

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
ISLAMIC REPUBLIC OF PAKISTAN

**THE FEASIBILITY STUDY
ON
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT**



DRAWINGS



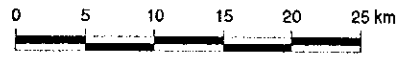
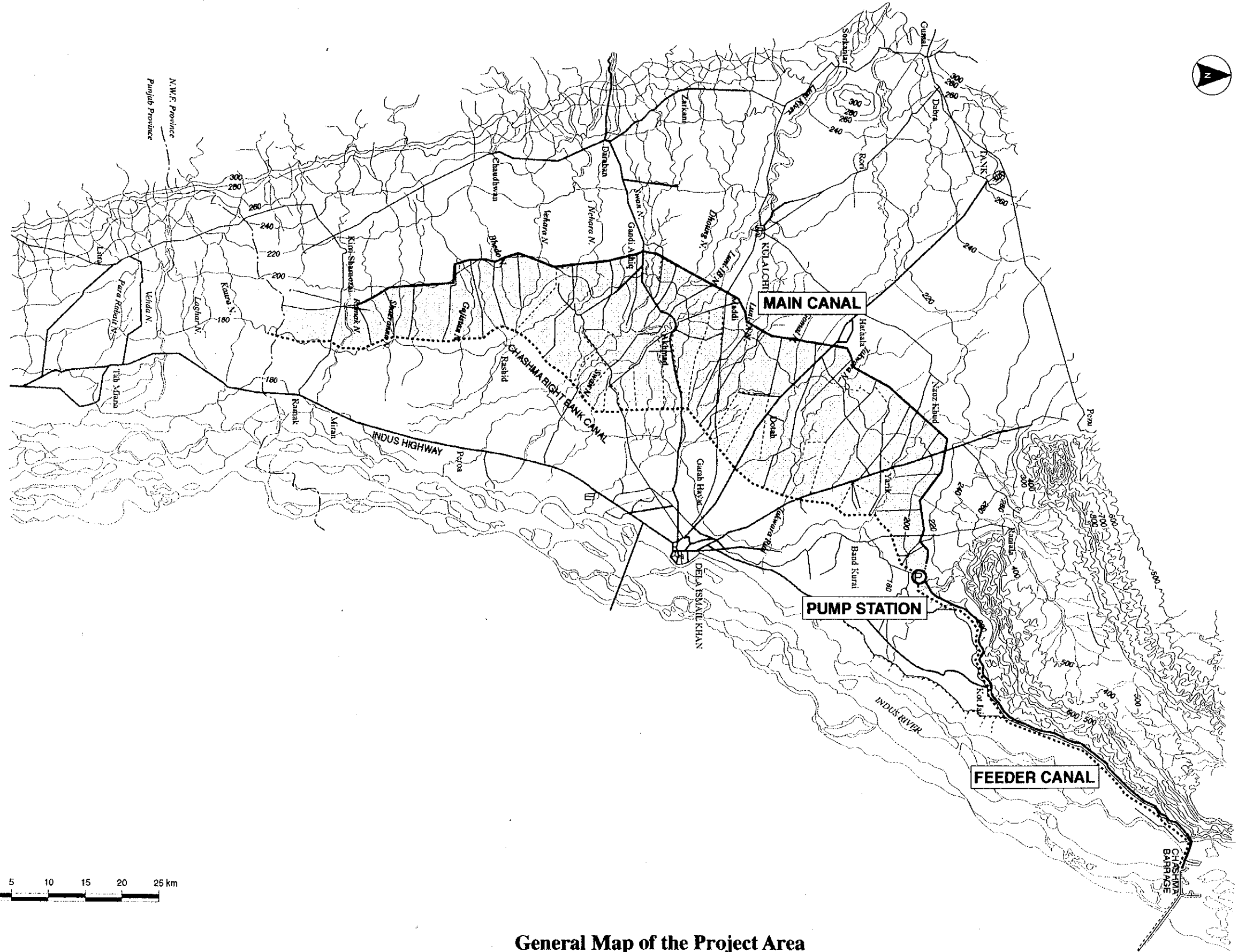
MARCH, 1995

NIPPON GIKEN INC.
NIPPON KOEI CO., LTD.

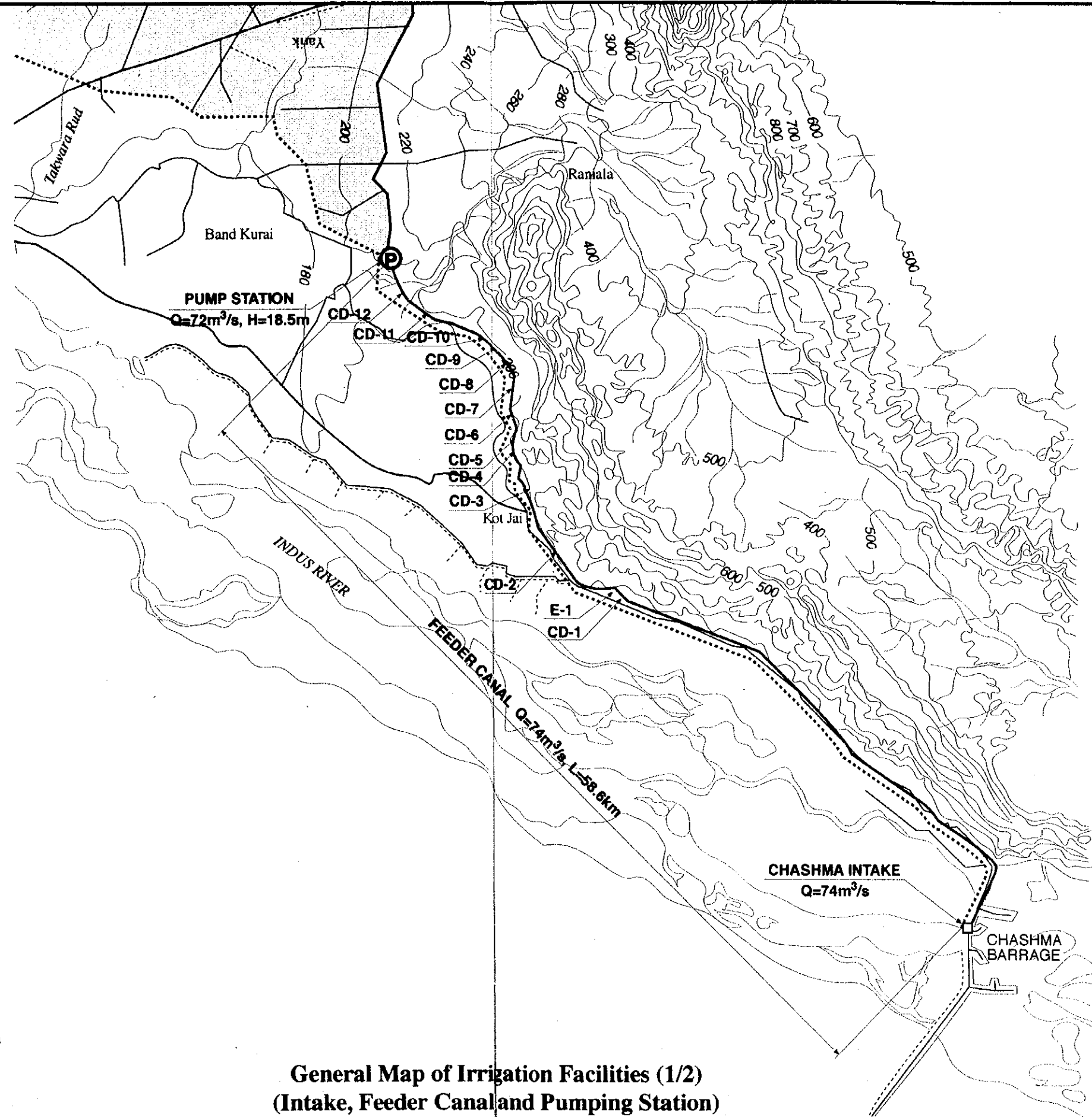
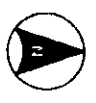
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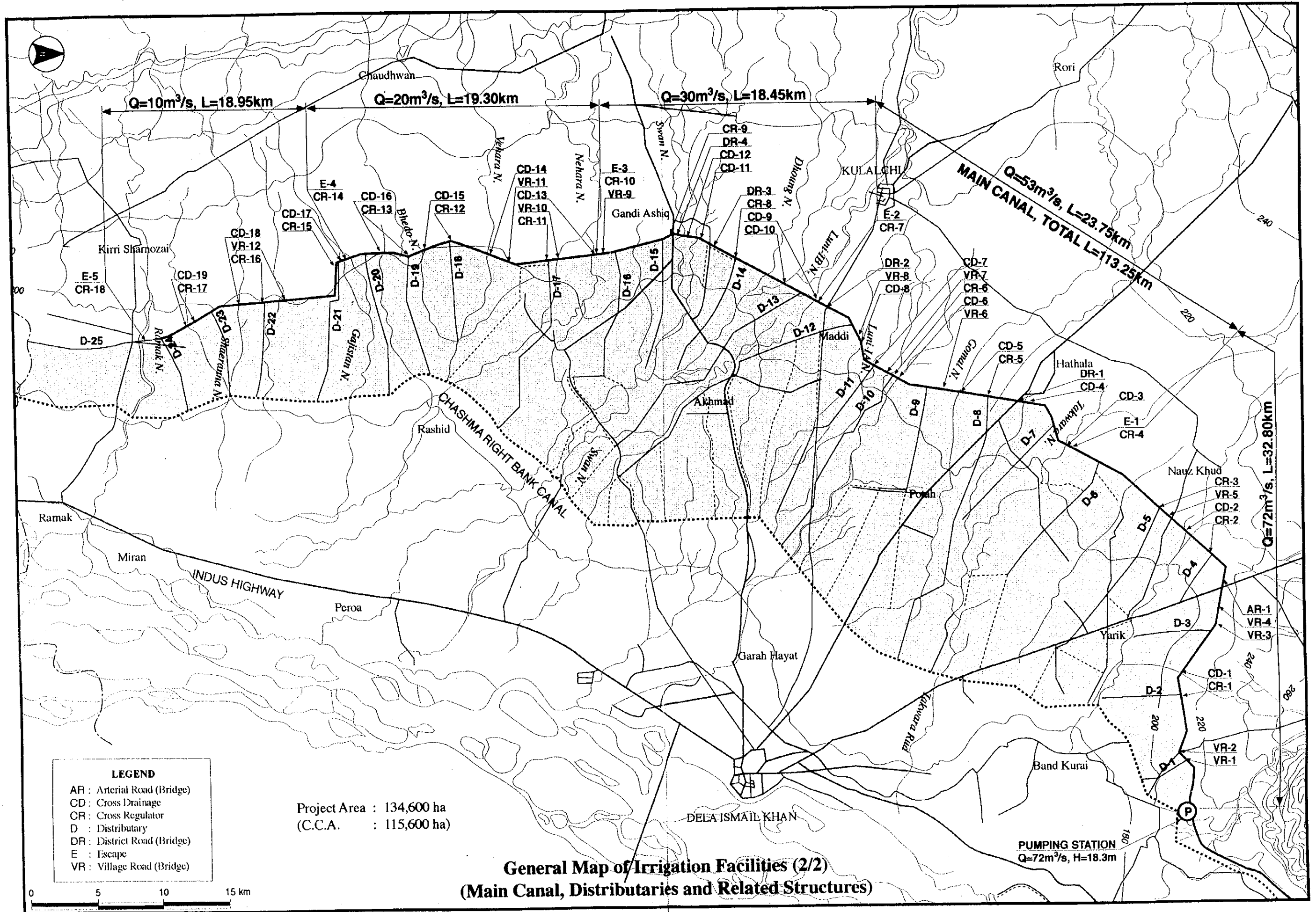
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General Map of the Project Area



General Map of Irrigation Facilities (1/2)
(Intake, Feeder Canal and Pumping Station)



Q=10m³/s, L=18.95km

Q=20m³/s, L=19.30km

Q=30m³/s, L=18.45km

Q=53m³/s, L=23.75km
MAIN CANAL, TOTAL L=113.25km

Q=72m³/s, L=32.80km

Project Area : 134,600 ha
(C.C.A. : 115,600 ha)

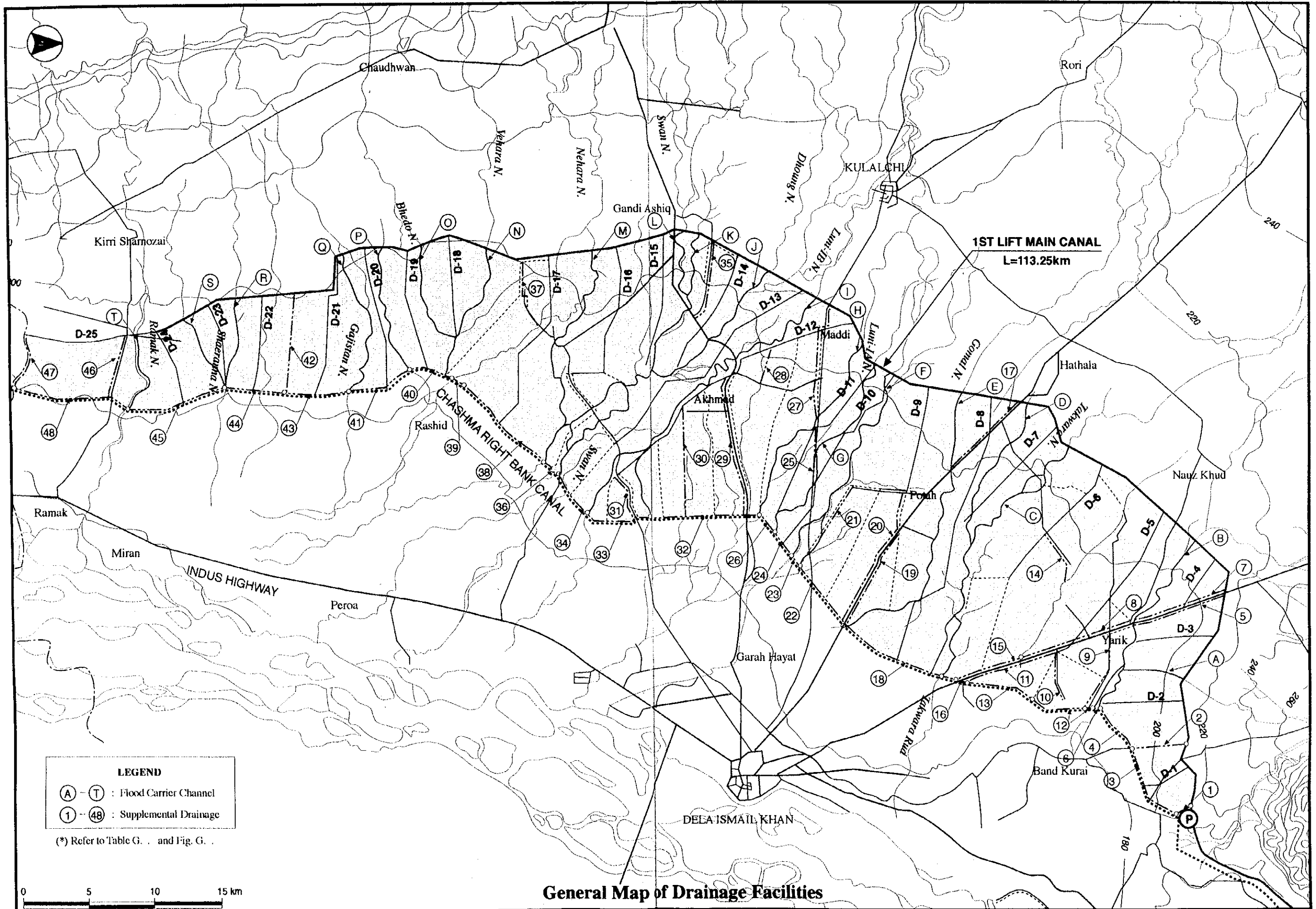
PUMPING STATION
Q=72m³/s, H=18.3m

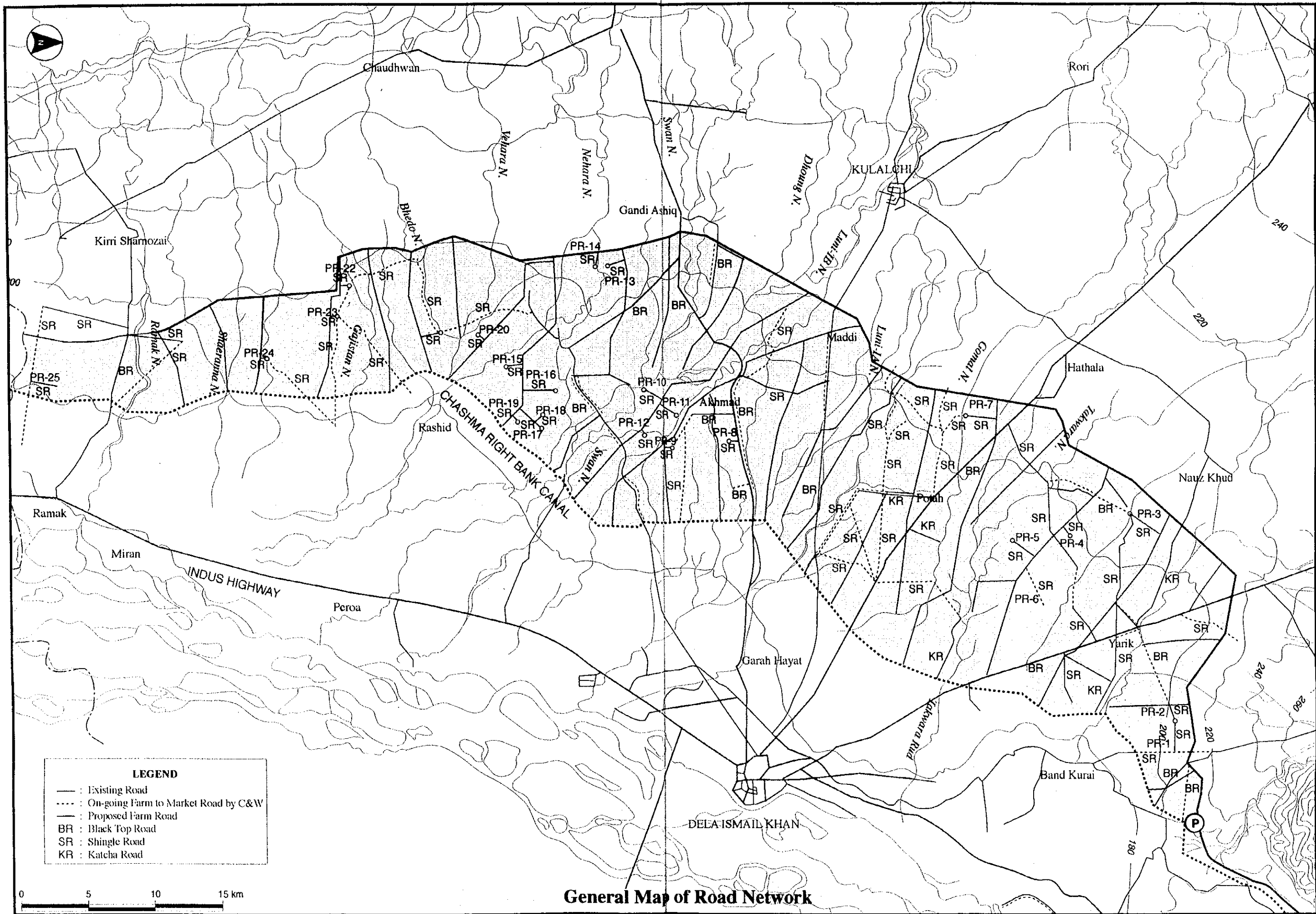
General Map of Irrigation Facilities (2/2)
(Main Canal, Distributaries and Related Structures)

LEGEND

- AR : Arterial Road (Bridge)
- CD : Cross Drainage
- CR : Cross Regulator
- D : Distributary
- DR : District Road (Bridge)
- E : Escape
- VR : Village Road (Bridge)



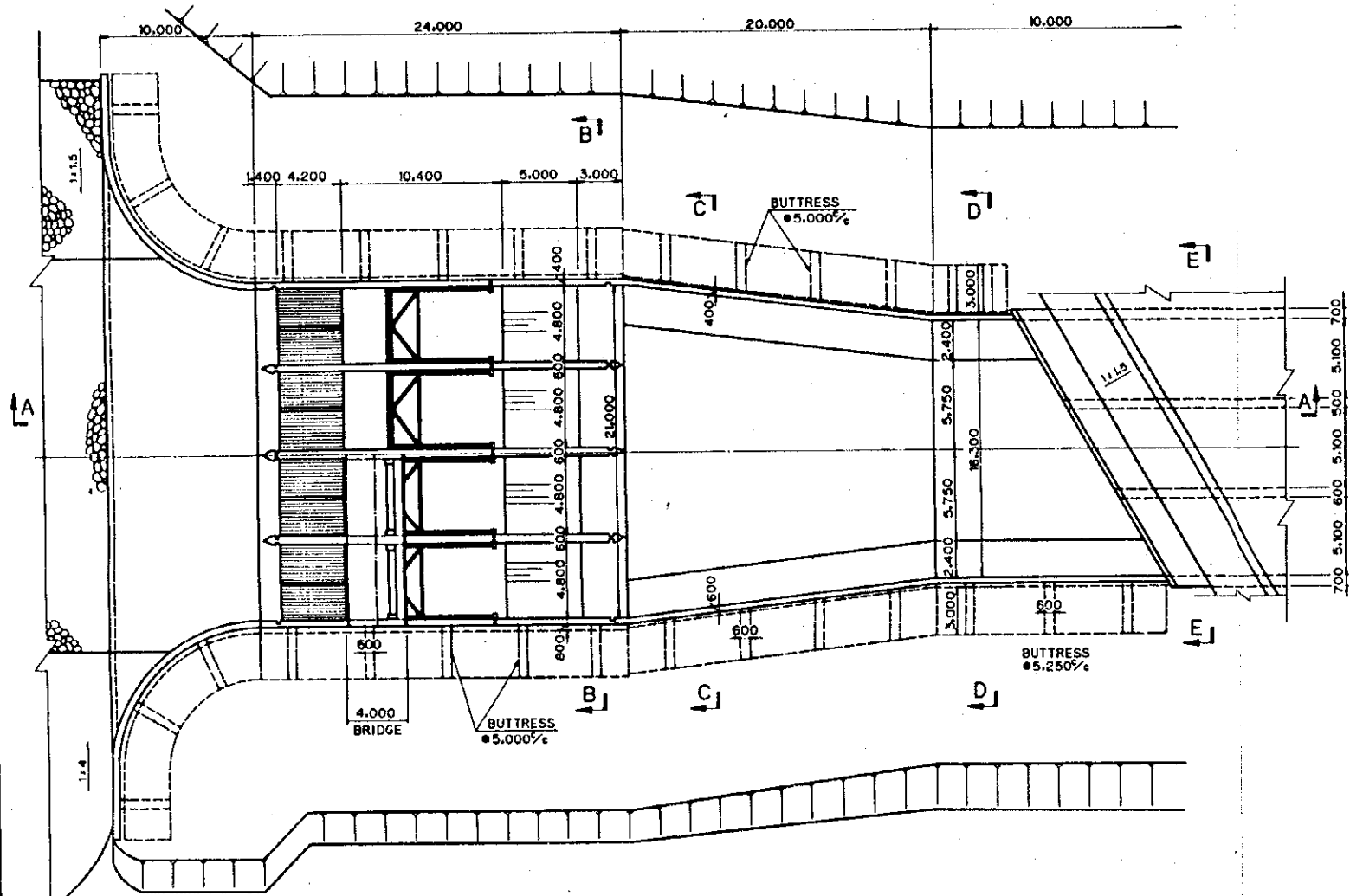




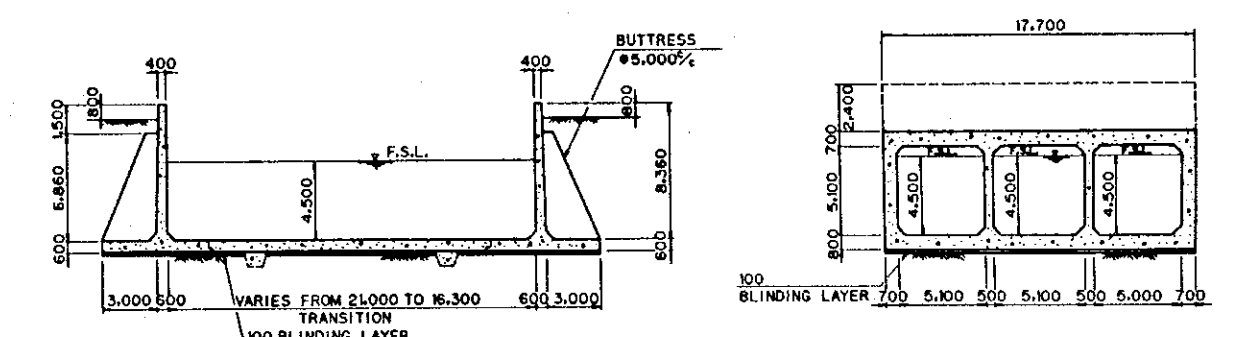
LEGEND

- : Existing Road
- : On-going Farm to Market Road by C&W
- - - : Proposed Farm Road
- BR : Black Top Road
- SR : Shingle Road
- KR : Katcha Road

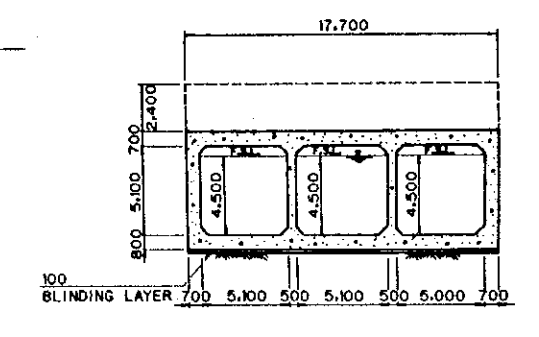
General Map of Road Network



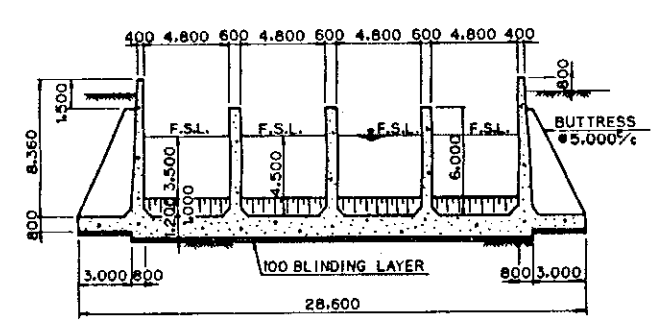
PLAN
SCALE B



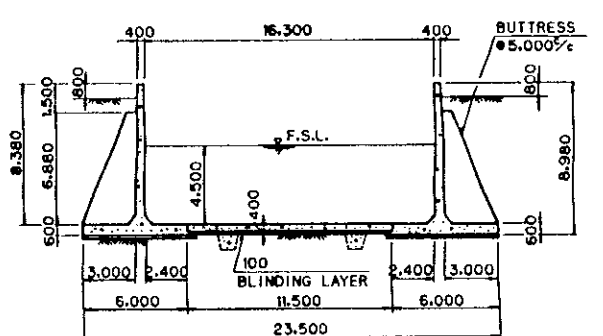
SECTION C-C
SCALE B



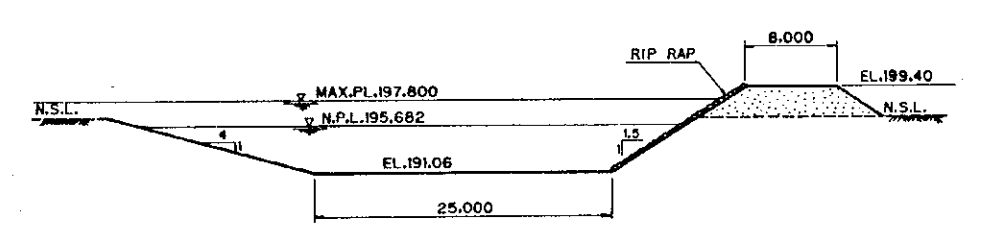
SECTION E-E
SCALE B



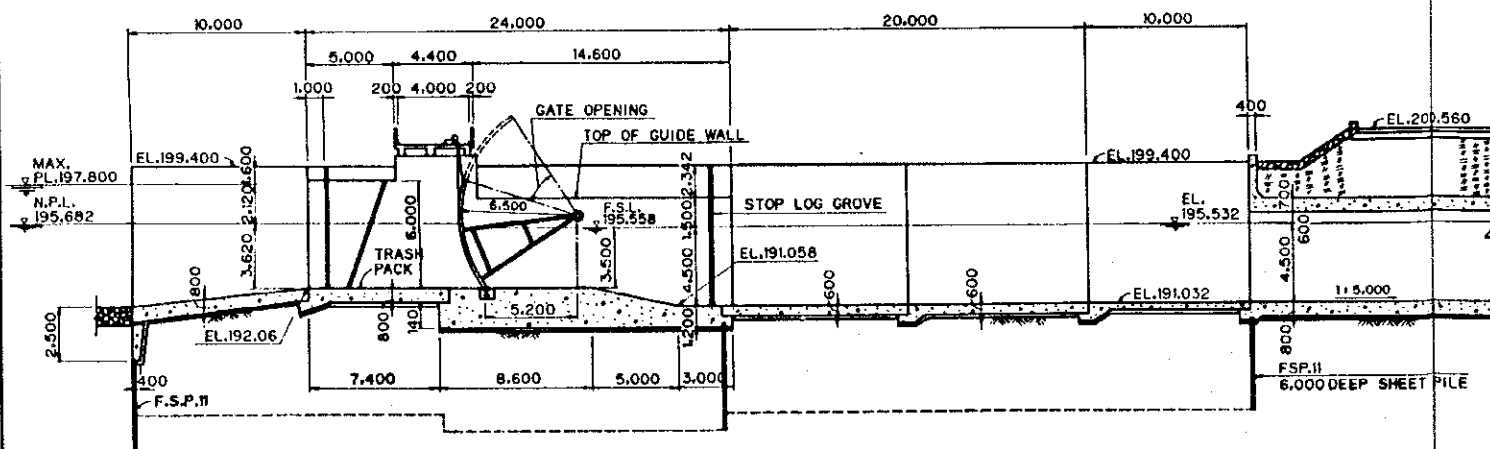
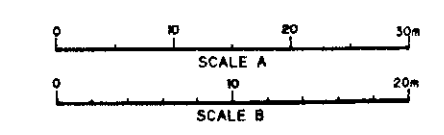
SECTION B-B
SCALE B



SECTION D-D
SCALE B



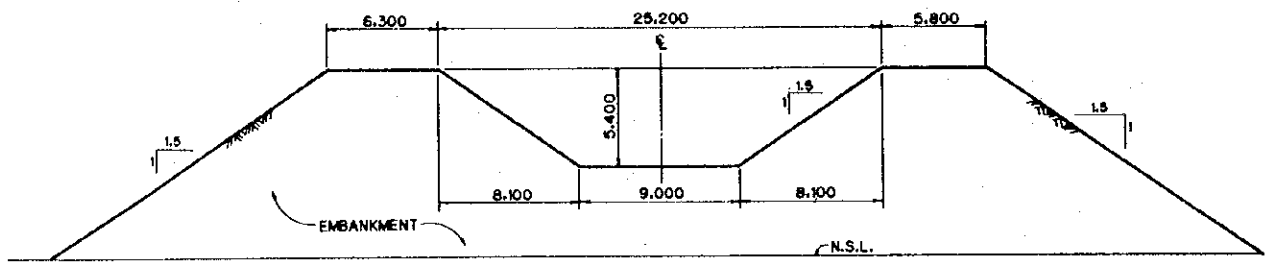
SECTION OF HEAD RACE DRADGING
SCALE A



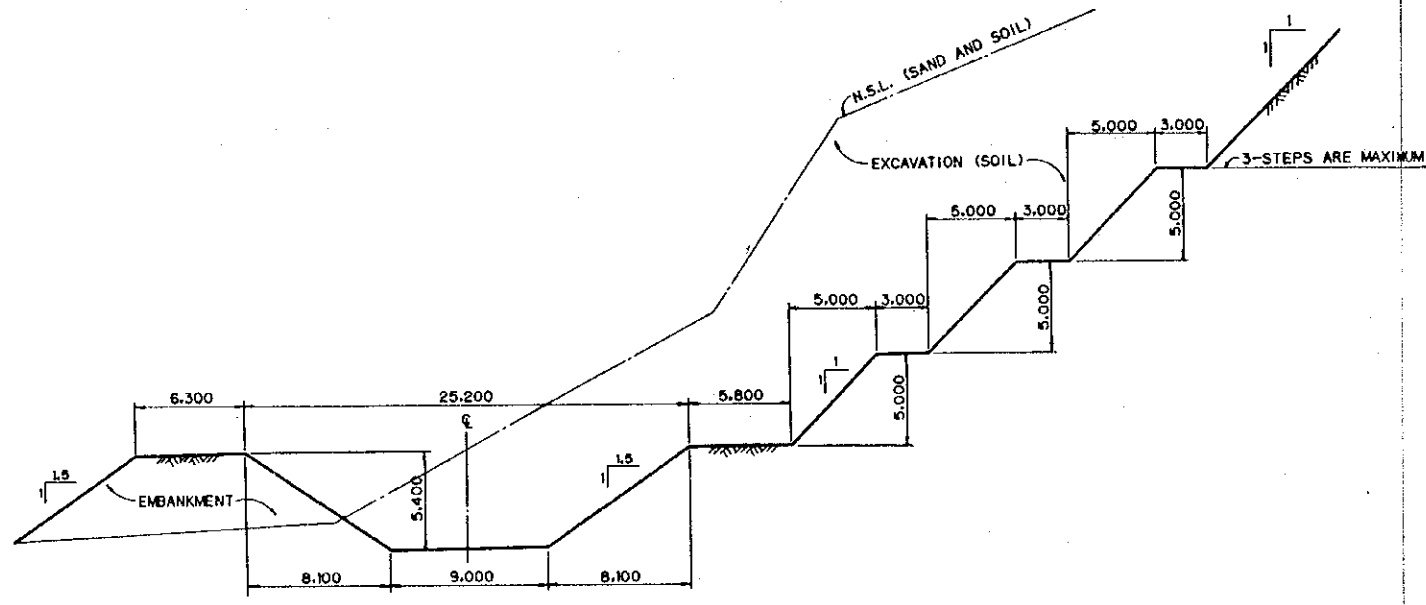
SECTION A-A
SCALE B

(*) MAX.P.L. : MAXIMUM POND LEVEL
N.P.L. : NORMAL POND LEVEL

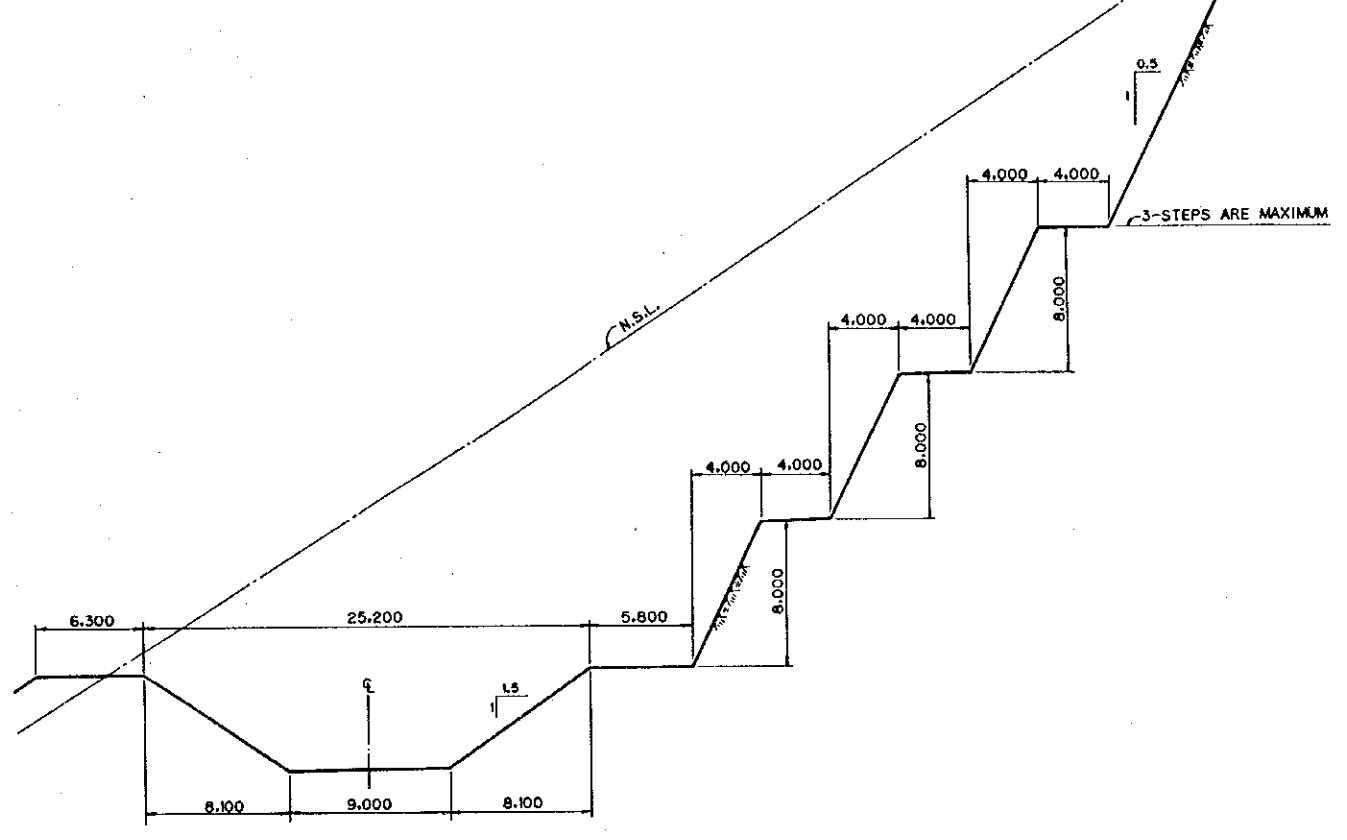
| | |
|--|----------|
| ISLAMIC REPUBLIC OF PAKISTAN GOVERNMENT OF NORTH WEST FRONTIER PROVINCE | |
| CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT | |
| INTAKE STRUCTURE WITH CROSSING OF DIKE OF CHASHMA BARRAGE | |
| JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO. |



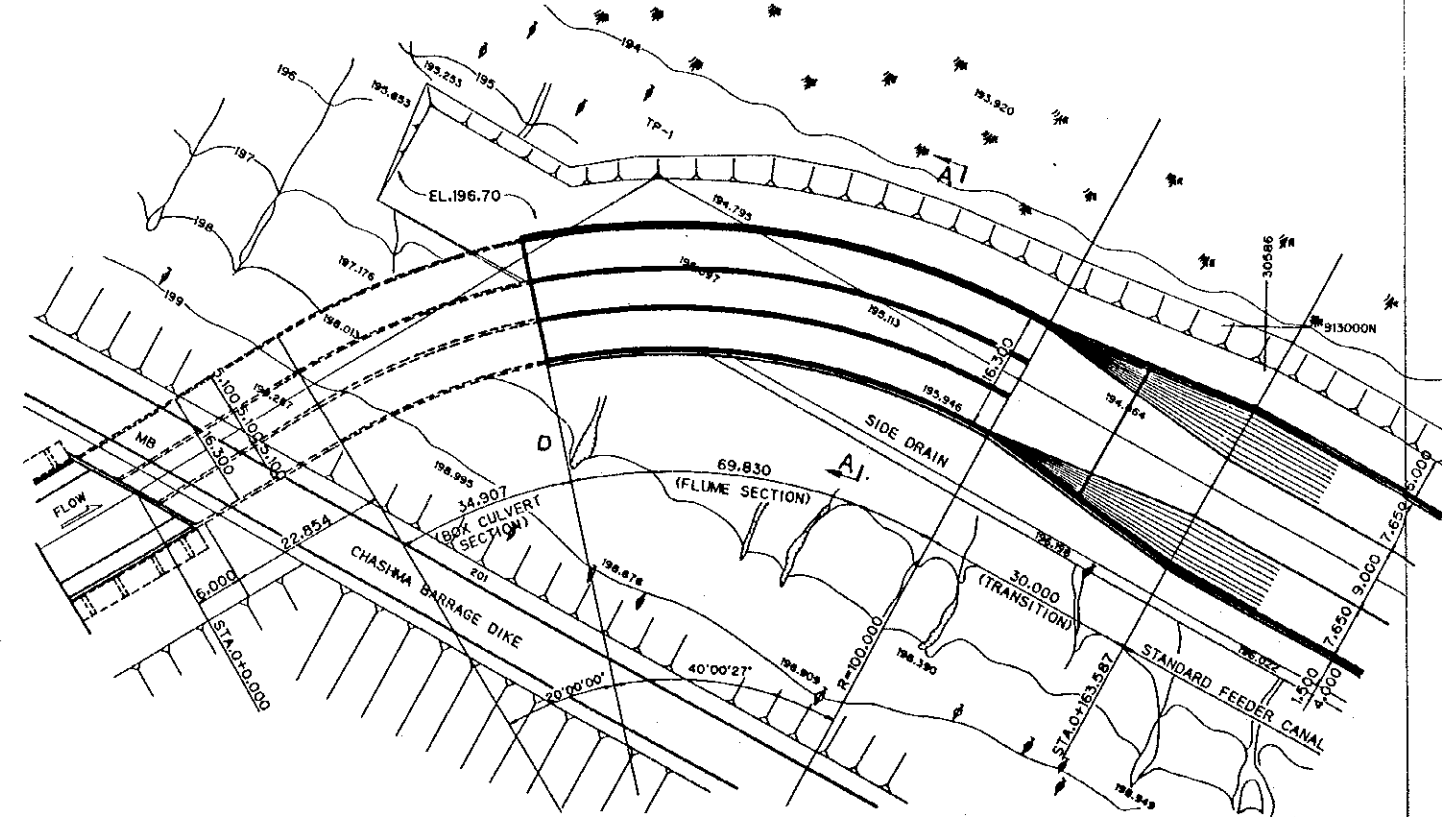
FULL EMBANKMENT SECTION
SCALE A



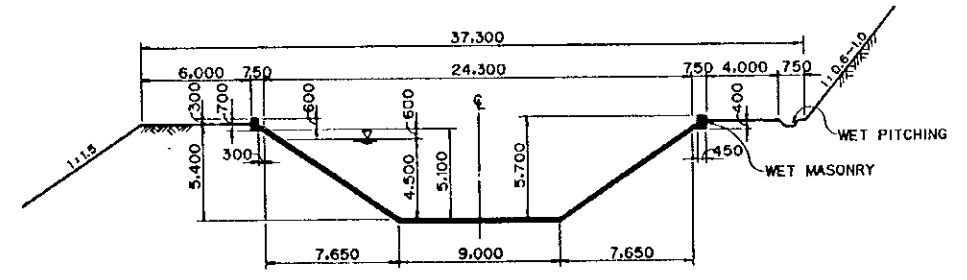
CUTTING WITH PARTIAL EMBANKMENT SECTION
SCALE A



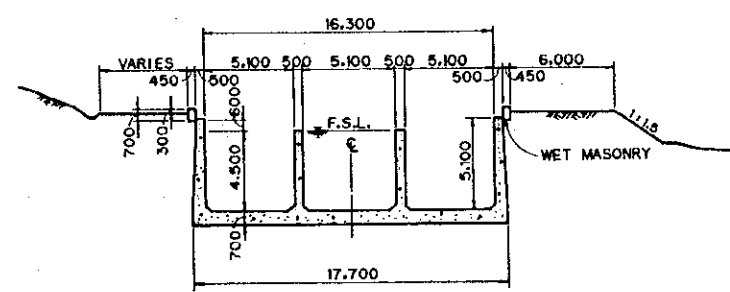
ROCK EXCAVATION SECTION
SCALE A



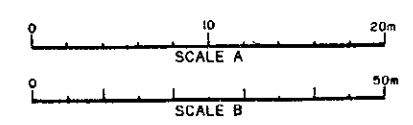
PLAN OF CULVERT & FLUME SECTION AT BEGINNING POINT OF FEEDER CANAL
(STA.0+0.000-STA.0+163.587) SCALE B



TYPICAL CROSS SECTION OF FEEDER CANAL
SCALE A



SECTION A-A
SCALE A

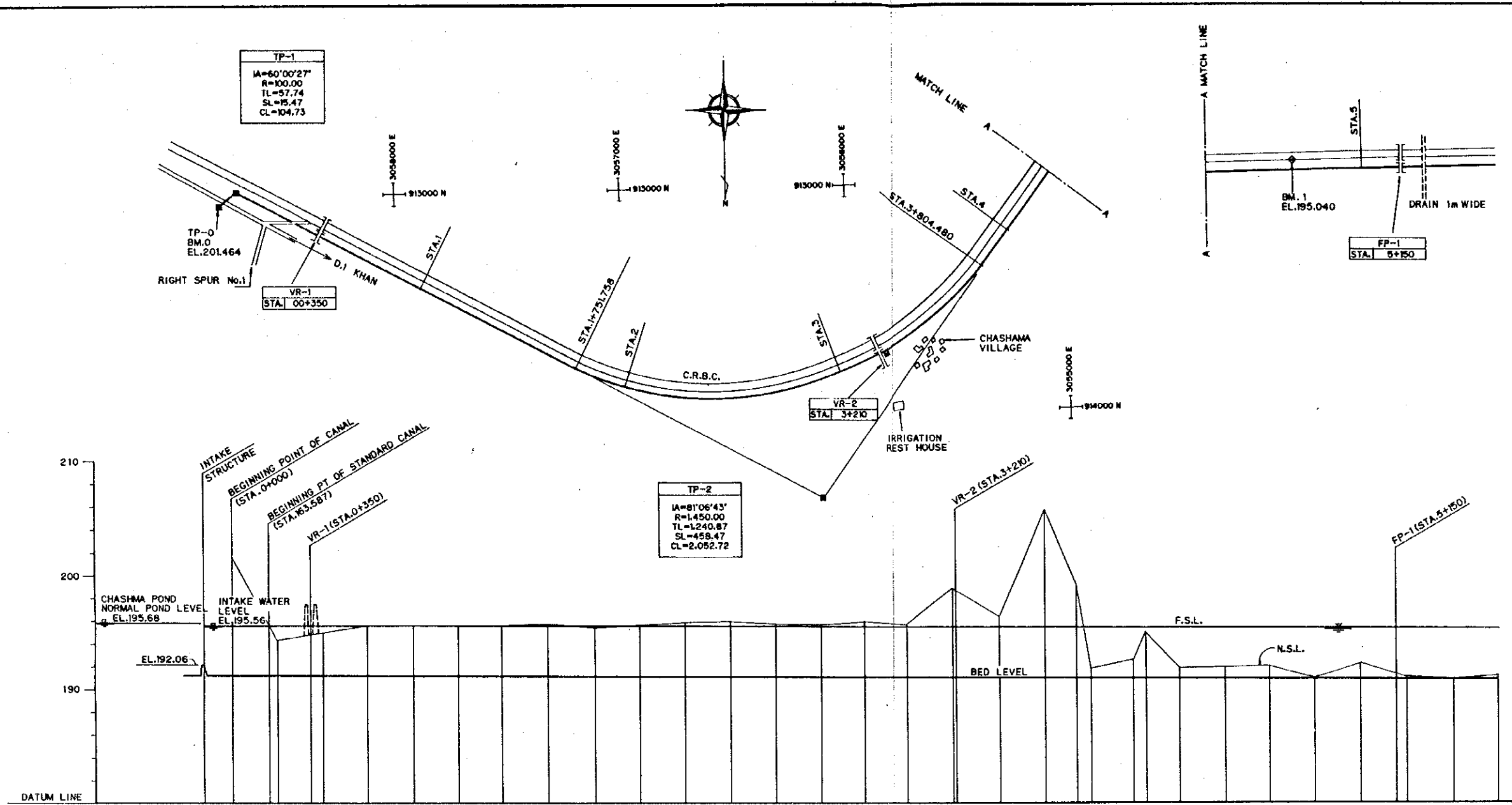


ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
TYPICAL CROSS SECTION AND DIKE
CROSSING OF FEEDER CANAL
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

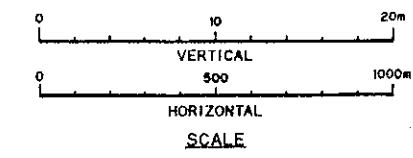
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-0 | 913023.20 | 3058755.00 | 201.46 |
| TP-1 | 912979.29 | 3058687.41 | - |
| TP-2 | 914348.43 | 305611.89 | - |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | | |
|---------------------------|---------------------------------|--------|---------------------------|--------|--------|
| | BED SLOPE = 1:14,000 | | WATER DEPTH = 4.5m | | |
| | BED WIDTH = 9m | | VELOCITY = 1.05m/s | | |
| | n = 0.016 | | SIDE SLOPE = 1:1.5 | | |
| | AREA = 70.88m ² | | | | |
| F.S.L. FOR FULL DISCHARGE | 195.56 | 195.50 | 195.47 | 195.24 | 195.06 |
| BED LEVEL | | 191.00 | 190.97 | 190.74 | 190.56 |
| N.S.L. | 201.46 | 194.24 | 194.79 | 195.43 | 195.46 |
| REDUCED DISTANCE | 6 | 200 | 400 | 600 | 800 |
| DISTANCE | 6 | 206 | 406 | 606 | 806 |
| STATION No. | 0+000 | 200 | 400 | 600 | 800 |
| CURVE | TP.1 IA=60°00'27' | | TP.2 IA=81°06'43' | | |

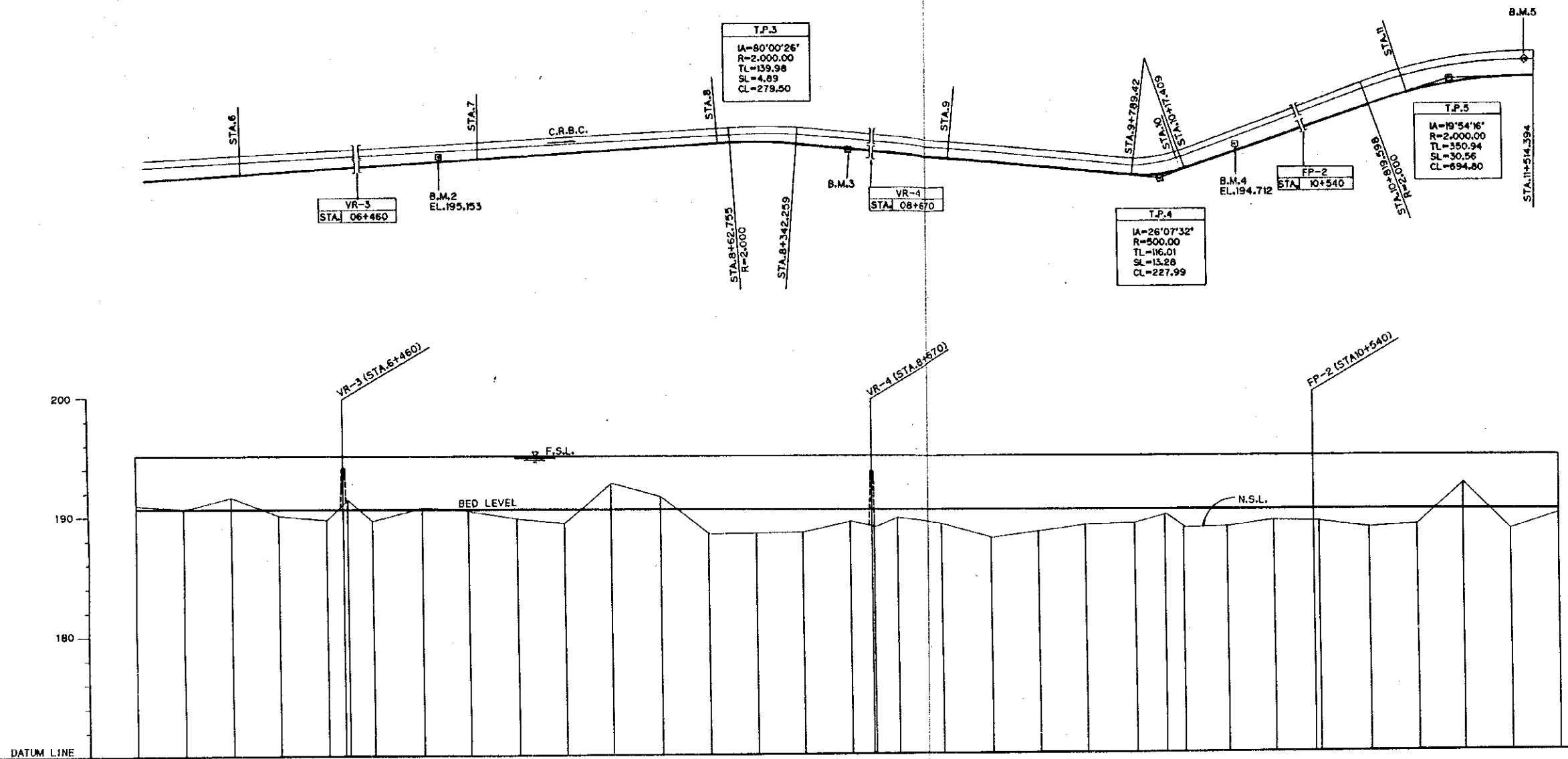


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LEFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (1/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

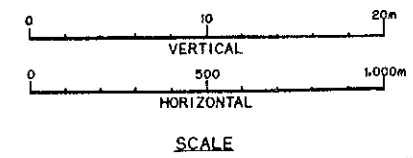
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| T.P.No. | N | E | EL.(m) |
|---------|-----------|------------|--------|
| T.P.3 | 913163.92 | 3055223.08 | 194.77 |
| T.P.4 | 909837.92 | 3052727.36 | — |
| T.P.5 | 908631.31 | 3051525.35 | 189.79 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s BED SLOPE = 1:14,000 BED WIDTH = 9m n = 0.016 AREA = 70.88m ² WETTED PERIMETER = 25.22m WATER DEPTH = 4.5m VELOCITY = 1.05m/s SIDE SLOPE = 1:1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------------|--------|--------|--------|--------|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| F.S.L. FOR FULL DISCHARGE | 195.06 | | | | | | | | | | | | | | | | | | | | 194.99 | | | | | | | | | | | | | | | |
| BED LEVEL | 190.56 | 190.82 | 190.70 | 191.60 | 189.95 | 189.72 | 191.30 | 189.56 | 190.69 | 190.33 | 189.75 | 189.33 | 192.73 | 191.42 | 188.36 | 188.45 | 188.47 | 189.31 | 189.64 | 189.07 | 187.92 | 188.39 | 188.93 | 188.99 | 189.71 | 188.77 | 188.74 | 189.15 | 189.07 | 188.53 | 188.87 | 192.39 | 188.39 | 189.77 | 190.09 | 194.59 |
| N.S.L. | 190.82 | 190.70 | 191.60 | 189.95 | 189.72 | 191.30 | 189.56 | 190.69 | 190.33 | 189.75 | 189.33 | 192.73 | 191.42 | 188.36 | 188.45 | 188.47 | 189.31 | 189.64 | 189.07 | 187.92 | 188.39 | 188.93 | 188.99 | 189.71 | 188.77 | 188.74 | 189.15 | 189.07 | 188.53 | 188.87 | 192.39 | 188.39 | 189.77 | 190.09 | 194.59 | |
| REDUCED DISTANCE | 5.582 | 5.782 | 5.982 | 6.182 | 6.382 | 6.482 | 6.582 | 6.782 | 6.982 | 7.182 | 7.382 | 7.582 | 7.782 | 7.982 | 8.182 | 8.381 | 8.581 | 8.781 | 8.981 | 9.181 | 9.381 | 9.581 | 9.781 | 9.901 | 10.017 | 10.177 | 10.377 | 10.577 | 10.777 | 10.975 | 11.167 | 11.372 | 11.514 | 11.571 | 194.59 | |
| DISTANCE | 200 | 200 | 200 | 200 | 200 | 100 | 100 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 199 | 200 | 100 | 200 | 200 | 200 | 200 | 200 | 200 | 120 | 76 | 200 | 200 | 200 | 198 | 192 | 205 | 142 | 199 | 194.59 | |
| STATION No. | 5+582 | +782 | +982 | +1182 | +1382 | +1482 | +1582 | +1782 | +1982 | +2182 | +2382 | +2582 | +2782 | +2982 | +3181 | +3381 | +3581 | +3781 | +3981 | +4181 | +4381 | +4581 | +4781 | +4901 | +5076 | +5200 | +5377 | +5577 | +5777 | +5975 | +6167 | +6372 | EC.5 | +671 | 194.59 | |
| CURVE | T.P.3 IA=8°00'26" | | | | | | | | | | | | | | | T.P.4 IA=26°07'32" | | | | | T.P.5 IA=19°54'16" | | | | | | | | | | | | | | | |

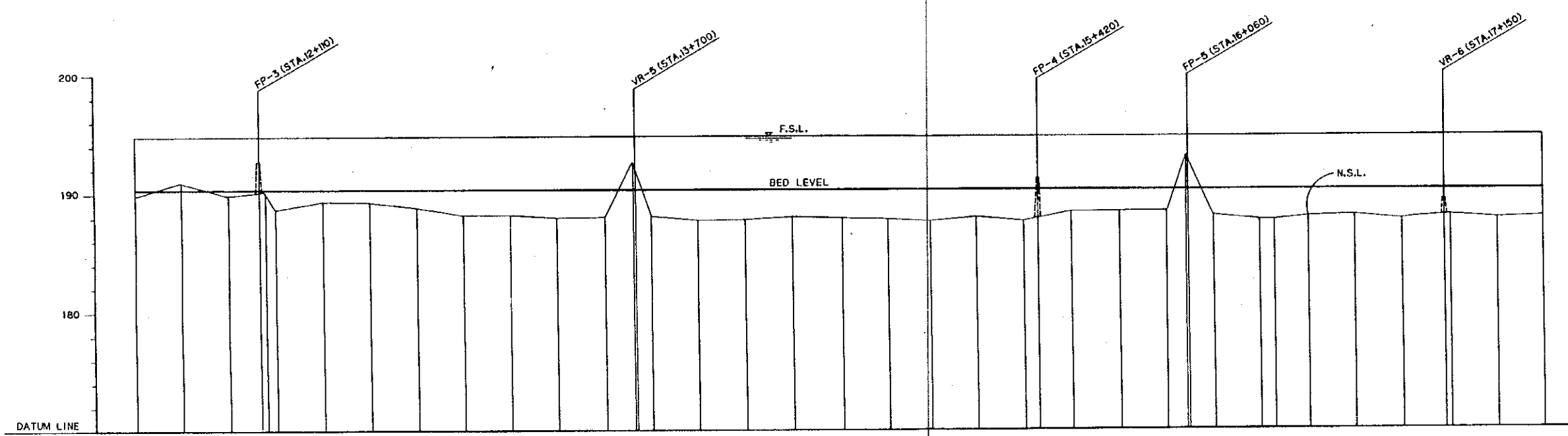
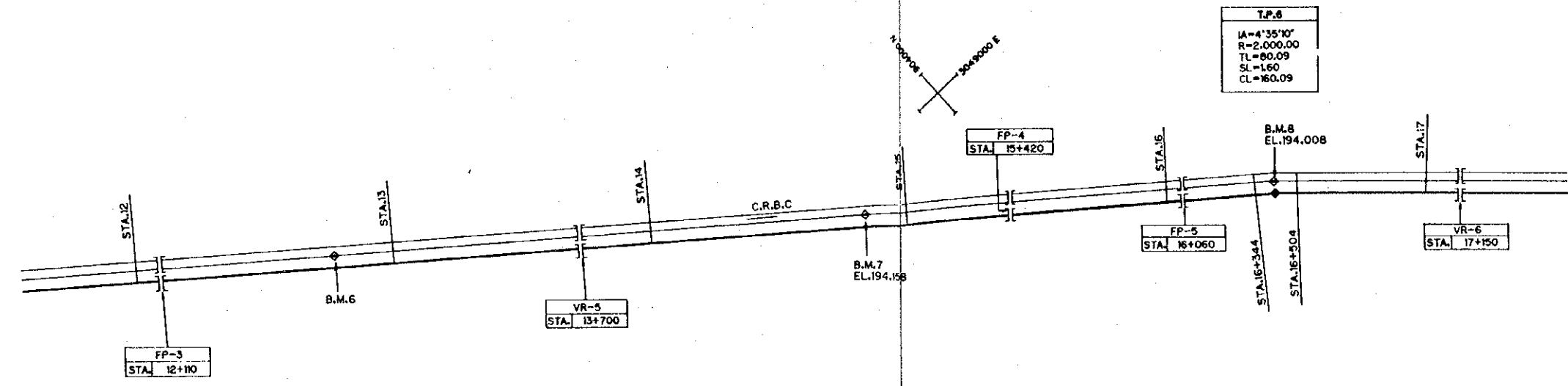


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (2/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

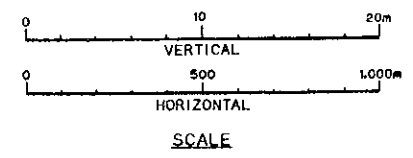
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| T.P.No | N | E | EL.(m) |
|--------|-----------|------------|--------|
| T.P.6 | 907429.64 | 305/117.08 | 190.73 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | |
|---------------------------|---------------------------------|----------------------------|---------------------------|--------------------|
| | BED SLOPE = 1:14.000 | BED WIDTH = 9m | WATER DEPTH = 4.5m | VELOCITY = 1.05m/s |
| | n = 0.016 | AREA = 70.88m ² | SIDE SLOPE = 1:1.5 | |
| F.S.L. FOR FULL DISCHARGE | 194.59 | | | 194.13 |
| BED LEVEL | 190.09 | | 189.93 | 189.63 |
| N.S.L. | 189.77 | 189.71 | 189.63 | 189.53 |
| REDUCED DISTANCE | 11,571 | 11,771 | 11,971 | 12,171 |
| DISTANCE | 199 | 200 | 200 | 157 |
| STATION No. | +971 | +971 | +971 | +971 |
| CURVE | | | | |

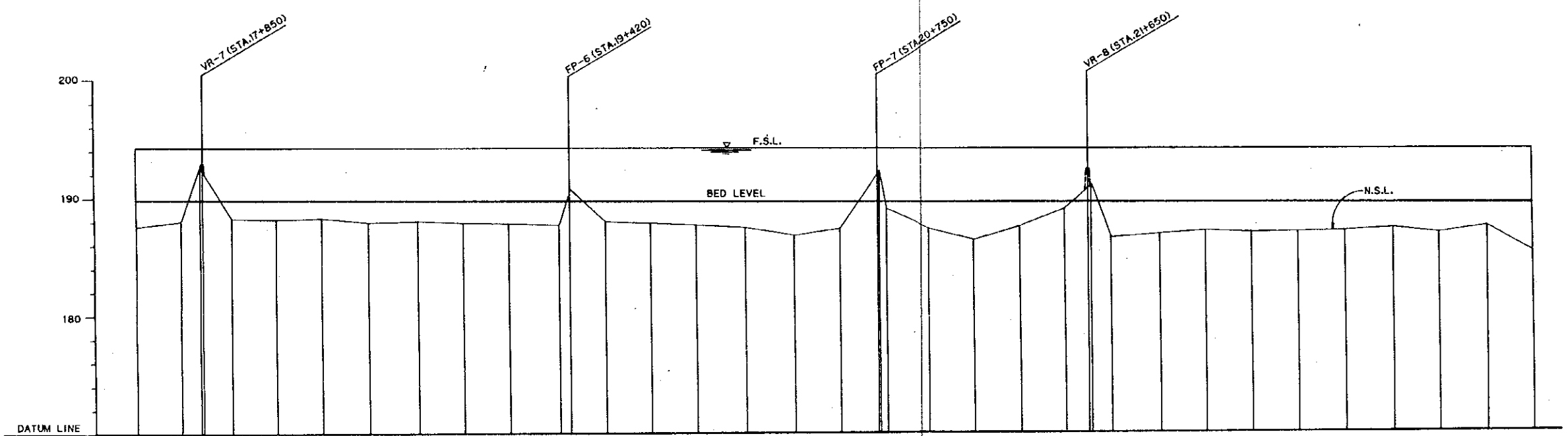
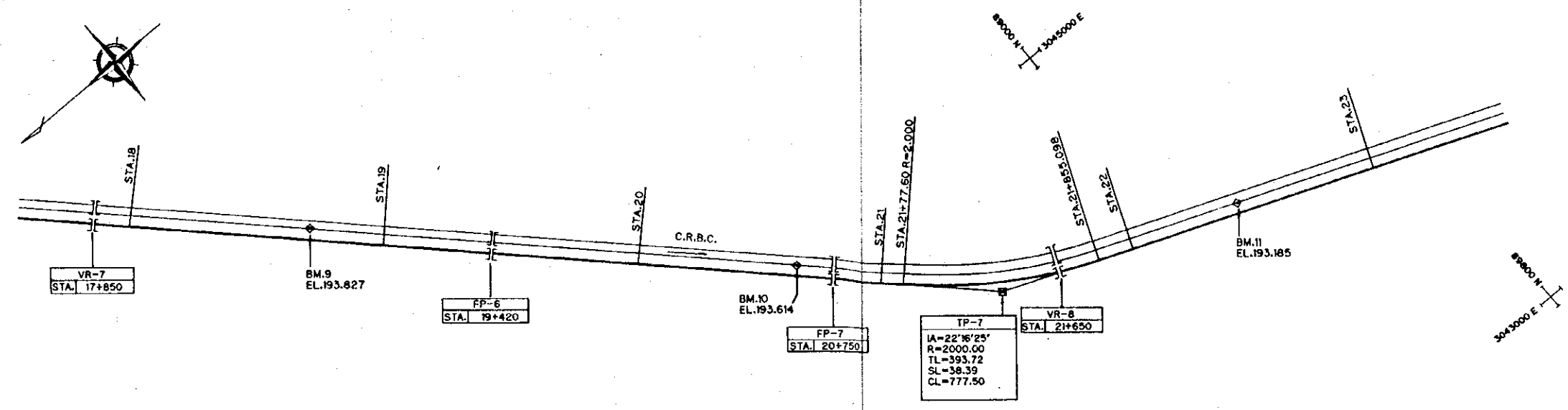


ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
PLAN AND PROFILE OF FEEDER CANAL (3/10)
JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

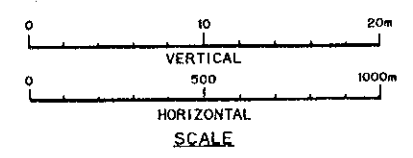
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| TP.No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-7 | 903322.31 | 3047830.06 | 187.31 |



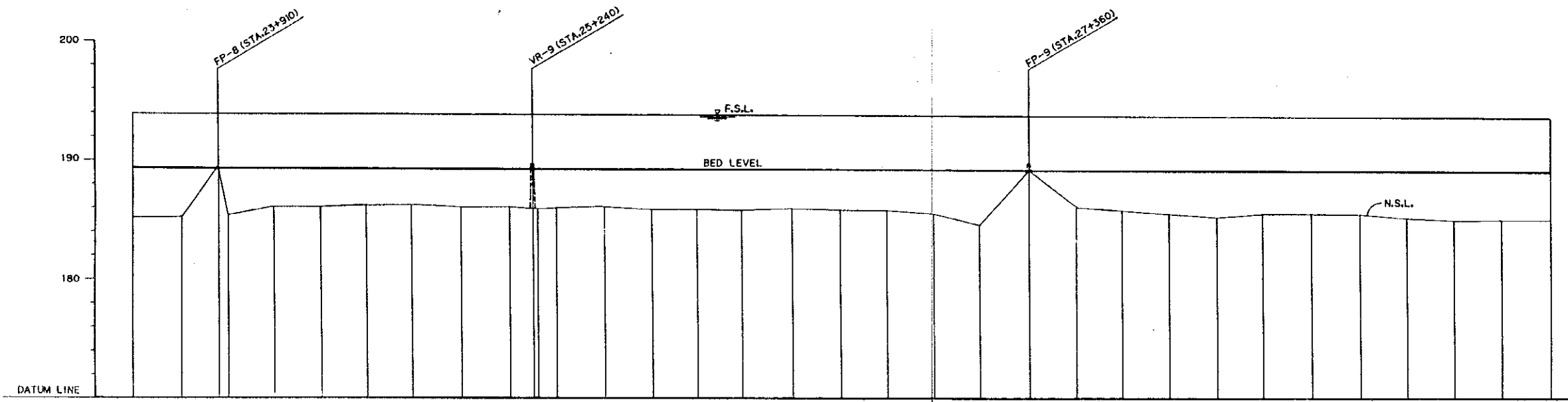
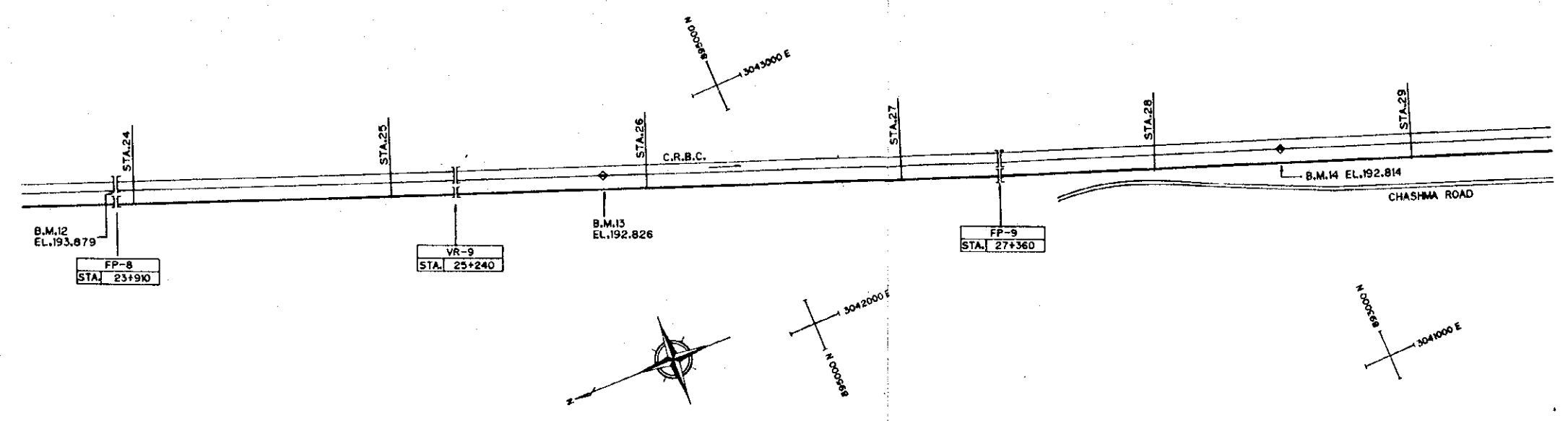
| SECTION PROPERTIES | DISCHARGE = 74m ³ /s BED SLOPE = 1:14,000 BED WIDTH = 9m n = 0.016 AREA = 70.88m ² WETTED PERIMETER = 25.22m WATER DEPTH = 4.5m VELOCITY = 1.05m/s SIDE SLOPE = 1:1.5 | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------------|
| F.S.L. FOR FULL DISCHARGE | 194.10 | 194.10 | | | | | | | | | | | | | | | | | | 193.66 | |
| BED LEVEL | 189.63 | 189.63 | 189.60 | | | | | | | | | | | | | | | | | 189.16 | |
| N.S.L. | 187.39 | 187.82 | 192.48 | 188.12 | 188.02 | 188.13 | 187.82 | 187.85 | 187.65 | 187.60 | 187.48 | 190.54 | 187.58 | 187.65 | 187.47 | 187.38 | 186.79 | 187.19 | 191.96 | 188.73 | 185.10 |
| REDUCED DISTANCE | 17.570 | 17.770 | 17.843 | 17.970 | 18.170 | 18.370 | 18.570 | 18.770 | 18.970 | 19.170 | 19.370 | 19.420 | 19.570 | 19.770 | 19.970 | 20.170 | 20.370 | 20.570 | 20.755 | 20.770 | 20.970 |
| DISTANCE | 200 | 200 | 73 | 137 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 50 | 150 | 200 | 200 | 200 | 200 | 200 | 185 | 15 | 200 |
| STATION No. | 17+570 | +770 | +843 | +970 | +170 | +370 | +570 | +770 | +970 | +170 | +370 | +420 | +570 | +770 | +970 | +170 | +370 | +570 | +755 | +770 | +970 |
| CURVE | | | | | | | | | | | | | | | | | | | | | TP-7 IA=22°10'25' |



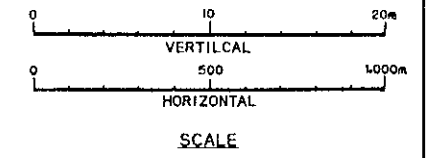
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (4/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

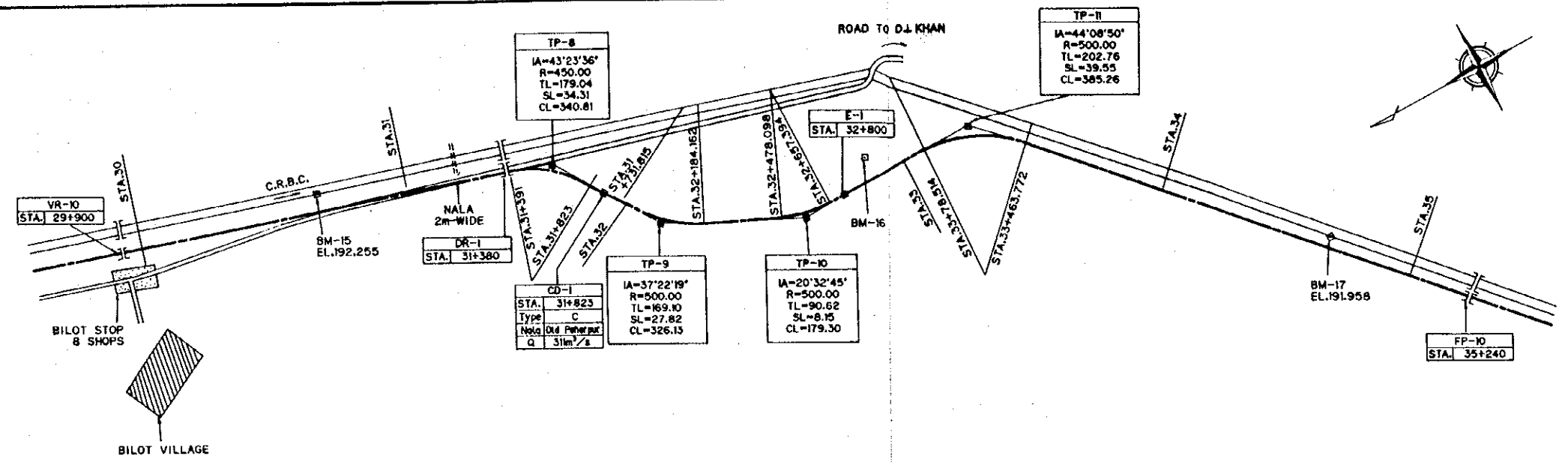
- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------------------------------|----------------------------|---------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| SECTION PROPERTIES | DISCHARGE = 70m ³ /s | | WETTED PERIMETER = 25.22m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | BED SLOPE = 1:14,000 | BED WIDTH = 9m | WATER DEPTH = 4.5m | VELOCITY = 1.05m/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | n = 0.016 | AREA = 70.88m ² | SIDE SLOPE = 1:1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F.S.L. FOR FULL DISCHARGE | 193.66 | | | 193.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BED LEVEL | 189.16 | | 189.03 | 188.71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| N.S.L. | 185.10 | 185.19 | 185.35 | 185.22 | 185.93 | 185.84 | 186.07 | 186.12 | 185.87 | 185.81 | 185.75 | 185.84 | 185.84 | 185.86 | 185.72 | 185.55 | 185.69 | 185.59 | 185.51 | 185.27 | 184.34 | 188.94 | 185.94 | 185.56 | 185.36 | 185.12 | 185.27 | 185.29 | 185.25 | 184.96 | 184.89 | 184.94 | 184.94 |
| REDUCED DISTANCE | 23,560 | 23,760 | 23,910 | 23,960 | 24,160 | 24,360 | 24,860 | 24,760 | 24,960 | 25,160 | 25,260 | 25,360 | 25,560 | 25,760 | 25,960 | 26,160 | 26,360 | 26,560 | 26,760 | 26,960 | 27,160 | 27,360 | 27,560 | 27,760 | 27,960 | 28,160 | 28,360 | 28,560 | 28,760 | 28,960 | 29,160 | 29,360 | 29,560 |
| DISTANCE | 200 | 200 | 150 | 50 | 200 | 200 | 200 | 200 | 200 | 200 | 100 | 100 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 |
| STATION No. | 23+560 | +760 | +910 | +960 | +160 | +360 | +560 | +760 | +960 | 25+000 | +160 | +260 | +360 | +560 | +760 | +960 | 26+000 | +160 | +360 | +560 | +760 | +960 | 28+000 | +160 | +360 | +560 | +760 | +960 | 29+000 | +160 | +360 | +560 | |
| CURVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

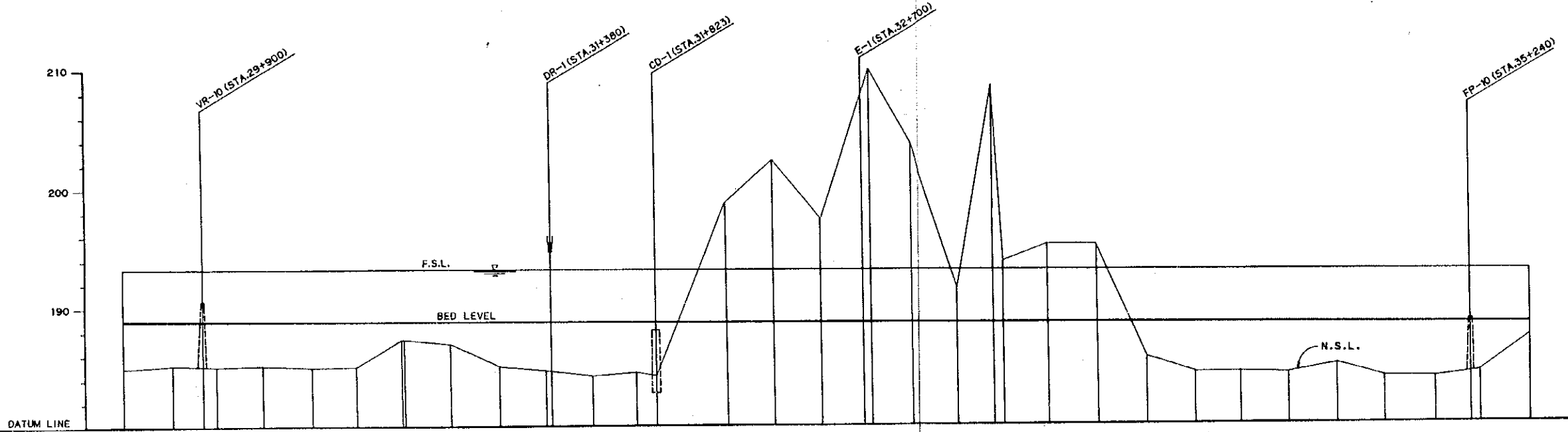


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (5/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

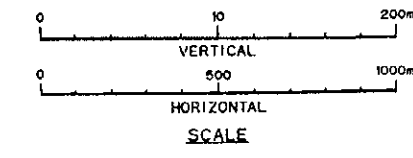


- LEGEND**
- CD : CROSS DRAINAGE
 - DR : BRIDGE (DISTRICT ROAD)
 - E : ESCAPE
 - FP : BRIDGE (FOOTPATH)
 - SP : SUPER PASSAGE
 - STA : STATION
 - VR : BRIDGE (VILLAGE ROAD)

| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-8 | 899646.38 | 3044371.37 | 188.17 |
| TP-9 | 890208.01 | 3040751.64 | 186.59 |
| TP-10 | 890002.87 | 3040323.93 | 189.93 |
| TP-11 | 889509.57 | 3040072.54 | 190.23 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | | | |
|---------------------------|---------------------------------|--------|---------------------------|-------------------|--------------------|--------------------|
| | BED SLOPE = 1:14,000 | | WATER DEPTH = 4.5m | | | |
| | BED WIDTH = 9m | | VELOCITY = 1.05m/s | | | |
| | n = 0.016 | | SIDE SLOPE = 1:1.5 | | | |
| | AREA = 70.88m ² | | | | | |
| F.S.L. FOR FULL DISCHARGE | 193.20 | 193.18 | 193.04 | 193.01 | 192.91 | 192.59 |
| BED LEVEL | 188.71 | 188.68 | 188.54 | 188.51 | 188.41 | 188.19 |
| N.S.L. | 184.94 | 184.96 | 184.52 | 184.46 | 184.33 | 184.17 |
| REDUCED DISTANCE | 29,560 | 29,760 | 30,360 | 30,760 | 32,200 | 33,496 |
| DISTANCE | 200 | 200 | 200 | 200 | 200 | 200 |
| STATION No. | +29+560 | +760 | +900 | +960 | +1100 | +1600 |
| CURVE | | | TP-8 IA=43°23'36" | TP-9 IA=37°22'19" | TP-10 IA=20°32'45" | TP-11 IA=44°08'50" |

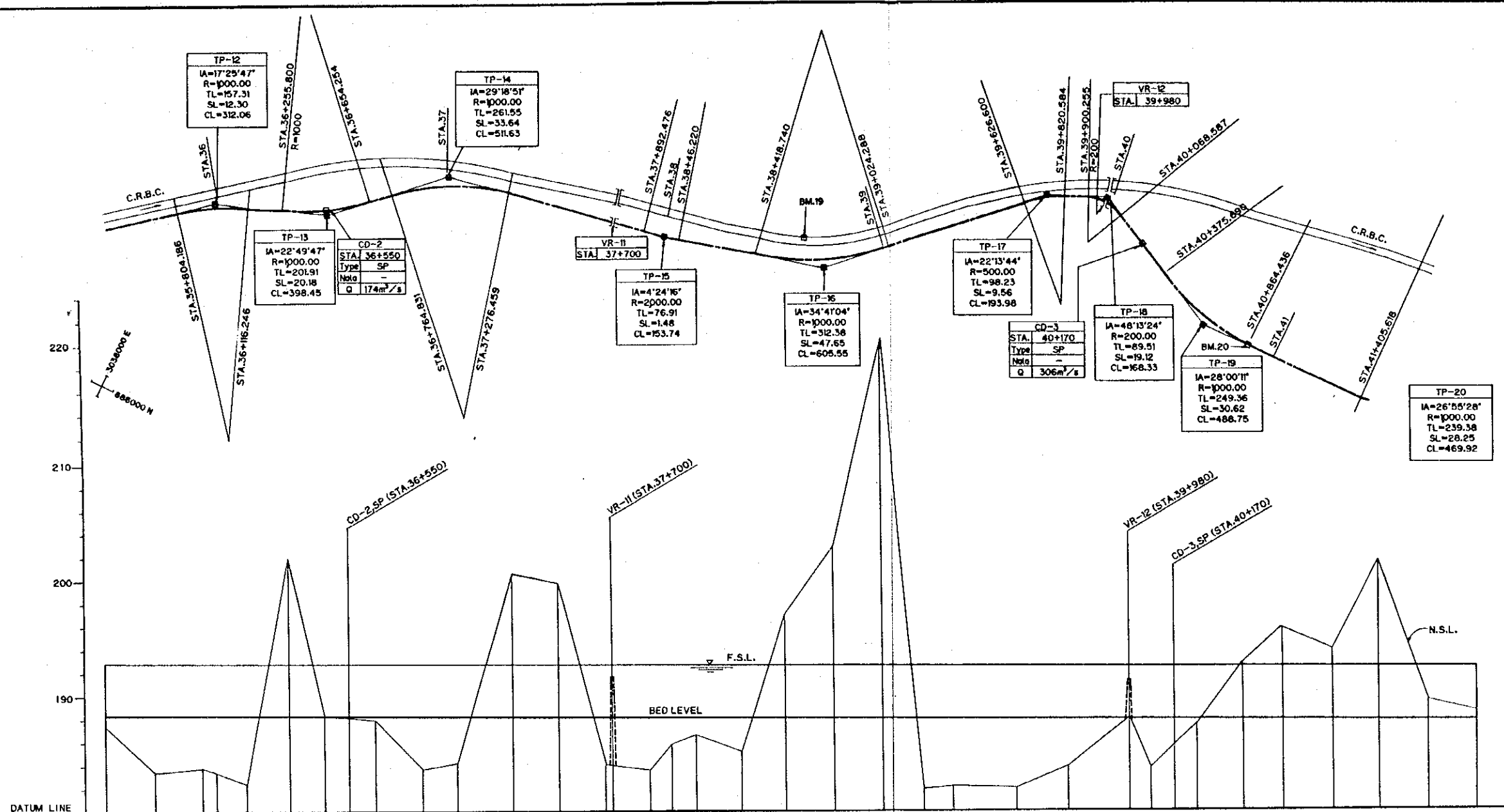


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (6/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

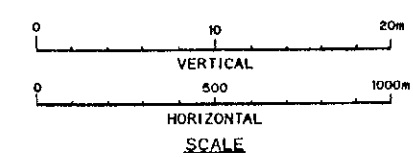
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-12 | 888799.60 | 303992.17 | 189.33 |
| TP-13 | 887085.72 | 3037905.26 | 183.33 |
| TP-14 | 886902.80 | 3037441.24 | 188.54 |
| TP-15 | 886501.60 | 3037030.70 | 183.05 |
| TP-16 | 886254.15 | 3036108.86 | 185.98 |
| TP-17 | 886113.74 | 3035360.10 | - |
| TP-18 | 885393.55 | 3034647.83 | 184.77 |
| TP-19 | 885288.69 | 3034401.84 | 189.14 |
| TP-20 | 885563.08 | 3033817.04 | 201.30 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 5.22m | |
|---------------------------|---------------------------------|--------------------|--------------------------|--------------------|
| | BED SLOPE = 1:14,000 | | WATER DEPTH = 1.5m | |
| | BED WIDTH = 9m | | VELOCITY = 0.05m/s | |
| | n = 0.016 | | SIDE SLOPE = 1:1.5 | |
| | AREA = 70.88m ² | | | |
| F.S.L. FOR FULL DISCHARGE | 192.69 | | | |
| BED LEVEL | 188.19 | | | |
| N.S.L. | 187.17 | 183.28 | 183.63 | 182.24 |
| REDUCED DISTANCE | 35,496 | 35,696 | 35,960 | 36,094 |
| DISTANCE | 200 | 200 | 65 | 134 |
| STATION No. | 35+496 | +696 | +895 | +994 |
| CURVE | | TP-12 IA=17°25'47" | TP-13 IA=22°49'47" | TP-14 IA=29°18'51" |

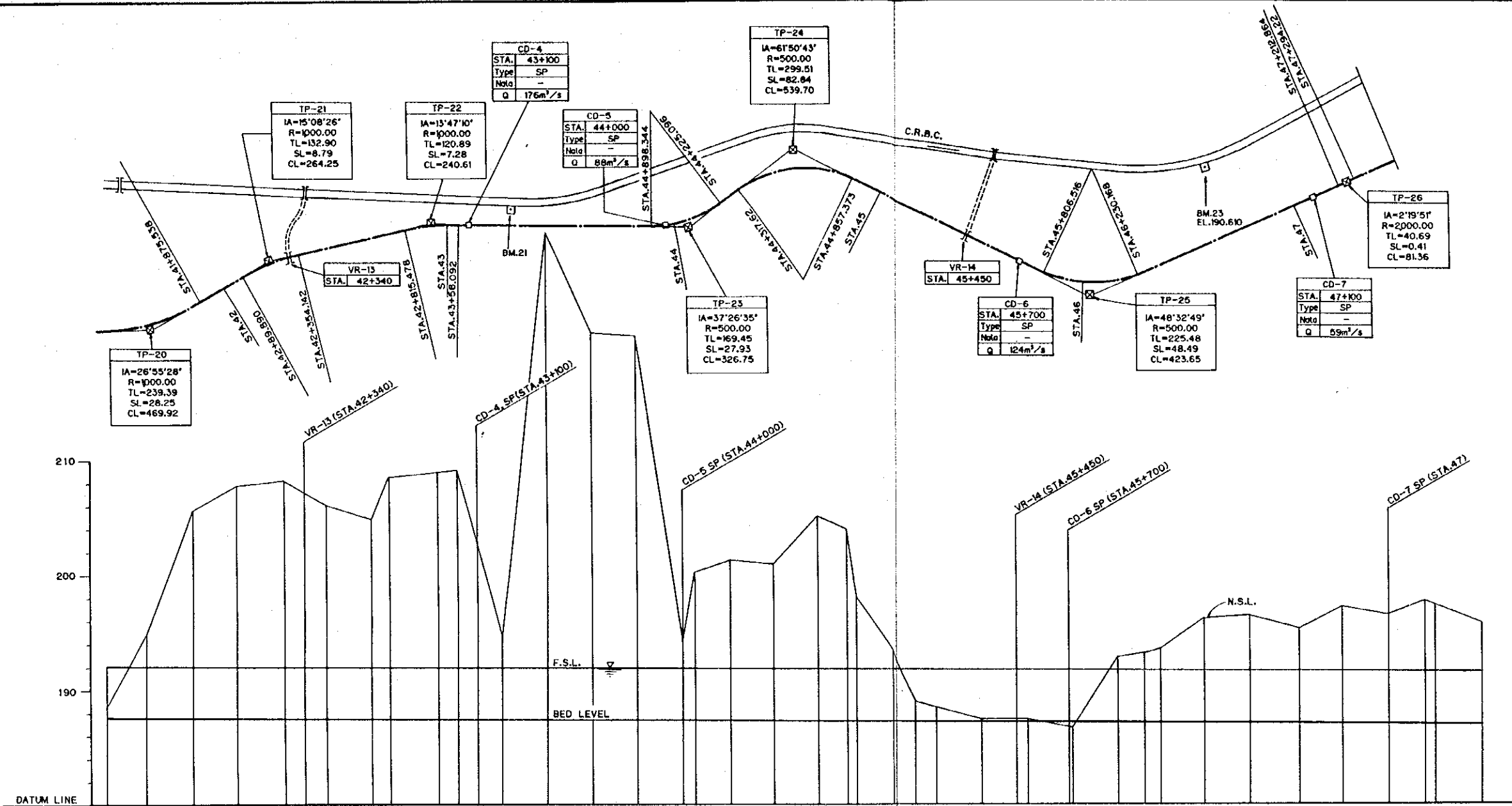


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (7/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

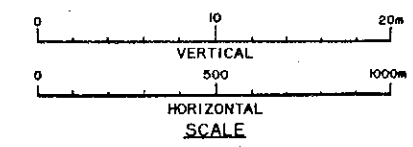
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-20 | 885563.08 | 3033817.04 | 201.30 |
| TP-21 | 885511.57 | 3032788.41 | 200.14 |
| TP-22 | 885220.10 | 3032280.30 | 207.99 |
| TP-23 | 885033.14 | 3031565.17 | 206.45 |
| TP-24 | 885016.05 | 3030437.71 | 203.36 |
| TP-25 | 884667.99 | 3029992.12 | 201.33 |
| TP-26 | 885277.04 | 3028649.62 | 196.69 |



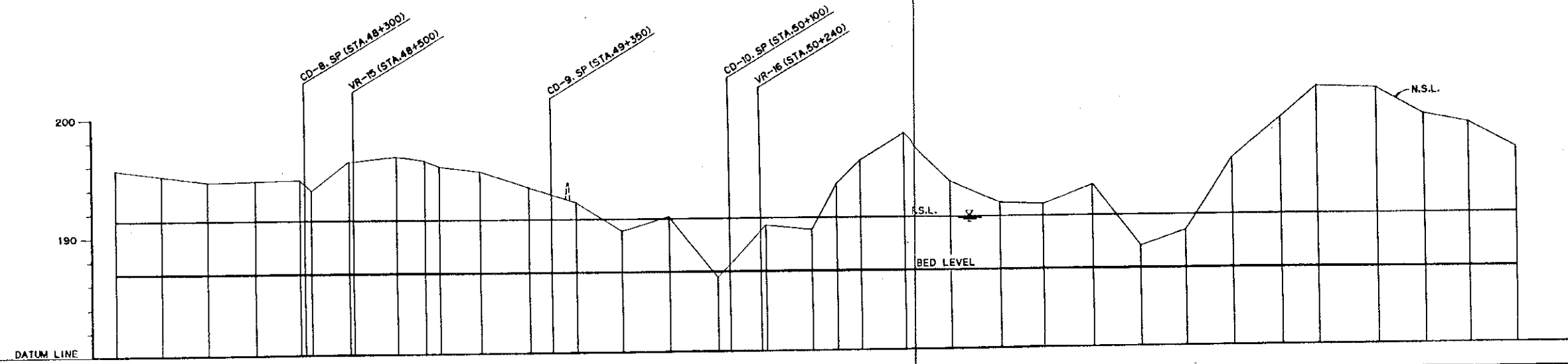
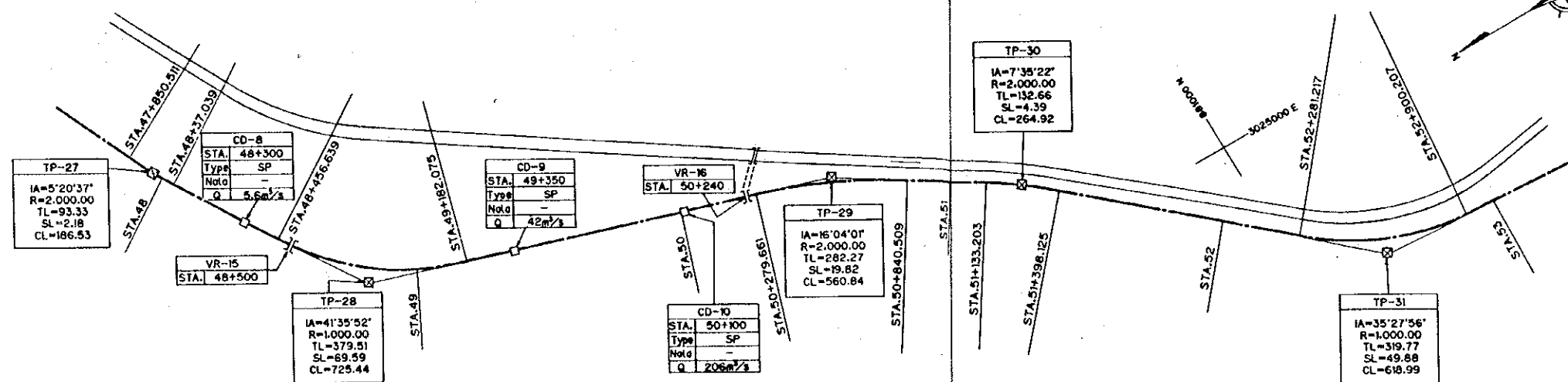
| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | |
|---------------------------|---------------------------------|--------------------|---------------------------|--------------------|
| | BED SLOPE = 1:14,000 | | WATER DEPTH = 1.5m | |
| | BED WIDTH = 9m | | VELOCITY = 1.05m/s | |
| | n = 0.016 | | SIDE SLOPE = 1:1.5 | |
| | AREA = 70.88m ² | | | |
| F.S.L. FOR FULL DISCHARGE | 192.19 | | | |
| BED LEVEL | 187.69 | | | |
| N.S.L. | 188.30 | 194.91 | 205.64 | 191.66 |
| REDUCED DISTANCE | 41.457 | 41.641 | 42.038 | 47.100 |
| DISTANCE | 200 | 184 | 185 | 208 |
| STATION No. | +41+457 | +641 | +653 | +492 |
| CURVE | TP-20 IA=26°55'28" | TP-21 IA=15°08'26" | TP-22 IA=13°47'10" | TP-25 IA=48°32'49" |



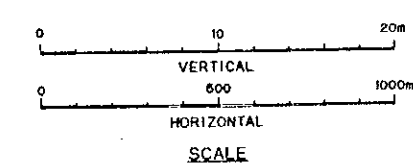
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-27 | 884766.20 | 3027510.02 | 197.68 |
| TP-28 | 884558.45 | 3026892.11 | 195.69 |
| TP-29 | 883987.93 | 3026133.78 | 198.04 |
| TP-30 | 882302.03 | 3025630.65 | 191.11 |
| TP-31 | 881706.45 | 3025248.53 | 192.41 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | |
|---------------------------|---------------------------------|--------------------|----------------------------|-----------------------|
| | BED SLOPE = 1:14.000 | WATER DEPTH = 4.5m | VELOCITY = 1.05m/s | SIDE SLOPE = 1:1.5 |
| | BED WIDTH = 9m | n = 0.016 | AREA = 70.88m ² | |
| F.S.L. FOR FULL DISCHARGE | 191.64 | | | 191.11 |
| BED LEVEL | 187.14 | | | 186.61 |
| N.S.L. | 195.70 | 195.18 | 194.65 | 194.79 |
| REDUCED DISTANCE | 47.492 | 47.692 | 47.892 | 48.092 |
| DISTANCE | 200 | 200 | 200 | 200 |
| STATION No. | +47492 | +492 | BC-27 (159) +892 | EC-27 (145) +92 |
| CURVE | TP-27 IA=5°20'37" | | TP-28 IA=4°13'52" | |
| | | | TP-29 IA=16°04'01" | |
| | | | TP-30 IA=7°35'22" | |
| | | | TP-31 IA=35°27'56" | |

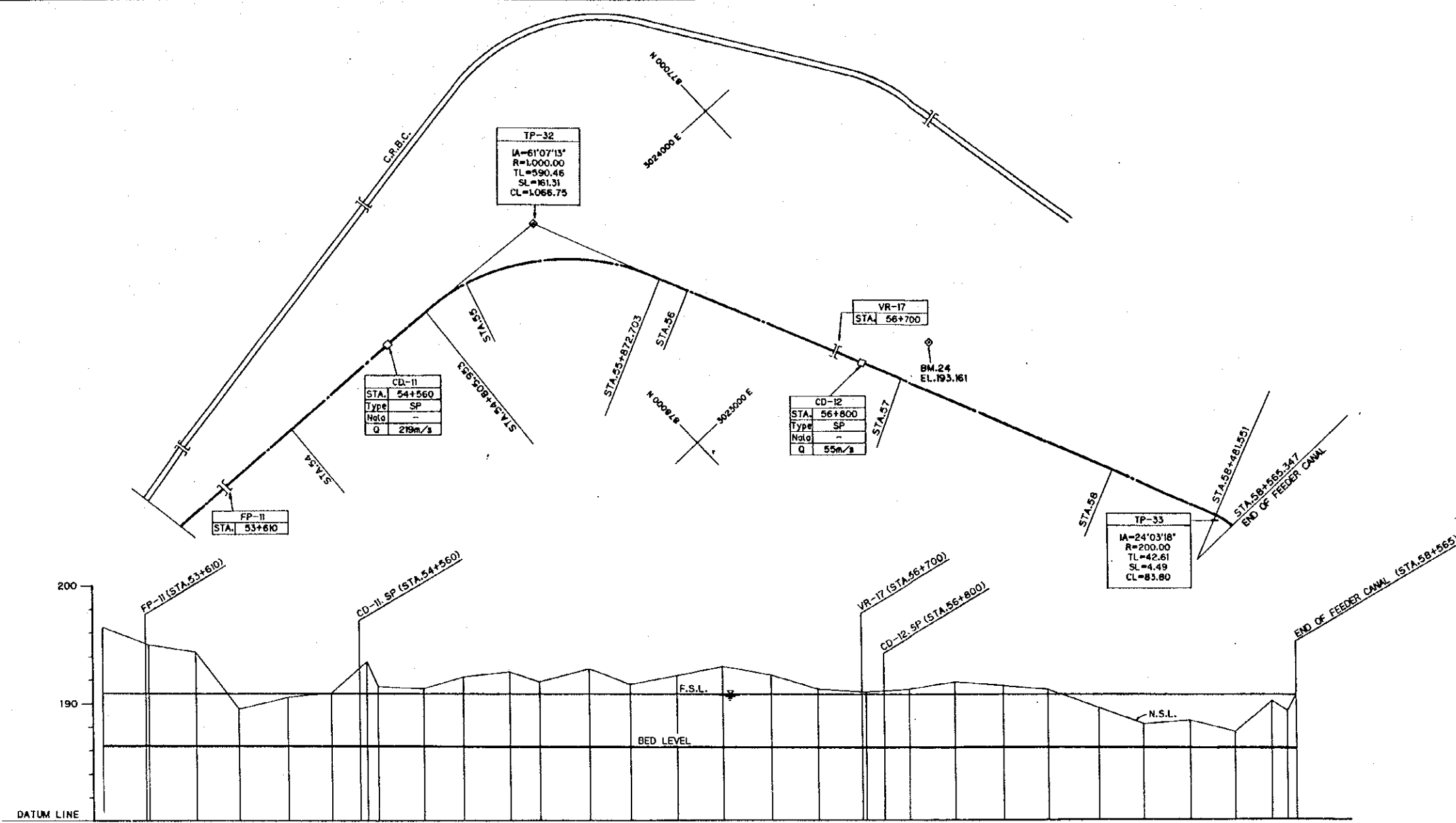


ISLAMIC REPUBLIC OF PAKISTAN
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 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (9/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

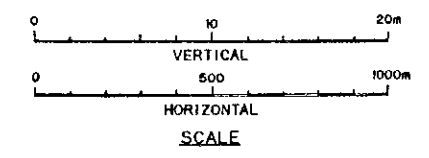
LEGEND

- CD : CROSS DRAINAGE
- DR : BRIDGE (DISTRICT ROAD)
- E : ESCAPE
- FP : BRIDGE (FOOTPATH)
- SP : SUPER PASSAGE
- STA : STATION
- VR : BRIDGE (VILLAGE ROAD)

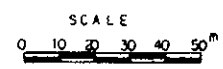
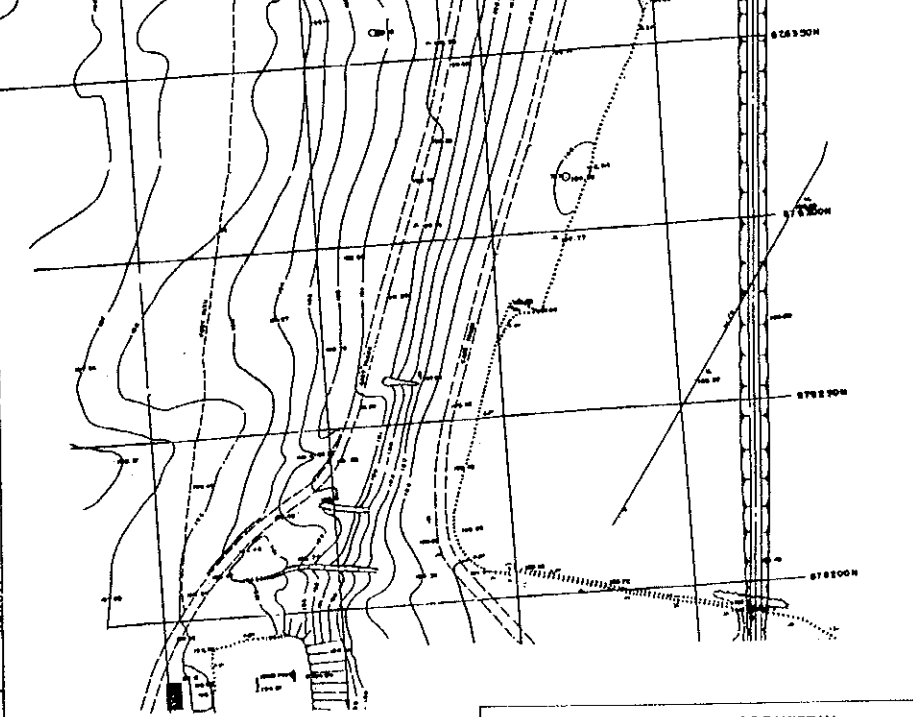
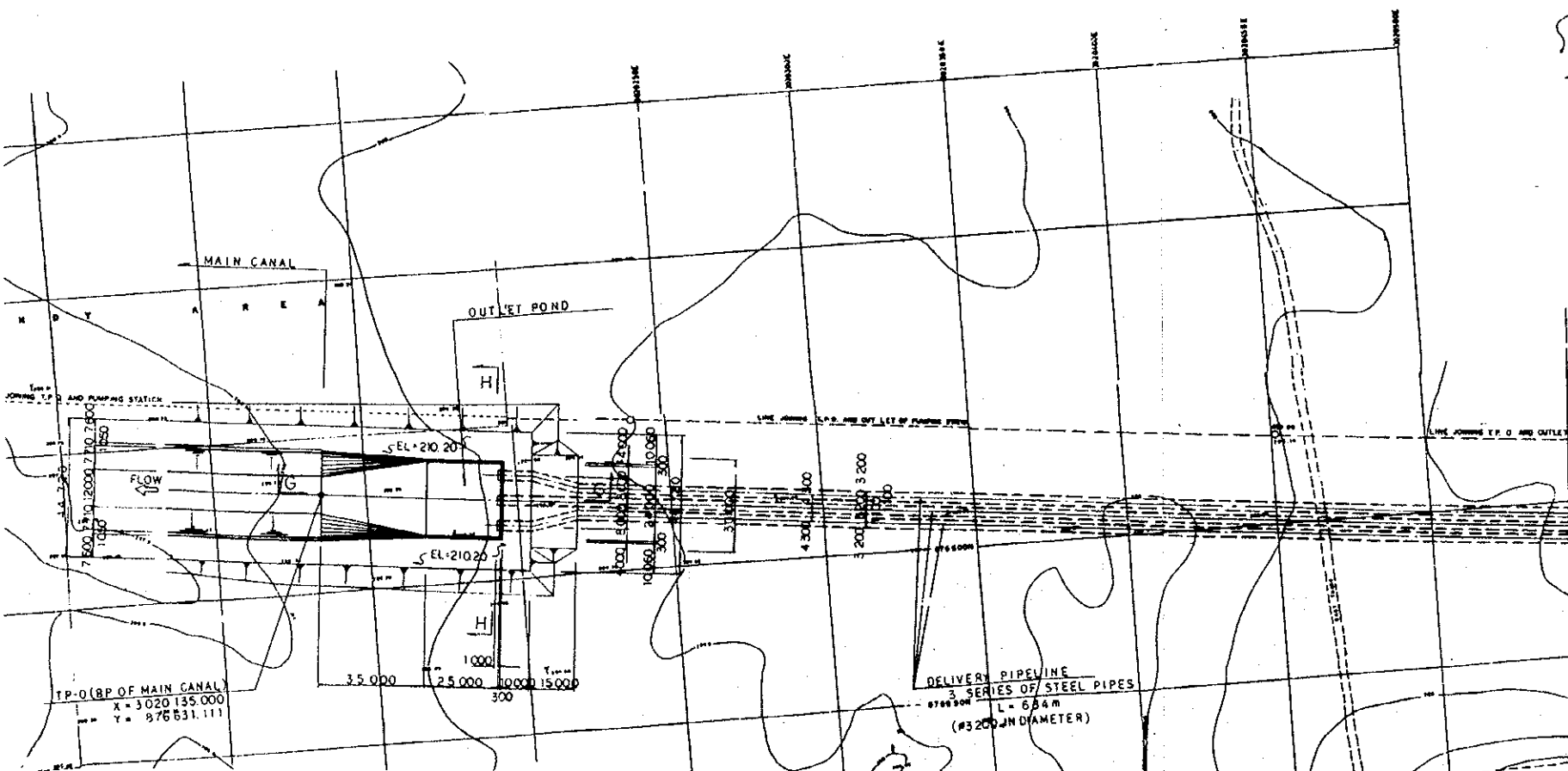
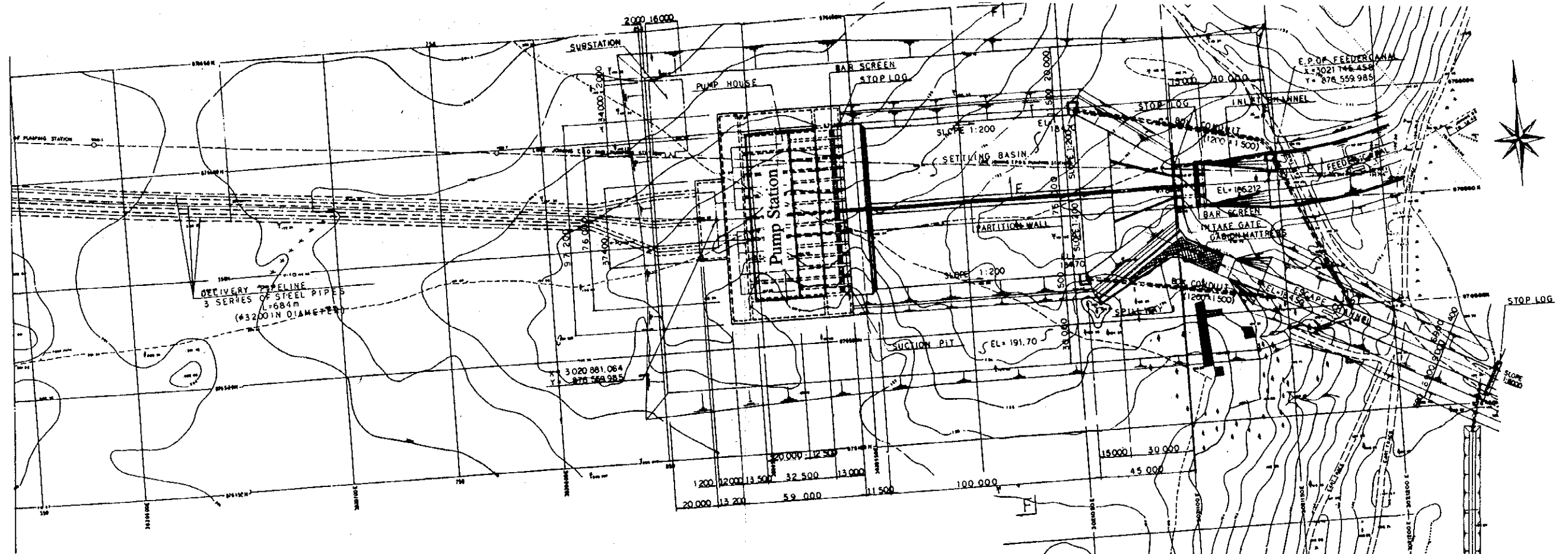
| TP-No. | N | E | EL.(m) |
|--------|-----------|------------|--------|
| TP-32 | 880687.50 | 3024385.20 | 201.05 |
| TP-33 | 877881.43 | 3024149.17 | 194.51 |
| EP. | 876559.99 | 302188.79 | 189.09 |



| SECTION PROPERTIES | DISCHARGE = 74m ³ /s | | WETTED PERIMETER = 25.22m | |
|---------------------------|---------------------------------|--------|---------------------------|--------|
| | BED SLOPE = 1:14,000 | | WATER DEPTH = 4.5m | |
| | BED WIDTH = 9m | | VELOCITY = 1.05m/s | |
| | n = 0.016 | | SIDE SLOPE = 1:1.5 | |
| | AREA = 70.88m ² | | | |
| F.S.L. FOR FULL DISCHARGE | 191.11 | | 190.85 | |
| BED LEVEL | 186.61 | | 186.32 | |
| N.S.L. | 196.41 | 195.02 | 194.33 | 189.50 |
| REDUCED DISTANCE | 53.436 | 53.634 | 53.832 | 54.031 |
| DISTANCE | 198 | 198 | 199 | 199 |
| STATION No. | 53+436 | +634 | +832 | 54+000 |
| CURVE | TP-32 IA=61'07'13' | | TP-33 IA=24'03'18' | |



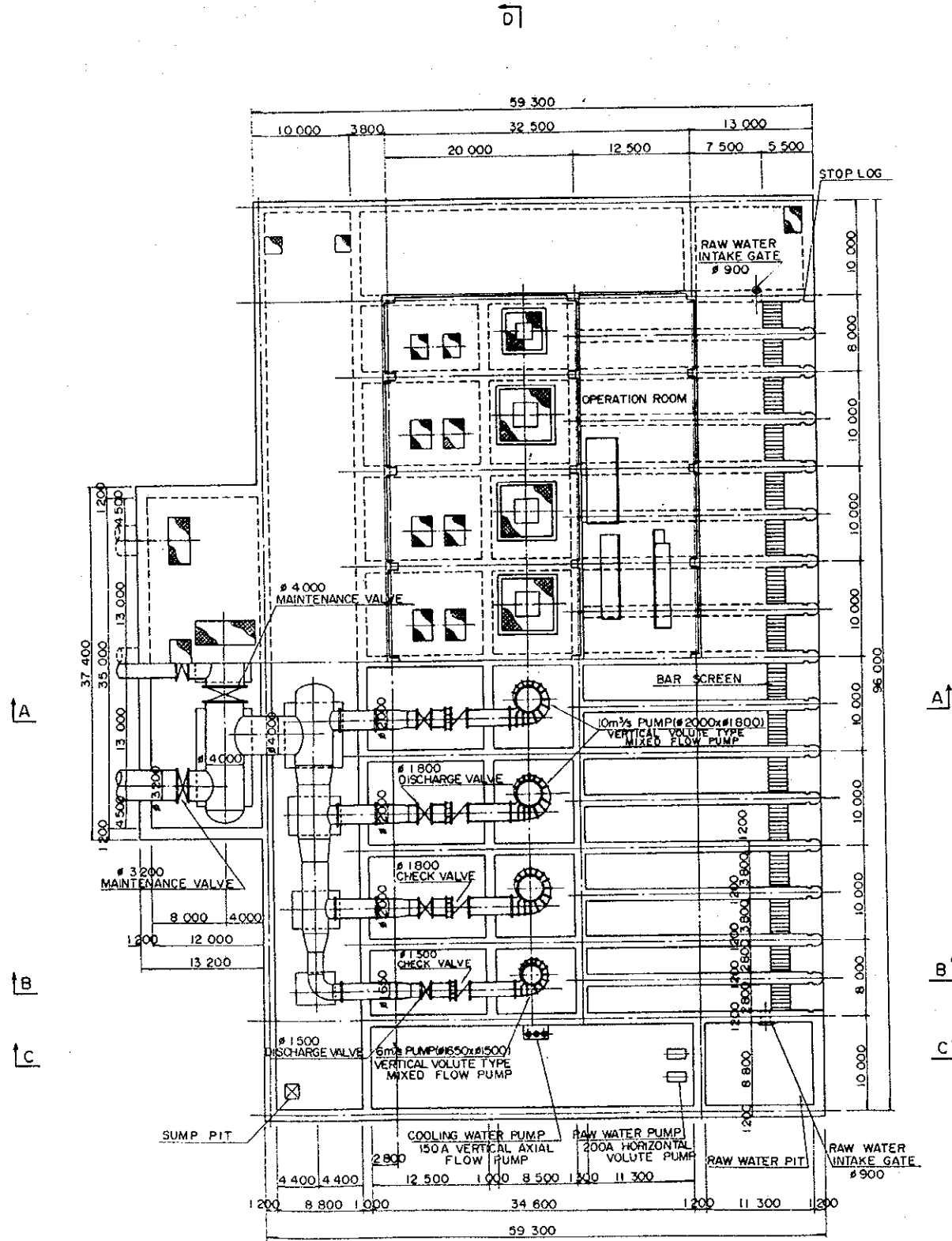
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF FEEDER CANAL (10/10)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



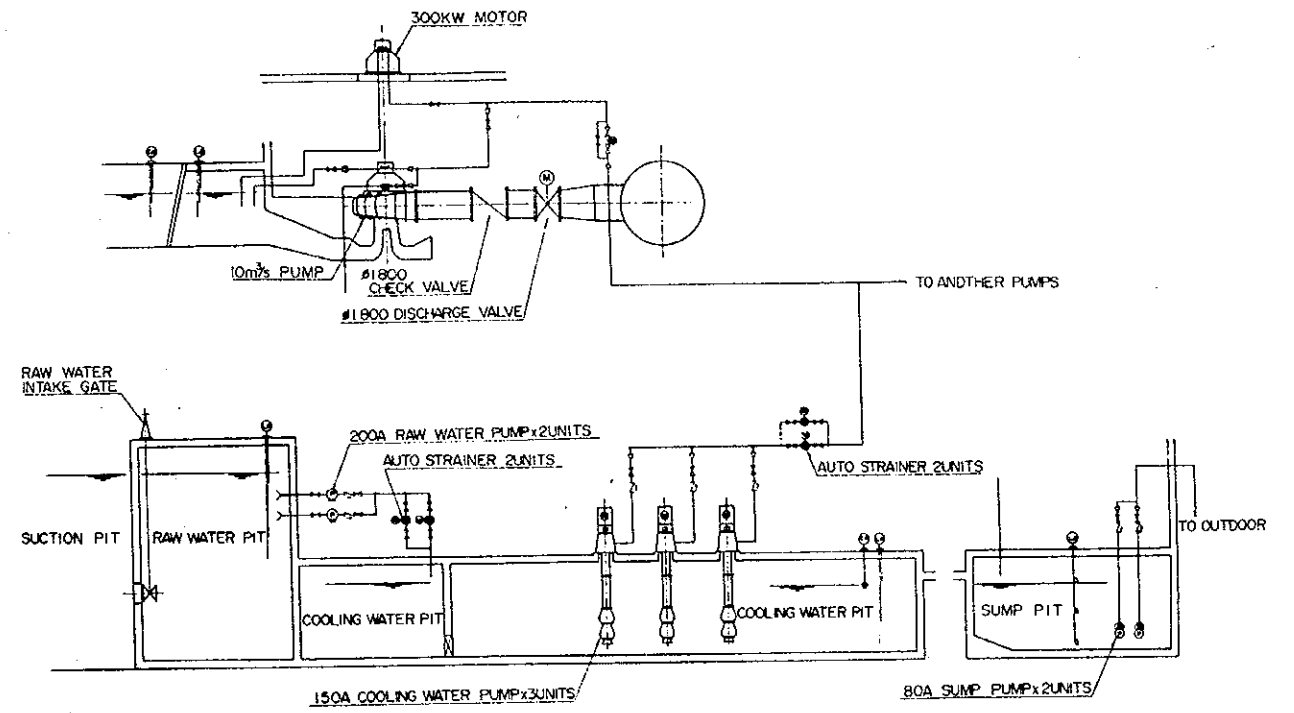
ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PUMP STATION (1/5)

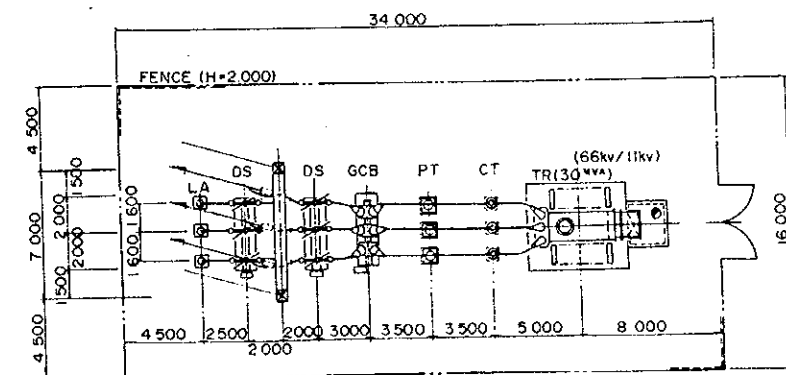
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



PLAN OF PUMP HOUSE
S = 1 : 300

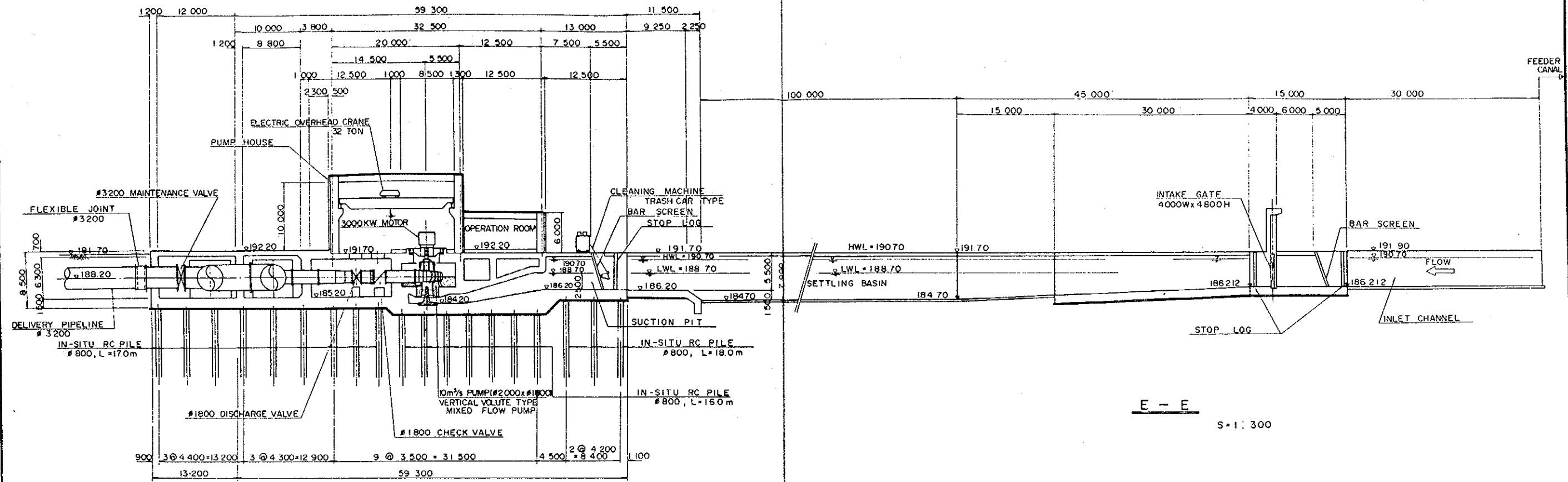


FLOW SHEET OF AUXILIARY EQUIPMENTS



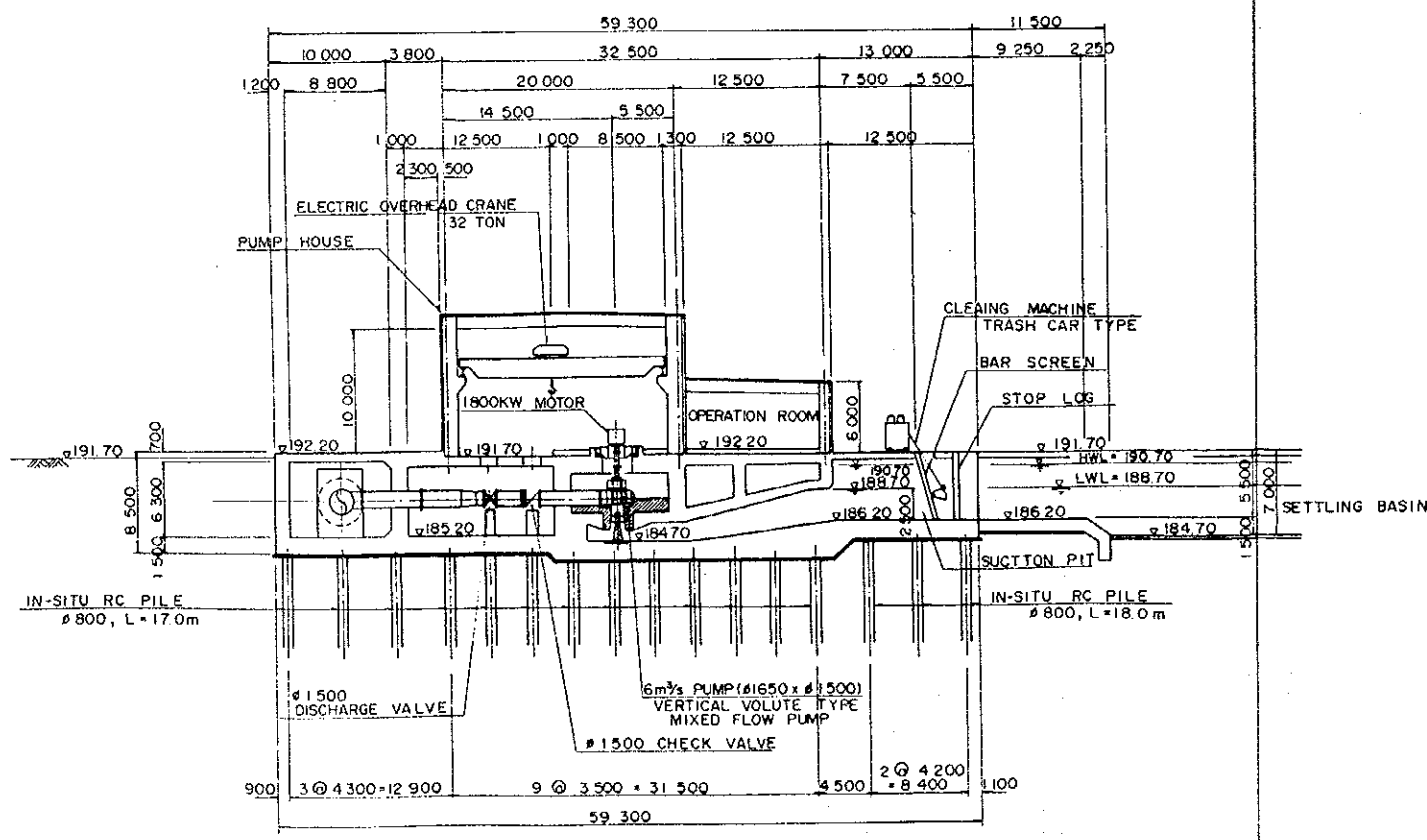
PLAN OF SUBSTATION
S = 1 : 200

| | |
|--|----------|
| ISLAMIC REPUBLIC OF PAKISTAN GOVERNMENT OF NORTH WEST FRONTIER PROVINCE | |
| CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT | |
| PUMP STATION (2/5) | |
| JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO. |



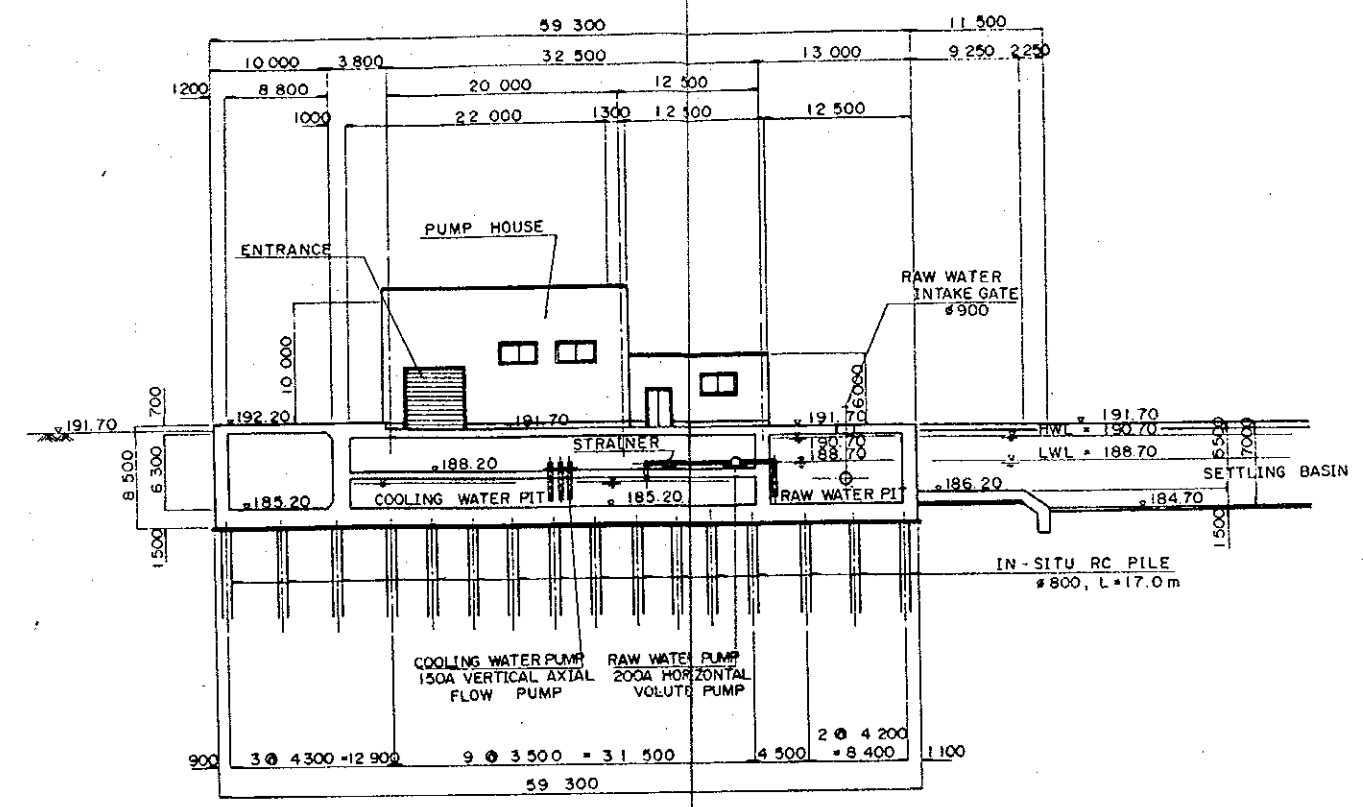
A - A
S = 1 : 300

E - E
S = 1 : 300

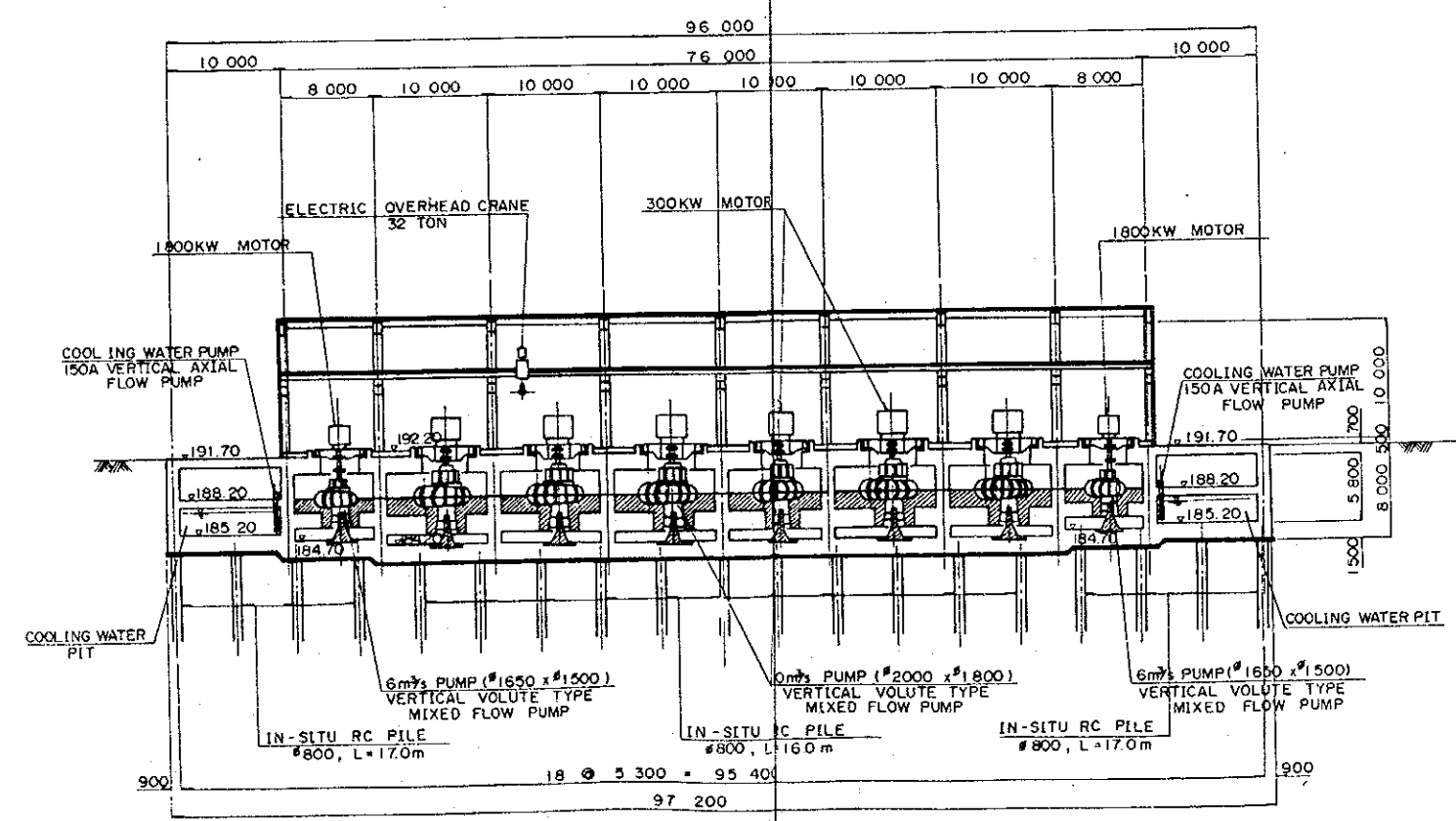


B - B
S = 1 : 300

| | |
|--|----------|
| ISLAMIC REPUBLIC OF PAKISTAN GOVERNMENT OF NORTH WEST FRONTIER PROVINCE | |
| CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT | |
| PUMP STATION (3/5) | |
| JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO. |

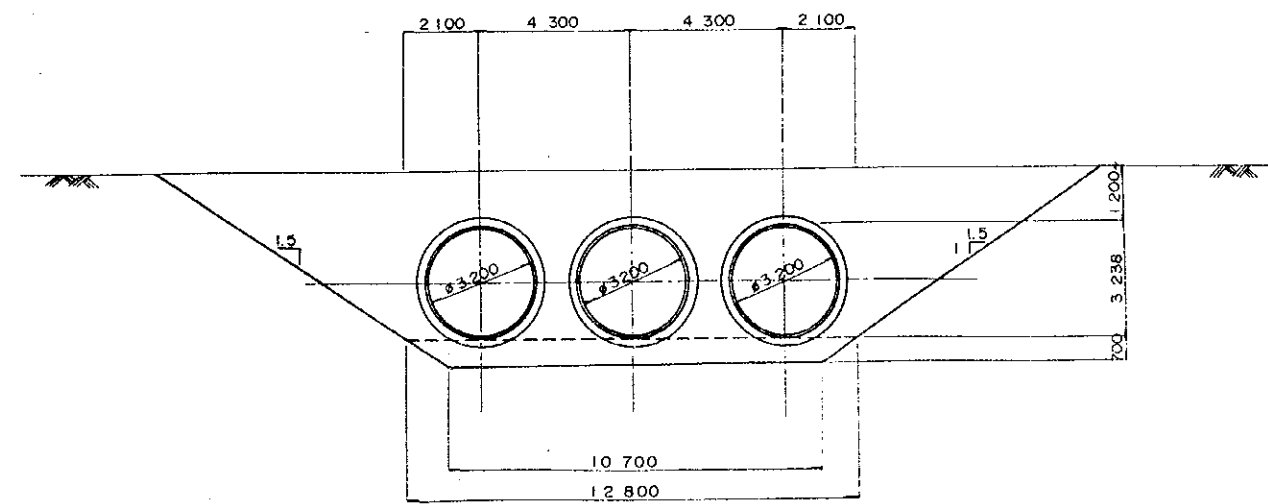
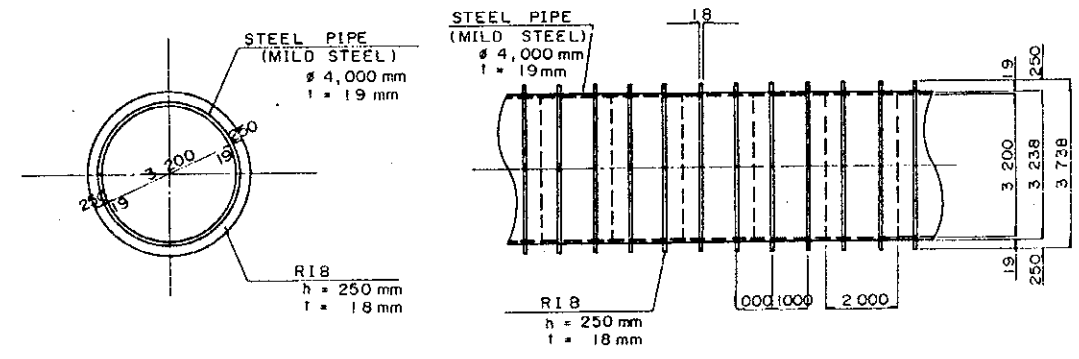
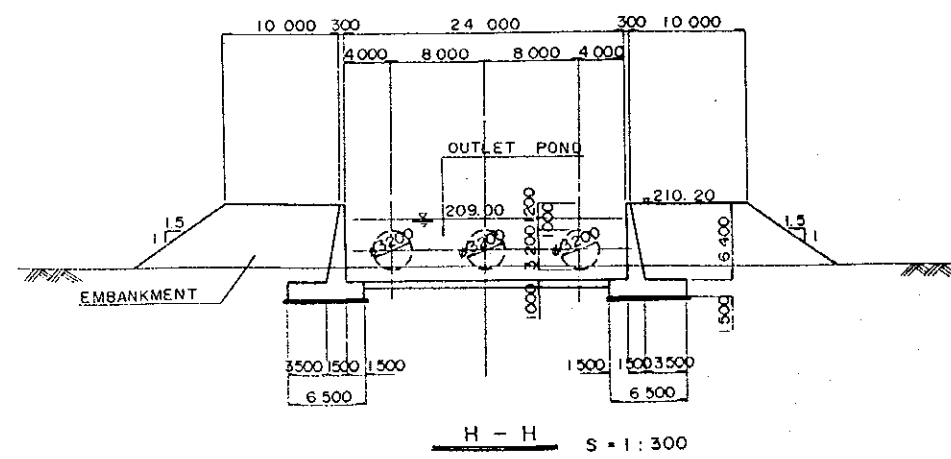
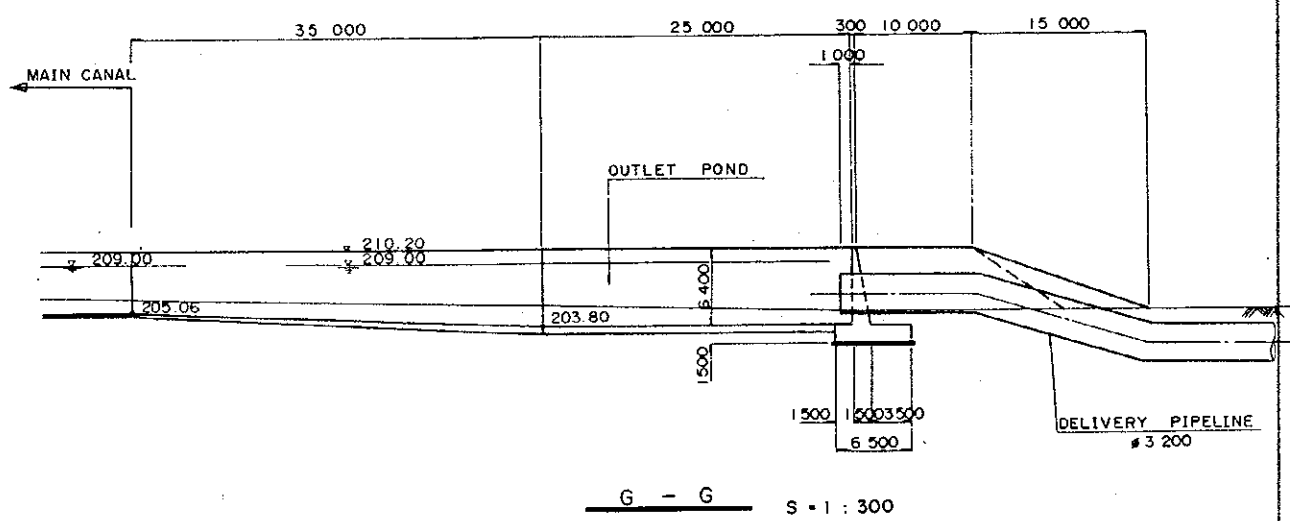
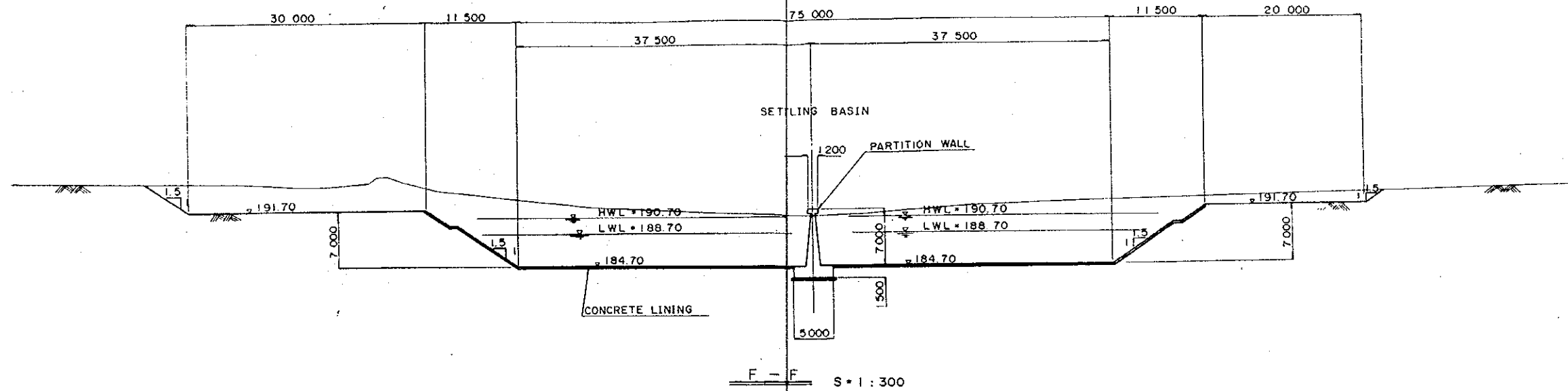


C - C S = 1 : 300



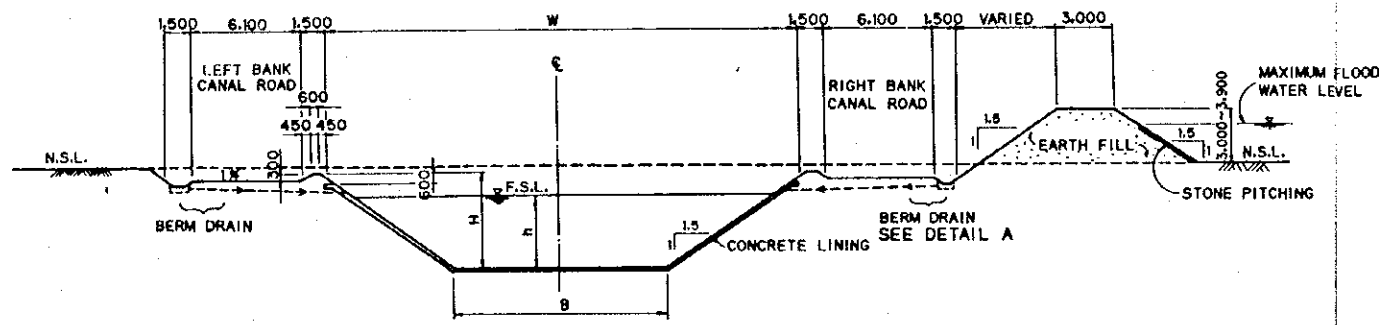
D - D S = 1 : 300

ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PUMP STATION (4/5)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

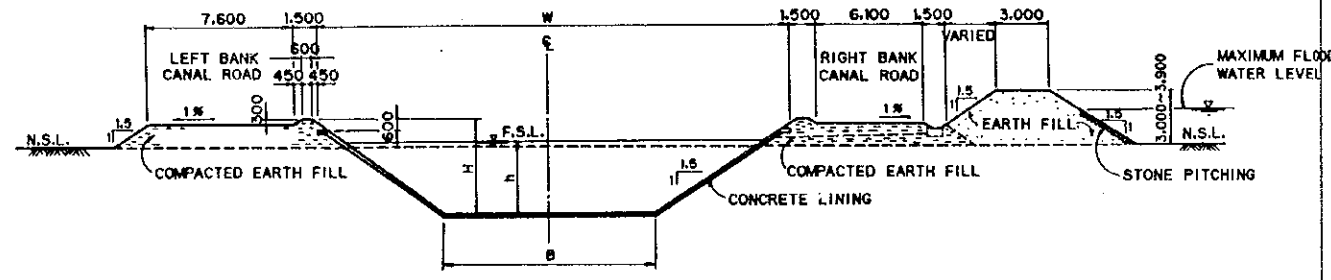


DELIVERY PIPELINE

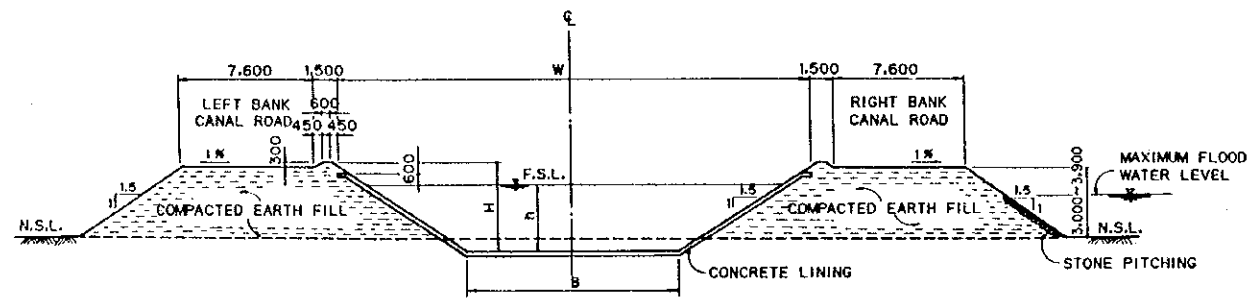
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PUMP STATION (5/5)
 JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.



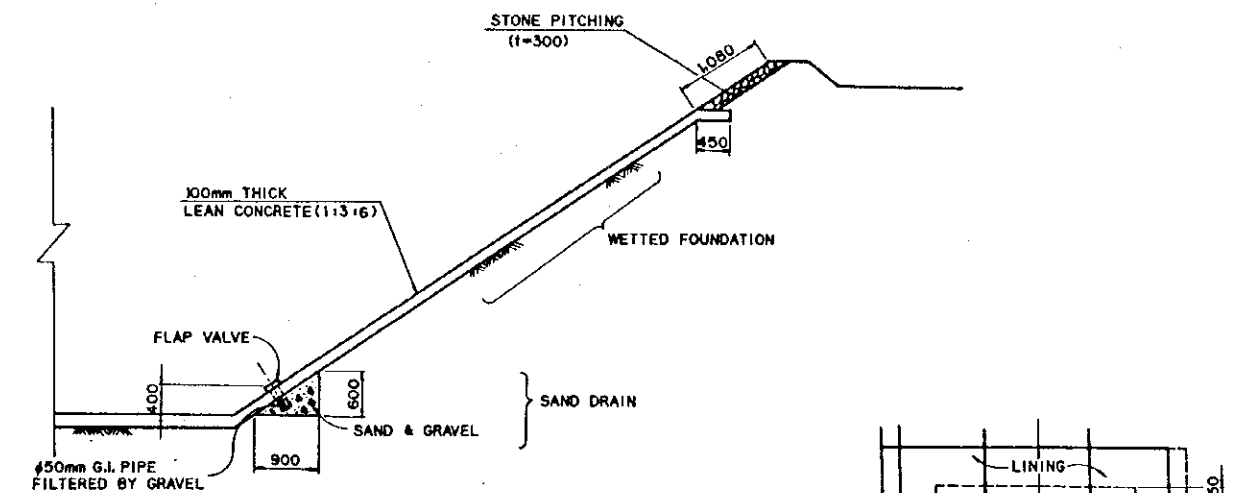
TYPICAL SECTION FULL CUT WITH FLOOD PROTECTION DIKE
SCALE A



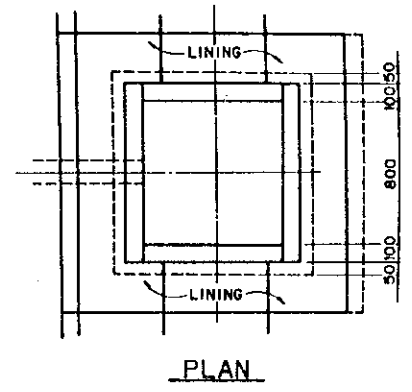
TYPICAL SECTION CUT & FILL WITH FLOOD PROTECTION DIKE
SCALE A



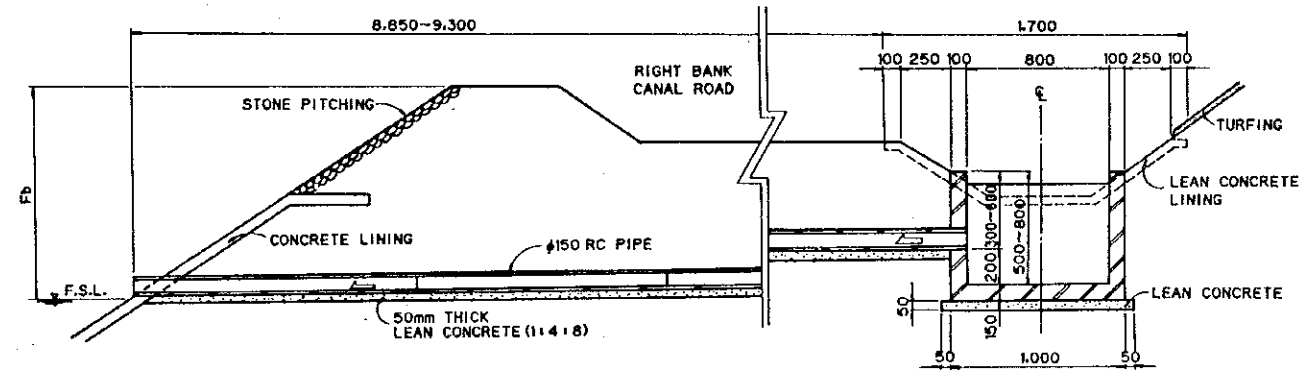
TYPICAL SECTION CUT & FILL OR FULL CUT WITHOUT FLOOD PROTECTION DIKE
SCALE A



LINING DETAILS
SCALE C



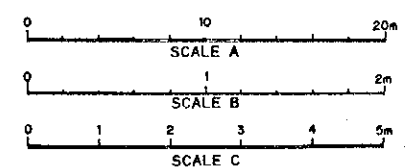
PLAN



DETAIL-A
SCALE B (BERM DRAIN)

DIMENSION TABLE

| No. OF SECTION | STATION No. OF BP - EP | DISCHARGE (m ³ /s) | BOTTOM WIDTH B (m) | CANAL HEIGHT H (m) | WATER DEPTH h (m) | FREE BOARD F/B (m) | W (m) |
|----------------|----------------------------|-------------------------------|--------------------|--------------------|-------------------|--------------------|-------|
| 1 | 0+000 - 32+800 (32.80km) | 72 | 12.0 | 5.15 | 3.94 | 1.21 | 27.45 |
| 2 | 32+800 - 56+550 (23.75km) | 53 | 10.5 | 4.75 | 3.53 | 1.22 | 24.75 |
| 3 | 56+550 - 75+000 (18.45km) | 30 | 6.0 | 3.80 | 2.60 | 1.20 | 19.40 |
| 4 | 75+000 - 94+300 (19.30km) | 20 | 6.5 | 3.20 | 2.14 | 1.06 | 16.10 |
| 5 | 94+300 - 113+250 (18.95km) | 10 | 4.5 | 2.40 | 1.49 | 0.91 | 11.70 |

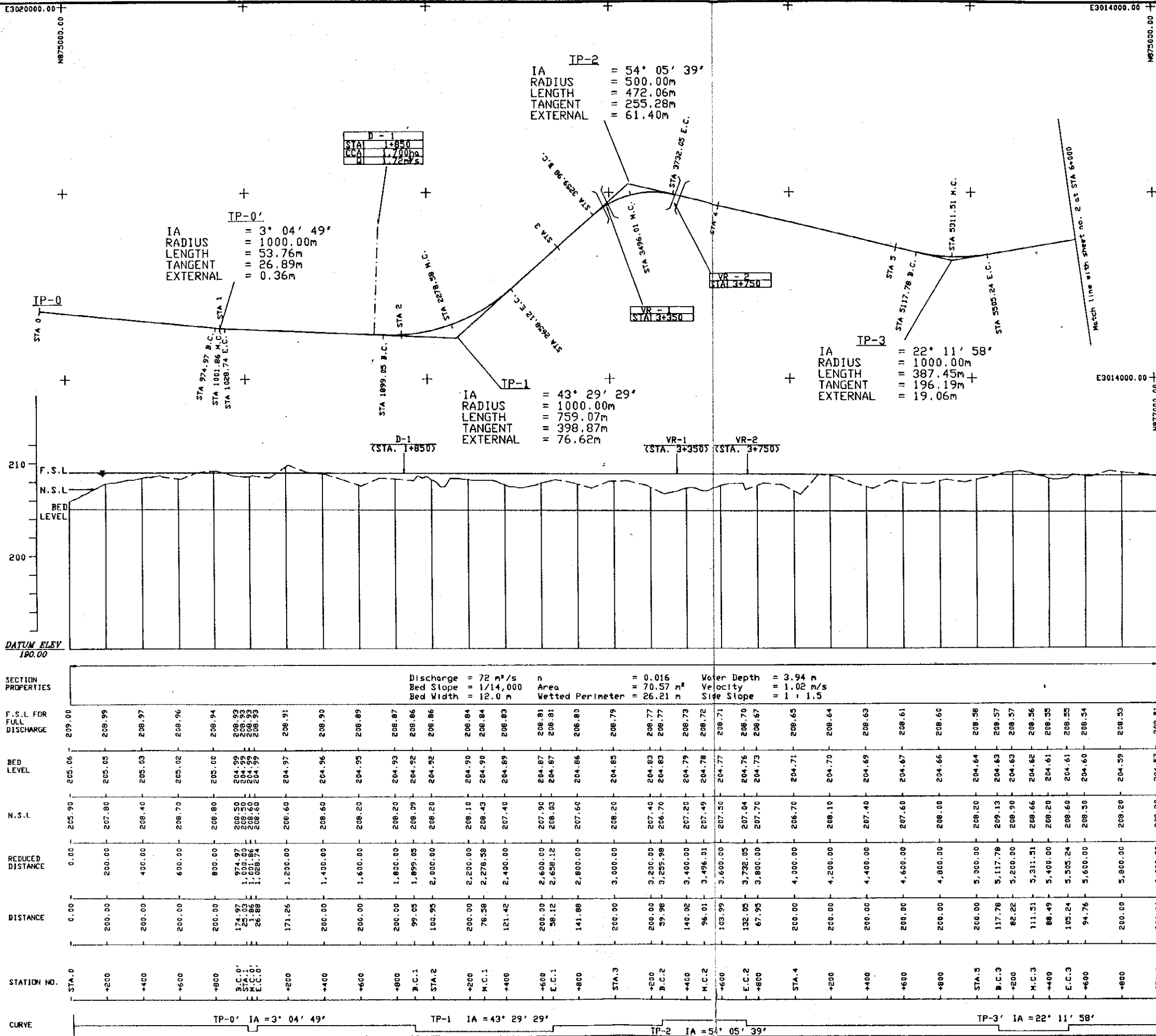


ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
TYPICAL CROSS SECTION OF MAIN CANAL
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

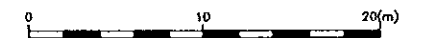
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-0 | 876631.11 | 3020135.00 | 205.90 |
| TP-0' | 876726.19 | 3019137.66 | 208.60 |
| TP-1 | 876779.68 | 3017842.69 | 208.43 |
| TP-2 | 875953.57 | 3016896.58 | 207.71 |
| TP-3 | 876365.86 | 3015106.23 | 208.47 |

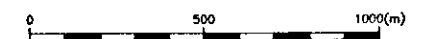


SCALE

Vertical



Horizontal



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
 (1/20)

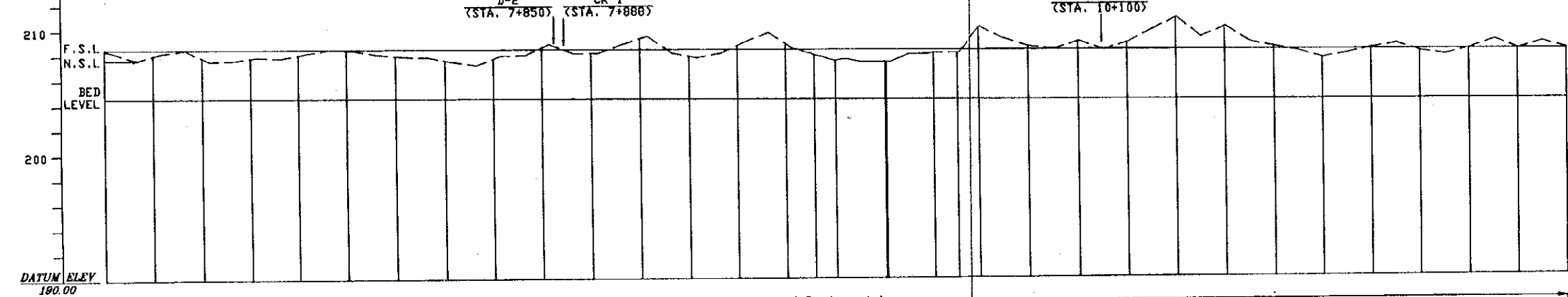
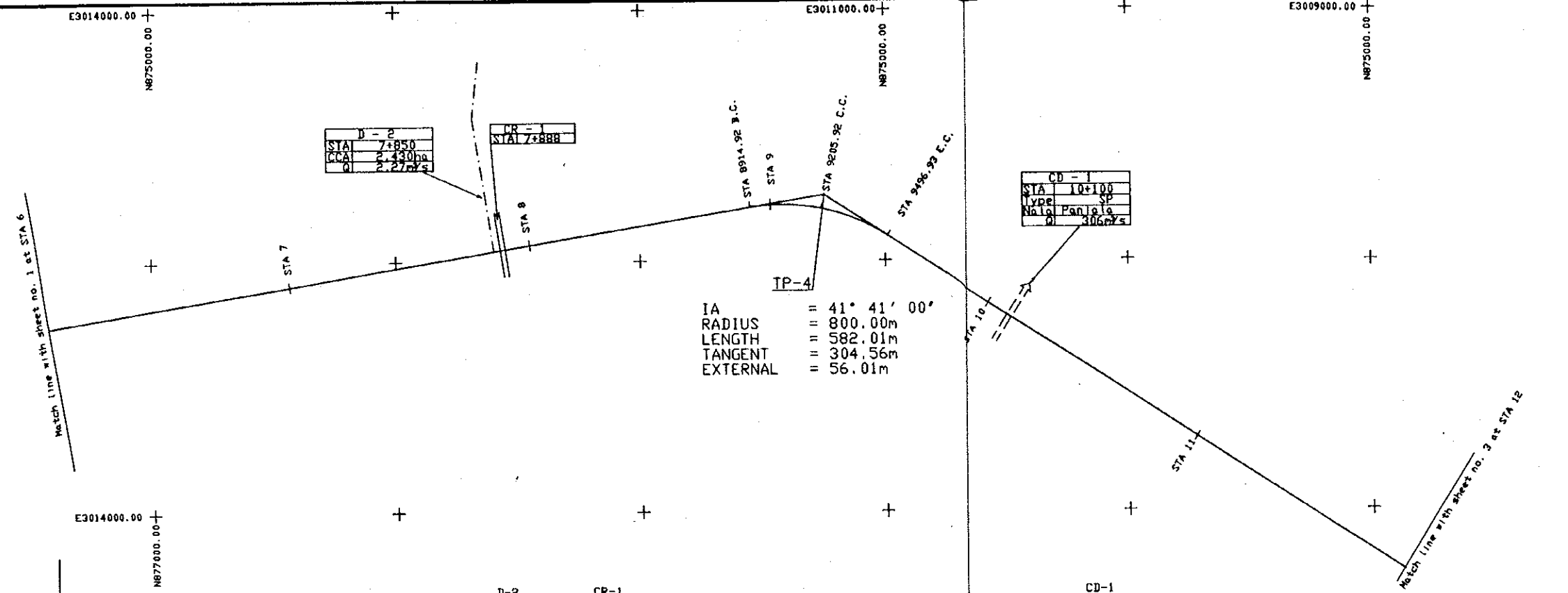
FROM : 0+000 TO : 6+000

JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

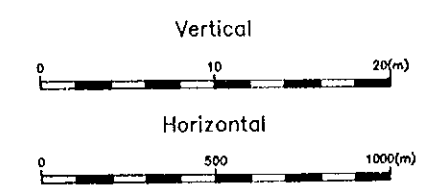
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-4 | 875738.55 | 3011246.45 | 207.20 |



| SECTION PROPERTIES | Section 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|----------|----------|---|----------|----------|---|----------|----------|----------|----------|----------|-----------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| | Discharge = 72 m ³ /s Bed Slope = 1/14,000 Bed Width = 12.00 m | | | Area = 70.57 m ² Wetted Perimeter = 26.21 m | | | Water Depth = 3.94 m Velocity = 1.02 m/s Side Slope = 1:1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F.S.L. FOR FULL DISCHARGE | 208.51 | 208.50 | 208.48 | 208.47 | 208.45 | 208.44 | 208.43 | 208.41 | 208.40 | 208.38 | 208.35 | 208.33 | 208.32 | 208.31 | 208.29 | 208.28 | 208.28 | 208.26 | 208.26 | 208.25 | 208.24 | 208.23 | 208.22 | 208.21 | 208.17 | 208.16 | 208.14 | 208.13 | 208.11 | 208.10 | 208.09 | 208.07 | 208.06 | | |
| BED LEVEL | 204.57 | 204.56 | 204.54 | 204.53 | 204.51 | 204.50 | 204.49 | 204.47 | 204.46 | 204.44 | 204.41 | 204.39 | 204.38 | 204.37 | 204.35 | 204.34 | 204.34 | 204.32 | 204.32 | 204.31 | 204.30 | 204.29 | 204.28 | 204.27 | 204.23 | 204.22 | 204.20 | 204.19 | 204.17 | 204.16 | 204.15 | 204.13 | 204.12 | 204.10 | 208.04 |
| N.S.L. | 208.30 | 208.20 | 207.70 | 207.80 | 208.10 | 208.30 | 207.90 | 206.60 | 207.70 | 207.80 | 208.00 | 209.20 | 207.90 | 209.60 | 208.60 | 207.85 | 207.40 | 207.30 | 207.17 | 206.00 | 207.99 | 210.00 | 208.50 | 208.80 | 208.70 | 210.70 | 210.00 | 208.40 | 207.50 | 208.20 | 207.90 | 208.10 | 208.07 | 208.06 | |
| REDUCED DISTANCE | 6,000.00 | 6,200.00 | 6,400.00 | 6,600.00 | 6,800.00 | 7,000.00 | 7,200.00 | 7,400.00 | 7,600.00 | 7,800.00 | 8,000.00 | 8,200.00 | 8,400.00 | 8,600.00 | 8,800.00 | 8,914.92 | 9,000.00 | 9,200.00 | 9,205.92 | 9,400.00 | 9,496.93 | 9,600.00 | 9,800.00 | 10,000.00 | 10,200.00 | 10,400.00 | 10,600.00 | 10,800.00 | 11,000.00 | 11,200.00 | 11,400.00 | 11,600.00 | 11,800.00 | 12,000.00 | |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 114.92 | 85.08 | 200.00 | 5.92 | 194.08 | 96.93 | 103.07 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 208.04 |
| STATION NO. | STA.6 | +200 | +400 | +600 | +800 | STA.7 | +200 | +400 | +600 | +800 | STA.8 | +200 | +400 | +600 | +800 | B.C.4 | STA.9 | +200 | +400 | E.C.4 | +600 | +800 | STA.10 | +200 | +400 | +600 | +800 | STA.11 | +200 | +400 | +600 | +800 | STA.12 | | |
| CURVE | | | | | | | | | | | | | TP-4 IA = 41° 41' 00" | | | | | | | | | | | | | | | | | | | | | | |

SCALE



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
 (2/20)

FROM : 6+000 TO : 12+000

JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

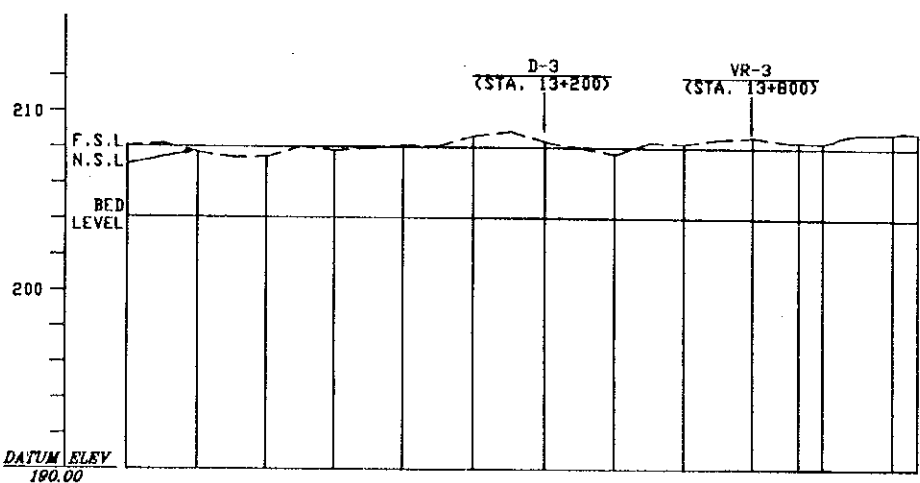
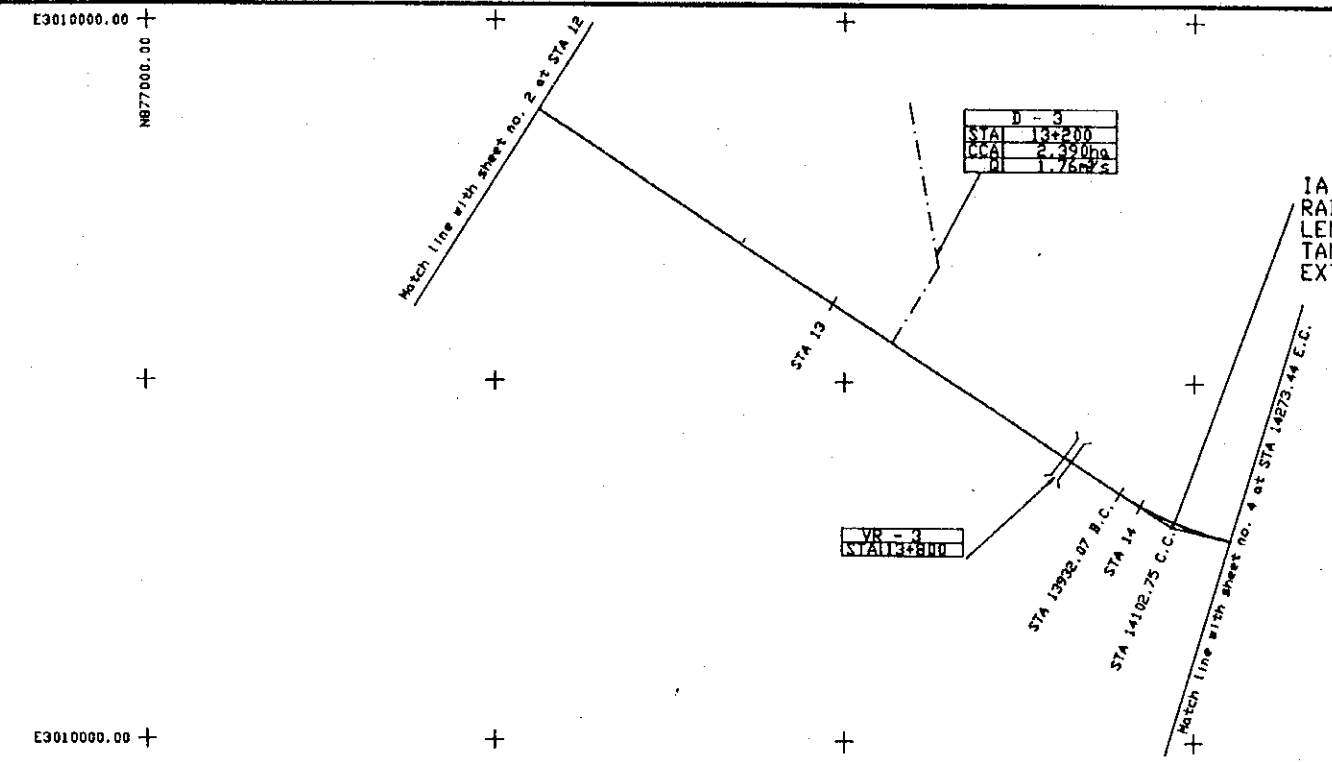
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- YR Bridge (Village Road)

| TP-NO. | N | E | E.L. (m) |
|--------|-----------|------------|----------|
| TP-5 | 878398.01 | 3007064.24 | 208.60 |

IP-5
 = 19°33'32"
 = 1000.00m
 = 341.37m
 = 172.36m
 = 14.75m

| | |
|-----|------------|
| D-3 | STA 13+200 |
| CCA | 2.3500m |
| D | 1.7627s |

| | |
|------|------------|
| VR-3 | STA 13+800 |
|------|------------|

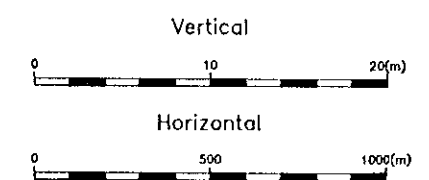


Section 1

| | | | | | | | | | | | | | | | | |
|--------------------------|----------------------------------|-----------------------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SECTION PROPERTIES | Discharge = 72 m ³ /s | n = 0.016 | Water Depth = 3.94 m | | | | | | | | | | | | | |
| | Bed Slope = 1/14,000 | Area = 70.57 m ² | Velocity = 1.02 m/s | | | | | | | | | | | | | |
| | Bed Width = 12.0 m | Wetted Perimeter = 26.21 m | Side Slope = 1 : 1.5 | | | | | | | | | | | | | |
| F.S.L FOR FULL DISCHARGE | 208.04 | 208.03 | 208.01 | 208.00 | 207.99 | 207.97 | 207.96 | 207.94 | 207.93 | 207.91 | 207.88 | 207.87 | 207.87 | 207.87 | 207.86 | 207.85 |
| BED LEVEL | 204.10 | 204.09 | 204.07 | 204.06 | 204.05 | 204.03 | 204.02 | 204.00 | 203.99 | 203.97 | 203.94 | 203.93 | 203.93 | 203.93 | 203.92 | 203.91 |
| N.S.L | 208.10 | 207.70 | 207.50 | 207.80 | 208.10 | 208.60 | 208.30 | 207.60 | 208.10 | 208.50 | 208.23 | 208.23 | 208.23 | 208.20 | 208.60 | 208.74 |
| REDUCED DISTANCE | 12,000.00 | 12,200.00 | 12,400.00 | 12,600.00 | 12,800.00 | 13,000.00 | 13,200.00 | 13,400.00 | 13,600.00 | 13,800.00 | 13,922.07 | 13,976.18 | 14,000.00 | 14,136.72 | 14,200.00 | 14,273.42 |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 44.11 | 54.18 | 67.93 | 136.72 | 63.28 | 73.42 |
| STATION NO. | STA.12 | +200 | +400 | +600 | +800 | STA.13 | +200 | +400 | +600 | +800 | B.C.5F | B.C.5B | STA.14 | M.C.5 | +200 | E.C.5 |

TP-5 IA = 19° 33' 32"

SCALE



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
 (3/20)

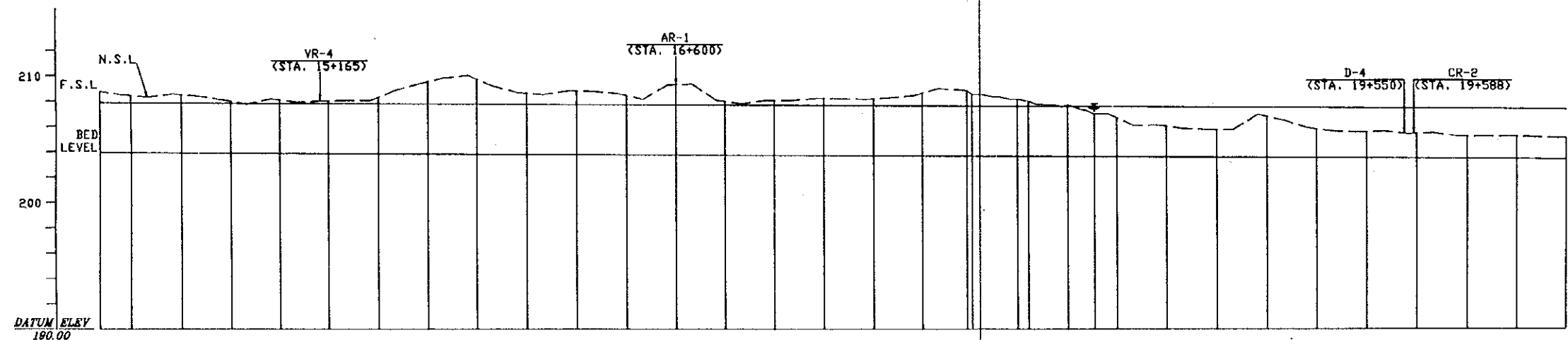
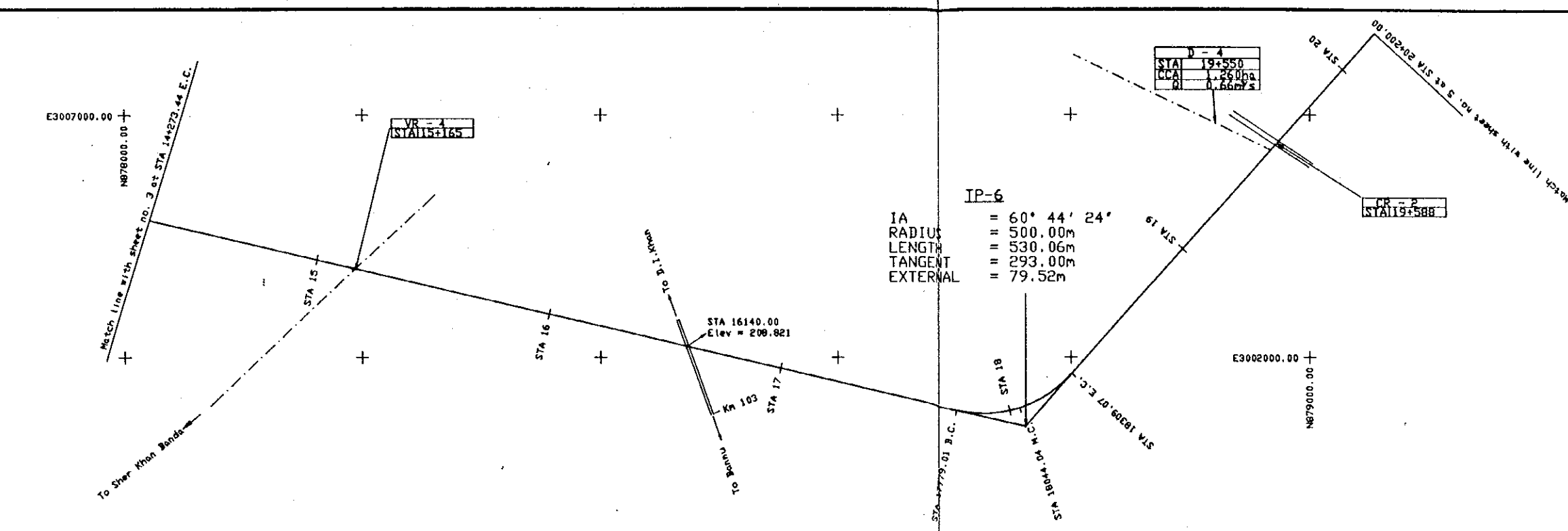
FROM : 12+000 TO : 14+273.44 (E.C)

JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

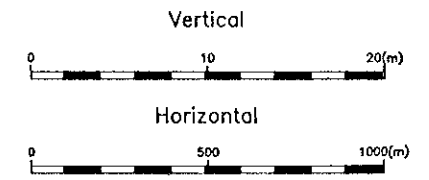
- AR Bridge (Arterial Road)
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- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | Elev. (m) |
|--------|-----------|------------|-----------|
| TP-6 | 879284.07 | 3003193.43 | 208.36 |



| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | Section 1 | | | | | | | | | | | | | | |
|-------------|----------|------------------|--------|-----------|---------------------------|-----------|-----------|-----------|---|------|------------------|-------------|----------|-----------|--|--|--|--|--|--|
| | | | | | | Discharge | Bed Slope | Bed Width | n | Area | Wetted Perimeter | Water Depth | Velocity | Sid Slope | | | | | | |
| E.C. 5 | 73.44 | 14,273.44 | 208.74 | 203.91 | 207.85 | | | | | | | | | | | | | | | |
| +400 | 126.56 | 14,400.00 | 208.40 | 203.90 | 207.84 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 14,600.00 | 208.50 | 203.89 | 207.83 | | | | | | | | | | | | | | | |
| STA. 15 | 200.00 | 14,800.00 | 208.00 | 203.87 | 207.81 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 15,000.00 | 208.10 | 203.86 | 207.80 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 15,200.00 | 208.00 | 203.81 | 207.75 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 15,400.00 | 208.30 | 203.80 | 207.74 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 15,600.00 | 209.50 | 203.79 | 207.73 | | | | | | | | | | | | | | | |
| | 200.00 | 15,800.00 | 209.70 | 203.77 | 207.71 | | | | | | | | | | | | | | | |
| STA. 16 | 200.00 | 16,000.00 | 208.60 | 203.76 | 207.70 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 16,200.00 | 208.70 | 203.74 | 207.68 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 16,400.00 | 208.40 | 203.73 | 207.67 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 16,600.00 | 209.20 | 203.71 | 207.65 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 16,800.00 | 207.90 | 203.65 | 207.59 | | | | | | | | | | | | | | | |
| STA. 17 | 200.00 | 17,000.00 | 208.00 | 203.64 | 207.58 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 17,200.00 | 208.20 | 203.62 | 207.56 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 17,400.00 | 208.10 | 203.61 | 207.55 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 17,600.00 | 208.60 | 203.59 | 207.53 | | | | | | | | | | | | | | | |
| B.C. 6 | 179.01 | 17,779.01 | 208.75 | 203.58 | 207.52 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 17,800.00 | 208.50 | 203.58 | 207.52 | | | | | | | | | | | | | | | |
| STA. 18 | 200.00 | 18,000.00 | 208.10 | 203.56 | 207.50 | | | | | | | | | | | | | | | |
| M.C. 6 | 44.04 | 18,044.04 | 208.24 | 203.56 | 207.50 | | | | | | | | | | | | | | | |
| +200 | 155.96 | 18,200.00 | 207.60 | 203.55 | 207.49 | | | | | | | | | | | | | | | |
| E.C. 6 | 109.07 | 18,309.07 | 206.95 | 203.54 | 207.48 | | | | | | | | | | | | | | | |
| +400 | 50.93 | 18,400.00 | 206.10 | 203.54 | 207.48 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 18,600.00 | 205.80 | 203.52 | 207.46 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 18,800.00 | 205.70 | 203.51 | 207.45 | | | | | | | | | | | | | | | |
| STA. 19 | 200.00 | 19,000.00 | 206.40 | 203.49 | 207.43 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 19,200.00 | 205.60 | 203.48 | 207.42 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 19,400.00 | 205.60 | 203.46 | 207.40 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 19,600.00 | 205.40 | 203.43 | 207.37 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 19,800.00 | 205.20 | 203.42 | 207.36 | | | | | | | | | | | | | | | |
| STA. 20 | 200.00 | 20,000.00 | 205.20 | 203.40 | 207.34 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 20,200.00 | 205.10 | 203.39 | 207.33 | | | | | | | | | | | | | | | |

SCALE

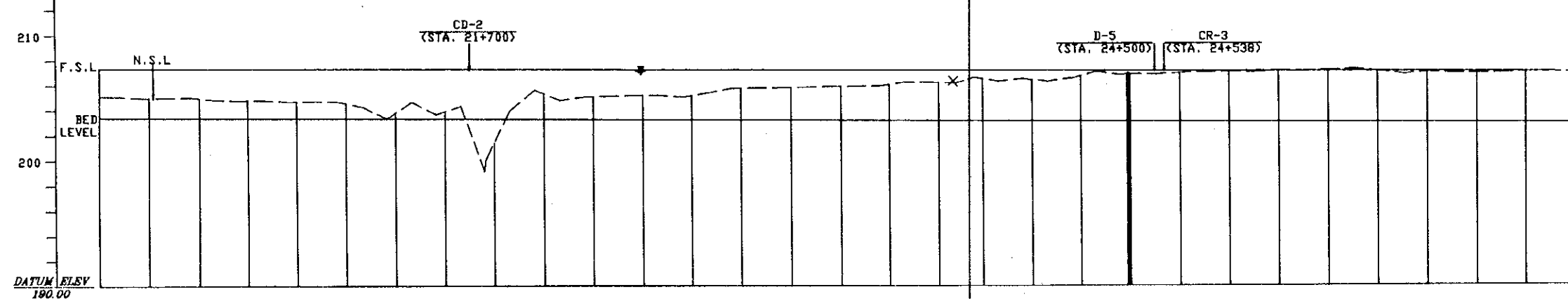
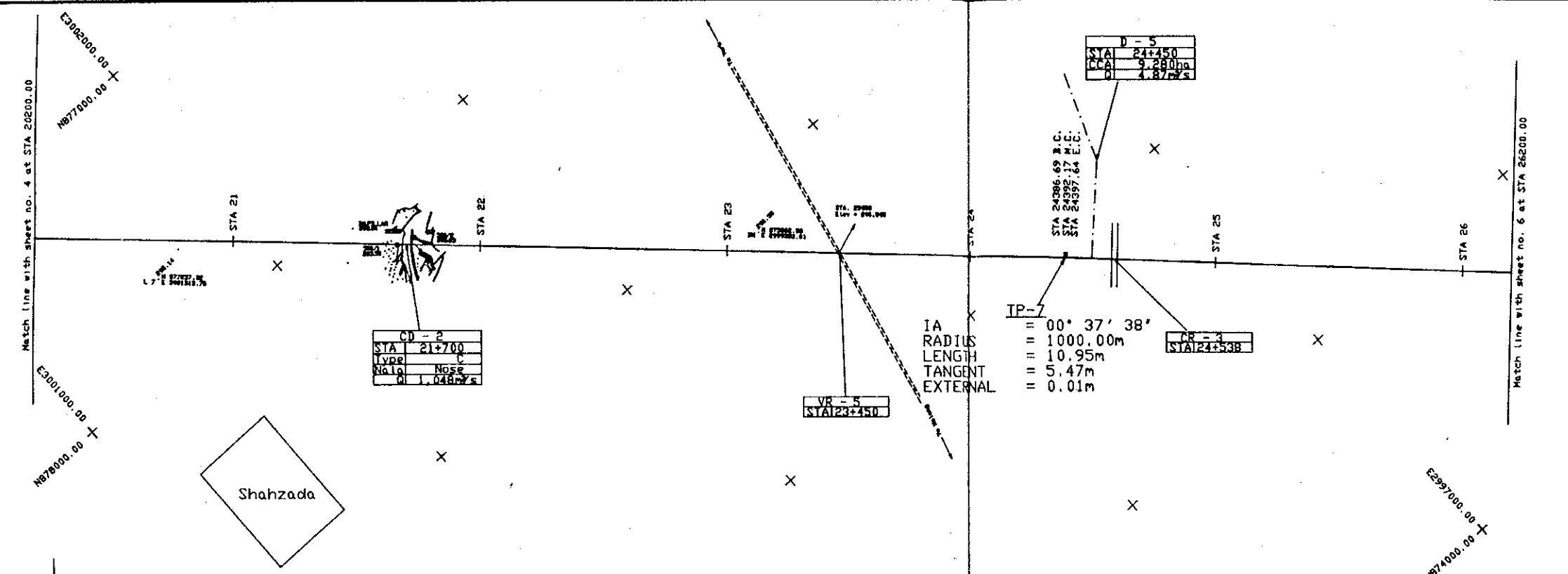


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (4/20)
 FROM : 14+273.44 (E.C.) TO : 20+200
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

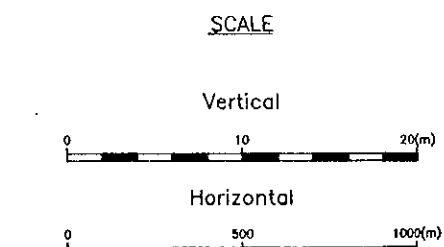
LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributary
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | E.L. (m) |
|--------|-----------|------------|----------|
| BM | 875262.53 | 2999553.61 | 206.55 |
| TP-7 | 874557.14 | 2998914.32 | 206.88 |



| STATION NO. | SECTION 1 | | | | | | | | | | | | | | | SECTION 2 | | | | | | | | | | | | | | | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 2000 | 2040 | 2080 | 2120 | 2160 | 2200 | 2240 | 2280 | 2320 | 2360 | 2400 | 2440 | 2480 | 2520 | 2560 | 2600 | 2640 | 2680 | 2720 | 2760 | 2800 | 2840 | 2880 | 2920 | 2960 | 3000 | | | | | | | |
| F.S.L. FOR FULL DISCHARGE | 207.33 | 207.31 | 207.30 | 207.28 | 207.27 | 207.26 | 207.24 | 207.23 | 207.21 | 207.20 | 207.18 | 207.17 | 207.16 | 207.14 | 207.13 | 207.11 | 207.10 | 207.05 | 207.04 | 207.03 | 207.01 | 207.00 | 207.00 | 207.00 | 206.96 | 206.95 | 206.93 | 206.92 | 206.91 | 206.89 | 206.88 | 206.86 | 206.85 |
| BED LEVEL | 203.35 | 203.37 | 203.36 | 203.34 | 203.33 | 203.32 | 203.30 | 203.29 | 203.27 | 203.26 | 203.24 | 203.23 | 203.22 | 203.20 | 203.19 | 203.17 | 203.16 | 203.11 | 203.10 | 203.09 | 203.07 | 203.06 | 203.06 | 203.06 | 203.02 | 203.01 | 202.99 | 202.98 | 202.97 | 202.95 | 202.94 | 202.92 | 202.91 |
| N.S.L. | 205.10 | 205.00 | 204.80 | 204.80 | 204.70 | 204.50 | 204.60 | 204.20 | 204.00 | 204.70 | 205.10 | 205.20 | 205.30 | 205.70 | 205.80 | 205.90 | 206.20 | 206.10 | 206.30 | 206.20 | 207.00 | 206.72 | 206.80 | 206.80 | 206.90 | 207.00 | 207.10 | 207.10 | 207.00 | 206.90 | 206.90 | 207.00 | 207.00 |
| REDUCED DISTANCE | 20,200.00 | 20,400.00 | 20,600.00 | 20,800.00 | 21,000.00 | 21,200.00 | 21,400.00 | 21,600.00 | 21,800.00 | 22,000.00 | 22,200.00 | 22,400.00 | 22,600.00 | 22,800.00 | 23,000.00 | 23,200.00 | 23,400.00 | 23,600.00 | 23,800.00 | 24,000.00 | 24,200.00 | 24,386.69 | 24,392.17 | 24,400.00 | 24,600.00 | 24,800.00 | 25,000.00 | 25,200.00 | 25,400.00 | 25,600.00 | 25,800.00 | 26,000.00 | 26,200.00 |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 186.69 | 3.38 | 5.47 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | |
| CURVE | | | | | | | | | | | | | | | | | | | | | | TP-7 | IA = 00° 37' 38" | | | | | | | | | | |



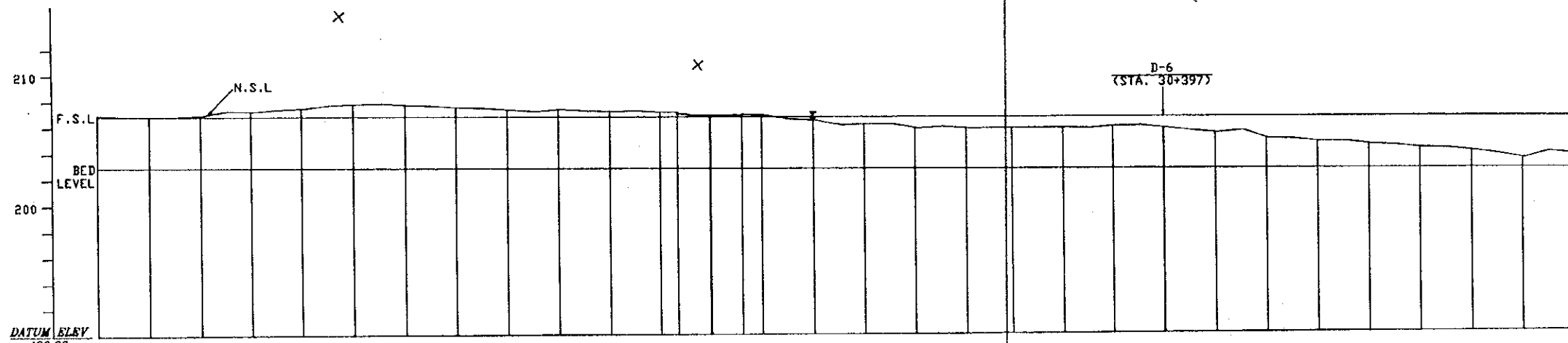
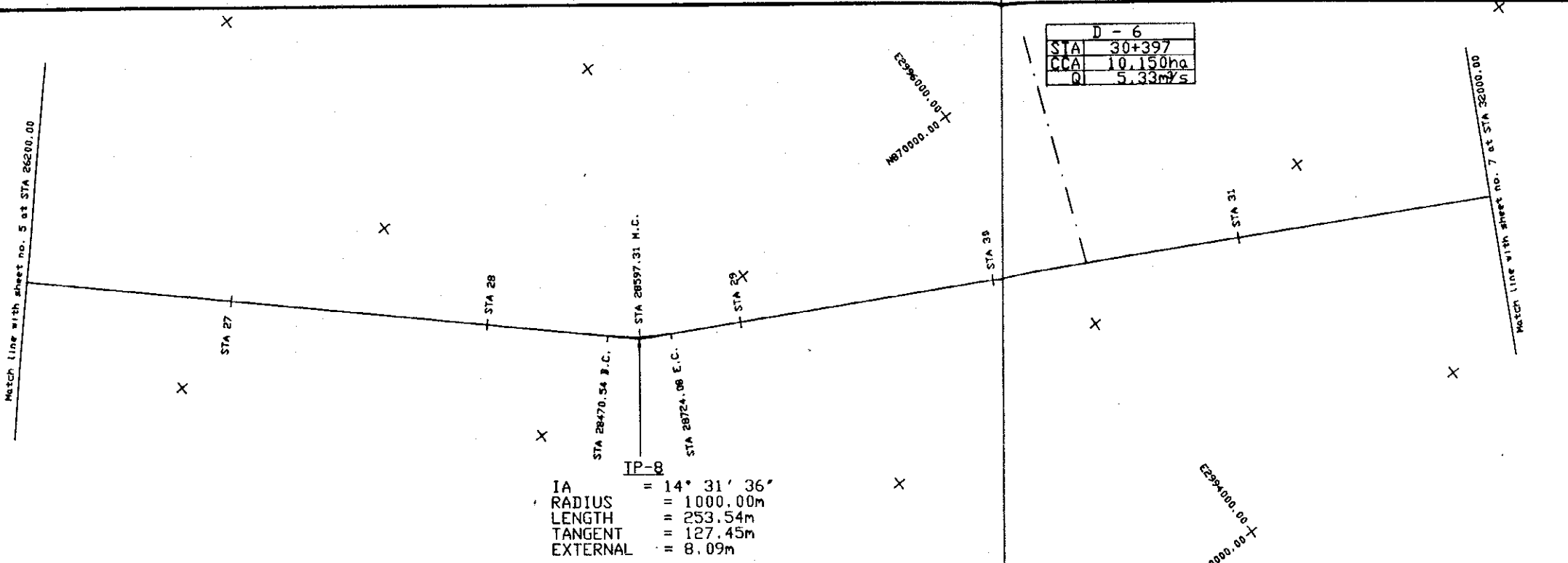
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (5/20)
 FROM : 20+200 TO : 26+200
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

| |
|-------------------------|
| D - 6 |
| STA 30+397 |
| CCA 10.150ha |
| Q 5.33m ³ /s |

LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

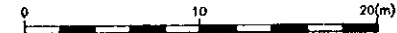
| TP-NO. | N | E | EL. (m) |
|--------|-----------|------------|---------|
| TP-8 | 871470.24 | 2996057.75 | 206.92 |



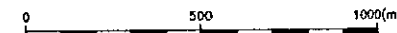
| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | SECTION 1 | | | | | | | |
|-------------|----------|------------------|--------|-----------|---------------------------|-----------|-----------|-----------|-------|------------------|-------------|----------|-----------|
| | | | | | | Discharge | Bed Slope | Bed Width | Area | Wetted Perimeter | Water Depth | Velocity | Sid Slope |
| +200 | 200.00 | 26,200.00 | 207.00 | 202.91 | 206.85 | 72 | 1/14,000 | 12.00 | 70.57 | 26.21 | 3.94 | 1.02 | 1:1.5 |
| +400 | 200.00 | 26,400.00 | 206.80 | 202.89 | 206.83 | | | | | | | | |
| +600 | 200.00 | 26,600.00 | 206.90 | 202.88 | 206.82 | | | | | | | | |
| +800 | 200.00 | 26,800.00 | 207.20 | 202.87 | 206.81 | | | | | | | | |
| STA. 27 | 200.00 | 27,000.00 | 207.40 | 202.85 | 206.79 | | | | | | | | |
| +200 | 200.00 | 27,200.00 | 207.80 | 202.84 | 206.78 | | | | | | | | |
| +400 | 200.00 | 27,400.00 | 207.70 | 202.82 | 206.76 | | | | | | | | |
| +600 | 200.00 | 27,600.00 | 207.50 | 202.81 | 206.75 | | | | | | | | |
| +800 | 200.00 | 27,800.00 | 207.30 | 202.79 | 206.73 | | | | | | | | |
| STA. 28 | 200.00 | 28,000.00 | 207.30 | 202.78 | 206.72 | | | | | | | | |
| +200 | 200.00 | 28,200.00 | 207.10 | 202.77 | 206.71 | | | | | | | | |
| +400 | 200.00 | 28,400.00 | 207.10 | 202.75 | 206.69 | | | | | | | | |
| B.C. 8 | 70.54 | 28,470.54 | 207.20 | 202.74 | 206.68 | | | | | | | | |
| M.C. 8 | 126.77 | 28,597.31 | 206.80 | 202.74 | 206.68 | | | | | | | | |
| +600 | 126.77 | 28,724.08 | 206.86 | 202.73 | 206.67 | | | | | | | | |
| E.C. 8 | 124.08 | 28,848.16 | 206.80 | 202.72 | 206.66 | | | | | | | | |
| +800 | 75.92 | 28,924.08 | 206.80 | 202.72 | 206.66 | | | | | | | | |
| STA. 29 | 200.00 | 29,000.00 | 206.40 | 202.71 | 206.65 | | | | | | | | |
| +200 | 200.00 | 29,200.00 | 206.10 | 202.69 | 206.63 | | | | | | | | |
| +400 | 200.00 | 29,400.00 | 205.80 | 202.68 | 206.62 | | | | | | | | |
| +600 | 200.00 | 29,600.00 | 205.80 | 202.67 | 206.61 | | | | | | | | |
| +800 | 200.00 | 29,800.00 | 205.70 | 202.65 | 206.59 | | | | | | | | |
| STA. 30 | 200.00 | 30,000.00 | 205.70 | 202.64 | 206.58 | | | | | | | | |
| +200 | 200.00 | 30,200.00 | 205.80 | 202.62 | 206.56 | | | | | | | | |
| +400 | 200.00 | 30,400.00 | 205.70 | 202.61 | 206.55 | | | | | | | | |
| +600 | 200.00 | 30,600.00 | 205.30 | 202.59 | 206.53 | | | | | | | | |
| +800 | 200.00 | 30,800.00 | 204.90 | 202.58 | 206.52 | | | | | | | | |
| STA. 31 | 200.00 | 31,000.00 | 204.60 | 202.57 | 206.51 | | | | | | | | |
| +200 | 200.00 | 31,200.00 | 204.40 | 202.55 | 206.49 | | | | | | | | |
| +400 | 200.00 | 31,400.00 | 204.10 | 202.54 | 206.48 | | | | | | | | |
| +600 | 200.00 | 31,600.00 | 203.80 | 202.52 | 206.46 | | | | | | | | |
| +800 | 200.00 | 31,800.00 | 203.20 | 202.51 | 206.45 | | | | | | | | |
| STA. 32 | 200.00 | 32,000.00 | 203.50 | 202.49 | 206.43 | | | | | | | | |

SCALE

Vertical



Horizontal



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (6/20)
 FROM : 26+200 TO : 32+000
 JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

TP-9
 IA = 39° 22' 57"
 RADIUS = 500.00m
 LENGTH = 343.67m
 TANGENT = 178.94m
 EXTERNAL = 31.05m

CD - 3
 STA 33+000
 Type C
 Nala Budh
 Q 722 m³/s

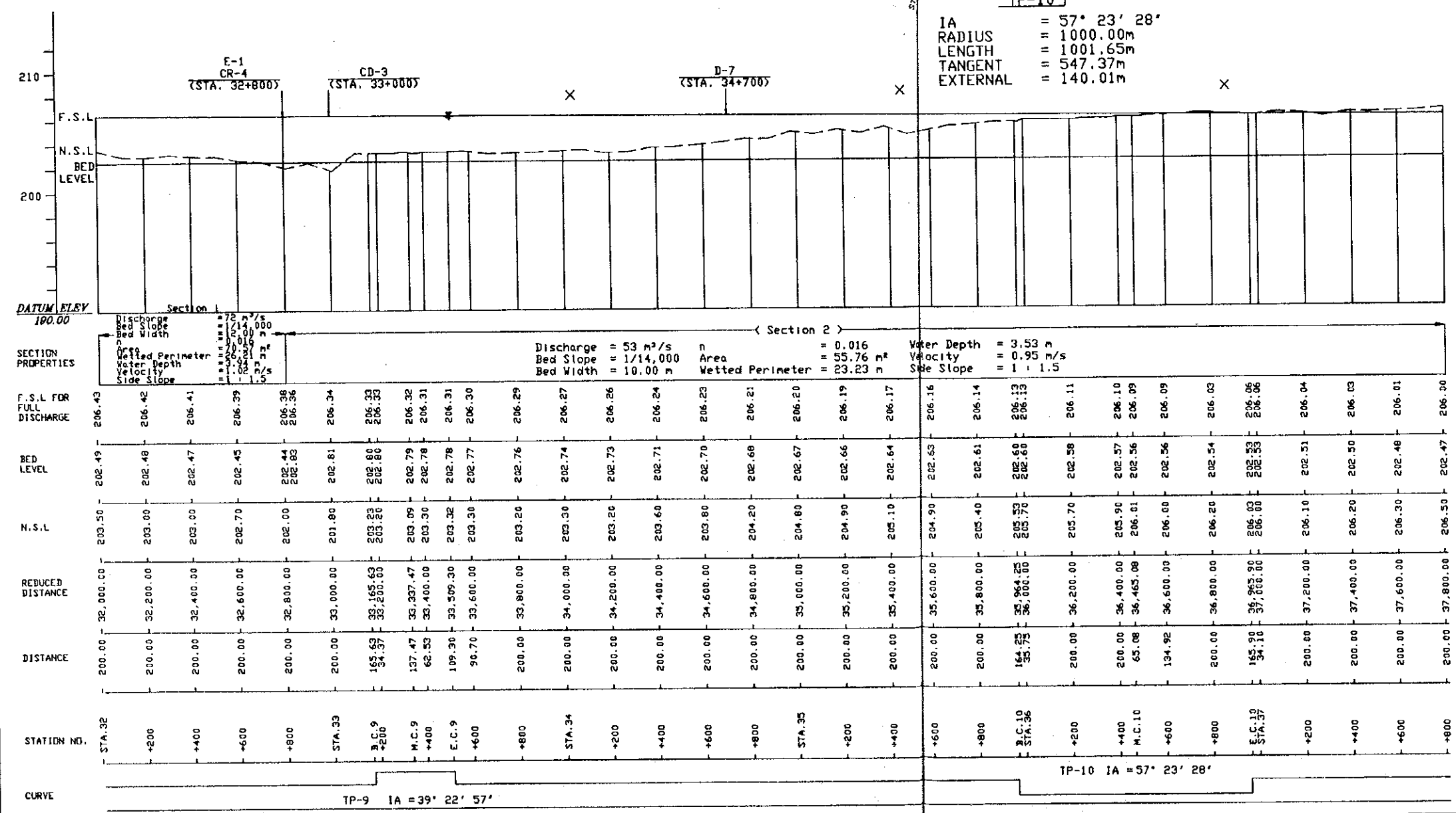
D - 7
 STA 34+700
 CCA 2.410 ha
 Q 1.26 m³/s

TP-10
 IA = 57° 23' 28"
 RADIUS = 1000.00m
 LENGTH = 1001.65m
 TANGENT = 547.37m
 EXTERNAL = 140.01m

LEGEND

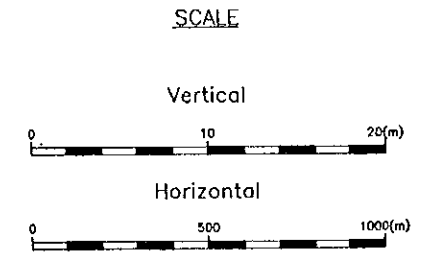
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-9 | 857287.98 | 2993810.16 | 203.09 |
| TP-10 | 866077.53 | 2990868.18 | 205.99 |



| Section 1 | | Section 2 | |
|------------------|------------------------|------------------|------------------------|
| Discharge | = 72 m ³ /s | Discharge | = 53 m ³ /s |
| Bed Slope | = 1/14,000 | n | = 0.016 |
| Bed Width | = 10.00 m | Area | = 55.76 m ² |
| Wetted Perimeter | = 26.31 m | Wetted Perimeter | = 23.23 m |
| Water Depth | = 3.31 m | Water Depth | = 3.53 m |
| Velocity | = 0.92 m/s | Velocity | = 0.95 m/s |
| Side Slope | = 1:5 | Side Slope | = 1:1.5 |

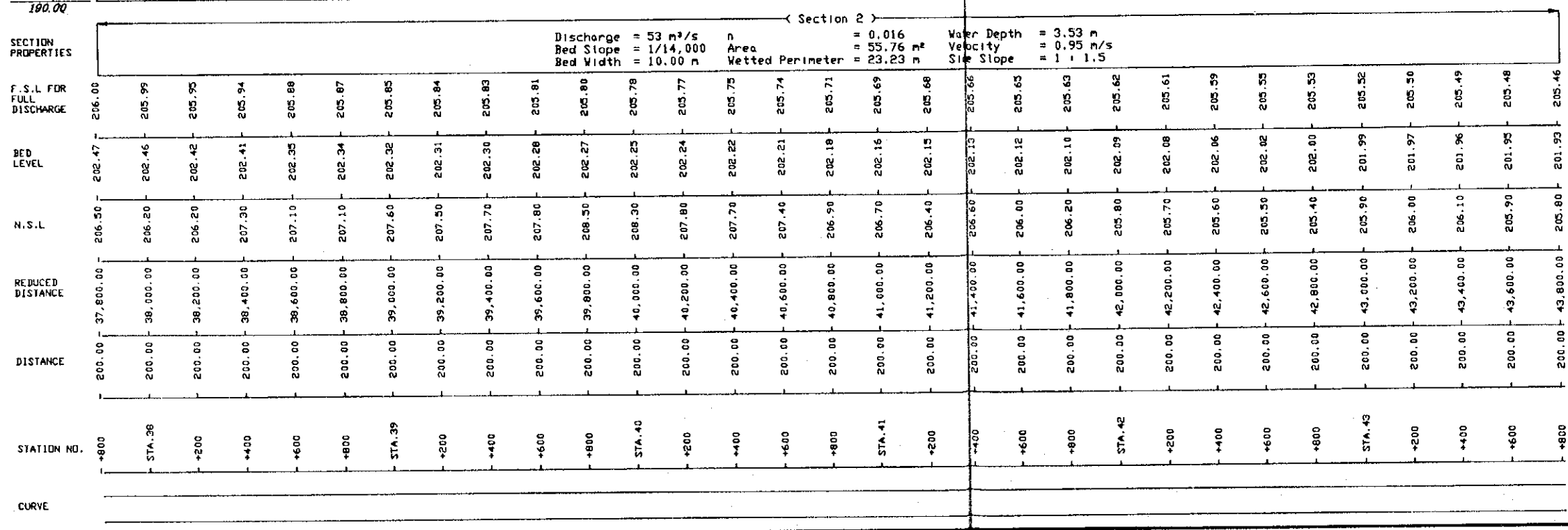
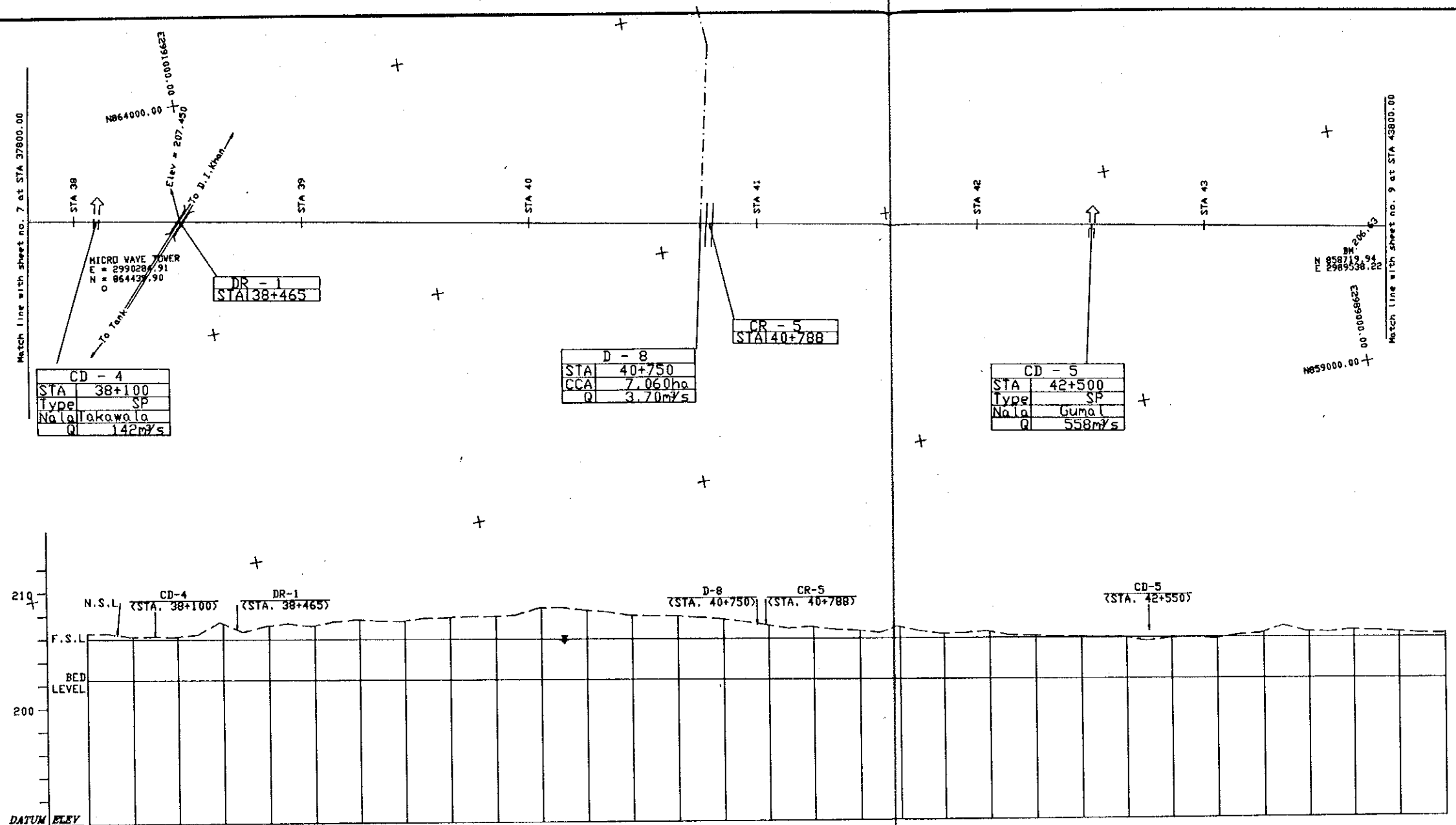
| STATION NO. | REDUCED DISTANCE | N.S.L | BED LEVEL | F.S.L FOR FULL DISCHARGE |
|-------------|------------------|--------|-----------|--------------------------|
| STA. 32 | 200.00 | 203.50 | 202.49 | 206.43 |
| +200 | 200.00 | 203.00 | 202.48 | 206.42 |
| +400 | 200.00 | 203.00 | 202.47 | 206.41 |
| +600 | 200.00 | 202.70 | 202.45 | 206.39 |
| +800 | 200.00 | 202.00 | 202.44 | 206.38 |
| STA. 33 | 200.00 | 201.80 | 202.81 | 206.34 |
| B.C. 9 | 165.63 | 203.23 | 202.80 | 206.33 |
| +200 | 34.37 | 203.20 | 202.80 | 206.33 |
| M.C. 9 | 137.47 | 203.09 | 202.79 | 206.32 |
| +400 | 62.53 | 203.30 | 202.78 | 206.31 |
| E.C. 9 | 109.30 | 203.32 | 202.78 | 206.31 |
| +600 | 90.70 | 203.30 | 202.77 | 206.30 |
| +800 | 200.00 | 203.20 | 202.76 | 206.29 |
| STA. 34 | 200.00 | 203.30 | 202.74 | 206.27 |
| +200 | 200.00 | 203.20 | 202.73 | 206.26 |
| +400 | 200.00 | 203.60 | 202.71 | 206.24 |
| +600 | 200.00 | 203.80 | 202.70 | 206.23 |
| +800 | 200.00 | 204.20 | 202.69 | 206.21 |
| STA. 35 | 200.00 | 204.80 | 202.67 | 206.20 |
| +200 | 200.00 | 204.90 | 202.66 | 206.19 |
| +400 | 200.00 | 205.10 | 202.64 | 206.17 |
| +600 | 200.00 | 204.90 | 202.63 | 206.16 |
| +800 | 200.00 | 205.40 | 202.61 | 206.14 |
| B.C. 10 | 164.25 | 205.53 | 202.60 | 206.13 |
| +200 | 35.75 | 205.70 | 202.60 | 206.13 |
| M.C. 10 | 65.08 | 206.01 | 202.56 | 206.09 |
| +400 | 134.92 | 206.00 | 202.56 | 206.09 |
| +600 | 200.00 | 206.00 | 202.54 | 206.03 |
| +800 | 200.00 | 206.05 | 202.53 | 206.06 |
| E.C. 10 | 165.90 | 206.00 | 202.53 | 206.06 |
| +200 | 34.10 | 206.10 | 202.51 | 206.04 |
| +400 | 200.00 | 206.20 | 202.50 | 206.03 |
| +600 | 200.00 | 206.30 | 202.48 | 206.01 |
| +800 | 200.00 | 206.50 | 202.47 | 206.00 |



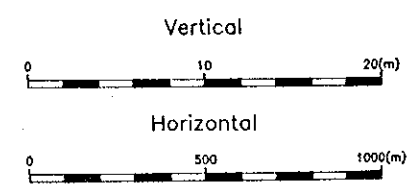
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (7/20)
 FROM : 32+000 TO : 37+800
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)



SCALE

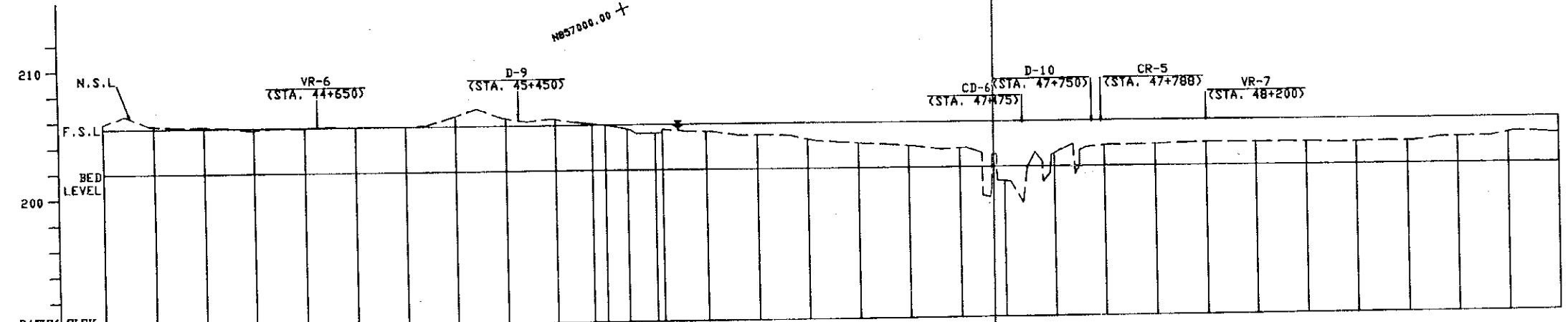
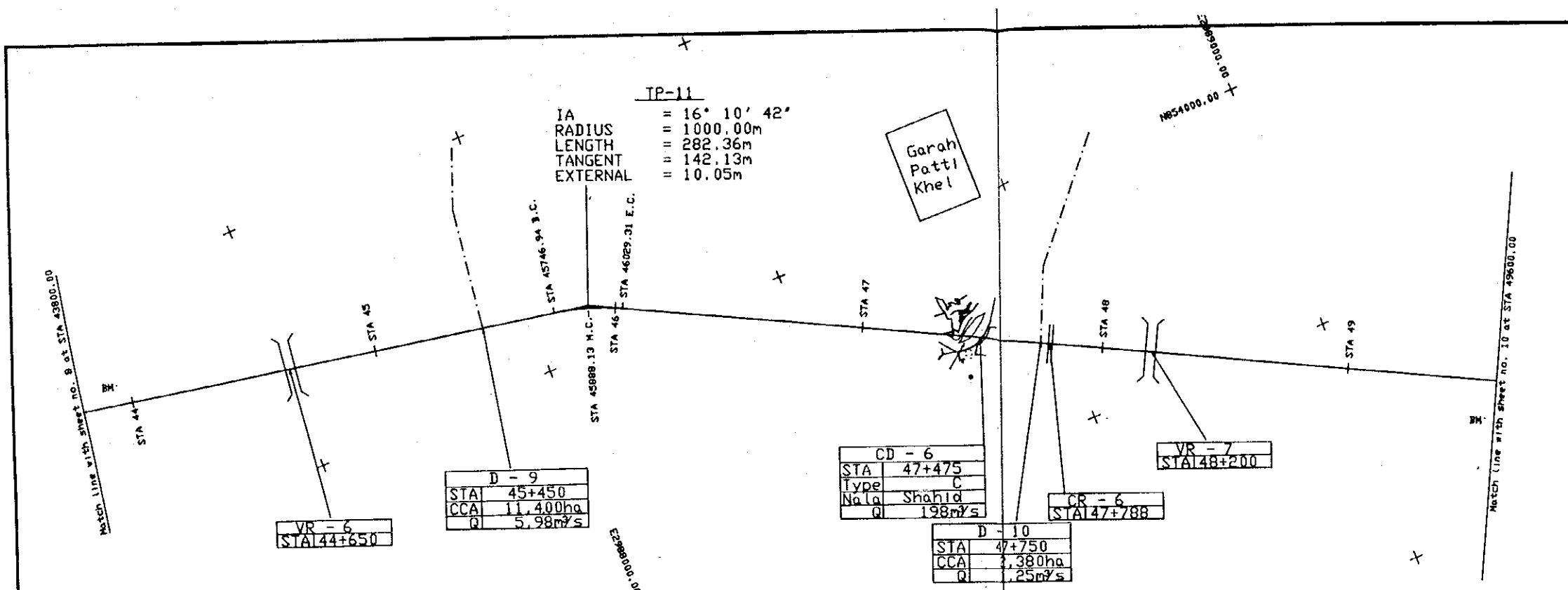


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (8/20)
 FROM : 37+800 TO : 43+800
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

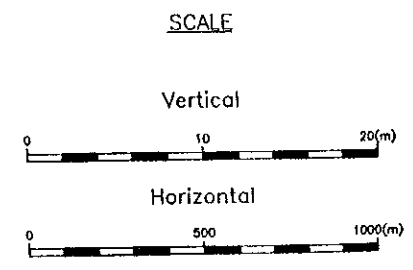
LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributary
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| BM | 858719.94 | 2989538.22 | 206.63 |
| TP-11 | 856758.00 | 2989183.69 | 205.15 |
| BM | 853603.09 | 2987515.86 | 204.57 |



| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | SECTION PROPERTIES | | | | | | | | | | | | | | |
|-------------|----------|------------------|--------|-----------|---------------------------|----------------------------------|----------------------|---------------------|-----------|-----------------------------|----------------------------|----------------------|---------------------|----------------------|--|--|--|--|--|--|
| | | | | | | Discharge = 53 m ³ /s | Bed Slope = 1/14,000 | Bed Width = 10.00 m | n = 0.016 | Area = 55.76 m ² | Wetted Perimeter = 23.23 m | Water Depth = 3.53 m | Velocity = 0.95 m/s | Side Slope = 1 : 1.5 | | | | | | |
| +800 | 200.00 | 43,800.00 | 205.80 | 201.93 | 205.46 | | | | | | | | | | | | | | | |
| STA. 44 | 200.00 | 44,000.00 | 205.60 | 201.92 | 205.45 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 44,200.00 | 205.50 | 201.90 | 205.43 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 44,400.00 | 205.30 | 201.89 | 205.42 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 44,600.00 | 205.40 | 201.87 | 205.40 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 44,800.00 | 205.40 | 201.83 | 205.36 | | | | | | | | | | | | | | | |
| STA. 45 | 200.00 | 45,000.00 | 205.40 | 201.82 | 205.35 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 45,200.00 | 206.10 | 201.80 | 205.33 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 45,400.00 | 205.90 | 201.79 | 205.32 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 45,600.00 | 205.80 | 201.77 | 205.30 | | | | | | | | | | | | | | | |
| B.C. 11 | 146.95 | 45,746.95 | 205.37 | 201.77 | 205.30 | | | | | | | | | | | | | | | |
| +800 | 59.05 | 45,800.00 | 205.36 | 201.76 | 205.29 | | | | | | | | | | | | | | | |
| H.C. 11 | 88.13 | 45,888.13 | 205.15 | 201.75 | 205.28 | | | | | | | | | | | | | | | |
| STA. 46 | 134.87 | 46,022.97 | 204.88 | 201.74 | 205.27 | | | | | | | | | | | | | | | |
| +200 | 170.69 | 46,200.00 | 204.70 | 201.73 | 205.26 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 46,400.00 | 204.30 | 201.72 | 205.25 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 46,600.00 | 204.10 | 201.70 | 205.23 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 46,800.00 | 203.60 | 201.69 | 205.22 | | | | | | | | | | | | | | | |
| STA. 47 | 200.00 | 47,000.00 | 203.30 | 201.67 | 205.20 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 47,200.00 | 203.10 | 201.65 | 205.19 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 47,400.00 | 202.20 | 201.64 | 205.17 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 47,600.00 | 202.80 | 201.63 | 205.16 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 47,800.00 | 203.20 | 201.60 | 205.13 | | | | | | | | | | | | | | | |
| STA. 48 | 200.00 | 48,000.00 | 203.20 | 201.58 | 205.11 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 48,200.00 | 203.30 | 201.57 | 205.10 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 48,400.00 | 203.30 | 201.52 | 205.05 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 48,600.00 | 203.30 | 201.51 | 205.04 | | | | | | | | | | | | | | | |
| +800 | 200.00 | 48,800.00 | 203.20 | 201.49 | 205.02 | | | | | | | | | | | | | | | |
| STA. 49 | 200.00 | 49,000.00 | 203.20 | 201.48 | 205.01 | | | | | | | | | | | | | | | |
| +200 | 200.00 | 49,200.00 | 203.50 | 201.47 | 205.00 | | | | | | | | | | | | | | | |
| +400 | 200.00 | 49,400.00 | 203.80 | 201.45 | 204.98 | | | | | | | | | | | | | | | |
| +600 | 200.00 | 49,600.00 | 203.70 | 201.44 | 204.97 | | | | | | | | | | | | | | | |



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (9/20)
 FROM : 43+800 TO : 49+600
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

| |
|------------------------|
| CD - 7 |
| STA 49+620 |
| Type C |
| No to Rada |
| Q 7.1m ³ /s |

| |
|-------------------------|
| CD - 8 |
| STA 51+400 |
| Type C |
| No to Bhour |
| Q 1.56m ³ /s |

| |
|-------------------------|
| D - 11 |
| STA 50+100 |
| CCA 2.660ha |
| Q 1.40m ³ /s |

| |
|------------|
| VR - 8 |
| STA 51+600 |

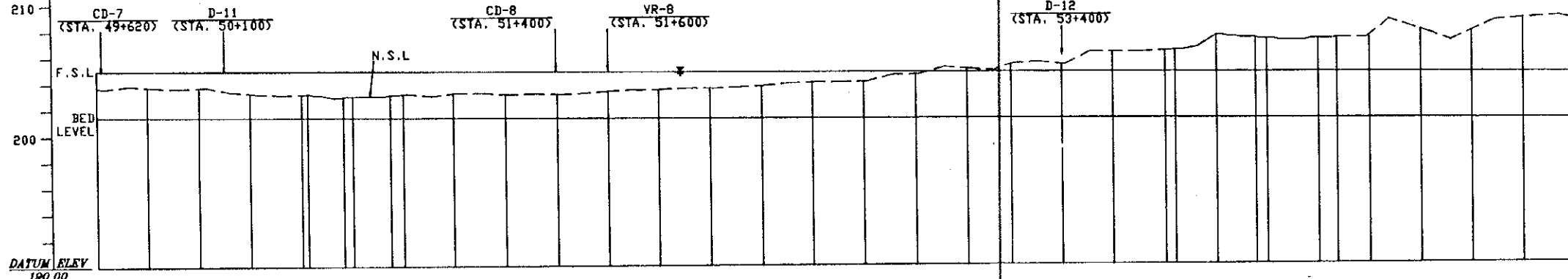
| |
|-------------------------|
| D - 12 |
| STA 53+400 |
| CCA 13.620ha |
| Q 7.15m ³ /s |

| |
|-------------------|
| TP-13 |
| IA = 36° 16' 40" |
| RADIUS = 1000.00m |
| LENGTH = 633.17m |
| TANGENT = 327.60m |
| EXTERNAL = 52.29m |

LEGEND

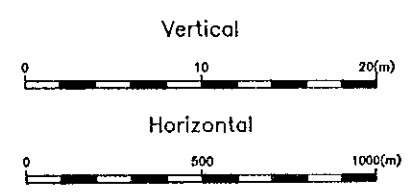
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributary
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-ND. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-12 | 852543.41 | 2987089.37 | 203.11 |
| TP-13 | 850958.51 | 2983872.71 | 206.74 |

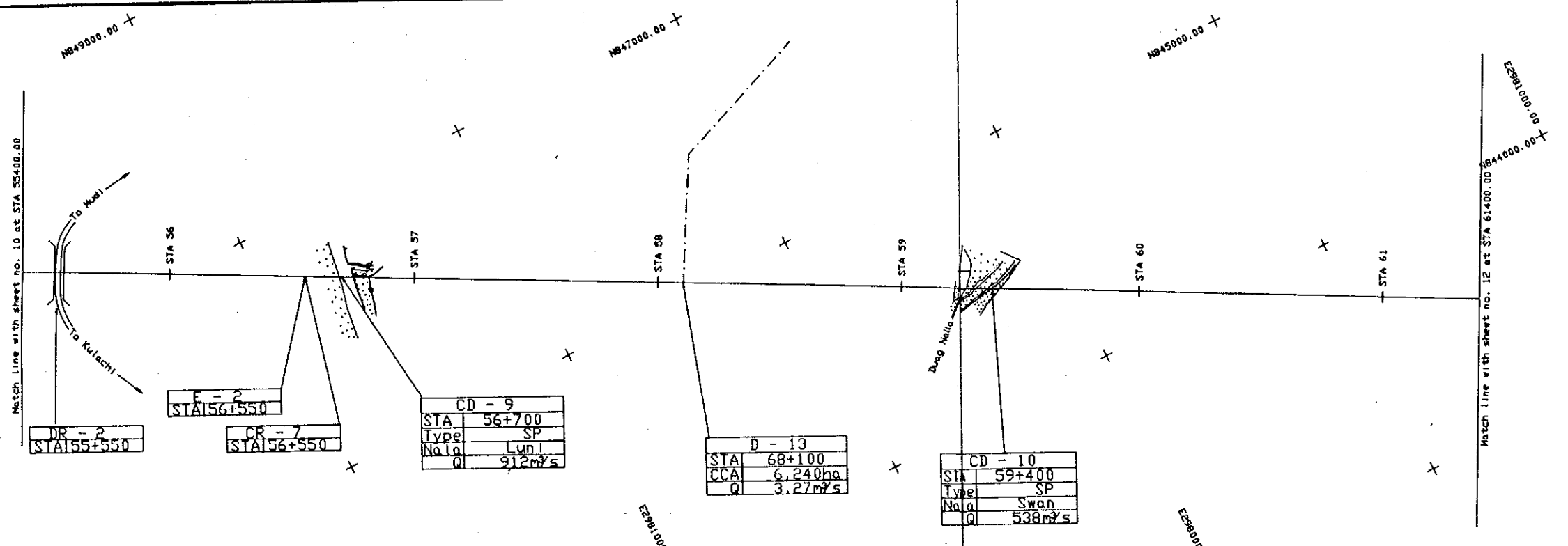


| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | SECTION 2 | | | |
|-------------|----------|------------------|--------|-----------|---------------------------|----------------------|-----------|-----------|-----------------------|
| | | | | | | Discharge | Bed Slope | Bed Width | Area Wetted Perimeter |
| +600 | 200.00 | 49,600.00 | 203.70 | 201.44 | 204.97 | 53 m ³ /s | 1/14,000 | 10.00 m | 55.76 m |
| +800 | 200.00 | 49,800.00 | 203.80 | 201.42 | 204.95 | | | | 23.23 m |
| STA. 50 | 200.00 | 50,000.00 | 203.70 | 201.41 | 204.94 | | | | |
| +200 | 200.00 | 50,200.00 | 203.30 | 201.39 | 204.92 | | | | |
| +400 | 200.05 | 50,400.00 | 203.20 | 201.38 | 204.91 | | | | |
| B.C. 12 | 24.47 | 50,424.47 | 203.18 | 201.36 | 204.91 | | | | |
| M.C. 12 | 162.95 | 50,587.42 | 203.11 | 201.37 | 204.90 | | | | |
| +600 | 12.58 | 50,600.00 | 203.00 | 201.37 | 204.90 | | | | |
| E.C. 12 | 150.36 | 50,750.36 | 203.07 | 201.36 | 204.89 | | | | |
| +800 | 49.62 | 50,800.00 | 203.10 | 201.35 | 204.88 | | | | |
| STA. 51 | 200.00 | 51,000.00 | 203.20 | 201.34 | 204.87 | | | | |
| +200 | 200.00 | 51,200.00 | 203.10 | 201.32 | 204.85 | | | | |
| +400 | 200.00 | 51,400.00 | 203.10 | 201.31 | 204.84 | | | | |
| +600 | 200.00 | 51,600.00 | 203.20 | 201.29 | 204.82 | | | | |
| +800 | 200.00 | 51,800.00 | 203.40 | 201.25 | 204.78 | | | | |
| STA. 52 | 200.00 | 52,000.00 | 203.50 | 201.24 | 204.77 | | | | |
| +200 | 200.00 | 52,200.00 | 203.70 | 201.22 | 204.75 | | | | |
| +400 | 200.00 | 52,400.00 | 203.90 | 201.21 | 204.74 | | | | |
| +600 | 200.00 | 52,600.00 | 204.00 | 201.19 | 204.72 | | | | |
| +800 | 200.00 | 52,800.00 | 204.50 | 201.18 | 204.71 | | | | |
| STA. 53 | 200.00 | 53,000.00 | 204.90 | 201.16 | 204.69 | | | | |
| +200 | 200.00 | 53,200.00 | 205.20 | 201.15 | 204.68 | | | | |
| +400 | 200.00 | 53,400.00 | 205.20 | 201.14 | 204.67 | | | | |
| +600 | 200.00 | 53,600.00 | 206.20 | 201.12 | 204.65 | | | | |
| +800 | 200.00 | 53,800.00 | 206.20 | 201.11 | 204.64 | | | | |
| B.C. 13 | 39.71 | 53,839.71 | 206.28 | 201.11 | 204.64 | | | | |
| STA. 54 | 160.29 | 54,000.00 | 207.40 | 201.09 | 204.62 | | | | |
| M.C. 13 | 156.30 | 54,156.30 | 206.97 | 201.08 | 204.61 | | | | |
| +200 | 43.70 | 54,200.00 | 207.10 | 201.08 | 204.61 | | | | |
| +400 | 200.00 | 54,400.00 | 207.10 | 201.06 | 204.59 | | | | |
| E.C. 13 | 72.68 | 54,472.68 | 207.15 | 201.06 | 204.59 | | | | |
| +600 | 127.12 | 54,600.00 | 207.50 | 201.05 | 204.58 | | | | |
| +800 | 200.00 | 54,800.00 | 207.70 | 201.04 | 204.57 | | | | |
| STA. 55 | 200.00 | 55,000.00 | 207.60 | 201.02 | 204.55 | | | | |
| +200 | 200.00 | 55,200.00 | 208.60 | 201.01 | 204.54 | | | | |
| +400 | 200.00 | 55,400.00 | 208.50 | 201.01 | 204.54 | | | | |

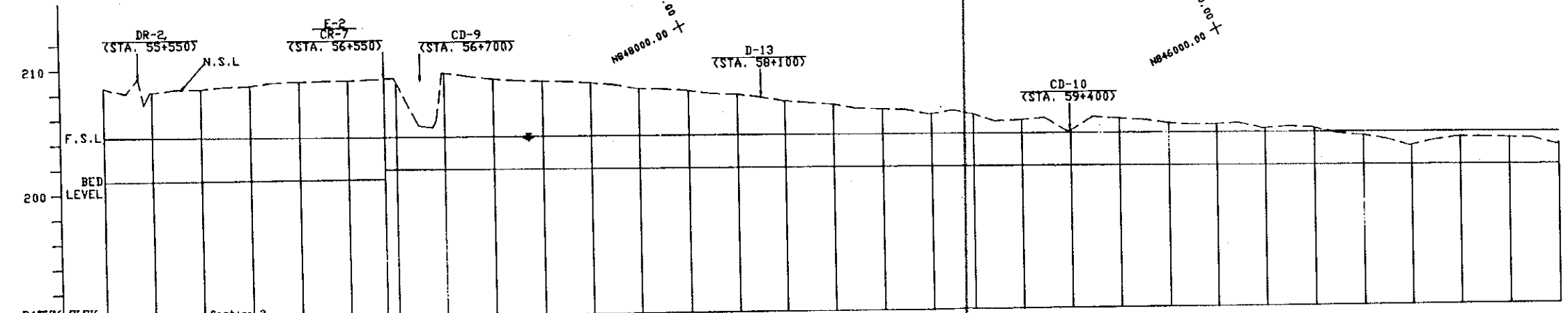
SCALE



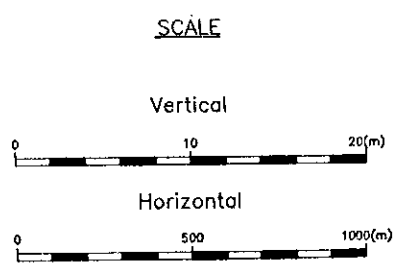
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (10/20)
 FROM : 49+600 TO : 55+400
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



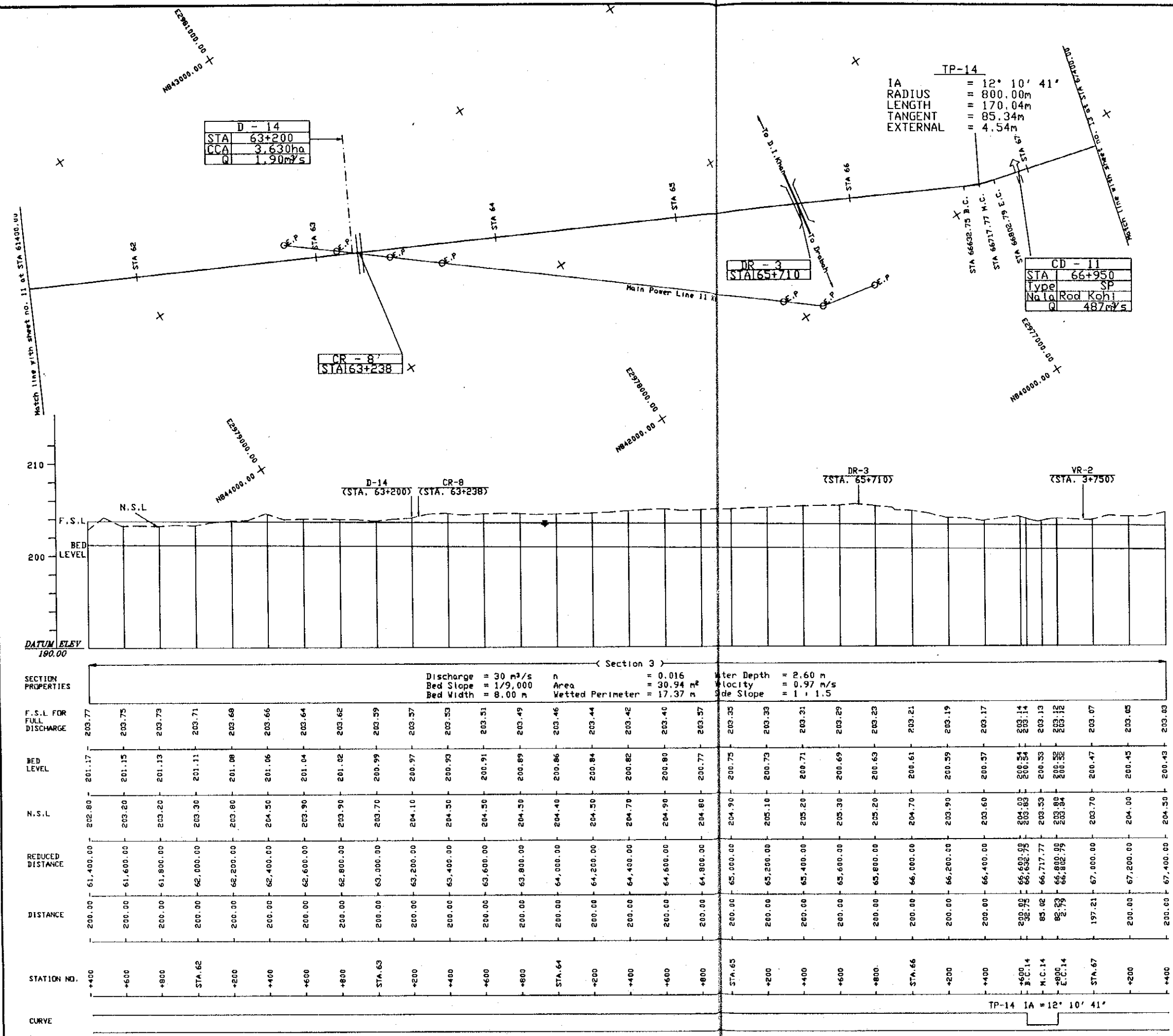
- LEGEND**
- AR Bridge (Arterial Road)
 - C Nala Culvert
 - CCA Cultivable Commanded Area
 - CD Cross Drainage
 - CR Cross Regulator
 - D Distributory
 - DR Bridge (District Road)
 - E Escape
 - Q Discharge
 - SP Super Passage
 - STA Station
 - YR Bridge (Village Road)



| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | SECTION 2 | | SECTION 3 | |
|-------------|----------|------------------|--------|-----------|---------------------------|-----------------------------|-----------|-----------------------------|-----------|
| | | | | | | Discharge | Bed Slope | Discharge | Bed Slope |
| +400 | 200.00 | 35,400.00 | 208.50 | 200.99 | 204.52 | 30 m ³ /s | 1/9,000 | 30 m ³ /s | 1/9,000 |
| +600 | 200.00 | 35,600.00 | 208.10 | 200.94 | 204.47 | Area = 53.77 m ² | 1/9,000 | Area = 30.94 m ² | 1/9,000 |
| +800 | 200.00 | 35,800.00 | 208.40 | 200.92 | 204.45 | Wetted Perimeter = 17.37 m | 1/9,000 | Wetted Perimeter = 17.37 m | 1/9,000 |
| STA. 56 | 200.00 | 56,000.00 | 208.60 | 200.91 | 204.44 | Water Depth = 2.60 m | 1/9,000 | Water Depth = 2.60 m | 1/9,000 |
| +200 | 200.00 | 56,200.00 | 208.90 | 200.90 | 204.43 | Velocity = 0.97 m/s | 1/9,000 | Velocity = 0.97 m/s | 1/9,000 |
| +400 | 200.00 | 56,400.00 | 209.00 | 200.88 | 204.41 | Side Slope = 1:1.5 | 1/9,000 | Side Slope = 1:1.5 | 1/9,000 |
| +600 | 150.00 | 56,530.00 | 208.96 | 200.87 | 204.40 | | | | |
| +800 | 50.00 | 56,600.00 | 208.80 | 200.78 | 204.38 | | | | |
| STA. 57 | 200.00 | 56,800.00 | 209.50 | 201.71 | 204.31 | | | | |
| +200 | 200.00 | 57,000.00 | 208.90 | 201.69 | 204.29 | | | | |
| +400 | 200.00 | 57,200.00 | 208.70 | 201.67 | 204.27 | | | | |
| +600 | 200.00 | 57,400.00 | 208.50 | 201.65 | 204.25 | | | | |
| +800 | 200.00 | 57,600.00 | 208.00 | 201.62 | 204.22 | | | | |
| STA. 58 | 200.00 | 57,800.00 | 207.80 | 201.60 | 204.20 | | | | |
| +200 | 200.00 | 58,000.00 | 207.40 | 201.58 | 204.18 | | | | |
| +400 | 200.00 | 58,200.00 | 206.90 | 201.56 | 204.16 | | | | |
| +600 | 200.00 | 58,400.00 | 206.53 | 201.54 | 204.14 | | | | |
| +800 | 200.00 | 58,600.00 | 206.10 | 201.51 | 204.11 | | | | |
| STA. 59 | 200.00 | 58,800.00 | 205.70 | 201.49 | 204.09 | | | | |
| +200 | 200.00 | 59,000.00 | 205.60 | 201.47 | 204.07 | | | | |
| +400 | 200.00 | 59,200.00 | 205.10 | 201.45 | 204.05 | | | | |
| +600 | 200.00 | 59,400.00 | 204.20 | 201.42 | 204.02 | | | | |
| +800 | 200.00 | 59,600.00 | 205.20 | 201.37 | 203.97 | | | | |
| STA. 60 | 200.00 | 59,800.00 | 204.70 | 201.35 | 203.95 | | | | |
| +200 | 200.00 | 60,000.00 | 204.50 | 201.33 | 203.93 | | | | |
| +400 | 200.00 | 60,200.00 | 204.20 | 201.31 | 203.91 | | | | |
| +600 | 200.00 | 60,400.00 | 204.20 | 201.28 | 203.88 | | | | |
| +800 | 200.00 | 60,600.00 | 203.60 | 201.26 | 203.86 | | | | |
| STA. 61 | 200.00 | 60,800.00 | 202.80 | 201.24 | 203.84 | | | | |
| +200 | 200.00 | 61,000.00 | 203.40 | 201.22 | 203.82 | | | | |
| +400 | 200.00 | 61,200.00 | 203.30 | 201.19 | 203.79 | | | | |
| +600 | 200.00 | 61,400.00 | 202.80 | 201.17 | 203.77 | | | | |



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (11/20)
 FROM : 55+400 TO : 61+400
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



| | |
|-----|-----------------------|
| D | = 14 |
| STA | 63+200 |
| CCA | 3.630ha |
| Q | 1.90m ³ /s |

TP-14
 IA = 12° 10' 41"
 RADIUS = 800.00m
 LENGTH = 170.04m
 TANGENT = 85.34m
 EXTERNAL = 4.54m

| |
|------------------------|
| CD - 11 |
| STA 66+950 |
| Type SP |
| Nala Rod Kohi |
| Q 487m ³ /s |

| |
|------------|
| CR - 8 |
| STA 63+238 |

| |
|------------|
| DR - 3 |
| STA 65+710 |

LEGEND

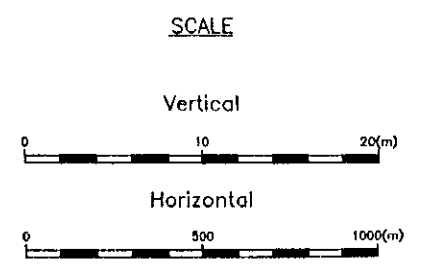
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributary
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-ND. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-14 | 839805.47 | 2978068.81 | 205.53 |

Section 3

| | | | | | |
|-----------|------------------------|------------------|------------------------|-------------|------------|
| Discharge | = 30 m ³ /s | n | = 0.016 | Water Depth | = 2.60 m |
| Bed Slope | = 1/9,000 | Area | = 30.94 m ² | Velocity | = 0.97 m/s |
| Bed Width | = 8.00 m | Wetted Perimeter | = 17.37 m | Side Slope | = 1 : 1.5 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------|---------------|---------------|---------------|-----------|-----------|-----------|-----------|--|--|
| F.S.L. FOR FULL DISCHARGE | 203.77 | 203.75 | 203.73 | 203.71 | 203.68 | 203.66 | 203.64 | 203.62 | 203.59 | 203.57 | 203.53 | 203.51 | 203.49 | 203.46 | 203.44 | 203.42 | 203.40 | 203.37 | 203.35 | 203.33 | 203.31 | 203.29 | 203.23 | 203.21 | 203.19 | 203.17 | 203.14 | 203.14 | 203.13 | 203.12 | 203.12 | 203.07 | 203.05 | 203.03 | | | |
| BED LEVEL | 201.17 | 201.15 | 201.13 | 201.11 | 201.08 | 201.06 | 201.04 | 201.02 | 200.99 | 200.97 | 200.93 | 200.91 | 200.89 | 200.86 | 200.84 | 200.82 | 200.80 | 200.77 | 200.75 | 200.73 | 200.71 | 200.69 | 200.63 | 200.61 | 200.59 | 200.57 | 200.54 | 200.54 | 200.53 | 200.52 | 200.52 | 200.47 | 200.45 | 200.43 | | | |
| N.S.L. | 202.80 | 203.20 | 203.20 | 203.30 | 203.80 | 204.50 | 203.90 | 203.90 | 203.70 | 204.10 | 204.50 | 204.50 | 204.50 | 204.40 | 204.50 | 204.70 | 204.90 | 204.80 | 204.90 | 205.10 | 205.20 | 205.30 | 205.20 | 204.70 | 203.90 | 203.60 | 204.00 | 203.83 | 203.53 | 203.80 | 203.84 | 203.70 | 204.00 | 204.50 | | | |
| REDUCED DISTANCE | 61,400.00 | 61,600.00 | 61,800.00 | 62,000.00 | 62,200.00 | 62,400.00 | 62,600.00 | 62,800.00 | 63,000.00 | 63,200.00 | 63,400.00 | 63,600.00 | 63,800.00 | 64,000.00 | 64,200.00 | 64,400.00 | 64,600.00 | 64,800.00 | 65,000.00 | 65,200.00 | 65,400.00 | 65,600.00 | 65,800.00 | 66,000.00 | 66,200.00 | 66,400.00 | 66,600.00 | 66,632.75 | 66,632.75 | 66,717.77 | 66,800.00 | 66,802.75 | 67,000.00 | 67,200.00 | 67,400.00 | | |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | | |
| STATION NO. | +400 | +600 | +800 | STA. 62 | +200 | +400 | +600 | +800 | STA. 63 | +200 | +400 | +600 | +800 | STA. 64 | +200 | +400 | +600 | +800 | STA. 65 | +200 | +400 | +600 | +800 | STA. 66 | +200 | +400 | +600 | 66,600.00 B.C. 14 | 85.02 M.C. 14 | 82.23 E.C. 14 | 82.75 E.C. 14 | STA. 67 | +200 | +400 | | | |
| CURVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

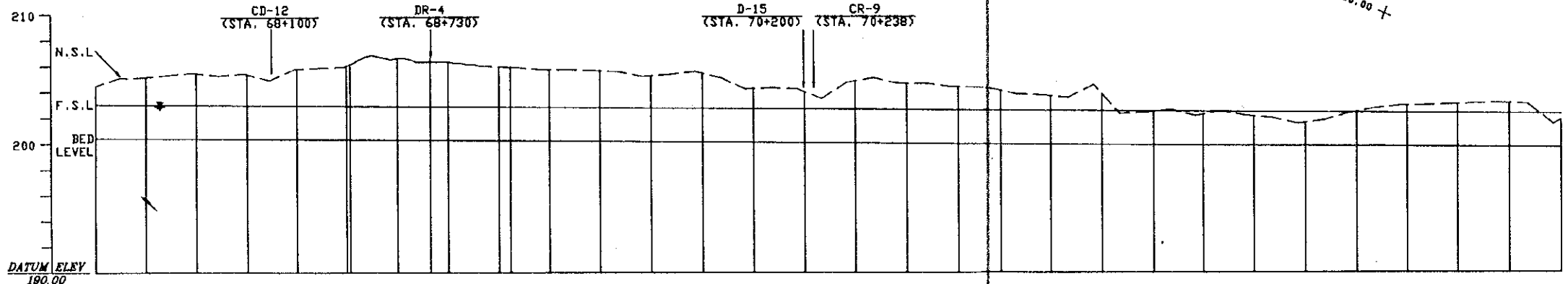
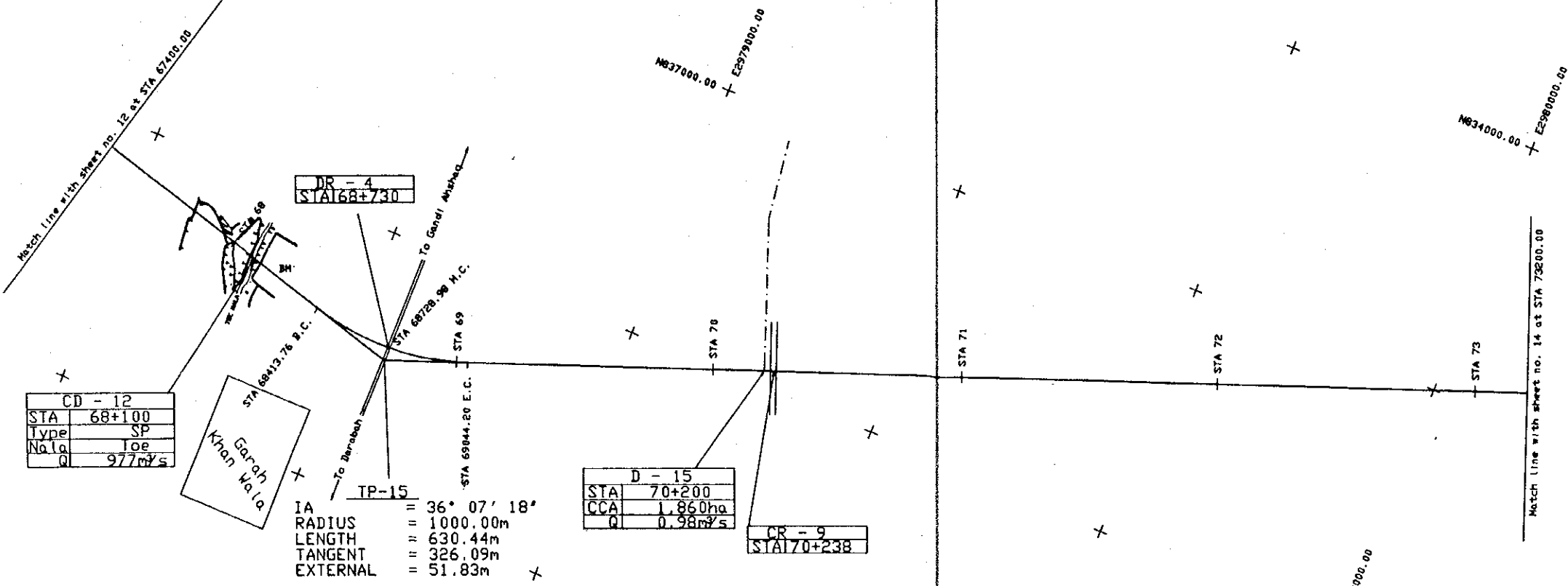


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (12/20)
 FROM : 61+400 TO : 67+400
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

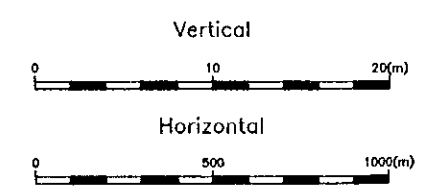
- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| BM | 838439.19 | 2977694.47 | 206.85 |
| TP-15 | 837854.87 | 2977537.68 | 207.75 |



| STATION NO. | SECTION PROPERTIES | | Discharge = 30 m ³ /s | | n = 0.016 | | Water Depth = 2.60 m | |
|-------------|---------------------------|-----------|----------------------------------|-----------------------------|----------------------------|---------------------|----------------------|--|
| | F.S.L. FOR FULL DISCHARGE | BED LEVEL | Bed Slope = 1/9,000 | Area = 30.94 m ² | Wetted Perimeter = 17.37 m | Velocity = 0.97 m/s | Side Slope = 1 : 1.5 | |
| +400 | 203.03 | 200.43 | | | | | | |
| +600 | 203.00 | 200.40 | | | | | | |
| +800 | 202.96 | 200.38 | | | | | | |
| STA. 68 | 202.96 | 200.36 | | | | | | |
| +200 | 202.89 | 200.29 | | | | | | |
| +400 | 202.86 | 200.26 | | | | | | |
| B.C. 15 | 202.86 | 200.26 | | | | | | |
| +600 | 202.84 | 200.24 | | | | | | |
| M.C. 13 | 202.83 | 200.23 | | | | | | |
| +800 | 202.79 | 200.19 | | | | | | |
| STA. 69 | 202.77 | 200.17 | | | | | | |
| E.C. 15 | 202.76 | 200.16 | | | | | | |
| +200 | 202.75 | 200.15 | | | | | | |
| +400 | 202.72 | 200.12 | | | | | | |
| +600 | 202.70 | 200.10 | | | | | | |
| +800 | 202.68 | 200.08 | | | | | | |
| STA. 70 | 202.66 | 200.06 | | | | | | |
| +200 | 202.63 | 200.03 | | | | | | |
| +400 | 202.59 | 199.99 | | | | | | |
| +600 | 202.57 | 199.97 | | | | | | |
| +800 | 202.55 | 199.95 | | | | | | |
| STA. 71 | 202.53 | 199.93 | | | | | | |
| +200 | 202.50 | 199.90 | | | | | | |
| +400 | 202.48 | 199.88 | | | | | | |
| +600 | 202.46 | 199.86 | | | | | | |
| +800 | 202.44 | 199.84 | | | | | | |
| STA. 72 | 202.41 | 199.81 | | | | | | |
| +200 | 202.39 | 199.79 | | | | | | |
| +400 | 202.37 | 199.77 | | | | | | |
| +600 | 202.35 | 199.75 | | | | | | |
| +800 | 202.33 | 199.73 | | | | | | |
| STA. 73 | 202.30 | 199.70 | | | | | | |
| +200 | 202.28 | 199.68 | | | | | | |

SCALE



ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
(13/20)

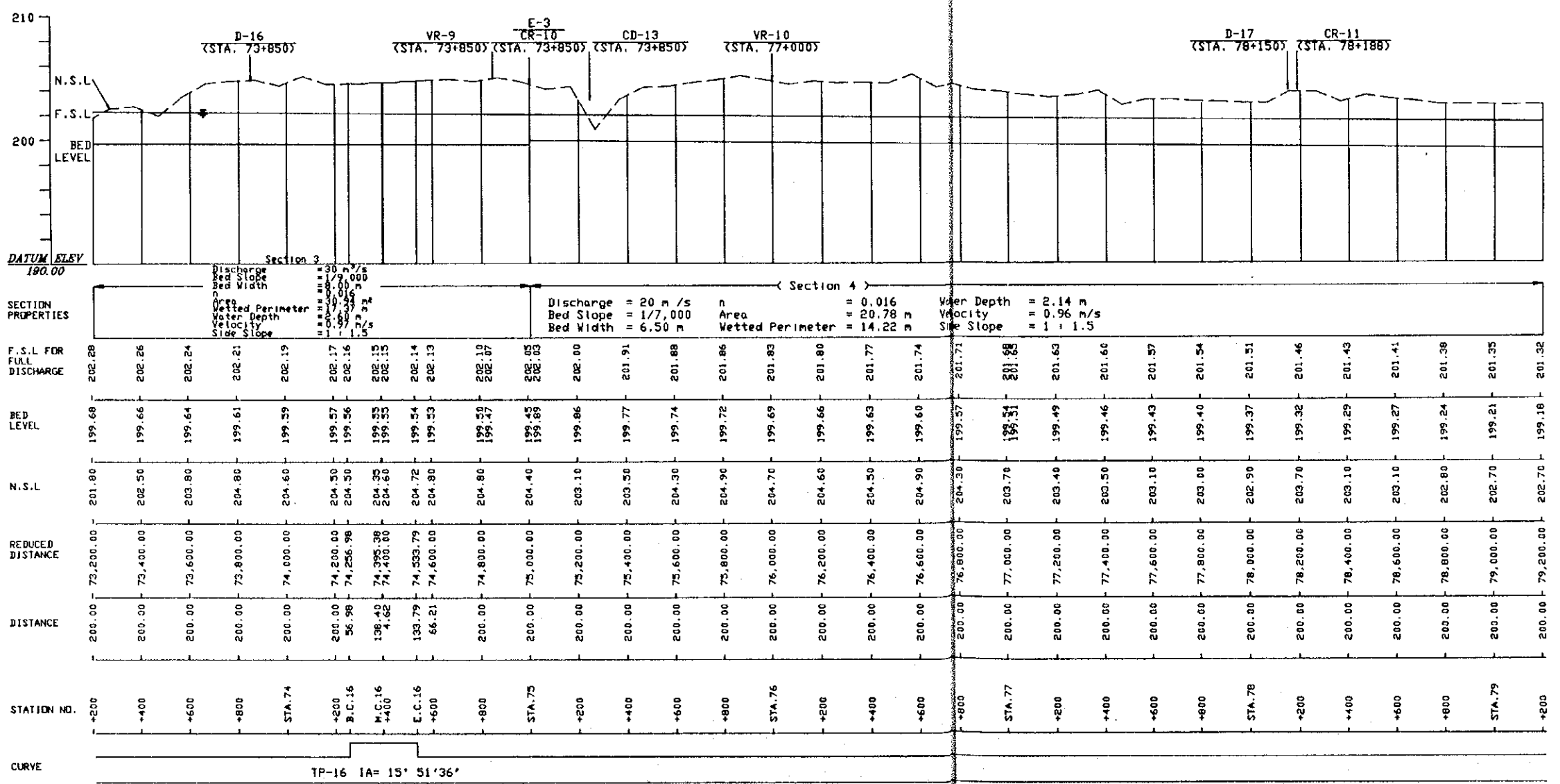
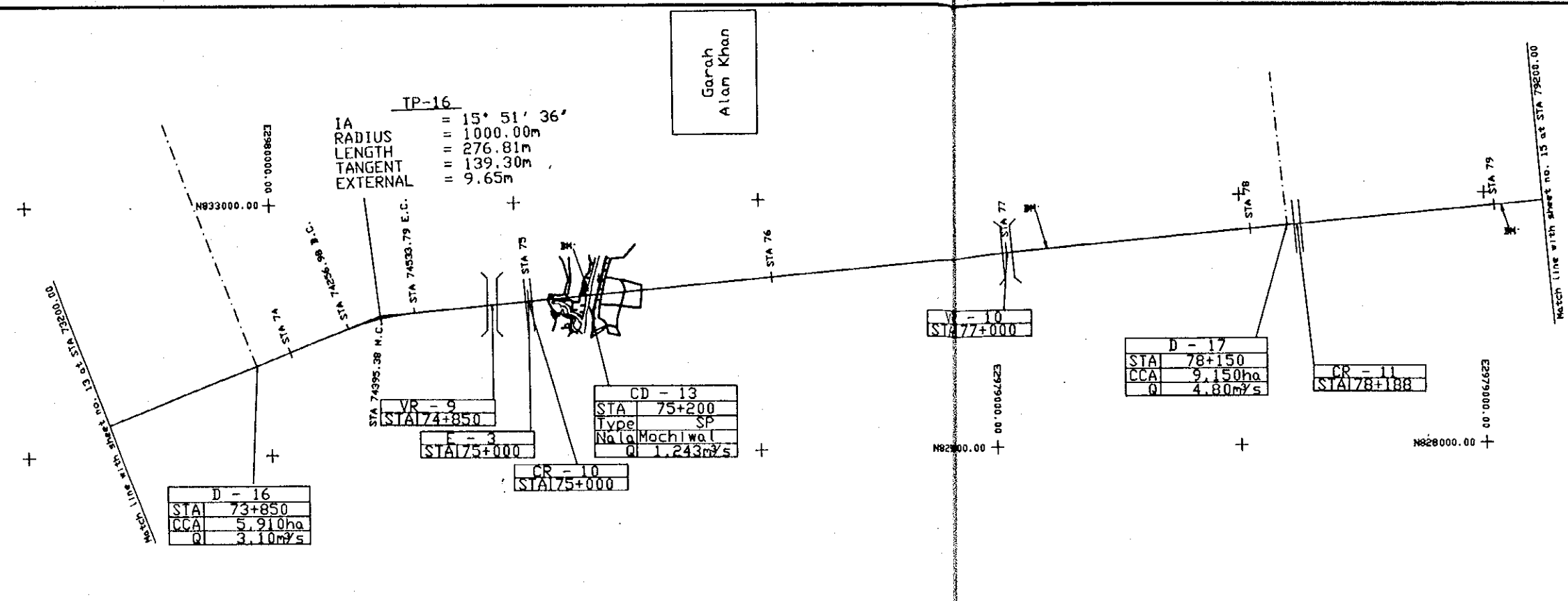
FROM : 67+400 TO : 73+200

JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

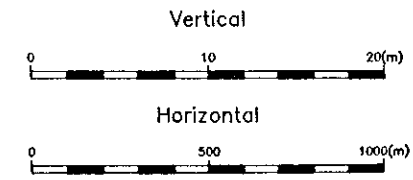
LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | EI. (m) |
|--------|-----------|------------|---------|
| TP-16 | 832547.05 | 2979551.76 | 204.35 |
| BH | 831701.77 | 2979648.70 | 204.30 |
| BH | 829789.05 | 2979789.64 | 204.39 |
| BH | 827932.55 | 2979951.25 | 203.96 |



SCALE



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
 (14/20)

FROM : 73+200 TO : 79+200

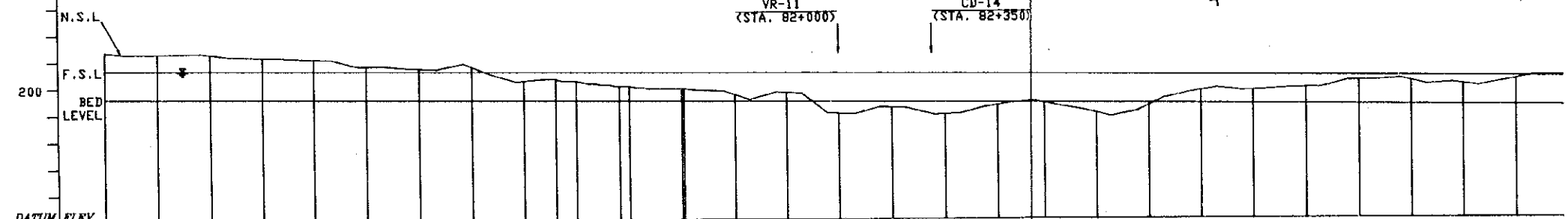
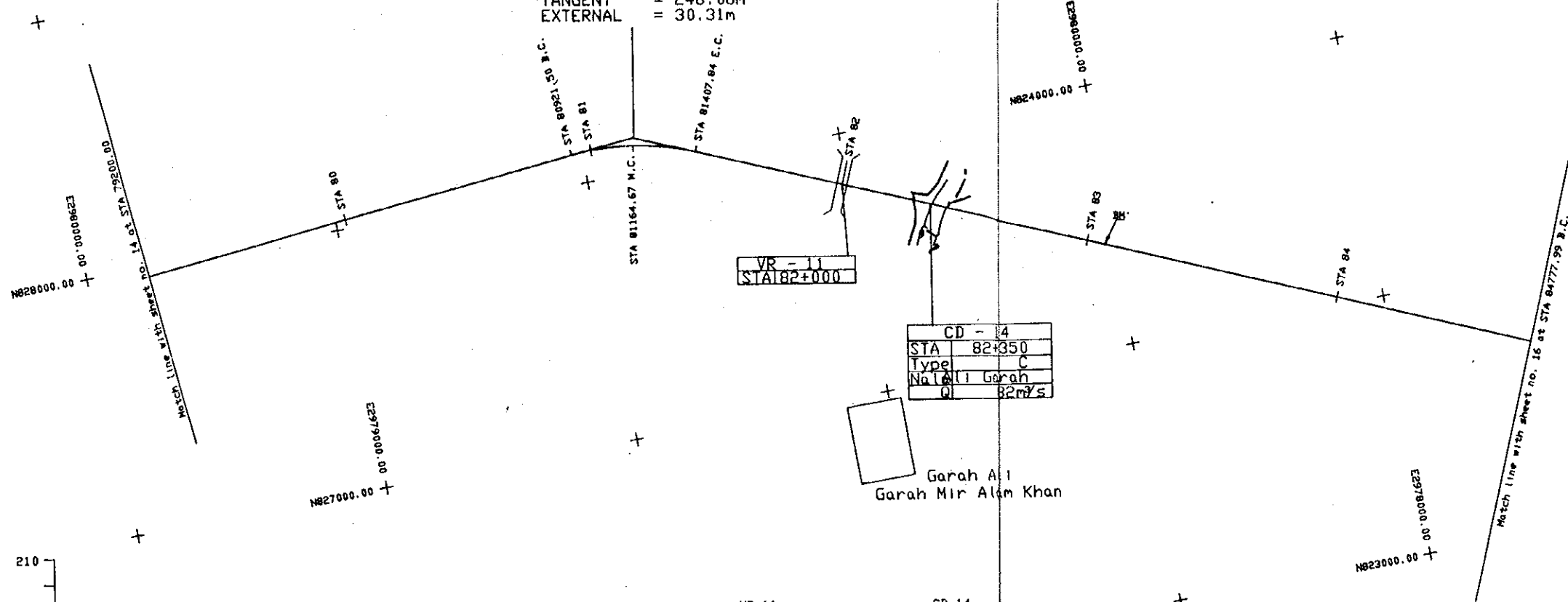
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

TP-17
 IA = 27° 51' 53"
 RADIUS = 1000.00m
 LENGTH = 486.34m
 TANGENT = 248.08m
 EXTERNAL = 30.31m

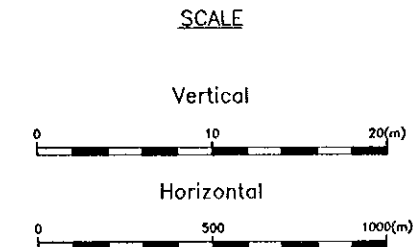
LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | EI. (m) |
|--------|-----------|------------|---------|
| TP-17 | 825797.21 | 2980136.10 | 200.12 |
| BM | 824037.76 | 2979392.25 | 200.32 |



| SECTION PROPERTIES | Section 4 | | | | | | | | | | | | | | | | | | | |
|--------------------------|--|--|-----------|-----------------------------|----------------------|---------------------|---------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | Discharge = 20 m ³ /s | | n = 0.016 | Area = 20.78 m ² | Water Depth = 2.14 m | Velocity = 0.96 m/s | Bed Slope = 1 : 1.5 | | | | | | | | | | | | | |
| F.S.L FOR FULL DISCHARGE | 201.32, 201.29, 201.26, 201.23, 201.21, 201.18, 201.15, 201.12, 201.09, 201.08, 201.06, 201.04, 201.03, 201.01, 200.98, 200.95, 200.92, 200.86, 200.83, 200.80, 200.78, 200.75, 200.72, 200.69, 200.66, 200.63, 200.60, 200.58, 200.55, 200.52, 200.49, 200.46, 200.44, 200.41, 200.38, 200.32, 200.49 | | | | | | | | | | | | | | | | | | | |
| BED LEVEL | 199.18, 199.15, 199.12, 199.12, 199.07, 199.04, 199.01, 198.98, 198.95, 198.94, 198.92, 198.89, 198.87, 198.84, 198.81, 198.78, 198.72, 198.69, 198.66, 198.64, 198.61, 198.58, 198.55, 198.52, 198.49, 198.46, 198.44, 198.41, 198.38, 198.35 | | | | | | | | | | | | | | | | | | | |
| N.S.L. | 202.70, 202.50, 202.50, 202.30, 202.10, 201.60, 201.40, 201.50, 200.40, 200.56, 200.40, 200.12, 199.89, 199.77, 199.30, 199.30, 198.30, 197.90, 198.30, 197.00, 198.50, 199.60, 197.90, 198.40, 199.50, 199.60, 199.70, 200.20, 200.20, 200.00, 200.30, 200.59 | | | | | | | | | | | | | | | | | | | |
| REDUCED DISTANCE | 79,200.00, 79,400.00, 79,600.00, 79,800.00, 80,000.00, 80,200.00, 80,400.00, 80,600.00, 80,800.00, 80,921.50, 81,000.00, 81,164.67, 81,200.00, 81,400.00, 81,407.84, 81,600.00, 81,800.00, 82,000.00, 82,200.00, 82,400.00, 82,600.00, 82,800.00, 83,000.00, 83,200.00, 83,400.00, 83,600.00, 83,800.00, 84,000.00, 84,200.00, 84,400.00, 84,600.00, 84,777.99 | | | | | | | | | | | | | | | | | | | |
| DISTANCE | 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 121.50, 78.50, 164.67, 35.33, 200.00, 7.84, 198.16, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 200.00, 177.99 | | | | | | | | | | | | | | | | | | | |
| STATION NO. | +200, +400, +600, +800, STA. 80, +200, +400, +600, +800, B.C. 17, STA. 81, M.C. 17, +200, +400, E.C. 17, +600, +800, STA. 82, +200, +400, +600, STA. 84, +200, +400, +600, B.C. 18 | | | | | | | | | | | | | | | | | | | |
| CURVE | TP-17 IA = 27° 51' 53" | | | | | | | | | | | | | | | | | | | |

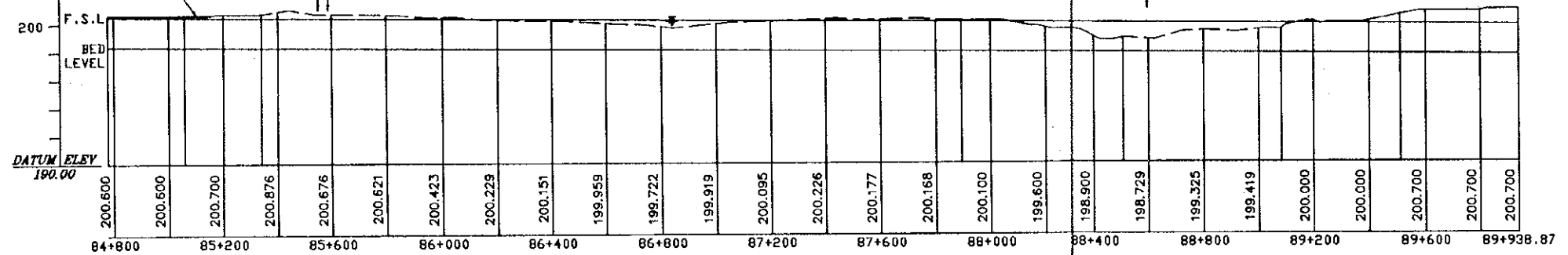
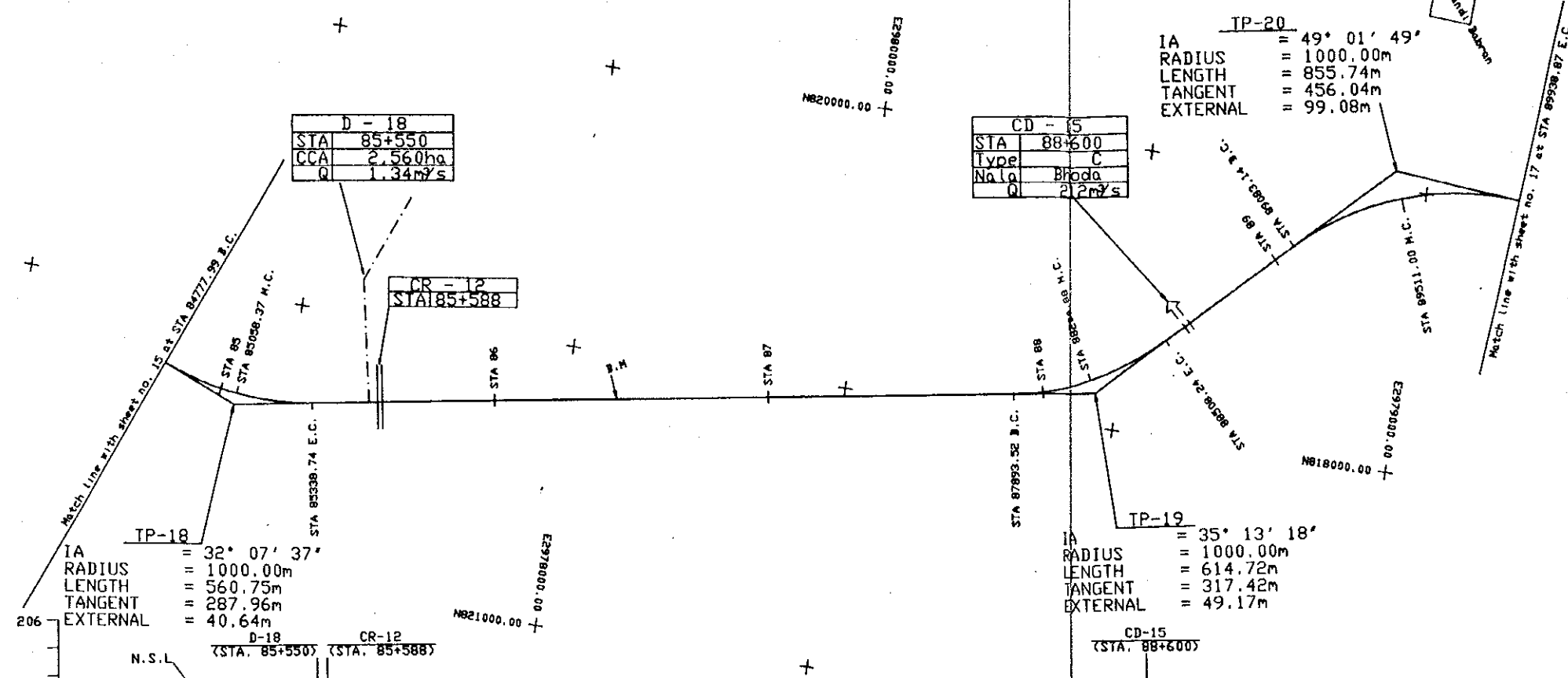


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (15/20)
 FROM : 79+200 TO : 84+777.99(B.C-18)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

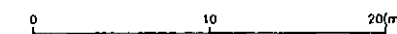
| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-18 | 822199.35 | 2978615.00 | 200.85 |
| BM | 820824.77 | 2978837.91 | 199.99 |
| TP-19 | 819079.94 | 2979120.86 | 200.10 |
| TP-20 | 818117.10 | 2980064.79 | 200.36 |



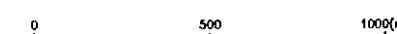
| SECTION PROPERTIES | | Discharge = 20 m ³ /s | | Area = 20.78 m ² | | Water Depth = 2.14 m | | |
|---------------------------|-----------|----------------------------------|-----------|-----------------------------|------------------|----------------------|-----------|------------------|
| | | Bed Slope = 1/7,000 | | Wetted Perimeter = 14.22 m | | Velocity = 0.96 m/s | | |
| | | Bed Width = 6.50 m | | n = 0.016 | | Side Slope = 1 : 1.5 | | |
| F.S.L. FOR FULL DISCHARGE | 200.49 | 200.46 | 200.45 | 200.43 | 200.41 | 200.40 | 200.36 | |
| BED LEVEL | 198.35 | 198.32 | 198.31 | 198.29 | 198.27 | 198.26 | 198.22 | |
| N.S.L. | 200.58 | 200.60 | 200.67 | 200.70 | 200.72 | 200.90 | 200.70 | |
| REDUCED DISTANCE | 84,277.95 | 85,000.00 | 85,058.37 | 85,200.00 | 85,338.74 | 85,400.00 | 85,600.00 | |
| DISTANCE | 17.95 | 200.00 | 58.37 | 141.63 | 138.74 | 61.26 | 200.00 | |
| STATION NO. | B.C.18 | STA.85 | M.C.18 | +200 | E.C.18 | +400 | +600 | |
| CURVE | TP-18 | IA = 32° 07' 37" | | TP-19 | IA = 35° 03' 18" | | TP-20 | IA = 49° 01' 49" |

SCALE

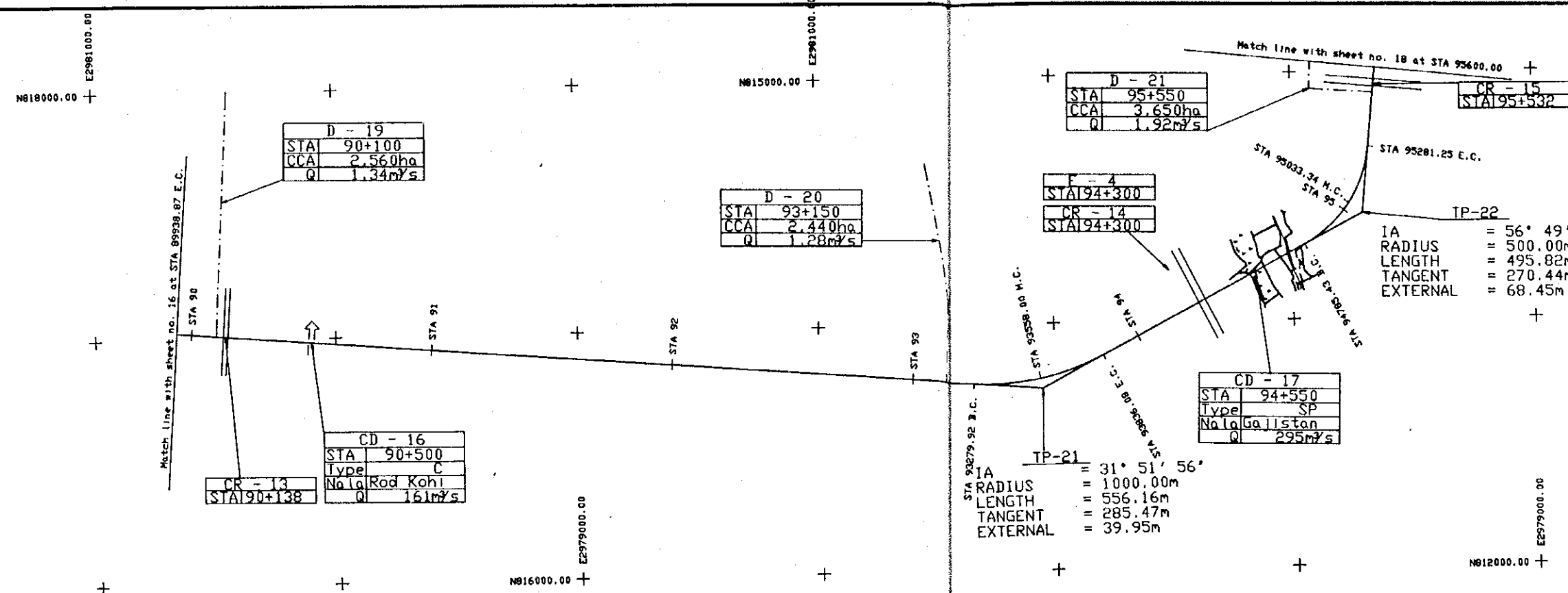
Vertical



Horizontal



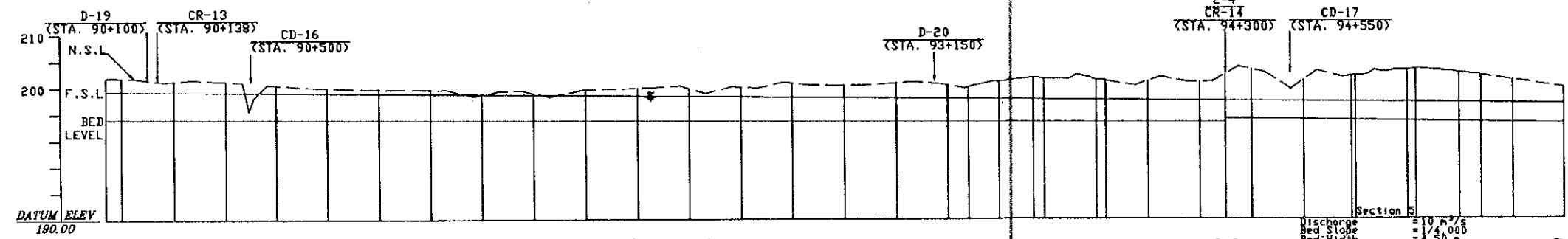
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (16/20)
 FROM : 84+777.99 TO : 89+938.87 (E.C.-20)
 (E.C.-18)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



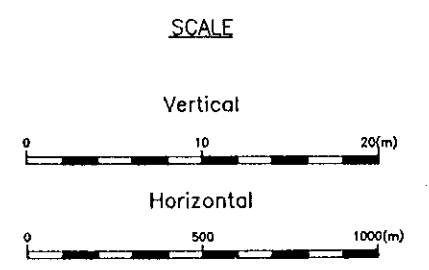
LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributary
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

| TP-NO. | N | E | EI. (m) |
|--------|-----------|------------|---------|
| TP-21 | 814047.67 | 3020135.00 | 200.80 |
| TP-22 | 812709.67 | 2980427.11 | 201.38 |



| STATION NO. | DISTANCE | REDUCED DISTANCE | N.S.L. | BED LEVEL | F.S.L. FOR FULL DISCHARGE | SECTION PROPERTIES | | | |
|-------------|----------|------------------|--------|-----------|---------------------------|----------------------------|----------------------|-----------|-------------|
| | | | | | | Discharge | Bed Slope | Bed Width | Water Depth |
| E.C.20 | 138.87 | 89,938.87 | 200.26 | 197.60 | 199.74 | 20 m ³ /s | 1/7,000 | 6.50 m | 2.14 m |
| STA. 90 | 61.13 | 90,000.00 | 200.70 | 197.59 | 199.73 | | | | |
| +200 | 200.00 | 90,200.00 | 200.30 | 197.54 | 199.68 | Wetted Perimeter = 14.22 m | Side Slope = 1 : 1.5 | | |
| +400 | 200.00 | 90,400.00 | 200.30 | 197.51 | 199.65 | | | | |
| +600 | 200.00 | 90,600.00 | 200.20 | 197.48 | 199.62 | | | | |
| +800 | 200.00 | 90,800.00 | 199.90 | 197.45 | 199.59 | | | | |
| STA. 91 | 200.00 | 91,000.00 | 199.90 | 197.42 | 199.56 | | | | |
| +200 | 200.00 | 91,200.00 | 199.80 | 197.40 | 199.54 | | | | |
| +400 | 200.00 | 91,400.00 | 199.50 | 197.37 | 199.31 | | | | |
| +600 | 200.00 | 91,600.00 | 198.50 | 197.34 | 199.48 | | | | |
| +800 | 200.00 | 91,800.00 | 198.50 | 197.31 | 199.45 | | | | |
| STA. 92 | 200.00 | 92,000.00 | 199.90 | 197.28 | 199.42 | | | | |
| +200 | 200.00 | 92,200.00 | 199.90 | 197.25 | 199.39 | | | | |
| +400 | 200.00 | 92,400.00 | 200.00 | 197.22 | 199.36 | | | | |
| +600 | 200.00 | 92,600.00 | 200.30 | 197.20 | 199.34 | | | | |
| +800 | 200.00 | 92,800.00 | 200.10 | 197.17 | 199.31 | | | | |
| STA. 93 | 200.00 | 93,000.00 | 200.30 | 197.14 | 199.28 | | | | |
| +200 | 200.00 | 93,200.00 | 200.10 | 197.11 | 199.25 | | | | |
| B.C.21 | 79.92 | 93,279.92 | 199.92 | 197.10 | 199.24 | | | | |
| +400 | 120.08 | 93,400.00 | 200.40 | 197.08 | 199.22 | | | | |
| M.C.21 | 158.00 | 93,558.00 | 200.80 | 197.06 | 199.20 | | | | |
| +600 | 42.00 | 93,600.00 | 200.60 | 197.05 | 199.19 | | | | |
| +800 | 200.00 | 93,800.00 | 200.50 | 197.02 | 199.16 | | | | |
| E.C.21 | 36.08 | 93,836.08 | 200.43 | 197.02 | 199.16 | | | | |
| STA. 94 | 163.92 | 94,000.00 | 200.00 | 197.00 | 199.14 | | | | |
| +200 | 200.00 | 94,200.00 | 200.40 | 196.97 | 199.11 | | | | |
| +300 | 100.00 | 94,300.00 | 200.80 | 196.92 | 199.07 | | | | |
| +400 | 100.00 | 94,400.00 | 201.30 | 197.56 | 199.05 | | | | |
| +600 | 200.00 | 94,600.00 | 200.50 | 197.48 | 198.97 | | | | |
| B.C.22 | 165.43 | 94,765.43 | 200.72 | 197.43 | 198.93 | | | | |
| +800 | 14.57 | 94,800.00 | 200.80 | 197.43 | 198.93 | | | | |
| STA. 95 | 200.00 | 95,000.00 | 201.20 | 197.38 | 198.87 | | | | |
| M.C.22 | 33.34 | 95,033.34 | 201.58 | 197.37 | 198.86 | | | | |
| +200 | 166.66 | 95,200.00 | 201.00 | 197.33 | 198.82 | | | | |
| E.C.22 | 81.23 | 95,281.23 | 200.80 | 197.31 | 198.80 | | | | |
| +400 | 118.75 | 95,400.00 | 200.50 | 197.28 | 198.77 | | | | |
| +600 | 200.00 | 95,600.00 | 199.90 | 197.21 | 198.70 | | | | |

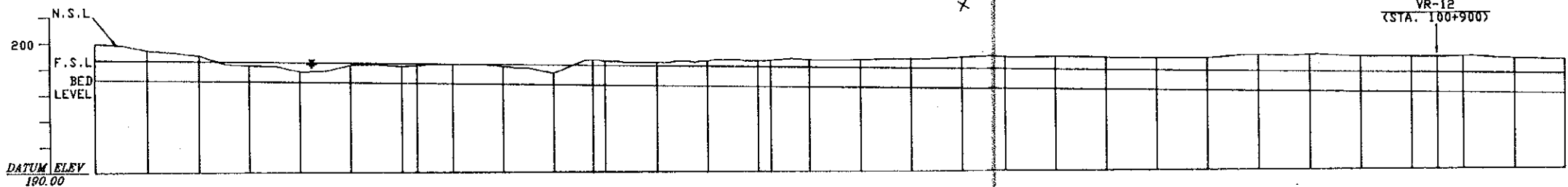
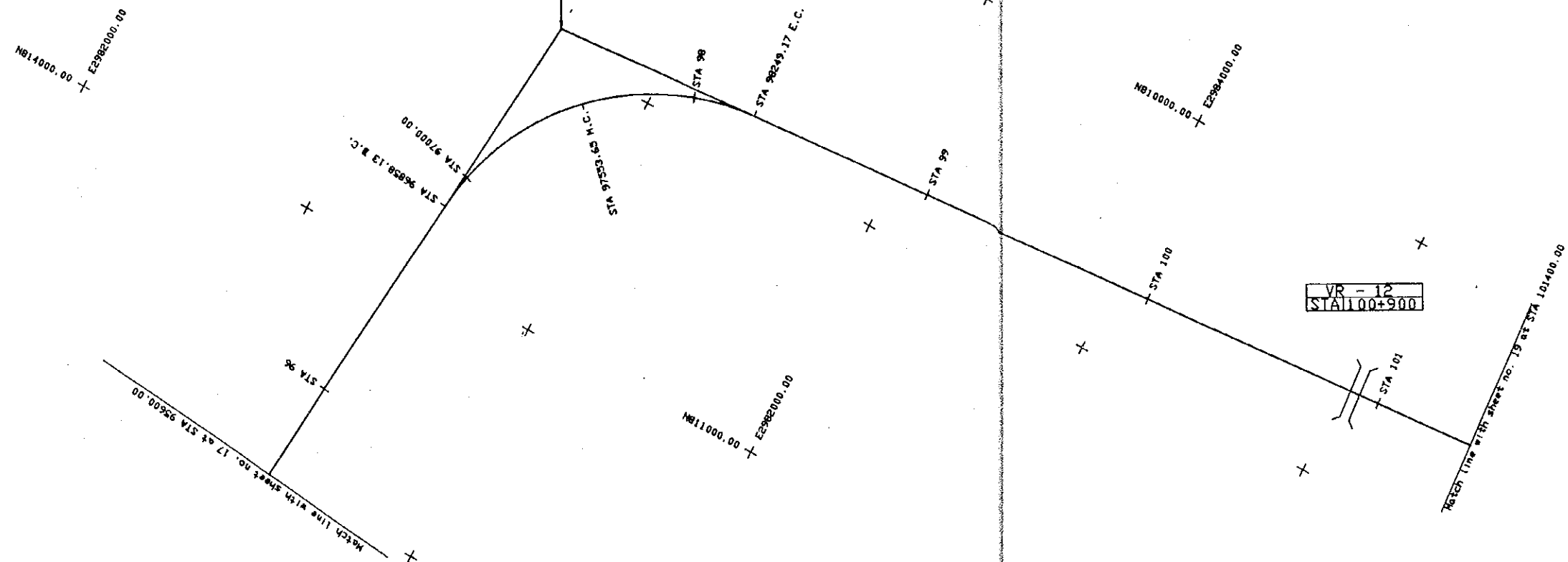


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (17/20)
 FROM : 89+936.87 TO : 95+600
 (E.C.)
 JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

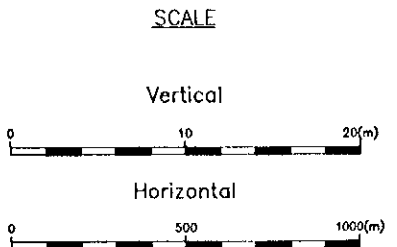
IP-23
 IA = 79° 42' 03"
 RADIUS = 1000.00m
 LENGTH = 1391.04m
 TANGENT = 834.66m
 EXTERNAL = 302.56m

- LEGEND**
- AR Bridge (Arterial Road)
 - C Na'a Culvert
 - CCA Cultivable Commanded Area
 - CD Cross Drainage
 - CR Cross Regulator
 - D Distributary
 - DR Bridge (District Road)
 - E Escape
 - Q Discharge
 - SP Super Passage
 - STA Station
 - VR Bridge (Village Road)

| TP-NO. | N | E | EL. (m) |
|--------|-----------|------------|---------|
| TP-23 | 812433.23 | 2983094.81 | 197.84 |



| SECTION PROPERTIES | | Discharge = 10 m ³ /s | | n = 0.016 | | Water Depth = 1.49 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|--|----------------------------------|-----------|-----------------------------|-----------|----------------------|-----------|-----------|-----------|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | Bed Slope = 1/4,000 | | Area = 10.04 m ² | | Velocity = 1.00 m/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Bed Width = 4.50 m | | Wetted Perimeter = 9.27 m | | Side Slope = 1 : 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F.S.L FOR FULL DISCHARGE | | 198.70 | 198.65 | 198.60 | 198.55 | 198.50 | 198.45 | 198.40 | 198.38 | 198.35 | 198.30 | 198.25 | 198.21 | 198.20 | 198.15 | 198.10 | 198.05 | 198.03 | 197.95 | 197.90 | 197.85 | 197.80 | 197.75 | 197.70 | 197.65 | 197.60 | 197.55 | 197.50 | 197.45 | 197.40 | 197.35 | 197.30 | 197.25 | |
| BED LEVEL | | 197.21 | 197.16 | 197.11 | 197.06 | 197.01 | 196.96 | 196.91 | 196.89 | 196.86 | 196.81 | 196.76 | 196.72 | 196.71 | 196.66 | 196.61 | 196.56 | 196.54 | 196.46 | 196.41 | 196.36 | 196.31 | 196.26 | 196.21 | 196.16 | 196.11 | 196.06 | 196.01 | 195.96 | 195.91 | 195.86 | 195.81 | 195.76 | |
| N.S.L | | 199.90 | 199.40 | 199.00 | 198.20 | 197.80 | 198.20 | 198.10 | 198.20 | 198.40 | 198.50 | 198.60 | 198.80 | 198.80 | 198.60 | 198.50 | 198.60 | 198.80 | 198.60 | 198.60 | 198.70 | 198.70 | 198.70 | 198.60 | 198.60 | 198.80 | 198.80 | 198.60 | 198.60 | 198.60 | 198.40 | 198.40 | 198.40 | 198.40 |
| REDUCED DISTANCE | | 95,600.00 | 95,800.00 | 96,000.00 | 96,200.00 | 96,400.00 | 96,600.00 | 96,800.00 | 96,858.13 | 97,000.00 | 97,200.00 | 97,400.00 | 97,553.65 | 97,600.00 | 97,800.00 | 98,000.00 | 98,200.00 | 98,249.17 | 98,400.00 | 98,600.00 | 98,800.00 | 99,000.00 | 99,200.00 | 99,400.00 | 99,600.00 | 99,800.00 | 100,000.00 | 100,200.00 | 100,400.00 | 100,600.00 | 100,800.00 | 101,000.00 | 101,200.00 | 101,400.00 |
| DISTANCE | | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 58.13 | 141.87 | 200.00 | 200.00 | 153.65 | 46.35 | 200.00 | 200.00 | 200.00 | 49.17 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | |
| STATION NO. | | +600 | +800 | STA. 96 | +200 | +400 | +600 | +800 | B.C. 23 | STA. 97 | +200 | +400 | M.C. 23 | +600 | +800 | STA. 98 | +200 | E.C. 23 | +400 | +600 | +800 | STA. 99 | +200 | +400 | +600 | STA. 100 | +200 | +400 | +600 | +800 | STA. 101 | +200 | +400 | |
| CURVE | | | | | | | | | | TP-23 IA = 79° 42' 03" | | | | | | | | | | | | | | | | | | | | | | | | |



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF MAIN CANAL
 (18/20)
 FROM : 95+600 TO : 101+400
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

| |
|-------------------------|
| D - 22 |
| STA 102+900 |
| CCA 3,250ha |
| Q 1.95m ³ /s |

| |
|-------------|
| CR - 16 |
| STA 102+932 |

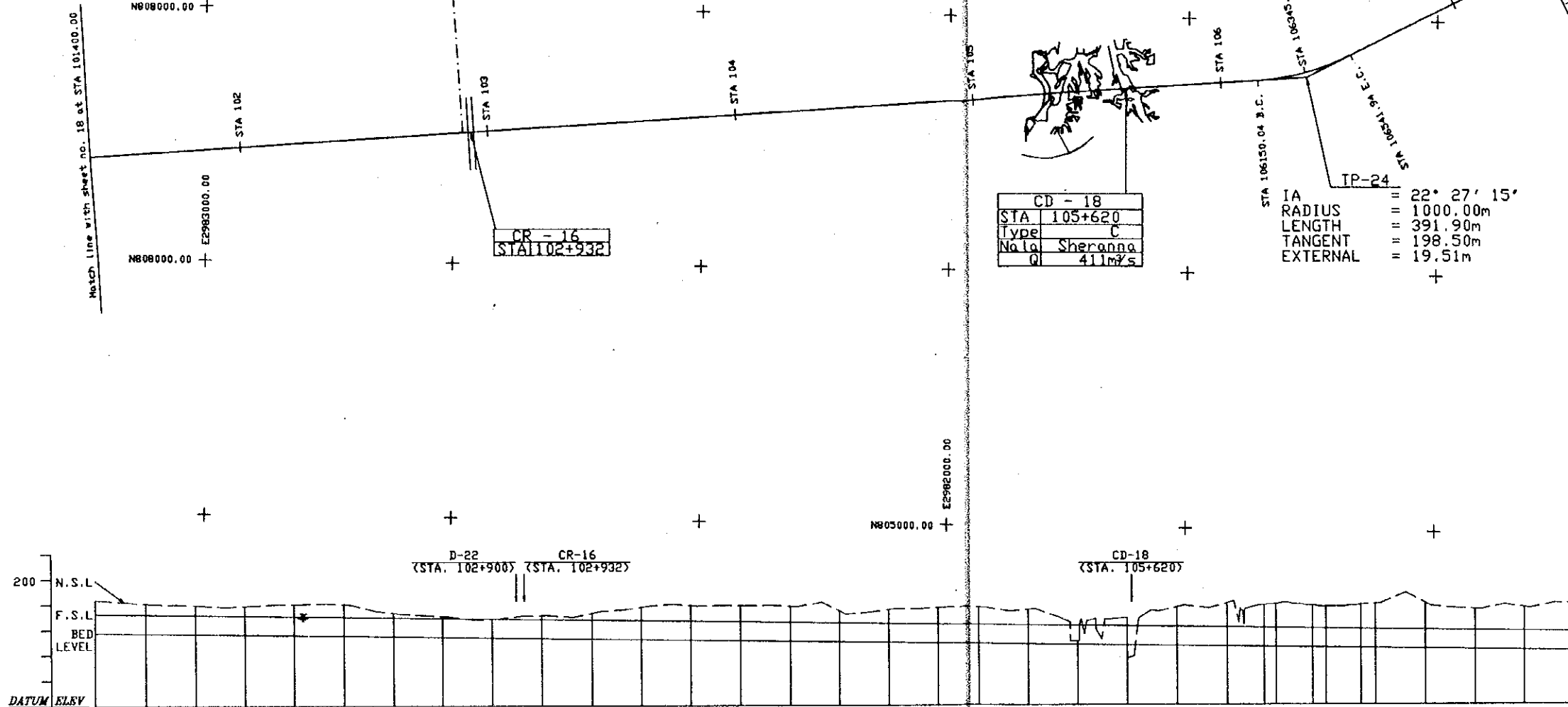
| |
|-----------------------|
| CD - 18 |
| STA 105+620 |
| Type C |
| Nala Sheranna |
| Q 41m ³ /s |

TP-24
 IA = 22° 27' 15"
 RADIUS = 1000.00m
 LENGTH = 391.90m
 TANGENT = 198.50m
 EXTERNAL = 19.51m

LEGEND

- AR Bridge (Arterial Road)
- C Nala Culvert
- CCA Cultivable Commanded Area
- CD Cross Drainage
- CR Cross Regulator
- D Distributory
- DR Bridge (District Road)
- E Escape
- Q Discharge
- SP Super Passage
- STA Station
- VR Bridge (Village Road)

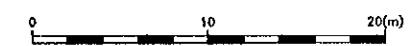
| TP-NO. | N | E | El. (m) |
|--------|-----------|------------|---------|
| TP-24 | 803525.33 | 2983777.57 | 197.94 |



| SECTION PROPERTIES | | Discharge = 10 m ³ /s | | n = 0.016 | | Water Depth = 1.49 m | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|--------|----------------------------------|--------|-----------------------------|--------|----------------------|--------|--------|----------|--------|--------|--------|--------|----------|--------|--------|--------|--------|----------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--|
| | | Bed Slope = 1/4,000 | | Area = 10.04 m ² | | Velocity = 1.00 m/s | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Bed Width = 4.50 m | | Wetted Perimeter = 9.27 m | | Side Slope = 1 : 1.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F.S.L FOR FULL DISCHARGE | 197.25 | 197.20 | 197.15 | 197.10 | 197.05 | 197.00 | 196.95 | 196.90 | 196.83 | 196.78 | 196.73 | 196.68 | 196.63 | 196.58 | 196.53 | 196.48 | 196.43 | 196.38 | 196.33 | 196.28 | 196.23 | 196.18 | 196.13 | 196.08 | 196.05 | 196.03 | 196.00 | 195.98 | 195.95 | 195.93 | 195.88 | 195.83 | 195.78 | 195.73 | |
| BED LEVEL | 195.76 | 195.71 | 195.66 | 195.61 | 195.56 | 195.51 | 195.46 | 195.41 | 195.34 | 195.29 | 195.24 | 195.19 | 195.14 | 195.09 | 195.04 | 194.99 | 194.94 | 194.89 | 194.84 | 194.79 | 194.74 | 194.69 | 194.64 | 194.59 | 194.56 | 194.54 | 194.51 | 194.49 | 194.46 | 194.44 | 194.39 | 194.34 | 194.29 | 194.24 | |
| N.S.L | 198.40 | 198.10 | 197.90 | 197.90 | 198.00 | 198.00 | 197.30 | 197.00 | 196.80 | 197.10 | 197.30 | 197.70 | 197.90 | 197.90 | 197.80 | 197.40 | 197.50 | 197.70 | 197.70 | 197.50 | 197.50 | 196.80 | 197.70 | 198.00 | 197.83 | 197.90 | 197.94 | 197.70 | 197.88 | 197.90 | 198.00 | 197.50 | 197.60 | 197.90 | |
| REDUCED DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 150.04 | 45.96 | 145.99 | 54.01 | 141.94 | 58.06 | 200.00 | 200.00 | 200.00 | 200.00 | |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 150.04 | 45.96 | 145.99 | 54.01 | 141.94 | 58.06 | 200.00 | 200.00 | 200.00 | 200.00 | |
| STATION NO. | +400 | +600 | +800 | STA. 102 | +200 | +400 | +600 | +800 | STA. 103 | +200 | +400 | +600 | +800 | STA. 104 | +200 | +400 | +600 | +800 | STA. 105 | +200 | +400 | +600 | +800 | STA. 106 | B.C.24 | M.C.24 | E.C.24 | +600 | +800 | STA. 107 | +200 | +400 | | | |
| CURVE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SCALE

Vertical



Horizontal



ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

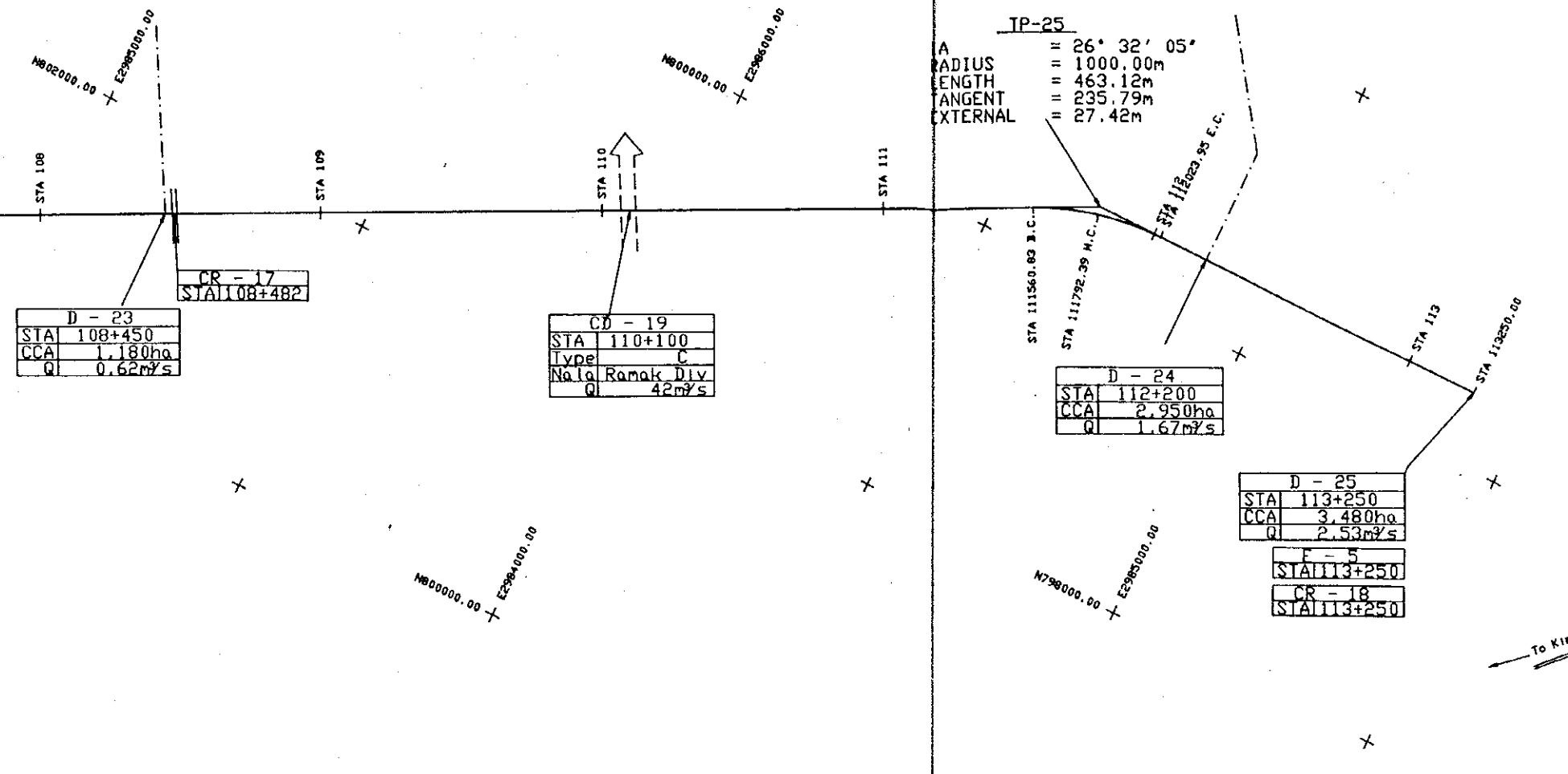
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF MAIN CANAL
 (19/20)

FROM : 101+400 TO : 107+400

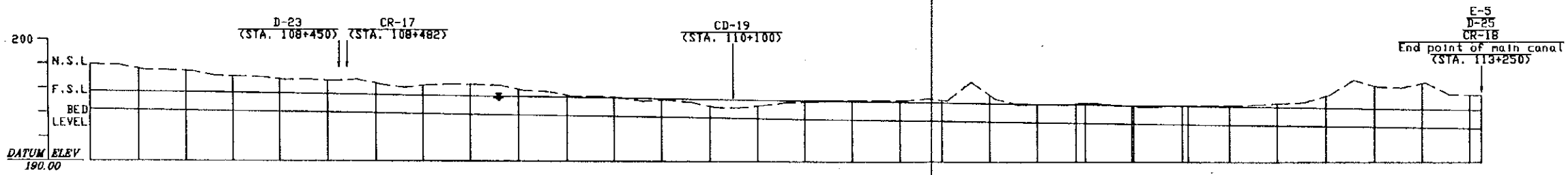
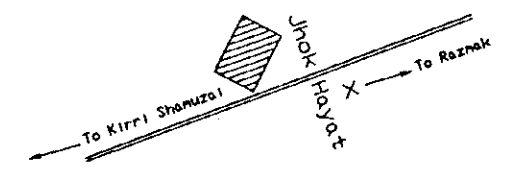
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

Match line with sheet no. 19 at STA. 107+00.00



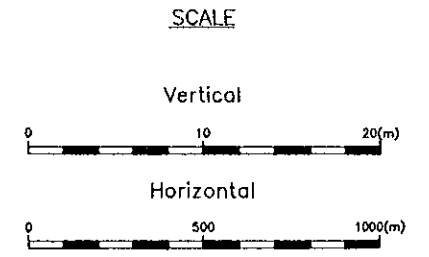
- LEGEND**
- AR Bridge (Arterial Road)
 - C Nala Culvert
 - CCA Cultivable Commanded Area
 - CD Cross Drainage
 - CR Cross Regulator
 - D Distributory
 - DR Bridge (District Road)
 - E Escape
 - Q Discharge
 - SP Super Passage
 - STA Station
 - VR Bridge (Village Road)

| TP-NO. | N | E | E.I. (m) |
|--------|-----------|------------|----------|
| TP-25 | 798659.49 | 2986239.44 | 194.43 |
| E.P. | 797213.31 | 2986247.07 | 195.50 |



(Section 5)

| SECTION PROPERTIES | | Discharge = 10 m³/s | | n = 0.016 | | Water Depth = 1.49 m | |
|---------------------------|--------|---------------------|------------|---------------------------|------------|----------------------|------------|
| | | Bed Slope = 1/4,000 | | Area = 10.04 m² | | Velocity = 1.00 m/s | |
| | | Bed Width = 4.50 m | | Wetted Perimeter = 9.27 m | | Side Slope = 1 : 1.5 | |
| F.S.L. FOR FULL DISCHARGE | 193.73 | 193.68 | 193.63 | 193.58 | 193.53 | 193.48 | 193.41 |
| BED LEVEL | 194.24 | 194.19 | 194.14 | 194.09 | 194.04 | 193.99 | 193.92 |
| N.S.L. | 197.90 | 197.60 | 197.40 | 197.20 | 196.70 | 196.60 | 196.40 |
| REDUCED DISTANCE | 200.00 | 107,400.00 | 107,600.00 | 107,800.00 | 108,000.00 | 108,200.00 | 108,400.00 |
| DISTANCE | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 | 200.00 |
| STATION NO. | +400 | +600 | +800 | STA. 108 | +200 | +400 | +600 |
| CURVE | | | | | | | |



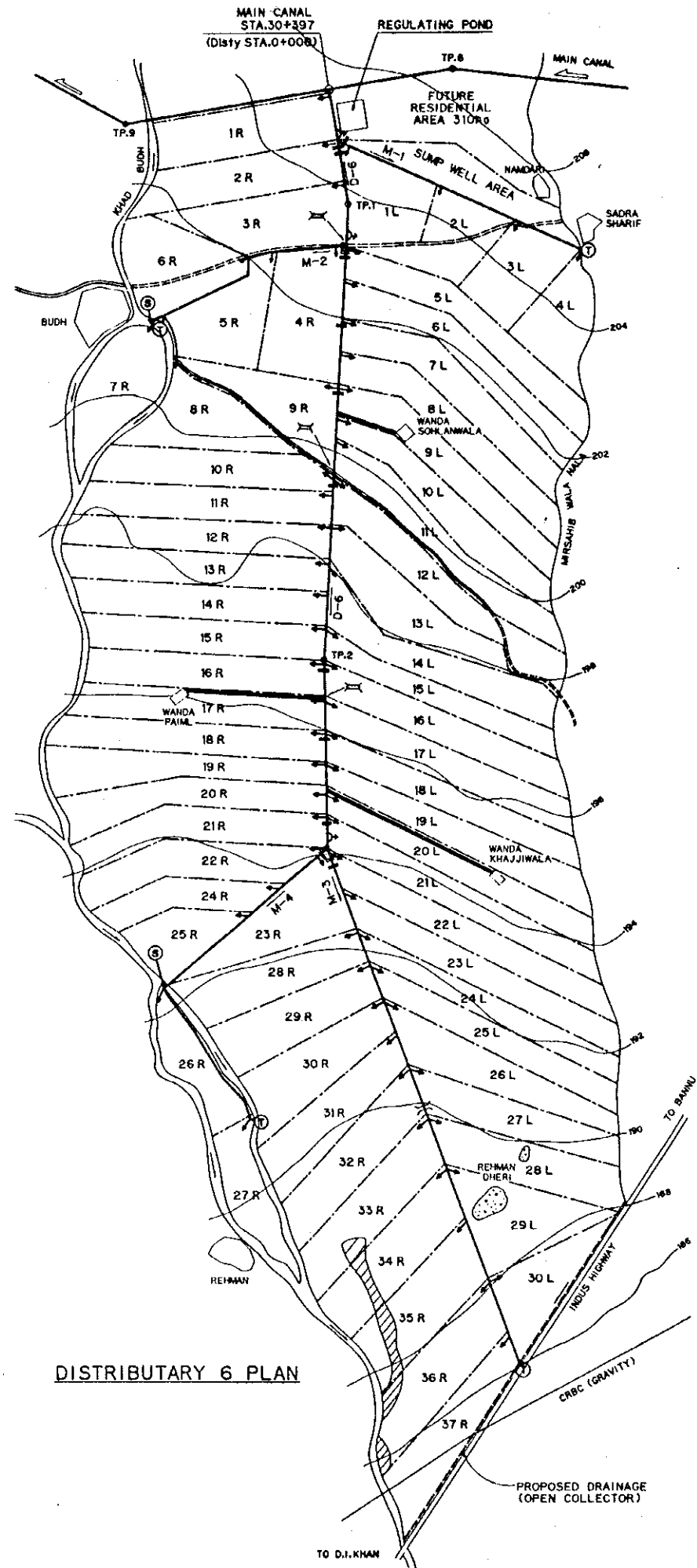
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

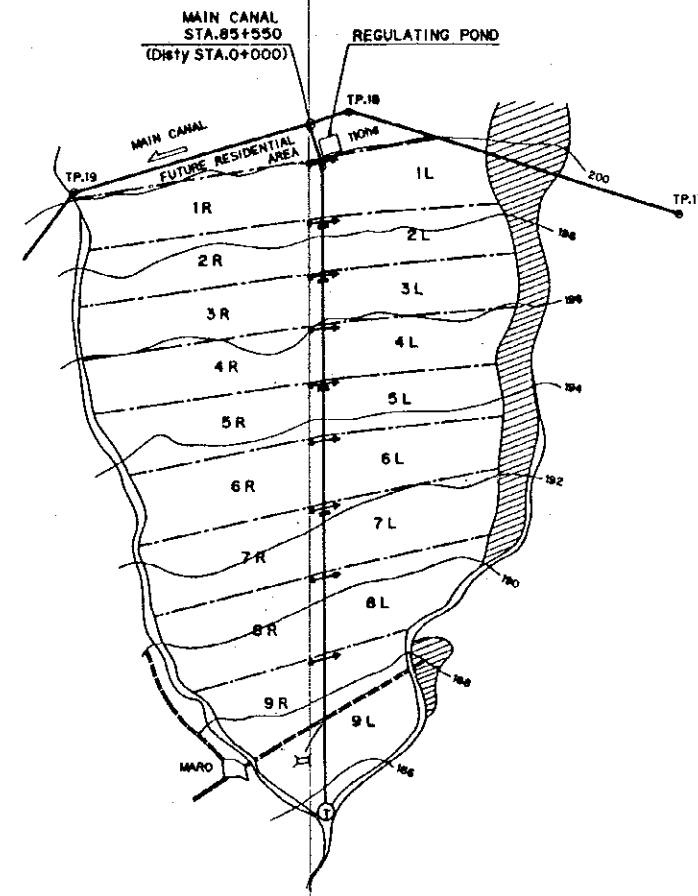
PLAN AND PROFILE OF MAIN CANAL
 (20/20)

FROM : 107+400 TO : 113+250

JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



DISTRIBUTARY 6 PLAN

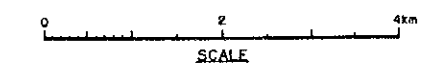


DISTRIBUTARY 18 PLAN

LEGEND

- DISTRIBUTARY
- ┆ M MINOR
- M_g MOGHA
- ┆ D_p FALL WITH V.R. BRIDGE (DROP STRUCTURE)
- ┆ HEAD REGULATOR FOR MINOR
- ┆ S SIDE SPILLWAY
- ┆ C.V. CULVERT ROAD BRIDGE
- ┆ VILLAGE ROAD BRIDGE
- ⊙ SIPHON
- ⊙ TAIL CLUSTER
- ══ EXISTING FARM ROAD BY C&W
- PLANNING FARM ROAD BY C&W
- ▬ PROPOSED FARM ROAD

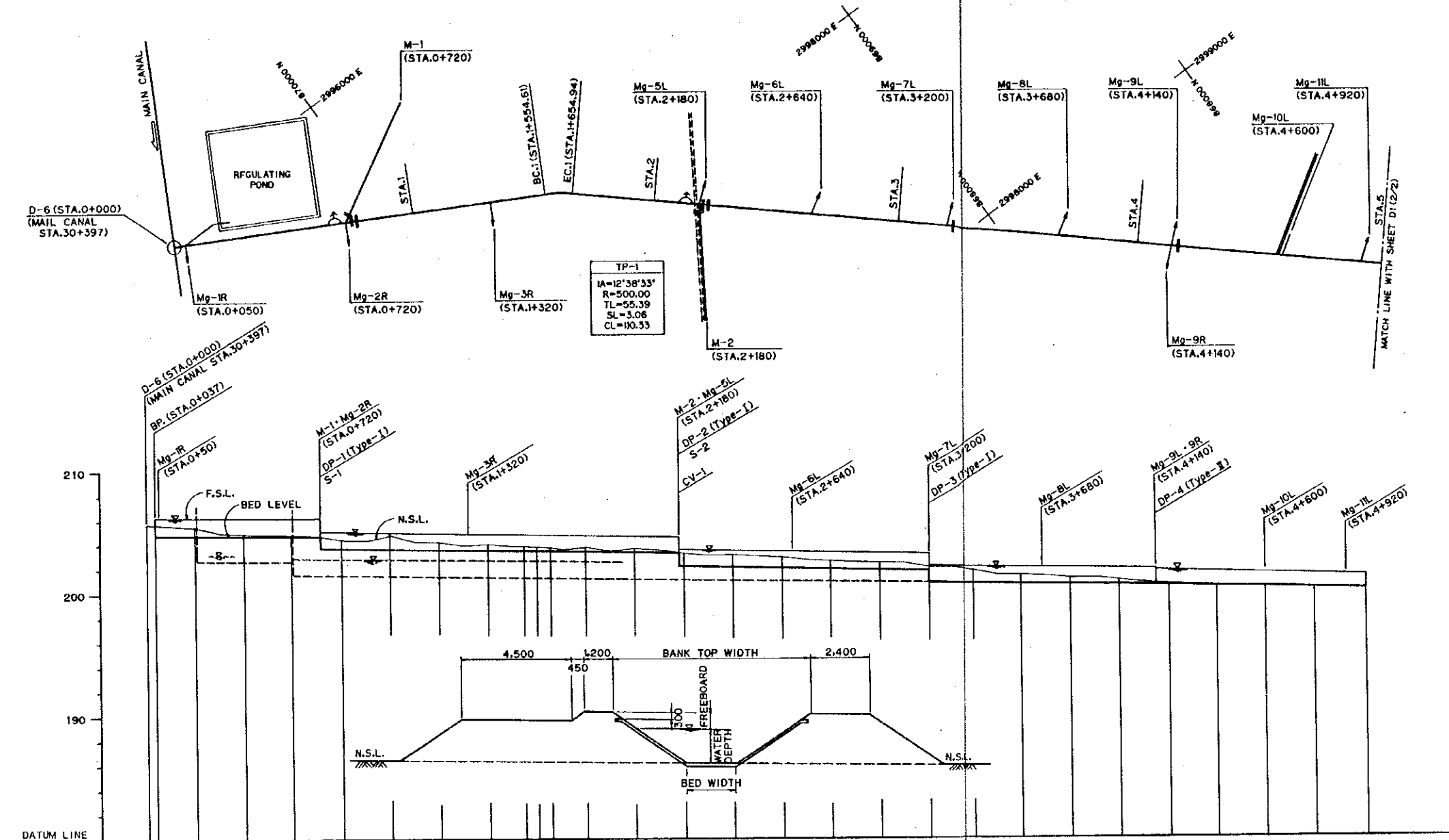
| ITEM | | D-6 | D-18 |
|------|---|--------|-------|
| 1. | GROSS COMMAND AREA (G.C.A.) (ha) | 11,470 | 3,010 |
| 2. | GROSS IRRIGABLE AREA (G.I.A.) (ha) | 11,030 | 2,790 |
| 3. | CULTIVABLE COMMAND AREA (C.C.A.) (ha) | 10,150 | 2,560 |
| 4. | DISCHARGE (m ³ /s) | 5.33 | 1.34 |
| 5. | STRUCTURES | | |
| a. | LENGTH OF DISTRIBUTARY (km) | 10.707 | 7.680 |
| b. | LENGTH OF MINOR (km) | 20.85 | — |
| c. | HEAD REGULATOR FOR MINOR (Nos.) | 3 | — |
| d. | MOGHA (Nos.) | 67 | 18 |
| e. | FALL WITH V.R. BRIDGE (DROP STRUCTURES) | | |
| | Type - I (Nos.) | 3 | — |
| | Type - II (Nos.) | 4 | — |
| | Type - III (Nos.) | 2 | 5 |
| f. | SIDE SPILLWAY (Nos.) | 3 | — |
| g. | CULVERT ROAD BRIDGE (Nos.) | 3 | 1 |
| h. | VILLAGE ROAD BRIDGE (Nos.) | 1 | — |
| i. | ACQUEDUCT (Nos.) | 0 | — |
| j. | SIPHON (Nos.) | 2 | — |
| k. | TAIL CLUSTER (Nos.) | 4 | 1 |



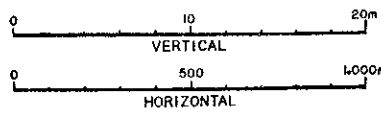
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN OF SAMPLE AREA (D-6 & D-18)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

- | DISTRIBUTARY
- M | MINOR
- Mg | MOGHA
- Dp | FALL WITH V.R. BRIDGE (DROP STRUCTURE)
- | HEAD REGULATOR FOR MINOR
- S | SIDE SPILLWAY
- C.V. | CULVERT ROAD BRIDGE
- | EXISTING FARM ROAD BY CMW
- | PLANNING FARM ROAD BY CMW
- | PROPOSED FARM ROAD
- C.C.A. | CULTIVABLE COMMAND AREA
- B.S. | BED SLOPE
- D | WATER DEPTH
- A | FLOW AREA
- P | WETTED PERIMETER
- B.W. | BASE WIDTH
- Q | DISCHARGE
- V | VELOCITY
- Fb | FREEBOARD
- S.S. | SIDE SLOPE



| SECTION PROPERTIES | C.C.A. = 10,150ha | | | | | | | C.C.A. = 9,390ha | | | | | | | C.C.A. = 7,342ha | | | | | | | | | | | | | | | |
|---------------------------|-------------------|--------|--------|--------|--------|--------|--------|------------------|--------|----------------------|----------------------|--------|--------|--------|------------------|--------|--------|--------|--------|--------|--------|------|------|--------|------|------|------|------|------|--------|
| | B.S. | D | A | P | B.W. | Q | V | B.S. | D | A | P | B.W. | Q | V | B.S. | D | A | P | B.W. | Q | V | | | | | | | | | |
| F.S.L. FOR FULL DISCHARGE | 206.26 | 206.21 | 206.16 | 206.10 | 206.06 | 206.02 | 205.98 | 204.49 | 204.43 | 204.37 | 204.31 | 204.25 | 204.19 | 204.13 | 204.07 | 204.01 | 203.95 | 203.89 | 203.83 | 203.77 | 203.71 | | | | | | | | | |
| BED LEVEL | 204.76 | 204.71 | 204.66 | 204.60 | 204.55 | 204.50 | 204.45 | 203.13 | 203.07 | 203.01 | 202.95 | 202.89 | 202.83 | 202.77 | 202.71 | 202.65 | 202.59 | 202.53 | 202.47 | 202.41 | 202.35 | | | | | | | | | |
| N.S.L. | 205.70 | 205.46 | 204.88 | 204.80 | 204.72 | 204.64 | 204.56 | 203.46 | 203.33 | 203.28 | 203.22 | 203.16 | 203.10 | 203.04 | 202.98 | 202.92 | 202.86 | 202.80 | 202.74 | 202.68 | 202.62 | | | | | | | | | |
| REDUCED DISTANCE | 0.00 | 200 | 400 | 600 | 800 | 1000 | 1200 | 1400 | 1600 | 1800 | 2000 | 2200 | 2400 | 2600 | 2800 | 3000 | 3200 | 3400 | 3600 | 3800 | 4000 | | | | | | | | | |
| DISTANCE | 0.00 | 163 | 200 | 200 | 120 | 80 | 200 | 200 | 154.61 | 45.39 | 54.39 | 145.06 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | 200 | | | | | | | | | |
| STATION No. | BP STA. 0+37 | +200 | +400 | +600 | +720 | +800 | STA. 1 | +200 | +400 | BC. 1 (STA. 1+55.39) | EC. 1 (STA. 1+65.34) | +800 | STA. 2 | +180 | +200 | +400 | +600 | +800 | STA. 3 | +200 | +400 | +600 | +800 | STA. 4 | +140 | +200 | +400 | +600 | +800 | STA. 5 |
| CURVE | | | | | | | | | | TP.1 IA=12'38'33" | | | | | | | | | | | | | | | | | | | | |



SCALE

ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE

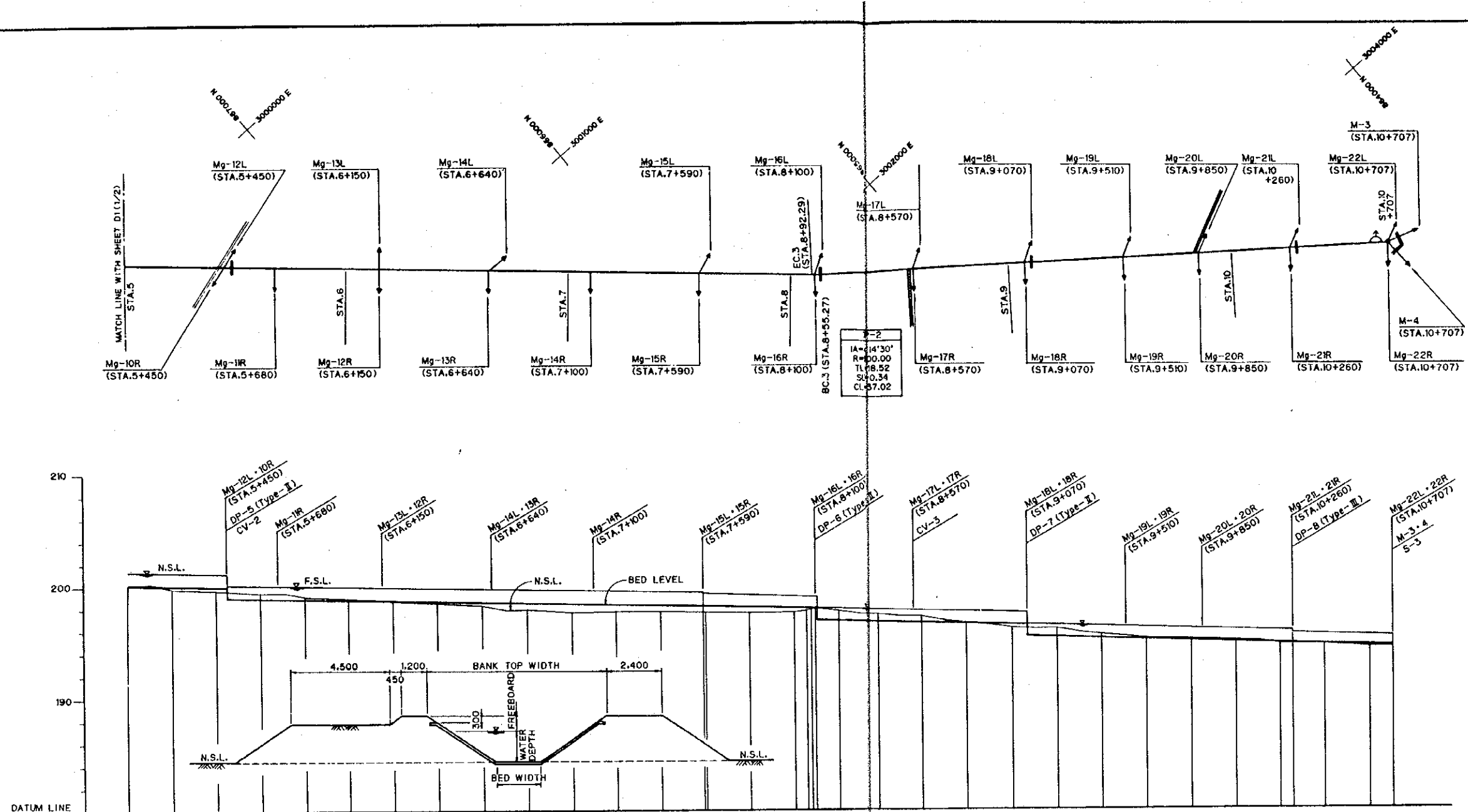
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

PLAN AND PROFILE OF D-6 (1/2)

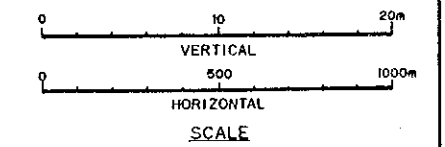
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

- DISTRIBUTARY
- M MINOR
- Mg MOGHA
- Dp FALL WITH V.R. BRIDGE (DROP STRUCTURE)
- HS HEAD REGULATOR FOR MINOR
- S SIDE SPILLWAY
- C.V. CULVERT ROAD BRIDGE
- EXISTING FARM ROAD BY CMW
- PLANNING FARM ROAD BY CMW
- PROPOSED FARM ROAD
- C.C.A. CULTIVABLE COMMAND AREA
- B.S. BED SLOPE
- D WATER DEPTH
- A FLOW AREA
- P WETTED PERIMETER
- B.W. BASE WIDTH
- Q DISCHARGE
- V VELOCITY
- Fb FREEBOARD
- S.S. SIDE SLOPE



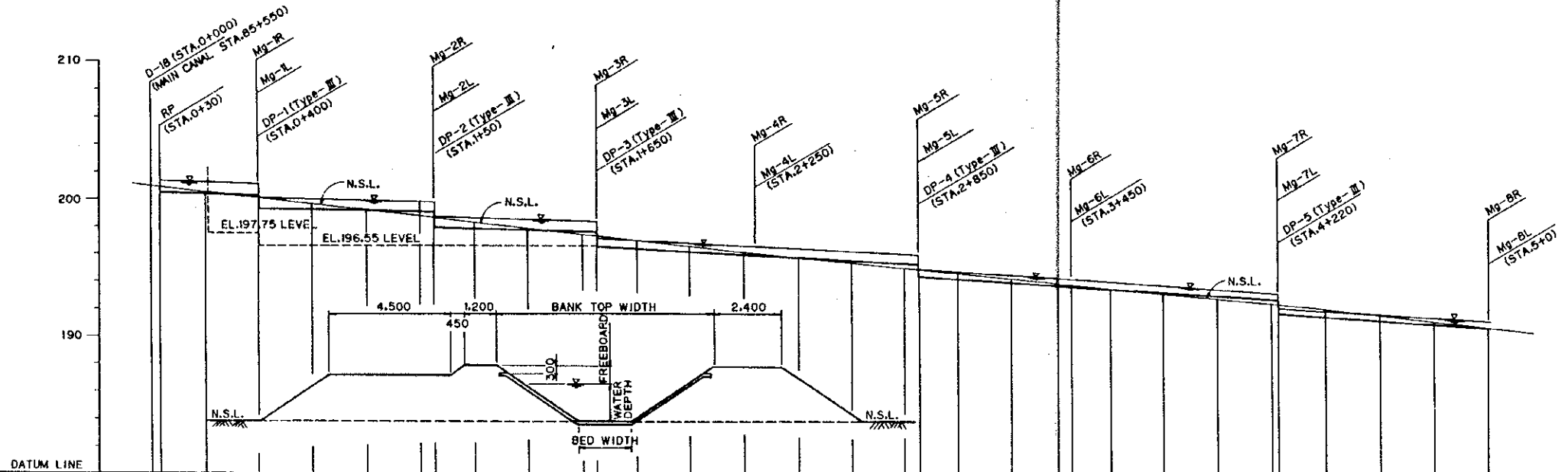
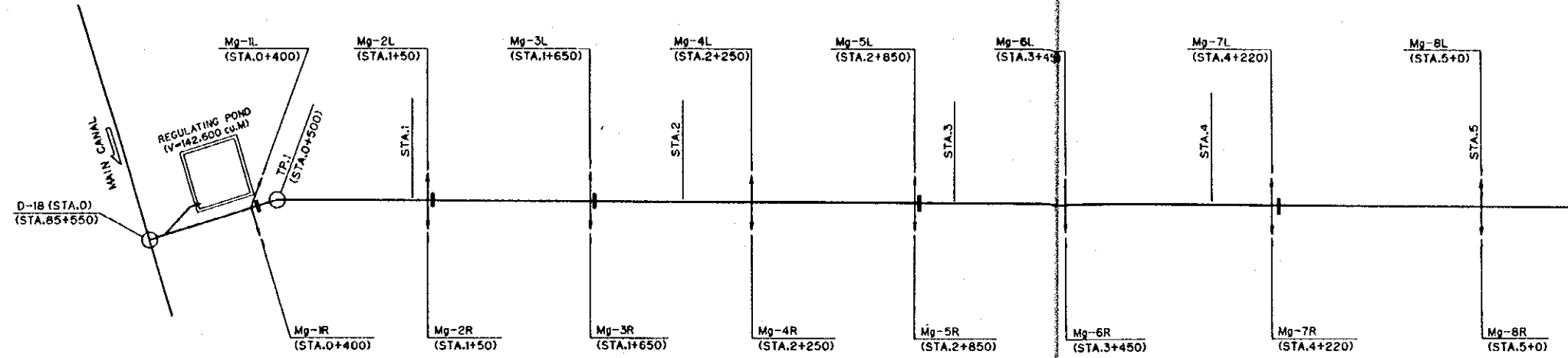
| SECTION PROPERTIES | C.C.A. = 7.342ha B.S. = 1:2.500 D = 1.20m A = 4.10m² P = 5.94m B.W. = 1.60m Q = 3.855m³/s V = 0.98m/s n = 0.016 Fb = 0.55m S.S. = 1:1.5 | | | | | | | | | | | C.C.A. = 5.477ha B.S. = 1:2.000 D = 1.04m A = 3.04m² P = 5.11m B.W. = 1.35m Q = 2.876m³/s V = 0.99m/s n = 0.016 Fb = 0.50m S.S. = 1:1.5 | | | | | | | | | | | C.C.A. = 3.605ha B.S. = 1:1.500 D = 1.085m A = 2.01m² P = 4.15m B.W. = 1.10m Q = 1.892m³/s V = 1.00m/s n = 0.016 Fb = 0.50m S.S. = 1:1.5 | | | | | | | | | | |
|--------------------|---|-----------|--------|------------------|----------|-------------|-------|---------------------------|-----------|--------|------------------|---|-------------|---------------------------|-----------|--------|------------------|----------|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | F.S.L. FOR FULL DISCHARGE | BED LEVEL | N.S.L. | REDUCED DISTANCE | DISTANCE | STATION No. | CURVE | F.S.L. FOR FULL DISCHARGE | BED LEVEL | N.S.L. | REDUCED DISTANCE | DISTANCE | STATION No. | F.S.L. FOR FULL DISCHARGE | BED LEVEL | N.S.L. | REDUCED DISTANCE | DISTANCE | STATION No. | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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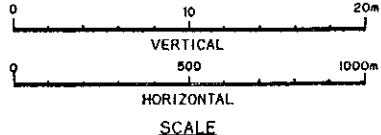
ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
PLAN AND PROFILE OF D-6 (2/2)
JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.

LEGEND

- DISTRIBUTARY
- MINOR
- MOGHA
- FALL WITH V.R. BRIDGE (DROP STRUCTURE)
- HEAD REGULATOR FOR MINOR
- SIDE SPILLWAY
- CULVERT ROAD BRIDGE
- EXISTING FARM ROAD BY C&W
- PLANNING FARM ROAD BY C&W
- PROPOSED FARM ROAD
-
- C.C.A. CULTIVABLE COMMAND AREA
- B.S. BED SLOPE
- D WATER DEPTH
- A FLOW AREA
- P WETTED PERIMETER
- B.W. BASE WIDTH
- Q DISCHARGE
- V VELOCITY
- Fb FREEBOARD
- S.S. SIDE SLOPE



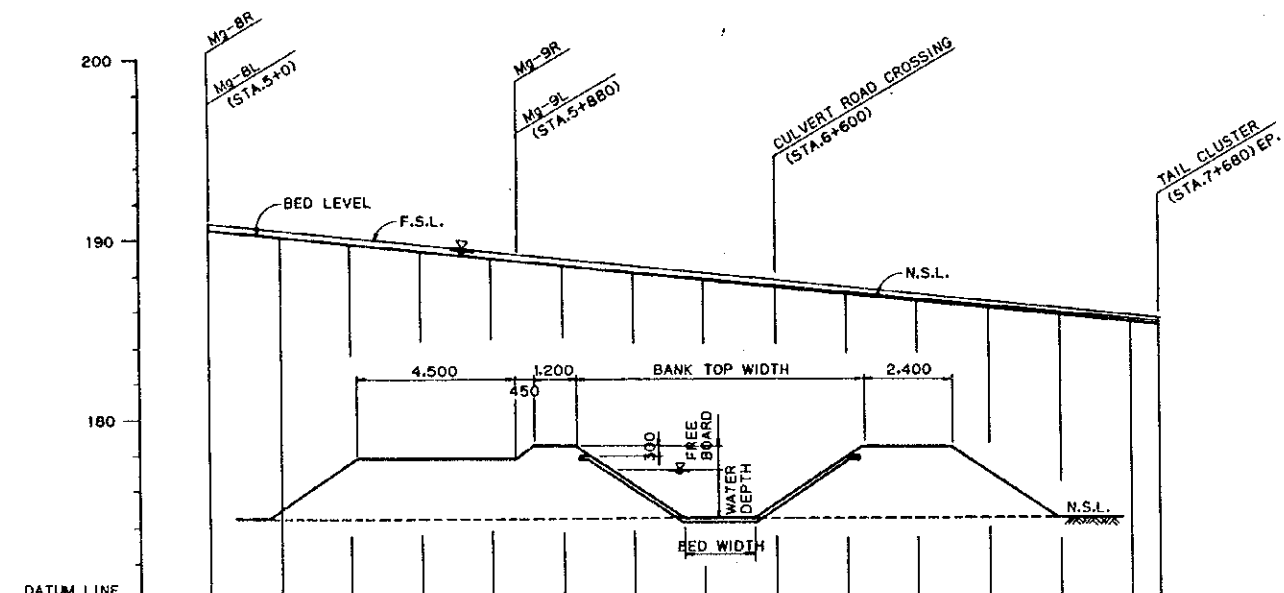
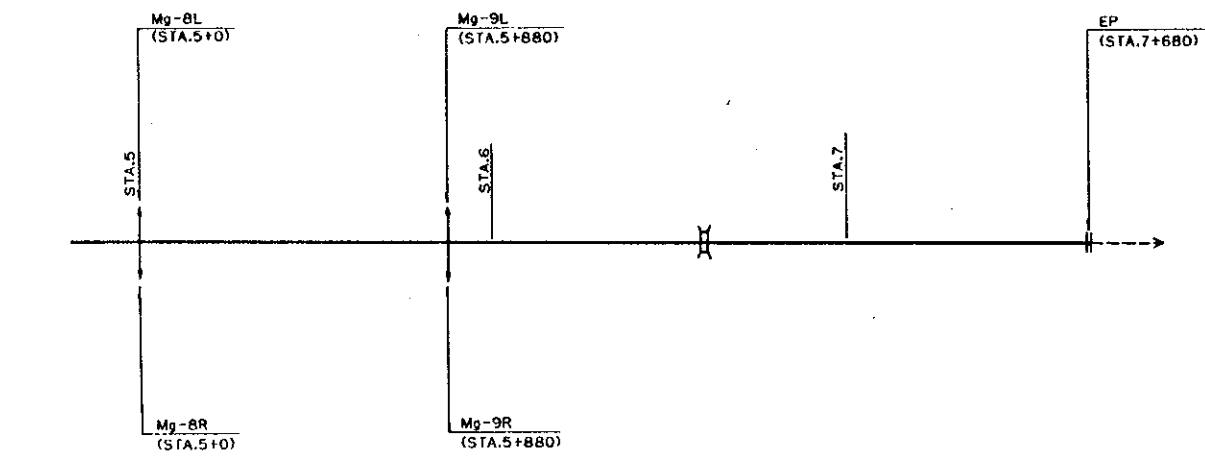
| SECTION PROPERTIES | SECTION 1 (STA. 0+000 TO STA. 1+500) | | | | | | | | SECTION 2 (STA. 1+500 TO STA. 2+250) | | | | | | | | SECTION 3 (STA. 2+250 TO STA. 3+450) | | | | | | | | SECTION 4 (STA. 3+450 TO STA. 5+000) | | | | | | | | | | | | | | | |
|---------------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|-----------|--------------------------------------|--------|--------|--------|--------|--------|--------|-----------|--------------------------------------|--------|--------|--------|--------|-----------|---------|--------|--------------------------------------|--------|--------|--------|-----------|--------|--------|--------|--------|--------|-----------|--------|---|---|----|------|
| | C.C.A. | B.S. | D | A | P | B.W. | Q | V | Fb | S.S. | C.C.A. | B.S. | D | A | P | B.W. | Q | V | Fb | S.S. | C.C.A. | B.S. | D | A | P | B.W. | Q | V | Fb | S.S. | C.C.A. | B.S. | D | A | P | B.W. | Q | V | Fb | S.S. |
| F.S.L. FOR FULL DISCHARGE | 201.38 | 201.25 | 201.14 | 201.00 | 200.93 | 199.87 | 199.73 | 198.60 | 198.57 | 198.47 | 198.44 | 198.34 | 198.20 | 198.17 | 197.02 | 196.87 | 196.67 | 196.47 | 196.27 | 196.07 | 195.87 | 195.82 | 194.74 | 194.59 | 194.39 | 194.19 | 194.05 | 193.85 | 193.58 | 193.32 | 193.05 | 192.02 | 191.78 | 191.51 | 191.25 | 190.98 | | | | |
| BED LEVEL | 200.45 | 200.49 | 200.36 | 200.24 | 200.00 | 199.17 | 199.11 | 198.97 | 198.81 | 197.71 | 197.68 | 197.59 | 197.44 | 197.41 | 196.41 | 196.26 | 196.06 | 195.86 | 195.66 | 195.46 | 195.26 | 195.21 | 194.21 | 194.06 | 193.86 | 193.61 | 193.41 | 193.14 | 192.88 | 192.61 | 191.34 | 191.07 | 190.81 | 190.54 | | | | | | |
| N.S.L. | | | | 200.00 | | | | | | 198.00 | | | | | | 196.00 | | | | | | | | | | 194.15 | | | | | | | | | | | | | | |
| REDUCED DISTANCE | 0.00 | 30 | 200 | 400 | 500 | 600 | 800 | 1000.00 | 1050 | 1200 | 1250 | 1400 | 1600 | 1650 | 1800 | 2000.00 | 2200 | 2400 | 2600 | 2800 | 2900 | 2950 | 3000.00 | 3200 | 3400 | 3500 | 3600 | 3800 | 4000.00 | 4200 | 4220 | 4400 | 4600 | 4800 | 5000.00 | | | | | |
| DISTANCE | 0.00 | 30 | 170 | 200 | 100 | 100 | 200 | 200.00 | 50 | 150 | 50 | 150 | 200 | 50 | 150 | 200.00 | 200 | 200 | 200 | 200 | 200 | 50 | 150.00 | 200 | 200 | 50 | 150 | 200 | 200.00 | 20 | 180 | 200 | 200 | 200.00 | | | | | | |
| STATION No. | (B.P.) STA.0+000 | +30 | +200 | +400 | +500 | +600 | +800 | STA.1+500 | +50 | +200 | +250 | +400 | +600 | +650 | +800 | STA.2+250 | +200 | +400 | +600 | +800 | +850 | STA.3+450 | +150.00 | +200 | +400 | +450 | +600 | +800 | STA.4+220 | +200 | +20 | +400 | +600 | +800 | STA.5+000 | | | | | |
| CURVE | 17°00' | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



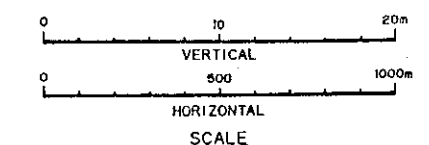
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF D-18 (1/2)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

LEGEND

- DISTRIBUTARY
- ⊥ M MINOR
- Mg MOGHA
- ⊥ Dp FALL WITH V.R. BRIDGE (DROP STRUCTURE)
- △ HEAD REGULATOR FOR MINOR
- △ S SIDE SPILLWAY
- C.V. CULVERT ROAD BRIDGE
- == EXISTING FARM ROAD BY C&W
- PLANNING FARM ROAD BY C&W
- ||||| PROPOSED FARM ROAD
- C.C.A. CULTIVABLE COMMAND AREA
- B.S. BED SLOPE
- D WATER DEPTH
- A FLOW AREA
- P WETTED PERIMETER
- B.W. BASE WIDTH
- Q DISCHARGE
- V VELOCITY
- Fb FREEBOARD
- S.S. SIDE SLOPE

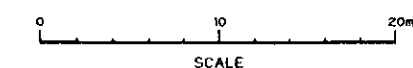
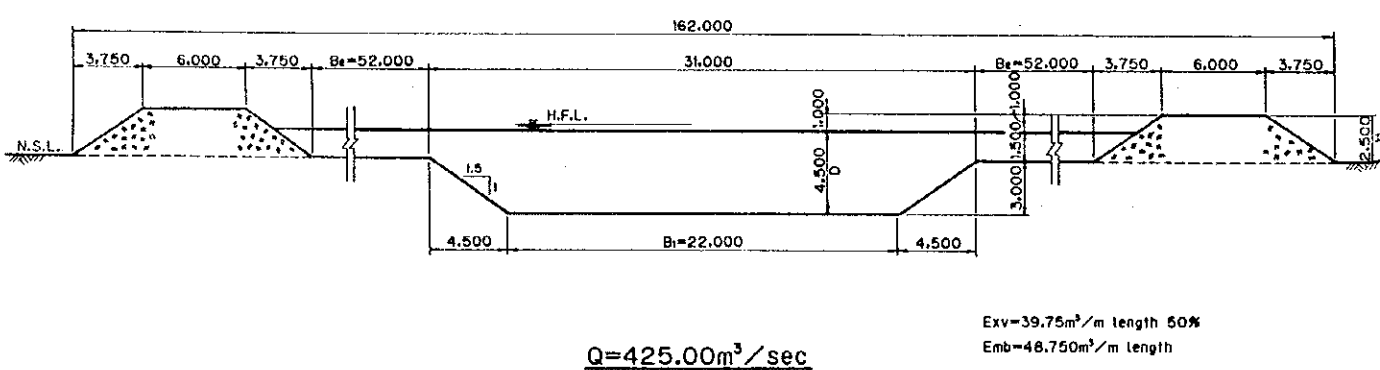
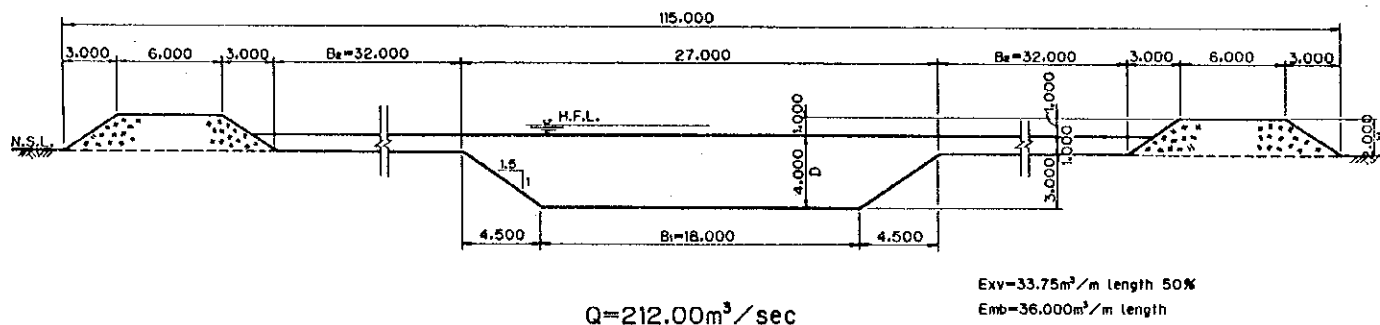
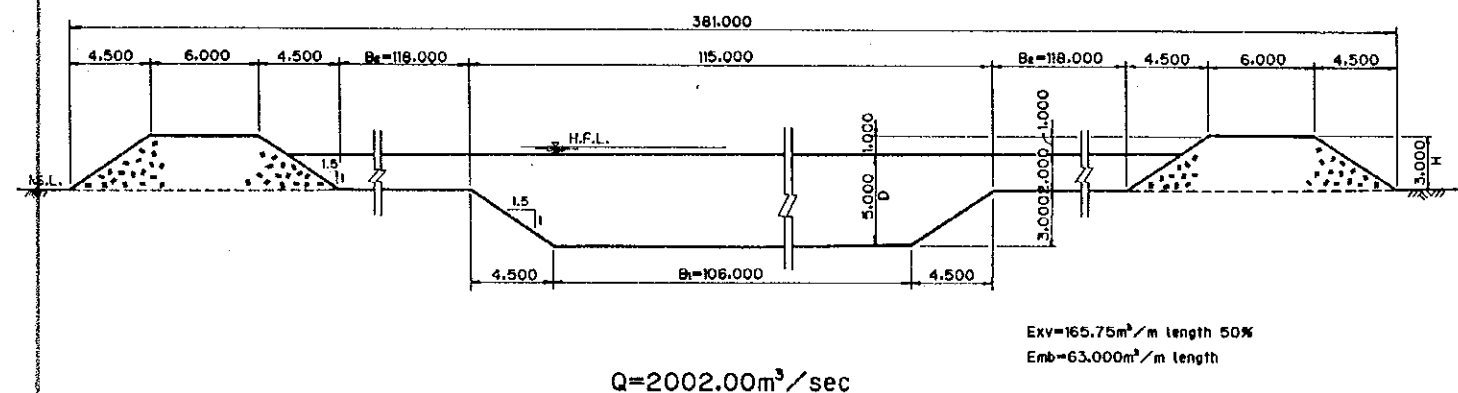
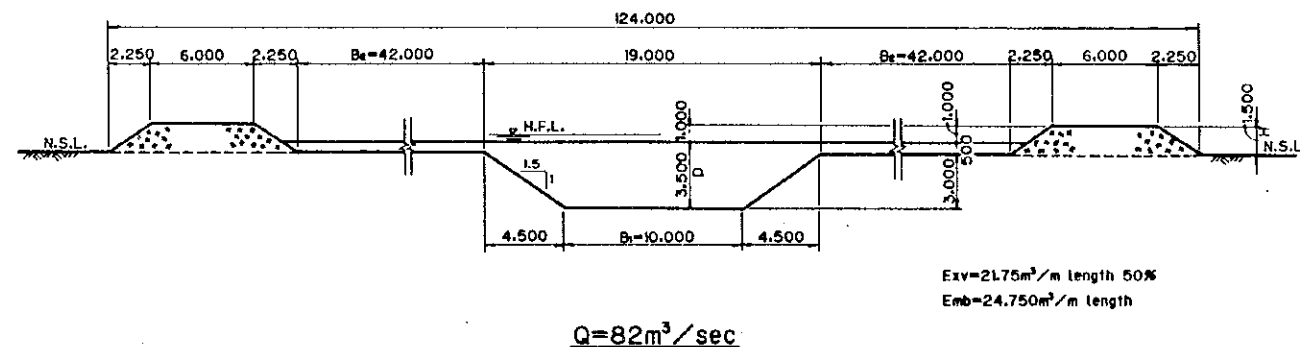
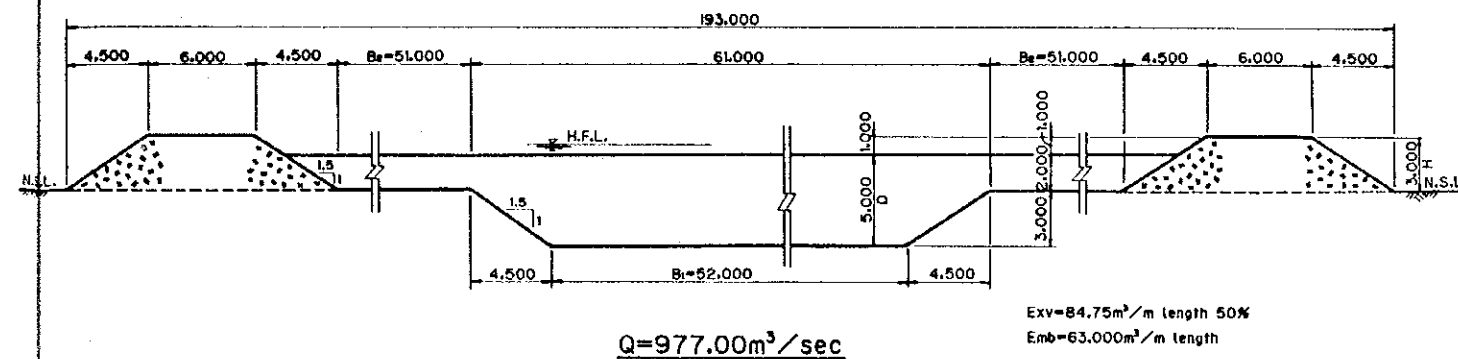
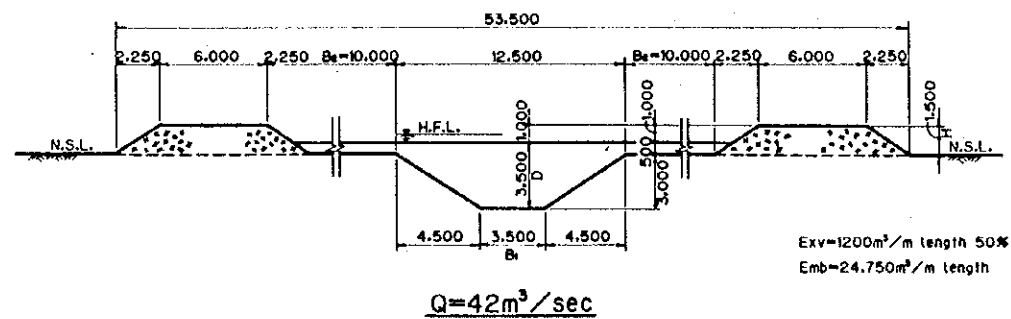


| SECTION PROPERTIES | C.C.A. = 293ha B.S. = 1:500 D = 0.31m A = 0.29m ² P = 1.57m B.W. = 0.45m D = 0.15m ³ /s V = 0.91m/s p = 0.016 Fb = 0.49m S.S. = 1:1.5 | | | | | | | | | | | | | | | |
|--------------------|---|-----------|--------|------------------|----------|-------------|-------|--|--|--|--|--|--|--|--|--|
| | F.S.L. FOR FULL DISCHARGE | BED LEVEL | N.S.L. | REDUCED DISTANCE | DISTANCE | STATION No. | CURVE | | | | | | | | | |
| | 190.85 | 190.54 | 190.10 | 0+000.00 | 200.00 | STA. 5 | | | | | | | | | | |
| | 190.45 | 190.14 | 190.10 | 0+200 | 200 | +200 | | | | | | | | | | |
| | 190.05 | 189.74 | 190.10 | 0+400 | 200 | +400 | | | | | | | | | | |
| | 189.65 | 189.34 | 190.10 | 0+600 | 200 | +600 | | | | | | | | | | |
| | 189.25 | 188.94 | 190.10 | 0+800 | 200 | +800 | | | | | | | | | | |
| | 188.85 | 188.54 | 190.10 | 0+000.00 | 200.00 | STA. 6 | | | | | | | | | | |
| | 188.45 | 188.14 | 190.10 | 0+200 | 200 | +200 | | | | | | | | | | |
| | 188.05 | 187.74 | 190.10 | 0+400 | 200 | +400 | | | | | | | | | | |
| | 187.65 | 187.34 | 190.10 | 0+600 | 200 | +600 | | | | | | | | | | |
| | 187.25 | 186.94 | 190.10 | 0+800 | 200 | +800 | | | | | | | | | | |
| | 186.85 | 186.54 | 190.10 | 0+000.00 | 200.00 | STA. 7 | | | | | | | | | | |
| | 186.45 | 186.14 | 190.10 | 0+200 | 200 | +200 | | | | | | | | | | |
| | 186.05 | 185.74 | 190.10 | 0+400 | 200 | +400 | | | | | | | | | | |
| | 185.65 | 185.34 | 190.10 | 0+600 | 200 | +600 | | | | | | | | | | |
| | 185.25 | 184.94 | 190.10 | 0+800 | 200 | +800 | | | | | | | | | | |
| | 185.51 | 185.18 | 190.10 | 0+680 | 80 | +680 (EP.) | | | | | | | | | | |

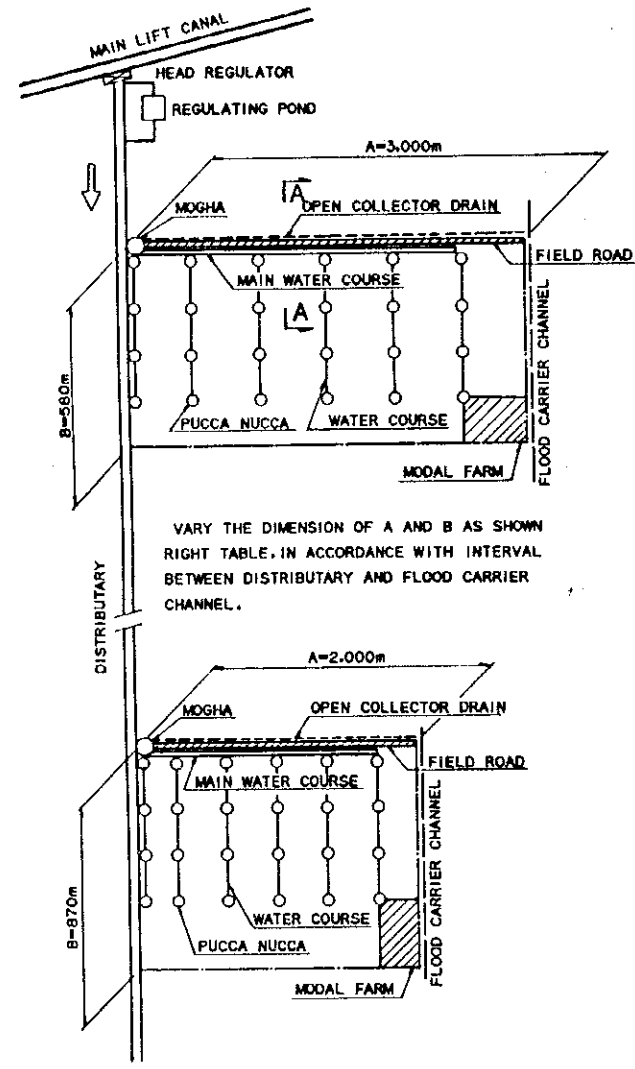


ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 PLAN AND PROFILE OF D-18 (2/2)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.

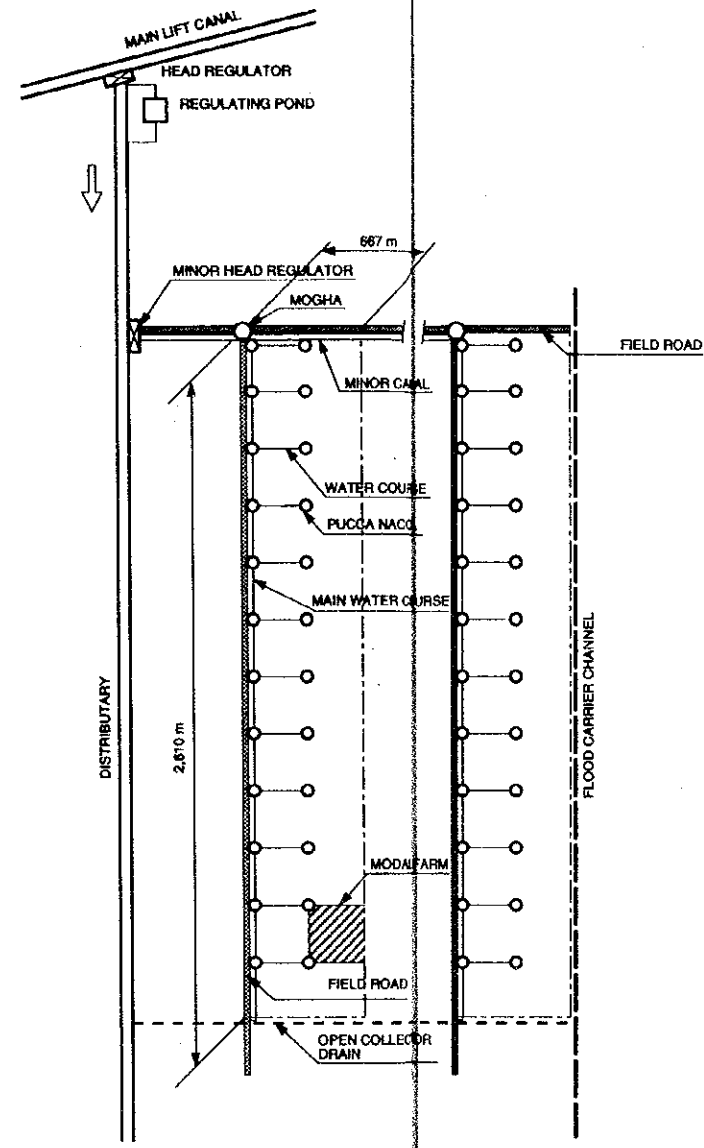
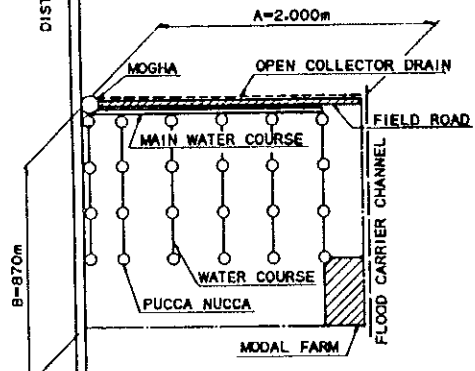
FLOOD CARRIER CHANNEL



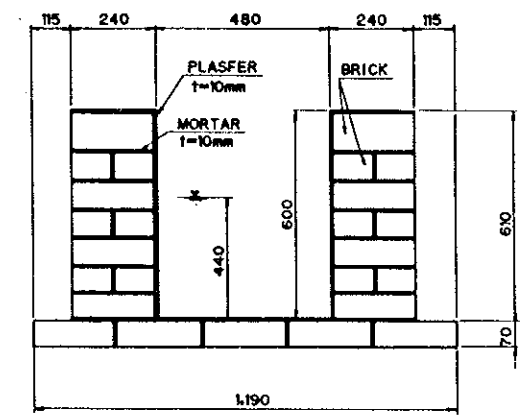
ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
TYPICAL CROSS SECTION OF DRAINAGE CANAL
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



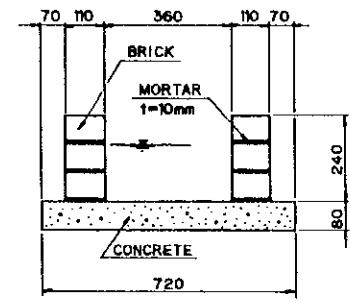
DTW SYSTEM TYPE



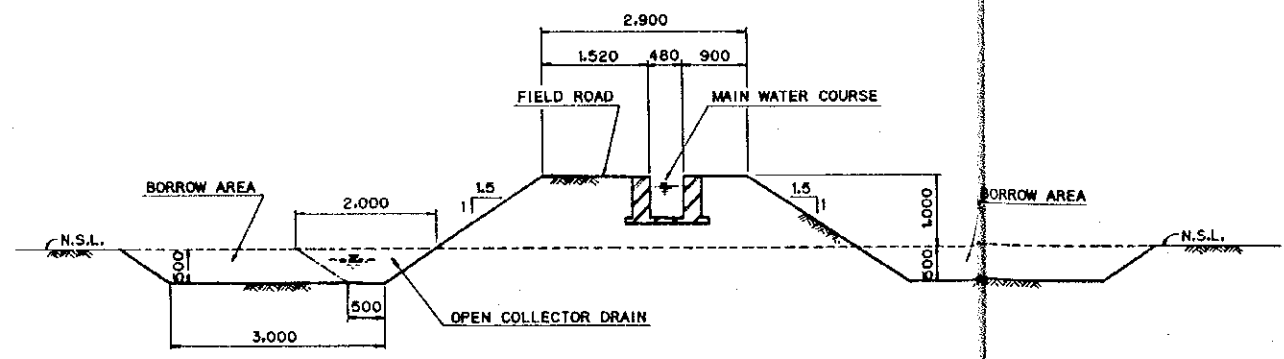
MTW SYSTEM TYPE



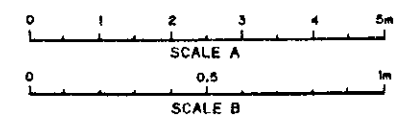
TYPICAL SECTION OF MAIN WATERCOURSE
SCALE B



TYPICAL SECTION OF WATERCOURSE
SCALE B



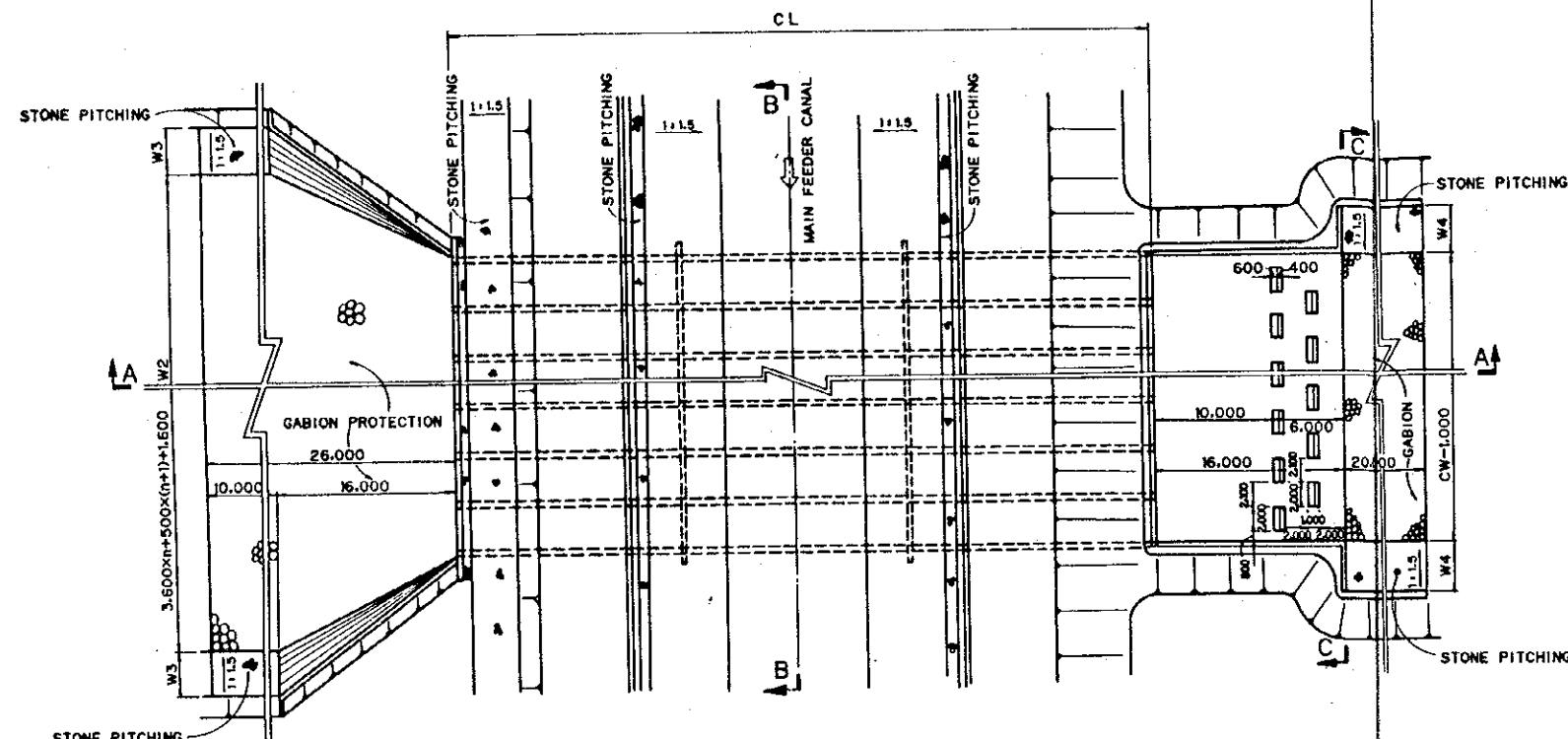
SECTION A-A
SCALE A



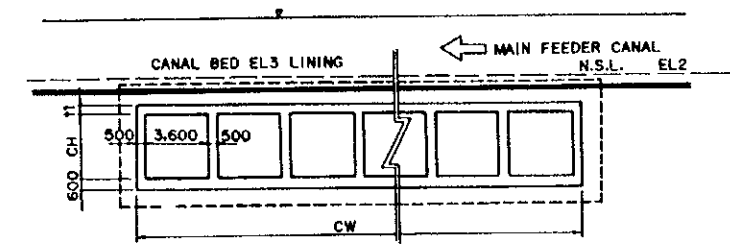
ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT

TYPICAL LAYOUT AND STRUCTURES
OF ON-FARM DEVELOPMENT

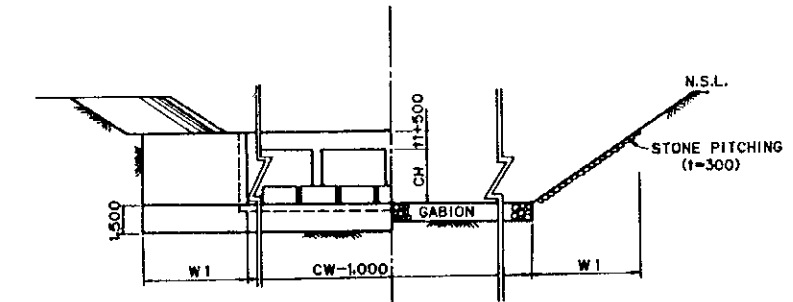
JAPAN INTERNATIONAL COOPERATION AGENCY | D.W. NO.



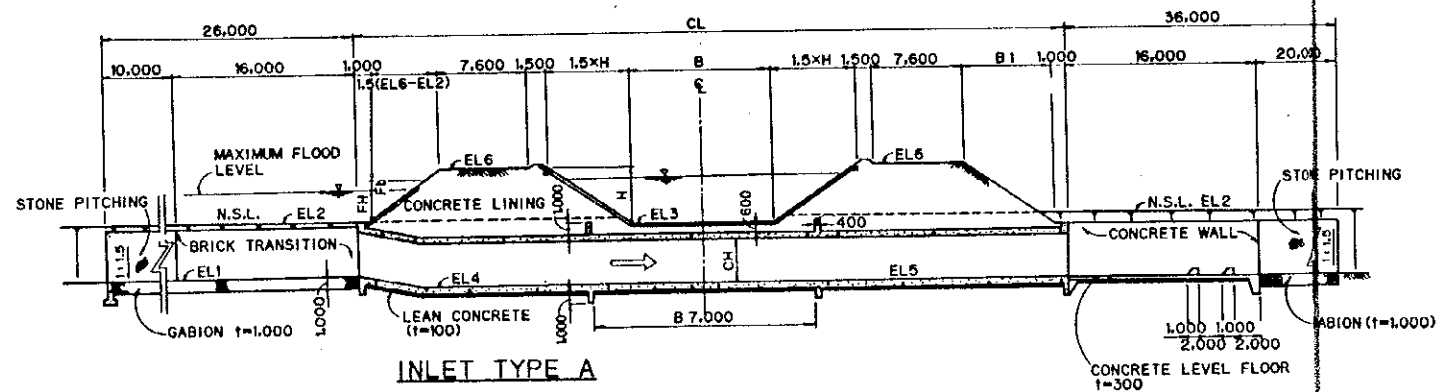
PLAN SCALE A



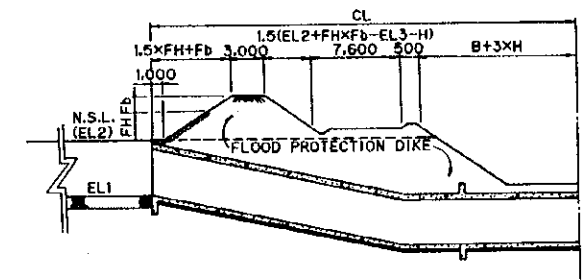
SECTION B-B SCALE B



SECTION C-C SCALE B



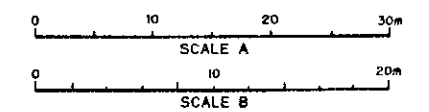
SECTION A-A SCALE A



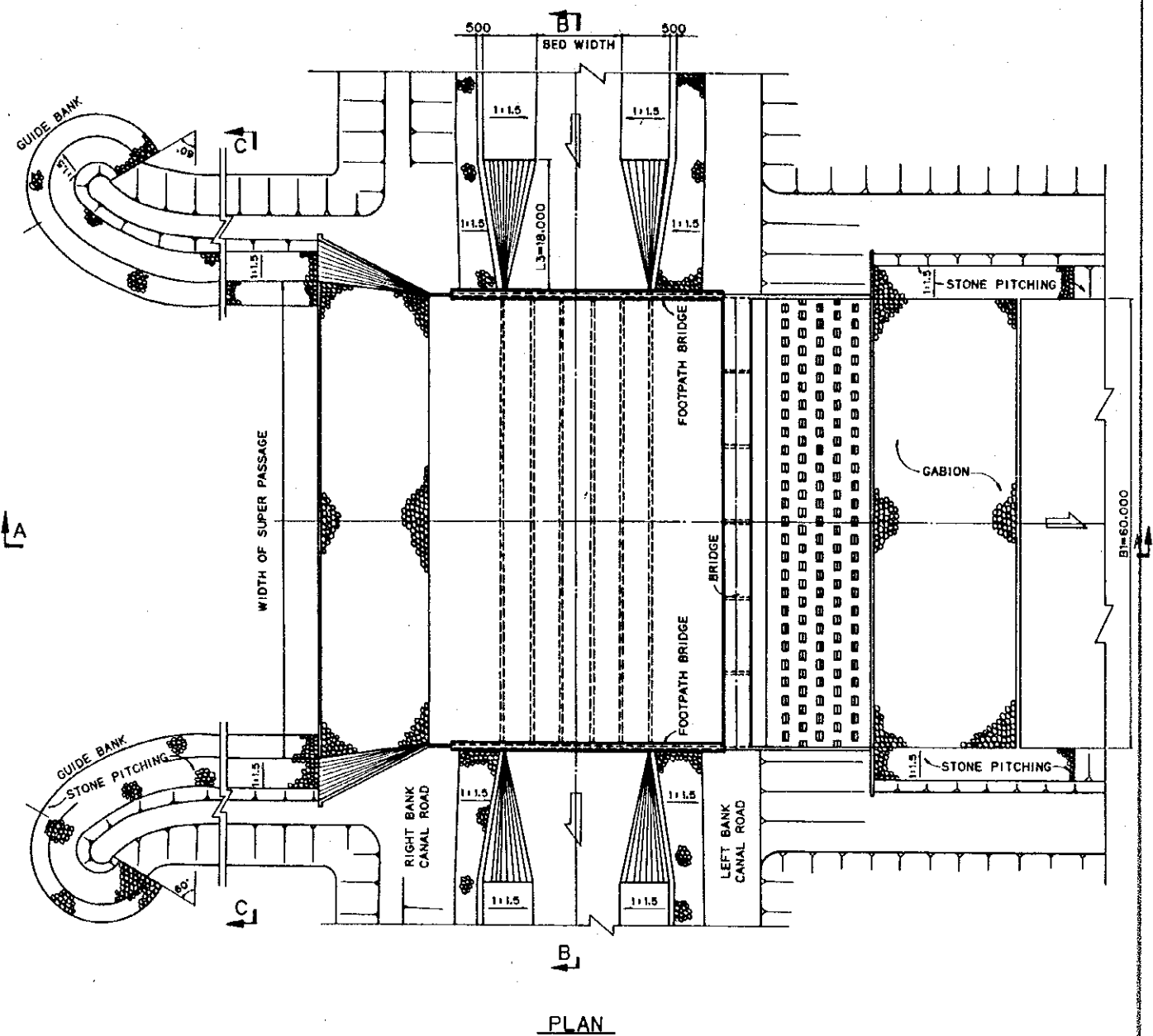
INLET TYPE B SCALE A

DIMENSION TABLE

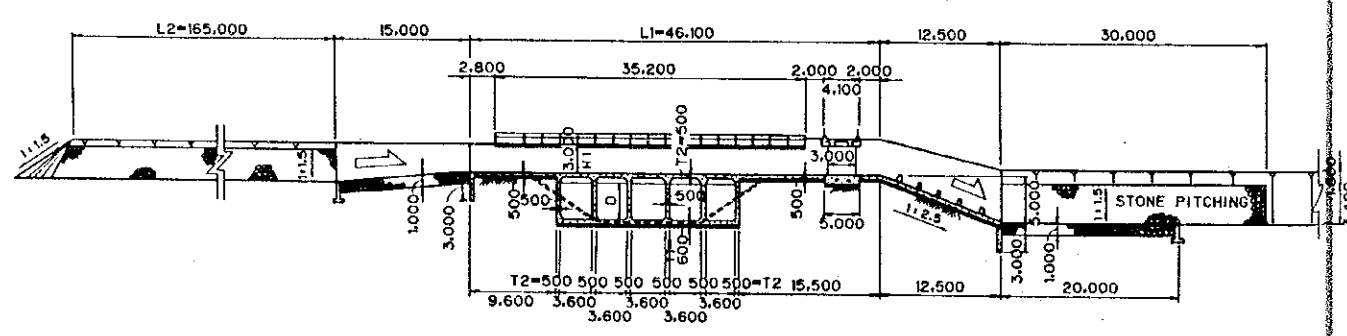
| No. | NAME OF CD | STA. No. | DISCHARGE (m ³ /s) | FH (m) | Fb (m) | TYPE OF INLET | EL 1 (m) | EL 2 (m) | EL 3 (m) | EL 4 (m) | EL 5 (m) | EL 6 (m) | 1:1 (mm) | CH (m) | n | CL (m) | CW (mm) | B (m) | B1 (mm) | H (m) | W1 (mm) | W2 (mm) | W3 (mm) | W4 (mm) |
|-----|-------------------|----------|-------------------------------|--------|--------|---------------|----------|----------|----------|----------|----------|----------|----------|--------|----|--------|---------|-------|---------|-------|---------|---------|---------|---------|
| 1 | FEEDER CANAL CD-1 | 31+823 | 311 | 2.4 | 1.2 | A | 183.43 | 183.14 | 188.53 | 183.43 | 183.25 | 193.93 | 500 | 3.9 | 5 | 70.3 | 21,000 | 9.0 | 8,700 | 5.40 | 7,350 | 22,600 | 6,800 | 7,350 |
| 2 | MAIN CANAL CD-2 | 21+700 | 1,048 | 2.7 | 1.2 | A | 199.40 | 203.93 | 203.31 | 198.51 | 198.36 | 206.16 | 500 | 3.6 | 19 | 60.9 | 78,400 | 12.0 | 7,800 | 4.85 | 6,900 | 80,000 | 6,150 | 6,900 |
| 3 | CD-3 | 33+000 | 722 | 2.7 | 1.2 | A | 201.62 | 202.40 | 202.85 | 198.75 | 198.60 | 207.30 | 400 | 3.0 | 18 | 58.6 | 74,300 | 10.5 | 7,200 | 4.45 | 5,850 | 75,900 | 5,100 | 5,850 |
| 4 | CD-6 | 47+475 | 198 | 2.4 | 1.2 | B | 199.35 | 203.10 | 201.57 | 197.57 | 197.40 | 206.02 | 400 | 2.9 | 5 | 69.5 | 21,000 | 10.5 | 7,200 | 4.45 | 5,700 | 22,600 | 4,950 | 5,700 |
| 5 | CD-7 | 49+620 | 71 | 2.1 | 0.9 | B | 203.69 | 203.70 | 201.47 | 197.67 | 197.50 | 205.92 | 400 | 2.7 | 2 | 66.6 | 8,700 | 10.5 | 7,200 | 4.45 | 5,400 | 10,300 | 4,650 | 5,400 |
| 6 | CD-8 | 51+400 | 156 | 2.4 | 1.2 | B | 203.10 | 203.20 | 201.34 | 197.74 | 197.57 | 205.79 | 400 | 2.5 | 5 | 68.8 | 21,000 | 10.5 | 7,200 | 4.45 | 5,100 | 22,600 | 4,350 | 5,100 |
| 7 | CD-14 | 82+350 | 82 | 2.1 | 0.9 | A | 196.20 | 198.00 | 198.73 | 194.63 | 194.52 | 201.63 | 400 | 3.0 | 2 | 45.7 | 8,700 | 6.5 | 4,800 | 2.90 | 5,850 | 10,300 | 5,100 | 5,850 |
| 8 | CD-15 | 88+600 | 212 | 2.4 | 1.2 | B | 198.70 | 198.70 | 197.82 | 194.02 | 193.88 | 200.72 | 400 | 2.7 | 6 | 57.2 | 25,100 | 6.5 | 4,900 | 2.90 | 5,400 | 26,700 | 4,650 | 5,400 |
| 9 | CD-16 | 90+500 | 161 | 2.4 | 1.2 | B | 198.00 | 200.30 | 197.53 | 193.43 | 193.29 | 200.43 | 400 | 3.0 | 4 | 54.3 | 16,900 | 6.5 | 4,800 | 2.90 | 5,850 | 18,500 | 5,100 | 5,850 |
| 10 | CD-18 | 105+620 | 411 | 2.4 | 1.2 | B | 193.80 | 197.00 | 194.71 | 190.61 | 190.49 | 196.81 | 400 | 3.0 | 10 | 48.2 | 42,000 | 4.5 | 3,600 | 2.10 | 5,850 | 43,100 | 5,100 | 5,850 |
| 11 | CD-19 | 110+100 | 42 | 2.1 | 0.9 | B | 194.20 | 194.50 | 193.57 | 190.57 | 190.45 | 195.67 | 400 | 1.9 | 2 | 48.4 | 8,700 | 4.5 | 3,600 | 2.10 | 4,200 | 10,300 | 3,450 | 4,200 |



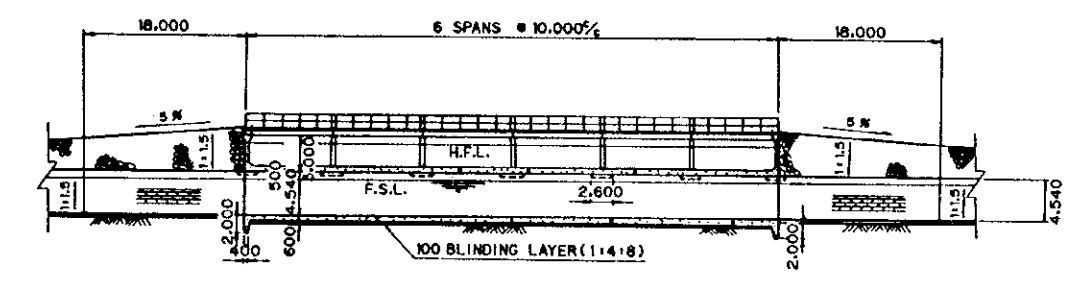
ISLAMIC REPUBLIC OF PAKISTAN
 GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 NULLAH CROSSINGS (NULLAH CULVERT)
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



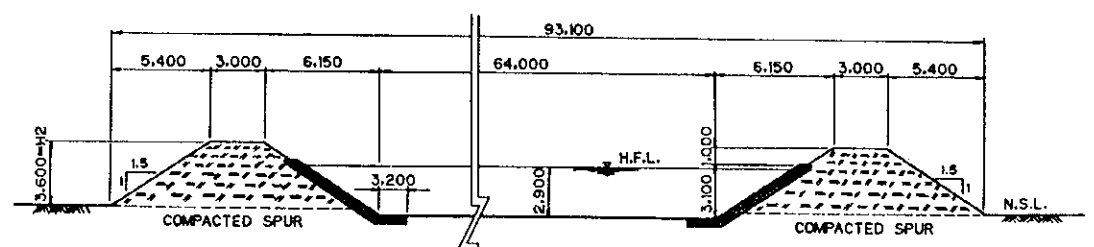
PLAN



SECTION A-A
SCALE A



SECTION B-B
SCALE A



SECTION C-C
SCALE B

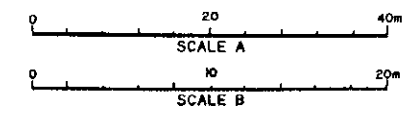
(FEEDER CANAL) DIMENSION TABLE

| STA. NO. | RED LEVEL OF CANAL (m) | F.S.L. OF CANAL (m) | RED LEVEL OF MALA (m) | R.S.L. (m) | Q (m ³ /s) | L1 | B | N | SIZE OF BARREL | T1 | T2 | H1 | L2 | H2 | L3 |
|----------|------------------------|---------------------|-----------------------|------------|-----------------------|--------|--------|---|----------------|-----|-----|-------|---------|-------|--------|
| 36+550 | 188.11 | 192.62 | | 187.95 | 173.00 | 40,800 | 34,000 | 3 | 5100x5100 | 800 | 700 | 3,000 | 165,000 | 3,600 | 18,000 |
| 40+170 | 187.78 | 192.28 | | 185.39 | 305.00 | 40,800 | 60,000 | 3 | # | 800 | 700 | 3,000 | 165,000 | 3,600 | 18,000 |
| 43+100 | 187.51 | 192.02 | 185.00 | 201.78 | 175.00 | # | 35,000 | # | # | # | # | # | 165,000 | # | # |
| 44+000 | 187.41 | 191.91 | 191.00 | 193.75 | 88.00 | # | 19,000 | # | # | # | # | # | 75,000 | # | # |
| 45+700 | 187.24 | 191.74 | 189.00 | 186.68 | 124.00 | # | 25,000 | # | # | # | # | # | 75,000 | # | # |
| 47+100 | 187.10 | 191.60 | 194.00 | 196.37 | 59.00 | # | 13,000 | # | # | # | # | # | 75,000 | # | # |
| 48+300 | 186.97 | 191.47 | 192.00 | 194.33 | 55.00 | # | 12,000 | # | # | # | # | # | 75,000 | # | # |
| 49+350 | 186.85 | 191.35 | 192.00 | 193.33 | 42.00 | # | 9,000 | # | # | # | # | # | 75,000 | # | # |
| 50+100 | 186.75 | 191.25 | 186.00 | 188.34 | 206.00 | # | 41,000 | # | # | # | # | # | 165,000 | # | # |
| 54+560 | 186.37 | 190.87 | 191.00 | 193.40 | 219.00 | # | 43,000 | # | # | # | # | # | 165,000 | # | # |
| 56+800 | 186.16 | 190.66 | | 190.89 | 55.00 | # | 12,000 | # | # | # | # | # | 75,000 | # | # |

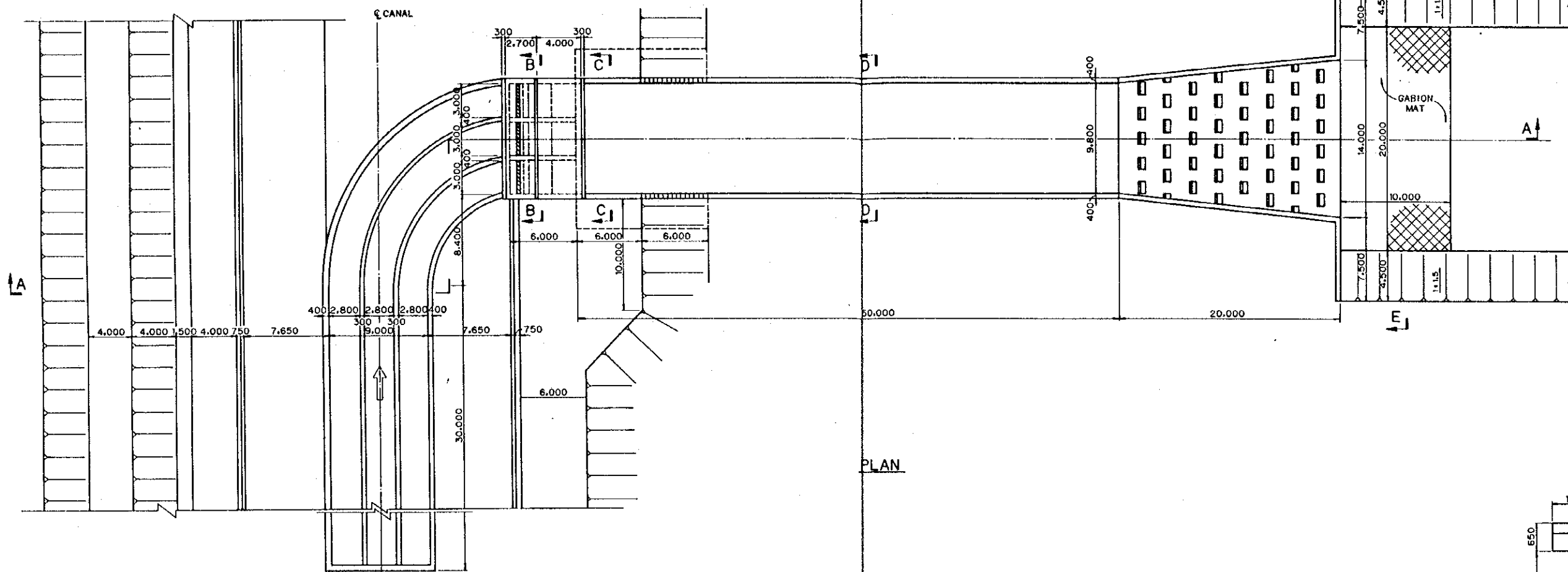
1. L1= LENGTH OF SUPER PASSAGE.
2. L2= LENGTH OF U/S SPURS.
3. L3= LENGTH OF CANAL TRANSITION.
4. B = WIDTH OF SUPER PASSAGE.
5. H1= HEIGHT OF SUPER PASSAGE.
6. N = NO OF CANAL BARRELS.
7. H2= HEIGHT OF U/S SPURS.
8. T1= THICKNESS OF BOTTOM SLAB OF BARRELS.
9. T2= THICKNESS OF TOP SLAB SIDE WALLS OF EDGE BARRELS.

(MAIN CANAL)

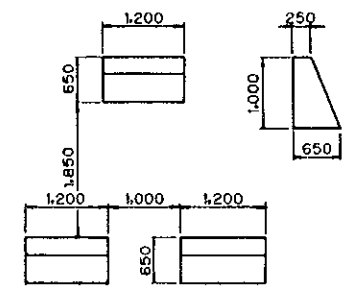
| | | | | | | | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|---------|---|-----------|-----|-----|-------|---------|-------|--------|
| 10+100 | 204.25 | 208.19 | 208.20 | 208.70 | 306.00 | 46,100 | 60,000 | 5 | 5600x4540 | 600 | 500 | 3,000 | 165,000 | 3,600 | 18,000 |
| 38+100 | 202.47 | 206.00 | 206.22 | 206.22 | 142.00 | 40,000 | 28,000 | 4 | 5600x4130 | 600 | 500 | 3,000 | 75,000 | 3,000 | # |
| 42+500 | 202.07 | 205.60 | 205.10 | 205.50 | 558.00 | 40,000 | 100,000 | 4 | 5600x4130 | # | # | 3,100 | 165,000 | 3,900 | # |
| 56+700 | 201.77 | 204.37 | 205.20 | 208.80 | 912.00 | 35,900 | 163,000 | 3 | 5600x3200 | # | # | # | # | # | # |
| 59+400 | 201.44 | 204.04 | 204.00 | 205.20 | 538.00 | 35,900 | 97,000 | 3 | # | # | # | # | # | # | # |
| 66+950 | 200.52 | 203.12 | 203.69 | 203.84 | 487.00 | 35,900 | 87,000 | 3 | # | # | # | # | # | # | # |
| 68+100 | 200.35 | 202.95 | 205.00 | 205.40 | 977.00 | 35,900 | 175,000 | 3 | # | # | # | # | # | # | # |
| 75+250 | 199.86 | 202.00 | 200.94 | 204.20 | 243.00 | 33,700 | 222,000 | 3 | 3000x2600 | 500 | 400 | # | # | # | # |
| 94+550 | 197.54 | 199.04 | 200.00 | 201.00 | 295.00 | 30,000 | 58,000 | 2 | 3000x1800 | 500 | 400 | 3,000 | # | 3,600 | 15,000 |



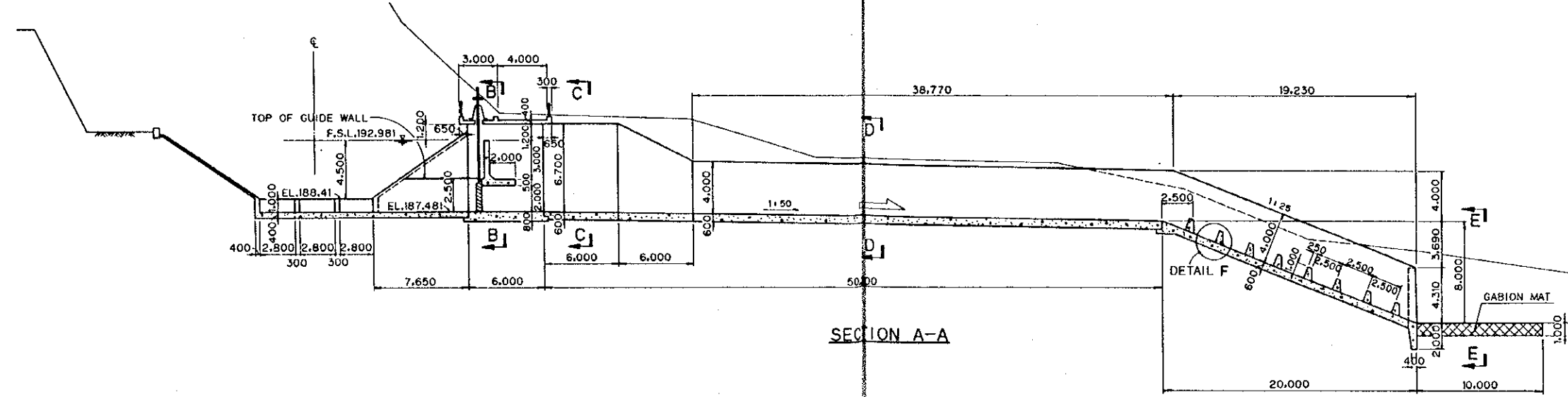
ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
NULLAH CROSSINGS (SUPER PASSAGE)
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



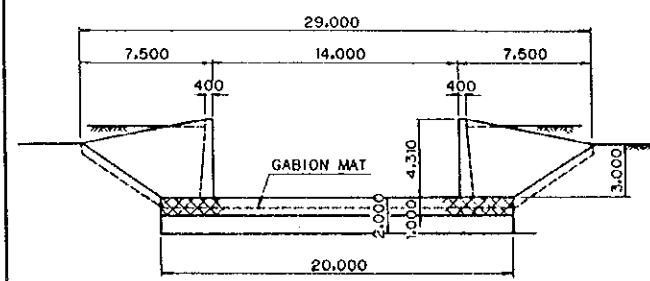
PLAN



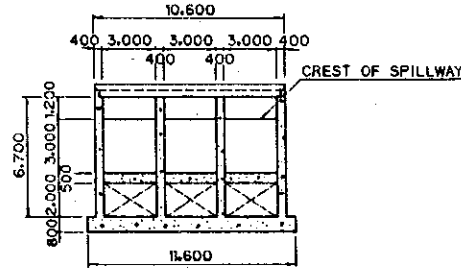
DETAIL F



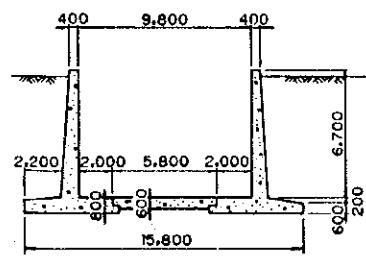
SECTION A-A



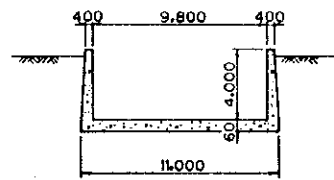
SECTION E-E



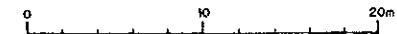
SECTION B-B



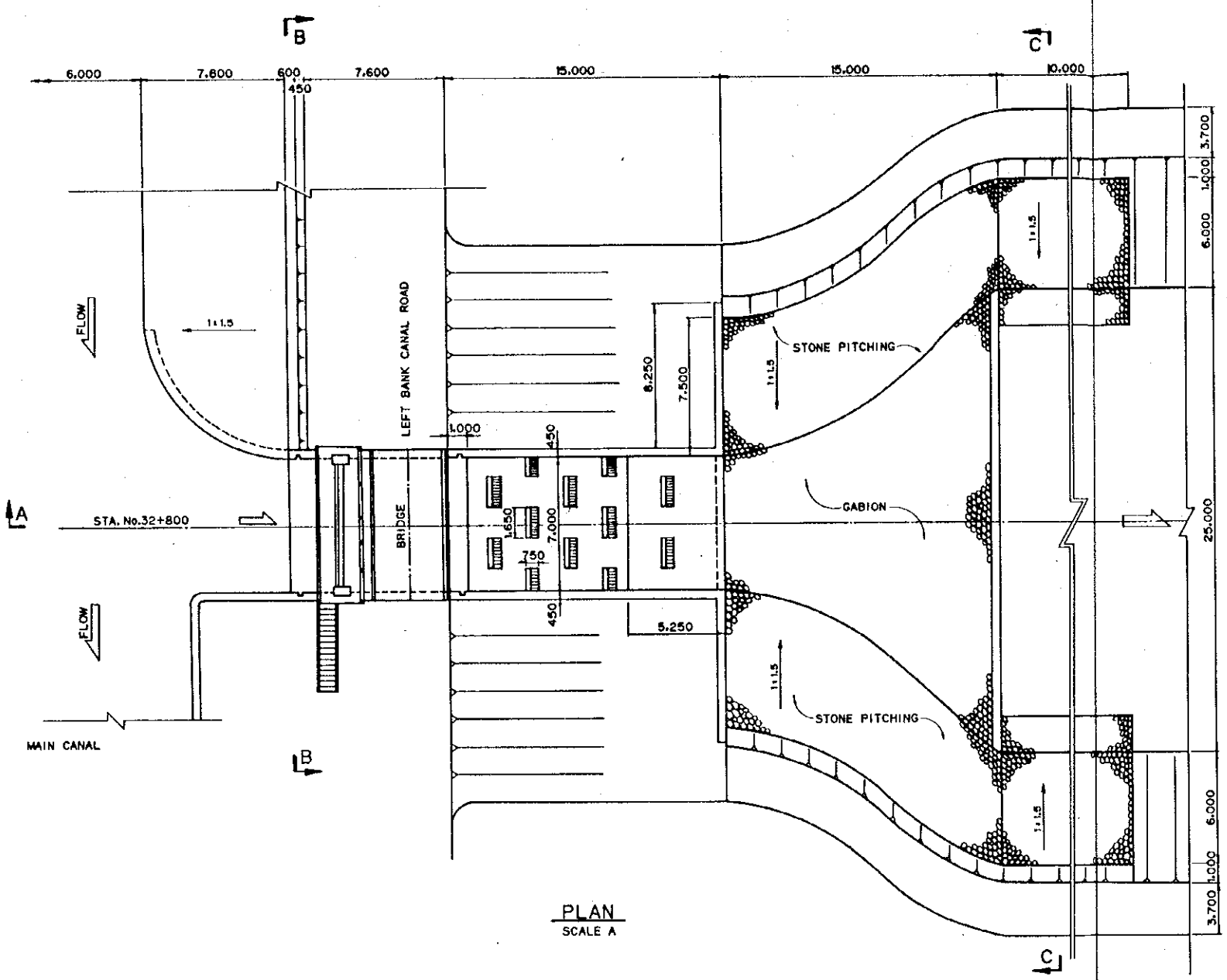
SECTION C-C



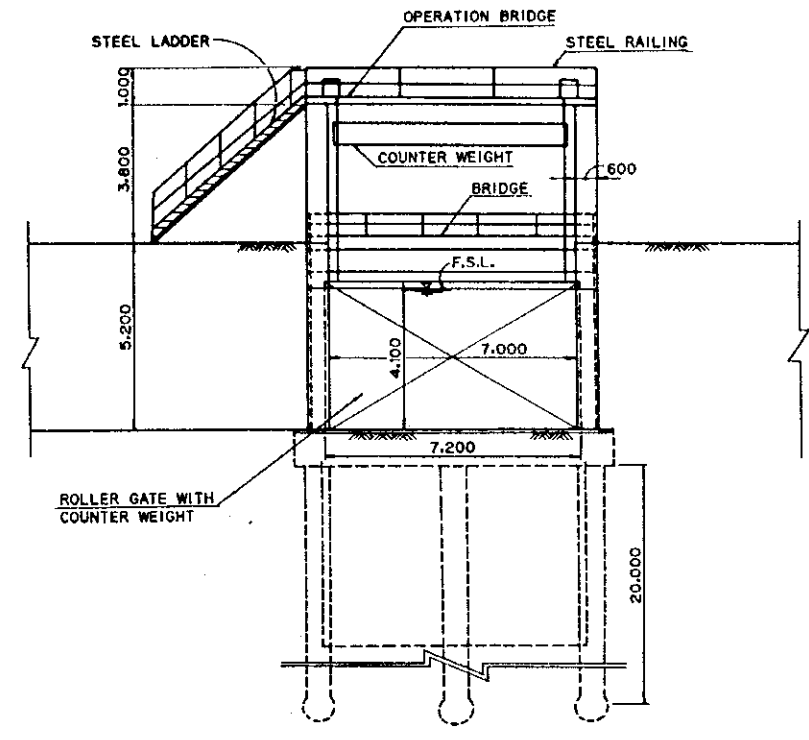
SECTION D-D



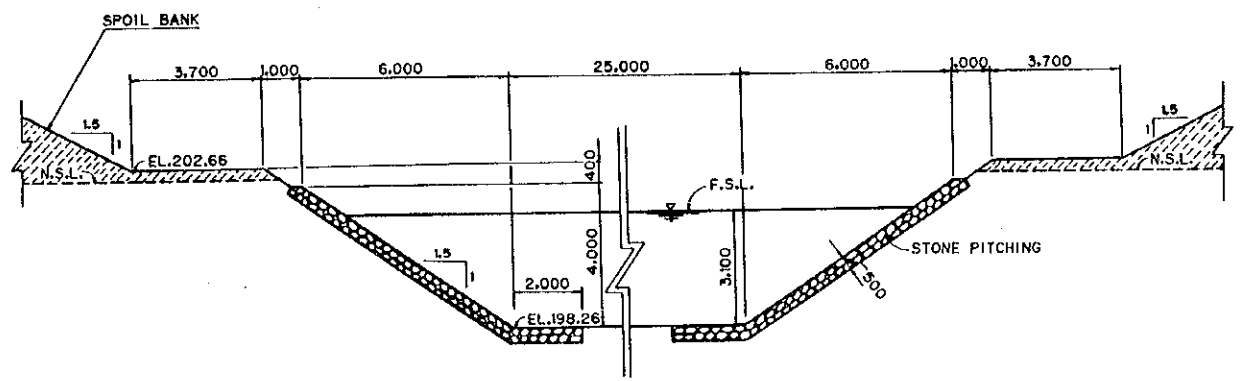
ISLAMIC REPUBLIC OF PAKISTAN
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 CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
 ESCAPE TYPE A OF FEEDER CANAL
 JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.



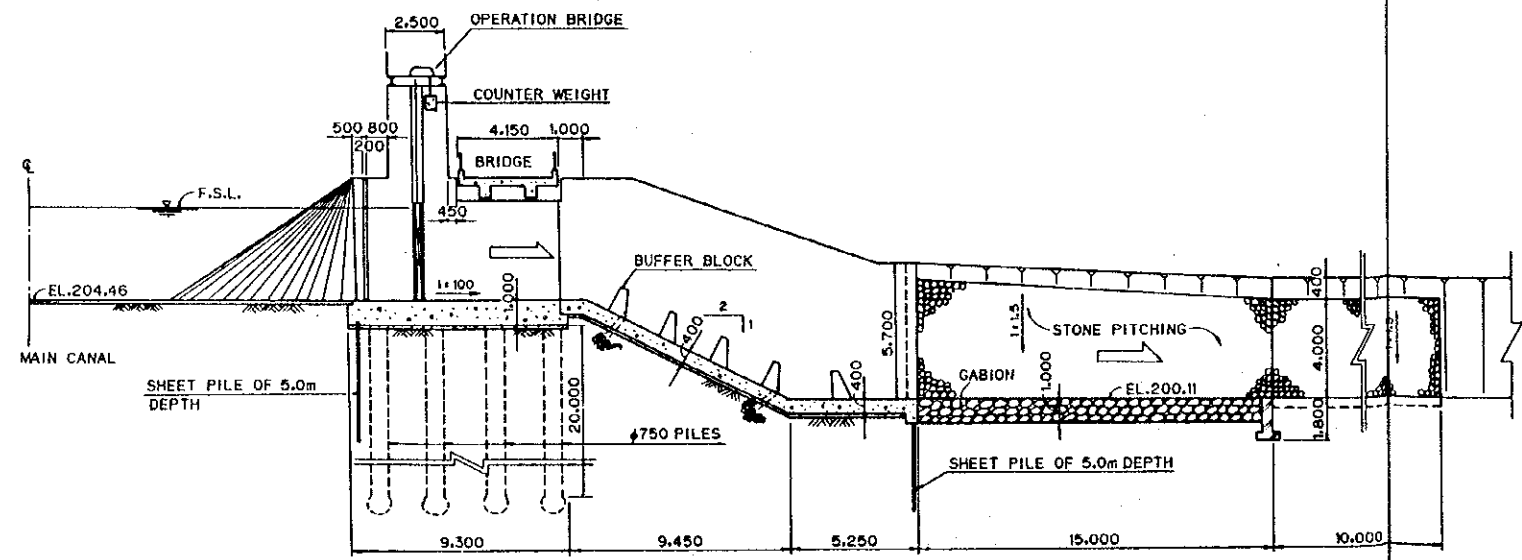
PLAN
SCALE A



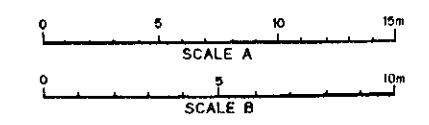
SECTION B-B
SCALE B



SECTION C-C
SCALE B



SECTION A-A
SCALE A



ISLAMIC REPUBLIC OF PAKISTAN
GOVERNMENT OF NORTH WEST FRONTIER PROVINCE
CHASHMA RIGHT BANK 1ST LIFT IRRIGATION PROJECT
ESCAPE TYPE B OF MAIN CANAL
JAPAN INTERNATIONAL COOPERATION AGENCY D.W. NO.