

8-2 生産

計画完成時点で、それぞれの対象地域で実現される外貨節約・獲得に直接貢献する農産物の増加分とその外貨相当額は次のとおりである。

Table 8-1 農産物増加分及び外貨相当額

	Phase I/Stage 1		Phase I		Plan B	
	増産分 (トン)	外貨相当額 (US\$)	増産分 (トン)	外貨相当額 (US\$)	増産分 (トン)	外貨相当額 (US\$)
米	44,780	8,404,000	113,110	21,541,000	161,380	28,352,000
小麦	1,588	366,000	3,720	856,000	4,610	1,060,000
ジュート	974	385,000	2,310	762,000	3,250	1,072,000

畜産・漁業関係の便益も相当額にのぼるが、経済評価は純粋な農業生産面の便益のみについて行った。したがって、上記3品目のほか畑作物の増産分を加えてIRRを算出した。

8-3 雇用機会の増大

雇用問題の解決は本計画の目的の一つであって、この問題が計画実施によってそれぞれの対象地域でどのように解決されるかについてみるために今回実施調査が行われたPhase Iでの見通しと、そのPlan Bへの応用につき簡単にのべることにする。同様の効果はPhase I/Stage 1でも期待できる筈である。

Phase I地域には、土地なき村民と限界農家(1.0エーカー以下の土地しか持たぬもの)の下層(全体の1/4)をあわせて、約19,000戸があると推定されている。前者は人力車夫その他の職業で糊口をしのぎ、臨時農業手伝いや小規模建設工事などで実働できる日数は年間3ヶ月未満であり、後者すなわち限界農家下層は大部分が刈分小作としてやや安定した収入源をもつとはいえ、経営面積それ自体が極少ないところから、家族を扶養するにさえ困難を覚え、その生活内容の乏しさは土地なき村民のそれと大差はない。

現況では、各種農作物の栽培に要する労働力(約4,031,000人日)のうち、80%近くは自家労働力でまかなわれているので、残る20%(806,200人日)が、限界農家によるShare-cropping(刈分小作)と土地なき村民の臨時雇用を通じて供給されている。Share-croppingは永代小作権を伴わず、むしろ季節毎の雇用契約に近いものと考えられるので、こ

の806,200人日分の農業雇用労働需要は土地なき村民と下層限界農家計19,000戸について平均してみることができるわけで、それによると各戸(人)は年間42日の雇用機会(806,200人日÷19,000戸=42人日)しか与えられぬ計算となる。

これに対し、計画が実施されて農業生産が計画目標に到達する計画第10年度(Plan B地域全体では計画第14年度)における労働力需要はPhase Iで9,800,000人日となることが予想され、集約的農法が採用されるため所要労働も集約的となるから、その50%を雇用労働力に依存することになろうと考えられる。この種農村居住者も全国的人口増加率を下まわらぬ割合で増加を続けるものと考えねばならぬから、計画第10年度には約25,000戸以上になるであろうが、それにしてもその全部が年間200日前後の農業雇用の機会を保証されることになろう(4,900,000人日÷25,000戸=195人日)。

そして、限界農家群の上層部は、計画実施によって自己の土地が通年かんがいされることによりその利用度が高まり、集約的農法によって栽培作物の単位収量も向上するから、たとえShare-croppingの契約や臨時農作業雇用の機会がない場合でも、どうにか人並みの生計がたてられるようになるであろうことは前章の「農家所得」の項で1.5エーカー規模の小農の営農改善について検討されたとおりである。

8-4 所得配分

前章での階層農家別家計分析や前節の雇用機会の増大傾向から推論しうることは、本計画の実施によって限界農家の下層(1.0エーカー以下)と土地なき村民の場合雇用機会の増大による収入増加率は相当なものとなり、限界農家の上層あるいは小農(1.0エーカー以上2.5エーカー未満)やより多くの土地を持つ農家の所得増大は下に厚く、上に薄い結果をもたらすので、開発努力によって農民間の所得格差を縮小したいという政府の農村開発政策の精神にも十分応えることができる筈である。

8-5 IRR

本計画のIRRを対象地域毎に推定したところ、次のような数値をえた。

Table 8-2 IRR結果一覧表

	Phase I/stage 1	Phase I	Plan B
IRR	14.9	19.9	20.2
感性度テスト結果	-	14~19%	-

以上の地域別IRRは、次の仮定に立って算出されたものである。

- (a) 計画寿命は計画実施期間を含みそれぞれ50年間とする。
- (b) 計画実施は、インフラ整備に各3年、農業開発に5年乃至7年を予定している。
- (c) 分析のための便益としては純農業生産増のみがとりあげられる。
- (d) 投入・産出価格は世界銀行が推定した1985年度国際価格(1977年不変価格 = Economic price)を用いた。国内で入手可能なものについても、輸入に依存するものについても価格には補助金・税金・関税等は含まれていない。
- (e) バングラデシュの外貨不足を勘案して、1米ドル=18タカのシャドウ・レートを採用する。
- (f) 農業雇用労賃は市価の半分、建設労働賃銀は市価のままとする。

感性度テスト

感性度テストはPhase I についてのみ行なった。その結果は次のとおりである。

基本的 IRR	19.9%
(i) 便益が20%減となった場合	16.0%
(ii) 建設費が10%増大した場合	18.7%
(iii) 農業生産費が10%増大した場合	19.6%
(iv) (ii)と(iii)が複合した場合	15.6%
(v) (ii), (iii), (iv)が複合した場合	14.6%

第9章 勧告と懸案事項

9-1 建設部門

A. 計画の実施のために

実施設計までに行わねばならない測量，地質調査，水文調査は次の通りである。

(1) 文 文 (Hydrology)

乾期における河川水位，流量等について，シタラキヤ河とメグナ河について詳細に観測する。また，雨期における計画地域内の水位状況を観測する。

(2) 地質調査 (Boring and Soil Tests)

地質調査はNo 1 及びNo 2 ポンプ場について，それぞれ3本程度のボーリングを行う。

(3) 測 量 (Survey)

(i) B・M・の設置 — 既存のD-N道路に設置してあるB・M・は破損ないしは埋没しているので新に補足し，その他，シタラキヤ河，T-N 鉄道，N-M鉄道，D-C道路に1哩間隔程度に設ける。

(ii) 現存の地形図(1:15840 4 inch to 1mile)には道路・鉄道・構造物等の標高は示していないので，明示すること。

B. Engineering Services

Engineering Servicesについては実施設計費と施工管理費とを計上した。国内分は外貨分の20%を計上し，調査費(測量，地質調査，その他)，あるいは施工管理費に利用する。外貨分の内訳は次の通りである。

(1) 実施設計 (Detailed Design)

本プロジェクトの設計に必要な専門家及び月数はTable 9-1の通りで，合計144^Mである。作業内容は測量，地質調査，水文解析，設計，工事費及び各工種の仕様等である。必要期間は約1年とする。

(2) 施工管理 (Supervision)

施工管理は，工事期間の6年間とする。施工管理の常駐専門家は3人とし，その他の各種専門家は必要の都度必要期間(3ヶ月程度)のみ管理する。必要^MはTable 9-1の通りで約352^Mである。作業内容は実施設計図書通りの工事完成，計画変更，工程管理，資材計画，労務計画，及びB・W・D・B・への助言である。

以上の Engineering Services を金額で示せば次のようになる。

Engineering Services

1. 実施設計費

人件費	144 月 × 1,800,000 円 / 月	=	259,200,000
旅費, その他 1 式			40,800,000
計			300,000,000

2. 施工管理費

人件費	252 月 × 1,800,000 円 / 月	=	453,600,000
旅費, その他 1 式			46,400,000
計			500,000,000

合計 800,000,000

国内分 (Local) (160,000,000)

Table 9-1 エンジニアリング・サービス工程表

Position	M/M	Preparatory Period	Construction Period					
			1st	2nd	3rd	4th	5th	6th
1. Detailed Design								
Team Leader (1)	12	—						
Irrigation Engineer (2)	24	—						
Structural Design Eng. (3)	36	—						
Hydrologist (1)	12	—						
Geologist (1)	6	—						
Agronomist (1)	6	—						
Agro-Economist (1)	6	—						
Mechanical Engineer (1)	6	—						
Electric Engineer (1)	6	—						
Surveyor (3)	30	—						
Sub-total (15)	144							
2. Supervision								
Team Leader (1)	72							
Construction Eng. (2)	144							
Mechanical, Electric & Other Engineer (3)	36		—	—	—	—	—	—
Sub-total (6)	252							
Total (21)	396							

9-2 農業開発部門

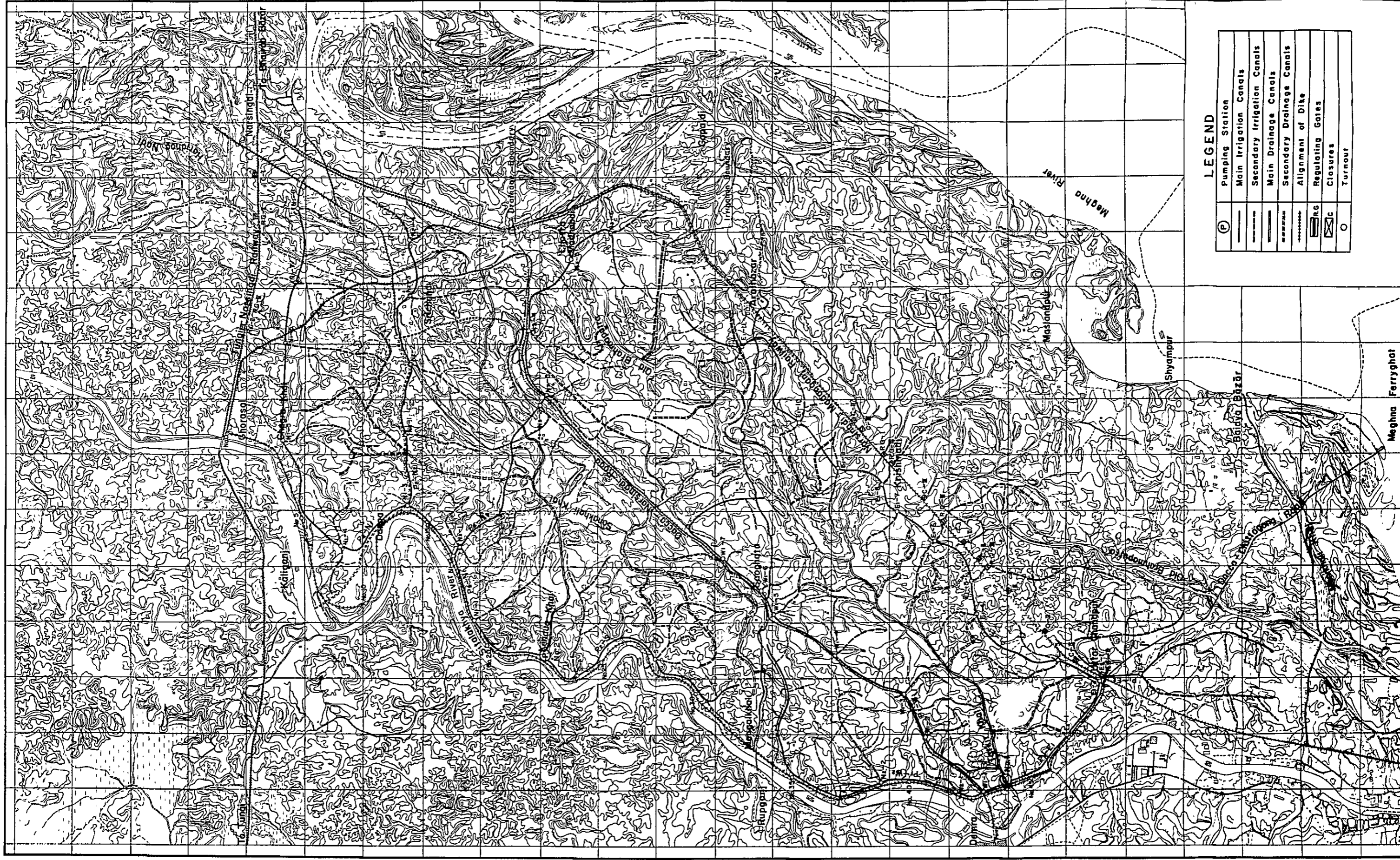
A. 本計画下で提案されている農業開発は、バングラデシュにおける農業開発のための基本政策とされる IRDP 方式に準じたものであり、全体計画地域をカバーするためには、現在 IRDP 傘下に編入されていないアライハザール、ナラヤンガンジ両ターナを可及的速かにその対象地区とすることが望ましい。

B. 計画の実施

(1) 本計画は、総合的農業開発計画の実施について、少くともある分野、たとえば農民サービスのうち、生産資材の供給と生産物の販売を信用とリンク・アップさせる IRDP-TCCA-KSS の組織・運営面などで、外国からの技術援助を必要とするものがあるであろう。こうした外国援助の具体的な職種、人数、期間等については、実施設計 (Detailed Design) の段階でバングラデシュ政府との打合せを通じて明確にすることができよう。

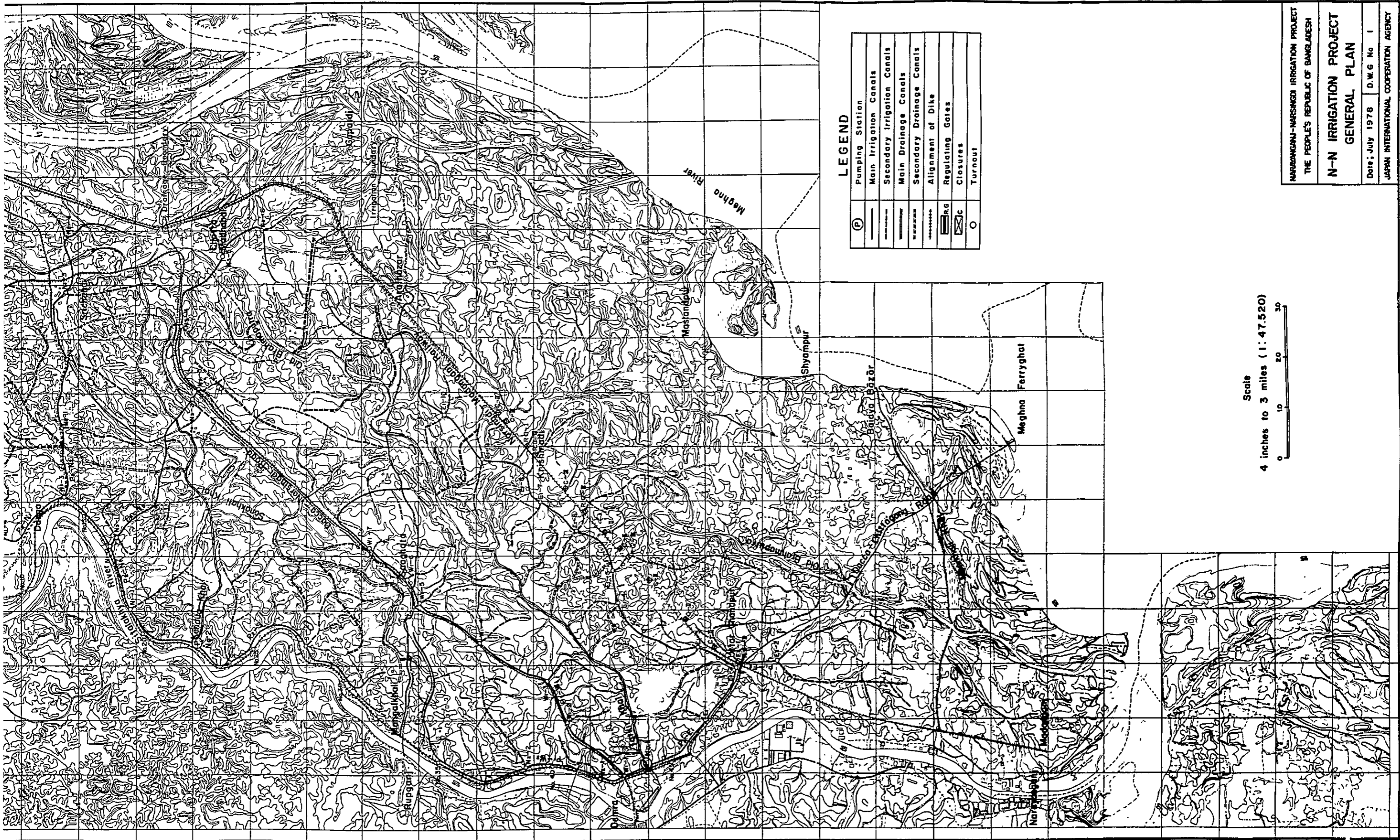
(2) 現況では組織的な農業開発計画は、基本的データの不足から、その大筋においてしか作成し難い。本計画が Detailed Design の段階に入るまでの間に、単に物理的インフラ関係のみでなく、社会・経済面での Detailed Design を可能とするため、計画地域内の社会・経済状況についての信頼に足る諸データが収獲されることが望ましい。

BANGLADESH · N-N IRRIGATION PROJECT



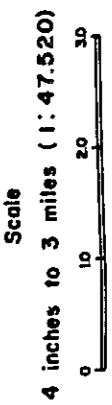
LEGEND

(P)	Pumping Station
—	Main Irrigation Canals
- - -	Secondary Irrigation Canals
— —	Main Drainage Canals
—x—	Secondary Drainage Canals
- · - · -	Alignment of Dike
▬	Regulating Gates
▬	Closures
○	Turnout

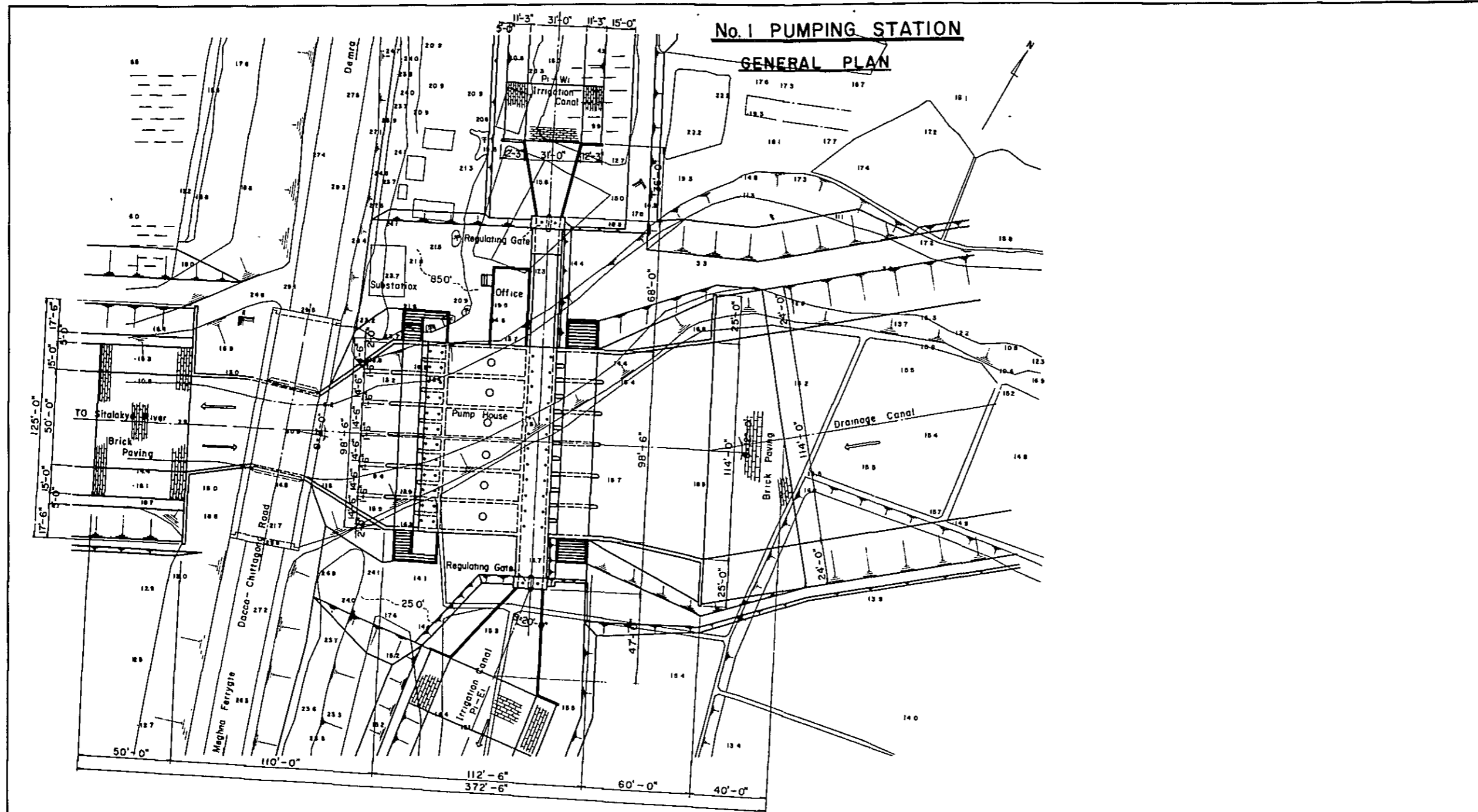


LEGEND

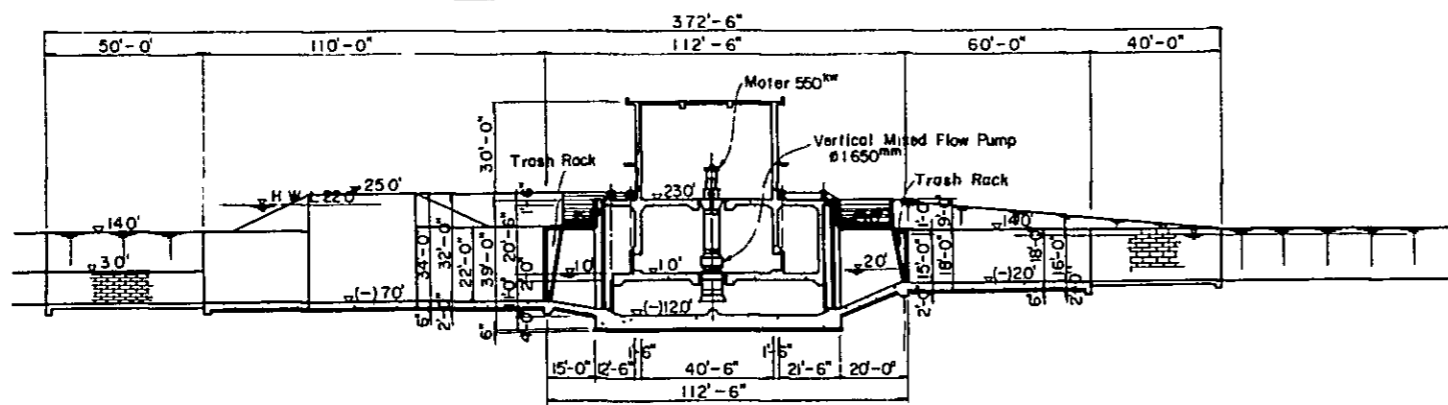
⊕	Pumping Station
—	Main Irrigation Canals
—	Secondary Irrigation Canals
—	Main Drainage Canals
—	Secondary Drainage Canals
—	Alignment of Dike
⊠	Regulating Gates
⊠	Closures
○	Turnout



NARAYANGANJ-NARSHINGI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH
**N-N IRRIGATION PROJECT
GENERAL PLAN**
Date: July 1976 D.W.G No 1
JAPAN INTERNATIONAL COOPERATION AGENCY



GENERAL PROFILE

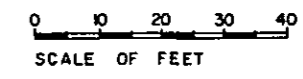
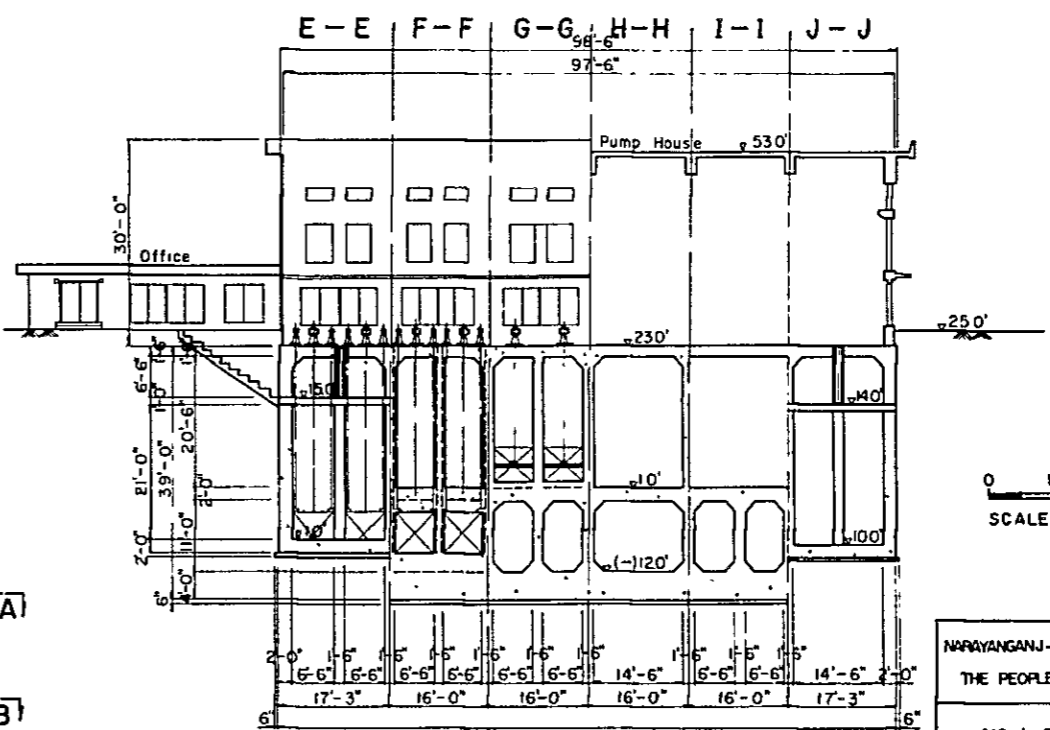
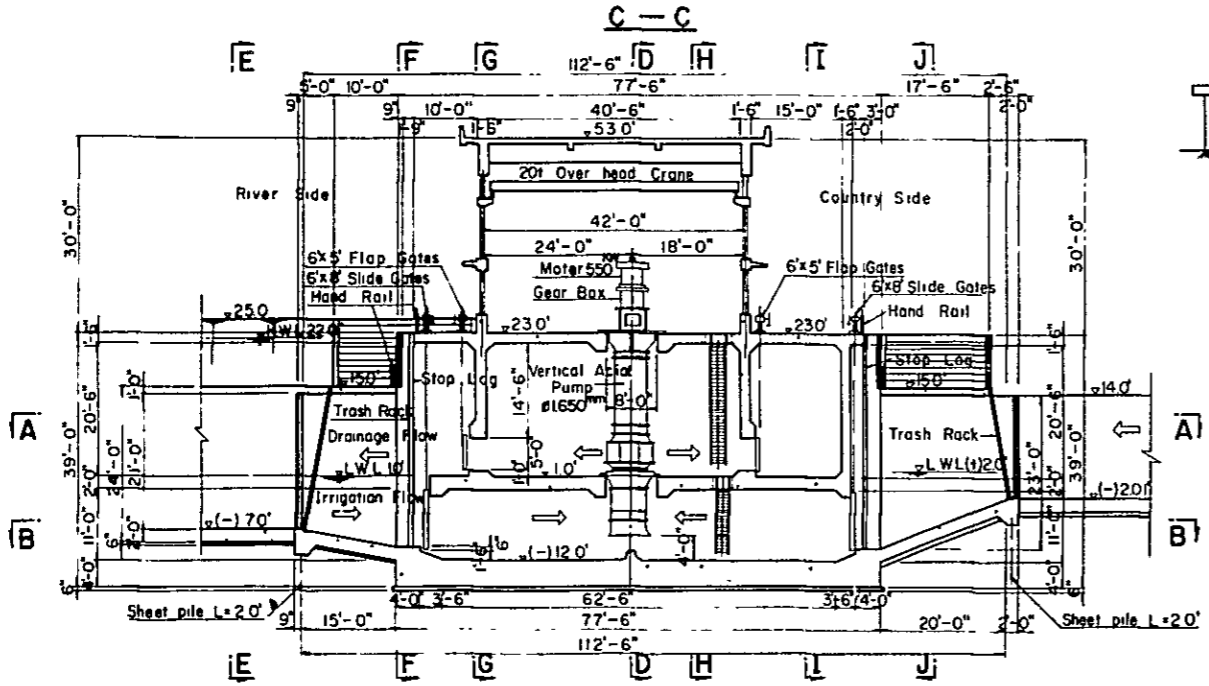
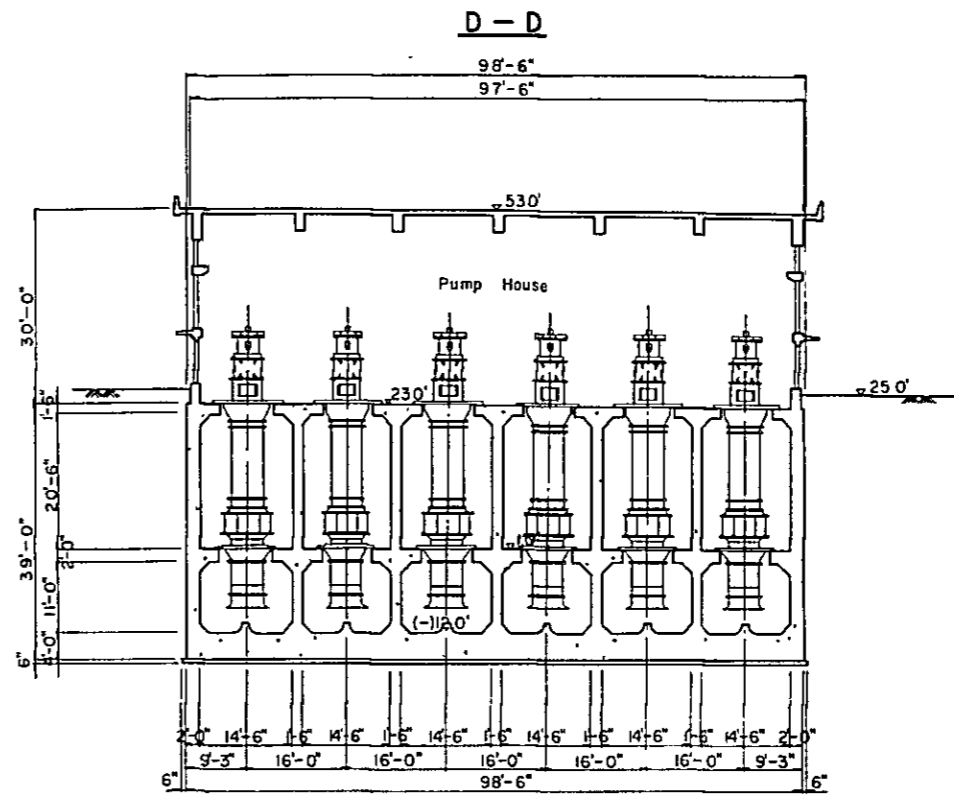
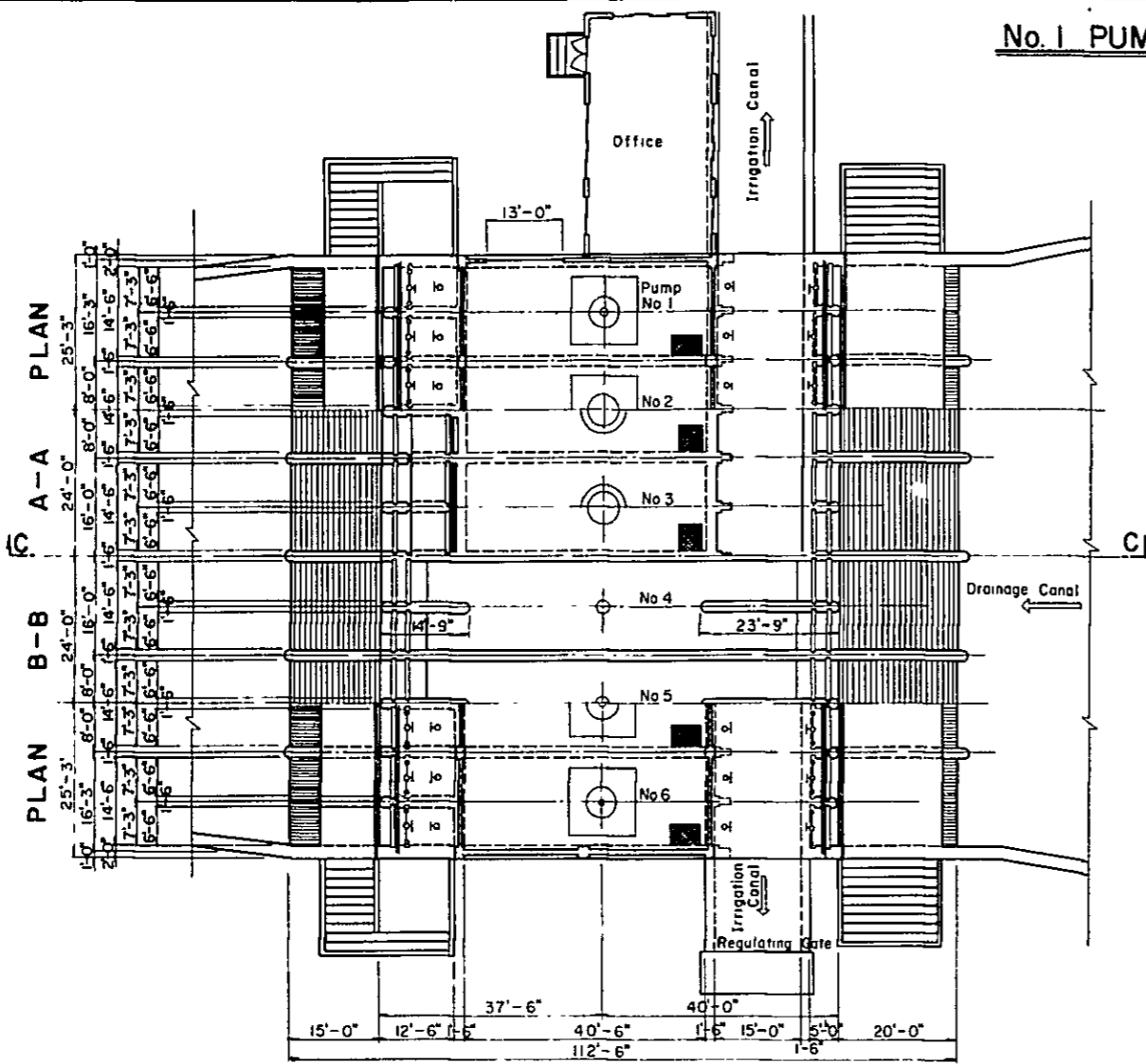


0 10 20 30 40 50
SCALE OF FEET

NARAYANGANJ-NARSINGDI IRRIGATION PROJECT	
THE PEOPLE'S REPUBLIC OF BANGLADESH	
NO.1 PUMPING STATION	
GENERAL PLAN	
Date: July 1978	D.W.G NO 2
JAPAN INTERNATIONAL COOPERATION AGENCY	

No. 1 PUMPING STATION

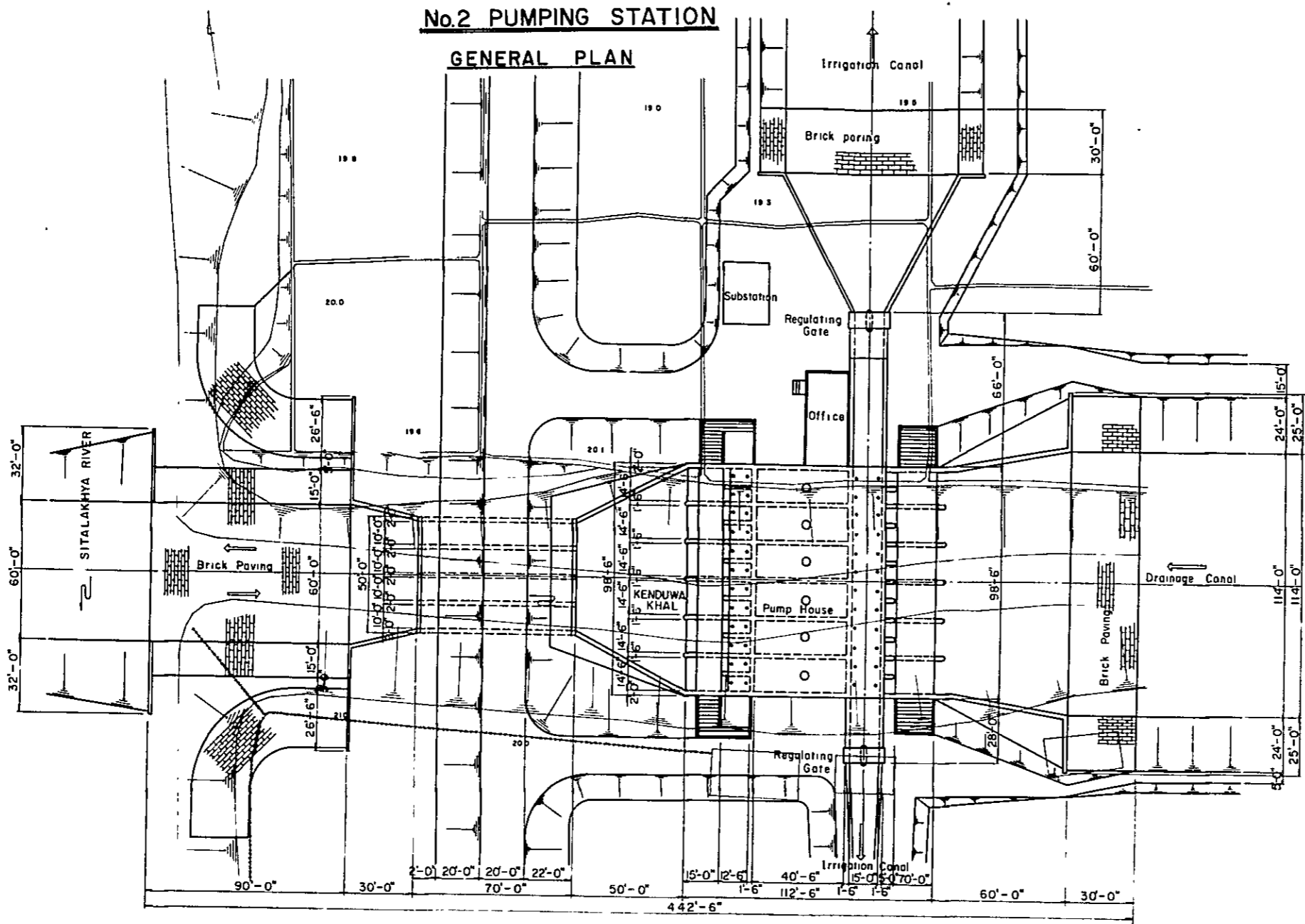
PLAN A-A
PLAN B-B
PLAN C-C



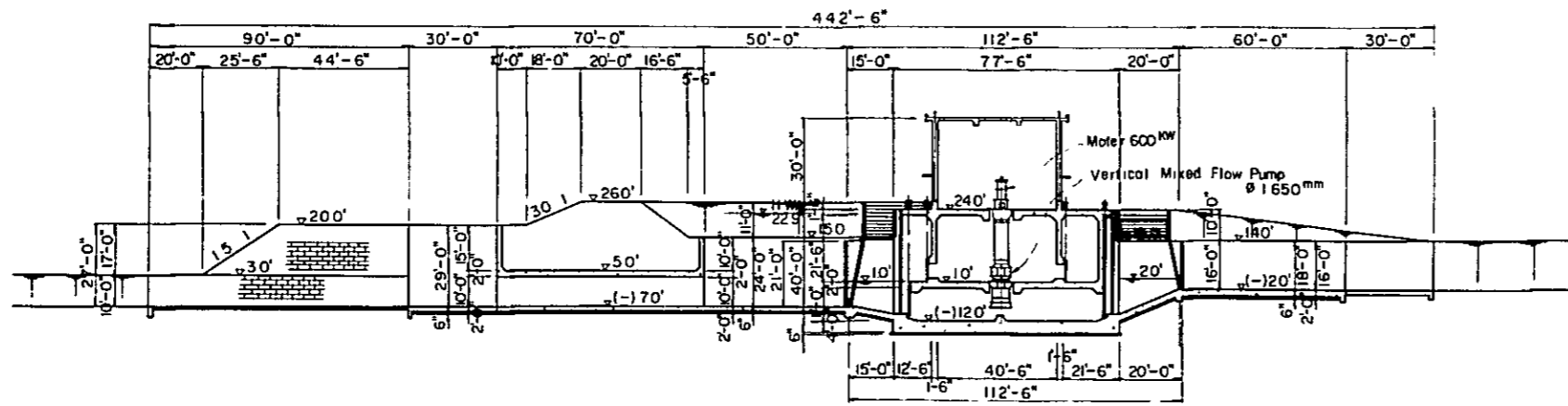
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH
NO. 1 PUMPING STATION
PLAN AND SECTIONS
Date: July 1978 DWG NO 3
JAPAN INTERNATIONAL COOPERATION AGENCY

No.2 PUMPING STATION

GENERAL PLAN



GENERAL PROFILE



0 10 20 30 40 50
SCALE OF FEET

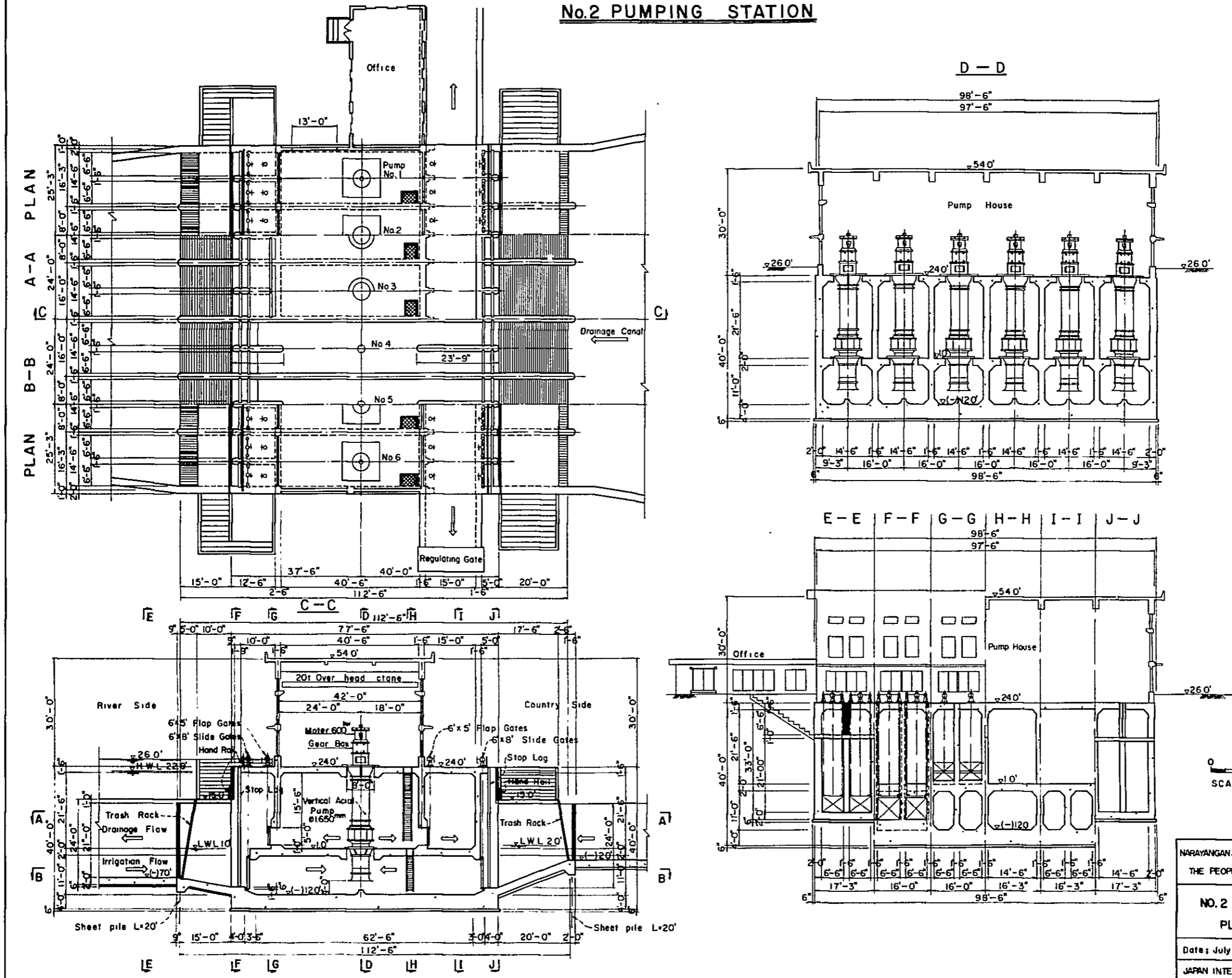
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**NO.2 PUMPING STATION
GENERAL PLAN**

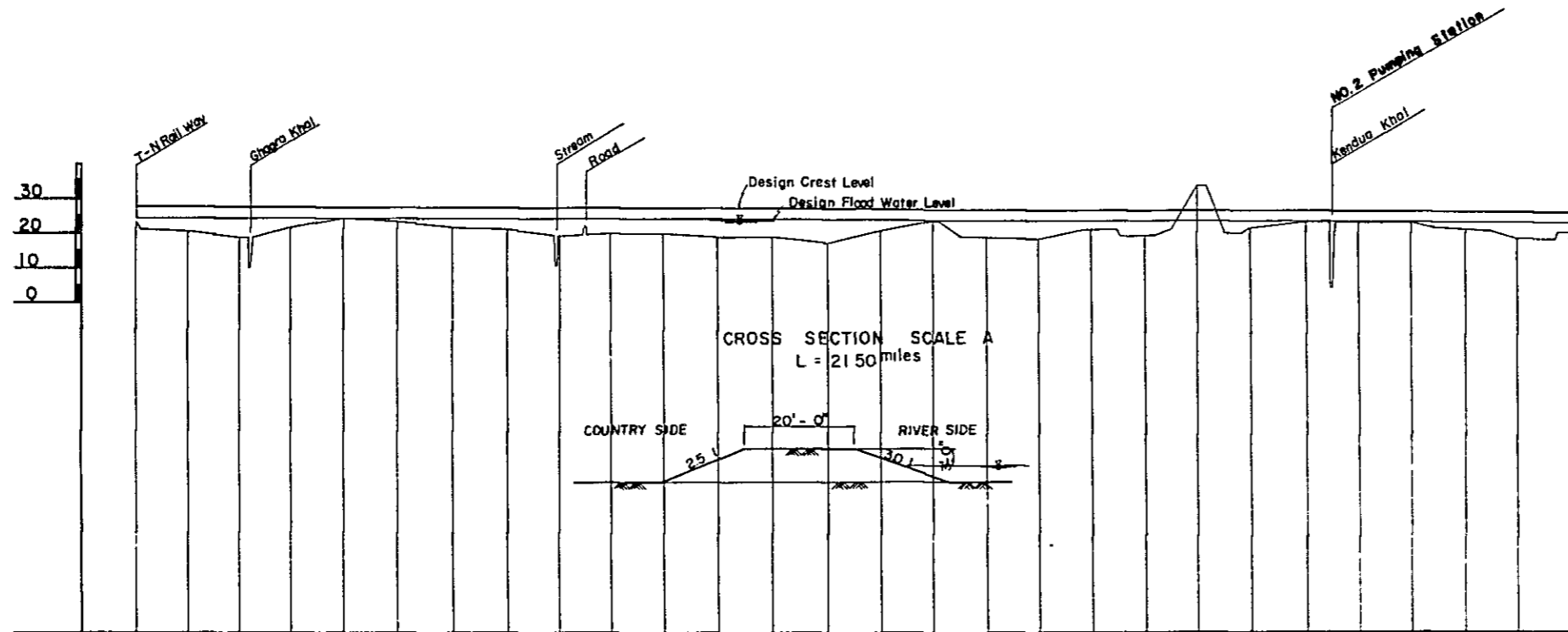
Date: July 1978 DWG NO 4

JAPAN INTERNATIONAL COOPERATION AGENCY

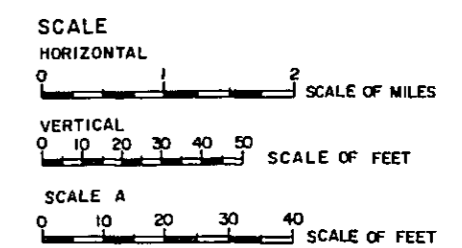
No.2 PUMPING STATION



PROFILE OF SITALAKHYA RIVER DIKE 1/2

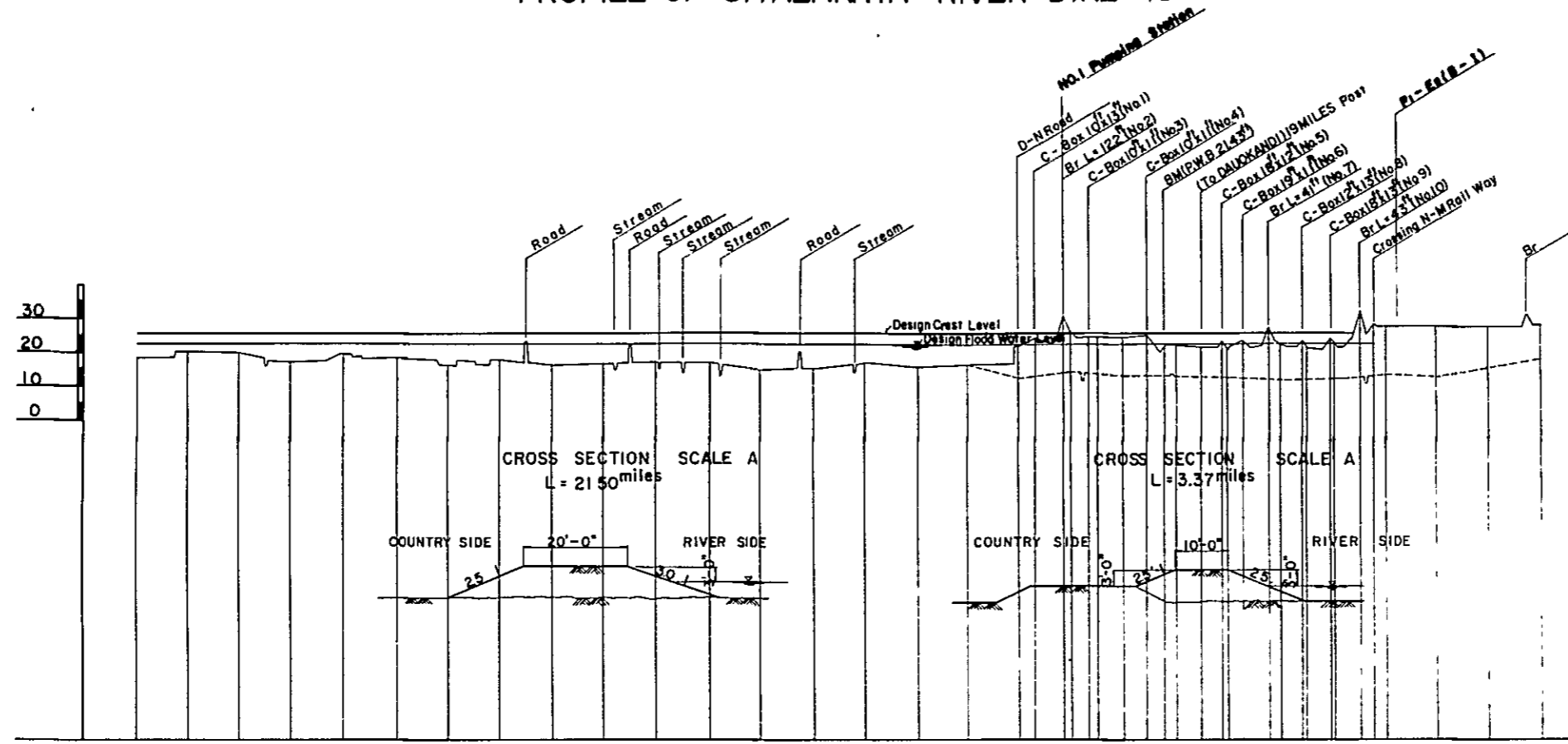


Grade	1:1/80,000 L = 21.50 miles																											
Depth of Exca																												
High of Embank	3.10	6.07	7.93	5.40	2.57	3.43	4.90	5.27	7.34	6.80	6.77	7.74	7.70	9.17	5.94	3.00	7.57	7.84	5.51	6.97	5.21	3.27	3.34	3.31	5.57	6.24	6.21	
Top of Bank	26.60	26.57	26.53	26.50	26.47	26.43	26.40	26.37	26.34	26.30	26.27	26.24	26.20	26.17	26.14	26.10	26.07	26.04	26.01	25.97	25.94	25.91	25.87	25.84	25.81	25.77	25.74	25.71
Water Surf	23.80	23.57	23.53	23.50	23.47	23.43	23.40	23.37	23.34	23.30	23.27	23.24	23.20	23.17	23.14	23.10	23.07	23.04	23.01	22.97	22.94	22.91	22.87	22.84	22.81	22.77	22.74	22.71
Ground Elev	23.5	20.5	18.6	21.1	23.5	25.0	21.5	21.1	19.0	19.5	19.5	18.5	18.5	17.0	20.2	23.1	18.5	18.2	20.5	19.0	3.35	20.7	22.6	22.5	20.2	17.5	19.8	
Accum Dist	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5
Dist	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6
Station No	No 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27

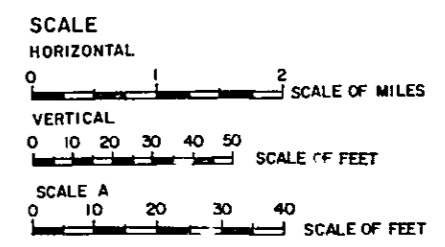


NARIYANGANJ-NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH
SITALAKHYA RIVER DIKE
PROFILE AND CROSS SECTIONS (1/2)
 Date: July 1978 DWG NO 6
 JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF SITALAKHYA RIVER DIKE 2/2

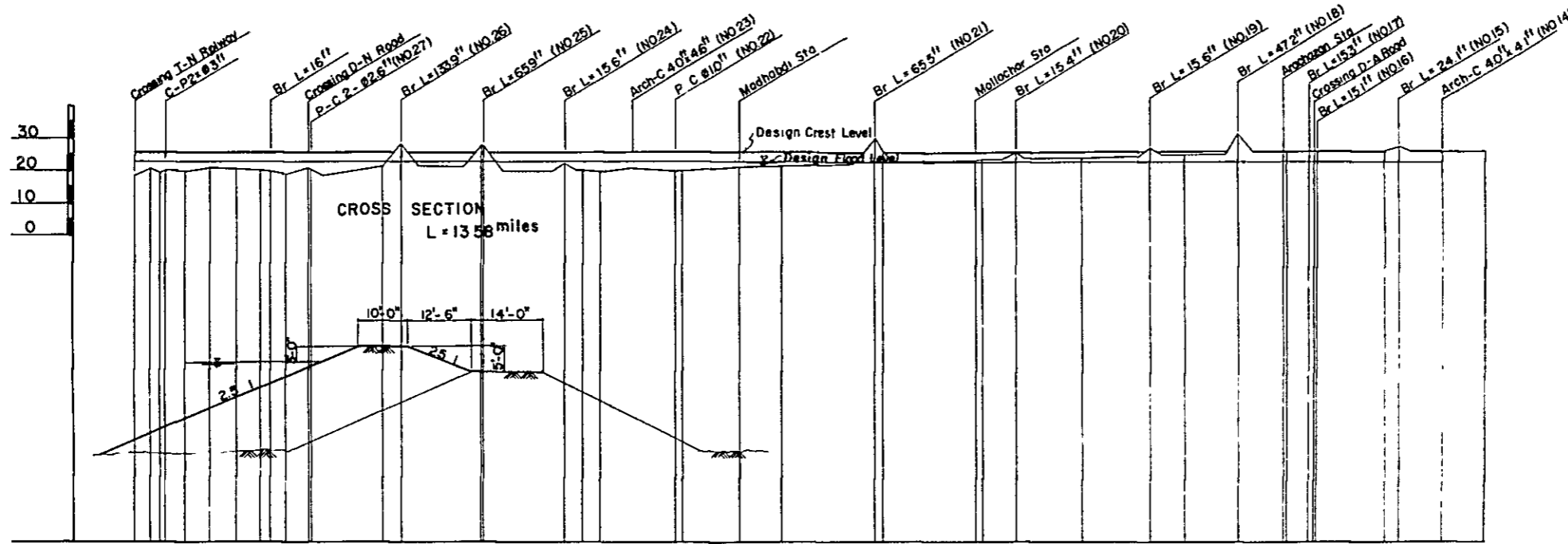


Grade	1:1/80,000 L=21.50 miles		25:10		1:1/36,000 L=3.37 miles		25:10	
Depth of Exca				5.38		1.97		6.90
Height of Emban	6.24	6.21	6.68	9.34	7.11	8.08	10.04	8.41
Top of Bank	25.74	25.71	25.68	25.64	25.61	25.58	25.54	25.51
Water Surf	22.74	22.71	22.68	22.64	22.61	22.58	22.54	22.51
Ground Elev	17.5	18.5	19.0	18.5	17.5	15.5	14.0	17.1
Accum Dist	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5
Dist	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Station No.	No.26	27	28	29	30	31	32	33

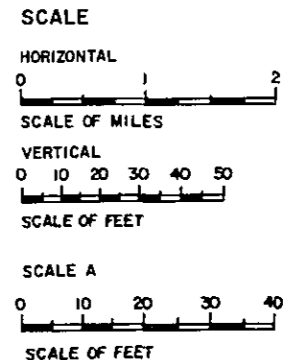


NARAYINGANJ-NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH
SITALAKHYA RIVER DIKE
PROFILE AND CROSS SECTIONS (2/2)
 Date: July 1978 DWG NO 7
 JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NARSINGDI-MADANGANJ RAILWAY 1/2



Grade	22.7																				
Depth of Exca																					
Height of Emban	8.90	8.89	8.77	7.25	5.83	6.30	6.88	7.38	7.84	5.47	1.44	0.82	1.82	3.26	0.83	3.23	0.91	4.48	0.59	0.54	
Top of Bank	23.70	23.69	23.57	25.65	25.63	25.60	25.58	25.58	25.54	25.47	25.46	25.38	25.38	25.04	24.89	24.91	24.86	24.80	24.59	24.54	
Water Surf	22.70	22.69	22.57	25.65	25.63	25.60	25.58	25.58	25.54	25.47	25.46	25.38	25.38	25.04	24.89	24.91	24.86	24.80	24.59	24.54	
Ground Elev	17.2	18.3	18.4	18.8	19.3	18.9	18.2	19.5	20.0	20.0	20.6	20.6	17.9	19.4	19.7	22.0	24.6	22.8	24.0	24.0	
Accum Dist	-1.88	-1.79	-1.81	-1.00	-0.75	-0.50	0	0.27	1.00	1.19	2.01	2.82	3.86	4.57	5.00	8.00	9.67	9.00	9.92	11.00	
Dist	-0.25	-0.09	-0.23	-0.25	-0.25	-0.25	0	0.81	0.72	0.19	0.81	0.81	0.81	0.87	0.43	0.86	0.67	0.33	0.32	0.66	
Station No	-0.58	-0.20	-0.20	0	-0.75	-0.50	-0.25	+0.26	1	+0.19	+0.01	+0.82	+0.17	+0.92	+0.37	5	+0.92	+0.34	8	+0.67	

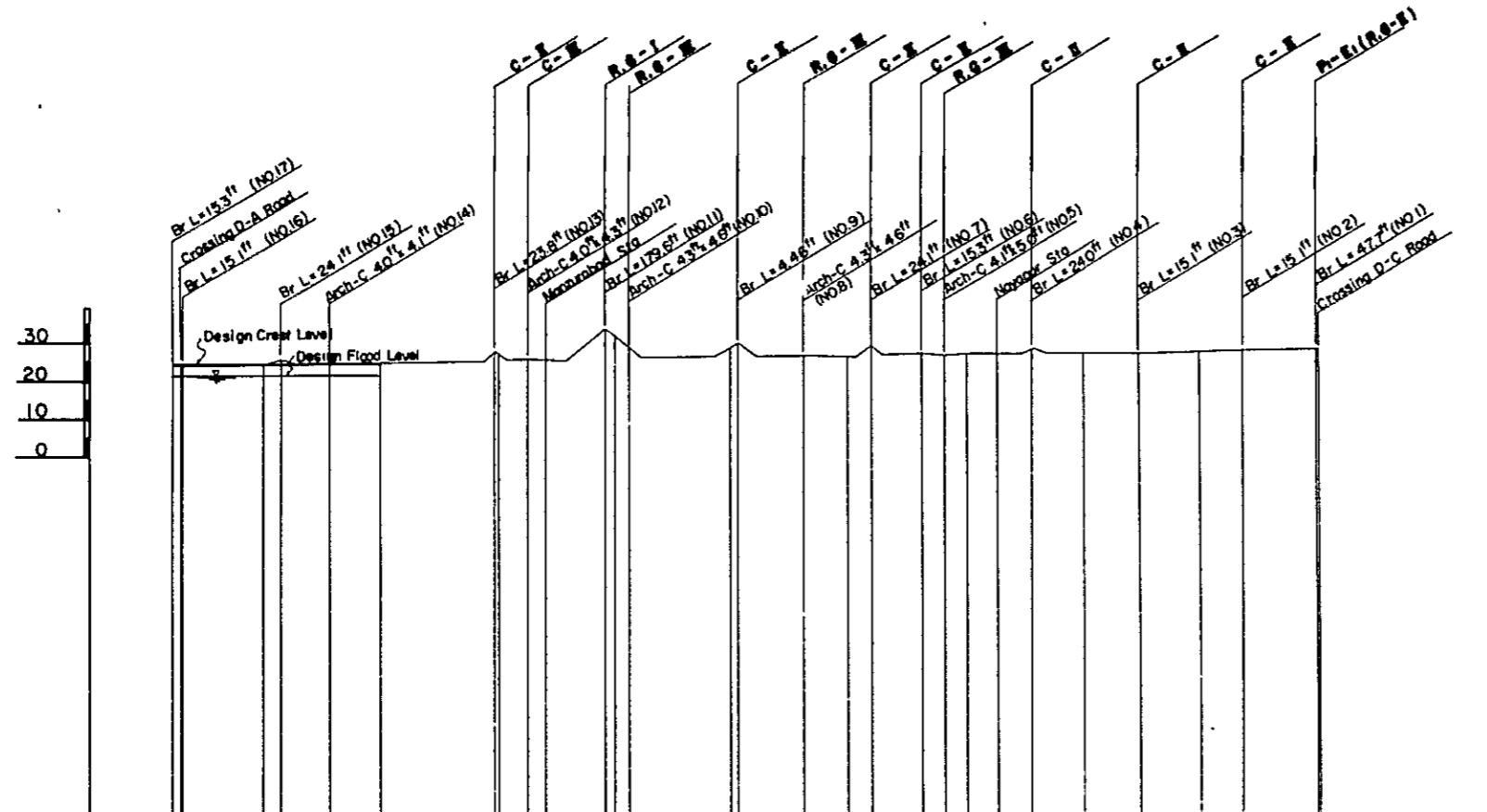


NARSINGDI - NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH

N - 1.1 RAILWAY BANK
PROFILE AND CROSS SECTIONS

 Date: July 1978 DWG NO 8
 JAPAN INTERNATIONAL COOPERATION AGENCY

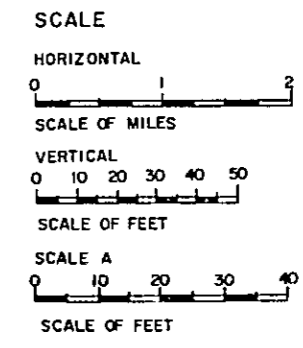
PROFILE OF NARSINGDI-MADANGANJ RAILWAY 2/2



LEGEND

T.O.	TURNOUT
A	AQUEDUCT
S	SIPHON
B	BRIDGE
C.G.	CHECK GATE
R.G.	REGULATING GATE

Grade		
Depth of Exca	0.96	0.72
Hight of Emban	1.08	0.59
Top of Bank	24.68	24.54
Water Surf	21.88	21.58
Ground Elev	23.6	24.0
Accum Dist	10.00	11.00
Dist	0.02	0.70
Station No.	10	11



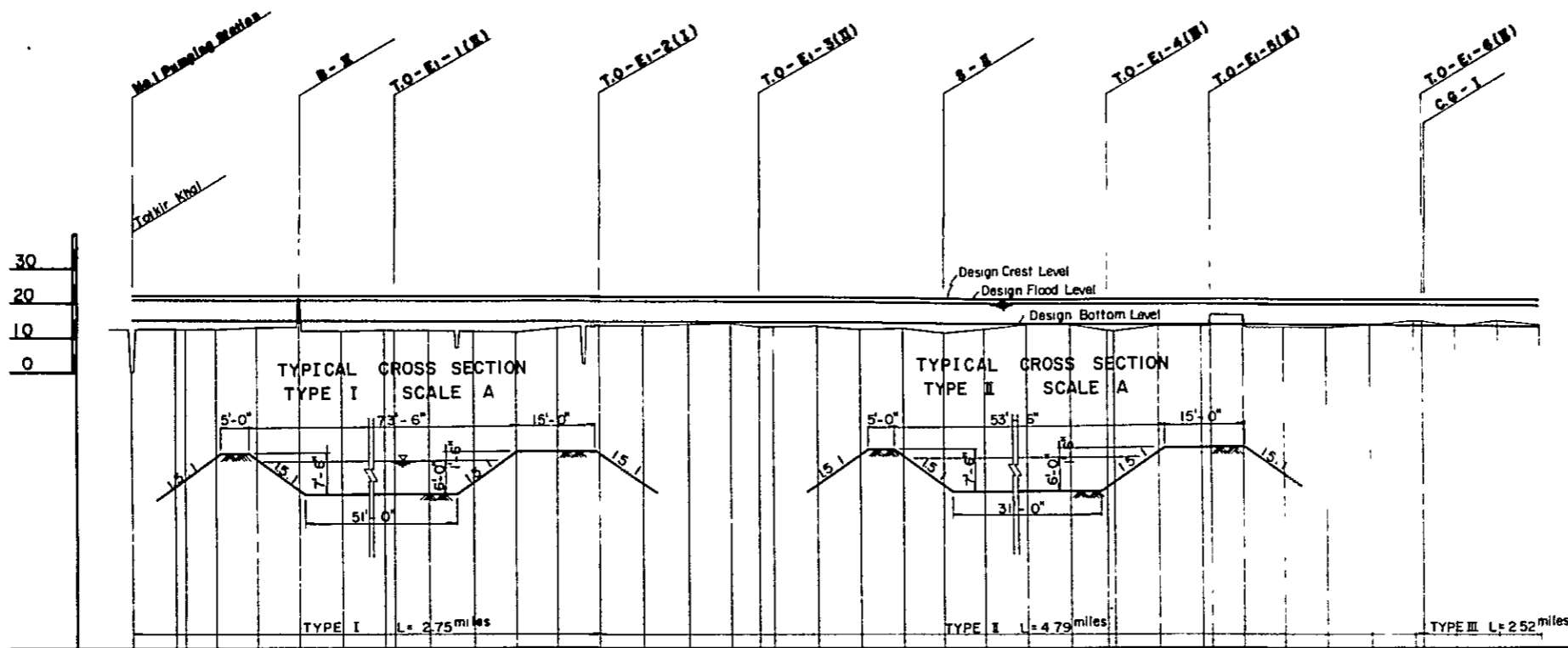
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH

N - M RAILWAY BANK
PROFILE AND CROSS SECTIONS (No. 2)

Date: July 1978 D.W.G. NO. 9

JAPAN INTERNATIONAL COOPERATION AGENCY

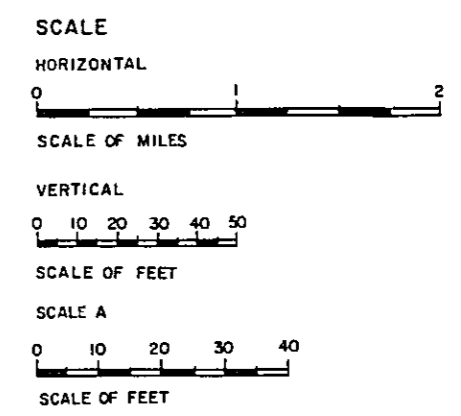
PROFILE OF NO.1 PUMPING STATION P₁-E₁ MAIN IRRIGATION CANAL 1/2



LEGEND

- T.O. TURNOUT
- A. AQUEDUCT
- S. SIPHON
- B. BRIDGE
- C.G. CHECK GATE
- R.G. REGULATING GATE

Station No	Dist	Accum Dist	Ground Elev	Bottom of Canal	Water Surf	Top of Bank	Height of Embank	Depth of Exca	Grade
No 0	0	0	0	15.00	21.00	22.50	15.00		15.00
+0.06	0.06	0.06	12.8	14.82	20.82	22.42	2.32		
2	0.19	0.50	12.6	14.87	20.87	22.37	2.27		
3	0.25	0.75	13.0	14.80	20.80	22.30	1.80	6.76	
4	0.25	1.00	21.5	14.74	20.74	22.24			
5	0.25	1.25	11.7	14.67	20.67	22.17	2.97		
+0.05	0.25	1.50	11.9	14.60	20.60	22.10	2.70		
	0.25	1.75	11.9	14.59	20.59	22.09	2.89		
7	0.20	1.75	12.0	14.54	20.54	22.04	2.54		
8	0.25	2.00	11.9	14.47	20.47	21.97	2.57		
9	0.25	2.25	11.5	14.41	20.41	21.91	2.91		
10	0.25	2.50	12.5	14.34	20.34	21.84	1.84		
11	0.25	2.75	13.3	14.27	20.27	21.77	0.97		
12	0.25	3.00	13.5	14.21	20.21	21.71	0.71		
13	0.25	3.25	13.5	14.14	20.14	21.64	0.64		
14	0.25	3.50	13.7	14.08	20.08	21.58	0.38		
+0.17	0.17	3.67	12.7	14.03	20.03	21.53	1.33		
15	0.08	3.75	12.8	14.01	20.01	21.51	1.21		
16	0.25	4.00	12.9	13.94	19.94	21.44	1.04		
17	0.25	4.25	12.0	13.88	19.88	21.38	1.88		
18	0.25	4.50	12.3	13.81	19.81	21.31	1.51		
19	0.25	4.75	11.0	13.75	19.75	21.25	2.75		
20	0.25	5.00	12.1	13.68	19.68	21.18	1.58		
21	0.25	5.25	13.1	13.61	19.61	21.11	0.51		
22	0.25	5.50	13.3	13.55	19.55	21.05	0.25		
+0.21	0.21	5.71	11.4	13.48	19.48	20.98	2.08		
	0.21	5.75	11.4	13.48	19.48	20.98	2.08		
24	0.25	6.00	13.0	13.42	19.42	20.92	0.42		
25	0.25	6.25	12.4	13.35	19.35	20.85	0.95	2.67	
+0.06	0.06	6.31	16.0	13.33	19.33	20.83			
26	0.19	6.50	15.4	13.28	19.28	20.98		2.12	
27	0.25	6.75	12.5	13.22	19.22	20.72	0.72		
28	0.25	7.00	12.3	13.15	19.15	20.65	0.85		
29	0.25	7.25	12.0	13.09	19.09	20.59	0.09		
+0.04	0.04	7.34	13.8	13.07	18.07	20.57	0.88		
31	0.21	7.75	12.4	12.95	18.95	20.45	0.55	1.11	
32	0.25	8.00	14.0	12.89	18.89	20.39			
33	0.25	8.25	13.0	12.82	18.82	20.32	0.18		



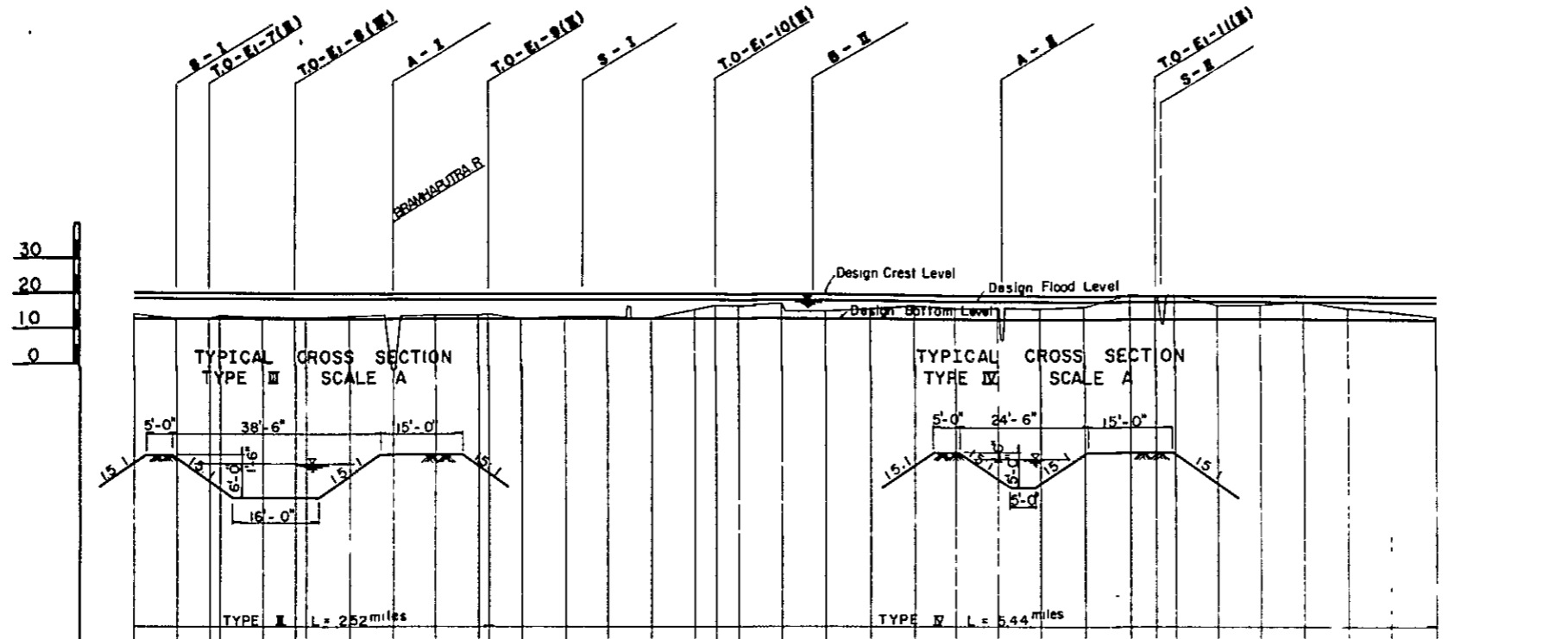
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₁-E₁ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (1/2)**

Date: July 1978 DWG NO. 10

JAPAN INTERNATIONAL COOPERATION AGENCY

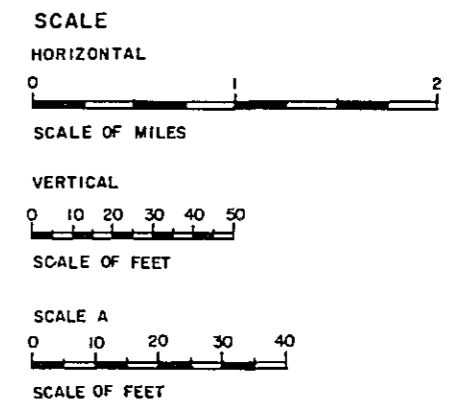
PROFILE OF NO.1 PUMPING STATION P₁-E₁ MAIN IRRIGATION CANAL ½



LEGEND

T.O.	TURNOUT
A	AQUEDUCT
S	SIPHON
B	BRIDGE
C.G.	CHECK GATE
R.G.	REGULATING GATE

Station No	Dist	Accum Dist	Ground Elev	Bottom of Canal	Water Surf	Top of Bank	Hight of Emban	Depth of Exca	Grade
No 32	0.25	8.00	14.0	12.89	18.88	20.39		1.11	
33	0.25	8.25	13.0	12.82	18.82	20.32		0.18	
+0.19	0.19	8.44	12.8	12.77	18.77	20.27		0.03	
+0.34	0.06	8.50	13.5	12.76	18.76	20.26		0.74	
35	0.25	8.75	13.0	12.69	18.69	20.19		0.31	
+0.19	0.13	8.84	13.1	12.64	18.64	20.14		0.46	
+0.36	0.06	9.00	13.1	12.62	18.62	20.12		0.48	
37	0.25	9.25	13.2	12.56	18.56	20.06		0.64	
38	0.25	9.50	-1.5	12.49	18.49	19.99	10.99	1.37	
39	0.25	9.75	13.8	12.43	18.43	19.93		1.34	
+0.08	0.06	10.00	13.7	12.36	18.36	19.88		1.46	
41	0.19	10.25	12.7	12.29	18.29	19.79	0.59		
42	0.25	10.50	13.2	12.23	18.23	19.73	0.03		
43	0.25	10.75	13.2	12.16	18.16	19.66	0.04		
44	0.25	11.00	12.5	12.10	18.10	19.60	0.60		
45	0.25	11.25	15.0	12.03	18.03	19.53	1.97		
+0.12	0.12	11.37	16.2	12.00	18.00	19.50	3.20		
46	0.13	11.50	16.0	11.98	17.96	19.46	3.04		
47	0.25	11.75	17.0	11.90	17.90	19.40	4.10		
48	0.25	12.00	14.5	11.83	17.83	19.33	1.67		
49	0.25	12.25	15.3	11.77	17.77	19.27	2.53		
50	0.25	12.50	16.0	11.70	17.70	19.20	3.30		
51	0.25	12.75	15.4	11.63	17.63	19.13	2.77		
52	0.25	13.00	15.6	11.57	17.57	19.07	3.03		
53	0.25	13.25	15.4	11.50	17.50	19.00	2.90		
54	0.25	13.50	16.0	11.43	17.43	18.93	3.57		
55	0.25	13.75	19.0	11.37	17.37	18.87	6.63		
+0.15	0.15	13.90	18.5	11.33	17.33	18.83	6.17		
56	0.10	14.00	19.0	11.30	17.30	18.80	6.70		
57	0.25	14.25	16.0	11.24	17.24	18.74	3.76		
58	0.25	14.50	16.3	11.17	17.17	18.67	4.13		
59	0.25	14.75	17.2	11.10	17.10	18.60	5.10		
60	0.25	15.00	15.2	11.04	17.04	18.54	3.16		
61	0.25	15.25	14.5	10.97	16.97	18.47	2.53		
EP	0.25	15.50	12.5	10.91	16.91	18.41	0.59		



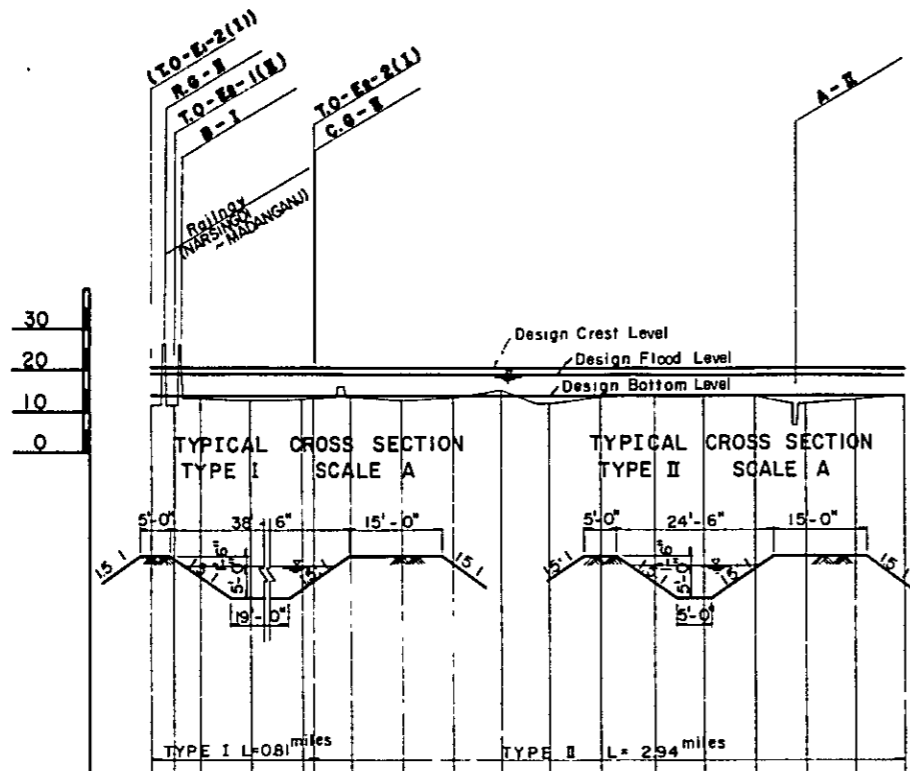
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₁-E₁ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (½)**

Date: July 1978 DWG NO 11

JAPAN INTERNATIONAL COOPERATION AGENCY

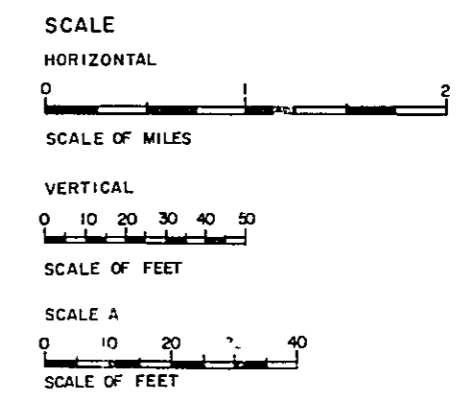
PROFILE OF NO.1 PUMPING STATION P₁ - E₂ MAIN IRRIGATION CANAL



LEGEND

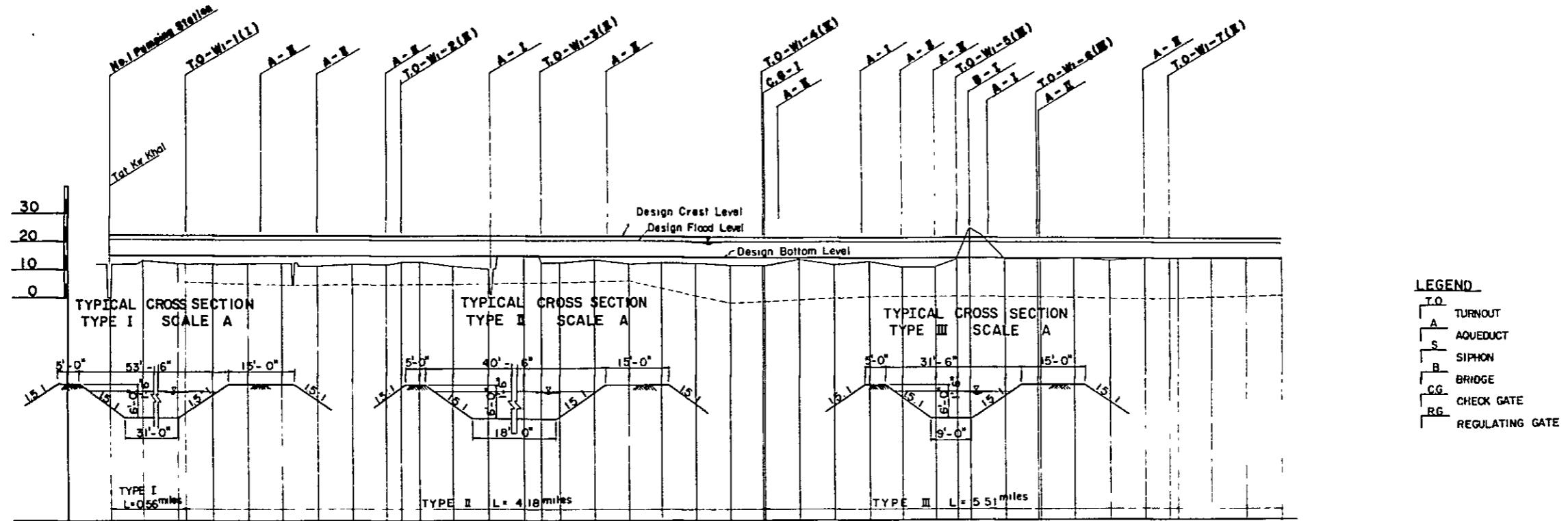
TO	TURNOUT
A	AQUEDUCT
S	SIPHON
B	BRIDGE
CG	CHECK GATE
RG	REGULATING GATE

Grade	(14.00) $\frac{1}{L=17,200}$ $\frac{1}{L=3.75 \text{ miles}}$ (13.00)	
Depth of Exca	0.96 0.16	
Height of Emban	0.70	2.47
Top of Bank	20.50	20.43
Water Surf	19.00	18.93
Bottom of Canal	14.00	13.93
Ground Elev	13.3	13.2
Accum Dist	0	0.25
Dist	0	0.25
Station No	0	1



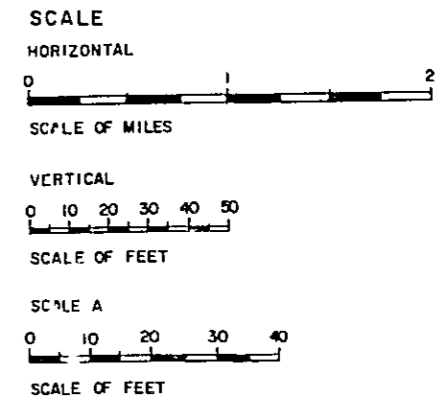
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT	
THE PEOPLE'S REPUBLIC OF BANGLADESH	
P₁-E₂ MAIN IRRIGATION CANAL	
PROFILE AND CROSS SECTIONS	
Date: July 1978	DWG NO 12
JAPAN INTERNATIONAL COOPERATION AGENCY	

PROFILE OF NO.1 PUMPING STATION P₁-W₁ MAIN IRRIGATION CANAL 1/2



- LEGEND**
- T.O TURNOUT
 - A AQUEDUCT
 - S SIPHON
 - B BRIDGE
 - C.G CHECK GATE
 - R.G REGULATING GATE

Station No	Dist	Accum Dist	Ground Elev	Bottom of Canal	Water Surf	Top of Bank	Height of Embank	Depth of Exca	Grade
1	0	0	0	15.00	21.00	22.50	15.00		15.00
2	0.25	0.25	1.29	14.93	20.93	22.43	2.03		
3	0.50	0.50	12.0	14.87	20.87	22.37	3.07		
4	0.75	0.75	11.7	14.80	20.80	22.30	3.10		
5	1.00	1.00	12.0	14.74	20.74	22.24	2.74		
6	1.25	1.25	12.0	14.67	20.67	22.17	2.87		
7	1.50	1.50	10.8	14.60	20.60	22.10	3.80		
8	1.75	1.75	11.5	14.54	20.54	22.04	3.04		
9	2.00	2.00	11.4	14.47	20.47	21.97	3.07		
10	2.25	2.25	12.4	14.44	20.44	21.94	2.04		
11	2.50	2.50	12.4	14.41	20.41	21.91	2.01		
12	2.75	2.75	10.8	14.34	20.34	21.84	3.54		
13	3.00	3.00	9.9	14.27	20.27	21.77	4.37		
14	3.25	3.25	14.5	14.21	20.21	21.71	2.18	0.28	
15	3.50	3.50	12.0	14.18	20.18	21.68	2.18		
16	3.75	3.75	11.9	14.14	20.14	21.64	2.24		
17	4.00	4.00	13.0	14.06	20.08	21.58	1.08		
18	4.25	4.25	11.0	13.94	19.94	21.54	2.21		
19	4.50	4.50	12.1	13.88	19.88	21.48	1.84		
20	4.75	4.75	12.0	13.81	19.81	21.41	1.88		
21	5.00	5.00	11.8	13.75	19.75	21.35	2.81		
22	5.25	5.25	13.0	13.68	19.68	21.28	0.68		
23	5.50	5.50	11.3	13.61	19.61	21.21	2.31		
24	5.75	5.75	12.5	13.55	19.55	21.05	1.05		
25	6.00	6.00	10.4	13.48	19.48	20.98	3.08		
26	6.25	6.25	10.3	13.42	19.42	20.92	3.12		
27	6.50	6.50	13.0	13.37	19.37	20.87	0.37		
28	6.75	6.75	24.0	13.35	19.35	20.85	10.65		
29	7.00	7.00	13.1	13.28	19.28	20.78	0.18		
30	7.25	7.25	13.0	13.22	19.22	20.72	0.22		
31	7.50	7.50	12.6	13.15	19.15	20.65	0.05		
32	7.75	7.75	12.9	13.09	19.09	20.59	0.49		
33	8.00	8.00	12.9	13.02	19.02	20.52	0.12		
34	8.25	8.25	13.0	12.97	18.97	20.47	0.03		
35	8.50	8.50	13.0	12.96	18.96	20.46	0.05		
36	8.75	8.75	13.2	12.89	18.89	20.39	0.31		
37	9.00	9.00	13.0	12.82	18.82	20.32	0.18		
38	9.25	9.25	13.2	12.76	18.76	20.26	0.44		



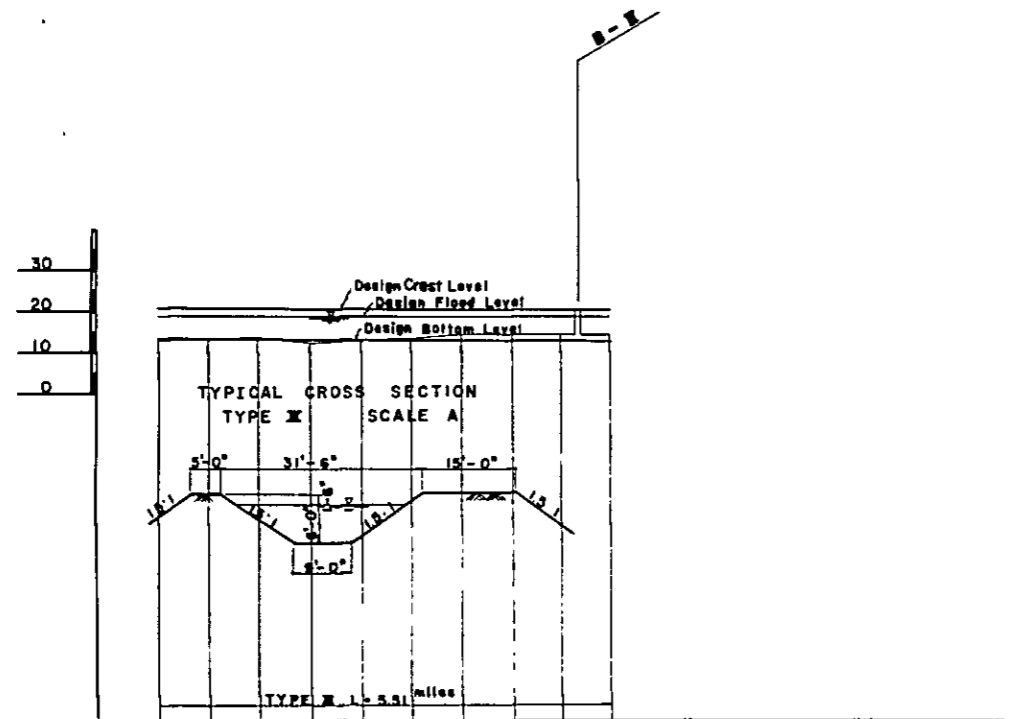
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₁-W₁ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (1/2)**

Date: July 1978 DWG NO 13

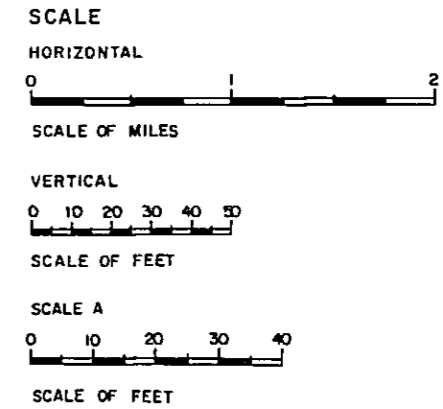
JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.1 PUMPING STATION
 P₁-W₁ MAIN IRRIGATION CANAL 2/2



Grade	1" = 1/20,000 L = 10.25 miles									
Depth of Exce	0.31	0.18	0.44	0.69	0.08	0.44	1.51	1.17	1.34	1.31
Height of Embank										
Top of Bank	20.39	20.32	20.26	20.19	20.12	20.06	19.99	19.93	19.86	19.79
Water Surf	18.89	18.82	18.76	18.69	18.62	18.56	18.49	18.43	18.36	18.29
Bottom of Canal	12.89	12.82	12.76	12.69	12.62	12.56	12.49	12.43	12.36	12.29
Ground Elev	13.2	13.0	13.2	12.0	12.7	13.0	14.0	13.6	13.7	13.6
Accum Dist	8.00	8.25	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.25
Dist	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Station No	32	33	34	35	36	37	38	39	40	E.P.

- LEGEND**
- T.O. TURNOUT
 - A. AQUEDUCT
 - S. SIPHON
 - B. BRIDGE
 - C.G. CHECK GATE
 - R.G. REGULATING GATE



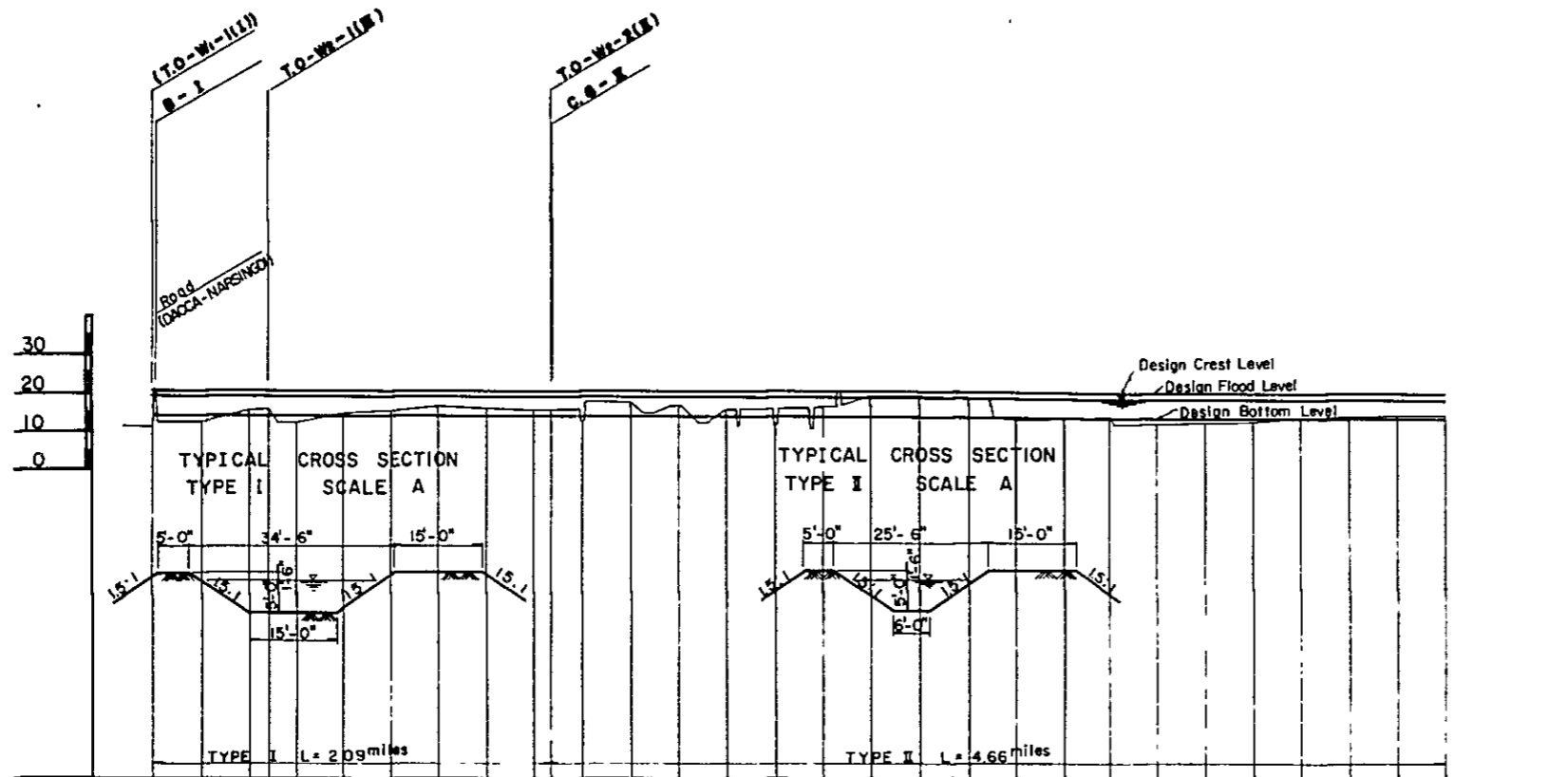
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH

P₁-W₁ MAIN IRRIGATION CANAL
 PROFILE AND CROSS SECTIONS (2/2)

Date: July 1978 D.W.G NO. 14

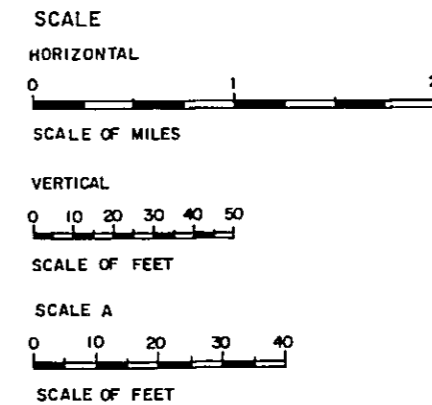
JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.1 PUMPING STATION P₁-W₂ MAIN IRRIGATION CANAL



- LEGEND**
- T.O. TURNOUT
 - A. AQUEDUCT
 - S. SIPHON
 - B. BRIDGE
 - C.G. CHECK GATE
 - R.G. REGULATING GATE

Grade	14.90																										12.72																									
Depth of Exca	1.13																										0.68																									
Hight of Embank	2.70																										0.15																									
Top of Bank	21.00																										19.22																									
Water Surf	19.50																										17.72																									
Bottom of Canal	14.50																										12.72																									
Ground Elev	11.8																										13.4																									
Accum Dist	0.0																										6.75																									
Dist	0.0																										0.25																									
Station No	0																										6.75																									



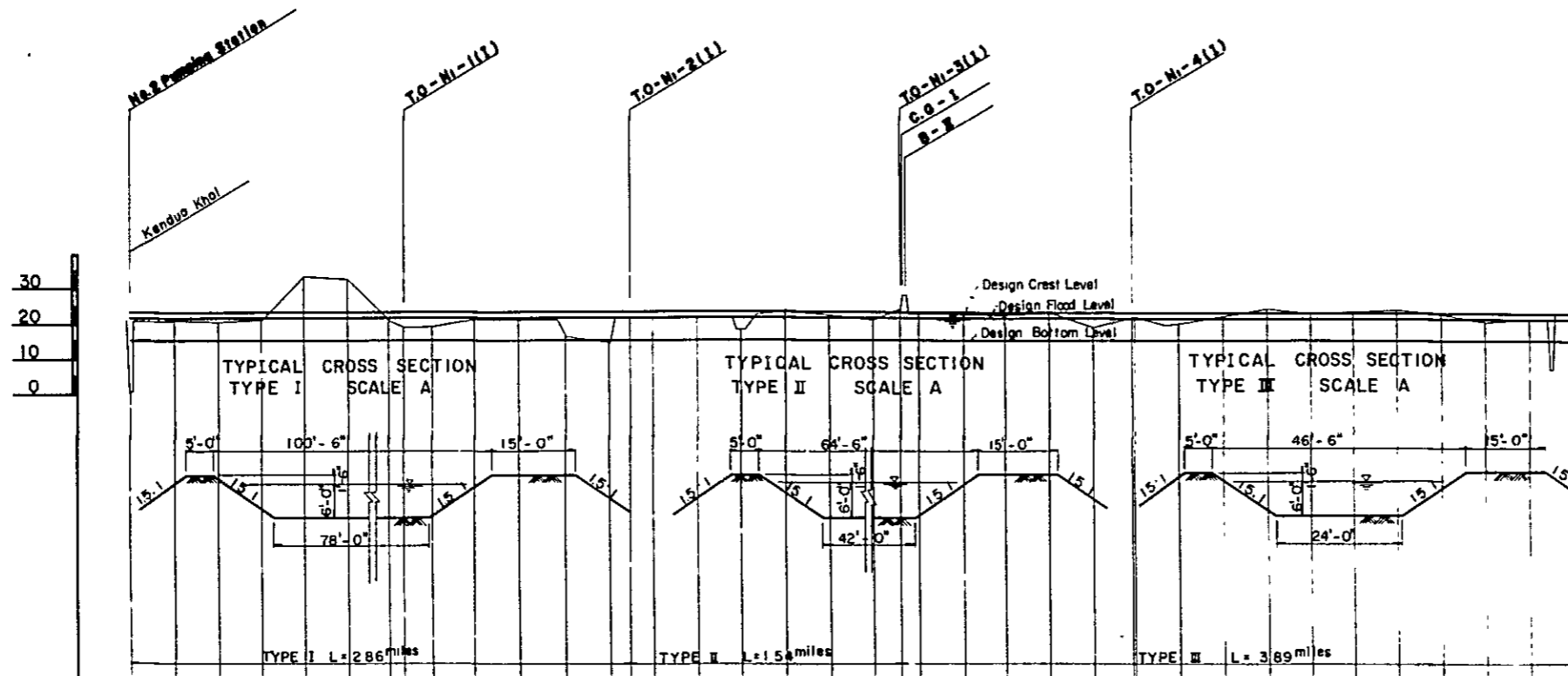
NARAYANGANJ - NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₁-W₂ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS**

Date: July 1978 DWG NO 15

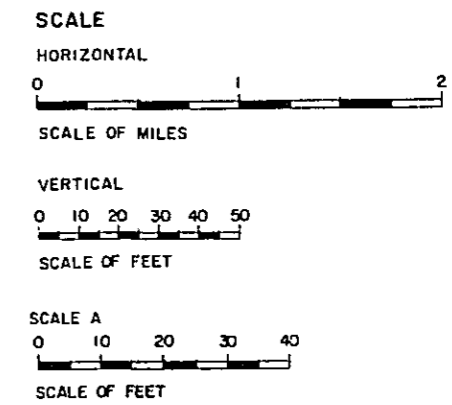
JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.2 PUMPING STATION P₂-N₁ MAIN IRRIGATION CANAL 1/2



- LEGEND**
- T.O. TURNOUT
 - A. AQUEDUCT
 - S. SIPHON
 - B. BRIDGE
 - CG. CHECK GATE
 - RG. REGULATING GATE

Grade	16.00																																					
Depth of Exca		5.07	4.43	5.20	17.26	16.33	5.40	3.52	3.56	5.83	5.99	0.66	5.75	5.79	5.86	2.92	8.09	6.66	5.82	8.56	7.49	7.35	7.32	7.87	3.85	6.82	4.68	6.65	8.72	7.68	8.05	8.41	7.48	5.55	6.11	7.48		
Height of Embank	15.50										1.27																											
Top of Bank	23.50	23.43	23.37	23.30	23.24	23.17	23.10	23.08	23.04	22.97	22.97	22.84	22.77	22.75	22.71	22.64	22.58	22.51	22.44	22.38	22.34	22.31	22.25	22.18	22.11	22.05	21.98	21.92	21.85	21.78	21.72	21.65	21.59	21.52	21.45	21.39	21.32	
Water Surf	22.00	21.93	21.87	21.80	21.74	21.67	21.60	21.58	21.54	21.47	21.41	21.34	21.27	21.25	21.21	21.14	21.08	21.01	20.94	20.88	20.84	20.81	20.75	20.68	20.61	20.55	20.48	20.42	20.35	20.28	20.22	20.15	20.09	20.02	19.95	19.89	19.82	
Bottom of Canal	16.00	15.93	15.87	15.80	15.74	15.67	15.60	15.58	15.54	15.47	15.41	15.34	15.27	15.25	15.21	15.14	15.08	15.01	14.94	14.88	14.84	14.81	14.75	14.68	14.61	14.55	14.48	14.42	14.35	14.28	14.22	14.15	14.09	14.02	13.95	13.89	13.82	
Ground Elev	05	21.0	20.3	21.0	33.0	32.0	19.1	19.1	21.0	21.0	16.0	14.0	14.0	21.0	21.0	18.0	23.1	21.6	20.4	23.4	22.3	22.1	22.1	25.0	22.5	18.4	31.0	19.1	21.0	23.0	21.9	22.2	22.5	19.3	20.0	21.3	21.3	
Accum Dist	0	0.25	0.50	0.75	1.00	1.25	1.50	1.58	1.75	2.00	2.25	2.50	2.75	2.86	3.00	3.25	3.50	3.75	4.00	4.25	4.40	4.50	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	
Dist	0	0.25	0.25	0.25	0.25	0.25	0.08	0.17	0.25	0.25	0.25	0.25	0.11	0.14	0.25	0.25	0.25	0.25	0.25	0.15	0.10	0.25	0.25	0.25	0.25	0.25	0.24	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Station No	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33				



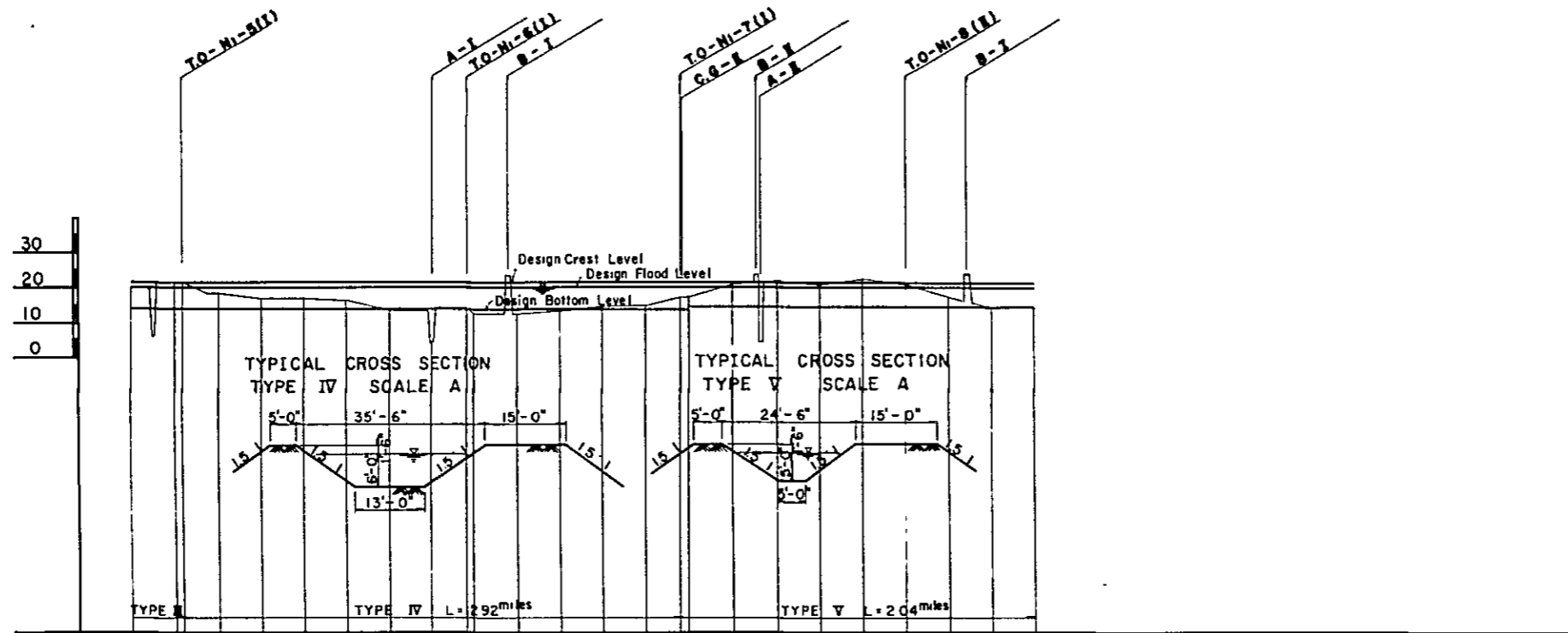
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₂-N₁ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (1/2)**

Date: July 1978 D.W.G NO 16

JAPAN INTERNATIONAL COOPERATION AGENCY

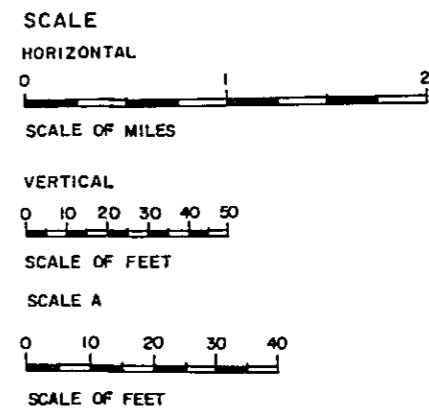
PROFILE OF NO.2 PUMPING STATION P₂-N MAIN IRRIGATION CANAL ½



LEGEND

T.O.	TURNOUT
A	AQUEDUCT
S	SIPHON
B	BRIDGE
C.G.	CHECK GATE
R.G.	REGULATING GATE

Grade	I = 1/20,000 L = 13.25 miles		13.50																			
Depth of Exca	6.11	7.46 7.59	4.24	2.71	2.88	2.44	0.63	0.84	1.00	2.46	6.04	7.10	6.17	7.83	6.30	2.97						
Hight of Emban				0.49	0.43	1.36	1.39	0.63								0.17	0.30					
Top of Bank	19.89 21.39	19.82 21.32 19.81 21.31	19.76 21.26	19.69 21.19	19.62 21.12	19.56 21.06	19.49 20.99	19.43 20.93	19.36 20.86	19.29 20.79	19.23 20.73	19.16 20.66	19.10 20.60	19.04 20.54	18.96 20.46	18.90 20.40	18.77 20.27	18.70 20.20	18.63 20.13	18.57 20.07	18.50 20.00	
Water Surf	19.89	19.82 19.81	19.76	19.69	19.62	19.56	19.49	19.43	19.36	19.29	19.23	19.16	19.10	19.04	18.96	18.90	18.77	18.70	18.63	18.57	18.50	
Bottom of Canal	13.89	13.82 13.81	13.76	13.69	13.62	13.56	13.49	13.43	13.36	13.29	13.23	13.16	13.10	13.04	12.96	12.90	12.77	12.70	12.63	12.57	12.50	
Ground Elev	20.0	21.3 21.4	21.0	21.4	21.5	21.6	21.0	21.4	21.8	21.9	21.6	21.4	21.1	20.8	20.0	21.0	21.4	20.0	16.6	13.4	13.2	
Accum Dist	8.00	8.23 8.29	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.25	10.50	10.75	11.00	11.25	11.50	11.75	12.00	12.25	12.50	12.75	13.00	13.25
Dist	0.25	0.25 0.04	0.21	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Station No.	No 32	32 +0.04	34	35	36	37	38	39	+0.25	41	42	43	44	+0.25	46	47	48	49	50	51	52	E.P.



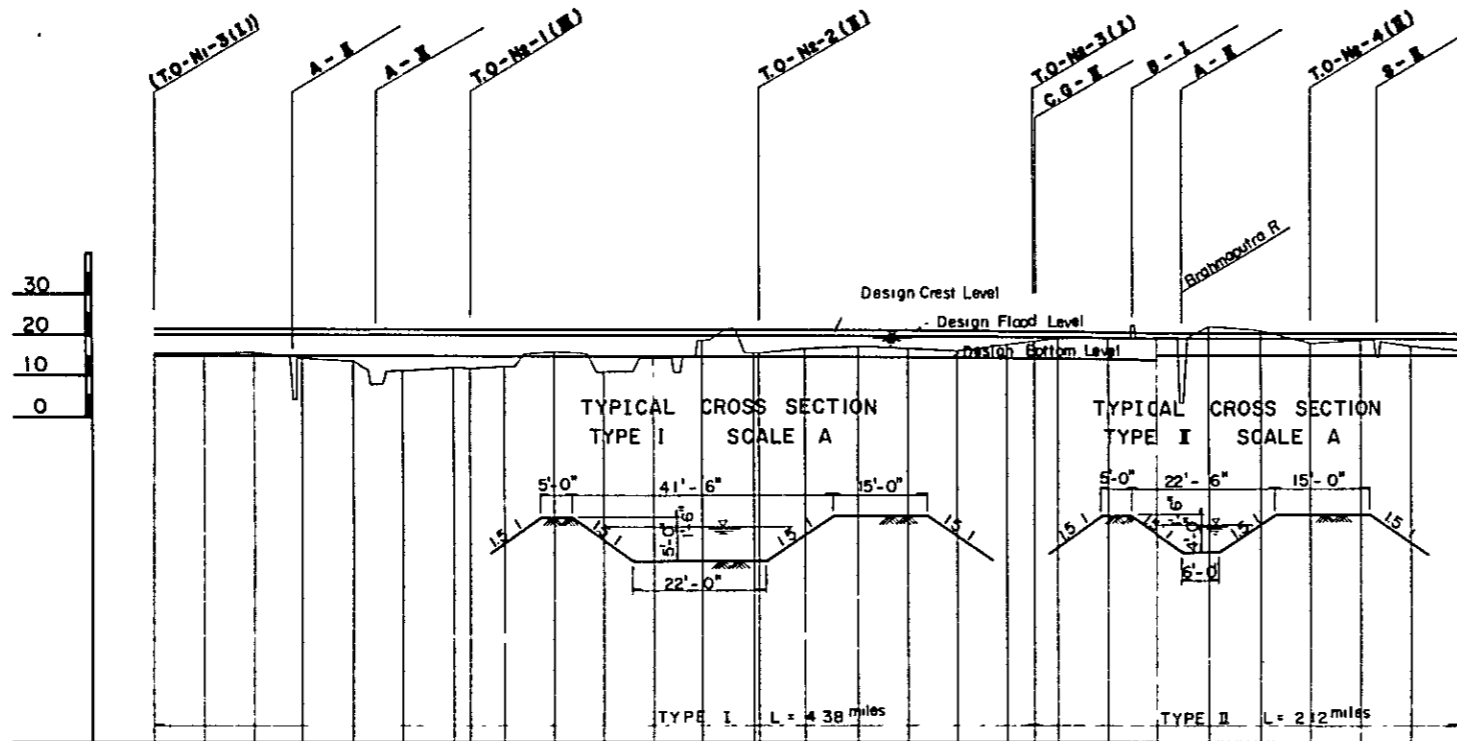
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**P₂-N₁ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (½)**

Date: July 1978 DWG No 17

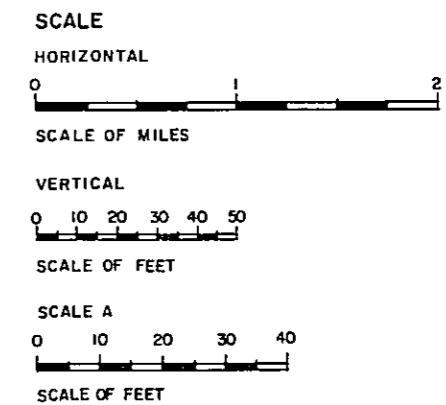
JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.2 PUMPING STATION P₂-N₂ MAIN IRRIGATION CANAL



- LEGEND**
- T.O. TURNOUT
 - A AQUEDUCT
 - S SIPHON
 - B BRIDGE
 - C.G. CHECK GATE
 - R.G. REGULATING GATE

Grade	1:1/20000 L = 6.50 miles																												
Depth of Exca	8.40	0.57	0.73				1.03				3.83	0.79	0.80	1.86	2.42	1.99	1.56	3.12	3.96	4.69	5.25	5.32	7.19	5.95	3.02	3.96	2.15	1.22	
Hight of Emban				0.80	1.24	3.67	3.10	3.06	2.54		4.11	0.34																	
Top of Bank	21.50	21.43	21.37	21.30	21.24	21.17	21.10	21.08	21.04	20.97	20.91	20.84	20.76	20.64	20.58	20.51	20.44	20.38	20.34	20.31	20.25	20.18	20.11	20.05	19.98	19.92	19.85	19.78	
Water Surf	20.00	19.93	19.87	19.80	19.74	19.67	19.60	19.58	19.54	19.47	19.41	19.34	19.26	19.14	19.08	19.01	18.94	18.88	18.84	18.81	18.75	18.68	18.61	18.55	18.48	18.42	18.35	18.28	
Bottom of Canal	15.00	14.93	14.87	14.80	14.74	14.67	14.60	14.58	14.54	14.47	14.41	14.34	14.26	14.14	14.08	14.01	13.94	13.88	13.84	13.81	13.75	13.68	13.61	13.55	13.48	13.42	13.35	13.28	
Ground Elev	23.4	15.5	15.6	14.0	13.5	11.0	11.5	11.5	12.0	15.5	10.3	14.0	18.1	16.0	16.5	16.0	15.5	17.0	17.8	18.5	19.0	19.0	21.8	20.5	17.5	18.0	16.5	15.5	
Accum Dist	0	0.25	0.50	0.75	1.00	1.25	1.50	1.58	1.75	2.00	2.25	2.50	2.75	3.02	3.30	3.75	4.00	4.25	4.38	4.60	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	
Dist	0	0.25	0.25	0.25	0.25	0.25	0.25	0.08	0.17	0.25	0.25	0.25	0.25	0.23	0.25	0.25	0.25	0.13	0.13	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Station No	No 0	1	2	3	4	5	6	+0.08	7	8	9	10	11	+0.02	13	14	15	16	17	+0.13	18	19	20	21	22	23	24	25	EP



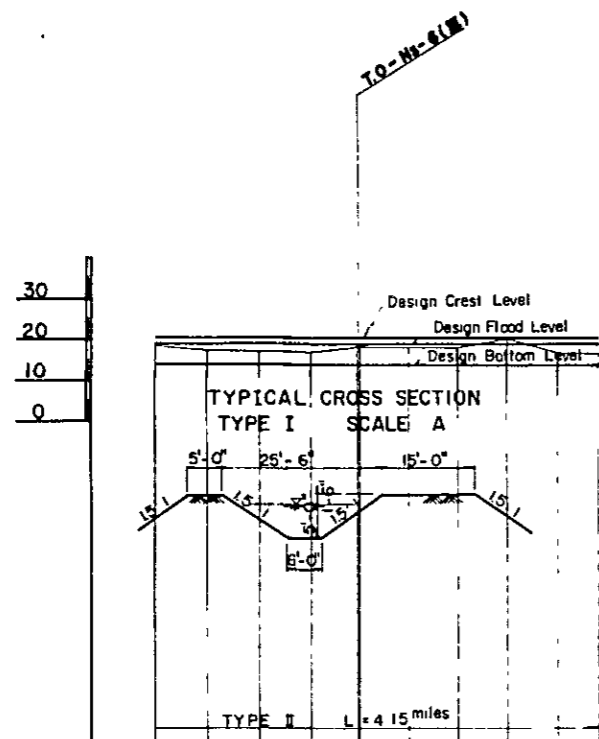
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

P₂-N₂ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS

Date : July 1978 DWG NO 18

JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.2 PUMPING STATION P₂-N₃ MAIN IRRIGATION CANAL ½



LEGEND

- T.O. TURNOUT
- A AQUEDUCT
- S SIPHON
- B BRIDGE
- C.G. CHECK GATE
- R.G. REGULATING GATE

Grade												
Depth of Exca	4.31	3.48	3.00	3.11	4.18	4.18	4.24	4.11	6.28	2.94	2.80	
Height of Embank												
Top of Bank	20.59	20.52	20.45	20.39	20.32	20.32	20.26	20.19	20.12	20.06	20.00	
Water Surf	19.09	19.02	18.95	18.89	18.82	18.82	18.76	18.67	18.62	18.56	18.50	
Bottom of Canal	14.09	14.02	13.95	13.88	13.82	13.82	13.76	13.69	13.62	13.56	13.50	
Ground Elev	18.4	17.4	17.0	17.0	18.0	18.0	18.0	17.6	19.9	16.5	16.3	
Accum Dist	7.25	7.50	7.75	8.00	8.24	8.24	8.50	8.75	9.00	9.25	9.45	
Dist	0.05	0.25	0.25	0.25	0.04	0.04	0.25	0.25	0.25	0.25	0.20	
Station No.	No 29	30	31	32	+ 0.33	34	35	36	37		E.P.	

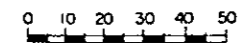
SCALE

HORIZONTAL



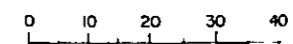
SCALE OF MILES

VERTICAL



SCALE OF FEET

SCALE A



SCALE OF FEET

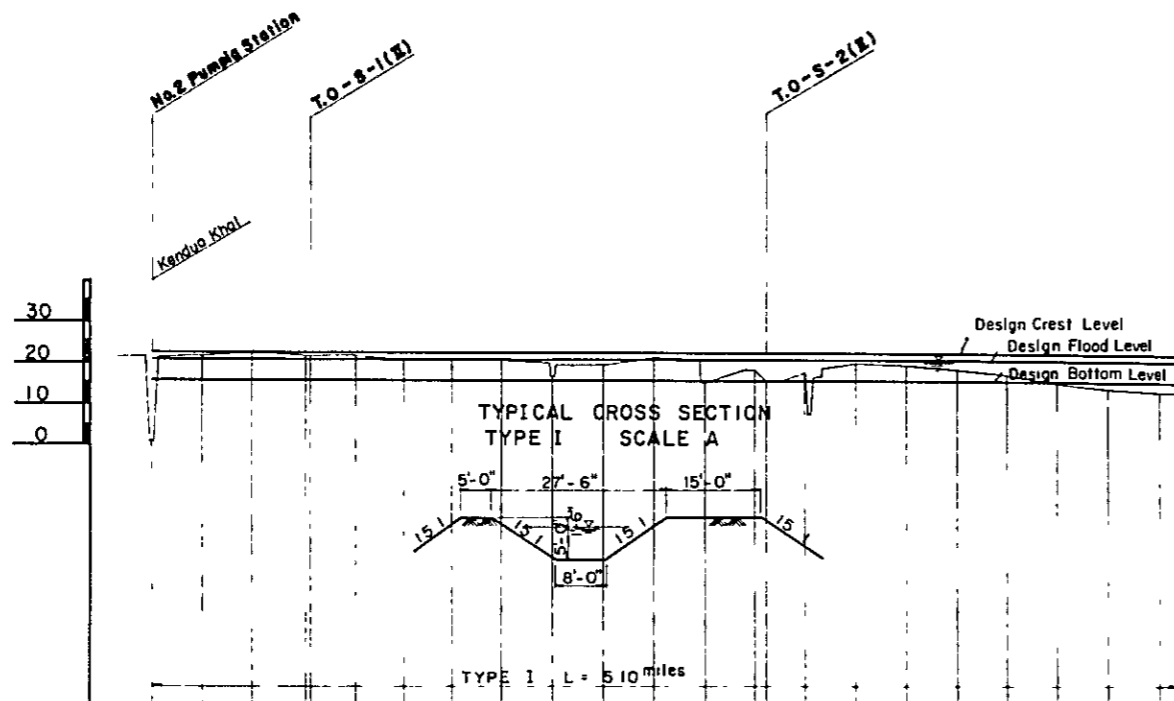
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

P₂-N₃ MAIN IRRIGATION CANAL
PROFILE AND CROSS SECTIONS (P₂)

Date, July 1978 DWG NO 20

JAPAN INTERNATIONAL COOPERATION AGENCY

PROFILE OF NO.2 PUMPING STATION P₂-S MAIN IRRIGATION CANAL

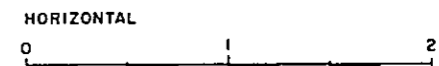


LEGEND

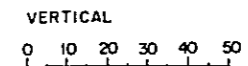
- T.O. TURNOUT
- A AQUEDUCT
- S SIPHON
- B BRIDGE
- CG CHECK GATE
- RG REGULATING GATE

Grade	(1600) (1665)																				
Depth of Exca		5.57	6.63	5.60	5.76	4.53	4.40	4.46	0.53	3.59	4.96		2.59	1.76	4.22	3.79	2.66	1.52			
Height of Emban	15.90																		0.81		
Top of Bank	22.50	22.43	22.37	22.30	22.24	22.17	22.10	22.04	21.97	21.91	21.84	21.77	21.71	21.64	21.58	21.51	21.44	21.38	21.31	21.25	21.18
Water Surf	21.00	20.93	20.87	20.80	20.74	20.67	20.60	20.54	20.47	20.41	20.34	20.27	20.21	20.14	20.08	20.01	19.94	19.88	19.81	19.75	19.68
Bottom of Canal	16.00	15.93	15.87	15.80	15.74	15.67	15.60	15.54	15.47	15.41	15.34	15.27	15.21	15.14	15.08	15.01	14.94	14.88	14.81	14.75	14.68
Ground Elev	05	21.5	22.5	21.5	20.2	20.0	20.0	20.0	16.0	19.0	20.8	14.7	17.5	15.0	19.3	18.8	17.6	16.4	14.0	13.0	12.5
Accum Dist	0	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
Dist	0	0.25	0.25	0.25	0.22	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.19	0.25	0.25	0.25	0.25	0.25	0.25	0.10
Station No	No	1	2	+0.03	4	5	6	7	8	9	10	11	+0.06	13	14	15	16	17	18	19	20
																					EP

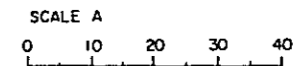
SCALE



SCALE OF MILES



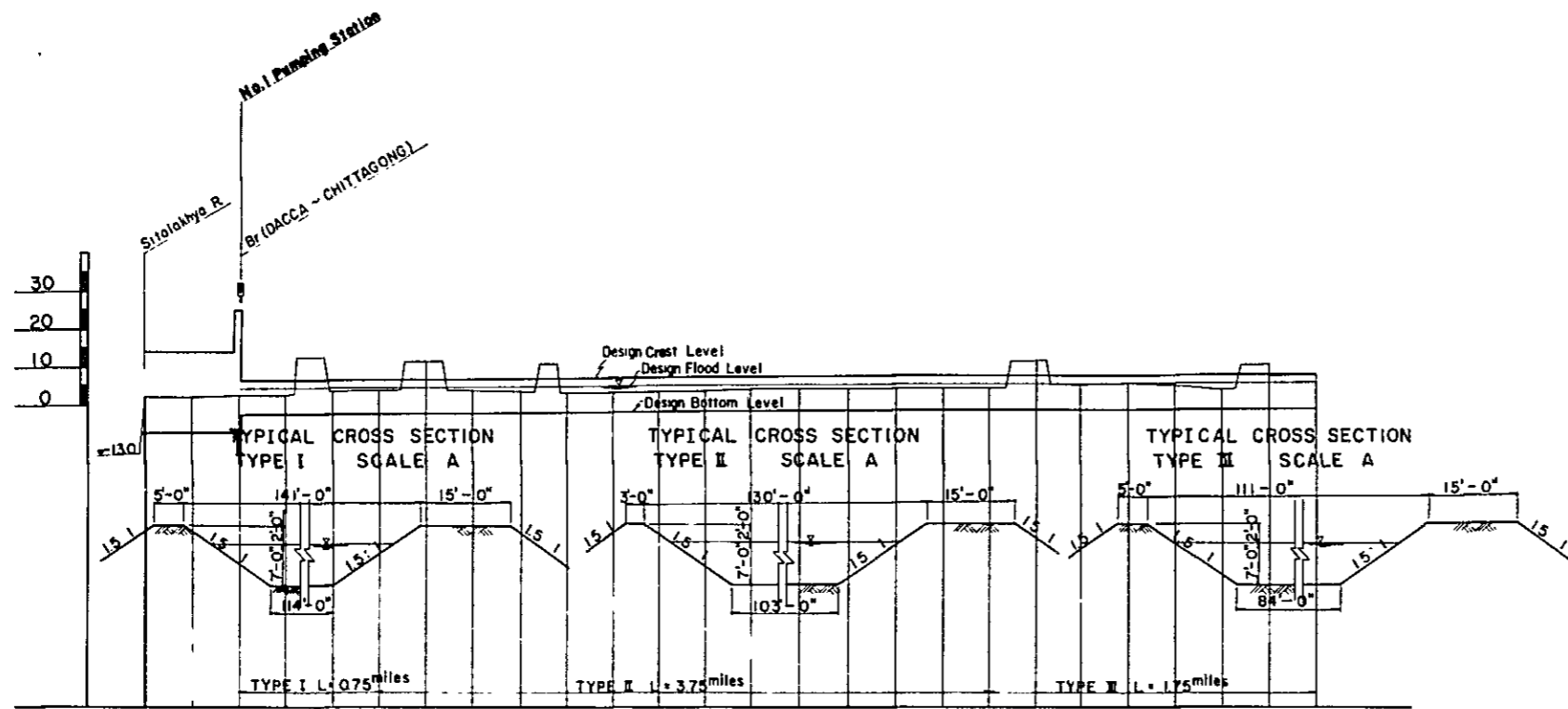
SCALE OF FEET



SCALE OF FEET

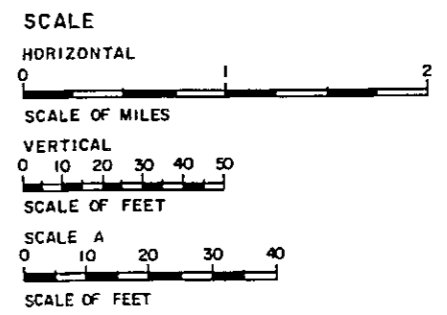
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT	
THE PEOPLE'S REPUBLIC OF BANGLADESH	
P₂-S MAIN IRRIGATION CANAL	
PROFILE AND CROSS SECTIONS	
Date; July 1978	DWG NO 21
JAPAN INTERNATIONAL COOPERATION AGENCY	

PROFILE OF NO.1 PUMPING STATION MAIN DRAINAGE CANAL



- LEGEND**
- T.O TURNOUT
 - A AQUEDUCT
 - S SIPHON
 - B BRIDGE
 - C.G CHECK GATE
 - RG REGULATING GATE

Grade	Level		L = 1/20000		L = 1/575	
Depth of Exca	9.80	9.80	14.60	4.93	5.87	6.40
Height of Emban						
Top of Bank	14.88	14.00	25.00	7.07	7.13	7.20
Water Surf			15.00	5.07	5.13	5.20
Bottom of Canal	7.00	7.00	2.00	1.93	1.87	1.80
Ground Elev	26	26	30	4.0	4.6	4.6
Accum Dist	0.00	0.25	0.25	0.50	0.75	1.00
Dist	0.00	0.25	0.25	0.25	0.25	0.25
Station No	0+00	0+25	1+00	1+25	2+00	2+25



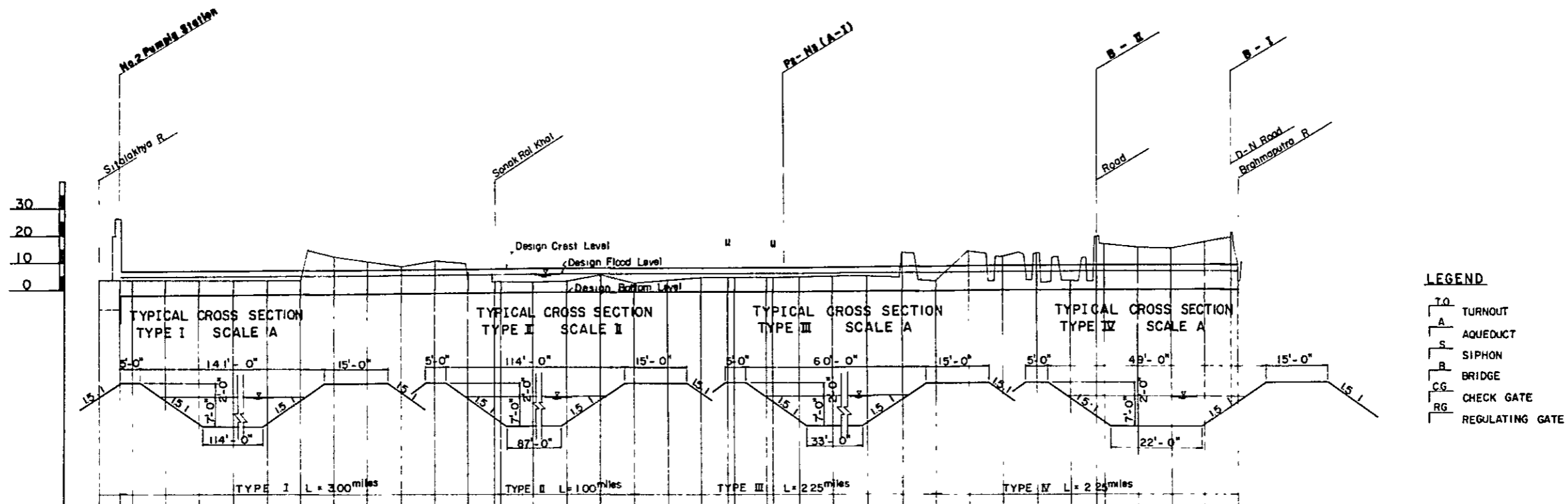
NARYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**MAIN DRAINAGE CANAL
(NO.1 PUMPING STATION)
PROFILE AND CROSS SECTIONS**

Date: July 1978 DWG NO 22

JAPAN INTERNATIONAL COOPERATION AGENCY

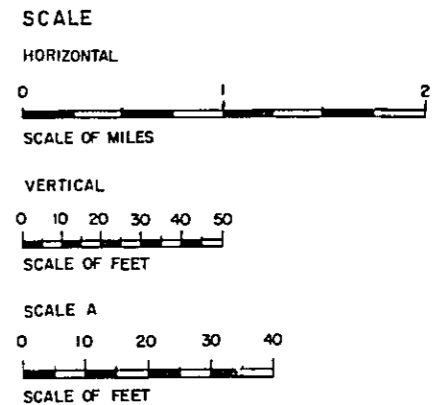
PROFILE OF NO.2 PUMPING STATION MAIN DRAINAGE CANAL



LEGEND

- T.O TURNOUT
- A AQUEDUCT
- S SIPHON
- B BRIDGE
- CG CHECK GATE
- RG REGULATING GATE

Grade	I = 1/20000 L = 850 miles																																							
Depth of Exca	10.90	16.00	5.97	6.01	5.94	5.78	5.71	5.84	14.06	12.21	10.65	12.38	5.31	4.25	4.28	4.22	6.55	3.48	4.32	5.15	5.30	5.29	5.02	5.25	5.59	5.72	13.95	3.59	14.32	12.46	12.19	3.33	16.27	16.26	15.51	14.93	17.06	29.36		
Height of Emban																																								
Top of Bank	3.00	26.00	7.03	7.09	7.16	7.22	7.29	7.35	7.42	7.49	7.55	7.62	7.69	7.75	7.82	7.88	7.95	8.02	8.08	8.15	8.20	8.21	8.28	8.35	8.41	8.48	8.54	8.61	8.68	8.74	8.81	8.87	8.93	8.94	8.99	9.07	9.14	9.18		
Water Surf		5.00	5.03	5.09	5.16	5.22	5.29	5.35	5.42	5.49	5.55	5.62	5.69	5.75	5.82	5.88	5.95	6.02	6.08	6.15	6.20	6.21	6.28	6.35	6.41	6.48	6.54	6.61	6.68	6.74	6.81	6.87	6.93	6.94	7.01	7.07	7.14	7.18		
Bottom of Canal	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	
Ground Elev	3.9	4.0	4.0	4.1	4.1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Accum Dist	0	0.15	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.70	4.75	5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75	8.00	8.25	8.50	8.75		
Dist	0	0.15	0.10	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.20	0.05	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
Station No.	0	+0.15	1	2	3	4	5	+0.05	7	8	9	10	11	+0.12	13	14	15	16	17	18	+0.20	19	+0.25	21	22	23	24	25	26	27	28	29	+0.30	31	32	33	+0.30			



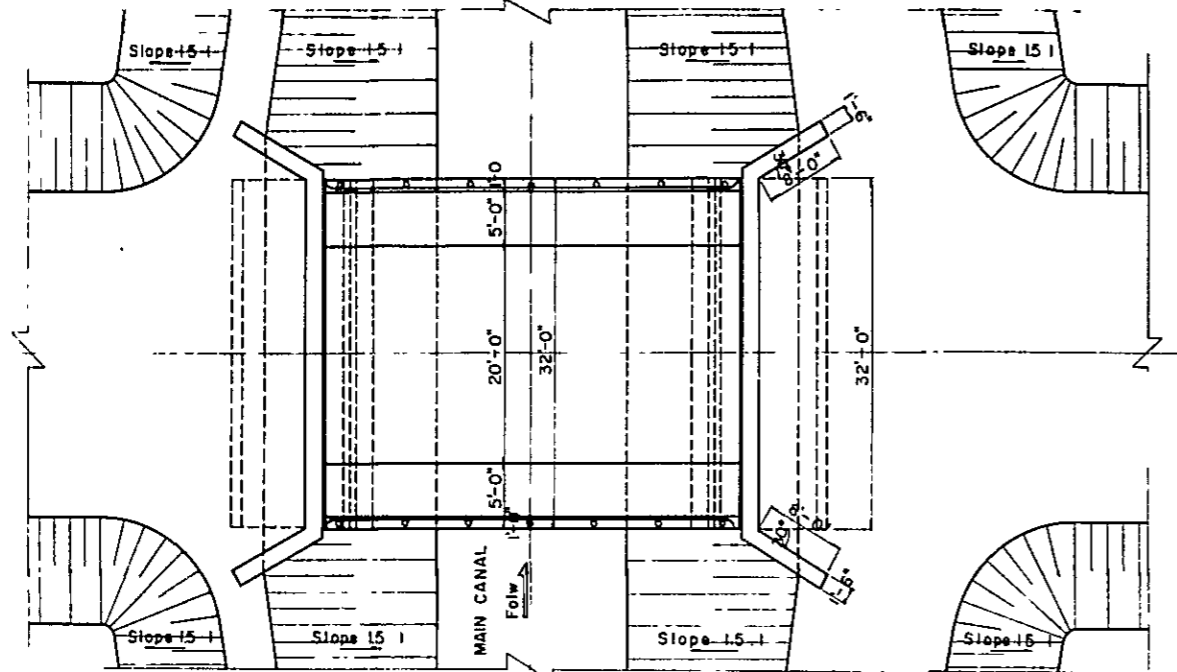
NARAYANGANJ-NAPS-NGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**MAIN DRAINAGE CANAL
(NO.2 PUMPING STATION)
PROFILE AND CROSS SECTIONS**

Date: July 1978 D W G NO 23

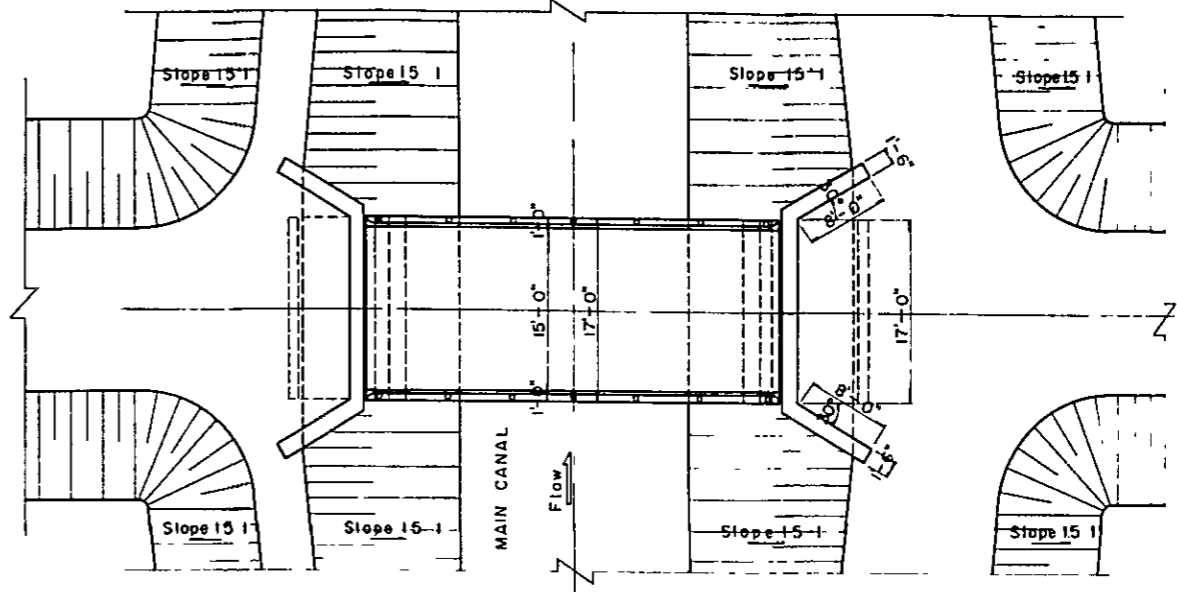
JAPAN INTERNATIONAL COOPERATION AGENCY

**TYPE I
PLAN**

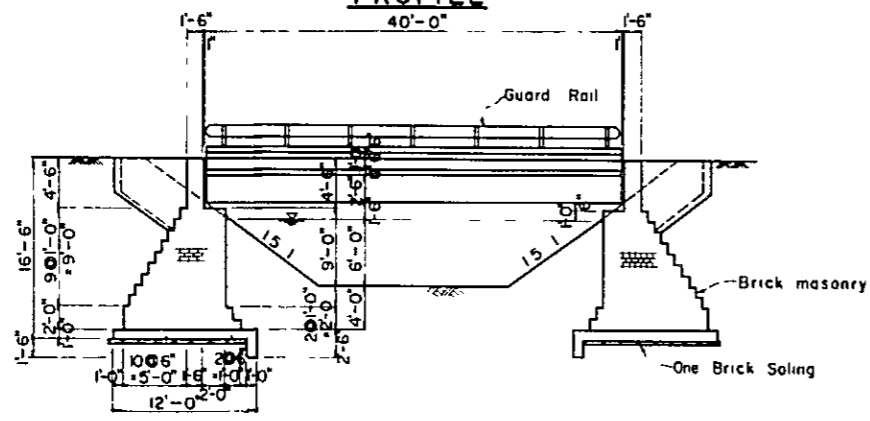


BRIDGE

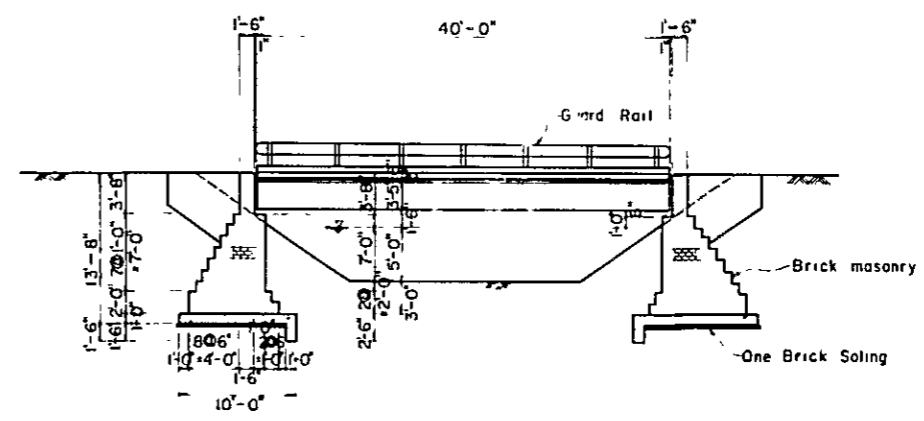
**TYPE II
PLAN**



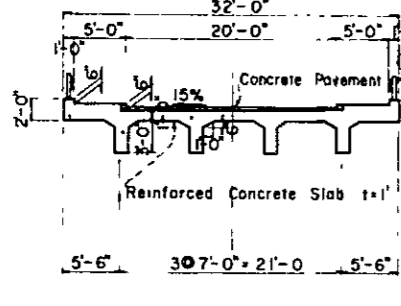
PROFILE



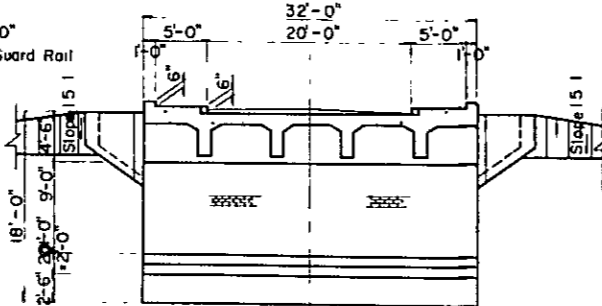
PROFILE



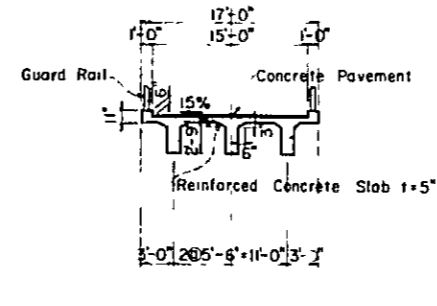
CROSS SECTION



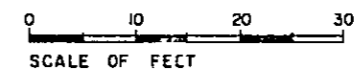
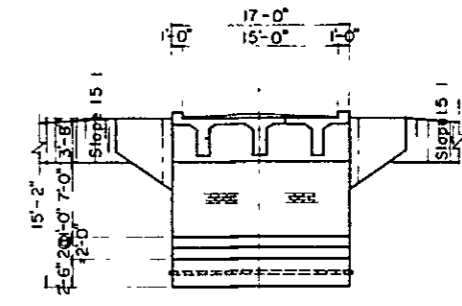
ABUTMENT



CROSS SECTION



ABUTMENT



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

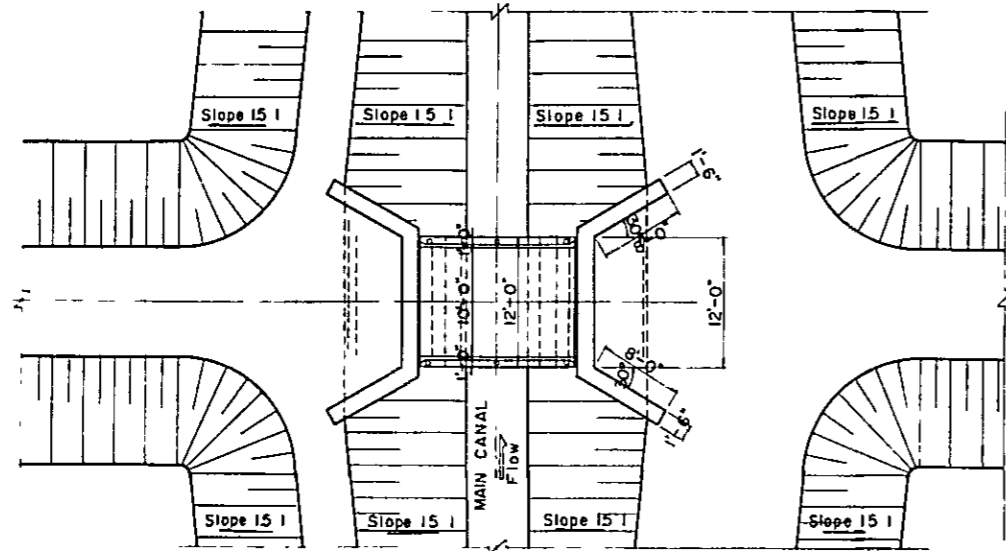
**BRIDGE TYPE I AND II
PLAN AND SECTIONS**

Date, July 1978 DWG NO 24

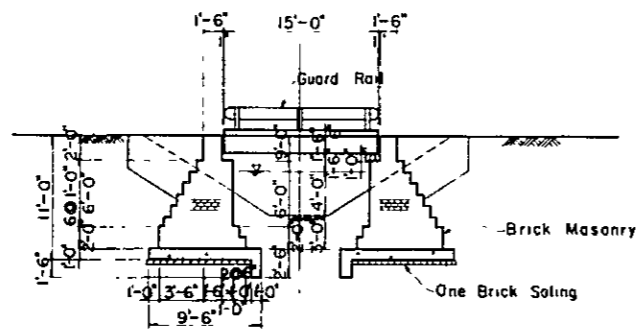
JAPAN INTERNATIONAL COOPERATION AGENCY

BRIDGE

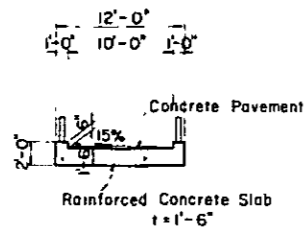
TYPE III PLAN



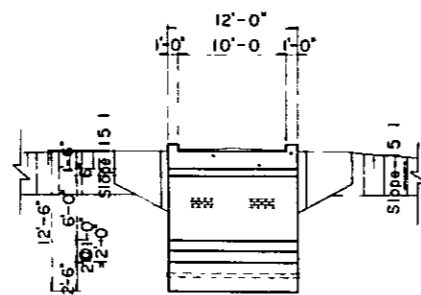
PROFILE



CROSS SECTION



ABUTMENT



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

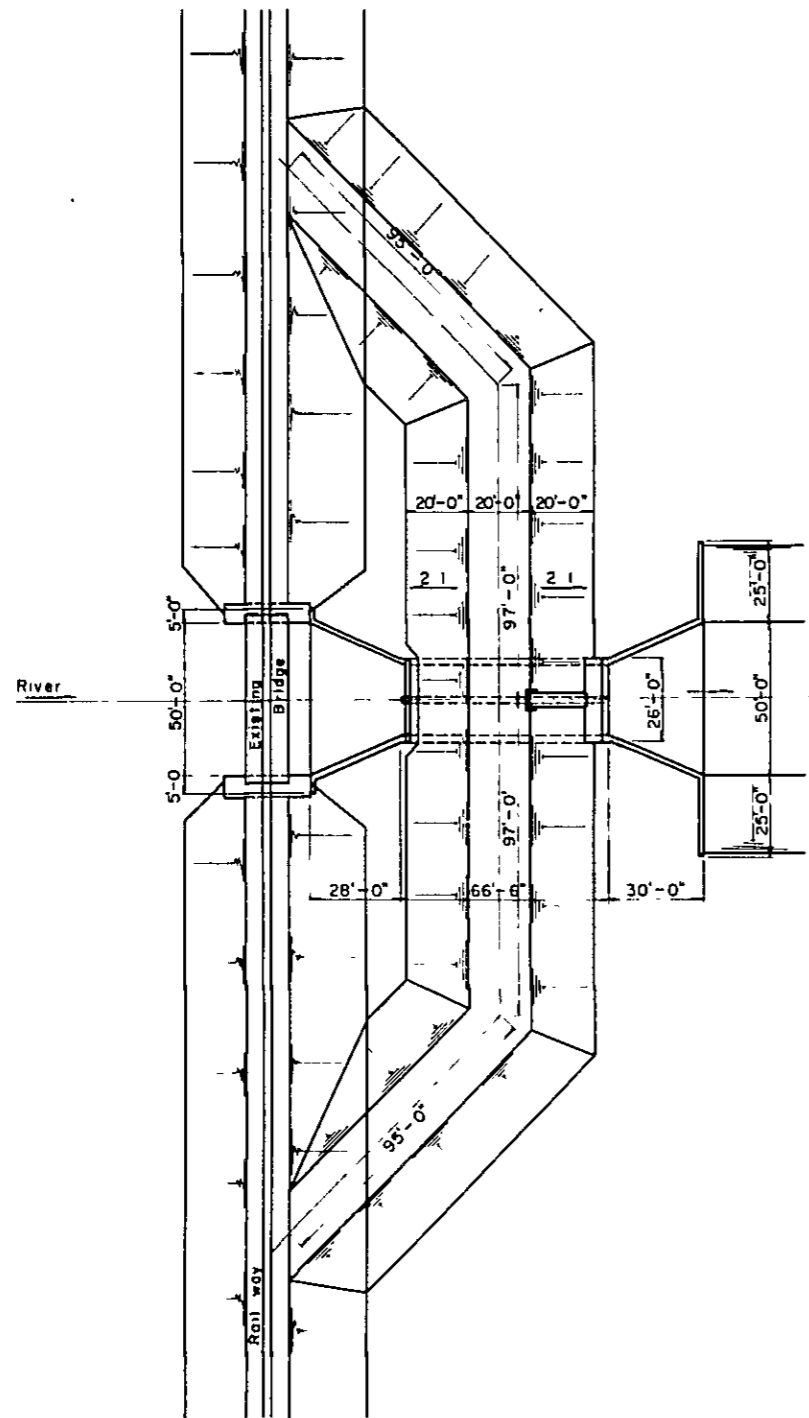
BRIDGE TYPE III PLAN AND SECTIONS

Date: July 1978 DWG NO. 25

JAPAN INTERNATIONAL COOPERATION AGENCY

PLAN OF LAYOUT

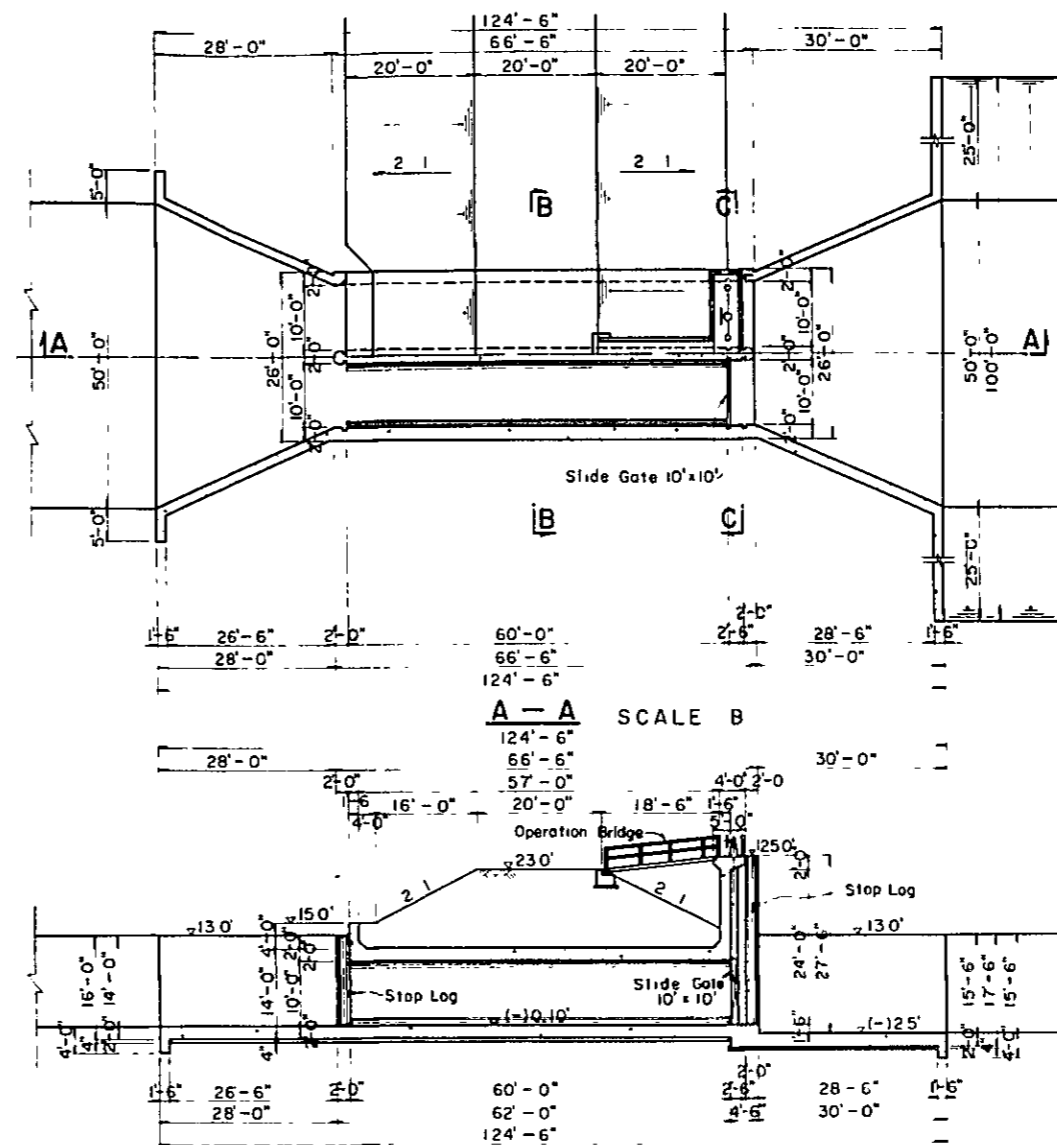
SCALE A



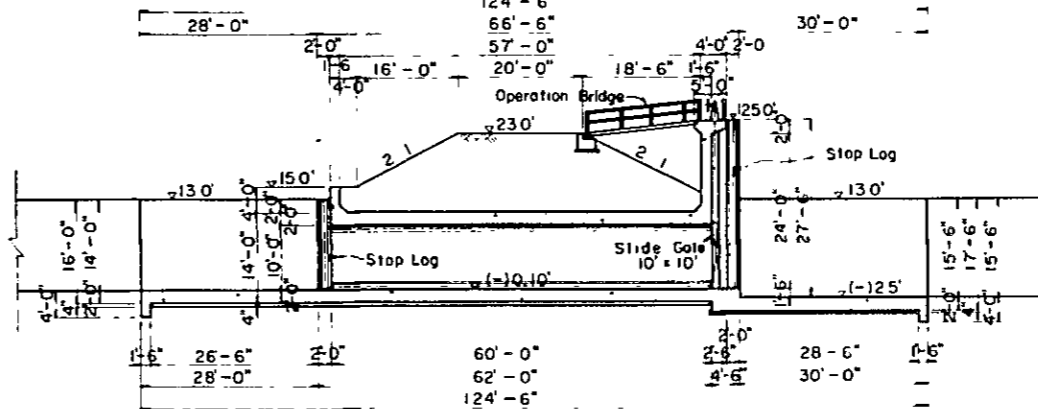
REGULATING GATE - TYPE II

PLAN

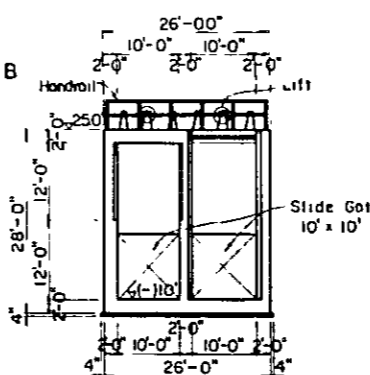
SCALE B



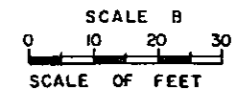
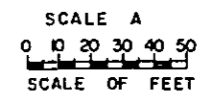
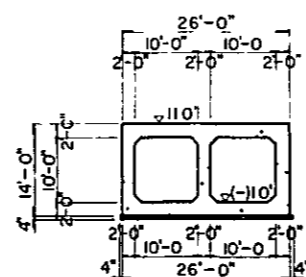
A - A SCALE B



C - C SCALE B



B - B SCALE B



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

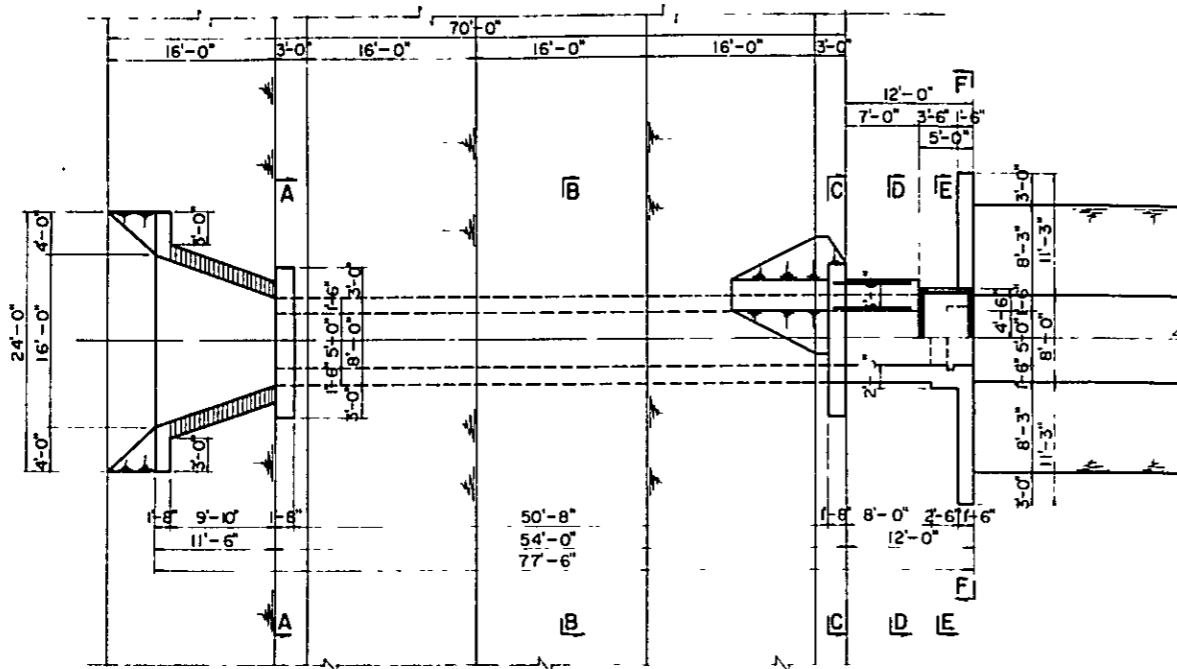
REGULATING GATE TYPE II
PLAN AND SECTIONS

Date: July 1978 DWG NO 27

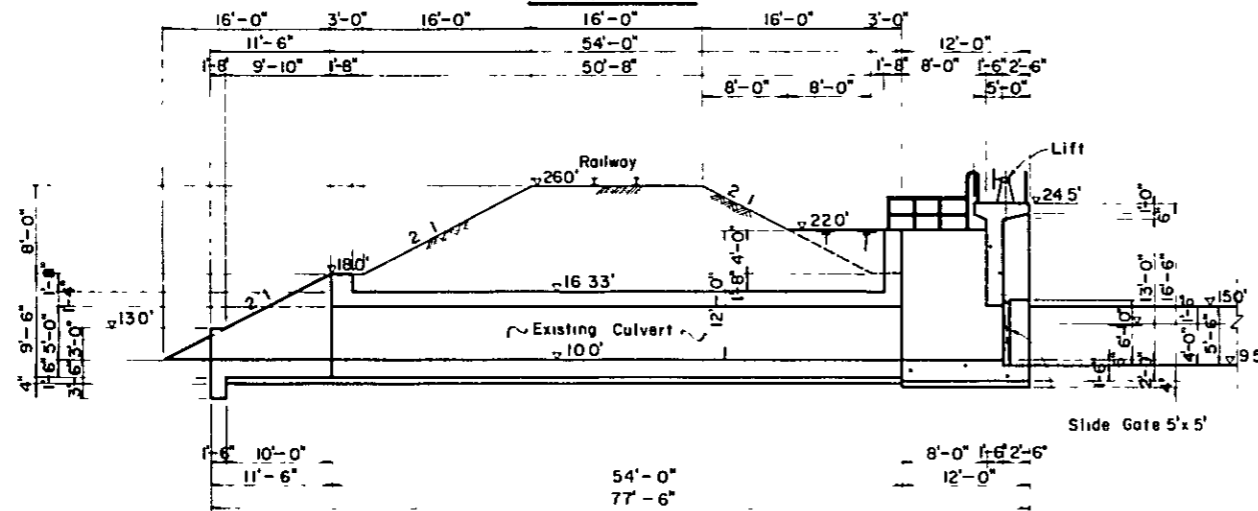
JAPAN INTERNATIONAL COOPERATION AGENCY

REGULATING GATE TYPE III
(IRRIGATION CANAL)

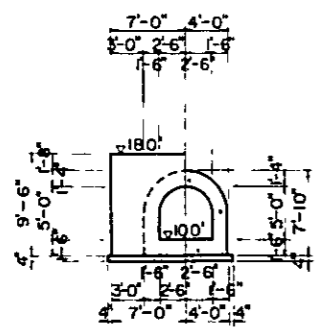
PLAN



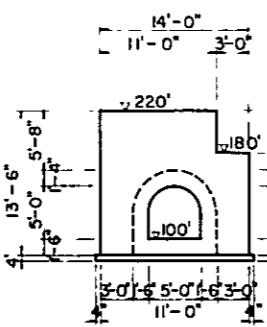
PROFILE



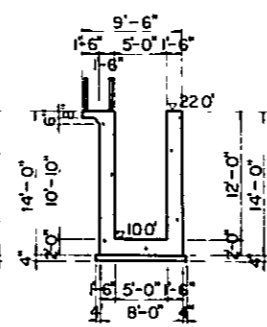
A-A B-B



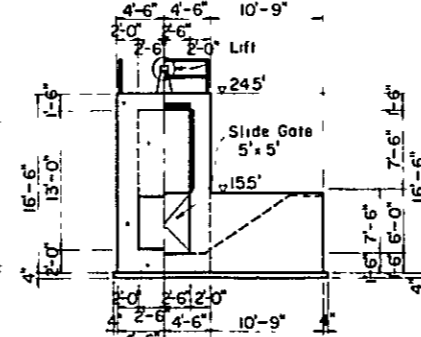
C-C



D-D



E-E F-F

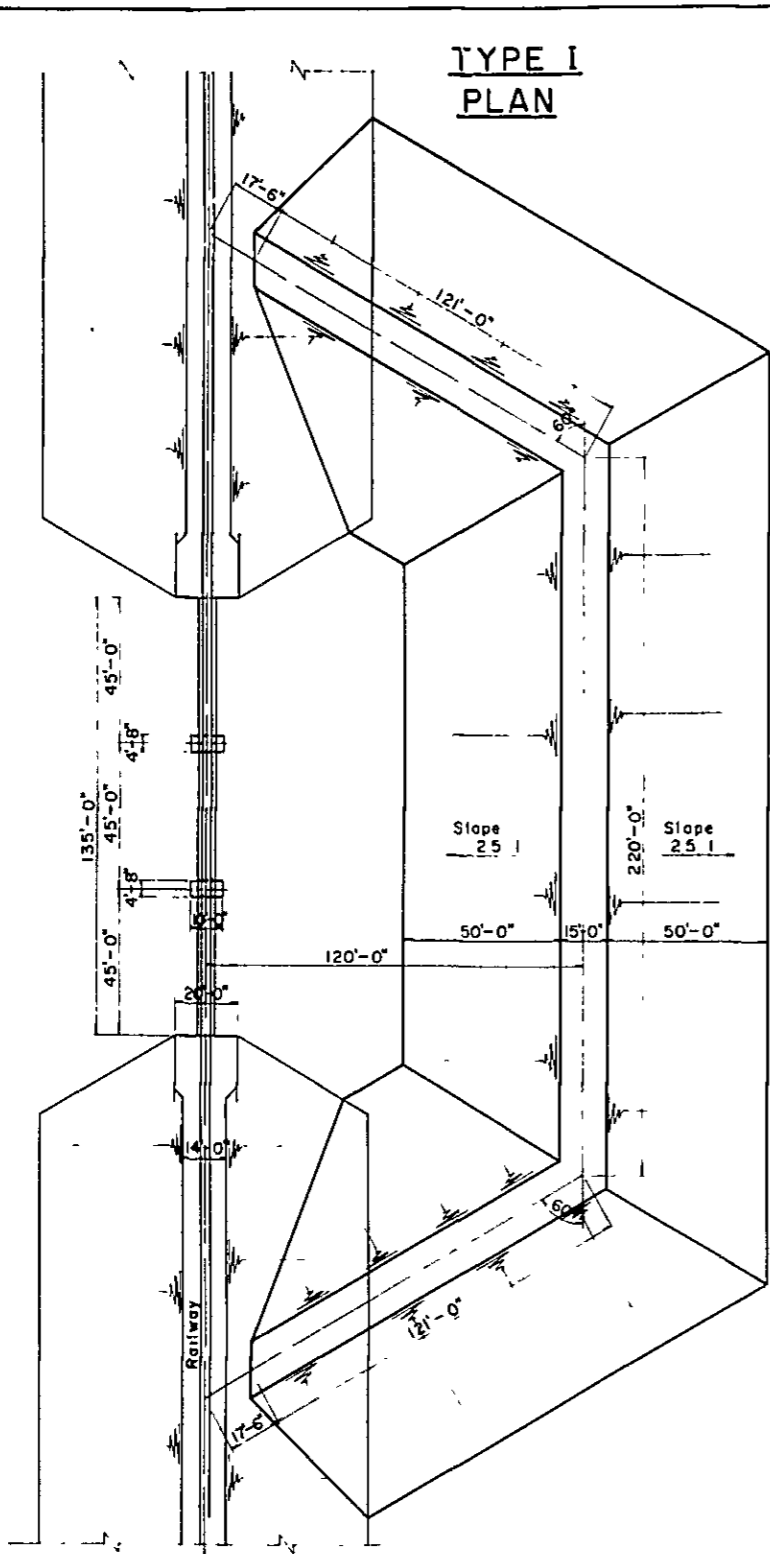


NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

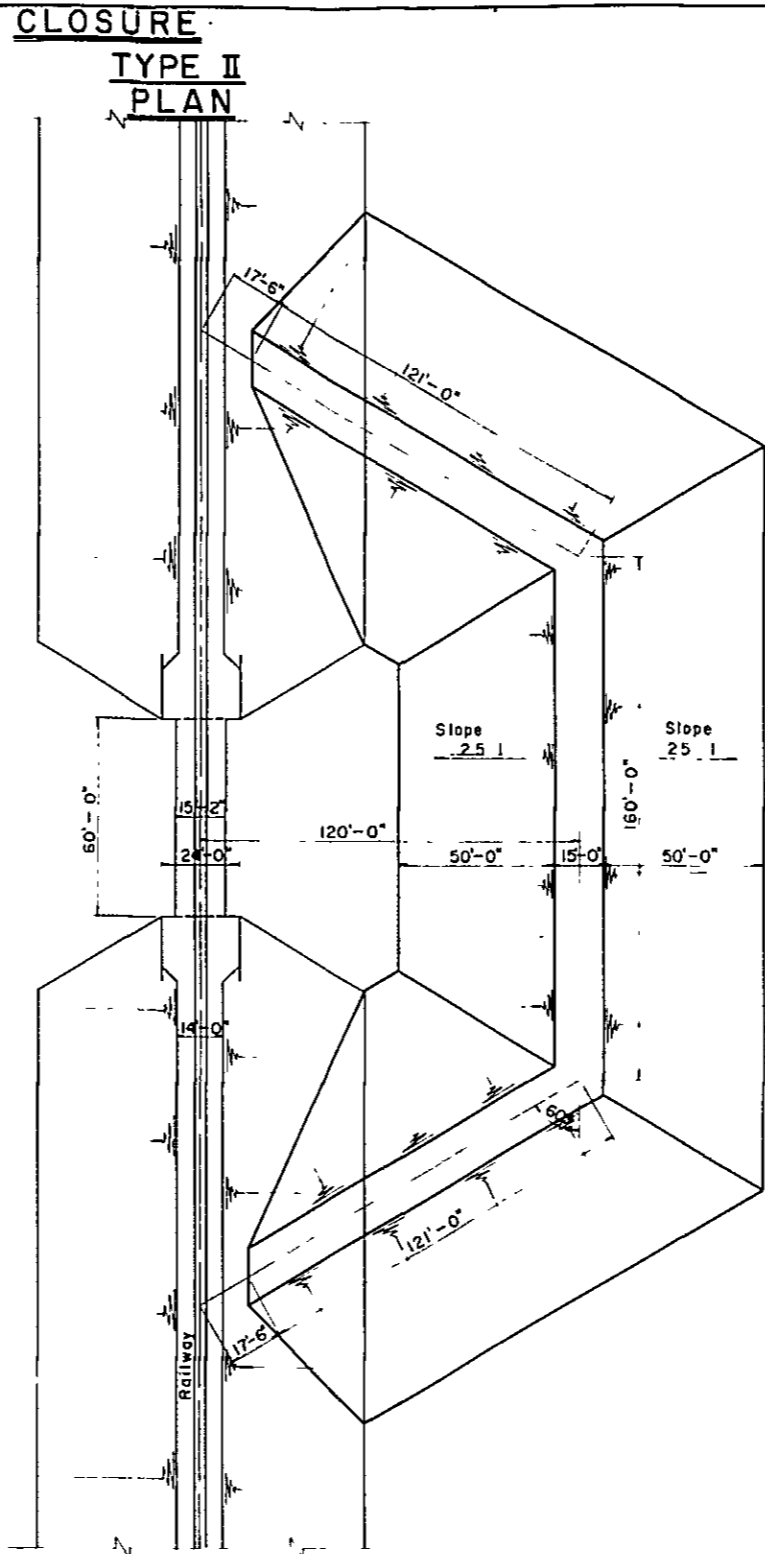
REGULATING GATE TYPE III
PLAN AND SECTIONS

Date: July 1978 DWG NO 28

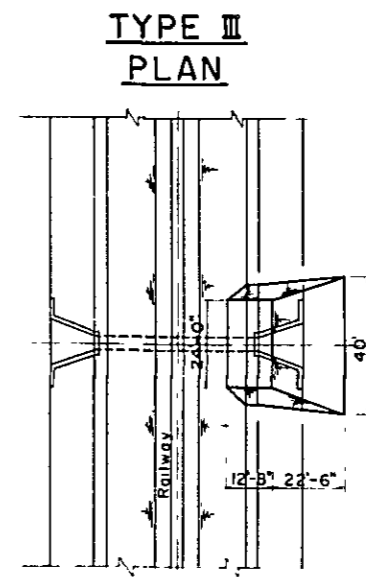
JAPAN INTERNATIONAL COOPERATION AGENCY



**TYPE I
PLAN**

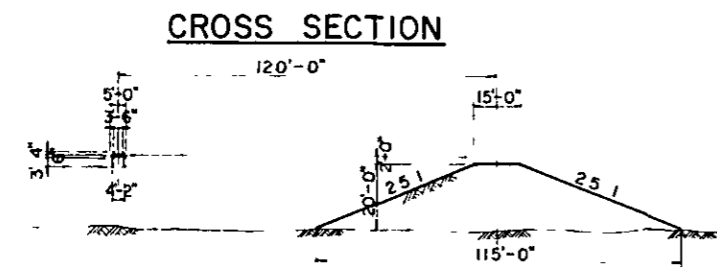
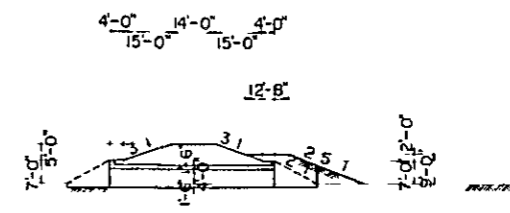


**TYPE II
PLAN**

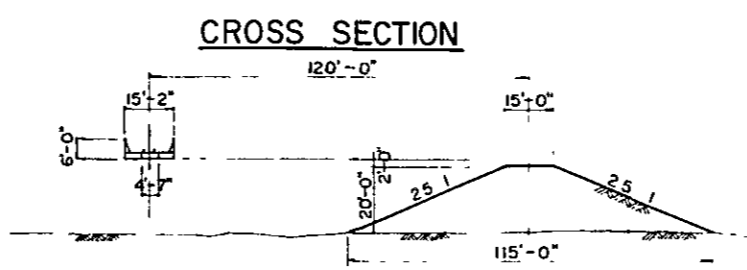


**TYPE III
PLAN**

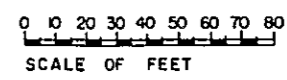
CROSS SECTION



CROSS SECTION



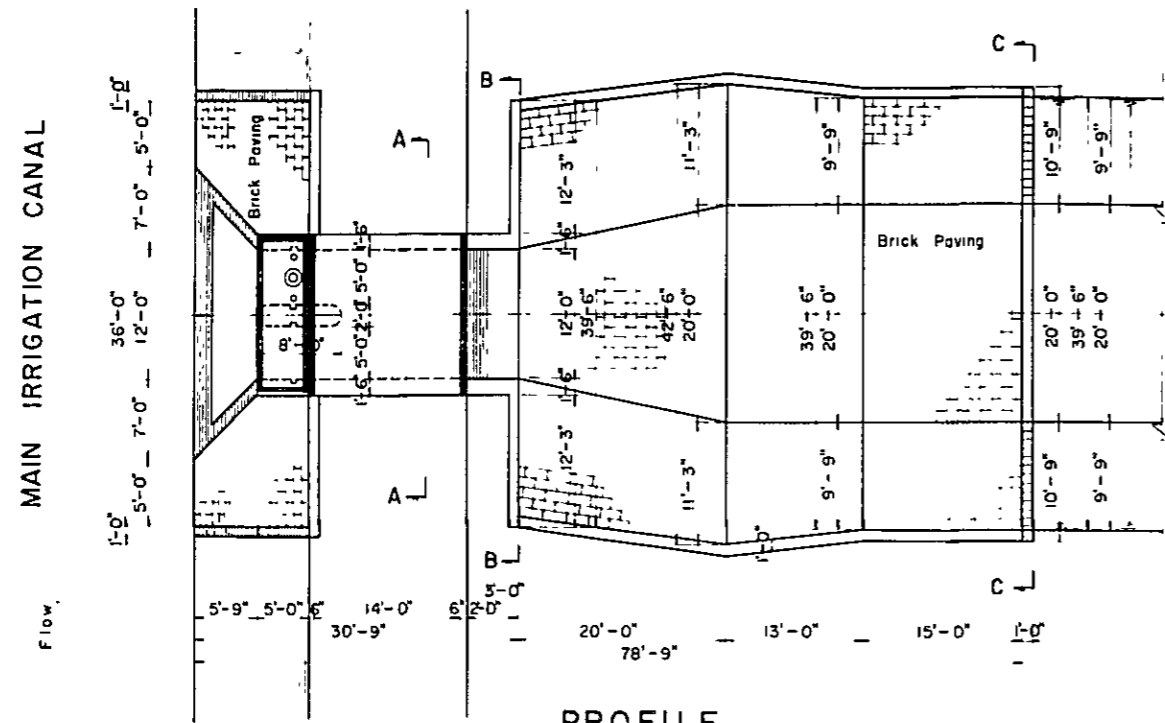
CROSS SECTION



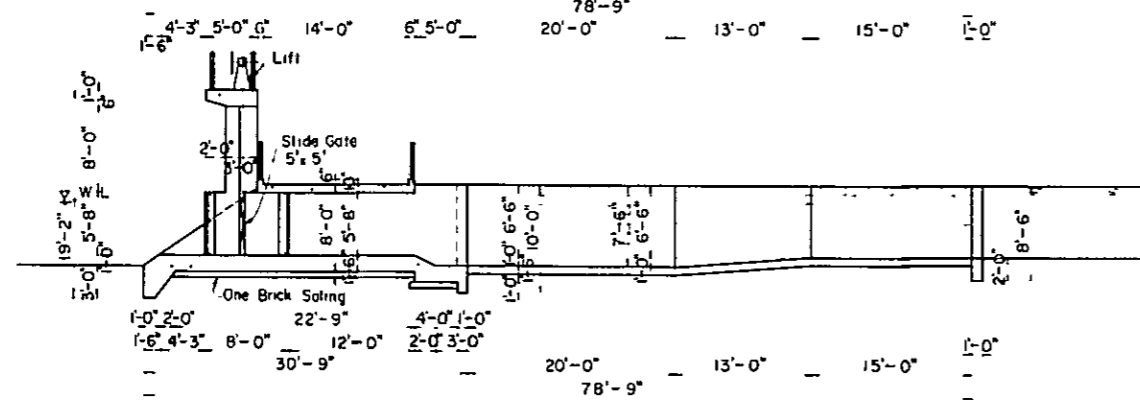
NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
 THE PEOPLE'S REPUBLIC OF BANGLADESH
**CLOSURE TYPE I, II AND III
 PLAN AND SECTIONS**
 Date: July 1978 DW G NO 29
 JAPAN INTERNATIONAL COOPERATION AGENCY

TURNOUT

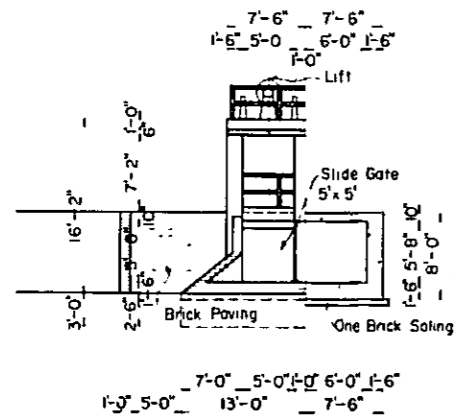
**TYPE I
PLAN**



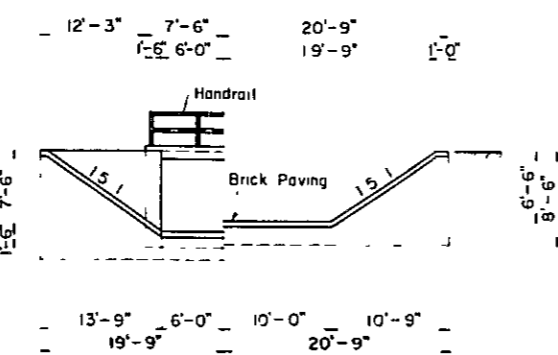
PROFILE



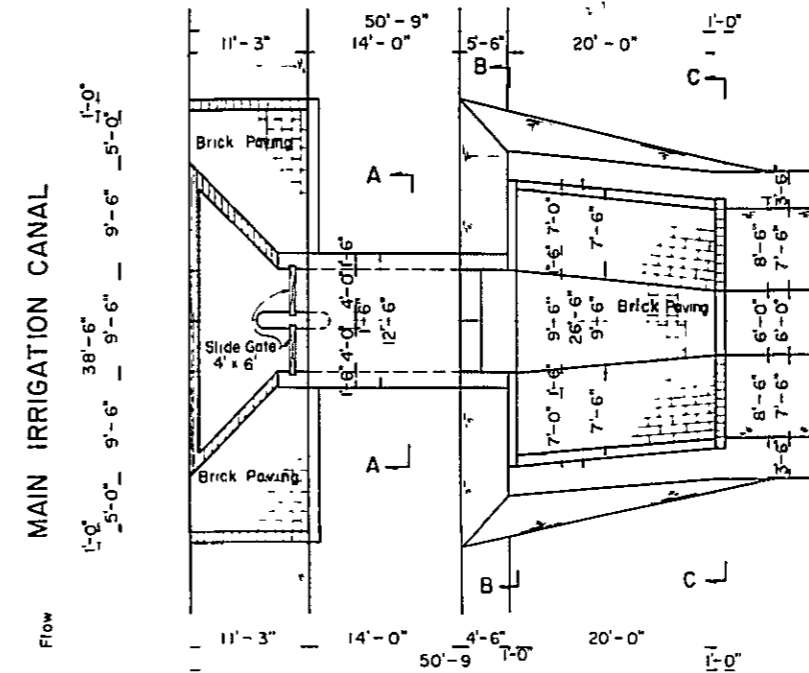
FRONT ELEVATION SECTION A-A



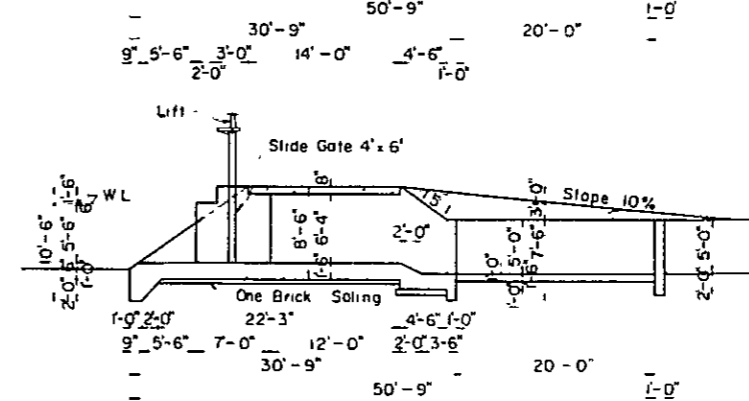
SECTION B-B SECTION C-C



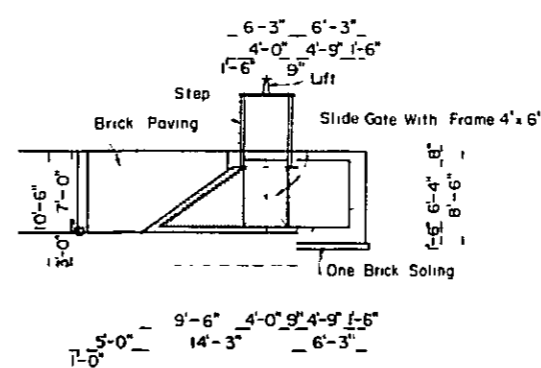
**TYPE II
PLAN**



PROFILE



FRONT ELEVATION SECTION A-A



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

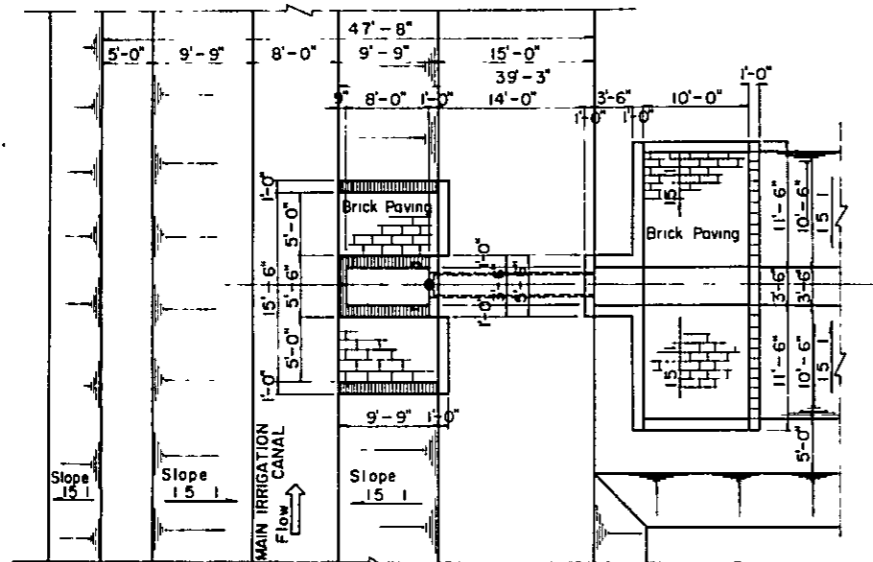
**TURNOUT TYPE I AND II
PLAN AND SECTIONS**

Date, July 1978 DWG NO 30

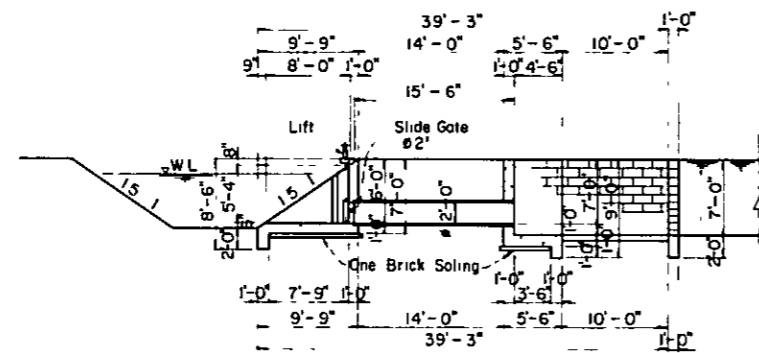
JAPAN INTERNATIONAL COOPERATION AGENCY

TURNOUT TYPE III

PLAN SCALE B

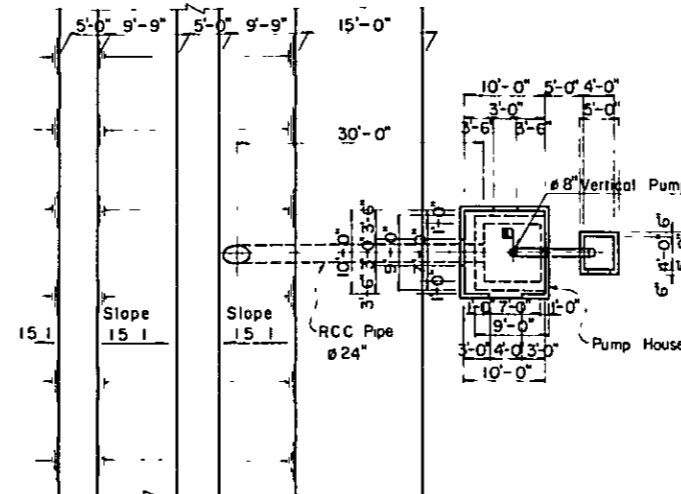


PROFILE SCALE B

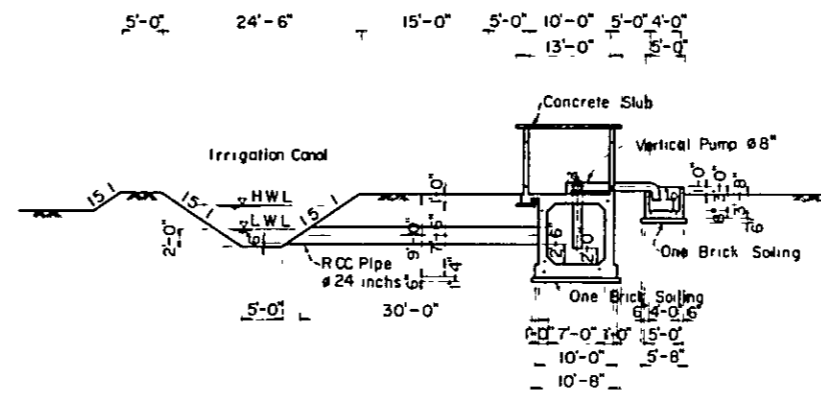


LOW LIFT PUMPING STATION

PLAN SCALE A



PROFILE SCALE A



SCALE A
0 10 20 30
SCALE OF FEET

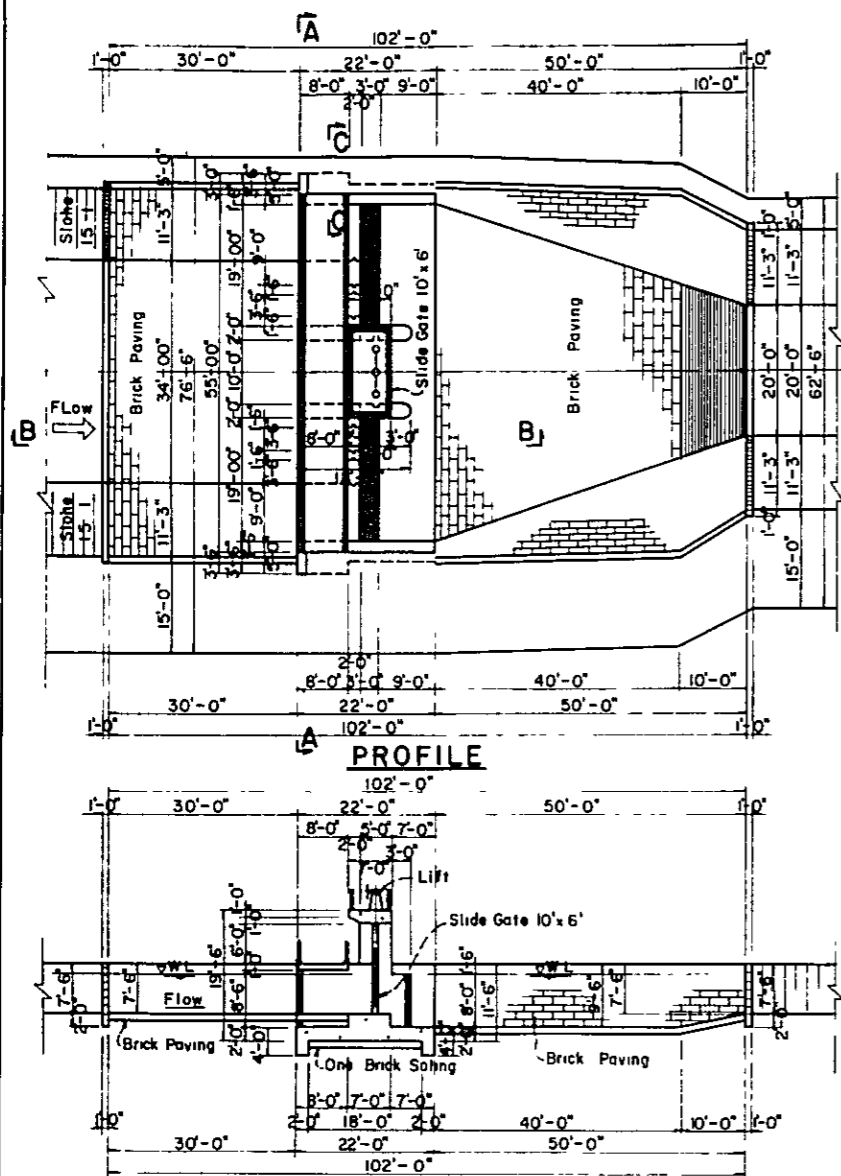
SCALE B
0 10 20 30
SCALE OF FEET

NARAYANGANJ-NARSINGDI IRRIGATION PROJECT	
THE PEOPLE'S REPUBLIC OF BANGLADESH	
TURNOUT TYPE III AND LOW LIFT PUMPING STATION PLAN AND SECTIONS	
Date; July 1978	DWG NO 31
JAPAN INTERNATIONAL COOPERATION AGENCY	

CHECK GATE

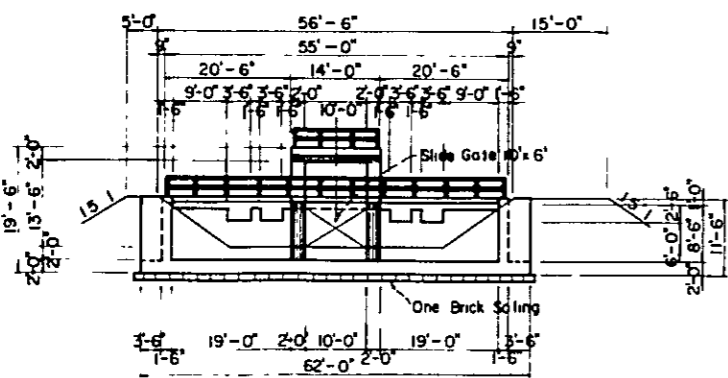
TYPE II

TYPE I

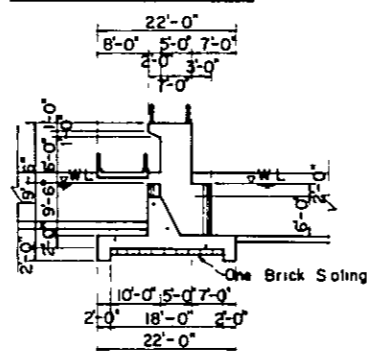


PROFILE

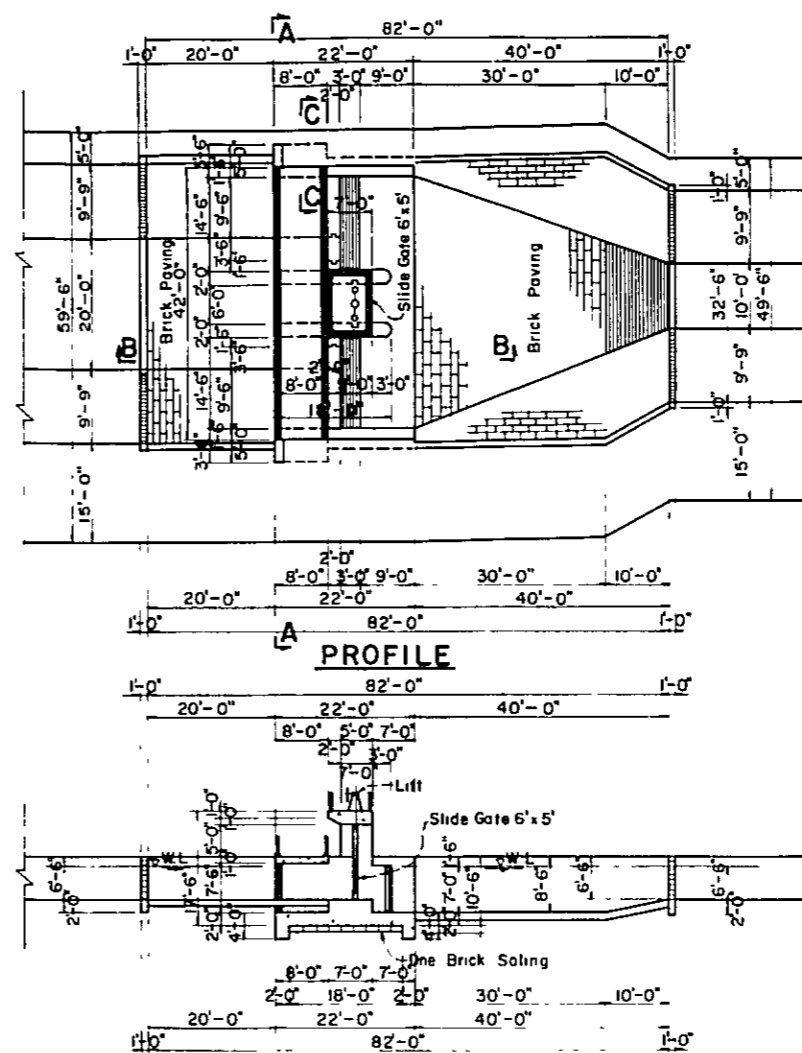
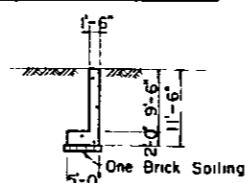
SECTION A-A



SECTION B-B

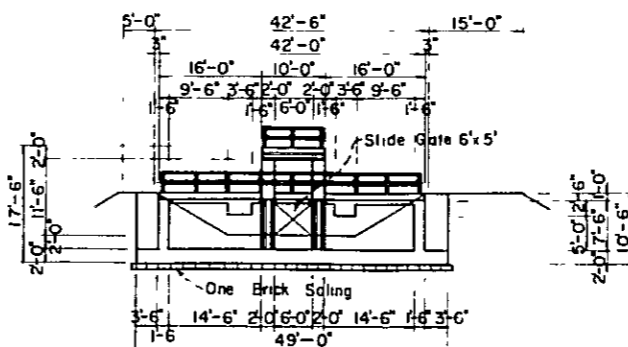


SECTION C-C

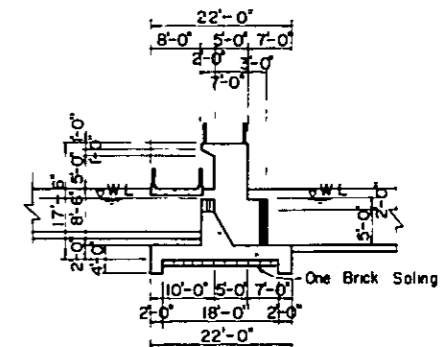


PROFILE

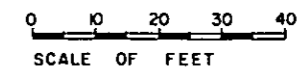
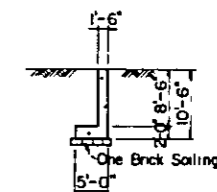
SECTION A-A



SECTION B-B



SECTION C-C



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

CHECK GATE TYPE I AND II
PLAN AND SECTIONS

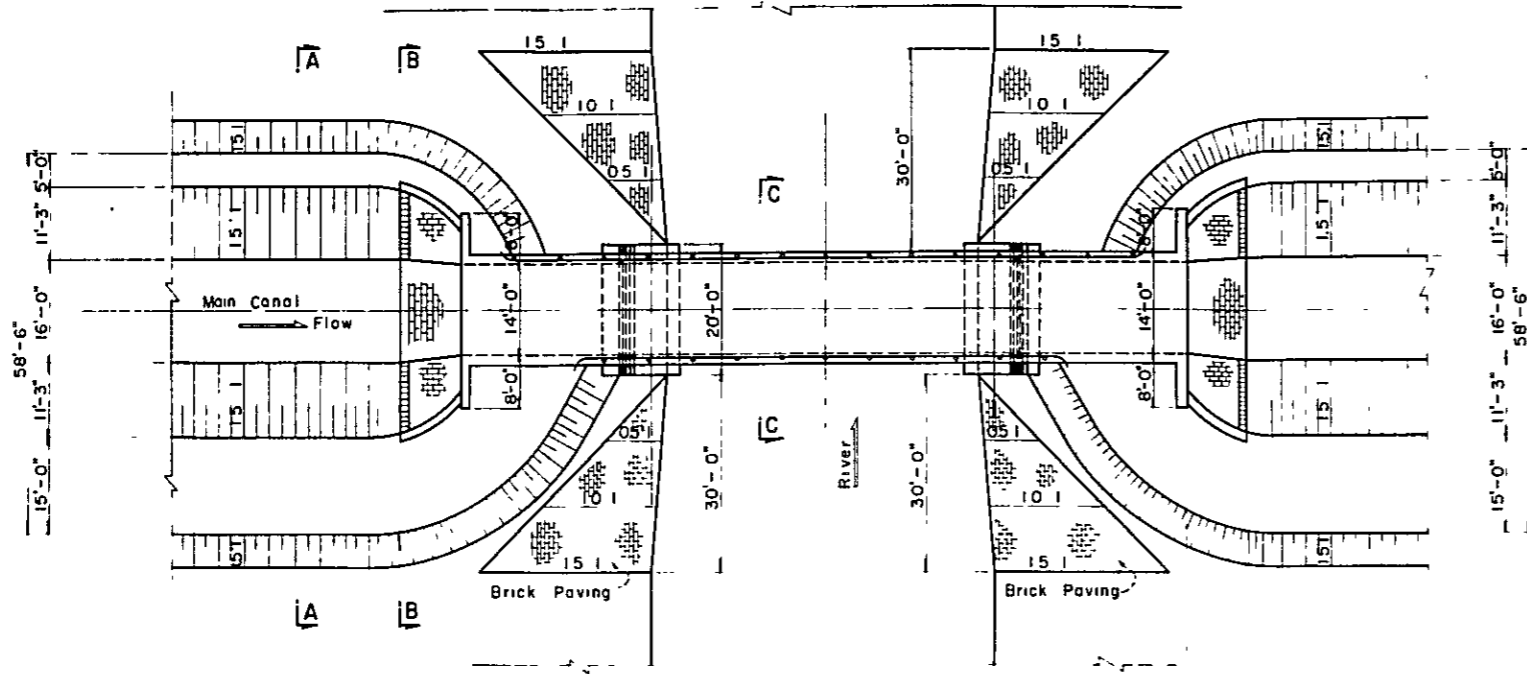
Date: July 1978

DWG NO 32

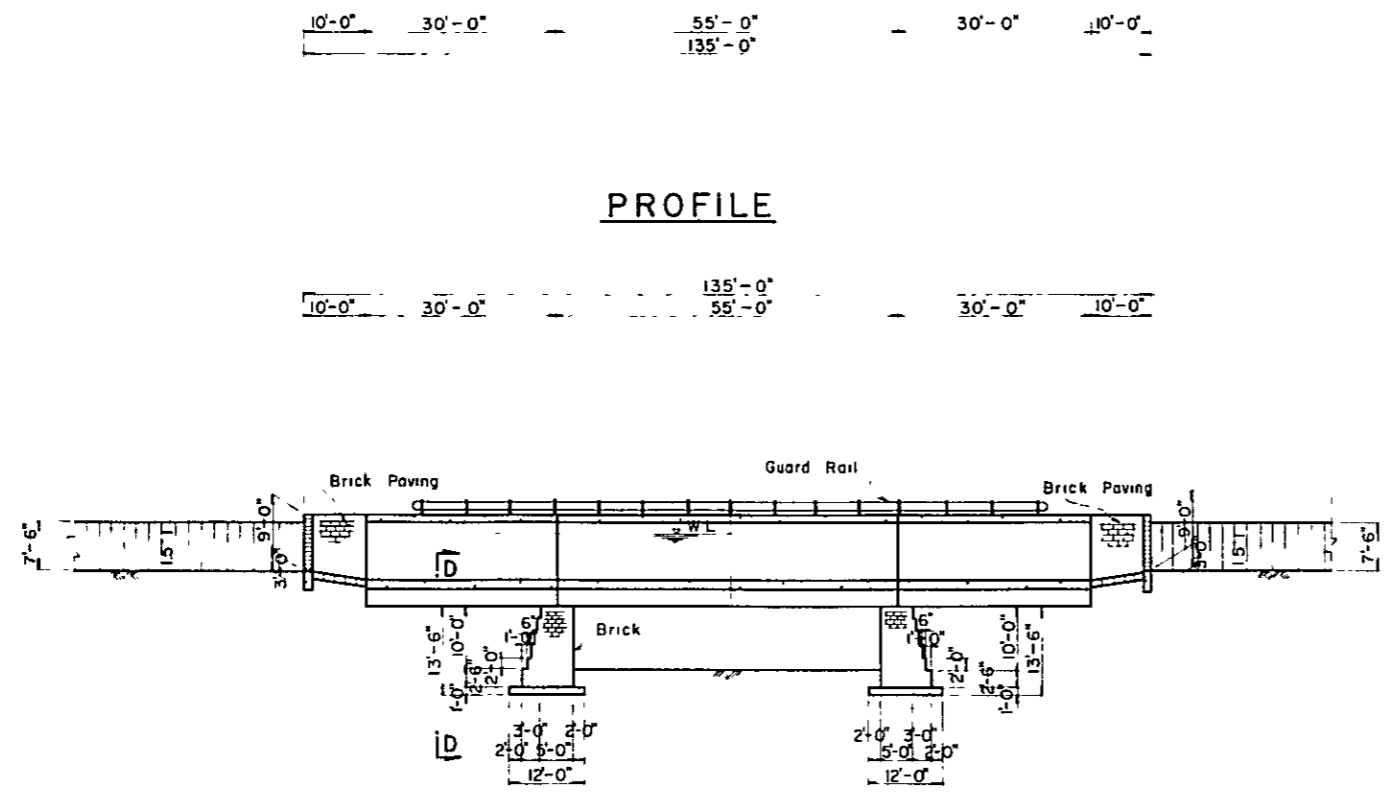
JAPAN INTERNATIONAL COOPERATION AGENCY

AQUEDUCT TYPE I

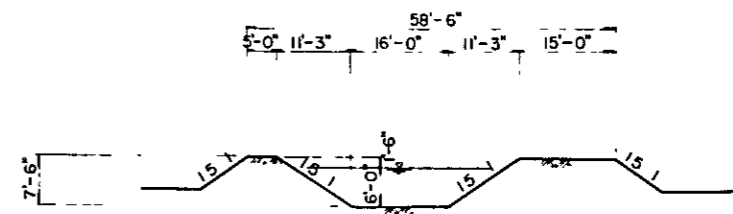
PLAN



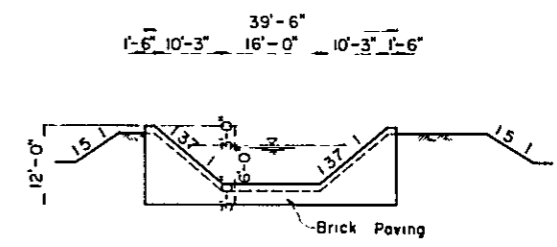
PROFILE



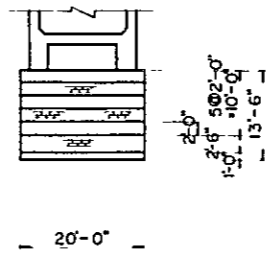
SECTION A-A



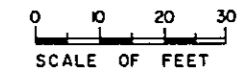
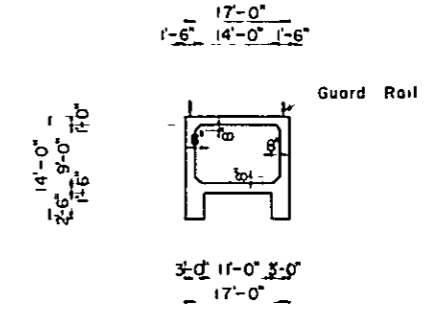
SECTION B-B



SECTION D-D



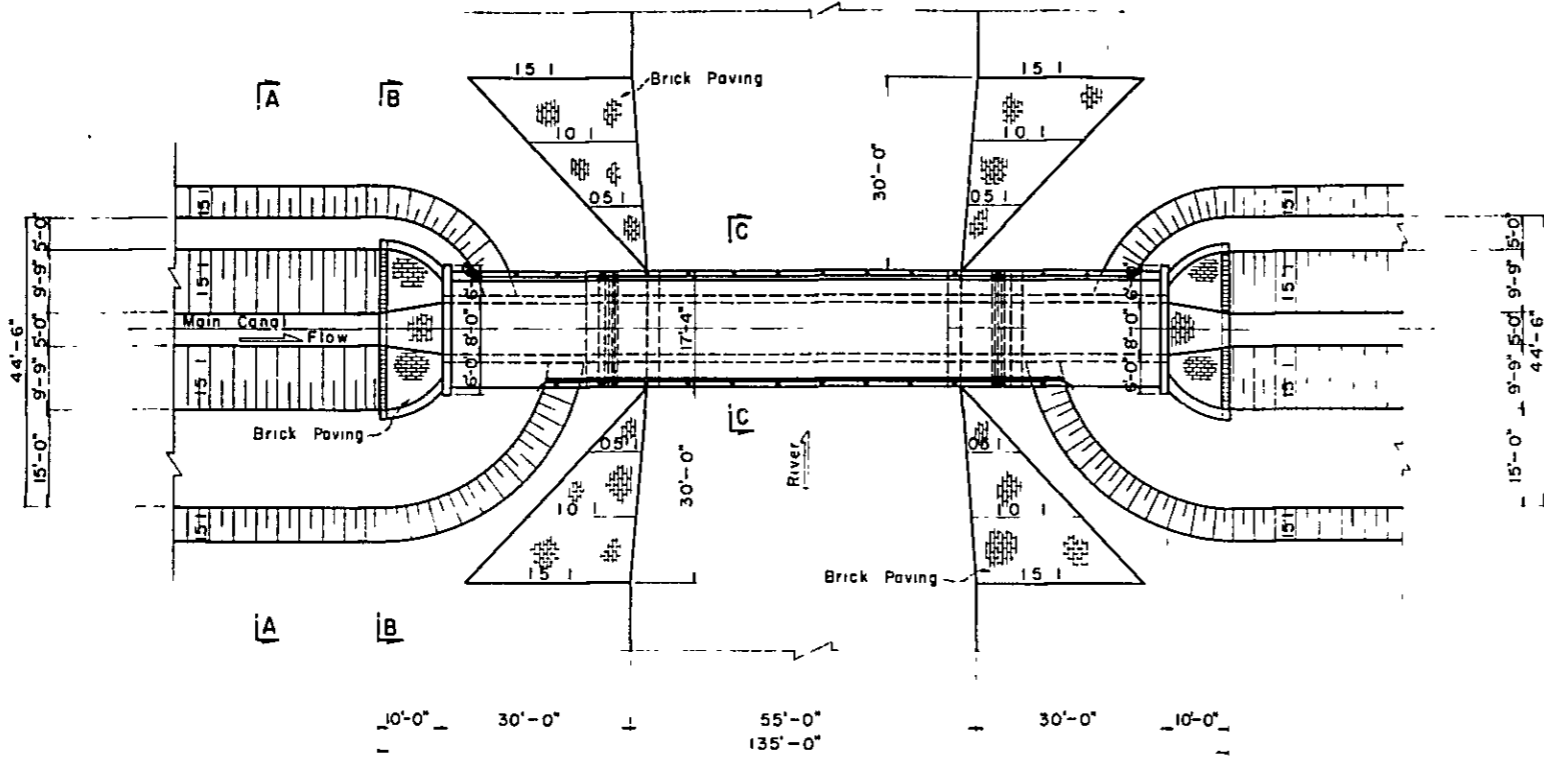
SECTION C-C



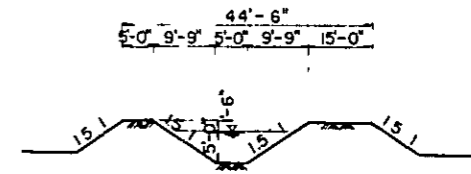
NARAYANGANI-NARSINGDI IRRIGATION PROJECT	
THE PEOPLE'S REPUBLIC OF BANGLADESH	
AQUEDUCT TYPE I	
PLAN AND SECTIONS	
Date: July 1978	DWG NO 33
JAPAN INTERNATIONAL COOPERATION AGENCY	

AQUEDUCT TYPE II

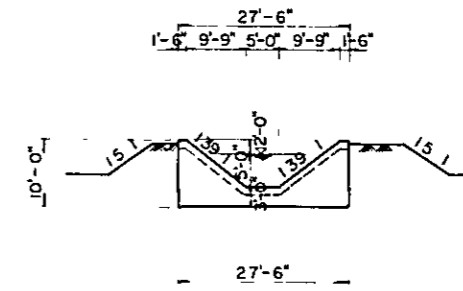
PLAN



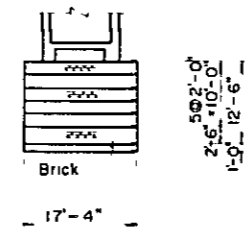
SECTION A-A



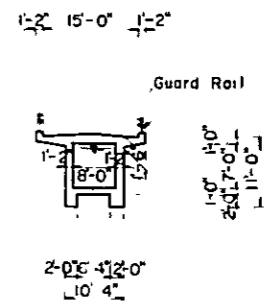
SECTION B-B



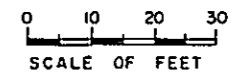
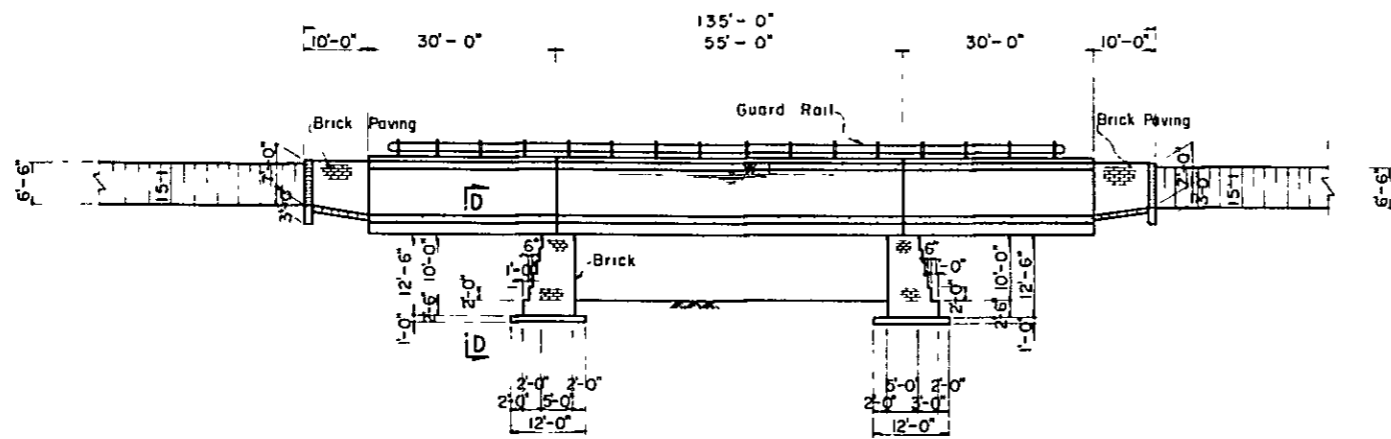
SECTION D-D



SECTION C-C



PROFILE



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

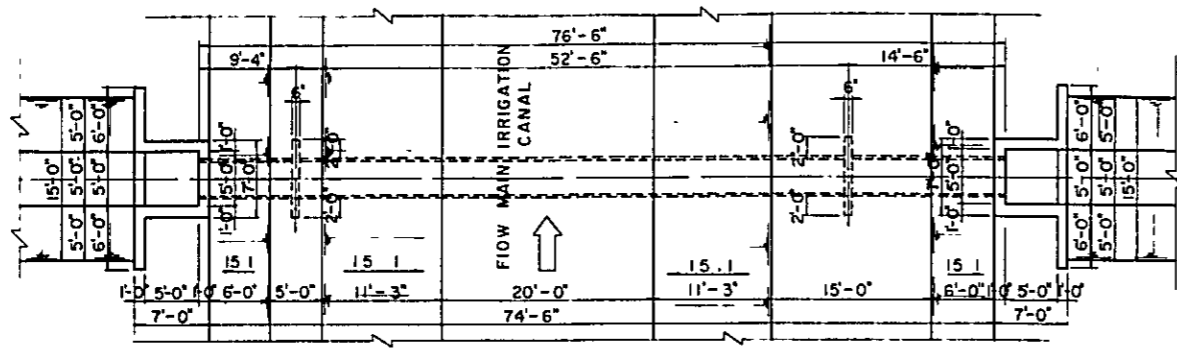
AQUEDUCT TYPE II
PLAN AND SECTIONS

Date: July 1978 DWG NO 34

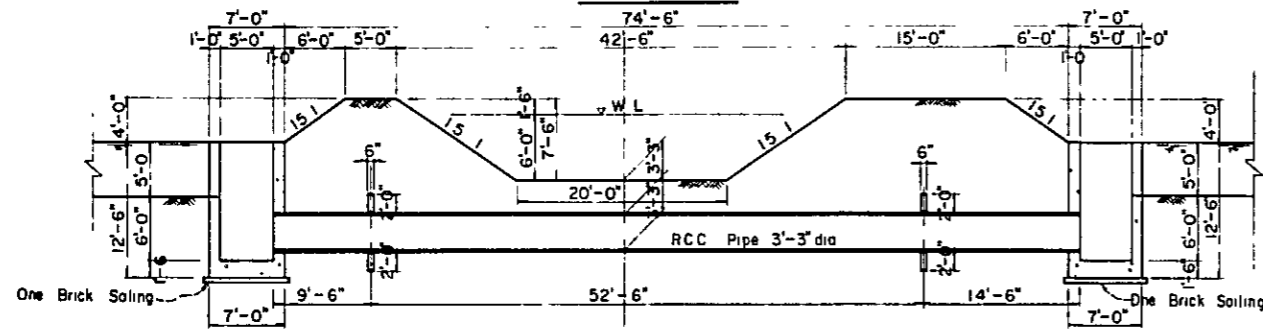
JAPAN INTERNATIONAL COOPERATION AGENCY

CROSS SIPHON

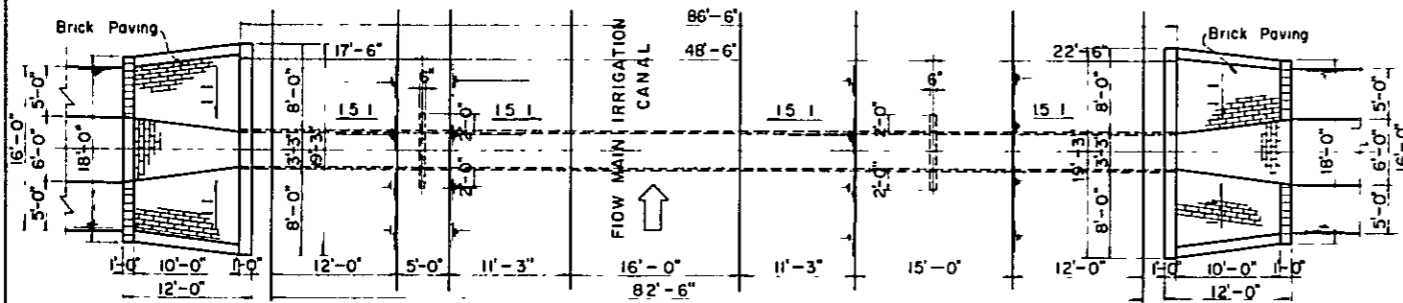
TYPE I
PLAN



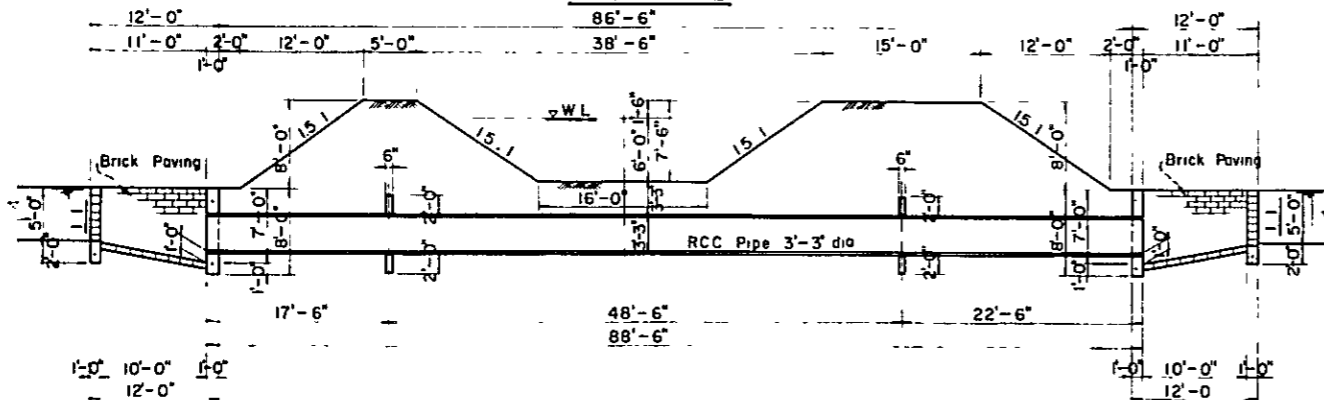
PROFILE



TYPE II
PLAN



PROFILE



NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

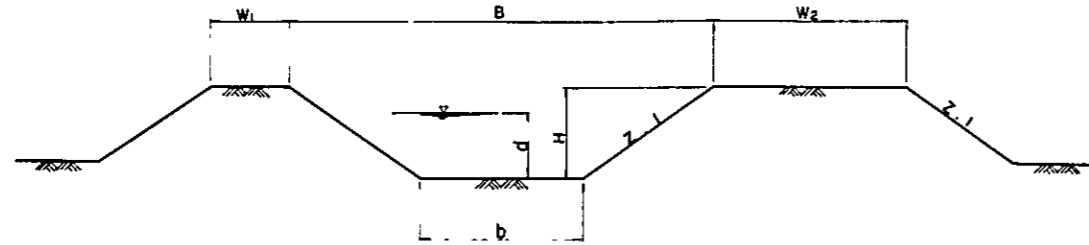
CROSS SIPHON TYPE I AND II
PLAN AND SECTIONS

Date : July 1978 DWG NO 35

JAPAN INTERNATIONAL COOPERATION AGENCY

STANDARD CROSS SECTION

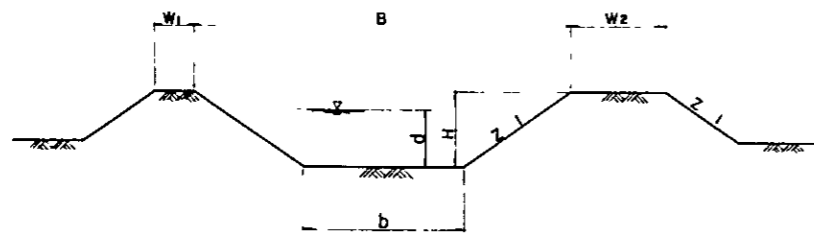
SECONDARY IRRIGATION CANAL



(Dimension ft x mile)

TYPE	Q	b	B	Z	d	H	W	W	*LENGTH
1	70	100	265	15	40	55	50	120	10.70
2	50	60	225	15	40	55	50	120	6.80
3	40	50	215	15	40	55	50	120	37.90
4	30	80	160	10	30	40	50	120	11.90
5	20	50	130	10	30	40	50	120	83.10

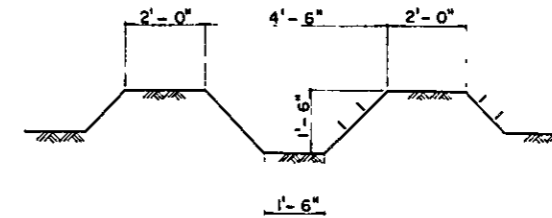
SECONDARY DRAINAGE CANAL



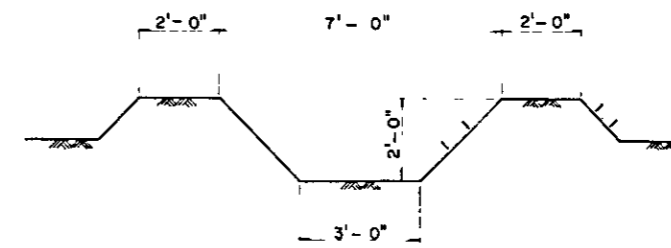
(Dimension ft x mile)

TYPE	Q	b	B	Z	d	H	W	W	*LENGTH
1	920	840	1110	15	70	90	50	120	2.70
2	132	130	370	15	60	80	50	120	36.30

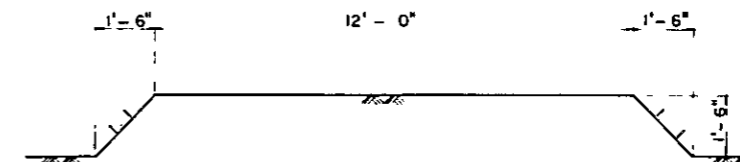
FARM DITCH



FARM DRAIN



FARM ROAD



0 1 2 3 4 5
SCALE OF FEET

NARAYANGANJ-NARSINGDI IRRIGATION PROJECT
THE PEOPLE'S REPUBLIC OF BANGLADESH

**SECONDARY IRRIGATION CANAL
AND FARM ROAD
STANDARD CROSS SECTIONS**

Date: July 1978 DWG NO 36

JAPAN INTERNATIONAL COOPERATION AGENCY

正 誤 表

ページ	行	正	誤	ページ	行	正	誤
I	上より12	Plan B	Plam B	131	上より5	Plan B	Plau B
	" 20	インフラ	インクラ		" 6	推定されており、	規定されており、
II	下より10	便益にかんする	便益にかくする	132	上より9	にまで庄	にまで在
III	上より5	発実績	発実施	134	" 4	口蹄疫	口蹄疽
	"	地区に与える	地区になえる		" 13	萌芽等	萌芽等
1	上より5	Plan A地域	Plan A北域		" 20	家禽	家雞
	" 10	勘察し	勘察に	135	" 4	訪問	訪門
	" 13	は工種	はI種		" 6	家禽	家雞
	下より2	県・都道や	県・都直や		下より2	天水栽培	天水培物
2	下より9	工種	I種		" 1	栽培結果	成績
	" 4	削 除	下記により編成された	136	下より5	流れこんだ	流れこんで
31	下より1	農業投入材	農業投入機	140	" 4	修復	復修
33	" 14	Medium	Madium	146	" 8~7	適正な株間及び条間	各播及び適正条間
	" 7	作られるほか	作られるなか	156	下より6	Physical	Physicel
34	上より4	水が絶えぬ	水が堪えぬ		2	Foreign	Foreigu
42	" 9	Stage 1, 2,	Stage 1, II	172	下より8	Component	COMponent
47	下より2	畜 産	畜 産	176	上より10	設けられる委員会	設けられる。委員会
78	" 4	59.5 in	19.5 in		" 18	実施される畜産	実施される。畜産
92	上から4	揚程が	揚程から		下より6	政策決定	政策法定
	" 4	機場	機場	177	上より4	賦与される	賦なされる
110	上より9	5~7 ftが	5~7 ftか		上より13	特定の	特定の
121	" 3	ねばならない。	ねばなら		" 14	波及させる	波及される
123	下より2	畜産	畜産		" 15	齊らすもの	費らすもの
	" 1	畜力	畜力		" 18	畜産省	畜産省
128	表 中 作付体系A	移植アウス(LIV)	移植アモン(LIV)	178	下より7	未返済	赤色消分
	1年目の欄				" 6	返済	色済
	表中, 作付体系B	小麦	ボロ(HYV)	179	上より16	振興	振光
	2年目の欄	ボロ(HYV)		180	" 7	増員さる	増員する
	表中, 作付体系B	移植アモン(LIV)	移植アモン(HYV)	181	" 7	6 KSS	GKSS
	5年目の欄				上より2	決定	法定
130	下より13	耕耘機	耕耘機	185	" 3	2日間	2日間
	" 9	Phase I area	Phase I arecr		上より4	解決に	解法に
					" 7	インフラ	インクラ
				188	Table 8-2中	14~20%	14~19%

