



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH  
BANGLADESH AGRICULTURAL DEVELOPMENT CORPORATION



AGENCY FOR INTERNATIONAL DEVELOPMENT  
Grant Financed  
FERTILIZER DISTRIBUTION IMPROVEMENT - I (388-0024)

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**ENGINEER CONSULTANT SERVICES FOR CONSTRUCTION  
OF BAGGED PRODUCT FERTILIZER WAREHOUSES IN  
BANGLADESH-PHASE III**

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**PROGRESS REPORT NO. 6**

MAY 1983



**AMMANN & WHITNEY**  
CONSULTING ENGINEERS  
NEW YORK

In association with



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AMMANN & WHITNEY  
M. MOTIHEEL C. A.  
P. O. BOX 348  
DHAKA, BANGLADESH

WAREHOUSES PHASE III

Project Director, BADC  
USAID Construction Project  
20, Outer Circular Road  
Rajarbagh, Dhaka-17

724-2.1.1/332

06 June 1983

Subject : Monthly Report No.6  
- May 1983

Dear Sir:

In compliance with paragraph B.2 of Appendix A, Scope of Work, of Agreement for Engineer Consultant Services - Warehouses Phase III, fifteen (15) copies of the Monthly Report No.6 are submitted to BADC and six (6) copies to USAID.

Very truly yours  
AMMANN & WHITNEY



George A. Pecht  
Project Manager

Encl: As Noted

GAP/neh

cc: Chairman, BADC w/encl. (1)  
Manager (Storage) BADC  
Chief Engineer (C) BADC  
Mr. Paul B. Thorn, PO, AID/D w/encl. As Noted  
File 724-1.4.2 w/encl.

AMMANN & WHITNEY  
Consulting Engineers

FERTILIZER WAREHOUSES - PHASE III

Monthly Progress Report No.6  
Month of May 1983

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PROJECT SUMMARY

1. Project Designation : Construction of Bagged Product Fertilizer Warehouses in Bangladesh - Phase III
2. Financed by: Grant Funds : USAID Fertilizer Distribution Improvement I Project 388-0024
- Taxes and Duties : Government of Bangladesh
3. Owner : BADC (Facilities to be used by MS&S Division)
4. USAID Fund Allocation : a) \$1.95 million for consultancy  
\$0.31 million for vehicles/equipment/supplies  
b) Estimate for construction work is under process by Consultant
5. Proposed Warehouse Storage Capacity : 33,000 MT
6. Consultant : Ammann & Whitney
7. Consultant's Contract Duration : 9 December 1982 to 28 February 1985
8. Construction Contractor : Contractors to be prequalified
9. Construction Contract Period : 15 months (estimated)
10. Scheme/Contract Administration/ Commercial Aspects by : Manager (Storage) BADC, Dhaka
11. Time and Fund Spent :

<u>Consultant Services</u>		<u>Construction Works</u>	
<u>Time Elapsed</u>	<u>Estimated Cost Incurred</u>	<u>Time Elapsed</u>	<u>Estimated Cost Incurred</u>
5.75 month	\$422,584	-	-

12. Comments:

The continuing major bottlenecks affecting the Consultant's method of procedure, execution and economic efficiency in carrying out the work are:

- a. BADC's acquisition of land at Kishoreganj and Chowmahani and permission for the Consultant to carry out topographic surveys and/or soil exploration.
- b. BADC's decision on location of godown within the Dhaka area.
- c. BADC's decision on procurement of vehicles.
- d. Depositing funds in Taka imprest account for payment of duties and taxes.

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WAREHOUSE PHASE III  
FINANCIAL-PROGRESS SCHEDULES

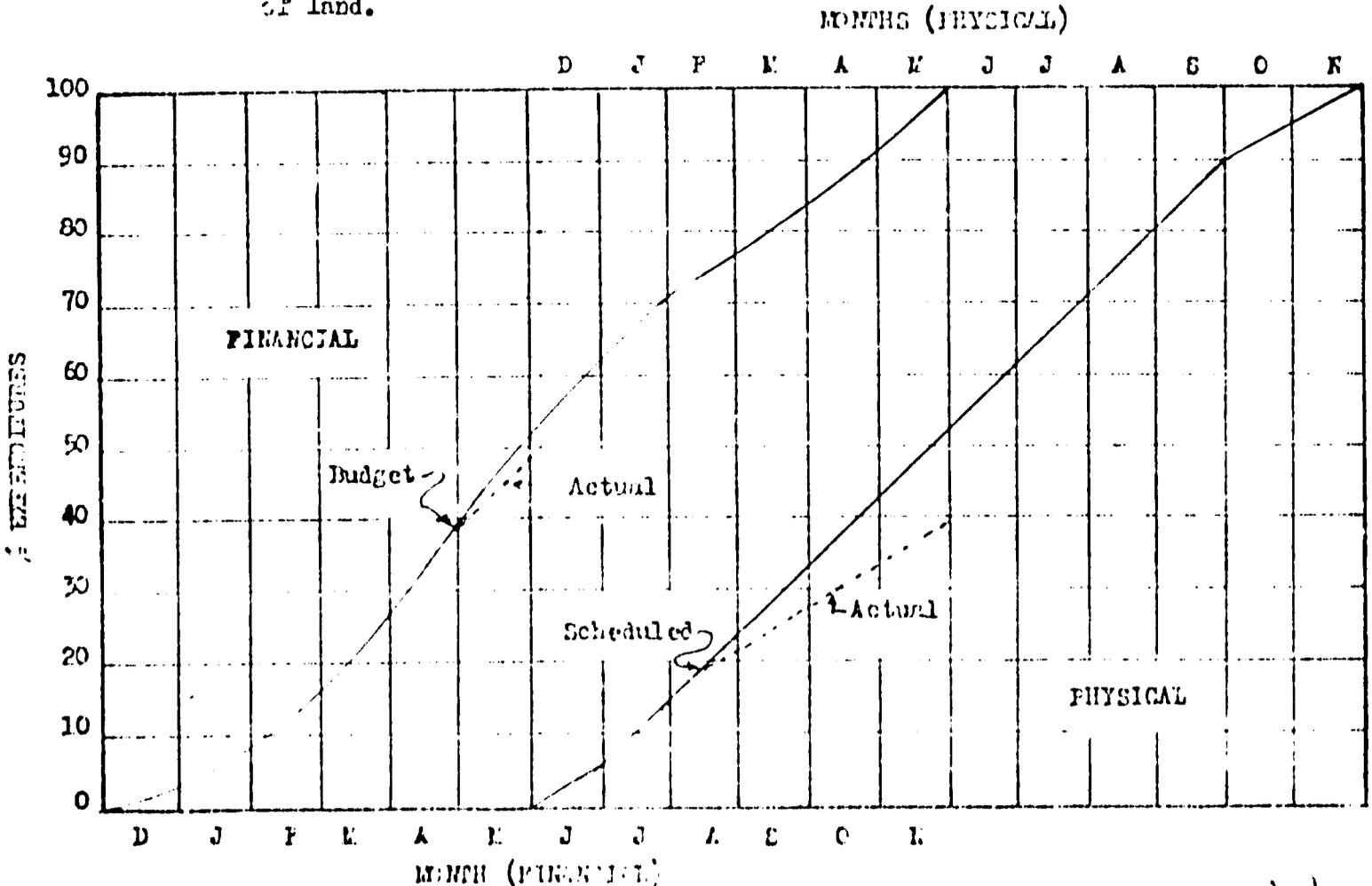
PRE-CONSTRUCTION PHASE (PCP)

<b>TOTAL PROJECT BUDGET <sup>x</sup></b>	<b>\$1,953,445</b>		<b>THIS MONTH</b>	<b>TO DATE</b>
<b>ESTIMATED BUDGET FOR PRECONSTRUCTION PHASE</b>	<b>\$ 825,000</b>	<b>ELAPSED CONTRACT TIME (DAYS)</b>	<b>31</b>	<b>173</b>
<b>TOTAL EXPENDITURES TODATE</b>	<b>\$ 403,481 <sup>xx</sup></b>	<b>NO. PCP EVENTS SCHEDULED FOR COMPLETION</b>	<b>3</b>	<b>11</b>
<b>% EXPENDITURE TO TOTAL BUDGET</b>	<b>20.7 %</b>	<b>NO. OF PCP EVENTS COMPLETED</b>	<b>1</b>	<b>4</b>
<b>% EXPENDITURE TO PCP</b>	<b>48.9 %</b>	<b>PERCENT PCP COMPLETED</b>	<b>10%</b>	<b>38%</b>
		<b>PCP EVENTS REMAINING</b>	<b>-</b>	<b>25</b>
		<b>DAYS TO SCHEDULED PCP COMPLETION</b>	<b>-</b>	<b>177</b>
		<b>PROJECTED DAYS TO ACTUAL PCP COMPLETION</b>		<b>Note 1</b>
		<b>DAYS EARLY (LATE) PROJECTED PCP COMPLETION</b>		<b>Note 1</b>

<sup>x</sup> Excludes \$306,600 for Special Project Activity

<sup>xx</sup> Excludes \$19,103 for Special Project Activity

- NOTES : 1. Dependent when Chowmuhani and "Dhaka" sites are made available by BADC
2. Kinshoreganj site made available for survey on 16/18 May 1983. Permission for soil exploration pending BADC taking possession of land.

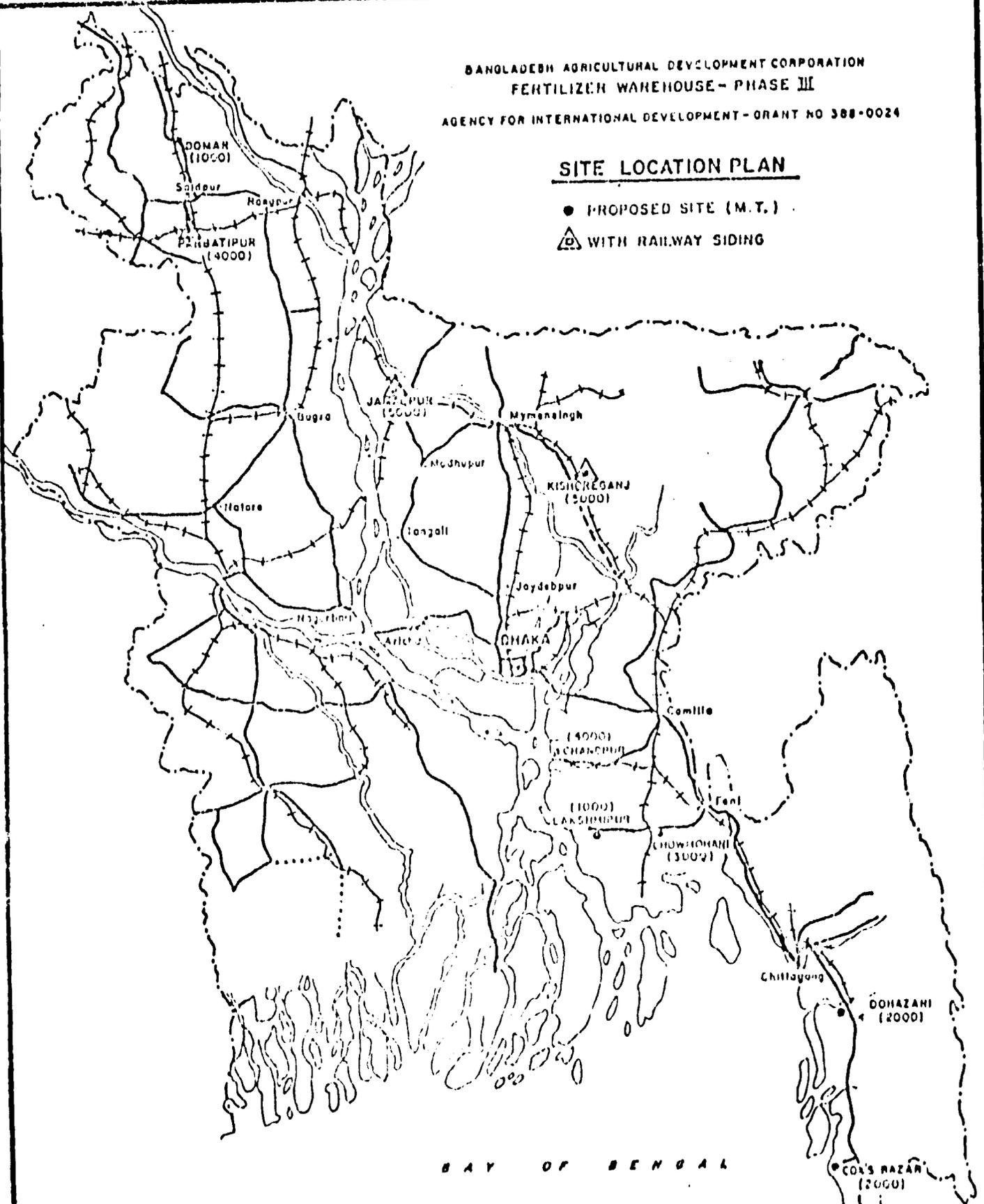


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BAHOLADEBH AGRICULTURAL DEVELOPMENT CORPORATION  
FERTILIZER WAREHOUSE - PHASE III  
AGENCY FOR INTERNATIONAL DEVELOPMENT - GRANT NO 388-0024

SITE LOCATION PLAN

- PROPOSED SITE (M.T.)
- △ WITH RAILWAY SIDING



REVISED: BADC MEMO NO. 2HA(ISTG)107/01-02/1968  
DATED 24 APRIL 1963

AMMANN & WHITNEY  
Consulting Engineers  
NEW YORK - DHAKA

## 1. ADMINISTRATION

### 1.1 The Consultant's Agreement

- . Contract Agreement Signed - 9 December 1982
- . Effective Date - 9 December 1982
- . AID Letter of Commitment  
No. 388-0024-3-30381 - 15 December 1982
- . Duration - 28 February 1985

### 1.2 Expatriate Staff

The following expatriate personnel have been approved for the project by BADC and USAID and are in-country:

		<u>Man-Months</u>	
		<u>Allocated</u>	<u>Utilised</u>
George A. Pecht	- Project Manager	27	5.59
Harry S. Allen	- Chief Construction Engineer	25	3.79
Samuel Heyman	- Foundation Engineer	6	4.04
Colin G. Landrigan	- Structural Engineer	4	3.41

### 1.3 Contract Administration

#### 1.3.1 For action by BADC:

- . Taka Imprest Account opened with Tk. 5,36,387.45 being the amount transferred from SD-84 vide letter AOCTT/Bank/14-20/82-83/664/1(5) dt. 12.4.'83. Balance amount yet to be transferred.  
Refer /301, 24.5.83.
- . Amendment No.1 to Consultant's Agreement extending duration to 30 June 1985.
- . Obtain T&T approval for wireless licence for radio communication. (2NA(ETG)139/81-82/1776, 4 April 83.)
- . Approval to procure project vehicles. Refer 724-1.1.11/184, 15 Mar 83 and AID Letter No.449, 27.03.83.
- . Approval of payments of balance of invoices. (/236, 18.4.83 and /300, 24.5.83).
- . Approval of procurement of plain paper copier. (/271, 8 May 83).

### 1.4 Meetings

- . 5 May 83 Office of Project Director Design Concept of Warehouses /279, 09.05.83
- . 31 May 83 Office of Consultant Land Acquisition Problems at Dohazari, Parbatipur and Kishoreganj.

## 1.5 Supporting Bangladeshi Personnel

### 1.5.1 WEL and SSL Personnel (Subcontract)

Designation	Man-Month	
	Allocated	Utilized
Deputy Project Manager	27	5.5716
S&M Engineer	24	4.6364
Structural Engineer	6	3.3500
Architect	4	3.2934
Electrical Engineer	6	-
Railway Engineer	24	2.9565
Office Engineer	26	4.9091
Land Procurement Officer	12	3.7196
Surveyor	25	3.8500
Instrument Man	25	3.8500
Rodman	25	3.7000
Chainman	25	3.7000
Draftsman	54	16.2425
Laboratory Technician	56	5.8696
Laboratory Assistant	56	-
Estimator	48	2.6087
Senior Field Engineer	60	4.0000
Field Engineer	80	-
Inspectors	128	-
Drivers	94	-
Messenger	34	-
Peon	34	-
Guard	68	-
Office Superintendent/Accountant	34	-
Clerk	34	-
Typist	34	-

### 1.5.2 Administrative Personnel

Administrative Manager	27	5.4546
Senior Accountant	27	5.7273
Assistant Accountant	44	4.4545
Secretary	27	5.7273
Printer	27	4.0000
Typist	72	13.1773
Clerk	45	5.7273
Drivers	103	19.7072
Messenger	45	3.0000
Peon	72	8.7273
Guard	90	22.9091
Radio Operator	48	-

1.6 Project Expenditures  
(Estimated Project Cost Incurred)

<u>Item</u>	<u>Budget</u>	<u>This Month</u>	<u>Cumulative</u>
Services in Bangladesh	\$ 746,188	\$ 35,586	\$ 160,718
Services in Home Office	176,178	22,989	100,873
International Travel, etc.	85,740	-	5,937
Housing Allowances			
Per Diem, etc.	91,075	5,306	21,848
Logistic Costs	223,400	4,944	27,223
Supporting Staff	382,404	8,086	35,935
Misc. Direct Costs	43,000	5,095	5,287
Fixed Fee	205,460	7,610	45,660
	\$ 1,953,445	\$ 89,616	\$ 403,481
Percent of Estimated Budget		4.59%	20.65%
Percent Contract Time			18.55%
Special Project Activity	\$ 306,620	\$ 14,181	\$ 19,103

1.7 Billing and Payments

<u>Invoice No.</u>	<u>Period Ending</u>	<u>Letter No. &amp; Date</u>	<u>Billing</u>	<u>Payments</u>
01 - 02	28 Feb 83	-	\$ 97,777.54	\$ 95,117.01
03	31 Mar 83	266, 4 May 83	\$ 90,180.24	\$ 89,289.35

- Mobilization advance of \$ 150,000 received for procurement of Special Project Activity.

1.8 Reports

- Monthly Progress Report No.5 for April 1983 submitted by letter /278, 9 May 1983.

1.9 General

- Further delay beyond June 15, in handing over sites at Chowmahani and "Dhaka" will not allow sufficient time for surveys, soils investigation and testing, and completing designs to include in tender package.

1.10 Progress Schedule

As shown in "Financial-Progress Schedules" (included at front of this report) the scheduled physical progress is 52% and the actual progress is 38%. This shortfall is due to delay in BADC handing over sites at Kishoreganj, Chowmahani and "Dhaka" resulting in delay in carrying out scheduled topographic surveys, soils investigation and other activities and completing events shown on the Activity Schedule and Network Charts which follow.

The Network Chart and Activity Schedule were prepared on the basis that BADC has acquired all planned sites for location for construction upon effective date of the Consultant's contract as stated in the project's Scope of Work.

#### 1.10 Progress Schedule - cont'd.

The Activity Schedule, prepared on basis of Network Charts and Scope of Work forming part of the Consultant's contract, shows graphically the scheduled activity and by darken line the estimated actual completion. Graphically, the ratio of the darken portion to the total schedule time multiplied by 100 indicates percent completion for the activity.

Several activities have been rescheduled. This rescheduling was necessary due to the delay (10/18 May) in obtaining permission from BADC to enter onto the Kishoreganj site for survey work. A further rescheduling is required if permission to enter onto site for soil exploration is not given by June 1, 1983.

It should be noted that handing over of remaining sites to permit the Consultant to complete the work to include these sites in the construction program is on the critical path to meet 5 September 1983 date for inviting bids.

The Consultant requires at least thirty days time from availability of last site to complete soils investigation, testing and analysis for recommending foundation design and to perform estimates and complete bid documents. The activity schedule indicates that the outstanding sites must be available by June 15 to meet targeted September 5 date for inviting bids and for completion of all construction by scheduled date of 31 December 1984.

BANGLADESH AGRICULTURAL DEVELOPMENT CORPORATION  
 WAREHOUSES PHASE III  
 PRECONSTRUCTION PHASE  
 ACTIVITY SCHEDULE

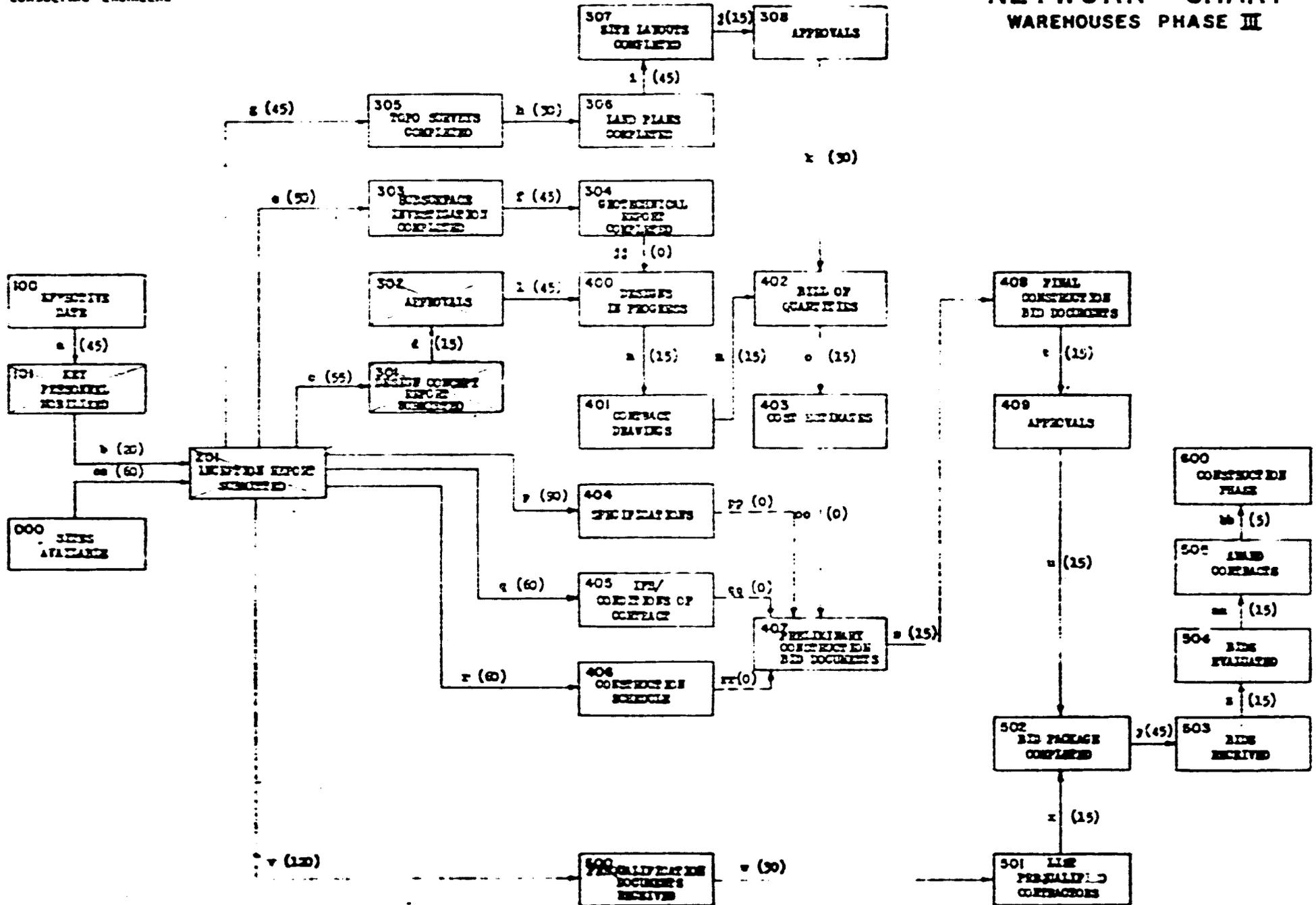
31 MAY 1983  
(MONTH ENDING)

ACTIVITY NO.	ACTIVITY DESCRIPTION	MONTHS												ACTIVITY DURATION (DAYS)	ESTIMATED RELATIVE COST (%)	ESTIMATED QUANTITY										
		DEC	JAN			FEB			MAR			APR					MAY	JUN	JUL	AUG	SEP	OCT	NOV			
		25	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	300	315	345			
a	Mobilize Personnel													45	100	100										
b	Preparation of Inception Report													55	100	100										
c	Preparation of Design Concept Report													75	100	100										
d	BADC/AD Review													15	273	100										
e	Soil Borings and Testing													80	163	70										
f	Analysis and Formulating Recommendation													45	151	70										
g	Topographical and Land Surveys													55	280	80										
h	Drafting of Land Plans													45	184	80										
i	Develop Joint Site Layouts													45	151	80										
j	BADC/AD Review													15	153	80										
k	Finalize Site Layouts/Prepare Bill of Quantities													30	27	10										
l	Develop Warehouses and Ancillary building designs													45	84	25										
m	Develop Contract Drawings													45	51	10										
n	Finalizing Bill of Quantities													45												
o	Finalize Cost Estimates													45												
p	Prepare Specifications													90	75	15										
q	Prepare Contract Documents													75	70	30										
r	Prepare Construction Schedule													60	13	25										
s	Finalize and Coordinate Contract Documents													25												
t	BADC/AD Review													15												
u	Finalize Bid Packages													15												
v	Prepare Prequalification Papers and Invite Firms to Prequalify													125	88	88										
w	Analyze and Prepare List of Prequalified Firms													30												
x	BADC/AD Approval of List													35												
y	Invitation for Bids													45												
z	Evaluate Bids and Recommend Award													15												
aa	BADC/AD Approvals													15												
ab	AD Opens Letter of Commitment													5												
ac	BADC Handing Over Sites													60	288	80										

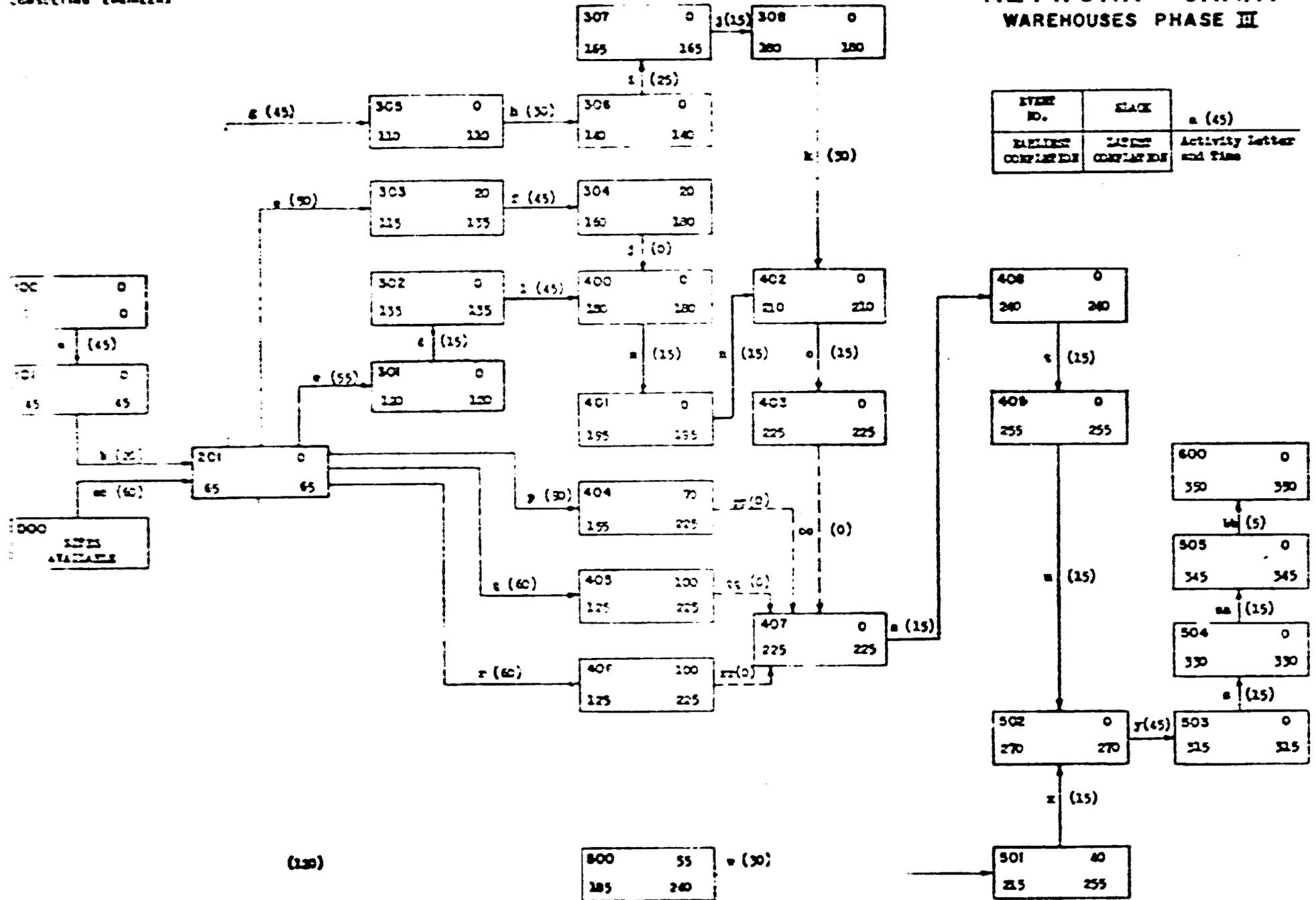
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# NETWORK CHART WAREHOUSES PHASE III



# NETWORK CHART WAREHOUSES PHASE III



## 2. PLANNING/DESIGN/PRODUCTION

### 2.1 Site Development Phase

#### 2.1.1 Identification of Sites

Pending with BADC is selection of a site in Dhaka area for the construction of a 6000 MT warehouse and permission to enter into the site at Chowmahani for soil investigation and topographic and land survey.

BADC to transmit mouza maps and right of use documents to the Consultant for Chowmahani to facilitate land surveys.

#### 2.1.2 Site Status

##### B1 Kishoreganj (5000 MT)

By letter ADC/S/Sales/3C-3/69-76/1920 dated 11 May 83, BADC informed the Consultant that they have permission to enter Kishoreganj site to carry out topographic and land surveys. On 18 May BADC informed the Consultant that they could proceed to carry out soils investigation. The private land owners have not yet been paid for acquisition and due to standing crop, there may be objection by local people in doing this work and further delay is anticipated.

The survey team completed the topographic survey between 15-19 May 1983. BADC is to take over possession of the site from Deputy Commissioner.

##### C3 Jamalpur (5000 MT)

The site layout plan incorporating BADC's comments submitted by the Consultant (7/80, 9 May 1983) was approved by BADC on 18.5.83. BADC to arrange to acquire/purchase plot No. 325 which is required for the construction work.

##### F1 Dohazari (2000 MT)

Documents made available by BADC indicates wide variation in location, shape and size of land than that shown in previous documents made available and IECO's Land Plan which was basis, as per BADC's direction, for the Consultant's topographic and land survey and soil investigation.

In a meeting held on 30 May 1983 with BADC it was decided to acquire only sufficient land for a 2000 ton warehouse and submit revised proposal to Government. The previous acquisition was for land to accommodate a 4000 ton godown.

It is roughly estimated that over 1.0 million cft of earth fill required to develop this site with estimated cost of over Taka 40 lacs. The construction time available to place and compact this quantity of fill and construct the godown and ancillary buildings is a factor for determining to include this site in the construction bid package.

F3 Cox's Bazar (2000 MT)

The Consultant's land procurement officer (LPO) and surveyor proceeded to Cox's Bazar to collect particulars for acquisition of land for access to the river and easement for road access to the site. A land plan was prepared by the Consultant and transmitted to BADC (/284, 10 May 1983) for these acquisitions.

Revised site layout plan was submitted and has been approved by BADC on 18.5.83.

H2 Chowmahani (3000 MT)

Soil investigation and survey works for this site is pending BADC taking over the proposed site and informing the Consultant of permission to enter the site for the work.

H3 Lakshmipur (1000 MT)

The site layout plan submitted to BADC was approved (BADC Memo No.PD/FWP-Phase-3/106.09/765 dt. 3.5.83).

I4 Chandpur (4000 MT)

The site layout plan has been revised due to revising capacity of the warehouse from 6000 MT to 4000 MT. The revised site layout plan submitted to BADC (/280, 9 May 1983) has been approved by BADC on 18.5.83.

I4 Domar (1000 MT)

The Consultant after revising the size of the warehouse from 2000 to 1000 ton, as per BADC's directive, submitted the revised site layout plan to BADC (/280, 9 May 1983) which layout was approved on 18.5.83.

O5T Parbatipur (400 MT)

The Consultant submitted a draft of site layout plan for BADC's comments/approval and land plan for information (/276, 9 May 1983, /281, 10 May 1983). The site layout plan was approved by BADC on 18.5.83. Some discrepancies were noted in C.S. Plot number on mouza map for the area acquired and communicated to BADC for clarification. (/293, 17 May 1983).

The Consultant's Foundation Engineer informed after return from soils investigation that the boundary corners previously shown by the Thana Inspector and monumented by the Consultant's survey team are being relocated by BADC's Thana Inspector, (TI) Parbatipur. This relocation might affect the site layout drawing O5-002. The Consultant is holding in abeyance further work until the demarcation of land is settled by Land Acquisition Office.

### 2.1.3 Land Plans and Site Layouts

Land plans have been completed for Jamalpur, Chandpur, Lakshmipur, Dohazari, Cox's Bazar, Domar and Parbatipur.

Revised site layout plans for Lakshmipur, Jamalpur, Dohazari, Cox's Bazar, Chandpur and Domar were approved by BADC. (BADC Memo No. PD/FWP-Phase-3/106.07/793, 18.5.83)

### 2.1.4 Soil Investigation and Topographic Surveys

Additional soil borings at Parbatipur are in progress at the proposed location of the godown which would provide ready access by rail to the existing godowns.

The collected samples from Parbatipur are undergoing laboratory testing which is to be completed by mid June, 1983.

The Foundation Engineer has analysed the test results of samples collected from Jamalpur, Chandpur, Lakshmipur, Dohazari, Cox's Bazar and Domar sites. The tests include standard penetration tests, consolidation tests with time rate of settlement curves, unconfirmed compression tests, Atterberg Limit, specific gravity test, laboratory vane shear tests and visual classification of samples.

Based on his analysis the Foundation Engineer recommends preloading for Dohazari and either preloading or piles for Jamalpur. No decision on foundation design has been reached for Parbatipur or Kishoreganj. No foundation problem is anticipated at Cox's Bazar, Lakshmipur, Chandpur or Domar.

### 2.1.5 Railway Siding

The layout plan for railway siding at Jamalpur and Parbatipur has been prepared and approved by BADC. Refer to 2.1.2 above concerning land discrepancies and effect on location and layout of godown and railway siding at Parbatipur.

## 2.2 Design and Estimate Phase

### 2.2.1 Design Review

#### Ancillary Building

Detail design and preparation of contract drawings for ancillary buildings is in progress.

#### Warehouse

Detailed warehouse designs are proceeding as per recommendation of the Consultant in the Warehouse Design Concept Report.

#### Estimate

Analysis of sitewise rates for items of construction is under review by the Consultant.

### 2.2.2 Contract Documents

The Consultant after reviewing USAID's comments on the draft Instruction to Bidders, Form of Tender, Form of Agreement and Condition of Particular application has submitted revised draft. BADC's comments on the documents is pending (/288, 16 May 1983)

Preparation of technical specifications is in progress. Designs and drawings of typical details are under preparation.

### 2.3 Construction Documents Plan

#### 2.3.1 Prequalification Documents

Intending contractors in response to Invitation To Prequalify are being supplied with prequalification forms. Ninety-five (95) firms have applied as of period ending 31 May.

### 2.4 General

- The Consultant is proceeding with the design of the warehouse structure on basis of ultimate strength design and recommendation of use of deformed bars.
- An outstanding issue is the requirement for plastering of interior and/or exterior brick wall of the godowns and ancillary buildings. The Consultant's recommendation is for brick pointing (without plaster) for exterior faces of walls of all buildings and preferred interior face of godowns.
- Decision on type and extent of boundary wall/fence to be adopted at each side is pending.
- Further discussion on type of access road and parking area pavement is required.

**WAREHOUSES PHASE III**  
**PRE-CONSTRUCTION PHASE**  
NETWORK PLAN - EVENT/ACTIVITY LIST

<u>EVENT NO.</u>	<u>ACTIVITY NO.</u>	<u>EVENT</u>	<u>ACTIVITY</u>
100		Effective Date	
	a		Mobilize Personnel
101		Key Personnel Mobilized	
	b		Preparation of Inception Report
201		Inception Report Submitted	
	c		Preparation of Design Concept Report
301		Design Concept Report Submitted	
	d		BADC/AID Review
302		Approval	
	e		Soil Borings and Testing
303		Subsurface Investigation Completed	
	f		Analysis and Formulating Recommendation
304		Geotechnical Report Completed	
	g		Topographic and Land Surveys
305		Topo/Land Surveys Completed	
	h		Drafting of Land Plans
306		Land Plans Completed	
	i		Develop Draft Site Layouts
307		Site Layouts Completed	
	j		BADC/AID Review
308		Approvals	
	k		Finalize Site Layouts/Prepare Bill of Quantities

<u>EVENT NO.</u>	<u>ACTIVITY NO.</u>	<u>EVENT</u>	<u>ACTIVITY</u>
402		Site Development Bill of Quantities Complete	
	l		Develop Warehouses & Ancillary Building Designs
400		Design in Progress	
	m		Develop Contract Drawings
401		Contract Drawings Completed	
	n		Finalizing Bill of Quantities
402		Bill of Quantities Completed	
	o		Finalize Cost Estimates
403		Cost Estimates Completed	
	oo		Dummy
407		Construction Bid Documents	
	p		Prepare Specifications
404		Specifications Completed	
	pp		Dummy
407			
	q		Prepare Contract Documents
405		IFB/Conditions of Contract Completed	
	qq		Dummy
407			
	r		Prepare Construction Schedule
406		Construction Schedule Complete	
	rr		Dummy
407		Preliminary Construction Bid Documents Completed	
	s		Finalize and Coordinate Contract Documents
408		Final Contract Bid Documents Completed	
	t		BADC/AID Review

<u>EVENT NO.</u>	<u>ACTIVITY NO.</u>	<u>EVENT</u>	<u>ACTIVITY</u>
409		Approvals	
	u		Finalize Bid Packages
502		Bid Package Completed	
	v		Prepare Prequalification Papers and Invite Firms To Prequalify
500		Prequalification Document Review	
	w		Analyze and Prepare List of Prequalified Firms
501		List of Prequalified Contractors	
	x		BADC/AID Approval of List
502		Bid Package Completed	
	y		Invitation For Bids
503		Bids Received	
	z		Evaluate Bids and Recommend Award
504		Bids Evaluated	
	aa		BADC/AID Approvals
505		Award Contract(s)	
	bb		AID Opens Letter(s) of Commitment
600		Construction Phase	