

（前項第2項に規定するもの）

（第4項） 添付資料

（イ）本項末尾添付資料

1. 申請書の写
2. 申請書に記載の事項を裏付けるものとして、申請者が提出するもの
3. 申請書の提出に係る手数料の納付済の領収書の写
4. 申請書に提出された申請書に添付されたもの
5. 申請書の提出に係る手数料の納付済の領収書の写
6. 申請書の提出に係る手数料の納付済の領収書の写
7. 申請書の提出に係る手数料の納付済の領収書の写
8. 申請書の提出に係る手数料の納付済の領収書の写
9. 申請書の提出に係る手数料の納付済の領収書の写
10. 申請書の提出に係る手数料の納付済の領収書の写

總發行所 東京 丸善

契約担当理事に提出するもの

本項末尾添付資料

	<u>頁</u>
資料一 1. 業務請負業者の選定、入札評価と契約 .....	A- 2
資料一 2. 工事請負契約書類 .....	A- 5
資料一 3. 工事変更命令書 ( I W S P - 8 ) .....	A- 75
資料一 4. 追加工事発注書(1) ( I W S P - 1 2 ) .....	A- 84
資料一 5. 追加工事発注書(2) ( I W S P - 1 3 ) .....	A- 91
資料一 6. 工事延長手続き書類 .....	A- 97
資料一 7. RMP 田中リーダーからの要請書 3 通 .....	A-102
・苗代圃場取水工、精密試験圃場導水設備	
・幹線用水路内法面保護煉瓦張延長工事	
・既存ポンプ設置用基礎工事及び材料調達	
資料一 8. 国際協力事業団東京本部からのテレックスによる指令 ...	A-106
資料一 9. 施工管理業務中の発行文書コピー .....	A-109
資料一 10. 業務状況報告 ( 工事实施状況報告書 ) コピー .....	A-140

## 資料 - 1

### 工事請負業者の選定, 入札評価と契約



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

P. O. BOX 216 MITSUI BLDG  
2-1, NISHI-SHINJUKU, SHINJUKU-KU TOKYO  
160 JAPAN

THE RICE MECHANIZATION CENTER  
THE IMPROVEMENT OF SALINE FARMS  
THE MEET EL DYBA EXPERIMENTAL FIELD

Mr. Junsaku Koizumi  
Resident Representative  
Cairo Office, JICA

Dated: January 5 1985

Ref.No. IWSF - 1

Re: Evaluation of Tender Document for  
Improvement Works of Saline Farms

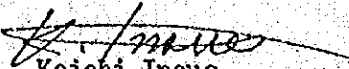
Dear Sir,

We have the honour to submit the evaluation data of tender document for the Improvement Works of Saline Farms at Rice Mechanization Center located at Meet El Dyba. Five firms (three firms of Egyptian company and two firms of Japanese company) have offered for the work and the offered prices and evaluation result are mentioned in attached sheets.

Among these firms, Public Construction Company estimated the cheapest price for the work, and the price is LE 113,944.-. However, from the result of negotiation between JICA and the Public Construction Company, the amount was revised at 110,700.- by corrections of Item-8 and 10. This amount is a little bigger than the JICA budget (LE 109,270.-). Taking into consideration of price escalations for construction materials and labour wages during 5 months from August 1984 to January 1985, it is reasonable amount.

Thank you for your kind attention to this matter.

Your faithfully,

  
Koichi Inoue

Supervisor

of

Improvement Works of Saline Farms

RMG

業者からの見積書

<u>NO</u>	<u>Description</u>	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>備考</u>
1	Preparation	4,200	4,000	6,000	8,000	13,000	33,130	単位: LE
2	Pumping Station	12,484	16,680	20,925	24,500	16,984	17,146	
3	Main Canal	55,416	58,374	76,552	109,378	56,352	25,935	
4	Siphon	17,160	16,290	18,285	23,560	19,524	28,158	
5	Check	973	560	705	840	998	571	
6	Turnout	3,468	2,345	3,635	3,710	4,696	2,945	
7	Farm Inlet	6,172	5,385	5,457 <sup>50</sup>	6,760	5,931	5,548	
8	Farm Entrance	4,237	4,205	4,255	5,690	4,335	6,544	
9	Wasteway	1,932	1,375	1,715	2,150	2,470	1,368	
10	Culvert	2,028	2,736	2,835	3,780	2,760	6,448	
11	Pump Installation	1,200	2,000	6,500	3,000	4,000	2,707	
<u>Total</u>		<u>109,270</u>	<u>113,944</u>	<u>141,244<sup>50</sup></u>	<u>181,368</u>	<u>101,000</u>	<u>100,000</u>	

備考 I: JICA budget, II: Public Construction Company, III: Sid Alog  
 Mohamad Company, IV: Shalaby Mohamad Shalaby Company  
 V: 大日本土木 VI 五洋建設

THE ARABIAN BUREAU OF TRADE

資料 - 2

工事請負契約書類

GOVERNMENT WORKS DEPARTMENT

STATE OF JARIFAH

OFFICE OF THE

JARIFAH DISTRICT

A-1

THE ARAB REPUBLIC OF EGYPT

CONTRACT DOCUMENT

FOR

IMPROVEMENT WORKS OF SALINE FARMS

ON

RICE MECHANIZATION CENTER

MEET EL DYBA

JAPAN INTERNATIONAL COOPERATION AGENCY

## CONTENTS

PART I	CONTRACT	C-1 - 14
PART II	GENERAL INFORMATION	G-1 - 3
PART III	TECHNICAL SPECIFICATION	T-1 - 21
PART IV	BILL OF QUANTITY	
PART V	CONSTRUCTION DRAWINGS	

PART I

CONTRACT

For improvement works of Salaine Farms  
for Rice Mechanization Project, Meet El Dyba

This CONTRACT is made at Cairo Office of Japan International Cooperation Agency, on 7th January 1985 between the Japan International Cooperation Agency (JICA) and Public Construction Company of Cairo.

JICA, Cairo Office with Mr. Junsaku Koizumi, Resident Representative as its authorized representative, hereinafter referred to as "the JICA" of the one part, and Public Construction Company represented by Mr. Abd El-Megid Afify Syad Mohamed authorized to act on behalf of Public Construction Company according to the Power of Attorney No. 111193 dated which is attached to this Contract, hereinafter referred to as "the Contractor" of the other part.

Both parties mutually agreed under the terms of this Contract as follows;

Article 1. Purpose of Agreement and Contract Price

The JICA agrees to employ the Contractor and the Contractor agrees to perform the Works for improvement of Salaini Farms for Rice Mechanization Project, Meet El Dyba in Kafr El Sheikh as stipulated in this Contract, Terms and Conditions of the Contract, Bill of Quantity and all the documents hereto attached covering one hundred and nineteen (119) items at the total amount of One Hundred



and Ten Thousand Seven Hundred Egyptian pounds only (L.E. 110,700-) (hereinafter referred to as "the Contract Price"). The unit price shall govern the Contract Price. The Contract Price shall be adjusted in case of the modification of quantity in the Bill of Quantity, accordingly.

The following documents shall form integral part of this Contract.

- PART I. CONTRACT
- PART II. GENERAL INFORMATION
- PART III. TECHNICAL SPECIFICATIONS
- PART IV. BILL OF QUANTITY
- PART V. DRAWINGS

Article 2. Contractor's General Responsibility

The Contractor shall, subject to the provisions of the Contract and with due care and diligence, execute and maintain the Works. Also at any time the Contractor shall follow the Supervisor's instructions compliantly.

The Contractor shall provide all labour including the supervision thereof, materials and all other things, whethere of temporary or permanent nature, required in and for such execution and maintenance, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

The Contractor shall take full responsibility for the adequacy, stability and safety of all sites operation and

methods of construction. The Contractor shall not be responsible, except as may be expressly provided in the Contract, for the design or specifications of the Works prepared by the Supervisor.

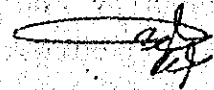
Article 3. Payment

The JICA agrees to effect payments for the Works in check to the Contractor in the following manner;

The payment shall be deducted by ten (10) percent of the Works executed as Retention money on each payments.

- a) Advance Payment, to be effected not later than five day after the Supervisor appointed by the JICA (hereinafter referred to as "the Supervisor") estimates that the value of equipment and materials which the Contractor shall bring into site and store properly at the job site within ten days after concluding the Contract is worthy not less than forty (40) Percent of the Contract Price. The Advance payment amount shall be forty (40) percent of the Contract Price.
- b) Subsequent Payment, to be effected according to the progress of the Works satisfactorily executed by the Contractor and accepted by the Supervisor upon the requests of the Contractor during the course of construction according to Article 15. Payment shall be deducted by ten (10) percent of the Works executed as Retention money on each payment.
- c) Final Payment, to be effected upon the satisfactory completion of the Works by the Contractor and accepted by the Supervisor, of the remaining amount of the

79



Contract Price plus all Retention money deducted under (b) above.

The payments under (b) and (c) shall be effected within twenty (20) days after the respective acceptance of the Works by the Supervisor.

It is expressly understood that the payments by the JICA do not mean acceptance of the Works by the Supervisor nor relief of the Contractor from its responsibilities under the Contract.

Article 4. Completion Time

The Contractor agrees to satisfactorily complete the Work within One hundred and four (104) days (completion time) from the date specified hereof which will become due on 20th April 1985 (completion date) and he agrees to commence the Works at the site on or before 13th January 1985 (commencement date) which will be within seven (7) days after the date specified hereof.

If the Contractor fails to commence the Works by the commencement date, or should in the course of the Construction any event occurs which may reasonably cause the JICA to believe that the contractor will not be able to complete the Works on the completion date, or should the Contractor fail to meet any of the Contract requirements, the JICA shall have the right to terminate this Contract by giving written notice to the Contractor.

However, in case that the Contractor fails to complete the Works by the completion date, or to meet any of the completion date, or to meet any of the Contract requirements,

tg

if the Supervisor thinks that the Contractor has the ability for completion of the Works within reasonably extended period, the Contractor may be permitted by the JICA to continue the Works beyond the completion date but within the extended time.

Article 5. Penalty

If the Contractor fails to complete the Works within the time prescribed in Article 4, the Contractor shall pay liquidated damages for such default for every day or part of day which shall elapse between the time prescribed in Article 4 hereof and the date of certified completion of the Works.

The amount of Liquidated Damages for Delay will be as follows:

1% of the Contract value for the first week or any part of week.

2% of the Contract value for each week of the 2nd, 3rd and 4th, 5th week or any part of the week.

4% of the Contract value for each month afterwards or any part of the month.

The total amount of the Liquidated Damages for Delay must not exceed 25% of the Contract value. The Liquidated Damages for Delay shall be calculated according to the above percentages of the value of uncompleted works, but in the opinion of the JICA, these uncompleted works prevent the use of the whole works, then the Liquidated Damages for Delay will be calculated based on the final Contract value.

The Liquidated Damages for Delay will become due on the Contractor as soon as this delay shall occur and without necessity of a warning or any legal procedure and without the necessity of proving the damages, which are supposed in any

case, to be happened.

The period for which the Liquidated Damages for Delay is calculated, must not include the time when the works were stopped due to a force majeure or according to the instruction of the Supervisor.

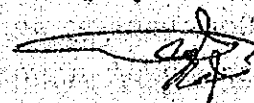
The Supervisor may relieve the Contractor for the Liquidated Damages for Delay (or part of them) if the Contractor submits in writing a request, backed with relevant document, proving that the total delay (or part of it) has occurred due to circumstances beyond his responsibilities.

#### Article 6. Compensation

If the JICA or a third party sustains any losses either direct or indirect caused by the Contractor's failure, the Contractor shall compensate the JICA or the third party for such losses. The both parties of this contract agree that time factor is essential for the completion of the Works.

#### Article 7. The JICA's Right for Default

The JICA has the sole and absolute right to decide whether to terminate the Contract, to extend only the construction period as stated in Article 4 or to claim the compensation for the damage as stated in Article 6. The money due to the JICA exercising its right under this Article shall be retained and deducted from any money due to the Contractor but yet unpaid, including the Retention money. If the total amount of the loss is larger than the money mentioned above, the Contractor agrees that the JICA has the right to retain the construction equipment, materials and supplies, etc. and demand the payment for the balance from such equipment, etc. or proceeds of sale thereof.



td

Article 8. Contractor's Responsibility on Termination  
of this Contract

After the Contract has been terminated in accordance with the foregoing Article 4, the JICA reserves the right to employ another Contractor (hereinafter referred to as "New Contractor") to carry on the remaining part of the Works, and the payment for the Works that Contractor fails to complete shall be made out of the necessary Contract price for the remaining Works. Should the remaining amount after payment of the advance and subsequent payments from the Contract price, to the original Contractor be insufficient to effect payment to the new Contractor, shall be deemed as direct loss sustained by the JICA, and the Contractor shall pay such difference to the JICA within seven (7) days from the date of request by the JICA, failing which interest at the rate of fifteen (15) percent per annum shall be charged thereon.

Article 9. Supervisor

The Supervisor, authorized to act on behalf of the JICA will be appointed by the JICA and the Supervisor is entitled to do all things that the JICA may do so. The Supervisor shall control and supervise the Works all the times whether it is the preparation or implementation of the Works, and the Contractor shall promptly furnish all necessary facilities for proper inspections of the Works in accordance with the Supervisor's request. The JICA has the sole right to authorize and appoint the proper quality and numbers of the Supervisor (s) in writing from time to time during the period of supervision, if necessary. At any moment the Supervisor can request the Contractor to stop the Works, if necessary, and the Contractor shall have no claim on the JICA for extension of the construction period or any damages whatsoever due to such suspension of the Works under this Article.





The Inspection will not be deemed as the acceptance of the Works, and the Contractor shall not be relieved from his responsibility to meet the Contract requirements by the fact that the Supervisor exercises their duties. Should it be found that the Works have not been satisfactorily performed in the faithful manner, the Contractor shall correct any part of the Works indicated by the Supervisor within the period specified by the Supervisor.

Article 10. Prohibition for the Equipment Removal

Should the Contractor fail to complete the Works during the proposed construction period or the Supervisor considers it reasonable that the Contractor will not be able to satisfactorily complete the Works, any equipment and materials brought to the site for use on the Works shall not be removed without the prior approval of the Supervisor in writing.

Article 11. Rectification of the Defective Construction

For a further period of twelve (12) months after satisfactory completion and final acceptance of the Works by the JICA, whether completed by the Contractor or by the new Contractor in case of termination of the Contract under Article 4, any damage to the Works which is caused by the Contractor's fault, either because of defective workmanship or the use of inferior materials or any other causes, shall be made good as necessary by the Contractor to the satisfaction of the JICA at the Contractor's own cost.

In case of the termination of the Contract, the JICA may decide which part of the Works should come under the Contractor's responsibility, and requests the Contractor to make good of the damaged works. Should the Contractor fail to do so within the period specified after receipt of

JICA

written request to do so from the JICA, the JICA shall have the right to employ another person to carry out such works, and the Contractor agrees to bear all expenses incurred.

Article 12. Discrepancies among the Contract Documents

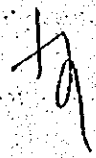
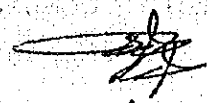
If, prior to or during the course of construction, any discrepancies are found in the drawings and/or the Technical Specifications, etc., attached to the Contract, the Contractor shall follow the ruling given by the Supervisor at no additional cost to the JICA.

Article 13. Temporary Facilities and Method of Construction

The Contractor may decide the temporary facilities, office, warehouse, etc., and the methods of construction by itself without the approval by the Supervisor. However, the Supervisor reserve the right to suggest the Contractor more suitable facilities and/or methods. If the Supervisor suggests them to the Contractor, the Contractor shall negotiate with the Supervisor but without being required to follow such suggestion. Any expense for the furnishing of such temporary facilities shall be included in the unit prices of the permanent works offered and given in the Bill of Quantity by the Contractor.

Article 14. Modification of Plan

If the Supervisor finds it necessary to make modification of construction design and/or materials, etc., during the course of construction, the JICA has the right to order the modification of the Works to the Contractor, and such order shall be made in writing from the Supervisor to the Contractor.



The JICA agrees to adjust upwards or downwards the necessary expense for such modification to be made by the Contractor, which will be estimated by unit price in the Bill of Quantity in case of modification of quantities of construction works, in the case of additional works which are not quoted by unit price in the Bill of Quantity, the Supervisor will make estimate thereof and the JICA will pay to the Contractor for such additional works accordingly. However, if the Contractor does not agree to such estimate, the Contractor is then entitled to negotiate with the JICA. Also the extension of the construction period due to any modification in the course shall be approved only by the JICA who holds the sole right to decide the number of the days of such extension.

#### Article 15. Acceptance of the Works

When the entire Works or a part of the Works have been completed, the Contractor shall submit to the Supervisor the invoice in written form specifying the Works actually completed. If full compliance of the Works with the drawings or Technical Specification is confirmed or no defects in the completed Works are found, the Supervisor shall accept the Works as the final acceptance of satisfactory completion Works within ten (10) days after the receipt of the written form and it is deemed reasonable that the final acceptance is made on such date of the receipt of the written form.

On the other hand, should non-compliance of the Works with the drawings or Technical Specifications or defects be found in the Works executed by the Contractor, the Supervisor shall have the right to reject the Works and to order the rectification of the Works. If the required period for the rectification of the Works is beyond the proposed date of the total completion, the Contractor shall not be relieved from its responsibility to pay the penalty as stipulated

in Article 5, and after the completion of rectification of the Works, then the final acceptance will be made in the same manner as described in the first paragraph of this Article.

During the course of construction, whether in the construction period or extension period specified in the last paragraph of Article 4, the JICA shall hold the right to accept part of the Works already completed in the written form which shall be considered as part of the final acceptance. However, both parties should negotiate with each other for the maintenance and usage of the accepted part of the Works, and the Contractor shall not be entitled to request the extension of the construction period due to any interruption caused by the use of such accepted Works for the Rice Mechanization Project.

#### Article 16. Construction Engineer

The Contractor shall appoint a construction engineer at his own expense for the supervision of the Work performance, who shall be authorized to act on behalf of the Contractor, such construction engineer shall be accepted by the Supervisor, shall stay at the job site all the time and shall not leave without prior approval of the Supervisor. If the Contractor replaces the construction engineer, the Contractor shall obtain the prior approval from the Supervisor in writing.

#### Article 17. Replacement of Engineer and Foreman

The Supervisor may request the Contractor to remove any of the Contractor's foremen or engineers if it appears to the Supervisor that any of such foremen or engineers is insincere for his job or is not suitable or is not capable of handling his workmen or staff, and the Contractor shall promptly replace any of such foremen or engineers with the well-qualified alternatives. No extra cost or claim for

extension of construction period shall be allowed for such replacement.

Article 18. Sub-Contractor

The Contractor shall not sub-contract or assign any portion of the Works under this Contract without prior approval of the JICA who is the only and sole decision maker for such sub-contractor further assignment of the Works. However, the Contractor shall be fully responsible for the Works done by the Sub-Contractor, even when the JICA allows the Contractor to sub-contract or assign the total or any part of the Works.

Article 19. Notice

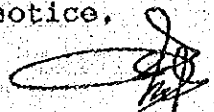
All notices required by this Contract shall be effective only at the time of being delivered or transmitted to the parties concerned only at the following addresses:

The JICA : Mr. Junsaku Koizumi  
Resident Representative  
Japan International Cooperation Agency  
P.O. Box 2667, Cairo, A.R.Egypt

The Contractor : Mr. Abd El-Megid Afify Syad Mohamed  
President  
Public Construction Company  
73 Teraet Gizerat Badran St.  
Rod El-Farag Cairo. Tel: 948391

All notices required by the terms of this Contract shall be made in writing, and delivered by registered mail of hand delivery. In case of notice in Arabic language, the English translation shall be attached to the notice,

19



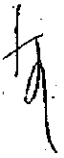
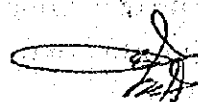
Article 20. Dispute

In the event of any dispute arising from the interpretation and the performance of the terms of this Contract, both parties agree to make the best attempt with sincerity and in good faith to negotiate and amicably settle such dispute.

In case of failure in settlement of dispute, the Arbitration tribunal shall meet in Cairo, Egypt. The arbitration award, which shall be final and subject to no appeal, shall bind the parties and shall deal with the question of costs of arbitration and all matters related thereto.

Article 21. Force Majeure

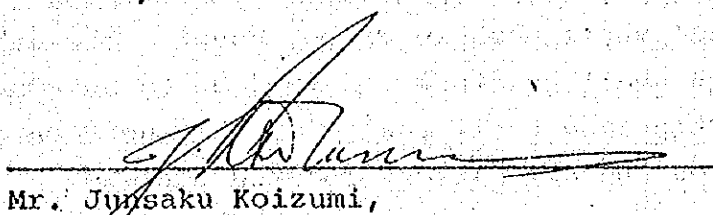
In case where serious damages occur to the completed part of the Works, or the materials, tools, etc., that are already carried into the site of construction, the Contractor shall promptly inform the JICA of the circumstances. If such damages are caused by force majeure such as natural calamity, a civil war, a war, an epidemic, or a general trade strikes, rioting or other unavoidable reason, the occurrences of which no responsibility can be attributed to either the JICA and the Contractor.






The Conclusion of the Contract

This Contract is executed in duplicate of the same tenor, one of the original copies to be kept by the JICA and the other to be kept by the Contractor. Both the JICA and the Contractor have set their signatures and affixed the seals thereto.



---

Mr. Junzaku Koizumi,  
Resident Representative, Cairo Office,  
Japan International Cooperation Agency  
(JICA)



---

Mr. Abd El-Megid Afify Syad Mohamed  
President  
Public Construction Company  
(Contractor)

## PART II

### GENERAL INFORMATION

#### GI-1. Objective of Construction

According to the Record of Discussions (R/D) between the Government of the Arab Republic of Egypt and the Government of Japan in August 1981, the Rice Mechanization Project as the technical cooperation has been commenced for mechanization of rice production. The Project has provided the experimental field for mechanization trial with the cooperation of the Ministry of Agriculture.

However, the irrigation system in the Project is operating unsatisfactorily due to the shortage of irrigation water flowing the left and right canals. Moreover, salinity damages were found in some areas in the field. Therefore, the existing irrigation system by a new water resource and salinity damages shall be improved and eliminated.

Transplanting of paddy seedling is scheduled to be made at the end of May 1985.

#### GI-2. Location of the Construction Site

The construction site is located at the Meet El Dyba State Farm in Kafr El Sheikh Governorate as shown in the location map.

#### GI-3. Special Care during the Construction

##### a) Prevention against the delay of completion of the Works

As mentioned in GI-1, the first transplanting is scheduled at the end of May 1985. IF the delay of completion

of the Works takes place, it will cause a great injurious influence on the schedule of the Rice Mechanization Project. Therefore, the Contractor shall pay ample attentions to the progress of the Works to prevent a delay of the completion time stipulated in Article 4 of the Contract.

b) Prevention of the farm field from the injurious materials

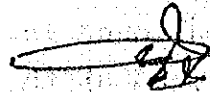
In the course of the Works, the injurious materials should not be allowed to come into the farm field. The Contractor shall remove those materials such as oil, gravels, and foreign soils, etc., at his own expense by the date appointed by the Supervisor.

c) Prevention against the damage to crops

The farm in the Meet El Dyba State Farm is covered presently by crops such as clover and wheat. The Contractor shall not cause the damages on the said crops beyond the allowable minimum damage instructed in writing by the Supervisor. The Contractor shall be liable to compensate excess damages at his own expense by the date appointed by the Supervisor.

d) Inhibition of traffic by heavy equipment in the farm field

The construction equipment except those accepted by the Supervisor shall be inhibited to pass or enter in the farm field to prevent the farm soils from being stirred. The Contractor shall recover the farm field at his own expense by the date appointed by the Supervisor, if such soil disturbance takes place therein.



GI-4. Provision of Materials and Facilities

The Contractor shall have to prepare the necessary materials and facilities which are pointed by the Supervisor.

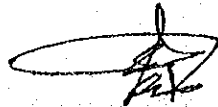
GI-5. Work Schedule

The Contractor shall submit the Work Schedule for prior approval of the Supervisor in the following items to the commencement of the Works at job site. If the Contractor intends to change the Work Schedule, the approval of the Supervisor shall be obtained prior to modification of the Schedule.

1. Preparation
2. Pumping Station
3. Irrigation Canal
4. Structures
5. Miscellaneous

GI-6. Notices

The JICA and the Contractor shall exchange the notices each other, when deemed necessary, in accordance with Article 19 in the Contract within reasonable time except that special articles are provided in the Contract and Documents attached hereto.



h  
g

PART III

TECHNICAL SPECIFICATIONS

Chapter 1. General Conditions for Measurement and Payment

TC 1-1. Scope

This chapter deals with the measurement and payment for the completed works.

TC 1-2. Measurement

The measurement shall be made by the Contractor with the Supervisor's approval and also must be attended by the Supervisor at any time.

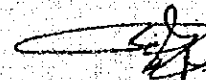
TC 1-3. Payment

The payment shall be made for the Works completed in compliance with all the documents in this Contract. The Works shall be accepted on the approval by the Supervisor.

Chapter 2. Temporary Facilities

TC 2-1. Scope

This chapter covers the construction of facilities such as the Contractor's camp and the dewatering systems necessary for parts of the Construction Works in this Project.



TC 2-2. Installation

If the temporary facilities are required in the Meet El Dyba State Farm, the Contractor shall get the prior approval from the Supervisor.

TC 2-3. Disposition

After the completion of the Work, the installed temporary facilities shall be removed by the Contractor after the Supervisor's approval.

Chapter 3. Dewatering

TC 3-1. Dewatering

The Contractor shall be responsible for dewatering the foundation areas so that the work may be carried on in a suitably dry condition, draining and/or pumping of water during the construction works.

The works for dewatering shall be included in the items of the relevant permanent works in Bill of Quantity.

Chapter 4. Clearing

TC 4-1. Scope

The construction area shall be cleared prior to starting the Works for filling of the farm roads, canals, foot-paths of structures, etc. and the similar way of clearing shall be made for the existing canals.



TC 4-2. Clearing

The clearing works shall consist of the removal and disposal of all vegetation, roots, brush and all objectionable matters in accordance with instructions described on the Drawings or the direction of the Supervisor.

Chapter 5. Excavation and Foundation Works

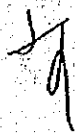
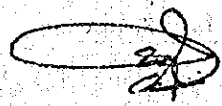
TC 5-1. Scope

This item covers the excavation and foundation works as shown in the drawings. The Contractor shall perform all required excavation and foundation works along with the construction of irrigation canal, drainage canal and other construction works where excavation are to be made.

TC 5-2. Excavation

a) General

The excavation indicated in the Specifications shall cover the excavating works for the irrigation and drainage canals, and other related structures. And the excavated materials shall be hauled to those sites of irrigation canal and other embankment works. The excavation shall be conducted in conformity with the lines and the grades indicated in the drawings or the instruction by the Supervisor.



b) Foundation Treatment

When the foundation works are carried out at those sites for the concrete works, rubble masonry or earth embankment, the loose materials contained therein shall be removed or replaced with suitable materials that shall be compacted to meet the specific indications given by the Supervisor.

TC 5-3. Description of Excavated Materials

The Contractor shall submit to the Supervisor the necessary drawings and other specific information of the proposed spoil dump areas for obtaining the approval from the Supervisor. The prior consent by the Supervisor is quite essential for carrying out spoil dumping at any place excavated materials deemed unsuitable as fill materials shall be wasted to the approved spoil dump areas.

TC 5-4. Demolition, Removal and Dismantling

When indicated in the drawing or directed by the Supervisor, existing concrete and/or brick structures, such as culverts, brick wall, etc., shall be demolished and disposed accordingly.

Chapter 6. Fill and Backfill

TC 6-1. Scope

This item covers the specifications for fill and backfill works and as shown in the drawings or otherwise direction given by the Supervisor, the Contractor shall furnish and place the earth materials for irrigation canal embankment and related structures.

Any work of fill and backfill shall not be commenced without prior approval of the Supervisor. The slope of the embankment shall be made as the shaping of slope indicated on the drawings approved by the Supervisor.

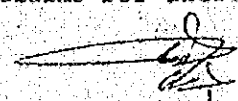
TC 6-2. Backfill

Backfill, as referred to herein, is defined as refill works. The materials for backfill works shall be made free from roots, stones of more than five (5) centimeters in diameter, and other objectionable materials and subject to the approval of the Supervisor. The backfill materials shall be placed in layers, each layer being not more than twenty (20) centimeters thick before compaction, thoroughly compacted by using power tampers or by other method approved by the Supervisor.

TC 6-3. Fill

a) Shaping and Grades

The fill works shall be carried out in conformity with the lines, grades and dimensions indicated on the drawings, unless otherwise directed by the Supervisor. The Supervisor may instruct to change a slope of the fill works in respect of soil conditions at the site. Such a change will be made according to the quantities of materials available. The changes prescribed by the Supervisor should not cause any claims for increase in unit prices.



b) Conduct of the Work

Any fill material, which are rendered unsuitable after being placed at the site, shall be replaced by the Contractor without any payment thereto. The Contractor shall re-excavate and remove from the filled materials which the Supervisor considers objectionable and shall also dispose of such material to the spoil area directed by the Supervisor, and refill the excavated area as directed without any additional cost.

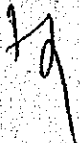
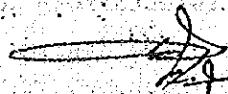
TC 6-4. Materials

a) Sources

The Contractor shall submit to the Supervisor for his prior approval the data/information and necessary drawings for the proposed borrow areas of the fill materials. Since borrow areas can have no guarantee for supplying suitable fill materials as a whole, the Contractor shall move or shift the borrow areas so as to secure the suitable materials. The operations in borrow areas shall be carried out without any danger on the roads, buildings, or structures.

b) Suitability

The fill materials containing brush, roots, sod or other perishable material will not be considered suitable for fill works. The suitability of the materials shall be subject to the approval by the Supervisor.



TC 6-5. Placement

a) General

No fill materials shall be placed on any part of the foundation before the Supervisor makes inspection and gives approval, and the clearing works are completed as indications specified in Chapter 4.

b) Earth Fill

The fill materials shall be dumped and spread in horizontal with the equipment approved by the Supervisor, having uncompacted thickness less than 20 cm. When materials are spread, lumps larger than 10 cm in size shall be broken down by approved means or removed.

TC 6-6. Compaction

a) General

After fill materials have been dumped on a layer and spread, they shall be compacted by the hand-tampers or by the other mechanical compactor approved by the Supervisor.

b) Fill on Culverts and Concrete Structures

No back fill materials shall be placed on concrete structures before a period of fourteen days has elapsed after placing the concrete. Before passage of hauling equipment over the culverts or other structures will be permitted by the Supervisor, the fill thickness over the concrete structures shall be made sufficient to permit such travelling without any harmful stresses to the structure. Earth fills placed around culverts or other structures shall be compacted by mechanical tampers or by manpower.

TC 6-7. Additional Compaction

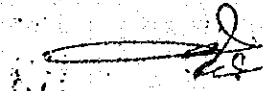
If, in the opinion of the Supervisor, the constructed fill works is not secured partly for the compaction, the additional compaction shall be carried out at the surface area of such designated portion until the desired compaction has been obtained without additional cost.

Chapter 7: Concrete Work

TC 7-1. Scope

The Specifications for the Concrete Works contained herein and as shown on the drawings or otherwise directed by the Supervisor, the Contractor shall execute the following works:

- (a) Furnish all materials, and mix, transport, place, finish, protect, and cure concrete;
- (b) Furnish, construct, erect, and remove forms;
- (c) Construct expansion and contract joints, and furnish and place for waterstops, joint fillers, and sealing compound;
- (d) Prepare, clean, cut, bend, and place steel reinforcement.



TC 7-2. Cement

a) General

The cement for mortar and concrete works shall be of quality which conforms to the requirements of the Standard Specifications for Portland Cement.

b) Storage

The cement, in sealed bags unbreakable, shall be stored in weathertight and properly ventilated warehouse with adequate provisions for the prevention of absorption of moisture. All storage facilities shall be subject to approval and shall be such as to permit easy access for inspection and identification. The cement which has been stored for more than one month or which is suspected to be damped shall not be used unless otherwise approved by the Supervisor.

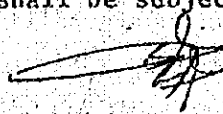
TC 7-3. Fine Aggregate

a) Composition

The fine aggregate shall be natural sand excluding organic materials and other foreign substances.

b) Quality

Fine aggregate shall consist of hard, tough, and durable particles. The shape of the particles shall be generally rounded or cubical and reasonably free from flat or elongated pieces. The quality of fine aggregate shall be subject to approval by the Supervisor.



TC 7-4. Coarse Aggregate

a) Composition

Coarse aggregate shall consist of gravel or crushed gravel, or a combination of gravel and crushed gravel.

b) Quality

1. Quality - coarse aggregate shall consist of hard, tough, durable, and clean particles. All foreign materials and dust shall be removed by adequate processing. The particle shape of the smallest size of crushed coarse aggregate shall be generally rounded or cubical, and the coarse aggregate shall be reasonably free from flat and elongated particles in all sizes. The quality of coarse aggregate shall be also subject to approval of the Supervisor.

2. Size - unless otherwise directed by the Supervisor, the maximum size of coarse aggregate to be used in the various parts of the work shall be 3/4 inch.

TC 7-5. Water

Water used in mixing concrete shall be fresh, clean and free from injurious amounts of oil, acid, alkali, salt, or organic matter.

TC 7-6. Proportioning of Concrete

a) The Contractor shall design the mix proportion for every class of concrete placing for the approval by the Supervisor.

79



b) The designed mix proportion of concrete is indicated as follows:

<u>Class</u>	<u>Mixing proportion by volume</u> <u>cement: fine aggregates:</u> <u>coarse aggregates</u>
a (Reinforced concrete)	1 : 2 : 4
b (Plain concrete)	1 : 3 : 6
c (Level concrete)	1 : 4 : 6

Other proportions for mixed design may be directed by the Supervisor at the site.

#### TC 7-7. Mixing

a) Equipment

Concrete shall be mixed in a power driven batch type machine approved by the Supervisor.

b) Mixing Time and Method

The mixing time of concrete shall be more than two minutes but and less than five minutes. Overmixing, requiring the introduction of additional water to preserve the required consistency, will not be permitted. The mixer shall be completely emptied before receiving the materials for the succeeding batch and shall be kept clean and washed out after stopping work at the end of each shift.

On commencing work, cement paste the first batch shall contain sufficient cement mortar to coat the inside of the drum to avoid the reduction of the required mortar content of the mix.

TC 7-8. Conveying

Concrete shall be conveyed from mixer to forms, as rapidly as practicable by methods which will prevent segregation or loss of ingredients.

TC 7-9. Placing

a) Approval

Approval of the Supervisor shall be obtained before starting any concrete placing.

b) General

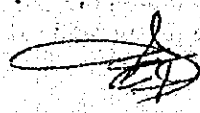
Concrete shall be worked into the corners and angles of the forms and around all reinforcement and embedded without permitting the material to segregate.

c) Moisture of Aggregates

The aggregate shall be moistured by watering if it is drier than the condition known as saturated surface dry.

d) Concrete on Earth Foundation

All concrete shall be placed upon clean, damp surfaces free from standing or running water. Prior to placing concrete, the earth foundation shall be satisfactorily compacted in accordance with approved methods.



e) Concrete on Other Concrete

Surface upon or against which concrete is to be placed, shall be clean, free from oil, standing or running water, mud, objectionable coatings, debris, and loose, semi-detached or unsound fragments. To insure a firm and tight bond between fresh concrete and other concrete, concrete surfaces, where necessary, shall be chipped or roughened as directed by the Supervisor. All surfaces shall be wetted thoroughly to keep them in a completely moist condition before placing concrete. All approximately horizontal surfaces shall be covered with a layer of mortar of the same cement-sand ratio as used in the concrete mix before the concrete is placed.

f) Consolidation of Concrete

Concrete shall be placed and consolidated with the aid of mechanical vibrating equipment or of hand-spading and tamping.

TC 7-10. Forms

a) General

Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete.

b) Cleaning and Oiling of Forms

At the time concrete is placed in the forms, the surfaces of the forms shall be free from any objectionable materials and shall be oiled to prevent sticking.

c) Removal of Forms

Forms shall be removed as soon as possible after the time instructed by the Supervisor.

TC 7-11. Curing and Protection

a) General

All concrete shall be moist cured for a period of not less than seven (7) consecutive days by an approved method or combination of methods applicable to local conditions.

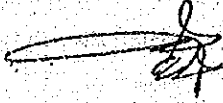
b) Water Curing

Concrete shall be kept wet by covering with water-saturated material or by other means approved by the Supervisor.

TC 7-12. Steel Reinforcement

a) General

The Contractor shall furnish all steel reinforcement materials for concrete works as indicated on the drawings. The Contractor shall prepare, clean, cut, bend and place all reinforcements, as shown on the detailed drawings or directed by the Supervisor. The Contractor shall furnish all chains, supports and ties. The reinforcement shall be reasonably free from loose, flaky rust and scale, and free from oil, grease and other coating which might destroy or reduce its bond with concrete.



b) Relationship of Reinforcement to Concrete Surfaces

The distance from the edge of the main reinforcement to the concrete surface shall be 5 cm except such portions as shown in the drawings. The concrete covering the stirrups, spacer bars, and similar secondary reinforcement may be reduced by the diameter of such bars, unless otherwise indicated by the Supervisor.

c) Lapping

Lapping length at joints of the reinforcing bar shall be at least thirty times of the diameter of the bar and shall be bound by steel wire.

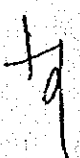
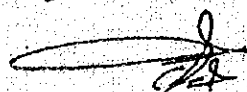
d) Supports

The reinforcements shall be secured in place by use of metal or concrete supports, spacers or ties. Such supports shall be of sufficient strength to maintain the reinforcement in place throughout the concreting operation. The supports shall be used in such manner that they will not be exposed or contribute in any way to the discoloration or deterioration of the concrete.

Chapter 8. Pipe Work

TC 8-1. Scope

The work to be done shall include hauling, laying installing, jointing and all other necessary works. The Contractor shall furnish and install the pipe as shown on the drawings or directed by the Supervisor.



For earth work required for pipe work, the specifications shall be made by the Supervisor's instructions.

#### TC 8-2. Installation

The pipe shall be installed on a sand bed unless otherwise specifically indicated on the Drawings. The backfill around the pipe shall be conducted in the same manner as specified in TC 6-2.

### Chapter 9. Masonry

#### TC 9-1. Scope

This work includes furnishing all labour, materials, equipment and incidentals required to complete all masonry work as indicated on the drawings and as specified herein excluding bricks. All masonry walls shall be installed after the structural concrete frame has been constructed unless specifically approved by the Supervisor.

#### TC 9-2. Bonding Material

- a) Cement to be used shall be Portland Cement which conforms to the standard described in ASTM C-150 Type 1.
- b) Lime for masonry mortar shall be hydrated.
- c) Sand for mortar shall be clean, durable particles, free from injurious amounts of organic matter.
- d) Water shall be free from injurious amounts of oil, acids, organic matters, or other deleterious substances.

TC 8-2. Installation

The pipe shall be installed on a sand bed unless otherwise specifically indicated on the Drawings. The backfill around the pipe shall be conducted in the same manner as specified in TC 6-2.

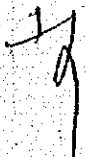
Chapter 9. Masonry

TC 9-1. Scope

This work includes furnishing all labour, materials, equipment and incidentals required to complete all masonry work as indicated on the drawings and as specified herein excluding bricks. All masonry walls shall be installed after the structural concrete frame has been constructed unless specifically approved by the Supervisor.

TC 9-2. Bonding Material

- a) Cement to be used shall be Portland Cement which conforms to the standard described in ASTM C-150 Type 1.
- b) Lime for masonry mortar shall be hydrated.
- c) Sand for mortar shall be clean, durable particles, free from injurious amounts of organic matter.
- d) Water shall be free from injurious amounts of oil, acids, organic matters, or other deleterious substances.



TC 9-3. Mortar Mixes

- a) Masonry mortar for setting brick and block shall be in the portion of one part cement of three parts sand or as otherwise approved by the Supervisor. Mortars shall be mixed with water in an amount compatible with workability. Ingredients shall be accurately measured by volume.
- b) Mixing shall be done immediately before use. The Contractor will have the option of using the dry-mix method with hydrated lime.
- c) Mortar boxes shall be clean out at the end of each days work and all tools shall be kept clean.
- d) The mixing of mortar by hand will be permitted only when the quality of hand mixing is comparable to mechanized mixing. The Supervisor reserves the right to reject hand mixing and require all mixing by mechanical means. Mortar shall not be retained for more than one and half hours and shall be constantly mixed until used.

TC 9-4. Brick Work

- a) In case the bricks are to be cut for use, care shall be taken so as not to cause any breakage or crack thereto. The bricks being set in shall not be pressed by feet, weight or other external force.
- b) The bricks shall be laid in bond with all joints filled solidly with mortar not exceeding one centimeter in thickness. Joints are to be left rough to assist in bonding of plaster.



## Chapter 10. Brick Lining

### TC 10-1. Scope

This work covers lining inside the main canal from beginning point to STN 5 + 25 to prevent leakage from embankment portions.

### TC 10-2. Materials

Bricks are supplied from JICA prior to commencement of the work. The size of bricks is 6 centimeters deep, 12 centimeters wide and 22 centimeters long. Brick shall be piled outside the pavement lines; no dumping shall be done.

### TC 10-3. Construction Method

- a) Prior to commencement of the construction, the inside surface of canals shall be finished by manpower in accordance with the drawings. The bricks shall be carefully laid with the best face up, and shall be laid straight and at right angles to the edging line, except at round intersections, where they shall be laid at such angles as directed by the Supervisor. Joints shall be closed by mortar. Each alternate course shall be commenced with a half brick. No half bricks or bats shall be used except at the end of courses, and no bats shall be less than 7.5 centimeters in length. Details of construction shall be as illustrated in the drawings.
- b) All bricks shall be clean when placed on the inside surface of canal. Bricks which in the opinion of the Supervisor are not satisfactorily clean shall be washed before being placed.

19

After sufficient number of bricks has been laid, all soft, broken, or badly shapen bricks shall be marked by the Supervisor and removed by the Contractor. Any brick slightly spalled or kiln-marked shall be turned over if the opposite face is acceptable; otherwise, it must be removed and discarded.

## Chapter 11. Installation of Pump

### TC 11-1. Scope

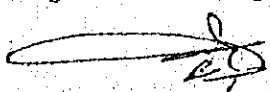
Pump and related accessories are prepared by the JICA, and the Contractor shall install this pump according to the drawings and as specified herein.

### TC 11-2. Installation

- 1) First, place the pump, which is mounted on the base, in position on the foundation so that every foundation bolt of the base matches the corresponding square foundation bolt hole in the foundation. Then, level the pump by using a level and by driving metal wedges. At that time, be sure to drive wedges on both sides of the foundation bolt so that any strain will not be caused in the base.
- 2) Fill sufficient mortar into every foundation bolt hole, the space between the base and foundation concrete and also into the space in the base.
- 3) When mortar sets perfectly (about 2 weeks later), tighten the nuts of the foundation bolts. At that time, check if the pump and prime mover are levelled and aligned accurately.

79

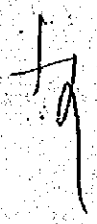
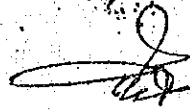
- 4) Tighten the shaft coupling bolts. Rotate the coupling by hand and check if the bearings are causing irregular contact, if any other irregular contact is caused in the pump, thus confirm that the pump shaft rotates smoothly.
- 5) When connecting the discharge pipings to the pump, pay full attention so that the pump will be kept free from any influence of the weight of pipes or of any inadequate tightening. After connecting those pipings, confirm again that the pump and prime mover are accurately aligned according to the above steps.



CONSTRUCTION COSTS

<u>Description</u>	<u>Amount (LE)</u>
1. Preparation	4,000.-
2. Pumping Station	13,470.-
3. Main canal	58,374.-
4. Pipe culvert	2,730.-
5. Siphon	16,290.-
6. Check	560.-
7. Turn out	2,345.-
8. Farm Inlet	5,385.-
9. Farm Entrance	4,205.-
10. Wasteway	1,375.-
11. Pump Installation	2,000.-
<u>Total</u>	110,734.-

Say 110,700.-



PART-IV

Bill of Quantity

1) Preparation

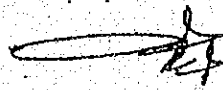
<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
01	Survey for Canal and related structures		L.s			
02	Contractor's comp and accessories		L.s			
	<u>Total</u>				<u>4.000.-</u>	

2) Pumping Station (No1)

03	Earth excavation	cu,m	56	15	840.-	
04	Embankment	"	92	15	1,380.-	
05	Base gravel	"	5	40	200.-	
06	Reinforcing concrete	"	16	120	1,920.- (1:2:4)	
07	Plain concrete	"	4	140	560.- (1:3:6)	
08	Brick wall	sq,m	25	50	1,250.-	
09	Brick lining	"	1	50	50.-	
10	Inside and outside mortar	"	49	40	1,960.-	
11	House of pumping station,	place	1		3,290.-	
12	Wet stone masonry	cu,m	4	100	400.-	
13	Miscellaneous material	L,s		300	300.-	
14	Reinforcing bar	K,g	880	1.5	1,320.-	
	<u>Total</u>				<u>13,470.-</u>	

3) Main Canal

14	Earth excavation	cu,m	161	15	2,415.-	
15	Earth embankment	"	2,760	15	41,400.-	
16	Slope trimming	sq,m	2,743	3	8,229.-	
17	Slope sodding	"			-	

A-47 

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
18	Brick lining	m	255	10.	2550.-	
19	Plain concrete	cu,m	27	140.	3780.-	(1:3:6)
<u>Total</u>					58,374.-	

4) Pipe culvert

No.1 Culvert

20	Earth excavation	cu,m	14	15.	210.-	
21	Sand bed	"	4	40.	160.-	
22	Gravel paving	"	1	40.	40.-	
23	Wet stone masonry.	"	-			
24	RCP (ø 500mm)	piece	2	140.	280.-	
25	Pipe embedment	"	2	40.	80.-	
26	Pipe joint	place	1	40.	40.-	
<u>Sub- Total</u>					810.-	

No.2 Culvert

27	Earth excavation	cu,m	14	15.-	210.-	
28	Sand bed	"	4	40.-	160.-	
29	Gravel paving	"	1	40.	40.-	
30	Wet stone masonry	"	2	100.	200.-	
31	RCP (ø 500mm)	Piece	2	140.	280.-	
32	Pipe embedment	"	2	40.	80.-	
33	Pipe joint	place	1	40.	40.-	
<u>Sub-Total</u>					1010.-	

No.3 Culvert

34	Earth excavation	"	14	15.	210.-	
35	Sand bed	"	4	40.	160.-	
36	gravel paving	"	1	40.	40.-	
37	Wet stone masonry	"	1	100.	100.-	
38	RCP (ø 500mm)	piece	2	140.	280.-	
39	Pipe embedment	"	2	40	80.-	
40	Pipe joint	Place	1	40	40.-	

A-48

Sub-Total

910.-

Total

2.730.-

5) Siphon

No.1 Siphon

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
41	Earth excavation	cu,m	298	15.	4,470.-	
42	Sand bed	"	9	40.	360.-	
43	gravel paving	"	3	40.	120.-	
44	Renforcing concrete	"	12	120.	1,440.-	(1:2:4)
45	Base gravel	"	2	40.	80.-	
46	Wet stone masonry	"	7	100.	700.-	
47	RCP (ø 500mm)	Piece	6	140.	840.-	
48	Pipe embedment	"	6	40.	240.-	
49	Pipe joint	place	5	40.	200.-	
49'	Renforcing bar	kg	620	1.5	930.-	

Sub-Total

9,380.-

No.2 Siphon

50	Earth excavation	cu,m	216	15.	3,240.-	
51	Sand bed	"	3	40.	120.-	
52	gravel paving	"	7			
53	Renforcing concrete	"	12	120.	1,440.-	(1:2:4)
54	Base gravel	"	2	40.	80.-	
55	Wet stone masonry	"	7	100.	700.-	
56	RCP (ø 500mm )	piece	2	140.	280.-	
57	Pipe embedment	"	2	40.	80.-	
58	Pipe joint	place	1	40.	40.-	
58'	Renforcing bar	kg	620	1.5	930.-	

Sub-Total

6,910.-

Total

16,290.-

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
6) <u>Check</u>						
59	Earth excavation	cu.m	4	15.	60.-	
60	Reinforcing Concrete	"	2	120.	240.- (1:2:4)	
61	Base gravel	"	1	40.	40.-	
62	Wet stone masonry	"	1	100.	100.-	
62'	Reinforcing bar	kg	80	1.5	120.-	

Total

560.-

7) Turn out

7-1) (No.1)

63	Earth excavation	cu.m	11	15.	165.-	
64	Earth embankment	"	1	15.	15.-	
65	Reinforcing concrete	"	5	120.	600.- (1:2:4)	
66	Base grauel	"	1	40.	40.-	
67	Wet stone masonry	"	2	100.	200.-	
67'	Reinforcing bar	kg	140	1.5	210.-	

Sub-total

1,230.-

7) Turn out

7-2) (No.2)

68	Earth excavation	cu.m	11	15.	165.-	
69	Earth embankment	"	1	15.	15.-	
70	Reinforcing concrete	"	5	120.	600.- (1:2:4)	
71	Base grauel	"	1	40.	40.-	
72	Wet stone masonry	"	1	100.	100.-	
72'	Reinforcing bar	kg	130	1.5	195.-	

Sub-total

1,115.-

Total

2,345.-



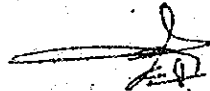
<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
8)	<u>Farm Inlet</u>					
8-1)	Type (A+B)					
73	Earth excavation	cu.m	2	15.	30.-	
74	Earth embankment	"	4	15.	60.-	
75	Grauel paving	"	1	40.-	40.-	
76	Reinforcing concrete	"	1	120.-	120.-	(1:2:4)
77	Brick wall	sq.m	0.5	50.	25.-	
78	Mortar for surface of brick wall	sq.m	3.5	50.-	175.-	
79	Base grauel	cu.m	1	40.-	40.-	
80	Wet brick masonry	"	0.5	100.-	50.-	
81	R C P (ø 200 mm)	m	1	80.	80.-	
82	Pipe joint	plase	1	40	40.-	
82'	Reinforcing bar	kg	54	1.5	81.-	
	<u>Sub-total</u>				741.-	
	<u>5 Nos</u>				3,705.-	
8-2)	Type (A)					
83	Earth excavation	cu.m	1	15.	15.-	
84	Earth embankment	"	4	15.	60.-	
85	Grauel paving	"	1	40.	40.-	
86	Reinforcing concrete	"	1	120.	120.-	(1:2:4)
87	Brick wall	"	0.5	50.	25.-	
88	Martar for surface of brick wall	sq.m	2	50.	100.-	
89	Base grauel	cu.m	0.5	40.	20.-	
90	Wet brick masonry	"	0.3	100.	30.-	
91	R C P (ø 200 mm)	m	1	80.	80.-	
92	Pipe joint	place	1	40	40.-	
92'	Reinforcing bar	kg	20	1.5	30.-	
	<u>Sub-total</u>				560.-	
	<u>3 Nos</u>				1,680.-	
	<u>Total</u>				5,385.-	

A-51

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Amount</u>	<u>Remarks</u>
9)	<u>Farm Entrance</u>					
9-1)	Type (A)					
93	Earth excavation	cu.m	12	15.	180.-	
94	Sand bed	"	3	40.	120.-	
95	Earth embankment	"	3	15.	45.-	
96	R C P (ø 500 mm)	piece	2	140.	280.-	
97	Pipe embedment	"	2	40.	80.-	
98	Pipe joint	place	1	40.	40.-	
	<u>Sub-total</u>				745.-	
	<u>2 Nos</u>				1,490.-	
9-2)	Type (C)					
99	Earth excavation	cu.m	5	15.	75.-	
100	Reinforcing concrete	"	1	120.	120.- (1:2:4)	
101	Plain concrete	"	1	140.	140.- (1:3:6)	
102	Brick wall (t=24 cm)	sq.m	9	50.	450.-	
103	Earth embankment	cu.m	4	15	60.-	
103'	Reinforcing bar	kg	40	1.5	60.-	
	<u>Sub-total</u>				905.-	
	<u>3 Nos</u>				2,715.-	
	<u>Total</u>				4,205.-	
10)	<u>Wasteway</u>					
104	Earth excavation	cu.m	13	15.	195.-	
105	Earth embankment	"	2	15.	30.-	
106	Reinforcing concrete	"	5	120.	600.- (1:2:4)	
107	Base grauel	"	2	40.	80.-	
108	Wet stone masonry	"	2	100.	200.-	
108'	Reinforcing bar	kg	180	1.5	270.-	
	<u>Total</u>				1,375.-	

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity</u>	<u>Cost</u>	<u>Amount</u>	<u>Remarks</u>
11)	<u>Pump Installation</u>					
109	Labour			LS		
110	Materials			LS		
	<u>Total</u>				2,000.	

Note: The bricks are prepared by the JICA and supplied for the contractor.




CONSTRUCTION SCHEDULE FOR IMPROVEMENT WORKS OF SALAINE FARMS (RMC)  
(First Stage)

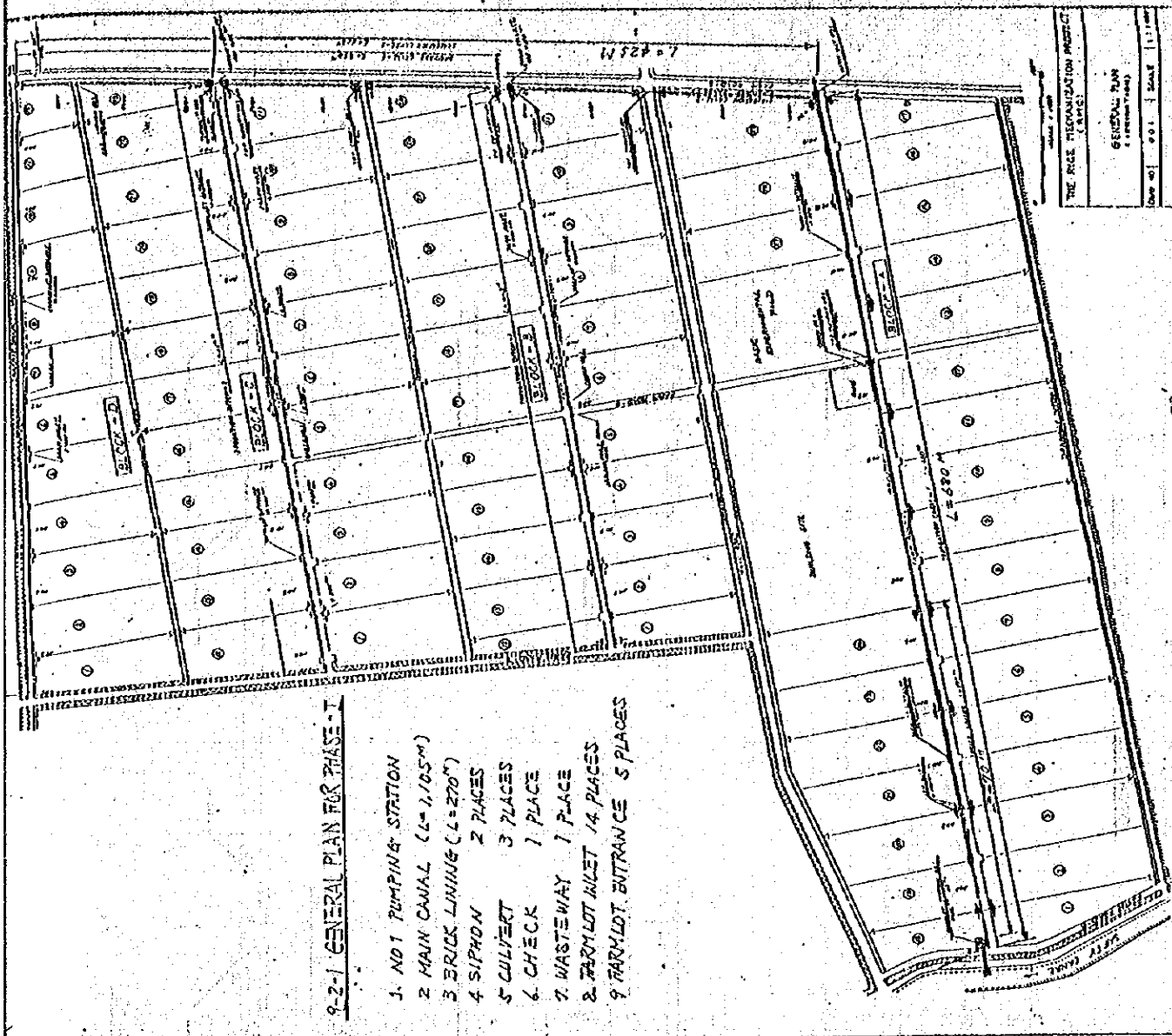
Description	Quantity	1985				Remarks
		January	February	March	April	
1. Selection of Firm		10 20	10 20	10 20	10 20	
2. Construction						
1) Preparation	1-place					
2) Pumping Station	1, 105m					
3) Main Canal	3-places					
4) Pipe Culvert	2-places					
5) Siphon	1-place					
6) Check	2-places					
7) Turn-out	14-places					
8) Farm Inlet	5-places					
9) Farm Entrance	1-place					
10) Wasteway	1-no.					
11) Pump Installation						End of Works 20th April 1985

PART-V

CONSTRUCTION DRAWINGS

<u>DWG NO</u>	<u>TITLE</u>
001	GENERAL PLAN (IRRIGATION)
002	TYPICAL SECTION OF CANAL
003	PROFILE OF IRRIGATION CANAL (5-1)
004	-do- (5-2)
008	CROSS SECTION OF CANAL (5-1)
009	-do- (5-2)
013	FARM INLET (TYPE-A,B)
014	-do- (TYPE-C,D)
015	CHECK STRUCTURE (NO.1-4)
016	SIPHON (NO.1)
017	-do- (NO.2)
018	CULVERT (NO.1,4)
	FARM LOT ENTRANCE (TYPE-A,B)
019	-do- (TYPE-C)
020	IRRIGATION CULVERT (NO.2)
	TURNOUT (NO.1)
021	IRRIGATION CULVERT (NO.3)
	TURNOUT (NO.2)
022	WASTEWAY
023	NO.1 PUMPING STATION (3-1)
024	-do- (3-2)
025	-do- (3-3)
<u>TOTAL</u>	<u>19 SHEETS</u>

19



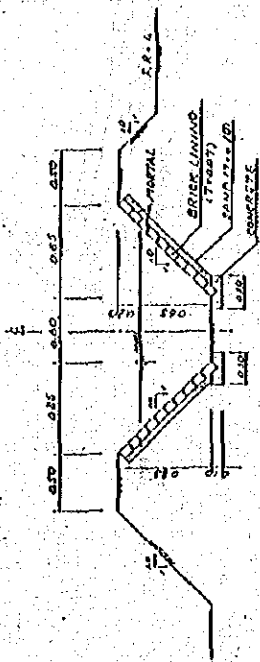
9-2-1 GENERAL PLAN FOR PHASE - I

- 1. NO. 1 PUMPING STATION
- 2. MAIN CANAL (L=1,105M)
- 3. BRICK LINING (L=270M)
- 4. SIPHON 2 PLACES
- 5. CULVERT 3 PLACES
- 6. CHECK 1 PLACE
- 7. WASTE WAY 1 PLACE
- 8. FARMLOT INLET 14 PLACES
- 9. FARMLOT ENTRANCE 5 PLACES

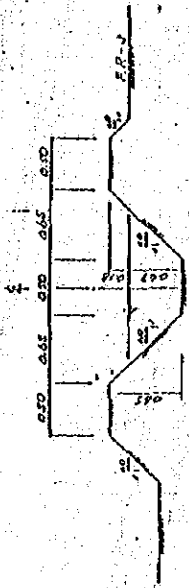
*[Handwritten signature]*

*[Handwritten mark]*

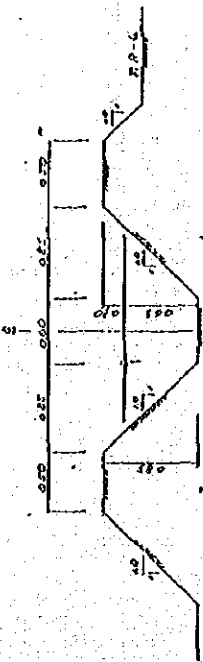
TYPICAL CROSS SECTION OF IRRIGATION CANAL SCALE 1:20



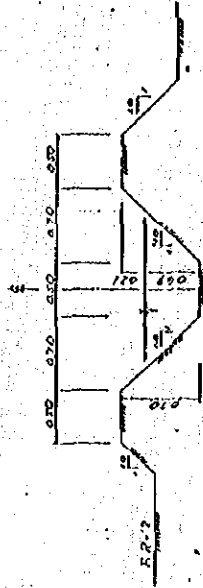
I.C-1A



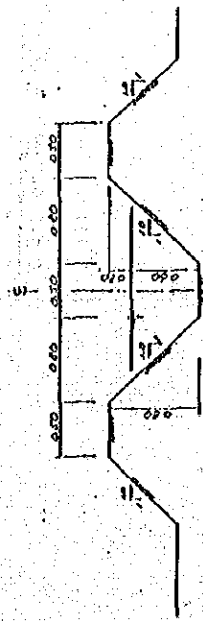
I.D-2



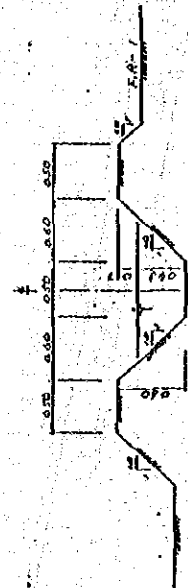
I.C-1B



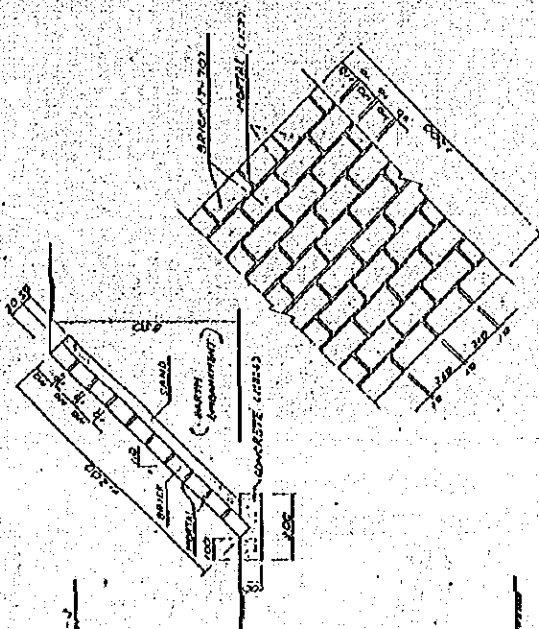
I.D-3



I.C-2



I.D-4



TYPICAL SECTION OF BRICK LINING SCALE 1:40

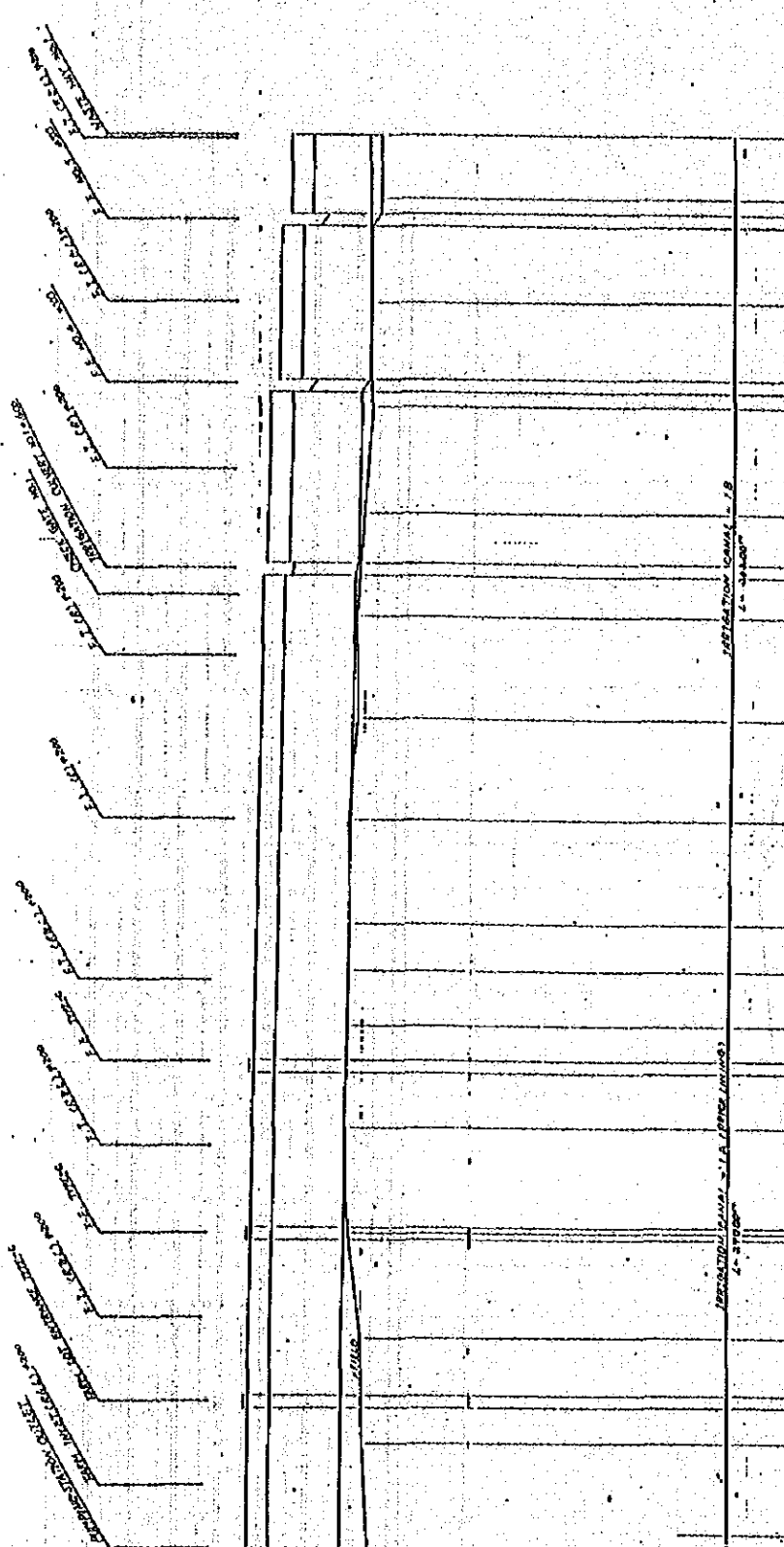


THE RICE MECHANIZATION PROJECT  
(R.M.C.)

TYPICAL SECTION  
OF  
CANAL

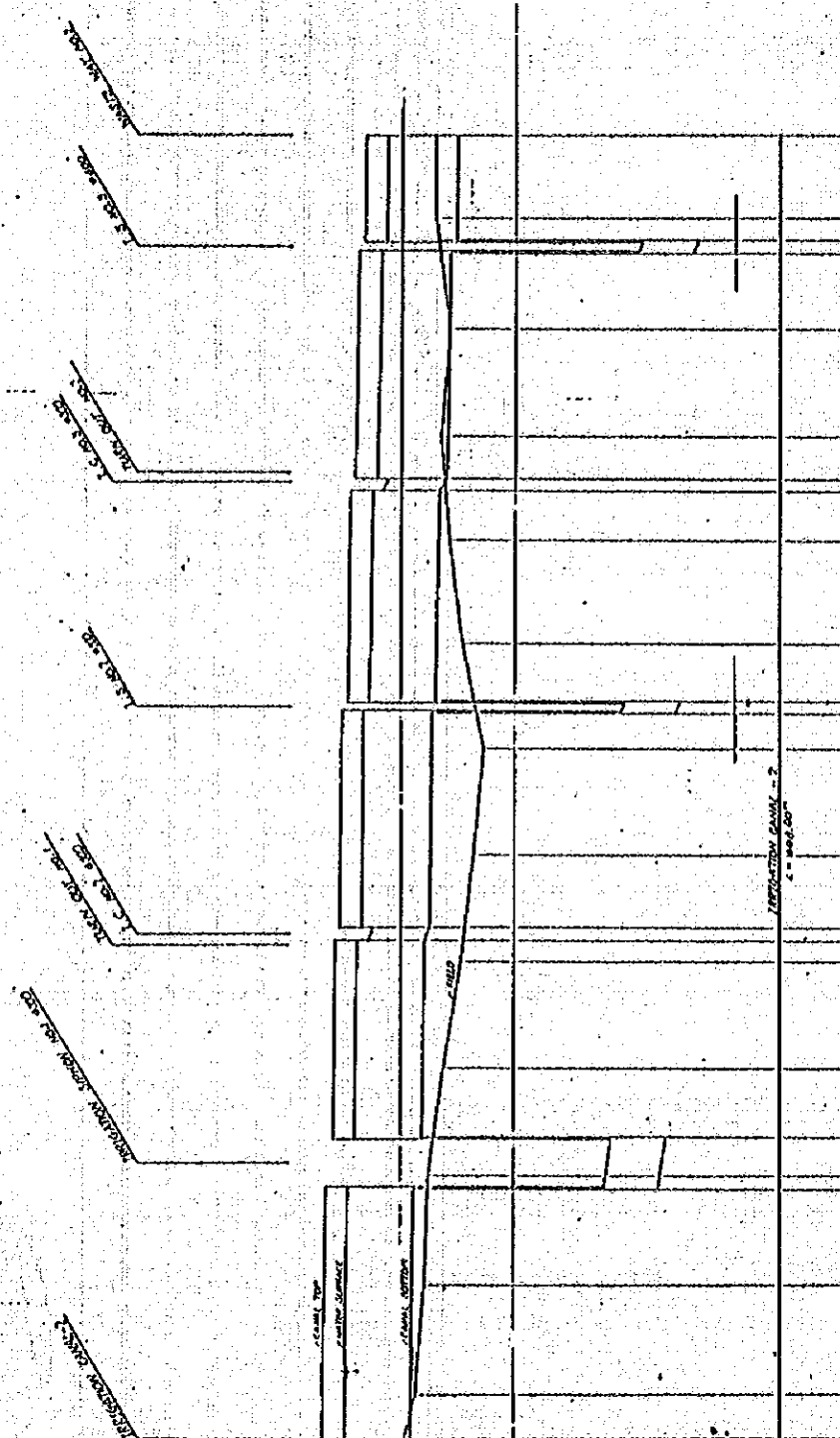
Sheet No. 002 SCALE

THE RICE MECHANIZATION PROJECT  
 PROFILE OF IRRIGATION CANAL  
 DWG NO. 0-03 SCALE  
 JAPAN INTERNATIONAL COOPERATION AGENCY  
 (JICA)



DESIGN ELEVATION	SLOPE	CANAL TOP	WATER SURFACE	CANAL BOTTOM	GROUND SURFACE	ACCU. DISTANCE	DISTANCE	STATION
11.00	1:1	11.00	11.00	10.50	10.50	0.00	0.00	0+00
10.90	1:1	10.90	10.90	10.40	10.40	10.00	10.00	0+10
10.80	1:1	10.80	10.80	10.30	10.30	20.00	20.00	0+20
10.70	1:1	10.70	10.70	10.20	10.20	30.00	30.00	0+30
10.60	1:1	10.60	10.60	10.10	10.10	40.00	40.00	0+40
10.50	1:1	10.50	10.50	10.00	10.00	50.00	50.00	0+50
10.40	1:1	10.40	10.40	9.90	9.90	60.00	60.00	0+60
10.30	1:1	10.30	10.30	9.80	9.80	70.00	70.00	0+70
10.20	1:1	10.20	10.20	9.70	9.70	80.00	80.00	0+80
10.10	1:1	10.10	10.10	9.60	9.60	90.00	90.00	0+90
10.00	1:1	10.00	10.00	9.50	9.50	100.00	100.00	0+100
9.90	1:1	9.90	9.90	9.40	9.40	110.00	110.00	0+110
9.80	1:1	9.80	9.80	9.30	9.30	120.00	120.00	0+120
9.70	1:1	9.70	9.70	9.20	9.20	130.00	130.00	0+130
9.60	1:1	9.60	9.60	9.10	9.10	140.00	140.00	0+140
9.50	1:1	9.50	9.50	9.00	9.00	150.00	150.00	0+150
9.40	1:1	9.40	9.40	8.90	8.90	160.00	160.00	0+160
9.30	1:1	9.30	9.30	8.80	8.80	170.00	170.00	0+170
9.20	1:1	9.20	9.20	8.70	8.70	180.00	180.00	0+180
9.10	1:1	9.10	9.10	8.60	8.60	190.00	190.00	0+190
9.00	1:1	9.00	9.00	8.50	8.50	200.00	200.00	0+200
8.90	1:1	8.90	8.90	8.40	8.40	210.00	210.00	0+210
8.80	1:1	8.80	8.80	8.30	8.30	220.00	220.00	0+220
8.70	1:1	8.70	8.70	8.20	8.20	230.00	230.00	0+230
8.60	1:1	8.60	8.60	8.10	8.10	240.00	240.00	0+240
8.50	1:1	8.50	8.50	8.00	8.00	250.00	250.00	0+250
8.40	1:1	8.40	8.40	7.90	7.90	260.00	260.00	0+260
8.30	1:1	8.30	8.30	7.80	7.80	270.00	270.00	0+270
8.20	1:1	8.20	8.20	7.70	7.70	280.00	280.00	0+280
8.10	1:1	8.10	8.10	7.60	7.60	290.00	290.00	0+290
8.00	1:1	8.00	8.00	7.50	7.50	300.00	300.00	0+300

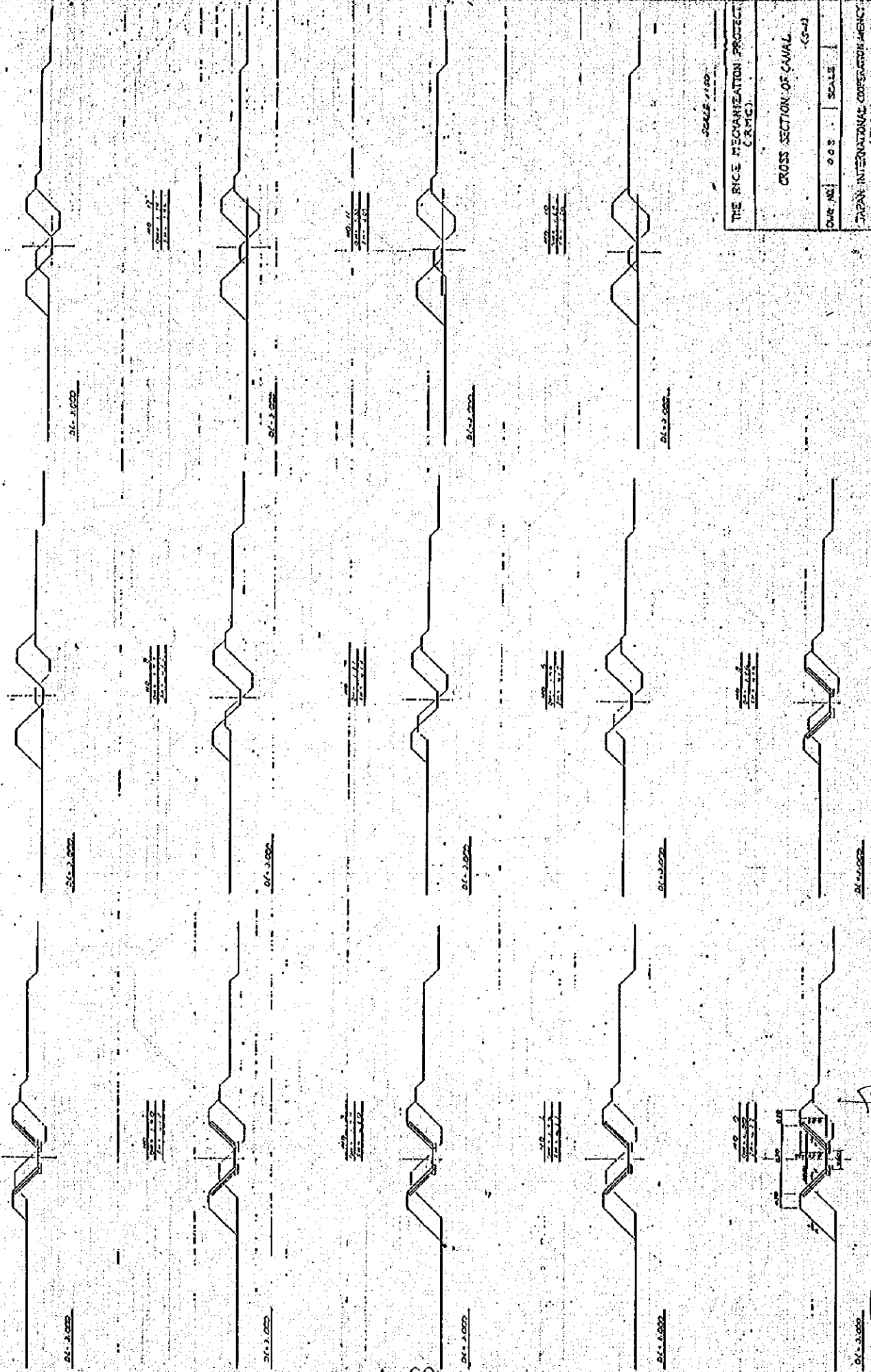




STATION	GROUND ELEVATION	CANAL BOTTOM	WATER SURFACE	CANAL TOP	SCLOPE
1+00	11.0	10.0	10.0	10.0	1:1
1+10	11.0	10.0	10.0	10.0	1:1
1+20	11.0	10.0	10.0	10.0	1:1
1+30	11.0	10.0	10.0	10.0	1:1
1+40	11.0	10.0	10.0	10.0	1:1
1+50	11.0	10.0	10.0	10.0	1:1

A-59





SCALE 1:100

THE RICE MECHANIZATION PROJECT  
(R.M.P.)

CROSS SECTION OF CANAL  
(S-4)

DWG. NO. 003 SCALE

JAPAN-INTERNATIONAL COOPERATION AGENCY  
(JICA)

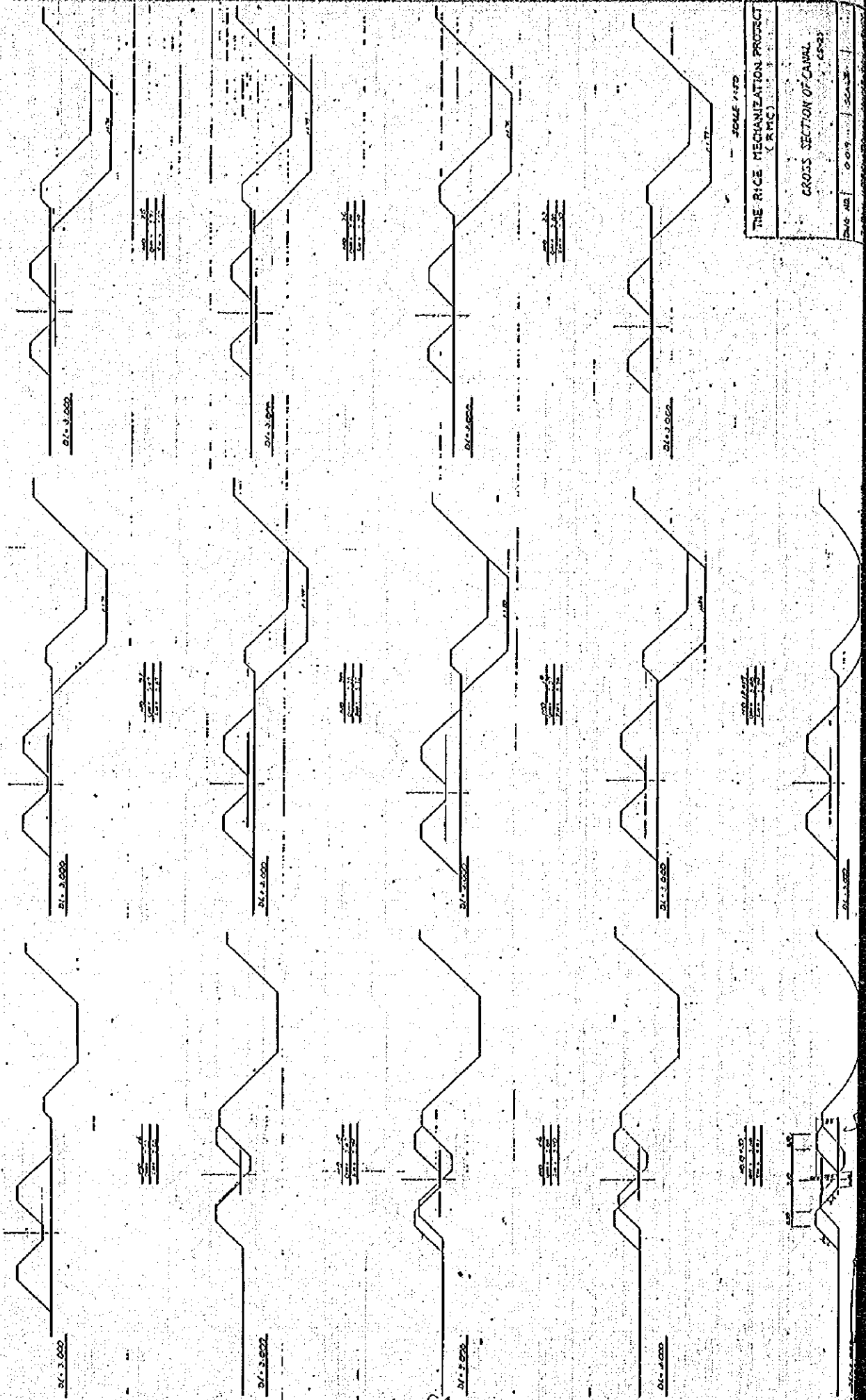
A-60

THE RICE MECHANIZATION PROJECT  
(R.M.P.)

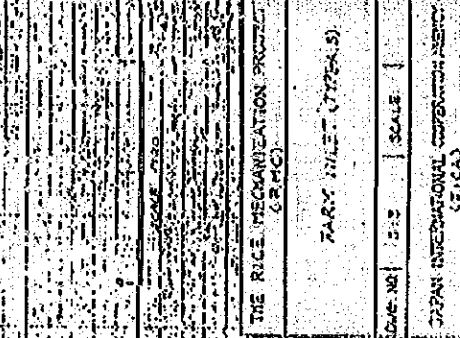
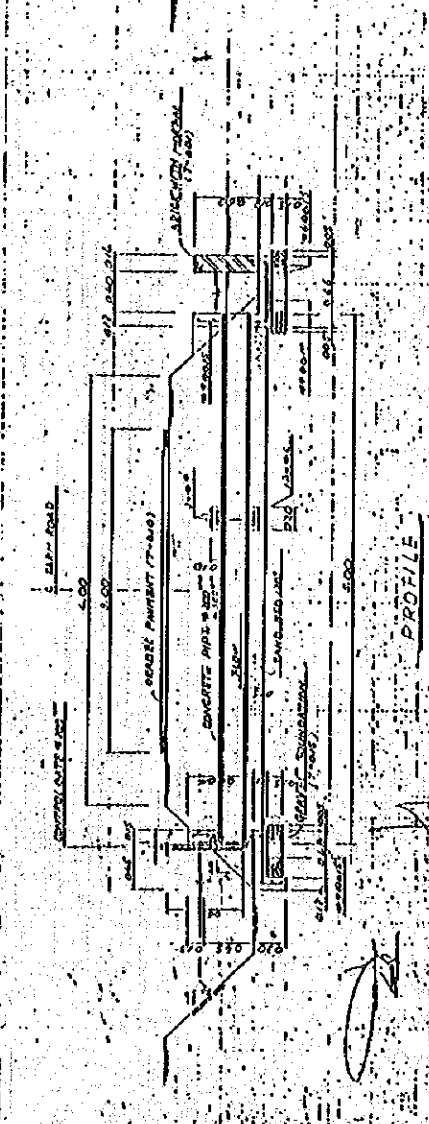
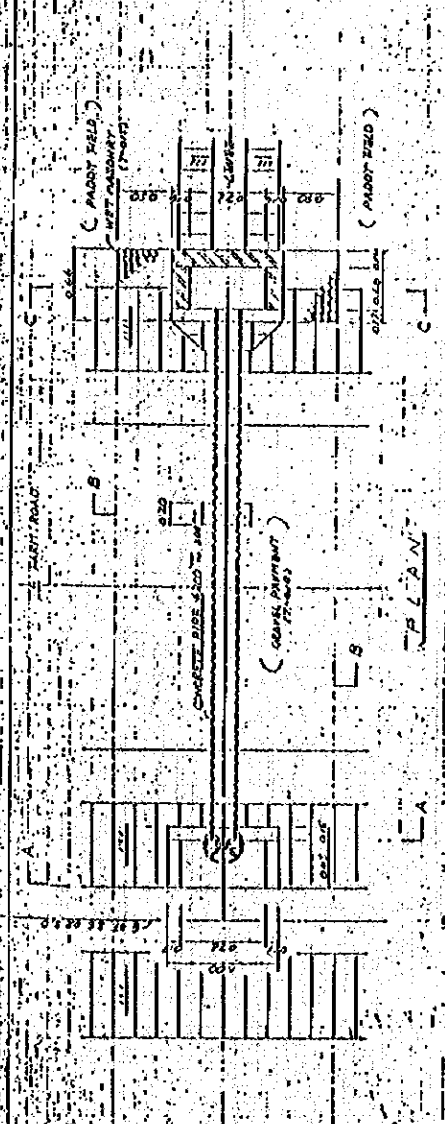
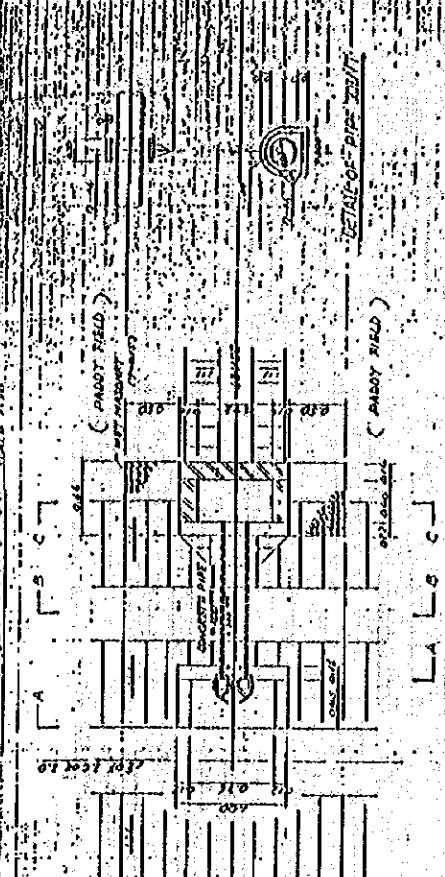
CROSS SECTION OF CANAL

SCALE 1:100

DWG. NO. 0.019 SCALE



A-61



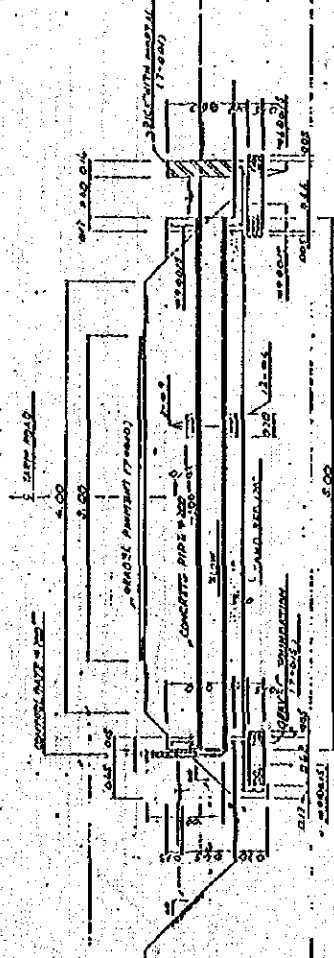
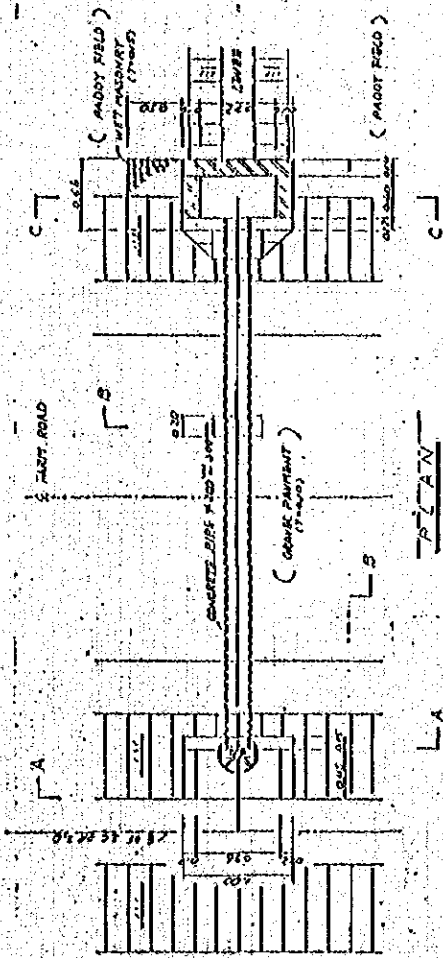
THE RICE MECHANIZATION PROJECT (RMC)

ZARY INLET (17764.8)

DWG. NO. 10-3 SCALE

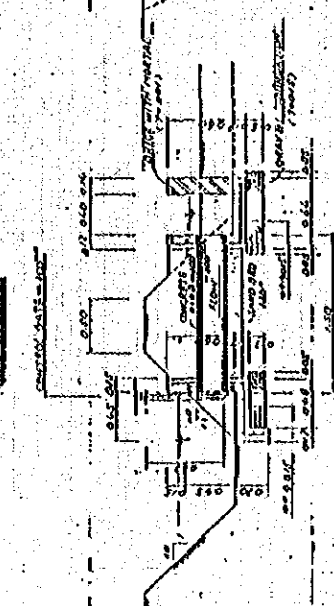
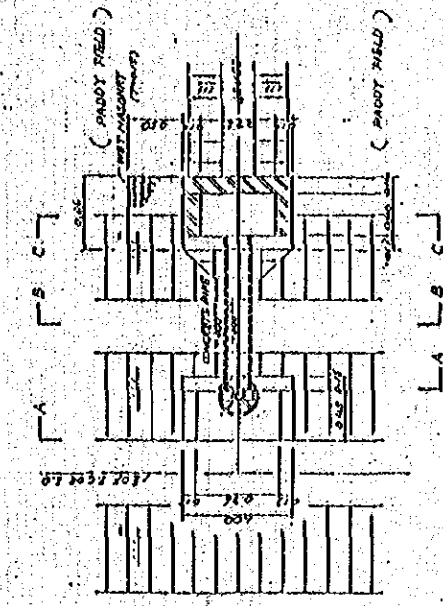
JAPAN INTERNATIONAL CORPORATION (JICA)

FARM INLET (TYPE C) SCALE 1/20

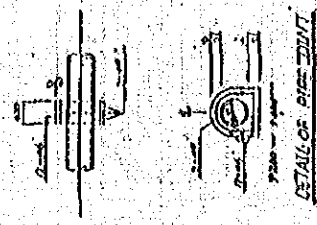


PROFILE

FARM INLET (TYPE D) SCALE 1/20



PROFILE



DETAIL OF PIPE INLET

THE RICE MECHANIZATION PROJECT (RMC)

FARM INLET (TYPE C-D)

SECTION 2-2

SECTION 2-3

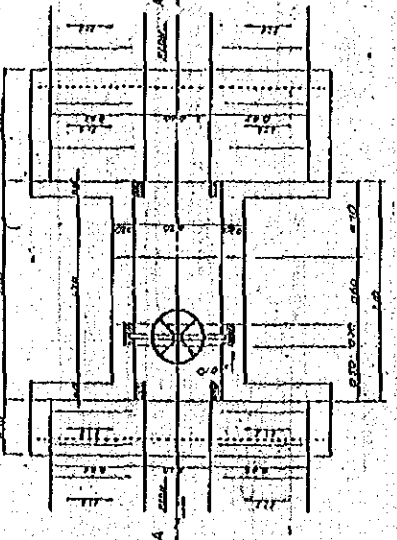
SECTION 2-4

SECTION 2-5

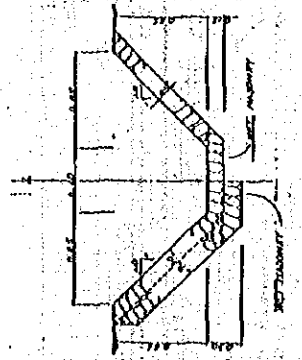
SECTION 2-6

SECTION 2-7

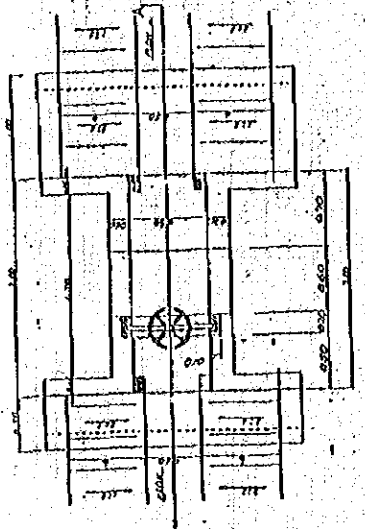
1/8" = 1'-0"



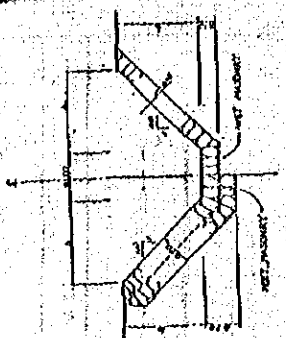
PLAN



SECTION A-A



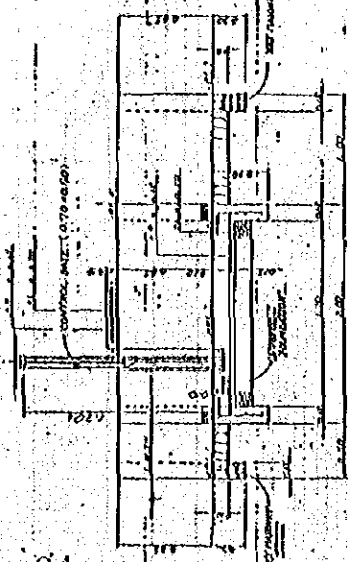
PLAN



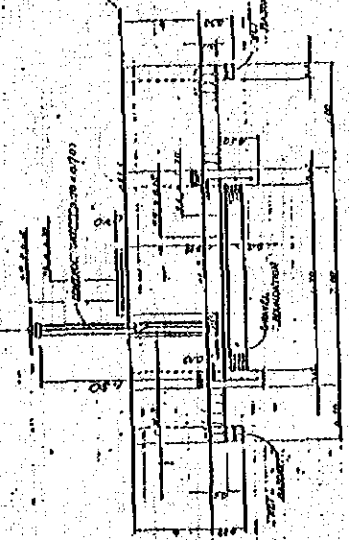
SECTION B-B

1/8" = 1'-0"

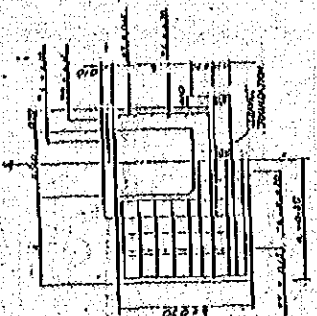
A-64



SECTION A-A



SECTION B-B



SECTION C-C

SCALE 1/8" = 1'-0"

THE RICE MECHANIZATION PROJECT (CRIC)

CHECK STRUCTURE

OUR NO. 0-15 SCALE

JAPAN INTERNATIONAL COOPERATION AGENCY

DIMENSION

NAME	DATE	NO.	REV.	BY	CHK.

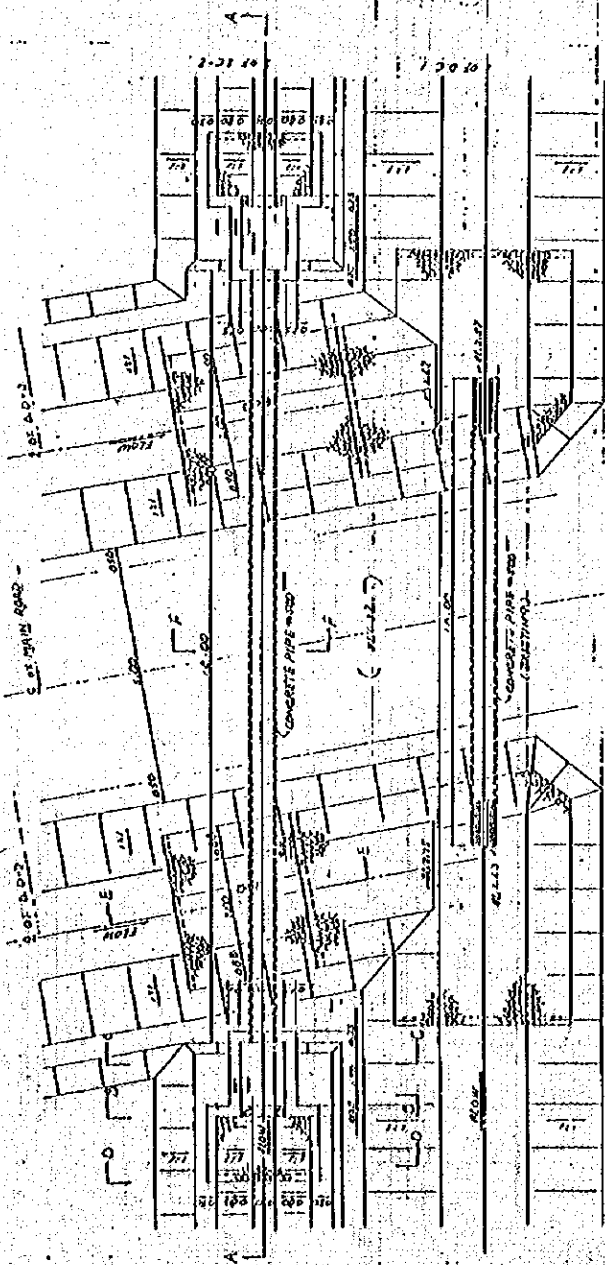
DIMENSION

NAME	DATE	NO.	REV.	BY	CHK.

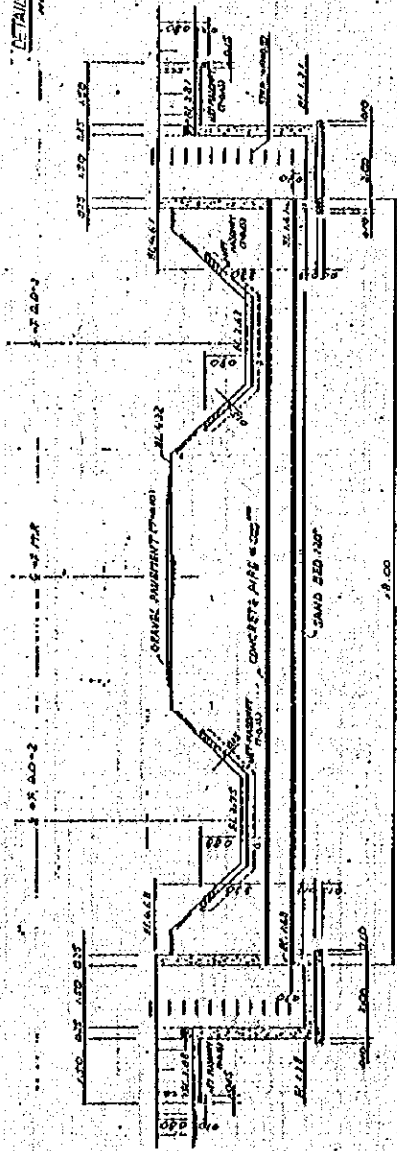
*[Handwritten signature]*



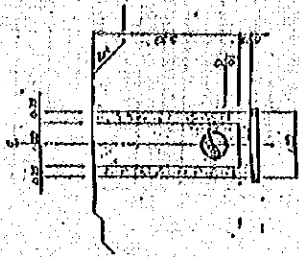
IRRIGATION SIPHON NO. 1



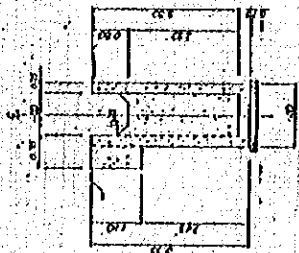
PLAN SCALE 1:100



SECTION A-A SCALE 1:100



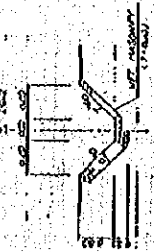
SECTION C-C SCALE 1:100



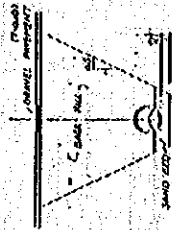
SECTION B-B SCALE 1:100



SECTION E-E SCALE 1:100



SECTION D-D SCALE 1:100



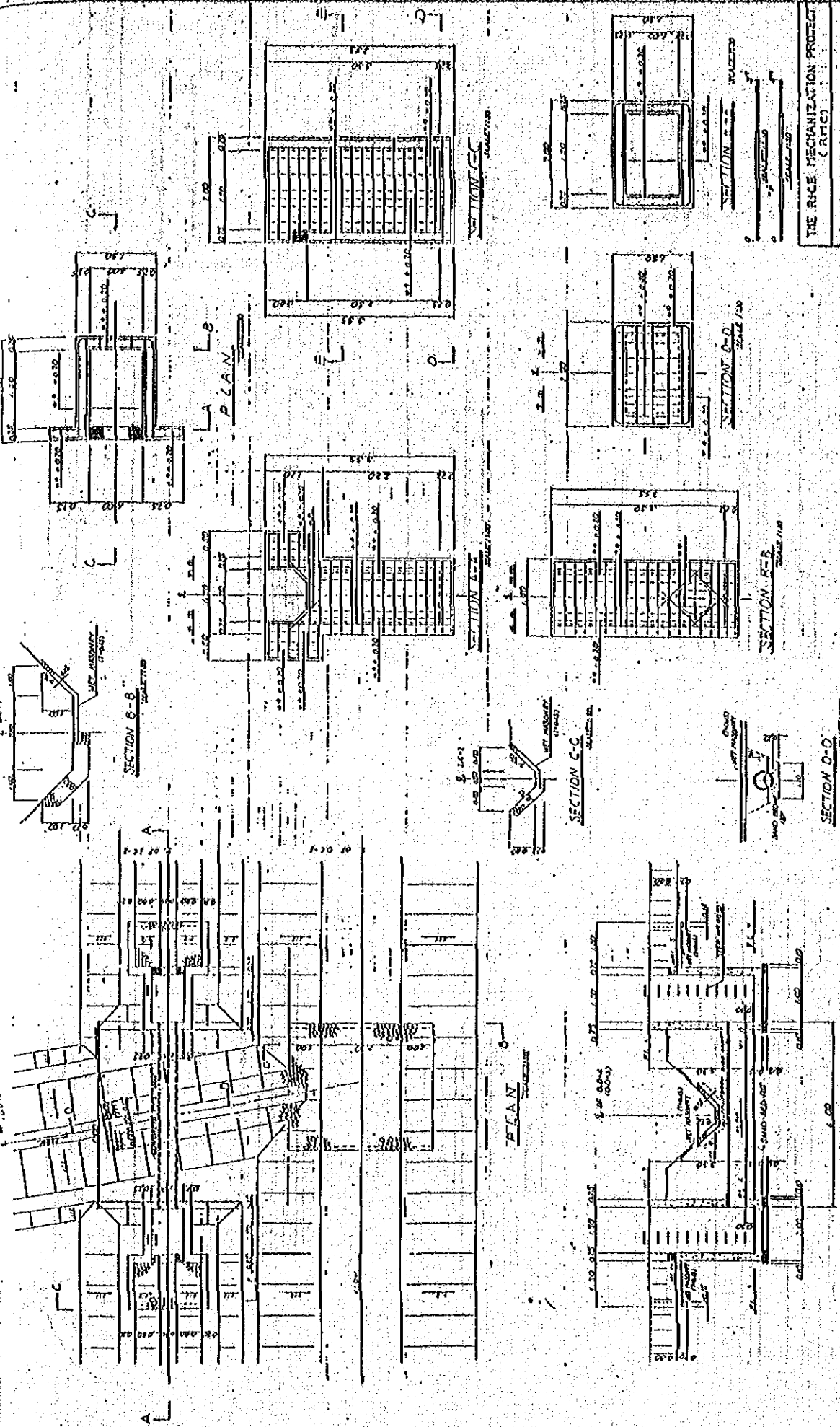
SECTION F-F SCALE 1:100



DETAIL OF JOINT SCALE 1:100

THE RICE MECHANIZATION PROJECT  
(R.M.P.)

SIPHON (NO. 1)



THE RICE MECHANIZATION PROJECT  
(RMC)

SIPHON (402, 403)

DATE: 1961-01-17 SCALE: 1/50

JAPAN INTERNATIONAL COOPERATION AGENCY  
(JICA)

**DIMENSION**

1. TOTAL LENGTH	10.00
2. TOTAL WIDTH	1.00
3. TOTAL HEIGHT	1.00
4. TOTAL AREA	10.00
5. TOTAL VOLUME	10.00

NOTE: 1. DIMENSIONS ARE GIVEN IN METERS UNLESS OTHERWISE SPECIFIED.

SECTION A-A  
SCALE: 1/50

SECTION B-B  
SCALE: 1/50

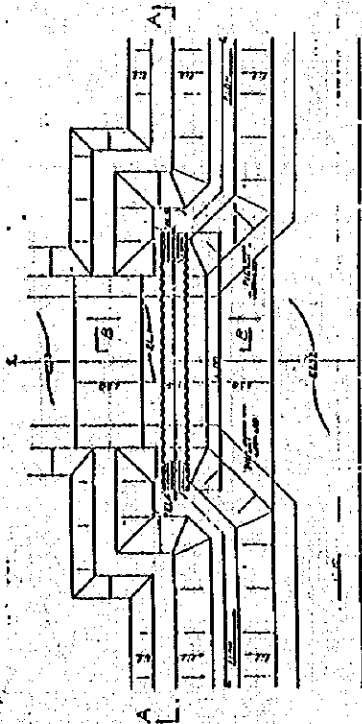
SECTION C-C  
SCALE: 1/50

SECTION D-D  
SCALE: 1/50

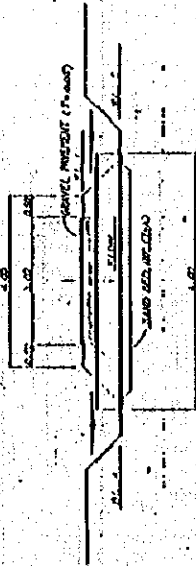
SECTION E-E  
SCALE: 1/50



IRRIGATION CULVERT (NO. 1, NO. 4)



PLAN SCALE 1/16

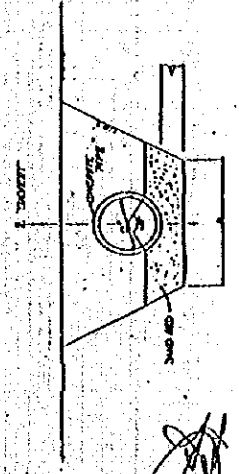


SECTION A-A SCALE 1/16

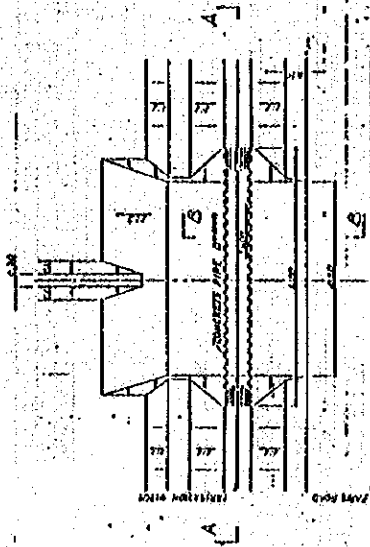
DIMENSION

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	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

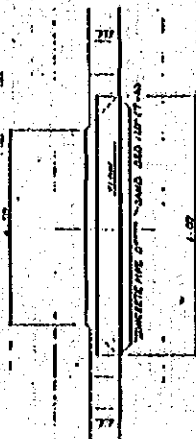
NOTE: DIMENSIONS OF ALL PARTS OF THIS DRAWING SHALL BE IN INCHES UNLESS OTHERWISE SPECIFIED.



FARM LOT ENTRANCE WORK (TYPE A, TYPE B)



PLAN SCALE 1/16

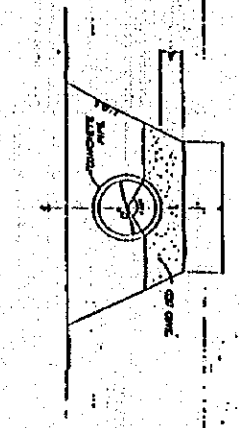


SECTION A-A SCALE 1/16

DIMENSION

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	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

NOTE: DIMENSIONS OF ALL PARTS OF THIS DRAWING SHALL BE IN INCHES UNLESS OTHERWISE SPECIFIED.



DETAIL OF PIPE JOINT SCALE 1/8

THE RICE MECHANIZATION PROJECT  
(R.M.C.)

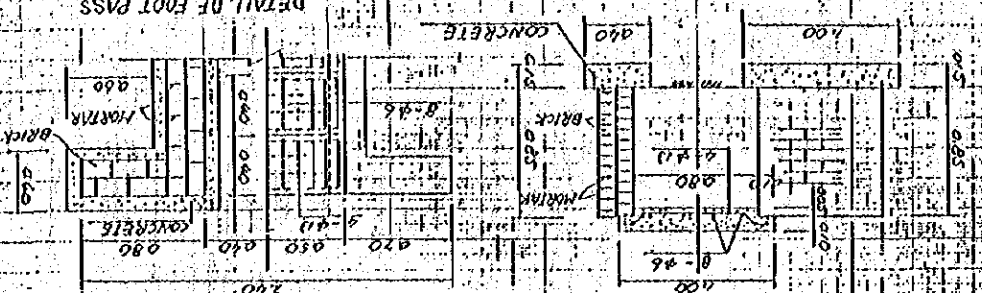
CULVERT (NO. 1, NO. 4)  
FARM LOT ENTRANCE (TYPE A, B)

DRAWING NO. C-18 SCALE

A-67

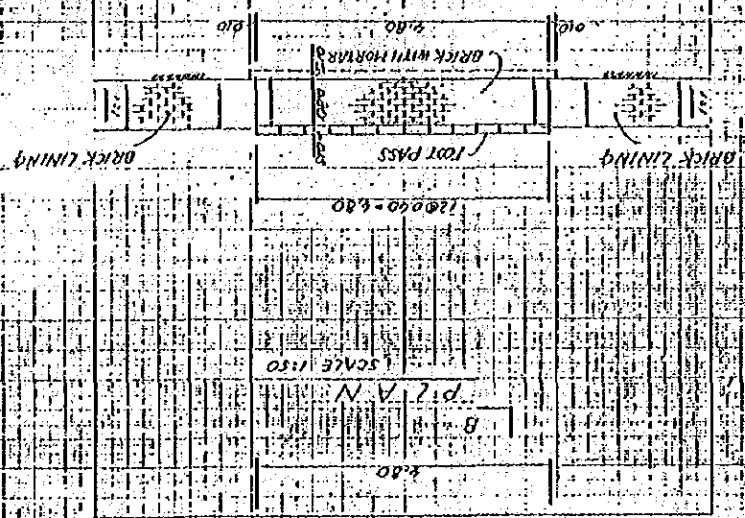
JAPAN INTERNATIONAL COOPERATION (JICA)  
 THE RICE MECHANIZATION PROJECT (RMC)  
 FARM LOT ENTRANCE (TYPE 1)  
 DWG NO. 011  
 SCALE 1:100

DETAIL OF FOOT PASS  
 SCALE 1:20

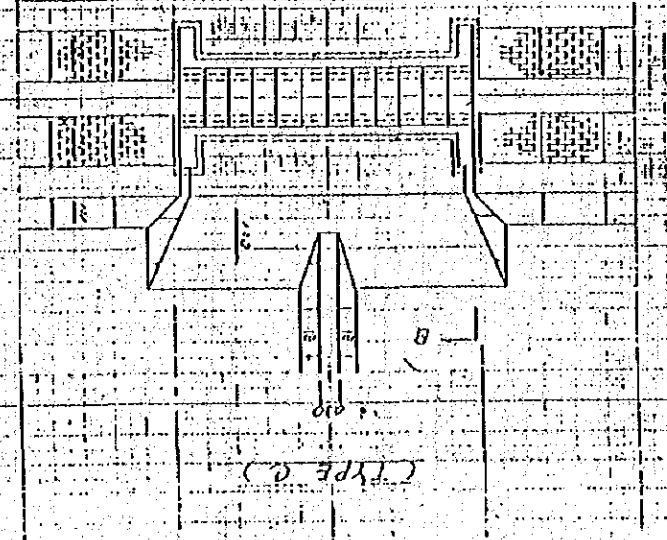


SECTION G-B  
 SCALE 1:20

SECTION A-A  
 SCALE 1:50

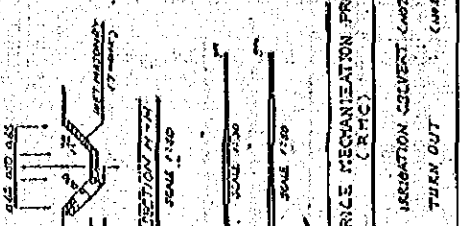
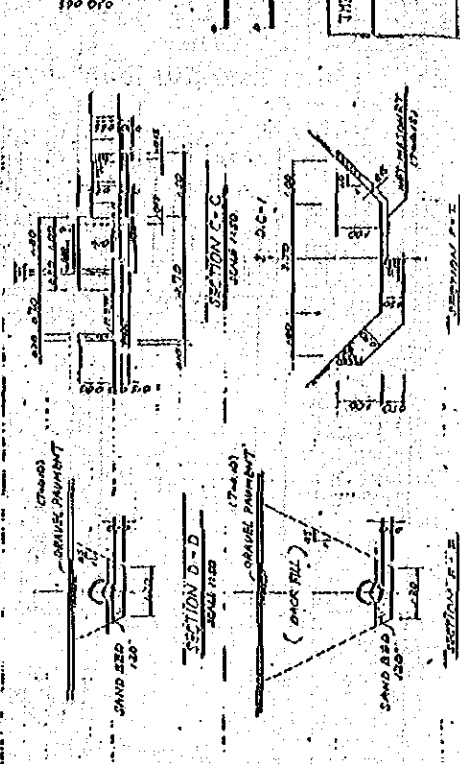
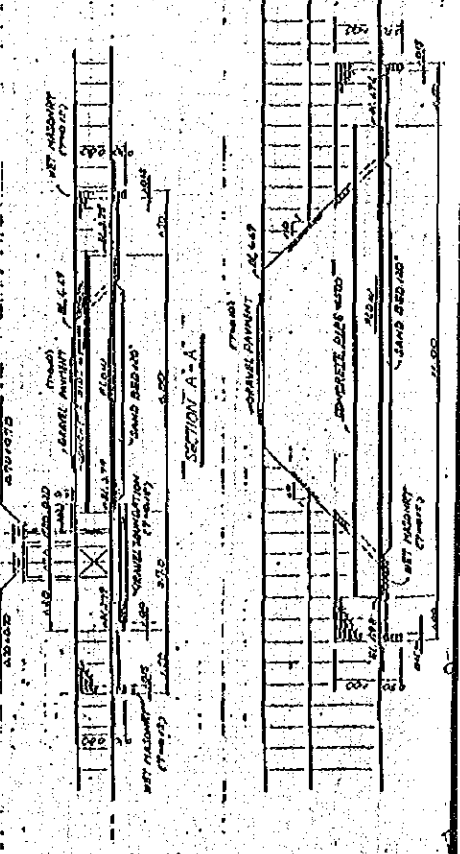
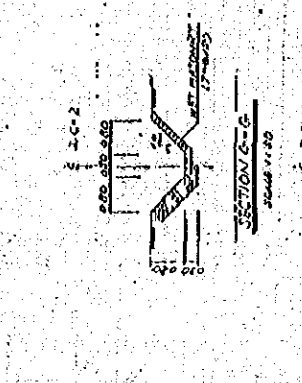
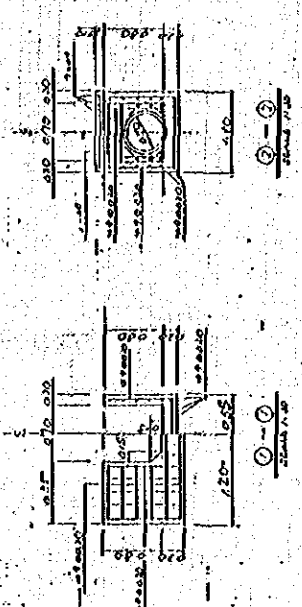
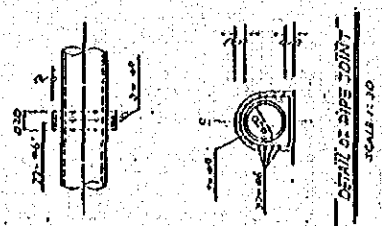
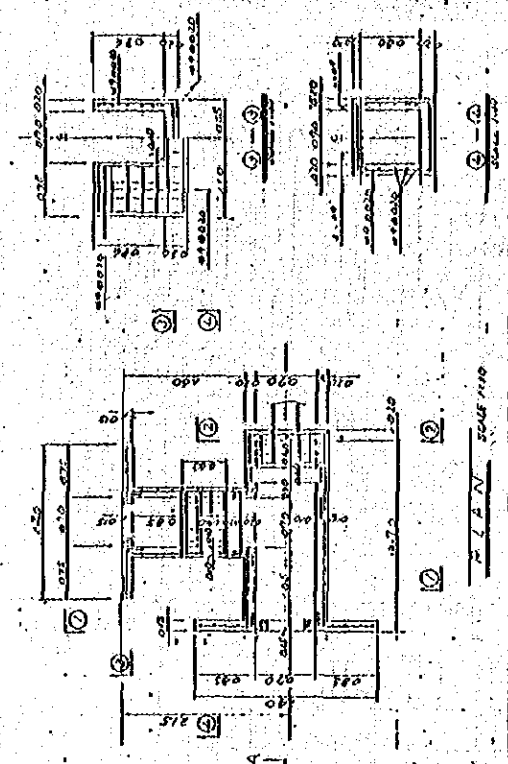
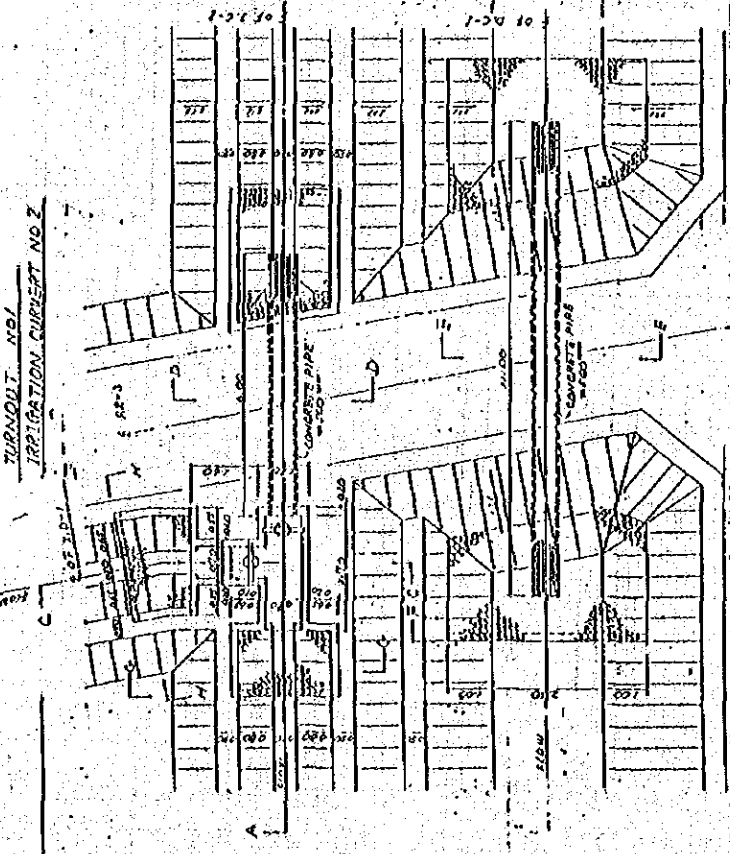


SECTION A-N  
 SCALE 1:50

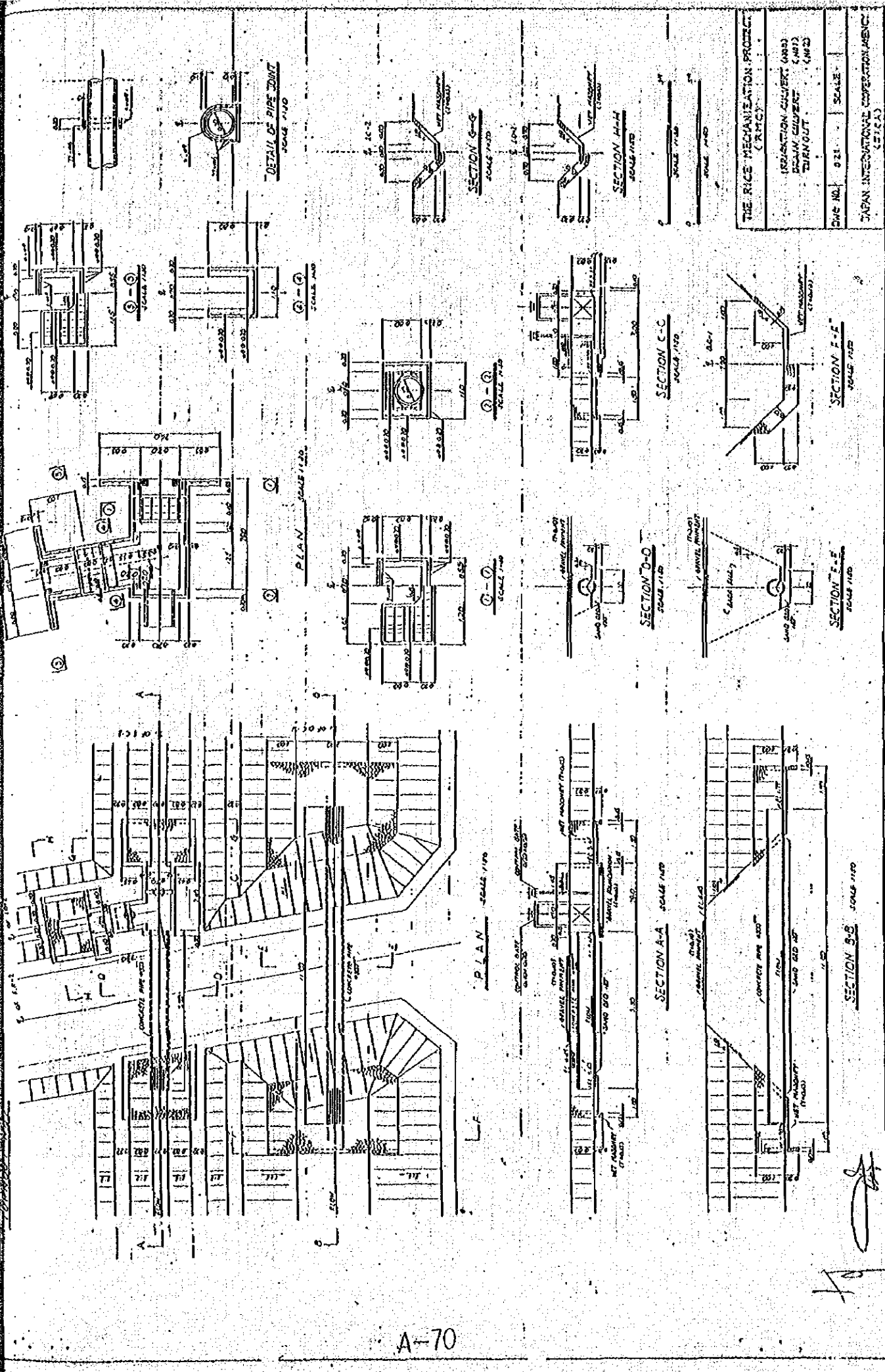


(TYPE 1)

TURNOUT NO. 1  
IRRIGATION CURVEIT NO. 2



THE RICE MECHANIZATION PROJECT  
IRRIGATION CURVEIT (C&P)  
TURN OUT (C&P)



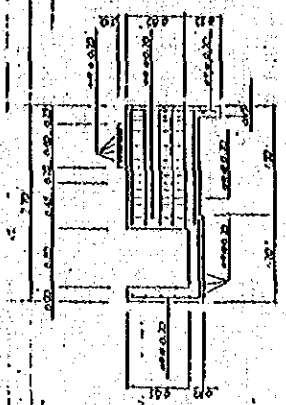
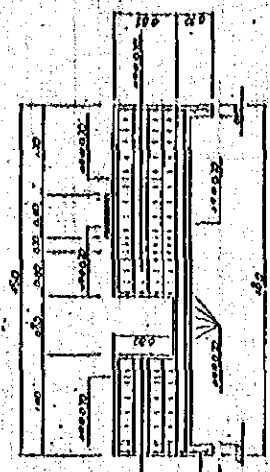
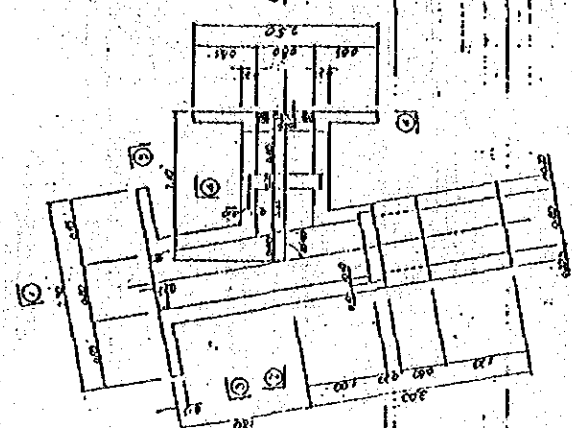
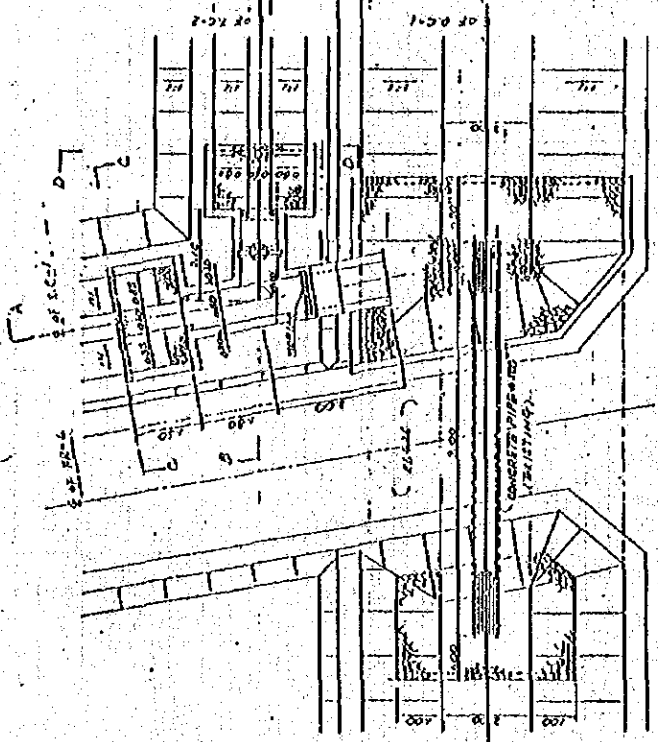
THE RICE MECHANIZATION PROJECT  
(RITC)

IRRAWADDI CANAL (400)  
 BEAUM CANAL (400)  
 TRIBUTARY (400)

DWG NO. 021 SCALE

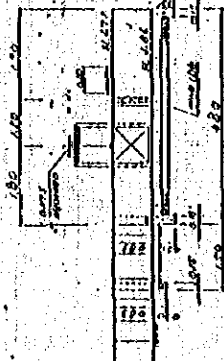
JAPAN INTERNATIONAL COOPERATION AGENCY  
(JICA)

WASTE WAY NO. 1



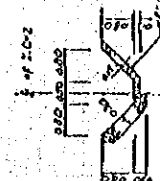
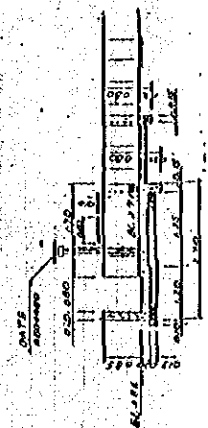
PLAN SCALE 1:10

PLAN SCALE 1:10



SECTION A-A SCALE 1:10

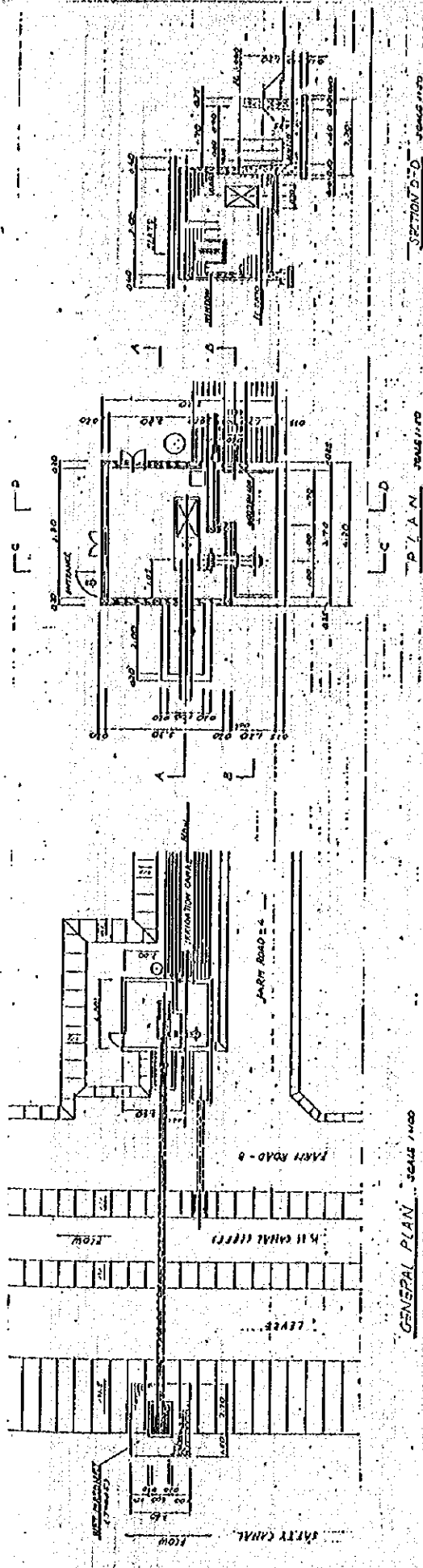
SECTION C-C SCALE 1:10



THE RACE MECHANIZATION PROJECT  
(R.M.C.)

WASTE WAY

PUMPING STATION NO. 1



GENERAL PLAN SCALE 1:100

PLAN SCALE 1:100

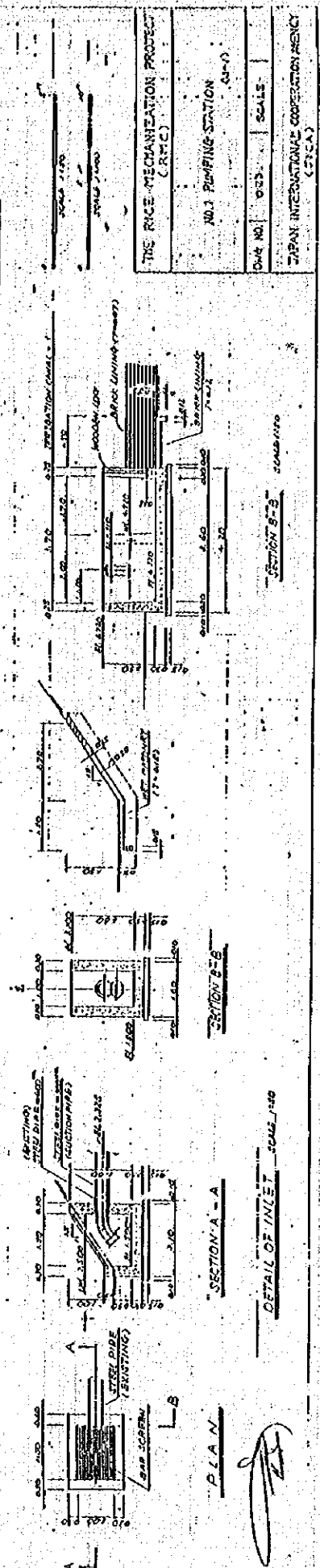
SECTION 5-D SCALE 1:100



PROFILE SCALE 1:100

SECTION A-A SCALE 1:100

SECTION C-C SCALE 1:100



SECTION A-A SCALE 1:100

SECTION B-B SCALE 1:100

DETAIL OF INLET SCALE 1:100

PLAN SCALE 1:100

SECTION 5-B SCALE 1:100

THE RICE MECHANIZATION PROJECT  
(R.M.P.)

NO. 1 PUMPING STATION  
(P-1)

DWG. NO. 953 SCALE

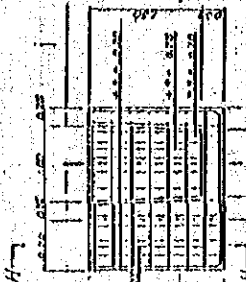
JAPAN INTERNATIONAL COOPERATION AGENCY  
(JICA)



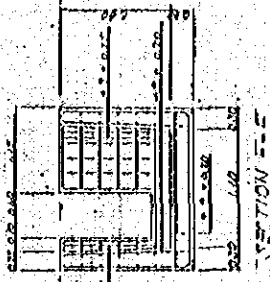
SLIMMING STATION NO. 1



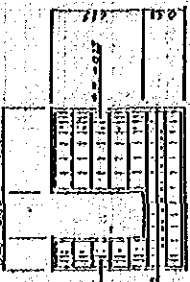
SECTION D-7



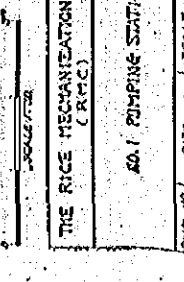
SECTION D-8



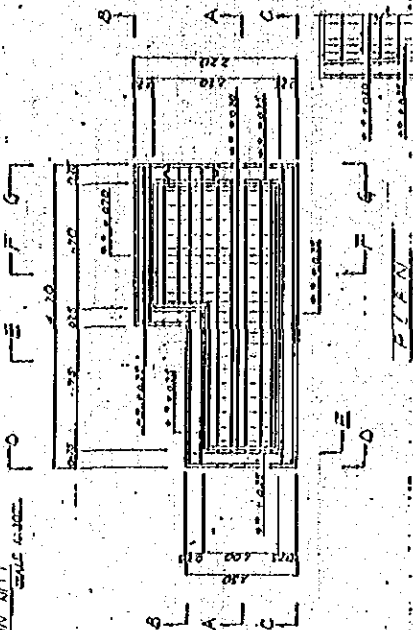
SECTION D-9



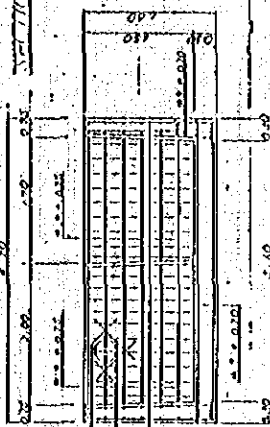
SECTION D-10



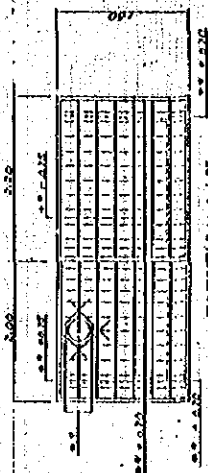
SECTION D-11



PLAN



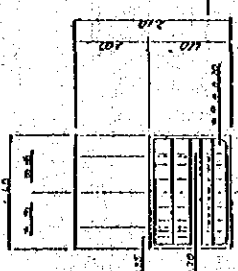
SECTION A-A



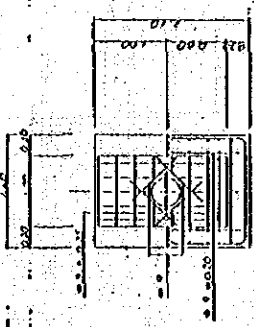
SECTION B-B



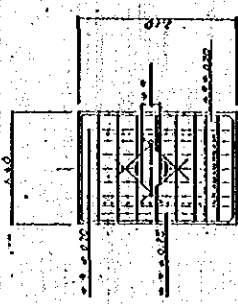
SECTION C-C



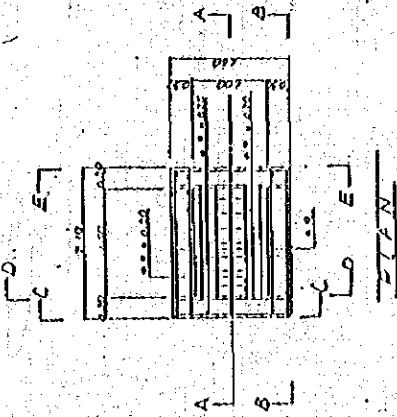
SECTION C-C



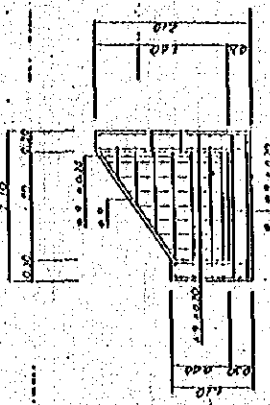
SECTION D-D



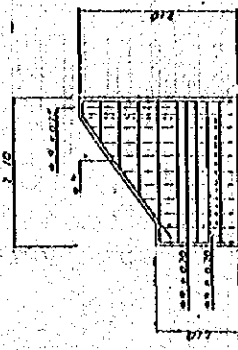
SECTION E-E



PLAN



SECTION A-A



SECTION A-R

THE RICE MECHANIZATION PROJECT  
(RMP)  
NO. 1 PUMPING STATION  
(3-2)

SCALE

JA

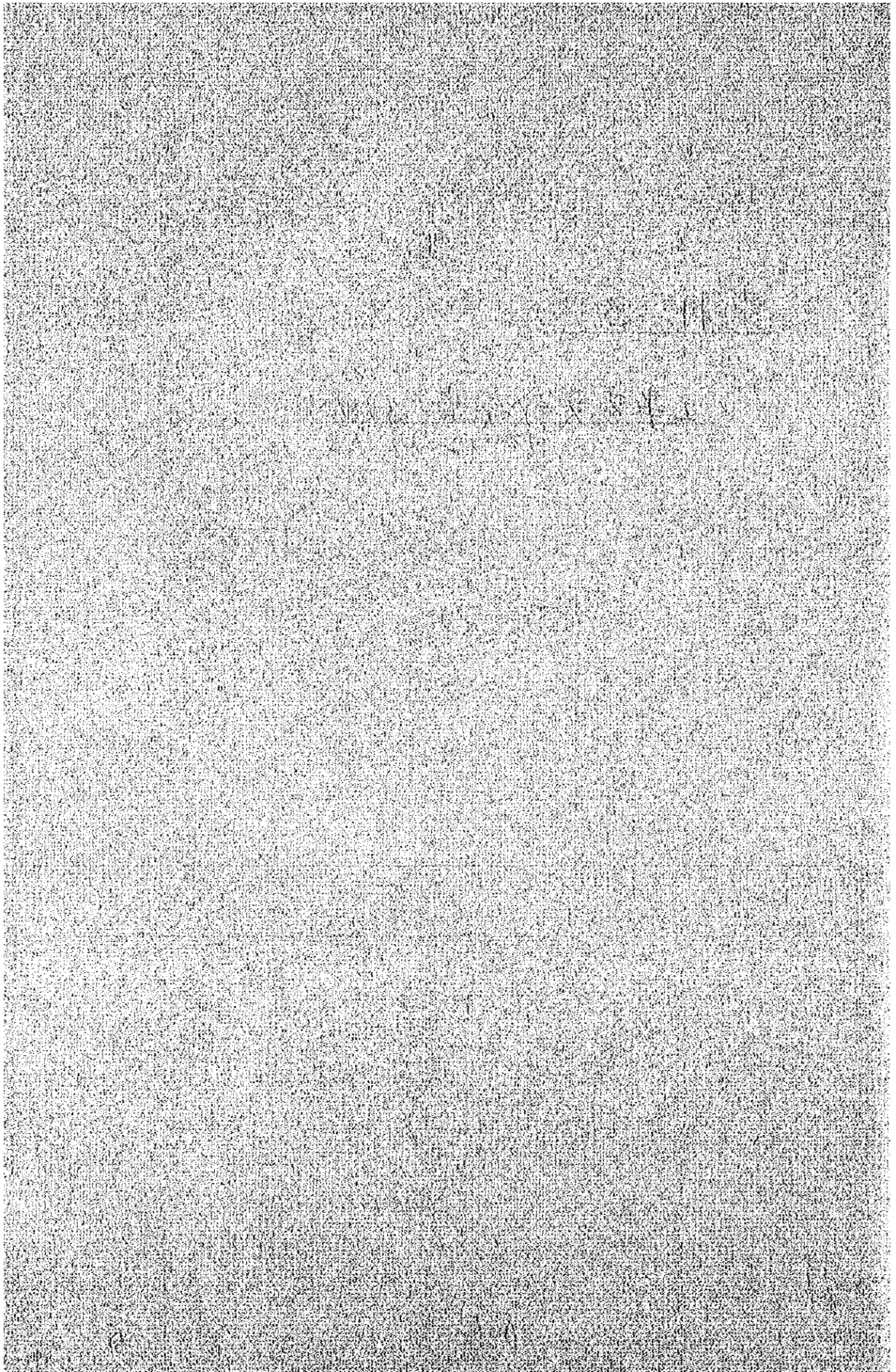




資料 - 3

工事変更命令書 (IWSH-8)

タイプ A NO. 1 & NO. 2



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

P.O. BOX 216 MITSUI BLDG.  
2-1, NISHI-SHINJUKU, SHINJUKU-KU TOKYO  
160 JAPAN

THE RICE MECHANIZATION CENTER  
THE IMPROVEMENT OF SALINE FARMS  
THE MEET EL DYBA EXPERIMENTAL FIELD

Letter No: IWSF-8  
Date: 20 Feb. 1985

Mr. Abd El-Magid Afify Sayed Ahmed  
The Contractor, Public Construction Co.,  
73, Tereat Gizaret Badran St.  
Road El Farag, Tel 948391

Sub: CHANGE ORDER: Construction of  
Syphone No.1 and No.2  
(Modification of Plan)

Dear Sir,

In accordance with the Article 14 of the Contract, I, the Supervisor, hereby order you the following modification of the Works to be performed within the contracted construction period (by 20th, April, 85).

The work shall be carried out in accordance with the attached Construction Drawings and in compliance with the manners given in the Technical Specifications.

The payment is to be adjusted and made as shown in the following tables (the comparison of quantities and amounts) applying the same unit cost as the appropriate items already contracted and given in the Bill of Quantities.

./..

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

P. O. BOX 216 MITSUI BLDG  
2-1, NISHI-SHINJUKU, SHINJUKU-KU TOKYO  
160 JAPAN

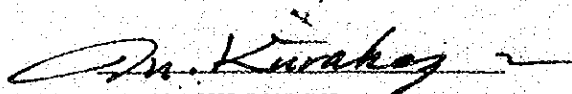
---

Enclosure:

- (1) Revised Construction Drawings of Syphone No.1 & No.2.
- (2) Comparison of Quantities and Amounts between Original Contract and Change Order at Syphone Construction

Your prompt commencement of the work will be appreciated.

Yours faithfully



M. KURAKAZU  
The Supervisor,  
The Construction of  
The Meet El Dyba  
Experimental Field.

CC.:

1. Mr. J. KOIZUMI  
Director JICA Cairo Office
2. Dr. A. E. SEHRIGI  
Director A.F.M.P., M.O.A.
3. Dr. T. TANAKA  
Leader RMP.
4. Mr. OSAMA M. KAMEL  
Manager RMP.
5. Supervisor's leading file.

COMPARISON OF QUANTITIES AND AMOUNTS  
BETWEEN ORIGINAL CONTRACT AND CHANGE ORDER  
AT SYPHON CONSTRUCTION ( NO.1 SYPHON & NO.2 SYPHON )

o NO.1 SYPHON

Item	Description	Unit	Unit Cost	Contracted		Revised		Difference of Amount (LE)	Remarks
				Quantity	Amount (LE)	Quant. Amount	Amount (LE)		
41	Earth Work (Excavation etc)	cu.m	15	298	4,470	96	1,440	(-) 3,030	
42	Sand bed	"	40	9	360	2	80	(-) 280	
43	Gravel paving	"	40	3	120	1	40	(-) 80	
44	Reinforced concrete	"	120	12	1,440	10	1,200	(-) 240	
45	Base gravel	"	40	2	80	2	80	0	
46	Wet stone masonry	"	100	7	700	2	200	(-) 500	
47	R C P (D 500 mm) L=3m	pc	140	6	840	NOT USED	---	(-) 840	
47'	Steel pipe (D 500 mm)	m	---	--	---	(25)	Supplied by JICA		
47''	Steel foot path	m	---	--	---	(10)	Supplied and Installed by J I C A		
48	Pipe embedment	pc	40	6	240	2	80	(-) 160	
49	Pipe Joint	pc	40	5	200	NOT USED	---	(-) 200	
49'	Reinforcing bar	kg	1.5	620	930	440	660	(-) 270	
TOTAL OF NO.1 SYPHON				---	9,380	---	3,780	(-) 5,600	

----- Continue to Next page -----

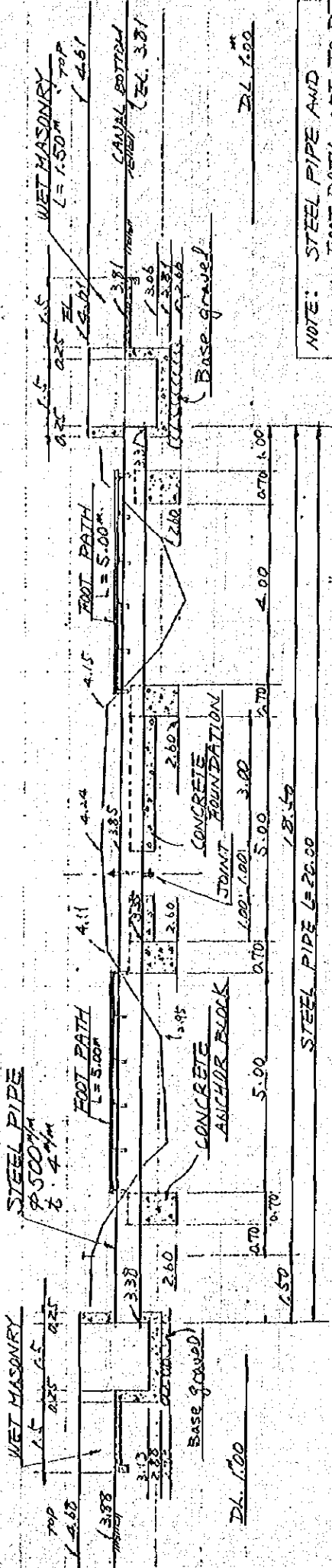
COMPARISON OF QUANTITIES AND AMOUNTS  
BETWEEN ORIGINAL CONTRACT AND CHANGE ORDER  
AT SYPHON CONSTRUCTION ( NO.1 SYPHON & NO.2 SYPHON )

o NO.2 SYPHON

Item	Description	Unit	Unit Cost	Contracted		Revised		Difference of Amount	Remarks
				Quantity	Amount (LE)	Quant. Amount	Amount (LE)		
50	Earth work (Excavation etc.)	cu.m	15	216	3,240	80	1,200	(-) 2,040	
51	Sand bed	"	40	3	120	NOT USED	---	(-) 120	
52	Gravel paving	"	---	---	---	---	---	---	
53	Reinforced concrete	"	120	12	1,440	6	720	(-) 720	
54	Base gravel	"	40	2	80	1	40	(-) 40	
55	Wet stone masonry	"	100	7	700	2	200	(-) 500	
56	RCP (D 500 mm) L=3m	pc	140	2	280	NOT USED	---	(-) 280	
56'	Steel pipe (D 500 mm)	m	---	---	---	(5) Supplied by JICA			
56''	Steel foot path	m	---	---	---	(3) Supplied and Installed by J.I.C.A			
57	Pipe embedment	pc	40	2	80	1	40	(-) 40	
58	Pipe joint	pc	40	1	40	NOT USED	---	(-) 40	
58'	Reinforcing bar	kg	1.5	620	930	406	610	(-) 320	
TOTAL OF NO.2 SYPHON		---	---	---	6,910	---	2,810	(-) 4,100	
TOTAL NO.1 & NO.2 SYPHONS					16,290		6,590	(-) 9,700	

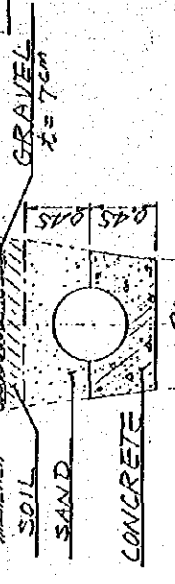
DESIGN CHANGE

SYPHON NO. 1



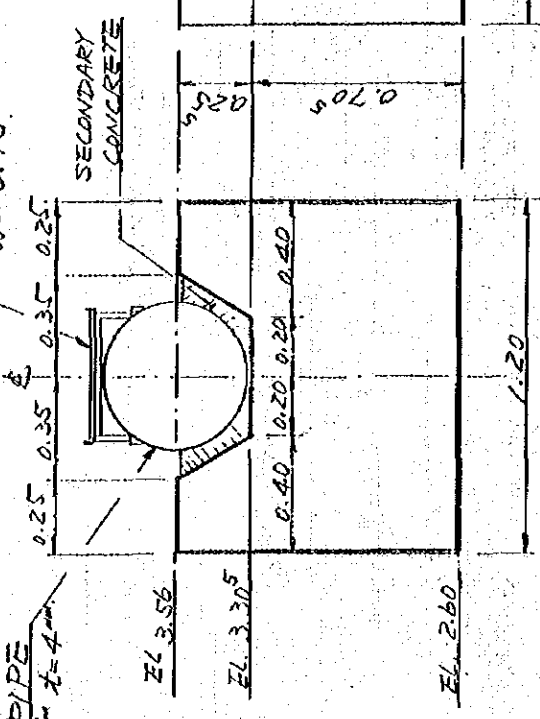
NOTE: STEEL PIPE AND FOOT PATH ARE TO BE SUPPLIED BY JICA.

PROFILE 1:100



A-80

FOOT PATH W = 0.45 m



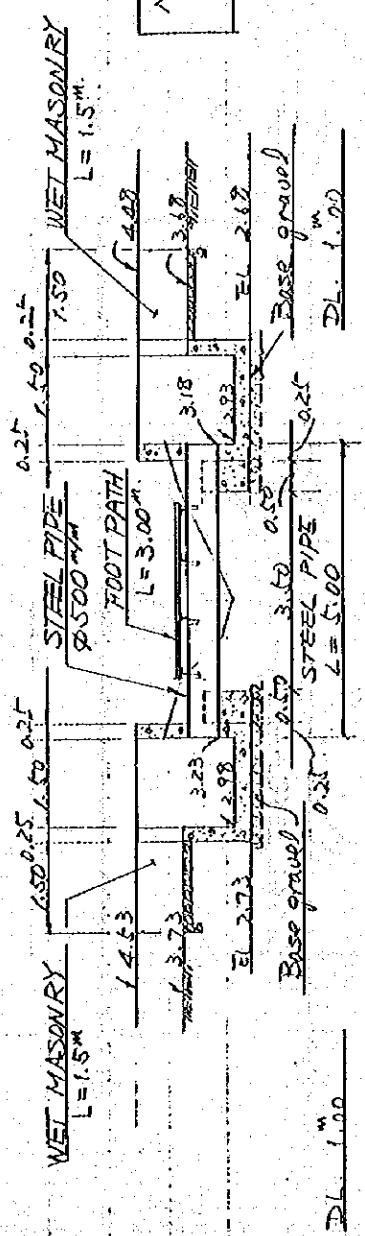
- ④  $\phi 9$  N = 16 X 4.2LS
- ①  $\phi 9$  N = 4 X 2 X 4.2LS
- ②  $\phi 9$  N = 4 X 2 X 4.2LS
- ③  $\phi 9$  N = 4 X 4.2LS

Prepared by  
*P. Kurahayashi*

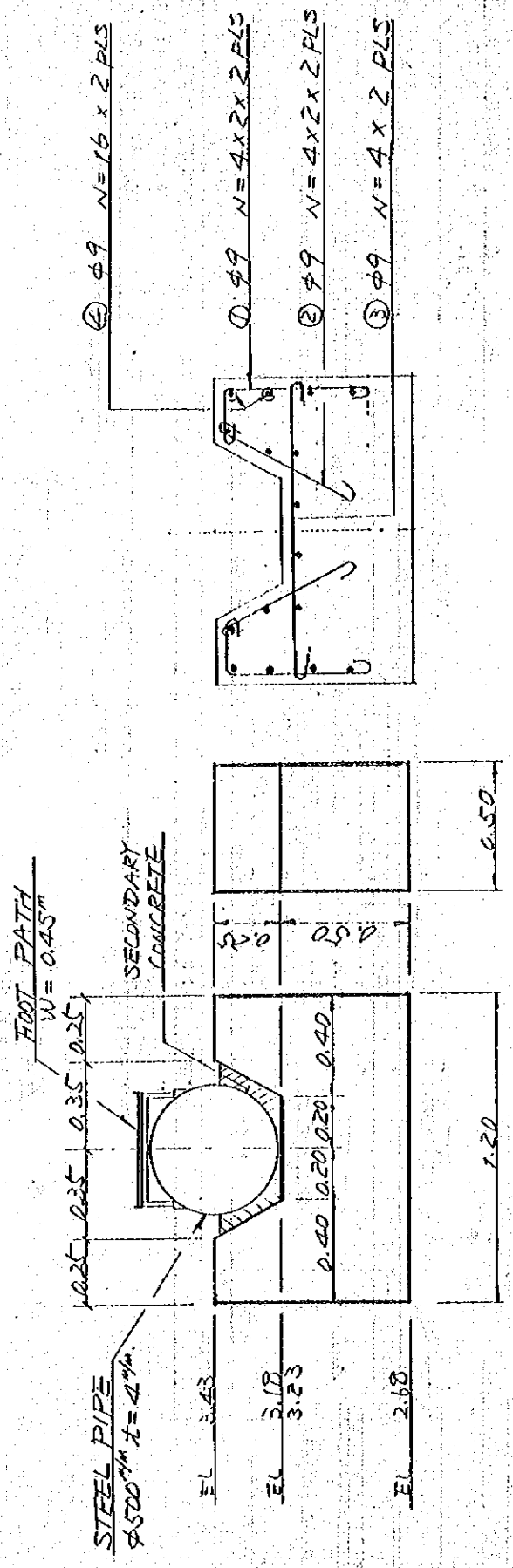
S=1:20



DESIGN CHANGE      SYPHON NO. 2.



PROFILE  
1:100

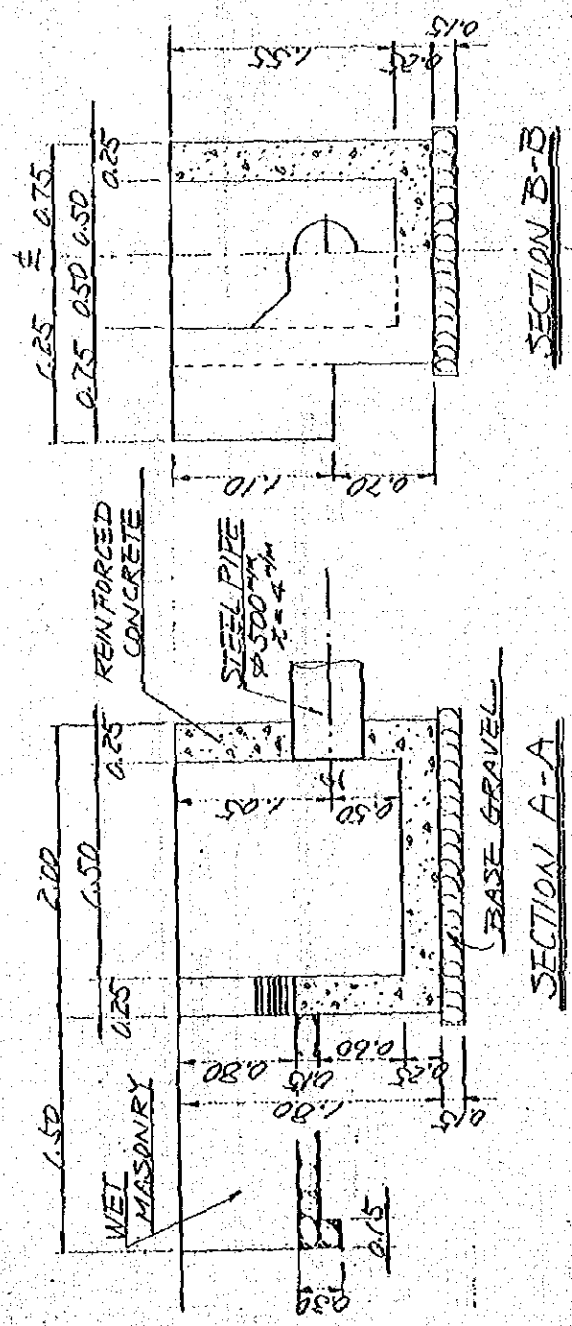
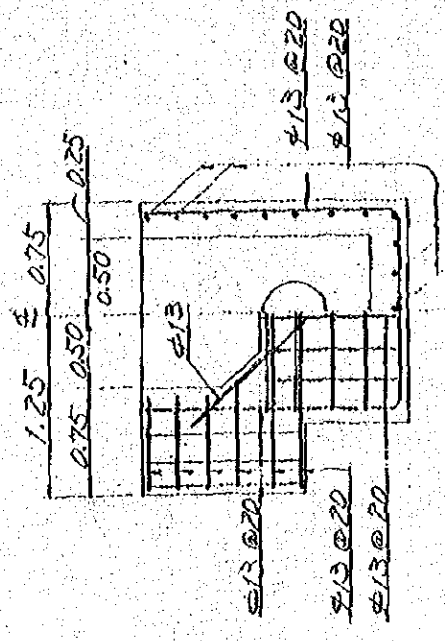
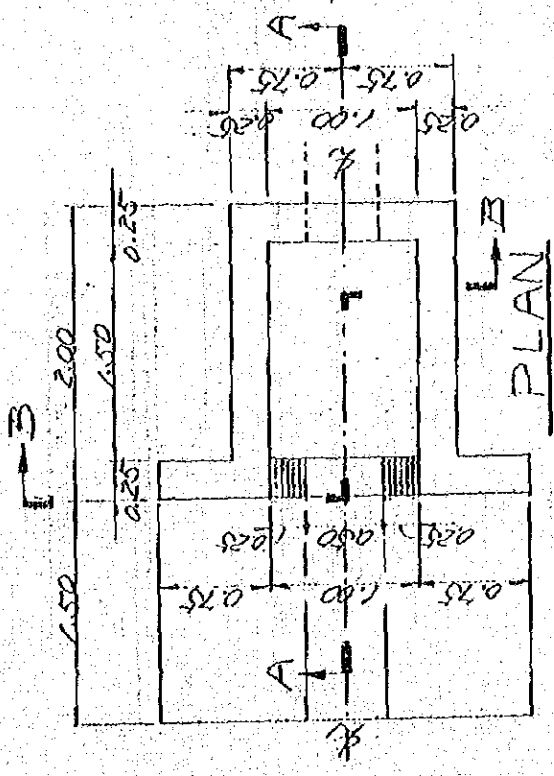


CONCRETE ANCHOR BLOCK

Prepared by *P. K. K. K.*

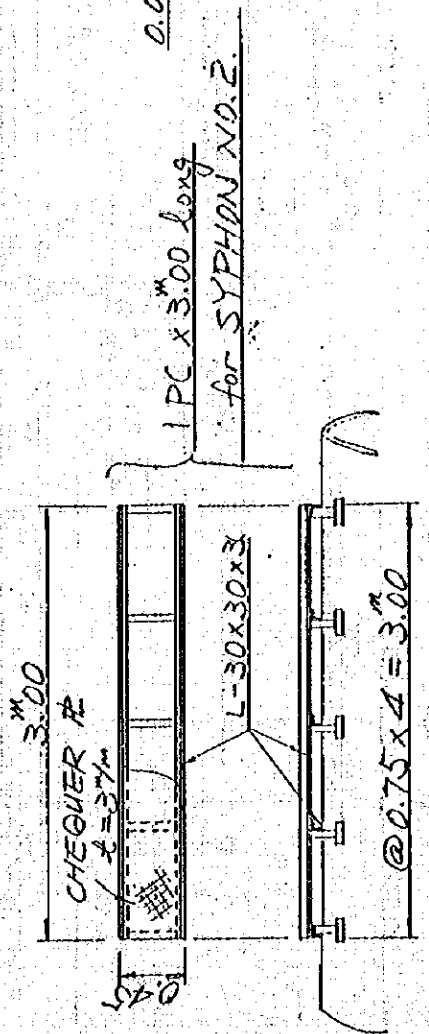
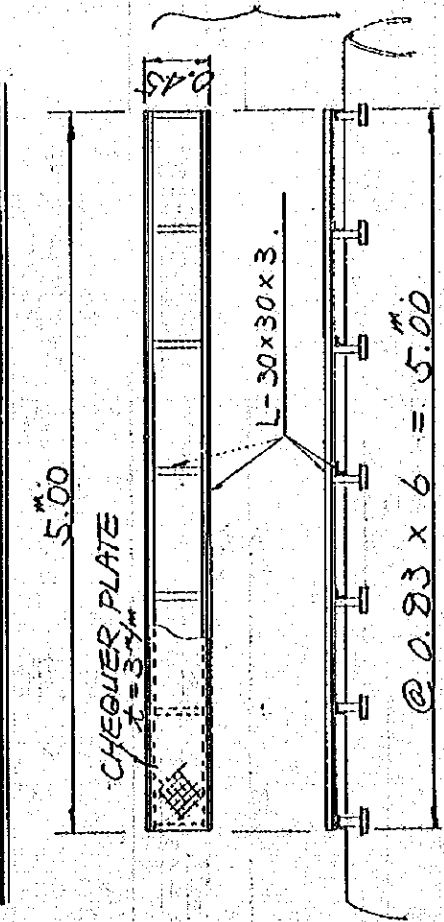


# INLET AND OUTLET PIT OF SYPHON NO. 1 AND 2.



Prepared by *Dr. Kiranlegan*

FOOT PATH ON SYPHON PIPE



歩道上管橋  
Prepared by  
Dr. Kurabayashi  
2 PCS. x 5.00 long for SYPHON NO. 1

