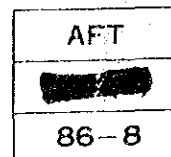
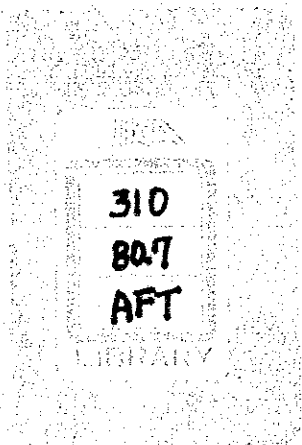


THE SULTANATE OF OMAN
THE DETAILED DESIGN REPORT
ON
THE WADI JIZZI
AGRICULTURAL DEVELOPMENT PROJECT

PRIME DOCUMENT

JUNE 1986

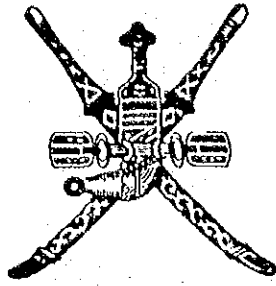
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SULTANATE OF OMAN

MINISTRY OF AGRICULTURE AND FISHERIES

WADI JIZZI AGRICULTURAL DEVELOPMENT PROJECT

PRIME DOCUMENT

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国際協力事業団

受入 月日 '86. 8. 4-	310
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PRIME DOCUMENT

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SECTION I. INTRODUCTIONS TO TENDERERS

1. Introduction
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SECTION I. INSTRUCTIONS TO TENDERERS

1. Introduction

The Ministry of Agriculture and Fisheries, Government of the Sultanate of Oman, hereinafter called the Employer, invites sealed written tenders offered by prequalified enterprises for the construction of a dam and related facilities of the Wadi Jizzi Agricultural Development Project.

These Instructions to Tenderers are intended to aid tenderers in the preparation of their tenders. The periods named in these Tender Documents shall be consecutive calendar day, except that if a due date falls on a local holiday, the due date will be the next work day. The time and hours indicated in these Tender Documents are Omani standard time.

The Tender of any tenderer which does not conform to the following instructions may be rejected.

2. Prequalified Tenderers

Only prequalified firms, joint ventures, or partnerships invited by the Employer to submit tenders for the execution of the Works described in these Tender Documents may do so. Enterprises invited by the Employer to submit tenders are, however, under no obligation to do so.

The Employer assumes neither obligation nor responsibility whatsoever to compensate or indemnify the tenderer for any expenses or losses which may be incurred by the tenderer in the preparation of his tender nor does the Employer guarantee that an award will be made under these Tender Documents.

3. Preparation of Tenders

All tenders consisting of the properly completed prescribed Tender Forms and all documents required to be submitted together with the tender shall be prepared in the English language in accordance with the instructions contained within these Tender Documents.

No alterations shall be made to the Forms provided which shall be completed in indelible ink or typed print. The completed Forms shall have no interlineations or erasures except those necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person signing the tender.

The tenderer shall furnish all information required under these Tender Documents. No information received from the tenderer after the opening of tenders will be considered, unless requested in writing by the Employer.

All items in the Bill of Quantities are to be priced. Items against which no price is entered must be marked NIL in the cash column prior to submission. Any alteration must be initialled by the person signing the tender from. The rates and prices set down against the items in the Bill of Quantities shall be for the work described and shall include for profit and all obligations and liabilities of every kind arising under the Contract.

4. Submission of Tenders

The Tender must be delivered to the address and at the time stipulated in the invitation to Tender.

Tenderers will be responsible for ensuring that their tenders are received in accordance with the instructions stated herein and a late tender may be rejected even though it became late as a result of circumstances beyond the bidder's control.

5. Contents of Tender

Tenderers must submit tenders for the whole of the Works. Tenders submitted for part of the Works or Tenders which are incomplete be may be rejected.

Tenderers are required to complete and submit the whole of the Tender Documents and Addenda, if any, issued by the Tender Board and all the documents required to be submitted.

- a) Form of Tender with Appendix to the Form of Tender
- b) Appendices "A" and "B" to Form of Agreement
- c) Bill of Quantities
- d) Schedule of Daywork Rates
- e) Construction Schedule
- f) Tender Bond of 5%
- g) Certificate of Organization Status as Pre-qualified
- h) Certificate of Site Visit
- i) Certificate of Attendance at Pretender Conference
- j) Other Documents specified and required in these Tender Documents

6. Tender Bond

Tenders must be accompanied by a Tender Bond in the amount of 5 percent of the Tender Value. The Tender Bond shall be in favor of the Tender Board, and shall be issued by a registered local bank in the Sultanate of Oman. No tender will be considered unless it is so secured.

The Tender Bond provided by unsuccessful tenderers will be returned after the expiration of 90 days from the day of tender opening or such earlier time as a tender shall have been accepted by the Employer and a Performance Bond shall have been duly provided by the tenderer whose tender is accepted.

The bond provided by the tenderer whose tender is accepted shall be discharged when the Performance Bond has been duly entered into and executed.

7. Validity of Tender

Tender shall remain valid for a period of ninety days from that fixed for the receipt of Tenders as given in the Invitation to Tender.

8. Signature of Tender

The Tender must be signed only by one duly authorized to do so. A tender submitted by a corporation must bear the seal of the corporation and be attested by its Secretary. Member companies of a joint venture shall jointly designate in one power-of-attorney a person authorized to obligate all the companies of the joint venture. A tender submitted by a joint venture must be accompanied by the document of formation of the joint venture, duly registered and authenticated by a Notary Public, in which is defined precisely the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it, the participation of several companies forming the joint venture, the principal member (sponsor company) of the joint venture and address for correspondence for the joint venture. Tenderers are advised that the joint venture agreement must include a clause stating that the members of the joint venture are severally and jointly bound.

9. Addenda to the Tender Documents

If for any reason prior to tender submission it becomes necessary to modify the Tender Documents, Addenda in the form of circular letters will be issued to and be binding on all tenderers. Receipt of all Addenda shall be acknowledged by tenderers but non-acknowledgement of receipt shall not relieve the tenderers of being bound by such Addenda provided the Addenda were communicated to tenderers by telex or registered mail. Addenda will be numbered consecutively commencing with

No.1 and tenderers are required to insert the appropriate numbers in the space provided on the Form of Tender.

Should any tenderer have questions or doubts as to the meaning of the provisions of the Tender Documents, should refer them in writing to the Tender Board not later than 14 days before the date fixed for submission of tenders. If considered appropriate a reply in the form of Circular Letter/Addendum will be distributed by the Tender Board to all Tenderers to whom documents have been issued.

10. Additional Information

The "Report on Soils Investigation" and "Report on Geology" are available to tenderers. These reports are for background information only and will not form part of the Tender or the Contract. Tenderers may inspect these reports at the locations listed below, or may borrow the documents for photocopying by applying in person at the addresses below:

Directorate General
Water Resources and Irrigation
Ministry of Agriculture and Fisheries
Muscat
Sultanate of Oman

or

Sanyu Consultants Inc.
Landic Akasaka Bldg.
Akasaka 2-3-4
Minato-ku
Tokyo, 107 Japan

11. Pretender Conference

A pretender conference will be held on _____, 1986, at 9:00 a.m. at the Planning Unit, Ministry of Agriculture and Fisheries.

Modifications to the Tender Documents resulting from the conference will be provided to all tenderers by means of an Addendum to the Tender Documents.

Tenderers attending this conference will be issued with the "Certificate of Attendance at Pretender Conference", which is to be included with the additional bond within the Prime Document.

12. Site Visit

Guided visits to the site will be arranged through the Employer. The Employer will confirm a convenient date. The Tenderer shall provide a four-wheel drive vehicle for his own use.

13. Schedule of Daywork Rates

Tenderers shall fill in the Schedules of Daywork Rates. In the event of any additional or substituted work, if necessary or desirable in the opinion of the Engineer, the Contractor may be paid for such work under the conditions set out in the Schedule of Daywork Rates included in the Contract and at the rates and prices affixed in his tender.

14. Construction Schedule

Tenderers are required to complete the Construction Schedule included in the Prime Document by bar chart which shall show the period and sequence of execution of each work item.

15. Currency and Payment

Tenderers shall quote prices in the Bill of Quantities and the Schedule of Daywork Rates in Omani Rials. For items thus quoted in the Bill of Quantities and the Schedule of Daywork Rates, payment will be made upon certification by the Engineer.

16. Acceptance of Tenders and Execution of Contract

The Employer reserves the right to reject any or all tenders and is not obliged to give any explanation or reason for his decision to accept or reject any tender.

Within seven days after signing the Contract Agreement the successful tenderer shall submit to the Employer all insurances required in accordance with the Conditions of Contract.

Failure by the successful tenderer to sign the Contract Agreement and/or to provide a Performance Bond and/or insurances within the times stipulated may result in forfeiture of the Tender Bond and shall be sufficient grounds for the annulment of the award. The award may then be made to another tenderer or the Employer may call for new tenders.

All recipients of the Tender Documents and information (whether they submit a tender or not) shall treat the details of the Tender Documents and information as strictly private and confidential, and should return the Tender Documents either completed or blank.

17. Correction of Errors by the Employer

"The Bill of Quantities will be examined prior to the signing of the Contract in order to ascertain that the items are correctly extended at the rates quoted. Should any arithmetical error be found it will be corrected and, the Contract Value will be amended accordingly. The Tenderer will be informed of any arithmetical adjustment made should be Employer wish to further consider his tender. Unit prices shall prevail in arithmetical errors of extension".

18. Additional Documents

In addition to the documents issued to the tenderers for the purpose of submitting a tender, tenderers must provide the following documents which are to be properly bound into the Prime Document and be submitted as a part of the tender:

- a) A copy of each Circular Letter/Addendum to tenderers, if any, issued by the Tender Board, appropriately endorsed by the tenderer.
- b) The proposed site organisation, giving details of the staff, their qualifications, previous appointments and experience, together with the estimated labour force to be employed during the Contract; the proposed labour force must also show the proportion of skilled labour and also the proportion of labour intended to be imported into the Sultanate of Oman.
- c) The proposals for providing accommodation for the Contractor's staff and labour force and for offices, workshops, etc. together with the layouts and areas of land for the provision of such facilities.
- d) A list of all major works which he has completed within the past three years and of all works which are presently under construction, giving the name of the Client, Consultant, value, duration and date of completion.
- e) A list of the proposed construction plant, together with number and types/capacities.
- f) A list of any proposed sub-contractors and suppliers, including local firms, with particulars of the extent of the work which it is proposed will be undertaken by them.

- g) The sources from which it is proposed to obtain local materials and aggregates.
- h) A forecast of anticipated interim valuations, taking into account the annual cash flow inserted by the Employer in Item 19 of the Appendix to the Form of Tender.
- i) A certificate stating that the tenderer has visited the site and that he has no queries on any matter concerning the Contract.
- j) A statement of unresolved doubts regarding the meaning of anything contained within the Tender Documents and the interpretation relied upon by the tenderer, if any.
- k) Details of any laboratories which the tenderer proposes to employ to carry out any tests, required by the Specification, which tests are not to be carried out on site. Such laboratories must be approved, in writing, by the Engineer before any test results in connection with the Works will be accepted.
- l) A detailed proposal for his method concerning the river diversion and care of water. (The final programme of suchworks must meet the approval of the Engineer before the starting of the permanent works.)
- m) A Tender Bond in the sum of 5% of the Contract Value, valid for 90 days obtained from a local insurance company or bank in the form prescribed in the Standard Documents for Building and Civil Engineering Works.

19. Additional Labour and Equipment

Should the contractor be in need of additional labourer or equipment, the local natives in the region (Wilayat Sohar) must be given the first option in the provision of these additional resources.

SECTION II. FORM OF TENDER AND APPENDIX TO THE
FORM OF TENDER

- . SHORT DESCRIPTION OF WORKS
- . FORM OF TENDER
- . APPENDIX TO THE FORM OF TENDER

SECTION II. FORM OF TENDER AND APPENDIX TO THE FORM OF TENDER

SHORT DESCRIPTION OF WORKS

1. General

The Project is to develop water resources in the Wadi Jizzi basin by constructing a detention dam and dispersion facilities and to establish monitoring systems in order to verify relationship between discharge from the detention dam and groundwater in the basin.

Facilities of the Project include the detention dam which consists of a dam body, a service and emergency spillway and a service and emergency outlet conduit, and dispersion facilities, a water level gauge, observation wells and diversion facilities. In addition to those facilities, the protection of a historical facility and relocation road will be constructed in the Project area.

The construction plan will be scheduled to start the works with two stage diversion method taking into consideration of flood which may occur at Wadi Jizzi during the construction period, and the work will be completed within 17 months.

2. Facilities

Followings are summary data of the facilities.

- 1) Diversion Dam Body

Construction materials	sand, gravel, cobble
Dam height (average)	19.0 m
Up/Downstream slope	1 to 3.00, 1 to 2.50

- 2) Spillway

Type	Free overflow channel
Crest top elevation (service)	163.90 m

- do -	(emergency)	165.70 m
Width of overflow weir	(service)	184.2 m
Width of overflow weir	(emergency)	278.2 m
Side slope and bottom protections		Stone riprap and gabion
3) Outlet Conduit		
Type	Concrete culvert lined with steel liner.	
Liner diameter		1,500 mm
	(service and emergency)	
Length	(service)	124.4 m
- do -	(emergency)	78.0 m
Steel roller gate	(emergency)	1.7 m (W) x 1.6 m (H)
4) Dispersion Facilities		
Dispersion dike, height	(average)	2.0 m
	embankment volume	4,200 cu.m
	corrugated pipe (ϕ 1,200 mm)	19.0 m 3-lines
Connection channel, length		468.49 m
	bottom width	12.5 m
5) Monitoring Facilities		
Water level gauge, height		16.0 m
	automatic water gauge	1 set
Observation well		5 places
	total length	270 m
	well inside diameter	100 mm
6) Associated Facilities		
Relocation road	length	5,000 m
	total width	3.7 m
Protection of historical facility		1 place
	height	3.0 m
	length	280 m

7) Diversion Facilities

Coffer dam	embankment	32,200 cu.m
	length	840 m
	crest elevation	EL 158.0 - 159.50 m

3. Construction

1) Excavation

The river bed and both abutments containing objectional materials in their surface layers will be removed in 0.25 meter deep.

For the trench along the dam axis, the excavation will be performed by 4 meters deep in average, and excavated materials will be used for the embankment of the dam body.

2) Embankment

The dam body will be embanked by the materials excavated at both spillway sites and controlled grain sizes by a screen plant. The materials will be spreaded with thickness of 0.3 meter and compacted with 6 times of vibrating rollers.

Since the spillway materials are to dry side compared with its optimum moisture content, water spreading works will be required. The filter zone will be spreaded at 0.2 meter thick and compacted with 6 times by vibrating compactors.

The riprap for up/downstream slope surfaces will be constructed by laying coble stones and filter.

3) Gabion Works

The bottoms and slopes of the both spillways will be protected by steel wire gabions containing cobble stones excepting the crest

and apron constructed by concrete and wet masonry. A size of the gabion is 2 meter long, one meter wide, and 0.5 meter high.

4) Concrete Works

Concrete to be used for the structures will be specified into two kinds as follows:

<u>Kind of Concrete</u>	<u>Standard of Proportion</u>	
	<u>Weight of Cement</u>	<u>Max. size of Aggregate</u>
Reinforced Concrete	350 kg/cm ²	30 mm
Plain Concrete	350 "	30 "

The concrete will be mixed at the dam site by portable mixers with a capacity of 0.5 cm.m/batch and carried to respective job sites and placed by chuting gutter and/or manual.

5) Pipe Works

The outlet conduits will be made of 1,500 mm diameter steel liners, and the joints will be welded from in/out side carefully.

The steel liner will be fixed by anchor bolts which have been embedded in the base concrete.

6) Dispersion Facilities

The dispersion facilities consist of a gabion dike to divert the water courses of the Wadi Jizzi and a connection channel to lead water released from the conduit to old water courses. At the bottom of the dike, 3 lines of corrugated pipe with 1,200 mm inside diameter will be laid. The connection channel will be excavated and the excavated materials will be transported to the dike to use as embankment materials.

7) Monitoring Facilities

. Water Level Gauge

Works of the water level gauge are divided into fabrication of a steel tower and installation of the tower. The installation will be performed by excavation, concrete placing and gabions.

. Observation Wells

Wells will be drilled by rotary boring machines, and steel and PVC casing pipes are installed in the holes. After the civil work has been completed, developing of wells and pumping out tests will be conducted. The well of 5 holes and total length of 270 meters with 100 mm inside diameters are constructed.

FORM OF TENDER

(Notes: The Appendix forms part of the Tender. Tenderers are required to fill up all the blank spaces in this Form of Tender and Appendix).

To:

Gentlemen.

1. Having examined the Instructions to Tenderers, Drawings, Standard Conditions of Contract, Specification and Bill of Quantities for the execution of the above-named Works, we, the undersigned, offer to execute, complete and maintain the whole of the said Works in conformity with the said Instructions, Drawings, Standard Conditions of Contract, Specification, and Bill of Quantities Schedules of Rate* for the sum of Rials Omani..... (R.O.) or such other sum as may be ascertained in accordance with the said Conditions.

2. We undertake if our Tender is accepted to commence the Works within 30 days of receipt of the Engineer's order to commence, and to complete and deliver the whole of the Works comprised in the Contract within 518 days calculated from the last day of the aforesaid period in which the Works are to be commenced.

3. If our Tender is accepted we will obtain the guarantee of a locally registered Insurance Company of Bank (as required in the Sultanate of Oman Standard Conditions of Contract for Building and Civil Engineering Works, 3rd Edition) to be jointly and severally bound with us in the sum of 10 per cent of the Contract Value for the due performance of the Contract under the terms of a Performance Bond to be approved by you.

4. We agree to abide by this Tender for a period of 90 days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

5. In the event of our Tender being accepted and until a formal Agreement is prepared and executed this Tender, together with your written acceptance thereof, shall constitute a binding obligation upon us.

6. We understand that you are not bound to accept the lowest or any Tender you may receive.

6. We acknowledge receipt of the following circular letters:

Reference number of letter	Date
.....
.....

and confirm we have taken account thereof in our Tender

* Delete where not applicable

APPENDIX TO THE FORM OF TENDER

CLAUSE

- 1. Ruling Language : 5(1)(a) The language in which the Contract Documents have been drafted.
- 2. Amount of Performance Bond or Guarantee : 10 10% of the Contract Value
- 3. Minimum Amount of Third Party Insurance : 23(2) R.O. 250,000/-
- 4. Period for Commencement from Engineers order to commence : 41 30 days
- 5. Time for completion : 43 518 days
- 6. Amount of Penalties for Delay : 47(1) R.O. 1,000/- per day
- 7. Period of Maintenance : 49(1) 365 days
- 8. Quantities : 55 Estimated Quantities*
- 9. Percentage for Adjustment of P.C. sums contained within provisional sums. : 59(4)(c) per cent
- 10. Advance Payment : 60(2) 10% of the Contract Value excluding Sums for Contingencies.
- 11. Recovery of Advance : 60(2) 10% of the Total Interim Certificate Value upto the amount of the Advance
- 12. Payment for Materials at Site : 60(4)(b) 80% of the net value delivered to site.
- 13. Minimum Amount of Monthly Interim Certificate : 60(4) R.O. 200,000/-
- 14. Time within which payment is to be made after Certificate : 60(5)(a) 60 days
- 15. Percentage of Retention Money : 60(7) 10% of the Gross Interim Certificate.
- 16. Limit of Retention Money : 60(7) 5% of Contract Value
- 17. Payment of Retention Money : 60(8) 50% upon issue of the Certificate of Completion 50% after the Period of Maintenance.
- 18. Interest for delay of payment : 60(9) 7% per annum
- 19. Cash flow : 60(13)

Yearly Cash Flow	1987	1988	198	198	198	109
Percentage of Contract Value	%	%	%	%	%	%

Dated this days of 198
 Signature in capacity of
 Duly authorised to sign Tenders for and on behalf of

(IN BLOCK CAPITALS)

Address Witness

 Occupation

* (Delete where not applicable)

SECTION III SUMMARY OF TENDER VALUE

SUMMARY OF CONTRACT VALUE

.....

<u>BILL NO.</u>	<u>DESCRIPTION</u>	<u>AMOUNT</u>
1	Mobilization, Demobilization & Services	R.O.
2	Dam Body	R.O.
3	Service Spillway	R.O.
4	Emergency spillway	R.O.
5	Service Outlet Conduit	R.O.
6	Emergency Outlet Conduit	R.O.
7	Dispersion Facilities	R.O.
8	Water Level Gauge	R.O.
9	Observation Well	R.O.
10	Relocation Road	R.O.
11	Protection of Historical Facility	R.O.
12	River Diversion and care of Water	R.O.
	Total of Bill Nos. 1 to 12	R.O.
	Contingencies (10% of Bill Nos. 1 to 12)	R.O.
	Provisional Sum for Inspection, Cleaning and Repairs during the Maintenance Period	R.O. R.O.
TOTAL TENDER VALUE		R.O.
(Carried to Form of Tender)		

SECTION IV. CONSTRUCTION SCHEDULE

CONSTRUCTION SCHEDULE (Sheet 1/3)

Description	Quantity	Month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks
1. Mobilization, Demobilization and Services	L.S.																						
2. Dam Body																							
2-1 Clearing and Stripping	23,100 cu.m																						
2-2 Common Excavation	44,700 "																						
2-3 Dam Embankment	629,300 "																						
2-4 Filter (Vertical)	25,600 "																						
2-5 Filter (Horizontal)	5,400 "																						
2-6 Slope Surface Trimming	76,900 sq.m																						
2-7 Hand Placed Riprap	31,700 cu.m																						
2-8 Riprap Bedding	12,200 "																						
2-9 Gabion Constructed at Crest Shoulders	450 "																						
3. Service Spillway																							
3-1 Clearing and Stripping	44,200 cu.m																						
3-2 Common Excavation	987,100 "																						
3-3 Reinforced Concrete	5,400 "																						
3-4 Reinforcing Bar	60.5ton																						
3-5 Dowel Bar	2.5 "																						
3-6 Plain Concrete	350 cu.m																						
3-7 Wet Masonry	850 "																						
3-8 Boulder Concrete	1,100 "																						
3-9 Gabion	26,000 "																						
3-10 Hand Placed Riprap	13,500 "																						
3-11 Embankment of Dike	37,800 "																						
3-12 Slope Surface Trimming	5,500 sq.m																						
3-13 Underdrain	150 cu.m																						
3-14 Geotextile Mat	55,400 sq.m																						
4. Emergency Spillway																							
4-1 Clearing and Stripping	26,000 cu.m																						
4-2 Common Excavation	367,000 "																						
4-3 Plain Concrete	1,500 "																						
4-4 Wet Masonry	2,800 "																						
4-5 Gabion	14,800 "																						
4-6 Hand Placed Riprap	6,800 "																						
4-7 Dike Embankment	4,300 "																						
4-8 Slope Surface Trimming	700 sq.m																						
4-9 Underdrain	200 cu.m																						
4-10 Geotextile Mat	23,500 sq.m																						

CONSTRUCTION SCHEDULE

(Sheet 2/3)

Description	Month Quantity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Remarks	
		5. Service Outlet Conduit																					
5-1 Common Excavation	5,000 cu.m																						
5-2 Backfill	800 "																						
5-3 Plain Concrete	200 "																						
5-4 Reinforced Concrete	750 "																						
5-5 Reinforcing Bar	22 ton																						
5-6 Steel Liner	114 m																						
5-7 Trashrack	1.3ton																						
5-8 Perforated PVC Pipe	6 pcs																						
5-9 Wet Masonry	320 cu.m																						
5-10 Hand Placed Riprap	180 "																						
5-11 Debris Deflector	1 set																						
6. Emergency Outlet Conduit																							
6-1 Common Excavation	4,400 cu.m																						
6-2 Backfill	1,700 "																						
6-3 Plain Concrete	200 "																						
6-4 Reinforced Concrete	500 "																						
6-5 Reinforcing Bar	12 ton																						
6-6 Steel Liner	66 m																						
6-7 Trashrack	1.6ton																						
6-8 Steel Gate	1 set																						
6-9 Wet Masonry	350 cu.m																						
6-10 Debris Deflector	1 set																						
7. Dispersion Facilities																							
7-1 Clearing and Stripping	1,300 cu.m																						
7-2 Common Excavation	10,300 "																						
7-3 Sand Bed	30 "																						
7-4 Corrugated Steel Pipe	24 pcs																						
7-5 Dike Embankment	4,200 cu.m																						
7-6 Gabion	1,400 "																						
7-7 Hand Placed Riprap	1,200 "																						
7-8 Wet Masonry	40 "																						
7-9 Slope Surface Trimming	3,900 sq.m																						
7-10 Geotextile Mat	4,800 "																						
7-11 Debris Deflector	1 set																						

CONSTRUCTION SCHEDULE (Sheet 3/3)

Description	Quantity	Month																				Remarks	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
8. Water Level Gauge	1 set																						
9. Observation Well	5 wells																						
10. Relocation Road																							
11. Protection of Historical Facility																							
11-1 Clearing & Stripping	1,400 cu.m																						
11-2 Dike Embankment	2,400 "																						
11-3 Hand Placed Riprap	700 "																						
11-4 Slope Surface Trimming	2,300 sq.m																						
12. Diversion Facilities																							
12-1 Clearing and Stripping	5,100 cu.m																						
12-2 Common Excavation	66,600 "																						
12-3 Embankment	32,200 "																						
12-4 Hand Placed Riprap	750 "																						
12-5 Slope Surface Trimming	2,500 sq.m																						

SECTION V. ADDITIONAL DOCUMENTS

- a) Copy of each Circular Letter/Addendum, if any
- b) Proposed Site Organization
- c) Proposals for Providing Accommodation
- d) List of all Major Works
- e) List of Proposed Construction Plant
- f) List of Proposed Sub-Contractors and Suppliers
- g) Sources of Local Materials and Aggregates
- h) Forecast of Anticipated Interim Valuations
- i) Certificate of Site Visit
- j) Statement of Unsolved Doubts
- k) Details of Laboratories
- l) Details Proposal of River Diversion and care of Water
- m) Tender Bond

JICA