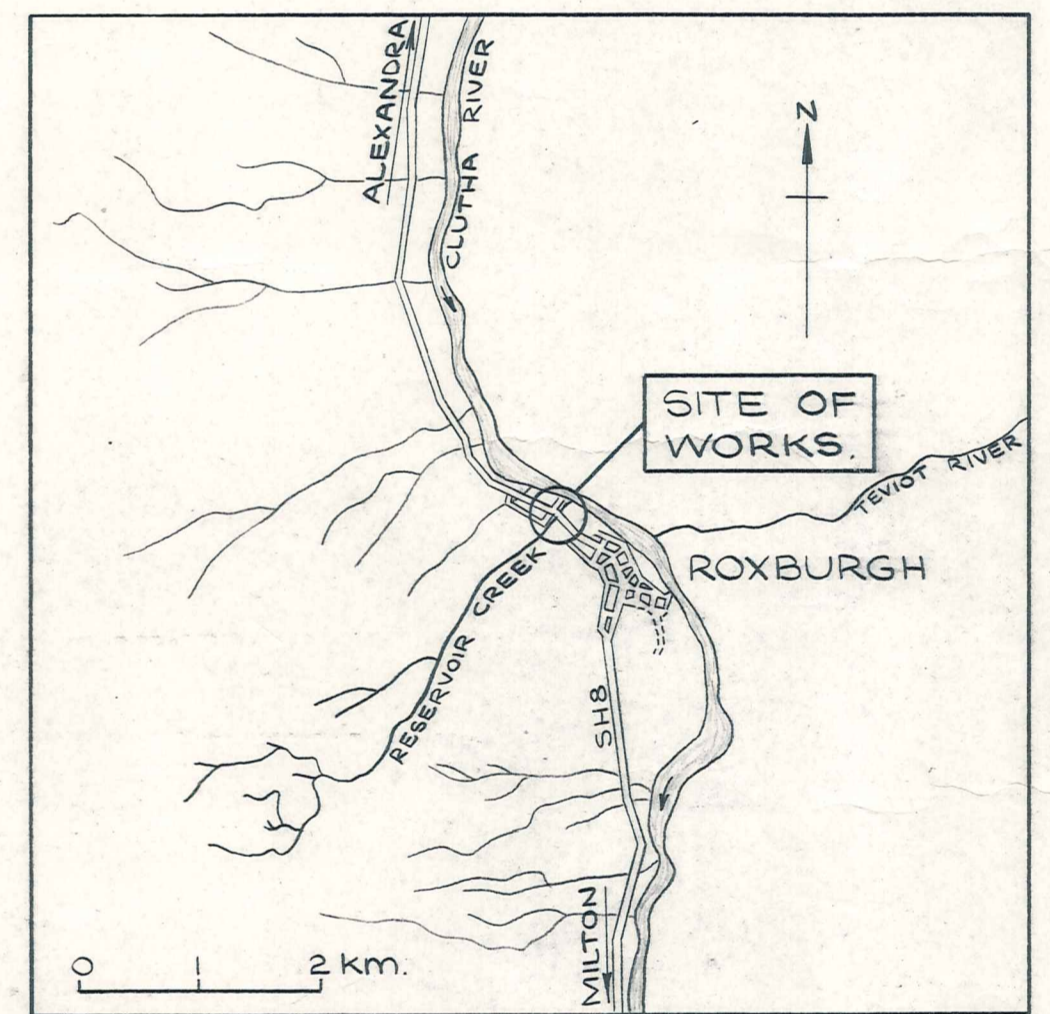


**DESIGN DATA.**  
DESIGN LOADING HN - H0 - 72

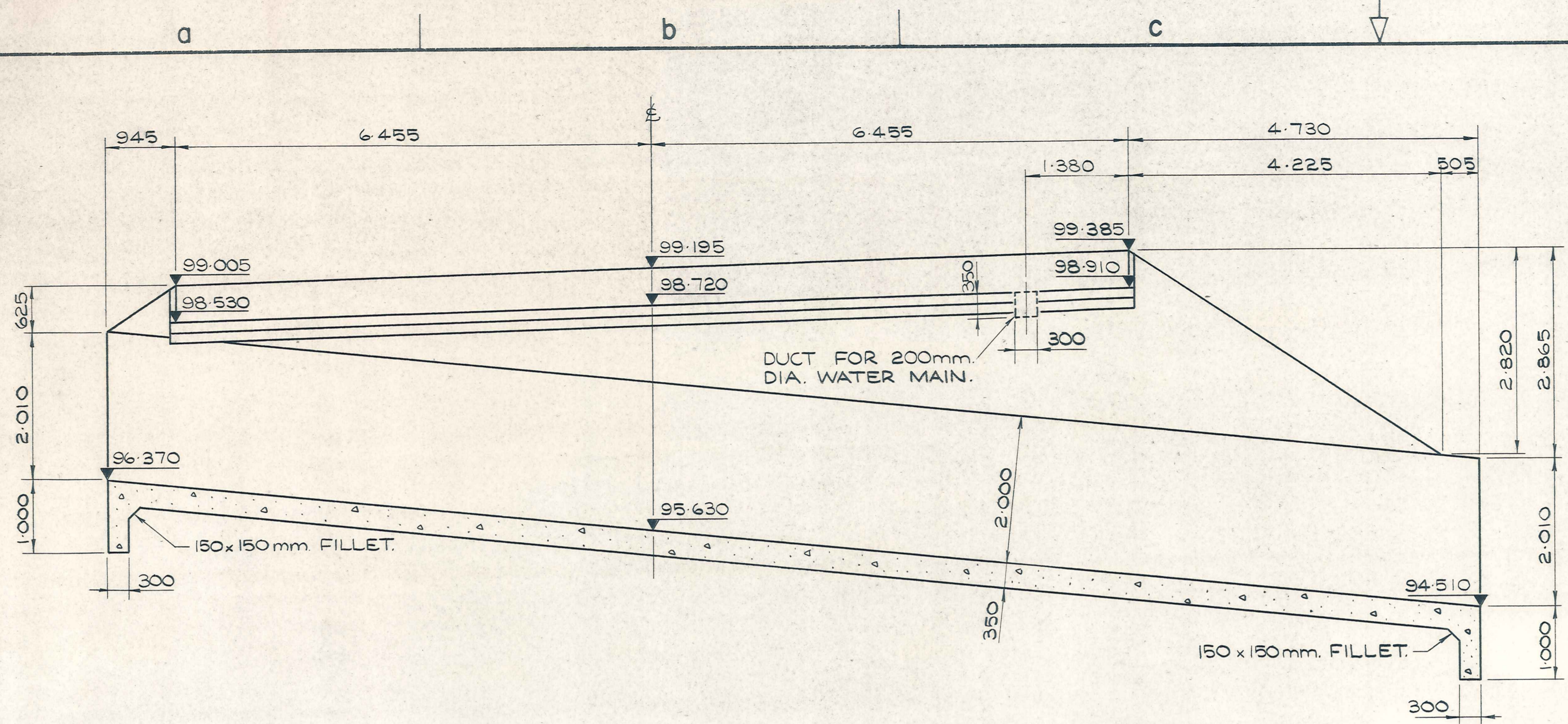


SHEET NO.	SHEET TITLE.
7/80/2/7704/1	LOCALITY AND SITE PLANS, TYPICAL SECTIONS.
"	2 CHANNEL AND ABUTMENT DIMENSIONS.
"	3 " " " "
"	4 CHANNEL AND ABUTMENT REINFORCEMENT.
"	5 CHANNEL AND FRICTION SLAB REINFORCEMENT.
"	6 DECK UNIT DATA.
"	7 DECK UNIT DIMENSIONS AND REINFORCEMENT.
"	8 DECK UNIT VARIATIONS AND LAYOUT.
"	9 FOOTPATH DETAILS.
"	10 HANDRAIL DETAILS.
"	11 ALTERATIONS TO SERVICES.

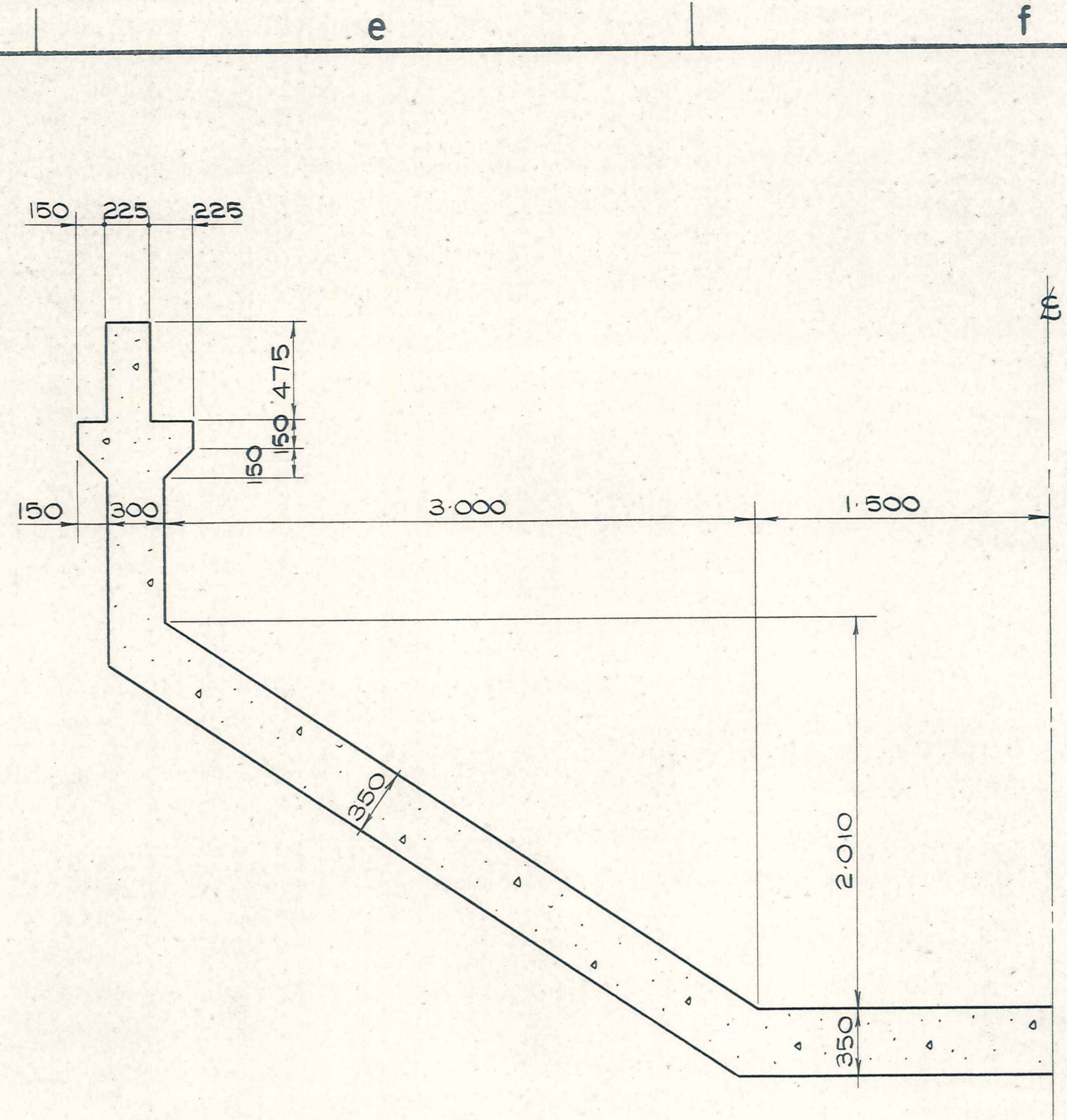
SEE ALSO OTAGO CATCHMENT BOARD PLANS L9645/1-11.

DESIGNED, <i>M. Storr</i>		BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10
DRAWN, <i>L. Bingham</i>				9-80					
DES. SUP. <i>M. Storr</i>				10-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER	CIVIL ENGINEERING DUNEDIN	RESERVOIR CREEK BRIDGE AT RP365/2.43	JOB 7/80/2	CODE 7704
DWG. SUP. <i>M. Storr</i>				10-80					
RECOMMENDED, <i>M. Storr</i>				10-80	APPROVED, <i>B. Buller</i>	CIVIL DESIGN OFFICE.	LOCALITY & SITE PLANS, TYPICAL SECTIONS	SHEET 1	REVISION
AMENDMENTS		BY	APPD.	DATE	DISTRICT DESIGN ENGINEER, <i>M. Storr</i>	N.C. McLEOD Commissioner			

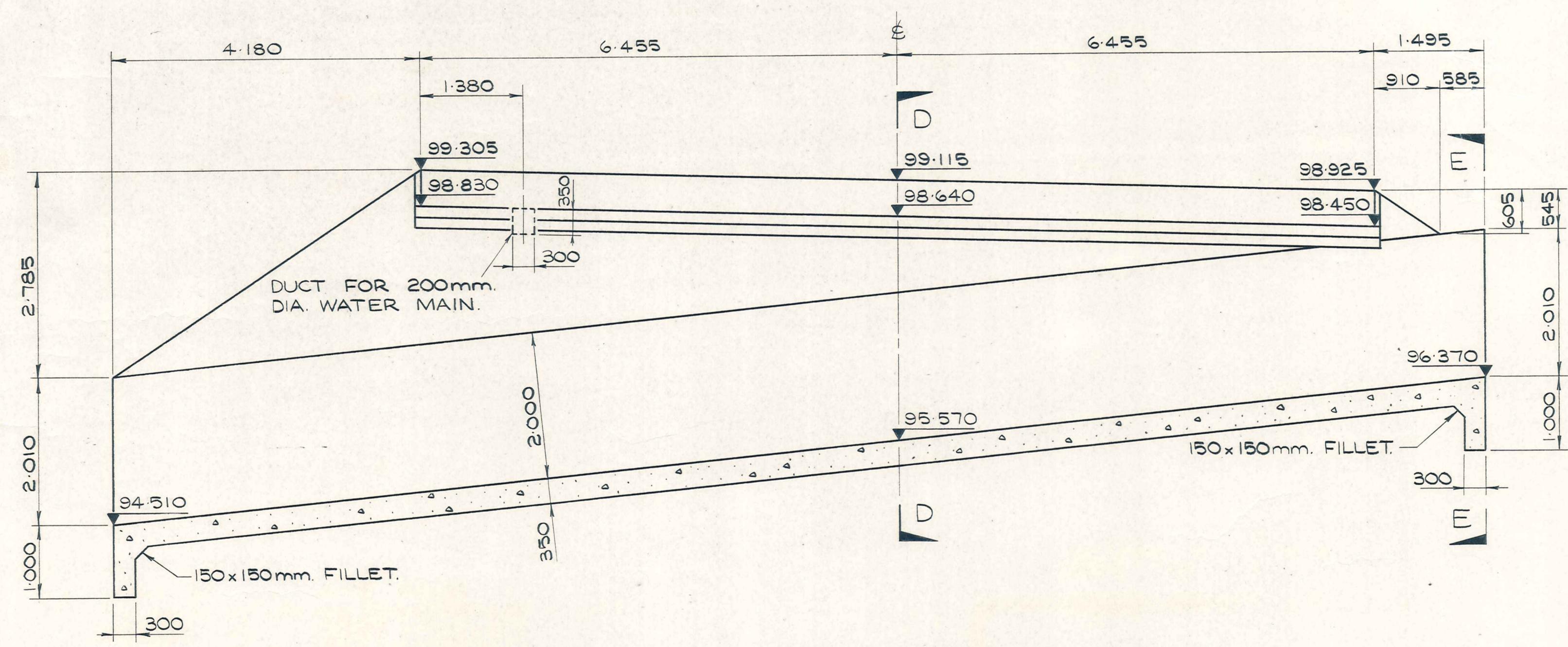




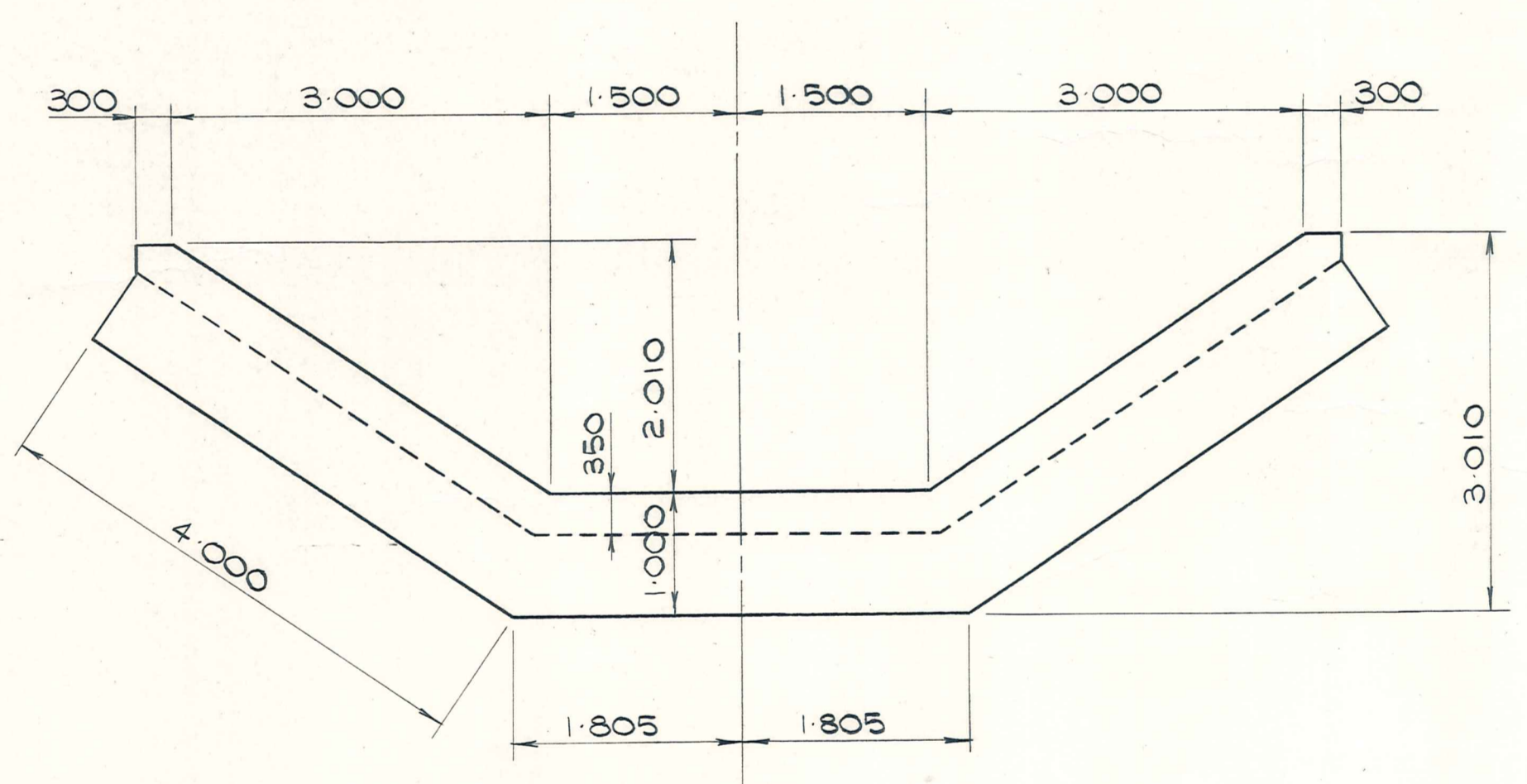
SECTION ON CHANNEL & SHOWING ABUTMENT A.  
1:50.



SECTION D-D.  
1:25.



SECTION ON CHANNEL & SHOWING ABUTMENT B.  
1:50.



SECTION E-E.  
1:50.

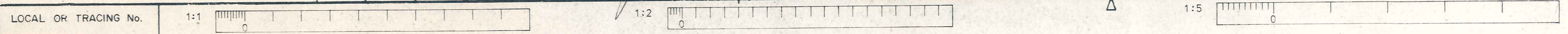
NOTES  
1. ALL EXPOSED CONCRETE EDGES AND CORNERS SHALL HAVE 25x25mm. CHAMFERS OR FILLETS.

DESIGNED	BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365 RESERVOIR CREEK BRIDGE AT RP365/2.43 CHANNEL AND ABUTMENT DIMENSIONS
DRAWN			9-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER		
DES. SUP.			10-80		CIVIL ENGINEERING DUNEDIN	
DWG. SUP.			10-80		CIVIL DESIGN OFFICE.	
RECOMMENDED			28-10-80		N.C. McLEOD Commissioner	

ORIGINAL SCALES	AS SHOWN.	FILE	72/8/17/10
		DOSSIER	147
JOB	CODE	SHEET	REVISION
7/80/2	7704	2	

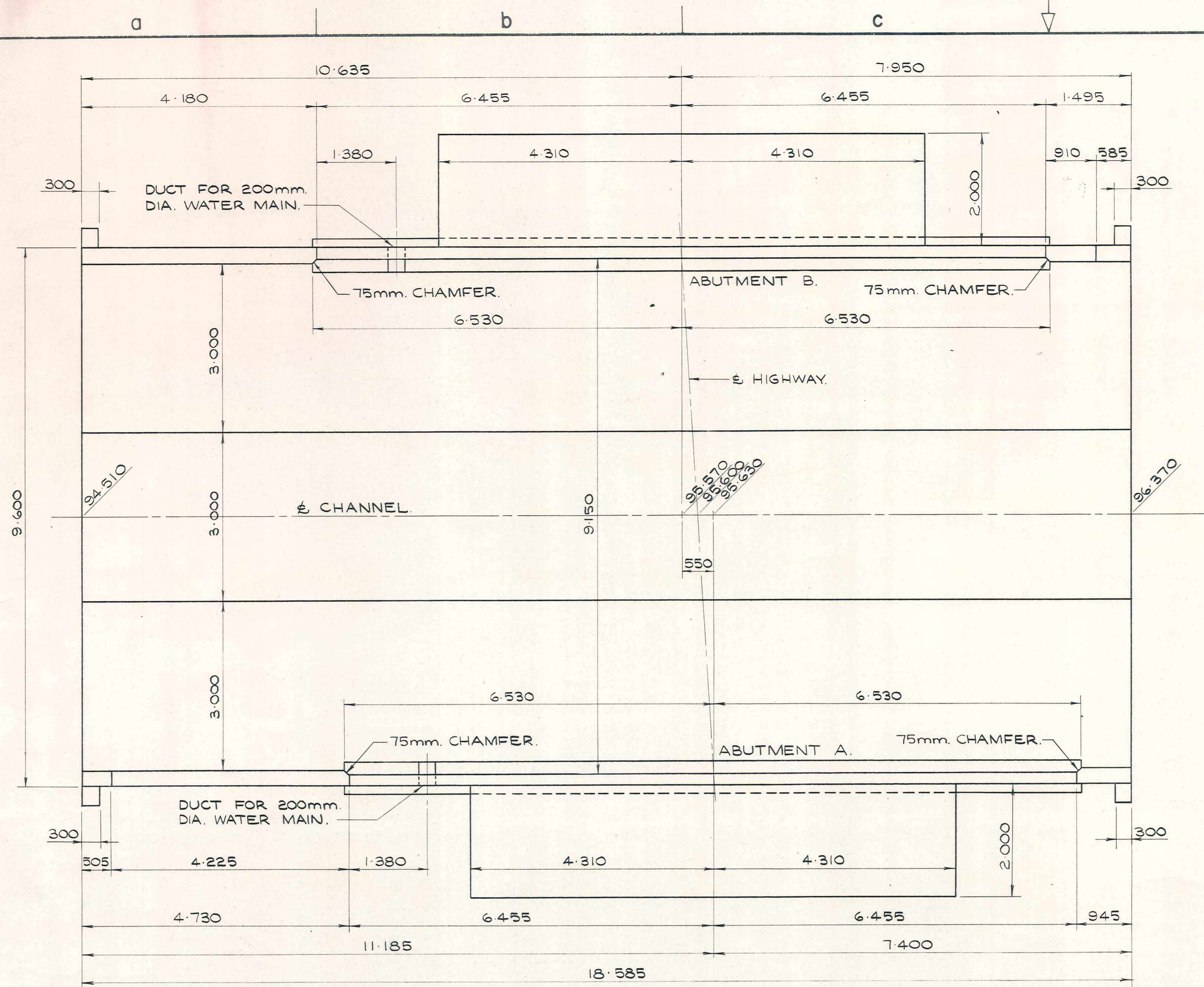
ORIGINAL SIZE  
A1

482-A1  
JAN. 1977



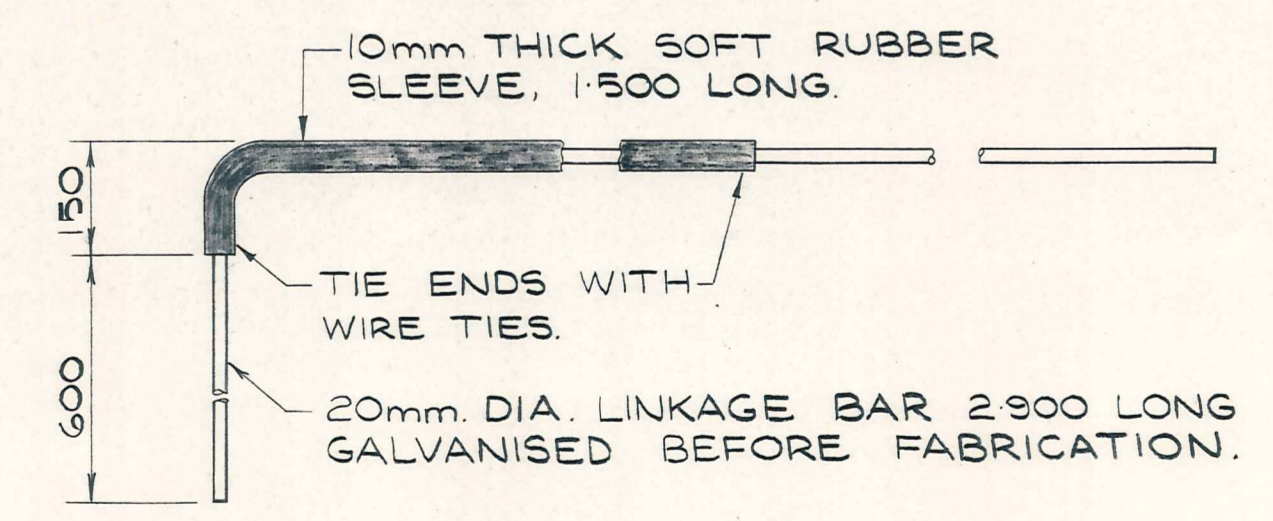
Whole numbers = mm  
Decimalised expressions,  
unless indicated otherw.



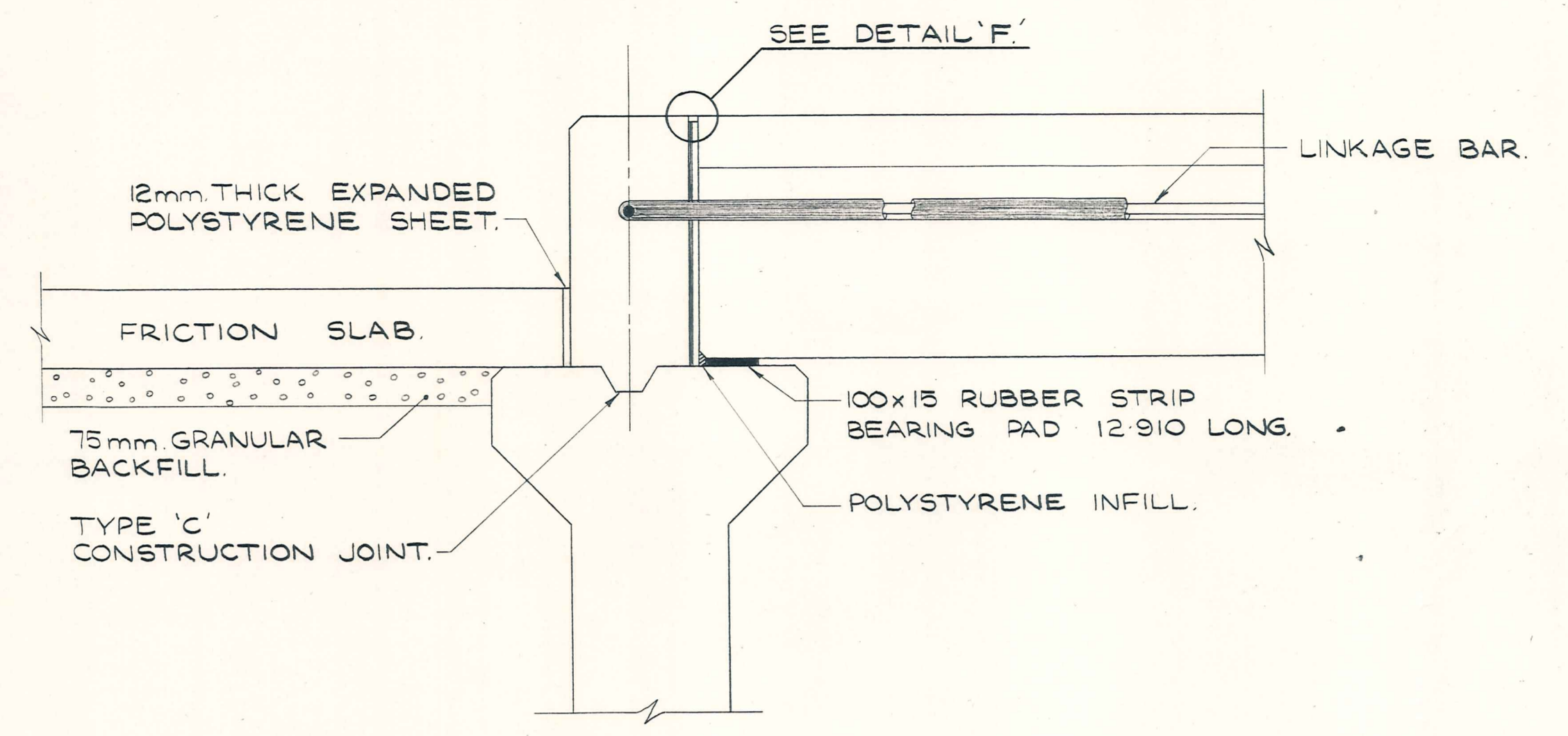


PLAN.  
1:50.

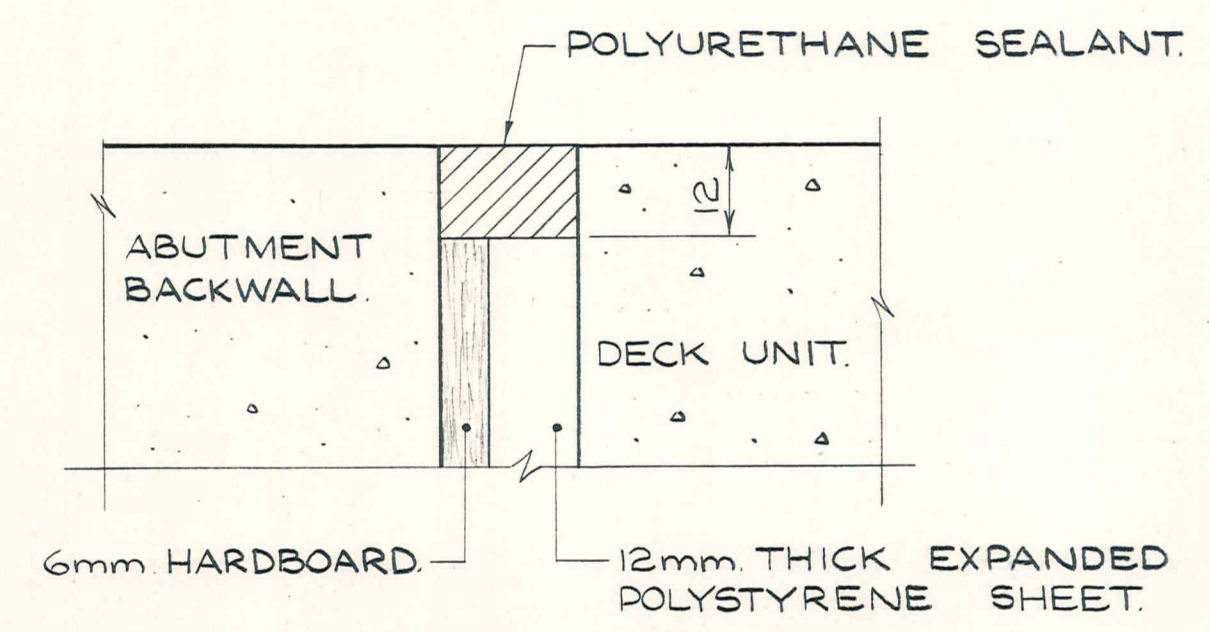
NOTES.  
1. ALL EXPOSED CONCRETE EDGES AND CORNERS SHALL HAVE 25x25mm. CHAMFERS OR FILLETS.



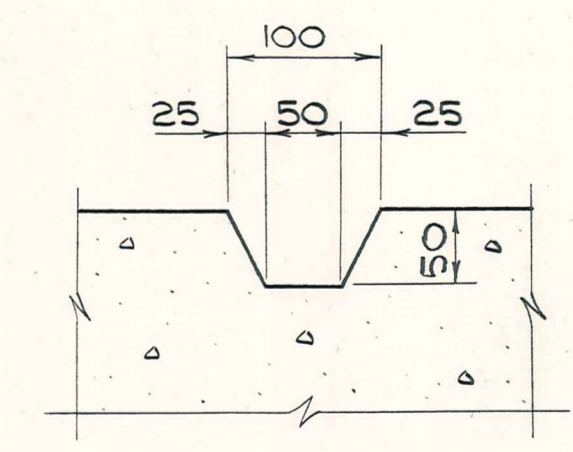
LINKAGE BAR.  
1:10.



ABUTMENT CONNECTION DETAIL.  
1:10.



DETAIL 'F'.  
1:1.

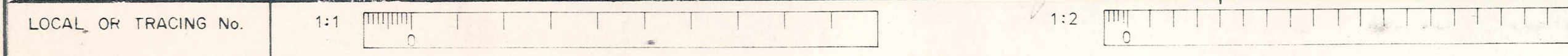


TYPE 'C' C.J.  
1:5.

ORIGINAL SIZE  
A1

DESIGNED BY		CHECKED		DATE		<b>A.G. STIRRAT</b> CHIEF CIVIL ENGINEER <b>J.B.S. HUIZING</b> CHIEF DESIGNING ENGINEER APPROVED <b>N.C. McLEOD</b> Commissioner	Ministry of Works and Development CIVIL ENGINEERING DUNEDIN CIVIL DESIGN OFFICE.	SH8 RD17 RS365 RESERVOIR CREEK CULVERT AT RP365/2.43 CHANNEL AND ABUTMENT DIMENSIONS	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10
DRAWN. <i>C. Baughman</i>		<i>A. Gordon</i>		9-80					DOSSIER 147	
DES. SUP. <i>A. Gordon</i>		<i>C. Baughman</i>		10-80					JOB 7/80/2	
DWG. SUP. <i>A. Gordon</i>		<i>C. Baughman</i>		10-80					CODE 7704	
RECOMMENDED <i>A. Gordon</i>		<i>C. Baughman</i>		28-10-80					SHEET 3	
AMENDMENTS		BY	APPD.	DATE	DISTRICT DESIGN ENGINEER	DISTRICT CIVIL ENGINEER	N.C. McLEOD Commissioner		REVISION	

482-A1  
JAN. 1977



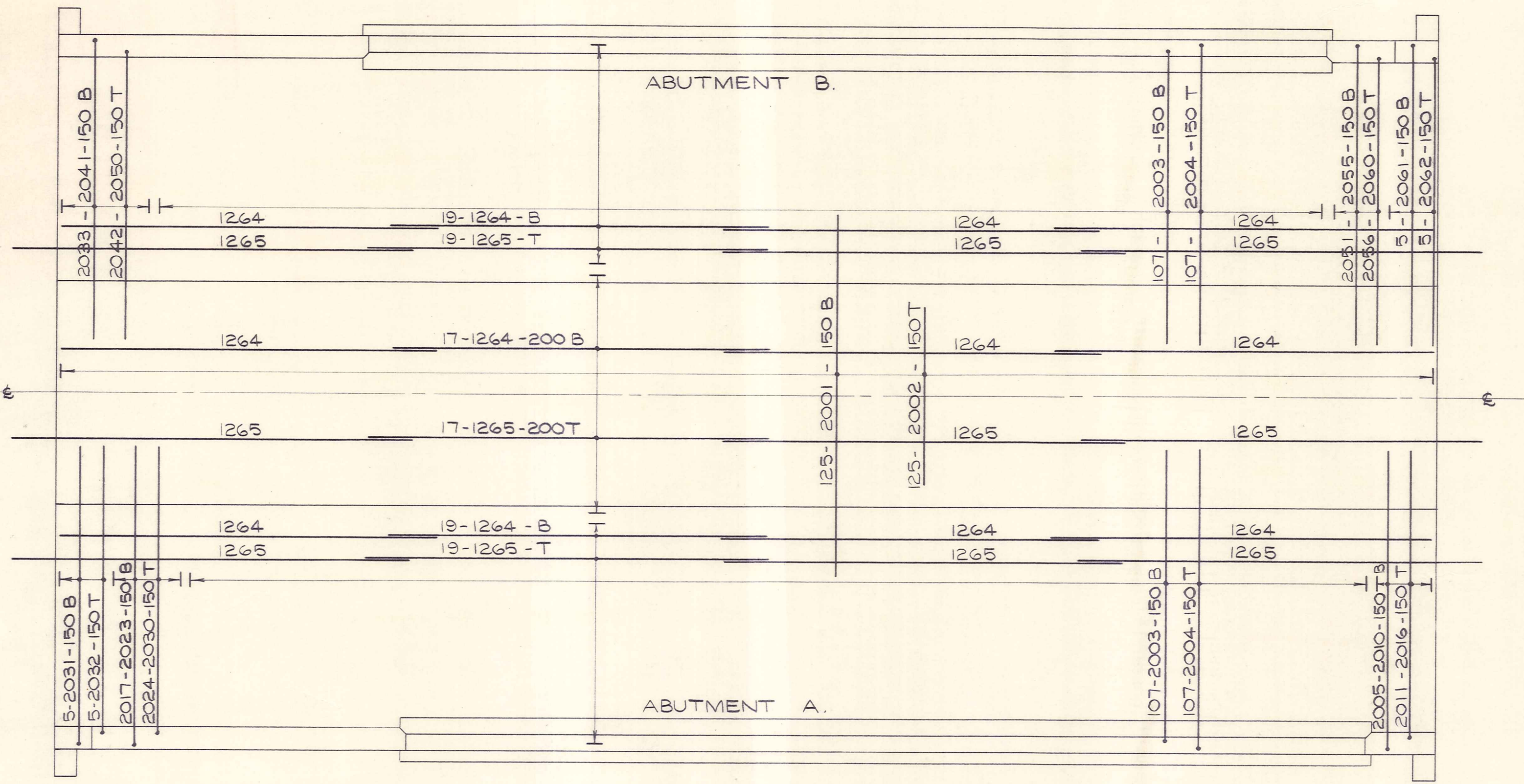
Whole numbers = mm  
Decimalised expressions = m  
unless indicated otherwise



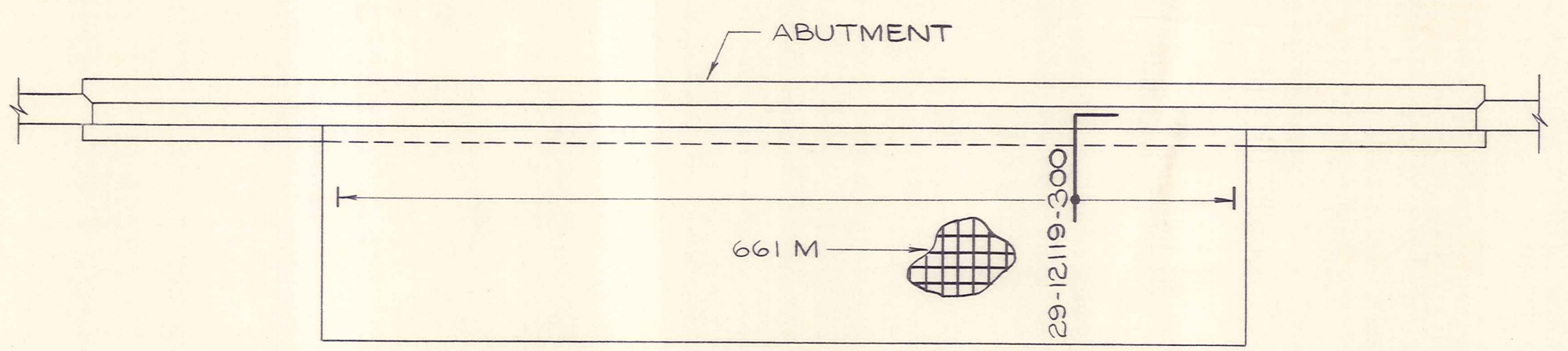




NOTE: ABUTMENT AND CUT-OFF WALL REINFORCEMENT NOT SHOWN.

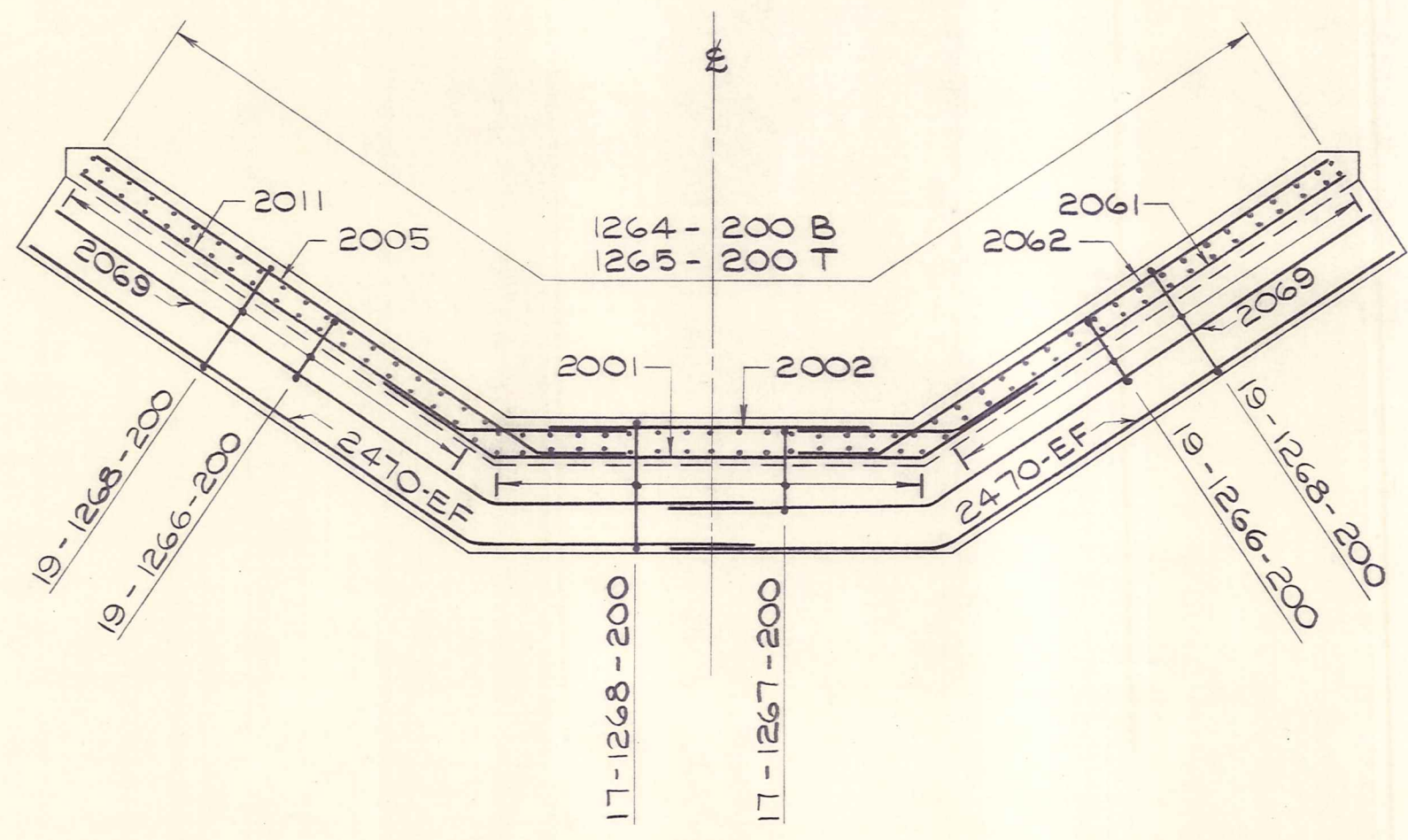


PLAN OF CHANNEL REINFORCEMENT.  
1:50

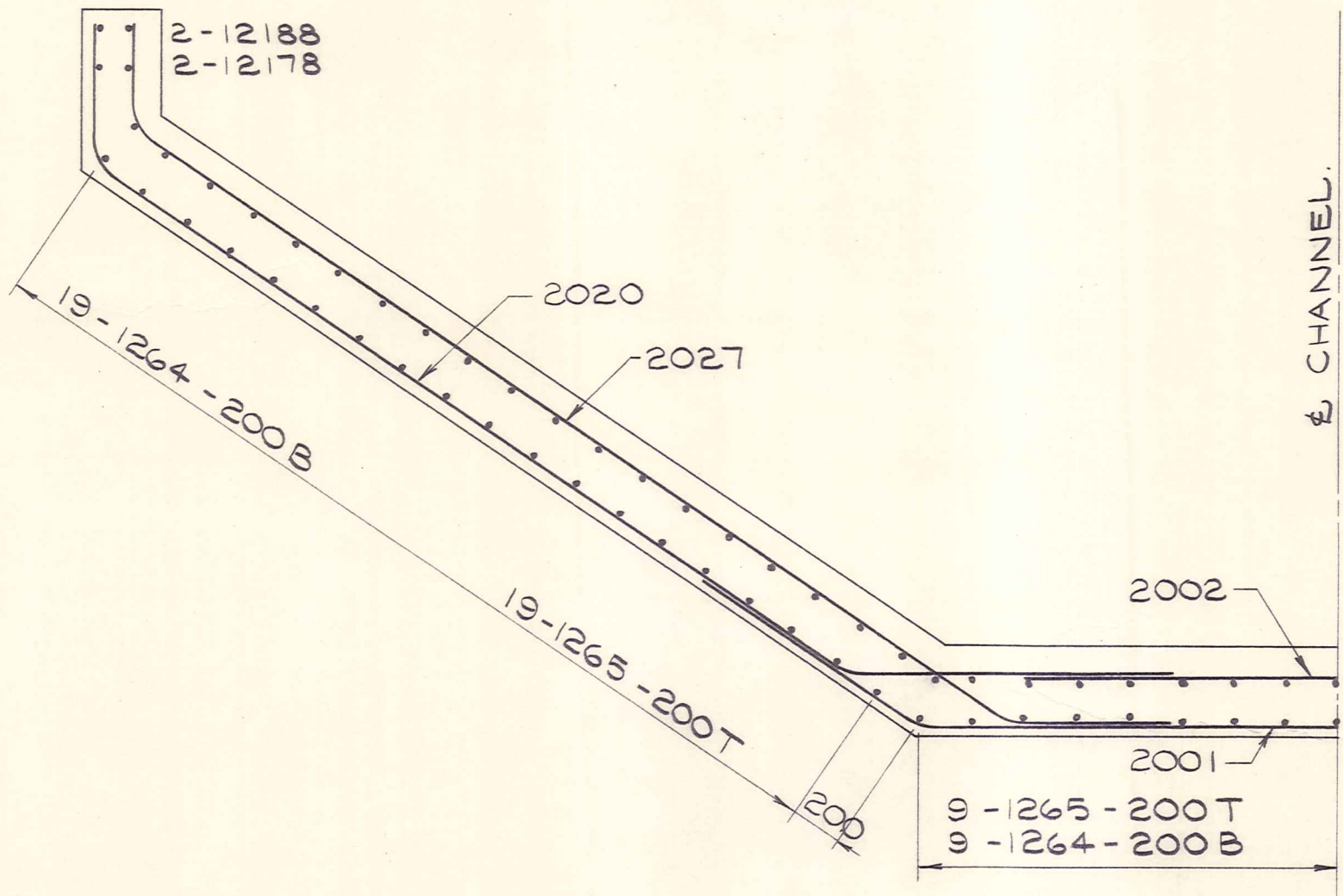


PLAN OF FRICTION SLAB REINFORCEMENT.  
1:50

NOTE: UPSTREAM CUT-OFF WALL DRAWN, DOWNSTREAM WALL SIMILAR.



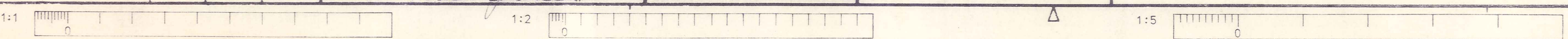
CUT-OFF WALL REINFORCEMENT.  
1:50



SECTION J-J.  
1:25  
(SEE SHEET 4.)

- NOTES:
1. NUMBERS IN A SERIES START AT THE UPSTREAM END OF THE SERIES.
  2. MINIMUM COVER TO REINFORCEMENT TO BE 30mm. UNLESS SHOWN OTHERWISE.
  3. ALL BARS ON THIS SHEET ARE PREFIXED IS IN THE SCHEDULE.

DESIGNED		BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10		
DRAWN					J.B.S. HUIZING CHIEF DESIGNING ENGINEER				CIVIL ENGINEERING DUNEDIN	DOSSIER 147	
DES. SUP.					APPROVED	CIVIL DESIGN OFFICE.	RESERVOIR CREEK BRIDGE AT RP365/2.43	JOB	CODE	SHEET	REVISION
DWG. SUP.					DISTRICT DESIGN ENGINEER	N.C. McLEOD Commissioner	CHANNEL & FRICTION SLAB REINFORCEMENT	7/80/2	7704	5	
RECOMMENDED											
AMENDMENTS		BY	APPD.	DATE							



Whole numbers = mm  
Decimalised expressions = m  
unless indicated otherwise



1. UNIT DETAILS

UNIT DEPTH		458mm							575mm						
UNIT SPAN		6m	7m	8m	9m	10m	11m	12m	13m	12m	13m	14m	15m	16m	
OVERALL LENGTH (m)		6.3	7.3	8.3	9.3	10.3	11.3	12.3	13.3	12.3	13.3	14.3	15.3	16.3	
12.5mm STRANDS	NUMBER	8	10	11	13	14	16	8	20	19	21	22	24	26	
	TOTAL LENGTH (m)	52.0	75.0	93.5	23.5	47.0	84.0	225.0	270.0	237.5	283.5	339.0	372.0	429.0	
REINFORCEMENT	TOTAL WEIGHT (kg)	67	76	81	90	95	105	109	119	98	101	107	112	117	
	TOTAL WEIGHT (kg)	67	76	81	90	95	105	109	119	98	101	107	112	117	
CONCRETE VOLUME PER UNIT	INNER UNIT (m <sup>3</sup> )	1.69	1.95	2.2	2.46	2.73	2.99	3.24	3.50	4.53	4.90	5.26	5.63	5.99	
	OUTER UNIT (m <sup>3</sup> )	1.73	1.99	2.26	2.52	2.79	3.06	3.32	3.59	4.61	4.98	5.35	5.73	6.10	
HANDLING MASS	INNER UNIT (tonnes)	4.4	5.1	5.7	6.4	7.1	7.8	8.4	9.1	11.8	12.7	13.7	14.6	15.6	
	OUTER UNIT (tonnes)	4.5	5.2	5.9	6.6	7.3	8.0	8.6	9.3	12.0	12.9	13.9	14.9	15.9	
STIRRUPS	NR OFF 1001	28	32	34	38	40	44	46	50	40	44	46	48	50	
	NR OFF 1002	56	64	68	76	80	88	92	100	80	88	92	96	100	

NOTES: 1. STRAND LENGTH IS BASED ON NOMINAL LENGTH + 0.5m  
2. ASSUMED CONCRETE DENSITY 2600 kg/m<sup>3</sup>.

2. PRESTRESSING FORCES AT INITIAL TENSIONING

UNIT SPAN		6m	7m	8m	9m	10m	11m	12m	13m	12m	13m	14m	15m	16m
TOTAL PER UNIT (kN)	LONGITUDINAL STRESSING	977	1221	1343	1587	1709	1954	2198	2442	2320	2564	2686	2931	3175

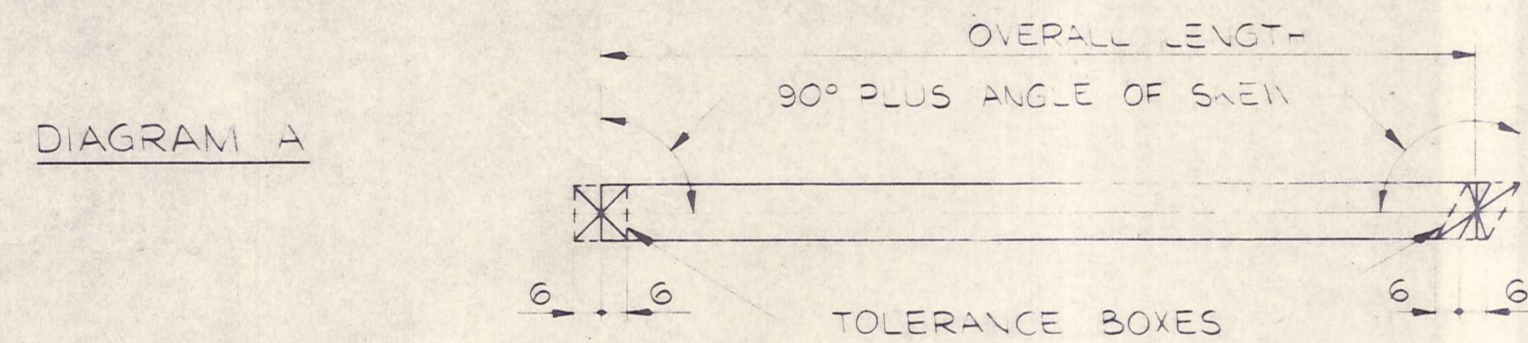
NOTE: 12.5mm STRAND IS ASSUMED TO HAVE A CHARACTERISTIC STRENGTH OF 165 kN PER STRAND.

3. TOLERANCES

3.1 DIMENSIONS AT TIME OF ERECTION

ACTUAL OVERALL LENGTH AND SQUARENESS.

THE UNIT END SURFACES SHALL LIE WITHIN THE TOLERANCE BOXES SHOWN IN DIAGRAM A.

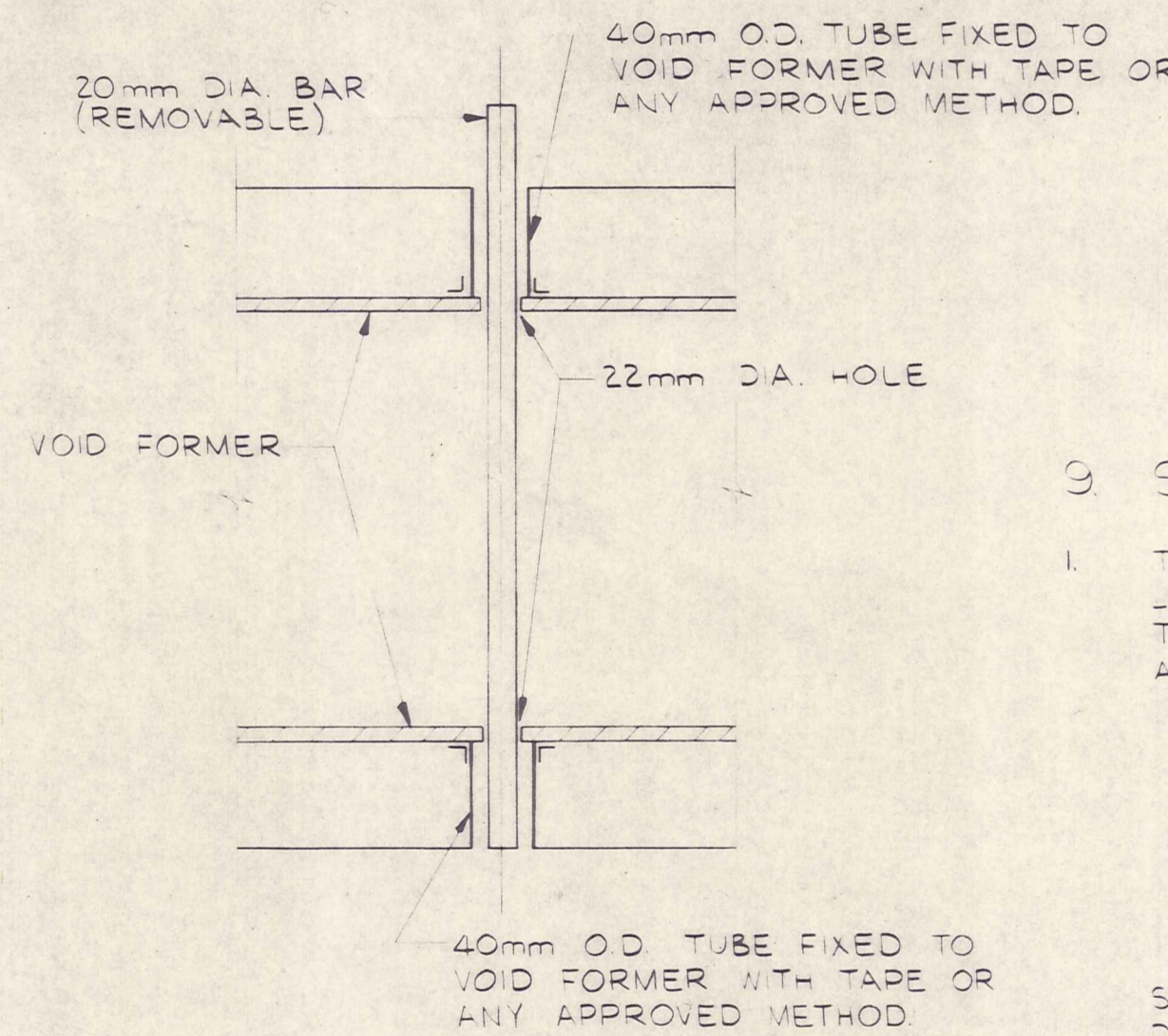


- a. OVERALL LENGTH
- b. PLANE SURFACE - DEVIATION FROM 15m STRAIGHT EDGE
- c. ALL CROSS SECTIONAL DIMENSIONS
- d. DIFFERENCE IN LEVEL OF TOP SURFACE BETWEEN ADJACENT UNITS IN PLACE
- e. HORIZONTAL DEVIATION (SEE SPECIFICATION)
- f. SMALLEST WEB THICKNESS
- g. SMALLEST FLANGE THICKNESS
- h. DIAPHRAGM THICKNESS
- i. HOGGING VARIATION (SEE SPECIFICATION)

UNIT DEPTH		458mm	575mm
a.	OVERALL LENGTH	± 2mm	± 3mm
b.	PLANE SURFACE - DEVIATION FROM 15m STRAIGHT EDGE	6mm	6mm
c.	ALL CROSS SECTIONAL DIMENSIONS	± 6mm	± 6mm
d.	DIFFERENCE IN LEVEL OF TOP SURFACE BETWEEN ADJACENT UNITS IN PLACE	± 2mm	± 5mm
e.	HORIZONTAL DEVIATION (SEE SPECIFICATION)	6mm	6mm
f.	SMALLEST WEB THICKNESS	6mm-4mm	6mm-4mm
g.	SMALLEST FLANGE THICKNESS	± 6mm	± 6mm
h.	DIAPHRAGM THICKNESS	± 2mm	± 2mm
i.	HOGGING VARIATION (SEE SPECIFICATION)	± 2mm	± 5mm

3.2 LOCATION OF STEEL AND CAST-IN ITEMS

- a. PRESTRESSING STRANDS IN ANY DIRECTION. ± 3mm
- b. LOCATION OF AN ITEM IN RELATION TO ANY OTHER ITEM WITHIN ITS GROUP ± 10mm
- c. TRANSVERSE DUCT POSITION ± 6mm



INSPECTION AND DRAINAGE HOLE DETAILS

4. CONCRETE COVER

COVER TO ALL PRESTRESSING COMPONENTS 40mm  
COVER TO ALL REINFORCING STEEL 30mm OR AS SHOWN  
COVER ADJACENT TO CORED HOLES 10mm

5. DESIGN LOADING: HN-HO-72

6. SPECIFICATION

THIS DESIGN IS BASED ON MATERIALS AND WORKMANSHIP BEING IN ACCORDANCE WITH THE CURRENT M.W.D. SPECIFICATION CD 201.

7. HANDLING

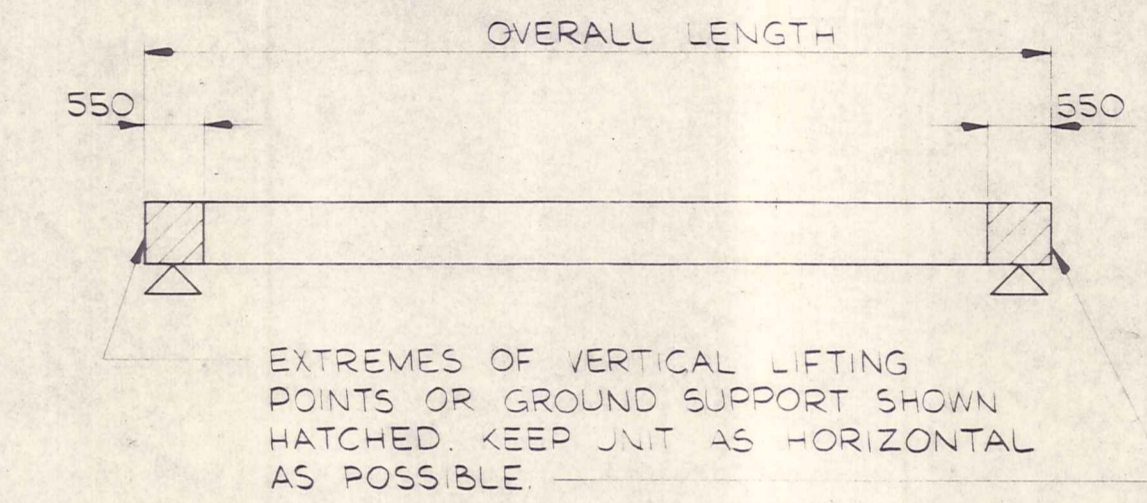
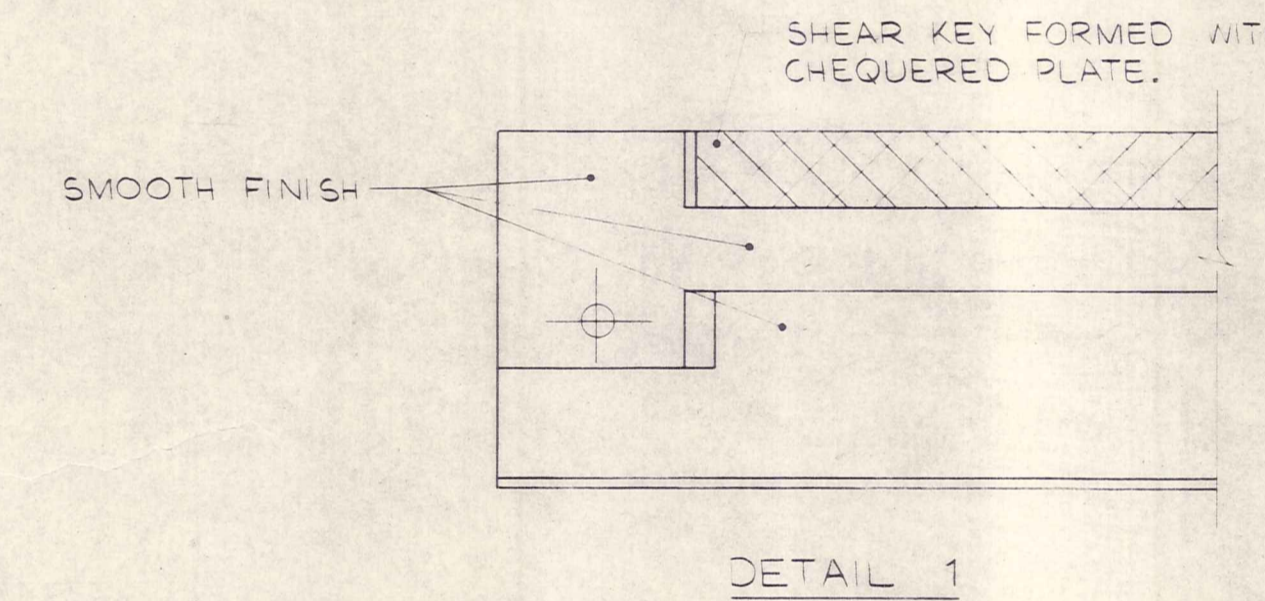


DIAGRAM B

8. SURFACE FINISHES

- a. TOP SURFACE - BROOM FINISH AS SPECIFIED IN CLAUSE 6.6.6 OF CD 101.
- b. SIDE AND UNDERSIDE SURFACE - SMOOTH FINISH EXCEPT SHEAR KEY. SEE DETAIL 1.

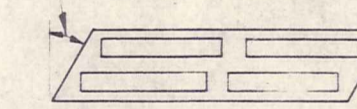


DETAIL 1

9. SKEW

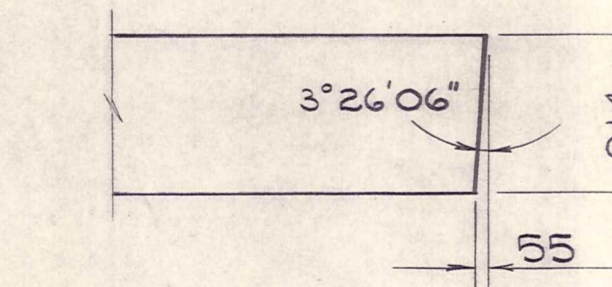
- a. THE MAXIMUM PERMISSIBLE SKEW OF THE UNITS SHALL BE 20° UNLESS A SPECIFIC LIVE LOAD ANALYSIS IS MADE. THE CORES SHALL BE STAGGERED TO ALLOW SKEW OF THE TRANSVERSE DUCT. THE END OF THE UNIT SHALL BE SKEWED TO THE REQUIRED ANGLE. SEE DETAIL 2.

MAXIMUM 20°



DETAIL 2

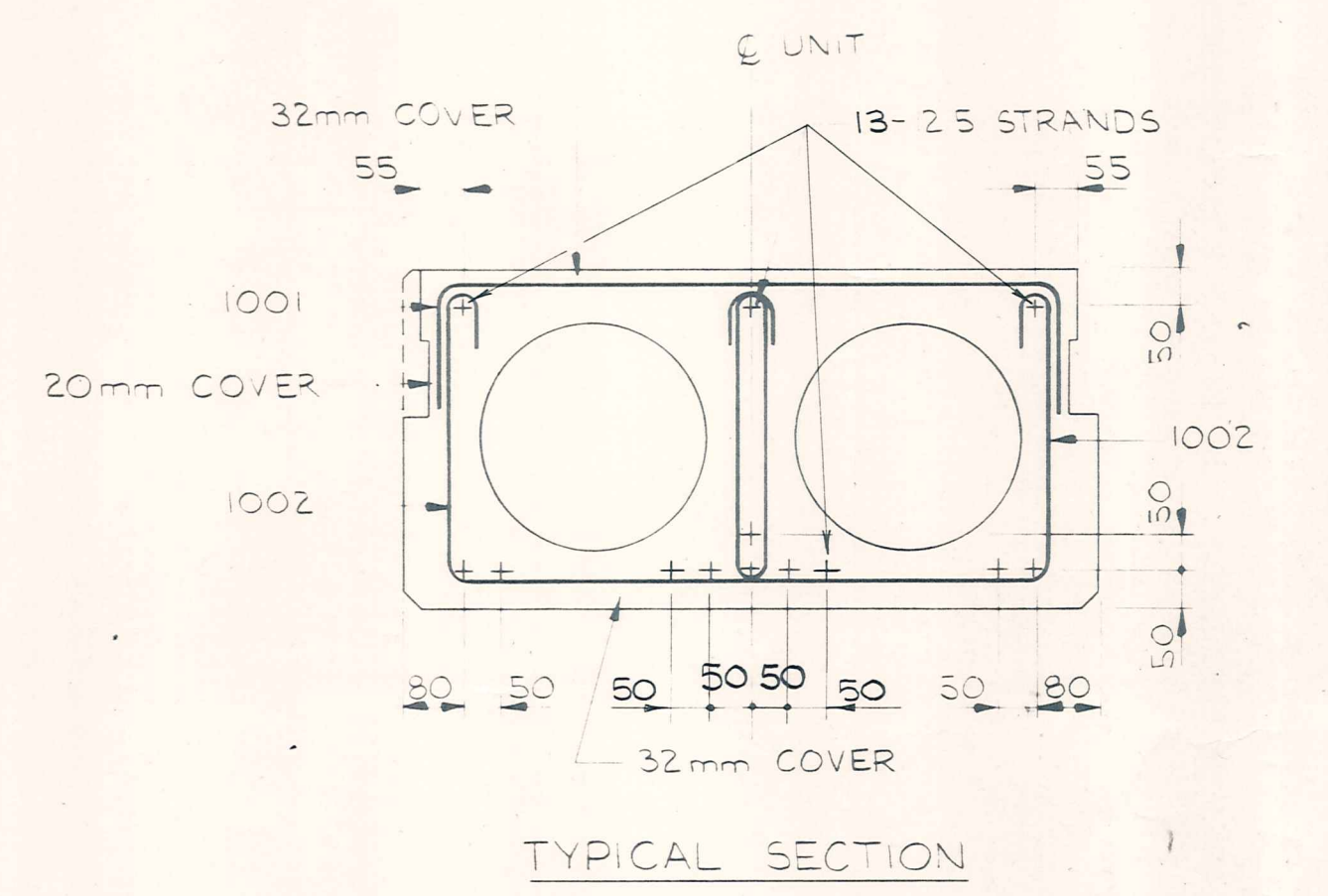
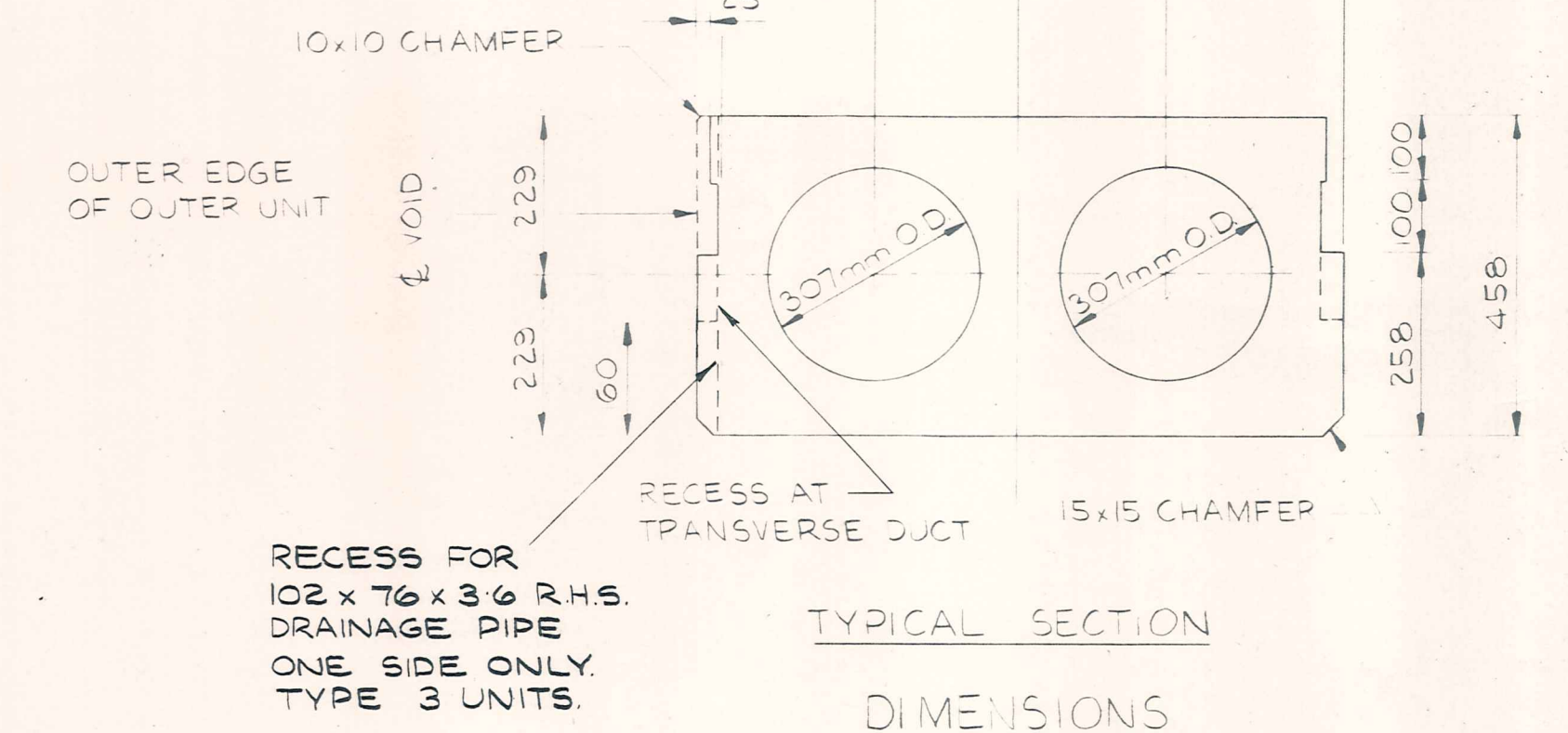
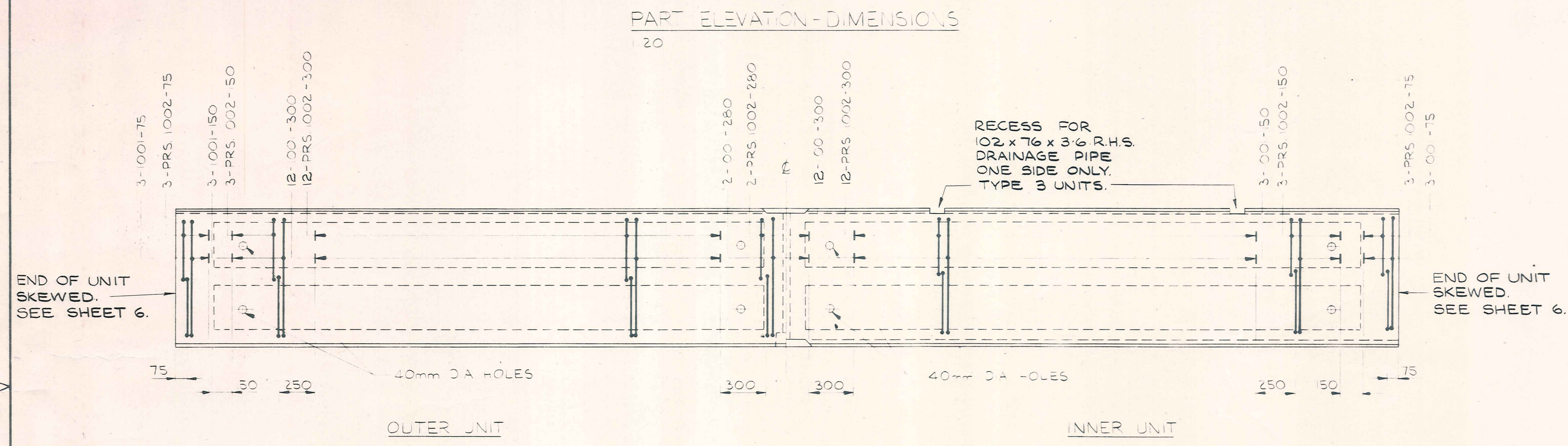
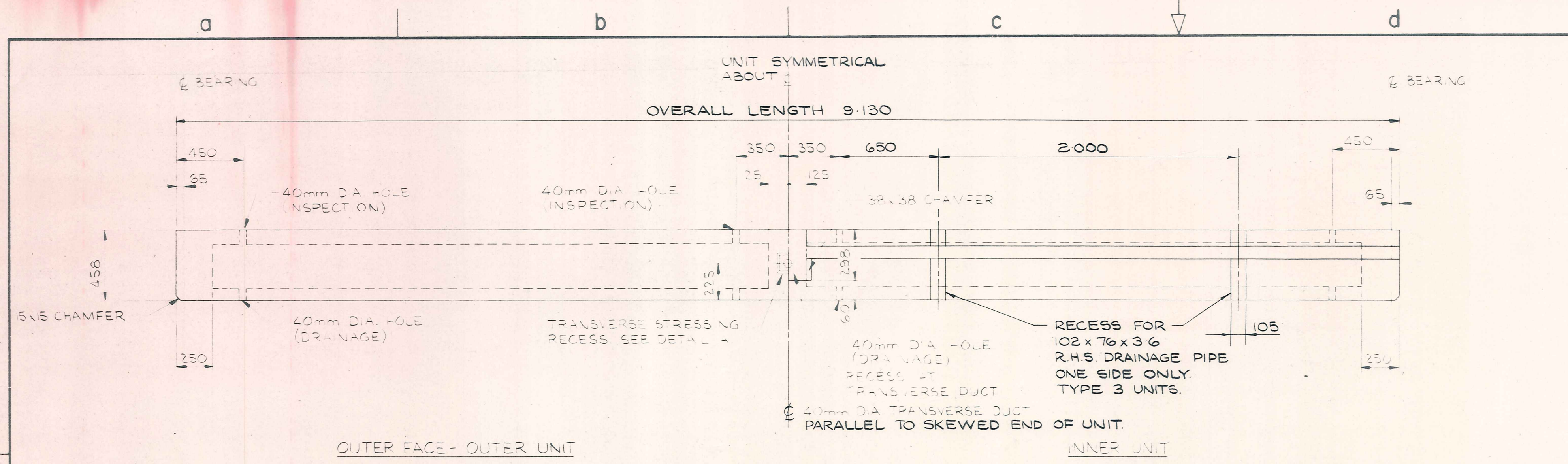
STIRRUPS SHALL BE RIGHT TO & EXCEPT WITHIN 10m OF EACH END AND MIDSPAN DIAPHRAGM WHERE THEY ARE TO FAN SO AS TO BE PARALLEL TO THE LINE OF SKEW.



SKEW DIMENSIONS.

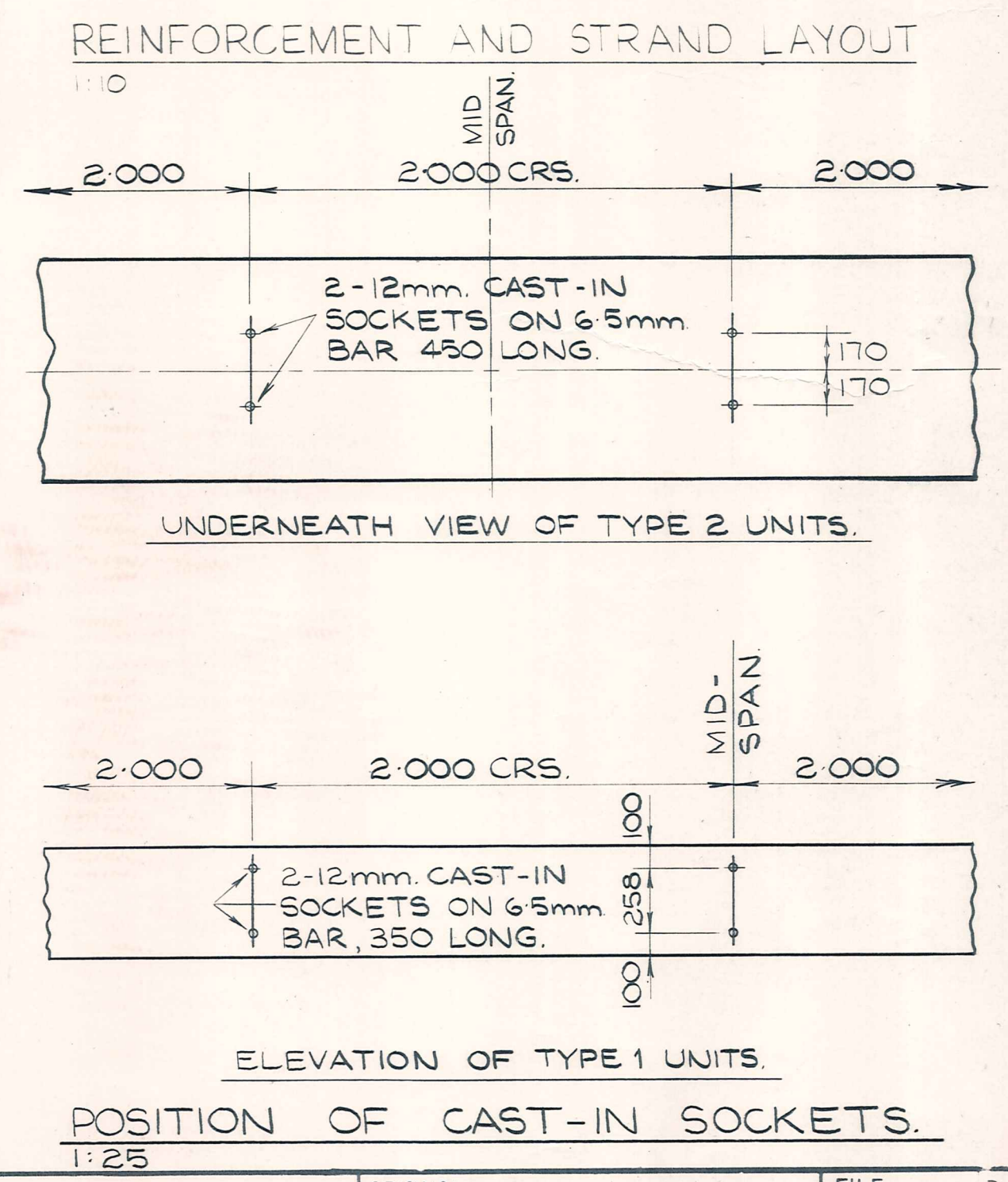
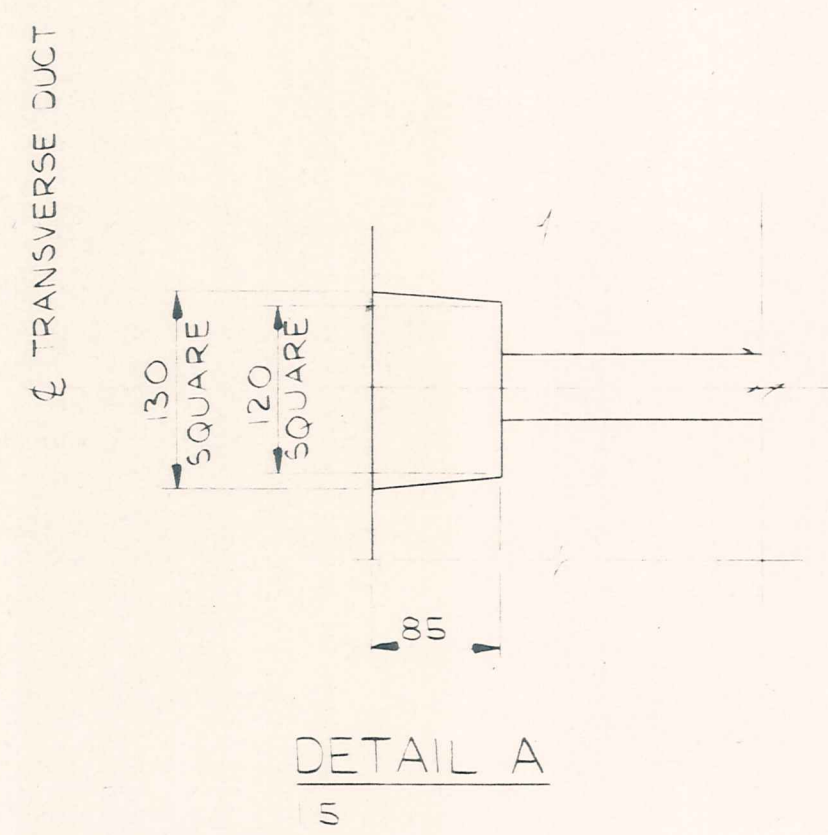
DESIGNED		TL HARRIS	Z. Wierzbicki	1976	A. G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH 8 RD 17 RS 365	RESERVOIR CREEK BRIDGE AT RP365/2.43	DECK UNIT DATA	ORIGINAL SCALES	NOT TO SCALE	FILE	DOSSIER										
DRAWN		M.E. McCORMACK	Z. Wierzbicki	9/76						CIVIL ENGINEERING	HEAD OFFICE	7/80/2	7704	6									
TRACED		M.E. McCORMACK	Z. Wierzbicki	9/76											APPROVED J.B.S. HUIZING CHIEF DESIGNING ENGINEER	N.C. McLEOD Commissioner							
DRG SUPVD		M.E. McCORMACK	Z. Wierzbicki	10/76																			
DES SUPVD		Z. Wierzbicki	Z. Wierzbicki	1976																			
RECOMMENDED		G. HULL	Z. Wierzbicki	22/11/76																			
AMENDMENTS	BY	APP'D	DATE																				





REINFORCEMENT SCHEDULE (FOR ONE UNIT)			
MARK	NO OFF	LENGTH	SHAPE (NTS)
001	38	1130	
002	76	1360	

- NOTES**
- RECESS FOR TRANSVERSE STRESSING IN OUTER UNIT SHALL BE DIMENSIONED TO SUIT THE PRESTRESSING SUPPLIERS RECOMMENDATIONS FOR THE SYSTEM USED.
  - STRANDS SHALL BE RELEASED SLOWLY AND AFTER RELEASE SHALL BE CUT AND GROUND OFF FLUSH WITH THE CONCRETE AT THE END OF THE UNIT. A PROTECTIVE COATING OF COAL TAR EPOXY SHALL BE APPLIED AS SPECIFIED BEFORE THE UNIT LEAVES THE CASTING YARD.
  - INSPECTION HOLES SHALL EXTEND TO THE VOID FORMER ONLY AND SHALL BE MORTARED UP AFTER FINAL INSPECTION OF THE UNITS. DRAINAGE HOLES SHALL EXTEND THROUGH THE VOID FORMERS AND INTO THE VOID.

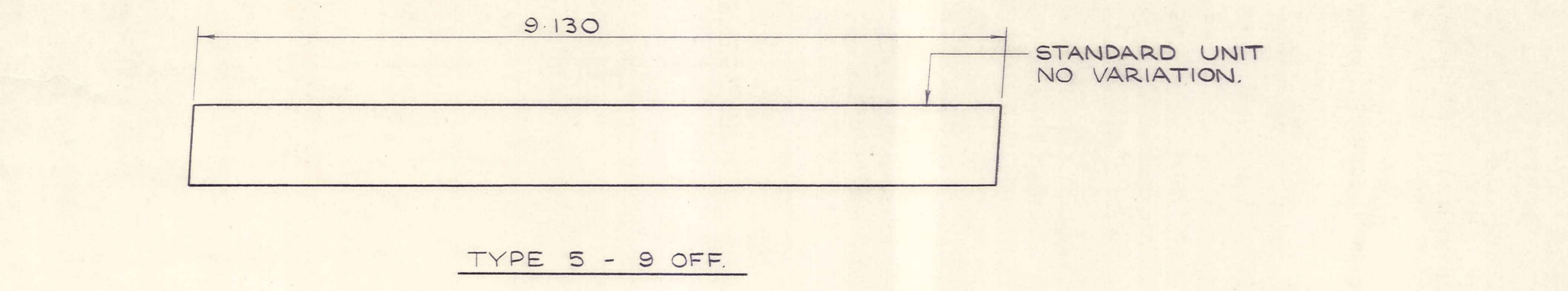
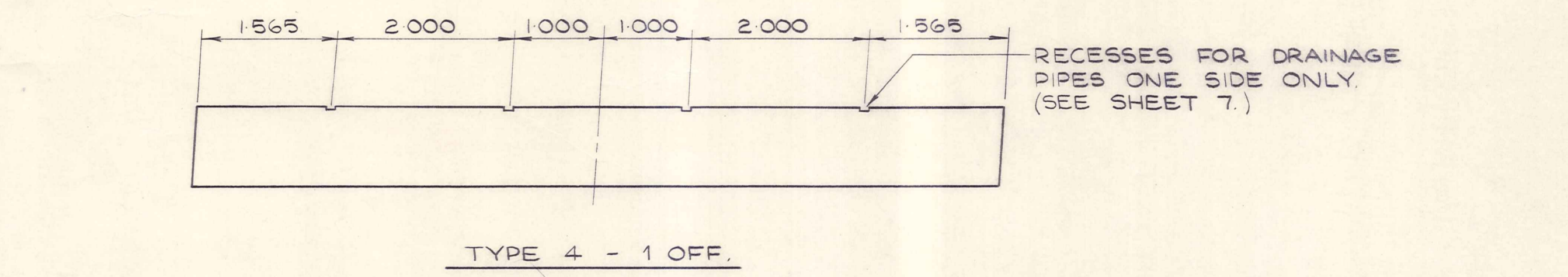
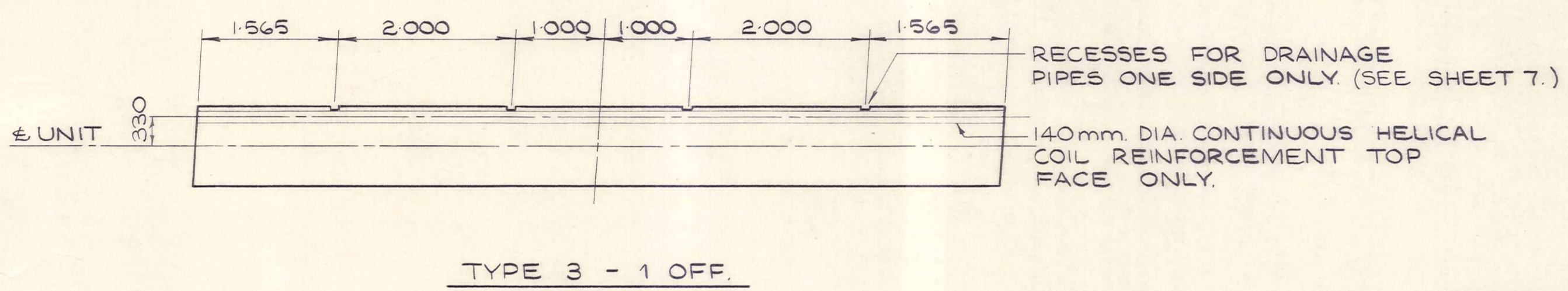
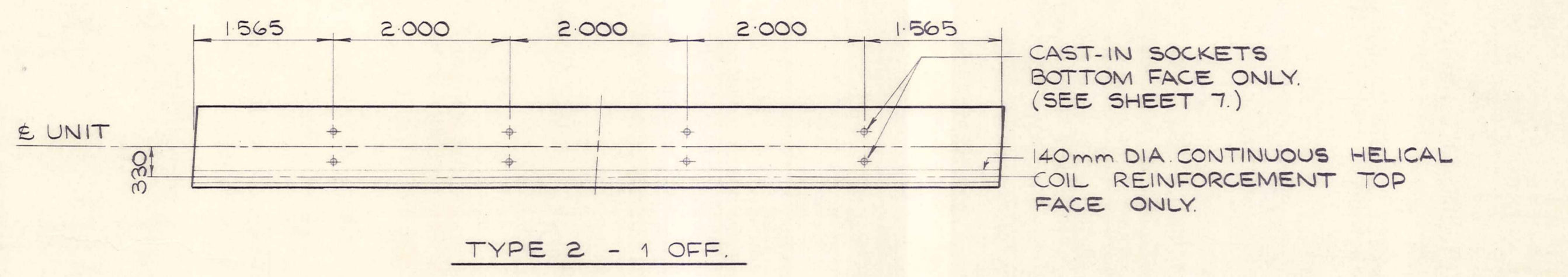
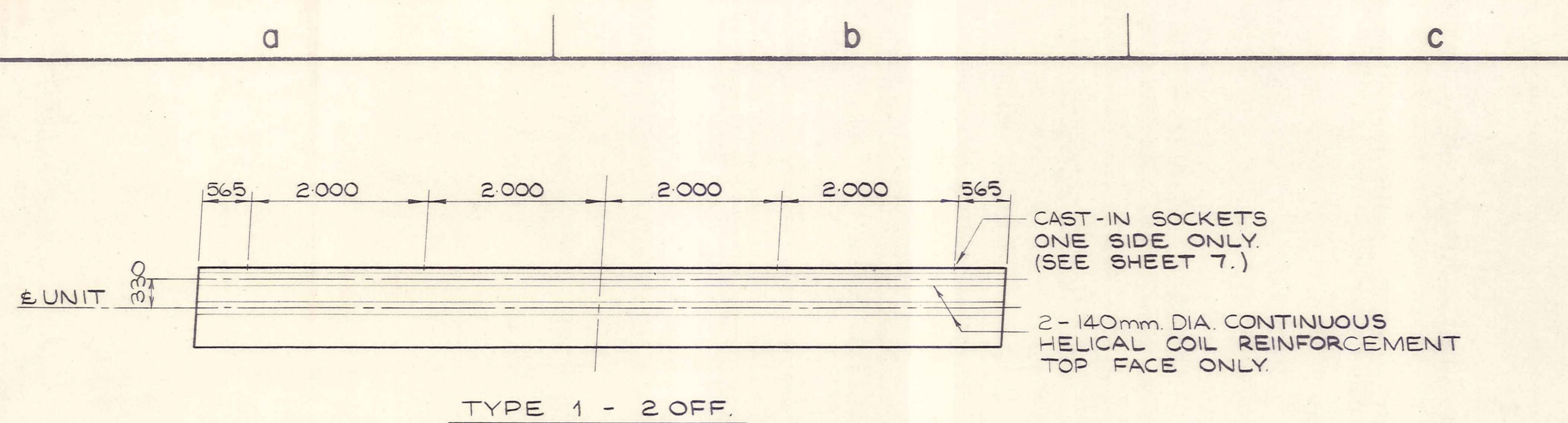


R1-SHEET REDRAWN		BY	APPD	DATE	DESIGNED	BY	CHECKED BY	DATE	A. G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365	ORIGINAL SCALES AS SHOWN	FILE 8/1/2/3/53
AMENDMENTS		BY	APPD	DATE	TRACED	BY	CHECKED BY	DATE	APPROVED	CIVIL ENGINEERING	RESERVOIR CREEK BRIDGE AT RP365/2.43	JOB 7/80/2	CODE 7704
		BY	APPD	DATE	DRG SUPVD	BY	CHECKED BY	DATE	RECOMMENDED	HEAD OFFICE	DECK UNIT DIMENSIONS AND REINFORCEMENT	SHEET 7	REVISION
		BY	APPD	DATE	DES SUPVD	BY	CHECKED BY	DATE	RECOMMENDED	N. C. McLEOD Commissioner			

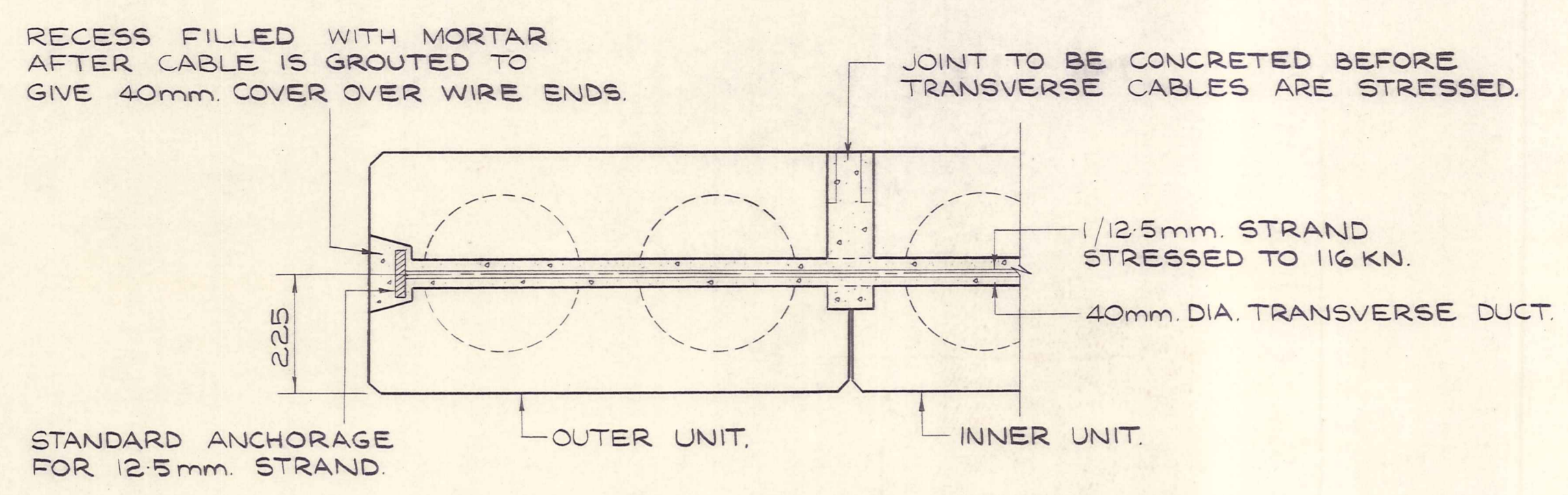
ORIGINAL SIZE mm

482-A1  
JAN 1976

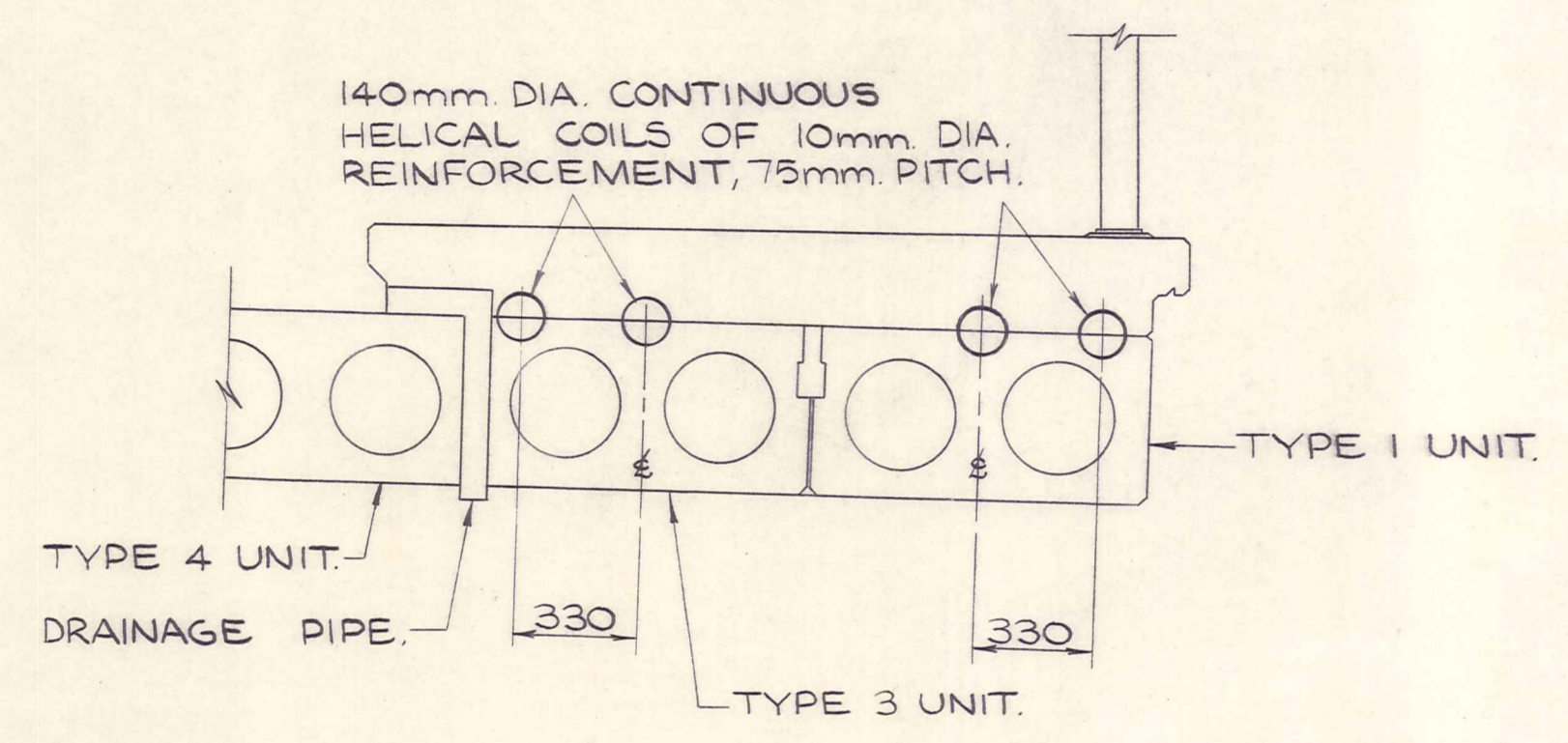




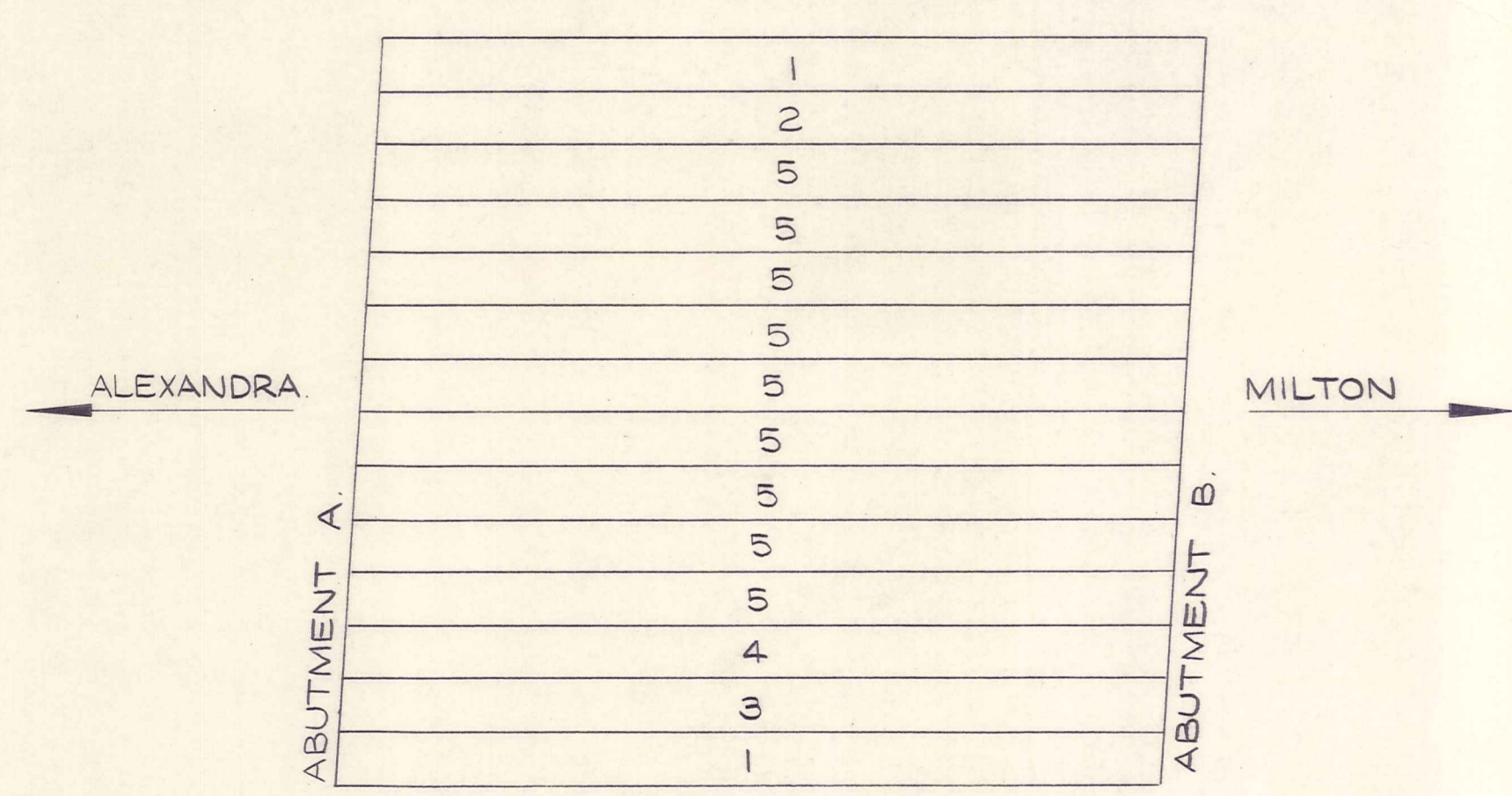
PLAN SHOWING VARIATIONS IN DECK UNITS.  
1:50



TRANSVERSE STRESSING DETAILS.  
1:10.



FOOTPATH CONNECTION DETAILS.  
1:20.



PLAN OF DECK UNIT LAYOUT.  
NTS.

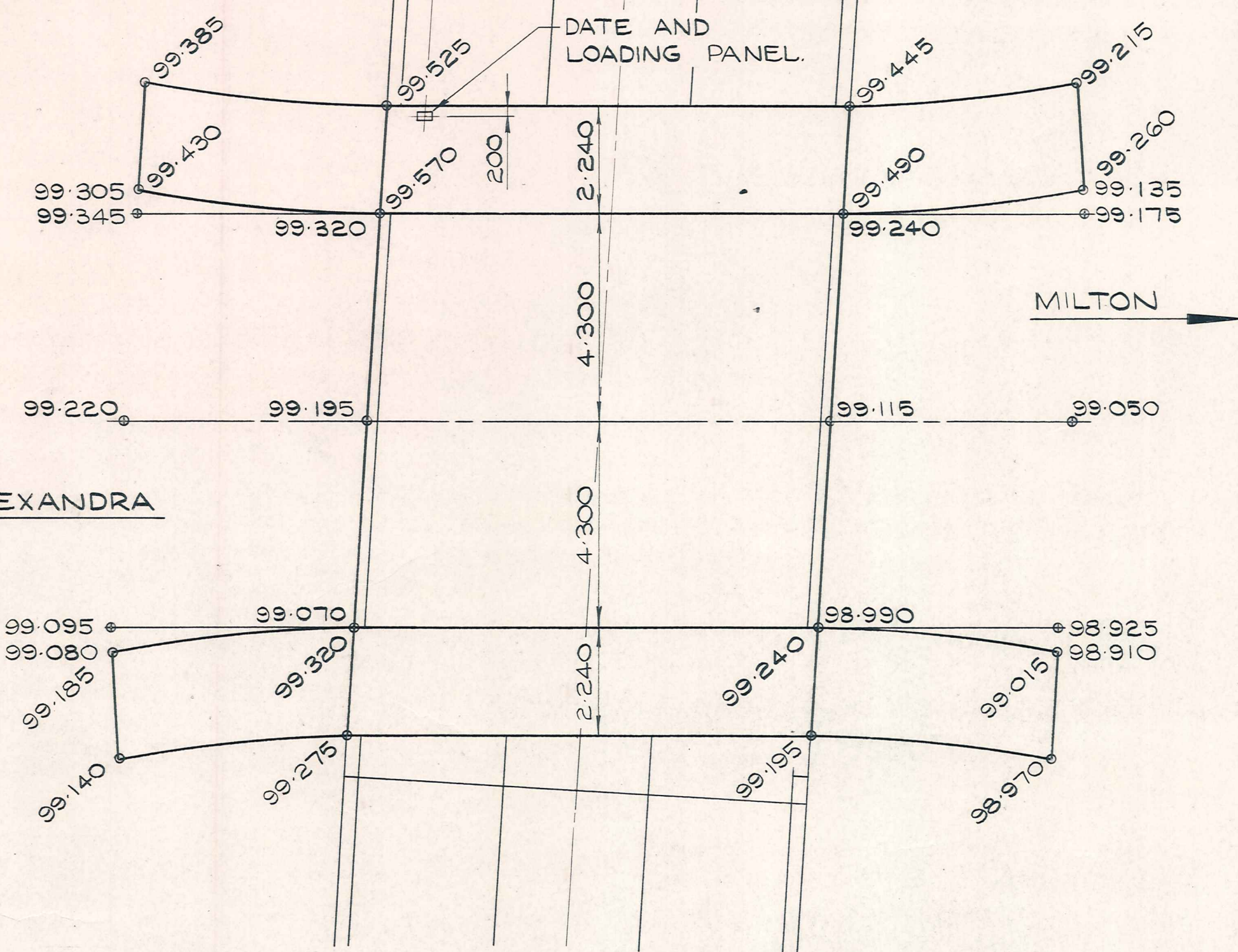
DESIGNED	BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8	RD17	RS365	ORIGINAL SCALES	AS SHOWN.	FILE 72/8/17/10	
DRAWN			9-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER		CIVIL ENGINEERING DUNEDIN	RESERVOIR CREEK BRIDGE AT RP365/2.43					DOSSIER 147
DWG. SUP.			10-80		CIVIL DESIGN OFFICE.	DECK UNIT VARIATIONS AND LAYOUT			JOB	CODE	SHEET	REVISION
RECOMMENDED			10-80		N.C. McLEOD Commissioner				7/80/2	7704	8	
AMENDMENTS				BY	APPD.	DATE						

ORIGINAL SIZE  
A1

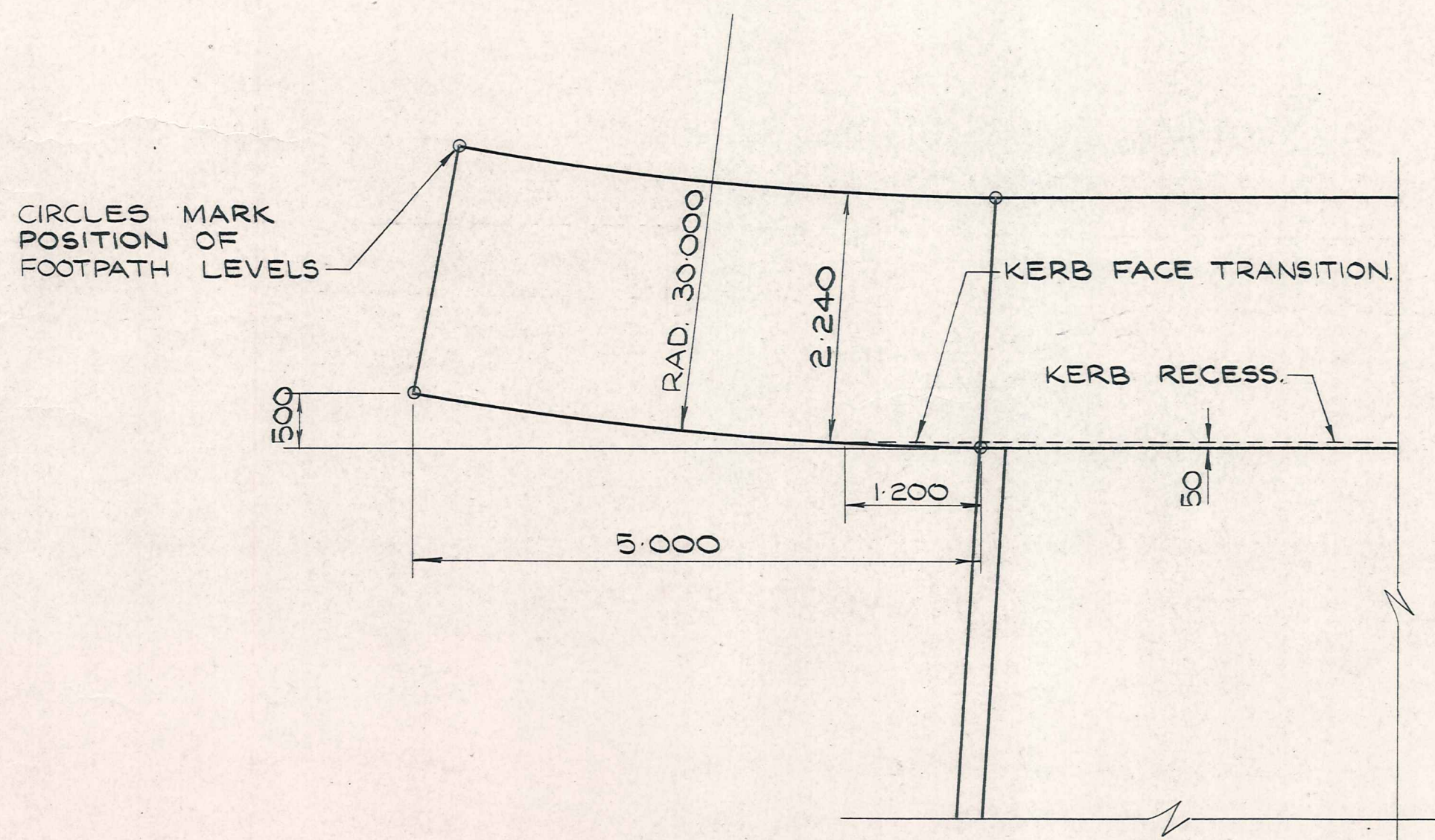
4.482-A1  
JAN 1977



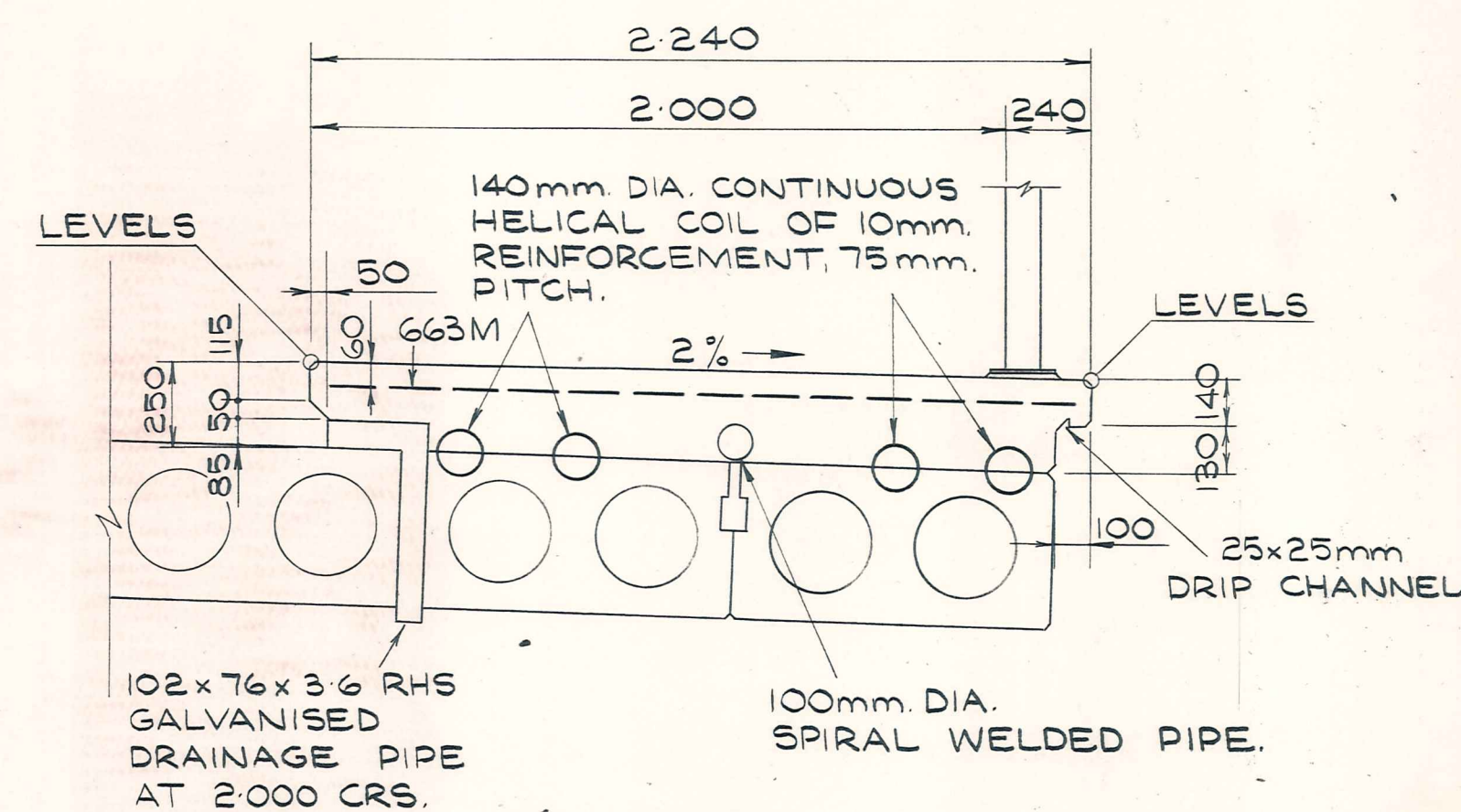
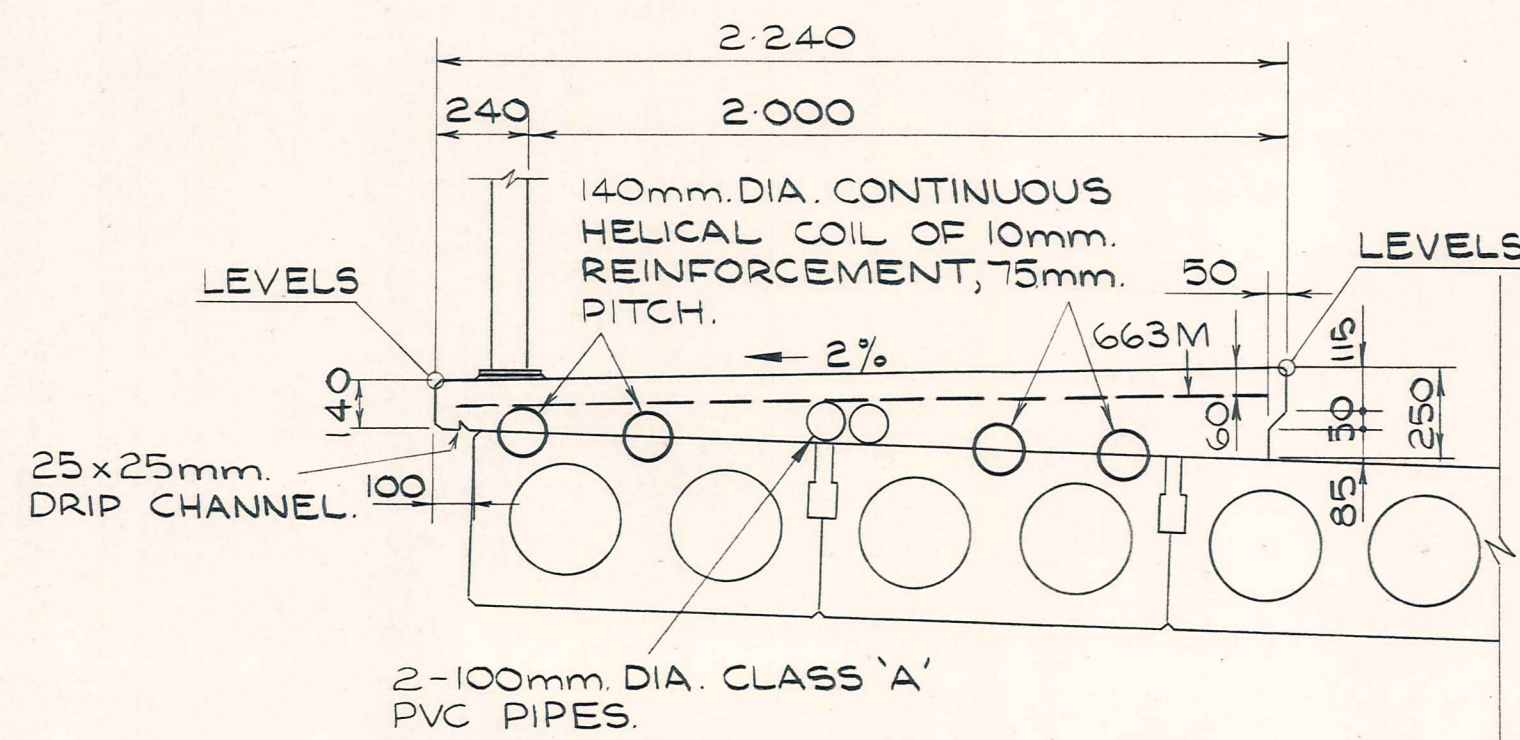
TOP OF BASECOURSE LEVELS.  
- HORIZONTAL NUMBERING.  
FOOTPATH LEVELS.  
- SLOPING NUMBERING.



FOOTPATH AND ROAD LEVELS.  
1:100.



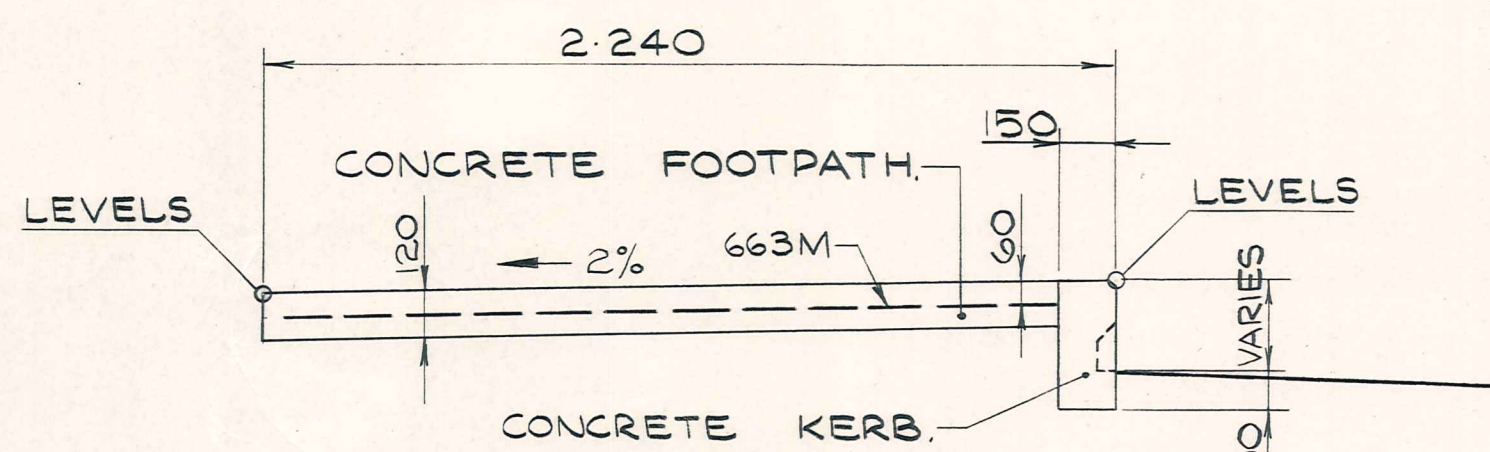
OFF-BRIDGE FOOTPATH SET OUT.  
1:50



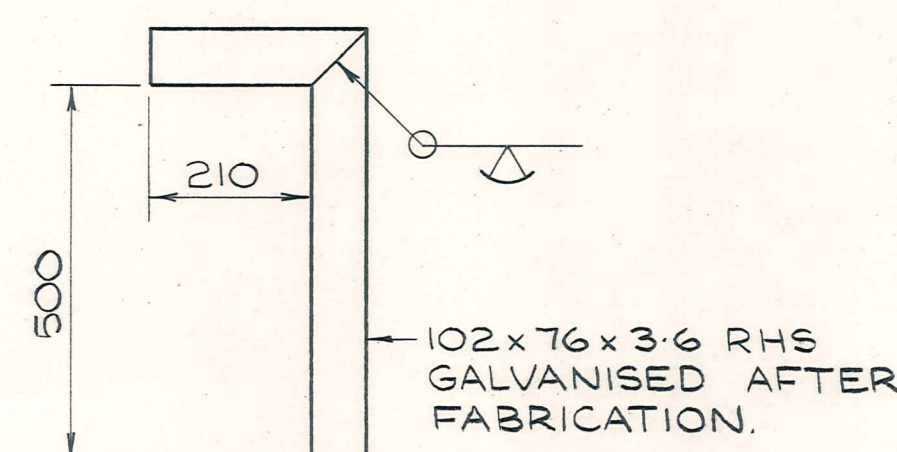
ON-BRIDGE FOOTPATH DETAILS.  
1:20.

FOOTPATH NOTES.

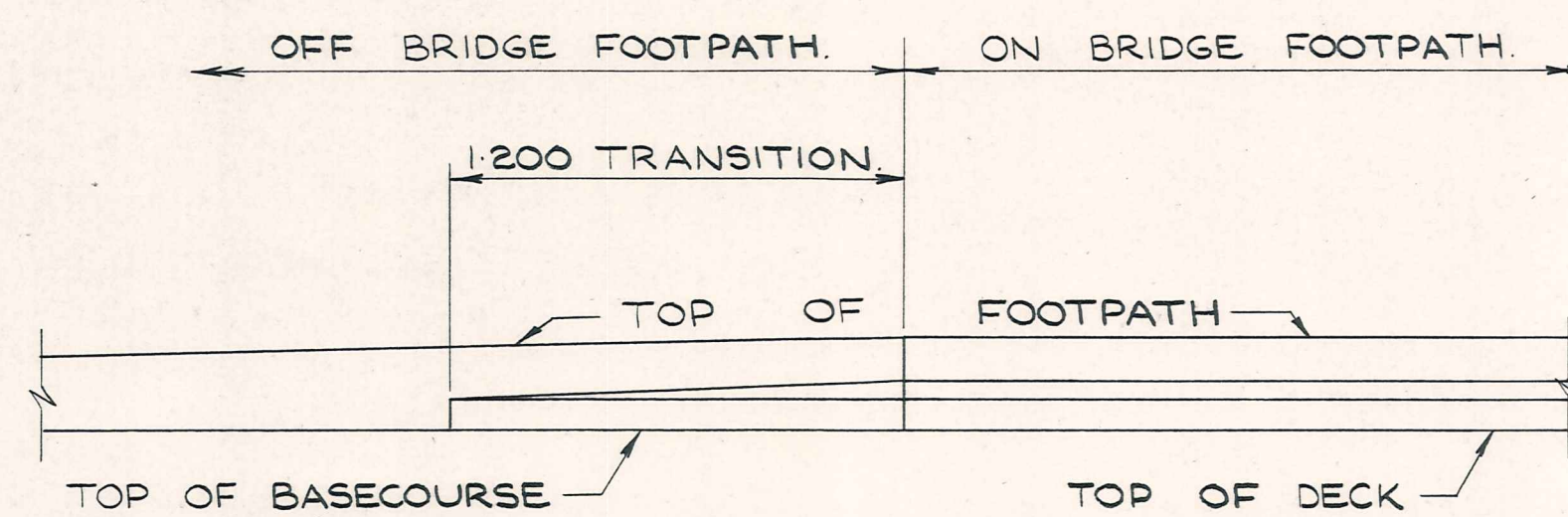
- HEIGHT OF OFF-BRIDGE KERB IS DETERMINED BY FOOTPATH AND ROAD LEVELS.
- ALL EXPOSED CORNERS AND EDGES TO HAVE 15x15mm CHAMFERS OR FILLETS.



OFF-BRIDGE FOOTPATH DETAILS.  
1:20.



DRAINAGE PIPE. (4 OFF.)  
1:10.



KERB FACE TRANSITION.  
1:20.

DESIGNED.	BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8	RD17	RS365	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10		
DRAWN.			10-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER	CIVIL ENGINEERING DUNEDIN	RESERVOIR CREEK BRIDGE AT RP365/2.43				DOSSIER 147		
DES. SUP.			10-80			FOOTPATH DETAILS			JOB	CODE	SHEET	REVISION
DWG. SUP.			10-80	APPROVED	CIVIL DESIGN OFFICE.				7/80/2	7704	9	
RECOMMENDED			29-10-80	DISTRICT CIVIL ENGINEER.	N.C. McLEOD Commissioner							
AMENDMENTS		BY	APPD.	DATE	DISTRICT DESIGN ENGINEER.							

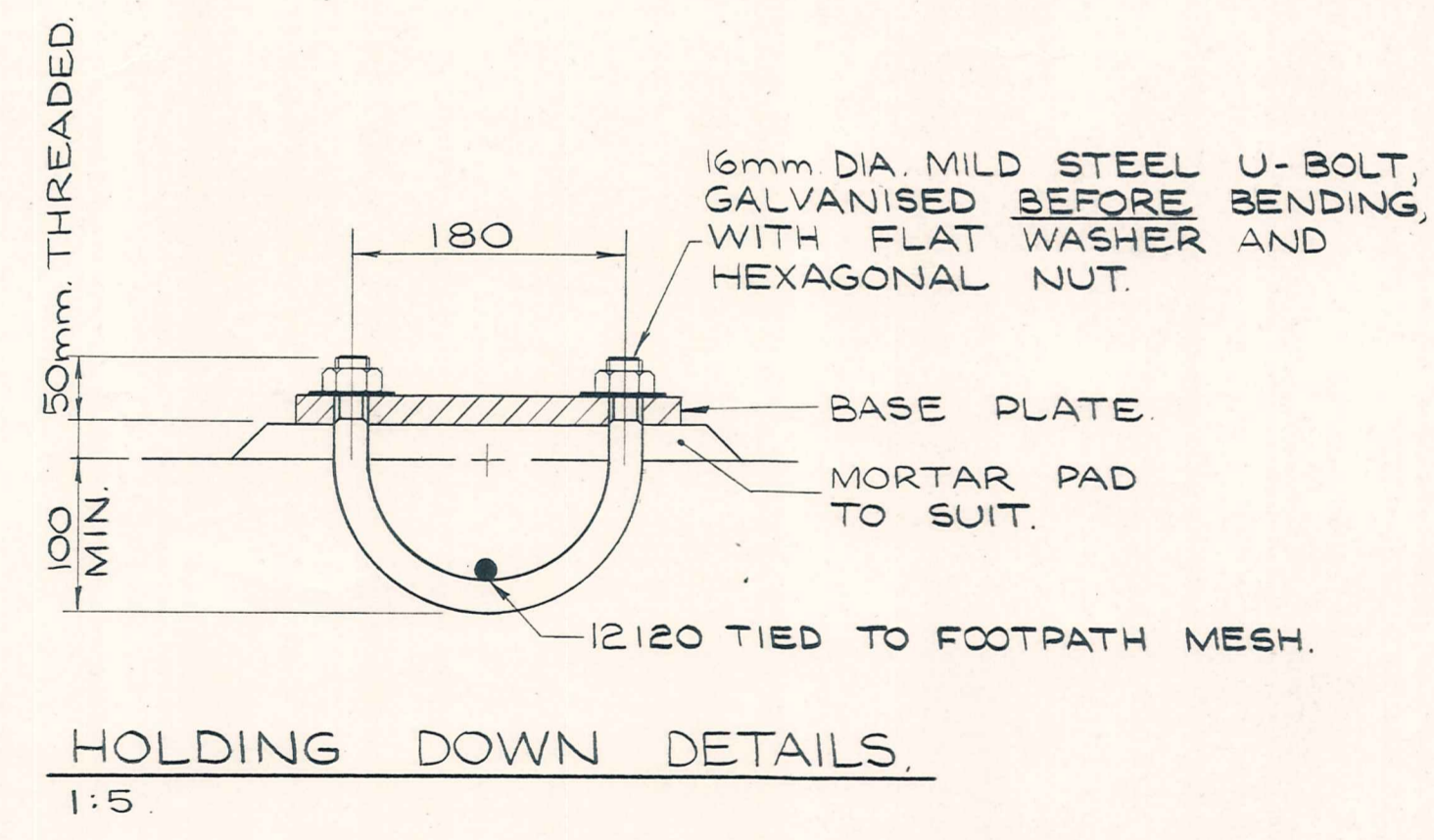
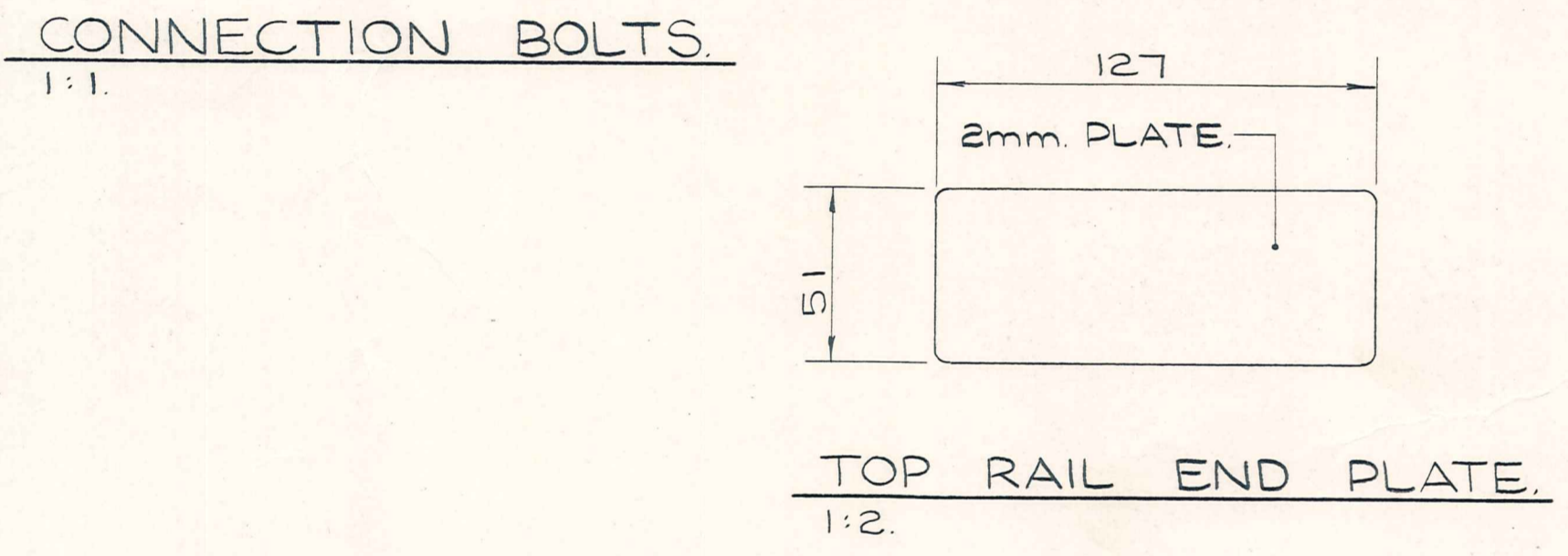
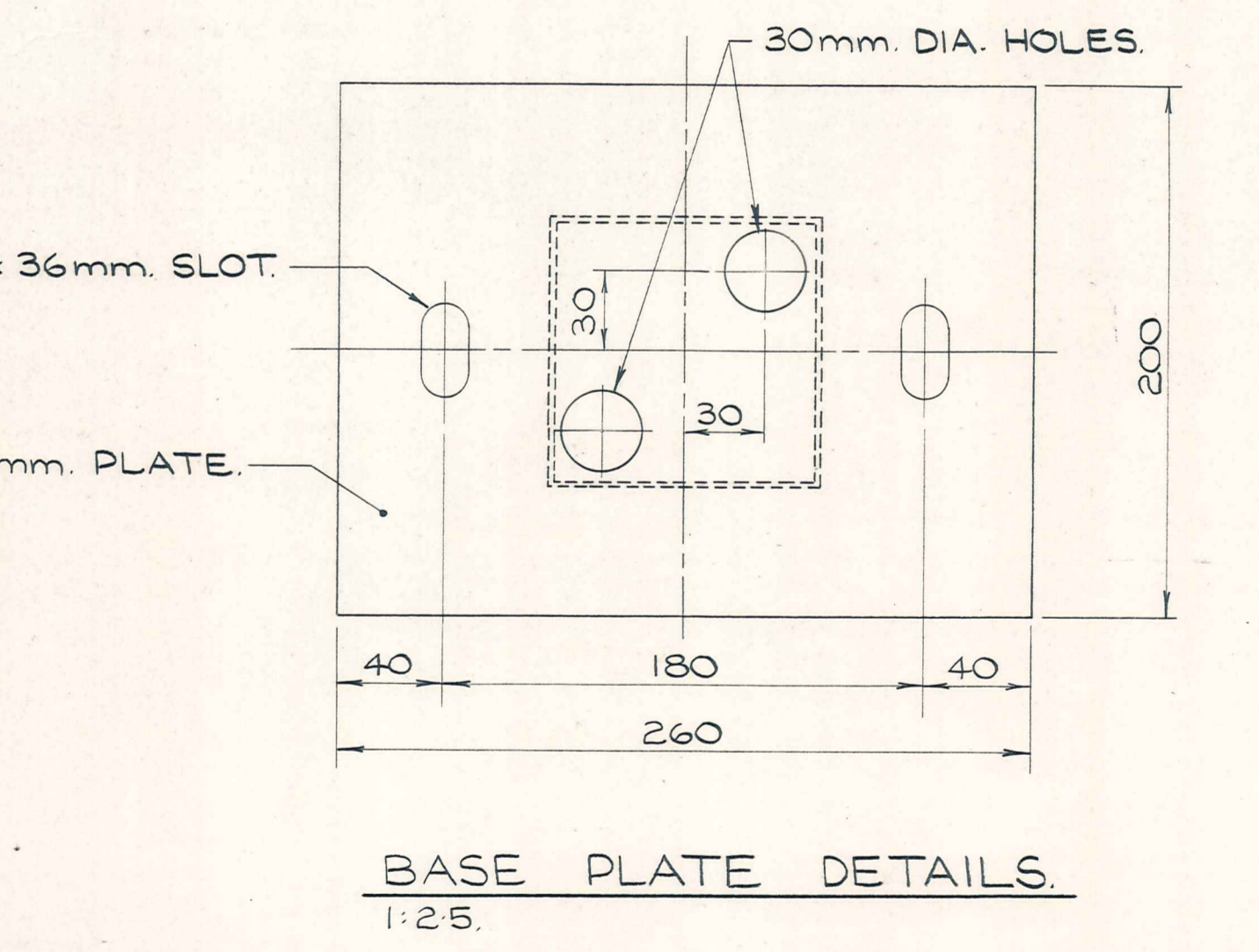
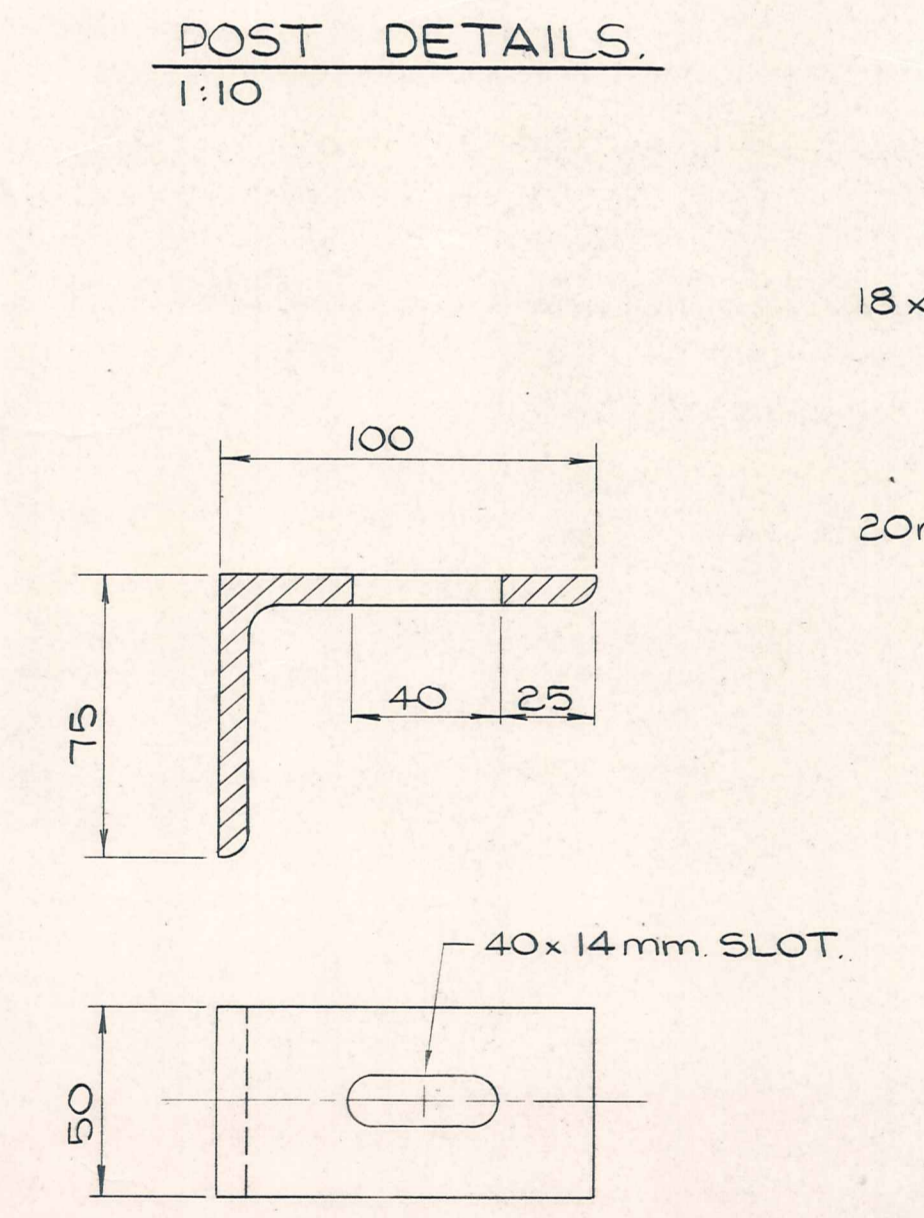
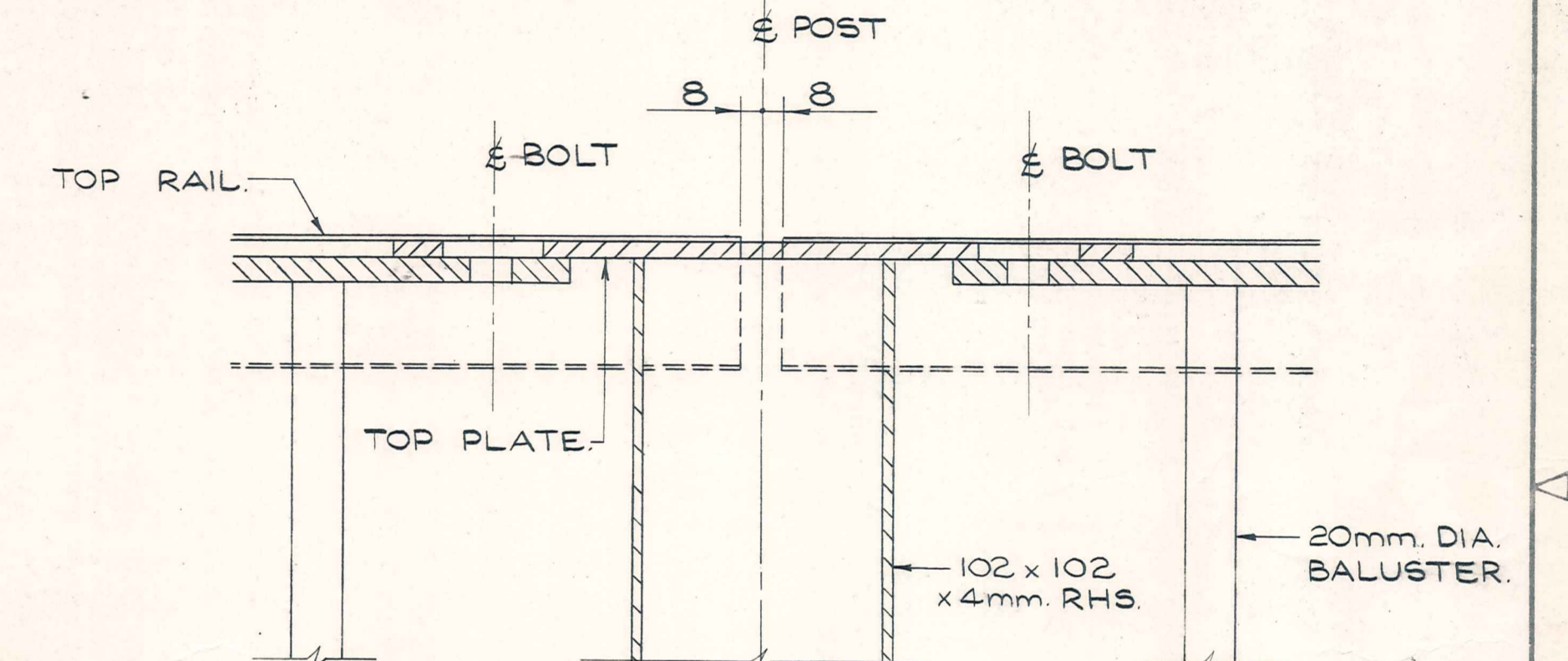
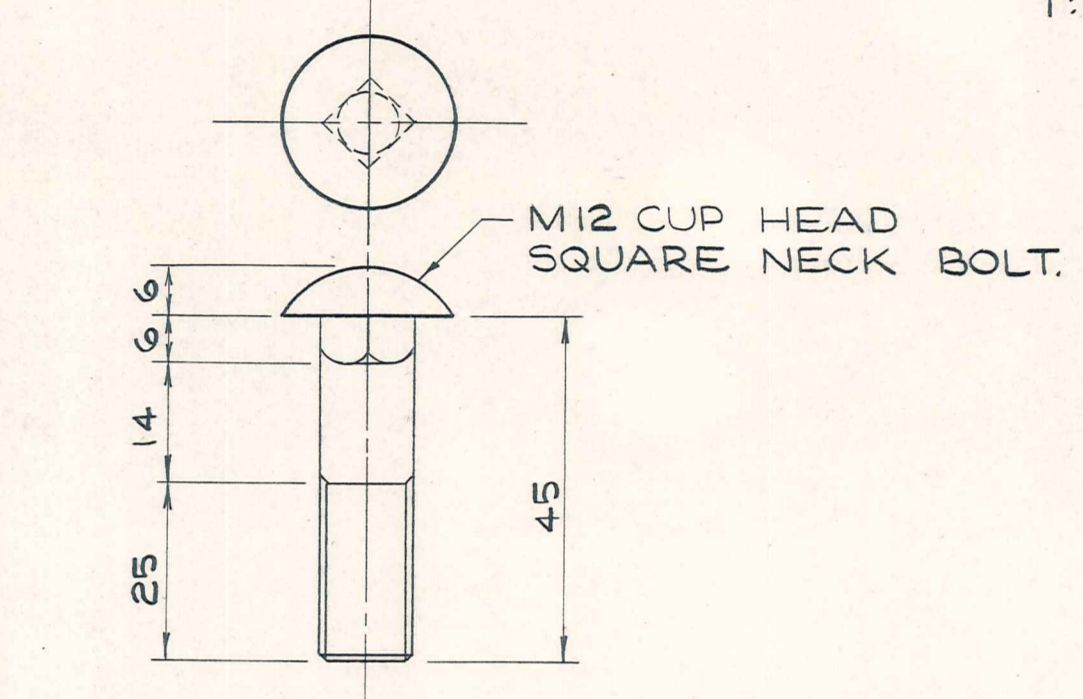
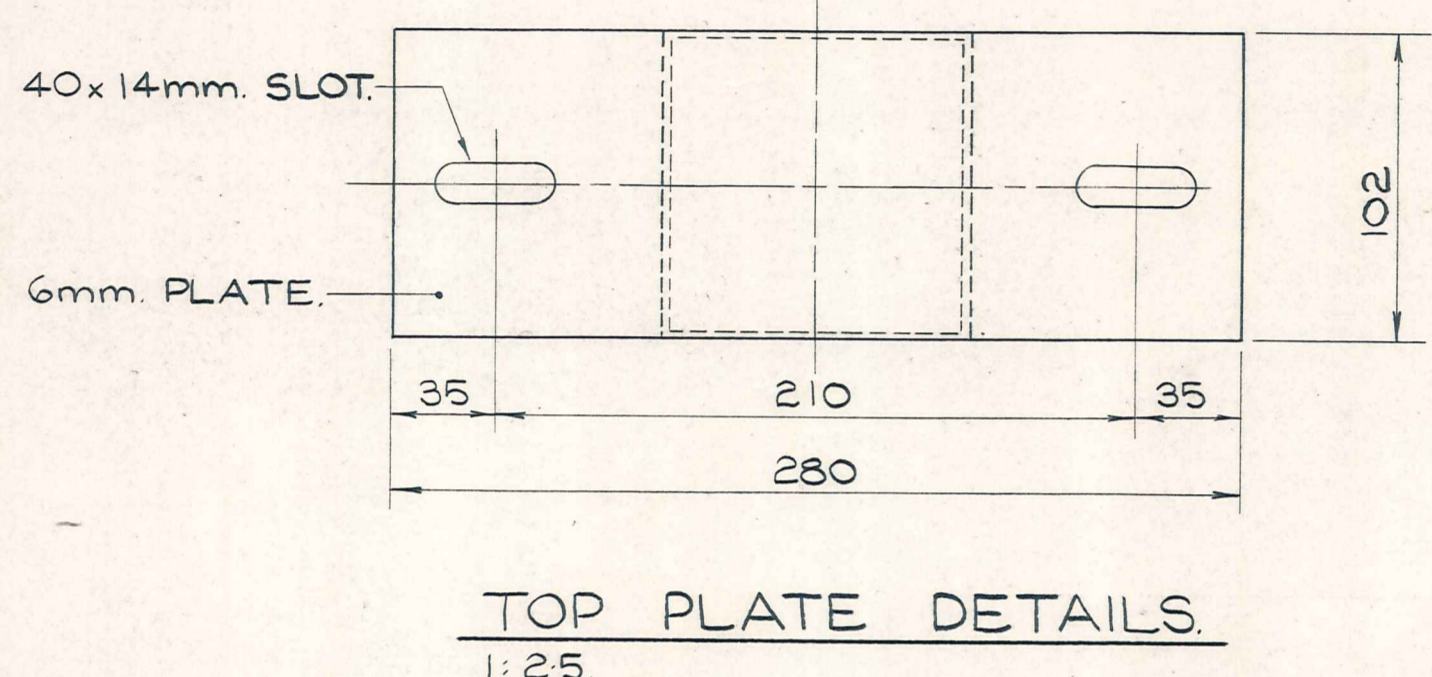
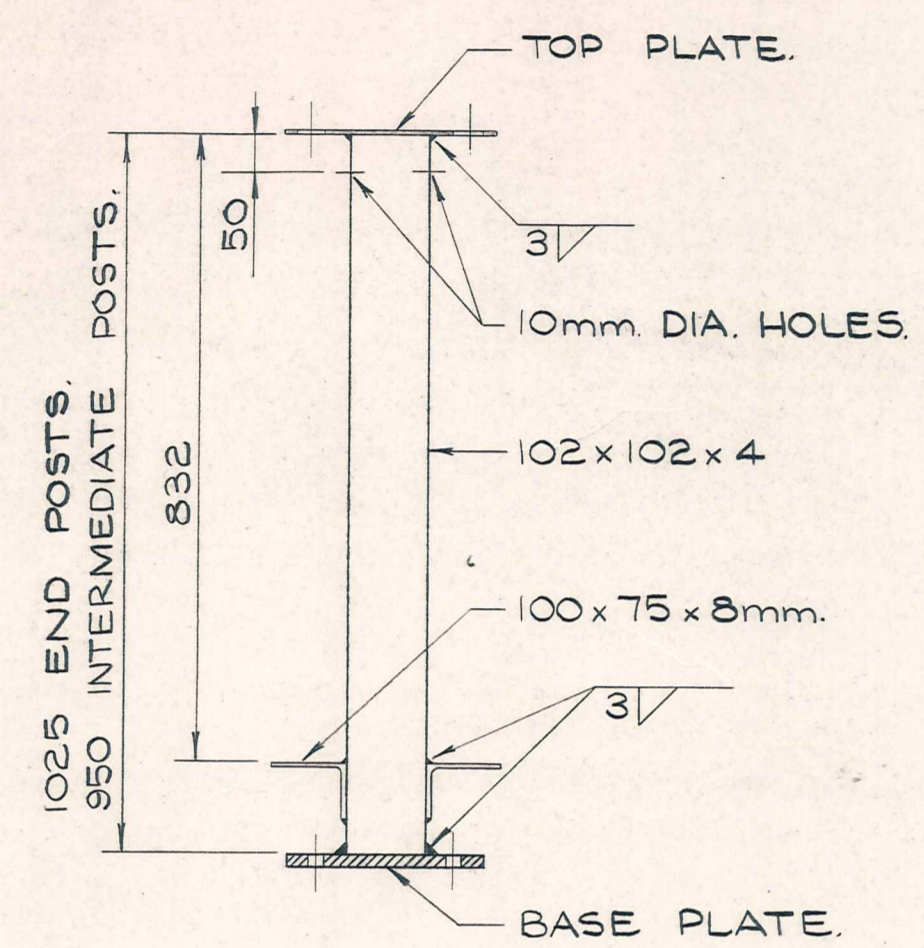
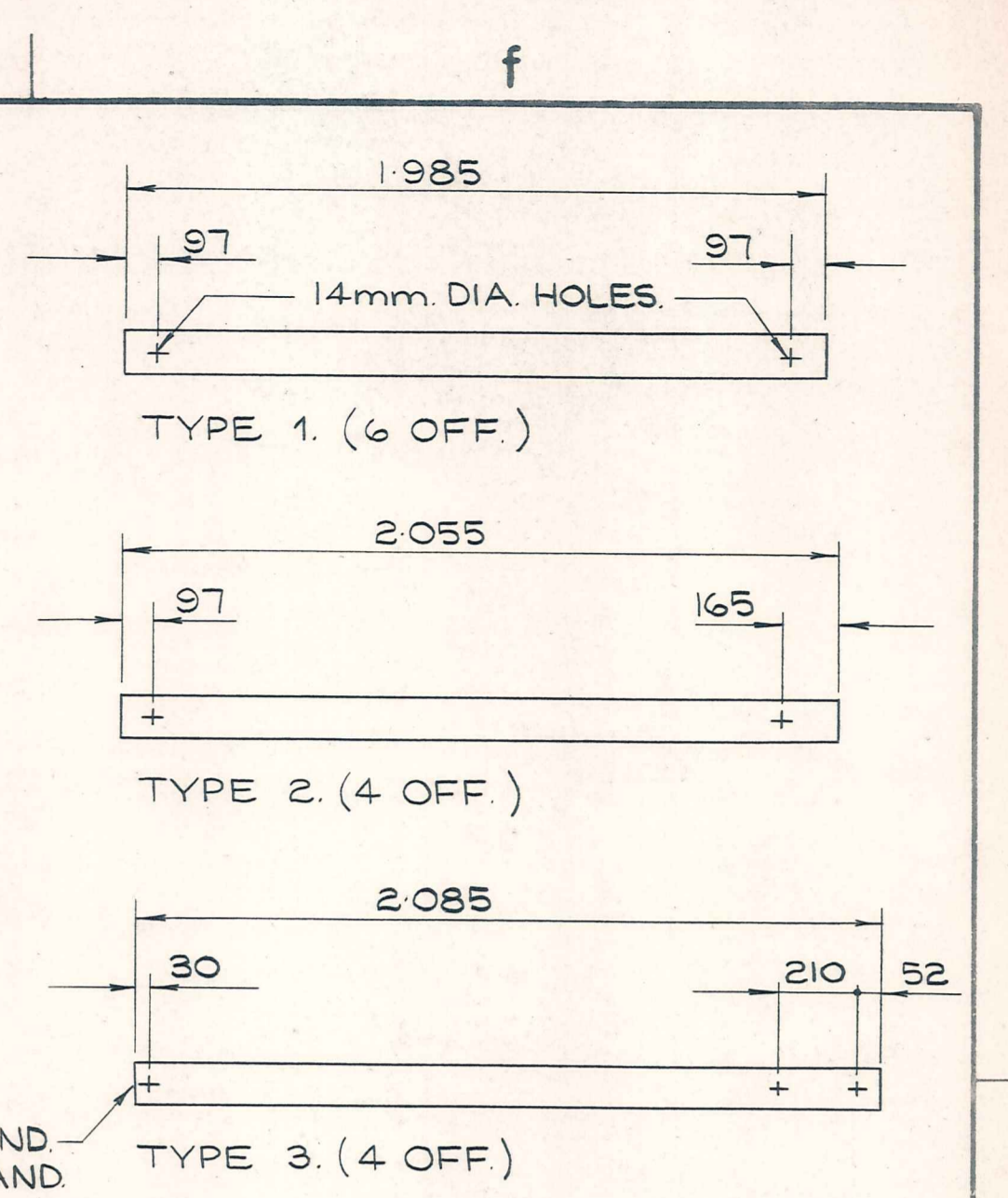
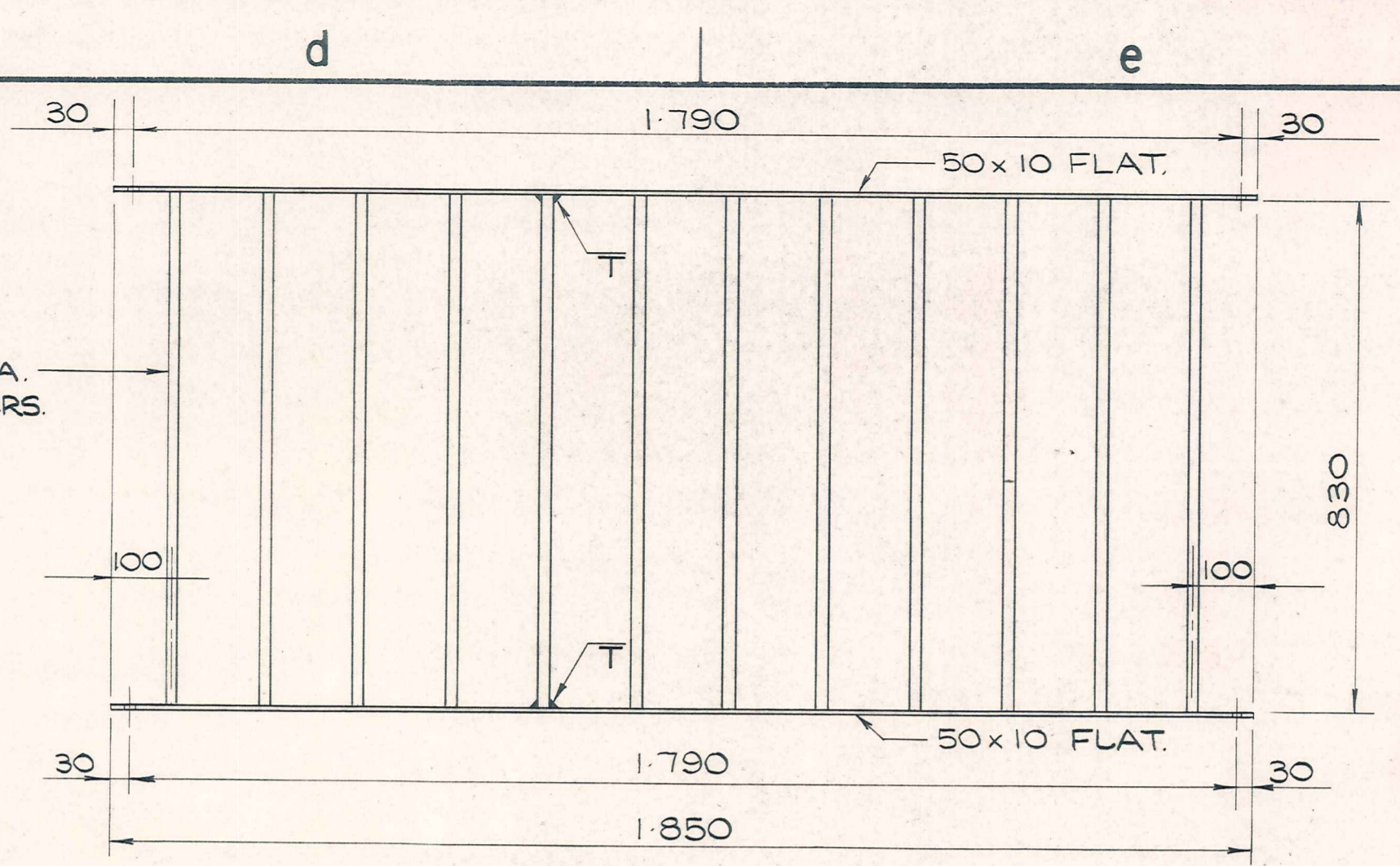
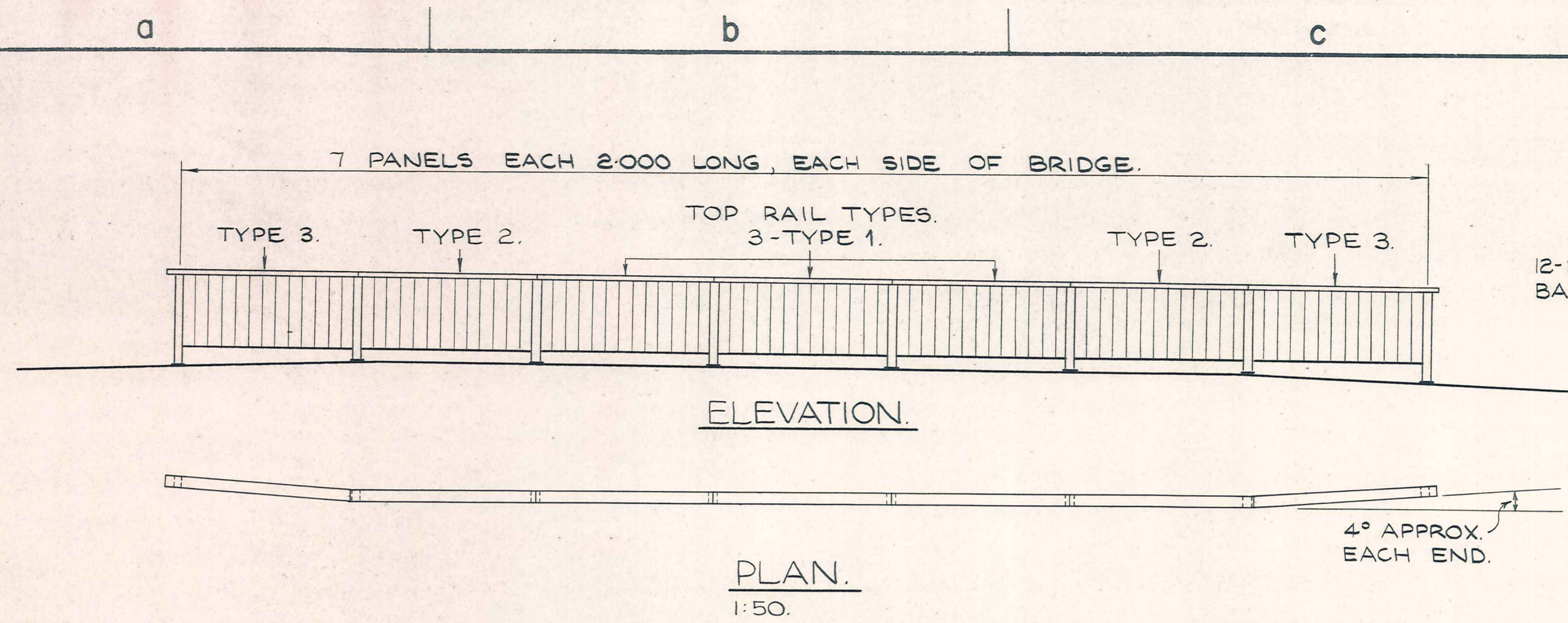
ORIGINAL SIZE  
A1

W. 482-A1  
REV. JAN. 1977

LOCAL OR TRACING No. 1:1 1:2 1:5

Whole numbers = mm  
Decimalised expressions = m  
unless indicated otherwise



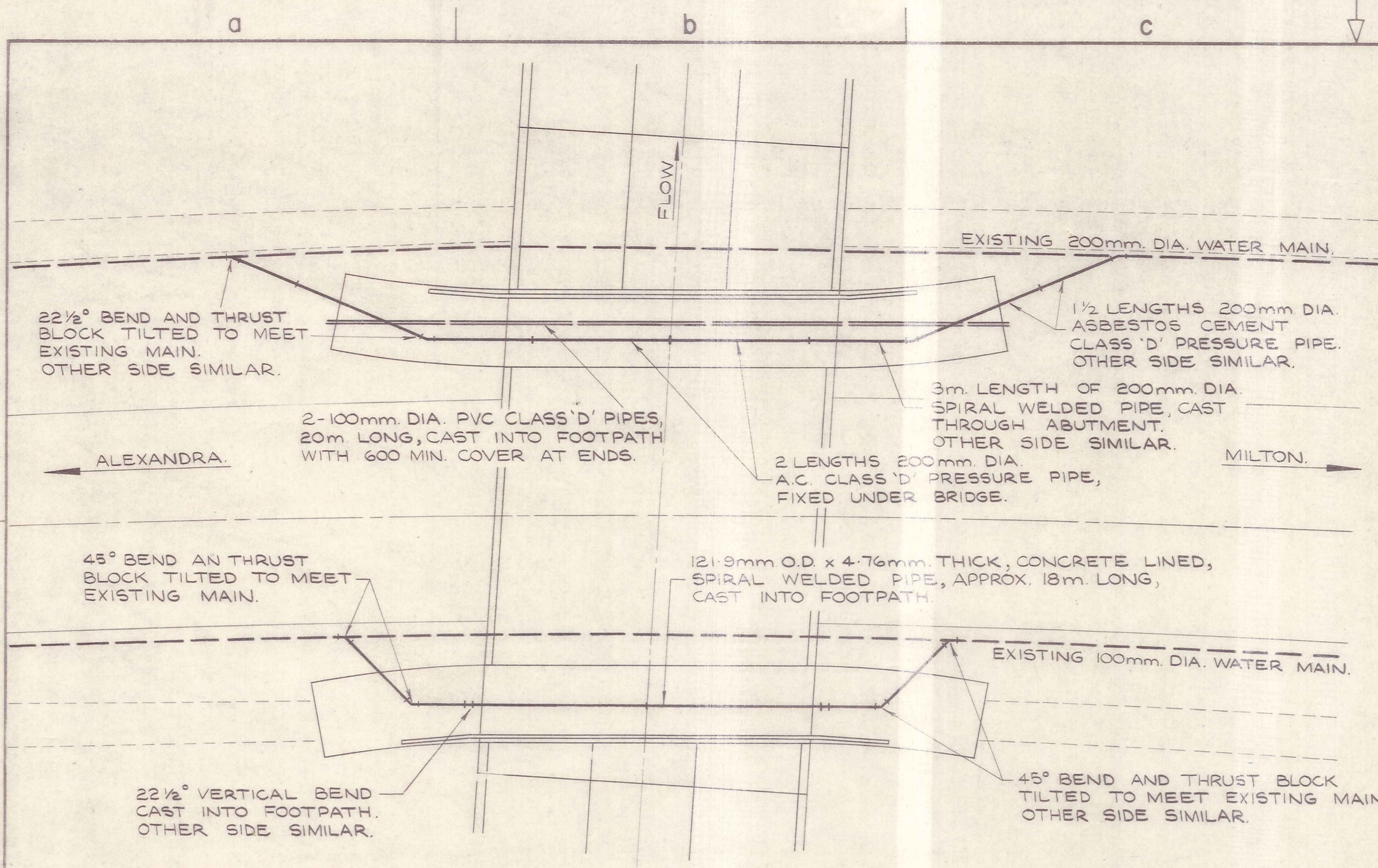


- NOTES: 1. ALL STEELWORK TO BE HOT DIP GALVANISED AFTER FABRICATION. (NOT HOLDING DOWN BOLTS).  
2. END PANELS TO BE FLARED IN LINE WITH FOOTPATH.  
3. END POSTS TO HAVE 100x75 ANGLES ON ONE SIDE ONLY.  
4. ANY SHARP EDGES ON TOP RAIL TO BE ROUNDED OFF TO A SMOOTH FINISH.

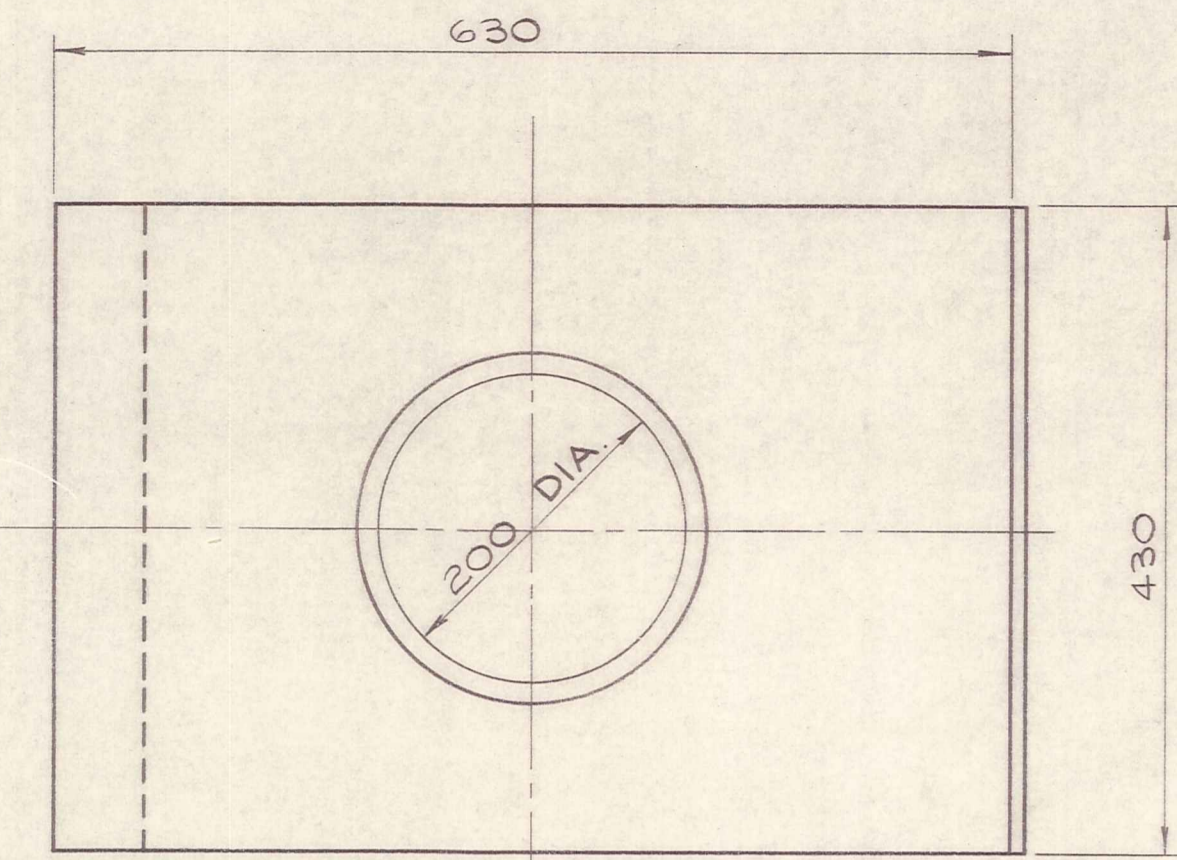
DESIGNED	BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10
DRAWN			10-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER				
DES. SUP.			10-80		CIVIL DESIGN OFFICE.	RESERVOIR CREEK BRIDGE AT RP365/2.43	JOB 7/80/2	CODE 7704
DWG SUP.			10-80		N.C. McLEOD Commissioner	HANDRAIL DETAILS	SHEET 10	REVISION
RECOMMENDED			25-10-80					
AMENDMENTS	BY	APPD.	DATE	DISTRICT DESIGN ENGINEER	DISTRICT CIVIL ENGINEER			

ORIGINAL SIZE A1

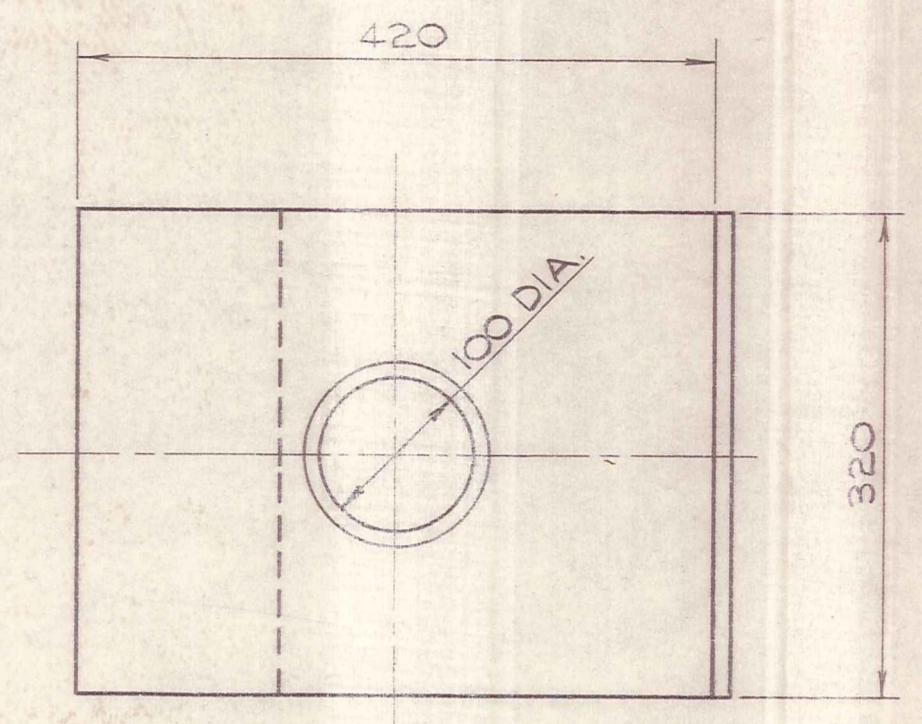




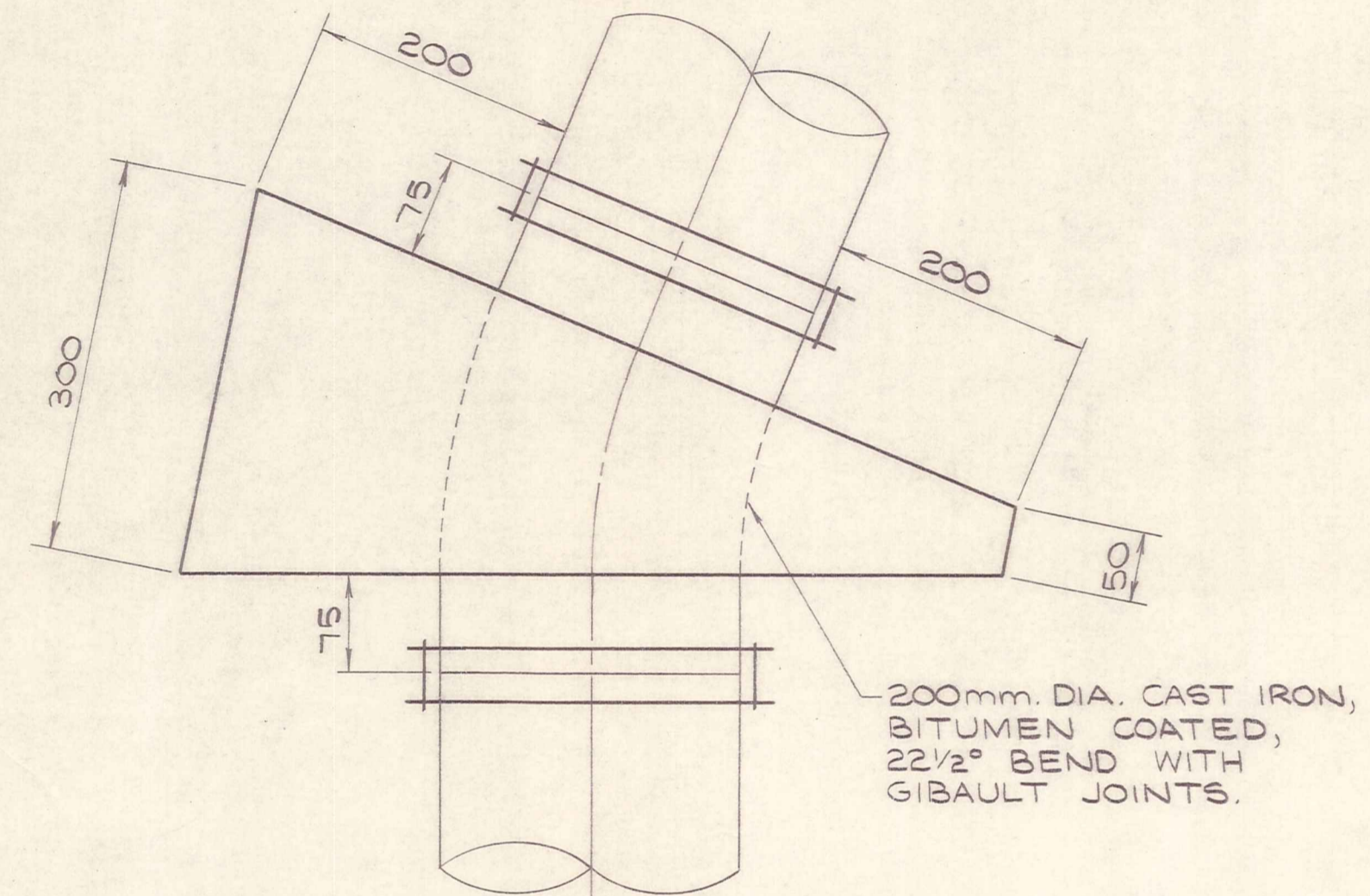
SERVICES LAYOUT PLAN.  
1:100.



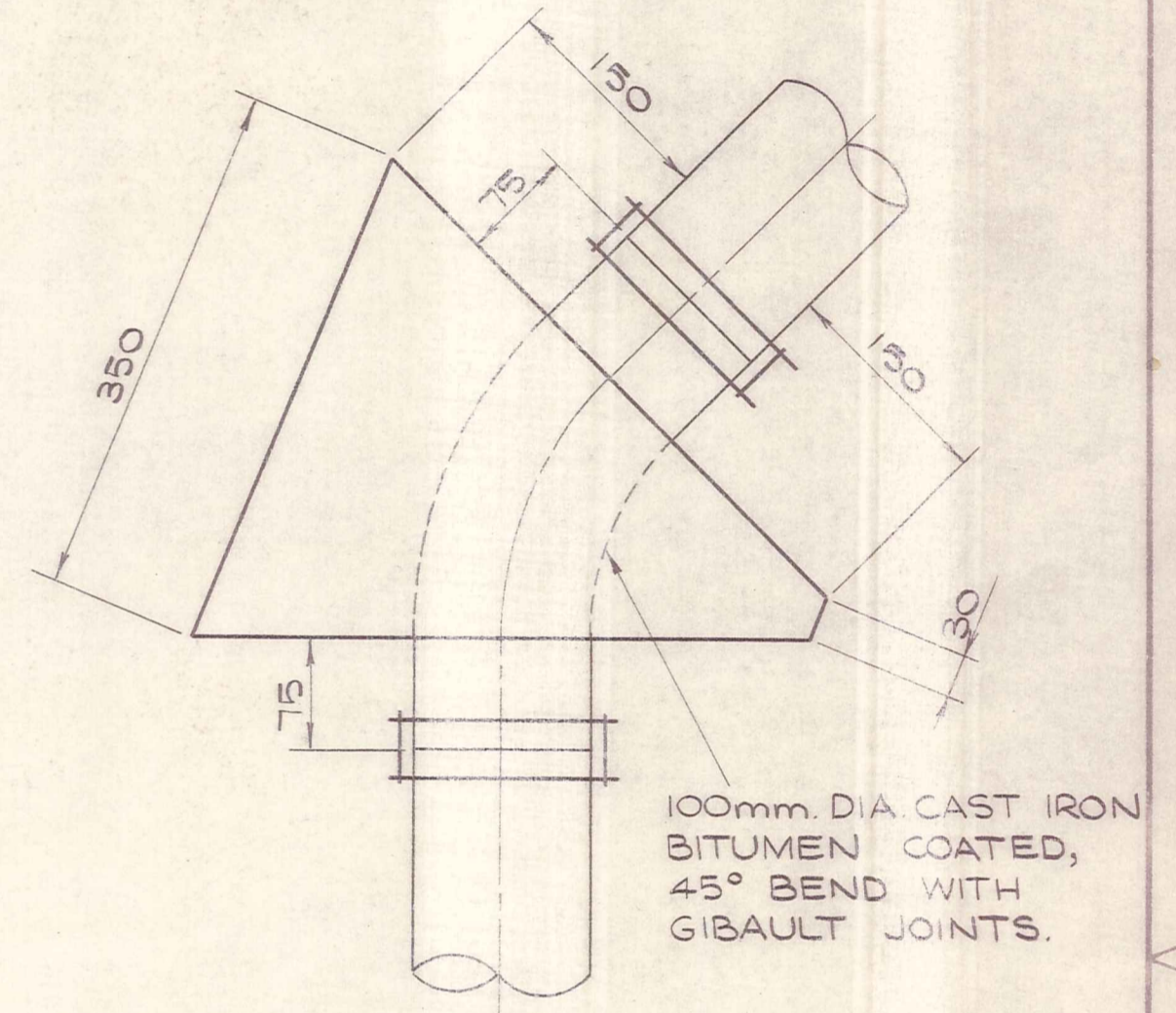
ELEVATION.



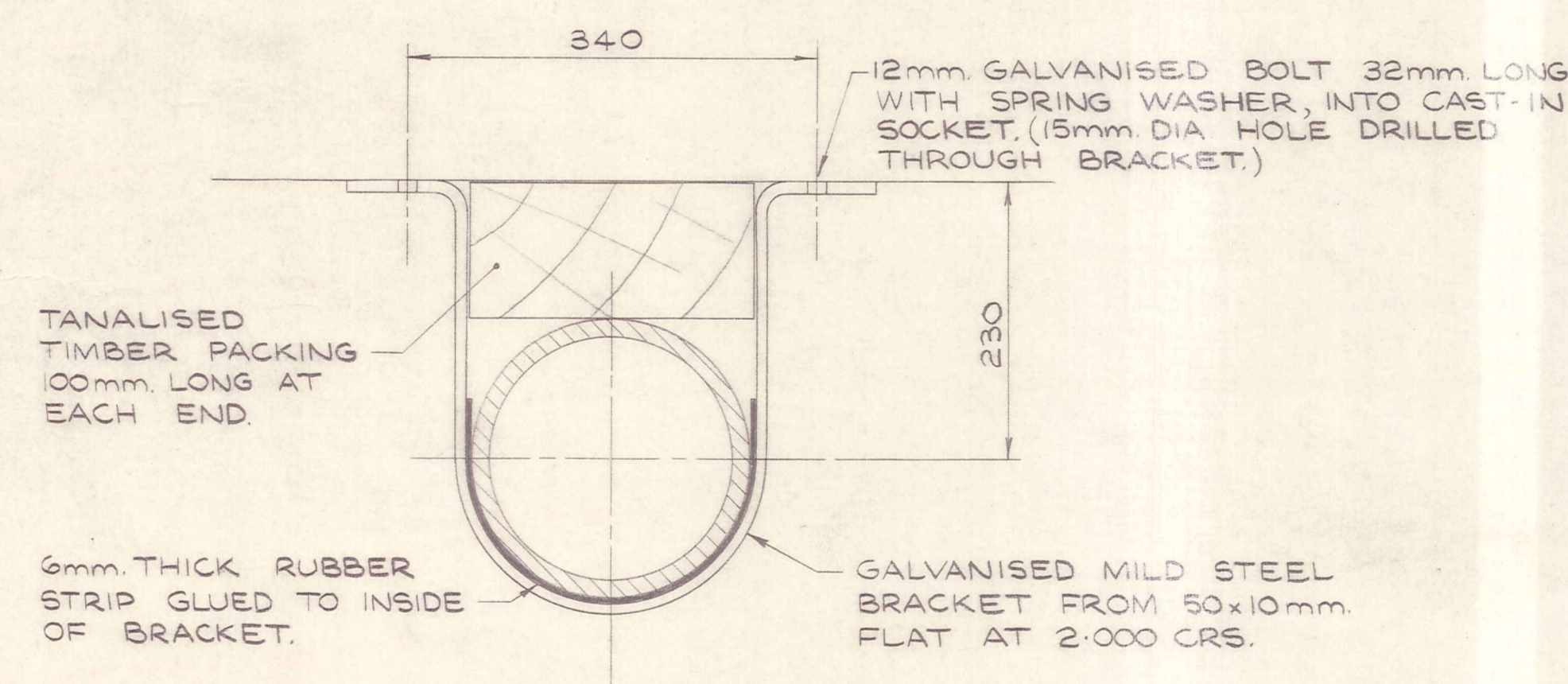
ELEVATION.



PLAN.



PLAN.



BRACKET FOR 200mm DIA. WATER MAIN.  
1:5.

200mm. DIA. WATER MAIN.	
GIBALT JOINTS	13
22 1/2° CAST IRON BENDS	4
CONCRETE/ANCHOR BLOCK	0.16m <sup>3</sup>
FORMWORK/ANCHOR BLOCK	0.6 m <sup>2</sup>

100mm. DIA. WATER MAIN.	
GIBALT JOINTS	13
45° CAST IRON BENDS	4
22 1/2° CAST IRON BENDS	2
CONCRETE/ANCHOR BLOCK	0.09m <sup>3</sup>
FORMWORK/ANCHOR BLOCK	0.4 m <sup>2</sup>

QUANTITIES.

ANCHOR BLOCK - 22 1/2° BEND.  
1:5.

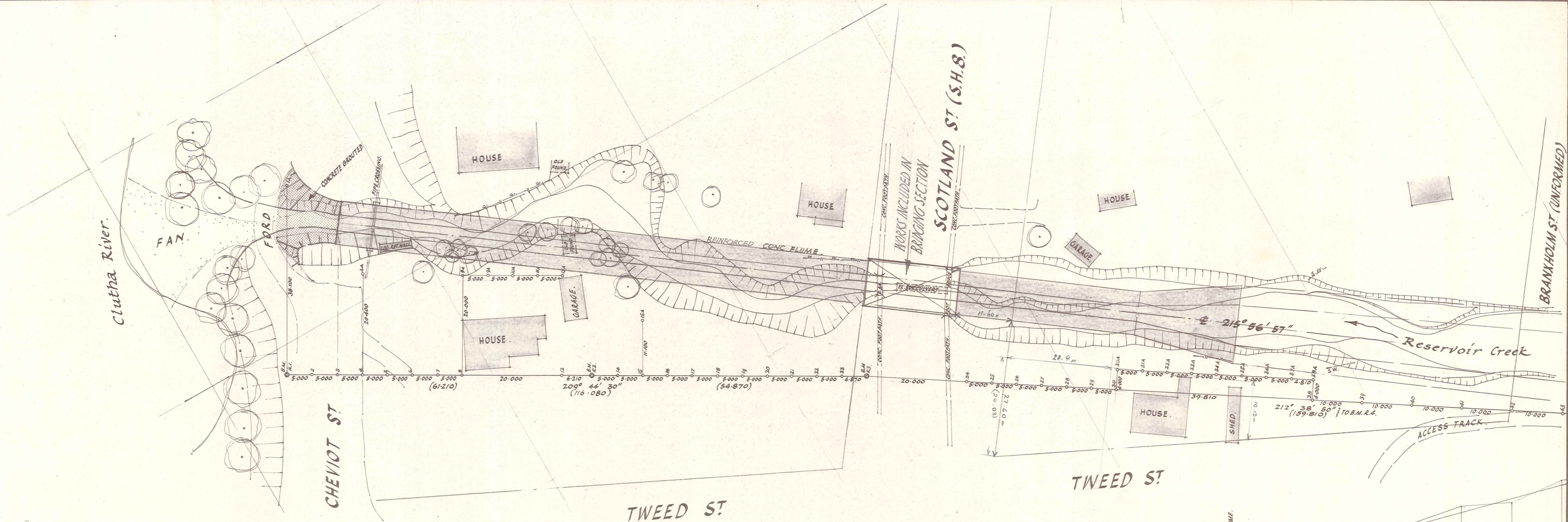
ANCHOR BLOCK 45° BEND.  
1:5.

NOTES:

- 200mm. DIA. SPIRAL WELDED PIPE SALVAGED FROM EXISTING.
- ALL BENDS TO BE CAST IRON BITUMEN COATED.
- GIBALT JOINTS TO BE USED FOR ALL JOINTS.

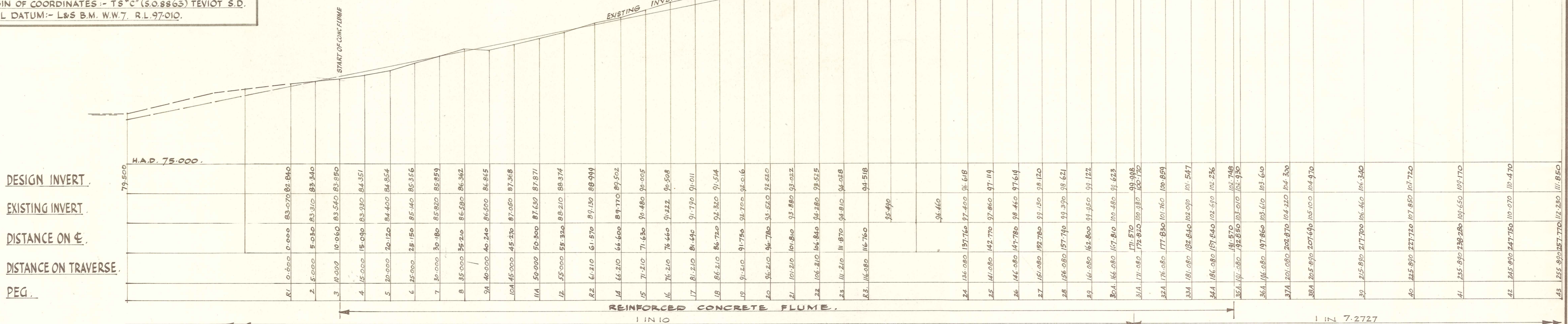
DESIGNED	BY	CHECKED	DATE	A.G. STIRRAT CHIEF CIVIL ENGINEER	Ministry of Works and Development	SH8 RD17 RS365	ORIGINAL SCALES AS SHOWN.	FILE 72/8/17/10		
DRAWN			10-80	J.B.S. HUIZING CHIEF DESIGNING ENGINEER					CIVIL ENGINEERING DUNEDIN	RESERVOIR CREEK BRIDGE AT RP365/2.43
DES. SUP.							JOB	CODE	SHEET	REVISION
DWG. SUP.			10-80				7/80/2	7704	11	
RECOMMENDED										
AMENDMENTS				BY	APPD.	DATE				
				DISTRICT DESIGN ENGINEER						
				DISTRICT CIVIL ENGINEER						
					N.C. McLEOD	Commissioner				





PLAN  
Scale - 1:400

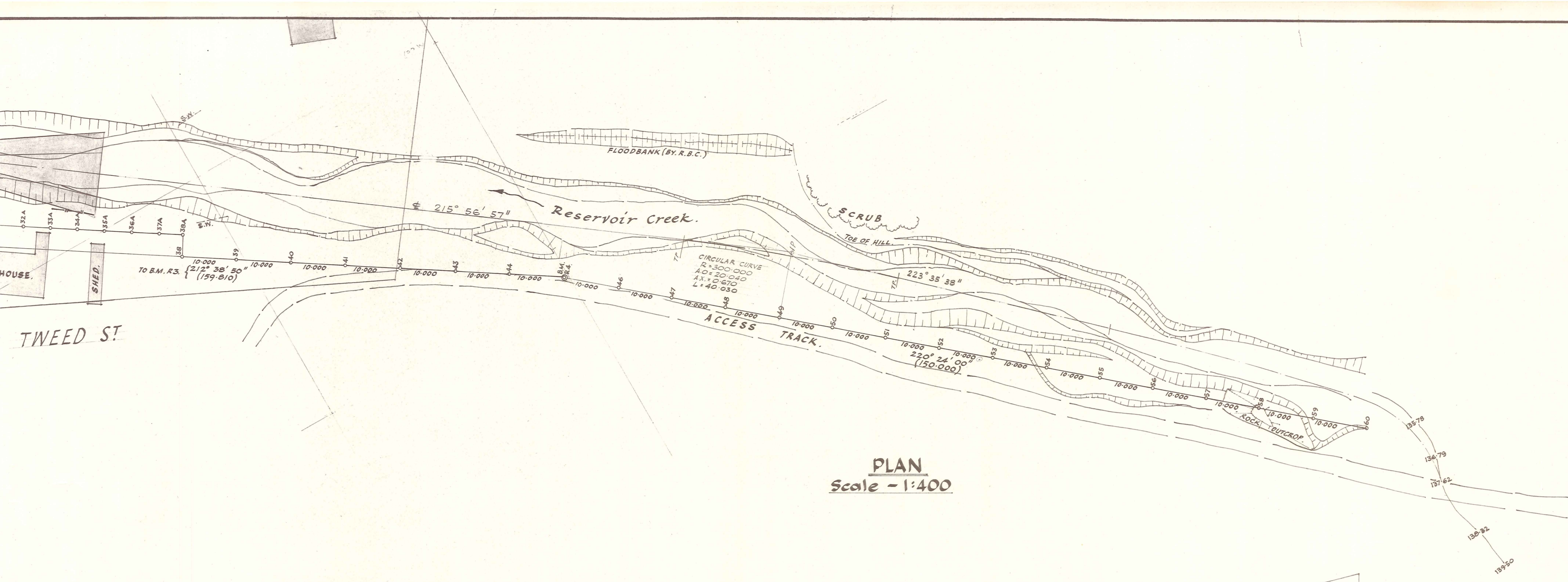
DATUM:- OLD CADASTRAL  
ORIGIN OF COORDINATES:- T S "C" (S.O. 8863) TEVIOT S.D.  
LEVEL DATUM:- L&S B.M. W.W.7, R.L. 97.010.



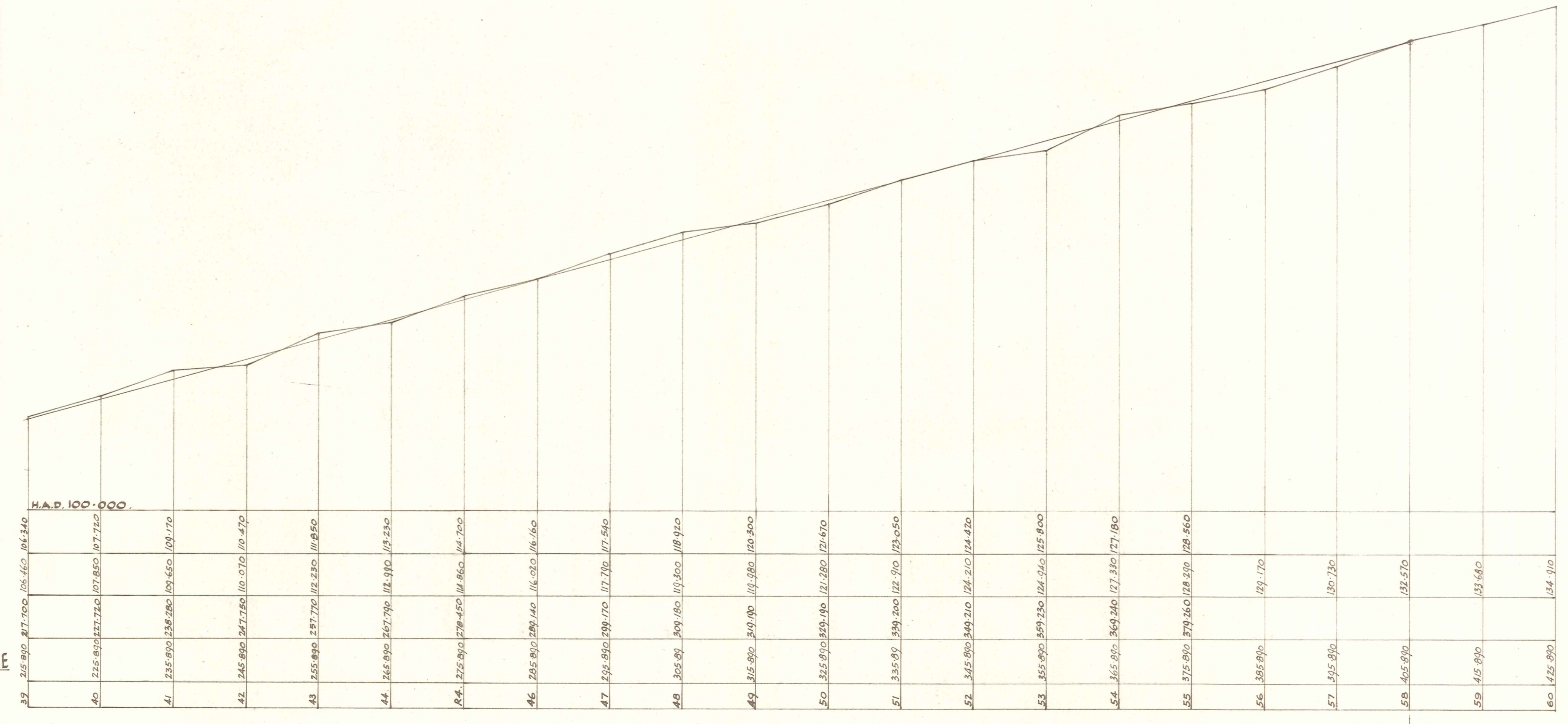
LONGITUDINAL SECTION -  
HORIZONTAL SCALE - 1:400  
VERTICAL SCALE - 1:200.

ENGINEERING REF. No.	AMENDMENTS	APPD.	DATE	NAME	DATE	APPROVED	OTAGO	CATCHMENT	BOARD	JOB No. 5/653	C. No.
				SURVEYED	A. D. K.	4/80					
				AERIAL PHOTO REF.							
				DRAWN	R. WILSON	6/80					
				TRACED							
				DESIGNED	I. M. SCARF	5/80					
				CHECKED	J. M. SCARF	17/10/80					
				RECOMMENDED							
							<b>RESERVOIR CREEK - ROXBURGH</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>			<b>L9645/1</b>	
							SCALE: AS SHOWN.			F. B. L.B. 345 & 356.	





PLAN  
Scale - 1:400



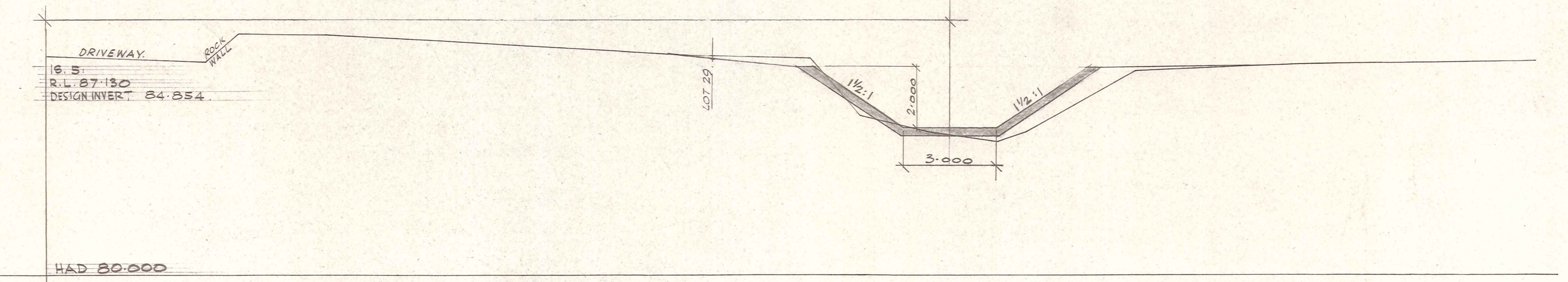
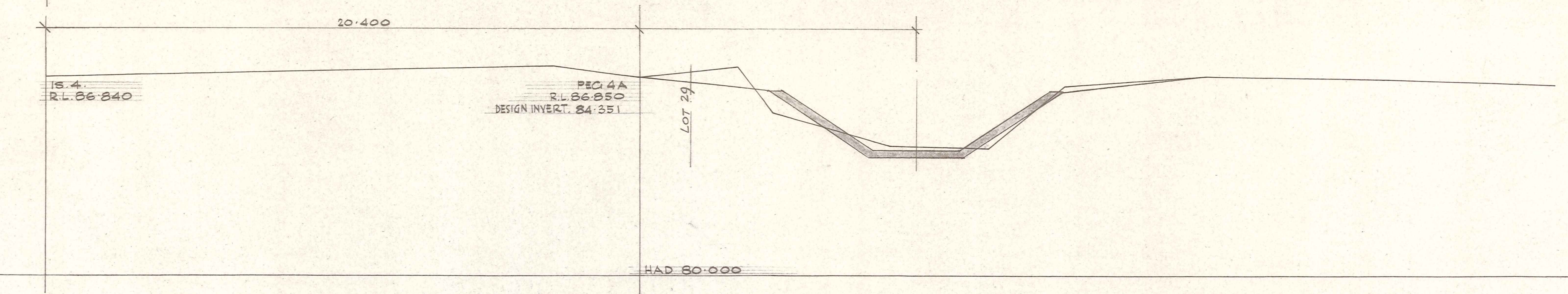
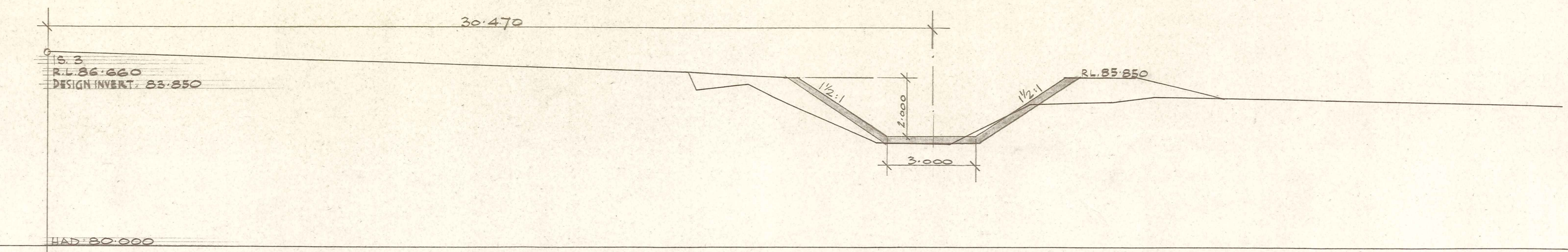
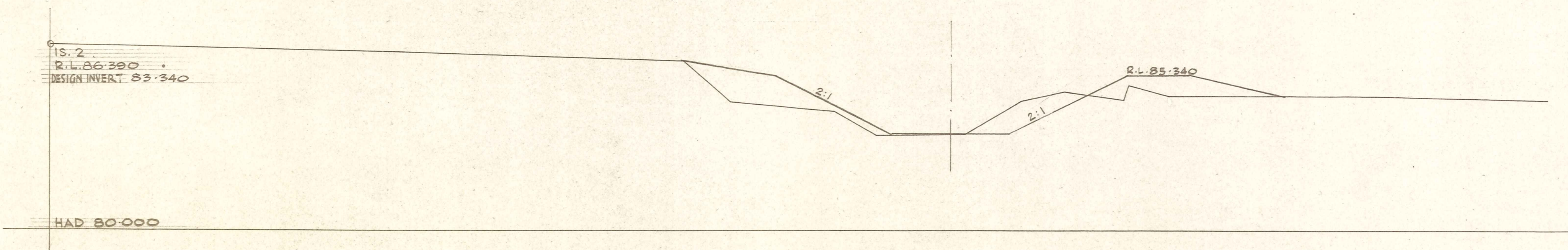
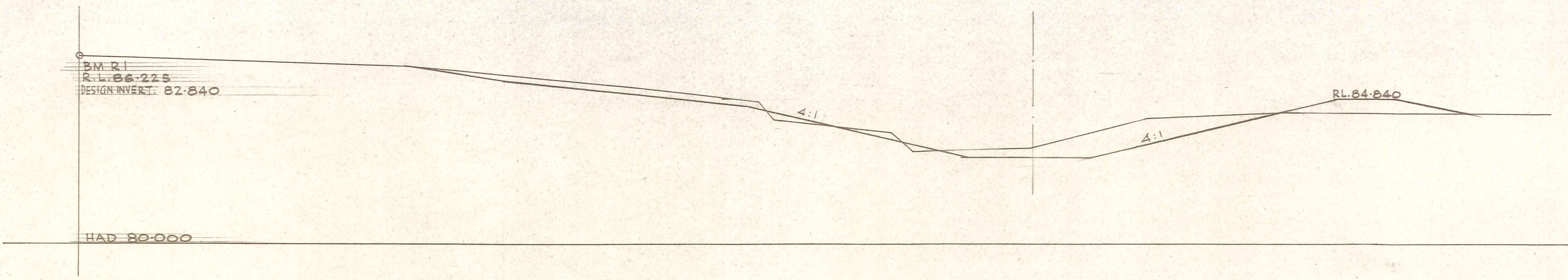
LONGITUDINAL SECTION - HORIZONTAL SCALE - 1:400  
VERTICAL SCALE - 1:200

DESIGN INVERT  
EXISTING INVERT  
DISTANCE ON C  
DISTANCE ON TRAVERSE  
PEG.

PEG.	DISTANCE ON TRAVERSE	DISTANCE ON C	EXISTING INVERT	DESIGN INVERT
39	215.890	217.760	105.160	104.340
40	225.890	227.760	107.850	107.720
41	235.890	237.760	109.450	109.170
42	245.890	247.760	110.070	110.470
43	255.890	257.770	112.230	111.850
44	265.890	267.790	112.910	113.230
45	275.890	277.800	114.860	114.700
46	285.890	287.810	116.030	116.160
47	295.890	297.820	117.790	117.540
48	305.890	307.830	119.300	118.920
49	315.890	317.840	120.300	120.300
50	325.890	327.850	121.380	121.670
51	335.890	337.860	122.910	123.050
52	345.890	347.870	124.210	124.420
53	355.890	357.880	124.940	125.800
54	365.890	367.890	127.330	127.180
55	375.890	377.900	128.330	128.560
56	385.890	387.910	129.170	
57	395.890	397.920	130.730	
58	405.890	407.930	132.570	
59	415.890	417.940	133.640	
60	425.890	427.950	134.710	

ENGINEERING REF No.	AMENDMENTS	APPD.	DATE	NAME	DATE	APPROVED	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.
				SURVEYED A.D.K.	4/80	 <b>A.J. GILLIES</b> B.E., B.Sc., P.N.Z.I.E., M.I.C.E., CHIEF ENGINEER.	<b>RESERVOIR CREEK - ROXBURGH</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>	<b>L9645/2.</b>	
				AERIAL PHOTO REF.					
				DRAWN R. WILSON	6/80				
				DESIGNED I.M. SCARF	5/80				
				CHECKED G.M. Scarf	17/10/80				
SOIL AND WATER CONSERVATION FARM PLAN No.				RECOMMENDED		SCALE: AS SHOWN.	F. B.	L.B. 345 & 356.	

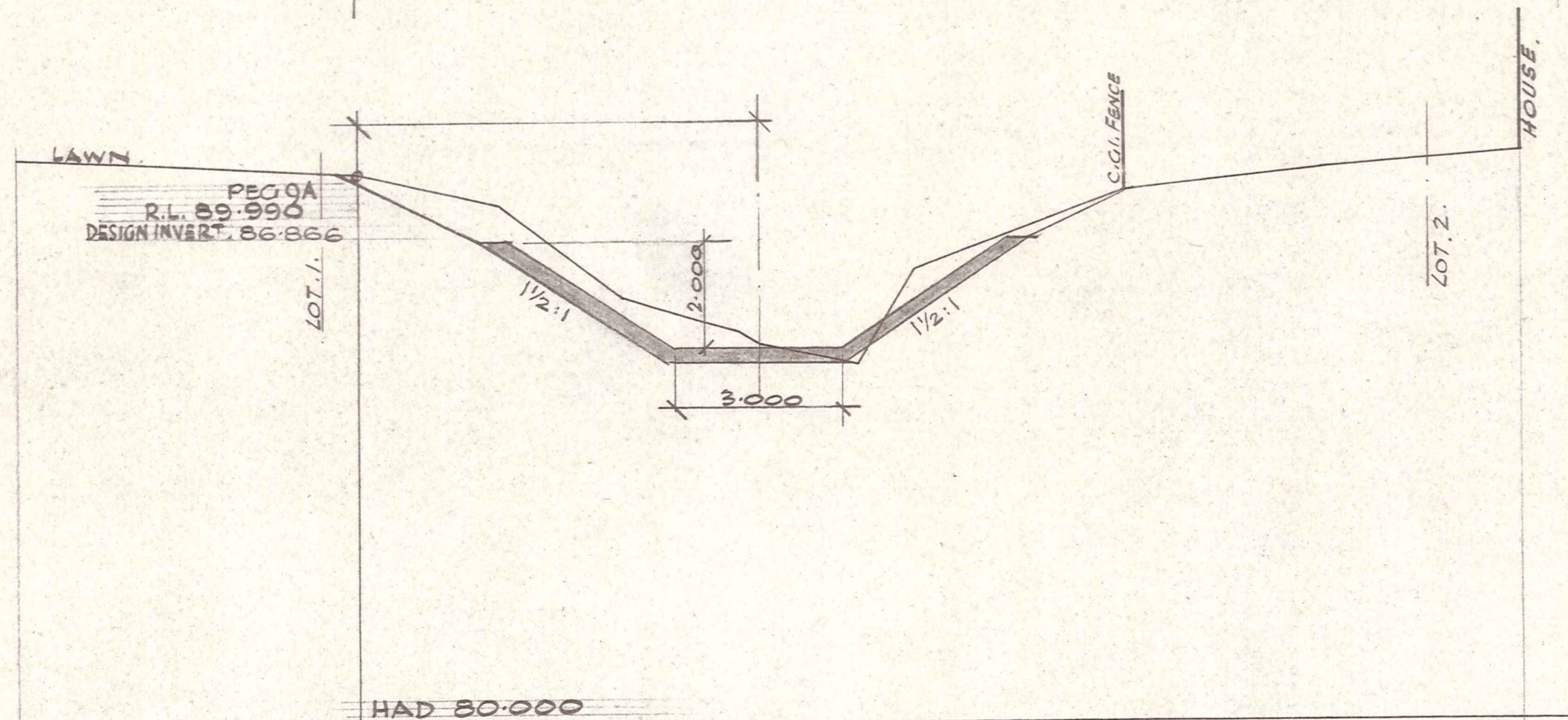
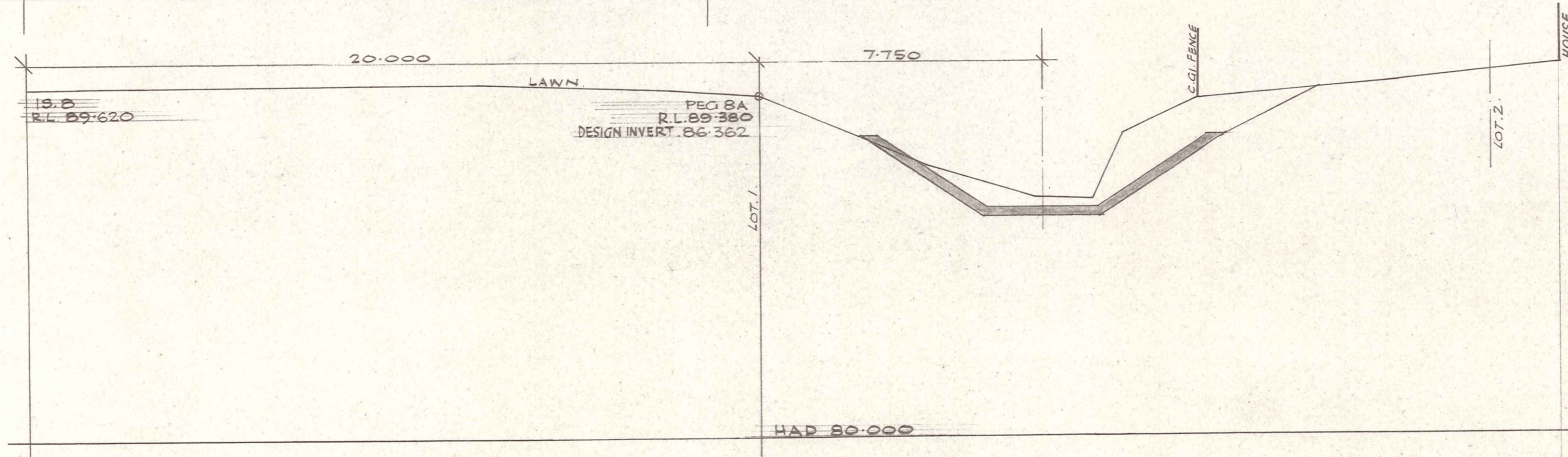
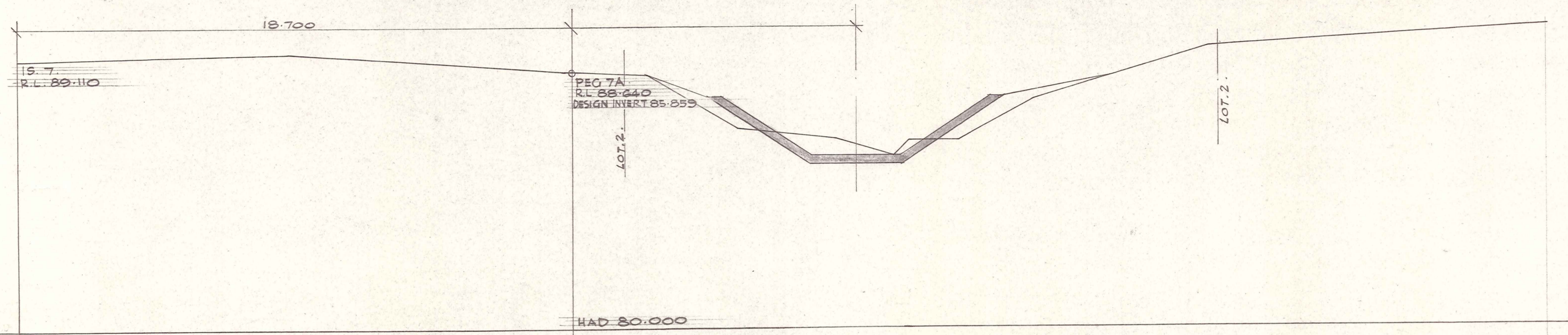
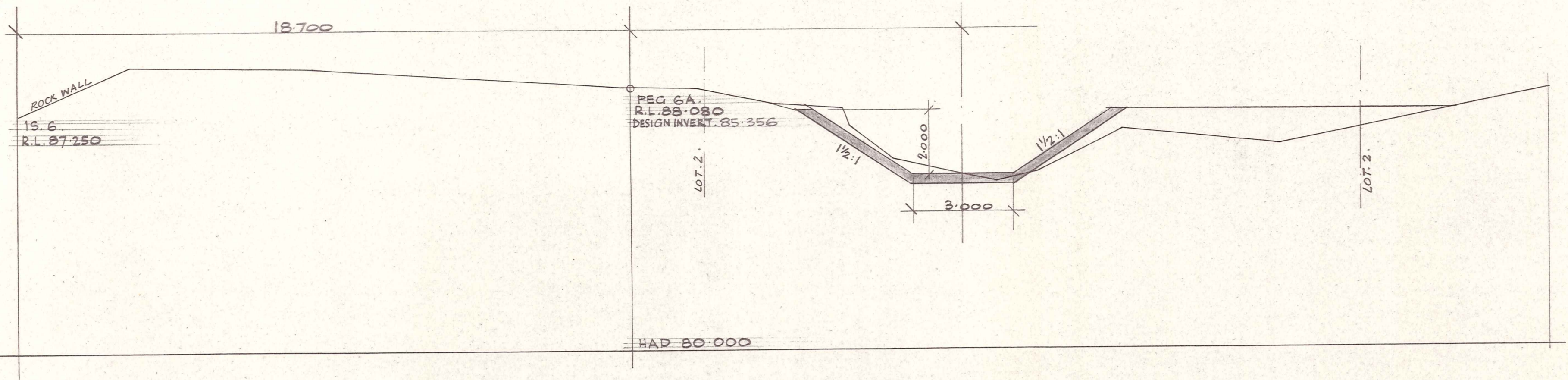




ENGINEERING REF No.	AMENDMENTS	APPD.	DATE	SURVEYED	A. D. K.	DATE	4/80	APPROVED	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.	
				AERIAL PHOTO REF.				 <b>A. J. GILLIES</b> BE. B.Sc. ENZIE. M.I.C.E. CHIEF ENGINEER.	<b>RESERVOIR CREEK - ROXBURGH,</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>	<b>L9645/3</b>		
			DRAWN	R.W.	DATE	5/80						
			TRACED	A.D.K. & R.W.	DATE	6/80						
			DESIGNED	I.M. SCARF.	DATE	5/80						
			CHECKED	<i>I.M. Scarf</i>	DATE	17/10/80						
SOIL AND WATER CONSERVATION FARM PLAN No.			RECOMMENDED								F. B.	L. B. 345 & 356.

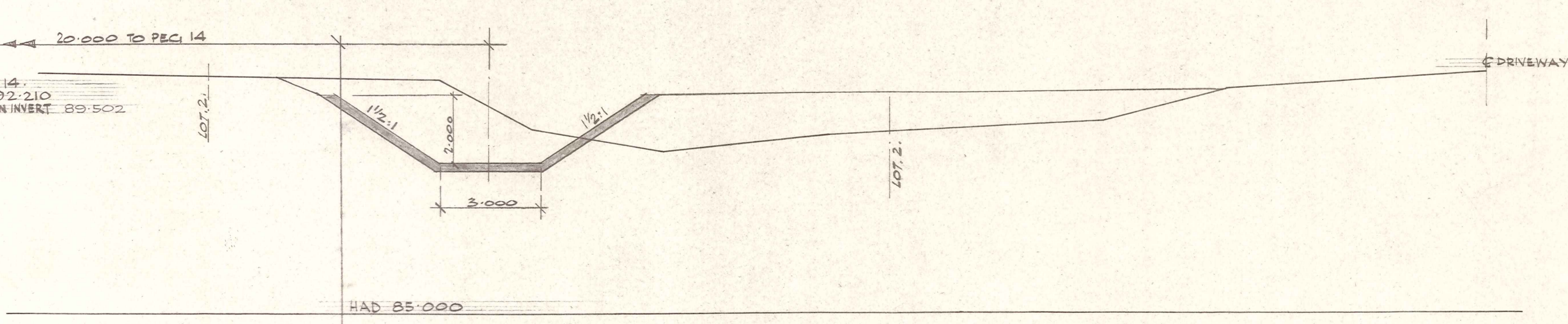
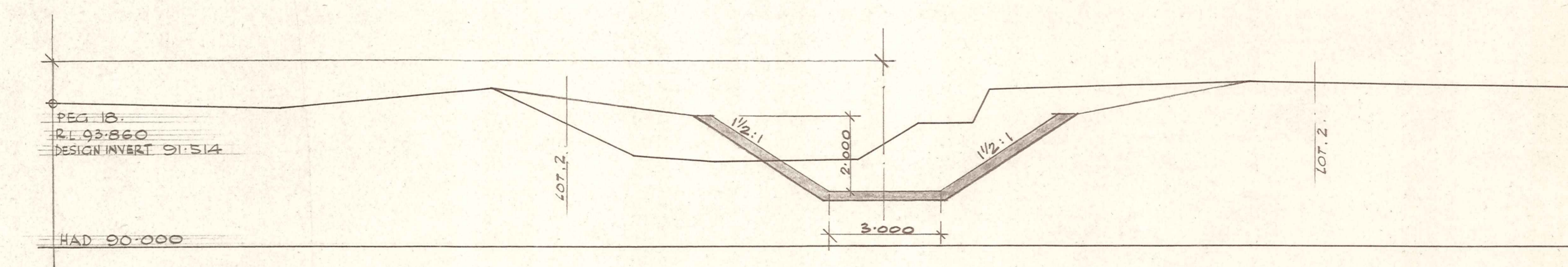
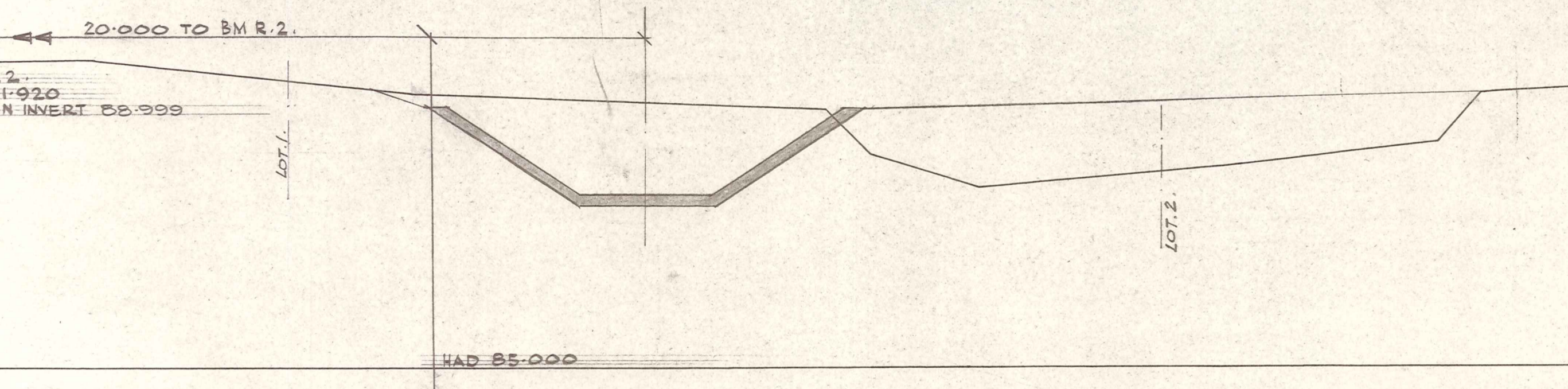
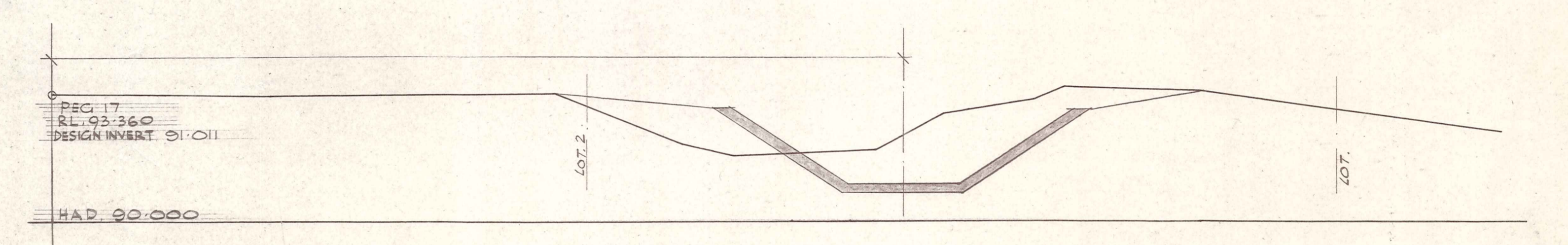
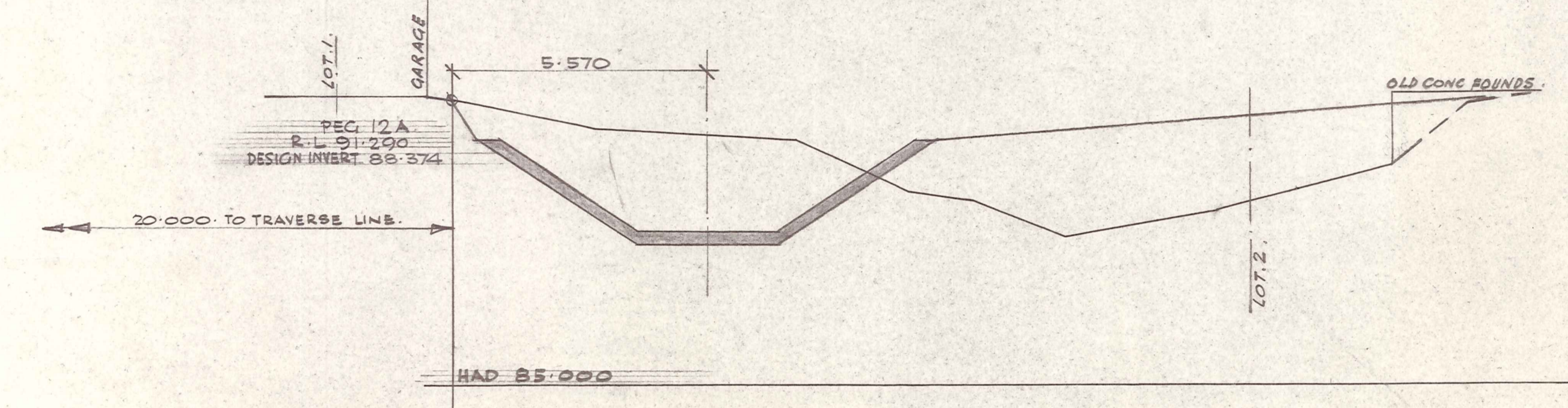
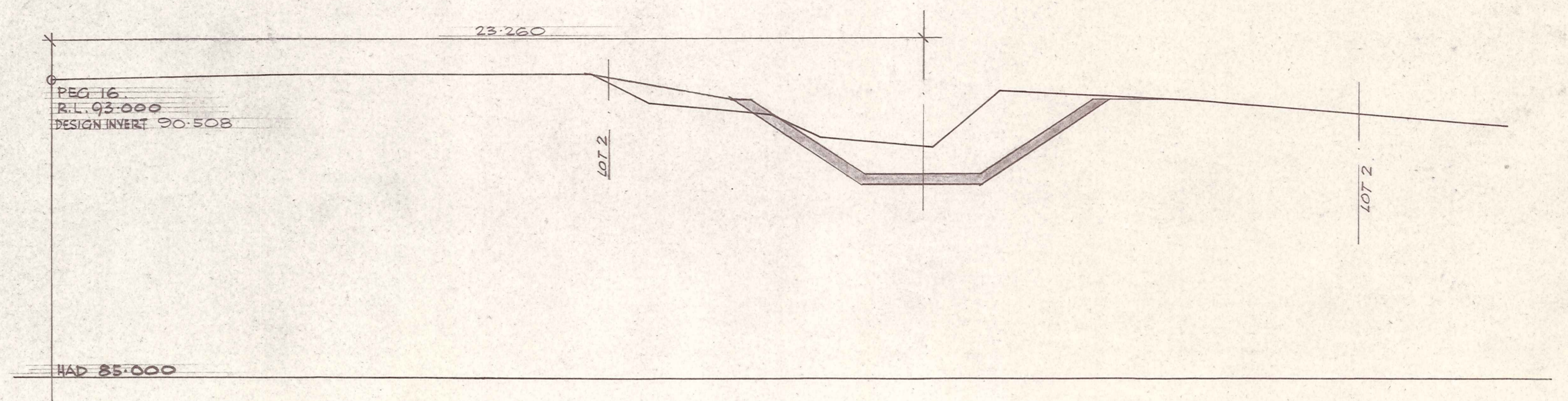
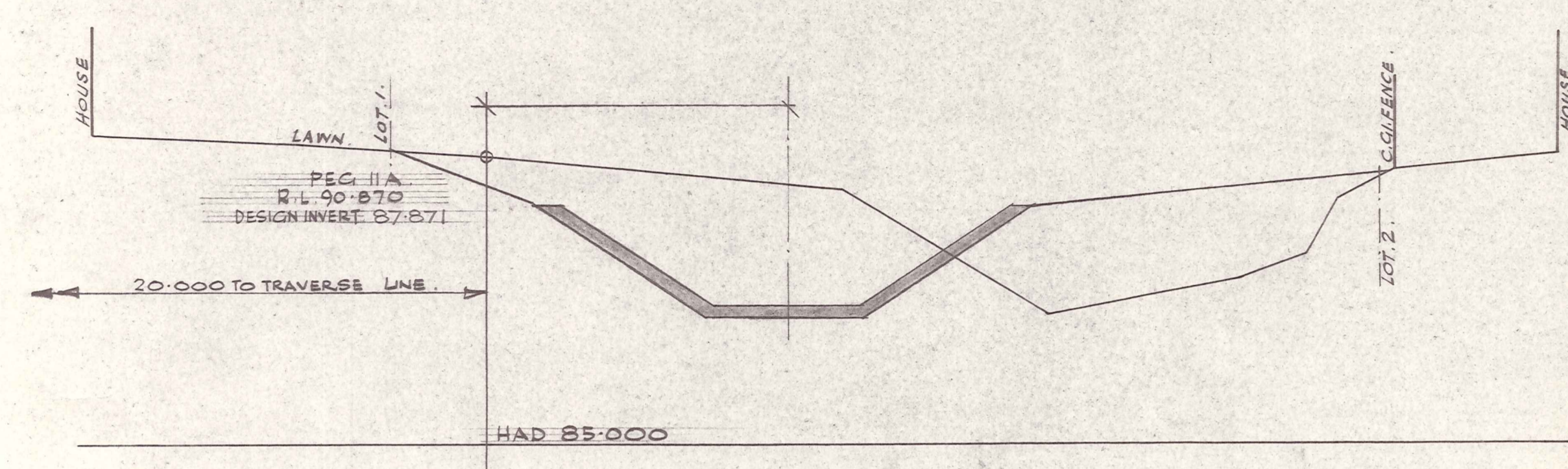
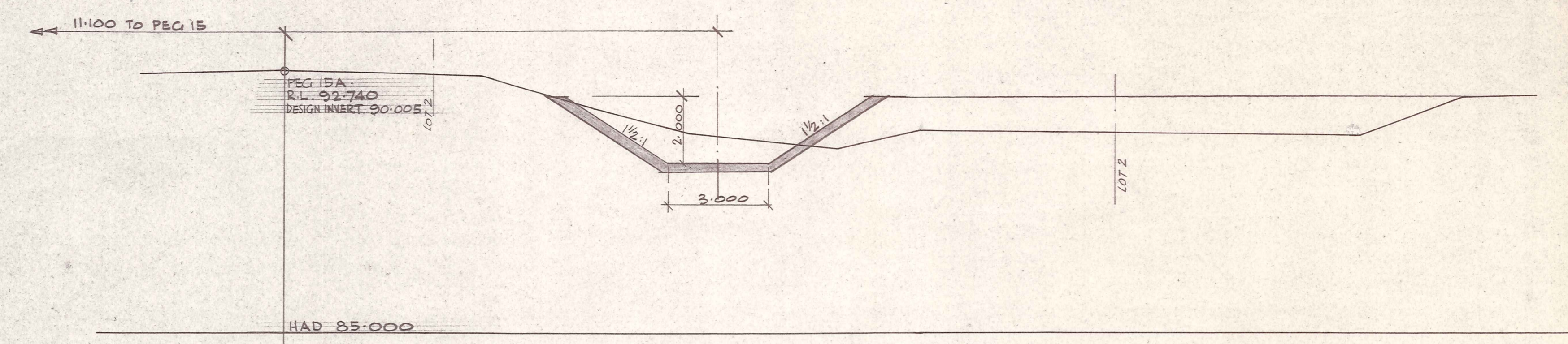
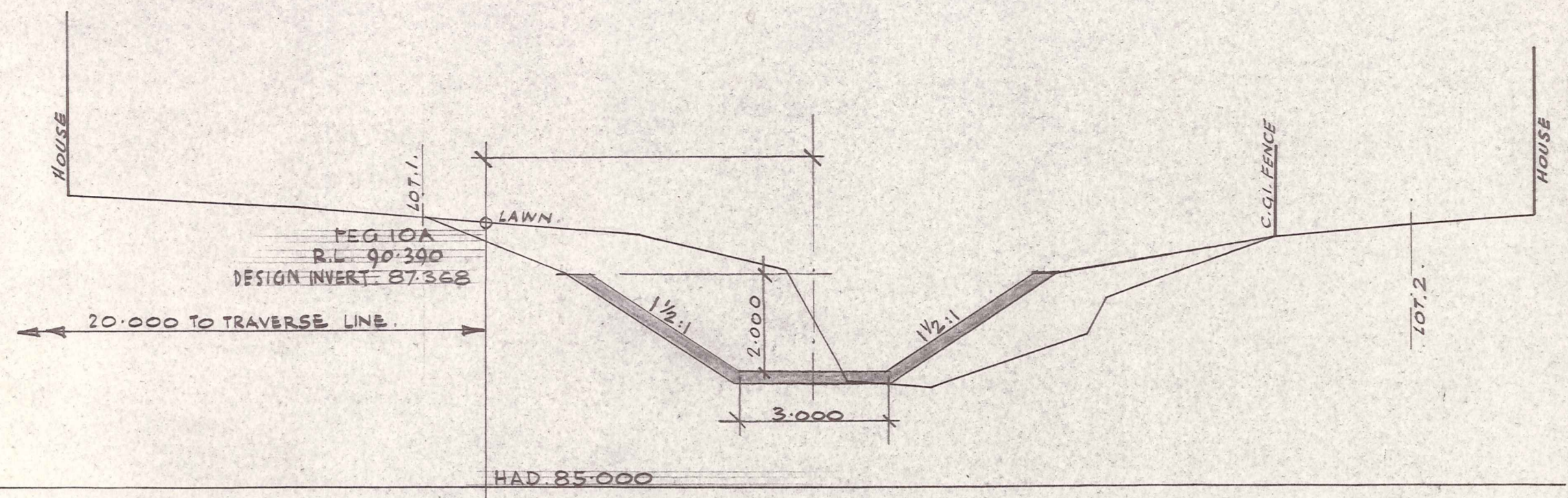
SCALE: 1:100





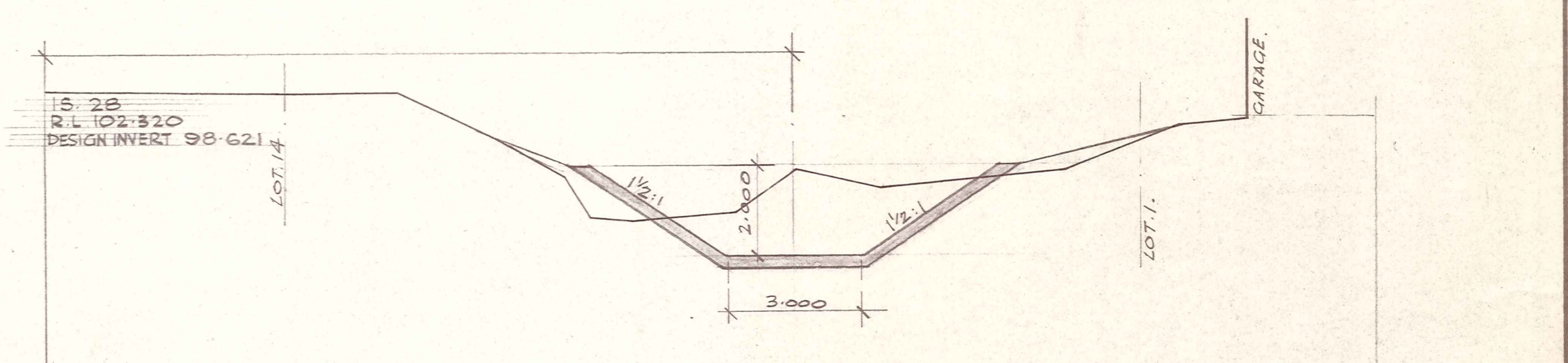
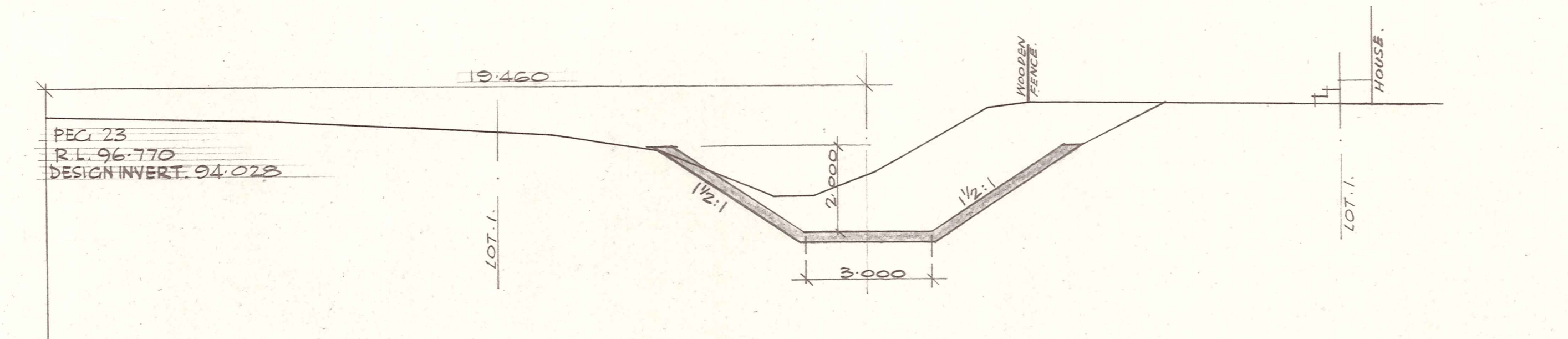
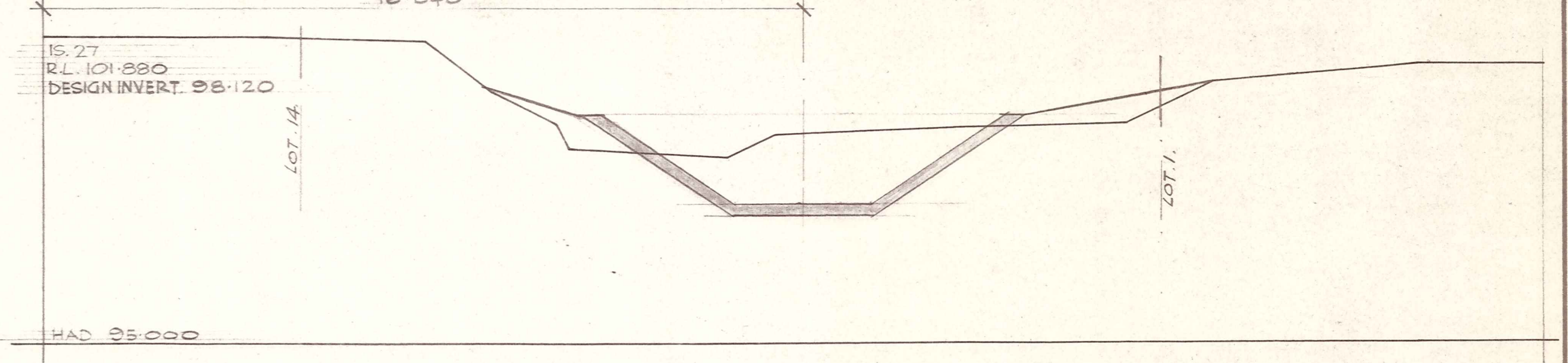
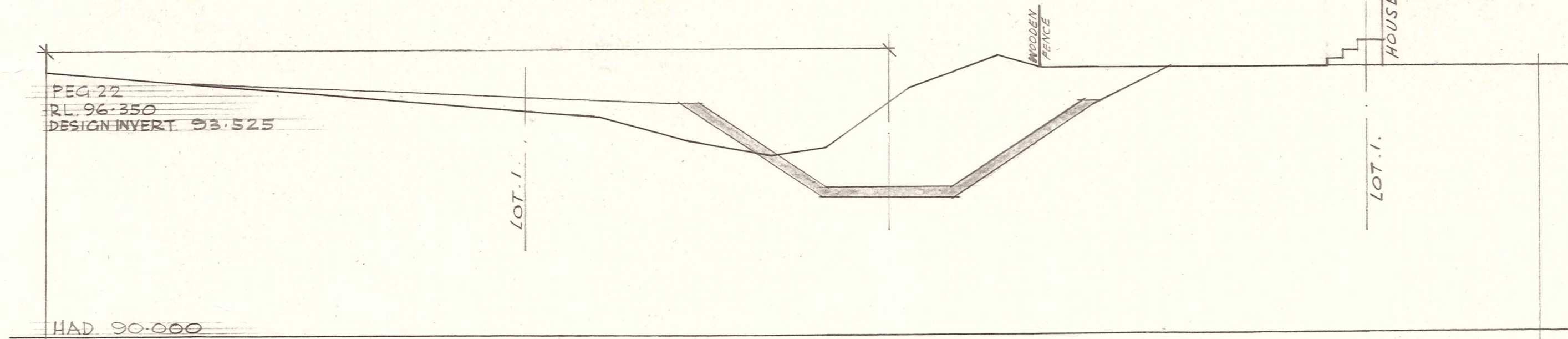
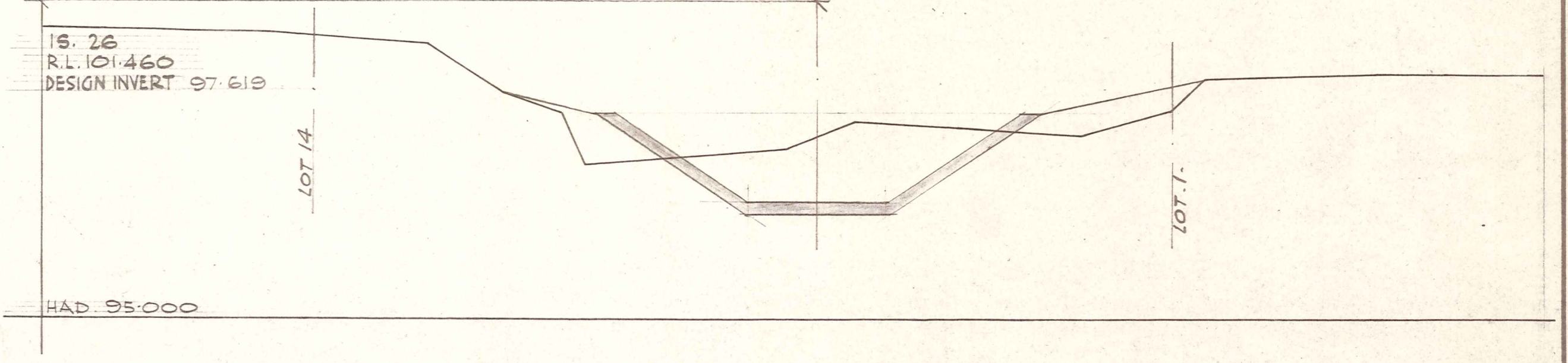
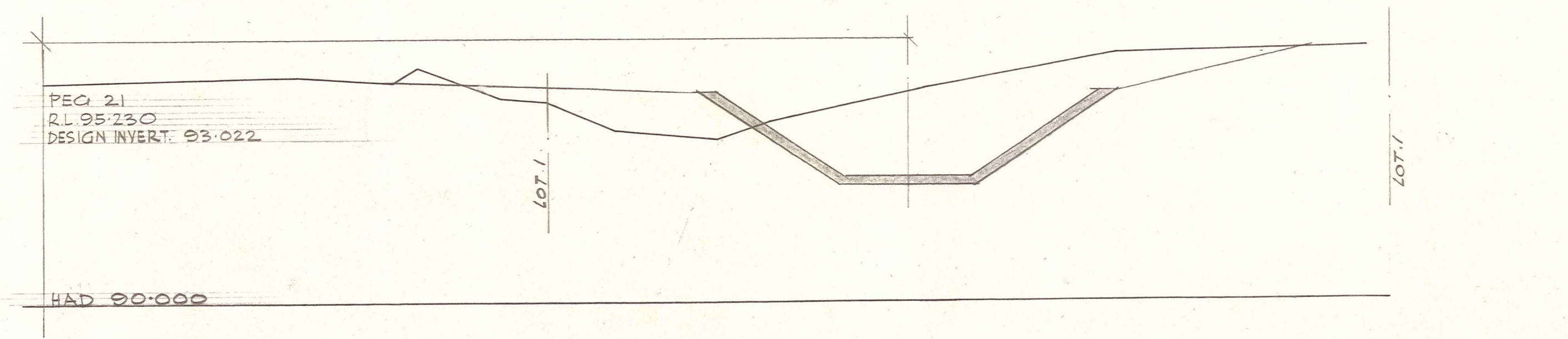
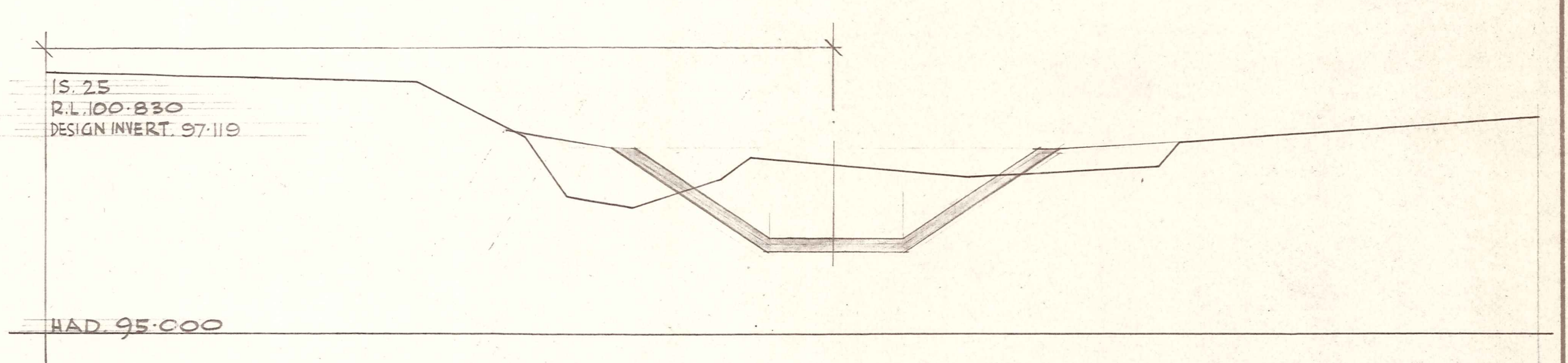
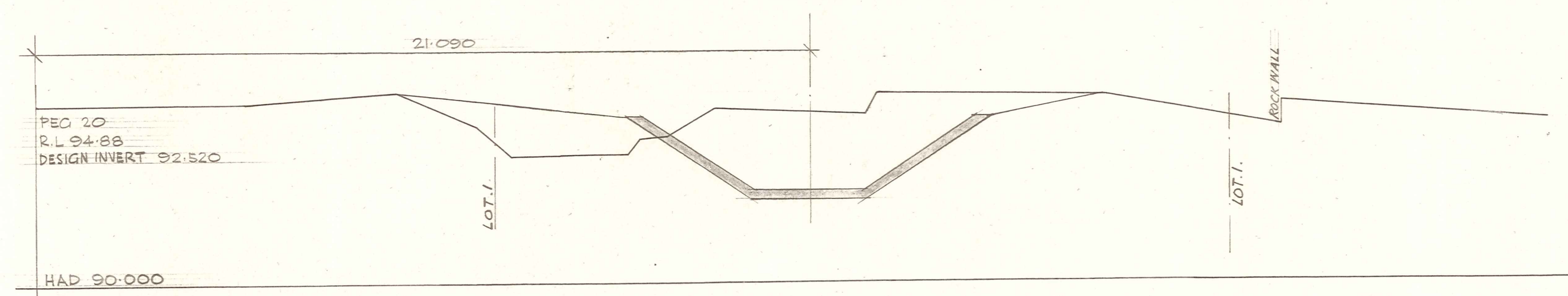
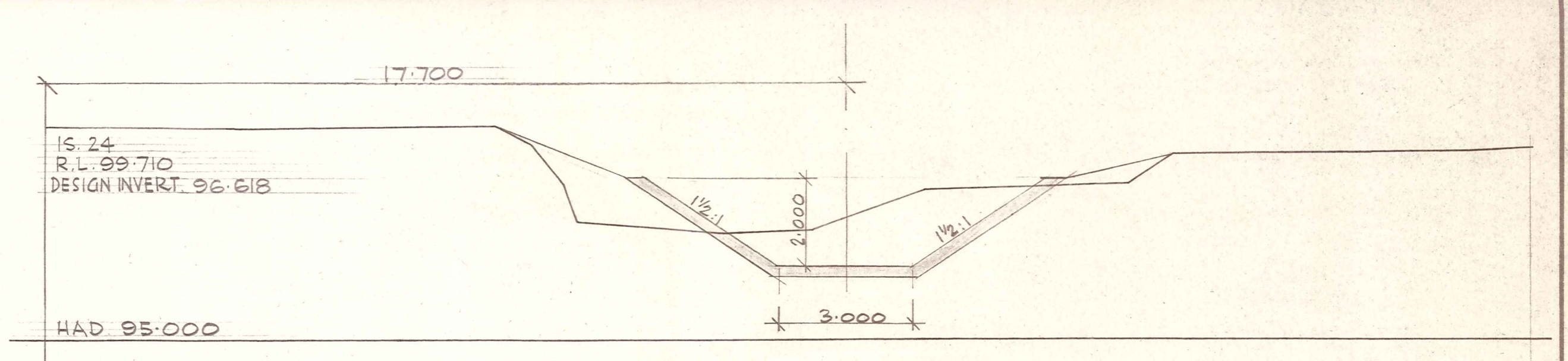
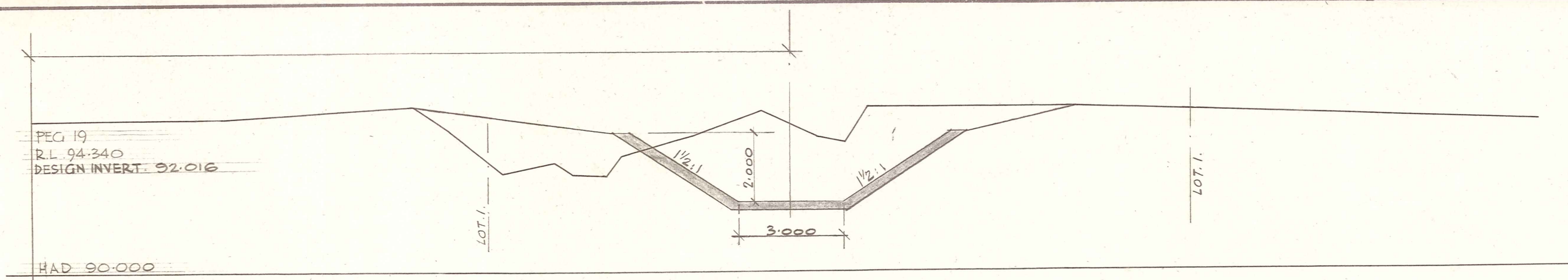
ENGINEERING REF. No.	AMENDMENTS	APPD.	DATE	NAME	DATE	APPROVED	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.
				SURVEYED A.D.K.	4/80	 <b>A.J. GILLIES</b> <b>B.E. B.Sc. FNZIE. M.I.C.E.</b> <b>CHIEF ENGINEER.</b>	<b>RESERVOIR CREEK - ROXBURGH.</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>	<b>L9645/4</b>	
				AERIAL PHOTO REF.					
				DRAWN R.W.	6/80				
				TRACED A.D.K. & R.W.					
				DESIGNED I.M. SCARP	5/80				
				CHECKED <i>9 M Leaf</i>	17/10/80				
SOIL AND WATER CONSERVATION FARM PLAN No.				RECOMMENDED					
							SCALE: 1:100.	F. B.	L.B. 3454356.





ENGINEERING REF. No.	AMENDMENTS	APPD	DATE	SURVEYED	NAME	DATE	APPROVED	OTAGO	CATCHMENT	BOARD	JOB No. 5/653	C. No.	
				A.D.K.		4/80	<i>Gillies</i>						
				AERIAL PHOTO REF.									
				DRAWN	R.W.	5/80							
				TRACED	A.D.K. & R.W.	6/80							
				DESIGNED	1/M SCARE	5/80							
				CHECKED	9 M Scarf	17/10/80							
				RECOMMENDED									
<b>RESERVOIR CREEK - ROXBURGH</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>								SCALE 1:100.		JOB No. 5/653		C. No.	
												L9645/5	
SOIL AND WATER CONSERVATION FARM PLAN No.								F B		LB 345#356			





ENGINEERING REF No	AMENDMENTS	APPD	DATE	SURVEYED	NAME	DATE	APPROVED
				A.O.K.	A.O.K.	4/80	<i>[Signature]</i>
				DRAWN	R.W.	5/80	
				TRACED	A.D.K. & R.W.	6/80	
				DESIGNED	I.M. SCARE	5/80	
				CHECKED	G.M. Scarf	17/10/80	
				RECOMMENDED	<i>[Signature]</i>		

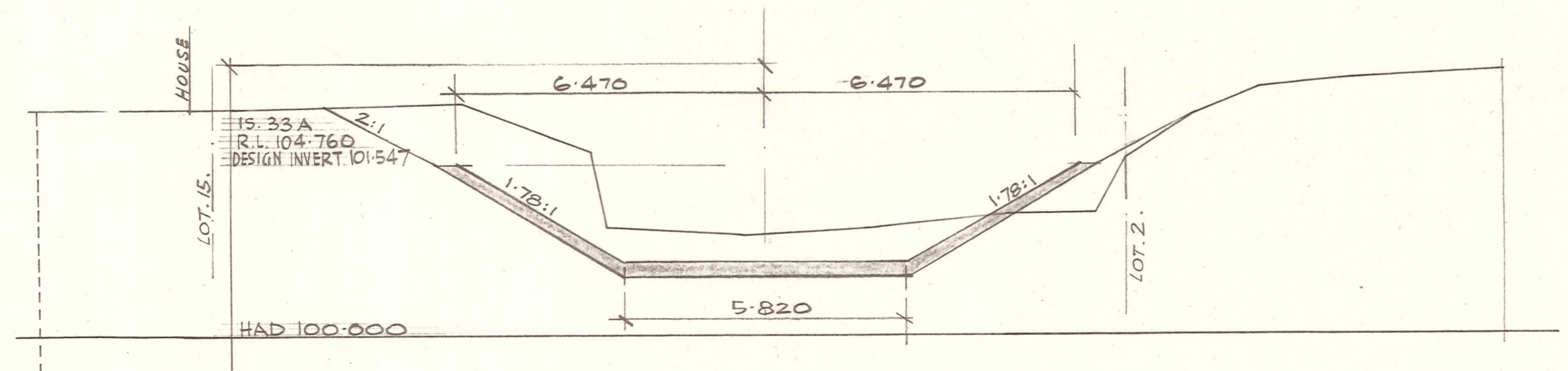
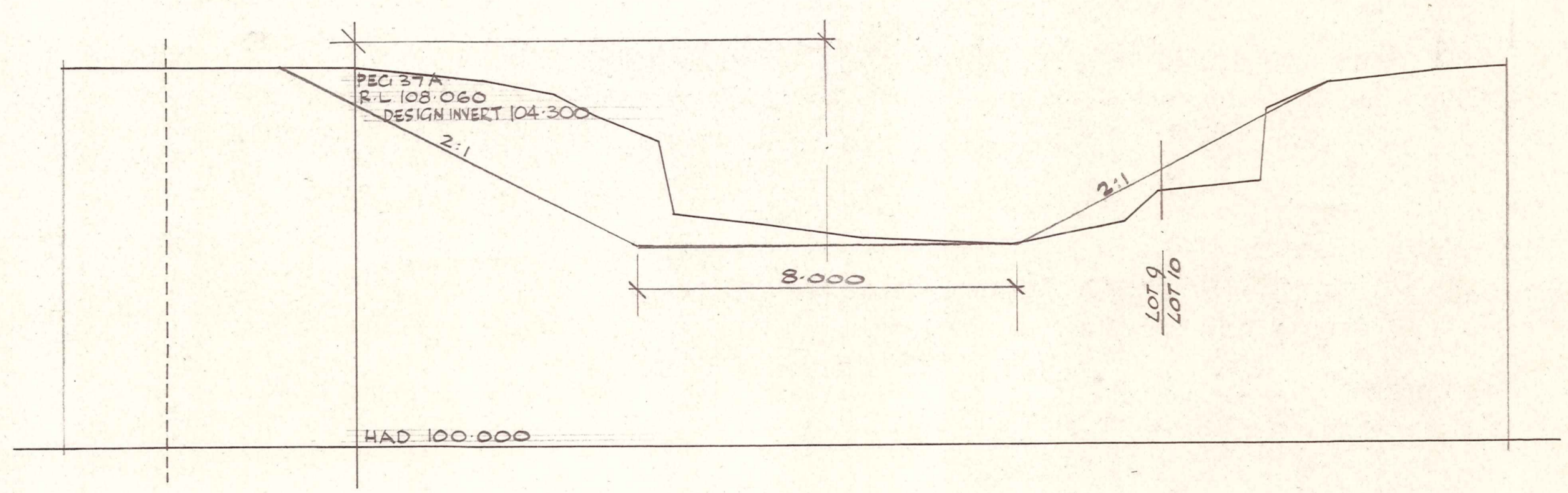
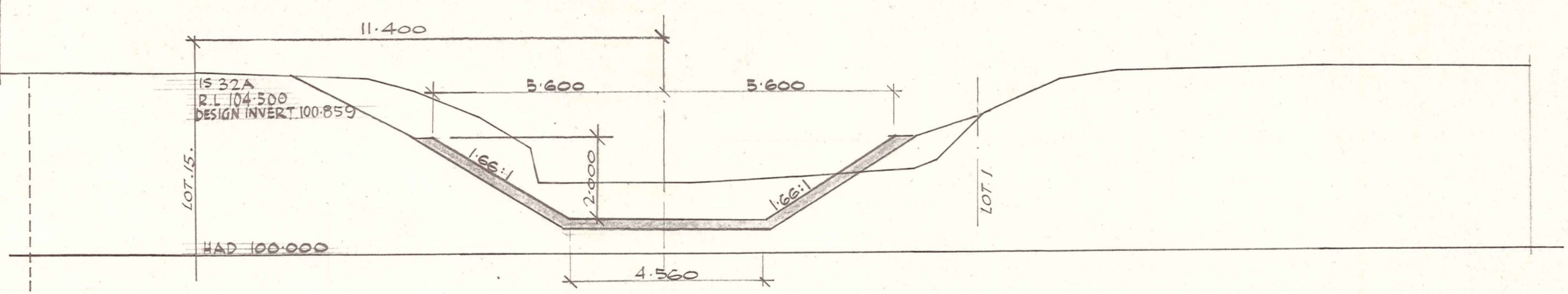
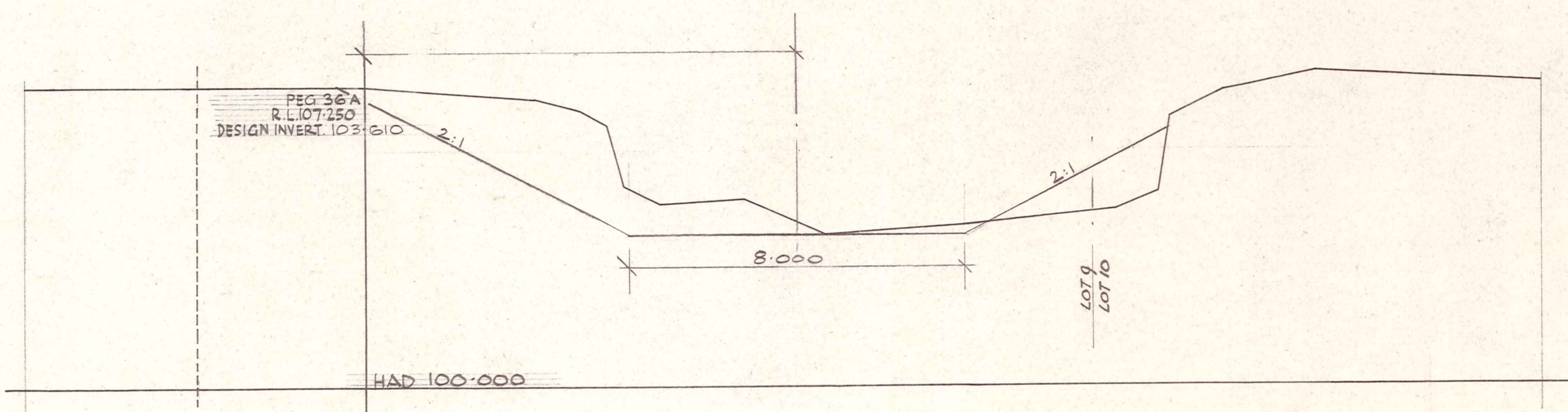
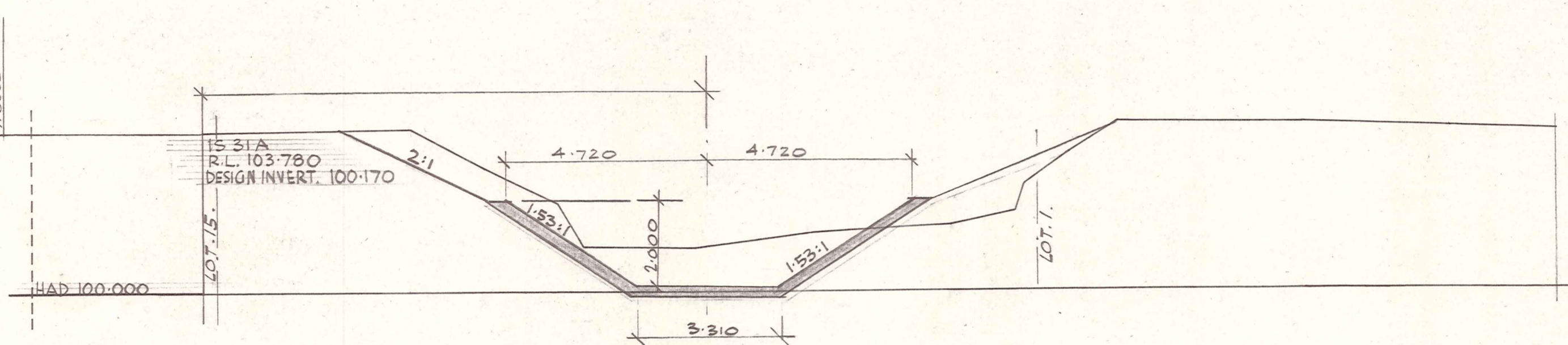
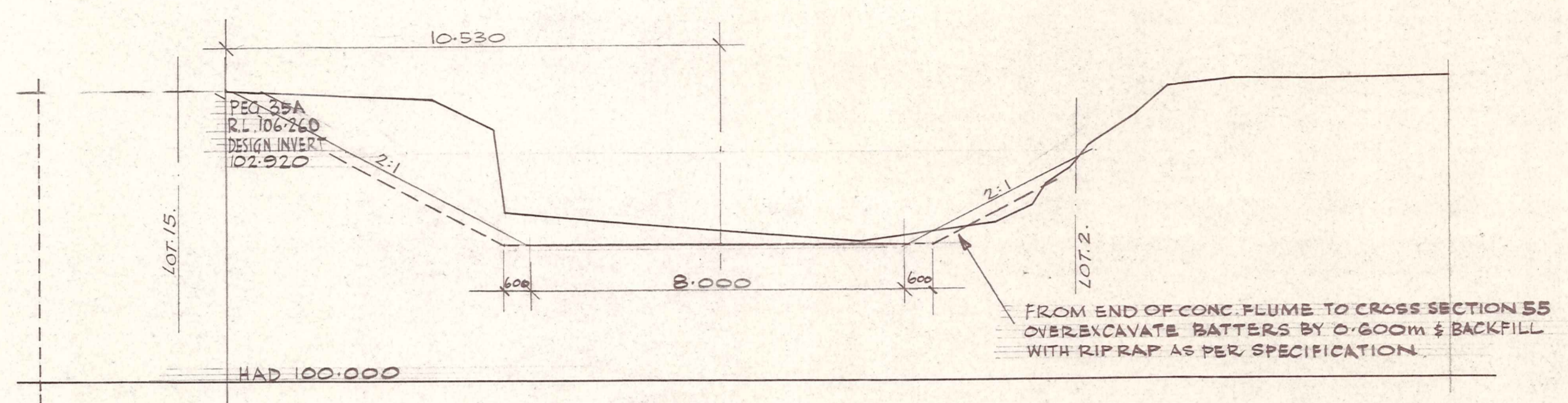
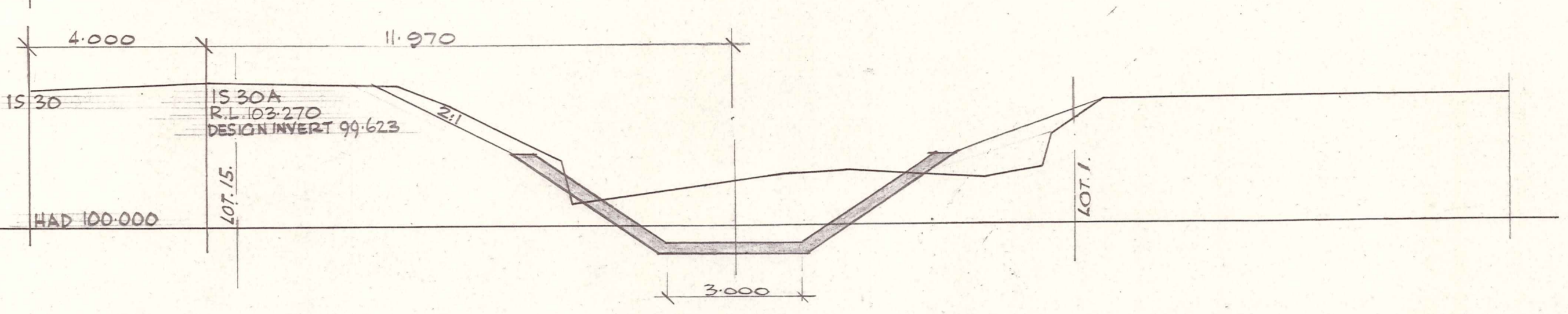
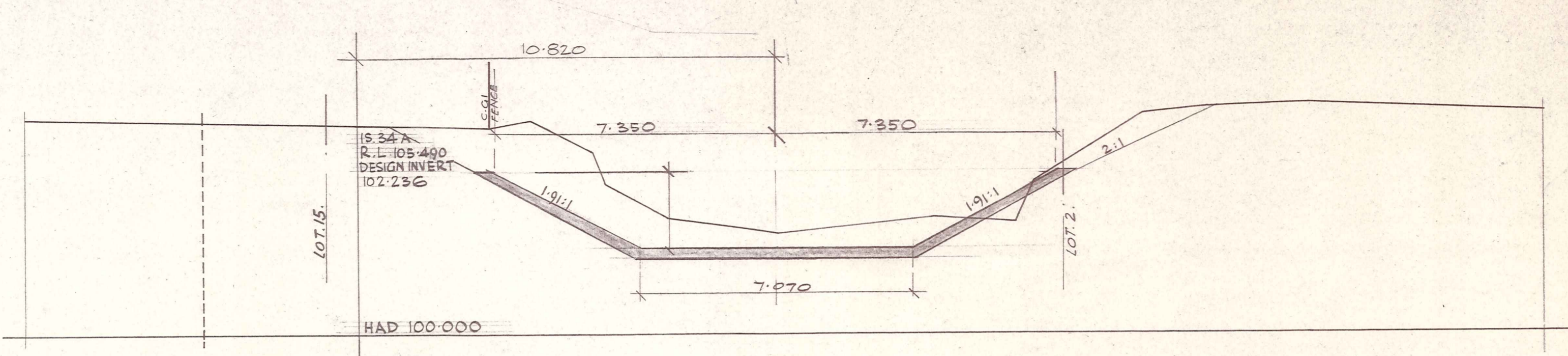
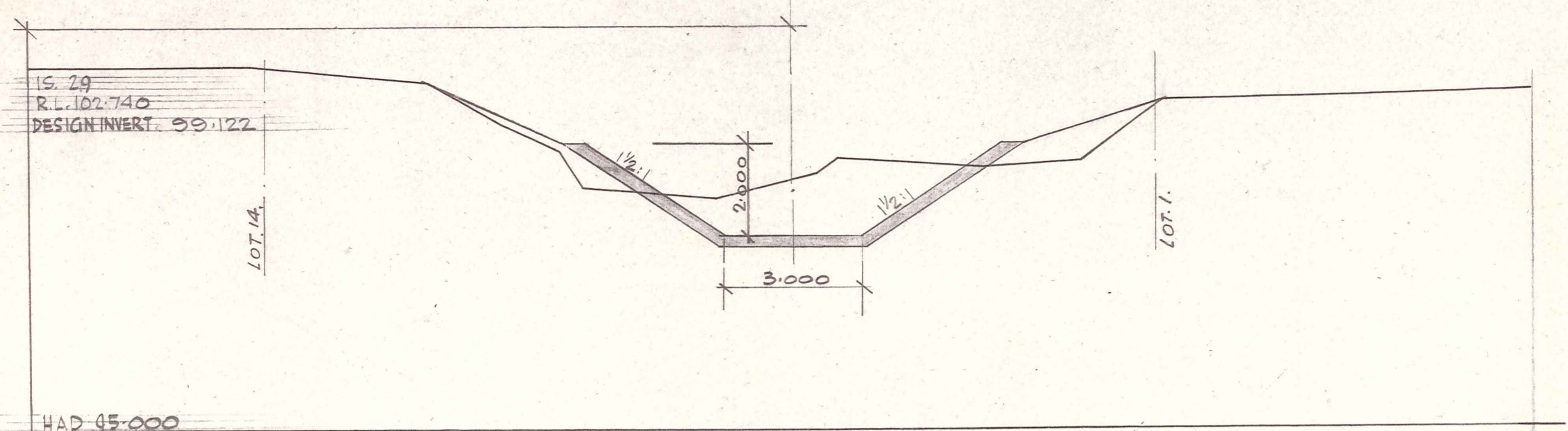
OTAGO CATCHMENT BOARD

## RESERVOIR CREEK - ROXBURGH PROPOSED CHANNEL IMPROVEMENT.

SCALE 1:100

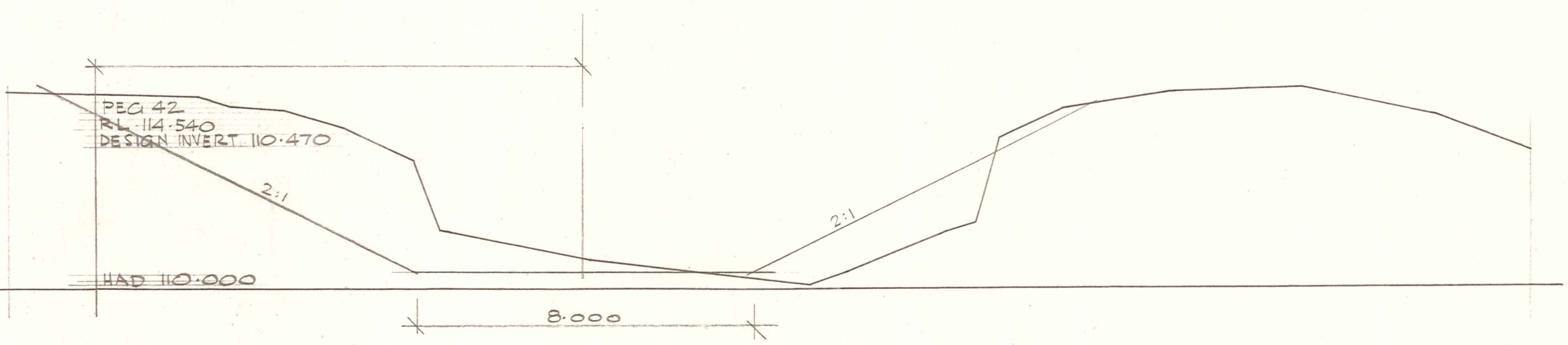
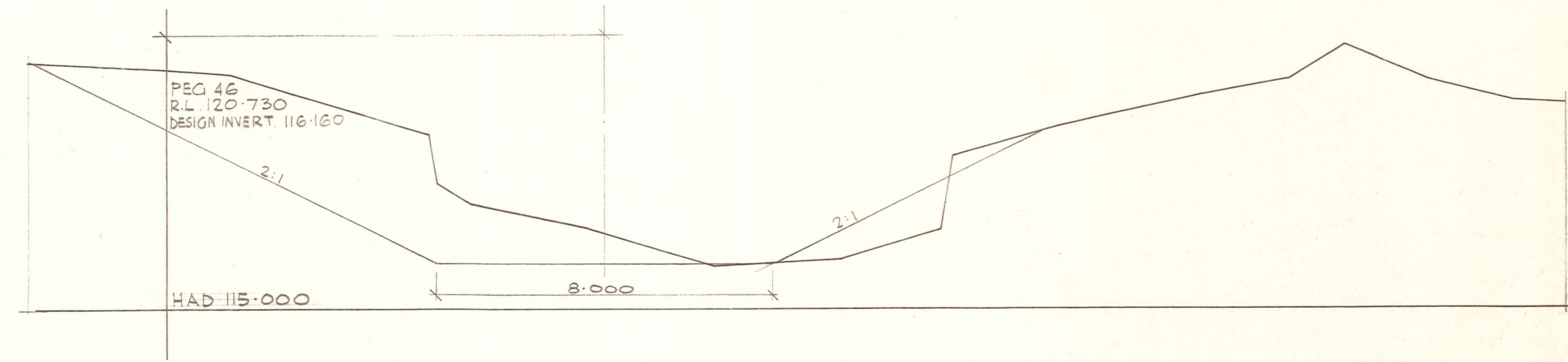
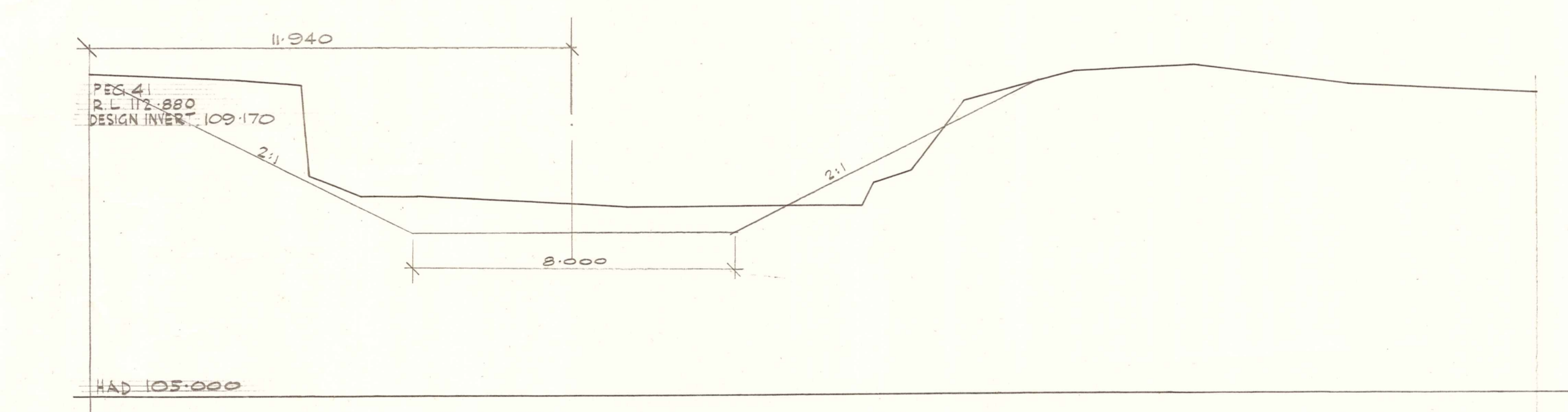
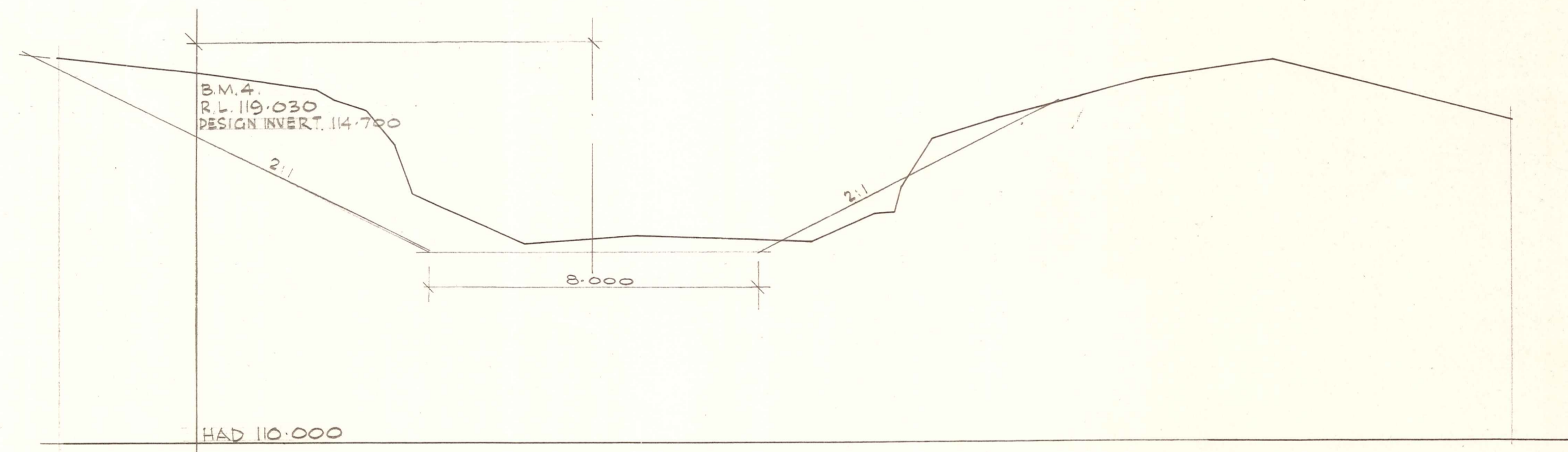
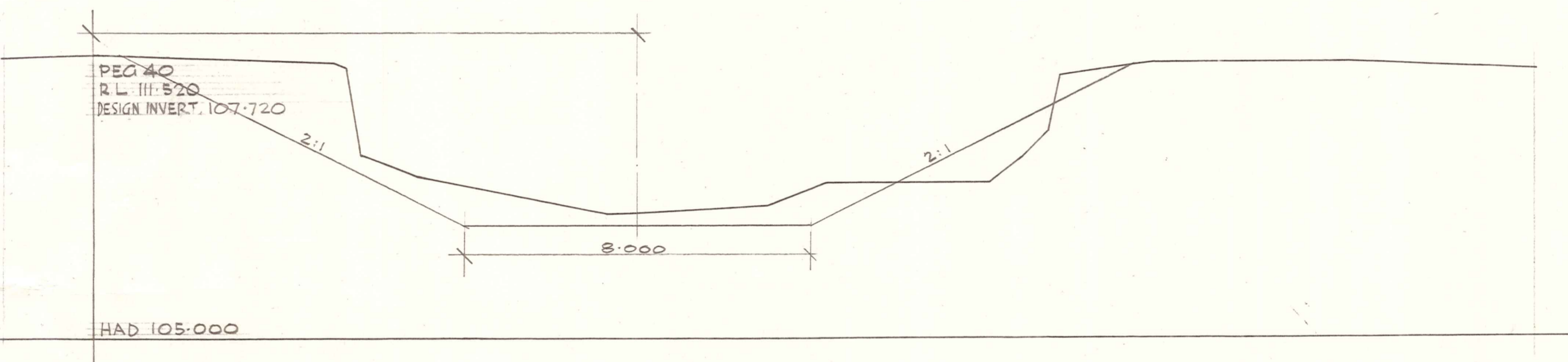
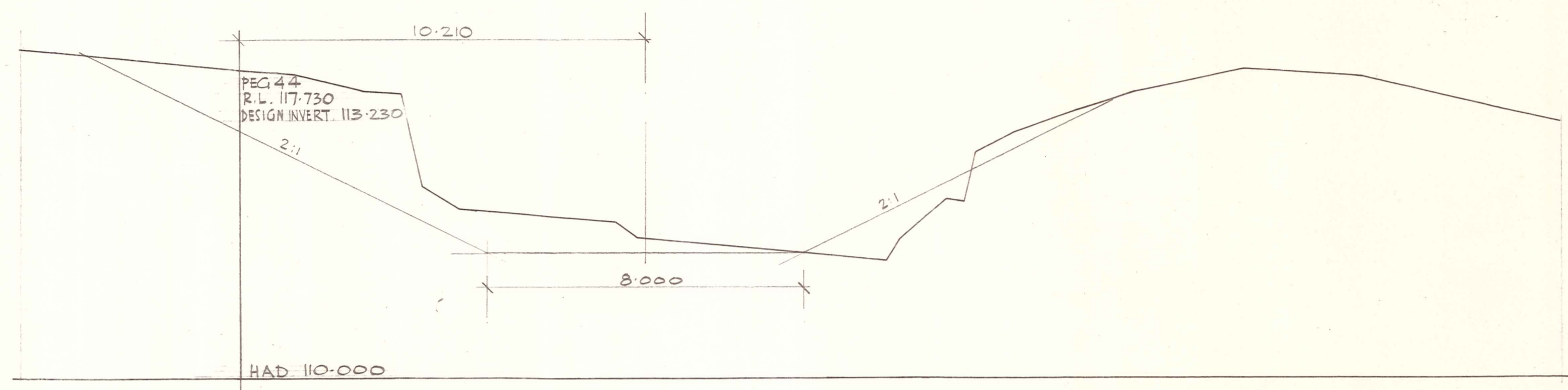
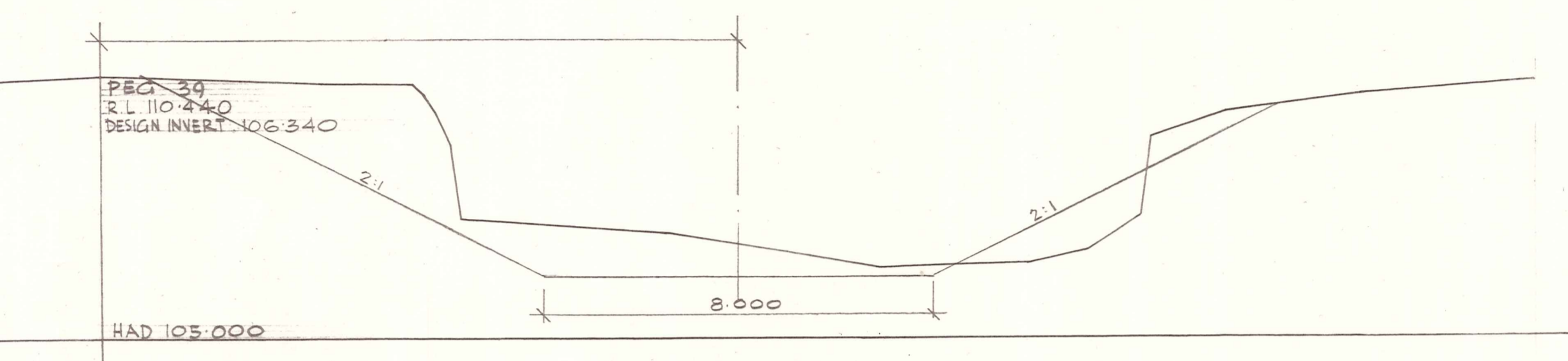
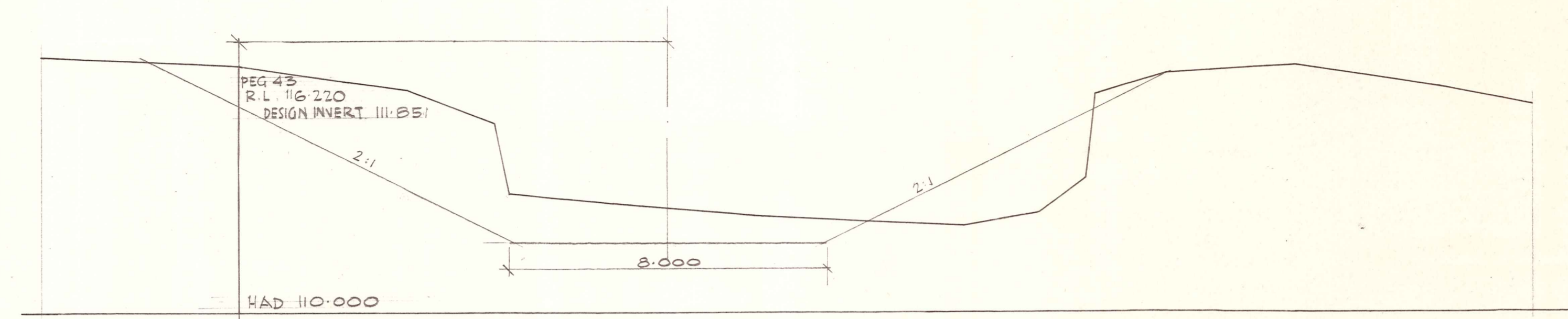
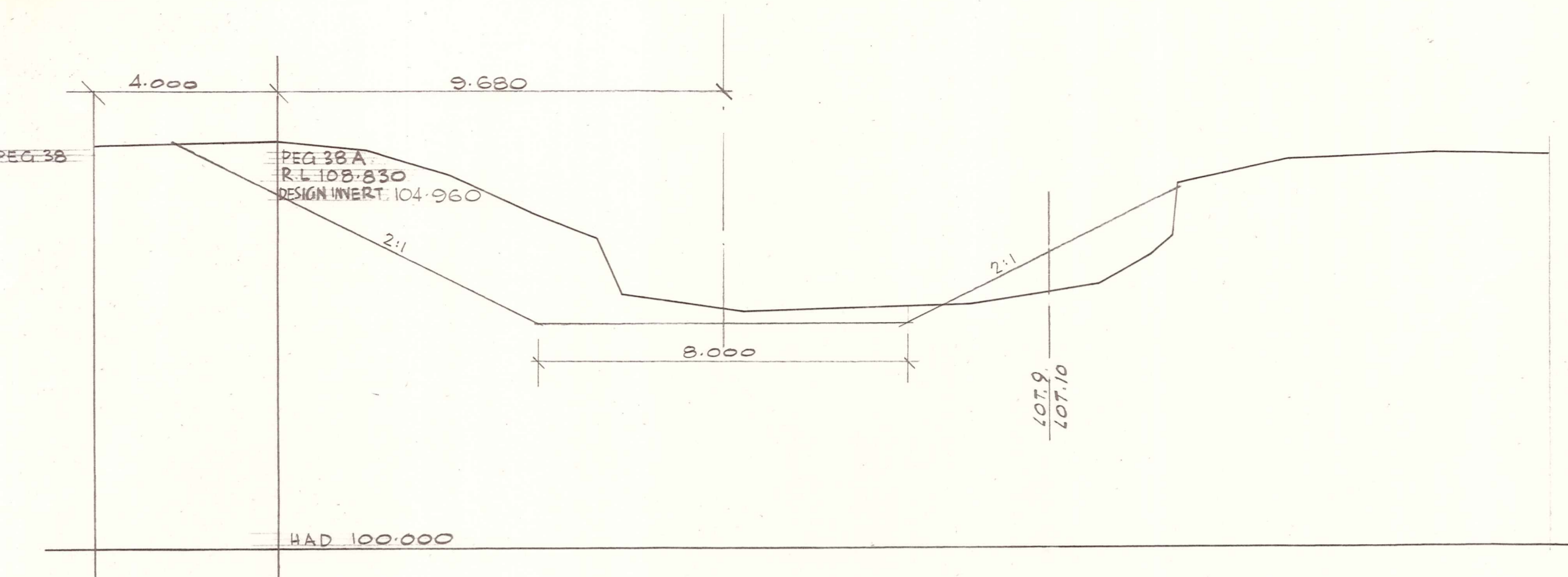
JOB No 5/653	C. No
<b>L 9645/6</b>	
F.B.	L.B. 345 #356





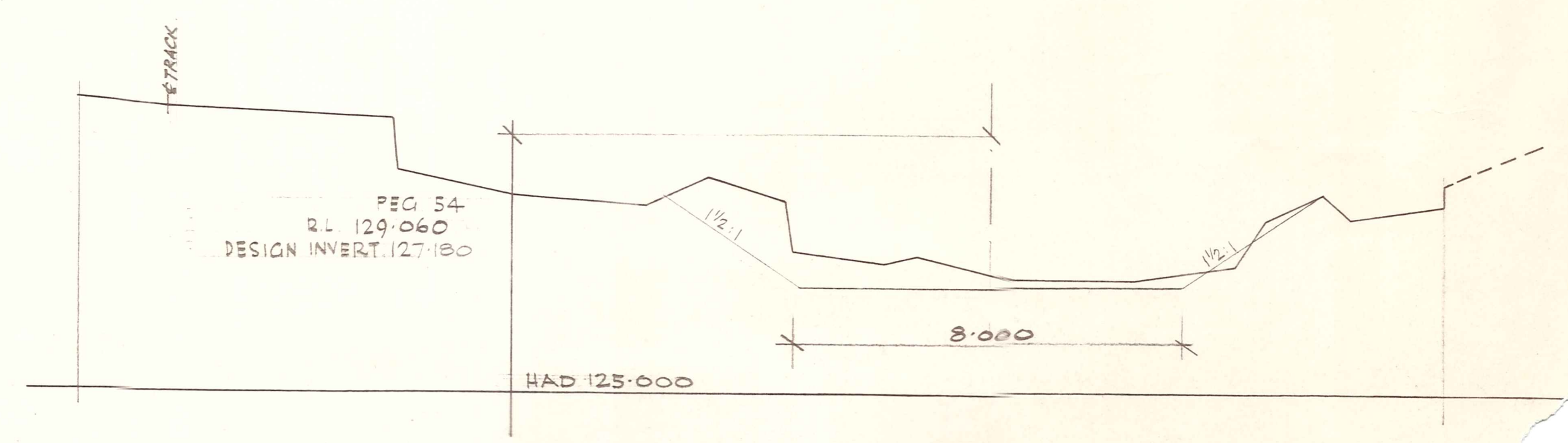
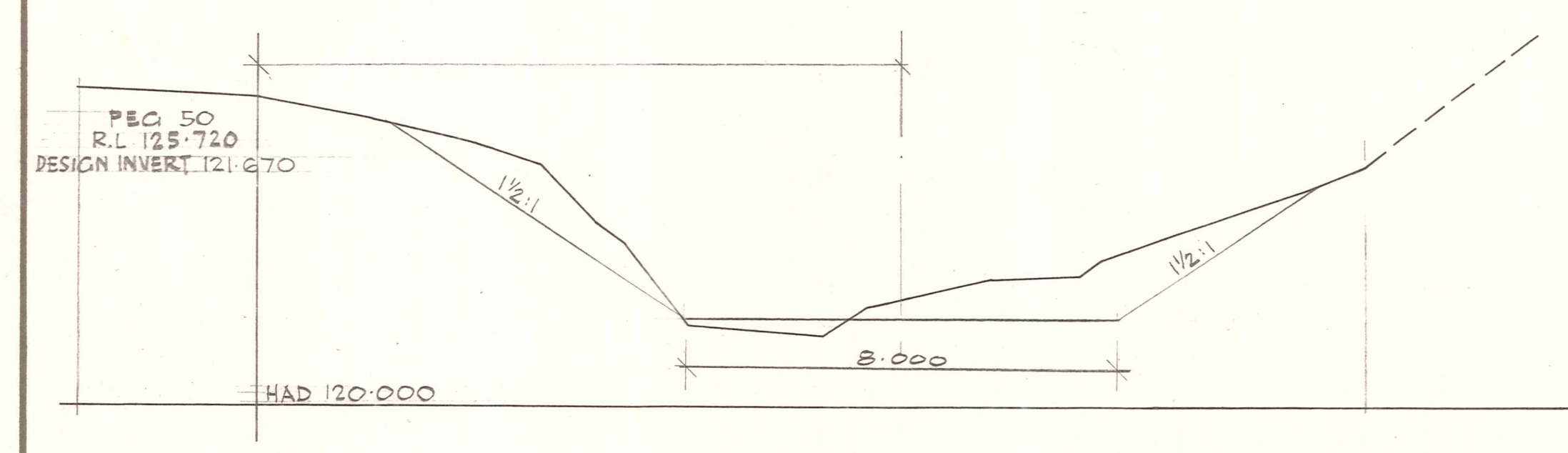
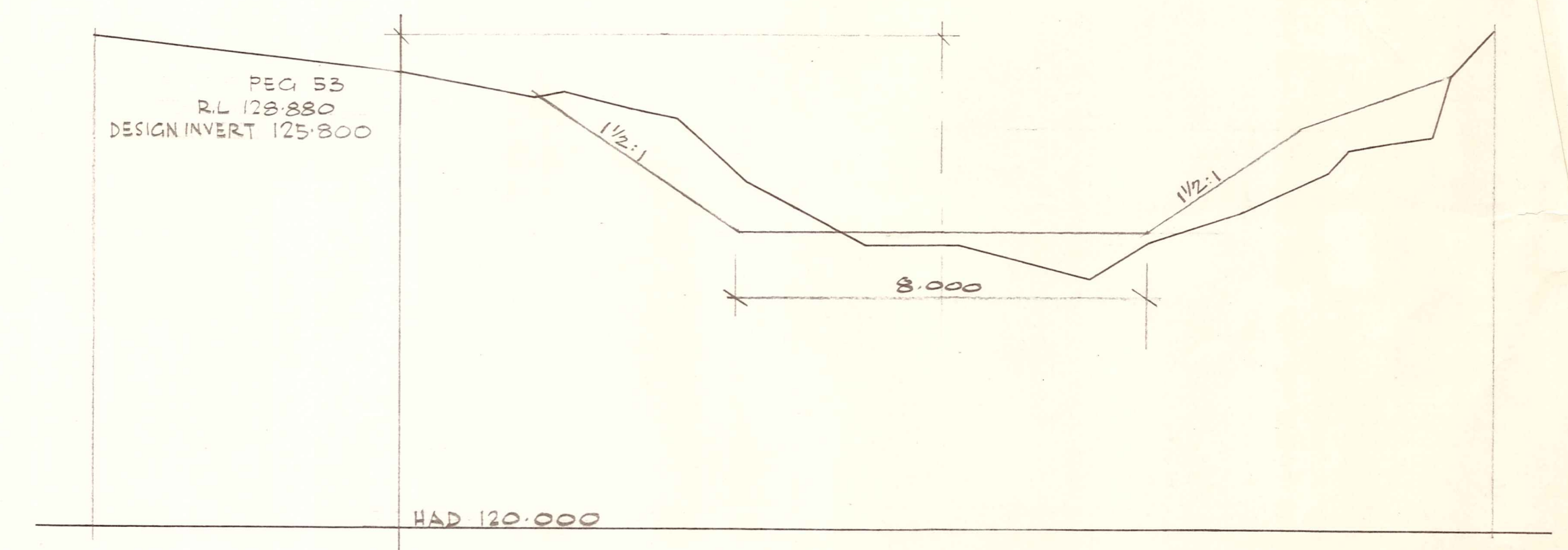
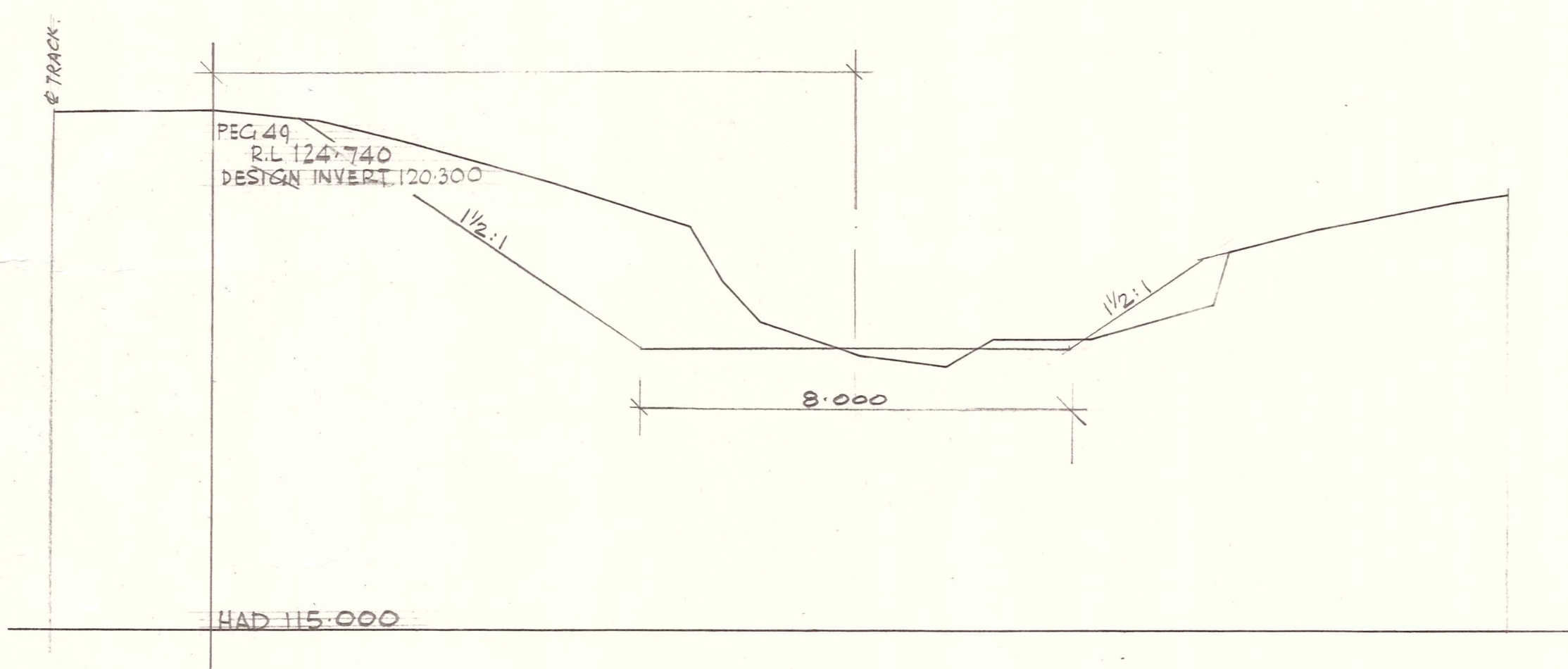
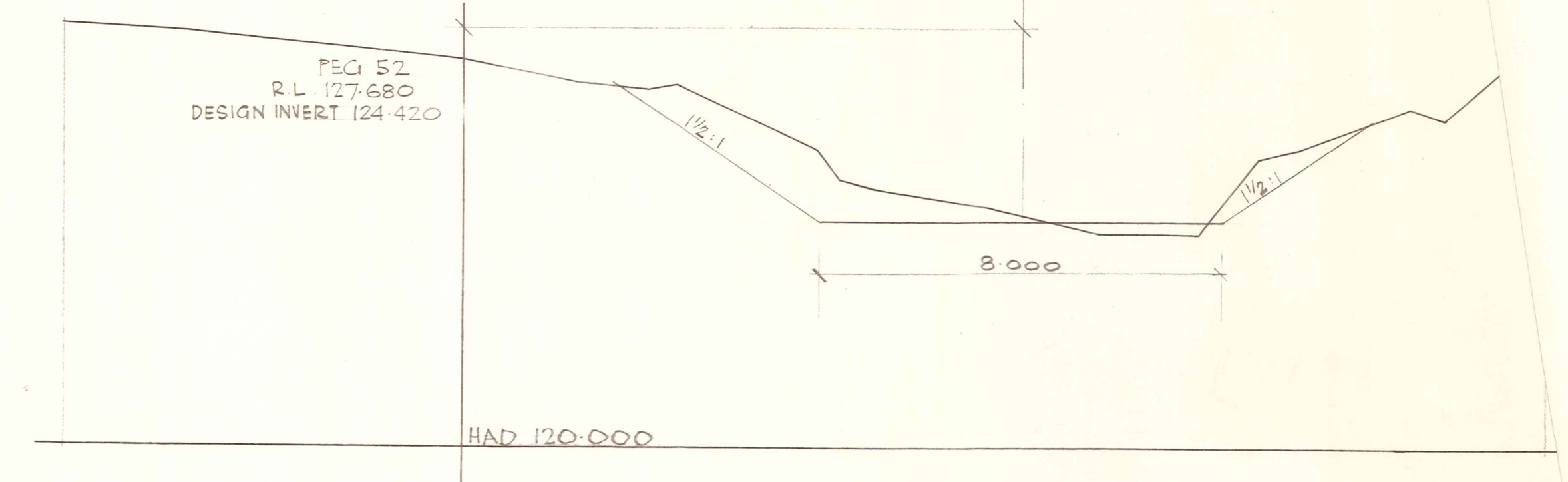
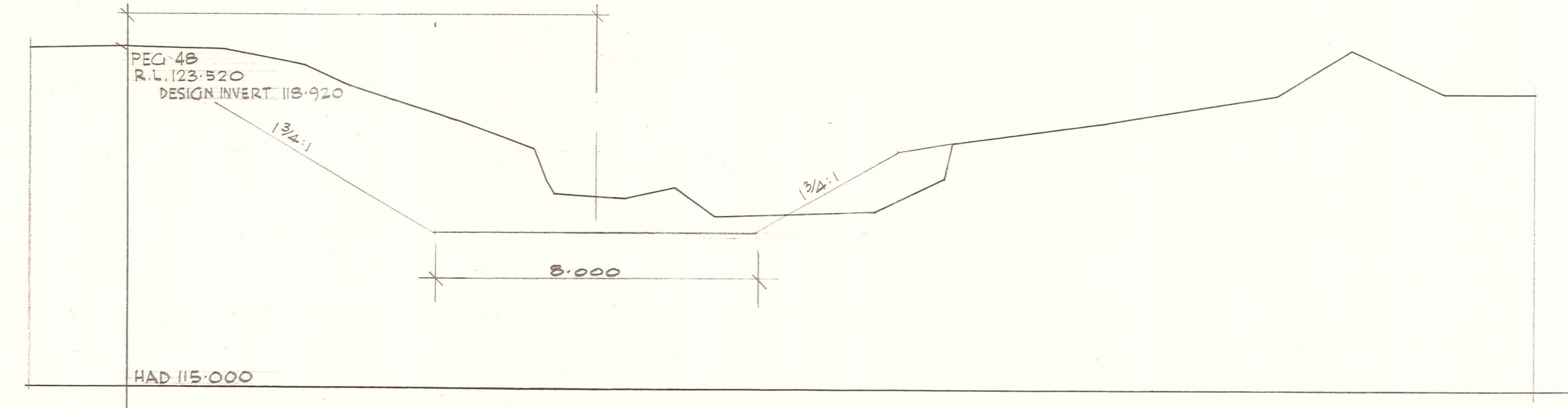
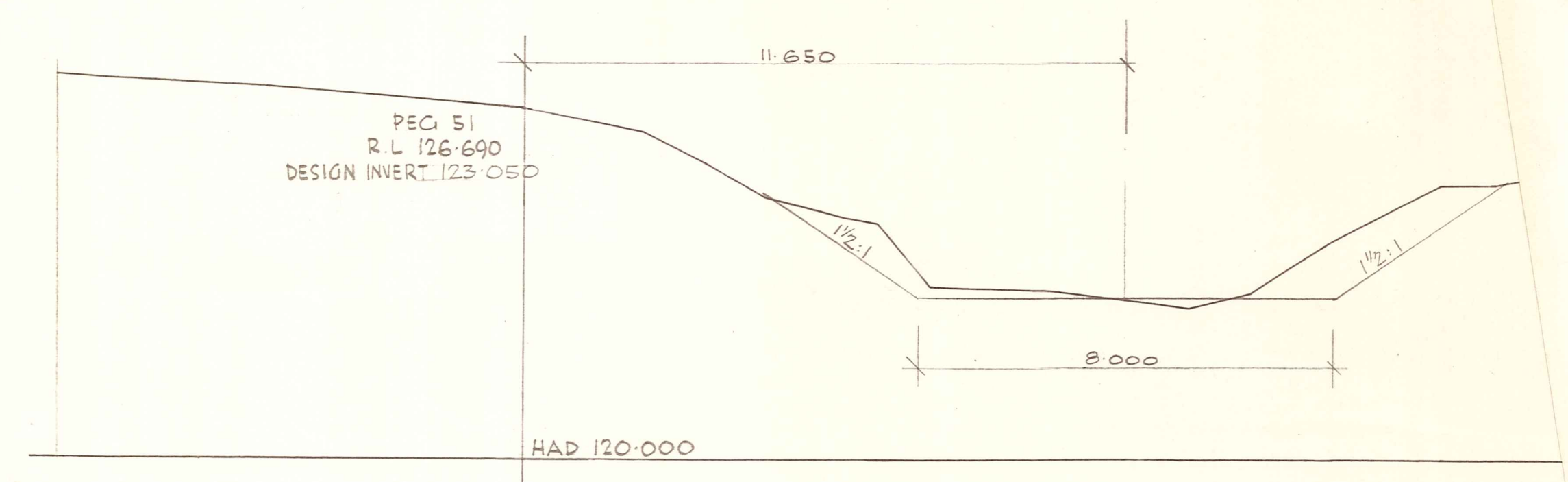
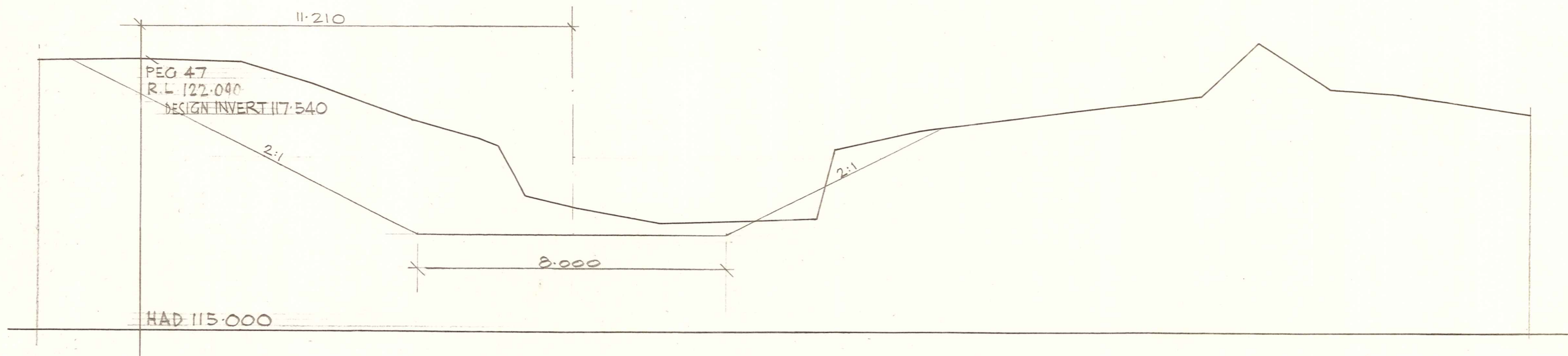
ENGINEERING REF No.	AMENDMENTS	APPD.	DATE	SURVEYED	A. D. K.	DATE	4/80	APPROVED  <b>A.J. GILLIES</b> B.E., B.Sc., F.N.Z.I.E., M.I.C.E. CHIEF ENGINEER.	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.	
SOIL AND WATER CONSERVATION FARM PLAN No.				AERIAL PHOTO REF					<b>RESERVOIR CREEK - ROXBURGH.</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>	<b>L9645/7</b>	F. B.	L.B. 345 & 356.
				DRAWN	R. W.	5/80						
				TRACED	ADK & R.W.	6/80						
				DESIGNED	I. M. SCARF	5/80						
				CHECKED	<i>I. M. Scarf</i>	17/10/80						
				RECOMMENDED								
								SCALE: 1:100.				





ENGINEERING REF. No.	AMENDMENTS	APPD.	DATE	NAME	DATE	APPROVED	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.
				SURVEYED	A.D.K.	4/80	<p style="text-align: center;"><i>Gillies</i></p> <p style="text-align: center;"><b>A. J. GILLIES</b> B.E. B.Sc. F.N.Z.I.E. M.I.C.E. CHIEF ENGINEER.</p>	<p><b>RESERVOIR CREEK - ROXBURGH.</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b></p>	<b>L9645/8</b>
				AERIAL PHOTO REF.					
				DRAWN	A.D.K. & R.W.	5/80			
				TRACED	"	6/80			
				DESIGNED	I.M. SCARF	5/80			
				CHECKED	9 m Scarf	17/10/80			
				RECOMMENDED					
							SCALE 1:100	F. B.	L.B. 345 & 356.





ENGINEERING REF. No.	AMENDMENTS	APPD.	DATE	SURVEYED	NAME	DATE	APPROVED
				A.D.K.	A.D.K.	4/88	 <b>A.J. GILLIES,</b> B.E. B.Sc. F.N.Z.I.E. M.I.C.E. CHIEF ENGINEER.
				A.D.K. & R.W.		5/80	
				I.M. SCARP		5/80	
				9 M Scarf		17/10/80	

OTAGO CATCHMENT BOARD

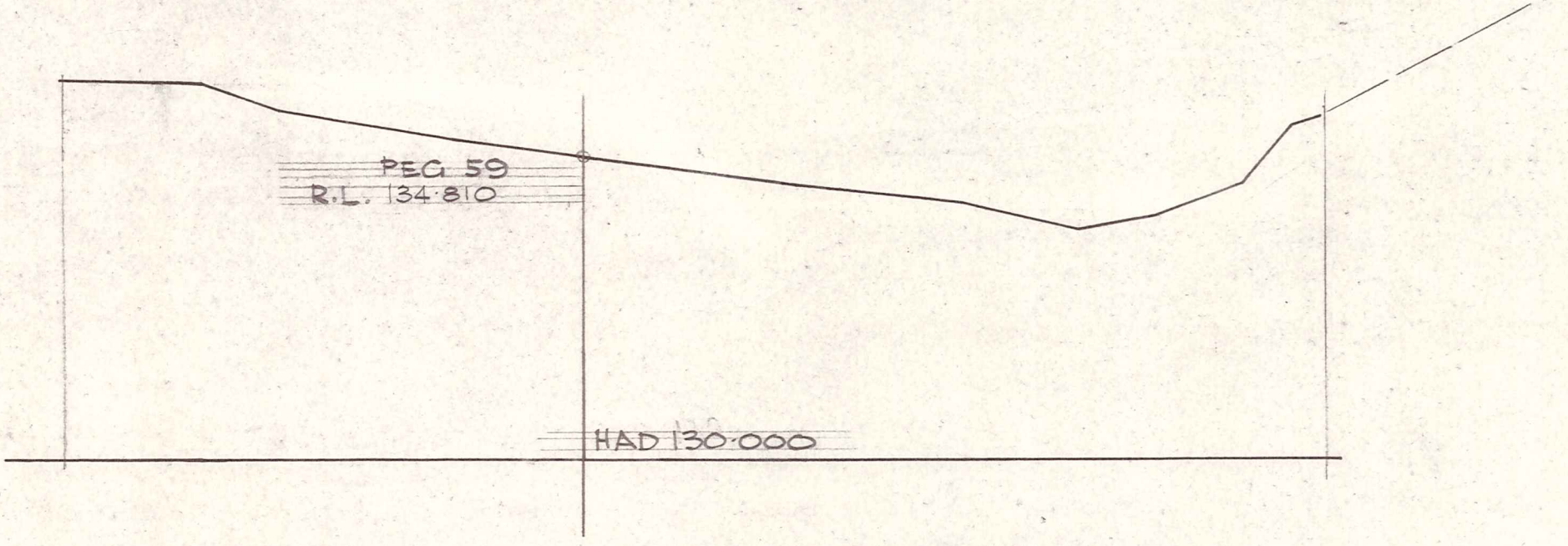
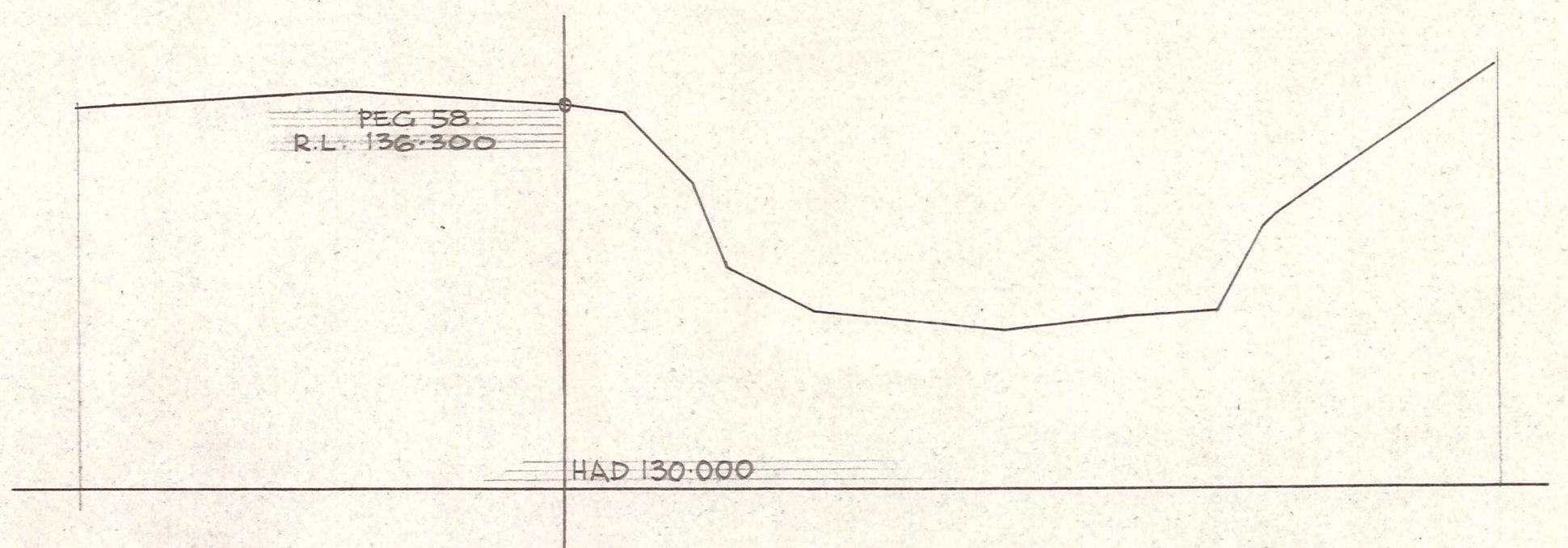
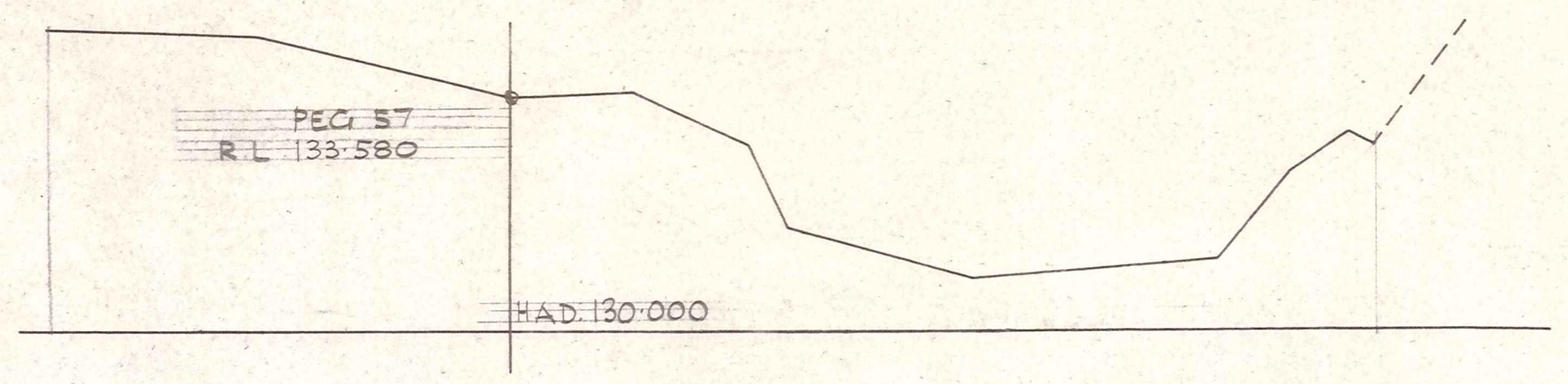
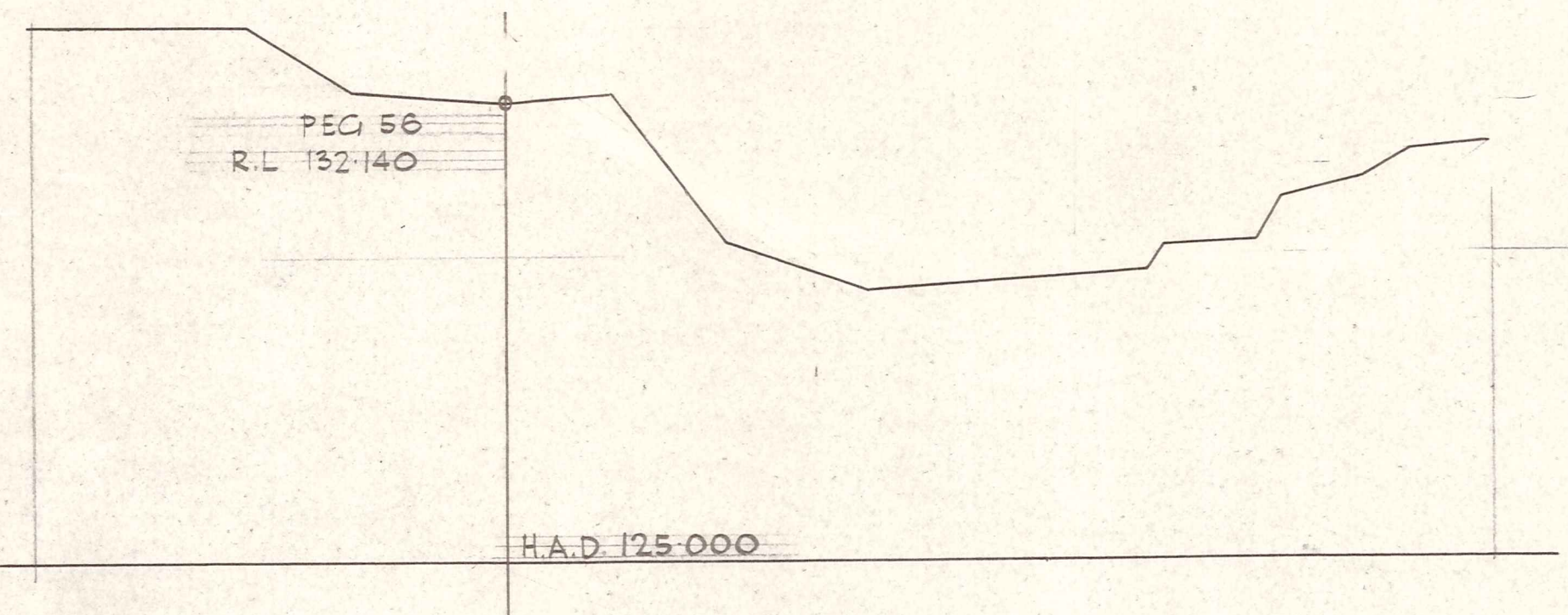
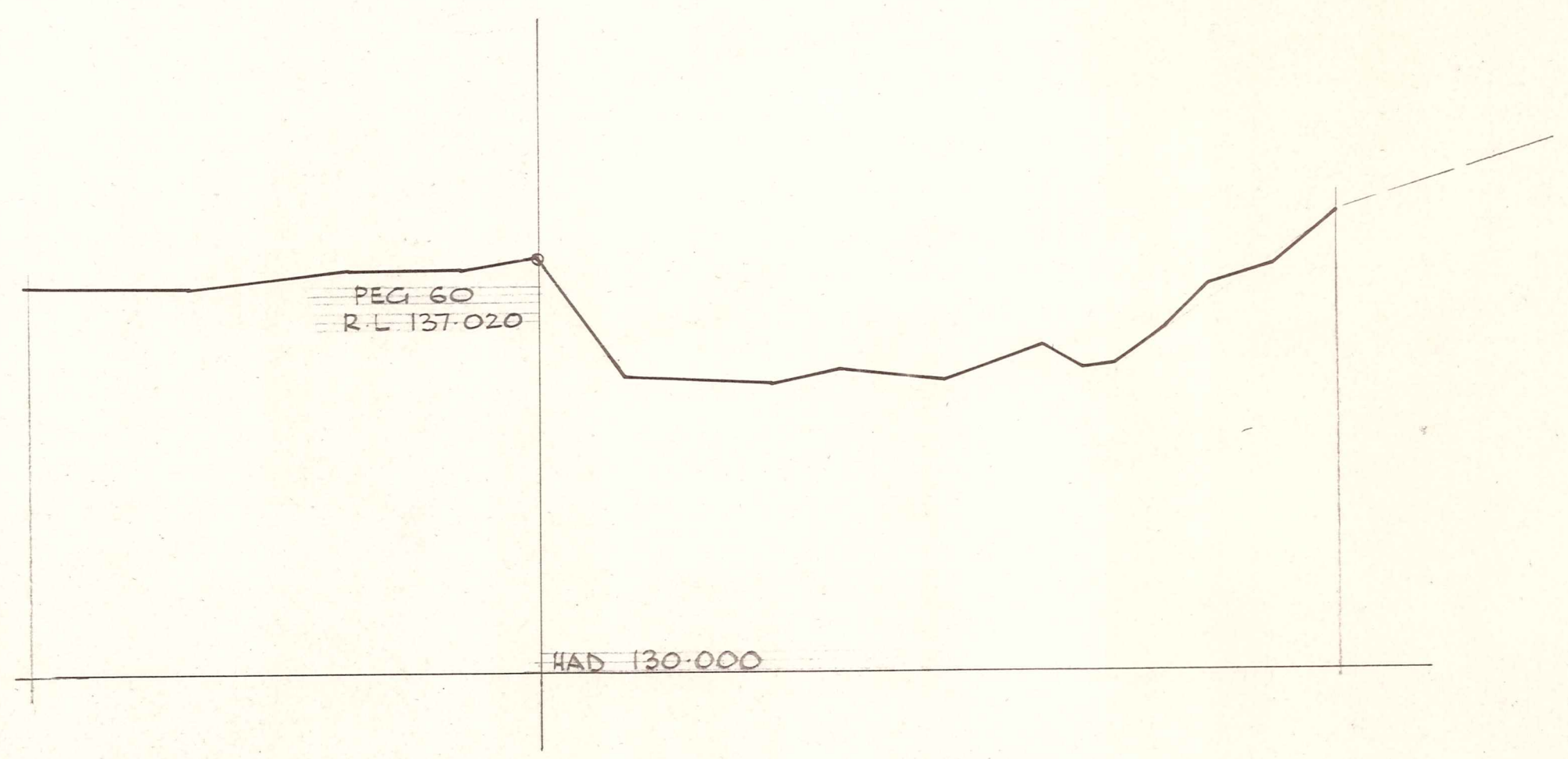
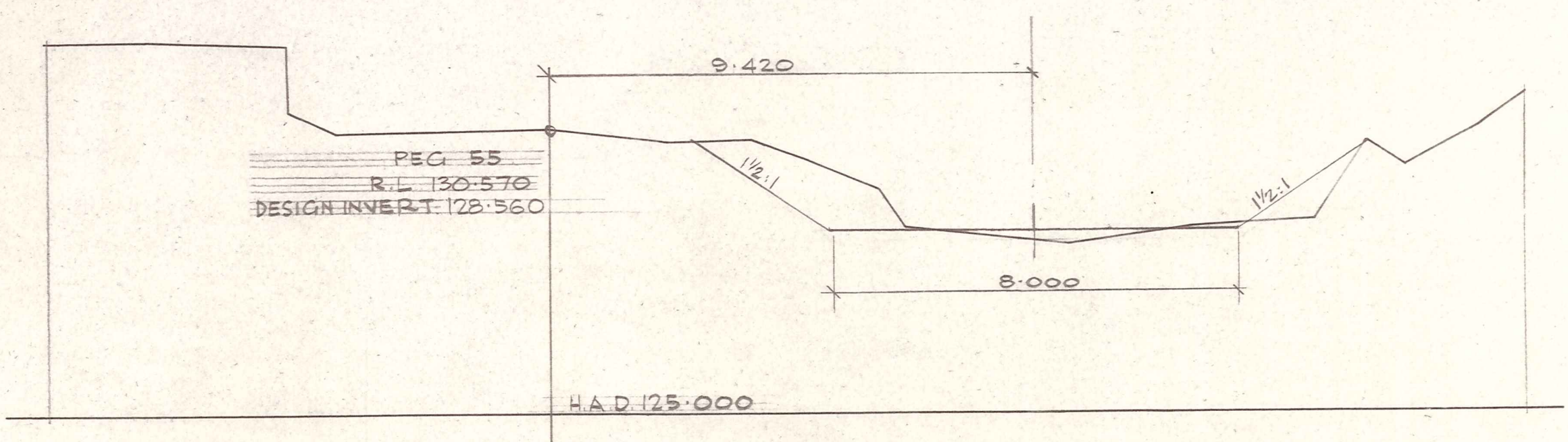
## RESERVOIR CREEK - ROXBURGH.

### PROPOSED CHANNEL IMPROVEMENT.

SCALE: 1:100

JOB No. 5/653  
**L96**  
F.B.





ENGINEERING REF No.	AMENDMENTS	APPD.	DATE	NAME	DATE	APPROVED	OTAGO CATCHMENT BOARD	JOB No. 5/653	C. No.
				SURVEYED A.D.K.	4/80	 <b>A.J. GILLIES.</b> B.E. B.Sc. FNZIE. M.I.C.E. CHIEF ENGINEER.	<b>RESERVOIR CREEK - ROXBURGH</b> <b>PROPOSED CHANNEL IMPROVEMENT.</b>	<b>L9645/10</b>	
				AERIAL PHOTO REF.					
				DRAWN A.D.K. & R.W.	5/80				
				TRACED	6/80				
				DESIGNED I.M. SCARF	5/80				
				CHECKED <i>I.M. Scarf</i>	17/10/80				
SOIL AND WATER CONSERVATION FARM PLAN No.				RECOMMENDED					
							SCALE: 1:100	F.B.	L.B. 345 & 356.



ENGINEERING REF. NO.	
AMENDMENTS	
APPD. DATE	
SURVEYED	A.D.K.
AERIAL PHOTO REF.	
DRAWN	I.M.S. & R.W.
TRACED	R.W.
DESIGNED	
CHECKED	
RECOMMENDED	

APPROVED  
 A.J. GILLIES  
 BE. B.Sc. AMICE, FNZIE  
 CHIEF ENGINEER.

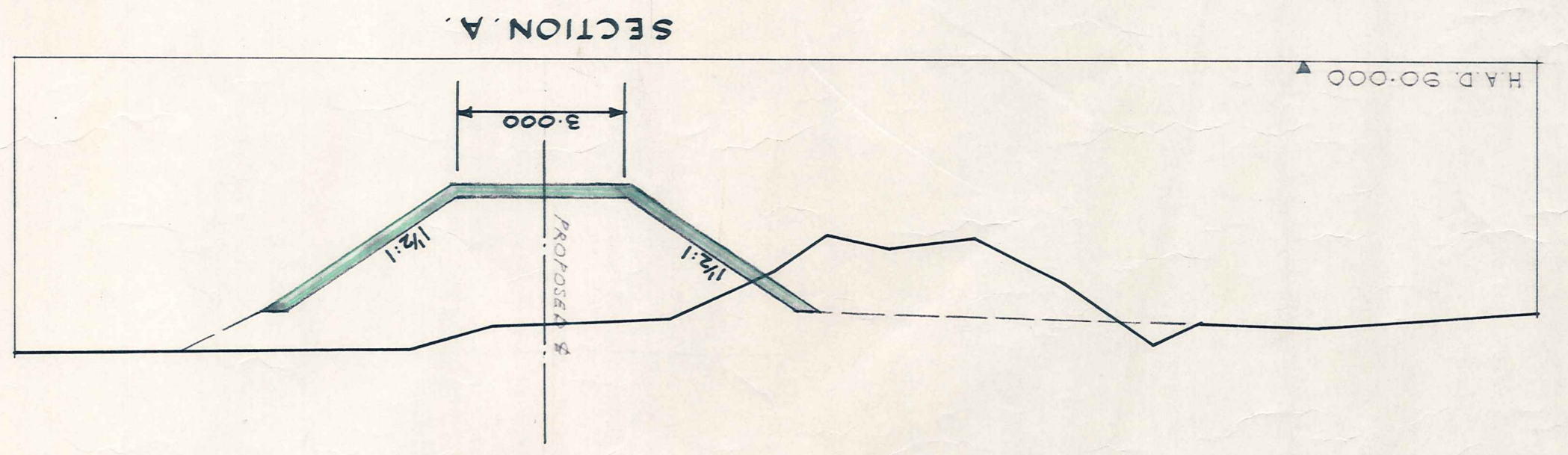
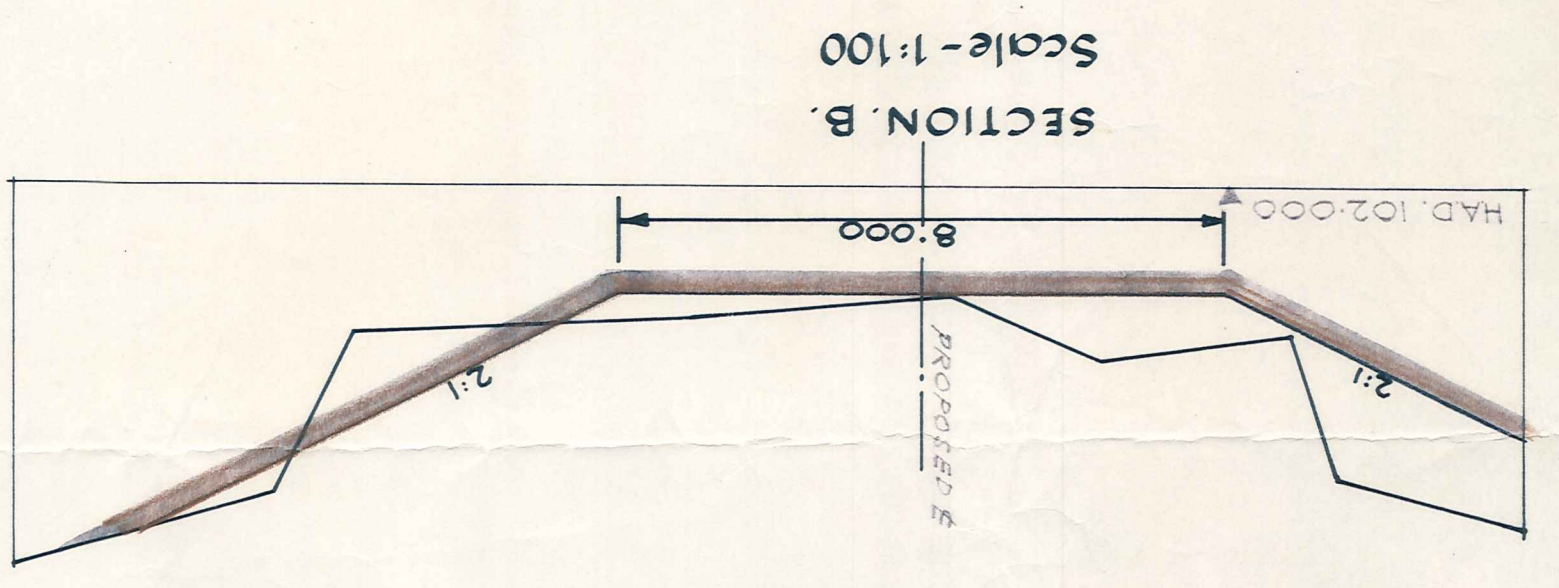
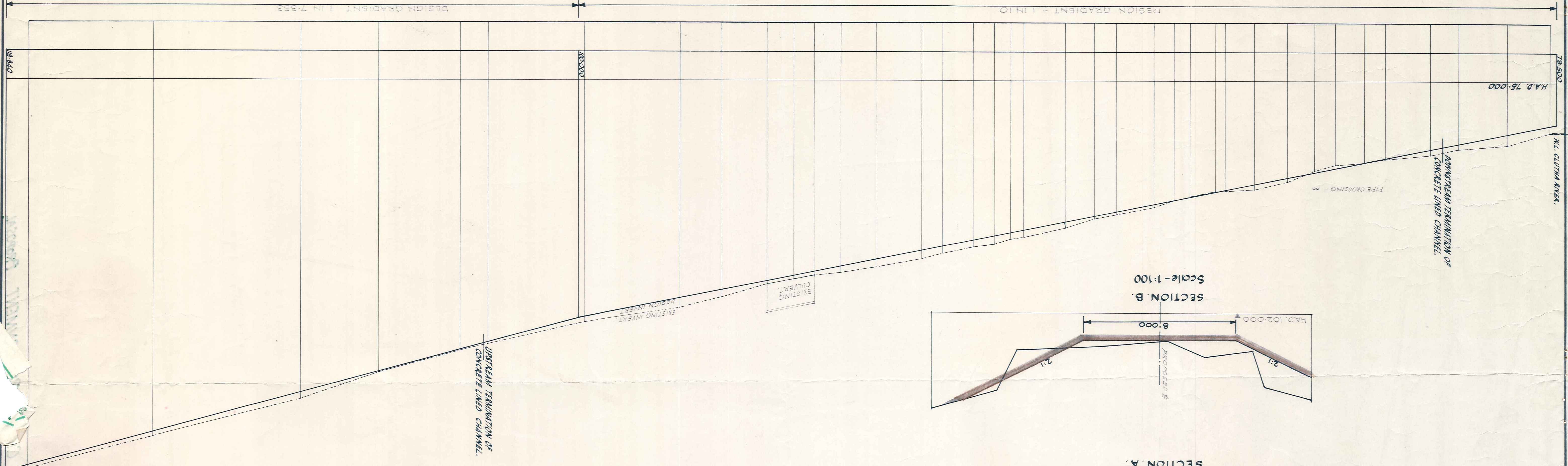
SCALE: AS SHOWN.

RESERVOIR CREEK - ROXBURGH.  
 PROPOSED CHANNEL IMPROVEMENT.

L9493

CONSERVATION FARM PLAN NO.	
SOIL AND WATER	
JOB No. 5/653	C No.
BOARD	OTAGO
CATCHMENT	
F.B.	L.B. 345

LONGITUDINAL SECTION  
 Scale  
 Horiz - 1:400  
 Vert - 1:200



PLAN  
 Scale - 1:400

