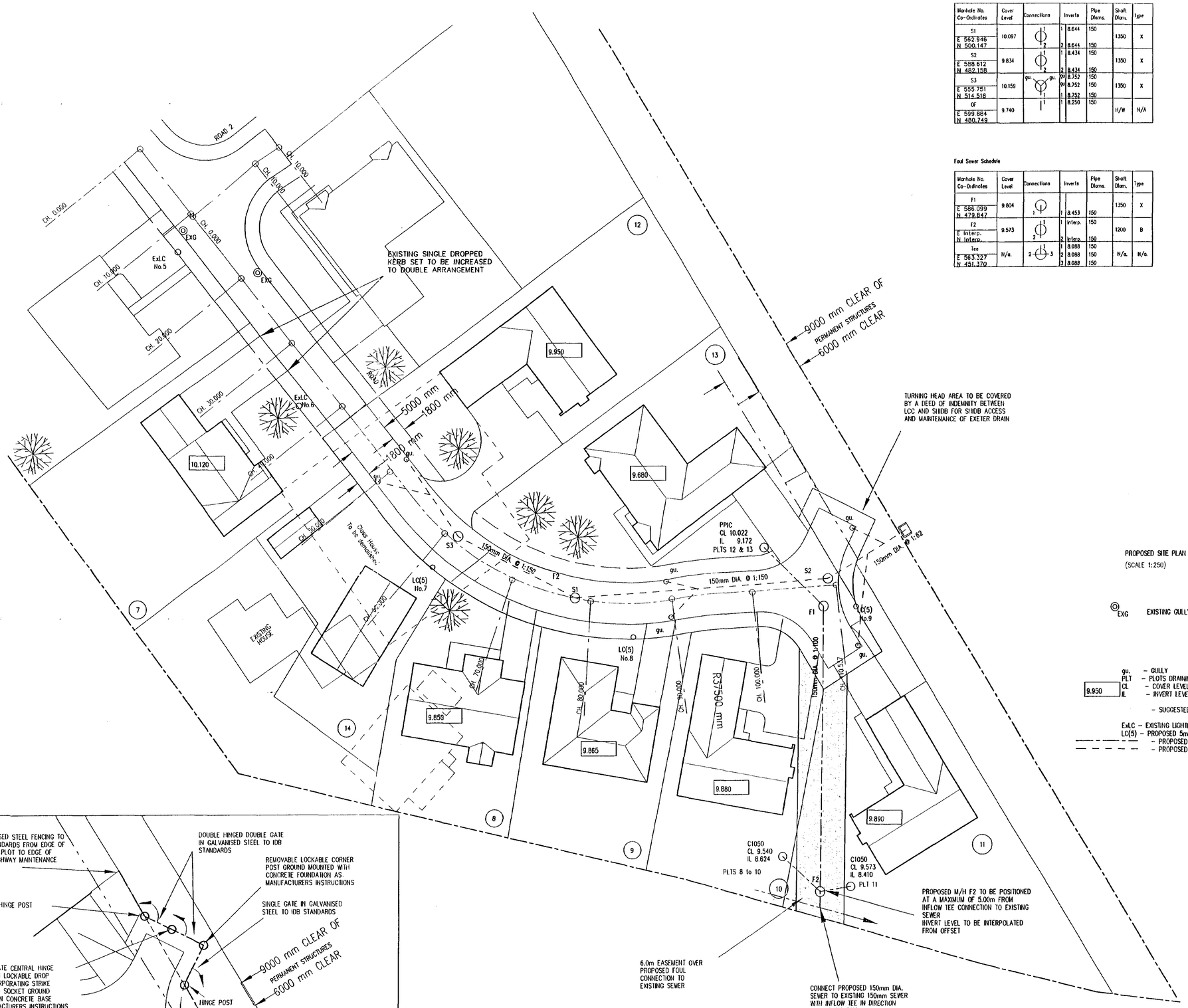
Status: STANDARD DETAILS

Scale: 1:20 | Date: MAY 00

Project Engineer: PW | Drawn By: JPB | Checked By:

DETERMINED PLAN

Waldeck Associates
Consulting Civil & Structural Engineers
Lindun House, Northgate, Sleaford, Lincs., NG34 7BX
Tel. 01529 415999

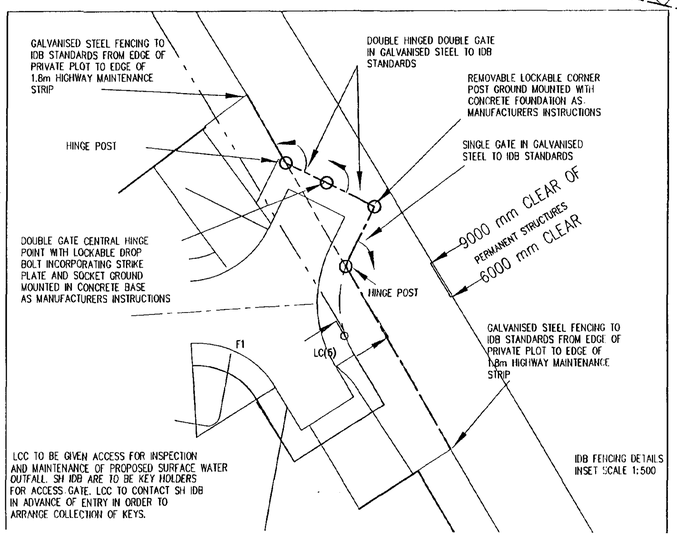


PROPOSED SITE PLAN
(SCALE 1:250)

EXG EXISTING GULLY

gu. – GULLY
PLT – PLOTS DRAINING TO PRIVATE MANHOLES
CL – COVER LEVEL
IL – INVERT LEVEL
9.950 – SUGGESTED FINISHED FLOOR LEVEL

ExLC – EXISTING LIGHTING COLUMN
LC(5) – PROPOSED 5m LIGHTING COLUMN
– PROPOSED FOUL DRAINAGE
– PROPOSED STORM DRAINAGE



Storm Sewer Schedule

Manhole No. Co-Ordinates	Cover Level	Connections	Inverts	Pipe Diams.	Shaft Diam.	Type
S1 E 562.946 N 500.147	10.097	1, 2	1 8.644 2 8.644	150 150	1350	X
S2 E 588.612 N 482.158	9.834	1, 2	1 8.434 2 8.434	150 150	1350	X
S3 E 555.751 N 514.518	10.159	gu., gu., 1	gu. 8.752 gu. 8.752 1 8.752	150 150 150	1350	X
OF E 599.884 N 480.749	9.740	1	1 8.250	150	N/A	N/A

Foul Sewer Schedule

Manhole No. Co-Ordinates	Cover Level	Connections	Inverts	Pipe Diams.	Shaft Diam.	Type
F1 E 586.099 N 479.847	9.804	1	1 8.453	150	1350	X
F2 E Interp. N Interp.	9.573	1, 2	1 Interp. 2 Interp.	150 150	1200	B
Tee E 563.327 N 451.370	N/a.	2–1–3	1 8.088 2 8.088 3 8.088	150 150 150	N/a.	N/a.

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NOTES

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2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS
4. SUGGESTED FLOOR SLAB LEVEL SHOWN IN BOX
5. ALL SEWERS TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROCEDURES AND SPECIFICATIONS OF "SEWERS FOR ADOPTION" (4th EDITION MAY 1995)
6. BRANCH AND ANCILLIARY CONNECTIONS TO BE 150mm DIA LAID AT GRADIENTS BETWEEN 1:10 AND 1:80
7. GULLY CONNECTIONS TO BE 150mm DIA. L/HD AT GRADIENTS OF AT LEAST 1:150 UNLESS OTHERWISE STATED
8. ALL PIPEWORK TO BE LAID WITH LEVEL SOFFITS

STREET LIGHTING SPECIFICATION

1) TYPE:

FABRIKAT "HOCKEY STICK" COLUMNS WITH GI CORROSION PROTECTION

2) LANTERNS,LAMPS & GEAR:

PHILIPS LIGHTING
420 LONDON ROAD
CROYDON CR9 3QR TEL. 0181 6656655

TYPE:

PHILIPS MI26HF 35W SOX SIDE ENTRY INCORPORATING INTEGRAL HIGH FREQUENCY CONTROL GEAR AND FITTED WITH NEMA PHOTOCELL SOCKET

3) PHOTOCELLS:

SELC ELECTRONICS
REDHILL HOUSE
HOPE STREET
SALTNEY
CHESTER CH4 8BU TEL. 01244 682948

TYPE:

841 PHOTOCELL, ELECTRONIC, 1 PART, 1:0.5 DIFFERENTIAL, 70 LUX ON

4) ALL COLUMNS TO BE SITED WITHIN THE ADOPTABLE HIGHWAY AND GENERALLY IN COMPLIANCE WITH APPENDIX H OF THE CURRENT LINCOLNSHIRE DESIGN GUIDE FOR RESIDENTIAL AREAS.
COLUMNS SHALL NOT BE INSTALLED WITHIN DROPPED KERB AREAS WITHOUT PRIOR AGREEMENT FROM THE STREET LIGHTING ENGINEER

5) ALL COLUMNS TO HAVE CONCRETE FOUNDATIONS AS PER SD/14/2A AND INDIVIDUAL REC

TERMINATION TYPE SD/14/4A (1998)
DIRECT FEED

Rev.	Amendments	Revd By	Date
K	M/H F2 moved and inflow tee added	JB	31/10/00
J	M/H F2 moved and inflow tee added	JPB	13/9/00
H	Notes added, M/H co-ords added.	JPB	8/9/00
G	Note added	JB	18/08/00
F	MH information added	JB	15/08/00
E	MH numbers revised	JB	14/07/00
D	Minor Amendments	JB	11/07/00
C	MH S3 Added, S1 ammended	JB	05/07/00
B	Street Lighting Ammended, Ex. Gullies Shown	JPB	19/06/00
A	Fencing Details Added	JPB	13/06/00

Client
BROADGATE HOMES

Project
MULBERRY WAY,
SPALDING.

Title
PROPOSED DRAINAGE AND HIGHWAY DETAILS

Job No 32364

Drawing No 32364/A1/02K

Status CONSTRUCTION

Scale 1:250 | Date MAY 00

Project Engineer PW | Drawn By JB | Checked By

DETERMINED PLAN

Waldeck Associates
Consulting Civil & Structural Engineers
Lindum House,
Northgate,
Sleaford,
Lincs.,
NG34 7BX
Tel. 01529 413909
Fax. 01529 414644
E-mail. Waldeck@ukonline.co.uk