

JOHN D SPOONER & ASSOCIATES
 Civil Engineering Consultants
 9 HIGH STREET
 THURLEY
 BOURNE
 UNCS PE10 0ED
 Tel: 01778 423647

CLIENT
 TUDOR HOMES

PROJECT
 RESIDENTIAL DEVELOPMENT
 MILL MARSH ROAD
 MOULTON SEA END

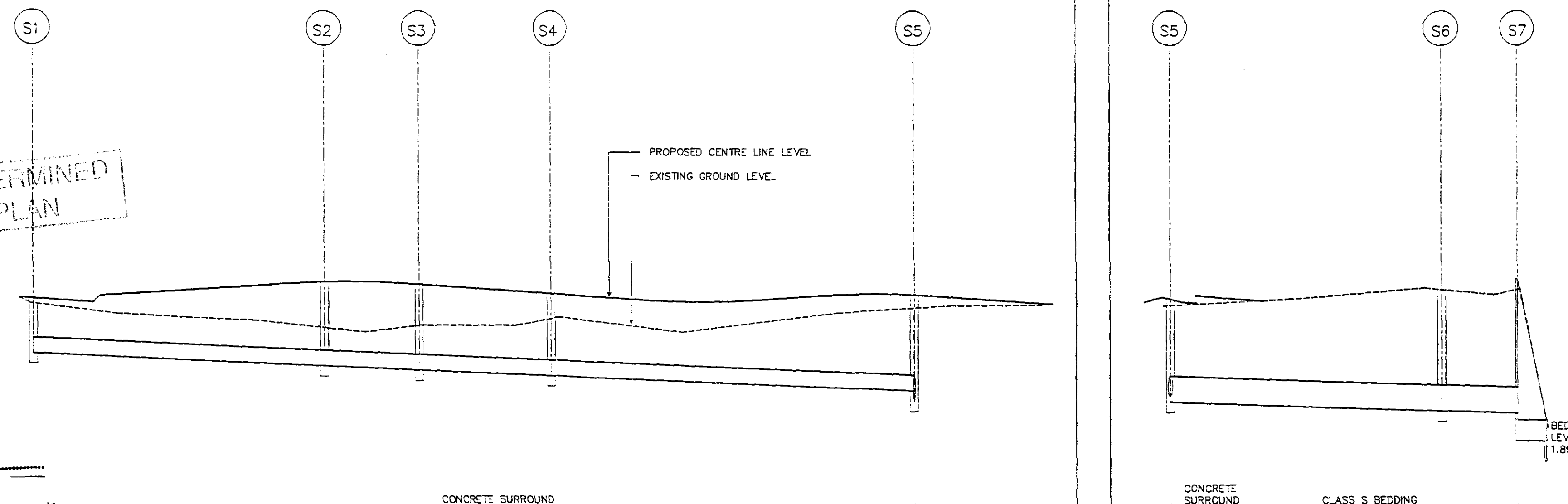
TITLE
 SITE ACCESS ROAD & SEWERS
 LONGITUDINAL SECTION

SCALE	DATE	DRAWN	CHECKED
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DRAWING NUMBER
 J388-138

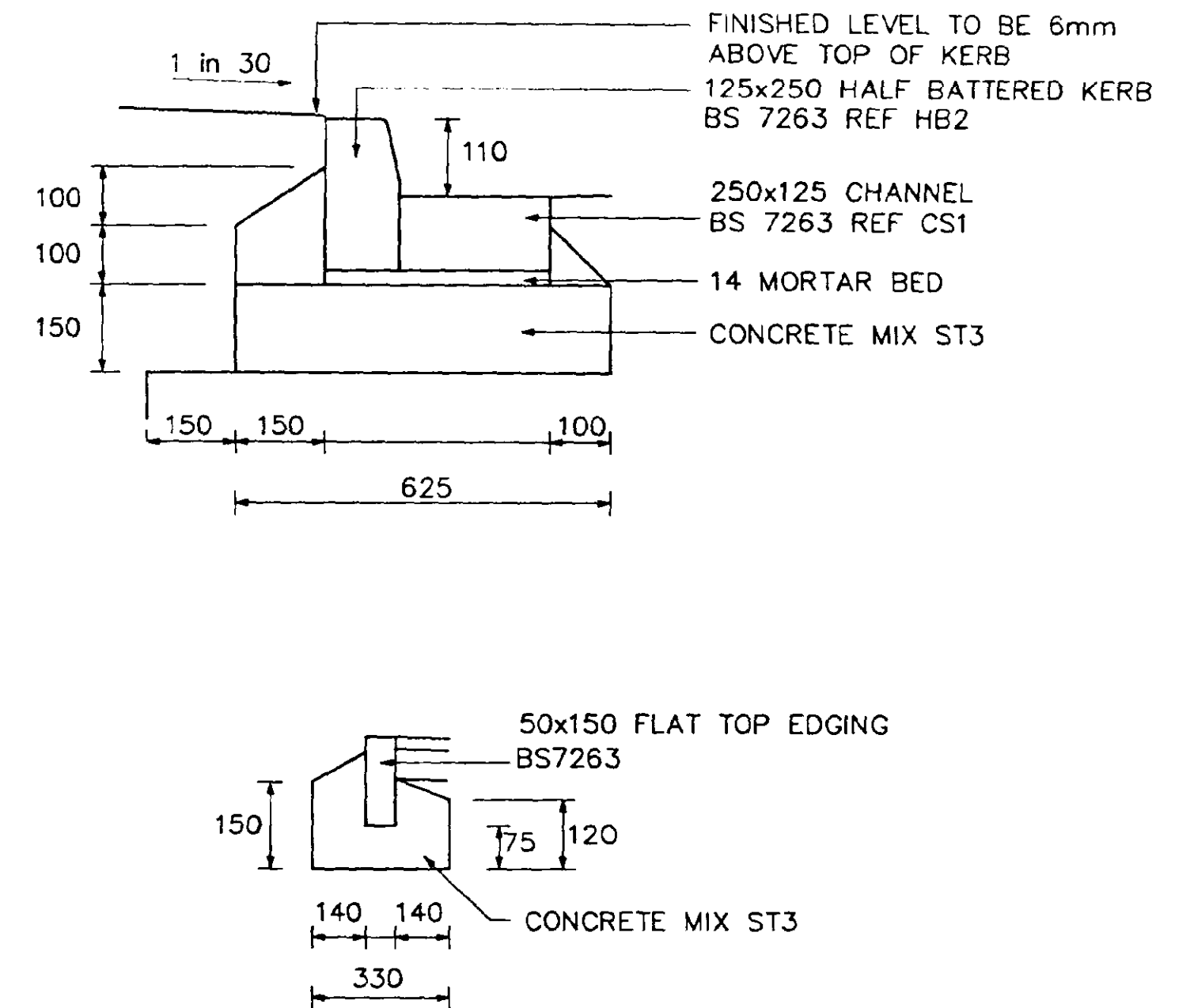
Ref 0175/03
 Ref 307/03
 L.C.C.
 HIGHWAY DEVELOPMENT GROUP
 APPROVED DRAWING
 15/7/03
 D. Whithead SIGNED:

DETERMINED PLAN



▽ 0m A.O.D

SURFACE WATER SEWER /HIGHWAY DRAIN	300 1 in 240 (42.6m)										300 1 in 240 (13.9m)										300 1 in 240 (52.5m)										375 1 in 320 (40.3m)										1 in 320 (11.0m)																																																																																																																																																																																																																																																																													
FOUL WATER SEWER	GRADIENT 1 in 150 (0.667%)										GRADIENT 1 in 150 (0.667%)										GRADIENT 1 in 150 (0.667%)										GRADIENT 1 in 150 (0.667%)										GRADIENT 1 in 150 (0.667%)										GRADIENT 1 in 150 (0.667%)																																																																																																																																																																																																																																																																			
VERTICAL ROAD ALIGNMENT	RAMP UP										VERTICAL CURVE										VERTICAL CURVE										VERTICAL CURVE										VERTICAL CURVE										VERTICAL CURVE																																																																																																																																																																																																																																																																			
HORIZONTAL ROAD ALIGNMENT	STRAIGHT										CIRCULAR CURVE RADIUS 14.75m										CIRCULAR CURVE RADIUS 28.512m										CIRCULAR CURVE RADIUS 55.0m										STRAIGHT										STRAIGHT																																																																																																																																																																																																																																																																			
	Ch 0										Ch 35.104										Ch 62.243										Ch 90.763										Ch 113.114										Ch 150.589										Ch 135.839																																																																																																																																																																																																																																																									
	SOUTH CHARREL MILL MARSH ROAD																																																																																																																																																																																																																																																																																																																					
SURFACE WATER SEWER /HIGHWAY DRAIN INVERT LEVEL	2.880										2.703										2.645										2.565										2.346										2.271										2.145										2.110																																																																																																																																																																																																																																															
FOUL WATER SEWER INVERT LEVEL																																																																																																																																																																																																																																																																																																																						
ROAD CHANNEL LEVEL																																																																																																																																																																																																																																																																																																																						
ROAD CENTRE LINE LEVEL	3.762										3.690										3.790										3.845										3.911										3.978										4.000										4.003										4.000										3.978										3.945										3.878										3.811										3.745										3.728										3.715										3.703										3.715										3.728										3.745										3.795										3.809										3.820										3.809										3.795										3.745										3.674										3.703										3.773										3.703										3.623									
EXISTING GROUND LEVEL	3.76										3.68										3.53										3.48										3.44										3.27										3.37										3.37										3.49										3.27										3.55										3.65										3.66										3.91										3.81										3.90										3.89																																																																																																																																																					
ROAD CHAINAGE	0										10.80										11.80										20										30										40										45										47.5										50										55										60										70										80										90										92.5										95										100										105										107.5										110										117.5										120										125										130										132.5										140										150.589																																																	



GULLY GRATING & FRAME TO BS EN124 CLASS D400 (EN124 C15) & KITEMARKED
HINGED NON REMOVABLE
NOMINAL CLEAR OPENING WIDTH 450mm; MINIMUM AREA OF WATERWAY 900cm²

2 COURSES CLASS BENGINEERING BRICKWORK LAID WITH 1:2 CEMENT SAND MORTAR. CORBELLING NOT TO EXCEED 38mm PER COURSE

STOPPER AND CHAIN

450 (INT.DIA)x 750 GULLY SURROUNDED WITH 150 CONCRETE MIX ST3

150 DIA.GULLY CONNECTION WITH 150 CONCRETE MIX ST3 SURROUND WITH FLEXIBLE JOINTS AT EACH COLLAR

150

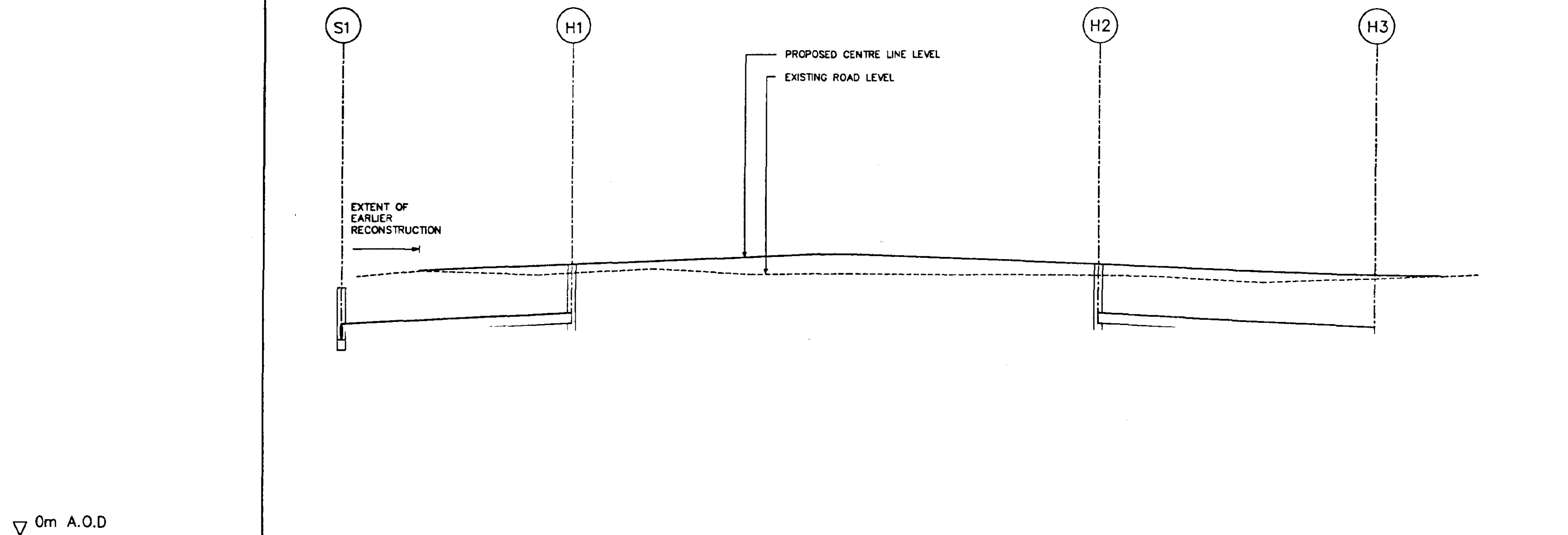
USE
SITE ACCESS ROAD
CHAINAGE 0 - 10.80m

DETERMINED
PLAN

SHDC
Planning & Development
18 1003
Ret 0175/03

REV A SUB BASE DESCRIBED
02.2003 AS LINC'S LAB REPORT
24785

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J388-21A



▽ 0m A.O.D

SURFACE WATER SEWER /HIGHWAY DRAIN	150 1 in 200 (33.20m) CONCRETE SURROUND	150 1 in 200 (40.0m) CONCRETE SURROUND	CLEAN OUT/FORM ROAD SIDE DITCH LENGTH 15m
FOUL WATER SEWER			
VERTICAL ROAD ALIGNMENT	GRADIENT 1 in 250 (0.4%)	VERTICAL CURVE	GRADIENT 1 in 250 (0.4%)
HORIZONTAL ROAD ALIGNMENT	CIRCULAR CURVE RADIUS 72.25m	CIRCULAR CURVE RADIUS 497.25m	STRAIGHT
	Ch 0 CENTRE LINE SITE ACCESS ROAD	Ch 58.642	Ch 71.824

SURFACE WATER SEWER /HIGHWAY DRAIN INVERT LEVEL	3.030	3.196	3.190	2.990
FOUL WATER SEWER INVERT LEVEL				
ROAD CHANNEL LEVEL				
ROAD CENTRE LINE LEVEL		3.950	3.980	4.020
EXISTING GROUND LEVEL	3.86	3.94	3.89	3.88
ROAD CHAINAGE	0	10	20	30

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Planning & Development
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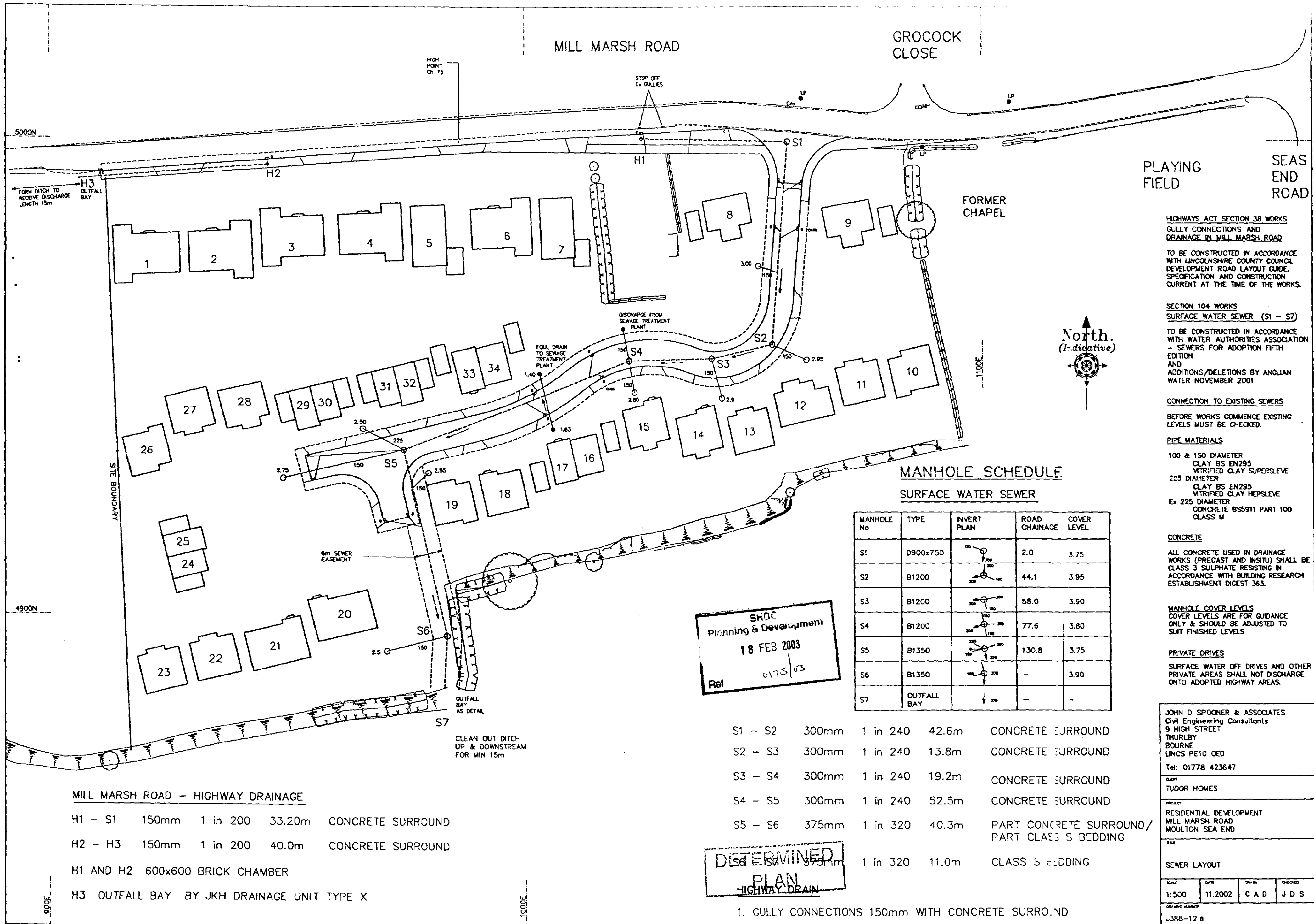
CLIENT
TUDOR HOMES

PROJECT
RESIDENTIAL DEVELOPMENT
MILL MARSH ROAD
MOULTON SEA END

TITLE
MILL MARSH ROAD
LONGITUDINAL SECTION

SCALE
H 1:500
V 1:50
DATE
11.2002
DRAWN
C A D
CHECKED
J D S

DRAWING NUMBER
J388-14B



PLAYING FIELD
SEAS END ROAD

HIGHWAYS ACT SECTION 38 WORKS
GULLY CONNECTIONS AND DRAINAGE IN MILL MARSH ROAD
TO BE CONSTRUCTED IN ACCORDANCE WITH LINCOLNSHIRE COUNTY COUNCIL DEVELOPMENT ROAD LAYOUT GUIDE, SPECIFICATION AND CONSTRUCTION CURRENT AT THE TIME OF THE WORKS.

SECTION 104 WORKS
SURFACE WATER SEWER (S1 - S7)
TO BE CONSTRUCTED IN ACCORDANCE WITH WATER AUTHORITIES ASSOCIATION - SEWERS FOR ADOPTION FIFTH EDITION AND ADDITIONS/DELETIONS BY ANGLIAN WATER NOVEMBER 2001

CONNECTION TO EXISTING SEWERS
BEFORE WORKS COMMENCE EXISTING LEVELS MUST BE CHECKED.

PIPE MATERIALS
100 & 150 DIAMETER
CLAY BS EN295
VITRIFIED CLAY SUPERSLEVE
225 DIAMETER
CLAY BS EN295
VITRIFIED CLAY HEPSLEVE
EX 225 DIAMETER
CONCRETE BS5911 PART 100
CLASS M

CONCRETE
ALL CONCRETE USED IN DRAINAGE WORKS (PRECAST AND INSITU) SHALL BE CLASS 3 SULPHATE RESISTING IN ACCORDANCE WITH BUILDING RESEARCH ESTABLISHMENT DIGEST 363.

MANHOLE COVER LEVELS
COVER LEVELS ARE FOR GUIDANCE ONLY & SHOULD BE ADJUSTED TO SUIT FINISHED LEVELS

PRIVATE DRIVES
SURFACE WATER OFF DRIVES AND OTHER PRIVATE AREAS SHALL NOT DISCHARGE ONTO ADOPTED HIGHWAY AREAS.

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MOULTON SEA END

FILE
SEWER LAYOUT

SCALE	DATE	DRAWN	CHECKED
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DRAWING NUMBER J388-12 B			



MANHOLE SCHEDULE
SURFACE WATER SEWER

MANHOLE No	TYPE	INVERT PLAN	ROAD CHAINAGE	COVER LEVEL
S1	D900x750		2.0	3.75
S2	B1200		44.1	3.95
S3	B1200		58.0	3.90
S4	B1200		77.6	3.80
S5	B1350		130.8	3.75
S6	B1350		-	3.90
S7	OUTFALL BAY		-	-

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Planning & Development
18 FEB 2003
Ref 0175/03

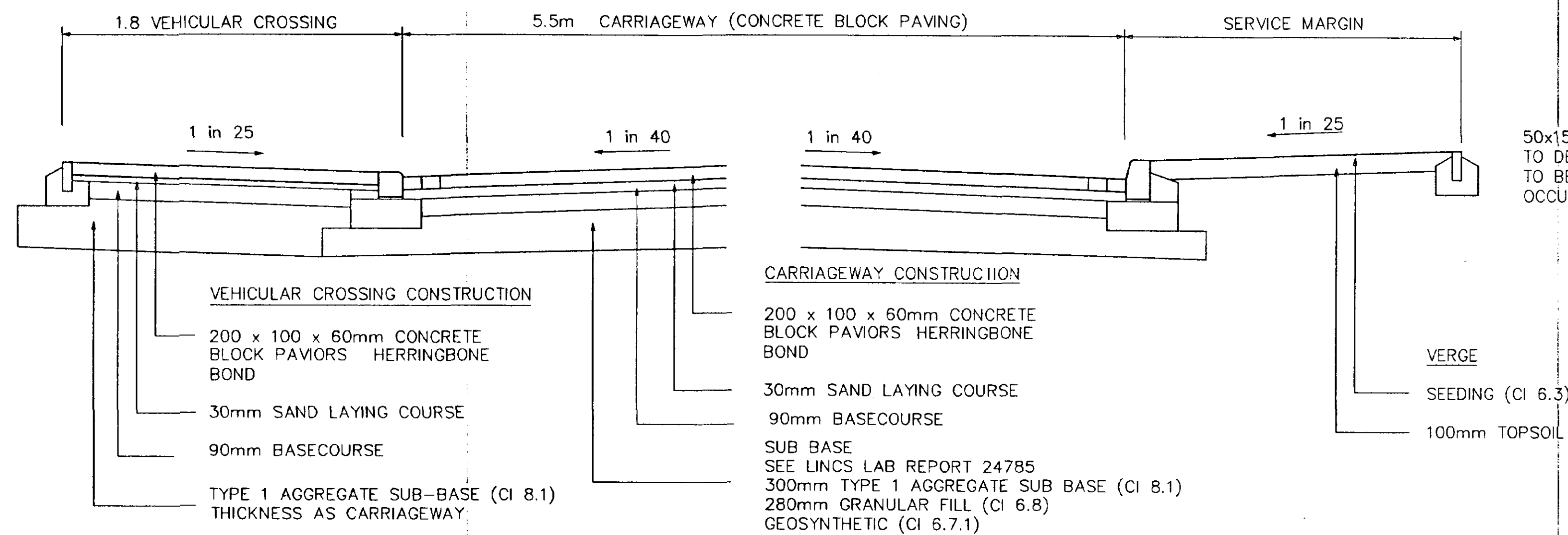
S1 - S2	300mm	1 in 240	42.6m	CONCRETE SURROUND
S2 - S3	300mm	1 in 240	13.8m	CONCRETE SURROUND
S3 - S4	300mm	1 in 240	19.2m	CONCRETE SURROUND
S4 - S5	300mm	1 in 240	52.5m	CONCRETE SURROUND
S5 - S6	375mm	1 in 320	40.3m	PART CONCRETE SURROUND/ PART CLASS 5 BEDDING
S6 - S7	375mm	1 in 320	11.0m	CLASS 5 BEDDING

DETERMINED
PLAN
HIGHWAY DRAIN

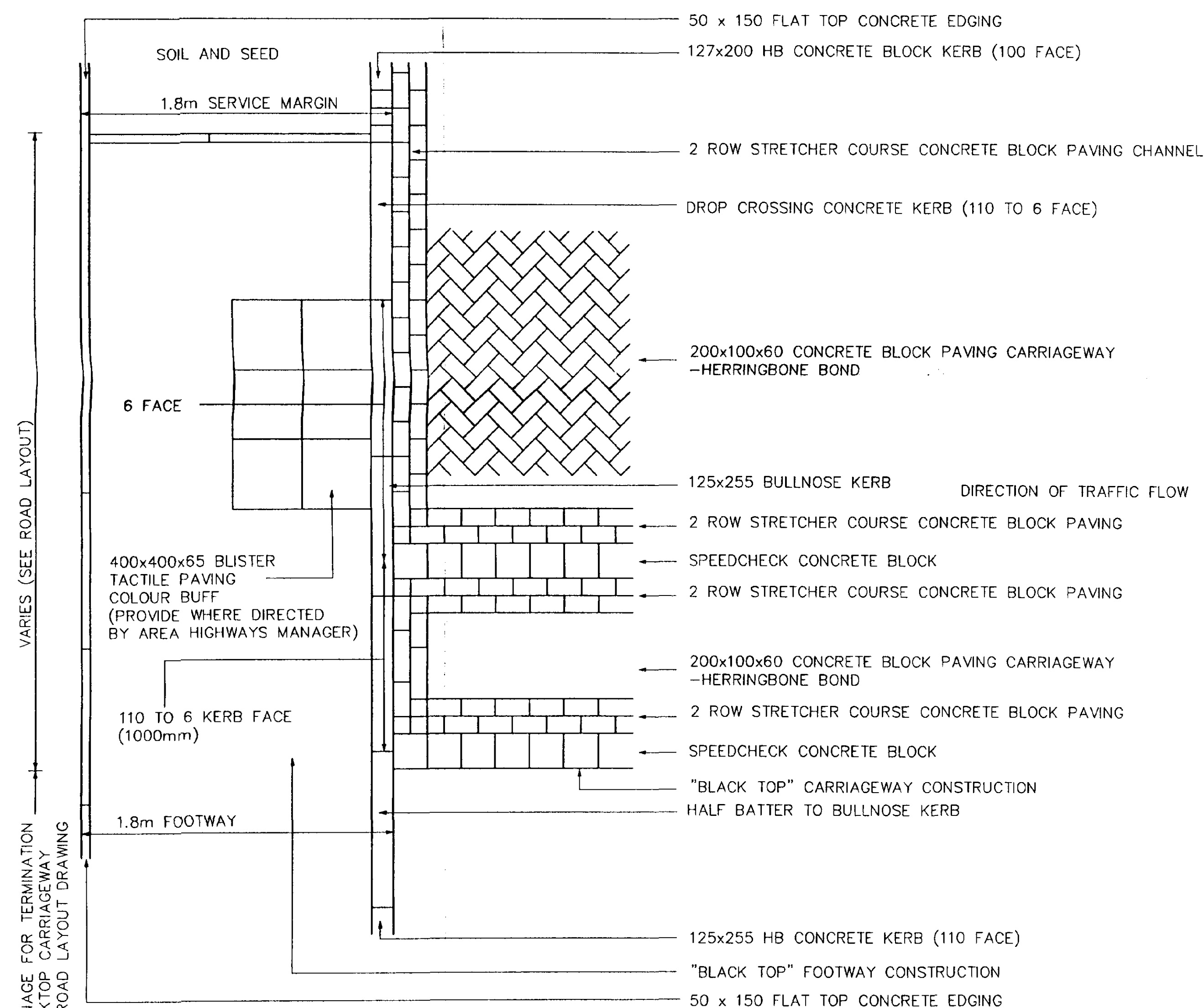
1. GULLY CONNECTIONS 150mm WITH CONCRETE SURROUND

MILL MARSH ROAD - HIGHWAY DRAINAGE

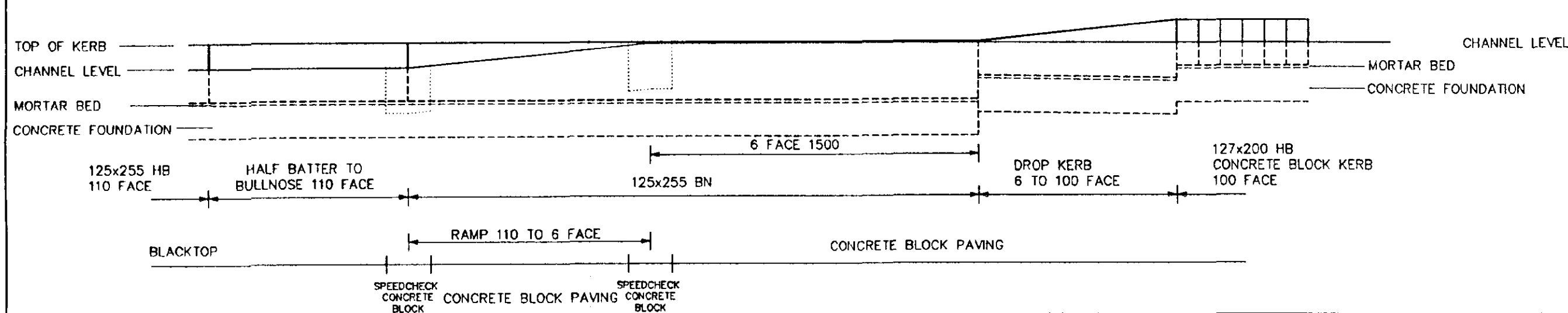
H1 - S1	150mm	1 in 200	33.20m	CONCRETE SURROUND
H2 - H3	150mm	1 in 200	40.0m	CONCRETE SURROUND
H1 AND H2 600x600 BRICK CHAMBER				
H3 OUTFALL BAY BY JKH DRAINAGE UNIT TYPE X				



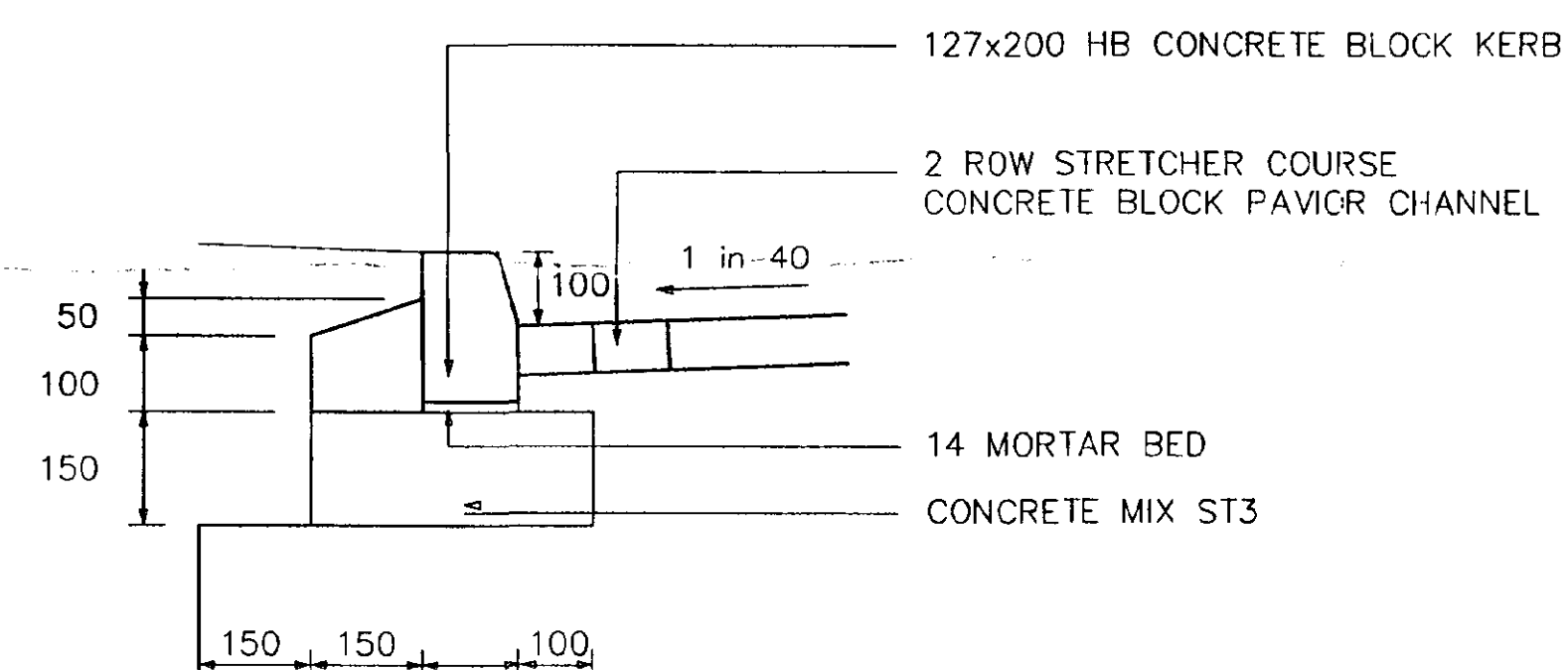
CARRIAGEWAY, SERVICE MARGIN AND VEHICULAR CROSSING – TYPICAL SECTION



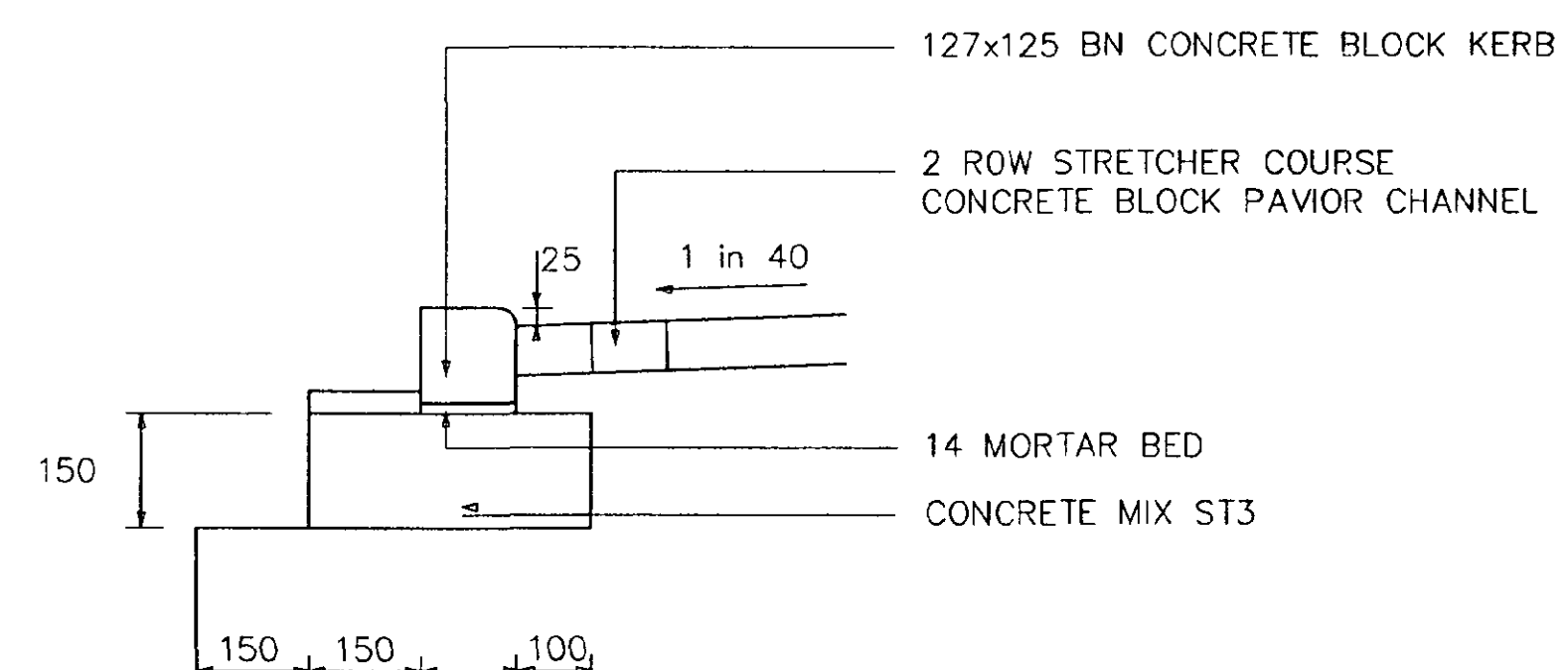
BLOCKWORK LAYOUT AT INTERFACE WITH "BLACKTOP CONSTRUCTION"



ELEVATION OF KERB FACE



CONCRETE BLOCK KERB KERB AND CHANNEL DETAIL



CONCRETE BLOCK KERB BULLNOSE KERB AT VEHICULAR CROSSING

SMALL UNIT CONCRETE BLOCK KERBING

COMPATIBLE UNITS ARE TO BE USED FOR INTERNAL AND EXTERNAL ANGLES, RADII, TRANSITIONS AT CROSSOVERS AND AT CONNECTION TO BS7263 KERBS ETC

Ref 0175/03
Ref 0175/03

DETERMINED
PLAN

HIGHWAYS DEVELOPMENT GROUP
APPROVED DRAWING
16/10/03
D. L. L. SIGNED

HIGHWAYS ACT – SECTION 38

WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH LINCOLNSHIRE COUNTY COUNCIL DEVELOPMENT ROAD LAYOUT GUIDE, SPECIFICATION AND CONSTRUCTION 1999.

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RESIDENTIAL DEVELOPMENT
MILL MARSH ROAD
MOULTON SEA END

TITLE
TYPICAL ROAD DETAILS SHEET 2
CONCRETE BLOCK PAVING

SCALE
N T S

DATE
01.2003

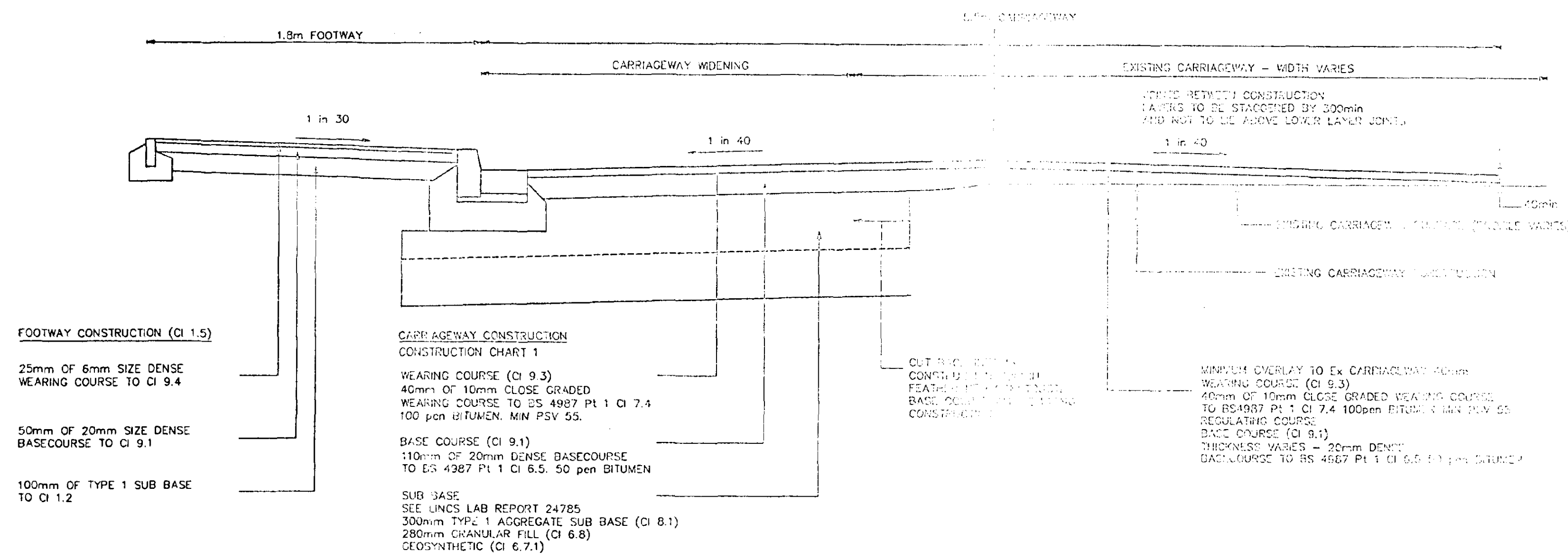
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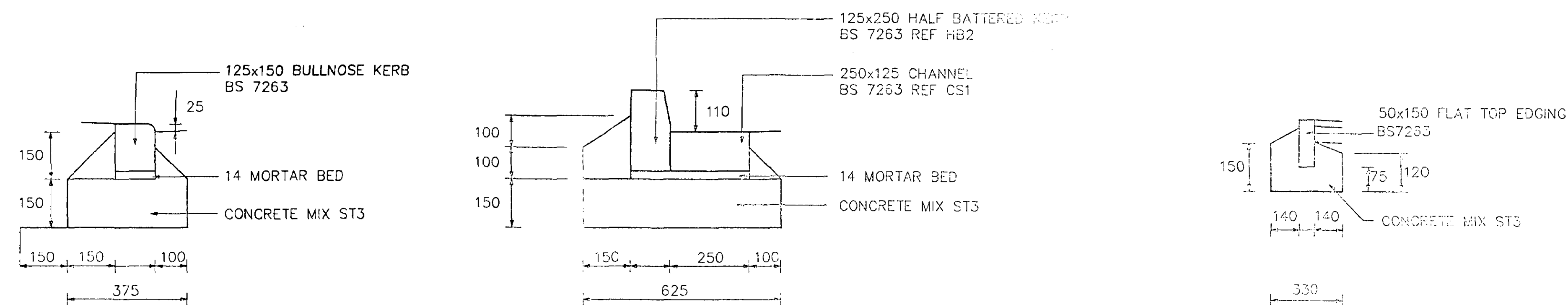
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J388-22A

REV A
02.2003

SUB BASE DESCRIBED
AS Lincs LAB REPORT
24785

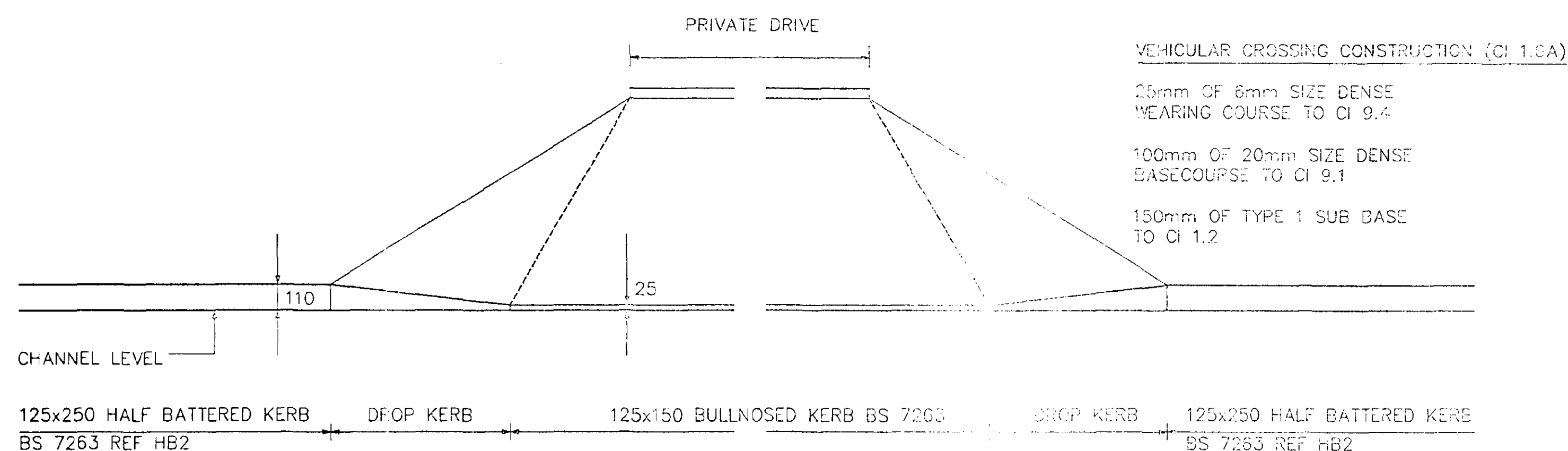


TYPICAL SECTION THROUGH MILL MARSH ROAD



USE AT VEHICULAR CROSSINGS

KERB DETAILS



VEHICULAR CROSSING

CONSTRUCTION REQUIREMENTS BASED ON Lincs LAB REPORT

CARRIAGEWAY WIDENING

LCC CONSTRUCTION CHART 1
 CBR
 FROST SUSCEPTIBLE SUB GRADE
 OVERALL THICKNESS

OVERLAY TO EXISTING CARRIAGEWAY

MINIMUM THICKNESS 40mm
 40mm WEARING COURSE - LCC CONSTRUCTION CHART 1
 REGULATING BASE COURSE - LCC CONSTRUCTION CHART 1

EXISTING PAVEMENT TO BE INSPECTED PRIOR TO WORKS WITH HIGHWAY AUTHORITY OFFICER TO IDENTIFY THE AREAS & TYPE OF REPAIR REQUIRED.

AREAS OF VISIBLE SURFACE DISTRESS, INCLUDING POOR QUALITY TRENCHES TO RECEIVE FULL DEPTH RECONSTRUCTION INCLUDING SUB BASE IF VISUAL INSPECTION OF EXPOSED SUB BASE INDICATES THIS TO BE APPROPRIATE.

HIGHWAYS ACT - SECTION 38

WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH LINCOLNSHIRE COUNTY COUNCIL DEVELOPMENT ROAD LAYOUT GUIDE; SPECIFICATION AND CONSTRUCTION 1999.

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 MILL MARSH ROAD
 MOULTON SEA END

TITLE
 MILL MARSH ROAD
 TYPICAL ROAD DETAILS

SCALE N T S	DATE 01.2003	DRAWN C A D	CHECKED J D S
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 Planning & Development
 18
 Ref 0175/03