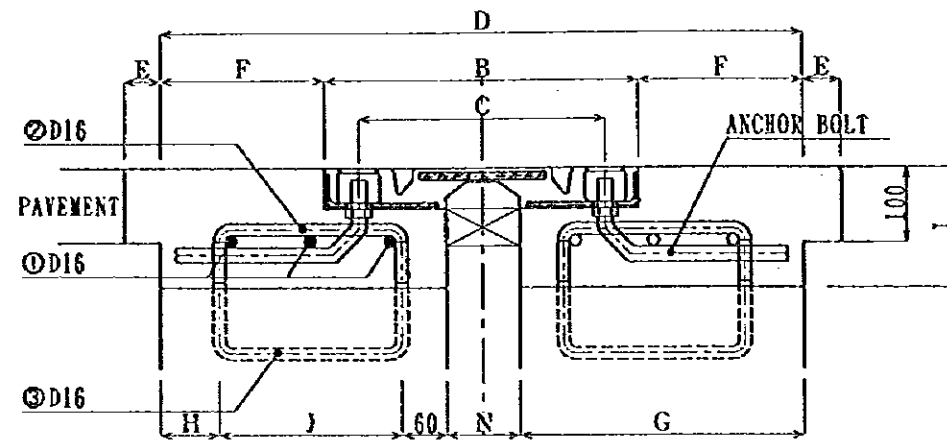


AL KHABURAH



MEASURE DATA

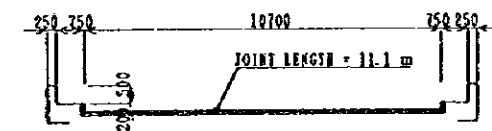
	A	B	C	D	E	F	G	H	I	J	STANDARD SPACE BETWEEN SLABS N	TRAVEL
PIER	54	433	340	879	50	223	390	80	160	250	100	80
ABUT	40	303	235	709	50	203	330	70	150	200	50	50

MATERIAL LIST (PER 10 m)

MATERIAL	CLASSIFICATION	UNIT	PIER	ABUT
TRANSFLEX JOINT	INCLUDING ANCHORBOLT	m	10.0	10.0
SEALANT	FOR JOINT SEALS	kg	22.5	16.0
	FOR PLUG HOLE	kg	8.5	4.0
REINFORCING BAR	ØD16	kg	93.60	93.60
	ØD16	kg	60.84	53.04
RECESS CONCRETE	HIGH-EARLY STRENGTH CONCRETE	m³	1.143	0.964
COLORING AGENT OF THE FACE	3 kg/m³	kg	16.0	15.0
POLYURETHANE FORM		m	10.0	10.0
TRANSIENT FILLING MATERIAL	SAND	m³	0.66	0.53
	ASPHALT CONCRETE	m³	0.73	0.60

QUANTITY LIST

	PIER	ABUTMENT
AL KHABURAH	20	4
TOTAL LENGTH	222.0	44.4



JOINT LENGTH PER 1 PLACE

TRANSFLEX JOINT S-1/10

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
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FI KUYAMA CONSULTANTS INTERNATIONAL

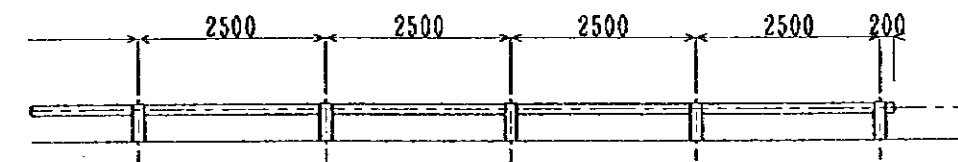
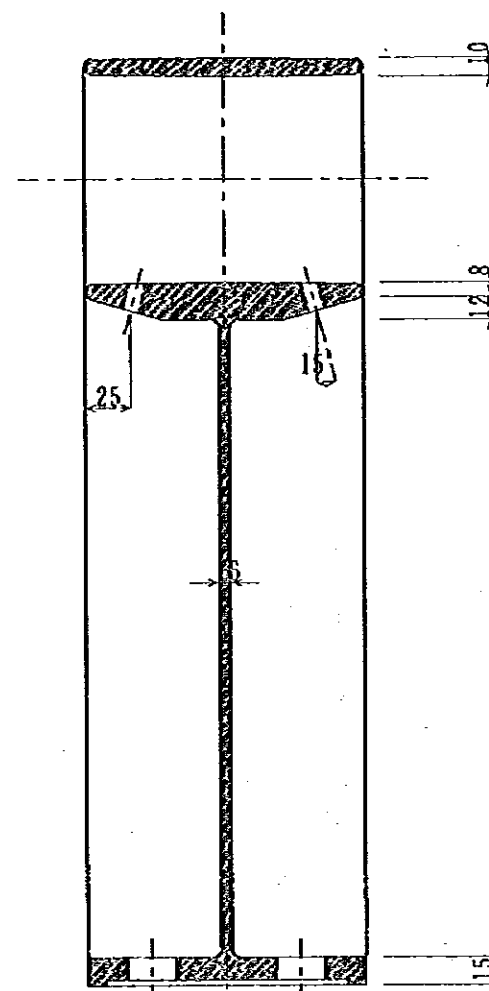
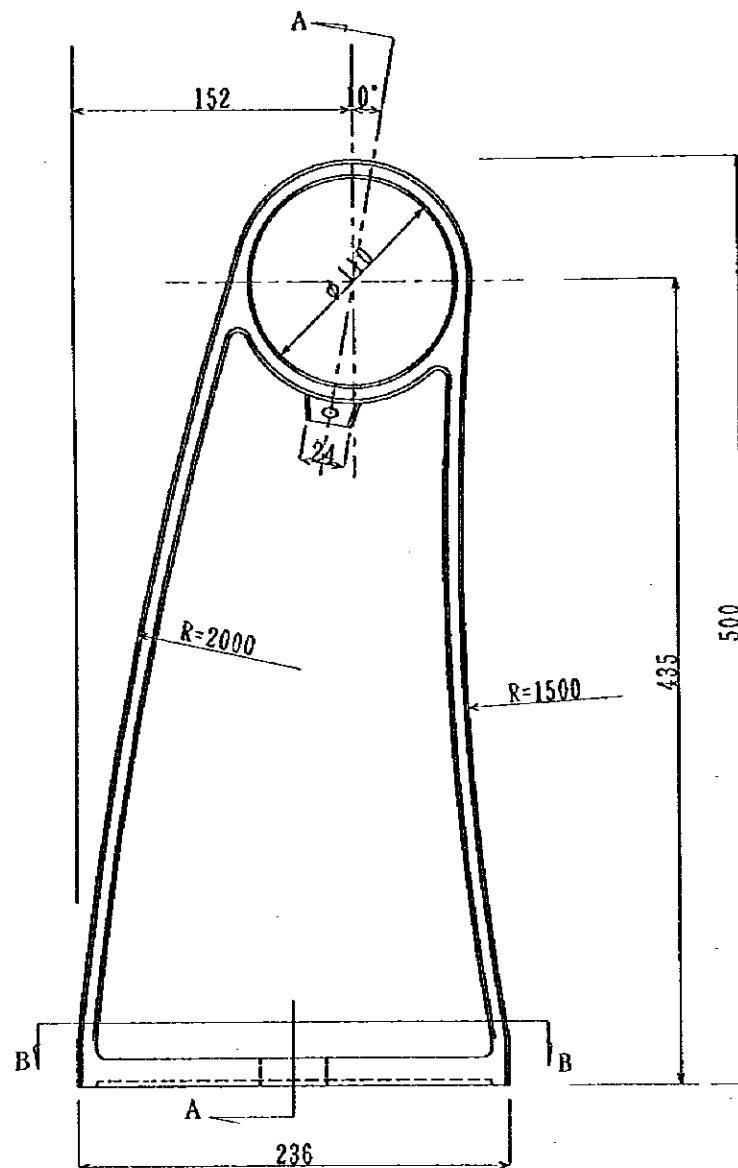
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

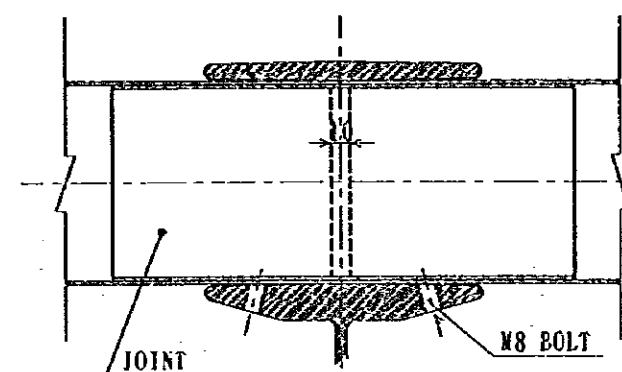
TITLE EXPANSION JOINT

DATE DWGNO. B-23

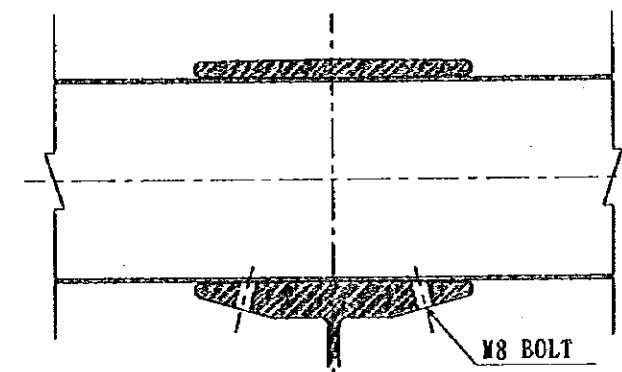
AL KHABURAH



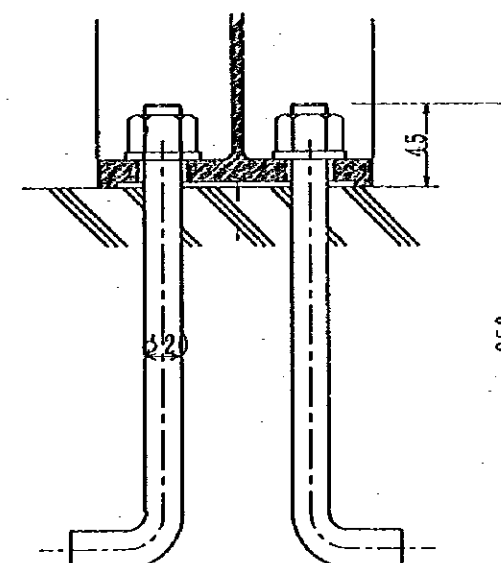
POST ARRANGEMENT



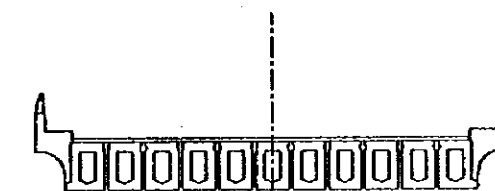
RAIL JOINT SECTION



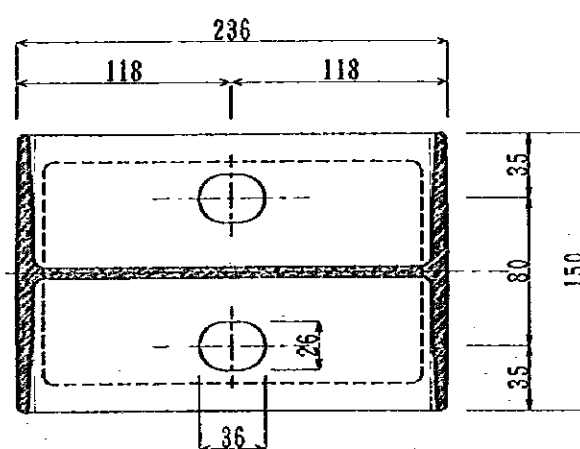
RAIL PENETRATING SECTION



ANCHOR BOLT



HANDRAIL LOCATION



B-B SECTION

POST SCALE

HANDRAIL S=1:4

ALUMINIUM PRODUCTS

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
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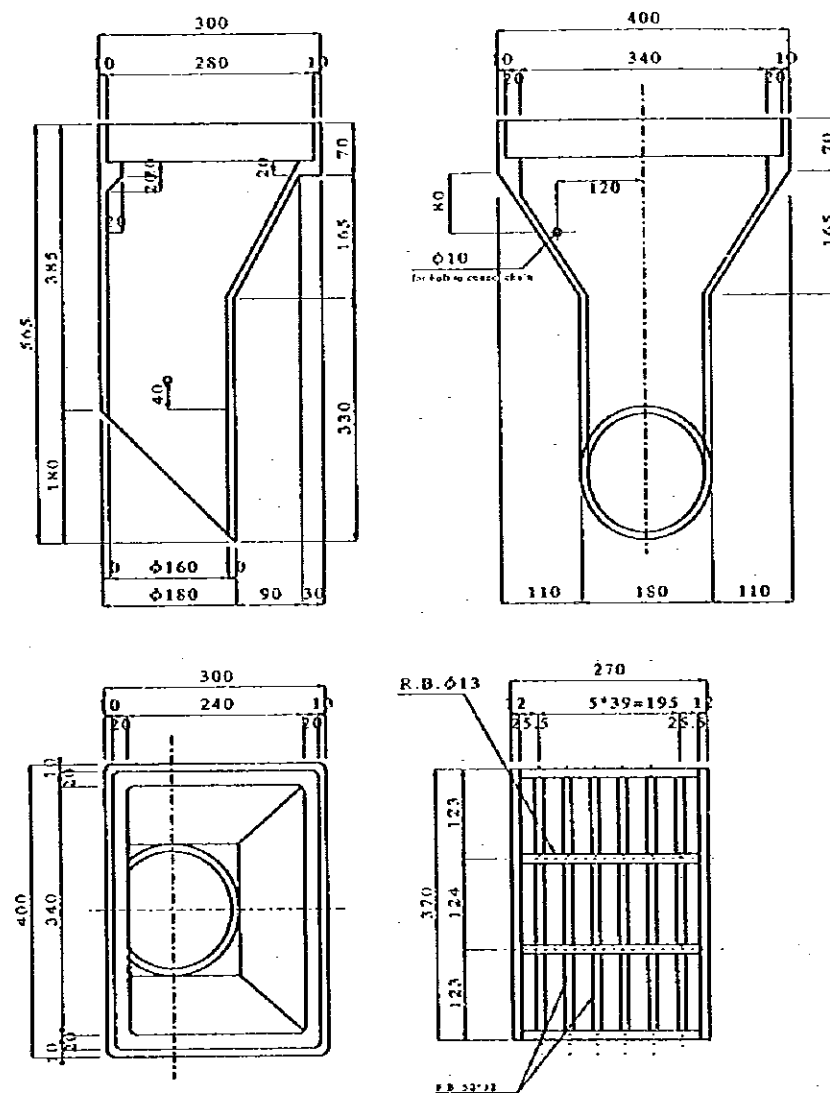
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE HANDRAIL

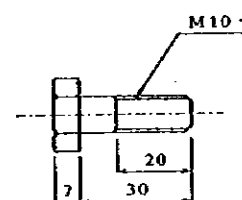
DATE DWGNO. B-24

BRIDGE DRAINAGE DETAILS (AL KHABULAH FLYOVER)

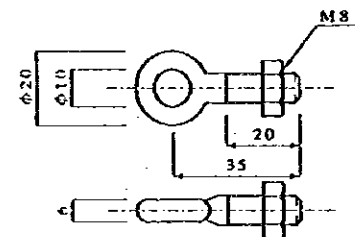
CATCH BASIN (S=1:5)



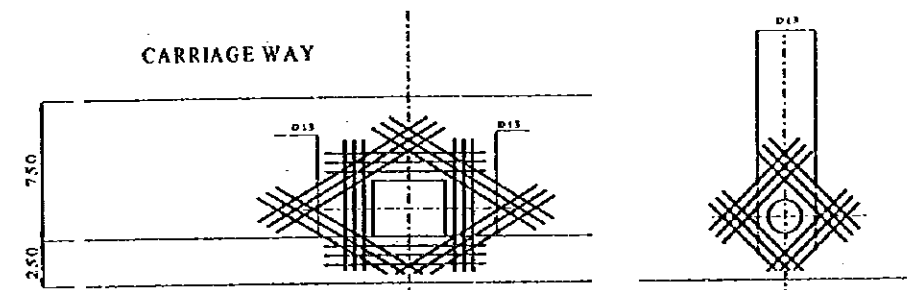
BISS (S=1:1)



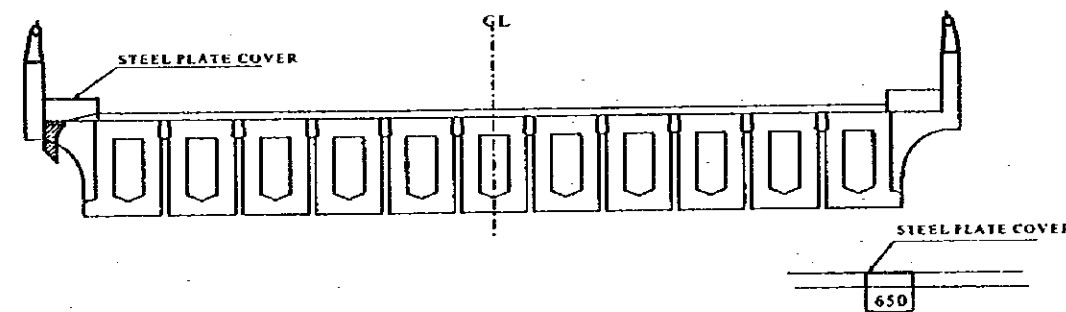
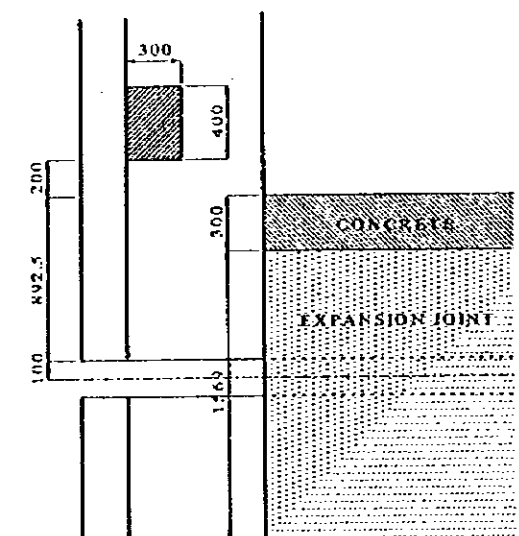
BOLT TO CONNECT CHAIN (S=1:1)



REINFORCING (S=1:20)

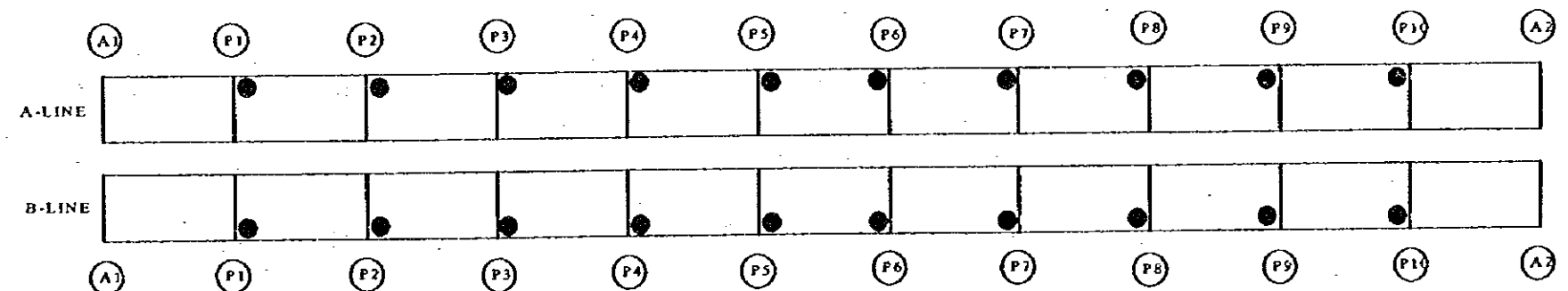


INSTALLING LOCATION DETAIL



CROSS SECTIONAL LOCATION

INSTALLING LOCATIONS

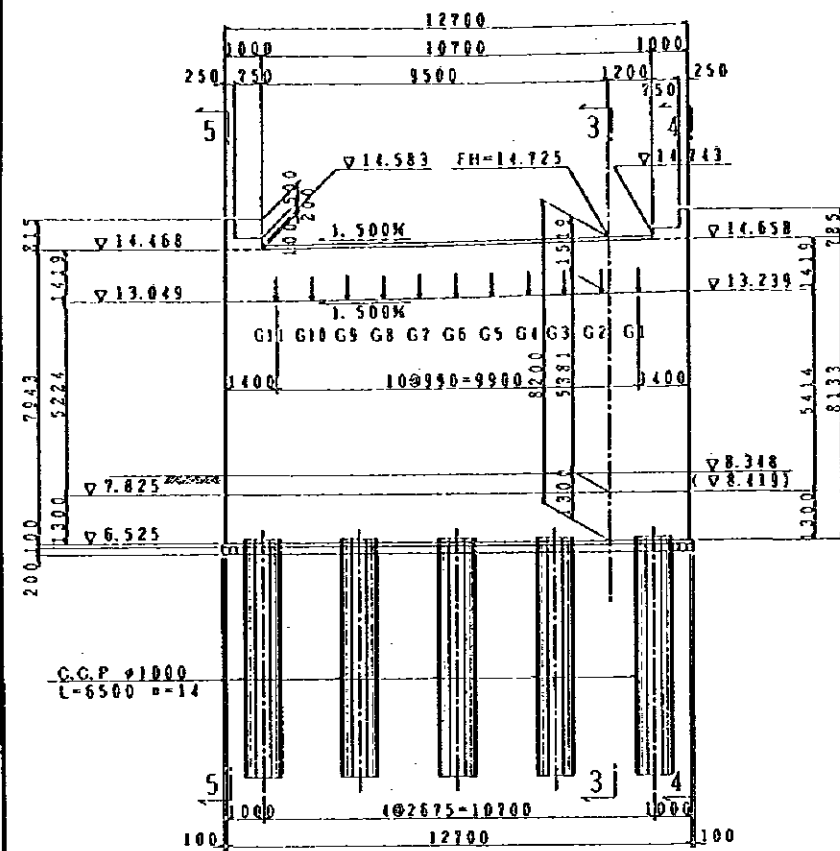


NOTES:

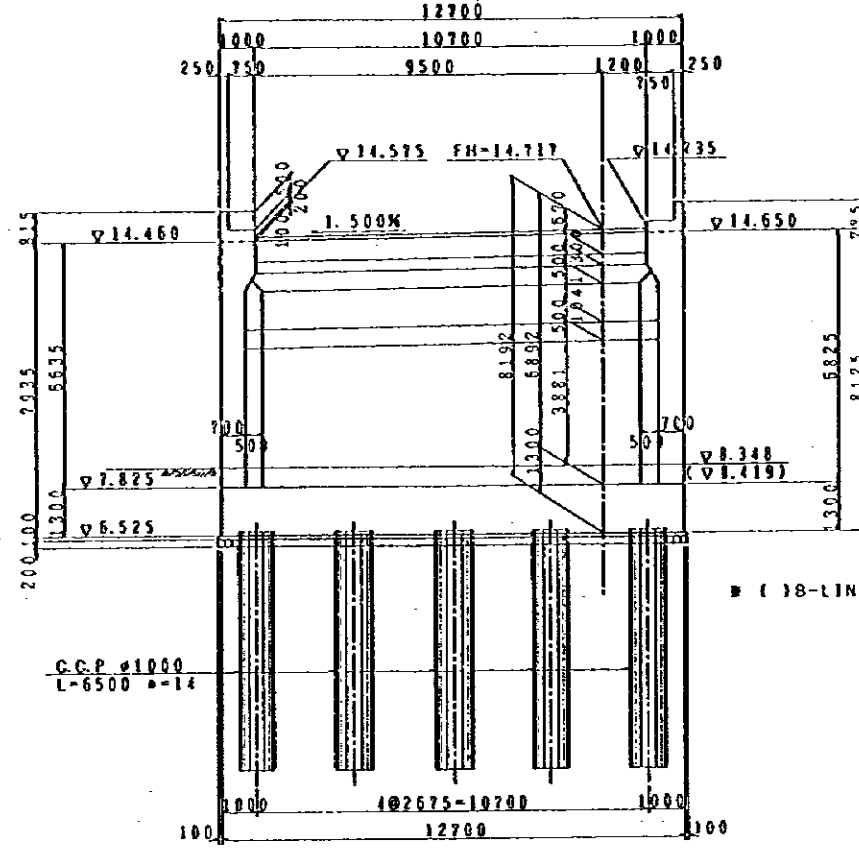
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: BRIDGE DRAINAGE DETAILS (AL KHABULAH)
DATE: DWO. NO. B-25

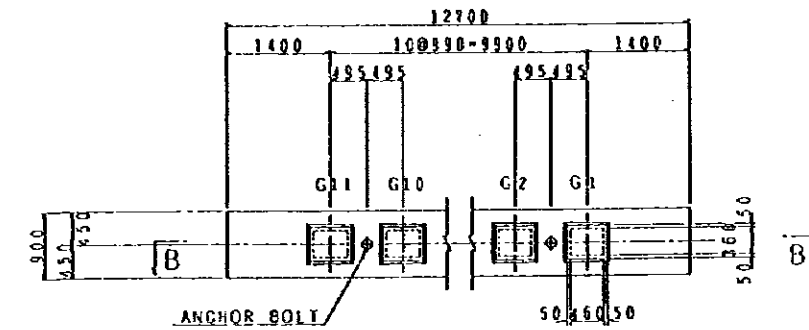
RA/8 AL KHABURAH



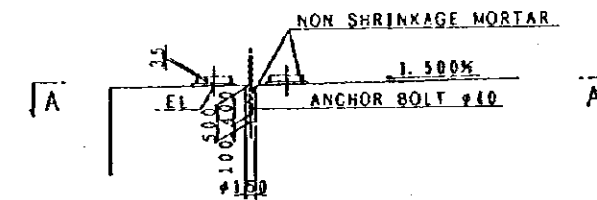
SECTION 1-1 S=1/200



SECTION 2-2 S=1/200



SECTION A-A S=1/100



SECTION B-B S=1/100

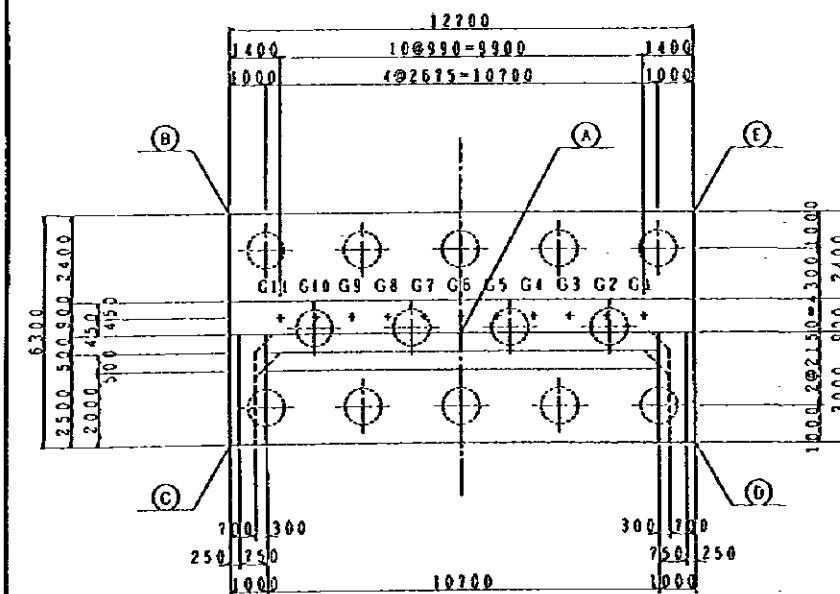
DETAIL OF SHOE BED

SHOE ELEVATION (EL) TABLE

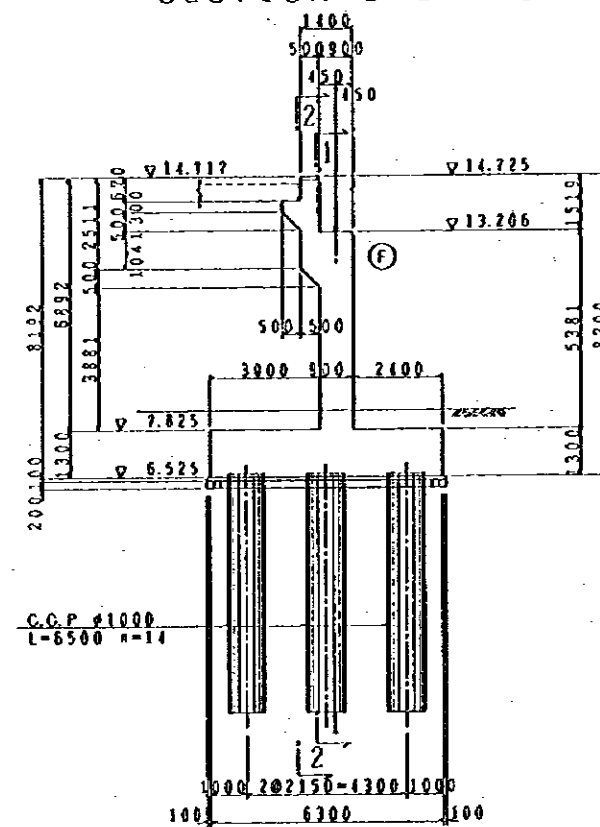
	G 1	G11
A-LINE	13.218	13.070
B-LINE	13.218	13.070

CO-ORDINATES LIST

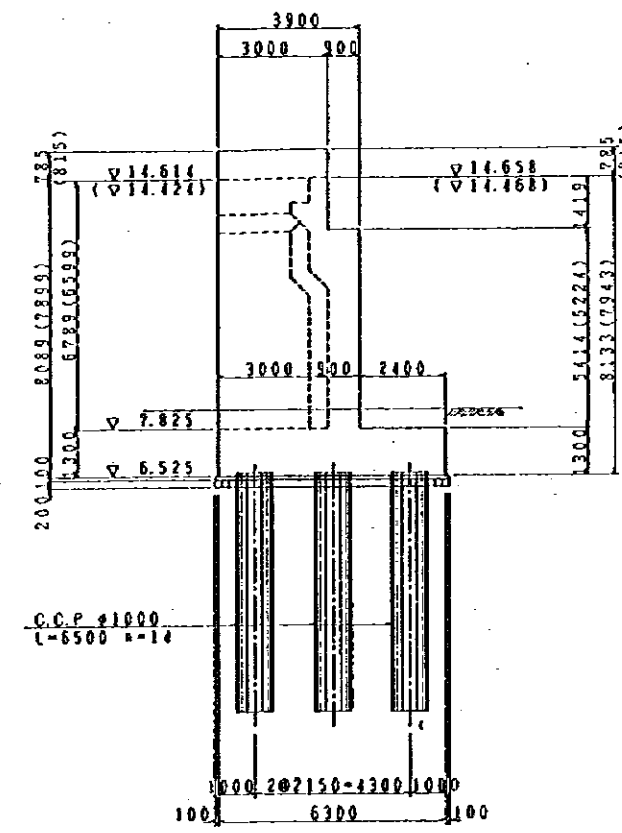
	A-LINE	B-LINE
A	X 2651121.5913	Y 2651114.2071
B	X 2651121.5913	Y 2651114.2071
C	X 2651121.5913	Y 2651114.2071
D	X 2651121.5913	Y 2651114.2071
E	X 2651121.5913	Y 2651114.2071



PLAN S=1/200

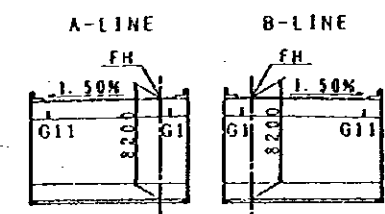


SECTION 3-3 S=1/200



SECTION 4-4 (5-5) S=1/200

STRUCTURAL DETAIL OF A1 ABUTMENT AT A-B-LINE



KEY PLAN

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
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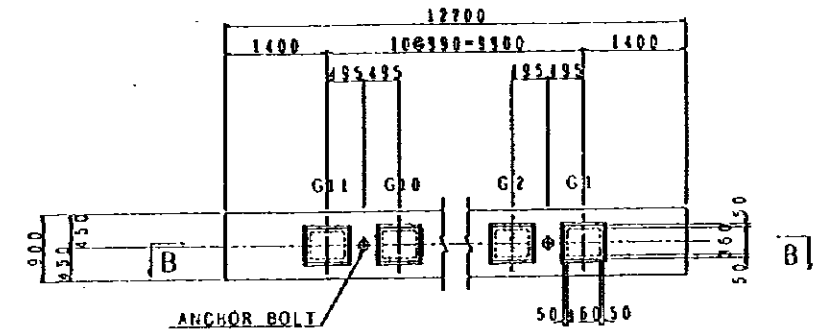
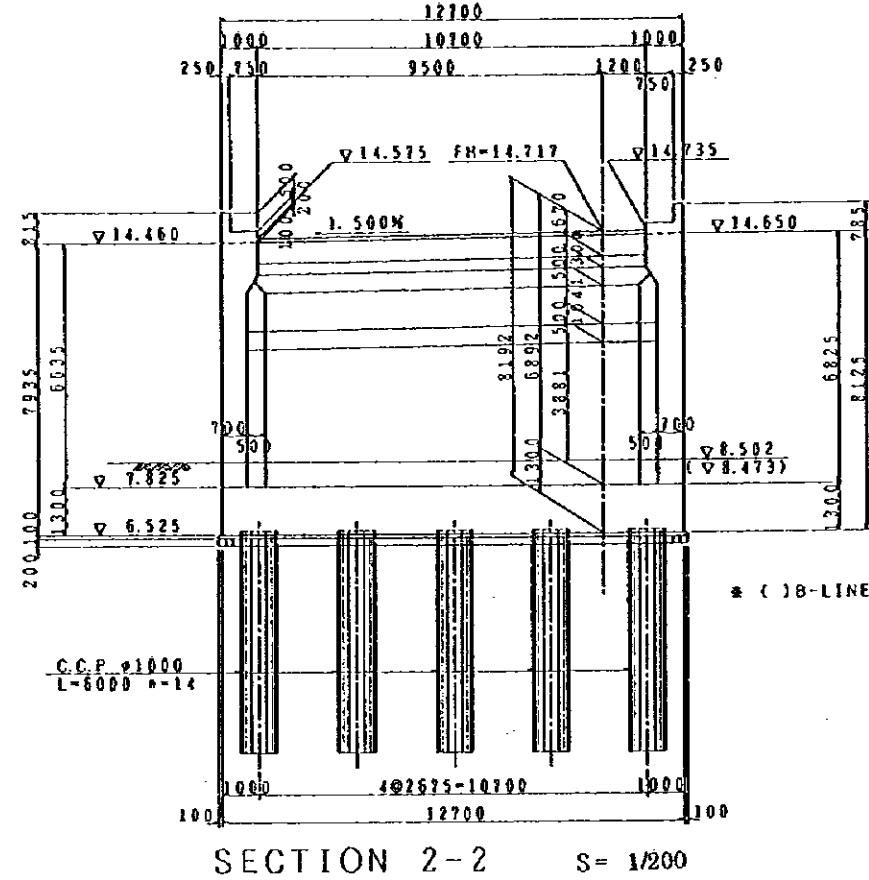
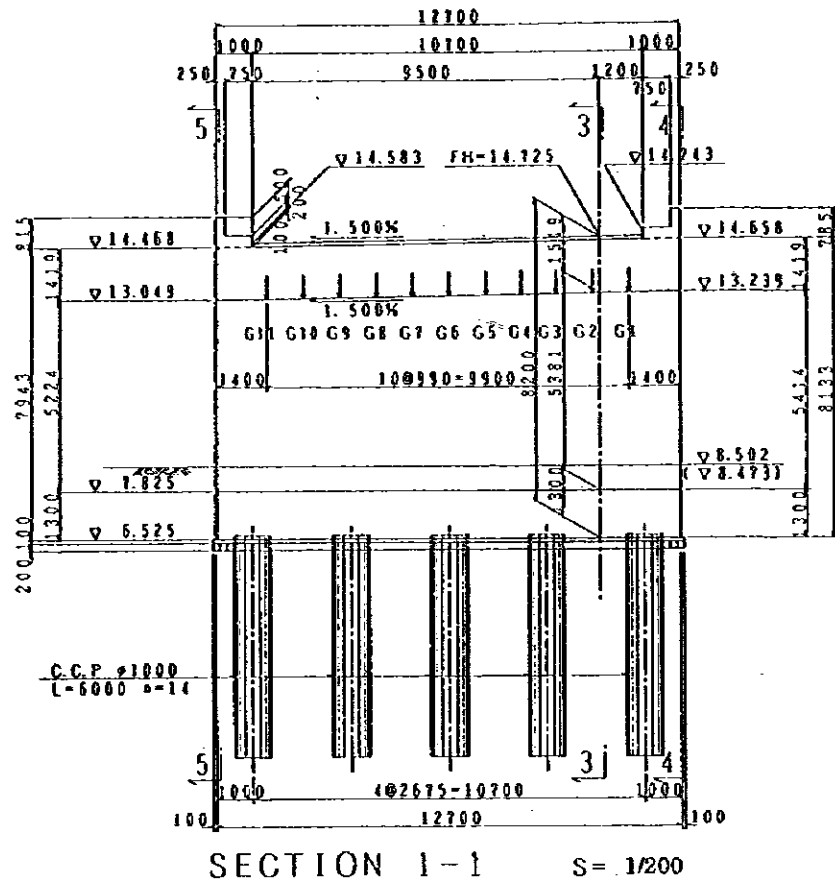
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

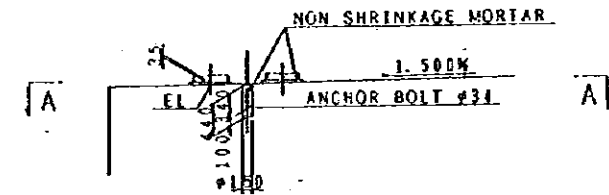
TITLE: STRUCTURAL DETAIL OF A1 ABUTMENT AT A-B-LINE

DATE: DWONO. B-26

RA/8 AL KHABURAH



SECTION A-A S = 1/100



SECTION B-B S= 1/100

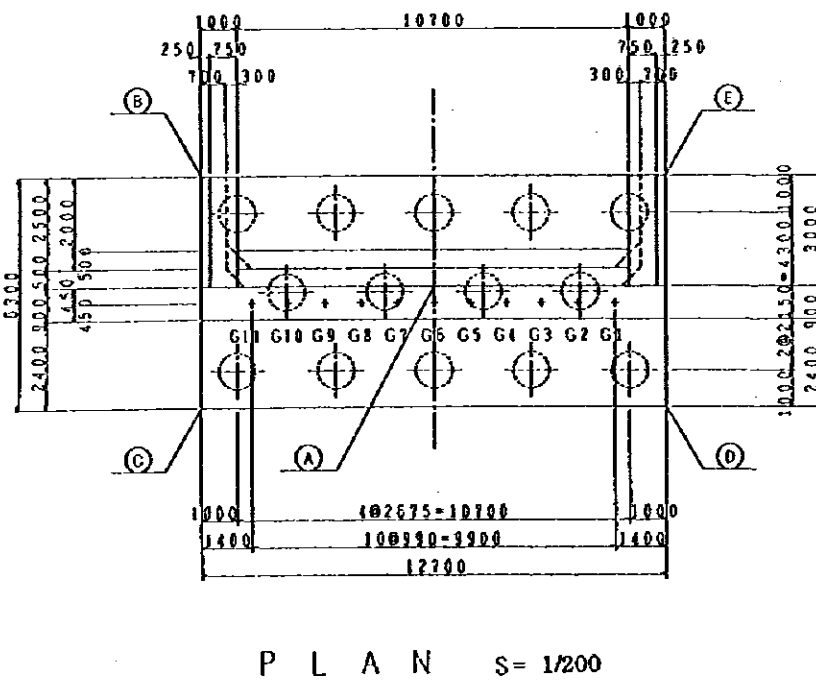
DETAIL OF SHOE BED

SHOE ELEVATION (EL) TABLE

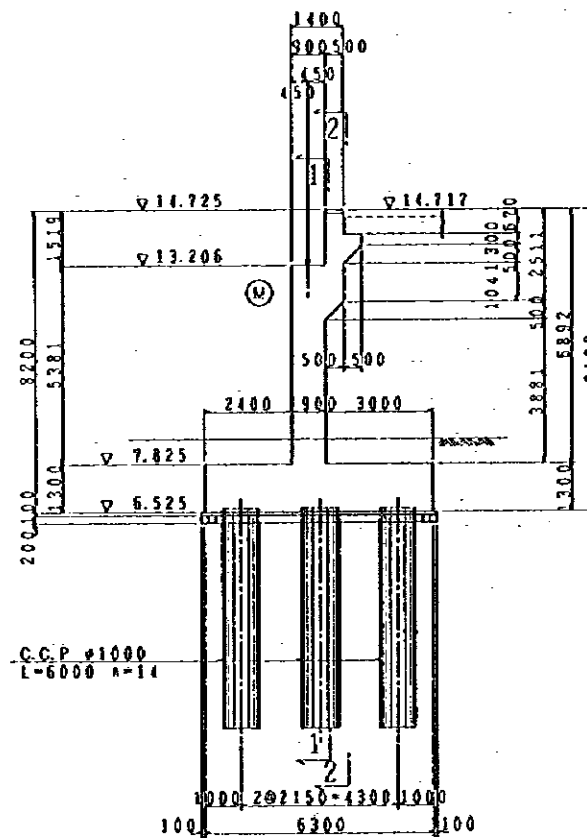
	G 1	G11
A-LINE	13.218	13.070
8-LINE	13.218	13.070

CO-ORDINATES LIST

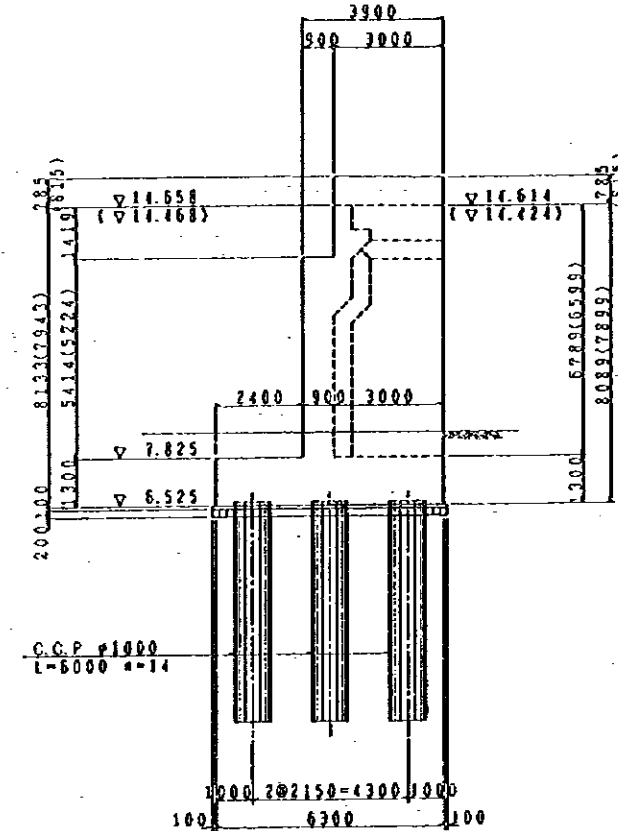
		A-LINE	B-LINE
A	X	2450391.125	2450084.45
	Y	2053364.678	5093554.762
B	X	2450095.977	2450083.95
	Y	2053554.826	5093554.8701
C	X	2450050.738	2450088.412
	Y	2053771.4477	5093554.5184
D	X	2450093.175	2450080.848
	Y	2053650.952	5093544.9159
E	X	2450084.614	2450075.787
	Y	509384.6977	509344.0576



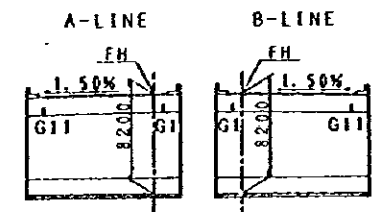
P L A N S = 1/200



SECTION 3-3 S = 1/200'
STRUCTURAL DETAIL OF A



SECTION 4-4 (5-5) S=11/200'



KEY PLAN

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

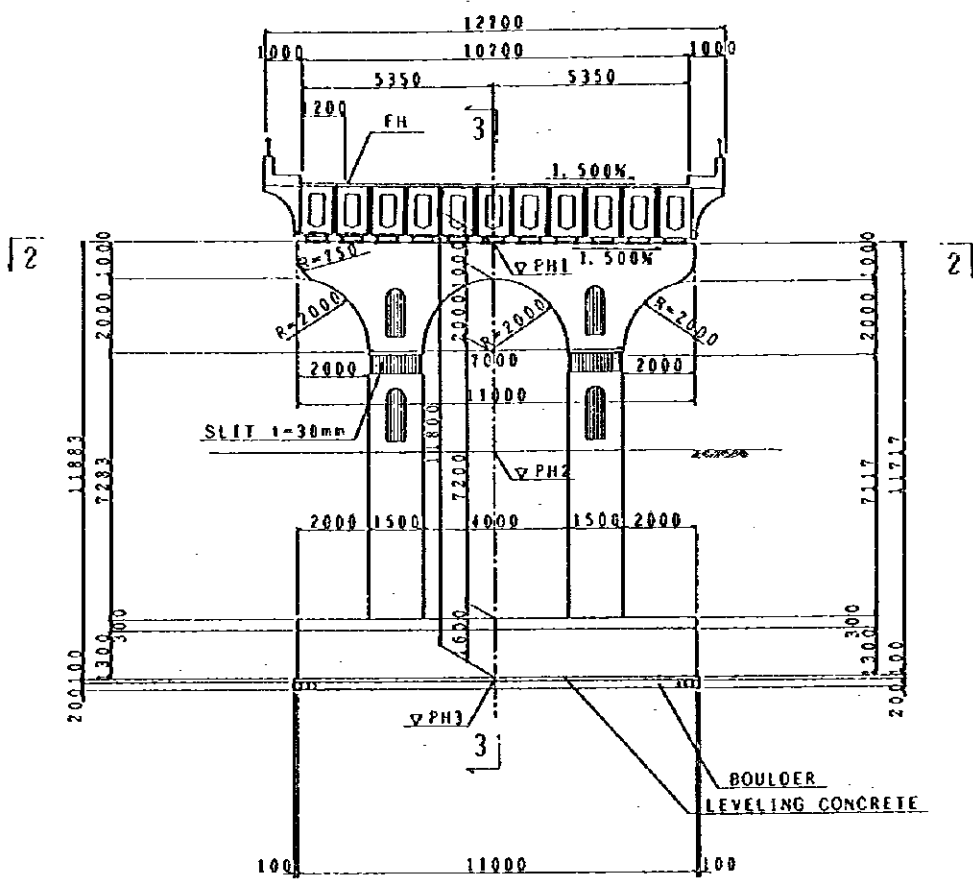
**JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

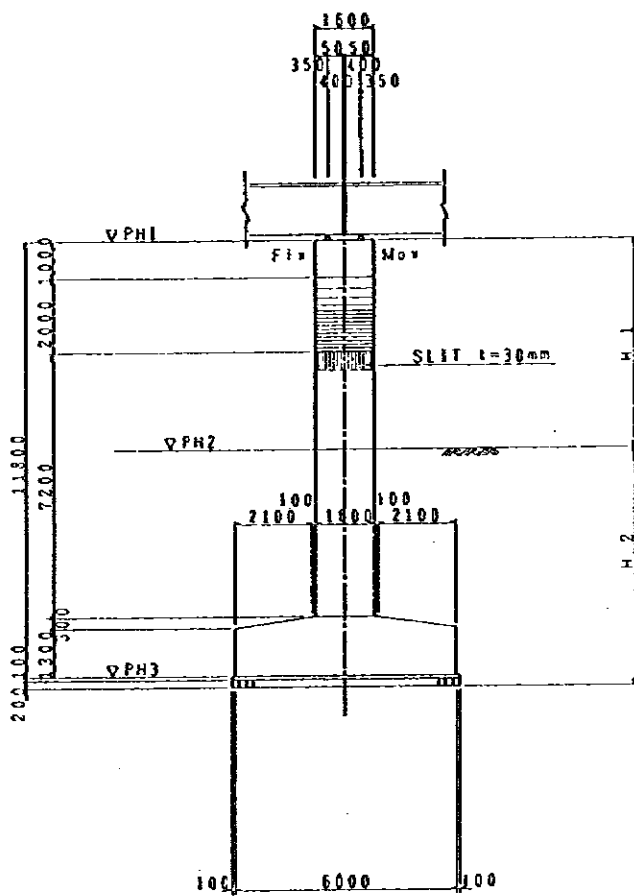
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	STRUCTURAL DETAIL OF A2 ABUTMENT AT A,B-LINE
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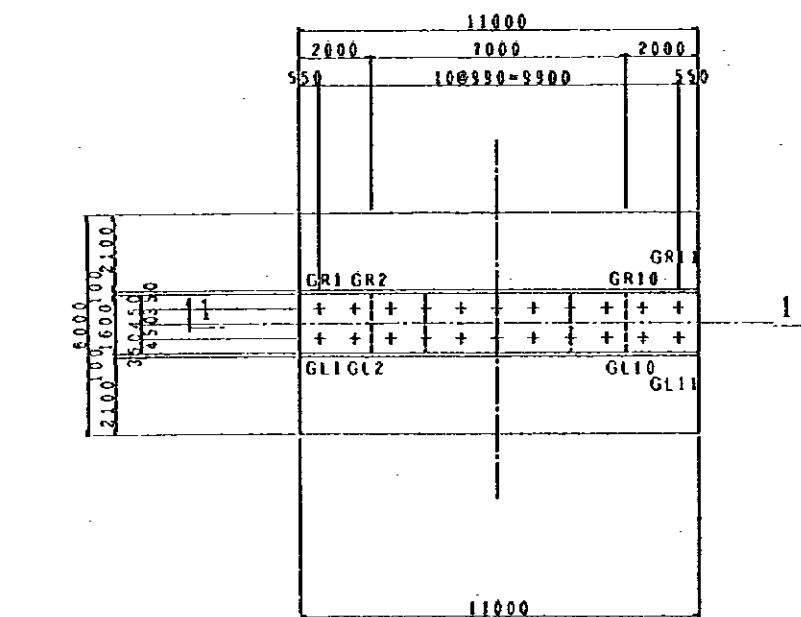
DATE	DWONO. B-27
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[illegible]

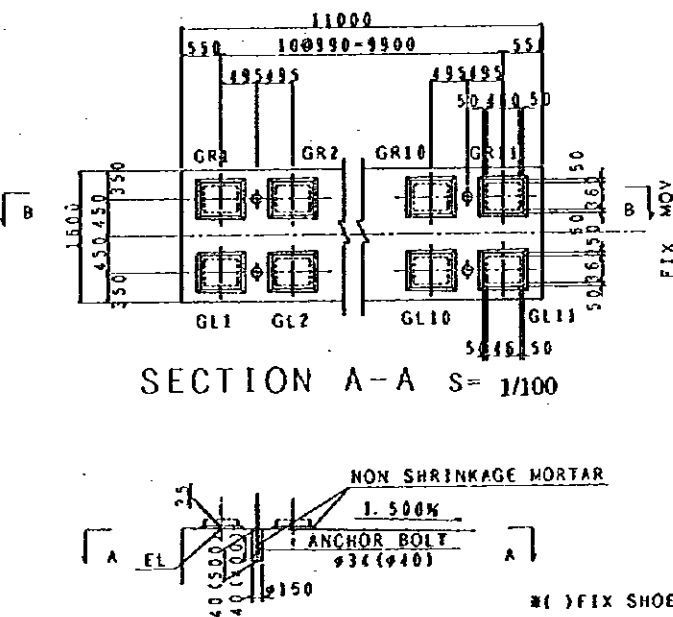
SECTION 1-1 S= 1/200



SECTION 3-3 S = 1/200

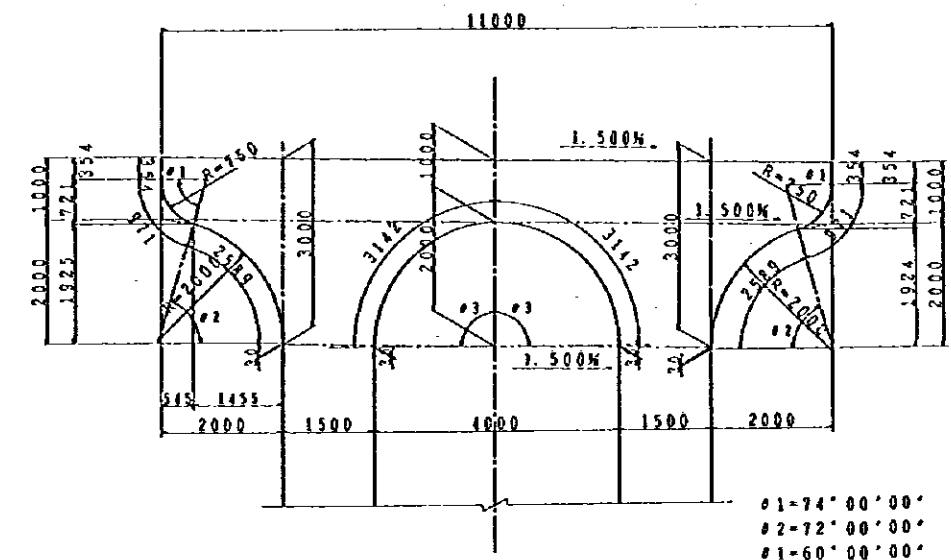


SECTION 2-2 S = 1/200



SECTION B-B S=1/100

DETAIL OF SHOE BED



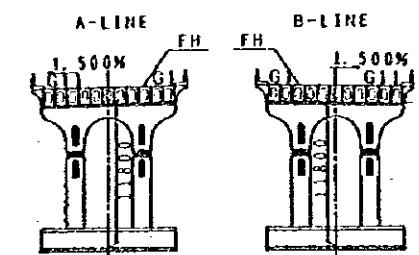
BEAM DETAL S = 1/120

DIMENSION TABLE

		PH1	PH2	PH3	H 1	H 2
A I L I N E	P 4	14.074	8.270	2.274	5804	5996
	P 5	14.141	8.270	2.341	5871	5929
	P 6	14.141	8.270	2.341	5871	5929
	P 7	14.074	8.270	2.274	5804	5996
B I L I N E	P 4	14.074	8.270	2.274	5804	5804
	P 5	14.141	8.270	2.341	5871	5929
	P 6	14.141	8.270	2.341	5871	5929
	P 7	14.074	8.270	2.274	5804	5804

SHOE ELEVATION (EL) TABLE

	G1L (G1R)	G1LL (G1)
P 4	14.148	14.000
P 5	14.215	14.061
P 6	14.215	14.061
P 7	14.148	14.000



KEY PLAN

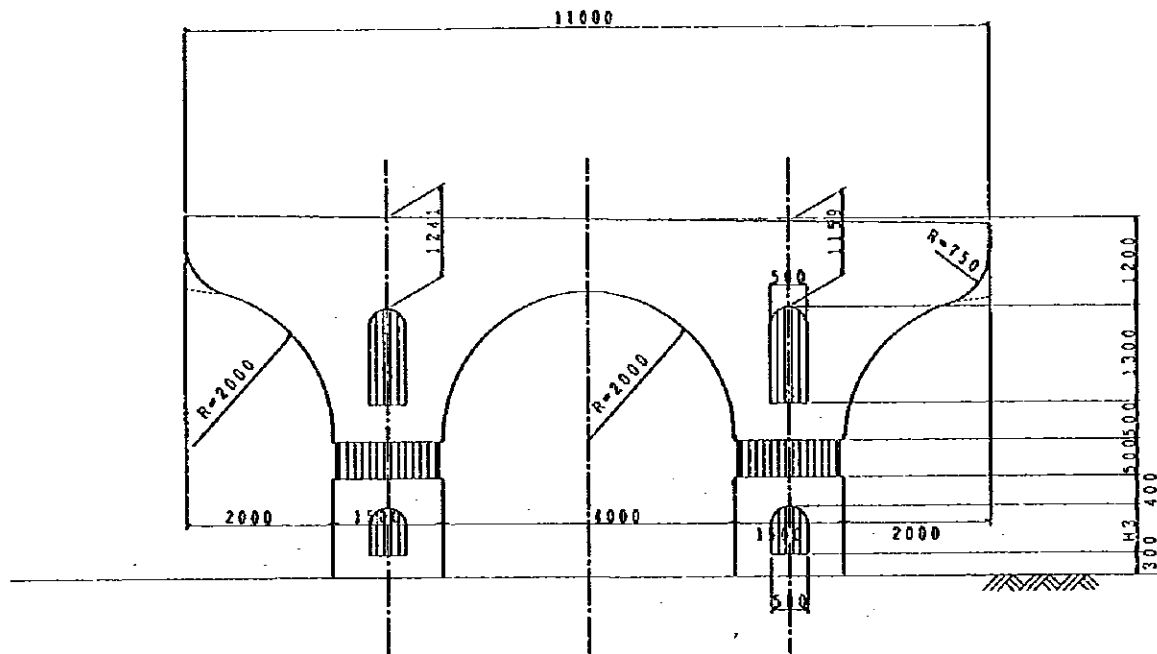
STRUCTURAL DETAIL OF TWO-COLUMN PIER FOR P4~P7 AT A-B-LINE (1/2)

NOTES:

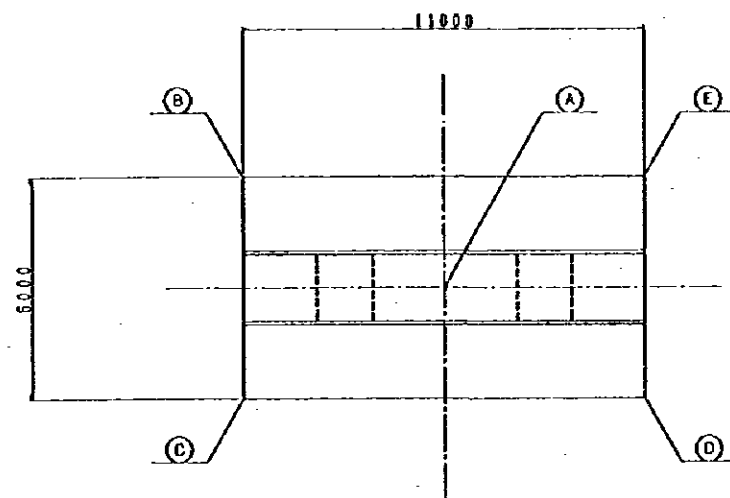
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS		
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY		
TITLE: STRUCTURAL DETAIL OF TWO-COLUMN PIER(P4-P7) AT A,B-LINE (1/2)		
DATE	DWGNO.	B-28

RA/8 AL KHA BURAH



SLIT OF PLAN S= 1/100



FRAMING PLAN S= 1/200

DIMENSION (H₃) TABLE

	A-LINE	B-LINE
P 4	1604	1604
P 5	1671	1671
P 6	1671	1671
P 7	1604	1604

CO-ORDINATES LIST

		A				B				C				D				E			
A I L I N E	PI	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PS	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PI	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PS	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
B I L I N E	PI	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PS	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PI	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	
	PS	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	10	25	10	10	

STRUCTURAL DETAIL OF TWO-COLUMN PIER FOR P4~P7 AT A·B-LINE (2/2)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

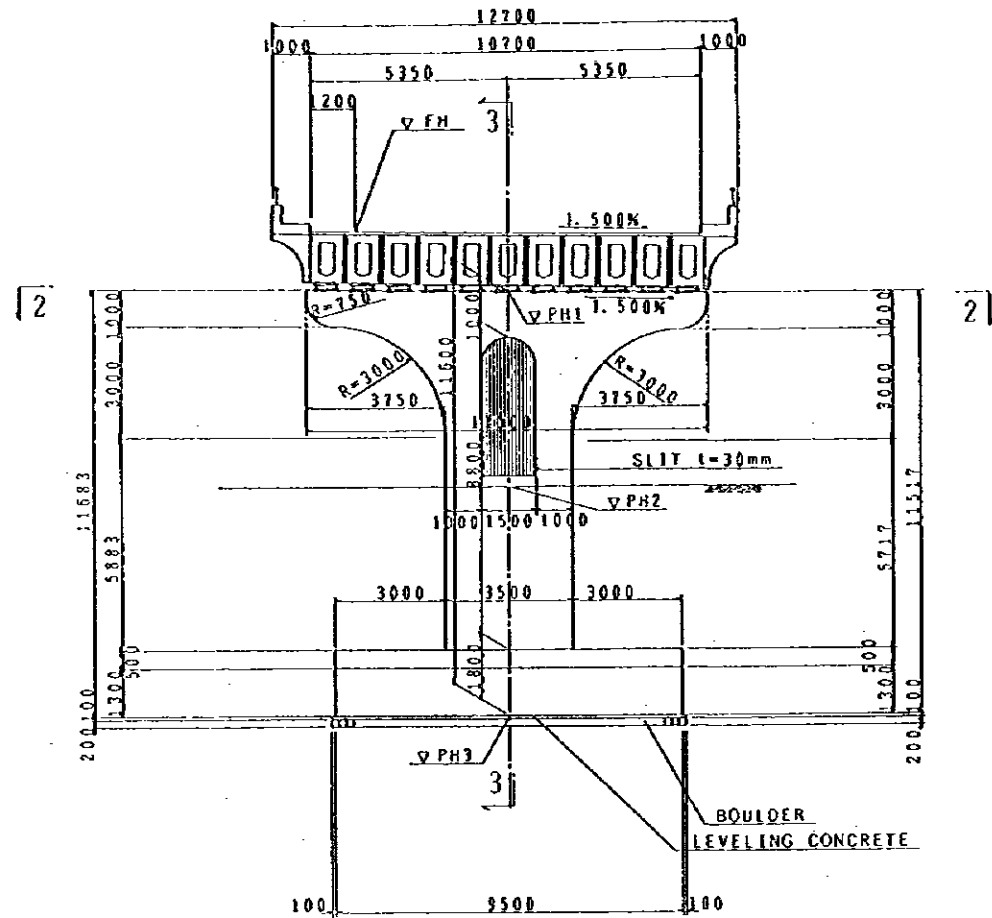
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

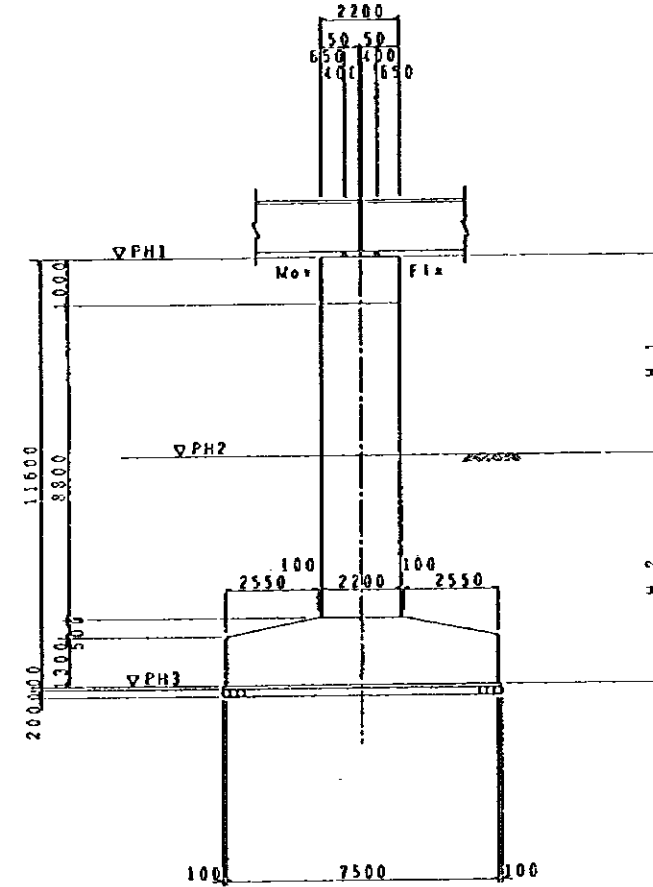
TITLE STRUCTURAL DETAIL OF TWO-COLMN PIER(P4-P7) AT A,B-LINE (2/2)

DATE	DWGNO.	B-29
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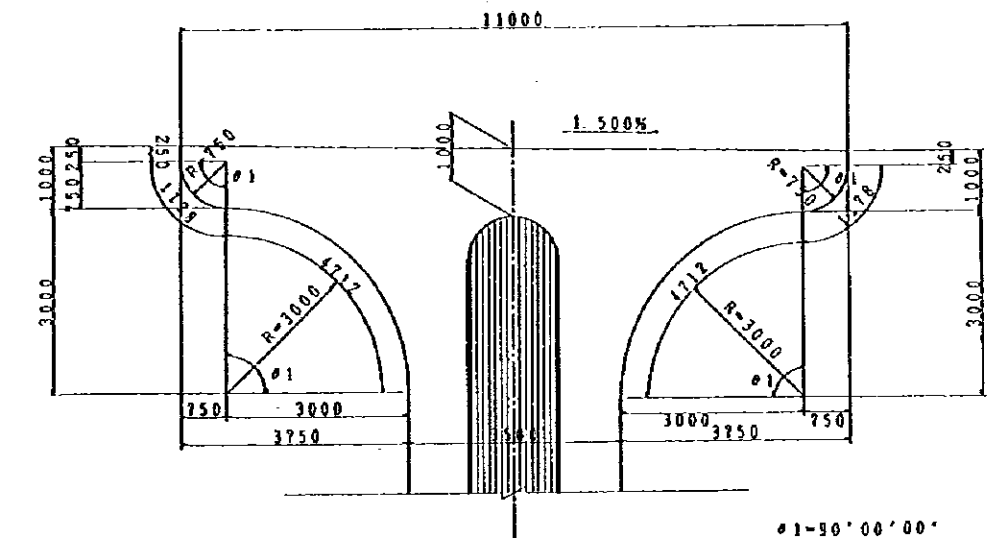
RA/8 AL KHABURAH



SECTION 1-1 S= 1/200



SECTION 3-3 S= 1/200



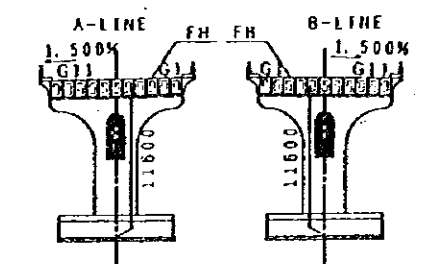
BEAM DETAIL S= 1/120

DIMENSION TABLE

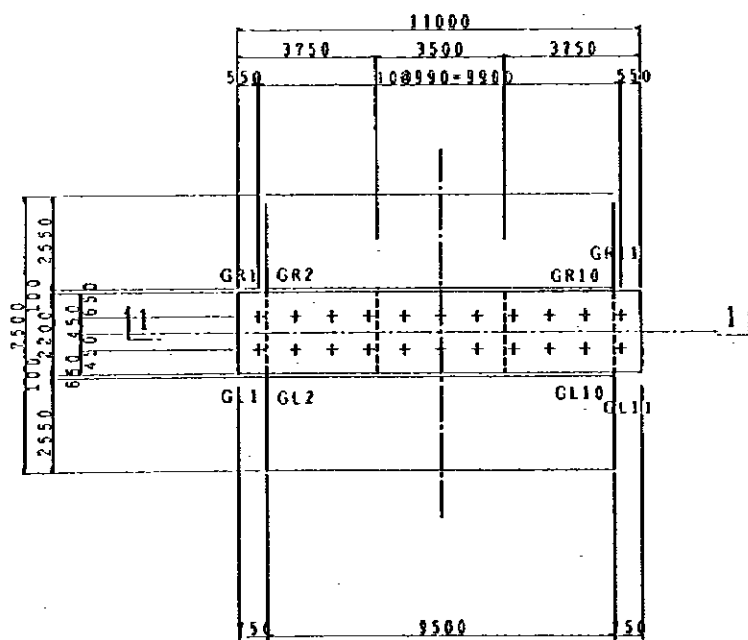
		PH1	PH2	PH3	H 1	H 2
A L I N E	P 1	13.465	8.393	1.865	5072	6528
	P 2	13.736	8.432	2.136	5299	6301
	P 3	13.939	8.481	2.339	5458	6142
	P 8	13.939	8.491	2.339	5448	6152
	P 9	13.736	8.495	2.136	5241	6359
	P10	13.465	8.499	1.865	4966	6634
B L I N E	P 1	13.465	8.441	1.865	5024	6576
	P 2	13.736	8.463	2.136	5273	6327
	P 3	13.939	8.486	2.339	5453	6147
	P 8	13.939	8.489	2.339	5450	6150
	P 9	13.736	8.484	2.136	5252	6348
	P10	13.465	8.479	1.865	4986	6614

SHOE ELEVATION(EL) TABLE

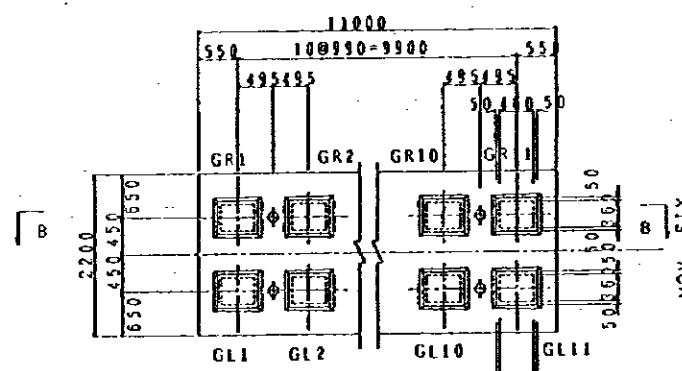
	G1L (G1R)	G1L (G1R)
P 1	13.539	13.391
P 2	13.810	13.662
P 3	14.013	13.865
P 8	14.013	13.835
P 9	13.810	13.662
P10	13.539	13.391



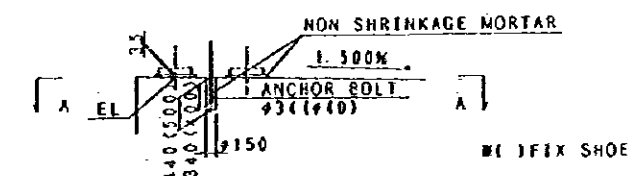
KEY PLAN



SECTION 2-2 S= 1/200



SECTION A-A S= 1/100



SECTION B-B S= 1/100

DETAIL OF SHOE BED

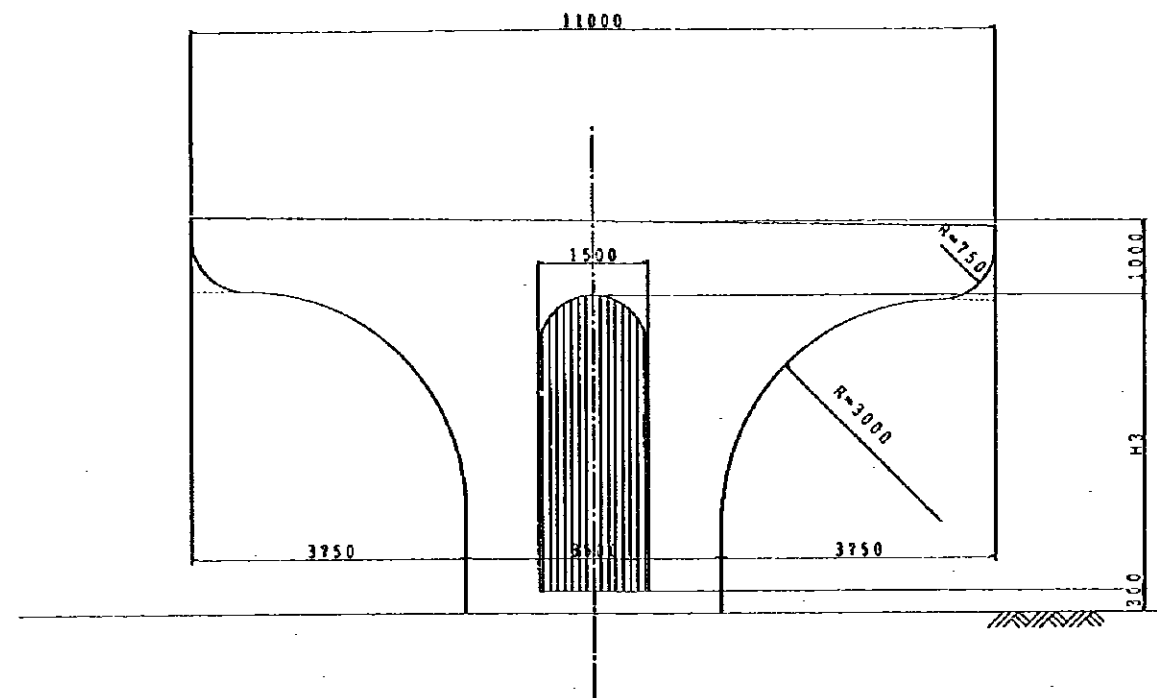
STRUCTURAL DETAIL OF T-WALL PIER FOR P1~P3,P8~P10 AT A-B-LINE (1/2)

NOTES:

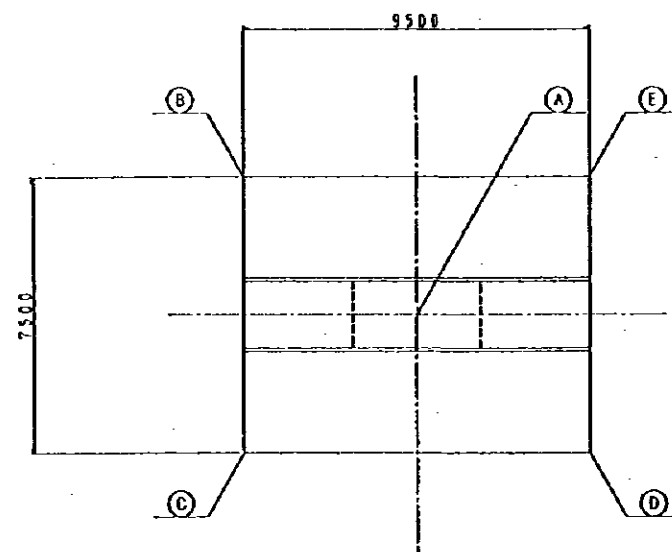
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: STRUCTURAL DETAIL OF T-WALL PIER(P1~P3,P8~P10) AT A,B-LINE(1/2)
DATE: DWGNO. B-30

RA/8 AL KHABURAH



SLIT OF PLAN S= 1/100



FRAMING PLAN S= 1/200

DIMENSION (H₃) TABLE

	A-LINE	B-LINE
P 1	3712	3724
P 2	3999	3973
P 3	4158	4153
P 8	4148	4150
P 9	3941	3952
P10	3666	3686

CO-ORDINATES LIST

		A	B	C	D	E
A L I N E	P1	25110	25110	25110	25110	25110
	P2	25110	25110	25110	25110	25110
	P3	25110	25110	25110	25110	25110
	P8	25110	25110	25110	25110	25110
	P9	25110	25110	25110	25110	25110
	P10	25110	25110	25110	25110	25110
B L I N E	P1	25110	25110	25110	25110	25110
	P2	25110	25110	25110	25110	25110
	P3	25110	25110	25110	25110	25110
	P8	25110	25110	25110	25110	25110
	P9	25110	25110	25110	25110	25110
	P10	25110	25110	25110	25110	25110

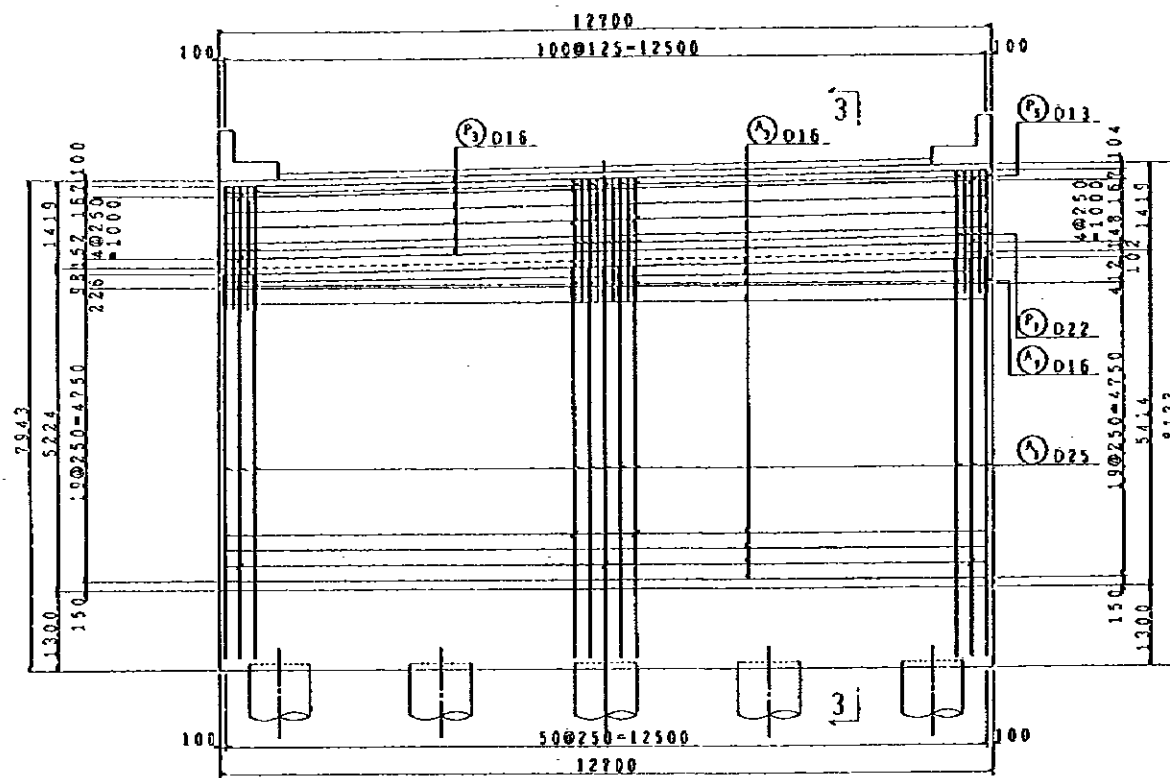
STRUCTURAL DETAIL OF T-WALL PIER FOR P1~P3,P8~P10 AT A·B-LINE (2/2)

NOTES:

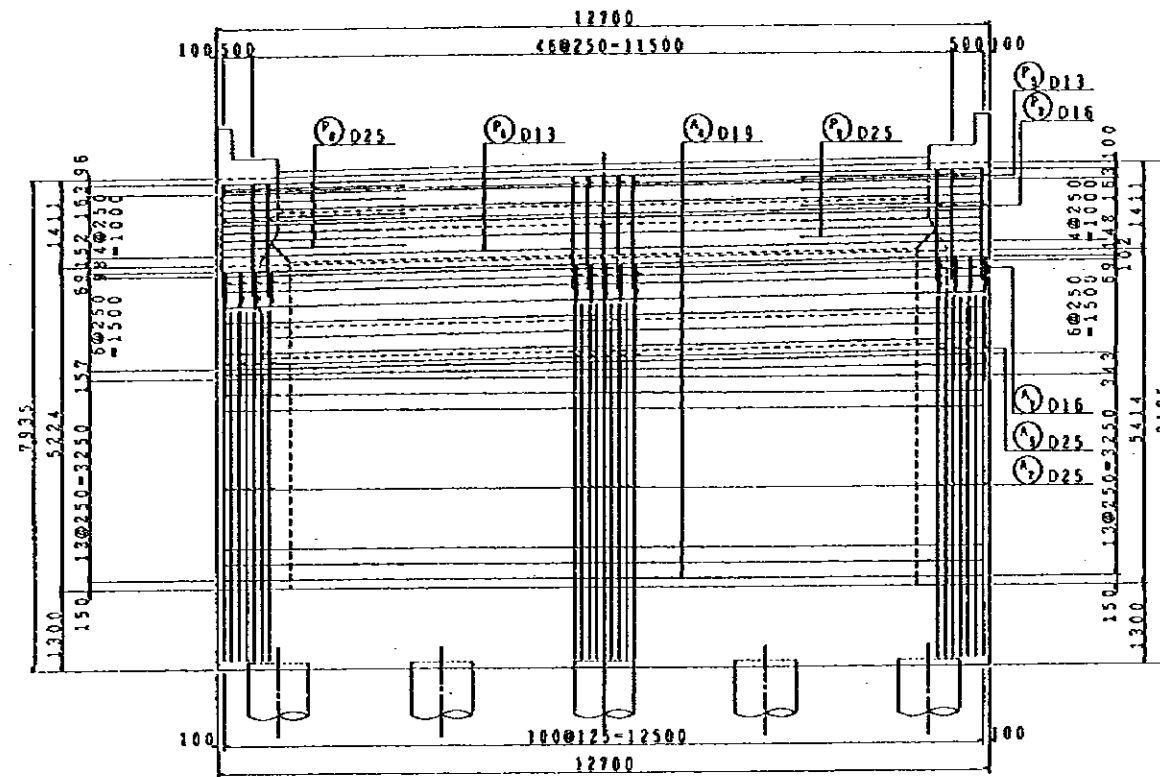
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE STRUCTURAL DETAIL OF T-WALL PIER(P1~P3,P8~P10) AT A,B-LINE(2/2)
DATE DWGNO. B-31

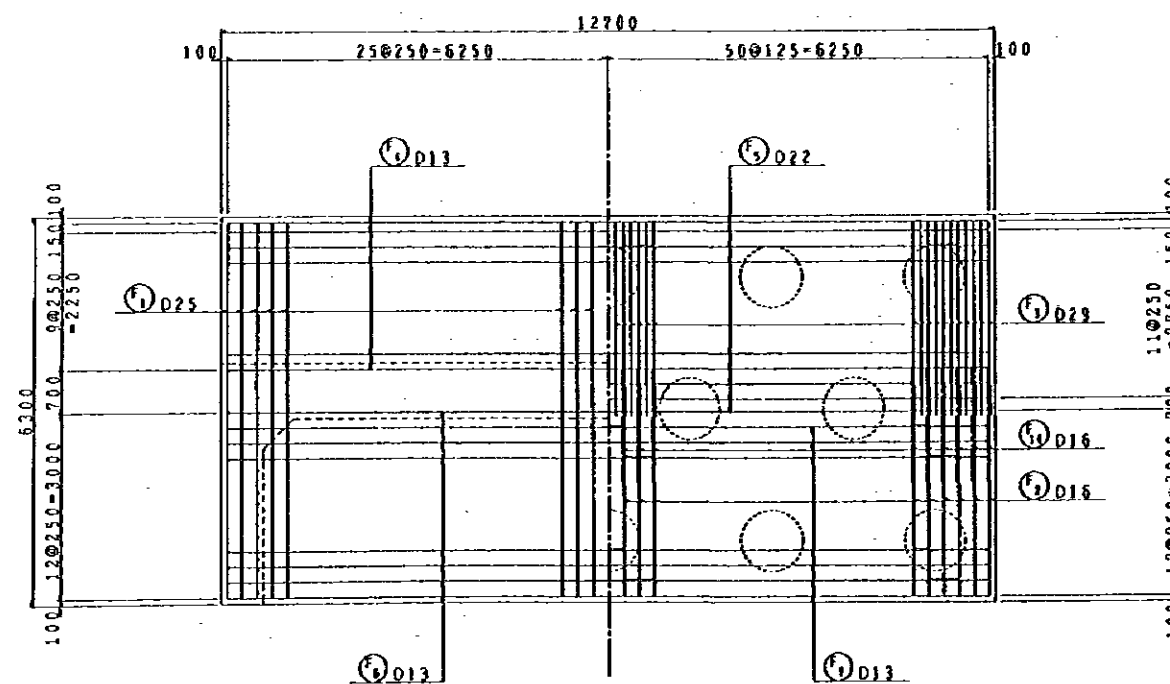
RA/8 AL KHABURAH



SECTION 1-1 S=1/120

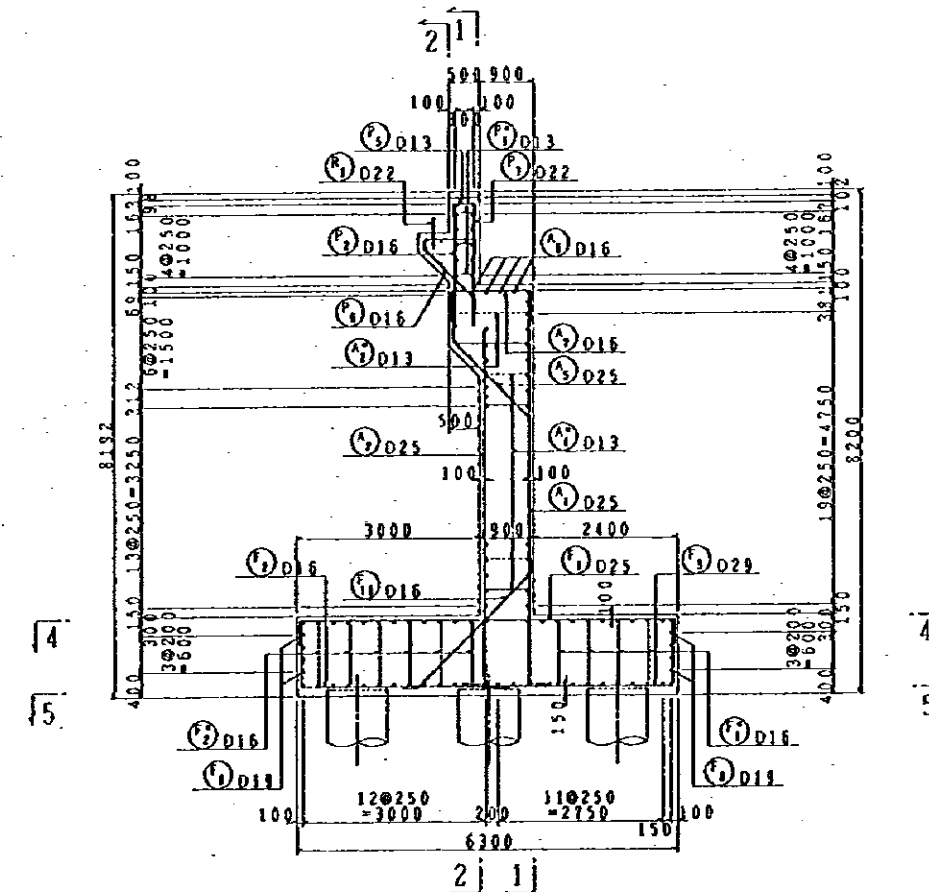


SECTION 2-2 S=1/120



SECTION 4-4 S=1/120

SECTION 5-5 S=1/120



SECTION 3-3 S=1/120

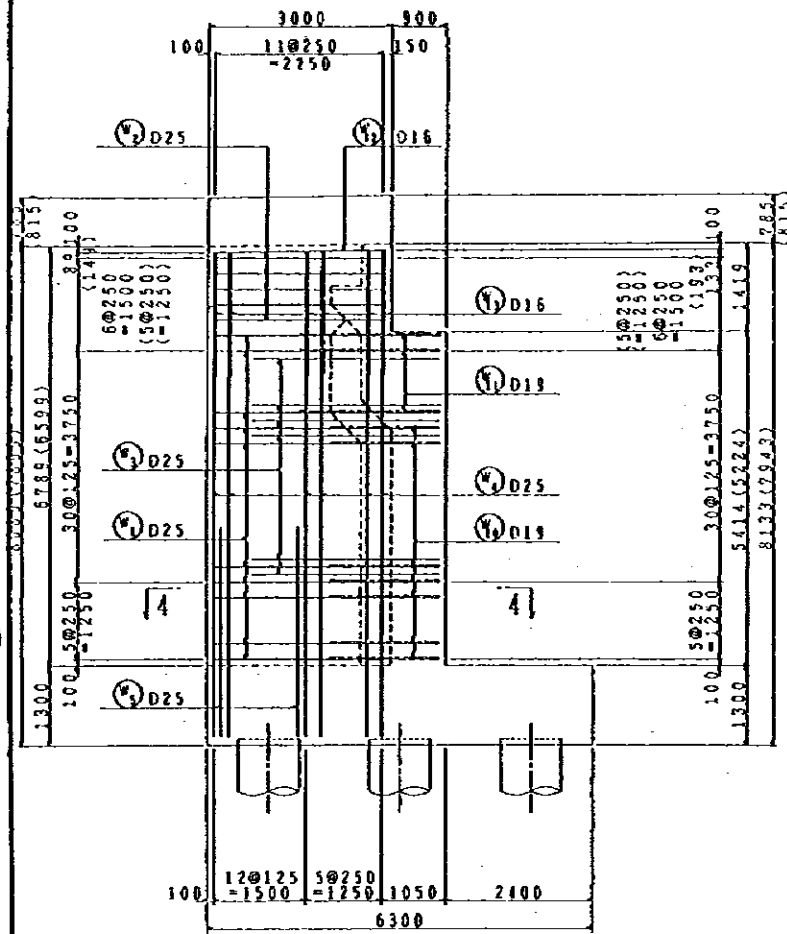
RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A.B-LINE (1/3)

NOTES:

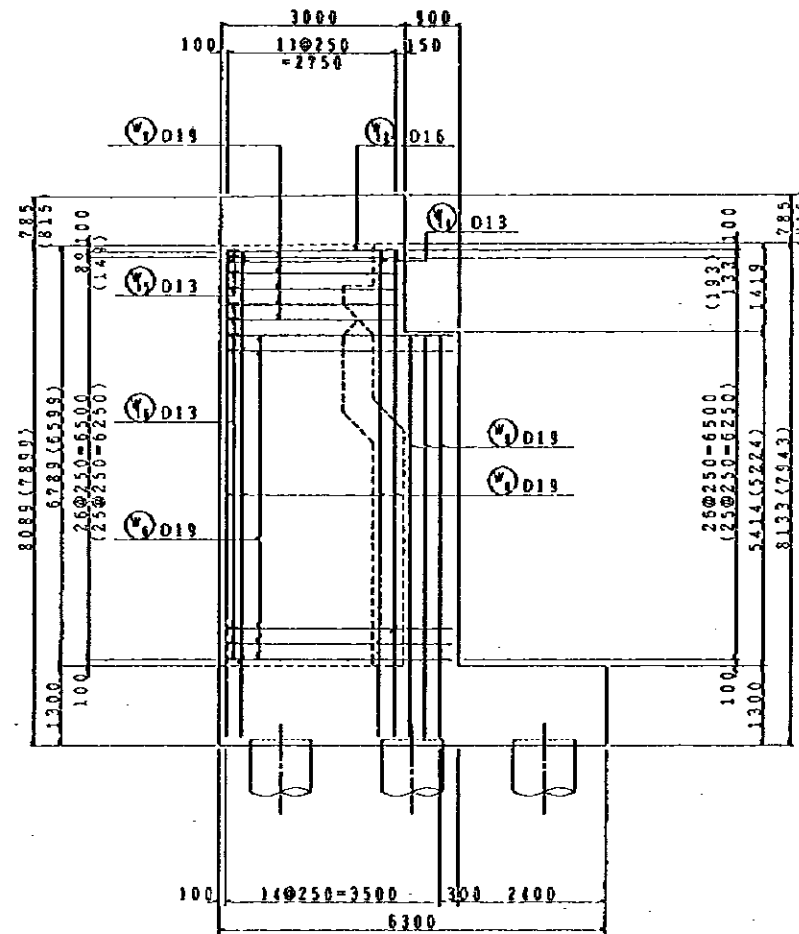
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A.B-LINE (1/3)
DATE: _____ DWGNO. B-32

RA/8 AL KHABURAH

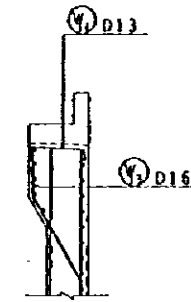


SECTION 1-1 S= 1/120

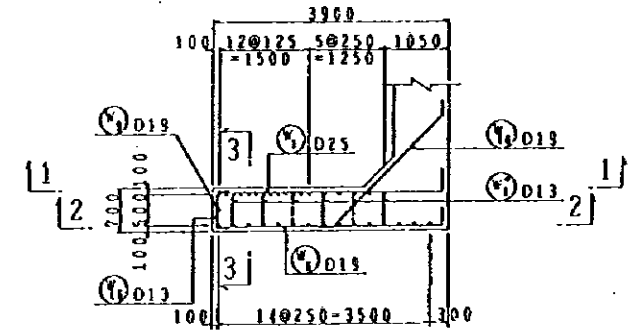


SECTION 2-2 S= 1/120

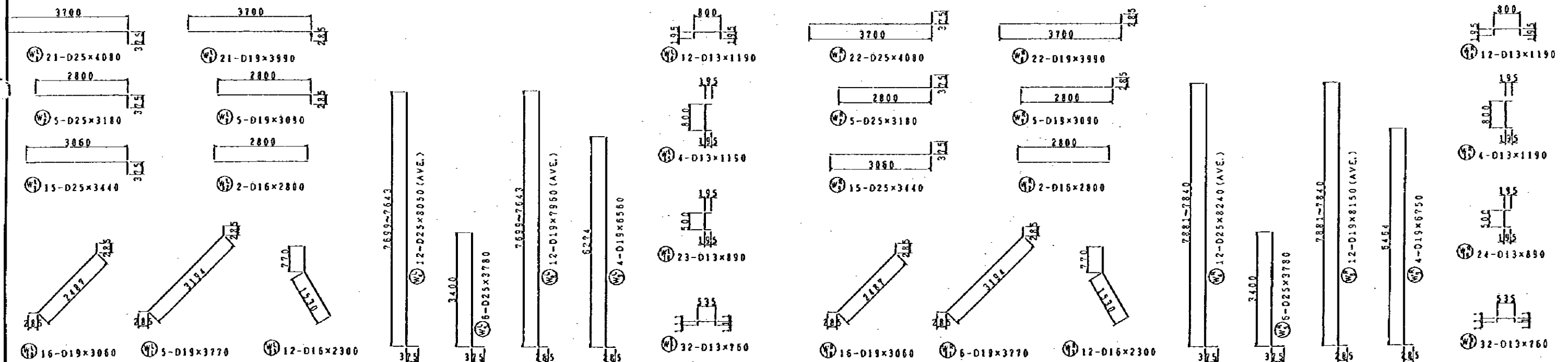
NOTE: () LEFT WING



SECTION 3-3 S = 1/120



SECTION 4-4 S= 1/120



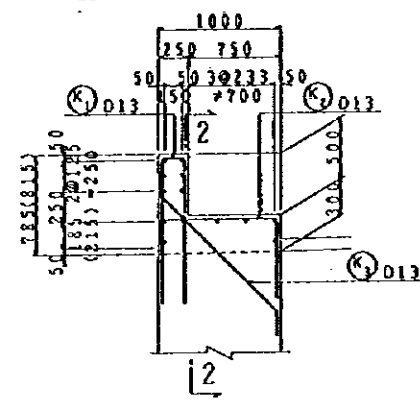
RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A.B-LINE (2/3)

NOTES:

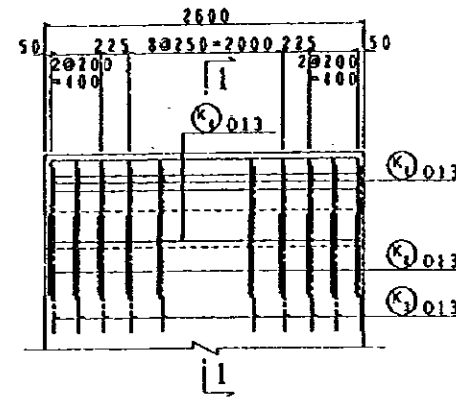
**JAPAN INTERNATIONAL COOPERATION AGENCY
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JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
TITLE RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A,B-LINE (2/3)	
DATE	DWGNO. B-33

RA/8 AL KHA BURAH

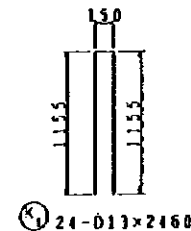


SECTION 1-1

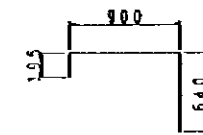


SECTION 2-2

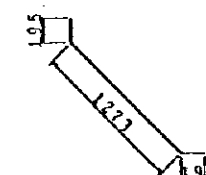
NOTE: () RIGHT RAILING



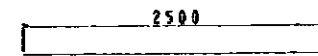
④ 24-013x2460



24-013x1740

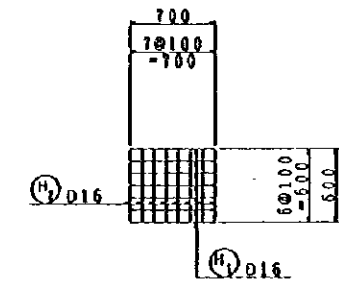


24-D13x1670

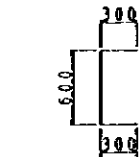


26-013x2500

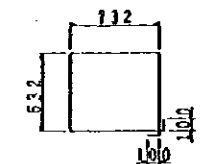
DETAIL OF RAILING S = 1/60



77-016x1300

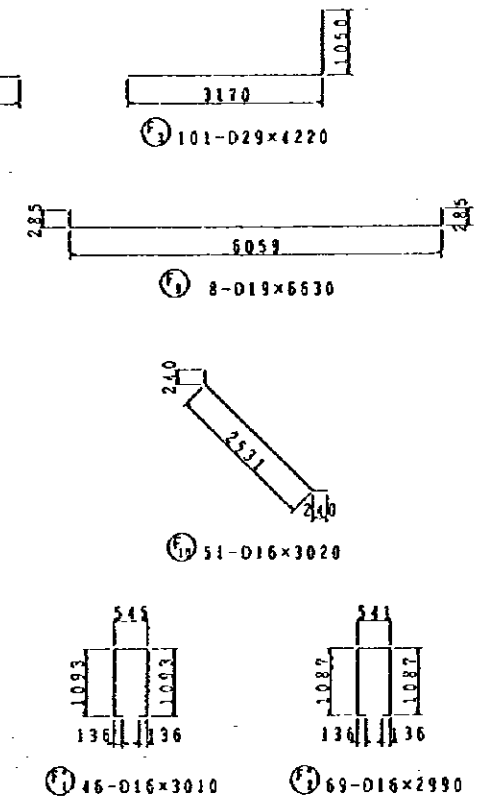
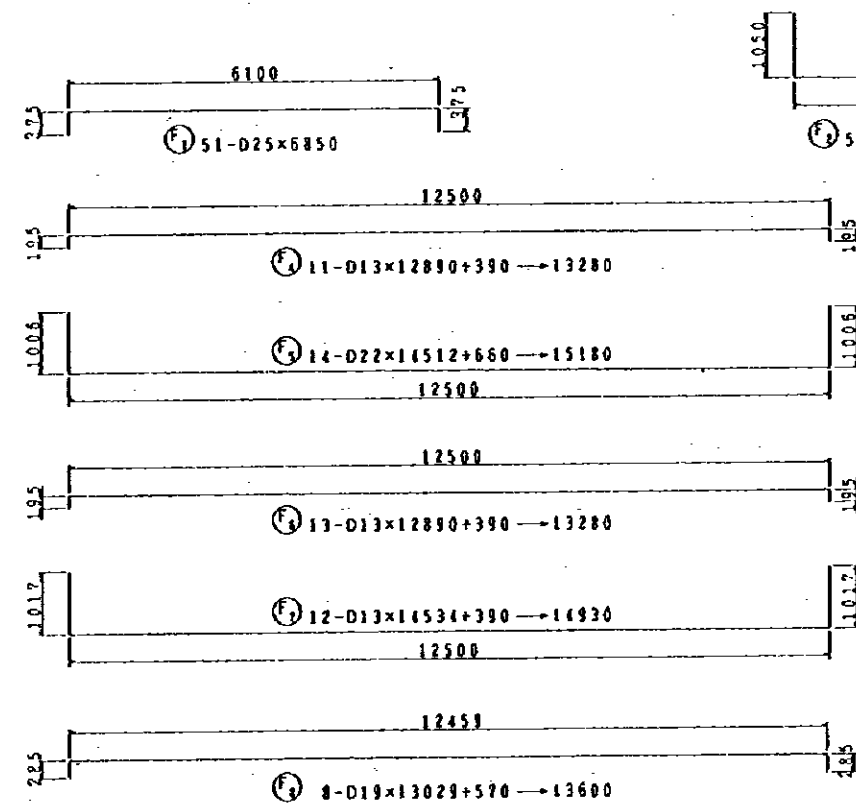


98-D16x1200



③ 11-016x2930

DETAIL OF SHOE BED S = 1/60



RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A-B-LINE (3/3)

NOTES:

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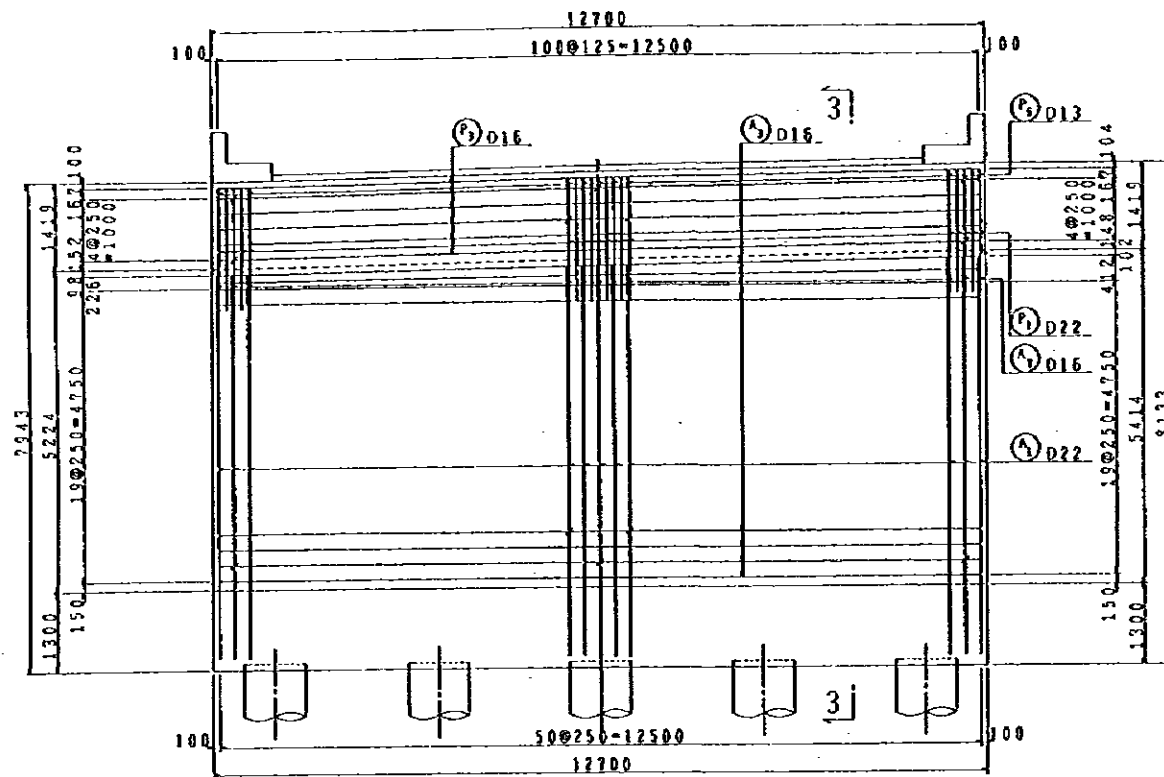
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

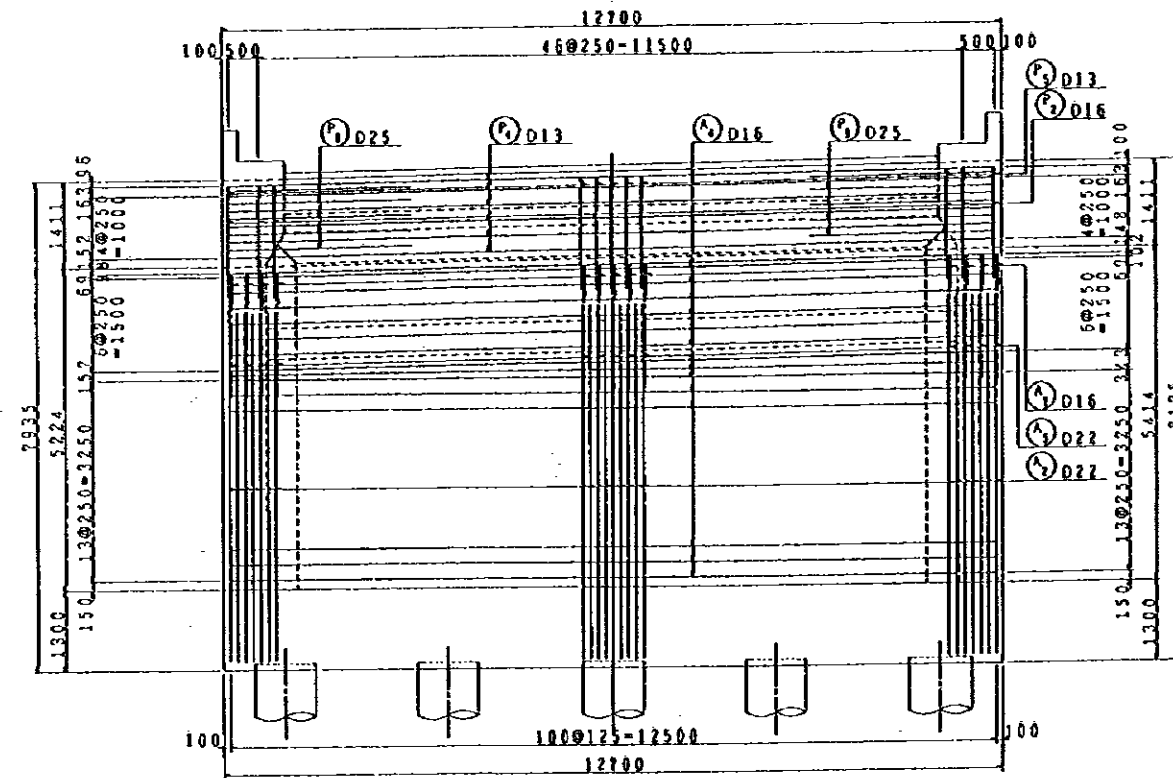
TITLE	RE-BAR ARRANGEMENT OF A1 ABUTMENT AT A,B-LINE(3/3)
-------	--

DATE	DWGNO.	B-34
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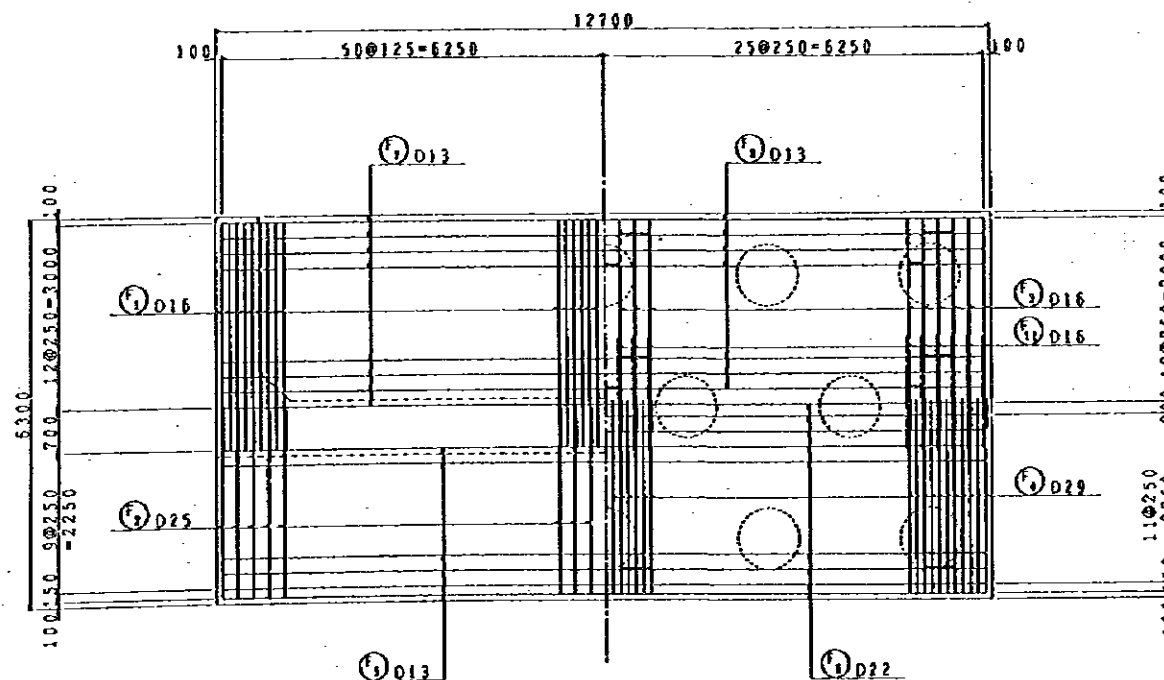
RA/8 AL KHABURAH



SECTION 1-1 S= 1/120

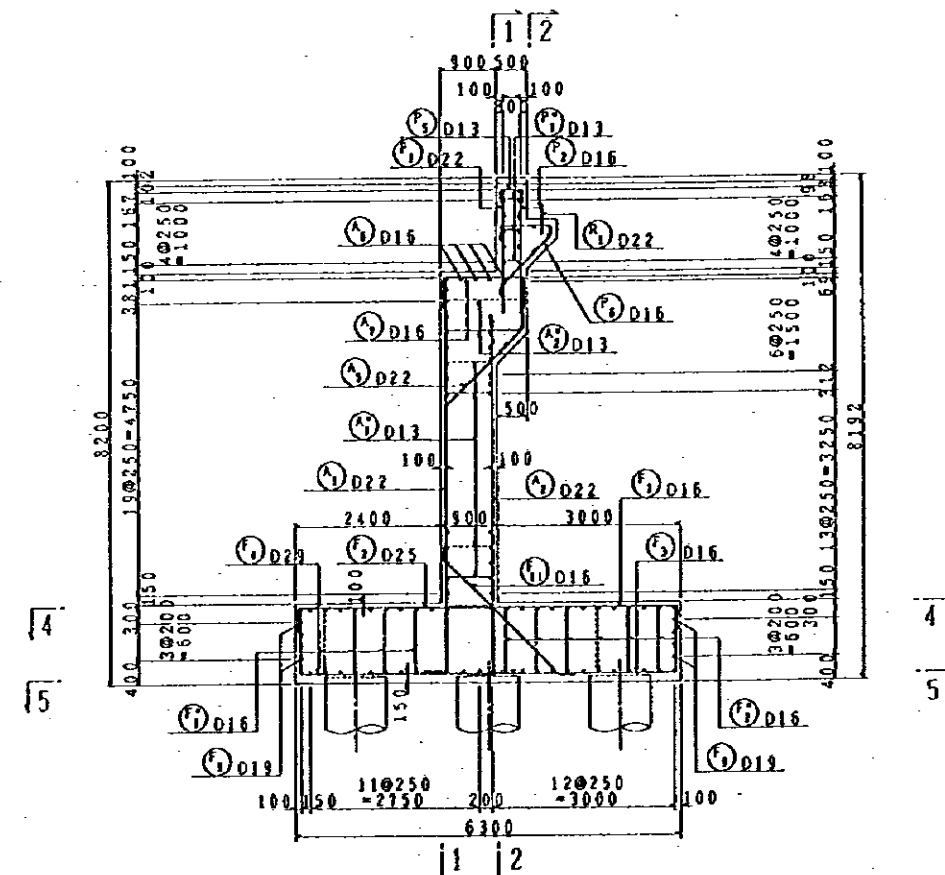


SECTION 2-2 S= 1/120



SECTION 4-4 S= 1/120

SECTION 5-5 S= 1/120



SECTION 3-3 S= 1/120

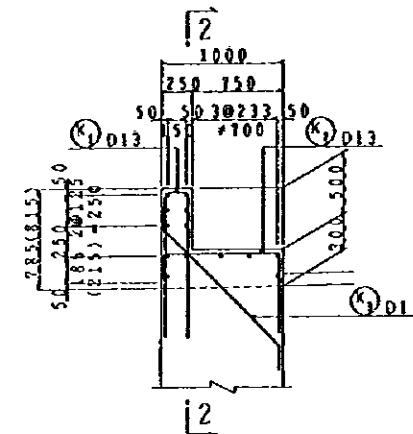
RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A-B-LINE (1/2)

NOTES:

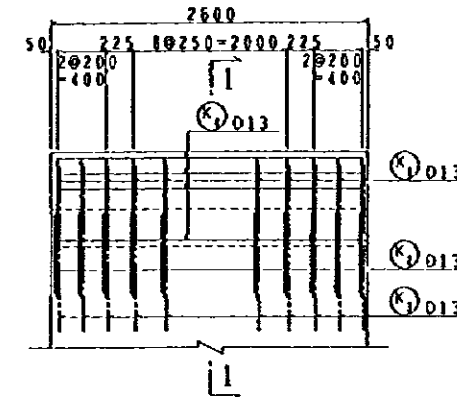
JAPAN INTERNATIONAL COOPERATION AGENCY
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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A-B-LINE (1/2)
DATE: _____ DWGNO. B-35

RA/8 AL KHABURAH

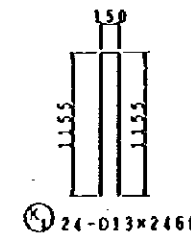


SECTION 1-1

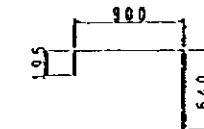


SECTION 2-2

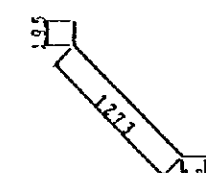
NOTE: () RIGHT RAILING



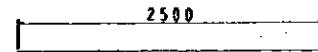
24-D13x2460



24-D13x1740

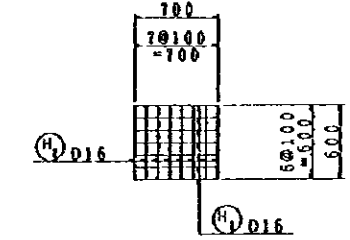


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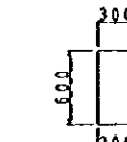


26-D13x2500

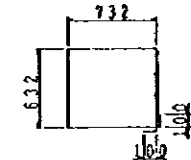
DETAIL OF RAILING S= 1/60



77-D16x1300

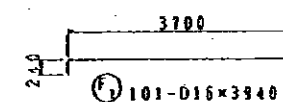


88-D16x1200

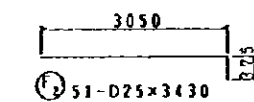


11-D16x2930

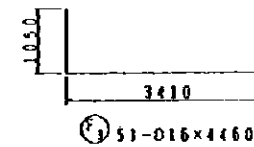
DETAIL OF SHOE BED S= 1/60



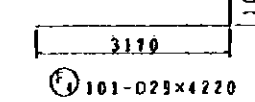
101-D16x3940



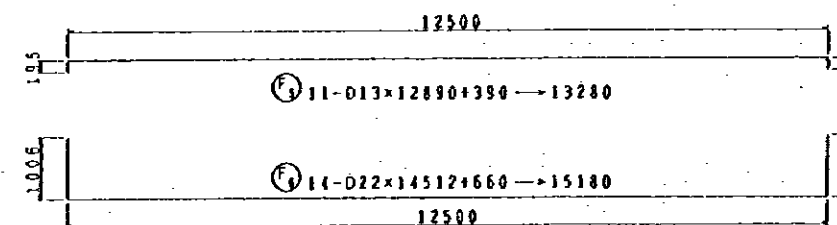
51-D25x3430



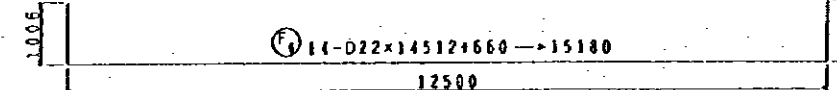
51-D16x4460



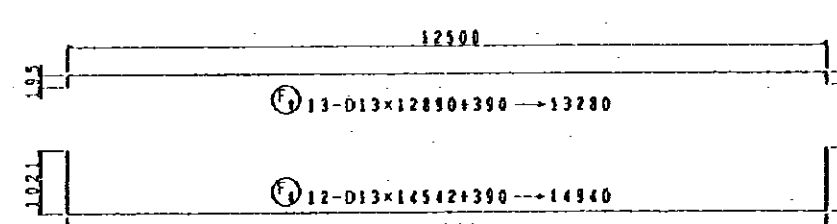
101-D22x4220



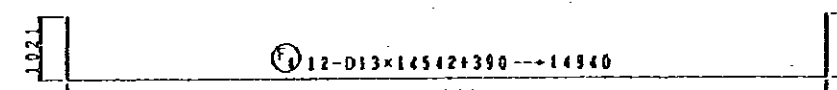
11-D13x12890+390 -> 13280



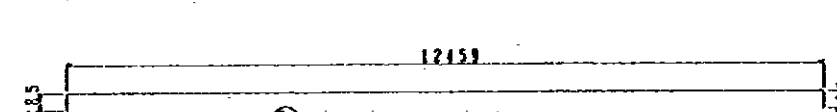
14-D22x14512+660 -> 15180



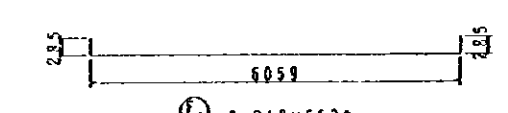
13-D13x12890+390 -> 13280



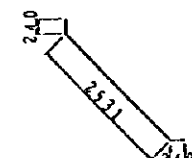
12-D13x14542+390 -> 14940



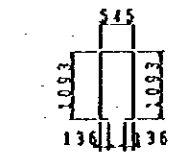
8-D19x13029+570 -> 13600



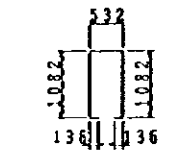
8-D19x6630



51-D16x3020



46-D16x3010



69-D16x2970

NOTE: RE-BAR ARRANGEMENT OF WING IS AS SAME AS IN A1 ABUTMENT

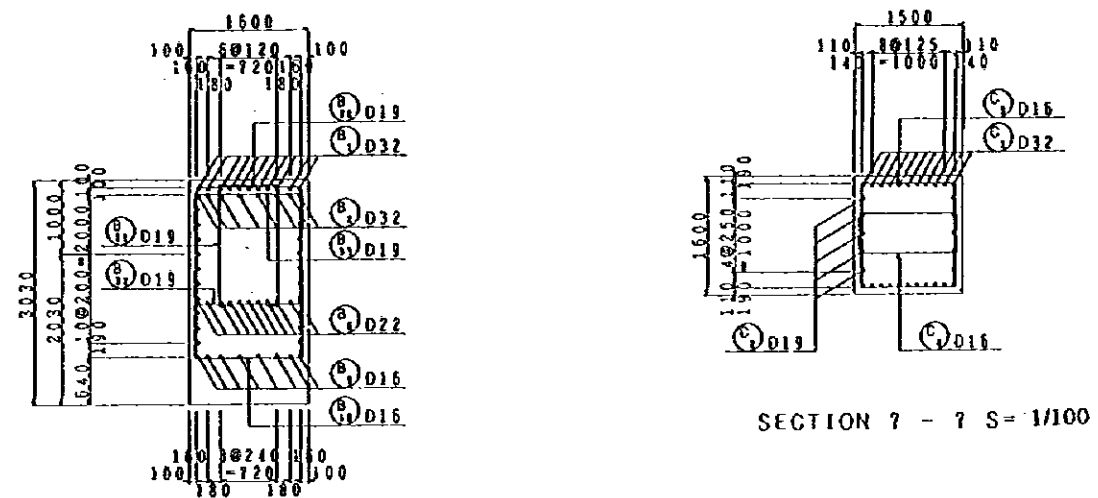
RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A·B-LINE (2/2)

NOTES:

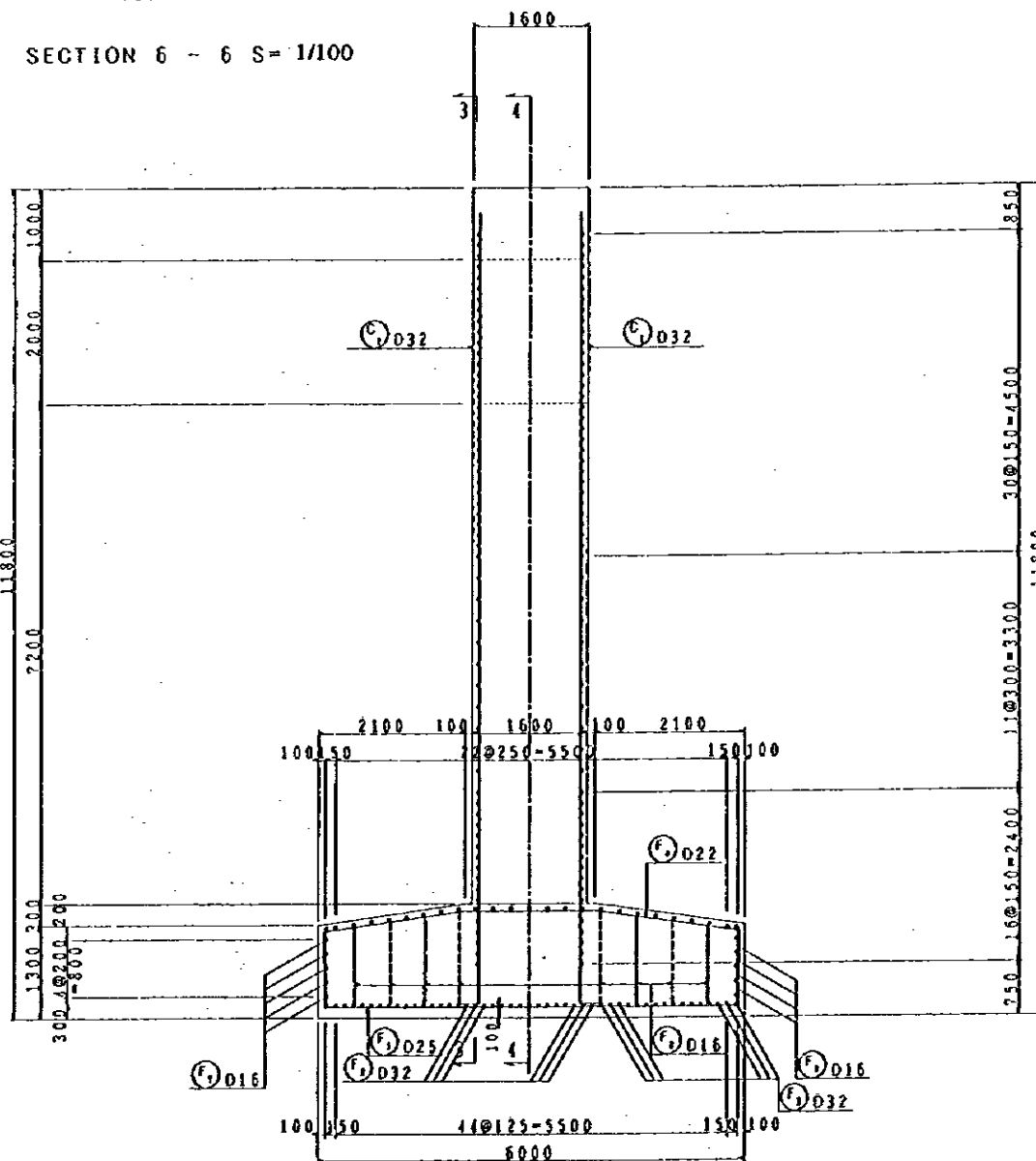
JAPAN INTERNATIONAL COOPERATION AGENCY
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JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF A2 ABUTMENT AT A·B-LINE (2/2)
DATE: DWGNO. B-36

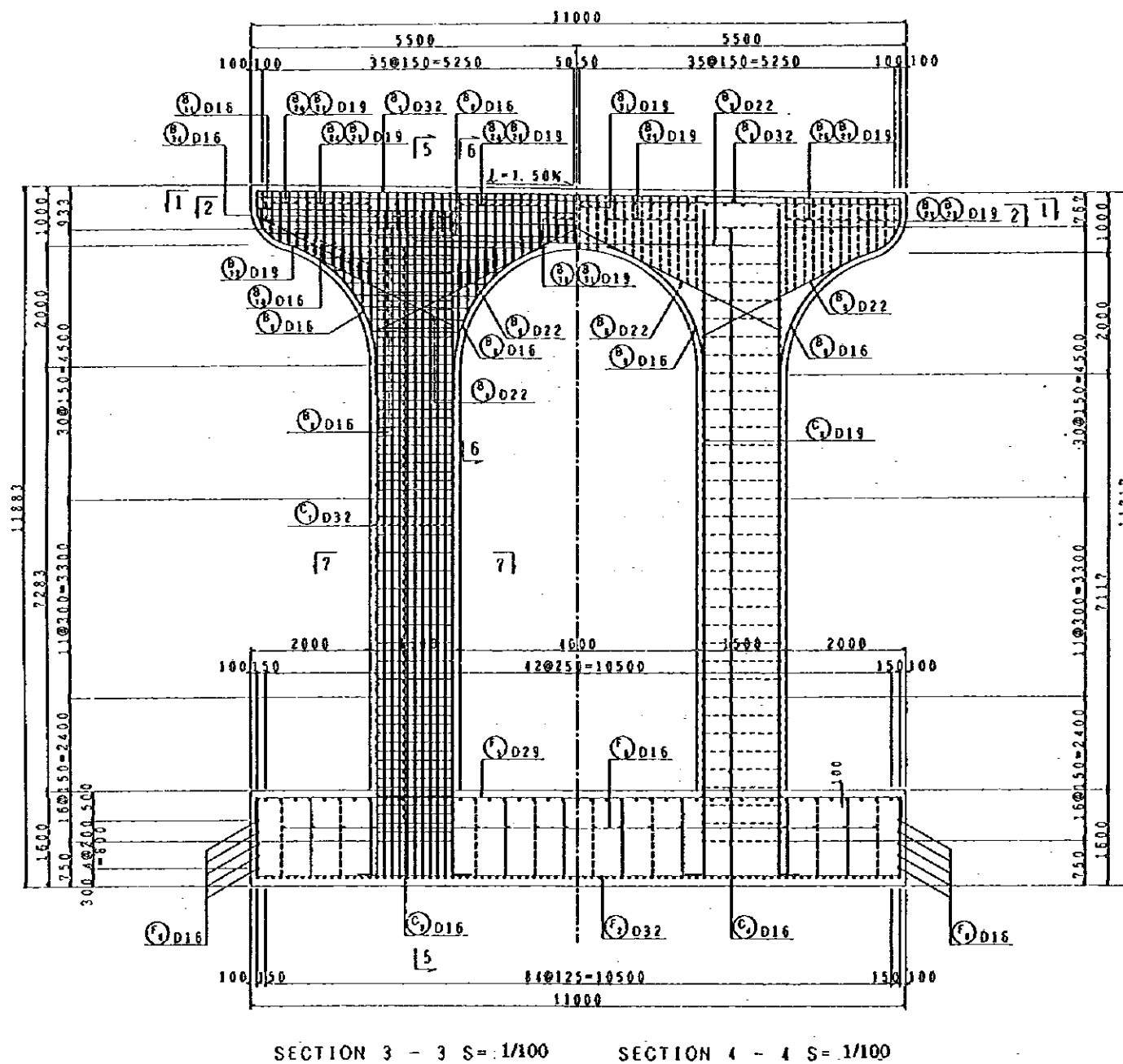
RA/8 AL Khaburah



SECTION 7 - 7 S= 1/100



SECTION 5 - 5 S=11/100



SECTION 3 - 3 S= 1/100 SECTION 4 - 4 S= 1/100

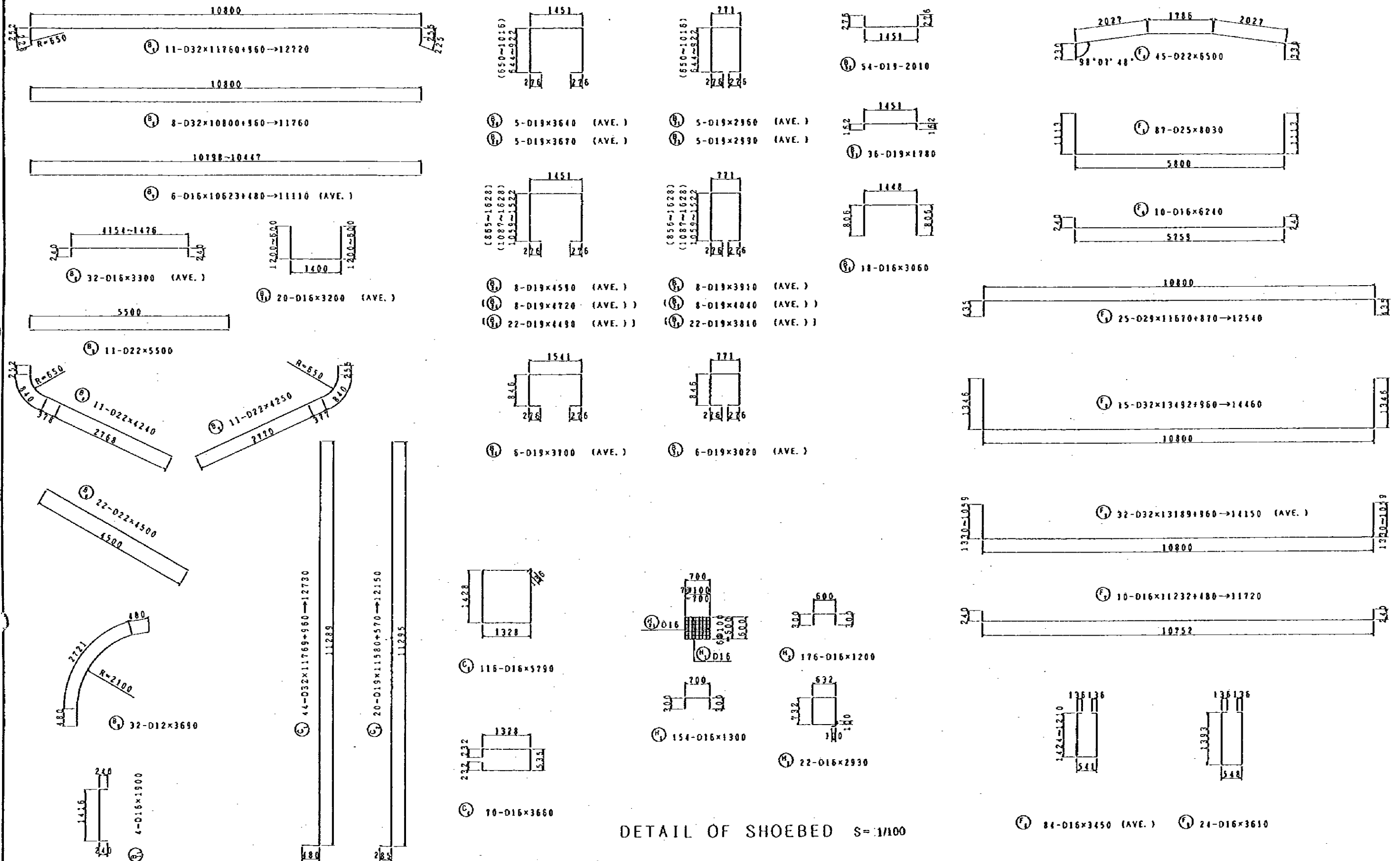
RE-BAR ARRANGEMENT OF TWO-COLUMN PIER FOR P4~P7 AT A,B-LINE (1/2)

NOTES:

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CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
TITLE: RE-BAR ARRANGEMENT OF TWO-COLUMN PIER(P4-P7) AT A,B-LINE (1/2)	
DATE	DWGNO. B-37

RA/8 AL KHABURAH



DETAIL OF SHOE BED S=1/100

RE-BAR ARRANGEMENT OF TWO-COLUMN PIER FOR P4~P7 AT A,B-LINE (2/2)

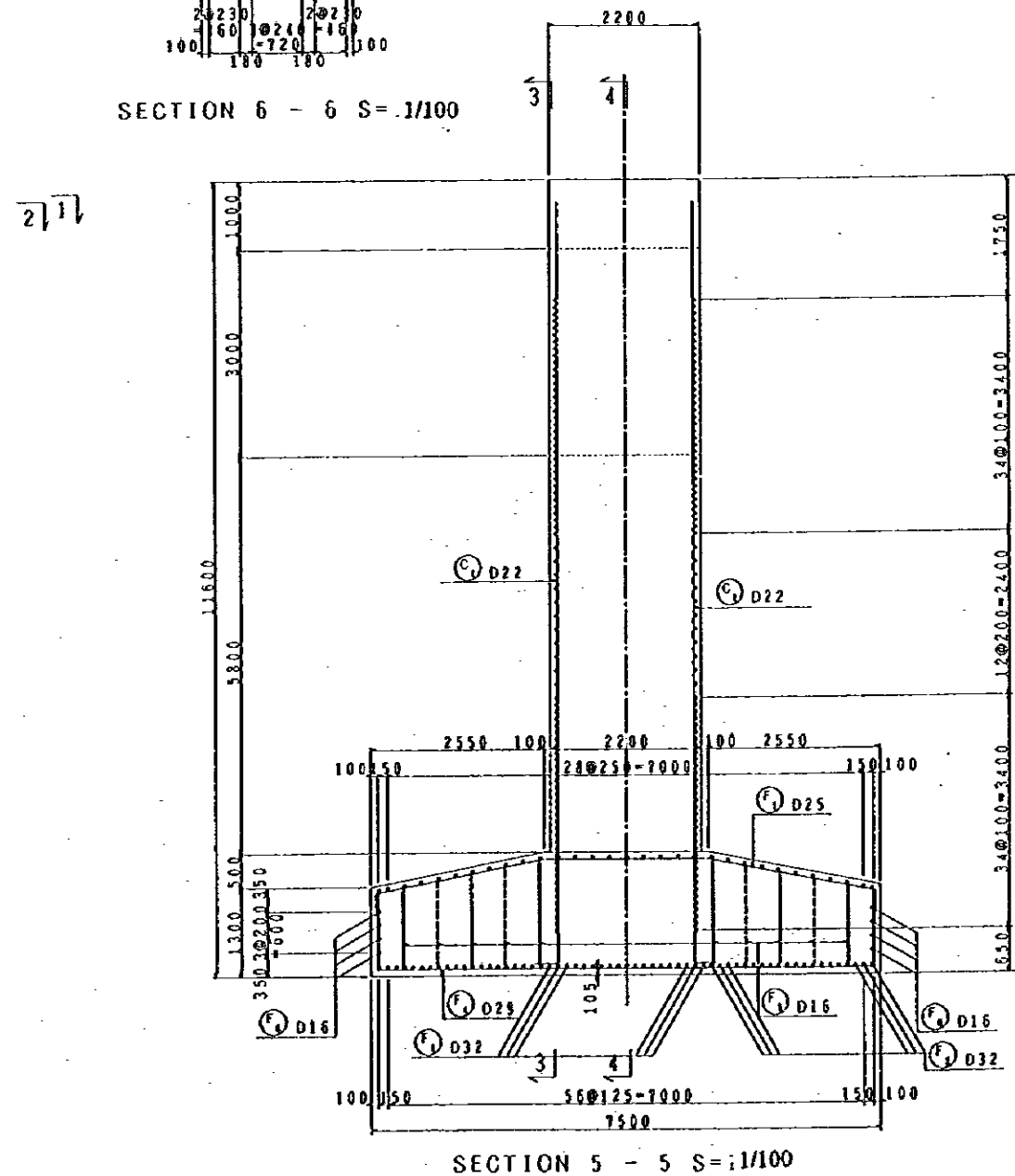
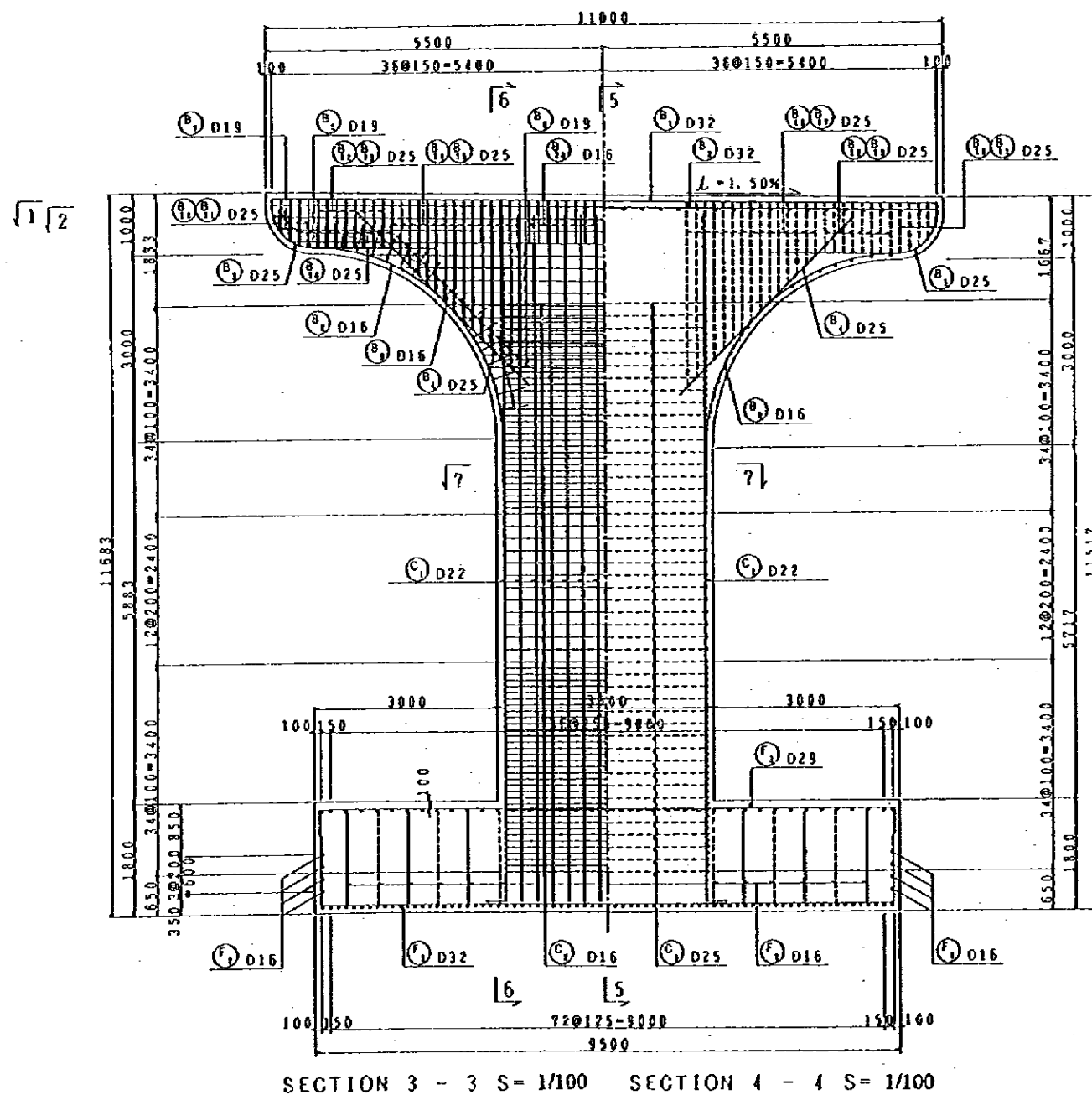
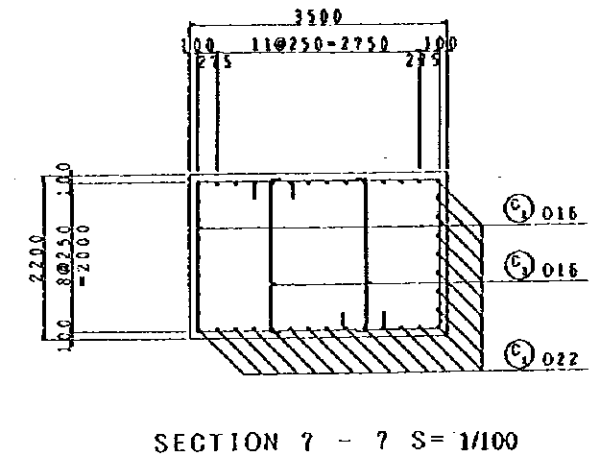
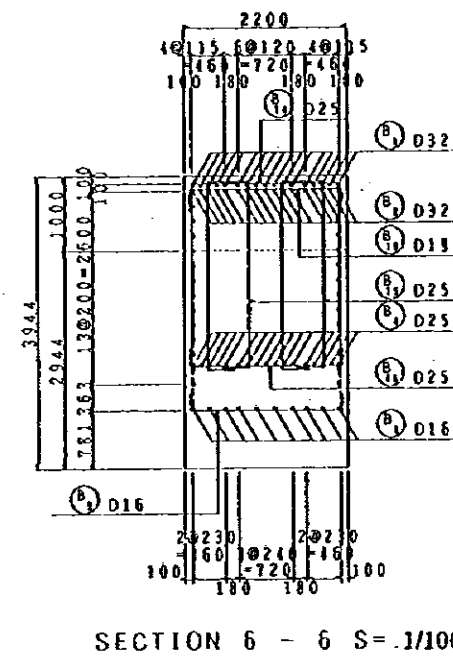
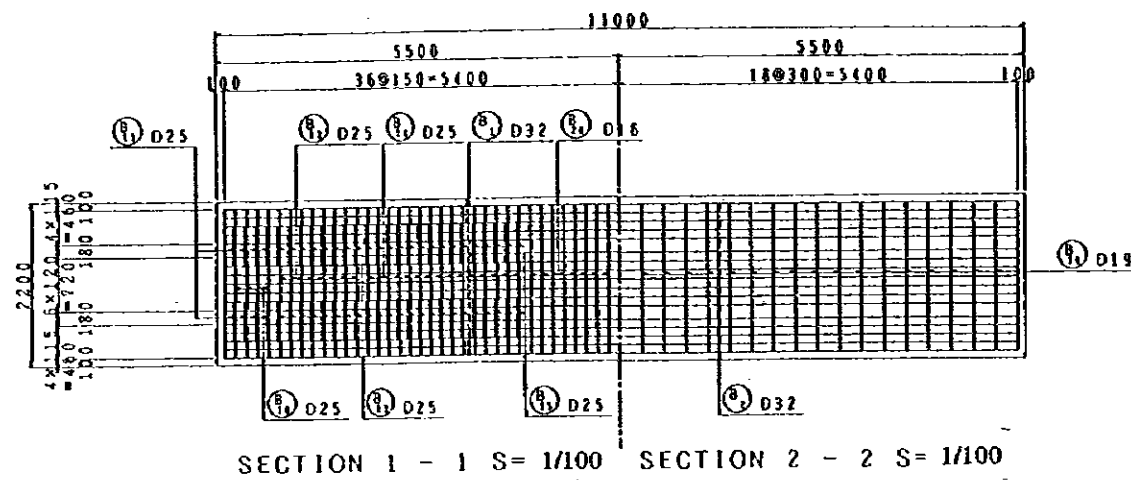
NOTES:

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FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF TWO-COLMN PIER(P4-P7) AT A,B-LINE (2/2)
DATE: _____ DWGNO. B-38

RA/8 AL KHABURAH



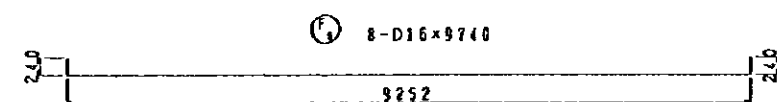
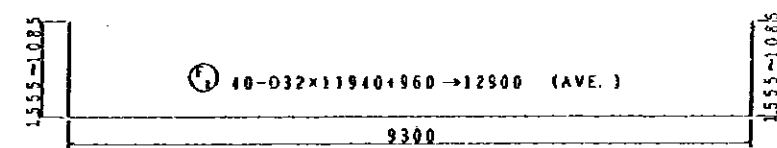
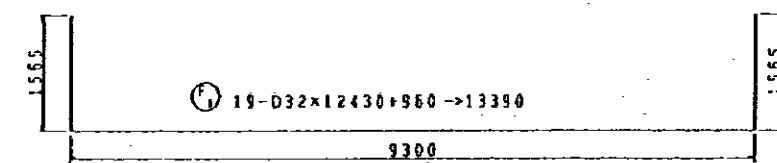
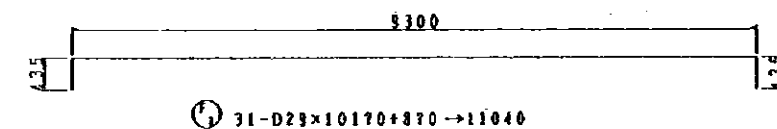
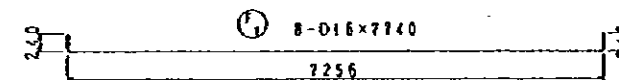
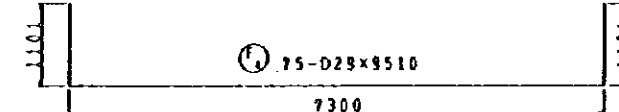
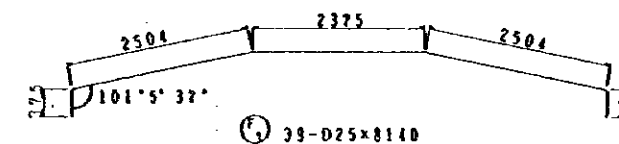
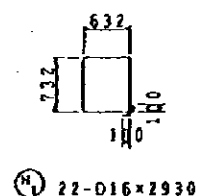
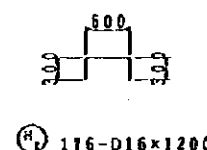
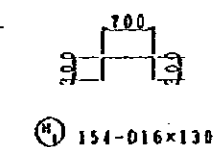
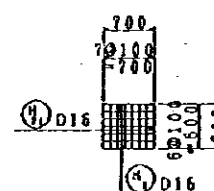
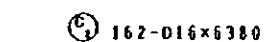
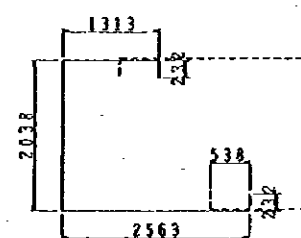
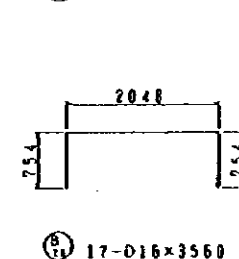
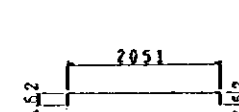
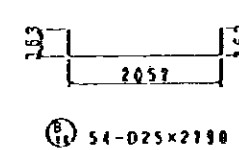
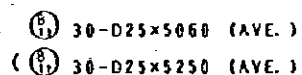
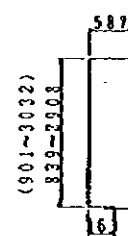
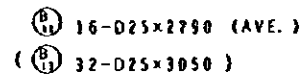
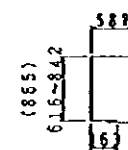
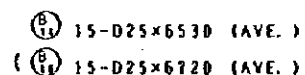
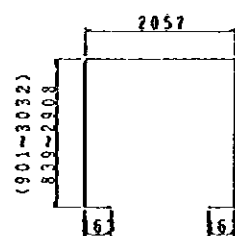
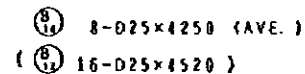
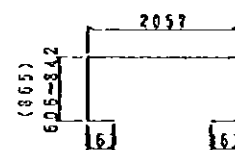
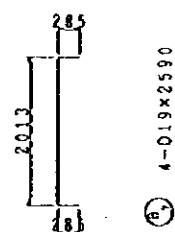
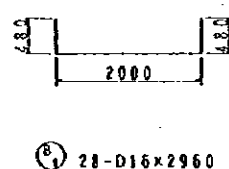
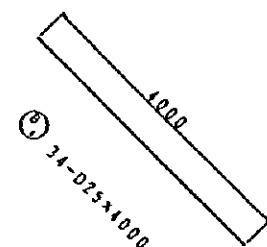
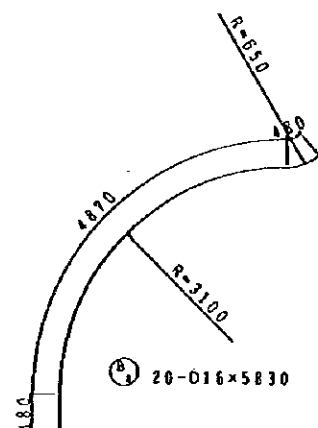
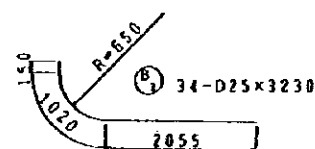
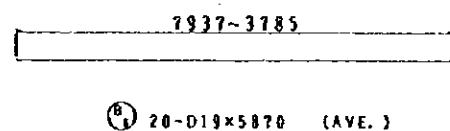
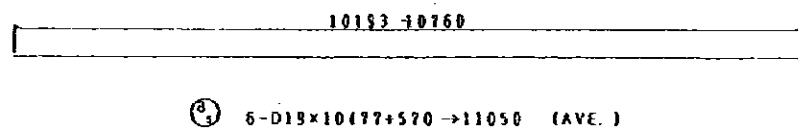
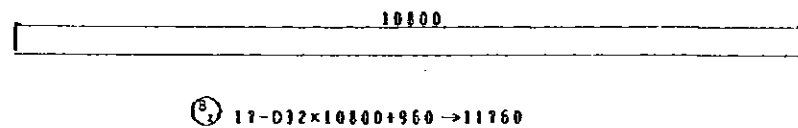
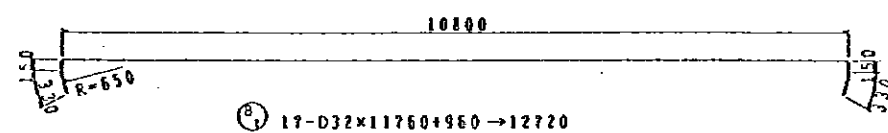
RE-BAR ARRANGEMENT OF T-WALL PIER FOR P1~P3, P8~P10 AT A,B-LINE (1/2)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: RE-BAR ARRANGEMENT OF T-WALL PIER(P1~P3,P8~P10) AT A,B-LINE(U7)
DATE: _____
DWGNO. B-39

RA/8 AL Khaburah

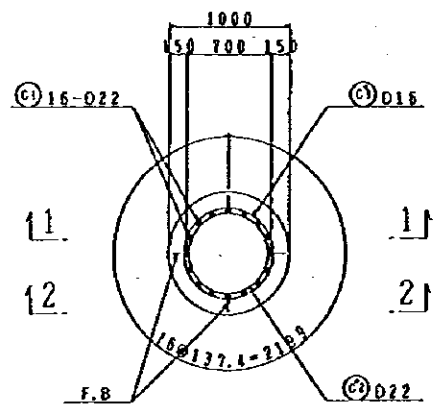
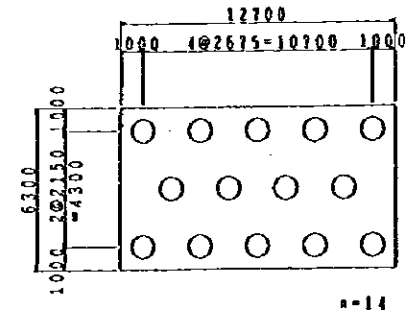
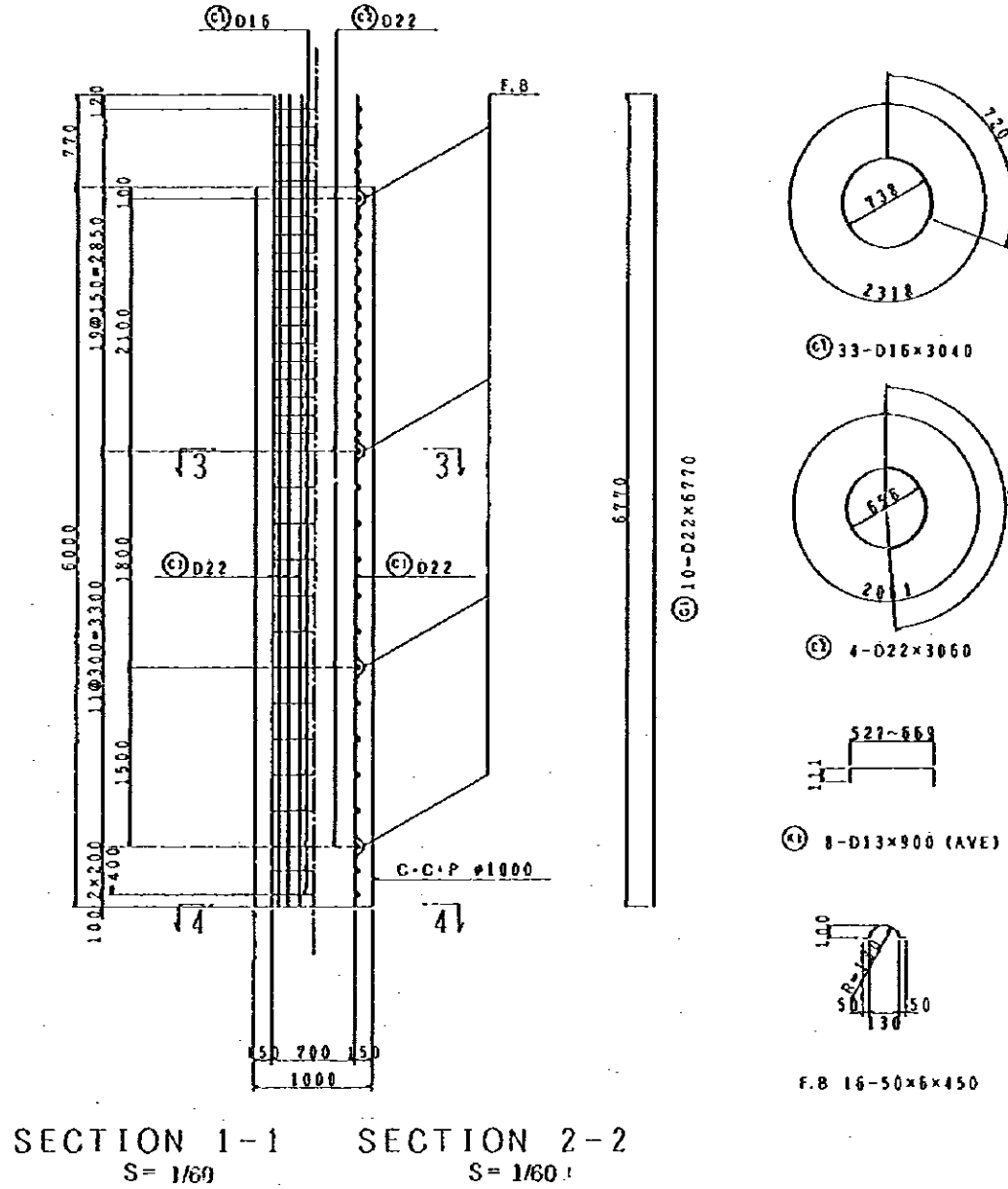
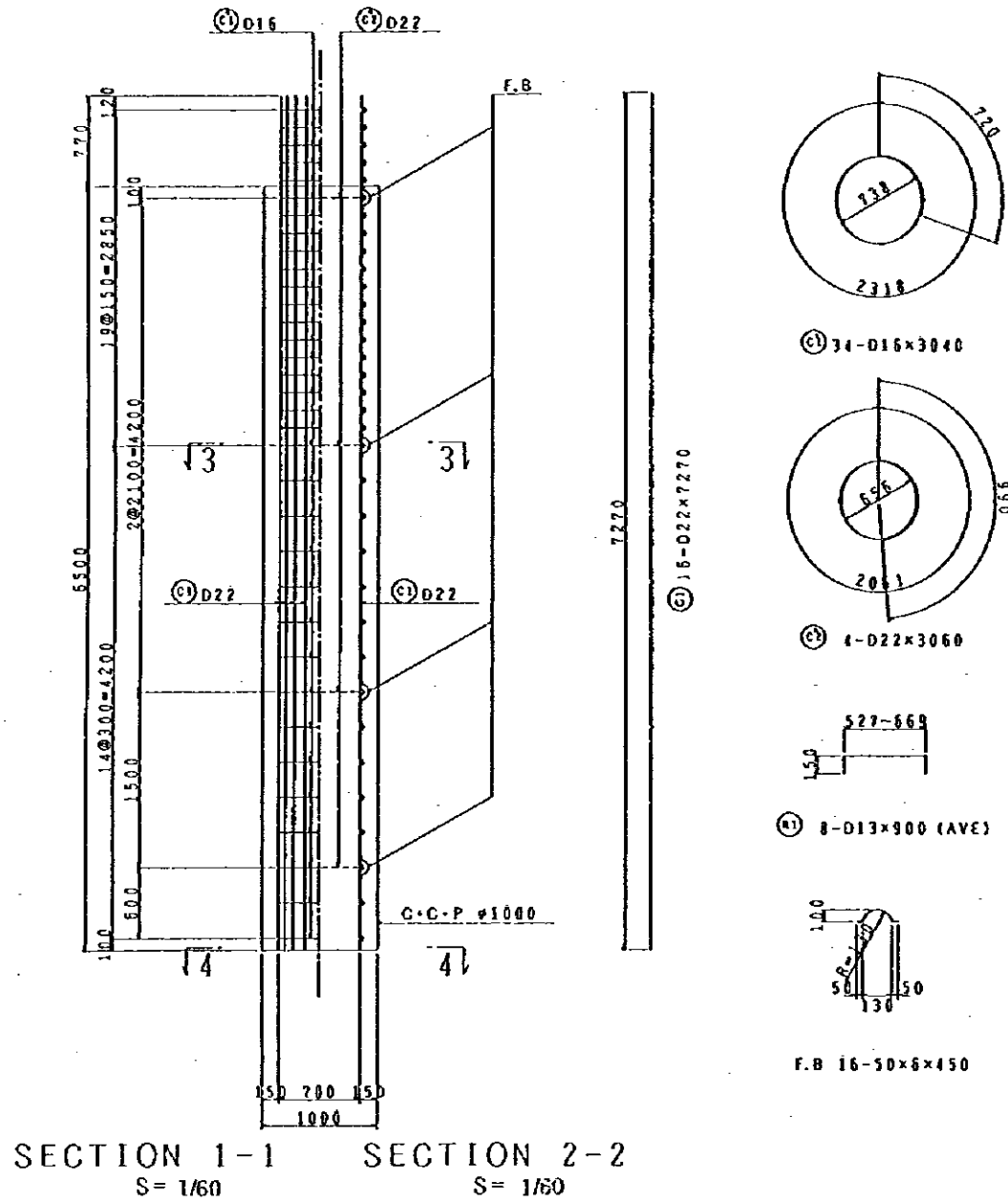


DETAIL OF SHOE BED S= 1/100

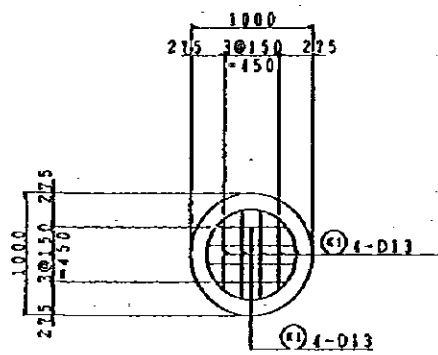
RE-BAR ARRANGEMENT OF T-WALL PIER FOR P1~P3, P8~P10 AT A,B-LINE (2/2)

NOTES:		JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) JICA STUDY TEAM PACIFIC CONSULTANTS INTERNATIONAL FUKUYAMA CONSULTANTS INTERNATIONAL	CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY TITLE: RE-BAR ARRANGEMENT OF T-WALL PIER(P1~P3,P8~P10) AT A,B-LINE(1/2) DATE: _____ DWGNO: B-40
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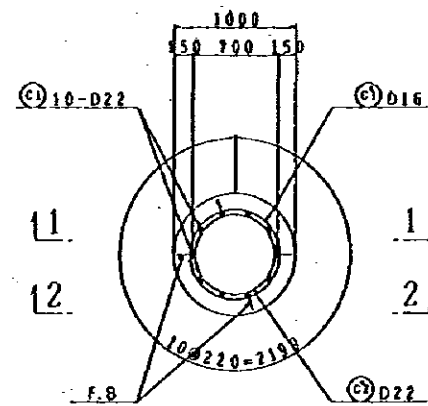
RA/8 AL KHABURAH



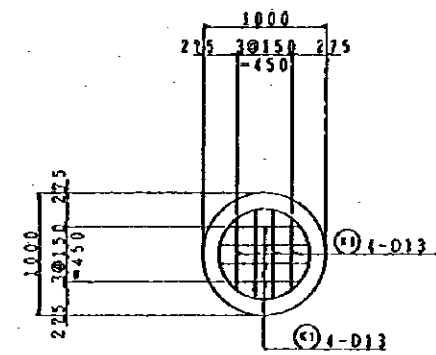
SECTION 3-3 s = 1/60



SECTION 4-4 S=1/60



SECTION 3-3 S=1/60.



SECTION 4-4 S=1/60

(A1 ABUTMENT)

(A2 ABUTMENT)

RE-BAR ARRANGEMENT OF PILE FOUNDATION

NOTES:

This drawing shows one pile foundation. This is applied for all abutments in RA/08 ALKITABURAH. The total number of pile foundations are 14 for one abutment.

JAPAN INTERNATIONAL COOPERATION AGENCY
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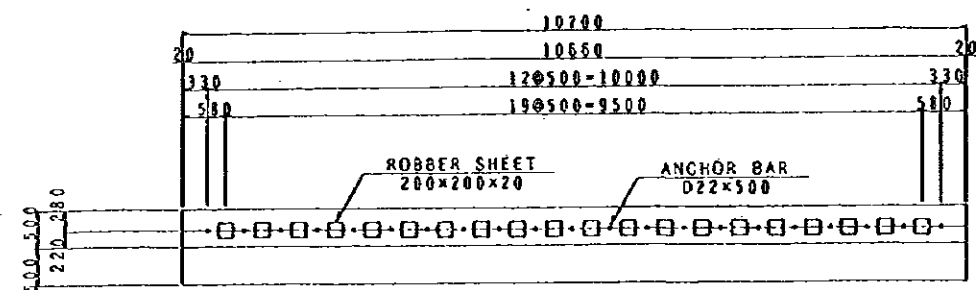
**JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL**

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

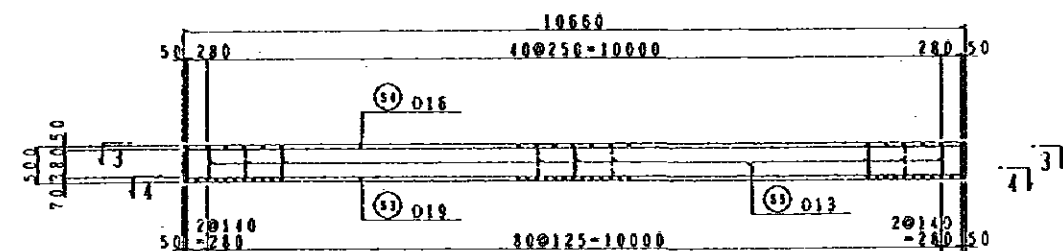
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE	RE-BAR ARRANGEMENT OF PILE FOUNDATION
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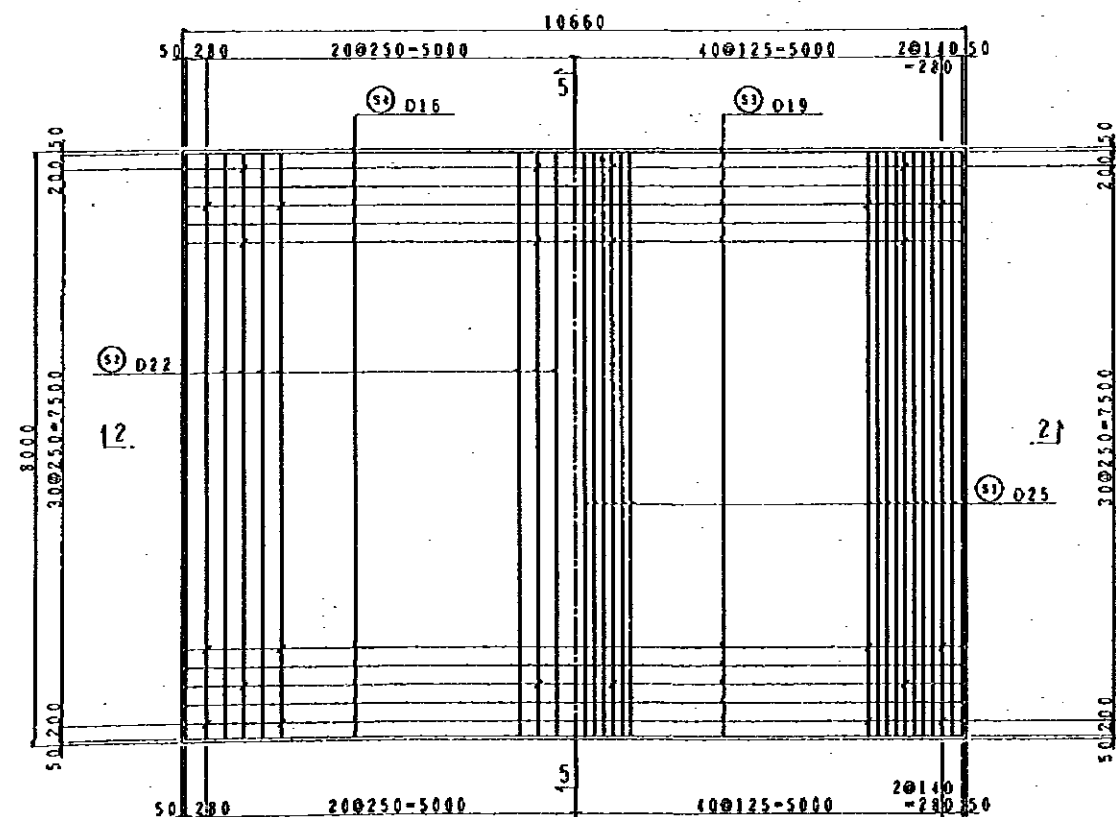
DATE	DWGNO.	B-41
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SECTION 1-1 S=1/100

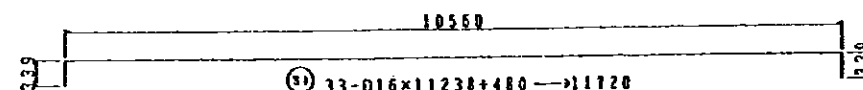


SECTION 2-2 S=1/100

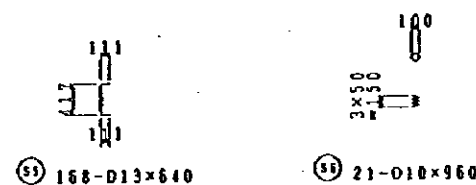


SECTION 3-3 S=1/100

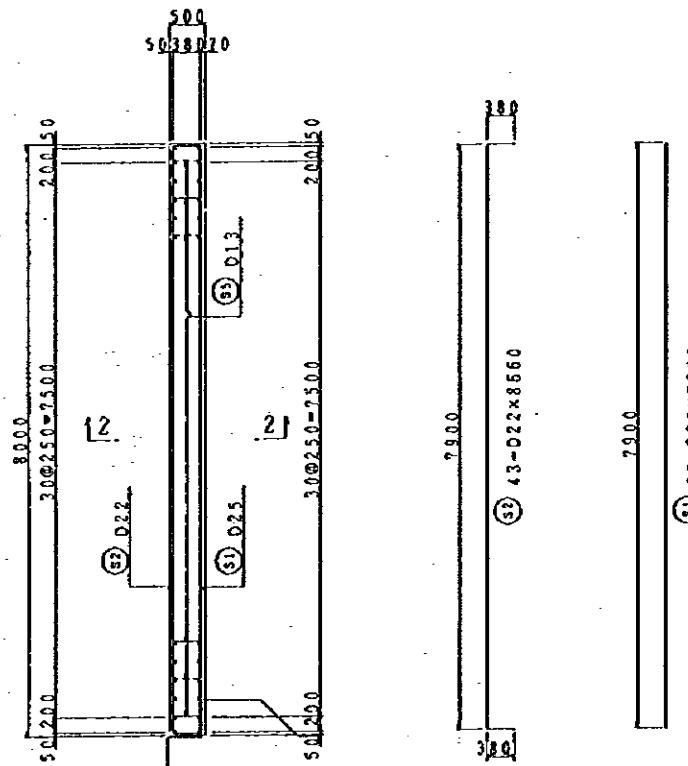
SECTION 4-4 S=1/100



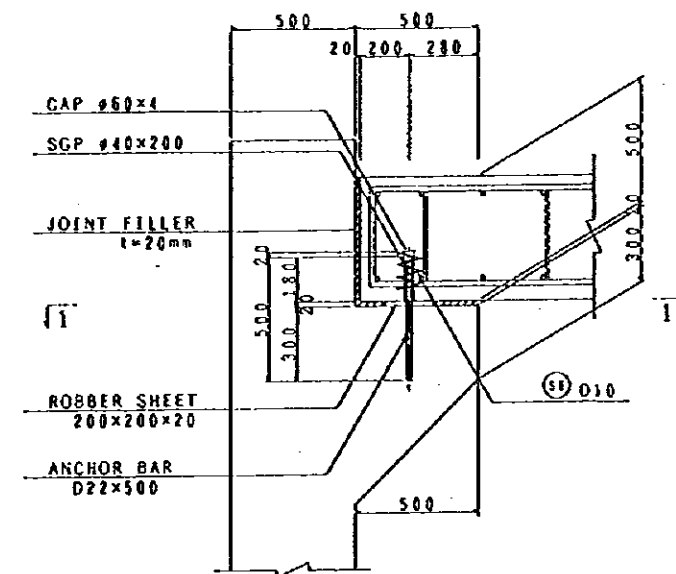
SECTION 5-5 S=1/100



SECTION 6-6 S=1/100



SECTION 7-7 S=1/100



PLAN S=1/30

RE-BAR ARRANGEMENT OF APPROACH SLAB

NOTES:

This drawing shows one approach slab. This is applied for all 4 abutments. So the total number of approach slabs are 4.

JAPAN INTERNATIONAL COOPERATION AGENCY

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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT: DID ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE: RE-BAR ARRANGEMENT OF APPROACH SLAB


DATE

DWGNO.

B-42

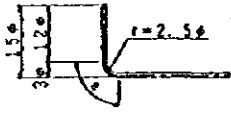
BAR BENDING DIAGRAM

LAP JOINT LENGTH

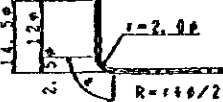
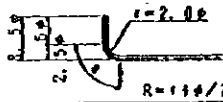
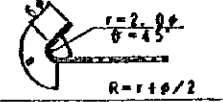
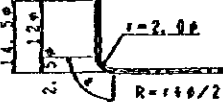
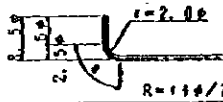
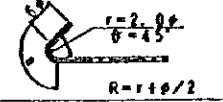
ϕ	s	LAP JOINT LENGTH
D13	390	
D16	480	
D19	570	
D22	660	
D25	750	
D29	870	
D32	960	

	JAPAN		OMAN	
	CROSS-SECTIONAL AREA (cm ²)	NOMINAL WEIGHT (kg/m)	CROSS-SECTIONAL AREA (cm ²)	NOMINAL WEIGHT (kg/m)
D13	1.267	0.995	1.290	0.994
D16	1.986	1.56	2.000	1.552
D19	2.865	2.25	2.839	2.235
D22	3.871	3.04	3.871	3.042
D25	5.067	3.98	5.097	3.973
D29	6.424	5.04	6.452	5.059
D32	7.942	6.23	8.194	6.403

BENDING DIMENSION (MAIN REINFORCEMENT)

ϕ	$\theta \leq 90^\circ$ R=3 ϕ	$\theta > 90^\circ$ R=5.5 ϕ	HOOK LENGTH
D13	39	71.5	
D16	48	88	
D19	57	104.5	
D22	66	121	
D25	75	137.5	
D29	87	159.5	
D32	96	176	

BENDING DIMENSION (STIRRUP, ERECTION BAR)

ϕ	R=2.5 ϕ	HOOK LENGTH				
		$\theta=90^\circ$ s	$\theta=45^\circ$ s			
D13	32.5	51	77			
D16	40	63	94			
D19	47.5	75	112			
D22	55	86	130			

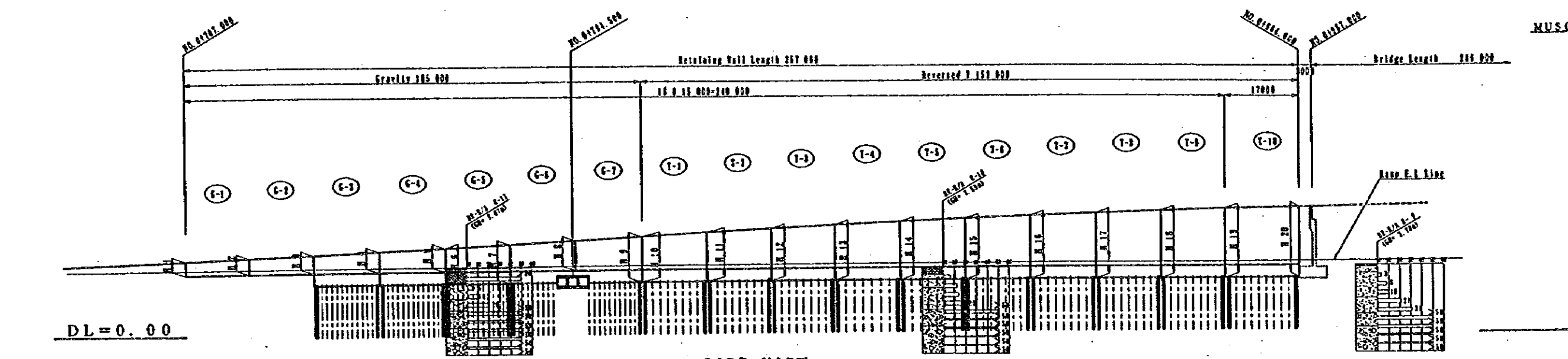
NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

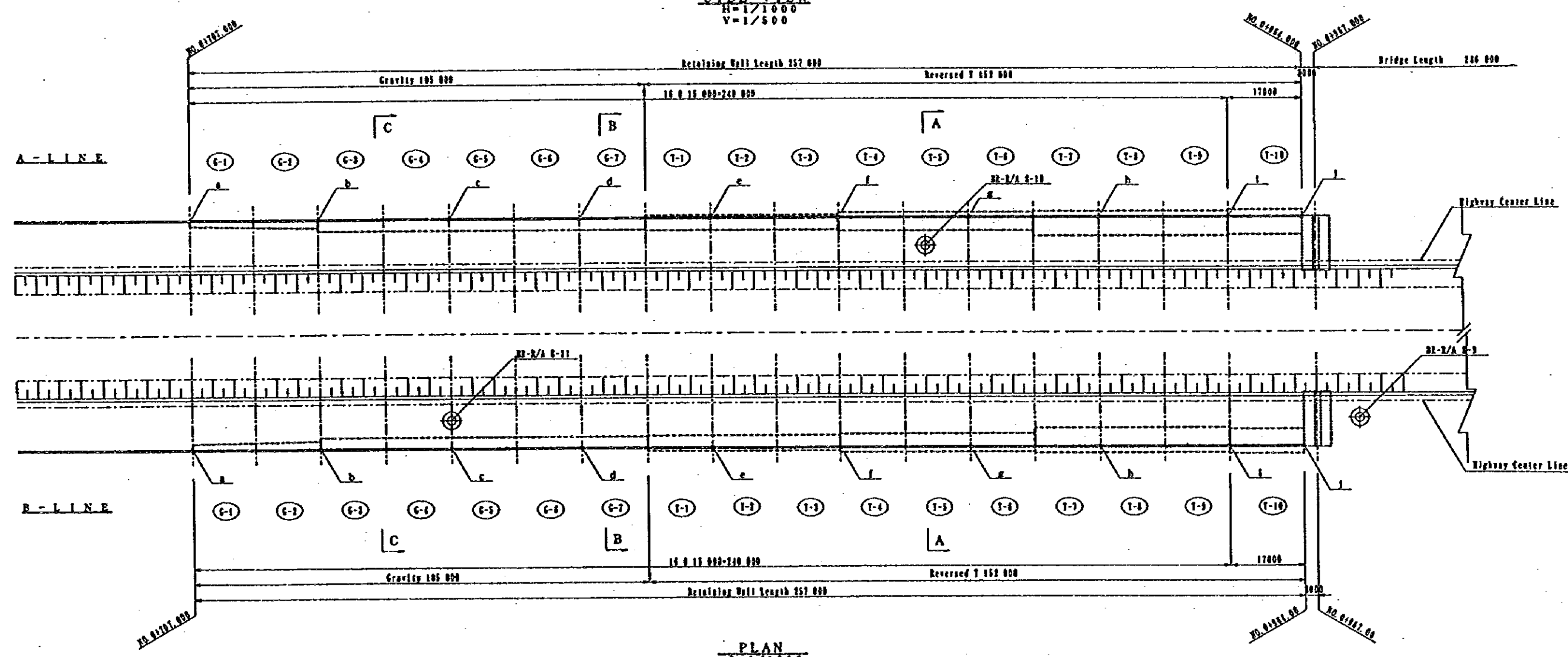
CLIENT: MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT: D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE: BAR BENDING DIAGRAM
DATE: _____ DWGNO: B-43

STRUCTURE
-RETAINING WALL

MUSCAT.



SIDE VIEW
H=1/1000
V=1/500



PLAN
S=1/1000

NOTES:

MUSCAT.

Bridge Length 244.000

Ramp E.L. Line

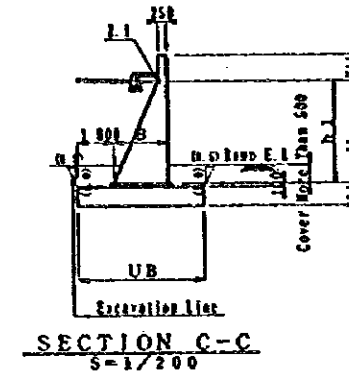
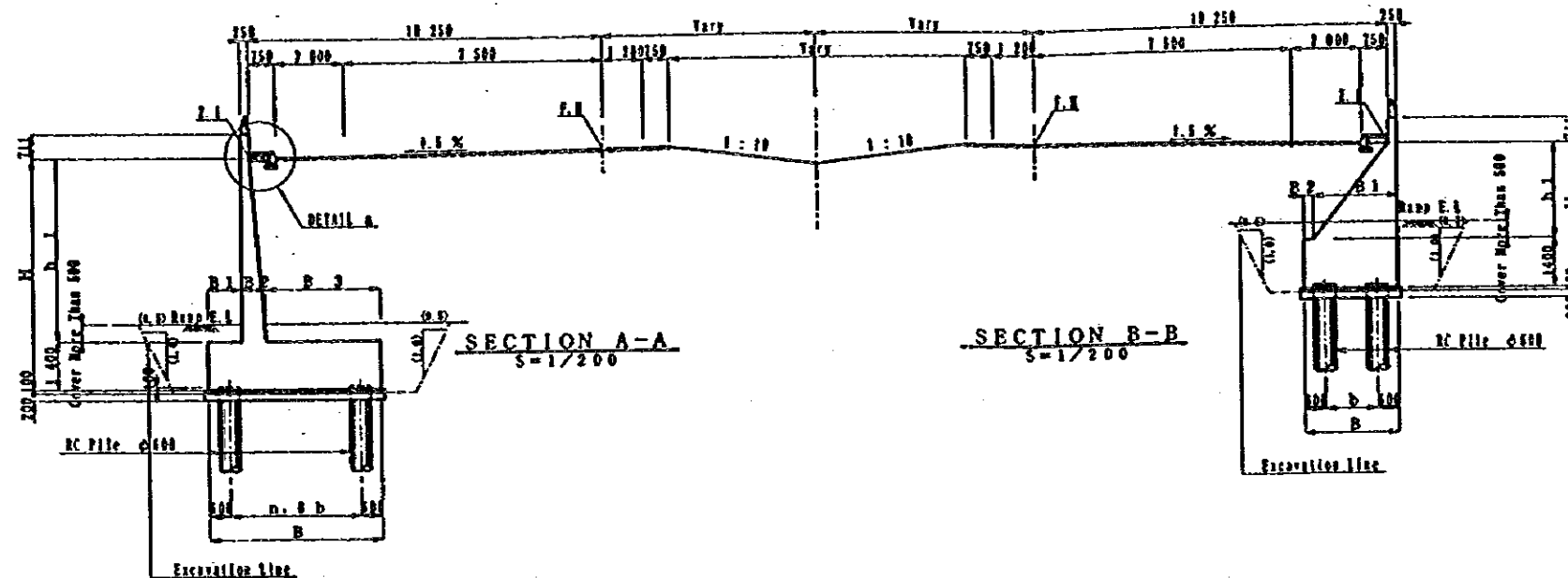
Ramp E.L. Line

Bridge Length 244.000

Highway Center Line

Ramp E.L. Line

Highway Center Line



Reversed T

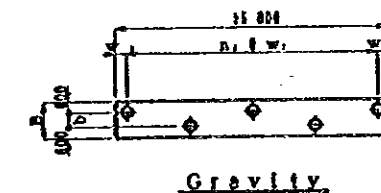
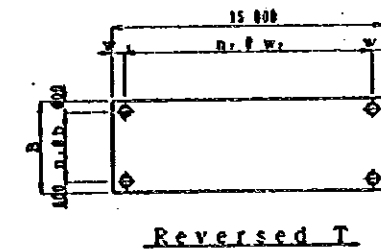
MARK TYPE	H	h 1	B	B 1	B 2	B 3
A I L I N E	T-1	11-4 753	3 353	3 000	800	505 1 695
	T-2	11-5 189	3 789			538 1 662
	T-3	11-5 591	4 191			569 1 631
	T-4	11-5 593	4 593	3 500	1 000	600 1 600
	T-5	11-6 350	4 950			619 1 881
	T-6	11-6 707	5 307			648 1 852
	T-7	11-7 019	5 619	4 500	1 200	677 1 823
	T-8	11-7 331	5 931			702 1 798
	T-9	11-7 598	6 198			718 2 582
	T-10	11-7 865	6 465			744 2 556
B I L I N E	T-1	11-8 133	6 733	5 000	1 500	766 2 534
	T-2	11-8 400	7 000			789 2 511
	T-3	11-8 667	7 267			803 2 497
	T-4	11-8 934	7 534	3 500	1 000	826 2 674
	T-5	11-9 201	7 801			832 2 668
	T-6	11-9 468	8 068			850 1 690
	T-7	11-9 735	8 335			869 1 631
	T-8	11-10 002	8 602			874 1 626
	T-9	11-10 269	8 869	3 500	1 000	885 1 595
	T-10	11-10 536	9 136			895 1 595

Gravity (Spread Foundation)

MARK TYPE	H	B	U h	U B
A I L I N E	G-1	11-1 436	1 112	1 500
	G-2	11-1 722	1 283	3 112
B I L I N E	G-1	11-2 008	1 455	3 455
	G-2	11-2 361	1 887	3 187
		11-2 823	1 344	3 344
		11-2 084	1 500	3 500

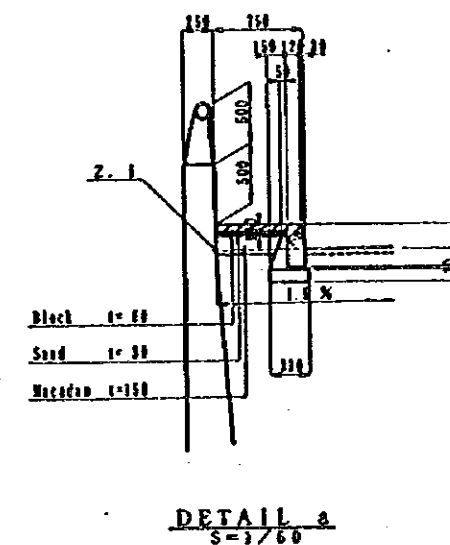
Gravity (Pile Foundation)

MARK TYPE	H	h 1	B	B 1	B 2
A I L I N E	G-1	11-3 408	2 008	2 800	1 392
	G-2	11-3 753	2 353		1 589
	G-3	11-4 098	2 698		1 785
	G-4	11-4 443	3 043		2 016
	G-5	11-4 788	3 388		2 246
	G-6	11-5 133	3 733		2 496
B I L I N E	G-1	11-5 478	4 078	2 800	1 436
	G-2	11-5 823	4 423		1 621
	G-3	11-6 168	4 768		1 806
	G-4	11-6 513	5 113		1 994
	G-5	11-6 858	5 458		2 028
	G-6	11-7 203	5 803		2 250



List Of Foundation

A - LINE						B - LINE					
Reversed T	n, 8 b	w.	n, 8 w.	n	L (m)	Reversed T	n, 8 b	w.	n, 8 w.	n	L (m)
T 1 ~ T 3	10 1 800	675	7 0 1 950	16	6 000	T 1 ~ T 3	10 1 800	675	7 0 1 950	16	6 000
T 4 ~ T 6	10 2 300	750	9 0 1 500	20		T 4 ~ T 6	10 2 300	750	9 0 1 500	20	
T 7 ~ T 9	20 1 650	675	7 0 1 950	24		T 7 ~ T 9	20 1 650	675	7 0 1 950	24	
T 10	20 1 900	725	9 0 1 700	30		T 10	20 1 900	725	9 0 1 700	30	
Gravity	10 1 500	600	12 0 1 150	13	6 000	Gravity	10 1 500	600	12 0 1 150	13	6 000



JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH GENERAL VIEW FOR WALL (1)-1
DATE : DVG NO. W-1

Point		a	b	c	d	e	f	g	h	i	j
A L I N E	N	+2651340.58191	+2651324.48514	+2651292.38117	+2651268.28081	+2651244.18044	+2651220.08007	+2651195.97970	+2651171.87933	+2651147.77897	+2651131.71206
	E	+ 509044.78435	+ 509062.64974	+ 509080.51514	+ 509098.38053	+ 509116.24592	+ 509134.11132	+ 509151.97671	+ 509169.84210	+ 509187.70749	+ 509199.61776
	Z	8.636	9.208	9.898	10.707	11.589	12.393	13.107	13.731	14.265	14.571
B I L L I N E	N	+2651320.98971	+2651296.88934	+2651272.78897	+2651248.68860	+2651224.58823	+2651200.48787	+2651176.38750	+2651152.28713	+2651128.18676	+2651112.11985
	E	+ 509018.35422	+ 509036.21961	+ 509054.08500	+ 509071.95039	+ 509089.81579	+ 509107.68118	+ 509125.54657	+ 509143.41196	+ 509161.27735	+ 509173.18761
	Z	8.761	9.284	9.935	10.715	11.589	12.393	13.107	13.731	14.265	14.541

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

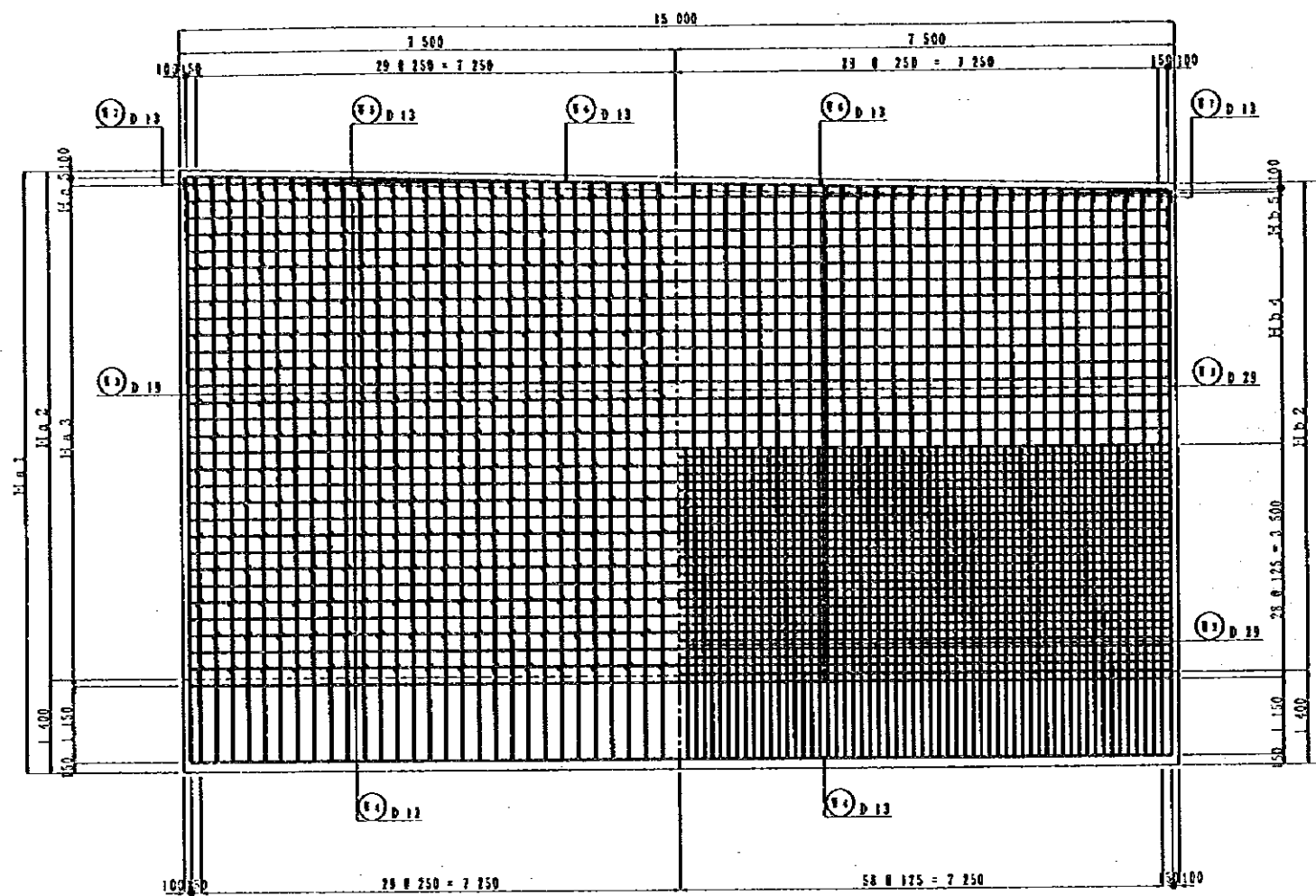
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

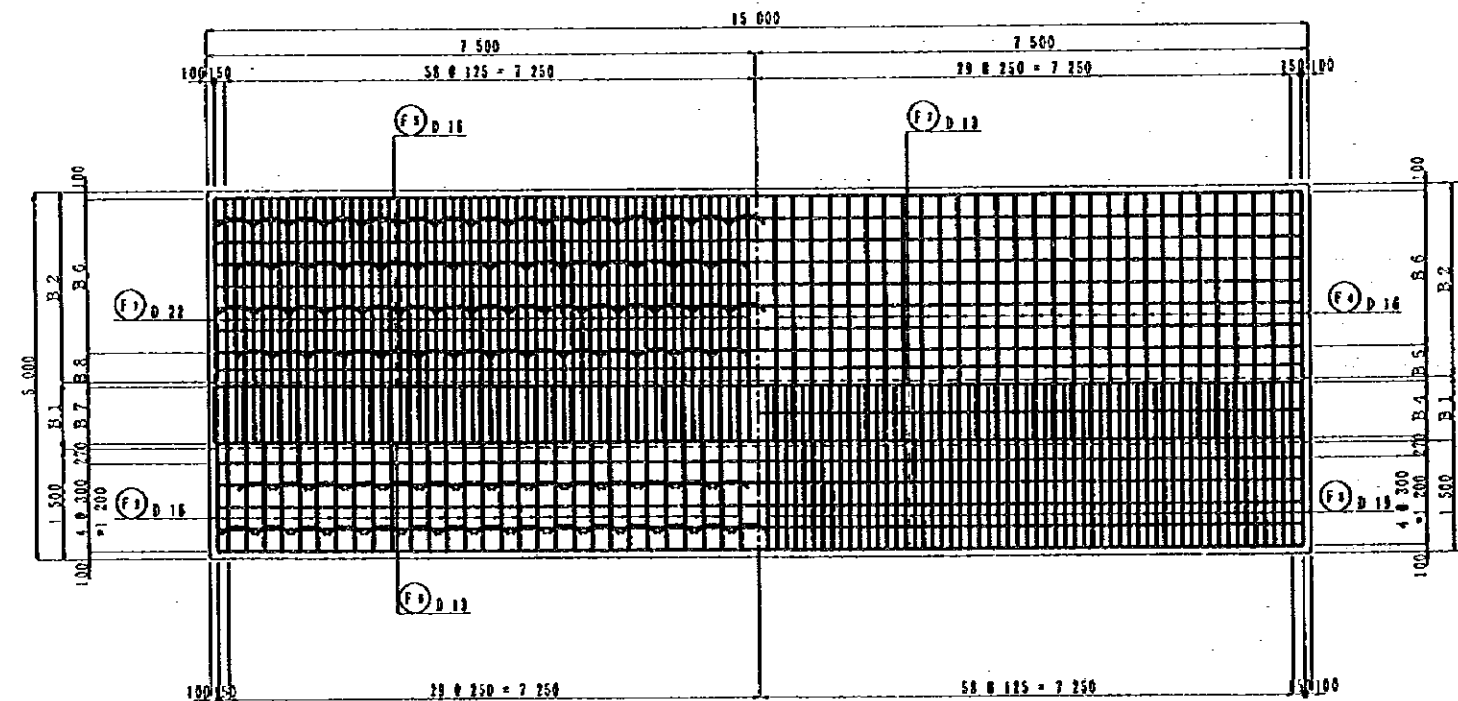
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-8, AL KHABURAH GENERAL VIEW FOR WALL (1)-2

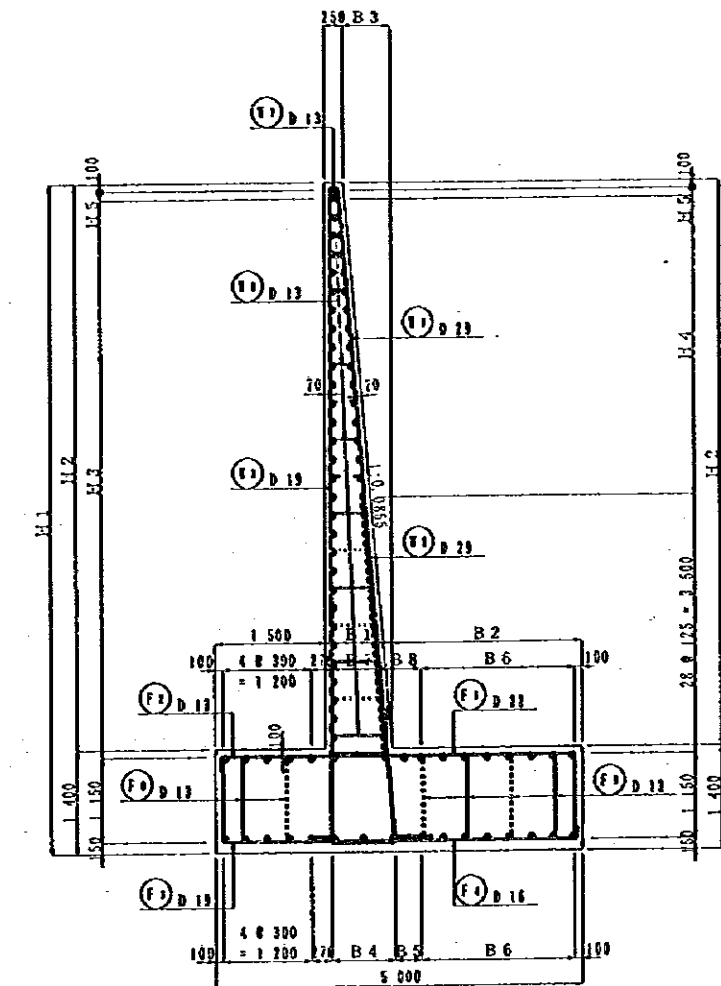
DATE : DWG NO. W-2



SIDE VIEW
S=1/100



PLAN
S=1/100



SECTION
S=1/100

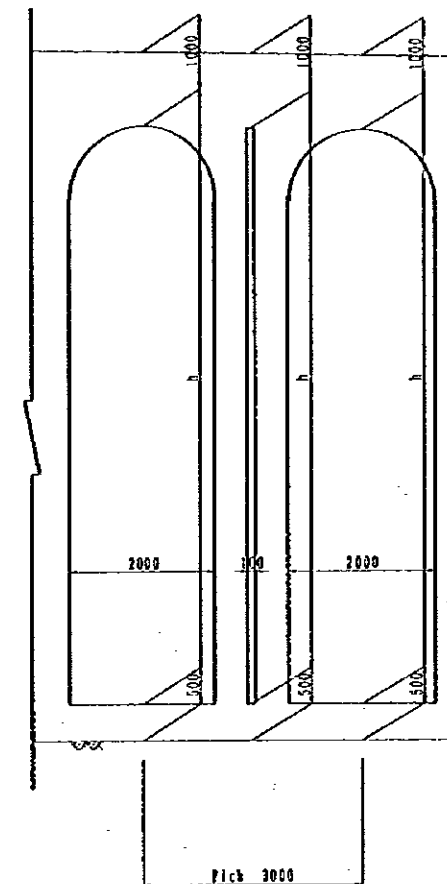
NOTES:

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(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (1)
DATE : D/C NO. W-3

A			
I			
L			
I			
N			
E			
(T-10)			
	a - a		b - b
Ha1	8 133	Hb1	7 865
Ha2	6 733	Hb2	6 465
Ha3	260250 = 6 500	Hb3	250250 = 6 250
Ha4	120250 = 3 000	Hb4	110250 = 2 750
Ha5	233	Hb5	215
Ba1	826	Bb1	803
Ba2	2 674	Bb2	2 697
Ba3	576	Bb3	553
Ba4	20396 = 792	Bb4	20384.5 = 769
Ba5	138	Bb5	161
Ba6	80300 = 2 400	Bb6	80300 = 2 400
Ba7	694	Bb7	671
Ba8	20118 = 236	Bb8	20129.5 = 259
B			
I			
L			
I			
N			
E			
(T-10)			
	a - a		b - b
Ha1	8 203	Hb1	7 935
Ha2	6 803	Hb2	6 535
Ha3	260250 = 6 500	Hb3	260250 = 6 500
Ha4	20151.5 = 303	Hb4	35
Ha5	120250 = 3 000	Hb5	120250 = 3 000
Ba1	832	Bb1	809
Ba2	2 668	Bb2	2 691
Ba3	582	Bb3	559
Ba4	20399 = 798	Bb4	20387.5 = 775
Ba5	132	Bb5	155
Ba6	80300 = 2 400	Bb6	80300 = 2 400
Ba7	700	Bb7	677
Ba8	20115 = 230	Bb8	20126.5 = 253



Slit Shape in Front of Wall
(Thickness 1=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

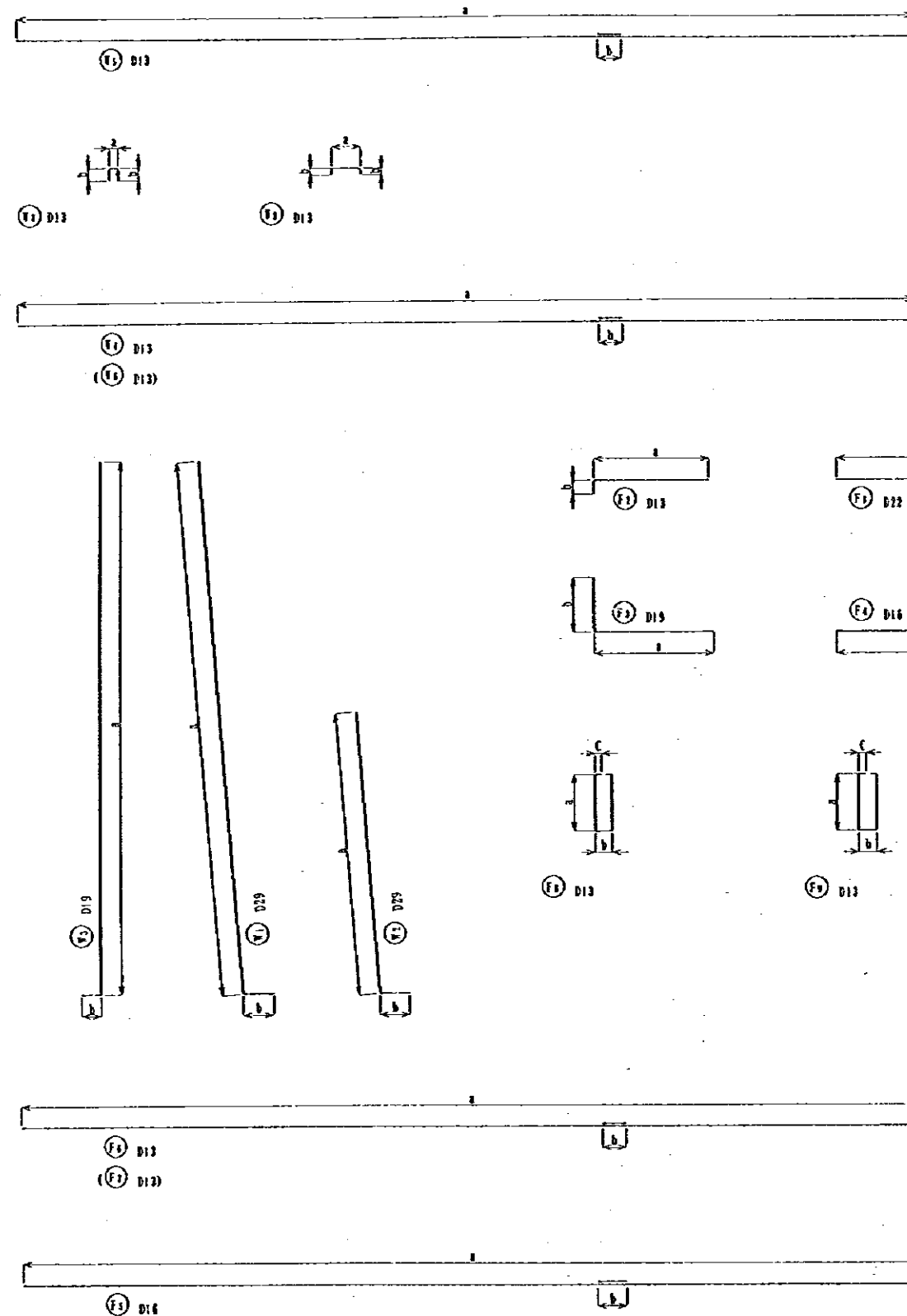
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (2)

DATE DWG NO. W-4



REIN NO.	Ø (mm)	LENGTH (mm)	a	b	c
T 10					
T 1	D 23	8 220	2 912~2 843	435	---
2	"	5 110	4 667	435	---
3	D 19	8 040	2 883~2 815	285	---
4	D 13	15 190	14 800	390	---
5	"	13 260	12 867	390	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	680	210~192	111	---
F 1	D 23	4 460	3 308	1 150	---
2	D 13	2 340	2 145	195	---
3	D 13	3 120	1 970	1 150	---
4	D 16	3 570	3 330	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 179	279	111
9	"	2 870	1 182	282	111

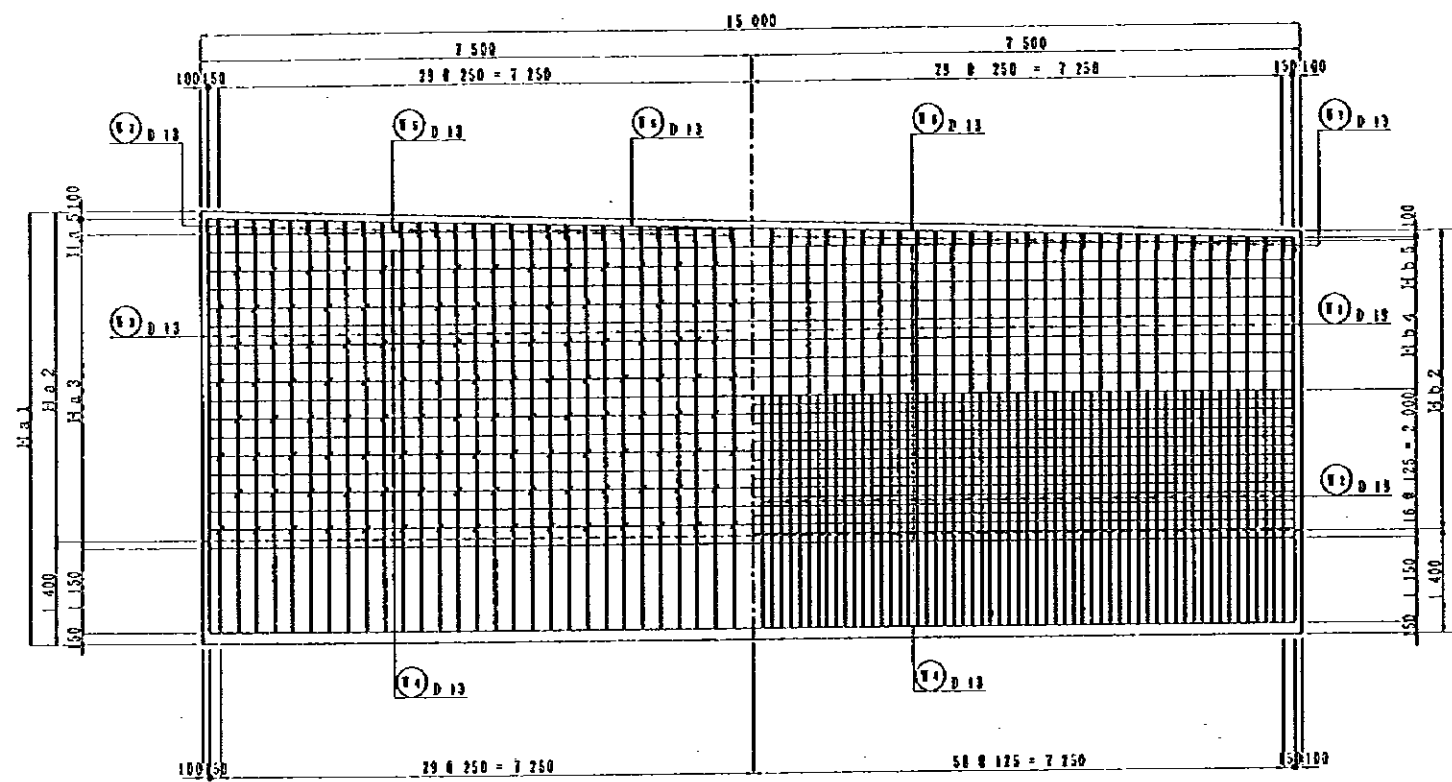
REIN NO.	Ø (mm)	LENGTH (mm)	a	b	c
T 10					
T 1	D 23	8 250	2 982~2 713	435	---
2	"	5 110	4 667	435	---
3	D 19	8 110	2 953~2 685	285	---
4	D 13	15 190	14 800	390	---
5	"	8 370	8 366	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	690	216~203	111	---
F 1	D 23	4 460	3 302	1 150	---
2	D 13	2 350	2 151	195	---
3	D 13	3 120	1 970	1 150	---
4	D 16	3 570	3 330	240	---
5	"	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 850	1 178	279	111
9	"	2 870	1 182	282	111

NOTES:

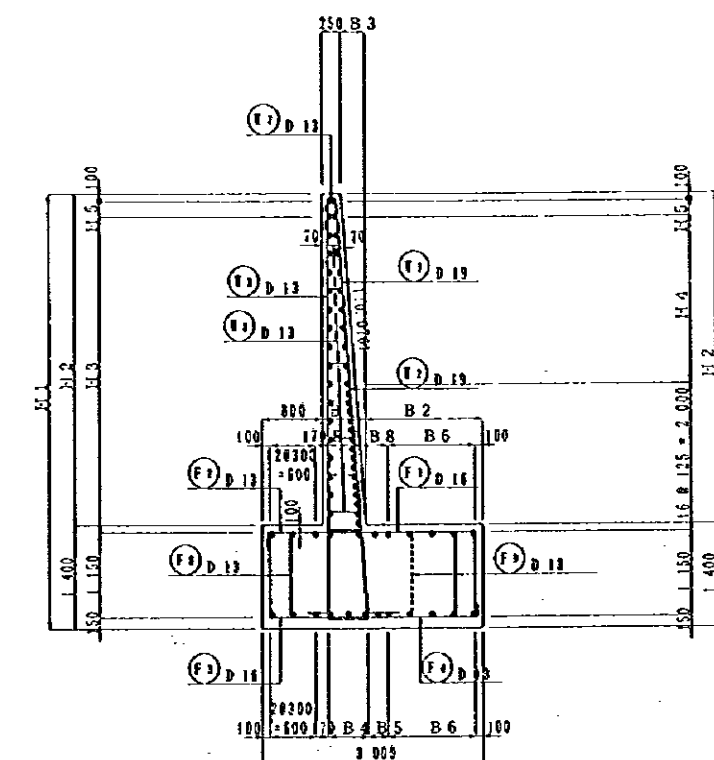
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

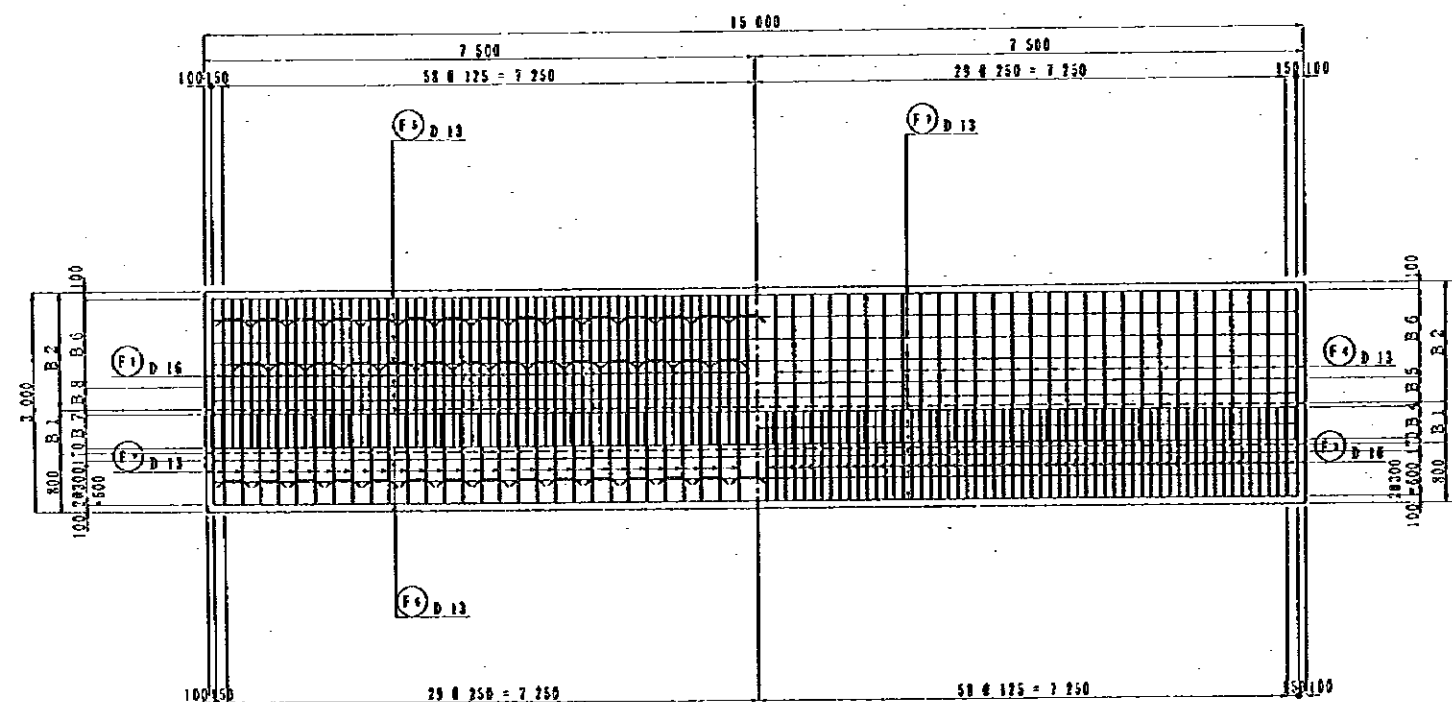
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (3)
DATE : DFC NO. W-5



SIDE VIEW
S=1/100



SECTION
S=1/100



PLAN
S=1/100

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
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PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

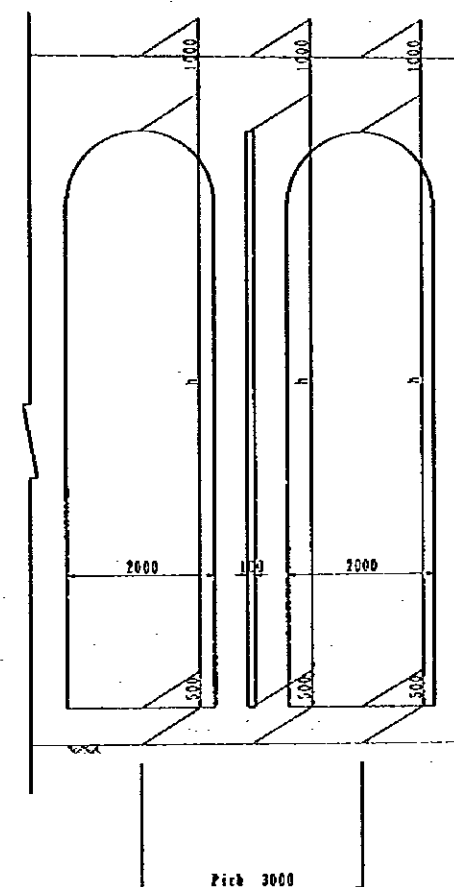
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (4)

DATE : DWG NO. W-6

A I L I N E	T-3				T-2				T-1			
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	Hb1	Ha2	Hb2	Ha1	Hb1	Ha2	Hb2	Ha1	Hb1	Ha2	Hb2
	5 993	5 591	4 593	4 191	5 591	5 189	4 191	3 789	5 189	4 753	3 789	3 353
	170250 = 4 250	160250 = 4 000	170250 = 4 250	160250 = 4 000	160250 = 4 000	150250 = 3 750	160250 = 4 000	150250 = 3 750	140250 = 3 500	130250 = 3 250	140250 = 3 500	130250 = 3 250
	90250 = 2 250	80250 = 2 000	90250 = 2 250	80250 = 2 000	80250 = 2 000	70250 = 1 750	80250 = 2 000	70250 = 1 750	60250 = 1 500	50250 = 1 250	60250 = 1 500	50250 = 1 250
	20171.5 = 343	191	20171.5 = 343	191	191	39	191	39	20144.5 = 289	103	20144.5 = 289	103
	Ba1	Bb1	Ba2	Bb2	Ba1	Bb1	Ba2	Bb2	Ba1	Bb1	Ba2	Bb2
	600	569	1600	1 631	569	538	1 631	1 662	538	505	1 662	1 695
	Ba3	Bb3	Ba4	Bb4	Ba3	Bb3	Ba4	Bb4	Ba3	Bb3	Ba4	Bb4
	350	319	20277.5 = 555	20262 = 524	319	288	20262 = 524	20246.5 = 493	288	255	20246.5 = 493	20230 = 460
	Ba5	Bb5	Ba6	Bb6	Ba5	Bb5	Ba6	Bb6	Ba5	Bb5	Ba6	Bb6
	275	306	40300 = 1 200	40300 = 1 200	306	337	40300 = 1 200	40300 = 1 200	337	370	40300 = 1 200	40300 = 1 200
	Ba7	Bb7	Ba8	Bb8	Ba7	Bb7	Ba8	Bb8	Ba7	Bb7	Ba8	Bb8
	468	437	20181 = 326	20196.5 = 393	437	406	20196.5 = 393	20212 = 424	406	373	20212 = 424	20228.5 = 457

B I L I N E	T-3				T-2				T-1			
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	Hb1	Ha2	Hb2	Ha1	Hb1	Ha2	Hb2	Ha1	Hb1	Ha2	Hb2
	6 063	5 661	4 663	4 261	5 661	5 259	4 261	3 859	5 259	4 823	3 859	3 423
	180250 = 4 500	170250 = 4 250	180250 = 4 500	170250 = 4 250	160250 = 4 000	150250 = 3 750	160250 = 4 000	150250 = 3 750	150250 = 3 750	130250 = 3 250	150250 = 3 750	130250 = 3 250
	100250 = 2 500	90250 = 2 250	100250 = 2 500	90250 = 2 250	80250 = 2 000	70250 = 1 750	80250 = 2 000	70250 = 1 750	70250 = 1 750	50250 = 1 250	70250 = 1 750	50250 = 1 250
	Ha5	Hb5	Ha6	Hb6	Ha5	Hb5	Ha6	Hb6	Ha5	Hb5	Ha6	Hb6
	163	11	20130.5 = 261	109	109	109	20130.5 = 261	109	109	173	20130.5 = 261	109
	Ba1	Bb1	Ba2	Bb2	Ba1	Bb1	Ba2	Bb2	Ba1	Bb1	Ba2	Bb2
	605	574	1 595	1 626	574	569	1 626	1 631	569	510	1 631	1 690
	Ba3	Bb3	Ba4	Bb4	Ba3	Bb3	Ba4	Bb4	Ba3	Bb3	Ba4	Bb4
	355	324	20280 = 560	20264.5 = 529	324	294	20264.5 = 529	20262 = 524	294	260	20262 = 524	20232.5 = 465
	Ba5	Bb5	Ba6	Bb6	Ba5	Bb5	Ba6	Bb6	Ba5	Bb5	Ba6	Bb6
	270	301	40300 = 1 200	40300 = 1 200	301	306	40300 = 1 200	40300 = 1 200	306	365	40300 = 1 200	40300 = 1 200
	Ba7	Bb7	Ba8	Bb8	Ba7	Bb7	Ba8	Bb8	Ba7	Bb7	Ba8	Bb8
	473	442	20178.5 = 357	20194 = 388	442	437	20194 = 388	20196.5 = 393	437	378	20196.5 = 393	20226 = 452



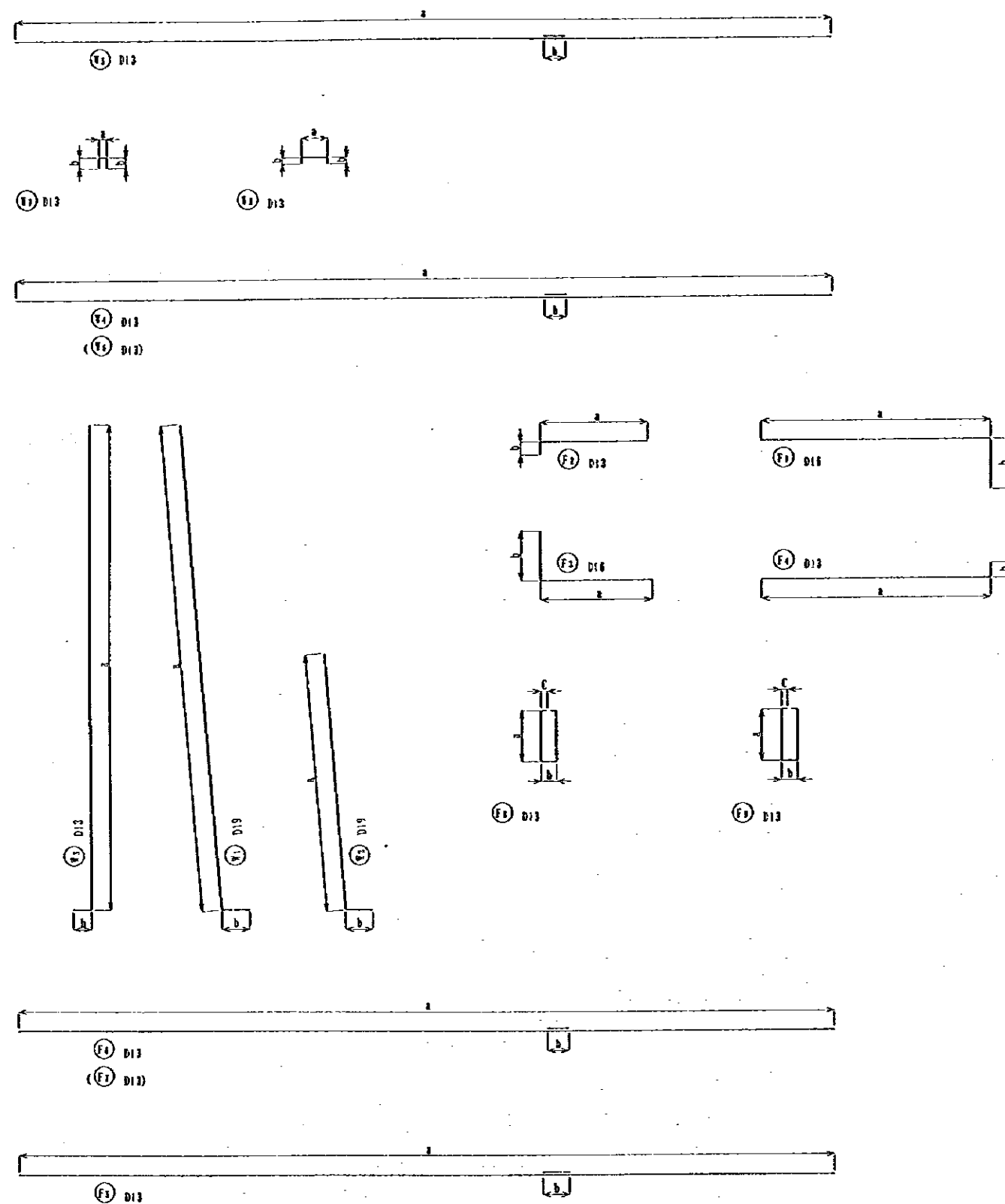
Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (5)
DATE : DYG NO. W-7



REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 1					
1	D 13	5 020	4 953~4 516	285	---
2	"	3 450	3 159	285	---
3	D 13	6 100	4 939~4 503	195	---
4	"	15 190	14 800	390	---
5	"	7 390	9 810~4 905	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	550	416~188	111	---
F 1	D 16	3 280	2 121	1 150	---
2	D 13	1 350	1 152	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 2					
1	D 13	5 440	5 356~4 953	285	---
2	"	3 450	3 159	285	---
3	D 13	5 840	5 361~4 939	195	---
4	"	15 190	14 800	390	---
5	"	7 040	7 032	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	540	447~181	111	---
F 1	D 16	3 240	2 039	1 150	---
2	D 13	1 380	1 184	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 3					
1	D 13	5 850	5 760~5 356	285	---
2	"	3 450	3 159	285	---
3	D 13	5 740	5 743~5 341	195	---
4	"	15 190	14 800	390	---
5	"	9 870	12 628~4 314	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	550	478~174	111	---
F 1	D 16	3 210	2 058	1 150	---
2	D 13	1 410	1 215	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

REIN NO.	φ (mm)	LENGTH (mm)	a	b	c
T 1					
1	D 13	5 050	5 023~4 586	285	---
2	"	3 450	3 159	285	---
3	D 13	4 950	5 009~4 572	195	---
4	"	15 190	14 800	390	---
5	"	8 340	12 188~3 700	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	560	447~219	111	---
F 1	D 16	3 260	2 103	1 150	---
2	D 13	1 380	1 185	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 2					
1	D 13	5 510	5 427~5 023	285	---
2	"	3 450	3 159	285	---
3	D 13	5 810	5 411~5 009	195	---
4	"	15 190	14 800	390	---
5	"	7 210	9 659~4 804	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	550	452~186	111	---
F 1	D 16	3 430	2 071	1 150	---
2	D 13	1 400	1 202	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 3					
1	D 13	5 920	5 830~5 427	285	---
2	"	3 450	3 159	285	---
3	D 13	5 810	5 813~5 411	195	---
4	"	15 190	14 800	390	---
5	"	8 610	8 001	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	560	483~179	111	---
F 1	D 16	3 210	2 053	1 150	---
2	D 13	1 420	1 220	195	---
3	D 16	2 260	1 110	1 150	---
4	D 13	2 230	2 030	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

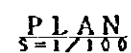
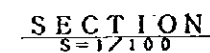
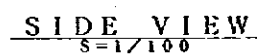
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (6)

DATE : Dwg No. W-8



NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

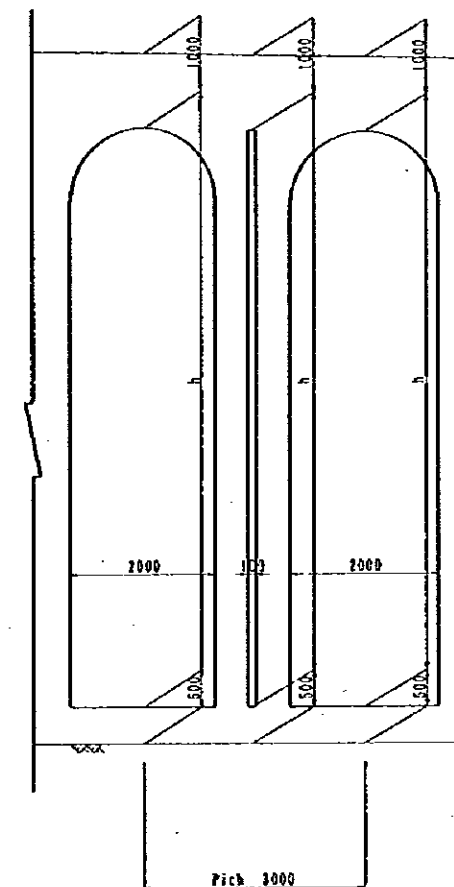
CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS

PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY

PROJECT :	D/S ON ROAD DEVELOPMENT PROJECT
TITLE :	R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (7)

DATE	DWG NO. W-9
------	-------------

A I L I N E	T-6				T-5				T-4			
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1
	7 019	6 707	7 019	6 707	6 707	6 350	6 350	5 593	6 350	5 593	6 350	5 593
	5 619	5 307	5 619	5 307	5 307	4 950	4 950	4 593	4 950	4 593	4 950	4 593
	220250 = 5 500	200250 = 5 000	220250 = 5 500	200250 = 5 000	200250 = 5 000	190250 = 4 750	190250 = 4 750	180250 = 4 500	190250 = 4 750	180250 = 4 500	190250 = 4 750	180250 = 4 500
	100250 = 2 500	100250 = 2 500	100250 = 2 500	100250 = 2 500	100250 = 2 500	90250 = 2 250	90250 = 2 250	80250 = 2 000	90250 = 2 250	80250 = 2 000	90250 = 2 250	80250 = 2 000
	119	20153.5 = 307	119	20153.5 = 307	20153.5 = 307	200	200	93	200	200	200	93
	702	677	702	677	677	648	648	619	648	648	648	619
	1 796	1 823	1 796	1 823	1 823	1 852	1 852	1 881	1 852	1 852	1 852	1 881
	452	427	452	427	427	398	398	369	398	398	398	369
	20331.5 = 663	20319 = 638	20331.5 = 663	20319 = 638	20319 = 638	20304.5 = 609	20304.5 = 609	20268 = 536	20304.5 = 609	20304.5 = 609	20304.5 = 609	20268 = 536
	167	192	167	192	192	221	221	294	20110.5 = 221	20110.5 = 221	20110.5 = 221	20147 = 294
	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 2 100	50300 = 2 100	50300 = 1 500	50300 = 2 100	50300 = 2 100	50300 = 2 100	50300 = 1 500
	570	545	570	545	545	516	516	443	516	516	516	443
	20130 = 260	20142.5 = 285	20130 = 260	20142.5 = 285	20142.5 = 285	20157 = 314	20157 = 314	20193.5 = 387	20157 = 314	20157 = 314	20157 = 314	20193.5 = 387
B I L I N E	T-6				T-5				T-4			
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1	Ha1	Hb1
	7 089	6 777	7 089	6 777	6 777	6 420	6 420	6 063	6 420	6 420	6 420	6 063
	5 689	5 377	5 689	5 377	5 377	5 020	5 020	4 663	5 020	5 020	5 020	4 663
	220250 = 5 500	210250 = 5 250	220250 = 5 500	210250 = 5 250	210250 = 5 250	200250 = 5 000	200250 = 5 000	180250 = 4 500	200250 = 5 000	200250 = 5 000	200250 = 5 000	180250 = 4 500
	100250 = 2 500	90250 = 2 250	100250 = 2 500	90250 = 2 250	90250 = 2 250	90250 = 2 250	90250 = 2 250	80250 = 2 000	90250 = 2 250	90250 = 2 250	90250 = 2 250	80250 = 2 000
	139	127	139	127	127	20	20	163	20135 = 270	20135 = 270	20135 = 270	163
	707	682	707	682	682	653	653	625	653	653	653	625
	1 793	1 818	1 793	1 818	1 818	1 847	1 847	1 875	1 847	1 847	1 847	1 875
	457	432	457	432	432	403	403	375	403	403	403	375
	20334 = 668	20321.5 = 643	20334 = 668	20321.5 = 643	20321.5 = 643	20307 = 614	20307 = 614	20293 = 586	20307 = 614	20307 = 614	20307 = 614	20293 = 586
	162	187	162	187	187	216	216	244	20108 = 216	20108 = 216	20108 = 216	20122 = 244
	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500	50300 = 1 500
	575	550	575	550	550	521	521	493	521	521	521	493
	20127.5 = 255	20140 = 280	20127.5 = 255	20140 = 280	20140 = 280	20154.5 = 309	20154.5 = 309	20153.5 = 307	20154.5 = 309	20154.5 = 309	20154.5 = 309	20153.5 = 307



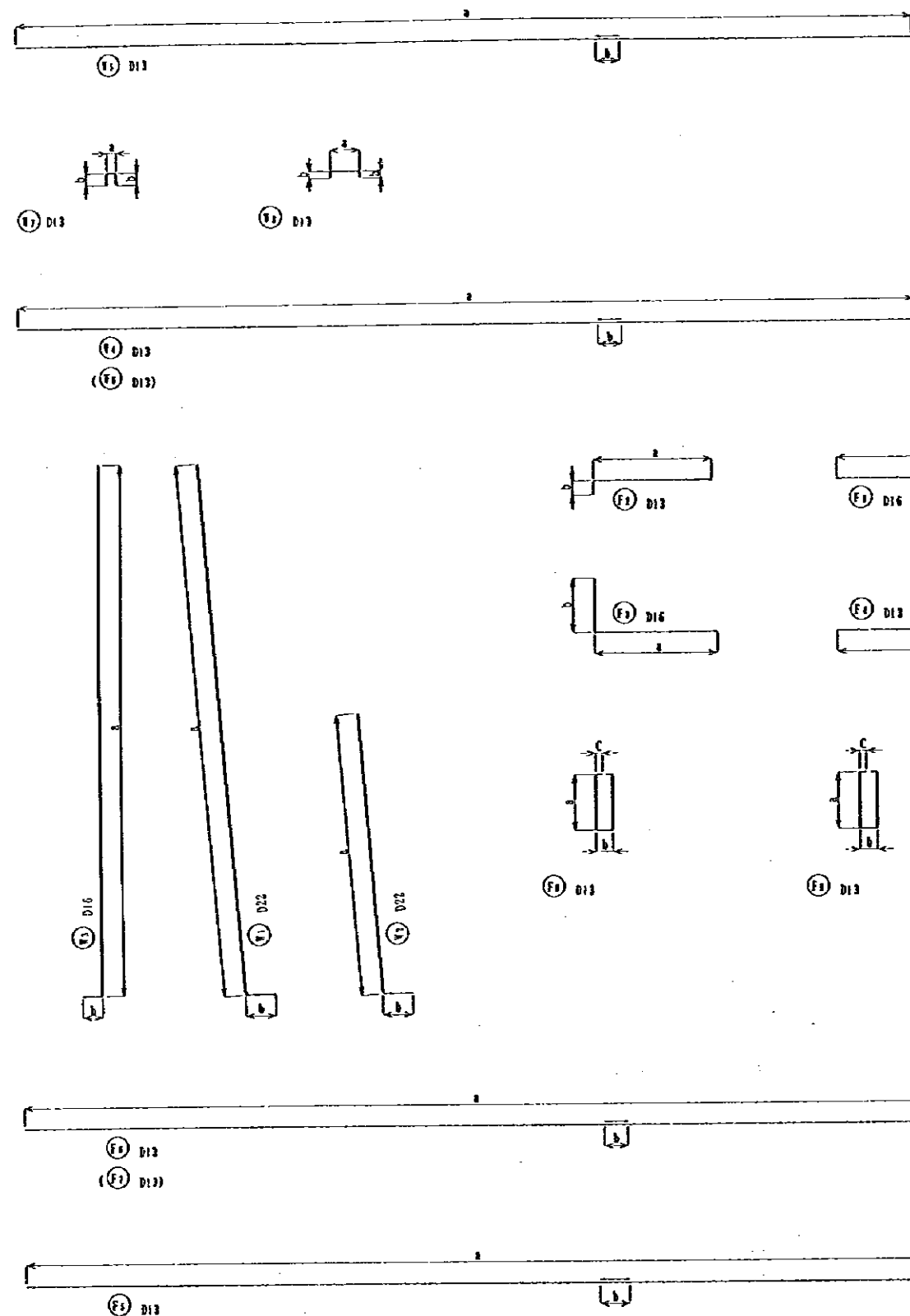
Still Shape in Front of Wall
(Thickness 1=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (8)
DATE : DWG NO. W-10



REIN. NO.	φ (mm)	LENGTH (mm)	a	b	c
T 4					
1	D 22	6 060	6 108~5 950	330	---
2	"	3 990	3 655	330	---
3	D 16	5 970	6 108~5 343	240	---
4	"	15 190	14 800	390	---
5	"	6 360	6 758~3 910	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	570	528~166	111	---
F 1	D 16	3 430	2 331	1 150	---
2	D 13	1 690	1 464	195	---
3	D 16	2 530	1 380	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 5					
1	D 22	6 630	6 476~6 108	330	---
2	"	3 990	3 655	330	---
3	D 16	6 520	6 457~6 100	240	---
4	D 13	15 190	14 800	390	---
5	"	5 270	5 265	---	---
6	"	15 260	14 806	390	---
7	"	500	110	195	---
8	"	590	562~160	111	---
F 1	D 16	3 430	2 280	1 150	---
2	D 13	1 690	1 493	195	---
3	D 16	2 530	1 380	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 6					
1	D 22	6 970	6 789~6 426	330	---
2	"	3 990	3 655	330	---
3	D 16	6 890	6 769~6 457	240	---
4	D 13	15 190	14 800	390	---
5	"	5 650	5 645	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	610	582~180	111	---
F 1	D 16	3 410	2 253	1 150	---
2	D 13	1 720	1 520	195	---
3	D 16	2 530	1 390	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

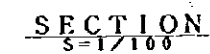
REIN. NO.	φ (mm)	LENGTH (mm)	a	b	c
T 4					
1	D 22	6 310	6 190~5 830	330	---
2	"	3 990	3 655	330	---
3	D 16	6 240	6 120~5 813	240	---
4	D 13	15 190	14 800	390	---
5	"	8 290	11 193~5 592	390	---
6	"	15 200	14 804	390	---
7	"	500	110	195	---
8	"	580	533~171	111	---
F 1	D 16	3 440	2 285	1 150	---
2	D 13	1 690	1 453	195	---
3	D 16	2 530	1 380	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 5					
1	D 22	6 700	6 548~6 190	330	---
2	"	3 990	3 655	330	---
3	D 16	6 590	6 527~6 170	240	---
4	D 13	15 190	14 800	390	---
5	"	5 270	5 265	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	590	562~160	111	---
F 1	D 16	3 430	2 275	1 150	---
2	D 13	1 700	1 498	195	---
3	D 16	2 530	1 380	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 6					
1	D 22	7 040	6 881~6 548	330	---
2	"	3 990	3 655	330	---
3	D 16	6 930	6 839~6 527	240	---
4	D 13	15 190	14 800	390	---
5	"	6 690	6 594	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	610	611~209	111	---
F 1	D 16	3 400	2 248	1 150	---
2	D 13	1 720	1 525	195	---
3	D 16	2 530	1 380	1 150	---
4	D 13	2 530	2 330	195	---
5	D 16	15 280	14 800	480	---
6	D 13	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

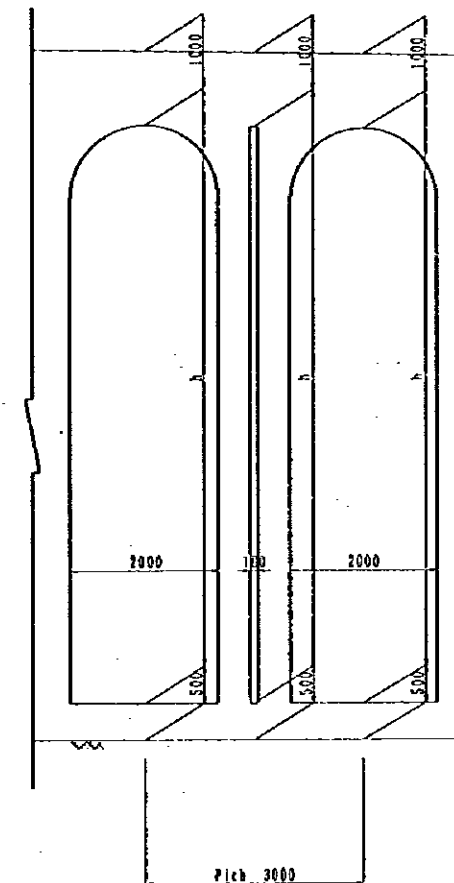
JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (9)
DATE : DYC NO. W-11



CLIENT :	MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS	
PROJECT :	D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY	
TITLE :	R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (10)	
DATE		DWG NO. W-12

A I L I N E	T-9				T-8				T-7			
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	7 865	Hb1	7 598	Ha1	7 598	Hb1	7 331	Ha1	7 331	Hb1	7 019
B I L I N E	Ha2	6 465	Hb2	6 198	Ha2	6 198	Hb2	5 931	Ha2	5 931	Hb2	5 619
	Ha3	250250 = 6 250	Hb3	240250 = 6 000	Ha3	240250 = 6 000	Hb3	230250 = 5 750	Ha3	230250 = 5 750	Hb3	220250 = 5 500
	Ha4	130250 = 3 250	Hb4	120250 = 3 000	Ha4	120250 = 3 000	Hb4	110250 = 2 750	Ha4	110250 = 2 750	Hb4	100250 = 2 500
	Ha5	215	Hb5	198	Ha5	198	Hb5	181	Ha5	181	Hb5	119
	Ba1	789	Bb1	766	Ba1	766	Bb1	744	Ba1	744	Bb1	718
	Ba2	2 511	Bb2	2 534	Ba2	2 534	Bb2	2 556	Ba2	2 556	Bb2	2 582
	Ba3	539	Bb3	516	Ba3	516	Bb3	494	Ba3	494	Bb3	468
	Ba4	20376.5 = 753	Bb4	20365 = 730	Ba4	20365 = 730	Bb4	20354 = 708	Ba4	20354 = 708	Bb4	20341 = 682
	Ba5	20138.5 = 277	Bb5	20150 = 300	Ba5	20150 = 300	Bb5	20161 = 322	Ba5	20161 = 322	Bb5	20174 = 348
	Ba6	70300 = 2 100	Bb6	70300 = 2 100	Ba6	70300 = 2 100	Bb6	70300 = 2 100	Ba6	70300 = 2 100	Bb6	70300 = 2 100
	Ba7	657	Bb7	634	Ba7	634	Bb7	612	Ba7	612	Bb7	586
	Ba8	20186.5 = 373	Bb8	20198 = 396	Ba8	20198 = 396	Bb8	20209 = 418	Ba8	20209 = 418	Bb8	20222 = 444
	T-9		T-8		T-7		T-6		T-5		T-4	
	a - a		b - b		a - a		b - b		a - a		b - b	
	Ha1	7 935	Hb1	7 668	Ha1	7 668	Hb1	7 401	Ha1	7 401	Hb1	7 089
	Ha2	6 535	Hb2	6 268	Ha2	6 268	Hb2	6 001	Ha2	6 001	Hb2	5 689
	Ha3	250250 = 6 250	Hb3	250250 = 6 250	Ha3	240250 = 6 000	Hb3	230250 = 5 750	Ha3	230250 = 5 750	Hb3	220250 = 5 500
	Ha4	130250 = 3 250	Hb4	130250 = 3 250	Ha4	120250 = 3 000	Hb4	110250 = 2 750	Ha4	110250 = 2 750	Hb4	100250 = 2 500
	Ha5	20142.5 = 285	Hb5	18	Ha5	20134 = 268	Hb5	251	Ha5	251	Hb5	189
	Ba1	794	Bb1	772	Ba1	772	Bb1	750	Ba1	750	Bb1	723
	Ba2	2 506	Bb2	2 528	Ba2	2 528	Bb2	2 550	Ba2	2 550	Bb2	2 577
	Ba3	544	Bb3	522	Ba3	522	Bb3	500	Ba3	500	Bb3	473
	Ba4	20379 = 758	Bb4	20368 = 736	Ba4	20368 = 736	Bb4	20357 = 714	Ba4	20357 = 714	Bb4	20343.5 = 687
	Ba5	20136 = 272	Bb5	20147 = 294	Ba5	20147 = 294	Bb5	20158 = 316	Ba5	20158 = 316	Bb5	20171.5 = 343
	Ba6	70300 = 2 100	Bb6	70300 = 2 100	Ba6	70300 = 2 100	Bb6	70300 = 2 100	Ba6	70300 = 2 100	Bb6	70300 = 2 100
	Ba7	662	Bb7	640	Ba7	640	Bb7	618	Ba7	618	Bb7	591
	Ba8	20184 = 368	Bb8	20195 = 390	Ba8	20195 = 390	Bb8	20206 = 412	Ba8	20206 = 412	Bb8	20220 = 439



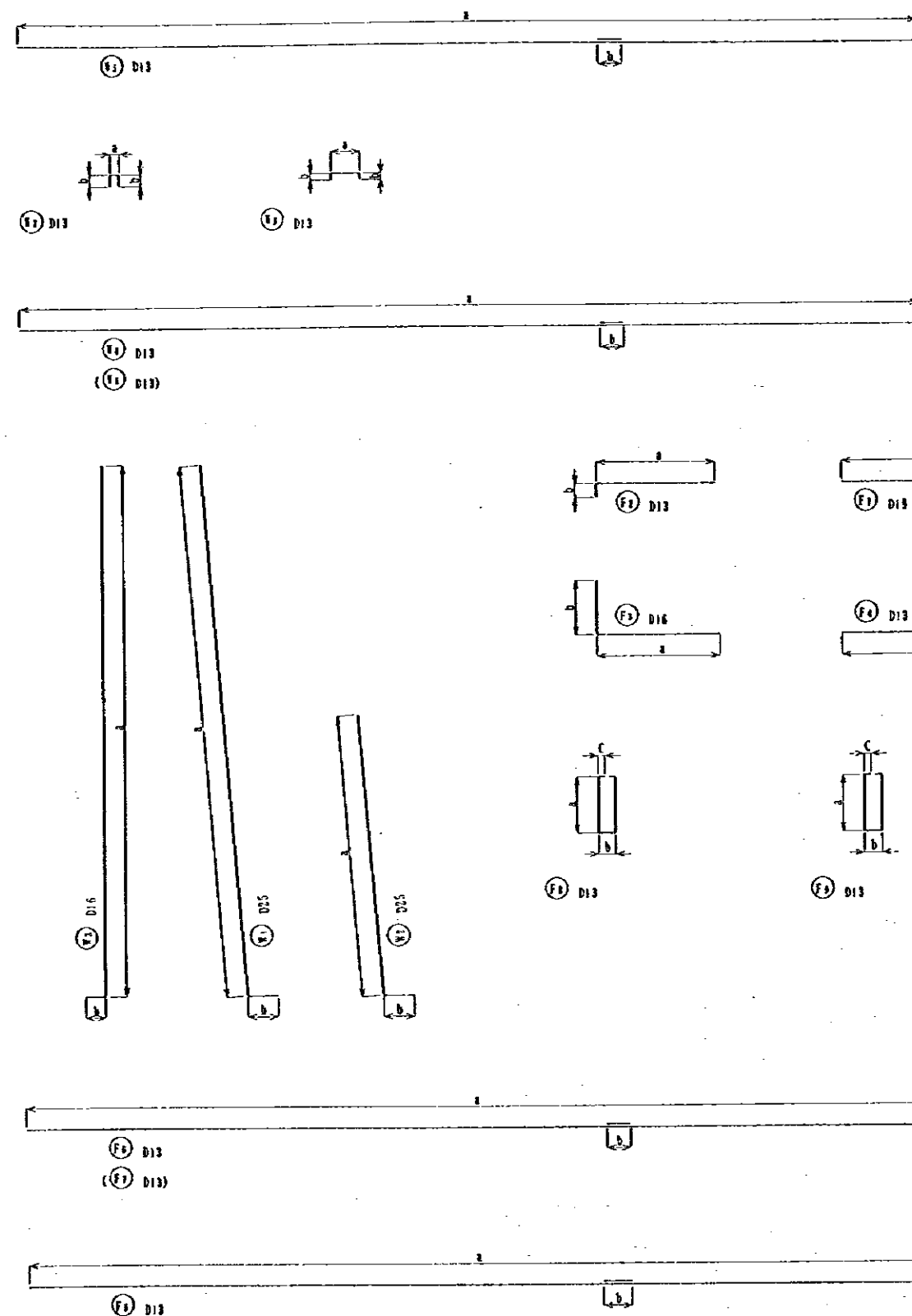
Slit Shape in Front of Wall
(Thickness t=30 mm)

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (II)
DATE : DYC NO. W-13



REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 1					
1	D 25	7 330	7 106~6 792	375	---
2	"	4 540	4 164	375	---
3	D 16	7 170	7 051~6 769	240	---
4	D 13	15 150	14 800	390	---
5	"	8 590	8 586	---	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	620	626~168	111	---
F 1	D 19	4 260	3 181	1 150	---
2	D 13	1 950	1 761	195	---
3	D 16	2 730	1 580	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 2					
1	D 25	7 620	7 373~7 106	375	---
2	"	4 540	4 164	375	---
3	D 16	7 460	7 345~7 081	240	---
4	D 13	15 190	14 800	390	---
5	"	11 370	10 975	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	650	648~190	111	---
F 1	D 16	4 230	3 077	1 150	---
2	D 13	1 980	1 785	195	---
3	D 16	2 730	1 580	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 3					
1	D 25	7 890	7 641~7 373	375	---
2	"	4 540	4 164	375	---
3	D 16	7 230	7 015~7 348	240	---
4	D 13	15 190	14 800	390	---
5	"	12 310	11 918	390	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	650	671~171	111	---
F 1	D 16	4 210	3 055	1 150	---
2	D 13	2 010	1 808	195	---
3	D 16	2 730	1 580	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 4					
1	D 25	7 960	7 712~7 444	375	---
2	"	4 540	4 164	375	---
3	D 16	7 800	7 655~7 418	240	---
4	D 13	15 190	14 800	390	---
5	"	7 900	7 899	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	650	678~176	111	---
F 1	D 16	4 200	3 045	1 150	---
2	D 13	2 010	1 813	195	---
3	D 16	2 730	1 550	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

REIN NO	Ø (mm)	LENGTH (mm)	a	b	c
T 5					
1	D 25	7 400	7 176~6 863	375	---
2	"	4 540	4 164	375	---
3	D 16	7 240	7 051~6 839	240	---
4	D 13	15 190	14 800	390	---
5	"	12 300	11 906	390	---
6	"	15 200	14 806	390	---
7	"	500	110	195	---
8	"	630	632~174	111	---
F 1	D 16	4 250	3 056	1 150	---
2	D 13	1 970	1 767	195	---
3	D 16	2 730	1 580	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 6					
1	D 25	7 630	7 441~7 176	375	---
2	"	4 540	4 164	375	---
3	D 16	7 530	7 418~7 151	240	---
4	D 13	15 190	14 800	390	---
5	"	7 430	7 428	---	---
6	"	15 200	14 802	390	---
7	"	500	110	195	---
8	"	650	654~196	111	---
F 1	D 16	4 230	3 071	1 150	---
2	D 13	1 990	1 791	195	---
3	D 16	2 730	1 580	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111
T 7					
1	D 25	7 960	7 712~7 444	375	---
2	"	4 540	4 164	375	---
3	D 16	7 800	7 655~7 418	240	---
4	D 13	15 190	14 800	390	---
5	"	7 900	7 899	---	---
6	"	15 200	14 805	390	---
7	"	500	110	195	---
8	"	650	678~176	111	---
F 1	D 16	4 200	3 045	1 150	---
2	D 13	2 010	1 813	195	---
3	D 16	2 730	1 550	1 150	---
4	D 13	3 330	3 130	195	---
5	"	15 190	14 800	390	---
6	"	15 190	14 800	390	---
7	"	15 190	14 800	390	---
8	"	2 860	1 178	278	111
9	"	2 860	1 178	278	111

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8. AL KHABURAH RE-BAR ARRANGEMENT (12)
DATE : _____ DWG NO. W-14

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 10							
1	D 25	8 220	5.059	61	41.585	2536.7	L
2	"	5 110	"	58	25.851	1499.4	L
3	D 19	8 010	2.235	61	17.969	1096.1	J
4	D 13	15 150	0.994	66	15.099	996.5	---
5	"	13 260	"	4	13.189	52.7	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	680	"	231	0.676	156.2	"
F 1	D 22	4 460	3.042	119	13.567	1614.5	---
2	D 13	2 340	0.994	61	2.326	141.5	---
3	D 19	3 120	2.235	119	6.973	829.8	L
4	D 16	2 570	1.552	61	5.541	338.0	J
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	6	15.099	90.6	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 860	"	58	2.843	164.9	□
9	"	2 870	"	116	2.853	330.9	□
10441.4							
D 25							4 026.1
D 22							1 614.5
D 19							1 925.9
D 16							558.9
D 13							2 266.0
TOTAL WEIGHT							10 441.4

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 10							
1	D 25	8 230	5.059	61	41.939	2 558.9	L
2	"	5 110	"	58	25.851	1 499.4	L
3	D 19	8 110	2.235	61	18.126	1 105.7	J
4	D 13	15 190	0.994	66	15.099	996.5	---
5	"	8 370	"	2	8.320	16.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	690	"	304	0.686	203.4	"
F 1	D 22	4 460	3.042	119	13.567	1614.5	---
2	D 13	2 350	0.994	61	2.336	147.5	---
3	D 19	3 120	2.235	119	6.973	829.8	L
4	D 16	2 570	1.552	61	5.541	338.0	J
5	"	15 280	"	11	23.715	260.9	---
6	D 13	15 190	0.994	6	15.099	90.6	---
7	"	15 190	"	18	15.099	271.8	---
8	"	2 860	"	58	2.843	164.9	□
9	"	2 870	"	116	2.853	330.9	□
10544.3							
D 25							4 057.7
D 22							1 614.5
D 19							1 935.5
D 16							558.9
D 13							2 337.7
TOTAL WEIGHT							10 544.3

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (13)
DATE :
DWG NO. W-15

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 1							
1	D 19	5 020	2.235	61	11.270	634.4	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	4 920	1.552	61	4.890	238.3	⌈
4	"	15 190	0.994	34	15.099	513.4	---
5	"	7 360	"	4	7.316	29.3	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	192	0.527	101.2	"
F 1	D 16	3 280	1.552	119	5.091	605.8	⌈
2	D 13	1 350	0.994	61	1.342	81.9	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	10	15.099	105.7	---
6	"	15 190	"	5	15.099	60.4	---
7	"	15 190	"	16	15.099	181.2	---
8	"	2 860	"	58	2.843	82.4	□
9	"	2 860	"	116	2.853	164.9	□
2 969.3							
T 2							
1	D 19	5 440	2.235	61	12.158	741.6	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	5 340	0.994	61	5.308	273.0	⌈
4	"	15 190	"	38	15.099	573.8	---
5	"	7 040	"	2	6.998	14.0	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	221	0.537	118.7	"
F 1	D 16	3 240	1.552	119	5.028	598.3	⌈
2	D 13	1 380	0.994	61	1.372	83.7	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	7	15.099	105.7	---
6	"	15 190	"	5	15.099	60.4	---
7	"	15 190	"	12	15.099	181.2	---
8	"	2 860	"	29	2.843	82.4	□
9	"	2 860	"	58	2.843	164.9	□
4 105.3							
T 3							
1	D 19	5 850	2.235	61	12.075	797.6	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	5 740	0.994	61	5.706	348.1	⌈
4	"	15 190	"	40	15.099	604.0	---
5	"	9 870	"	4	9.811	39.2	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	251	0.547	137.3	"
F 1	D 16	3 210	1.552	119	4.982	592.9	⌈
2	D 13	1 410	0.994	61	1.402	85.5	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	7	15.099	105.7	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	12	15.099	181.2	---
8	"	2 860	"	29	2.843	82.4	□
9	"	2 860	"	58	2.853	164.9	□
4 259.6							
D 19 3 565.2							
D 16 3 049.5							
D 13 5 722.1							
TOTAL WEIGHT 12 337.8							

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
T 1							
1	D 19	5 090	2.235	61	11.376	693.9	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	4 990	0.994	61	4.960	202.6	⌈
4	"	15 190	"	34	15.099	513.4	---
5	"	8 340	"	4	8.290	33.2	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	221	0.557	123.1	"
F 1	D 16	3 260	1.552	119	5.650	602.1	⌈
2	D 13	1 380	0.994	61	1.372	83.7	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	10	15.099	105.7	---
6	"	15 190	"	5	15.099	60.4	---
7	"	15 190	"	16	15.099	181.2	---
8	"	2 860	"	58	2.843	82.4	□
9	"	2 860	"	116	2.853	164.9	□
4 007.0							
T 2							
1	D 19	5 510	2.235	61	12.315	751.3	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	5 410	0.994	61	5.378	278.1	⌈
4	"	15 190	"	58	15.099	573.8	---
5	"	7 210	"	4	7.167	28.7	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	354	0.547	170.9	"
F 1	D 16	3 240	1.552	119	5.019	596.5	⌈
2	D 13	1 400	0.994	61	1.392	84.9	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	7	15.099	105.7	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	12	15.099	181.2	---
8	"	2 860	"	29	2.843	82.4	□
9	"	2 860	"	58	2.853	164.9	□
4 139.1							
T 3							
1	D 19	5 620	2.235	61	11.838	794.8	⌈
2	"	3 450	"	58	7.711	447.2	⌈
3	D 13	5 810	0.994	61	5.775	352.3	⌈
4	"	15 190	"	42	15.099	634.2	---
5	"	6 010	"	2	5.974	11.5	---
6	"	15 200	"	2	15.103	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	550	"	288	0.557	156.0	"
F 1	D 16	3 210	1.552	119	4.982	592.9	⌈
2	D 13	1 420	0.994	61	1.411	86.1	⌈
3	D 16	2 260	1.552	119	3.508	417.5	⌈
4	D 13	2 230	0.994	61	2.217	135.2	⌈
5	"	15 190	"	7	15.099	105.7	---
6	"	15 190	"	4	15.099	60.4	---
7	"	15 190	"	12	15.099	181.2	---
8	"	2 860	"	29	2.843	82.4	□
9	"	2 860	"	58	2.853	164.9	□
4 283.2							
D 19 3 581.5							
D 16 3 041.0							
D 13 5 883.8							
TOTAL WEIGHT 12 439.4							

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONALCLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (14)
DATE :
DWG NO. W-16

A-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUM	C WEIGHT	WEIGHT	REMARKS
T 4							
1	D 22	6 060	3.042	61	18.435	1 124.5	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	5 970	1.552	61	9.265	565.2	1
4	D 13	15 190	0.994	46	15.099	694.6	1
5	"	6 360	"	2	6.372	38.9	1
6	"	15 210	"	2	15.119	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	570	"	280	0.567	158.8	1
F 1	D 16	3 490	1.552	119	5.416	644.5	1
2	D 13	1 660	0.994	61	1.650	100.7	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 492.4	
T 5							
1	D 22	6 630	3.042	61	20.163	1 230.2	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	6 520	1.552	61	10.413	617.3	1
4	D 13	15 190	0.994	49	15.099	729.9	1
5	"	5 270	"	2	5.288	10.5	1
6	"	15 200	"	2	15.109	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	590	"	310	0.586	182.0	1
F 1	D 16	3 430	1.552	119	5.373	633.4	1
2	D 13	1 690	0.994	61	1.660	102.5	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 787.0	
T 6							
1	D 22	6 970	3.042	61	21.293	1 293.3	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	6 860	1.552	61	10.647	649.5	1
4	D 13	15 190	0.994	58	15.099	755.0	1
5	"	5 650	"	2	5.616	11.2	1
6	"	15 200	"	2	15.109	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	618	"	310	0.606	187.9	1
F 1	D 16	3 410	1.552	119	5.292	629.7	1
2	D 13	1 720	0.994	61	1.710	104.3	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 822.4	
						D 22 5 760.0	
						D 16 5 210.6	
						D 13 5 551.2	
						TOTAL WEIGHT 17 021.0	

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NUM	C WEIGHT	WEIGHT	REMARKS
T 4							
1	D 22	6 340	3.042	61	19.286	1 176.4	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	6 240	1.552	61	9.684	590.7	1
4	D 13	15 190	0.994	44	15.099	664.4	1
5	"	2 290	"	4	6.246	35.0	1
6	"	15 200	"	2	15.109	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	580	"	280	0.577	161.6	1
F 1	D 16	3 440	1.552	119	5.339	635.3	1
2	D 13	1 680	0.994	61	1.670	101.9	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 556.8	
T 5							
1	D 22	6 700	3.042	61	20.381	1 243.2	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	6 590	1.552	61	10.228	623.9	1
4	D 13	15 190	0.994	45	15.099	729.9	1
5	"	5 270	"	2	5.288	10.5	1
6	"	15 200	"	2	15.109	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	599	"	310	0.587	182.0	1
F 1	D 16	3 430	1.552	119	5.323	633.4	1
2	D 13	1 700	0.994	61	1.699	103.7	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 727.5	
T 6							
1	D 22	7 040	3.042	61	21.416	1 306.4	1
2	"	3 990	"	58	12.138	704.0	1
3	D 16	6 930	1.552	61	10.755	656.1	1
4	D 13	15 190	0.994	59	15.099	755.0	1
5	"	6 600	"	2	6.568	13.1	1
6	"	15 200	"	2	15.109	30.2	1
7	"	500	"	61	0.497	30.3	1
8	"	640	"	325	0.626	206.7	1
F 1	D 16	3 400	1.552	119	5.277	628.0	1
2	D 13	1 720	0.994	61	1.710	104.3	1
3	D 16	2 530	1.552	119	3.927	467.3	1
4	D 13	2 530	0.994	61	2.515	153.4	1
5	D 16	15 280	1.652	8	23.715	189.7	1
6	D 13	15 190	0.994	5	15.099	75.5	1
7	"	15 190	"	14	15.099	211.4	1
8	"	2 860	"	29	2.843	82.4	1
9	"	2 860	"	87	2.843	247.3	1
						5 861.1	
						D 22 5 838.0	
						D 16 5 728.4	
						D 13 5 569.0	
						TOTAL WEIGHT 17 145.4	

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (15)
DATE : DWG NO. W-17

A-LINE

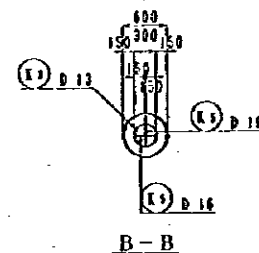
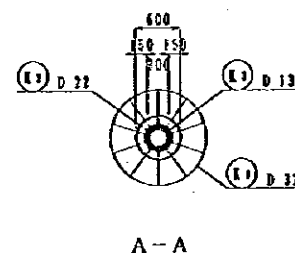
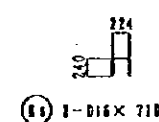
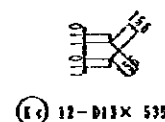
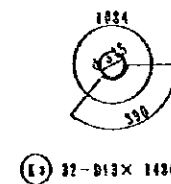
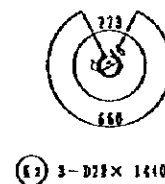
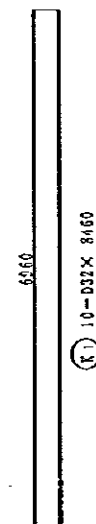
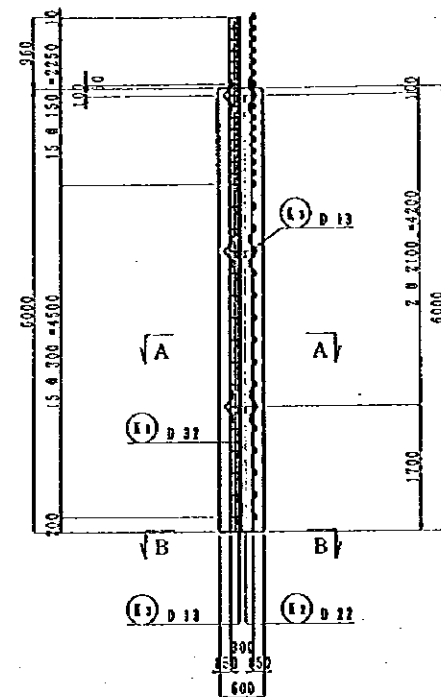
REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	SLAB	U WEIGHT	WEIGHT	REMARKS
T 7							
1	D 25	7 330	3.973	61	19.122	1 276.4	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 170	1.552	61	11.188	878.4	1
4	D 13	15 190	0.994	56	15.099	845.5	---
5	"	8 590	"	2	8.538	17.1	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	339	0.646	208.8	"
F 1	D 19	4 260	2.235	119	9.571	1123.0	---
2	D 13	1 960	0.994	61	1.963	118.6	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 555.8	
T 8							
1	D 25	7 620	3.973	61	30.274	1 846.7	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 460	1.552	61	11.578	706.3	1
4	D 13	15 190	0.994	58	15.099	875.7	---
5	"	11 370	"	2	11.302	22.6	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	339	0.646	219.0	"
F 1	D 19	4 230	2.235	119	9.454	1125.0	---
2	D 13	1 980	0.994	61	1.983	120.0	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 692.7	
T 9							
1	D 25	7 890	3.973	61	31.247	1 912.2	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 730	1.552	61	11.997	731.8	1
4	D 13	15 190	0.994	60	15.099	906.0	---
5	"	12 310	"	2	12.236	24.5	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	369	0.646	238.4	"
F 1	D 19	4 210	1.552	119	9.409	1119.7	---
2	D 13	2 010	0.994	61	1.958	121.9	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 831.9	
						D 25 8 724.5	
						D 19 3 372.7	
						D 16 3 629.5	
						D 13 7 299.6	
						TOTAL WEIGHT 23 689.4	

B-LINE

REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	SLAB	U WEIGHT	WEIGHT	REMARKS
T 7							
1	D 25	7 480	3.973	61	29.400	1 293.4	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 240	1.552	61	11.236	885.4	1
4	D 13	15 190	0.994	56	15.099	845.5	---
5	"	12 300	"	2	12.236	24.5	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	339	0.646	217.2	"
F 1	D 19	4 250	2.235	119	9.439	1120.4	---
2	D 13	1 970	0.994	61	1.958	119.4	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 588.2	
T 8							
1	D 25	7 690	3.973	61	30.552	1 869.7	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 530	1.552	61	11.687	712.9	1
4	D 13	15 190	0.994	58	15.099	875.7	---
5	"	7 430	"	2	7.385	14.8	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	339	0.646	219.0	"
F 1	D 19	4 230	2.235	119	9.454	1 125.0	---
2	D 13	1 990	0.994	61	1.978	120.7	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 709.2	
T 9							
1	D 25	7 960	3.973	61	31.625	1 929.1	1
2	"	4 540	"	58	18.037	1 046.1	1
3	D 16	7 800	1.552	61	12.106	738.5	1
4	D 13	15 190	0.994	62	15.099	936.1	---
5	"	7 900	"	2	7.853	15.7	---
6	"	15 200	"	2	15.109	30.2	---
7	"	500	"	61	0.497	30.3	"
8	"	650	"	384	0.646	248.1	"
F 1	D 19	4 200	2.235	119	9.387	1117.1	---
2	D 13	2 010	0.994	61	1.958	121.9	---
3	D 16	2 730	1.552	119	4.237	504.2	---
4	D 13	3 330	0.994	61	3.310	201.9	---
5	"	15 190	"	10	15.099	151.0	---
6	"	15 190	"	5	15.099	75.5	---
7	"	15 190	"	16	15.099	241.6	---
8	"	2 860	"	58	2.854	165.5	□
9	"	2 860	"	116	2.854	331.1	□
						7 883.9	
						D 25 8 724.5	
						D 19 3 372.5	
						D 16 3 643.4	
						D 13 7 434.9	
						TOTAL WEIGHT 23 181.3	

NOTES:

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONALCLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (16)
DATE : DYG NO. W-18



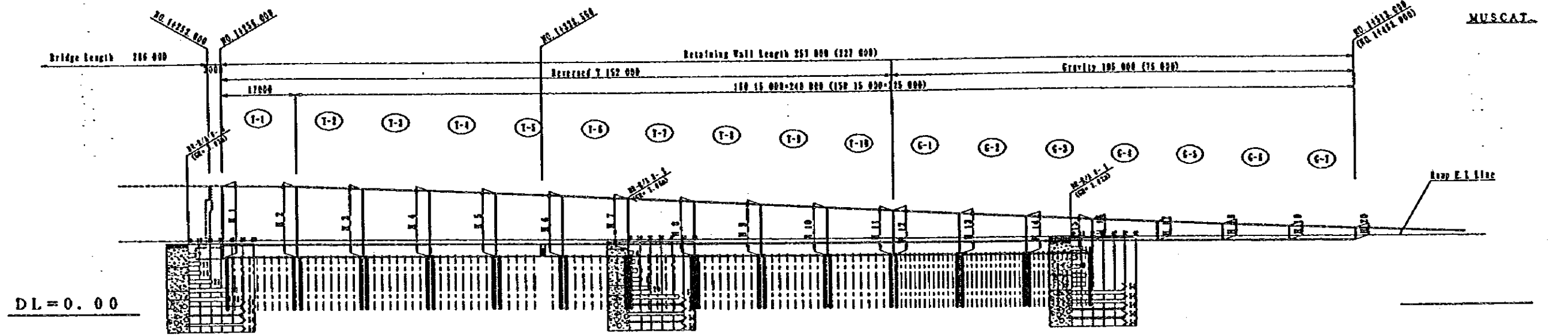
REIN NO.	Ø (mm)	LENGTH (mm)	NOMINAL WEIGHT	NO.	U WEIGHT	WEIGHT	REMARKS
1	D 32	6 560	6.403	10	44.565	445.7	
2	D 22	1 440	3.402	3	4.898	14.7	○
3	D 13	1 480	0.994	32	1.471	47.1	○
4	"	530	"	12	0.527	6.3	○
5	D 16	710	1.552	2	1.102	2.2	□
						D 32	445.7
						D 22	14.7
						D 16	2.2
						D 13	53.4
						TOTAL WEIGHT	516.0

NOTES:

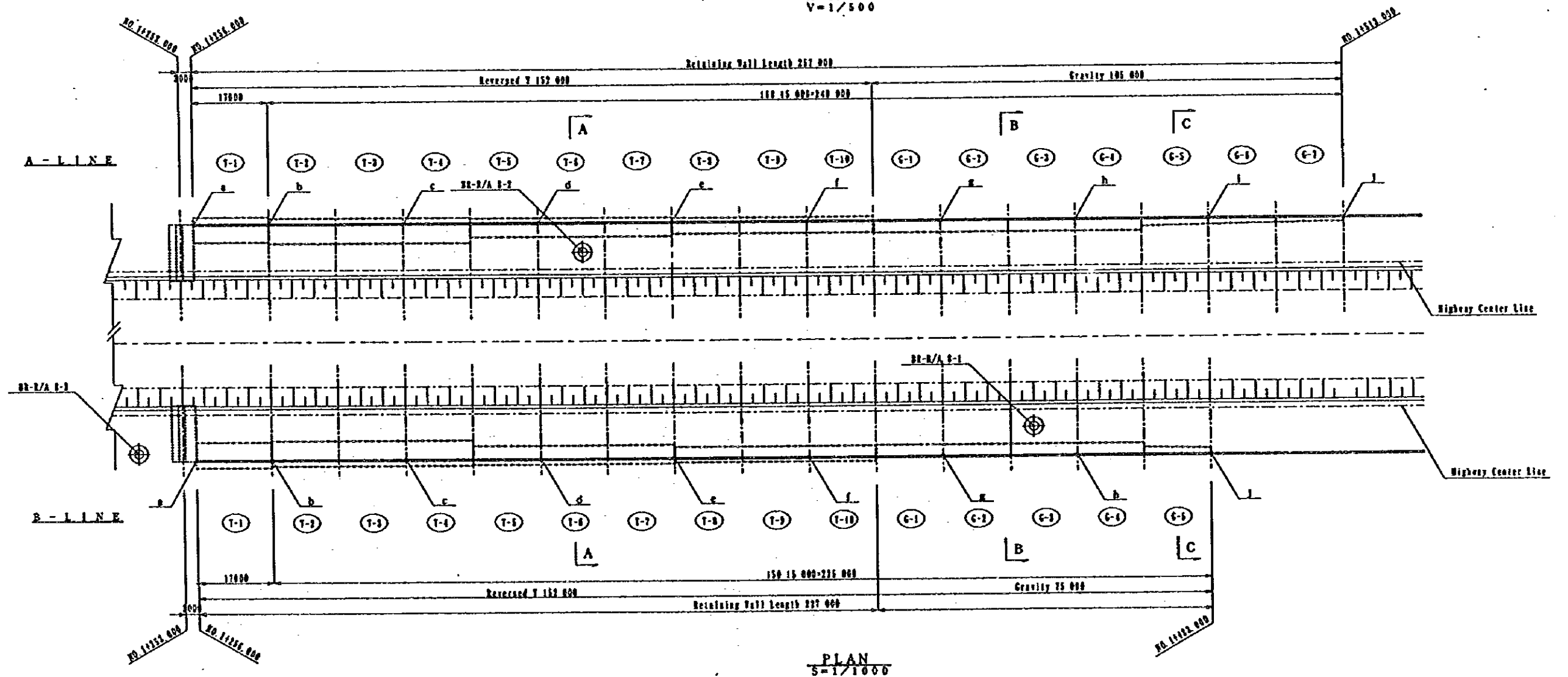
JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

JICA STUDY TEAM
PACIFIC CONSULTANTS INTERNATIONAL
FUKUYAMA CONSULTANTS INTERNATIONAL

CLIENT : MINISTRY OF COMMUNICATIONS, DIRECTORATE GENERAL OF ROADS
PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH RE-BAR ARRANGEMENT (17)
DATE : DWG NO. W-19



SIDE VIEW
H=1/1000
V=1/500



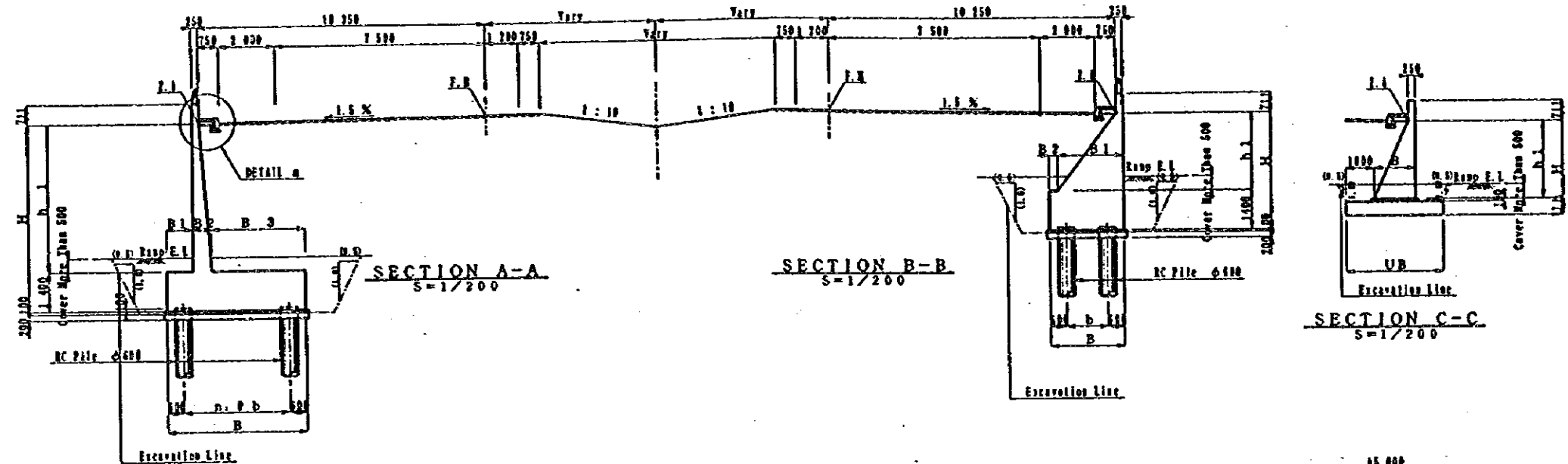
NOTES:

MUSCAT

E.L. line

Highway Center Line

Highway Center Line



Reversed T

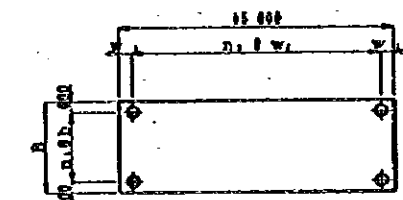
MARK TYPE	H	h 1	B	B 1	B 2	B 3
A I L I N E	T-1	11-8 132	6 732	5 700	1 500	826 3 374
	T-2	11-7 865	6 465			803 3 397
	T-3	11-7 598	6 198	5 700	1 200	789 3 711
	T-4	11-7 331	5 931			766 3 734
	T-5	11-7 018	5 618			744 3 756
	T-6	11-6 707	5 307	4 200	1 000	718 3 782
	T-7	11-6 350	4 950			702 2 498
	T-8	11-6 993	4 593			677 2 523
	T-9	11-6 591	4 191	3 500	800	648 2 552
	T-10	11-5 189	3 789			619 2 581
B I L I N E	T-1	11-8 132	6 732	5 700	1 500	826 3 374
	T-2	11-7 865	6 465			803 3 397
	T-3	11-7 598	6 198	5 700	1 200	789 3 711
	T-4	11-7 331	5 931			766 3 734
	T-5	11-7 018	5 618			744 3 756
	T-6	11-6 707	5 307	4 200	1 000	718 3 782
	T-7	11-6 350	4 950			702 2 498
	T-8	11-6 993	4 593			677 2 523
	T-9	11-6 591	4 191	3 500	800	648 2 552
	T-10	11-5 189	3 789			619 2 581

Gravity (Pile Foundation)

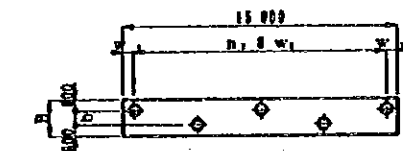
MARK TYPE	H	h 1	B	B 1	B 2
A I L I N E	G-1	11-4 753	3 353	2 800	2 158 642
	G-2	11-4 317	2 917		1 910 890
	G-3	11-3 937	2 537		1 694 1 106
	G-4	11-3 557	2 157		1 477 1 323
B I L I N E	G-1	11-4 753	3 353	2 800	2 158 642
	G-2	11-4 317	2 917		1 910 890
	G-3	11-3 937	2 537		1 694 1 106
	G-4	11-3 557	2 157		1 477 1 323

Gravity (Spread Foundation)

MARK TYPE		H	B	U h	U B
A I L I N E	G-5	11-7 3 852	1 361	1 500	3 361
	G-6	11-1 547	1 178		3 178
		11-1 317	1 040		3 040
		11-1 087	902		2 902
B I L I N E	G-6	11-1 852	1 361	1 500	3 361
		11-1 547	1 040		3 040



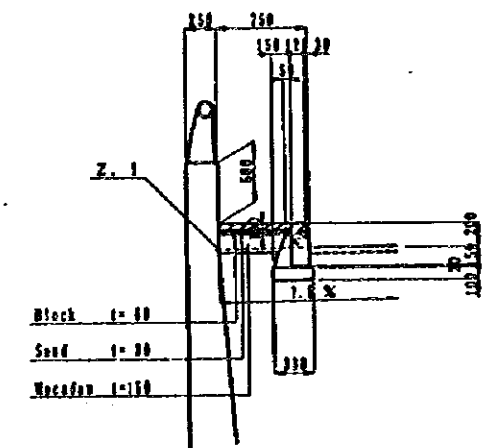
Reversed T



Gravity

List Of Foundation

A - L I N E						B - L I N E					
Reversed T	n, b	w, 1	n, b w, 1	n	L (m)	Reversed T	n, b	w, 1	n, b w, 1	n	L (m)
T 1	3 0 1 500	725	9 0 1 700	40	6 000	T 1	3 0 1 500	725	9 0 1 700	40	6 000
T 2 ~ T 4	3 0 1 500	600	9 0 1 725	40		T 2 ~ T 4	3 0 1 500	600	9 0 1 725	36	
T 5 ~ T 7	2 0 1 500	675	7 0 1 950	24		T 5 ~ T 7	2 0 1 500	675	7 0 1 950	24	
T 8 ~ T 10	1 0 2 300	600	8 0 1 725	18		T 8 ~ T 10	1 0 2 300	600	8 0 1 725	18	
Gravity	1 0 1 600	640	14 0 980	15	6 000	Gravity	1 0 1 500	600	14 0 980	15	6 000



DETAIL 8
S=1/60

JAPAN INTERNATIONAL COOPERATION AGENCY
(JICA)

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PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH GENERAL VIEW FOR WALL (2)-1
DATE :
DWG NO. : W-20

Point		a	b	c	d	e	f	g	h	i	j
A L I N E	N	+2650901.95521	+2650885.88830	+2650861.78793	+2650837.68756	+2650813.58720	+2650789.48683	+2650765.38646	+2650741.28609	+2650717.18573	+2650693.08536
	E	+ 509369.93450	+ 509381.84476	+ 509399.71016	+ 509417.57555	+ 509435.44094	+ 509453.30634	+ 509471.17173	+ 509489.03712	+ 509506.90252	+ 509524.76791
	Z	14.571	14.265	13.731	13.107	12.393	11.589	10.717	9.957	9.347	8.837
B I L L I N E	N	+2650882.36300	+2650866.29609	+2650842.19572	+2650818.09535	+2650793.99498	+2650769.89461	+2650745.79425	+2650721.69388	+2650697.59351	
	E	+ 509343.50435	+ 509355.41461	+ 509373.28000	+ 509391.14540	+ 509409.01079	+ 509426.87618	+ 509444.74157	+ 509462.60697	+ 509480.47236	
	Z	14.571	14.265	13.731	13.107	12.393	11.589	10.717	9.952	9.332	

NOTES:

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PROJECT : D/D ON ROAD DEVELOPMENT PROJECT ON BATINAH HIGHWAY
TITLE : R/A-8, AL KHABURAH GENERAL VIEW FOR WALL (2)-2
DATE : DWG NO. W-21