

Final Report

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PDAAT-939

ISN=46259

Design and Construction Supervision of Grain and TOF Storage Facilities in Safaga and Alexandria

Volume I

**Laboratory Equipment,
Portable Bagged Grain Conveyors and
Safaga Silo Complex (Design)**

**Prepared for
General Authority for Supply Commodities
Ministry of Supply
Cairo, Arab Republic of Egypt**

Prepared by



BLACK & VEATCH INTERNATIONAL
ENGINEERS - ARCHITECTS

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8 May 1985

General Authority for Supply Commodities
Ministry of Supply
99, Kasr El-Aini Street
Cairo, Egypt

Attention: Mr. Mahmoud T. Wali
First Undersecretary

Subject: Grain/TOF Terminal Storage Facility
USAID Project 263-K-041
Project Completion Report

Dear Mr. Wali:

Black & Veatch International is pleased to submit this Project Completion Report covering our engineering services with respect to Design and Construction of Grain and TOF Facilities in Safaga and Alexandria. All work required by Black & Veatch International under the Contract Documents has been completed.

This Final Completion Report consists of three separate volumes. Together they cover the five subprojects under USAID Project Loan No. 263-K-041. The three volumes are:

- Volume I - Laboratory Equipment, Portable Bagged Grain Conveyors, and Safaga Silo Complex (Design), Port of Safaga.
- Volume II - Quay 81/82 Bagging Facility, Port of Alexandria.
- Volume III - Tallows, Oils and Fats Facility, Port of Alexandria.

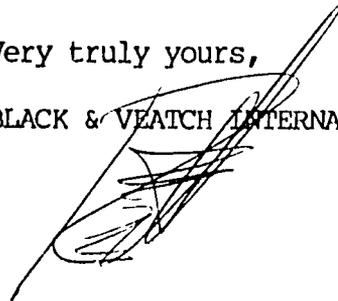
During the execution of our services, we have worked closely with representatives of the Ministry of Supply. We would like to express our sincere thanks for the assistance and cooperation provided to us.

.../...

We appreciate the opportunity of working with the Ministry of Supply and trust that we shall have future opportunities to be of service.

Very truly yours,

BLACK & VEATCH INTERNATIONAL

A handwritten signature in black ink, appearing to be 'R. Zitterkopf', written over the typed name. The signature is stylized and somewhat cursive.

R. Zitterkopf
Vice President

REZ/ef

FINAL REPORT

DESIGN AND CONSTRUCTION SUPERVISION OF
GRAIN AND TOF STORAGE FACILITIES IN
ALEXANDRIA

VOLUME I

LABORATORY EQUIPMENT
PORTABLE BAGGED GRAIN CONVEYORS AND
SAFAGA SILOS COMPLEX (DESIGN)

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VOLUME I

LABORATORY EQUIPMENT
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SECTION I
PROJECT SUMMARY

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LABORATORY EQUIPMENT

PORTABLE BAGGED GRAIN CONVEYORS

SAFAGA SILO COMPLEX (DESIGN)

SECTION I PROJECT SUMMARY

A. INTRODUCTION.

This is Volume I of a three volume Final Report covering the design and construction supervision of Grain and TOF Storage Facilities in Safaga and Alexandria. The other volumes are:

- Volume II, Quay 81/82 Bagging Facility at the Port of Alexandria.
- Volume III, Tallows, Oils and Fats Facility in Alexandria.

This Volume I covers the following:

- a. Laboratory Equipment. Procurement of two (2) units of modern proximate analyzers for quality control of grains and flours.

- b. Portable Bagged Grain Conveyors. Procurement of sixty-nine (69) inclined, motor-driven, belt bagged grain conveyors.

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c. Safaga Silo Complex (Design). Development of a new port silo at the Port of Safaga. The new facility is designed for a storage capacity of 100,000 metric tons and a projected throughput of over 1,000,000 metric tons/year. This facility includes pneumatic ship unloading, conveyance systems, storage silo and grain bagging systems. The outloading of the complex allows inland transport of grain bulk truck and bagged grain truck as well as bulk and bagged rail transport. The silo complex is equipped with dust control systems, reclaim bucket elevators, accurate weighing facilities and aeration and fumigation equipment. This complex also includes a fully equipped machine shop, spare parts warehouse, workers welfare building and administration building.

B. IMPLEMENTATION

1. **LOAN AGREEMENT.** The original loan agreement between the Arab Republic of Egypt, Ministry of Supply and Home Trade and the United States Agency for International Development, under loan No. 263-K-041, was signed on 28 September 1977. The amount of the loan was U.S.\$ 42,000,000 and was to cover the foreign currency portion of the implementation cost for five sub-projects.

The five sub-projects with the allocation of loan funds as well as the local currency amounts funded for each was as follows:

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	U.S. Dollars (USAID Loan No. 041)	Egyptian Pounds (ARE)
1) Laboratory Equipment	63,000	2,000
2) Portable Bagged Grain Conveyors	572,000	7,000
3) Quay 81/82 Bagging Facility	6,770,000	1,538,000
4) Safaga Silo Complex	24,127,000	10,687,000
5) Tallow, Oils & Fats Facility	9,324,000	2,655,000
- Unallocated Contingency	1,144,000	
TOTAL	\$ 42,000,000	L.E. 14,889,000

This volume I of the Final Report covers sub-projects No. 1, 2 and 4 of the above allocated loan funds.

2. IMPLEMENTATION LETTERS. Procedures for utilizing the proceeds of the loan were outlined in AID Implementation Letter No. 1, dated 20 January 1978. Also, Implementation Letter No. 1 stipulated that the terminal date for requesting Letters of Commitment, or amendments thereto, was 30 September 1981, and for disbursement, 30 June 1982. The terminal and disbursement dates were subsequently extended to 31 March 1985. (The dates may be extended further to allow payment of later expenses incurred by the General Constructing Contractor under the Tallows, Oils and Fats Facility sub-project. This sub-project is detailed in Volume III of this Final Report.)

3. ENGINEERING SERVICES CONTRACT. The contract for Engineering Services

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was signed between the General Authority for Supply Commodities (GASC), an agency of the Ministry of Supply of the Government of the Arab Republic of Egypt (A.R.E.), and Black & Veatch International, Consulting Engineers (BVI), a duly recognized U.S. Corporation, on 17 June 1978. The original contract amount was \$ 3,771,665.00 (three million seven hundred seventy-one thousand six hundred sixty-five U.S. Dollars) and L.E. 947,085.00 (nine hundred forty-seven thousand eighty-five Egyptian pounds). This contract was to provide the Engineering Services for all five of the sub-projects.

The following firms are in subcontract association with BVI:

- Arab Consulting Engineers (ACE)
- Technical Industrial Consulting Office (TICO)
- M. A. Sinbel Consulting Engineers (MAS)
- Muesser, Rutledge, Johnson & DeSimone Consulting Engineers (MRJD)

The services of these firms are provided under the auspices of the BVI Engineering Services Contract.

The Engineering Services Contract has been amended seven times as follows:

- Amendment 1, dated 17 July 1978
- Amendment 2, dated 1 February 1979
- Amendment 3, dated 8 January 1981
- Amendment 4, dated 7 July 1981
- Amendment 5, dated 6 December 1981
- Amendment 6, dated 10 March 1983
- Amendment 7, dated 10 March 1983

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A breakdown of the original U.S. Dollar Engineering Services Contract amount, by sub-project, including Amendments 1 through 6 is located on Table I-1. The Egyptian Pound amounts are detailed in Table I-2. Please note that Amendment No. 1 made no financial commitment to the BVI Engineering Contract. Additionally, Amendment No. 7 has not been listed on these tables as the funds allocated in the amendment were not for financing under USAID Loan 263-K-041.

4. LETTER OF COMMITMENT. A Direct Letter of Commitment for the Engineering Services (No. 263-K041-01) in favour of BVI was issued by USAID on 11 July 1978. This Letter of Commitment covers the U.S. Dollar contract amount and the expiry date corresponds with the terminal date for disbursements under the USAID Loan.

Financial details of expenditures against the Letter of Commitment may be found in the Letter of Commitment report located in Section VI.

TABLE I-1
BVI ENGINEERING SERVICES CONTRACT
U.S. DOLLAR BUDGET

Sub-Project	Original Contract Amount U.S.D.	Amendment No. 1	Amendment No. 2	Amendment No. 3	Amendment No. 4	Amendment No. 5	Amendment No. 6	Total Contract Amount U.S.D.
1) Laboratory Equipment	8,000	-	-	-	-	-	-	8,000
2) Portable Bagged Grain Conveyors	19,000	-	-	-	-	-	-	19,000
3) Quay 81/82 Bagging	791,200	-	29,985	163,581	-	199,292	-	1,184,054
4) Safaga Grain Silos	2,166,014	-	58,980	-	863,427	-	-	3,088,421
5) Tallows Oils & Fats	787,451	-	28,240	123,143	-	-	249,474	1,188,308
TOTALS	\$3,771,665	-	117,205	286,724	863,427	199,292	249,474	\$5,487,787

TABLE I-2
BVI ENGINEERING SERVICES CONTRACT
EGYPTIAN POUND BUDGET

Sub-Project	Original Contract Amount L.E.	Amendment No. 1	Amendment No. 2	Amendment No. 3	Amendment No. 4	Amendment No. 5	Amendment No. 6	Total Contract Amount L.E.
1) Laboratory Equipment	400	-	-	-	-	-	-	400
2) Portable Bagged Grain Conveyors	450	-	-	-	-	-	-	450
3) Quay 81/82 Bagging	106,710	-	14,755	74,817	-	54,600	-	250,882
4) Safaga Grain Silos	613,475	-	33,510	-	-	-	-	646,985
5) Tallows Oils & Fats	226,050	-	12,410	102	-	-	52,433	290,995
TOTALS	L.E.947,085	-	60,675	74,919	-	54,600	52,433	L.E.1,189,712

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PORTABLE BAGGED GRAIN CONVEYORS AND
SAFAGA SILO COMPLEX (DESIGN).

SECTION II
PARTICIPANTS AND CONTRACT APPROACH

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SECTION II PARTICIPANTS AND CONTRACT APPROACH

A. SPONSORING AGENCY

This project was carried out under the sponsorship of the Ministry of Supply and Home Trade, Arab Republic of Egypt (A.R.E.). Implementation and administration of the project was performed by the General Authority for Supply Commodities (GASC).

B. FUNDING AGENCY

U.S. Dollar funds for the project were provided through loan No. 263-K-041 from the United States agency for International Development (USAID). Egyptian Pound funds for the project were provided by the Arab Republic of Egypt.

C. ENGINEERING SERVICES

The engineering design and construction supervision services were performed by Black & Veatch International (BVI), Consulting Engineers, Kansas City Missouri, U.S.A. with assistance of the Arab Consulting Engineers (ACE), Technical Industrial Consulting Office (TICO), M. A. Sinbel Consulting Engineers (MAS) and Muesser, Rutledge, Johnson and DeSimone Consulting Engineers (MRJD).

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The scope of services provided by the Engineer, BVI, included the following:

1. ASSIST THE GASC IN PROCUREMENT OF LABORATORY EQUIPMENT.

a. Procurement IFB. The Engineer prepared specifications and Invitation For Bids (IFB) and other documents which were applicable to the purchase of laboratory equipment. Procurement of the equipment by GASC was in accordance with appropriate sections and regulations of USAID Handbook 11, Country Contracting, and in accordance with pertinent A.R.E. procedures when other than A.I.D. funds were used to finance the procurement.

The procurement IFB included, to the extent applicable, the following:

- Detailed specifications, drawings and other data, as applicable.
- Provision for concurrent spare parts, special tools, operating and repair manuals, laboratory instrument and equipment, etc.
- Commercial contract terms and conditions including, when appropriate, requirements for guarantees, warranties, performance bonds and default procedures, and special A.I.D. provisions.
- Provisions for supervision of installation and operator training.

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- The IFB was accompanied by a synopsis of same for advertising purposes and a cost estimate for the equipment and materials included in the IFB. The GASC and A.I.D. approved the IFB and BVI issued invitation to bidders and issued such IFB amendments and clarifications as were necessary.

b. Contract Administration. The Engineer provided services relative to bid evaluations, contract award and administration as follows:

- Upon receipt of bids, the Engineer made technical and commercial analysis and evaluations of all bids to assure their responsiveness, compliance with all terms and specifications, and reasonableness of price.
- Submitted bid tabulations, analysis and evaluations, together with recommendation for award of contract, to GASC and simultaneously to USAID/Cairo for their distribution.
- Upon receiving written notice from GASC that award was approved, prepared appropriate Notice of Award and requisite letters to unsuccessful bidders for issuance by GASC. Assisted GASC in matters pertaining to procurement contract preparation, execution and administration as requested. Assisted GASC in processing any claims against vendors.

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- Assisted and advised GASC in making shipping arrangements, securing proper insurance coverage, export and import documentation. Certified invoices for progress payments, as necessary, and performed other administrative work necessary to effect the timely supply of equipment and materials in accordance with project completion requirements.
- Reviewed all detailed shop layout drawings submitted by the suppliers for conformance to design and specifications.
- Ensured the timely manufacture, inspection, testing and delivery of the equipment.
- Advised and assisted GASC in securing contractual guarantees and warranties and monitored vendors' performance under the contract. Recommended to GASC necessary actions to ensure compliance by the supplier with all contract provisions.
- Advised and assisted the GASC to establish and implement proper procedures for controlling the use of equipment and materials procured.

2. ASSIST THE GASC IN PROCUREMENT OF PORTABLE BAGGED GRAIN CONVEYORS.

a. Procurement IFB. The ENGINEER prepared complete specifications and Invitation for Bids (IFB) and other documents applicable to the purchase of portable bag belt conveyors. Procurement of the equipment by GASC was in accordance with appropriate sections and regulations of USAID Handbook 11,

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Country Contracting, whenever A.I.D. funds were utilized to finance the procurement, or in accordance with pertinent ARE procedures when other than USAID funds were used to finance the procurement.

The procurement IFB included, to the extent applicable, the following:

- Detailed specifications, drawings and other data, as applicable.
- Provision for concurrent spare parts, special tools, operating and repair manuals.
- Commercial contract terms and conditions including, when appropriate, requirements for guarantees, warranties, performance bonds and defaults procedures, and special A.I.D. provisions.
- Provisions for supervision of installation and operator training, if appropriate.
- The IFB was accompanied by a synopsis of same for advertising purposes and a cost estimate for the equipment and materials included in the IFB. The GASC and A.I.D. approved the IFB and BVI issued invitations to bidders and such IFB amendments and clarifications as were necessary.

b. Contract Administration. The Engineer provided services relative to bid evaluations, contract award and administration as follows:

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- Upon receipt of bids, the Engineer made technical and commercial analysis and evaluations of all bids to assure their responsiveness, compliance with all terms and specifications, and reasonableness of price.
- Submitted bid tabulations, analysis and evaluations, together with recommendations for award of contract, to GASC and simultaneously to USAID/Cairo for their distribution.
- Upon receiving written notice from GASC that award had been approved, prepared appropriate Notice of Award and requisite letters to unsuccessful bidders for issuance by GASC. Assisted GASC in matters pertaining to procurement contract preparation, execution and administration as requested and furthermore, assisted GASC in processing any claims against vendors.
- Assisted and advised GASC in making shipping arrangements, securing proper insurance coverage, export and import documentation. Certified invoices for progress payments, as necessary, and performed all other administrative work necessary to effect the timely supply of equipment and materials in accordance with project completion requirements.
- Reviewed all detailed shop or layout drawings submitted by the suppliers for conformance to design concepts and specifications.

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- Ensured the timely manufacture, inspection, testing and delivery of the equipment.

- Advised and assisted GASC in securing all contractual guarantees and warranties and monitoring vendors' performances under the contracts. Recommended to GASC necessary actions to ensure compliance by all vendors with all contract provisions.

- Advised and assisted the GASC to implement proper procedures for controlling the use of the equipment and materials procured.

3. GRAIN SILO COMPLEX AT SAFAGA. The Engineer's services included project planning, investigations, design recommendations, detailed engineering design, and assistance in the procurement of construction services including the complete equipment and material for the Safaga Grain Silos Complex Project. The Engineer performed the following functions.

a. General. BVI prepared preliminary and final project design, construction and equipment cost estimates, and implementation recommendations for approval by GASC. These included:

- BVI planned, scheduled and provided technical services for the overall engineering, procurement, construction, initial operation and performance test program of the project.

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- Acting as consultant to the GASC, BVI coordinated all activities under its supervision to assure the project was implemented within the established cost estimate, plans and schedules.

- BVI Maintained effective continuous liaison with GASC and provided reports, consultation, advice and assistance required for the effective management and the efficient progress of the project.

b. Preliminary Engineering and Design. Following appropriate site and subsurface investigations and consultation with GASC, BVI prepared and submitted a Preliminary Project Design, cost estimates and Implementation Study to GASC for approval to proceed with the project, with information copies to USAID/Cairo.

The Preliminary Project Design and Implementation Study established a plan which allowed the earliest practicable start of final engineering design/equipment procurement/construction/installation on an uninterrupted basis.

The preliminary study provided specific and detailed consideration to each of the basic and supporting facilities required for full operation and maintenance of the facility and its equipment.

BVI recommended capacities, operating characteristics and principal features required for a completely coordinated operating facility. In like manner, planning criteria and standards for general site preparation, site development, earthwork and grading, structural excavation, foundations, drainage, site access and utility requirements were given specific consideration in scheduling.

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The study presented a comprehensive plan and schedule for the accomplishment of design and procurement, cited in detail the design criteria the Engineer intended to use for each of the various categories of work, and listed the standards (i.e., codes, testing standards, standard specifications, etc.) which it considered applicable to the work. It included the following items:

- Location
 - a. Site topography and surface features
 - b. Plant siting and layout
- Site Improvement
 - a. Access roads
 - b. Security fencing
 - c. Railroad access
 - d. Sanitary system
 - e. Drainage provisions
 - f. Utility requirements
 - g. Traffic plan of all modes of transportation
- Structures
 - a. Foundations
 - b. Silos
 - c. Ship unloading equipment
 - d. Headhouse
 - e. Intake conveyors and elevators
 - f. Discharge conveyors and elevators
 - g. Office, shop and garage buildings
 - h. Reception pit

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- Special Features

- a. Instrumentation
- b. Control room panels
- c. Fire protection system
- d. Indigenous available equipment and material
- e. Dust control system
- f. Miscellaneous equipment for laboratories and repair shop

The study was accompanied by a preliminary project schedule and a preliminary CPM (Critical Path Method) analysis. The schedule and CPM analysis reflected the Engineer's planning for design, engineering, procurement, construction and erection to the point of testing the complex. It predicted an optimal sequence of actions to result in an orderly and uninterrupted progress of work.

Special note was taken of planning and scheduling by Egyptian agencies who are responsible for provision of other support facilities and utilities.

The study was supplemented from time to time as required by the submission of preliminary engineering layouts and diagrams. Such submissions were for the purpose of assuring GASC concurrence with proposed design features prior to the expenditures of time and effort on detailed engineering which may not have met with GASC approval.

The study was accompanied by a preliminary cost estimate showing U.S. Dollar and/or local currency costs for all required equipment, materials and

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construction/erection services. The estimate took into consideration the availability and suitability of locally manufactured equipment and materials.

c. Final Engineering and Design. Upon approval of the Preliminary Project Design and Implementation Study by the GASC and receipt of Notice to Proceed, the Engineer initiated the final engineering and design phase, made engineering investigations and calculations needed to produce the design, detailed drawings, specifications and final cost estimates required for construction, installation and erection of all equipment, structures, etc. required for project.

The Engineer was responsible for procurement of the soils investigations required to provide a sound basis for final design. The Engineer prepared an invitation for proposal for soils consultation, drilling and testing services and solicited offers from a minimum of three prequalified firms or associations. The firm of Mueser, Rutledge, Johnston & DeSimone (MRJD) was selected to perform the soils consulting services on the basis of competence, experience and ability to perform the services. Amendment No. 2 to the ENGINEER'S Agreement provided funds for the Soils Consultancy subcontract.

The Engineer prepared the detailed site, site development, grading, layout, architectural, structural, mechanical, electrical, and instrument drawings and detailed specifications required for the construction, erection and installation of the project. BVI prepared final cost estimates showing U.S. Dollar and/or local currency costs for all required equipment, materials and construction/erection services.

BVI prepared detailed specifications covering equipment and materials and construction services required for the completion of the work.

Procurement specifications included applicable requirements for performance, reliability, erection supervision (if deemed necessary), guarantees and/or warranties, and spare parts provisions. Procurement documents for major equipment required the contractor to provide detailed shop and erection drawings for the ENGINEER's review and approval to ensure conformance with specifications and to provide information for related construction, installation and/or erection.

Engineering designs followed accepted U.S. standards, codes, criteria and practice. In addition, preparation of drawings and contract documents took into consideration local contracting procedures in Egypt. The Engineer maintained liaison with the GASC when formulating the documents to ensure that they met the needs of the GASC.

d. Procurement of Equipment, Materials and Construction Services. BVI prepared complete invitation for bids (IFB) documents applicable to all construction services, including the procurement of equipment and materials, and assisted in the evaluation of the bids received. The procurement of such construction services were in accordance with appropriate section of A.I.D. Handbook 11, Country Contracting, or in accordance with pertinent ARE procedures, as applicable.

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BVI planned and scheduled a complete construction program for the project in conformance with the approved Project Design and Implementation Study.

BVI submitted copies of complete final design, engineering drawings, specifications, draft construction IFB and a proposed construction contract to GASC for approval with copies to USAID/Cairo for information and concurrence.

After GASC approval, BVI prepared for publication a construction contract synopsis and a contractor prequalification questionnaire, reviewed questionnaire responses and participated in evaluation of such responses, and assisted GASC to prepare a prequalified bidder list.

BVI assisted GASC to issue an IFB to all firms on the approved prequalified bidders list, and received and tabulated all bids.

BVI analyzed and evaluated all bids to assure their responsiveness and compliance with the IFB. The Engineer ascertained whether the proposed successful bidder had the technical capability in all required areas and sufficient equipment and financial reserves to successfully complete the project within the proposed construction schedule. BVI submitted bid tabulations, analysis and evaluation, together with a recommendation for contract award to GASC with concurrent copies to USAID/Cairo.

e. Construction Supervision and Inspection. BVI's services under USAID Loan 263-K-041 covered the complete design of the Safaga Grain Silos Complex up to the negotiation, execution and award of the General Construction Contract. The ENGINEER's services covering construction supervision and contract administration were provided for in Amendment No. 7 of the Engineering Services Agreement and were financed under USAID Project Number 263-0165.

D. EQUIPMENT SUPPLIERS AND SERVICES

This Volume I covers three of the five sub-projects under the BVI Engineering Services Agreement with the GASC. The three sub-projects were for the Procurement of Laboratory Equipment, Procurement of Portable Bagged Grain Conveyors and Design of the Safaga Grain Silos Complex.

1. LABORATORY EQUIPMENT. The GASC procured two units of Grain Analyzing Equipment for quality control of grains and flours from the U.S. manufacturer, Neotec Instruments, Inc. The contract (No. 263-K-041-M201) was awarded to the supplier on 15 March 1979 and included optional equipment for maintaining and calibrating the instruments and technical services.

Details concerning the IFB preparation, bid evaluation, contract award and the technical and financial aspects of this contract are located in Volume I, Section III of this report.

2. PORTABLE BAGGED GRAIN CONVEYORS. The GASC procured sixty-nine (69) Portable Bagged Grain Conveyors from the U.S. supplier, American Export Group. The Contract (No. 263-K-041- M202) was awarded to the supplier on

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30 March 1981 and consisted of furnishing all labor, material, equipment and supervision to design and fabricate and transport to Egypt 69 electrically driven portable bagged grain conveyors.

Details concerning the IFB preparation, bid evaluation, contract award and the technical and financial aspects of this contract are located in Volume I, Section IV of this report.

3. SAFAGA GRAIN SILOS COMOLEX. In that the Safaga Project involved design services only, the construction contractor's services and equipment procurement is not covered by this report. However, three of the Quay 81/82 procurement contracts covered by Volume II of this report did contain a small quantity of equipment for the Safaga Grain Silos Complex Project. The equipment contracts were; Grain Storage & Bagging Bins (Contract No. 263-K-041-M204); Bag Closers and Bagging Conveyors (Contract No. 263-K-041-M203); Truck & Railroad Track Scales (Contract No. 263-K-041-M205). Please refer to Volume II for an explanation and description of these equipment contracts.

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LABORATORY EQUIPMENT

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SECTION III, LABORATORY EQUIPMENT

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SECTION III LABORATORY EQUIPMENT

A. GENERAL

The modernization of Egypt's flour milling, and the growing number of modern commercial bakeries and macaroni factories, made it necessary to control grain quality more closely than in the past. The GASC, therefore, felt a need for equipping a laboratory with testing equipment for the measurement of protein and moisture content in food grain.

Accordingly, the GASC requested USAID assistance for the procurement of Infra-red Grain Analyzing Equipment for quality control of grain and flours. The equipment was to be installed in a new laboratory to be provided by the GASC.

Only three U.S. suppliers of infra-red grain analyzers qualified under the specifications for testing as prepared by the United States Department of Agriculture. Following GASC and USAID review of the possibilities of bypassing the necessity for advertising for the procurement of laboratory equipment, it was agreed to issue the Invitation for Bid documents directly to the three U.S.D.A. certified suppliers.

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B. TECHNICAL

A contract was awarded to Neotec Instruments, Inc. on 15 March 1979.

1. CONTRACT DETAILS. The following items of equipment and technical services were included under Contract number 263-K-041-M201:

Two units infra-red grain analyzers	\$ 24,900
Four units grain grinders	2,980
Two units oil seed grinders	140
Two units programmable calculators	480
Two lots electrical conversion equipment	-0-
Two lots recommended spare parts	1,754
Two units Oscilloscope (Tektronic Model 212)	2,200
Two units Digital multimeter	<u>790</u>
Sub-Total	\$ 33,244
Essential Technical Services	<u>1,700</u>
	\$ 34,944

2. CHRONOLOGY. A chronology of significant dates relating to this procurement contract is as follows:

BVI submittal of Draft IFB to GASC	30 July	1978
GASC approves Draft IFB	2 August	1978
IFB draft approved by USAID	27 September	1978
Bid tender closing date	20 December	1978
BVI submittal of Tender Evaluation	28 December	1978
Tenderer selection by GASC	7 March	1979
Tenderer approved by USAID	12 March	1979
Contract award and execution	15 March	1979
USAID Letter of Commitment opened	3 May	1979
Letter of Credit opened to Supplier	16 June	1979
Equipment received by GASC	26 September	1979
Provision of Technical Services by Supplier	7 September	1981

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Although the Grain Analyzing equipment arrived in Egypt in September 1979, the equipment could not be installed as construction of the GASC laboratory had not been completed. The laboratory was finally prepared and the manufacturer's representative arrived in Egypt in September 1981 to calibrate the infrared analysers and familiarize the representatives of the GASC with operation of the equipment.

C. FINANCIAL

Neotec Instruments, Inc. was awarded a contract on 15 March 1979 for the supply of the grain analyzers. USAID Letter of Commitment No. 263- K-04102 in the amount of \$ 37,248 was opened on 3 May 1979 and covered the cost of the equipment, technical services and banking charges. Citibank/New York Letter of Credit No. 40770051 was issued to the supplier on 31 July 1979.

However, the final dispersed amount, as noted in the Letter of Commitment report located in Section VI, was \$ 33,463. This discrepancy resulted because the GASC has not yet approved the supplier's invoice for the technical services which were provided in September 1981.

BVI's engineering cost associated with the sub-project is listed on the Budget Analysis sheet included in Section VI.

D. CONCLUSIONS AND RECOMMENDATIONS

The Grain Analyzing Equipment was tendered, contracted, shipped and received in Egypt in a timely matter. However, efficient use of the equipment was delayed as the GASC laboratory took two years to complete after arrival of

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the equipment. Thus, the manufacturer's technical representative could not perform the installation services until a later date. Further, the GASC have claimed that the technical services provided by the supplier were inadequate; thus, the supplier has not received payment for the services rendered.

It is recommended that future procurement contracts be monitored to assure that the shipment of materials is coordinated by the Host Country to assure timely installation and use. Additionally, qualified personnel should be made available to observe installation of the equipment and receive training in its operation, thus, eliminating disputes over the quality of the supplier's technical services.

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SECTION IV
PORTABLE BAGGED GRAIN CONVEYORS

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SAFAGA SILO COMPLEX (DESIGN)

SECTION IV PORTABLE BAGGED GRAIN CONVEYORS

A. GENERAL

In 1978, approximately 2 million MT of grain was being bagged at ports and at inland distribution points. The 100 kg bags were handled eight times on the average before they reach their destination, hooks being used each time a bag was handled. The tears reduced the life of the bags and resulting in considerable loss of grain. Those losses can be considerably reduced by the use of portable inclined belt conveyors in loading trucks.

Accordingly, the GASC requested USAID assistance for the procurement of sixty-nine (69) motor-driven belt grain conveyors. These conveyors are now located at ports and several inland distribution points to reduce manual handling of bags with stevedoring hooks, thereby reducing grain loss and increasing bag use.

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B. TECHNICAL

1. SPECIFICATION. As detailed in Section II.C of this report, BVI assisted the GASC in preparation of detailed specifications for procurement of the Portable Bagged Grain Conveyors. The specifications covered the technical requirements for furnishing labor, material, equipment, and supervision to design, and fabricate and transport to Egypt 69 portable belt conveyors. These conveyors were of four different design configuration types and are detailed on the following BVI drawings:

<u>Conveyor</u>	<u>Drawing No.</u>
Type 2	2A-202
Type 3	2A-203
Type 4	2A-204
Type 5	2A-205

2. CHRONOLOGY. A chronology of significant dates relating to this procurement contract is as follows:

BVI submittal of Draft IFB to GASC	4 October	1978
Revised draft IFB approval by GASC	29 April	1980
Revised Draft IFB approved by USAID	11 May	1980
IFB advertised	27 May	1980
Tenders received from suppliers	11 July	1980
BVI submittal of tender evaluation	1 August	1980
Flash rebid	21 November	1980
Recommendation for contract award submitted to USAID	30 December	1980
Contract award and execution	30 March	1981
USAID Letter of Commitment opened	2 June	1981

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Letter of Credit opened to supplier	7 August	1981
Equipment shipped by supplier	30 November	1981
Provision of Technical Services by supplier	7 May	1983
GASC confirms to USAID distribution of conveyors	24 June	1984

The draft IFB was submitted to GASC on 4 October 1978. However, the document had to be revised on three occasions resulting in a delay of eighteen (18) months. The major reason for this delay, however, was the GASC insistence on a partial shipment of 20 conveyors to be used on a trial basis. This concept was unacceptable to USAID. The GASC eventually agreed to accept shipment of all 69 conveyors; thus, the IFB was advertised on 27 May 1980.

The tenders for this IFB were received on 11 July 1980. However, the low bidder was found to be non-responsive due to an unacceptable bid bond. Also, there was a large price differential between the various bidders. Accordingly, USAID requested that a "flash" rebid be made for this IFB. Revised bids were received on 21 November 1980 from the following suppliers.

Newell Machinery Company

American Export Group

ONESCO, Inc.

Subsequently, a contract No. 263-K-041-M202 was awarded to American Export Group on 30 March 1981.

3. CONTRACT DETAILS. The following items of equipment and technical services were provided under Contract No. 263-K-041-M202:

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<u>Conveyor Type</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total (U.S.D)</u>
Type 2	40	8,225.44	\$ 329,017.60
Type 3	15	6,823.75	102,356.25
Type 4	7	12,437.15	87,060.05
Type 5	7	8,251.70	<u>57,761.90</u>
Sub-Total			\$ 576,195.80
Estimated Technical Services			<u>5,750.00</u>
TOTAL			\$ 581,945.80

4. DAMAGE CLAIM. The aforementioned conveyors were shipped to Egypt on 30 November 1981; however, several of the conveyors were damaged in transit. The GASC did file an insurance claim with the supplier but the claim has not been resolved as of 31 March 1985. Accordingly, the GASC has not agreed to the release of the final 10% payment to the supplier.

However, the subject conveyors have evidently been repaired by the end user, e.g. the General Company of Silos, as the GASC have indicated in their 24 June 1984 letter to USAID the following distribution:

1) Type 2 = 40 units

<u>Quantity</u>	<u>Distribution</u>
4 units	Upper Egypt Flour Mills Company
8 units	South Cairo Flour Mills Company
15 units	Garbia Rice Mills Company
3 units	SHEMTO
7 units	North Cairo Flour Mills Company
3 units	Still in CCS Stores for Account of SHEMTO (not yet turned-over)

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2) Type 3 = 15 units

<u>Quantity</u>	<u>Distribution</u>
6 units	Upper Egypt Flour Mills Company
5 units	South Cairo Flour Mills Company
4 units	Garbia Rice Mills Company

3) Type 4 = 7 units

<u>Quantity</u>	<u>Distribution</u>
6 units	5 units in Safaga & 1 unit in Alexandria stores
1 unit	Upper Egypt Flour Mills Company

4) Type 5 = 7 units

<u>Quantity</u>	<u>Distribution</u>
2 units	Upper Egypt Flour Mills Company
3 units	South Cairo Flour Mills Company
2 units	Garbia Rice Mills Company

C. FINANCIAL

The GASC awarded a contract to American Export Group Inc. on 30 March 1981 for the supply of 69 motor driven Portable Bagged Grain Conveyors. USAID Letter of Commitment No. 263-K-04123 in the amount of \$ 583,745.80 was opened on 2 June 1981 and covered the cost of the equipment, technical services and banking charges. Citibank/New York Letter of Credit No. 40770296 was issued to the supplier on 7 August 1981. As indicated in item B above, the final 10% payment has not yet been released to the supplier.

BVI's engineering cost associated with this sub-project are listed on the budget analysis sheet included in Section VI of this report.

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D. CONCLUSIONS AND RECOMMENDATIONS

Problems were encountered during the tendering process due to delays in receipt of GASC approvals and the necessity to rebid the IFB. Additionally, the supplier was not cooperative in resolving the insurance claim for damages. However, the Contracting Agency (GASC) did eventually utilize the equipment purchased under this contract.

It is recommended that the final 10% payment not be paid to American Export Group until the equipment damage claim filed by the GASC has been resolved.

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SAFAGA SILO COMPLEX (DESIGN)

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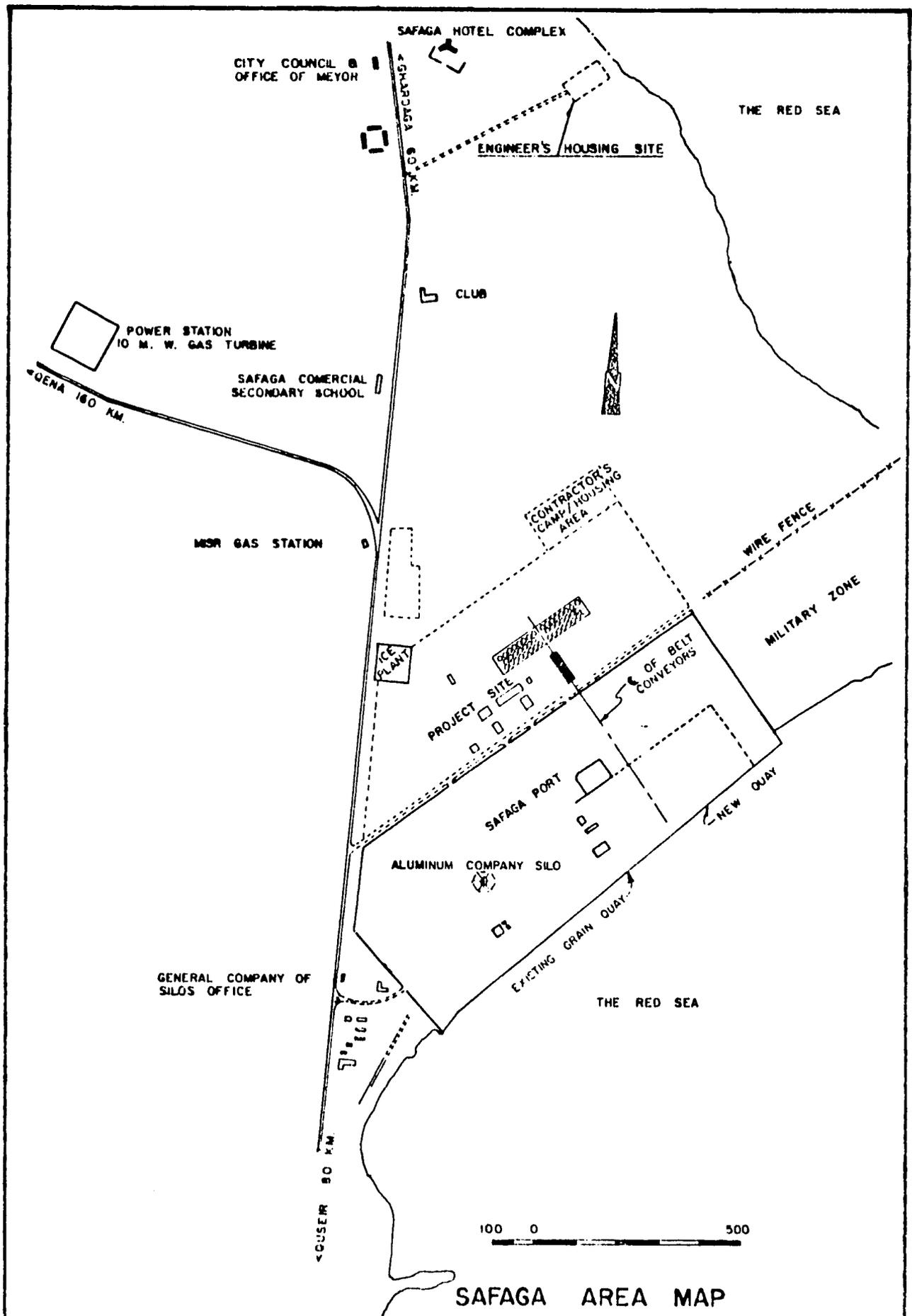
SECTION V SAFAGA SILO COMPLEX (DESIGN)

A. GENERAL

This sub-project consists of the development of a new port grain silo at the Port of Safaga. The new facility will have a storage capacity of 100,000 metric tons and a projected throughput of over 1,000,000 metric tons/year. This facility will include pneumatic ship unloading, conveyance systems, storage silos and grain bagging systems. The outloading capacity of the complex will allow inland transport of grain by bulk truck and bagged grain truck as well as bulk and bagged rail transport. The silo complex will be equipped with dust control systems, reclaim bucket elevators, accurate weighing facilities and aeration and fumigation equipment. This complex will also include a fully equipped machine shop, spare parts warehouse and workers welfare building.

As discussed in the following technical section, this sub-project consisted of engineering design, preparation of drawings and specifications and IFB documents for General Construction of the Silo Complex. The actual construction of the completed Facility is now being performed under a separate Project and Grant Agreement financed by USAID.

cfb



SAFAGA AREA MAP

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B. TECHNICAL

1. PRELIMINARY DESIGN. A Contract for engineering design services was signed on 17 June 1978 between the General Authority for Supply Commodities (GASC), and Agency of the Ministry of Supply of the Government of Egypt, and Black & Veatch International (BVI). The engineering services provided under the contract included project planning, investigations, design recommendations, detailed engineering design and preparation of drawings and specifications required for tendering of the general construction contract for the Facility.

Preliminary design of the Facility began immediately following contract execution. In order to complete the preliminary design, BVI determined that soils and geophysical data of the Safaga project site would be required; thus, this would necessitate a qualified soils consultant. BVI proposed to retain the soils consultant by a sub-contract under its Engineering Agreement. It was also determined that a new quay for offloading grain at Safaga would be required. The GASC advised that the Port and Lighthouse Authority would arrange for construction of the new Quay and that the work would be performed by a local Egyptian construction firm.

By November 1978, the general arrangements drawings showing alternative silo configurations were completed and submitted for review by the appropriate Egyptian Authorities. As a result of these reviews it was agreed that separate (individual) silos were preferable for a location such as Safaga. The silos would be in three parallel rows of single bin storage units. Other major conceptual parameters regarding the Safaga Silo Complex were also decided during the November 1978 design review meetings.

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An outline of the Preliminary Design Report (PDR) was initiated by BVI in December 1978, but the PDR could not be completed until a soils consultant was obtained to perform the on-site soil investigation work. The delay in development of the soils information was attributable to the time consumed in preparation and approval of the soils consultancy contract and bidding procedures. This delay had a direct impact on the overall project schedule.

The firm Mueser, Rutledge, Johnson & DeSimone (MRJD) was selected to provide the Soils Consultancy work at Safaga and was subcontracted to BVI by Amendment No. 2 dated 1 February 1979 to the engineering services agreement. The MRJD drilling and geotechnical engineers arrived in Egypt and a drill rig and two crews proceeded to Safaga on 30 March 1979. The soil boring and other field investigations were completed on 21 April 1979. The soils data gathered at Safaga allowed the preliminary design to proceed, although the official soils report was not received until 8 August 1979.

The PDR was completed by the BVI home office in June 1979 and delivered to Egypt in July 1979. A review of the PDR was conducted by BVI and the responsible Egyptian representatives during a series of meetings held between July 5 thru July 7, 1979, and with a final meeting held on 16 July 1979. The review by the Egyptian Authorities resulted in a multitude of comments, many of which substantially affected the overall project budgets. BVI was requested to provide cost estimates of the items which were considered outside the original project scope of work. Completion of the final design drawings could not proceed until after the cost estimates had been developed and their affect on the overall project cost was evaluated.

2. FINAL DESIGN. As previously reported, the preliminary design of the silo complex had been accepted by the GASC in July 1979 and BVI was prepared to commence with the final design of the Facility.

a. Separate bin design controversy. However, a major set-back occurred in late 1979 when Mr. Hussein Tantawi of the General Company of Silos publicly criticized the split bin design concept of the facility. By Ministerial Decree, a committee of Egyptian engineers and professors was convened to review two design systems of grain silos; that is, the separate bin design proposed by BVI or the combined bin design lauded by Mr. Tantawi. Nearly all work on the project was halted pending resolution of this issue.

The first "Professional Committee" configuration review session was held on 10 December 1979. The professors agreed with the BVI conclusion that the civil/concrete cost for the separate bin design might be slightly higher than that for the combined bin system. However, the volume of the increase in this cost would vanish if the total cost including mechanical equipment and operation is taken into consideration. It was agreed that both types of silos, properly designed, would be stable structures.

The professors asked for further information concerning the following other factors:

- (1) Comparison of the effect of air circulation, ambient temperature, and heat transfer between bins on the internal temperature and condition of wheat.
- (2) Dust explosion possibilities.

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- (3) Cost comparison of mechanical, electrical, and operational costs.
- (4) Site conditions, particularly water and concrete material supply problem.
- (5) Insect generation in the grain in the bins.

BVI prepared and presented a series of commentary reports to the professors which were reviewed in several meetings during the first quarter of 1980. Finally, BVI prepared a "Master Report" regarding the controversy which was presented to the committee on 3 March 1980.

BVI and the GASC representatives conducted the review of the Final Design in Egypt during the period 1 July through 6 July 1980. However, an additional controversy developed which further delayed the project.

b. Extension vs. expansion controversy. After approval of the final design, discussion commenced with the GASC regarding the possibility of increasing the silo capacity to 100,000 MT versus increasing the size of the silo bin diameter from the approved 10 meters to 12.5 meters.

In August 1980, updated economic returns were submitted to the GASC and USAID covering the following six alternatives:

- (1) 50,000 MT storage using bins of 10 meters diameter.
- (2) 50,000 MT storage using bins of 12.5 meters diameter.
- (3) 75,000 MT storage using bins of 10 meters diameter.
- (4) 75,000 MT storage using bins of 12.5 meters diameter.
- (5) 100,000 MT storage using bins of 10 meters diameter.
- (6) 100,000 MT storage using bins of 12.5 meters diameter.

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This "extension vs expansion" controversy was further enhanced by the now apparant increased costs on the project. In September 1980, BVI presented a comprehensive budget review showing these cost overruns, which were primarily a result of inflation due to delays in the project.

By October 1980, virtually all progress on the project had ceased due to the lack of a decision on whether to proceed with the approval final design for 50,000 MT with 10 M diameter bins or to increase the bin diameter to 12.5 meters. Numerous discussions regarding the Safaga bin diameter questing were held which included review and submittal of additional correspondence and back-up in support of the original design. The comprehensive budgets for all the projects showing anticipated cost overruns were also reviewed. The cost overruns for Safaga were stressed in order to emphasize the need to reach a decision on the bin diameter question.

As a result of these meetings, discussions and background letters, a decision was rendered on the 30th of October 1980 to proceed with the Safaga Silo Complex as previously designed using 10 meter diameter bins. The GASC, therefore, advised USAID that the Safaga final design drawings were approved subject to BVI's consideration of the comments made by the General Company of Silos during meeting held July 5 thru 7, 1980.

c. Amendment No. 4. With resolution of the Bin Diameter Controversy, BVI and the GASC addressed the problem of the cost overruns and commenced negotiations for a proposed Amendment No. 4 to the Engineering Services Contract.

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Additional back-up data for the amendment to the GASC-BVI contract for change in scope of the Safaga silo was submitted during the month of October 1980. The back-up data included description of the scope items as well as estimates of time and costs incurred relative to each item. The subject Amendment included the identified scope changes and a proposal to increase the facility capacity to 100,000 MT. A list of the items included in Amendment No. 4 were as follows:

(1) Cost Proposal A.

Sea water fire protection system including intake structure, pumps and distribution system.

Detailed design and incorporation of a rail scale and rail loading system into the facility design.

Increase the conveyor receiving rate to provide for future ship un-loader facility expansion.

Rotation of storage for pile economy.

Independent Safety review for Safaga including configuration review.

Preliminary design and study of bagged grain storage.

Bagging area redesign.

The addition of spilled grain cleaners.

Provide additional fencing around storage area.

Change to pile supports for ship unloaders in order to reduce load on the quay.

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Control Building and control room revisions as requested during the design review with the General Company of Silos.

(2) Cost Proposal B.

Dust control system changes and the addition of suction to drag conveyors located on top of the silos.

Extension of drag conveyor number 30 to provide additional bagging facility redundancy.

Addition of water piping from the water storage tank to the quay.

Provide additional access platform as requested by the General Company of Silos during the final design reviews.

Revise the site access road.

Investigation of roof design of light weight metal to provide for explosion relief venting.

Restudy of openings in silo walls to provide additional clearance around drag conveyors.

Add roofs over lower conveyors between concrete silos.

Add sack fumigation system including:

- Facilities for fumigation of sacks under negative pressure.
- A special building to permit safe storage and handling of fumigation materials.

Provide an additional truck scale.

(3) Cost Proposal C.

Additional storage capacity of 50,000 metric tons including concrete storage silos, standard grain handling equipment, dust control system, bucket elevators, accurate weighing facilities, aeration and fumigation equipment and cleaning facilities. Appropriate control panels will be installed. Electrical control equipment is to be fully enclosed and will be installed in an area which is protected from dustladen environment.

(4) Studies J & F.

Comparison of types of grain storage, estimates of alternative and economic evaluation for extension.

Amendment No. 4 was finally signed by BVI and the GASC on 2 June 1981, and was approved by USAID on 7 July 1981.

d. Contracting approach. It was hoped that final design of the facility could proceed, however, this was not possible as consideration was given to changing the project contracting approach into a "whole-of-the-works" contract for Safaga. BVI recommended this approach for the Safaga Silo Project as it would combine the responsibility for all civil, mechanical and electrical work as well as equipment supply, erection, start-up and testing with one contractor.

e. USAID refinancing. In September 1981, USAID began revision of the Project Paper for refinancing the project to include funds for the expanded facility (100,000 MT) and other cost to complete the project. BVI prepared new economic updates to assist USAID. The revised Project Paper was completed in November 1981 and submitted to USAID/Washington for approval.

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By December 1981, the project was essentially put on hold until the "whole-of-the-works" question and funding issue were resolved. The GASC officially requested USAID to resolve the project funding requirements on 22 March 1982. However, USAID advised in their 10 May 1982 letter that AID funding of the project would be dropped from further consideration.

The GASC requested USAID to reconsider this decision, and BVI was requested to prepare new cost estimates for use in economic evaluation of the Facility. The new BVI cost estimates were presented in August 1982, and resulted in AID's agreement to refinance the project. The refinancing agreement was covered by a Grant Agreement (No. 263-0165) signed between USAID and the Ministry of Supply on 25 September 1982.

Thus, BVI completed the final project design, preparation of bid documents and evaluation of the General Construction Contract bids under the original USAID Loan 263-K-041. The contractor's tenders were received from eleven (11) contractors on 15 June 1983. The final BVI engineering invoices on this project was submitted in May 1983.

3. CHRONOLOGY. A chronology of significant dates relating to the design of the Safaga Grain Silos Complex is as follows:

BVI and GASC execute Engineering Services Contract	17 June	1978
GASC reviews conceptual parameters of Silos	23 November	1978
BVI executes Soils Consultancy Sub-Contract	1 February	1979
Soil boring commences at Safaga	30 March	1979
Preliminary Design Report (PDR) completed	June	1979
Review of PDR by GASC	5 June	1979

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Tantawi Design Controversy	September	1979
Professional Committee convenes	10 December	1979
BVI submits Master Report Re Design Controversy	3 March	1980
GASC reviews and approves final design	1-6 July	1980
Bin Diameter Controversy	August	1980
Bin Diameter Controversy resolved	30 August	1980
GASC executes Amendment No. 4 to BVI Contract	2 June	1981
USAID approves Amendment No. 4	7 July	1981
USAID commences Revised Project Paper	September	1981
GASC officially requests AID to refinance Project	22 March	1982
USAID cancels Project	10 May	1982
USAID agrees to refund project	25 September	1982
Prebid conference held in Egypt	21 April	1983
General Construction Contract bids received	15 June	1983

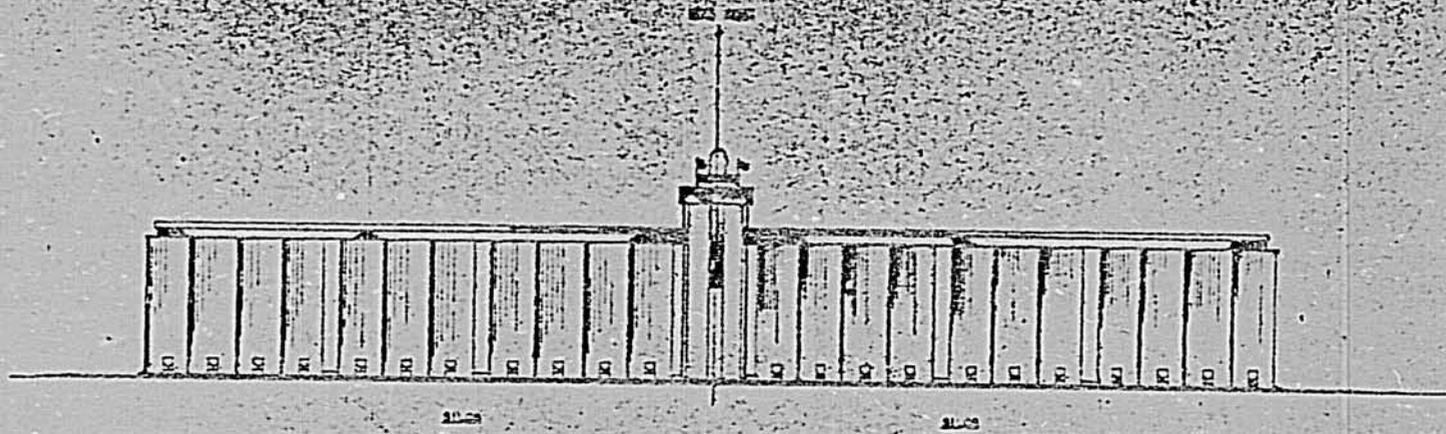
C. CONSTRUCTION DRAWINGS

1. GENERAL. The engineering design services for the Safaga Grain Silos Complex required detailed site, site development, grading, layout, architectural, structural, mechanical, electrical and instrument drawings to be used for the construction, erection, and installation of the facility.

The design drawings and Contract Documents (Specifications) prepared for the Safaga Silo Facility were finalized under this Project, and issued to the prequalified bidders for General Construction of the Facility.

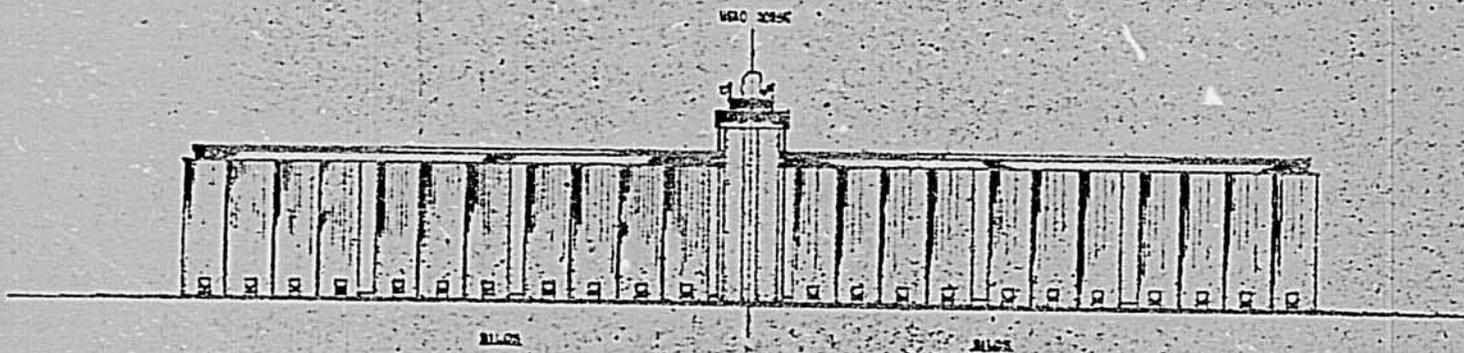
The following drawings are represented in Figures V-1 thru V-5:

4A-1001	General Arrangement Sheet 1
4A-1002	General Arrangement Sheet 2
4M-1001	Master Flow Diagram
4S-2055	Site Plan



SOUTH ELEVATION

1:500



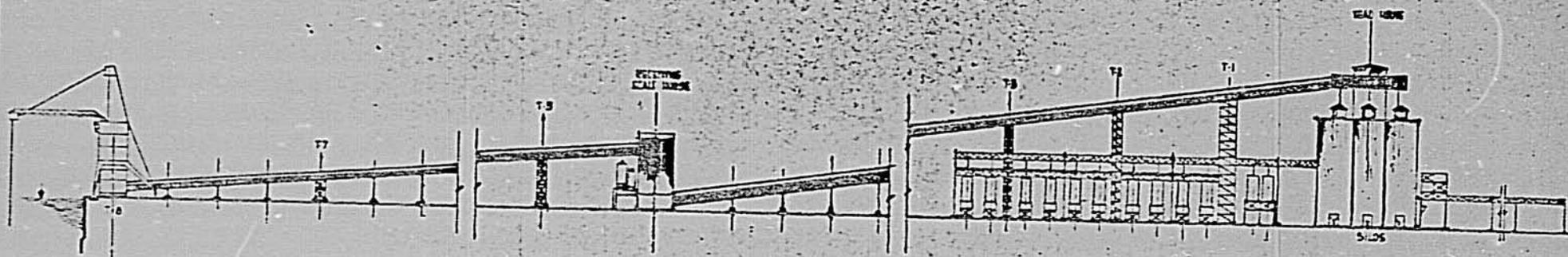
NORTH ELEVATION

1:500

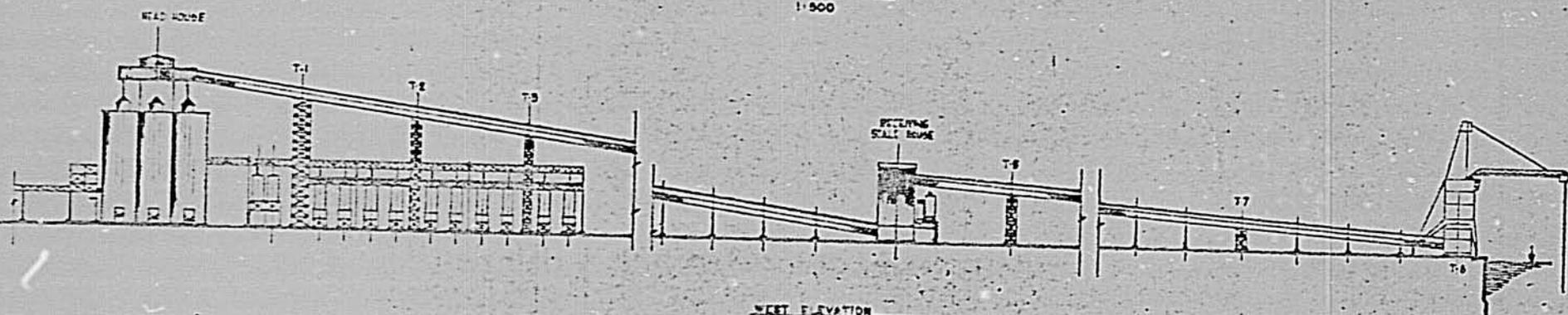
V - 13

Figure V - 1

SR



EAST ELEVATION
1:500



WEST ELEVATION
1:500

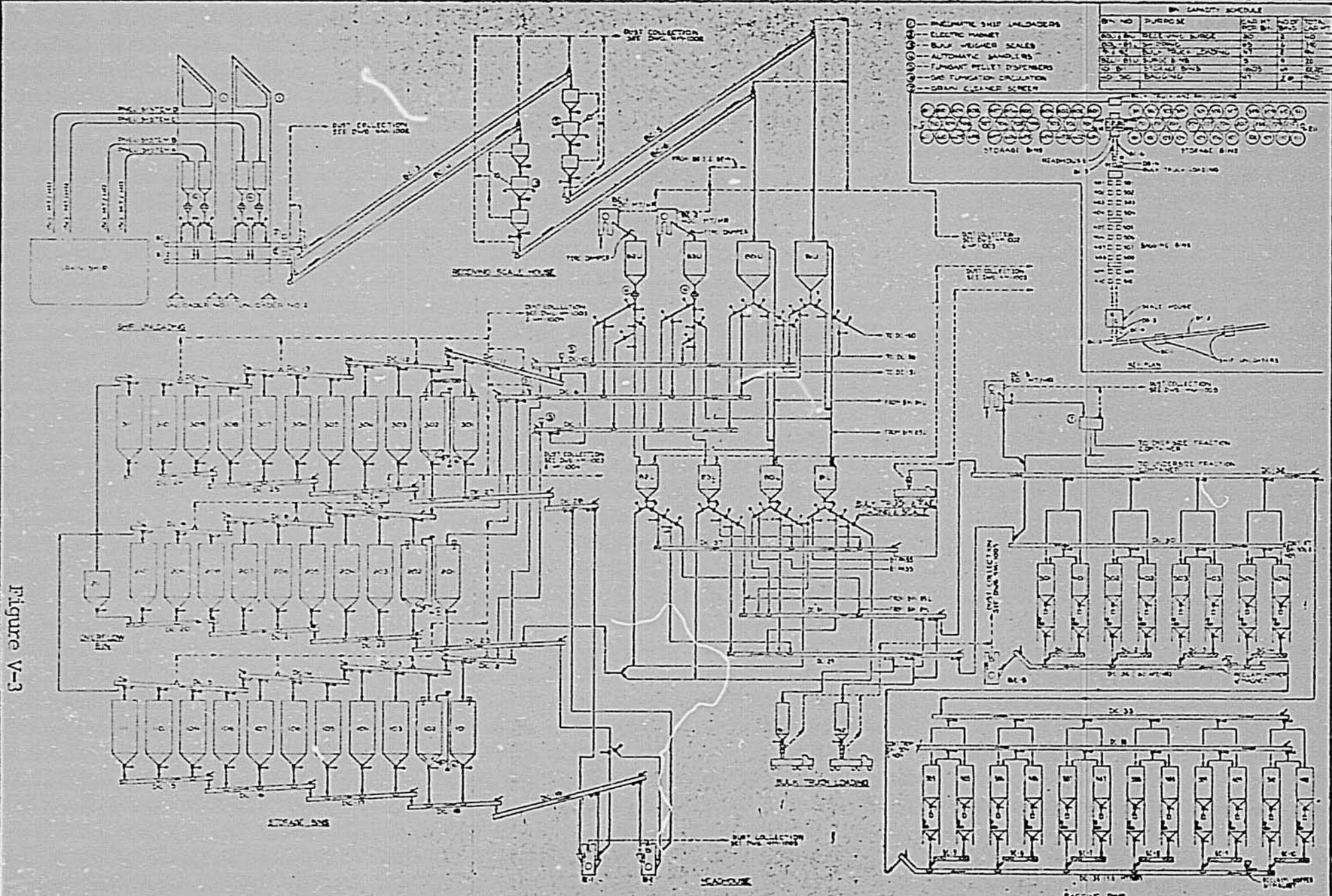
V - 1A

Figure V-2

			BLAKE & FEATCH ARCHITECTS 1000	GENERAL ARCHITECT FOR THE
...				

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Figure V-3

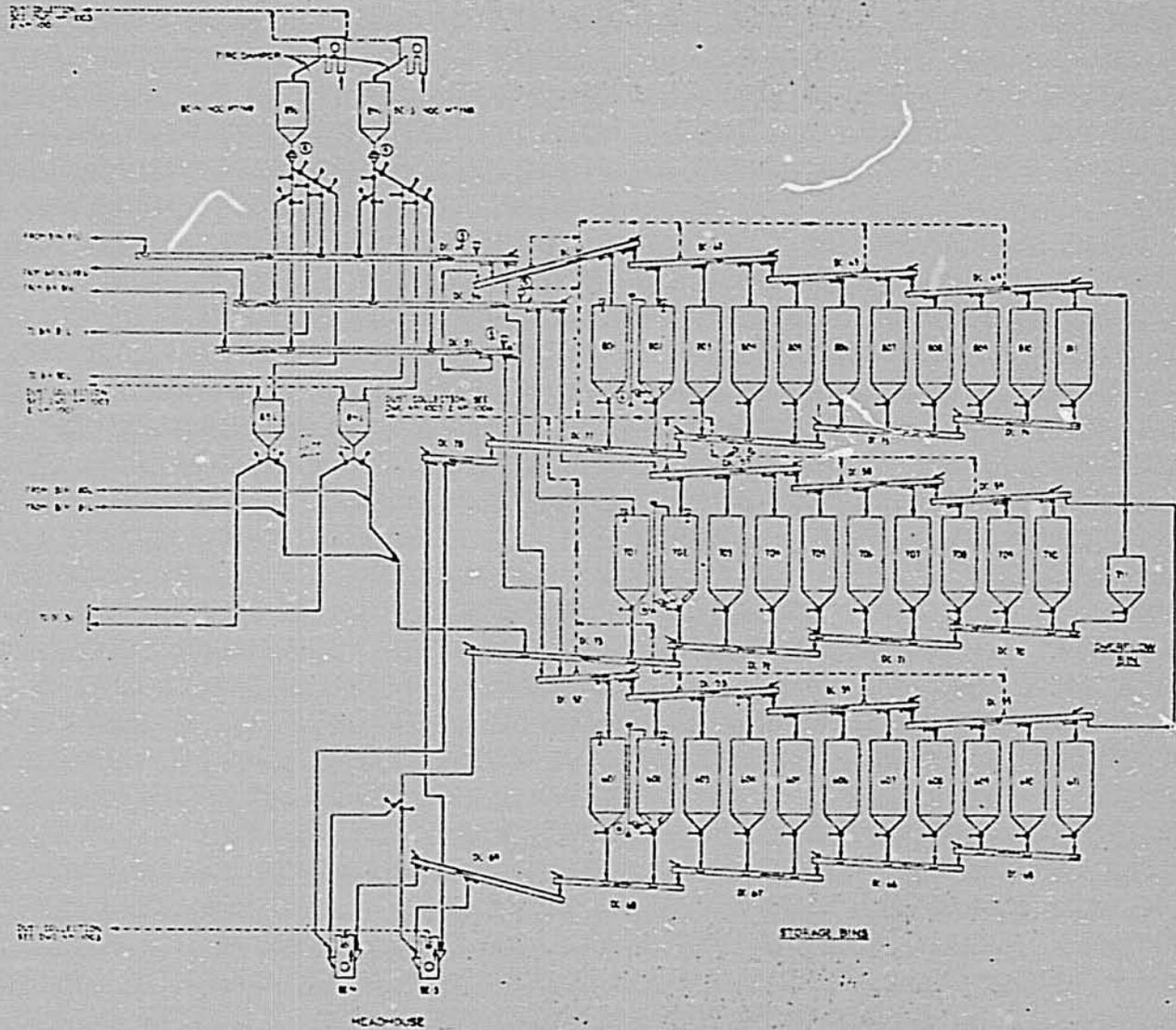


- ① PNEUMATIC SHIFT LOADERS
- ② ELECTRIC MAGNET
- ③ BULK WEIGHER SCALES
- ④ AUTOMATIC SAMPLERS
- ⑤ FUMIGANT PELLET DISPENSERS
- ⑥ SAC FUMIGATION CIRCULATOR
- ⑦ DRUM CLEANER SCREEN

CAPACITY SCHEDULE	
BIN NO	PURPOSE
101	BELL WARE BOX
102	...
103	...
104	...
105	...
106	...
107	...
108	...
109	...
110	...

66

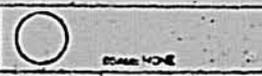
Figure V - 4



6

NO.	REV.	DATE	BY	CHKD.

Supplement
 P. 101



SCALE: NONE

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GENERAL AUTHORITY FOR SUPPLY COMMITMENTS
 1940

1000
 1000

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Figure V-5

V-17

1. THE SITE PLAN IS A GENERAL LAYOUT OF THE FACILITY AND DOES NOT SHOW THE EXACT LOCATION OF THE BUILDINGS OR THE EXACT LOCATION OF THE UTILITIES. THE EXACT LOCATION OF THE BUILDINGS AND UTILITIES IS SHOWN ON THE ARCHITECTURAL DRAWINGS AND THE UTILITY DRAWINGS.

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2. DRAWING LIST. The design drawing were prepared in two sets; Volume 1, Civil/Structural, Mechanical and Electrical drawings and Volume 2, Auxiliary Buildings. Following is a list of the final design drawing which were issued to the General Construction Contractors for preparation of tenders for construction of the Facility.

a. Volume 1 Drawings.

<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Mechanical</u>	
4A-1001	GENERAL ARRANGEMENT - SHEET 1
4A-1002	GENERAL ARRANGEMENT - SHEET 2
4M-1000	ABBREVIATIONS AND LEGEND
4M-1001	MASTER FLOW DIAGRAM - SHIP UNLOADING, HEADHOUSE, STORAGE BINS & BAGGING BINS
4M-1001A	MASTER FLOW DIAGRAM - SHIP UNLOADING, HEADHOUSE, STORAGE BINS & BAGGING BINS
4M-1002	PROCESS INSTRUMENTATION DIAGRAM - SHIP UNLOADING
4M-1003	PROCESS INSTRUMENTATION DIAGRAM - HEADHOUSE
4M-1004	PROCESS INSTRUMENTATION DIAGRAM - STORAGE BINS
4M-1005	PROCESS INSTRUMENTATION DIAGRAM - BAGGING BINS
4M-1006	PROCESS INSTRUMENTATION DIAGRAM - STORAGE BINS
4M-2025	MECHANICAL PLAN - STORAGE BINS - GROUND FLOOR
4M-2025A	MECHANICAL PLAN - STORAGE BINS - GROUND FLOOR
4M-2026	MECHANICAL PLAN - HEADHOUSE & STORAGE BINS - GROUND FLOOR
4M-2026A	MECHANICAL PLAN - HEADHOUSE & STORAGE BINS - GROUND FLOOR
4M-2027	MECHANICAL PLAN - STORAGE BINS - BIN DECK

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Mechanical</u>	
4M-2027A	MECHANICAL PLAN - STORAGE BINS - BIN DECK
4M-2028	MECHANICAL PLAN - HEADHOUSE & STORAGE BINS - BIN DECK
4M-2026A	MECHANICAL PLAN - HEADHOUSE & STORAGE BINS - BIN DECK
4M-2029	MECHANICAL PLAN - HEADHOUSE
4M-2030	NOT USED
4M-2031	NOT USED
4M-2032	NOT USED
4M-2033	NOT USED
4M-2034	NOT USED
4M-2500	MECHANICAL EQUIPMENT SECTION 4 STORAGE BINS
4M-2500A	MECHANICAL EQUIPMENT SECTION 4 STORAGE BINS
4M-2501	MECHANICAL EQUIPMENT SECTION 2 STORAGE BINS
4M-2501A	MECHANICAL EQUIPMENT SECTION 2 STORAGE BINS
4M-2502	MECHANICAL EQUIPMENT SECTION 3 STORAGE BINS
4M-2502A	MECHANICAL EQUIPMENT SECTION 3 STORAGE BINS
4M-2503	MECHANICAL EQUIPMENT SECTION 1 STORAGE BINS
4M-2503A	MECHANICAL EQUIPMENT SECTION 1 STORAGE BINS
4M-2504	MECHANICAL EQUIPMENT SECTION 3 & 4 STORAGE BINS
4M-2505	MECHANICAL EQUIPMENT SECTION 2 & 3 HEADHOUSE
4M-2506	MECHANICAL EQUIPMENT SECTION 4, 5 & 6 HEADHOUSE
4M-2507	NOT USED
4M-2508	NOT USED
4M-2509	NOT USED
4M-2510	NOT USED

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<u>Drawing Number</u>	<u>Drawing Title</u>
	<u>Mechanical</u>
4M-2511	NOT USED
4M-2512	MECHANICAL EQUIPMENT - ELEVATION AND BIN TOP PLAN - BAGGING BINS & BULK TRUCK LOADING
4M-2513	MECHANICAL EQUIPMENT - ELEVATION AND BIN TOP PLAN - BAGGING BINS
4M-2514	MECHANICAL EQUIPMENT - OPERATING FLOOR PLAN - BAGGING BINS
4M-2515	MECHANICAL EQUIPMENT - SECTION - BAGGING BINS & BULK TRUCK LOADING
4M-2516	TYPICAL BAGGING STATIONS & BAG LOADING - PLAN & SECTIONS
4M-2517	NOT USED
4M-2525	MECHANICAL EQUIPMENT - PLAN - RECEIVING SCALE HOUSE
4M-2526	MECHANICAL EQUIPMENT - PLAN - RECEIVING SCALE HOUSE
4M-2527	MECHANICAL EQUIPMENT - SECTIONS - RECEIVING SCALE HOUSE
4M-2528	NOT USED
4M-2529	MECHANICAL EQUIPMENT - ELEVATION AND PLAN - TOWER NO. 8 & 12 - BC-1 & BC-2 TRANSFER
4M-2530	MECHANICAL EQUIPMENT - ELEVATION AND PLAN - BELT CONVEYORS NO. 5 & 6
4M-2530	MECHANICAL EQUIPMENT - ELEVATION AND PLAN - BELT CONVEYORS NO. 1, 2, 3, & 4
4M-2532	NOT USED
4M-2533	NOT USED
4M-2534	NOT USED
4M-2535	NOT USED
4M-2536	NOT USED
4M-2537	NOT USED

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Mechanical</u>	
4M-2538	NOT USED
4M-2539	NOT USED
4M-2540	MECHANICAL EQUIPMENT - PLAN AND SECTION - BULK SCALE - RAIL & TRUCK
4M-2541	NOT USED
4M-2543	MECHANICAL EQUIPMENT - CLEARANCE DIAGRAM - SHIP UNLOADERS
4M-2600	MECHANICAL EQUIPMENT - DETAILS - BIN DECK SPOUTS - PLAN
4M-2601	MECHANICAL EQUIPMENT - DETAILS - BIN DECK SPOUTS - SECTIONS
4M-2602	MECHANICAL EQUIPMENT - DETAILS - BIN DECK SPOUTS - SECTIONS
4M-2603	MECHANICAL EQUIPMENT - DETAILS - BIN DECK SPOUTS - SECTIONS
4M-2604	MECHANICAL EQUIPMENT - DETAILS - SHIPPING FLOOR SPOUTS - PLAN
4M-2605	MECHANICAL EQUIPMENT - DETAILS - SHIPPING FLOOR SPOUTS - PLAN
4M-2606	MECHANICAL EQUIPMENT - DETAILS - SHIPPING FLOOR SPOUTS - PLAN
4M-2607	MECHANICAL EQUIPMENT - DETAILS - GROUND FLOOR SPOUTS
4M-2608	MECHANICAL EQUIPMENT - DETAILS - BAGGING BINS - GRAIN CLEANER SPOUTS
4M-2609	MECHANICAL EQUIPMENT - DETAILS - BAGGING BINS - GRAIN CLEANER & BAGGING BINS SPOUTS
4M-2610	MECHANICAL EQUIPMENT - DETAILS - BAGGING BINS - RAIL & TRUCK LADOUT SPOUTS
4M-2611	MECHANICAL EQUIPMENT - DETAILS - BIN DECK & BUCKET ELEVATOR SPOUTS

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Mechanical</u>	
4M-2612	MECHANICAL EQUIPMENT - DETAILS - GATES & DIVERTERS
4M-2613	MECHANICAL EQUIPMENT - DETAILS - BELT CONVEYORS RECEIVERS
4M-2614	MECHANICAL EQUIPMENT - DETAILS - BELT CONVEYORS RECEIVERS & LOADERS
4M-2615	MECHANICAL EQUIPMENT - DETAILS - BELT CONVEYORS COMPONENTS - BELT CONVEYORS NO. 5 & 6
4M-2616	MECHANICAL EQUIPMENT - DETAILS - BELT CONVEYORS COMPONENTS - BELT CONVEYORS NO. 1, 2, 3 & 4
4M-2619	MECHANICAL EQUIPMENT - DETAILS - DRAG CONVEYORS
4M-2620	MECHANICAL EQUIPMENT - DETAILS - DRAG CONVEYORS & SCREW CONVEYORS
4M-2630	HEATING, VENTILATING AND AIR CONDITIONING CONTROL - PLAN - SCALE HOUSE & HEADHOUSE
4M-2631	NOT USED
4M-2633	NOT USED
4M-2634	NOT USED
4M-2635	FIRE PROTECTION - SITE PLAN, DETAILS & SECTIONS
4M-2636	FIRE PROTECTION - FLOW DIAGRAMS, PLANS, DETAILS & SECTIONS
4M-2637	NOT USED
<u>Civi/Structural</u>	
4S-1000	KEY PLAN
4S-1500	TRUCK SCALE HOUSE & TYPICAL DOOR & WINDOW DETAILS
4S-1501	ELECTRICAL CONTROL BUILDING
4S-1502	RECEIVING SCALE HOUSE - CONTROL BUILDING
4S-1503	FIRE PROTECTION PUMP HOUSE

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Civi/Structural</u>	
4S-1504	HEADHOUSE PLANS & DETAILS
4S-1505	FUMIGATION BUILDING
4S-2055	SITE PLAN
4S-2056	SITE PROFILES
4S-2057	PAVEMENT PLAN
4S-2058	SITE & PAVEMENT PLAN
4S-2059	NOT USED
4S-2060	WASTEWATER TREATMENT IMHOFF TANK
4S-2061	WASTEWATER TREATMENT SLUDGE DRYING BED & LAGOON
4S-3501	CONCRETE - AREA 1 FOUNDATION PLAN, SECTIONS & DETAILS
4S-3501A	CONCRETE - AREA 1A FOUNDATION PLAN, SECTIONS & DETAILS
4S-3502	CONCRETE - AREA 2 & 3A FOUNDATION PLAN, SECTIONS & DETAILS
4S-3502A	CONCRETE - AREA 2A FOUNDATION PLAN, SECTIONS & DETAILS
4S-3503	CONCRETE - AREA 3 FOUNDATION PLAN, SECTIONS & DETAILS
4S-3504	CONCRETE - AREA 4 & 4A FOUNDATION PLAN
4S-3505	CONCRETE - AREA 4 & 4A FOUNDATION PLAN, SECTIONS & DETAILS
4S-3506	CONCRETE - AREA 5 FOUNDATION PLAN, SECTIONS & DETAILS
4S-3507	CONCRETE - AREA 5 PUMP HOUSE FOUNDATION PLAN, SECTIONS & DETAILS
4S-3508	CONCRETE - AREA 3A BULK TRUCK & RAIL LOADING SCALE PIT
4S-3509	CONCRETE - AREA 1 & 2 TYPICAL SILO - GENERAL ARRANGEMENT & REINFORCEMENT DETAILS

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Civi/Structural</u>	
4S-3510	CONCRETE - AREA 3A - HEADHOUSE SLIPFORM PLAN & WALL REINFORCEMENT ARRANGEMENTS
4S-3511	CONCRETE - AREA 3A - HEADHOUSE - FLOOR PLANS
4S-3512	CONCRETE - AREA 3A - HEADHOUSE - FLOOR PLANS - REINFORCEMENT DETAILS
4S-3513	CONCRETE - AREA 3A - HEADHOUSE - ELEVATIONS
4S-3514	CONCRETE - AREA 3A - HEADHOUSE - REINFORCEMENT DETAILS - WALLS C, D, G & H STAIR DETAILS
4S-3515	CONCRETE - AREA 3A - HEADHOUSE - REINFORCEMENT DETAILS - WALLS 25, 27, 28 & 30
4S-3516	CONCRETE - TRUCK SCALE PIT - PLAN & SECTIONS
4S-3517	CONCRETE - MISCELLANEOUS FOUNDATION PLANS
4S-3518	CONCRETE - TYPICAL PILE & MISCELLANEOUS DETAILS
4S-3519	CONCRETE - PILING - AREA 8 ADMINISTRATION BUILDING
4S-3520	CONCRETE - FUMIGATION BUILDING MISCELLANEOUS PLANS AND SECTIONS
4S-4001	STRUCTURAL STEEL - AREA 1 SILO ROOF DECK & LOWER DETAILS
4S-4001A	STRUCTURAL STEEL - AREA 1A SILO ROOF FRAMING PLAN
4S-4002	STRUCTURAL STEEL - AREA 2 SILO ROOF FRAMING PLAN
4S-4002A	STRUCTURAL STEEL - AREA 2A SILO ROOF FRAMING PLAN
4S-4003	STRUCTURAL STEEL - AREAS 1, 2, 1A & 2A SILO ROOF DECK & LOWER ROOF DETAILS
4S-4004	STRUCTURAL STEEL - AREAS 1 & 2 TOP OF SILO CONVEYOR ROOF FRAMING PLAN
4S-4004A	STRUCTURAL STEEL - AREAS 1A & 2A TOP OF SILO CONVEYOR ROOF FRAMING PLAN
4S-4005	STRUCTURAL STEEL - AREAS 1, 2, 1A & 2A TOP OF SILO CONVEYOR ROOF FRAMING DETAILS

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Civi/Structural</u>	
4S-4006	STRUCTURAL STEEL - AREAS 1, 2, 1A & 2A SILO HOPPER - PLAN & MISCELLANEOUS DETAILS
4S-4007	STRUCTURAL STEEL - AREA 3A HEADHOUSE FLOOR PLANS & ELEVATORS
4S-4008	STRUCTURAL STEEL - AREA 4A FRAMING OVER BULK TRUCK & RAIL LOADING SCALE
4S-4009	STRUCTURAL STEEL - AREAS 3, 3A & 4A EL. 15400 & 18500 FRAMING PLAN & ELEVATIONS
4S-4010	STRUCTURAL STEEL - AREA 4 CONVEYOR SUPPORT ELEVATIONS
4S-4011	STRUCTURAL STEEL - AREAS 1, 1A & 3 LOADOUT BINS & OVERFLOW BINS
4S-4012	STRUCTURAL STEEL - AREA 3 BAGGING STATION - SHEET 1
4S-4013	STRUCTURAL STEEL - AREA 3 BAGGING STATION - SHEET 2
4S-4014	STRUCTURAL STEEL - AREAS 3, 4 & 5 QUAY FACE & INCLINED CONVEYOR FRAMING PLAN
4S-4015	STRUCTURAL STEEL - AREA 3 TOWERS NO. 1 & 2
4S-4016	STRUCTURAL STEEL - AREAS 3 & 4 TOWERS NO. 3 & 4
4S-4017	STRUCTURAL STEEL - AREA 4 TOWERS NO. 5, 6, 7 & DUST BIN
4S-4018	STRUCTURAL STEEL - AREA 4 TOWER NO. 8
4S-4019	STRUCTURAL STEEL - AREAS 3, 3A & 4 BENTS NO. 1, 6 THROUGH 12
4S-4020	STRUCTURAL STEEL - AREAS 3 & 4 BENTS NO. 2 THROUGH 5 & 13 THROUGH 22
4S-4021	STRUCTURAL STEEL - BASE PLATE ANCHOR BOLTS AND COLUMN SPLICE DETAILS
4S-4022	STRUCTURAL STEEL - AREAS 2, 3A & 4 BRIDGES NO. 1 THROUGH 7 & 12, 36 & 37

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Civi/Structural</u>	
4S-4023	STRUCTURAL STEEL - AREA 4 BRIDGES NO. 8 THROUGH 11 & 13 THROUGH 22
4S-4024	STRUCTURAL STEEL - AREAS 3, 3A BRIDGES NO. 23 THROUGH 35
4S-4025	AREAS 3, 3A & 4 SECTIONS & DETAILS, SHEET 1
4S-4026	STRUCTURAL STEEL - AREAS 3, 3A & 4 SECTIONS & DETAILS, SHEET 2
4S-4027	STRUCTURAL STEEL - AREAS 3 & 3A SECTIONS & DETAILS, SHEET 3
4S-4028	NOT USED
4S-4029	STRUCTURAL STEEL - AREA 4 RECEIVING SCALE HOUSE
4S-4030	STRUCTURAL STEEL - AREA 4 RECEIVING SCALE HOUSE - ELEVATIONS & DETAILS
4S-4031	STRUCTURAL STEEL - AREA 5 TOWERS NO. 9 THROUGH 12 & FRAME NO. 1
4S-4032	STRUCTURAL STEEL - ELECTRICAL CONTROL BUILDING AND PUMP HOUSE
4S-4033	STRUCTURAL STEEL - LADDER, STAIR & HANDRAIL DETAILS
4S-4034	STRUCTURAL STEEL - AREA 3 TRUCK LOADING PLATFORM AT BAGGING STATION
4S-4035	STRUCTURAL STEEL - MISCELLANEOUS SECTIONS & DETAILS
4S-4036	NOT USED
4S-4037	NOT USED
<u>ELECTRICAL</u>	
4E-1000	ELECTRICAL LEGEND
4E-1010	ONE LINE DIAGRAM
4E-1011	MOTOR CONTROL CENTER SCHEDULES HEADHOUSE

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-1012	MOTOR CONTROL CENTER SCHEDULES HEADHOUSE AND SCALE HOUSE
4E-1013	MOTOR CONTROL CENTER SCHEDULES FIRE PUMP HOUSE AND HEADHOUSE
4E-1014	MOTOR CONTROL CENTER SCHEDULES HEADHOUSE AREA
4E-1015	PANELBOARD SCHEDULES
4E-1016	PANELBOARD SCHEDULES
4E-1017	PANELBOARD SCHEDULES
4E-1018	NOT USED
4E-1019	TRANSFORMER AND LIGHTING FIXTURE SCHEDULE
4E-1025	EQUIPMENT SCHEDULE
4E-1026	EQUIPMENT SCHEDULE
4E-1026	EQUIPMENT SCHEDULE
4E-1027	EQUIPMENT SCHEDULE
4E-1028	EQUIPMENT SCHEDULE
4E-1029	EQUIPMENT SCHEDULE
4E-1030	EQUIPMENT SCHEDULE
4E-1031	EQUIPMENT SCHEDULE
4E-1032	EQUIPMENT SCHEDULE
4E-1033	EQUIPMENT SCHEDULE
4E-1034	EQUIPMENT SCHEDULE
4E-1035	EQUIPMENT SCHEDULE
4E-1036	EQUIPMENT SCHEDULE
4E-1037	EQUIPMENT SCHEDULE
4E-1038	EQUIPMENT SCHEDULE
4E-1039	EQUIPMENT SCHEDULE

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-1040	EQUIPMENT SCHEDULE
4E-1041	EQUIPMENT SCHEDULE
4E-1050	NOT USED
4E-1051	NOT USED
4E-1052	NOT USED
4E-1053	ELECTRICAL UTILIZATION HEADHOUSE ELEVATION
4E-1054	ELECTRICAL UTILIZATION HEADHOUSE ELEVATION
4E-1055	NOT USED
4E-1056	NOT USED
4E-1057	NOT USED
4E-1058	NOT USED
4E-1059	NOT USED
4E-1650	ELECTRICAL UTILIZATION SITE PLAN
4E-1651	NOT USED
4E-1652	ELECTRICAL UTILIZATION STORAGE BINS - AREA 1 GROUND FLOOR PLAN
4E-1652A	ELECTRICAL UTILIZATION STORAGE BINS - AREA 1A GROUND FLOOR PLAN
4E-1653	ELECTRICAL UTILIZATION STORAGE BINS - AREA 2 GROUND FLOOR PLAN
4E-1653A	ELECTRICAL UTILIZATION STORAGE BINS - AREA 2A GROUND FLOOR PLAN
4E-1654	ELECTRICAL UTILIZATION STORAGE BINS - AREA 1 BIN DECK PLAN
4E-1654A	ELECTRICAL UTILIZATION STORAGE BINS - AREA 1A BIN DECK PLAN
4E-1655	ELECTRICAL UTILIZATION STORAGE BINS - AREA 2 BIN DECK PLAN

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-1655A	ELECTRICAL UTILIZATION STORAGE BINS - AREA 2A BIN DECK PLAN
4E-1656	NOT USED
4E-1657	ELECTRICAL UTILIZATION HEADHOUSE FLOOR PLANS
4E-1658	ELECTRICAL UTILIZATION HEADHOUSE FLOOR PLANS AND SECTIONS
4E-1659	NOT USED
4E-1660	ELECTRICAL UTILIZATION BAGGING BINS - AREA 3 OPERATING FLOOR PLAN
4E-1661	ELECTRICAL UTILIZATION BAGGING BINS - AREA 3 BIN TOP FLOOR
4E-1662	NOT USED
4E-1663	ELECTRICAL UTILIZATION MISCELLANEOUS PLANS AND SECTIONS
4E-1664	MANHOLE & DUCT BANK PLAN & PROFILES
4E-1665	ELECTRICAL UTILIZATION BELT CONVEYORS & QUAY AREAS 4 & 5 PLANS & SECTIONS
4E-1666	NOT USED
4E-1667	NOT USED
4E-1668	ELECTRICAL UTILIZATION MAIN SUBSTATIONS PLANS & SECTIONS
4E-1669	ELECTRICAL UTILIZATION PARTIAL PLANS & SECTIONS
4E-1670	ELECTRICAL UTILIZATION SUS 3 & SUS 4 PLANS & SECTIONS
4E-1671	LIGHTING AND COMMUNICATION SITE PLAN
4E-1672	NOT USED
4E-1673	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 1 GROUND FLOOR PLAN
4E-1673A	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 1A GROUND FLOOR PLAN
4E-1674	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 2 GROUND FLOOR PLAN

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-1674A	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 2A GROUND FLOOR PLAN
4E-1675	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 1 BIN DECK PLAN
4E-1675A	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 1A BIN DECK PLAN
4E-1676	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 2 BIN DECK PLAN
4E-1676A	LIGHTING AND COMMUNICATION STORAGE BINS - AREA 2A BIN DECK PLAN
4E-1677	LIGHTING AND COMMUNICATION HEADHOUSE FLOOR PLANS
4E-1678	NOT USED
4E-1679	NOT USED
4E-1680	NOT USED
4E-1681	LIGHTING AND COMMUNICATION BAGGING BINS - AREA 3 PLANS & SECTIONS
4E-1682	LIGHTING AND COMMUNICATION BELT CONVEYORS QUAY AREAS 3, 4 & 5 PLANS & SECTIONS
4E-1683	NOT USED
4E-1684	NOT USED
4E-1685	NOT USED
4E-1686	NOT USED
4E-1687	LIGHTING AND COMMUNICATION MISCELLANEOUS PLANS
4E-1688	NOT USED
4E-1689	NOT USED
4E-1690	ELECTRICAL UTILIZATION DETAILS
4E-1691	ELECTRICAL UTILIZATION DETAILS

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-1692	ELECTRICAL UTILIZATION DETAILS
4E-1693	ELECTRICAL UTILIZATION DETAILS
4E-1694	LIGHTING DETAILS
4E-1695	COMMUNICATION DIAGRAM AND LEGEND
4E-1696	GROUNDING & LIGHTING PROTECTION PLANS, SECTIONS AND DETAILS
4E-1697	GROUNDING & LIGHTING PROTECTION PLANS, SECTIONS AND DETAILS
4E-1698	NOT USED
4E-1699	NOT USED
4E-2500	MOTOR SCHEMATIC & WIRING DIAGRAM LEGEND
4E-2501	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2503	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2504	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2505	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2506	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2507	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2508	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2509	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2510	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2511	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2512	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2513	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2514	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2515	MOTOR SCHEMATIC & WIRING DIAGRAM

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-2516	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2517	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2518	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2519	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2520	MOTOR SCHEMATIC & WIRING DIAGRAM
4E-2600	MAIN MOTOR PANEL SCHEMATIC
4E-2601	MAIN MOTOR PANEL SCHEMATIC
4E-2602	MAIN MOTOR PANEL SCHEMATIC
4E-2603	MAIN MOTOR PANEL SCHEMATIC
4E-2604	MAIN MOTOR PANEL SCHEMATIC
4E-2605	MAIN MOTOR PANEL SCHEMATIC
4E-2606	MAIN MOTOR PANEL SCHEMATIC
4E-2607	MAIN MOTOR PANEL SCHEMATIC
4E-2608	MAIN MOTOR PANEL SCHEMATIC
4E-2609	MAIN MOTOR PANEL SCHEMATIC
4E-2610	MAIN MOTOR PANEL SCHEMATIC
4E-2611	MAIN MOTOR PANEL SCHEMATIC
4E-2612	MAIN MOTOR PANEL SCHEMATIC
4E-2613	MAIN MOTOR PANEL SCHEMATIC
4E-2614	MAIN MOTOR PANEL SCHEMATIC
4E-2615	NOT USED
4E-2616	NOT USED
4E-2617	NOT USED
4E-2618	NOT USED

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-2619	NOT USED
4E-2620	NOT USED
4E-2621	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2622	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2623	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2624	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2625	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2626	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2627	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2628	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2629	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2630	HEADHOUSE RELAY PANEL 275 SCHEMATIC
4E-2631	HEADHOUSE RELAY PANEL 276 SCHEMATIC
4E-2632	HEADHOUSE RELAY PANEL 276 SCHEMATIC
4E-2633	HEADHOUSE RELAY PANEL 276 SCHEMATIC
4E-2634	HEADHOUSE RELAY PANEL 276 SCHEMATIC
4E-2635	HEADHOUSE RELAY PANEL 276 SCHEMATIC
4E-2636	NOT USED
4E-2637	NOT USED
4E-2638	NOT USED
4E-2639	NOT USED
4E-2640	NOT USED
4E-2641	NOT USED
4E-2642	NOT USED

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-2643	NOT USED
4E-2644	NOT USED
4E-2700	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2701	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2702	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2703	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2704	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2705	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2706	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2707	MAIN CONTROL PANEL WIRING DIAGRAM
4E-2708	NOT USED
4E-2709	NOT USED
4E-2710	NOT USED
4E-2721	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2722	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2723	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2724	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2725	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2725A	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2725B	HEADHOUSE RELAY PANEL 275 WIRING DIAGRAM
4E-2726	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2727	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2728	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2729	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-2730	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2731	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2732	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2733	HEADHOUSE RELAY PANEL 276 WIRING DIAGRAM
4E-2800/01	NOT USED
4E-2802	NOT USED
4E-2803	NOT USED
4E-2804	NOT USED
4E-2805	NOT USED
4E-2806	NOT USED
4E-2807	NOT USED
4E-2808	NOT USED
4E-2809	NOT USED
4E-2810	NOT USED
4E-2811	NOT USED
4E-2812	NOT USED
4E-2813	NOT USED
4E-2814	NOT USED
4E-2815	NOT USED
4E-2818	NOT USED
4E-2819	NOT USED
4E-2900	NOT USED
4E-2901	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2902	MAIN CONTROL PANEL GRAPHIC LAYOUT

BLACK & VEATCH INTERNATIONAL

<u>Drawing Number</u>	<u>Drawing Title</u>
<u>ELECTRICAL</u>	
4E-2903	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2904	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2905	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2906	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2907	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2908	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2909	MAIN CONTROL PANEL GRAPHIC LAYOUT
4E-2920	NOT USED
4E-2921	RELAY PANEL LAYOUT
4E-2922	NOT USED
4E-2923	NOT USED
4E-2924	NOT USED

b. Volume 2 Drawings

<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Electrical</u>	
4-E-1051	MAINTENANCE WORKSHOP PANEL BOARD
4-E-1052	MAINTENANCE WORKSHOP GROUND FLOOR (PART A)
4-E-1053	MAINTENANCE WORKSHOP GROUND FLOOR (PART B)
4-E-1054	MAINTENANCE WORKSHOP FIRST FLOOR (PART A)
4-E-1055	MAINTENANCE WORKSHOP FIRST FLOOR (PART B)
4-E-1151	ADMINISTRATION BUILDING GROUND FLOOR
4-E-1152	ADMINISTRATION BUILDING FIRST FLOOR
4-E-1153	ADMINISTRATION BUILDING SECOND & THIRD FLOOR
4-E-1152	ADMINISTRATION BUILDING FOURTH FLOOR

BLACK & VEATCH INTERNATIONAL

<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Electrical</u>	
4-E-2101	WELFARE BUILDING GROUND FLOOR
4-E-2102	WELFARE BUILDING ROOF & FIRST FLOOR
4-E-2251	STORES GROUND FLOOR
4-E-2252	STORES FIRST FLOOR
4-E-2351	TRUCKERS SANITARY FACILITY
4-E-3301	MAIN GATE & WATCHING TOWER
<u>Mechanical</u>	
4-M-1001	WATER SUPPLY & SEWAGE COLLECTION SYSTEM
4-M-1002	MANHOLE COVERS & STAIRS DETAILS
4-M-1303	MAIN GATE PLUMBING DETAILS
4-M-1304	MAIN GATE RAINFALL DRAINAGE
4-M-3051	MAINTENANCE WORKSHOP GROUND FLOOR PLAN (PART A) PLUMBING DETAIL
4-M-3052	MAINTENANCE WORKSHOP GROUND FLOOR PLAN (PART B) PLUMBING DETAIL
4-M-3053	MAINTENANCE WORKSHOP ROOF PLAN PLUMBING DETAIL
4-M-3101	WELFARE BUILDING FIRST FLOOR AND ROOF PLUMB DETAILS
4-M-3102	WELFARE BUILDING GROUND FLOOR PLAN PLUMBING DETAILS
4-M-3151	ADMINISTRATION BUILDING GROUND FLOOR PLUMBING DETAIL
4-M-3152	ADMINISTRATION BUILDING FIRST FLOOR PLUMBING DETAIL
4-M-3153	ADMINISTRATION BUILDING SECOND AND THIRD FLOOR PLUMBING DETAIL
4-M-3154	ADMINISTRATION BUILDING FOURTH AND ROOF FLOOR PLUMBING DETAIL

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Mechanical</u>	
4-M-3251	STORES GROUND FLOOR PLUMBING DETAILS
4-M-3252	STORES ROOF PLAN DRAINAGE DETAIL
4-M-3351	TRUCKERS SANITARY FACILITY PLUMBING DETAILS
<u>Structural</u>	
4-S-1001	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. TABLES OF WOODEN DOOR & CLOSET TYPES - STEEL CLOSET TYPES
4-S-1002	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. TABLES OF ALUM. & STEEL WINDOW PARTITIONS & DOOR TYPES
4-S-1003	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. WOODEN DOOR & CLOSET TYPES
4-S-1004	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. STEEL WINDOW TYPES I
4-S-1005	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. STEEL WINDOW TYPES II
4-S-1006	WORKSHOP WELFARE BUILDING STORES - TRUCKERS W.C. STEEL WINDOW TYPES III
4-S-1007	WORKSHOP WELFARE BUILDING STORES - STEEL DOOR TYPES
4-S-1008	WELFARE BUILDING - ALUMINIUM WINDOW & DOOR TYPES
4-S-1009	ADMINISTRATION BUILDING TABLES OF ALUM. WINDOW & DOOR TYPES WOODEN DOOR & CLOSET TYPES - STEEL DOOR TYPES DOOR DETAILS
4-S-1010	ADMINISTRATION BUILDING WOODEN DOOR & CLOSET TYPES
4-S-1011	ADMINISTRATION BUILDING ALUMINIUM WINDOW TYPES
4-S-1012	ADMINISTRATION BUILDING ALUMINIUM WINDOW DOOR TYPES
4-S-1013	STORES STEEL DOORS & LADDER

BLACK & VEATCH INTERNATIONAL

<u>Drawing Number</u>	<u>Drawing Title</u>
	<u>Structural</u>
4-S-1051	MAINTENANCE WORKSHOP GROUND FLOOR & FIRST FLOOR
4-S-1052	MAINTENANCE WORKSHOP GROUND FLOOR PLAN (PART A)
4-S-1053	MAINTENANCE WORKSHOP GROUND FLOOR PLAN (PART B)
4-S-1054	MAINTENANCE WORKSHOP FIRST FLOOR PLAN (PART A)
4-S-1055	MAINTENANCE WORKSHOP FIRST FLOOR PLAN (PART B)
4-S-1056	MAINTENANCE WORKSHOP ROOF PLAN & SECTIONS
4-S-1057	MAINTENANCE WORKSHOP SECTION & DETAIL OF EXP. JOINT
4-S-1058	MAINTENANCE WORKSHOP SOUTH ELEVATION & EAST ELEVATION
4-S-1059	MAINTENANCE WORKSHOP NORTH ELEVATION & WEST ELEVATION
4-S-1060	MAINTENANCE WORKSHOP STAIR DETAILS
4-S-1061	MAINTENANCE WORKSHOP ESCAPE STAIR DETAILS
4-S-1101	WELFARE BUILDING GROUND FLOOR PLAN
4-S-1102	WELFARE BUILDING FIRST FLOOR PLAN
4-S-1103	WELFARE BUILDING ROOF FLOOR PLAN - SECTIONS
4-S-1104	WELFARE BUILDING ELEVATIONS
4-S-1105	WELFARE BUILDING ELEVATIONS
4-S-1106	WELFARE BUILDING STAIR PLANS
4-S-1107	WELFARE BUILDING STAIR DETAILS
4-S-1151	ADMINISTRATION BUILDING GROUND FLOOR PLAN
4-S-1152	ADMINISTRATION BUILDING FIRST FLOOR PLAN
4-S-1153	ADMINISTRATION BUILDING SECOND & THIRD FLOOR PLANS
4-S-1154	ADMINISTRATION BUILDING FOURTH ROOF PLANS

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Structural</u>	
4-S-1155	ADMINISTRATION BUILDING SECTIONS
4-S-1156	ADMINISTRATION BUILDING SECTIONS
4-S-1157	ADMINISTRATION BUILDING ELEVATIONS
4-S-1158	ADMINISTRATION BUILDING ELEVATIONS
4-S-1159	ADMINISTRATION BUILDING STAIR DETAILS
4-S-1160	ADMINISTRATION BUILDING MAIN STAIR DETAILS
4-S-1161	ADMINISTRATION BUILDING MAIN STAIR DETAILS SECTION
4-S-1162	ADMINISTRATION BUILDING SECONDARY STAIR DETAILS
4-S-1163	ADMINISTRATION BUILDING SECONDARY STAIR DETAILS
4-S-1251	STORES GROUND FLOOR PLAN
4-S-1252	STORES FIRST FLOOR PLAN
4-S-1253	STORES ROOF PLAN
4-S-1254	STORES SECTIONS
4-S-1255	STORES ELEVATIONS
4-S-1256	STORES ELEVATIONS
4-S-1257	STORES STAIR DETAILS
4-S-1301	FENCE LEVELS
4-S-1302	FENCE DETAIL
4-S-1303	MAIN GATE PLAN
4-S-1304	MAIN GATE ROOF PLAN
4-S-1305	MAIN GATE FRONT & BACK ELEVATIONS
4-S-1306	MAIN GATE SITE ELEVATION & SECTIONS A-A, B-B, C-C
4-S-1307	MAIN GATE SECTIONS D-D TO I-I
4-S-1308	MAIN GATE PLANS, ELEVATIONS & DETAILS OF G1 & G2

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Structural</u>	
4-S-1309	MAIN GATE PLANS, ELEVATIONS & SECTIONS ALUMINIUM DOOR & WINDOWS
4-S-1310	MAIN GATE DETAILS OF D11 & D12
4-S-1311	WATCHING TOWERS
4-S-1351	TRUCKERS SANITARY FACILITY
4-S-2003	SITE GRADING
4-S-3051	MAINTENANCE WORKSHOP FOUNDATION PLAN (PART A)
4-S-3052	MAINTENANCE WORKSHOP FOUNDATION PLAN (PART B)
4-S-3053	MAINTENANCE WORKSHOP PLANS OF COLUMNS (PART A)
4-S-3054	MAINTENANCE WORKSHOP PLANS OF COLUMNS (PART B)
4-S-3055	MAINTENANCE WORKSHOP RFT. OF FLOOR AT LEVEL (+4.50) (PART A)
4-S-3056	MAINTENANCE WORKSHOP RFT. OF FLOOR AT LEVEL (+4.50) (PART B)
4-S-3057	MAINTENANCE WORKSHOP RFT. OF FLOOR AT LEVEL (+8.85) (PART A)
4-S-3058	MAINTENANCE WORKSHOP RFT. OF FLOOR AT LEVEL (+8.85) (PART B)
4-S-3059	MAINTENANCE WORKSHOP RFT. OF STAIR
4-S-3060	MAINTENANCE WORKSHOP REINFORCEMENT OF BEAMS AT FLOOR LEVEL (+8.85)
4-S-3061	MAINTENANCE WORKSHOP REINFORCEMENT OF BEAMS AT FLOOR LEVEL (+4.50) & (+8.85)
4-S-3062	MAINTENANCE WORKSHOP STAIR DETAILS
4-S-3101	WELFARE BUILDING PLAN OF FOUNDATIONS
4-S-3102	WELFARE BUILDING PLAN OF COLUMN
4-S-3103	WELFARE BUILDING RFT. OF FLOOR AT LEVEL (+3.65)
4-S-3104	WELFARE BUILDING RFT. OF FLOOR AT LEVEL (+7.25)

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<u>Drawing Number</u>	<u>Drawing Title</u>
<u>Structural</u>	
4-S-3105	WELFARE BUILDING DETAILS OF STAIRS
4-S-3106	WELFARE BUILDING DETAILS OF RFT. OF BEAMS FLOOR LEVEL (+3.65) & AT ROOF LEVEL (10.25)
4-S-3107	WELFARE BUILDING DETAILS OF RFT. OF BEAMS AT EL. 7.25 ON AXIS D-D, 4-4 & DETAILS OF SEC'S
4-S-3151	ADMINISTRATION BUILDING PILE FOUNDATION & FOUNDATION BEAMS
4-S-3152	ADMINISTRATION BUILDING COLUMNS & AXES
4-S-3153	ADMINISTRATION BUILDING FIRST FLOOR BEAM ARRANGEMENTS & DETAILS
4-S-3154	ADMINISTRATION BUILDING FIRST FLOOR DETAILS OF BEAMS
4-S-3155	ADMINISTRATION BUILDING SECOND FLOOR BEAM ARRANGEMENTS & DETAILS
4-S-3156	ADMINISTRATION BUILDING SECOND FLOOR DETAILS OF BEAMS
4-S-3157	ADMINISTRATION BUILDING THIRD FLOOR BEAM ARRANGEMENTS & DETAILS
4-S-3158	ADMINISTRATION BUILDING THIRD FLOOR DETAILS OF BEAMS
4-S-3159	ADMINISTRATION BUILDING FOURTH FLOOR BEAM ARRANGEMENTS & DETAILS
4-S-3160	ADMINISTRATION BUILDING FOURTH FLOOR DETAILS OF BEAMS
4-S-3161	ADMINISTRATION BUILDING TOP ROOF & DETAILS
4-S-3162	ADMINISTRATION BUILDING WATER TANK DETAILS
4-S-3163	ADMINISTRATION BUILDING STAIR DETAILS
4-S-3164	ADMINISTRATION BUILDING STAIRS BEAMS ARRANGEMENTS & DETAILS
4-S-3251	STORES FOUNDATION PLAN
4-S-3252	STORES DETAILS OF FOUNDATIONS

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<u>Drawing Number</u>	<u>Drawing Title</u>
	<u>Structural</u>
4-S-3253	STORES COLUMNS & AXES
4-S-3254	STORES GROUND FLOOR ROOF
4-S-3255	STORES DETAILS OF GROUND FLOOR ROOF
4-S-3256	STORES PLAN OF TOP ROOF
4-S-3257	STORES RFT. DETAILS OF TOP ROOF
4-S-3258	STORES RFT. DETAILS OF TOP ROOF
4-S-3259	STORES RFT. DETAILS OF TOP ROOF
4-S-3260	STORES STAIR DETAILS
4-S-3301	FENCE RFT.
4-S-3302	GATE FOUNDATIONS
4-S-3303	RFT. OF ROOF AT LEVEL (+3.65)
4-S-3304	RFT. OF ROOF AT LEVEL (+7.00)
4-S-3305	GATE COLUMNS & AXIS
4-S-3306	WATCHING TOWER RFT.
4-S-3351	TRUCKERS SANITARY FACILITY RFT. OF ROOF & FOUNDATION
4-S-3401	U.G. WATER TANK CONCRETE DIMENSIONS & PLANS
4-S-3402	U.G. WATER TANK COLUMNS FLOORS BEAMS & WALL RFT.
4-S-3403	U.G. WATER TANK ROOF RFT. AND BEAMS
4-S-3404	U.G. WATER TANK ROOM & BEAMS RFT.

D. CONCLUSIONS AND RECOMMENDATIONS

The design phase of the Safaga Silos Complex Project suffered several delays which were related to controversies initiated by Egyptian Officials. Committees were formed to resolve these controversies, but an exhorbiant amount of time was spent on this effort.

The ensuing delays resulted in cost overruns to the project, which necessiated budget reviews and negotiations with the GASC for additional funds. These negotiations were also referred to committees which spent even more time in resolving the monetary issue.

It is concluded that the "Committee" approach as applied during the design phase of the Safaga Silos Facility should not be utilized during the construction phase. Thus, it was recommended to initiate an "Implementation Team" approach with one Egyptian Official (Project Manager) authorized to make all decisions and render all approvals relative to the project.

Additionally, from experience gained by BVI on the Quay 81/82 and TOF projects in Alexandria, it was recommended that the contracting approach for the construction phase of the Safaga Silos Complex be changed to a "Whole-of-the-Works" type contract. This approach would give a single contractor prime responsibility for construction of the project.

The Safaga Silo Complex is currently under construction and progress to date has been excellent. Evaluation of the construction program to date clearly indicates that the Facility will be finished by the scheduled completion date of January 1987.

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FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT
PORTABLE BAGGED GRAIN CONVEYORS AND
SAFAGA SILO COMPLEX (DESIGN)

SECTION VI

FINANCIAL

BLACK & VEATCH INTERNATIONAL

FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT
PORTABLE BAGGED GRAIN CONVEYORS AND
SAFAGA SILO COMPLEX (DESIGN)

SECTION VI, FINANCIAL

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FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT

PORTABLE BAGGED GRAIN CONVEYORS AND

SAFAGA SILO COMPLEX (DESIGN)

SECTION VI, FINANCIAL

A. GENERAL

The following USAID Letters of Commitment show the U.S. Dollar expenditures for the three sub-projects:

<u>Letters of Commitment No.</u>	<u>Description</u>
263-K-04101	BVI Engineering Services (includes all five sub-projects)
263-K-04102	Laboratory Equipment
263-K-04123	Portable Bagged Grain Conveyors

A limited quantity of equipment for Safaga was purchased under the following U.S. Dollar Letters of Commitment.

263-K-04103
263-K-04112
263-K-04117
263-K-04122

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A summary of the U.S. Dollar Letters of Commitment for Loan 263-K-041, by sub-project is contained in Exhibit 1. A breakdown of the U.S. Dollar Engineering Services Letter of Commitment is contained in Exhibit 2. The Egyptian Pound component of Engineering Services is contained in Exhibit 3. The USAID/Egypt Letter of Commitment Report as of 3 April 1985 for Loan 263-K-041 is contained in Exhibit 4.

B. FINANCIAL EXHIBITS

GRAIN/TOF STORAGE FACILITIES

USAID LOAN 263-K-041

DISTRIBUTION OF PROJECT LOAN FUNDS

L/Comm No. 263-K-041	Description	Breakdown by Sub-Project					TOTAL U.S. Dollars
		Laboratory Equipment	Portable Conveyors	Quay 81/82	TOF	Safaga Silos	
01	BVI Engineering Services	7,954	12,929	1,155,707	1,177,902	2,979,544 153,751*	5,487,787
02	Nestec Lab Equipment	33,463 3,765*					37,248
21	Portable Conveyors		523,771 59,975*				583,746
14	HHC General Const. Contract				22,264,068 225,376*		22,489,438
03	Bagging Bins			1,490,854 400*		499,051	1,990,305
12	Truck/Rail Weigh Scales			39,234	32,460	67,059	138,773
17	Bag Closers & Bagging Conveyors			261,577		170,400	451,977
22	Fork Lift Trucks			34,239		34,239	68,478
04, 05, 06, 07, 08, 09, 10, 11, 13, 14, 15, 16, 19, 20 & 21	All other Equip L/Comms for Quay 81/82			4,441,180 16,873*			4,458,053
TOTALS		45,202	596,675	7,460,064	23,699,820	3,904,044	35,705,805

*Unliquidated (not yet expended) funds contained in USAID/Cairo Letter of Commitment report as of 3 April 1985. Please refer to Exhibit 4.

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HVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

SUMMARY SHEET

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	497,488.56	516,182.00	96.4
2. Overseas Differential	99,497.71	108,611.00	91.6
3. Overhead - Overseas Field Staff	499,370.83	518,914.00	96.2
4. Home Office Salaries	1,427,970.02	1,439,790.00	99.2
5. Monthly Salary Adjustment			
6. Overhead - Home Office	1,426,971.91	1,446,738.00	98.6
7. Fixed Fee	718,730.97	718,731.00	100.0
8. Subcontract Costs	135,129.71	135,642.00	99.6
9. Consultant Costs	2,808.94	2,679.00	104.0
10. Travel Per Diem			
a) International Travel	153,425.42	117,200.00	130.9
b) International Per Diem	7,371.00	11,040.00	66.8
c) Domestic Travel	4,405.35	12,400.00	35.5
d) Domestic Per Diem	2,192.07	10,100.00	21.7
11. Transportation Personal Baggage	6,380.23	11,040.00	57.8
12. Transportation Household Effects	76,142.46	92,000.00	82.8
13. Transportation Equipment	16,429.25	88,500.00	18.6
14. Equipment	24,854.74	72,700.00	34.2
Equipment - Project		5,000.00	
15. Other Direct Costs			
a) Out of Pocket Expenses	58,281.86	51,679.00	112.8
b) Miscellaneous	146,088.00	105,441.00	138.5
16. Field Staff Allowances	30,883.75	23,400.00	131.9
TOTAL	5,334,422.78	5,487,787.00	97.2

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

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EVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

LAB EQUIPMENT

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	375.68	525.00	71.6
2. Overseas Differential	75.13	105.00	71.6
3. Overhead - Overseas Field Staff	381.61	529.00	72.1
4. Home Office Salaries	2,157.78	2,850.00	75.7
5. Monthly Salary Adjustment			
6. Overhead - Home Office	2,178.82	2,871.00	75.9
7. Fixed Fee	1,062.00	1,062.00	100.0
8. Subcontract Costs			
9. Consultant Costs			
10. Travel Per Diem			
a) International Travel			
b) International Per Diem			
c) Domestic Travel			
d) Domestic Per Diem			
11. Transportation Personal Baggage			
12. Transportation Household Effects			
13. Transportation Equipment			
14. Equipment			
Equipment - Project			
15. Other Direct Costs			
a) Out of Pocket Expenses	169.60	30.00	565.3
b) Miscellaneous	1,553.75	28.00	5,549.1
16. Field Staff Allowances			
TOTAL	7,954.37	8,000.00	99.4

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EVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

PORTABLE CONVEYORS

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	767.30	1,050.00	73.1
2. Overseas Differential	153.46	210.00	73.1
3. Overhead - Overseas Field Staff	779.85	1,058.00	73.7
4. Home Office Salaries	3,337.97	6,600.00	50.6
5. Monthly Salary Adjustment			
6. Overhead - Home Office	3,258.31	6,648.00	49.0
7. Fixed Fee	2,550.00	2,550.00	100.0
8. Subcontract Costs			
9. Consultant Costs			
10. Travel Per Diem			
a) International Travel		400.00	
b) International Per Diem		200.00	
c) Domestic Travel			
d) Domestic Per Diem			
11. Transportation Personal Baggage			
12. Transportation Household Effects			
13. Transportation Equipment			
14. Equipment			
Equipment - Project			
15. Other Direct Costs			
a) Out of Pocket Expenses	1,095.52	189.00	579.6
b) Miscellaneous	986.75	95.00	1,038.7
16. Field Staff Allowances			
TOTAL	12,929.16	19,000.00	68.1

General Authority for Supply Commodities
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EVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

QUAY 81/82

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	161,010.80	162,217.00	99.3
2. Overseas Differential	32,202.17	32,443.00	99.3
3. Overhead - Overseas Field Staff	162,380.60	162,627.00	99.8
4. Home Office Salaries	246,570.60	250,885.00	98.3
5. Monthly Salary Adjustment			
6. Overhead - Home Office	251,006.59	252,512.00	99.4
7. Fixed Fee	156,412.00	156,412.00	100.0
8. Subcontract Costs	34,555.00	41,922.00	82.4
9. Consultant Costs			
10. Travel Per Diem			
a) International Travel	28,675.30	19,500.00	147.1
b) International Per Diem	1,660.00	1,820.00	91.2
c) Domestic Travel	548.36	1,400.00	39.2
d) Domestic Per Diem	70.00	700.00	10.0
11. Transportation Personal Baggage	2,248.70	4,440.00	50.7
12. Transportation Household Effects	30,439.44	46,000.00	66.2
13. Transportation Equipment	1,965.17	5,500.00	35.7
14. Equipment	10,960.47	11,500.00	95.3
Equipment - Project		5,000.00	
15. Other Direct Costs			
a) Out of Pocket Expenses	14,877.13	5,500.00	270.5
b) Miscellaneous	11,275.26	15,880.00	71.0
16. Field Staff Allowances	8,850.00	7,800.00	113.5
TOTAL	1,155,707.02	1,184,058.00	97.6

General Authority for Supply Commodities
Ministry of Supply
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BVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

SAFAGA SILO

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	221,976.21	233,540.00	95.1
2. Overseas Differential	44,395.24	52,083.00	85.2
3. Overhead - Overseas Field Staff	222,612.87	235,210.00	94.6
4. Home Office Salaries	853,572.96	856,290.00	99.7
5. Monthly Salary Adjustment			
6. Overhead - Home Office	845,655.90	860,049.00	98.3
7. Fixed Fee	416,650.00	416,650.00	100.0
8. Subcontract Costs	65,835.31	58,980.00	111.6
9. Consultant Costs	2,808.94	2,679.00	104.9
10. Travel Per Diem			
a) International Travel	86,863.07	66,200.00	104.9
b) International Per Diem	4,547.50	6,280.00	72.4
c) Domestic Travel	2,096.01	9,200.00	22.8
d) Domestic Per Diem	821.50	8,200.00	10.0
11. Transportation Personal Baggage	2,782.15	4,000.00	69.6
12. Transportation Household Effects	30,272.15	30,000.00	100.9
13. Transportation Equipment	13,742.83	78,000.00	17.0
14. Equipment	11,978.87	61,200.00	19.6
Equipment - Project			
15. Other Direct Costs			
a) Out of Pocket Expenses	24,370.70	30,860.00	78.6
b) Miscellaneous	106,914.01	66,000.00	161.9
16. Field Staff Allowances	22,033.75	13,000.00	169.5
TOTAL	2,979,929.97	3,088,421.00	96.5

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

BVI ENGINEERING SERVICES

BUDGET ANALYSIS

U.S. DOLLAR COSTS INCURRED THRU SEPTEMBER 1984

GRAIN/TOF STORAGE FACILITIES

TOF FACILITY

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Overseas Salaries at U.S. Base Pay	113,358.57	118,850.00	95.4
2. Overseas Differential	22,671.71	23,770.00	95.4
3. Overhead - Overseas Field Staff	113,216.47	119,490.00	94.7
4. Home Office Salaries	322,330.71	323,165.00	99.7
5. Monthly Salary Adjustment			
6. Overhead - Home Office	324,872.29	324,658.00	100.1
7. Fixed Fee	142,056.97	142,057.00	100.0
8. Subcontract Costs	34,739.40	34,740.00	100.0
9. Consultant Costs			
10. Travel Per Diem			
a) International Travel	37,887.05	31,500.00	120.3
b) International Per Diem	1,163.50	2,940.00	39.6
c) Domestic Travel	1,760.98	1,400.00	125.8
d) Domestic Per Diem	1,300.57	1,000.00	130.0
11. Transportation Personal Baggage	1,349.38	2,600.00	51.9
12. Transportation Household Effects	15,430.87	16,000.00	96.4
13. Transportation Equipment	721.25	5,000.00	14.4
14. Equipment	1,915.40		
Equipment - Project			
15. Other Direct Costs			
a) Out of Pocket Expenses	17,768.91	15,100.00	117.7
b) Miscellaneous	25,358.23	23,438.00	108.2
16. Field Staff Allowances		2,600.00	
TOTAL	1,177,902.26	1,188,308.00	99.1

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

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BVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOF STORAGE FACILITIES
SUMMARY SHEET

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers	348,169.668	381,205.000	91.3
Tech. Indust. Consultant Office	228,598.013	228,730.000	100.4
M. A. Sinbel	97,363.721	97,120.000	100.2
Mueser, Rut., Johnston & DeSimone	60,379.010	60,584.000	99.6
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel	12,530.555	2,040.000	614.2
b) Per Diem Personnel	48,413.950	41,145.000	117.7
4. Transportation Household Effects	3,086.850	12,000.000	25.7
5. Transportation Equipment	170.000	11,800.000	1.4
6. Equipment	37,043.428	51,670.000	71.7
7. Other Direct Costs			
a) Out of Pocket Expenses	109,600.417	60,460.000	181.3
b) Miscellaneous	109,254.380	77,145.000	141.6
8. Field Staff Allowances	137,900.699	165,813.000	83.2
TOTAL	1,192,510.691	1,189,712.000	100.2

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

EVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOF STORAGE FACILITIES
LAB EQUIPMENT

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers			
Tech. Indust. Consultant Office			
M. A. Sinbel			
Mueser, Rut., Johnston & DeSimone			
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel			
b) Per Diem Personnel			
4. Transportation Household Effects			
5. Transportation Equipment			
6. Equipment			
7. Other Direct Costs			
a) Out of Pocket Expenses	50.000	50.000	100.0
b) Miscellaneous			
8. Field Staff Allowances	350.000	350.000	100.0
TOTAL	400.000	400.000	100.0

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

BVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOF STORAGE FACILITIES
PORTABLE CONVEYORS

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers Tech. Indust. Consultant Office M. A. Sinbel Mueser, Rut., Johnston & DeSimone			
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel			
b) Per Diem Personnel			
4. Transportation Household Effects			
5. Transportation Equipment			
6. Equipment			
7. Other Direct Costs			
a) Out of Pocket Expenses	100.000	100.000	100.0
b) Miscellaneous			
8. Field Staff Allowances	350.000	350.000	100.0
TOTAL	450.000	450.000	100.0

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

EVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOP STORAGE FACILITIES
QUAY 81/82

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers Tech. Indust. Consultant Office M. A. Sinbel	129,915.664	129,935.000	99.9
Mueser, Rut., Johnston & DeSimone	13,227.000	14,562.000	90.8
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel	2,051.040	240.000	854.6
b) Per Diem Personnel	10,081.029	3,000.000	336.0
4. Transportation Household Effects	245.155	6,000.000	4.1
5. Transportation Equipment	154.000	1,000.000	15.4
6. Equipment	11,583.320	18,710.000	61.9
7. Other Direct Costs			
a) Out of Pocket Expenses	22,819.028	12,310.000	185.4
b) Miscellaneous	21,971.184	22,375.000	98.2
8. Field Staff Allowances	35,659.680	42,750.000	83.4
TOTAL	247,707.100	250,882.000	98.7

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

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BVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOF STORAGE FACILITIES
SAFAGA SILO

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers Tech. Indust. Consultant Office M. A. Sinbel	348,169.668	381,205.000	91.3
Mueser, Rut., Johnston & DeSimone	345,593.910	33,510.000	103.2
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel	8,970.890	1,500.000	598.1
b) Per Diem Personnel	27,544.085	23,700.000	116.2
4. Transportation Household Effects	2,841.695	4,000.000	71.0
5. Transportation Equipment	11.000	10,000.000	1.1
6. Equipment	12,924.178	32,960.000	39.2
7. Other Direct Costs			
a) Out of Pocket Expenses	64,716.071	30,160.000	214.6
b) Miscellaneous	71,700.596	42,070.000	170.4
8. Field Staff Allowances	75,663.319	87,880.000	86.1
TOTAL	647,135.412	646,985.000	100.0

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

BVI ENGINEERING SERVICES

BUDGET ANALYSIS

EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983

GRAIN/TOF STORAGE FACILITIES

TOF FACILITY

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
1. Subcontract Costs			
Arab Consulting Engineers			
Tech. Indust. Consultant Office	98,682.349	98,795.000	99.9
M. A. Sinbel	97,363.721	97,120.000	100.2
Mueser, Rut., Johnston & DeSimone	12,558.100	12,512.000	100.4
2. Consulting Costs			
3. Travel & Per Diem			
a) Local Travel	1,508.625	300.000	502.9
b) Per Diem Personnel	10,788.836	14,445.000	74.7
4. Transportation Household Effects		2,000.000	
5. Transportation Equipment	5.000	800.000	0.6
6. Equipment	12,535.930		
7. Other Direct Costs			
a) Out of Pocket Expenses	21,915.318	14,840.000	147.7
b) Miscellaneous	15,582.600	12,700.000	122.7
8. Field Staff Allowances	24,943.700	34,483.000	72.3
TOTAL	295,884.179	290,995.000	101.7

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

BVI ENGINEERING SERVICES
BUDGET ANALYSIS
EGYPTIAN POUND COSTS INCURRED THRU OCTOBER 1983
GRAIN/TOF STORAGE FACILITIES
BREAKDOWN OF OTHER DIRECT COSTS

ITEM	COSTS TO DATE	CONTRACT BUDGET	PERCENTAGE USED
<u>A. Out of Pocket Expenses</u>			
Cables & Telex	22,205.357	6,300.000	352.5
Telephone	2,915.591	2,280.000	127.9
Postage	97.500	1,960.000	5.0
Vehicle Operation	84,476.469	45,920.000	183.9
Newspaper Advertising	-	4,000.000	-
TOTAL	109,694.917	60,460.000	181.4
<u>B. Miscellaneous</u>			
Office Supplies	18,903.530	8,280.000	228.3
Print Reports & Cont. Documents	5,498.740	1,600.000	343.7
Reproduction Allowance	13,722.135	5,525.000	248.4
Print Drawings	2,968.130	2,450.000	121.2
Freight on Cont. Documents	1.000	900.000	0.1
Office Rent	42,000.000	33,000.000	126.1
Utilities	1,842.580	2,640.000	69.8
Banking Charges	23.000	5,600.000	0.4
Insurance & Clearance	19,200.570	11,700.000	164.1
Vehicle Licensing	2,123.765	5,150.000	41.2
Others	2,970.930	-	-
TOTAL	109,254.380	77,145.000	141.6

General Authority for Supply Commodities
Ministry of Supply
Arab Republic of Egypt

MACS-P07C

USAID / ARAE REPUBLIC OF EGYPT
COMPREHENSIVE PIPELINE - COMMITMENT DETAIL
AS OF 03/31/85

EXHIBIT 4

DATE : 04/03/85
REPORT PAGE NO.: 96
MISSION PAGE NO.: 96

OPTION NO.: 0

OFFICE CODE: 002
PROJECT NO.: 2030037.00

OFFICE NAME : INFRASTRUCTURE DEVELOPMENT
PROJECT TITLE: GHAIN TAL OIL FATS STOR & DIST

PROJECT OFFICER: JOSEPH J PASTIC

MARK NO.	MARK DESCRIPTION	COMMITTED	DISBURSED	UNLIQUIDATED	ACCUAL	PIPELINE
01	PROFESSIONAL SERVICES					
CO-IFB-263-A-301-HCC L/COM-263-K04101	EVI-ENGINEERING SERVICES-HCC 0170001 EVI-ENG. SVCS. HCC	5,407,707	5,304,036	153,751	350	153,401
EARMARK DOCUMENT TOTALS > > >		5,407,707	5,304,036	153,751	350	153,401
ELEMENT TOTALS		5,407,707	5,304,036	153,751	350	153,401
02	COMMODITIES					
CO-IFB-263-A-301-HCC L/COM-263-K04120	UNESCC-ARCH ITEMS FOR QUAY-HC 0580051 UNESCC-ARCH FOR QUAY	02,294	02,294	0	0	0
EARMARK DOCUMENT TOTALS > > >		02,294	02,294	0	0	0
CO-IFB-263-A-302-HCC L/COM-263-K04122	AEG-SUP DEL FORKLIFT TRUCKS 0581029 AEG-FORKLIFT TRUCK	08,478	08,478	0	0	0
EARMARK DOCUMENT TOTALS > > >		08,478	08,478	0	0	0
CO-IFB-263-B-10-HCC L/COM-263-K04116	AT-FREIGHT FORWARDING SVCS-HCC 0580049 AT-FRT FORWARDING SVC	0	0	0	0	0
EARMARK DOCUMENT TOTALS > > >		0	0	0	0	0
CO-IFB-263-E-302-HCC L/COM-263-K04110	MOTOR CONTROL CENTERS-HCC 0580041 AEG-MOTOR CNTRL CENTE	03,362	03,362	0	0	0
EARMARK DOCUMENT TOTALS > > >		03,362	03,362	0	0	0
CO-IFB-263-E-303-HCC L/COM-263-K04116	UNESCC-SUP DEL OF CONDUIT-HCC 0580047 UNESCC-CONDUIT	95,325	95,325	0	0	0
EARMARK DOCUMENT TOTALS > > >		95,325	95,325	0	0	0
CO-IFB-263-E-304-HCC	UNESCC-SUP DEL OF CONDUCTORS					

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Best Available Document

EXHIBIT 4

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USAID / ARAB REPUBLIC OF EGYPT
COMPREHENSIVE PIPELINE - COMMITMENT DETAIL
AS OF 03/31/85

DATE : 04/03/85
REPORT PAGE NO.: 97
MISSION PAGE NO.: 97

OPTION NO.: 3

OFFICE CODE: 602

OFFICE NAME : INFRASTRUCTURE DEVELOPMENT

PROJECT NO.: 263007.00

PROJECT TITLE: GRAIN T-L OIL FATS STOR & DIST PROJECT OFFICER: JOSEPH J PASTIC

BENCHMARK DOC. NUMBER/ COMMITMENT DESCRIPTION	BENCHMARK DESCRIPTION COMMITMENT DESCRIPTION	COMMITTED	DISBURSED	SOLIDIFIED	ACCUAL	PIPELINE
04	30 COMMODITIES					
L/COM-263-KC4115	P700029 0500046 0A5000-CONDUCTORS	129,875	129,875	0	C	0
BENCHMARK DOCUMENT TOTALS > > >		129,875	129,875	0	C	0
CO-IFB-263-E-303-HCC	P700038 0300033 0A5000-LIGHT FIXTURES-HCC	209,142	209,142	0	C	0
L/COM-263-KC4119	P700038 0300033 0A5000-LIGHT FIXTURES	209,142	209,142	0	C	0
BENCHMARK DOCUMENT TOTALS > > >		209,142	209,142	0	C	0
CO-IFB-263-E-307-HCC	P700027 0300024 0A5000-MAR-SUP DEL EQUIP-HCC	13,583	13,583	0	C	0
L/COM-263-KC4113	P700027 0300024 0A5000-MAR-EQUIPMENT	13,583	13,583	0	C	0
BENCHMARK DOCUMENT TOTALS > > >		13,583	13,583	0	C	0
CO-IFB-263-E-311-HCC	P700012 0300035 0A5000-AEG-SUP/DEL EQUIP-HCC	42,843	42,843	0	C	0
L/COM-263-KC4104	P700012 0300035 0A5000-AEG-SUP/EQUIP	42,843	42,843	0	C	0
BENCHMARK DOCUMENT TOTALS > > >		42,843	42,843	0	C	0
CO-IFB-263-E-310-HCC	P700019 0300036 0A5000-SEC-SUP/DEL EQUIP-HCC	155,075	155,205	16,873	C	16,873
L/COM-263-KC4105	P700019 0300036 0A5000-SEC-SUP/EQUIPMENT	155,075	155,205	16,873	C	16,873
BENCHMARK DOCUMENT TOTALS > > >		155,075	155,205	16,873	C	16,873
CO-IFB-263-E-302-HCC	P700038 0402015 0A5000-HCC-EQUIP & CONST. TOP FAC	22,489,438	22,264,068	225,370	220,000	5,370
L/COM-263-KC4114	P700038 0402015 0A5000-HCC-EQ & CONSTR TOP	22,489,438	22,264,068	225,370	220,000	5,370
BENCHMARK DOCUMENT TOTALS > > >		22,489,438	22,264,068	225,370	220,000	5,370
CO-IFB-263-M-202-HCC	P700037 0391030 0A5000-AEG-EQUIP & TECH SVCS-HCC	523,746	523,771	59,975	C	59,975
L/COM-263-KC4123	P700037 0391030 0A5000-AEG-EQP/TECH SVCS	523,746	523,771	59,975	C	59,975

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USAID / ARAB REPUBLIC OF EGYPT
COMPREHENSIVE PIPELINE - COMMITMENT DETAIL
AS OF 03/31/85

EXHIBIT 4

DATE : 04/03/85

OPTION NO.: 0

REPORT PAGE NO.: 98

OFFICE CODE: 602

OFFICE NAME : INFRASTRUCTURE DEVELOPMENT

MISSION PAGE NO.: 98

PROJECT NO.: 2630037.00

PROJECT TITLE: GRAIN TAL OIL FATS STOR & DIST PROJECT OFFICER: JOSEPH J PASTIC

EARMARK DOC. NUMBER/ COMMITMENT DOC. NO	EARMARK CONTROL NO.	EARMARK DESCRIPTION	COMMITTED	DISBURSED	UNLIQUIDATED	ACCURAL	PIPELINE
REQUEST ELEMENT NO.	04	REQUEST ELEMENT NAME: 30 COMMODITIES					
EARMARK DOCUMENT TOTALS > > >			588,746	523,771	59,975	C	59,975
CC-IFB-263-M-203-HCC L/COM-263-K04117	F700031	AEROGLIDE-BAG CLOSERS & CONVE 0560048 AEROGLIDE-BAG CLS/CNV	451,977	451,977	0	C	0
EARMARK DOCUMENT TOTALS > > >			451,977	451,977	0	C	0
CC-IFB-263-M-205-HCC L/COM-263-K04112	F700026	AEG-SUP DEL OF MOTOR TRUCK-HC 0560043 AEG-MOTOR TRUCKS	138,773	138,773	0	C	0
EARMARK DOCUMENT TOTALS > > >			138,773	138,773	0	C	0
CC-IFB-263-M-303-HCC L/COM-263-K04107	F700021	MCC-SUPPLY SPARE PARTS-HCC 0560038 MCC-SPARE PARTS	238,714	238,714	0	C	0
EARMARK DOCUMENT TOTALS > > >			238,714	238,714	0	C	0
CC-IFB-263-M-304-HCC L/COM-263-K04106	F700022	TMP-SUP DEL TECH SER-HCC 0760039 TMP SUP/TECH SVCS	1,658,498	1,658,498	0	C	0
EARMARK DOCUMENT TOTALS > > >			1,658,498	1,658,498	0	C	0
CC-IFB-263-M-305-HCC L/COM-263-K04111	F700025	AEG-SUP DEL OF BUCKET ELEV-HC 0560042 AEG-BUCKET ELEVTR	81,719	81,719	0	C	0
EARMARK DOCUMENT TOTALS > > >			81,719	81,719	0	C	0
CC-IFB-263-M-307-HCC L/COM-263-K04114	F700028	HE-SUP DEL OF SPOUTING GATES 0560045 HE-SPOUTING GATES	163,805	163,805	0	C	0
EARMARK DOCUMENT TOTALS > > >			163,805	163,805	0	C	0
CC-IFB-263-M-310-HCC L/COM-263-K04121	F700035	ONESCC-SUP DEL VENT EQUIP-HCC 0560052 ONESCC-VENT EQUIP	58,936	58,936	0	C	0

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USAID / ARAB REPUBLIC OF EGYPT
 COMPREHENSIVE PIPELINE - COMMITMENT DETAIL
 AS OF 03/31/85

EXHIBIT 4

DATE : 04/03/85

REPORT PAGE NO.: 99

MISSION PAGE NO.: 99

OPTION NO.: 0

OFFICE CODE: 602
 PROJECT NO.: 2630027.00

OFFICE NAME : INFRASTRUCTURE DEVELOPMENT
 PROJECT TITLE: GRAIN TAL OIL FATS STOR & DIST PROJECT OFFICER: JOSEPH J PASTIC

COMMITMENT DOC. NO	EARMARK CONTROL NO.	EARMARK DESCRIPTION	COMMITTED	DISBURSED	UNLIQUIDATED	ACCEVAL	PIPELINE
PROJECT ELEMENT NO. 02	PROJECT ELEMENT NAME: 30 COMMODITIES						
EARMARK DOCUMENT TOTALS > > >			68,936	68,936	0	C	0
CO-IFB-263-M306-HCC L/COM-263-KL4106	P700020	M30-SCREW CONVEYORS-HCC 0580037 M30-SCREW CONVEYORS	102,065	102,065	0	C	0
EARMARK DOCUMENT TOTALS > > >			102,065	102,065	0	C	0
CO-IFB-263-S-301-HCC L/COM-263-KL4109	P700023	S30-STR STRUCTURAL STEEL-HCC 0580040 S30-STRUCTURAL STEEL	1,372,794	1,372,794	0	C	0
EARMARK DOCUMENT TOTALS > > >			1,372,794	1,372,794	0	C	0
CO-IFB-M201-HCC L/COM-263-KC4102	P700016	M20-SUP/DEL TRG EQUIP-HCC 0579007 M20-TRG-SUP/EQUIP	37,248	33,463	3,785	C	3,785
EARMARK DOCUMENT TOTALS > > >			37,248	33,463	3,785	C	3,785
CO-IFB-M204-HCC L/COM-263-KC4103	P700017	M20-SUP EQUIP-HCC 0563102 M20-SUPP/EQUIP	1,990,305	1,989,905	400	C	400
EARMARK DOCUMENT TOTALS > > >			1,990,305	1,989,905	400	C	400
ELEMENT TOTALS			30,218,618	29,911,815	306,403	220,000	86,403
PROJECT TOTALS > > >			35,705,805	35,245,651	460,154	220,350	239,804

BLACK & VEATCH INTERNATIONAL

FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT
PORTABLE RAGGED GRAIN CONVEYORS AND
SAFAGA SILO COMPLEX (DESIGN)

SECTION VI.I

PHOTOGRAPHS

BLACK & VEATCH INTERNATIONAL

FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT
PORTABLE BAGGED GRAIN CONVEYORS AND
SAFAGA SILO COMPLEX (DESIGN)

SECTION VII, PHOTOGRAPHS

TABLE OF CONTENTS

	<u>Page</u>
A. GENERAL	VII - 1
B. PHOTOGRAPHS	VII - 2

FINAL REPORT

VOLUME I

LABORATORY EQUIPMENT

PORTABLE BAGGED GRAIN CONVEYORS AND

SAFAGA SILO COMPLEX (DESIGN)

SECTION VII, PHOTOGRAPHS

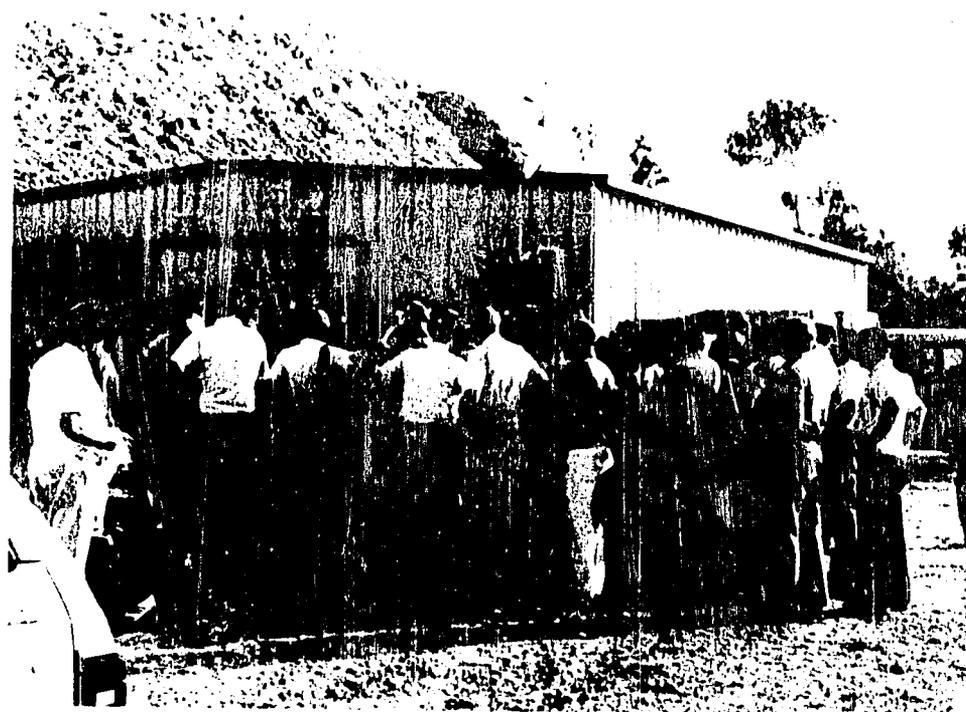
A. GENERAL

The Laboratory Equipment and Portable Bagged Grain Conveyors sub-projects entailed procurement of equipment for the GASC, thus, construction photographs are not applicable. This section contains photographs taken at the Safaga Project Prebid conference in the Hurghada/Safaga area on April 20 and April 21, 1983.

B. PHOTOGRAPHS



Prebid Conference, Safaga April 21, 22 1983.
Conference attendees visited aggregate sources



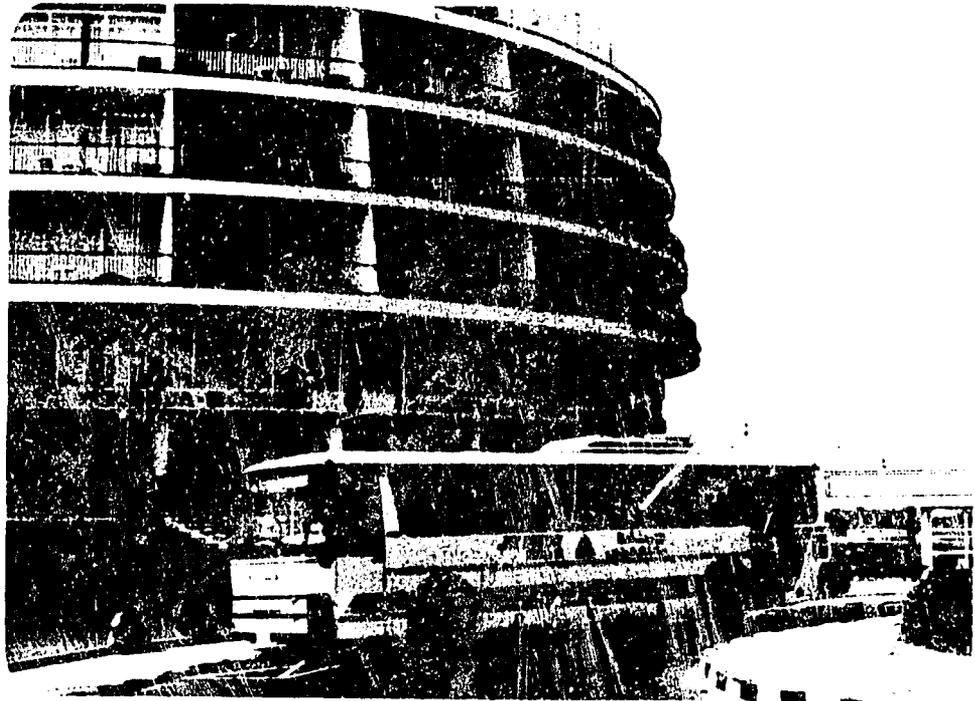
Prebid Conference in Safaga April 20 & 21, 1983.
Conference attendees visited to Hamarwain Water
Treatment Facility less than forty miles south
of Safaga



Prebid Conference in Safaga April 20 & 21, 1983.
Conference attendees were treated to a luncheon
at the Safaga Hotel.



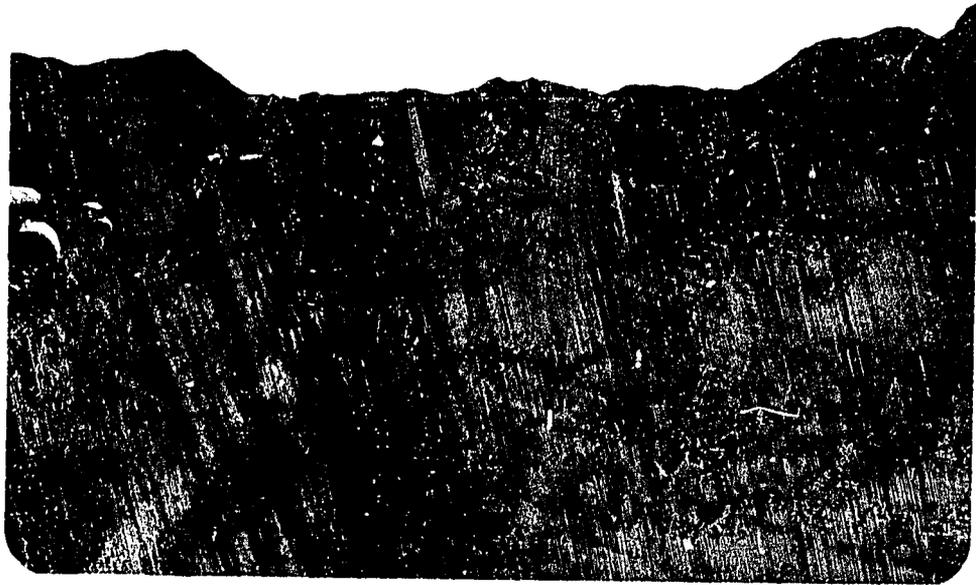
Prebid Conference, Safaga April 21, 22 1983.
Visit to aggregate sources



Prebid Conference in Safaga April 20 & 21, 1983.
Safaga-Hurghada-Luxor. Prebid Conference attendees
were transported by first class bus from Hurghada
to Safaga and later to Luxor. Conference attendees
stayed at the Hurghada Sheraton.



Prebid Conference in Safaga April 20 & 21, 1983.
On the far left is Safaga Harbor.



Prebid Conference, Safaga
Safaga-Qena Pipeline



Prebid Conference in Safaga April 20 & 21, 1983
Safaga-Qena Highway.