

タイ国 農業協同組合振興計画
モデルインフラ整備事業施工監理業務

パクトンチャイ地区
ムアン地区

報告書

1989年7月

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国際協力事業団

農開技

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タイ国 農業協同組合振興計画
モデルインフラ整備事業施工監理業務

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ムアン地区

報 告 書

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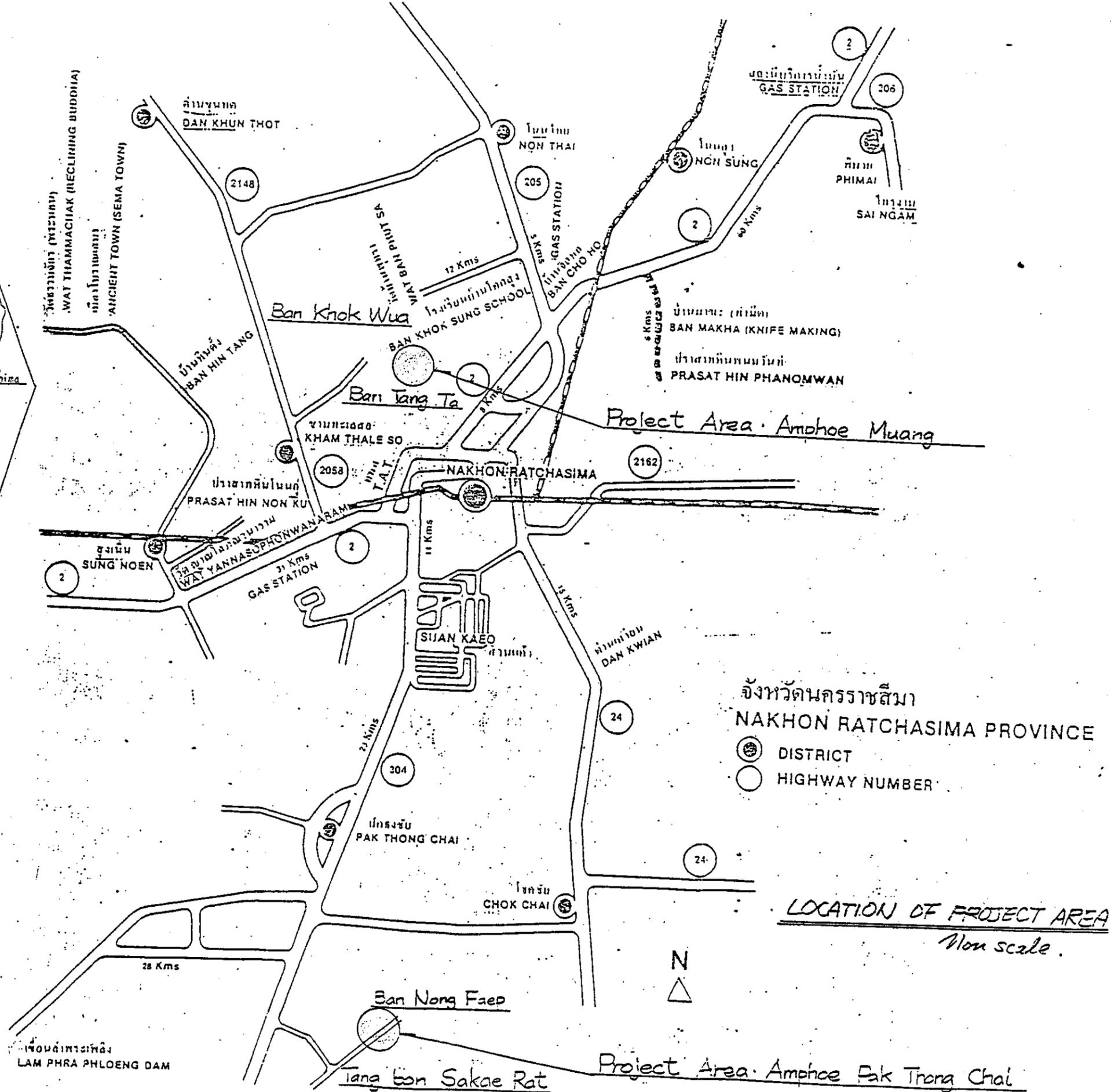
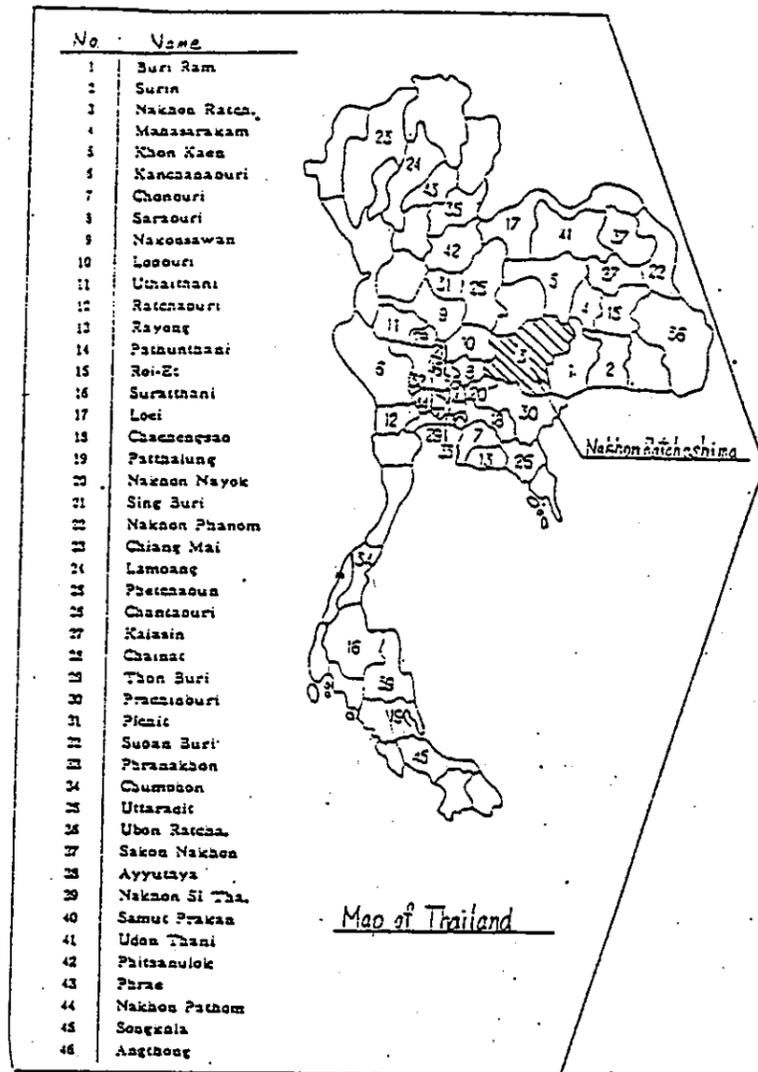
はじめに

タイ国農業組合振興計画に基づき、その活動拠点としている東北タイ・ナコンラチャシマ県にある5つの農業協同組合のうち、昭和61年のコンサマキ・チャカラ、昭和62年のピマイに引き続き、同プロジェクト活動の一環としてモデルインフラ整備工事の導入を、パクトンチャイ農協およびムアン農協の各モデルグループにおいて実施した。

パクトンチャイ農協およびムアン農協の各モデルグループにおけるモデルインフラ整備工事に関しては、1988年8月より9月にかけて、タイ国関係機関・CPD (COOPERATIVES PROMOTION DEPARTMENT) および日本人専門家との間で詳細な協議が行われた、その内容は「タイ国農業協同組合振興計画モデルインフラ整備事業実施設計調査報告書 1988年 11月 国際協力事業団」にとりまとめられている。

モデルインフラ整備事業の導入は、本プロジェクトの目的とする農民の共同意識の高揚、組織化による農民の経済的・社会的な生活基盤の安定を図るに際し、農業経営、営農指導、農産物の安定確保及び利水整備等の面から非常に有効な手段であることが、先の3モデルグループにおいて実証されている。そこで、残り2モデルグループにおいても、その速やかな実施が望まれていたが、この度国際協力事業団により実施の運びとなったものである。

本報告書は、上記実施設計調査報告書に示された調査・設計を基にしたモデルインフラ整備工事の工事契約から工事施工完了に至るまでの記録をとりまとめたものである。



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第1章 概要

1-1 工事概要

1-1-1 実施設計図書及び図面

「タイ国農業協同組合振興計画モデルインフラ整備事業実施設計調査報告書1988年11月」による。

1-1-2 工事実施場所

タイ国ナコンラチャシマ県 パクトンチャイ郡ノンフェップ村
地内及び ムアン郡ウァ村地内

1-1-3 工事実施期間

自 1989年 1月21日 至 1989年 6月15日 (146日間)

1-1-4 主要工事

・パクトンチャイ地区

・大規模溜池	容量32000m ³	1	式
・溜池	タイプA 容量760m ³	17	式
	タイプB 1500m ³	1	式
・豚舎	6.0m×6.0m	3	棟
・養鶏舎	8.0m×13.3m	2	棟
・孵卵施設	4.0m×8.0m	1	棟
・豚舎(小規模)	3.0m×5.0m	19	棟

・ムアン地区

・水路	860 m	1	式
・豚舎	6.0m×6.0m	2	棟
・溜池	容量760m ³	6	式
・小水路	328 m	1	式
・野菜圃場ネット施設	5.0m×100m	1	式
	5.0m×50m	4	式

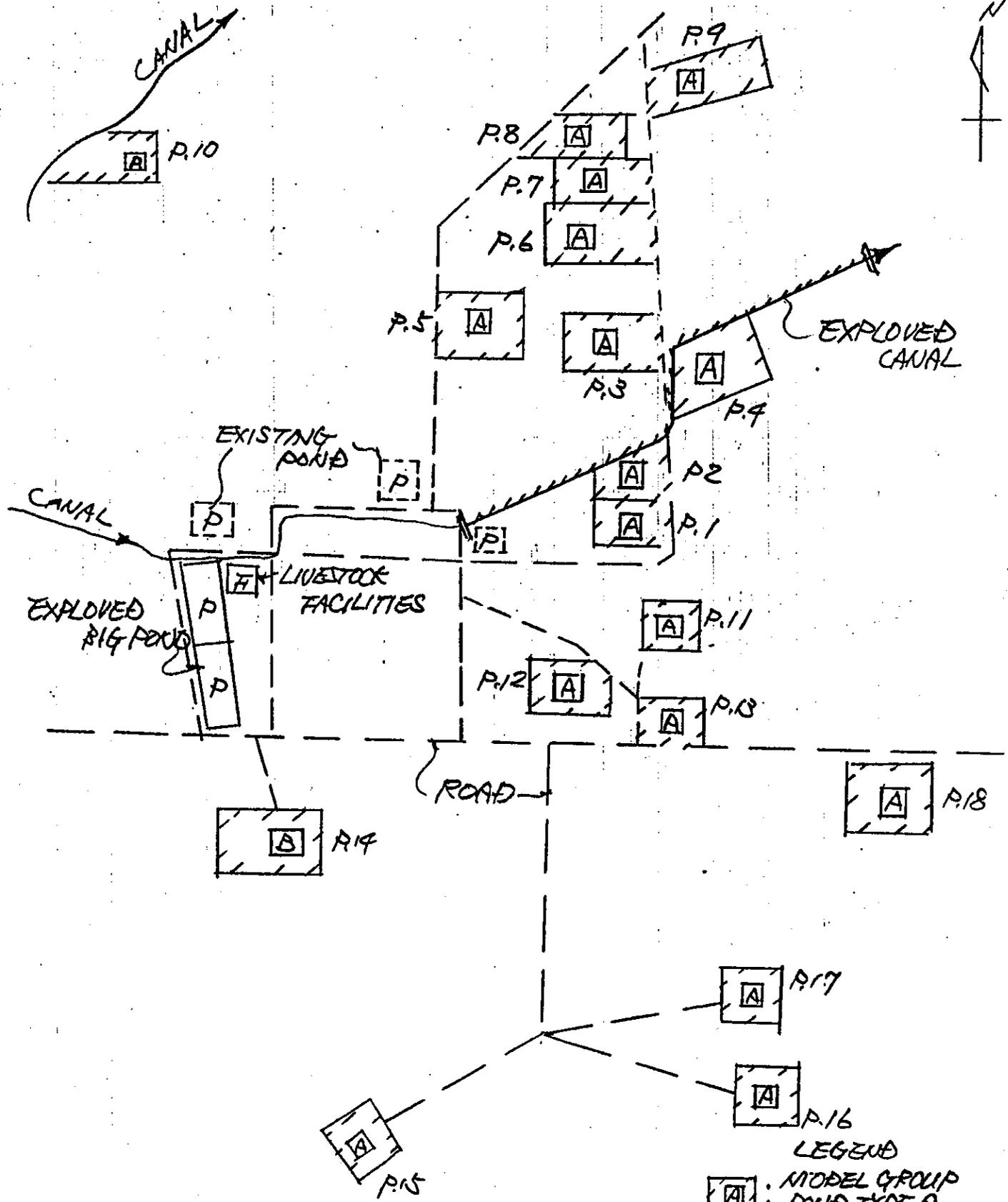
1-2 専門家の派遣

石山茂 (日本技研株式会社) 契約及び施工監理

期間 自1989年 1月 7日 至1989年 3月 7日

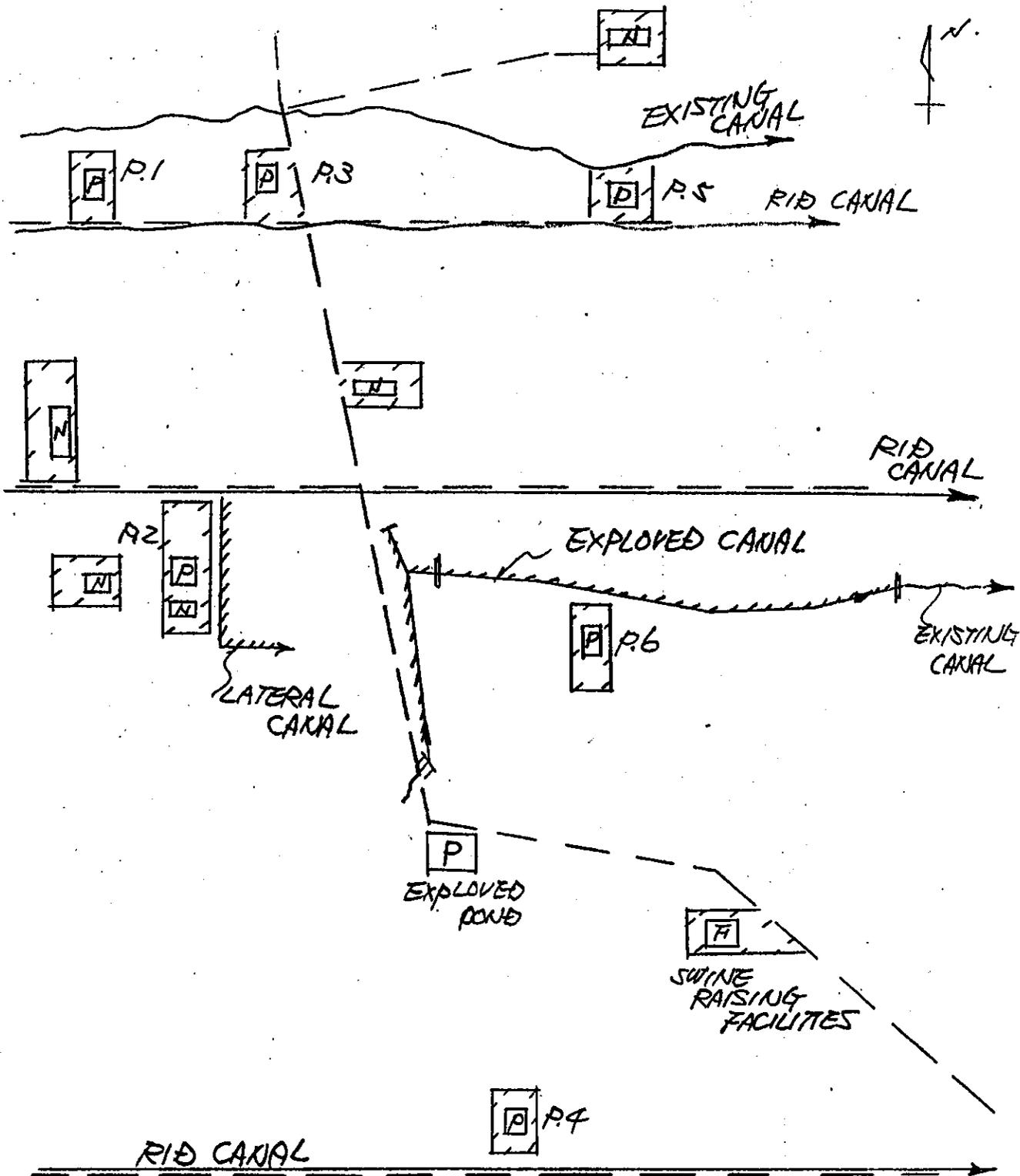
大宮正広 (日本技研株式会社) 契約及び施工監理

期間 自1989年 2月 6日 至1989年 7月 5日



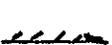
PAK-THONG-CHAL (BAN NBU FEAP)
LOCATION OF FACILITIES.
 NO SCALE

- LEGEND
- MODEL GROUP POND TYPE A
 - MODEL GROUP POND TYPE B
 - EXPLOVED CANAL
 - EXISTING CANAL



MUANG (KOR WUA)
LOCATION OF FACILITIES
 NON SCALE

LEGEND

-  : MODEL GROUP POND
-  : MODEL GROUP NET FACILITIES
-  : SWINE RAISING FACILITIES
-  : EXPLOVED CANAL
-  : EXISTING CANAL

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大臣	主管經濟 (M)
公使	Mr. Hironaka (J)
秘書長	Mr. Hironaka (J)
副秘書長	
第一副秘書長	
第二副秘書長	
第三副秘書長	
第四副秘書長	
第五副秘書長	
第六副秘書長	
第七副秘書長	
第八副秘書長	
第九副秘書長	
第十副秘書長	

DEPARTMENT OF TECHNICAL AND ECONOMIC COOPERATION A-D 1218

Krung Kasem Road, Bangkok, Thailand

Cable : DEPTECO

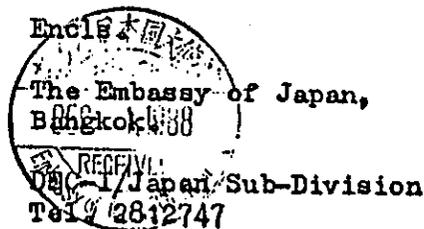
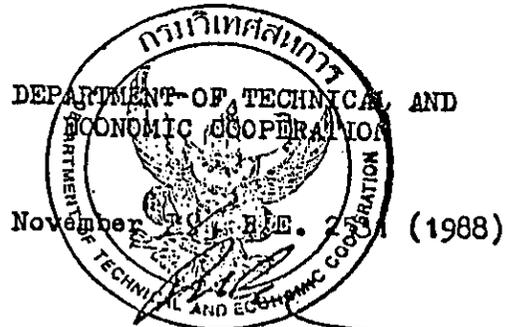
TEL. 2800980-4

No. 1702/35125

The Department of Technical and Economic Cooperation presents its compliments to the Embassy of Japan and, with reference to the Supplementary Note to the Record of Discussions on the Japanese Technical Cooperation for the Agricultural Cooperative Promotion Project in Thailand dated 4 February 1986, has the honour to request, on behalf of the Cooperatives Promotion Department, Ministry of Agriculture and Cooperatives, the local cost expenditure on construction of the "Model Infrastructure" for the Muang Nakorn Rachasima and Pak Thong Chai's Agricultural Cooperatives under the said project.

Enclosed herewith is a detailed information for the Embassy's consideration.

The Department of Technical and Economic Cooperation avails itself of this opportunity to renew to the Embassy the assurances of its highest consideration.



THE COLOMBO PLAN
COUNCIL FOR TECHNICAL CO-OPERATION IN ASIA AND THE PACIFIC

APPLICATION FOR EXPERT

By the Government of The Kingdom of Thailand to the Government of Japan
for an expert in The Agricultural Cooperative Promotion Project in Thailand

Notes.—(a) This form has been devised for the general guidance of co-operating countries in order to facilitate the supply of relevant information and data necessary to afford an adequate appreciation of the nature of the technical assistance required. Full and accurate completion of this application form will avoid much reference back and lead to speedier action.

(b) The requisite number of copies of the Form A I, including a copy for the Colombo Plan Bureau, duly endorsed by the appropriate Foreign Aid Department of the requesting government should be forwarded to the donor government concerned through the appropriate channels.

1. Background Information

This section should show as precisely as possible the general nature of the project for which the expert is required, stating whether it comes within the Government's development programme. It is important to indicate whether the project is a new enterprise or whether it was started previously. In the latter case, any assistance received under other technical co-operation programmes (e.g. under United Nations auspices) should be stated. With regard to industrial enterprises, some impression of the size is important and the output and number of workers to be employed are useful indications. The type of process, make and age of industrial or scientific equipment with which the expert will be concerned should be specified. In the case of academic establishments, it is an advantage to know the number of annual intake of students, their level of attainment, numbers and status of existing staff and details of any research facilities and the level of research being undertaken. (Copies of brochures, annual reports, financial statements, calendars, syllabus of instruction, etc. should be attached where applicable).

This request is made to the Government of Japan in accordance with the matter referred to the item II-I of the Attached Document in accompanying with the item II of the Annex to the Record of Discussions between the Japanese Implementation Survey Team and the Authorities Concerned of the Government of the Kingdom of Thailand on the Japanese Technical Cooperation for the Agricultural Cooperative Promotion Project in Thailand dated July 6, 1984. The request also referred to Supplementary Note to the said Record of Discussions, dated February 4, 1986

At this stage, a number of short-term experts required has been discussed with the Japanese Experts of the project and was recommended by them.

2. Specification for the post :*

(a) post title

Civil engineer

(b) duties for which the expert will be responsible. These should preferably be listed, and it is important to give as much detail as possible

To assist and advise in construction of model infrastructure for compound farming system in Pakthongchai and Huang Nakorn Ratchasima Agricultural Cooperatives under the Project areas.

(c) authority to whom expert will be responsible

Director-General of the Cooperatives Promotion Department.

(d) qualification and experience required and approximate age limits

Field of specialisation required is civil engineer and approximate age limits 25-50 years old.

(e) number of personnel required

Two

3. In the case of continuous projects, give name and particulars of understudy or counterpart who is to work with the expert

4. Terms and conditions of appointment :

(a) duration

From December 1988 to June 1989 (7 months) and
December 1988 to February 1989 (3 months)

(b) actual place of employment, nearest town and post office

Cooperatives Promotion Department and the Project areas in Nakorn Ratchasima Province.

(c) if living accommodation to be provided, state whether furnished or unfurnished, and whether suitable for married man with family :

(i) daily allowance for food if accommodation only provided

(ii) daily rate for accommodation and food if neither are provided in kind

In Accordance with the Provisions of Agreement on
Technical Cooperation between the Government
of Japan and the Government of Thailand

* It is essential that full particulars should be given. If the space provided is inadequate, particulars should be given on a separate sheet.

4. Terms and conditions of appointment—(contd).

- (d) daily and nightly rates of subsistence payable when away from base on duty
- (e) are costs of internal travel paid or car provided ?
- (f) what leave arrangements are suggested ?
- (g) extent to which free hospital and medical treatment is to be provided for the expert and his accompanying dependants, if any
- (h) is expert free from income tax ?
- (i) will personal effects imported on first arrival be cleared free of custom duty ?
- (j) does host government undertake to indemnify expert in respect of damages awarded against him for actions performed in the course of his official duties ?
- (k) approximate date on which the expert is required to arrive in receiving country
- (l) any other information

In Accordance with the Provisions of Agreement on Technical Cooperation between the Government of Japan and the Government of Thailand

5. Proposals for apportionment of costs of salary and allowance and passages

Under the Colombo plan Technical Cooperation scheme

6. Previous steps, if any, to fill the post :

If any previous attempt has been made to fill the post under the Colombo Plan (including ICA) or from any external source (UN, Specialised Agency or other) please indicate :

- (a) to whom application was addressed, with date
- (b) result or present stage of negotiations
- (c) are other experts working in this area in associated projects or have there been experts working in this field previously ? If so, are any reports by these experts available ?

7. Correspondence :

Name, postal and telegraphic address of official to whom correspondence regarding this application should be forwarded

Director-General
Department of Technical and Economic Cooperation
9n2 Krung Kasem Road
Bangkok, Thailand

Signed: [Signature]
for Counterpart Agency

Signed: [Signature]
(Mr. Pichet Soontornpipit)
Deputy Director-General
for Director-General

Date: Nov. 24, 1988

on behalf of the Government of

12 DEC 1988

For use only by Donor Government

Application accepted/rejected/withdrawn

on behalf of the Department of

Date:

プロジェクト基盤整備費申請書

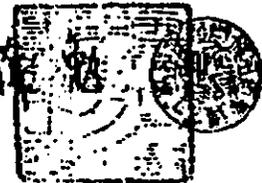
昭和63年12月6日

国際協力事業団

総裁 柳谷謙介 殿

事務所長 氏名

青



下記によりモデルインフラ整備費・パイロットインフラ整備費の支給を申請する。

記

- (1) プロジェクト名 農業協同組合振興計画
- (2) 工事名 パナマコグ・ムン地方共同集積飼育
- (3) 概算事業費 施設工事他
- (4) 工事内容 約2,500万円

A) 工事概要

- ① パナマコグ地区
 - イ. 共同集積飼育施設
 - ロ. 小規模集積施設等
- ② ムン地区
 - イ. 共同集積飼育施設
 - ロ. かんがい用水施設等

B) 主要工事数値

- イ. 野菜生産団場施設等

別紙のとおり

C) 工期

昭和63年12月下旬～昭和63年5月 日(80日)

(5) 申請の事由(別紙のとおり)

(実施要綱第3条の要件及び工事の目的等を記載すること。)

山形の水防

本計画に於ける「河川外基盤整備事業」は、過去「河川外活動
開始以来、コンクリート農協の土砂池掘、干拓地への河川
改修工事（木竹取付等を含む）など、この「河川外」の総合農業への
ための施設等として、そのうち「モデル農協」に於て、その「河川外」の特色
及び農民のニーズ等に基づき、総合振興局の委託により実施し、
その効果を「河川外」に示すこととする。河川外自体の協力期間終了
（昭和78年）に向け、残土の処理等及び「河川外」の干拓地等の上
述の「モデル」の河川外工事を実施することとする。その結果は、次に期待す
ることとする。この事業の意義を明らかにするとともに、その
必要申請を行うものとする。

添付書類：相手国の要請書

事業内容及び事業費の概要

1. バクトンチャイ地区

(1) 共同家畜飼育施設工事

- ① 養豚舎(3棟) ④ 尿処理施設(1式)
- ② 堆肥施設(1棟) ⑤ 養鶏舎(2棟)
- ③ 貯水槽(15K/L 4槽) ⑥ 糞卵施設(1棟)

(2) 小規模家畜施設工事

- ① 鶏舎(1棟) ② 鶏舎建設用資材(18棟分)

(3) オムカイ用水施設工事

- ① 大規模溜池(32,000 m^3 1式)
- ② ため池(760 m^3 17ヶ, 1,500 m^3 1ヶ)

2. アン光区

(1) 共同家畜飼育施設工事

- ① 養豚舎(2棟) ④ 尿処理施設(1式)
- ② 堆肥施設(1棟) ⑤ 糞卵(1式)
- ③ 貯水槽(15K/L 2槽)

(2) オムカイ用水施設工事

- ① 水路(860m) ③ ため池(760 m^3 6ヶ)
- ② ゲート・パイプ等付帯施設(14式) ④ 小水路(328m)

(3) 野菜モデル圃場防虫設備工事

- パイプネット設備(5m X 100m 3式)

添付図面：事業位置図，一般計画平面図等

所要経費 25,000 千円

所要経費積算内訳等 (千円)

I. 直接工事費 18,083

1. パクンチャイ地区整備 --- 9,298

(1) 共同家畜飼育施設工事(1,731)

(2) 小規模家畜施設工事(1,349)

(3) かんがい用水施設工事(6,218)

2. ムアソ地区整備 --- 8,785

(1) 共同家畜飼育施設工事(916)

(2) かんがい用水施設工事(7,536)

(3) 野菜モデル圃場防虫設備工事(333)

II. 諸経費 3,617

I × 20%

III. 予備費

(I + II) × 10% 2,170

IV. 工事増費

(I + II + III) の 5% 以内 1,130

合計(I + II + III + IV) 25,000

(予定工期 約6ヵ月)

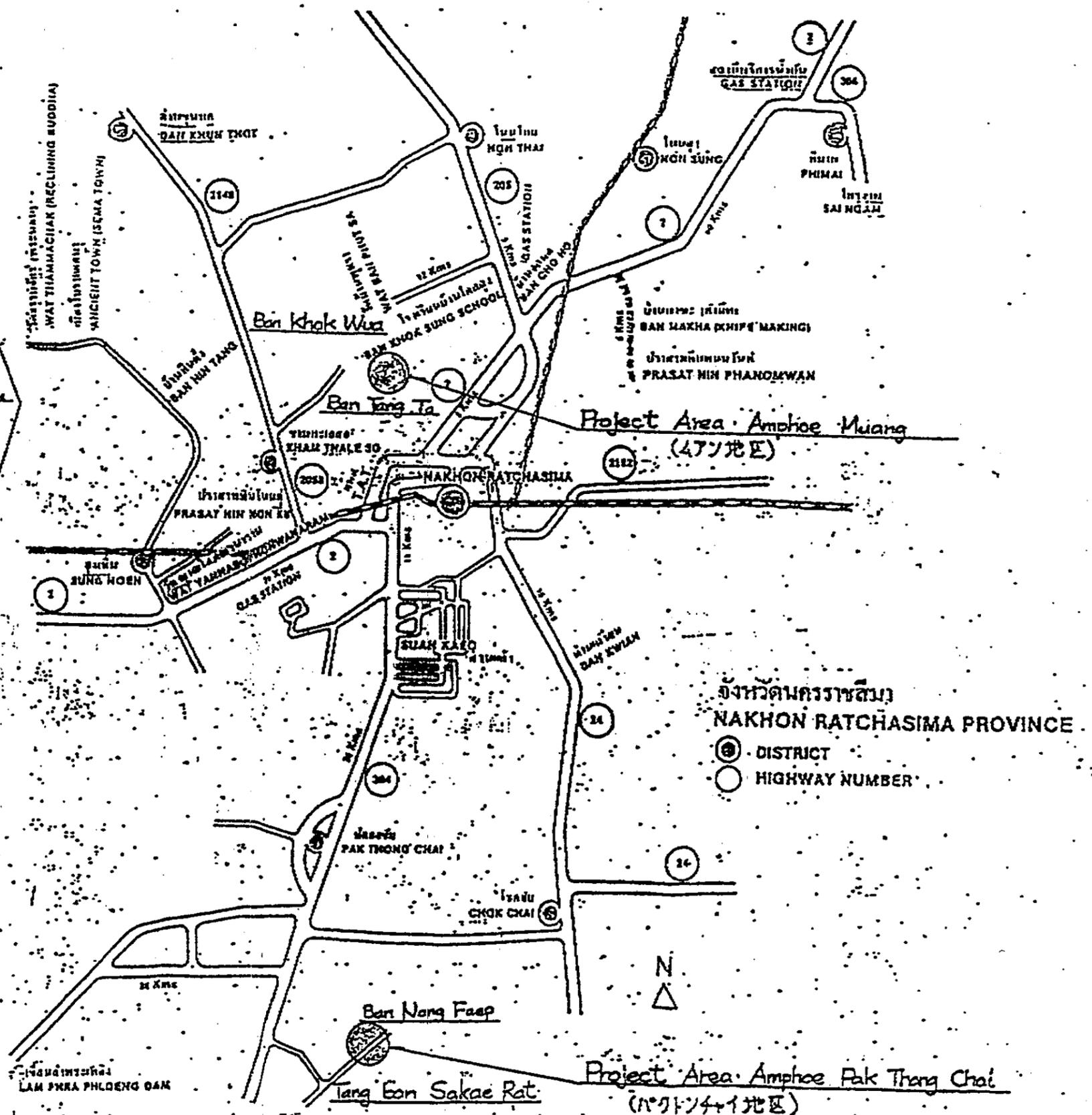
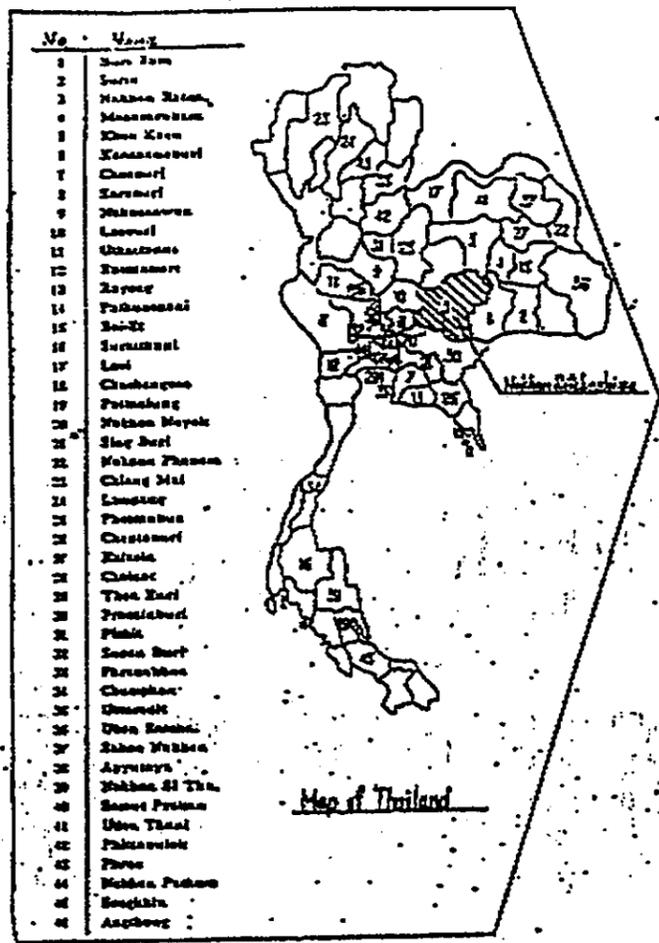


Fig 1-1 Location of Project Area
Noise scale

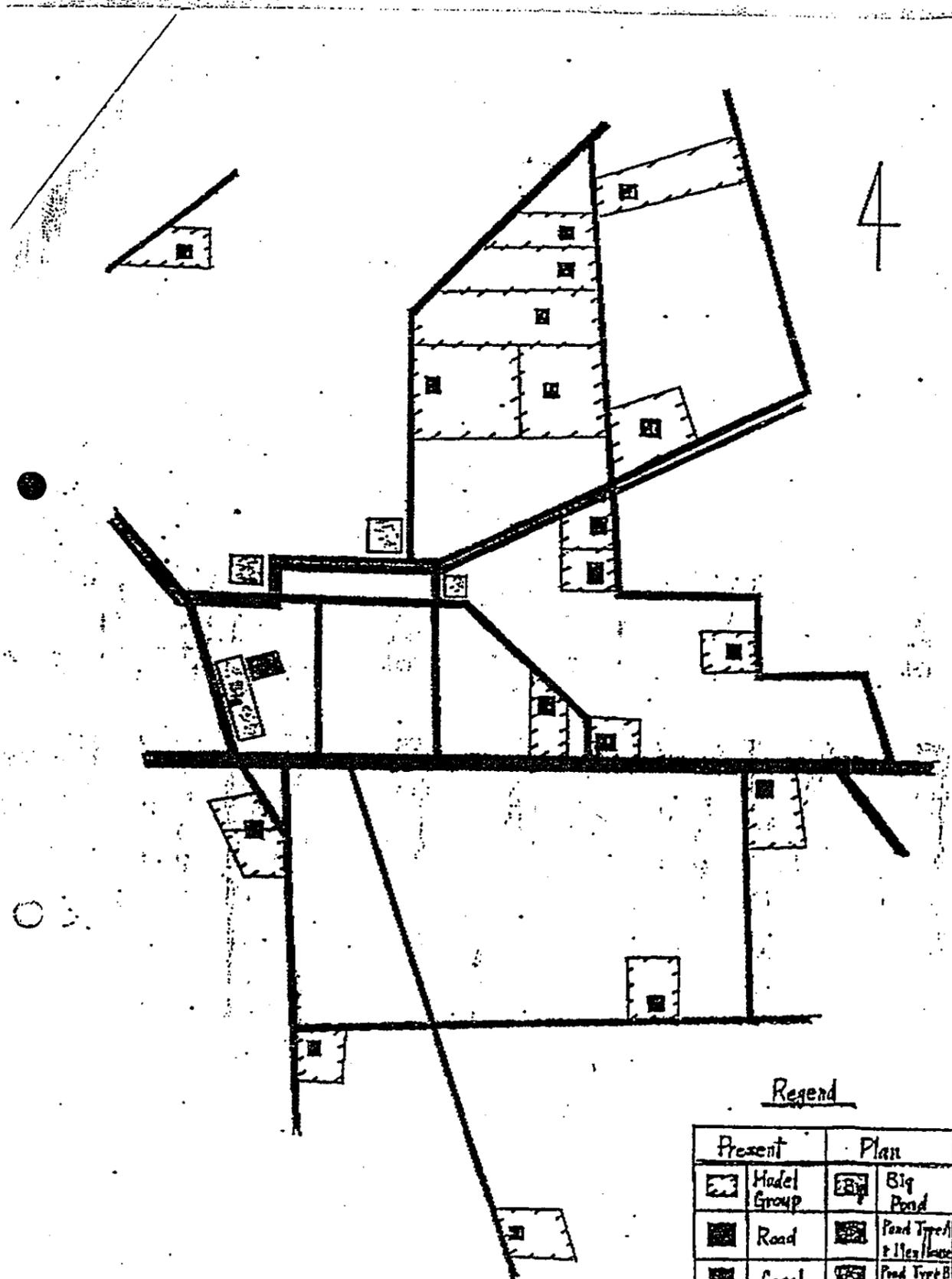


Fig. 1 Location of Pikhongchai Area
None Scale 1:100000

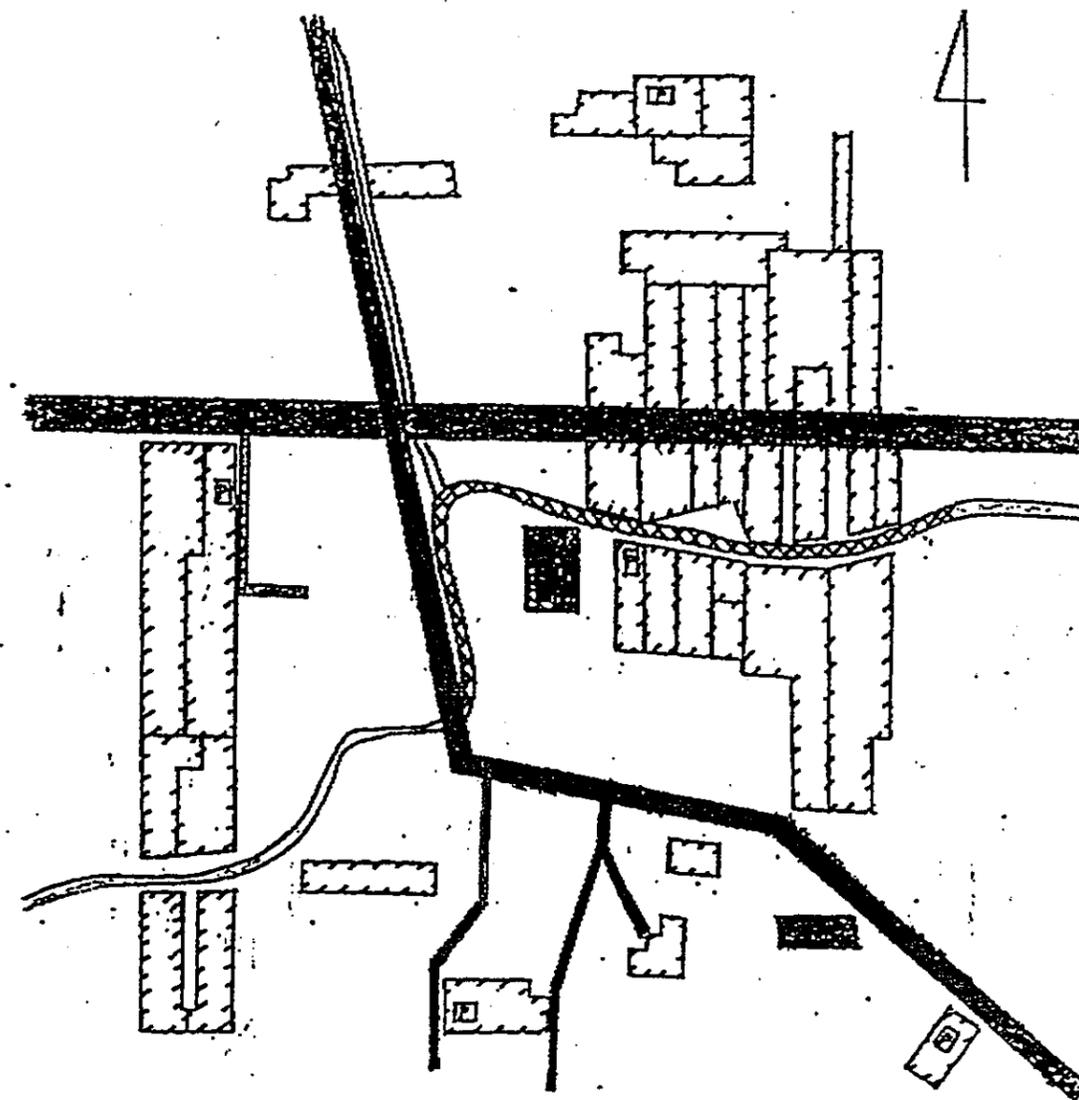


Fig. 2 Location of Muang Area
None Scale 1:100000

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第3章 工事請負契約について

3-1 工事発注方法

当該工事は、JICAタイ事務所及び関係専門家の合意のもとに、以下の理由により、本プロジェクト工事のタイ地区で施工実績のあるタイ国農業協同組合振興局（CPD）に発注した。

1. 本プロジェクト工事はCPDの事業として推進されており、工事完了後も運営・管理についてCPDが関与することになる。
2. CPD・NO.3エンジニアリングセンターには日本側が供与した重機類が保有され、当該工事を施工できる技術者も在任している。
3. 同センターのオペレーターが上記施工機械類を駆使し技術の向上を図ることは当モデルインフラ整備事業の趣旨のひとつでもある。
4. 上記施工機械類は供与機材であり、CPD直営工事であると損料分が計上されない工事費となり、工事量を大きくできる。
5. 従って、当該工事の施工をCPD側が強く望んでいる。
6. 既にタイ地区に於いて施工実績がある。

3-2 予定価格

1-1-1 報告書で積算されている工事費について、単価の検討を行い工事費の積算をしたところ変動がなかった。従って、報告書記載の金額をもって「予定価格下調書」とし、JICAタイ事務所長の決裁を仰いだところ、「予定価格調書」のとおり、4,100,000 Bahtが決定された。

3-3 工事費見積りの受理

当該工事の発注に先立ち、JICAタイ事務所長名にてCPD局長宛て 1月17日付で、同局長を工事請負契約の相手方として工事費の見積りの提出を求める文書を発した。これに対し、同局長名で 1月19日付応答の回答があり、合わせて見積書を受理した。これを検討した結果、「予定価格」以内であったので契約を取り進めた。

3-4 契約概要

契約日 : 1989年 1月20日
契約金額 : 4,098,000 Baht
工 期 : 自 1989年 1月21日
至 1989年 6月15日 (146日間)
発注者 : 斎 藤 勉 (JICAチイ事務所長)
請負者 : Songyos NARKCHAMNAN (CPD 局長)
立会人 : 竹 内 博 (プロジェクト・リーダー)

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第4章 追加工事請負契約について

4-1 追加工事概要

1989年1月21日から ナコンチャシマ県 ハクソンチャイ地区およびムアソ地区で実施されている当該事業本工事に関連して、タイ国側から追加工事の要請が出された。その追加工事の概要は次のとおりであった。

1. 電気照明設備（両地区共同飼育施設内）
2. 砂利舗装（ハクソンチャイ地区大規模溜池進入道路）
（ムアソ地区水路側道・増厚分）
3. 既存土水路改修（ハクソンチャイ地区）

上記追加工事各工種に対し、予定価格の所定決裁を受けるべく積算を行った。その結果、予定価格として393,000Bahtの所定決裁を受けた。

4-2 工事発注方法

追加工事は、当該モデルインフラ整備本工事の関連工事であり、以下の理由により本工事の施工者である CPDとの随意契約とした。

- ・ CPDは、当該本工事において、技術力・管理体制等に問題なく現地の事情に当然精通しているなど、既に確認されており、工事完了後も運営・管理に関与することになる。
- ・ 本工事の工種に、追加工事の内容も含まれるものであるため、構造物の使用目的を十分理解している。

契約に先立ち、追加工事の工事費見積りの提出を CPDに求め、検討を行った。

4-3 契約概要

契約日 : 1989年3月31日
契約金額 : 391,140 Baht
工期 : 自 1989年3月31日
至 1989年6月15日（76日間）

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第5章 施工監理について

5-1 概要

本モデルインフラ整備工事は、CPD営農集団モデルグループ員の私有地及び共有地に各施設を建設するものであった。従って、土地利用及び工事期間中の地元住民の協力要請等については、事前にタイ国CPDの各事務所担当員より説明が行われ、当該工事に対する了解を得た。

当該工事は、本モデルインフラ整備事業実施設計調査報告書（1988年11月）を基本とし、契約関係書類に基づき以下施工監理が行われた。

5-2 工程管理

工程管理は、TARMS AND CONDITIONS OF THE AGREEMENT, Section 2.2.1 Work schedule に基づき、CPD エンジニアリングセンター NO.3 から提出された工事实施工程表 (CONSTRUCTION SCHEDULE)により行った。工事工程は、CPDに Weekly Report 及び Monthly Progress Report の提出を求めると共に、随時の巡視・確認により工事状況の把握を行いその維持に努めた。当該工事は、その距離およそ70Kmと離れた Pak-Thong-Chai 及び Muang の 2モデルグループ地区における溜池工事、水路改修工事及び畜舎建設工事からなっているため、機材、資材の運搬、手配に十分な計画のもと行われた。しかしながら、タイ国国内事情による材木不足、コラト周辺の建設工事によるコンクリート工事用資材不足、モデルグループからの要望による計画の一部変更、及び5月に入ってから雨による工事の一時中断等 諸事情による遅延が生じたが、予定工期限内に完了することが出来た。工事实施状況報告書を、資料編 6-3-1 に示す。

5-3 品質管理

(1) 位置・寸法・標高の確認

・ Pak-Thong-Chai地区

溜池においては、掘削量、掘削深及び位置・形状の的確な把握が必要とされるので、施工前、施工途中、施工後に測量を行うため

測量技術者を常駐させその把握に努めた。

・ Muang地区

水路改修掘削工事、ゲート工事等各施設の位置、寸法及び標高を確認するために Pak-Thong-Chai同様 測量技術者を常駐させ工事の進行に伴い随時測量を行い施工を進めた。

両地区畜舎建設においても 各施設の位置、寸法及び標高の確認を同上技術者により行った。

(2) 土工事

・ 溜池工事

溜池掘削は、以下の施工順序・施工機械により実施した。

伐開・地表面敷均し(ブルドーザー)---->一次掘削・池敷形成(バックホー)
---->敷均し(ブルドーザー)---->二次掘削・のり面形成(バックホー)---->
[のり面部一部粘性土置換(バックホー・タンクトラック)]---->盛土・転圧
(ブルドーザー・タイヤローラー)

・ 水路改修工事 (Muang地区)

水路改修工事も上記溜池工事同様の施工手順であるが、一次掘削後の水路敷形成をブルドーザーで行い、また側道部分を盛土転圧後グレーダーによるグレーディング・砂利舗装を行った。

- ・ 掘削・のり面形成はバックホー、盛土・敷均し・転圧はブルドーザー・タイヤローラーを用い、特に 転圧については、この時期は常時含水比が不足したので、トラックによる散水を行った後ブルドーザー・タイヤローラーによるまき出し厚20cm毎・D値85%での十分な転圧を行った。また、畜舎用地の転圧には小型の自走式ローラーを用いた。一方、Lateral Canalの掘削はその幅が狭いため、整形を兼ねて人力で行った。
- ・ 土工事のうち、必要となった土取場・土捨場は農民・寺院の要求により、土取場は溜池となり、捨土は農地の盛土に利用されたため土捨場の造成はなかった。

(3) コンクリート工事

Pak-Thong-Chai, Muang両地区の溜池slope-protection、畜舎床・ブロックコンクリート、均しコンクリート及びMuang地区の水路slope-protectionのコンクリート工事については、現場練り(ホータブルミキサー及び人力)で行った。Muang地区の水路ゲート据付部コンクリート工事に於いては、品質・容量及び打ち込み時間の点からレディミクストコンクリートを使用した。これらコンクリートの品質管理は、Technical Inspectionに基づいたMixing designに従い投入するセメント:砂:砂利の量を掌握することにより行った。

5-4 安全管理

当該工事は、危険と考えられる工事がないと判断されたため、特に安全管理についてはその都度の注意事項伝達だけにとどめた。一方周辺地元住民へは、工事車両等に十分な注意を払うよう協力要請を行った。その結果、無事故で工事完了を見た。

5-5 計画・設計の一部変更

工事開始後、CPDメンバーグループの要望及び現場状況に応じ、計画設計の一部変更を行った。

メンバーグループ農民の強い要望により変更となった計画は、Pak-Thong-Chai地区に於いてメンバーグループ各戸に供給される畜舎建設資材の対象を、鶏舎から豚舎に変更したことであった。これについては、農民からの計画変更の要望書等が出され、またプロジェクトそのものの計画にも支障が生じないことが確認され、JICAタイ事務所の承認を得た。また、現場の予知せぬ状況のため変更を行った計画・設計は、Pak-Thong-Chai地区Big Pond掘削時に露出した岩の処理に対し、計画ラインまでの掘削を工事費及びその必要性等を考慮し断念し、掘削容易箇所掘削深を深くすることで計画貯水量を確保したことであった。

その他施工にあたり必要となった細部の修正については、その都度 Technical Specifications 及び Engineerの指示により行った。

<特記事項>

Pak-Thong-Chai地区に於いて、19戸のCPDモデルグループ各戸に豚舎建設用資材を提供し、その提供資材を用いてグループ員が共同作業・個人作業にて、各所有地(当該工事により溜池が造成建設された用地)に豚舎を建設するものであった。豚舎建設総数は19棟で、まず1棟をモデルとしてカーンターの指導のもとグループ員総出で建設した。その後、各員が出来る作業、木工事とコンクリート・ブロック工事の2グループに別れ、順次各員用を共同作業よろしく建設していった。一方、腕に自信のあるグループ員には、2,3のグループ員の協力を得て自らが豚舎建設を計画的に取り進める者もあった。その結果、当初作業が難行するのではないかと考えられていた。しかしながら、モデルグループ員各員が、当事業の主旨及び自分達の今後の生活向上の手段となるものである等を理解し積極的に作業に参加したことにより、従来からあった相互扶助と言うタイの良き習慣を見直す機会ともなり十分な成果があがった。今後、Big Pondに隣接し建設された共同飼育施設と係を保ち、各モデルグループ員の生活向上に大いに役立つものと期待される。

尚、今後の当該施設の運営には、CPDの指導に欠くべからざる者があるが、今回この共同作業時に見られた連帯が有れば当該施設が充分活用されるものと確信する。

5-6 中間検査・竣工検査

工事の進捗状況と CONSTRUCTION SCHEDULE を鑑みて、全体平均評価が60%に達した時点において CPD・EC NO.3 から 中間検査実施の要望が出され、これを受けて INSPECTORによる検査が April 12, 1989 に実施された。その結果、JICAからCPDに2回目の支払が、April 21, 1989 に全体金額の30%・1,220,000 Bahtをもってなされた。

一方、竣工検査は、工事の完了をみた時点に要望が出され、INSPECTORによる最終検査が June 13, 1989 に実施された。また、追加工事についての竣工検査も同時に行われた。その結果、本工事については、全体金額の40%・1,658,000 Baht、追加工事については、追加金額の70%・271,140 Baht の支払が June 26, 1989 になされた。従って、当該工事に係わる全体工事費の予定金額と支払実績の関係は、下記のようにであった。

費 目	予定金額	支払金額	差引金額
本 工 事	4,100,000	4,098,000	- 2,000
予 備 費	410,000		
追加工事費		391,140	- 18,860
工事 諸費	225,000	225,000	0
合 計	4,735,000	4,714,140	- 20,860

単位: Baht

上記支払実績の工事諸費分については、内訳明細が会計報告書として別冊にまとめられ、JICAタイ事務所に提出された。

第6章 資料	頁
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6-1 工事契約関係

予 定 価 格 下 調 書

金 4100.000 バーツ

件 名 農働振興計画
モビルレフ整備費 (ハートン知イ, ムアソ地区)

上記のとおり積算しました。

内訳は、別紙予定価格下調内訳書のとおりです。

平成 元年 / 月 日

国際協力事業団

タイ事務所

担当

山下 泰 總 (印)

全 体 工 事 費

工 種	工 事 数 量	工 事 費 (円)	備 考
I . 工 事 費			
1 . 直 接 工 事 費			
1-1 パクトンチャイ地区			
1-1-1 共同家畜飼育施設工事			
1) 養 豚 舎	3 棟	120,000	
2) 堆 肥 施 設	1 "	12,000	
3) 貯 水 槽 (1.5 k ϕ)	4 槽	36,000	
4) 尿処理施設	1 式	43,000	
5) 養 鶏 舎	2 棟	93,000	
6) 孵 卵 施 設	1 "	23,000	
1-1-2 小規模家畜施設工事			
1) 鶏 舎 施 設	1 "	19,000	
2) 鶏 舎 資 材	18 "	236,000	
1-1-3 かんがい用水施設工事			
1) 大規模溜池 (32,000 m^2)	1 式	625,000	
2) 溜池タイプA (760 m^2)	17ヶ池	496,000	
3) 溜池タイプB (1,500 m^2)	1ヶ池	54,000	
小 計		1,757,000	(1)
1-2 ムア ン 地 区			
1-2-1 共同家畜飼育施設工事			
1) 養 豚 舎	2 棟	114,000	
2) 堆 肥 施 設	1 "	12,000	
3) 貯 水 槽 (1.5 k ϕ)	2 槽	13,000	
4) 尿処理施設	1 式	30,000	
5) 井 戸	1 "	4,000	
1-2-2 かんがい用水施設工事			
1) 水 路	860 m	826,000	
2) 付帯施設 (ゲート,パイプ付設等)	14 式	441,000	
3) 溜 池 (760 m^2)	6ヶ池	146,000	
4) 小水路	328 m	11,000	
1-2-3 野菜モデル圃場防虫設備工事			
パイプネット設備 (5m \times 100m)	3 式	63,000	
小 計		1,660,000	(2)

全 体 工 事 費

工 種	工 事 数 量	工 事 費 (฿)	備 考
2. 間接工事費		683,000	(3) = [(1) + (2)] × 20%
計		4,100,000	(4) = (1) + (2) + (3)
II. 予備費		410,000	(5) = (4) × 10.0%
合 計		4,510,000	(6) = (4) + (5)
III. 工事諸費		225,000	(7) = (6) × 5.0%
工事費合計		4,735,000	(8) = (6) + (7)
同上円換算	=	25,000,000	

但し、換算レートは 1 Baht = 5,292円 (1988年10月)

予定価格調書

金 4100.000 パーツ

作 名 農功振興計画
モビルインフラ整備費 (バオトン知人, ムアムバ区)

上記のとおり決定する。

平成元年 / 月 20日

国際協力事業団

タイ事務所

契約担当役

所長 斉藤



No. 35/1H

January 17, 1989

Mr. Songyos Narkchamnarn
Director-General
Cooperatives Promotion Department

Dear Mr. Songyos,

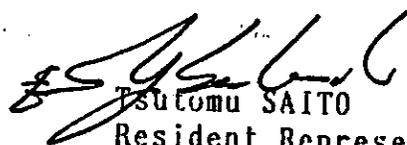
We agreed that the construction works of the Model Infrastructures on the Agricultural Cooperative Promotion Project will be carried out by force account basis as a result of discussions between your staff members and our experts.

We would like, therefore, to request you for submitting the cost proposal in the construction of the said infrastructures. Enclosed herewith are Bill of Quantities for your cost estimation.

According to our proposed implementation schedule for this project, it should be concluded an agreement between both sides on January 20, 1989. Hence the cost proposal shall be submitted to the JICA Thailand Office for negotiation on January 18, 1989.

Your kind cooperation will be highly appreciated.

Sincerely yours,



Tsutomu SAITO
Resident Representative
JICA Thailand Office



No. AC 1113/ 656

Cooperatives Promotion Department
Ministry of Agriculture and Cooperative.

19 January B.E. 2532 (1989)

Dear Mr. T. Saito,

Ref. Letter : No. 35/1 H, dated January 17, 1989

Enclosed herewith please find the cost estimation of construction works for model infrastructure for Muang Nakorn Ratchasima and Pak Thong Chai Agricultural Cooperative Ltd.

Your favorable consideration on our proporsal documents shall be highly appreciated.

With best regards.

Yours sincerely,

Songyos Narkchamran
Director-General

Mr. Tsutomu Saito
Resident Representative
JICA Thailand Office.

COST ESTIMATION

FOR

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN

THAILAND

COOPERATIVES PROMOTION DEPARTMENT

CONSTRUCTION COST

A. Direct Cost

1. Pak-Thong-Chai area

		Baht
1-1	Construction of livestock facilities	
1)	Piggery	<u>207,800</u>
2)	Compost barnyard	<u>18,100</u>
3)	Water tank	<u>43,200</u>
4)	Urine treatment basin & drain	<u>36,500</u>
5)	Hen House (breeding)	<u>122,700</u>
6)	Hatchery	<u>33,200</u>
1-2	Construction of Hen House	
1)	Hen House	<u>24,100</u>
2)	Hen House (material)	<u>406,300</u>
1-3	Construction of irrigation facilities	
1)	Big pond	<u>625,800</u>
2)	Pond (Type A)	<u>496,300</u>
3)	Pond (Type B)	<u>54,300</u>
	Sub-Total	<u>2,068,300</u>

2. Muang Area

2-1	Construction of swine raising farm	
1)	Piggery	<u>157,200</u>
2)	Compost barnyard	<u>18,100</u>
3)	Water tank	<u>20,300</u>
4)	Urine treatment basin & drain	<u>35,100</u>
5)	Well	<u>5,500</u>
2-2	Construction of irrigation facilities	
1)	Canal	<u>826,800</u>
2)	Appendant structure	<u>456,500</u>
3)	Pond	<u>146,700</u>
4)	Lateral canal	<u>11,200</u>
2-3	Installation of Vegetable Farm	<u>84,900</u>
	Sub-Total	<u>1,762,300</u>
	Total (1+2)	<u>3,830,600</u>
B.	<u>Indirect Cost</u>	<u>267,400</u>
	(Ax %)	
	Construction cost (A+B)	<u>4,098,000</u>



Cooperatives Promotion Department
Ministry of Agriculture and Cooperatives
12 Krung Kasem Road, Theves
Bangkok 10200 Thailand
Tel. 2810535

No. AC 1113/ 1224

๒ February B.E. 2532 (1989)

Dear Mr. T. Saito,

Ref: The Agreement for Construction of Model Infrastructure
on Agricultural Cooperative Promotion Project in Thailand,
dated 20 January 1989.

With concerning about the construction work, we would like to inform you that equipment and some materials required for construction work were already moved to the job site since January 24, 1989 and now open excavation was already started.

Additionally, CPD had appointed Mr. Chusak Losakulpong as our construction engineer for supervision the works performance, he was authorized to act on behave of CPD on the matter of construction works at Muang Nakorn Ratchasima and Pak Thong Chai area. With regards to Mr. Chusak's qualification, he graduated in Irrigation Engineering from Kasetsart University since 1980, and had qualified experiences.

Therefore, we would like to request for the advanced payment of Baht 1,220,000.- which equivalent to 30% of the Contract Price as mentioned in Article 2 of the said Agreement.

We greatly appreciate your kind cooperation.

With best regards.

Yours sincerely,

Songyos Narkelammaa
Director General

Mr. Tsutomu Saito,
Resident Representative
JICA Thailand Office.

6-1-5 契約書・工程表

AGREEMENT

FOR

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN

THAILAND

AGREEMENT

For Construction of Model Infrastructure on Agricultural Cooperative Promotion Project in Thailand

This Agreement is executed on the 20th day of January, 1989 at the JICA Thailand Office between

Japan International Cooperation Agency, Thailand Office by Mr. Tsutomu SAITO Title Resident Representative as its authorized representative of the JICA Thailand Office, hereinafter called "the JICA" of the one part, and Cooperatives Promotion Department, represented by Mr. Songyos Narkchamnan Title Director-General hereinafter called "the CPD", of the other part.

Both parties mutually agree under the terms of this Agreement as follows:-

Article 1. Purpose of Agreement and Contract Price

The CPD agrees with the JICA to perform the Works for the construction of two (2) Model Infrastructure on Agricultural Cooperative Promotion Project Located at Muang and Pak-Thong-Chai Area. For the total amount of 4,098,000 Baht. (Baht Four Million and Ninety Eight Thousand only), hereinafter called "Contract Price".

The following documents shall form integral part of this Agreement.

Terms and Conditions of this Agreement
Technical Specification
Cost Estimation
Drawings

Article 2. Payment

The JICA agrees to effect payments for the Work to the CPD in the following manner:-

- (a) Advance Payment, to be effected upon the bringing of equipment and materials required for the Works and properly stores at the job site by the CPD and of value estimated by the Engineer, Baht 1,220,000 (One Million Two Hundred and Twenty Thousand only), which corresponds to thirty (30) percent of the Contract Price shall be paid upon signing of this Contract.
- (b) Interim Payment, to be effected according to the progress of the Works satisfactorily executed by the CPD and accepted by the Engineer, Baht 1,220,000 (One Million Two Hundred and Twenty Thousand only), which corresponds to thirty (30) percent of the Contract Price shall be requested for payment at the end of April, 1989.
- (c) Final Payment, to be effected upon the satisfactory completion of the Works by the CPD and accepted by the Engineer.

The remainder of Baht 1,658,000 (One Million Six Hundred and Fifty Eight Thousand only) which corresponds to forty (40) percent of the Contract Price, shall be paid after the Final Certificate by the JICA for payment to the CPD.

Payment under (b) and (c) shall be effected within ten (10) days after the respective acceptance of the Works by the Engineer.

It is expressly understood that payments by the JICA do not mean acceptance responsibilities under this Agreement.

Article 3. Completion Time

The CPD agrees to commence the Works at the site immediately after the date of signing of this Agreement (commencement date) and the CPD agrees to satisfactorily complete the Works within 146 days (completion time) from the date hereof which will become due on 15th June, 1989 (completion date)

Article 4. Engineer

The Engineer, authorized to act on behalf of the JICA will be appointed by the JICA and the Engineer is entitled to do all things that the JICA may do so. The Engineer shall control and supervise the Works all the times whether it is in the preparation or implementation of the Works and the CPD shall promptly furnish all necessary facilities for proper inspections of the Works in accordance with the Engineer's request. At any moment the Engineer can request the CPD to stop the Works if necessary, the CPD shall have no claim on the JICA for extension the completion time due to such suspension of the Works under this Article.

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

Article 5. Discrepancies among the Agreement Documents

If, prior to or during the course of the Works, any discrepancies are found in the drawings and/or the Technical specifications etc. attached to this Agreement, the CPD shall follow the ruling given by the Engineer at no additional cost to the JICA.

Article 6. Modification of Plan

If the Engineer finds it necessary to make modification of construction design, and/or materials and so forth during the course of construction, the JICA has the right to order the modification of the Works to the CPD, and such order shall be made in written form from the Engineer to the CPD.

The JICA agrees to adjust upwards or downwards the necessary expense for such modification to the CPD which will be estimated by unit price in the bill of quantities of this Agreement in case of modification of quantities of construction works. In the case of additional works which are not quoted by unit price in the bill of quantities of this

Agreement, the Engineer will make estimation thereof and the JICA will pay to the CPD for such additional works accordingly. But if the CPD does not agree to such estimation, the CPD is then entitled to negotiate with the JICA. Also the Extension of the completion time due to the modification shall be given by the JICA who shall have the sole right to decide the number of days of such extension.

Article 7. Acceptance of the Works

When the entire Works have been completed, the CPD shall submit the invoice in written form indicating the Work actually completed to the Engineer. If there are compliance with drawings or Technical Specifications, the JICA shall accept the Works as the final acceptance of satisfactory completion Works within 10 (ten) days after the receipt of the written form and it shall be deemed that the final acceptance has been made on such date of the receipt of the written form.

On the other hand, should non-compliance with drawings or Technical specifications or defects be found in the Works executed by the CPD, the Engineer will have the right not to accept the Works and to order the rectification of the Works. The final acceptance will be made in the same manner as described in the first paragraph of this Article.

Article 8. Construction Engineer

The CPD shall appoint a construction engineer at his own expense for the supervision of the Works performance, who shall be authorized to act on behalf of the CPD, and the instructions given to him shall be deemed as given to the CPD.

Article 9. Replacement of Labour, Engineer and Foreman

The Engineer may request the CPD to remove any of the CPD's labours, foremen or engineers if it appears to the Engineer that such labour, foreman or engineer is incompetent for his job or is not suitable is not capable of handling his workmen or staff, and the CPD shall promptly replace any such labour, foreman or engineer.

Article 10. Notice

All Notices required by this Agreement shall be effective only at the time of receipt thereof, and only when received by the parties concerned at following address:-

The JICA

**Thailand Office
1674/1 New Petchburi Road
Bangkok**

The CPD

**Cooperatives Promotion Department
12, Krung Kasem Road
Theves, Bangkok**

All Notices required by the terms of this Agreement shall be made in writing in English language, and delivered by registered mail or hand delivery.

Tsutomu Saito

JICA

Mr. Tsutomu SAITO,
Resident Representative
Thailand Office
Japan International Cooperation Agency

S. Narkchamnan

CPD

Mr. Songyos NARKCHAMNAN,
Director-General
Cooperatives Promotion Department

H. Takeuchi

Witness

Mr. Hiroshi TAKEUCHI,
Team Leader
Agricultural Cooperative Promotion Project

COST ESTIMATION
FOR
CONSTRUCTION OF MODEL INFRASTRUCTURE
ON
AGRICULTURAL COOPERATIVE PROMOTION PROJECT
IN
THAILAND

COOPERATIVES PROMOTION DEPARTMENT

CONSTRUCTION COST

A. Direct Cost

1. Pak-Thong-Chai area

		Baht
1-1	Construction of livestock facilities	
1)	Piggery	<u>207,800</u>
2)	Compost barnyard	<u>18,100</u>
3)	Water tank	<u>43,200</u>
4)	Urine treatment basin & drain	<u>36,500</u>
5)	Hen House (breeding)	<u>122,700</u>
6)	Hatchery	<u>53,200</u>
1-2	Construction of Hen House	
1)	Hen House	<u>24,100</u>
2)	Hen House (material)	<u>406,300</u>
1-3	Construction of irrigation facilities	
1)	Big pond	<u>625,800</u>
2)	Pond (Type A)	<u>496,300</u>
3)	Pond (Type B)	<u>54,300</u>
	Sub-Total	<u>2,068,300</u>

2. Muang Area

2-1	Construction of swine raising farm	
1)	Piggery	<u>157,200</u>
2)	Compost barnyard	<u>18,100</u>
3)	Water tank	<u>20,300</u>
4)	Urine treatment basin & drain	<u>35,100</u>
5)	Well	<u>5,500</u>
2-2	Construction of irrigation facilities	
1)	Canal	<u>826,800</u>
2)	Appendant structure	<u>456,500</u>
3)	Pond	<u>146,700</u>
4)	Lateral canal	<u>11,200</u>
2-3	Installation of Vegetable Farm	<u>84,900</u>
	Sub-Total	<u>1,762,300</u>
	Total (1+2)	<u>3,830,600</u>
B. <u>Indirect Cost</u>	(Ax %)	<u>267,400</u>
	Construction cost (A+B)	<u>4,098,000</u>

PROJECT COST

I t e m	Construction Cost (B)	Remarks
A. Direct Cost		
1-1 PAK-THONG-CHAI Area		
1-1-1 Construction of livestock facilities	461,500	(1)
1-1-2 Construction of Hen House	430,400	(2)
1-1-3 Construction of Irrigation facilities	1,176,400	(3)
Sub-Total	2,068,300	(4) = (1) + (2) + (3)
1-2 MUANG Area		
1-2-1 Construction of swine raising farm	236,200	(5)
1-2-2 Construction of Irrigation facilities	1,441,200	(6)
1-2-3 Installation of Vegetable Farm	84,900	(7)
Sub-Total	1,762,300	(8) = (5) + (6) + (7)
Total	3,830,600	(9) = (4) + (8)
B. Indirect Cost	267,400	(10) = (9) × %
Construction Cost	4,098,000	(11) = (9) + (10)

PROJECT COST

Item No.	Item	Quantities	Construction Cost (B)	Remarks
A	Direct Cost			
1-1	PAK - THONG - CHAI Area			
1-1-1	Construction of livestock facilities			
1)	Piggery	3 set	207,800	
2)	Compost barnyard	1 set	18,100	
3)	Water tank	1 set	43,200	
4)	Urine treatment Basin & Drain	1 set	36,500	
5)	Hen House (breeding)	2 set	122,700	
6)	Hatchery	1 set	33,200	
	sub total		461,500	(1)
1-1-2	Construction of Hen House			
1)	Hen House	1 set	24,100	
2)	Material	18 set	406,300	
	sub total		430,400	(2)
1-1-3	Construction of Irrigation facilities			
1)	Big pond	1 set	625,800	
2)	Pond (TYPE A)	17 set	496,300	
3)	Pond (TYPE B)	1 set	54,300	
	sub total		1,176,400	(3)
	total		2,068,300	(4) = (1) + (2) + (3)

PROJECT COST

Item No.	Item	Quantities	Construction Cost (B)	Remarks
1-2	MUANG Area			
1-2-1	Construction of swine raising farm			
1)	Piggery	2 set	157,200	
2)	Compost barnyard	1 set	18,100	
3)	Water tank	1 set	20,300	
4)	Urine treatment Basin & Drain	1 set	35,100	
5)	Well	1 set	5,500	
	sub total		236,200	(5)
1-2-2	Construction of Irrigation facilities			
1)	Canal	860 m	826,800	
2)	Appendant structure	14 set	456,500	
3)	Pond	4,600 m ²	146,700	
4)	Lateral canal	328 m	11,200	
	sub total		1,441,200	(6)
1-2-3	Installation of Vegetable Farm	300 m	84,900	(7)
	total		1,762,300	(8) = (5) + (6) + (7)
	Grand Total		3,830,600	(9) = (4) + (8)

PROJECT COST

Item No.	Item	Quantities	Construction Cost (B)	Remarks
B	Indirect Cost Construction Cost		267,400 4,098,000	(10) = (9) × % (11) = (9) + (10)

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Construction of livestock facilities			(B)	(B)	
1)	Piggery					
	• Base	cum	17.20	10	172	
	• Embankment common soil	"	10.90	40	436	
	• Excavation common soil	"	10.00	180	1,800	including transportation
	• Sand	"	10.00	25	250	
	• Hauling L = 20m	"	12.50	30	375	
	• Compaction	"	8.0	1,100	8,800	
	• Plain concrete	--	--	--	300	
	• Material for curing + pouring					
	• Installation of concrete block					
	• Concrete block	sqm	13.00	45	585	
	• Mortar	cum	3.00	900	2,700	
	• Carpentry					
	• Column 4" x 4" x 2.50m	pieces	12	310	3,720	
	• Wooden Form + Wooden + Structure	cum	1.70	12,000	20,400	
	• Steel bar					
	• ϕ 6 mm	ton	0.176	12,650	2,226	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
	• Feed box			(B)	(B)	
	Concrete pipe ϕ 0.50 x 1.00m	pieces	10	100	1,000	
	Plain concrete	cum	1	1,100	1,100	
	Sand	"	1.50	180	270	
	• Roofing					
	Grass (yahka) roofing	sqm	73	35	2,555	
	Galvanize sheet	pieces	2	90	180	
	Bolt + nut ϕ 3/8" x 5"	"	30	5	150	
	Nail	kg	18	20	360	
	• Gate					
	Galvanize pipe ϕ 2" x 6m	pieces	2	300	600	
	Others		--	--	315	
	Wire for tie	kg	10	20	200	
	• Labour cost				20,785	
	Total				69,279	
					207,837	
				Round off	207,800	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Compost barnyard			(B)	(B)	
2)	• Base	cum	8.80	10	88	
	• Embankment	"	8.80	25	220	
	• Compaction	"	0.16	1,100	176	
	• Plain concrete					
	• Carpentry					
	Column 4" x 4" x 3.00m	pieces	6	375	2,250	
	Wooden structure	cum	0.74	12,000	8,880	
	• Roofing					
	Grass roofing	sqm	57.60	35	2,016	
	Galvanized sheet	pieces	2	90	180	
	Nail + Bolt + Others	--	--	--	120	
	• Labour cost	--	--	--	4,200	
	Total				18,130	
				Round off	18,100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Water tank	pieces	4	3,500	14,000	(B)
3)	• Water tank 1,500 l	"	6	435	2,610	
	• Base Column timber 4" x 4" x 3.50 wooden structure	cum	0.90	12,000	10,800	
	• Others Check Valve ϕ 1"	pieces	1	295	295	
	" ϕ 2"	"	1	990	990	
	Steel Pipe ϕ 4"	m	6	212	1,272	
	" Elbow 90° ϕ 4"	pieces	3	228	684	
	" Pipe ϕ 2"	m	30	87	2,610	
	" " ϕ 1"	"	48	42	2,016	
	" Elbow 90° ϕ 2"	pieces	4	48	192	
	" " 90° ϕ 1"	"	4	27	108	
	" Cross pipe ϕ 2"	"	3	72	216	
	" Coupling ϕ 2"	"	6	30	180	
	• Roof Galvanized Iron Sheet	sqm	20	55	1,100	
	Nails	boxes	4	15	60	
	Nail + Bolt + Nut	kg	6	20	120	
	• Labour cost	--	--	--	6,000	
	Total			Round off	48,258	
					48,200	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Urine Treatment Basin & Drain					
4)	Excavation common soil	cum	1.70	35	60	(B)
	Embankment	"	2.00	26.25	53	
	Compaction	"	2.00	26.25	53	
	Plain concrete	"	6.50	1,100	7,150	
	Wooden form	"	1.00	12,000	12,000	
	Plywood (1.20×2.40×0.01m)	sheet	6	420	2,520	
	Embankment	cum	0.6	26.25	16	
	Compaction	"	0.6	26.25	16	
	RC - Pipe ϕ 0.40×1.00m	pieces	5	150	750	
	Sealant	tin	3	100	300	
	Labour cost				13,650	
	Total				36,568	
				Round off	36,500	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Hen House (Breeding)			(B)	(B)	
5)	• Base Embankment	cum	60.20	10	602	
	Excavation	"	23.90	40	956	
	Loading & Hauling L = 20m	"	23.90	25	598	
	Compaction	"	60.20	25	1,505	
	Plain concrete	"	1.52	1,100	1,672	
	• Concrete					
	block	sqm	36	45	1,620	
	Mortar	cum	1	900	900	
	• Carpentry					
	Wooden structure	cum	3	12,000	36,000	
	Wire mesh #1/2"	sqm	165	20	3,300	
	• Roofing					
	Grass (yahka) roofing	sqm	86	35	3,010	
	• Labour cost	--	--		11,190	
	Total				61,353	
	x 2				122,706	
				Round off	122,700	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 6)	Hatchery • Base			(B)	(B)	
	Embankment	cum	13.0	10	130	
	Excavation common soil	"	5.4	40	216	
	Sand	"	4.9	180	882	
	Hauling L = 20m	"	4.9	25	123	
	Compaction	"	13.0	25	325	
	Plain concrete	"	2.6	1.100	2.860	
	• Installation of concrete block					
	Concrete block	sqm	13.60	45	612	
	Mortar	cum	3.20	900	2.880	
	• Carpentry					
	Column (4"×4"×2.50m)	pieces	7	310	2.170	
	Wooden structure	cum	0.80	12.000	9.600	
	• Steel bor					
	φ 6 mm	ton	0.02	12.650	253	
	Wire mesh #1/2"	sqm	35	20	700	
	Plat sheet t = 6 mm	"	11.50	63	725	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 6)	<ul style="list-style-type: none"> • Roofing <li style="padding-left: 20px;">Galvanized sheet <li style="padding-left: 20px;">Grass (yahka) roofing <li style="padding-left: 20px;">Nail + Wire + Others • Labour cost <li style="text-align: right; padding-right: 20px;">Total 	<ul style="list-style-type: none"> pieces sqm — 	<ul style="list-style-type: none"> 2 100 	<ul style="list-style-type: none"> 90 35 Round off 	<ul style="list-style-type: none"> (B) 180 8,500 100 8,000 33,256 33,200 	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2	Ilen House Column (wood) 3" x 3" x 2.50m Wooden structure + Others Column (wood) 4" x 4" x 2.50m Concrete block Mortar Plain concrete for column Roofing (yahka) Galvanized sheet Wire mesh #1/2" Nail + Bolt + Others Labour cost Total			(B)	(B)	
1)		pieces	17	175	2,975	
		cum	0.90	12,000	10,800	
		pieces	6	310	1,860	
		sqm	7.7	45	347	
		cum	0.30	900	270	
		"	2.90	1,100	3,190	
		sqm	43	35	1,505	
		pieces	1	90	90	
		sqm	72	20	1,440	
					100	
					1,610	
					24,187	
				Round off	24,100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2	Hen House (Material)					
2)	Column (wood) 4" x 4" x 2.50m	pieces	6	310	1.860	(B)
	" 3" x 3" x 2.50m	"	17	175	2.975	
	Wooden structure + Others	cum	0.90	12.000	10.800	
	Concrete block	sqm	7.70	45	347	
	Mortar	cum	0.30	900	270	
	Plain concrete for column	"	2.90	1.100	3.190	
	Roofing (yahka)	sqm	48	35	1.505	
	Galvanized sheet	pieces	1	90	90	
	Wire mesh #1/2"	sqm	72	20	1.440	
	Nail + Bolt + Others				100	
	Total				22.577	
					406.386	
				Round off	406.300	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	Construction of irrigation facilities			(B)	(B)	
1)	Construction of Big Pond					
	• Earth works					
	Excavation common soil	cum	14.924	13.6	202.966	11t Bull-dozer
	Embankment common soil	"	4.188	13.6	56.888	"
	Spreading common soil	"	5.914	7.0	41.398	"
	Compaction common soil	"	5.914	17.0	100.538	Tire Roller
	Loading	"	9.010	15.2	136.952	0.5m ³ back-hoe
	Hauling	"	9.010	3.5	31.535	11t Dump truck
	Soothing face	sqm	5.771	1.4	8.079	L = 500m
	Drainage by pump	days	35	329	11.515	
	• Pipe works					
	RC Pipe ϕ 800m/m	m	27	600	16.200	
	Excavation common soil	cum	27	35	945	
	Spreading common soil	"	13	26.25	341	
	Compaction common soil	"	13	26.25	341	
	Soothing face	sqm	27	1.4	37	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3 1)	• Slope protection Excavation common soil	cum	10	35	350	(B)
	Stone (Boulder)	"	6	250	1,500	
	Concrete	"	4	1,000	4,000	
	Miscellaneous	%	2		12,272	
	Total				625,857	
				Round off	625,800	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3 2)	Construction of Pond (TYPE A)			(B)	(B)	
	• Earth works					
	Excavation sand	cum	633	11.4	7.216	0.5m ³ Back-hoe
	" common soil	"	232	13.6	3.155	
	Spreading common soil	"	302	7.0	2.114	
	Compaction	"	302	7.0	2.114	
	Embankment common soil	"	200	15.2	3.040	
	Spreading sand	"	633	7.0	4.431	
	" common soil	"	199	7.0	1.393	
	Smoother face	"	981	1.4	1.303	
	• Pipe works					
	RC - Pipe ϕ 400mm	m	10	100	1.000	
	Excavation common soil	cum	3.6	35	126	
	Spreading common soil	"	2.3	26.25	60	
	Compaction	"	2.3	26.25	60	
	Smoother face	sqm	6.0	1.4	8	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
I-1-3 2)	(TYPE A)			(B)	(B)	
	• Slope protection		4.4	35	154	
	Excavation common soil	cum	2.6	250	650	
	Stone (Boulder)	"	1.8	1,000	1,800	
	Concrete	"				
	Miscellaneous	%	2		572	
	Total				29,196	
					496,332	
				Round off	496,300	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	Construction of Pond (TYPE B)			(B)	(B)	
3)	• Earth works					
	Excavation sand	cum	1.089	11.4	12.414	
	" common soil	"	552	13.6	7.507	
	Spreading common soil	"	414	7.0	2.898	
	Compaction common soil	"	414	7.0	2.898	
	Embankment common soil	"	264	15.2	4.012	
	Spreading sand	"	1.089	7.0	7.623	
	" common soil	"	1.457	7.0	10.199	
	Soothing face	sqm	1.349	1.4	1.888	
	• Pipe works					
	RC - Pipe ϕ 400m/m	m	10	100	1.000	
	Excavation common soil	cum	3.6	35	126	
	Spreading common soil	"	2.3	26.25	60	
	Compaction common soil	"	2.3	26.25	60	
	Soothing face	sqm	6.0	1.4	8	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
I-1-3 3)	(TYPE B) • Slope protection Excavation common soil Stone (Boulder) Concrete Miscellaneous Total	cum " " %	4.4 2.6 1.8 2	(B) 35 250 1,000 Round off	(B) 154 650 1,800 1,066 54,363 54,300	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-1	Construction of swine raising form			(B)	(B)	
1)	Piggery					
	• Base	cum	45.70	10	457	
	• Embankment common soil	"	10.90	40	436	
	• Excavation common soil	"	10.00	180	1,800	
	• Sand	"	10.00	25	250	
	• Hauling L = 20m	"	41.00	25	1,025	
	• Compaction	"	8.0	1,100	8,800	
	• Plain concrete	"	--	--	300	
	• Material for pouring + curing					
	• Installation of concrete block					
	• Concrete block	sqm	13.00	45	585	
	• Mortar	cum	3.00	900	2,700	
	• Carpentry					
	• Column (wood) 4" x 4" x 2.50m	pieces	12	310	3,720	
	• Wooden Form + Wooden + Structure	cum	1.70	12,000	20,400	
	• Steel bar					
	• ϕ 6 mm	ton	0.18	12,650	2,277	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
	• Feed box	pieces	10	100	1,000	(B)
	Concrete pipe ϕ 0.50 x 1.00m	cum	1	1,100	1,100	
	Plain concrete		1.50	180	270	
	Sand					
	• Roofing					
	Grass (yahka) roofing	sqm	73	35	2,555	
	Galvanized sheet	pieces	2	90	180	
	Bolt + Nut ϕ 3/8" x 5"	"	30	5	150	
	Nail	kg	18	20	360	
	• Labour cost	--	--		23,000	
	sub total				71,365	
	sub total \times 2				142,730	(1)
	• Installation of fence					
	Column (wood) 4" x 4" x 2.50m	pieces	82	125	10,250	
	Fence	roll	13	120	1,560	
	Gate	set	1	2,700	2,700	
	sub total				14,510	(2)
	Total				157,240	(3) = (1) + (2)
				Round off	157,200	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-1	Compost barnyard			(B)	(B)	
2)	• Base Embankment	cum	8.80	10	88	
	• Compaction	"	8.80	25	220	
	• Plain concrete	"	0.16	1,100	176	
	• Carpentry					
	Column 4" x 4" x 3.00m	pieces	6	375	2,250	
	• Wooden structure	cum	0.74	12,000	8,880	
	• Roofing					
	Grass roofing	sqm	57.60	35	2,016	
	Galvanized sheet	pieces	2	90	180	
	• Nail + Bolt + Others	--	--	--	120	
	• Labour cost	--	--	--	4,200	
	Total			Round off	18,130	
					18,100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-1 3)	Water tank			(B)	(B)	
	• Water tank 1.500 litre	pieces	2	3.500	7.000	
	• Base					
	Column (wood) 4" x 4" x 2.50m	pieces	6	310	1.860	
	Wooden structure	cum	0.50	12.000	6.000	
	Nail + Bolt	--	--	--	180	
	• Others					
	Check Valve ϕ 2"	pieces	2	990	1.980	
	Steel Pipe ϕ 2"	m	3	90	270	
	" Elbow ϕ 2"	pieces	2	48	96	
	• Labour cost	--	--	--	3.000	
	Total				20.386	
				Round off	20.300	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-1	Urine Treatment Basin & Drain			(B)	(B)	
4)	Excavation common soil	cum	1.4	35	49	
	Embankment	"	5.8	26.25	152	
	Compaction	"	5.8	26.25	152	
	Plain concrete	"	5.0	1.100	5.500	
	Wooden form	"	1.0	12.000	12.000	
	Plywood (1.20×2.40×0.01m)	sheet	6	420	2.520	
	Embankment	cum	1.5	26.25	39	
	Compaction	"	1.5	26.25	39	
	RC - Pipe ϕ 0.40×1.00m	pieces	5	150	750	
	Sealant	tin	3	100	300	
	Labour cost	--			13.650	
	Total			Round off	35.151	
					35.100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-1				(B)	(B)	
5)	Well					
	Excavation	cum	3.3	35	116	
	Embankment	"	5.7	26.25	150	
	Compaction	"	5.7	26.25	150	
	RC - Pipe ϕ 1.000m/m	pieces	14	150	2.100	
	Plain concrete	cum	0.50	1.100	550	
	Labour cost				2.460	
	Total			Round off	5.526	
					5.500	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2	Construction of canal			(B)	(B)	
1)	• Earth works of canal					
	Excavation common soil	cum	15.800	15.2	240.160	
	Loading	"	7.400	15.2	112.480	
	Houling L = 500m	"	7.400	3.5	25.900	
	Spreading	"	8.400	7.0	81.200	
	Compaction	"	8.400	25.0	290.000	
	Gravel	"	204.0	250	51.000	
	Drainage by pump	days	30	329	9.870	
	Miscellaneous	%	2		16.212	
	Total			Round off	826.822	
					826.800	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2	Appendant structure			(B)	(B)	
2)	• Pipe works					
	Excavation common soil	cum	4.3	35	151	
	Spreading common soil	"	2.8	26.25	224	
	Compaction common soil	"	2.8	26.25	224	
	Smoothering face	sqm	4.8	1.4	7	
	RC - pipe ϕ 400mm/m	m	10	160	1,600	
	Plain concrete	cum	0.50	1,100	550	
	Steel ϕ 6 mm	kg	8.80	13	114	
	Labour cost				400	
	sub total				3,270	
					29,430	
				Round off	29,400	①

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2	Water division					
2)	• Earth works					
	Excavation common soil	cum	41.3	35	1.446	
	Spreading common soil	"	183.7	7.0	1.286	
	Compaction common soil	"	183.7	25.0	4.593	
	Gravel ϕ 5~20 m/m	"	2.0	250	500	
	Boulder of slope protection	"	12.3	250	3.075	
	Mortal protection	"	8.2	1.000	8.200	
	RC - pipe ϕ 1.200m/m	m	11	1.200	13.200	
	• Concrete works					
	Plain concrete	cum	30.1	1.250	37.625	
	Wooden form	"	86.6	415.0	35.939	
	R - steel bar	t	1.650	13.500	22.275	
	Wire for biding	"	0.165	20.000	3.300	
	Miscellaneous	%	2		2.628	
	sub total				134.067	
					268.134	
				Round off	268.100	②

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2				(B)	(B)	
2)	• Cross road					
	Excavation common soil	cum	16.8	35	588	
	Spreading common soil	"	256.2	7.0	1,793	
	Compaction common soil	"	256.2	25.0	6,405	
	Gravel	"	2.0	250	500	
	RC - pipe ϕ 1.200m/m	m	17	1,200	20,400	
	Boulder of slope protection	cum	10.1	250	2,525	
	Mortal protection	"	6.7	1,000	6,700	
	Miscellaneous	%	2		778	
	sub total				39,689	
					119,067	
				Round off	119,000	③
	• Gate 1.2 m x 1.2m	set	2	20,000	40,000	④
	total				456,500	⑤ = ① + ② + ③ + ④

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2	Construction of pond			(B)	(B)	
3)	• Earth works					
	Excavation common soil	cum	756	11.4	8.618	
	Spreading	"	238	7.0	1.666	
	Embankment	"	354	15.2	5.380	
	Compaction	"	354	7.0	2.478	
	Soothinging face	sqm	1,297	1.4	1.815	
	• Pipe works					
	RC - Pipe ϕ 400m/m	m	13.4	100	1.340	
	Excavation common soil	cum	4.8	35	168	
	Spreading common soil	"	3.1	26.25	81	
	Compaction common soil	"	3.1	26.25	81	
	Soothinging face	sqm	8.0	1.4	11	
	• Slope protection					
	Excavation common soil	cum	4.0	35	140	
	Stone Boulder	"	2.4	250	600	
	Concrete	"	1.6	1,000	1,600	
	Miscellaneous	%	2		479	
	Total				24,457	
					146,742	
				Round off	146,700	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-2	Lateral canal			(B)	(B)	
4)	Excavation common soil	sum	180	35	6,300	
	Embankment	"	180	26.25	4,725	
	Miscellaneous	%	2		220	
	Total			Round off	11,245 11,200	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-2-3	Installation of Vegetable Farm				(B)	
	Steel pipe 1"	pieces	42	250	10,500	
	Wire string 3.0m/m	m	300	3	900	
	" 4.5m/m	"	410	4	1,640	
	Clamping	pieces	42	5	210	
	Pull clamping	"	42	15	630	
	Coupling	"	42	20	840	
	Nylon mesh sheet	m ²	1,000	8	8,000	
	Transportation	%	10		2,272	
	Concrete + Clamp	pieces	44	20	880	
	sub total				25,872	
	Labour	md	35	70	2,450	
	Total				28,322	
					84,966	
				Round off	84,900	

TERMS AND CONDITIONS OF THE AGREEMENT

FOR

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN

THAILAND

TERMS AND CONDITIONS OF THE AGREEMENT

Section 1. General Information

1.1 Objective

According to the Record of Discussions signed July 6, 1984, technical cooperation concerning Agricultural Cooperative Promotion Project in Thailand, hereinafter called The Project will be carried out.

The objective of the works are to construct the irrigation facilities, integrated livestock facilities and model vegetable farm facilities for the purpose of promoting the compound farming management.

1.2 Location of the site

The job site is located at the scope about 60 km of Nakorn Ratchasima City.

Section 2. Submission of Notices

2.1 Work schedule

The CPD shall submit the Work schedule in following item before the commencement of the Works at the job site. If the CPD intends to change the Work schedule, the approval from the Engineer shall be obtained prior to the modification of the schedule.

- (1) Preparation of facilities and transportation of equipment etc. to the job site
- (2) Pond
- (3) Irrigation canals
- (4) Appurtenant structures
- (5) Livestock facilities
- (6) Clearing away

Also the CPD shall submit the machineries scheme including the numbers and kind of machineries and using period of them.

2.2 Notices

The JICA and the CPD shall submit the notices to each other, as necessary, in accordance with Article 10 in the Construction Agreement Document within reasonable time except that special articles are provided in the Agreement Document and Terms and Condition of this Agreement.

Section 3. Field Test and Inspection

The field tests in accordance with the Technical specifications and the demands from the Engineer shall be the responsibility of the CPD. The charges for such field test shall be included in the total amount of the construction cost, and the CPD is not entitled to claim any amount of field test charges.

Section 4. Modification of Plan

In case the JICA estimates the cost for the modification in accordance with Article 6, and if there are two portions, one for the increase and the other for the decrease of the construction cost resulting from such modification, the JICA shall have the right to offset them in the payment and pay or claim the difference between the increase and decrease of the construction cost as the case may be.

Section 5. Release from the Works

After the final acceptance of the Works by the JICA, the CPD shall remove its own temporary facilities, office, warehouses, construction roads, electric wiring, surplus materials, debris and so forth which were provided by the CPD within 10 (ten) days. Upon approval of the Engineer for the removal of the abovementioned facilities etc., the CPD will be released from its responsibility of the Works.

Section 6. General Obligations of the CPD

6.1 Fuel storage

In area of temporary office and residence, the fuel tank capacity shall not exceed 1,000 litres and shall be far away from the housing area.

Fuel storage and transportation shall be done with care and shall have a good system of fire prevention. If storage licence is required, the CPD shall arrange for obtaining it.

6.2 Other facilities

All necessary facilities including temporary office, residence and so forth for the Works and the CPD's convenience shall be provided and maintained in good condition by the CPD.

Section 7. General Text

The CPD shall implement the Works in accordance with the Agreement Documents in broad sense such as the Agreement in narrow sense, Terms and Conditions of Construction Agreement and Technical Specification. Should the events occur that the both parties can not reach agreement on the interpretation of the abovementioned Agreement Documents in broad sense, both parties shall negotiate with sincerity and good faith for settlement of any disagreement, failing which the decision of the JICA shall prevail.

TECHNICAL SPECIFICATIONS

FOR

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN

THAILAND

BANGKOK OFFICE

JAPAN INTERNATIONAL COOPERATION AGENCY

TECHINICAL SPECIFICATIONS

- PART 1. SPECIAL PROVISION
- PART 2. GENERAL CONSTRUCTION FACILITIES
- PART 3. CARE OF WATER DURING CONSTRUCTION
- PART 4. OPEN EXCAVATION AND FOUNDATION PREPARATION
- PART 5. FILL AND BACKFILL
- PART 6. CONCRETE WORKS
- PART 7. POND WORKS
- PART 8. IRRIGATION CANAL WORKS
- PART 9. LIVESTOCK FACILITIES CONSTRUCTION WORKS
- PART 10. HEN HOUSE FACILITIES CONSTRUCTION WORKS
- PART 11. VEGETABLE FARM FACILITIES WORK
- PART 12. WELL CONSTRUCTION WORKS
- PART 13. OTHER RELATED CONSTRUCTION WORK

TECHNICAL SPECIFICATIONS

PART 1. SPECIAL PROVISION

1.01 The Contractor shall exercise utmost care so that his construction operations will not damage any existing structure except such structures as specified to be dismantled, or will not cause the disturbances not only on the operation of the Land Development Department but also on the cultivation land of the other project. Any damages on the such existing structure or facilities shall be made good by the Contractor at his own expense.

1.02 If it is necessary in the prosecution of the work to interrupt or obstruct the drainage of the surface, the flow of artificial drains and the flow of irrigation canal, the Contractor shall provide for the same during the progress of the work in such a way that no damage shall result to either public or private interest. For any neglect to provide for either natural or artificial irrigation or drainage which he may interrupted, he shall be held liable for all damages which may result therefrom during the progress of the work.

1-03 The Contractor is expected to visit the location of the work and make his own estimate of the facilities needed for the work. In the successful execution of the contract, the Contractor is expected to familiarize himself with local conditions, availability of labour, transportation facilities, uncertainties of weather, and other contingencies. From investigations, made at site, it is believed that topographical conditions are approximately as shown on the drawings, but the nature of the materials and the depth of satisfactory foundations, are not guaranteed. It is expressly understood that JICA will not responsible for any deduction, interpretation, or conclusions made by the Contractor. JICA does not guarantee that other materials will not be encountered or that the proportions of the several materials will not vary from those indicated by the drawings.

1-04 Elevation referred to the datum plane are to be determined from bench marks established by JICA or the Engineers at the site of the work.

1-05 The Engineers will establish the necessary survey monuments and bench marks at convenient points in the area covered by this contract for use of the Contractor in laying the lines and grades required for the proper conduct and execution of the work. All stakes, bench marks, etc., placed by the Engineers in laying out the work shall be carefully guarded and preserved by the Contractor, and in such case stakes or marks are misplaced or rendered useless through the carelessness or negligence of the Contractor or his agents, employees or workmen, they will be replaced by the Engineers at the expense of the Contractor.

1-06 The Contractor shall execute the work to the lines and grades given by the drawings and/or the Engineers. The Contractor shall, at his own expense, furnish all stakes, templates, pattern, platforms and labor that may be required in setting or laying out any part of the work.

PART 2. GENERAL CONSTRUCTION FACILITIES

2-01 SCOPE

This part covers the construction and/or maintenance of access road, setting up of Contractor's camp facilities, providing camp security and the disposition of the Contractor's various facilities at the end of the contract.

2-02 ROADS

(a) The Contractor shall improve, repair and widen, if necessary, existing roads to satisfactorily meet his haulage equipments. He shall also construct all other roads within the construction area which he deems necessary in the prosecution of his work. The improving, widening and maintaining of existing roads and constructing and maintaining new roads shall be made without cost to JICA, and the same shall be the responsibility of the Contractor during and up to the completion of all construction work under the contract.

2-03 CONTRACTOR'S CAMP FACILITIES

(a) If the Contractor deems necessary, he shall grade his camp site; construct his office, employees' housing, warehouses, machine and repair shops, fuel storage tanks; and provide such other facilities that the Contractor deems necessary for maintaining health, peace and order in the camp and work area.

(b) The location, construction, operation and maintenance of such camps and facilities within the areas of Land Development Department shall be subject to the approval of the Engineers. At least ten (10) calendar days prior to the date on which the Contractor desires to begin to work on in feature of camp construction, the Contractor shall submit for the approval of the Engineers drawings and specifications, in sufficient detail to permit determination of suitability of the construction in compliance with these specification, and no camp construction of any kind shall be undertaken until such drawings and specifications have been approved by the Engineers.

2-04 CAMP SECURITY

The Contractor shall provide his own security force to the extent that the deems necessary for maintaining peace and order in the camps and work areas and to safeguard materials and equipments.

2-05 DISPOSITION OF CAMP AND CONSTRUCTION FACILITIES

After the completion of the work covered by the Contract, the entire camp of the Contractor, including its water supply system, quarters, warehouses, shops and other facilities therein; and all other temporary installations at work areas shall be removed by the Contractor and the site shall be cleaned.

PART 3. CARE OF WATER DURING CONSTRUCTION

3-01 SCOPE

In accordance with specifications contained in this part, the Contractor shall care the water during construction so that construction work can be performed in areas free from water. Care of water during construction shall include provision for drainage and pumping system for dewatering the foundation areas and the construction of temporary bulkheads necessary for the protection of construction operations from encroachment by water.

3-02 DRAINAGE AND PUMPING

The Contractor shall be responsible for dewatering the foundation areas so that work may be carried on in a suitably dry condition, draining and/or pumping all water during the process of construction until its completion. The Contractor shall construct drainage ditches, holes, or culverts; furnish, operate, and maintain at his own expense all necessary pumps, to keep all work areas in amply dry condition, and prior to final acceptance of the work by the Contracting Officer, the Contractor shall remove, fill or plug all temporary drainage structures and pumping equipments at his own expense.

PART 4. OPEN EXCAVATION AND FOUNDATION PREPARATION

4-01 SCOPE

In accordance with the Specifications, contained in this part, and as shown on the drawings, or otherwise directed by the Engineers the Contractor shall perform all required open excavation and foundation preparation pertinent to the construction work.

4-02 OPEN EXCAVATION

(a) Generality

Open excavation under these Specifications consists of the removal, hauling, dumping, and satisfactory disposal of all materials from required excavations for farm road, irrigation and drainage canals and miscellaneous excavations for other structures included under this contract. Open excavation shall be performed to the lines and grades shown on the drawings or established by the Engineers. The Engineers may modify slopes of excavation to fit conditions encountered during construction. Such changes or modifications shall not be considered by the Contractor as a basis for additional compensation over and above the unit prices bid. All necessary precautions shall be taken to preserve the ground outside the specified lines and grades in the soundest possible condition.

(b) Foundation in Loose Material

When the surfaces of excavation upon or against which concrete or embankment fill is to be placed consist of loose material, the said loose materials shall be removed or replaced with suitable materials and compacted in a manner satisfactory to the Engineers. The cost of removing the loose materials shall be paid for under the pertinent bid items for open excavation. The cost for the replacement with suitable materials and the compaction of the same shall be paid for under the pertinent bid items for fill.

4-03 DISPOSITION OF EXCAVATED MATERIALS

(a) Spoil Areas

The Contractor shall submit for the approval of the Engineers locations, areas, drawings and other necessary specifications of spoil area which the Contractor proposes to use for the work under this Contract, and any kind of disposition shall not be undertaken before obtaining the said approval. Excavated material not suitable for fill or otherwise not needed shall be wasted in approved spoil areas. Spoil piles shall be constructed to the stable slopes of the material being wasted. Any spoil pile exceeding two (2) meters in height shall not be performed. Spoil material shall be spread and graded so that surface drainage will not be concentrated and will not create and/or accelerate undesirable erosion in spoil areas.

4-04 DEMOLITION, REMOVAL, AND DISMANTLING

When specified in the drawing or the Engineers, existing concrete structures, such as concrete masses, stones, etc., shall be demolished and disposed of accordingly.

4-05 FOUNDATION PREPARATION

(a) Fill on Earth

All horizontal and sloped earth surfaces, upon which embankment material is to be placed or other foundation surfaces whose locations are specifically indicated by the Engineers, shall consist of undisturbed or compacted material and shall be clean, damp, free from standing or running water, free from organic matter; and shall be suitable as a foundation for the material to be placed upon them.

(b) Concrete

All horizontal and sloped earth surfaces upon which concrete is to be placed shall be undisturbed or of approved compaction, clean and damp, free from standing or running water, and shall be otherwise suitable as a foundation for the concrete to be placed upon them.

PART 5. FILL AND BACKFILL

5-01 SCOPE

In accordance with the specifications contained in this part and as shown in the drawings or otherwise directed by the Engineers, the Contractor shall furnish and place the earth fill for land leveling, farm road embankment and for irrigation and drainage canal embankment; backfill for related structures. Any work of fill and backfill shall not be commenced without prior approval of the Engineers. The slope of the embankment shall be finished to the designed gradient by providing fixed rules.

5-02 BACKFILL

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

5-03 FILL

(a) Lines and Grades

The fills shall be constructed to the lines, grades and cross sections indicated on the drawings, unless otherwise directed by the Engineers. The Engineers may increase or decrease the slopes of the fill or make such other changes in the design as may be deemed necessary to produce a stable structure. change in quantities of materials, resulting from prescribed changes in section, shall not make cause for claims for increased unit prices. Generally, a tolerance of plus or minus 0.05 meter from the slope lines and grades shown on the drawings will be allowed in the finished surfaces of the embankments except that the tolerances shall not be continuous over an area greater than twenty (20) square meters.

(b) Conduct of the Work

1. The Contractor shall maintain and protect the fills in a satisfactory condition at all times until final completion and acceptance of all work under the Contract. Any approved fill material which rendered unsuitable after being placed in the fills shall be replaced by the Contractor and no additional payment will be made there. The Contractor shall excavate and remove from the fills any material which the Engineers considers objectionable and shall also dispose of such material and refill the excavated as directed, all at no additional cost to JICA. The Contractor may be required to remove at his own expense any fill material placed outside of prescribed slope lines.

2. When the excavation of suitable fill material from required excavation and approved borrow sources progresses at a faster rate than placement in the fills, such excavated materials may stockpiled at approved locations until use is authorized. No separate payment will be made for stockpiling or reloading and hauling of this material to its place in the fills and all costs in connection therewith shall be included in the applicable contract unit price for the fill materials.

5-04 MATERIALS

(a) Sources

The Contractor shall submit for the approval of the Engineers locations, areas, drawings and other necessary specifications of borrow areas which the Contractor proposes to use for obtaining fill material. Materials for fills shall be secured from required excavations and from the borrow areas as approved. There is no guarantee that all the materials in/any borrow area will be suitable for use in the fills and the Contractor shall move or modify his operations to avoid unsuitable material. The Contractor shall maintain and operate sufficient excavating and hauling equipments so that an adequate amount of fill material from all sources is available as required. Operations in borrow areas shall not be on danger roads, buildings, or structures. Borrow areas shall be graded to provide drainage from all parts of the excavated areas. When operations in a borrow area have terminated, the area shall be dressed to a neat and orderly appearance, as approved by the Engineers. Any additional material needed shall be obtained from sources approved by the Engineers.

(b) Suitability

Materials containing brush, roots, sod or other perishable material will not be considered suitable for fills. The suitability of the materials shall be subject to the approval of the Engineers.

5-05 PLACEMENT

(a) General

No fill material shall be placed on any part of the fill foundations until such areas have been inspected and approved by the Engineers and until after completion of foundation preparation as specified in PART 4. The gradation and distribution of materials shall be such that the fills will be free from lense, pockets, and streaks.

(b) Earth Fill

The fill material shall be dumped and spread in horizontal layers having an uncompacted thickness of not over 20 cm. When material is spread, chunks larger than 10 cm in size shall be broken down by approved means or removed.

5-06 COMPACTION

(a) General

After a layer of fill material has been dumped and spread, it shall be compacted by hand operated mechanical tampers or by other compaction machine approved by the Engineers to a density more than 85 percent of the maximum dry density of the material or to a density specified by the Engineers.

(b) Fill on or Against Culverts and Concrete Structure

No fill shall be placed on or against concrete surface before a period of fourteen days has elapsed after placing the concrete. Before passage of hauling equipment over the top of culverts or other structures will be permitted, the depth of fill over the concrete shall be sufficient to permit such passage without harmful stresses or vibrations in the structure. Fill placed around and over culverts or other structures shall be compacted by hand operate mechanical tampers or by man power to a density equal to that specified for the other earth fill.

5-07 ADDITIONAL COMPACTION

If, in the opinion of the Engineers, the desired compaction of portion of the embankment is not secured, additional compaction operation shall be made over the surface area of such designated portion until the desired compaction has been obtained, without additional cost to JICA.

5-08 QUALITY CONTROL

If it is required, tests, for moisture content and density, all necessary tests will be made by the Engineers, and from these test, corrections, adjustments, and modifications of methods, materials, and moisture contents may be made in order to secure satisfactory density of the fill materials. The Contractor shall provide necessary unskilled labour in obtaining and preserving samples.

PART 6. CONCRETE WORKS

6-01 SCOPE

In accordance with the Specifications contained herein and as shown on the detail drawings or otherwise directed, the Contractor shall -

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

6-02 CEMENT

(a) General

Cement for mortar and concrete work shall be Portland Cement which conforms to the requirements of the Standard Specifications for Portland Cement (A.S.T.M. Designation C150-69).

(b) Storage

Cement shall be stored in a dry, weather tight and properly ventilated warehouse with adequate provisions for the prevention of absorption of moisture. All storage facilities shall be subject to approval and shall be such as to permit easy access for inspection and identification. Cement which has been stored for more than one month or which are suspected to be damp shall not be used unless otherwise approved by the Engineers.

6-03 FINE AGGREGATE

(a) Composition

Fine aggregate shall be natural sand not including organic matter and other foreign substances.

(b) Quality

Fine aggregate shall consist of hard, tough, durable, uncoated particles. The shape of the particles shall be generally rounded or cubical and reasonably free from flat or elongated pieces. The fine aggregate shall conform to the following specific requirements:

1. Grading - Fine aggregate shall be well graded from fine to coarse and the gradation shall conform to the following requirements as delivered to the mixers;

<u>Sieve Designation U.S. Std. Square Mesh</u>	<u>Cumulative Percentage by Weight Passing</u>
No. 4	95 - 100
No. 16	60 - 75
No. 100	2 - 10

In addition to the grading limits shown above, the fineness modulus shall be in the range from 2.30 to 3.00.

(c) Storage

Fine aggregate shall be stored in such a manner as to avoid the inclusion of any foreign material in the concrete. Sufficient live storage shall be maintained at all times to permit continuous placement of concrete at the rate specified.

6-04 COARSE AGGREGATE

(a) Composition

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

(b) Quality and Grading

1. Quality - Coarse aggregate shall consist of hard, rough, durable, clean and uncoated particles.

All foreign materials and dust shall be removed by adequate processing. The particle shape of the smallest size of crushed coarse aggregate shall be generally rounded or cubical, and the coarse aggregate shall be reasonably free from flat and elongated particles in all sizes.

2. Grading - The coarse aggregate shall be well graded from fine to coarse. The grading of the aggregate as delivered to the mixer shall be as follows:

Sieve Designation U.S. Std. Square Mesh	Per Cent by Wt. Passing Individual Sieves 3/4" Max
1"	100
3/4"	90 - 100
3/8"	20 - 55

3. Size - Unless otherwise directed, the maximum sizes of coarse aggregate to be used in the various parts of the work shall be 3/4 inch.
4. Storage - Storage of coarse aggregates shall be as that specified in Paragraph 6-03 (c) for fine aggregates.

6-05 AGGREGATE SAMPLES

Samples of the aggregate shall be furnished at a point designated by the Engineers for his approval at least ten (10) days in advance of the time when the placing of concrete is expected to begin.

6-06 WATER

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

6-07 PROPORTIONING OF CONCRETE

(a) The Contractor shall design the mix proportion for every class of concrete placing for the approval of the Engineers. The Contractor shall carry out the mix test in case being requested by the Engineers. the test is to be made at the expense of the Contractor.

(b) The compressive strength of the age of 28 days shall be as follows and desirable mix proportion is also indicated.

<u>Class</u>	<u>Minimum 28 days Compressive strength</u>	<u>Mixing proportion by volume Cement: fine aggregates: coarse aggregates</u>
A (Reinforced concrete)	210 kg/cm ³	1:2:3
B (Plain concrete)	160 kg/cm ³	1:2:4
C (Concrete layer)	135 kg/cm ³	1:3:4

Other proportions for mixed design may be indicated by the Engineers at the site of work, if it is necessary.

6-08 MIXING

(a) Equipment

Concrete shall be mixed by portable concrete mixer unless otherwise approved by the Engineers.

(b) Measurement

The measurement of every ingredient of concrete shall be made in weight. Nevertheless, the measurement in volume is admitted subject to the approval of the Engineers.

(c) Mixing Time and Method

The mixing time of concrete shall be more than two (2) minutes and less than five minutes. Over mixing, requiring the introduction of additional water to preserve the required consistency, will not be permitted. The mixer shall be completely emptied before reserving the materials for the succeeding batch and shall be kept clean and washed out after stopping work at the end of each shift.

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

6-09 CONVEYING

(a) Generality

Concrete shall be conveying from mixer to forms, as rapidly as practicable, by methods which will prevent segregation or loss of ingredients. There shall be no vertical drop greater than 1.5 meters except where suitable equipment is provided to prevent segregation and where specifically authorized. Belt conveyors, chutes or other similar equipment in which the concrete is delivered to the structure in a thin, continuously exposed flow, will not be permitted except for very limited or isolated sections of the work. Such equipment shall be arranged to prevent objectionable segregation.

6-10 PLACING

(a) Approval

Approval of the Engineers shall be obtained before starting any concrete pour.

(b) General

Concrete shall be worked into the corners and angles of the forms and around all reinforcement and embedded items without permitting the material to segregate. Not more than three (3) cubic meter shall be deposited in one pile for compaction. Free water shall be collected in depressions away from the forms and removed by bailing prior to placement of additional concrete. All concrete placing equipment and methods shall be subject to approval.

(c) Cooling of Aggregates

The aggregate shall be cooled by wetting if it is drier than the condition known as saturated, surface dry.

(d) Concrete on Earth Foundation

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

(e) Concrete on Other Concrete

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

6-11 FORMS

(a) Generality

Forms shall be used, wherever necessary, to confine the concrete and shape it to the required lines, or insure against contamination of the concrete. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete, and shall be maintained rigidly in correct position. Forms shall be sufficiently tight to prevent loss of mortar from the concrete. Forms for exposed surfaces against which backfill is not to be placed shall be lined with a form grade plywood or sheet steel. Steel panel forms may also be used.

(b) **Cleaning and Oiling of Forms**

At the time concrete is placed in the forms, the surfaces of the forms shall be free from incrustations of mortar, grout, or other foreign material that would contaminate the concrete or interfere with the fulfillment of the Specifications' requirements relative to the finish of formed surfaces. Before concrete is placed, the surfaces of the forms shall be oiled with a commercial form oil that will effectively prevent sticking and will not stain the concrete surfaces.

(c) **Removal of Forms**

Forms shall be removed as soon as practicable in order to avoid delay in curing and to make possible earliest practicable repair of surface imperfections, but in no case shall they be removed before approval. Any needed repair or treatment shall be performed at once, and shall be followed immediately by the specified curing. Forms shall be removed with care so as to avoid injury to the concrete, and any concrete so damaged shall be repaired.

6-12 CURING AND PROTECTION

(a) **General**

All concrete shall be moist cured for a period of not less than seven (7) consecutive days by an approved method or combination of methods applicable to local conditions, except that the curing period may be reduced to three days for concrete made with high-early-strength cement. The Contractor shall have all equipment needed for adequate curing and protection of the concrete on hand and ready to install before actual concrete placement begins.

(b) **Water Curing**

Concrete shall be kept wet by covering with an approved, watersaturated material or by a system of perforated pipes or mechanical sprinklers or by any other approved method which will keep all surfaces continuously (not periodically) wet. Water for curing shall be generally clean and free from any element which might cause objectionable staining or discoloration of the concrete.

6-13 REPAIR OF CONCRETE

Repair of imperfections in formed concrete shall be completed within twenty four (24) hours after removal of forms at no additional cost to JICA. Forms shall be neatly removed from exposed surfaces. Concrete that is damaged or honeycombed must be removed to sound concrete and replaced with drypack, mortar, or concrete as hereinafter specified. Where large bulges and abrupt irregularities protrude, the protrusions shall be reduced by bush-hammering and grinding. Drypack filling shall be used for holes left by the removal of fasteners from the ends of form tie rods.

6-14 DRYPACK MORTAR

Drypack shall consist of a mixture (by dry volume or weight) of one (1) part cement to 2-1/2 parts of sand conforming to Paragraph 6-03, Fine Aggregate, except that in gradation, 100% shall pass a No.16 sieve. Only enough water shall be used to produce a mortar which, when used, shall stick together on being molded into a ball by a slight pressure of the hands, and shall not extrude water but will leave the hands damp.

6-15 STEEL REINFORCEMENT

(a) General

The Contractor will furnish all steel reinforcement in accordance with the drawings and these specifications. The Contractor shall prepare, clean, cut, bend and place all reinforcements, as shown on the detail drawings or as otherwise directed. The Contractor shall furnish all chains, supports and ties. All reinforcement shall be reasonably free from loose, flaky rust and scale, and free from oil, grease and other coating which might destroy or reduce its bond with concrete.

(b) Relationship of Reinforcement to Concrete Surfaces

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

(c) Lapping

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

(d) Supports

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

PART 7. POND WORKS

7-01 SCOPE

The scope under this part shall consist of the preparation works, excavation, compaction of foundation, embankment in accordance with the Drawings and Specifications or as directed by the Engineer.

7-02 EARTH MATERIALS FOR EMBANKMENT

The excavated earth materials shall be used for the embankment material for the farm ponds, and if those excavated soil are deemed unsuitable for the purpose, the embankment materials shall be borrowed from pits with soils in suitable texture.

7-03 COMPACTION

Foundation of the farm ponds shall be compacted with roller carefully, and also the dike section shall be compacted with roller. Thickness for one compaction shall be spread about 30 cm in spread.

Also compaction water shall be sprinkled for keeping optimum moisture content of the materials.

7-04 SLOPE PROTECTION

Finishing work of embankment slopes shall be made by compacted with hand rammer for protection of slopes from erosion. Where shown on the Drawings or as directed by the Engineer, the Contractor shall construct slope protection concrete work for the ponds. Concrete work shall be constructed in accordance with the applicable provision and the relevant Drawings.

PART 8. IRRIGATION CANAL WORKS

8-01 SCOPE

The scope under this part consist of excavation, embankment and concrete lining for main and lateral irrigation canals, all in accordance with the Drawings and these Specifications or as directed by the Engineer.

8-02 EARTH WORK

Earth works for irrigation canals shall be in accordance with PART 4 and 5.

8-03 CONCRETE WORK

Where shown on the Drawings or as directed by the Engineer, the Contractor shall construct slope protection for the irrigation canals. Concrete work shall be constructed in accordance with the applicable provision as Section 3 and the relevant Drawings.

PART 9. LIVESTOCK SWINE RAISING FACILITIES CONSTRUCTION

9-01 SCOPE

The scope under this part shall consist of furnishing of all labor, materials and equipment for the construction of swine raising facilities in accordance with the Drawings and these Specifications or as directed by the Engineer.

9-02 EARTHWORK AND STRUCTURE EXCAVATION

Earthwork shall conform to the requirements specified in PART 4 and 5.

9-03 CONCRETE WORK

Concrete work shall conform to the requirements specified in PART 6.

9-04 REINFORCING STEEL BARS

All reinforcing steel bars shall conform to the requirement specified in PART 6.

9-05 BRICK MASONRY

(a) The Work under this clause consists of all brick masonry work shown in the Drawing.

(b) Local products can be used and it shall be the first class.

(c) All bricks shall be laid after applying mortar.

9-06 CARPENTRY

(a) The work under this clause consists of all carpentry work shown in the Drawing.

(b) Local timber can be used, and it should be the hard woods.

(c) All frameworks shall be jointed by optimum jointing method.

9-07 ROOFING

Local material can be used and the construction method shall conform to Thai Specifications.

9-08 INSTALLATION OF INDOOR LIGHTING

The installation of indoor lighting shall be made strictly in accordance with the manufacture's technical instruction.

PART 10. HEN HOUSE FACILITIES CONSTRUCTION WORKS

10-01 SCOPE

The scope under this part shall cover the preparation works as setting up for the construction sites and the construction works in accordance with the Drawing and Specification or as directed by the Engineer. The farmers carry out the construction works by themselves.

10-02 EARTHWORK

Earthwork shall conform to the requirements specified in PART 4 and 5.

10-03 CARPENTRY

(a) The work under this clause consists of all carpentry works shown in the Drawing.

(b) Local timber can be used, and it should be the hard woods.

(c) All frameworks shall be jointed by optimum jointing method.

10-04 ROOFING

Local materials can be used, and the construction method shall conform to Thai Specifications.

PART 11. VEGETABLE FARM FACILITIES WORK

11-01 SCOPE

The scope under this part shall cover the preparation works as clearing and the establishment works of pipes and nets in accordance with Thai Specifications.

11-02 PREPARATION

The vegetable farm shall be prepared to set up the pipes and nets by farmers.

11-03 ESTABLISHMENT

Local materials can be used, and the establishment work shall conform to Thai Specifications or as directed by the Engineer. The pipes shall be fixed in the earth each other.

PART 12. WELL CONSTRUCTION WORKS

12-01 SCOPE

The scope under this part shall cover the preparation work as clearing and setting-up for the boring sites and boring work in accordance with the Drawings and Specification or as directed by the Engineer.

12-02 BORING

The hole shall be made at a depth and a diameter as shown on the Drawings or as directed by the Engineer. The hole shall be made by manpower. Confirmation of the depth shall be done in the presence of the Engineer.

PART 13. OTHER RELATED CONSTRUCTION WORKS

13-01 SCOPE

This part covers the construction of all concrete structures such as regulating diversion facilities in accordance with the Drawings and Specifications or as directed by the Engineer.

13-02 CONSTRUCTION METHOD

(a) All concrete structure construction shall conform to the requirement specified in PART 6.

(b) All construction shall be completed to the specified lines, grades, and dimensions. All timber, metal or other accessories necessary for its completion as shown in the drawings shall be placed and attached.

(c) The dimension of each structure shown in the drawings will be subject to changes as may be found necessary to adopt the structures to the actual field conditions disclosed by the excavation.

CONSTRUCTION SCHEDULE

TERM	1	2	3	4	5	6
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
PREPARATION AND CLEARANCE		PREPARATION (7) JAN. 23, - JAN. 29,				FINISH INSPECTION REPORT (11) MAY. 26, - JUN. 5,
<u>PAK-THONG-CHAI AREA</u>						
BIG POND		EXCAVATION JAN. 30, - MAR. 30, (60)	SPREADING (17)	COMPACTION AND SMOOTHING PIPE WORKS AND SLOPE PROTECTION MAR. 20, - APR. 5,		
POND TYPE A		EXCAVATION JAN. 30, - APR. 26,	SPREADING (87)	COMPACTION EMBANKMENT AND SMOOTHING PIPE WORKS AND SLOPE PROTECTION (31) MAR. 20 - APR. 19,		
POND TYPE B			EXCAVATION MAR. 20, - MAR. 29, (10)	SPREADING (10) MAR. 29, - APR. 7,	COMPACTION EMBANKMENT AND SMOOTHING PIPE WORKS AND SLOPE PROTECTION	
LIVE STOCK FACILITIES			SPREADING AND COMPACTION (52) MAR. 1, - APR. 21,	PREPARATION EARTH WORKS CONCRETE WOODENWORKS ROOF WORKS		
<u>MUANG AREA</u>			PREPARATION (6) FEB. 25, - MAR. 2,			
CANAL			EXCAVATION MAR. 2, - MAY. 26,	SPREADING (84)	COMPACTION AND SMOOTHING PIPE WORKS AND SLOPE PROTECTION (28) APR. 29, - MAY. 26,	
POND			EXCAVATION MAR. 23, - APR. 15,	SPREADING (24)	EMBANKMENT AND COMPACTION PIPE WORKS AND SLOPE PROTECTION (15) APR. 16, - APR. 30,	
LATERAL CANAL			EXCAVATION MAR. 23, - APR. 15,	EMBANKMENT (24)		
VEGETABLE FIELD				PREFABRICATED NET PIPE FIELD APR. 11, - APR. 20, (10)		
LIVE STOCK FACILITIES				SPREADING AND COMPACTION EARTH CONCRETE WOODEN ROOF BLOCK FENCE MAR. 23, - MAY. 20,		
				(59)		

6-2 追加工事契約関係

SV/NG/32/202

KORAT, Mar. 23, 1989

Ms. Rachaneewan Prathomhong
PROJECT MANAGER
Cooperatives Promotion Department

Dear Sir,

Re: Recommendation for Additional works
on MODEL INFRASTRUCTURE IMPROVEMENT WORKS

We are pleased to inform you that the construction works have been continued in Pak-Thong-Chai and Muang. By the way, now we have some additional works at the job sites in your project as follows,

- Electricity at Livestock Facilities (Pak-Thong-Chai, Muang)
- Pavement on The Road by gravel (Pak-Thong-Chai, Muang)
- Improvement of Existing Canal (Pak-Thong-Chai)

So we would like you to submit to JICA your request for necessary assistance in your project.

Hoping to hear from you at an early date.

Your faithfully



MASAHIRO OMIYA MR.



Cooperatives Promotion Department
Ministry of Agriculture and Cooperatives
12 Krung Kasem Road, Theves
Bangkok 10200 Thailand
Tel. 2810535

No. AC 1113/ 3108

27 March B.E. 2532 (1989)

Dear Mr. T. Saito,

Subject : Request for Additional Assistance on Model Infrastructure
under the Agricultural Cooperative Promotion Project in Thailand

Please referred to the Agreement for Construction of Model Infrastructure on Agricultural Cooperative Promotion Project in Thailand, dated January 20, 1989. We are pleased to inform you that the construction works in Pak-Thong-Chai and Muang-Nakorn-Rachasima areas was finished about 40 %.

By the way, it is found that some necessary assistance are needed for additional construction, as follows:

1. Electric facilities for livestock houses in both Pak-Thong-Chai and Muang areas,
2. Pavement on the road by gravel, 50 m.m. thick, in both Pak-Thong-Chai and Muang areas,
3. Improvement of existing canal in Pak-Thong-Chai, 880 meters long.

We, therefore, would like to request JICA for the assistance to the above additional construction of the Project.

Your favourable consideration on our request shall be highly appreciated.

With best regards.

Yours sincerely,

Songyos Narkhamnaa
Director General

Mr. Tsutomu Saito
Resident Representative
JICA Thailand Office.

追加工事費積算

PROJECT COST

Item No.	Item	Quantities	Construction Cost (₹)	Remarks
CONSTRUCTION COST OF ADDITIONAL WORKS				
1.	Electricity	2 set	132,200	
2.	Gravel Pavement	2 set	61,300	
3.	Improvement of Canal	1	200,400	
TOTAL			393,900	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (฿)	Price (฿)	Remarks
1.	Electricity					
	Direct cost					
1 - 1	MUANG					
1	concrete column	pieces	2	1,200	2,400	
2	rack 2 channel with accessory	set	5	60	300	
3	wire cable to fix column	"	1	700	700	
4	electric aluminum wire 25mm ²	m	180	15	2,700	
5	electric copper wire 10mm ²	"	70	24	1,680	
6	balt + screw nut 1/2" * 8"	pieces	7	10	70	
7	preformed used with wire 25mm ²	"	8	45	360	
8	clamp for connection	"	5	17	85	
9	safety switch 2p 30A	"	1	150	150	
10	cartridge fuse	set	1	50	50	
11	electric wire 2 * 1 mm ²	m	150	3.50	525	
12	" 2 * 2.5	"	40	8	320	
13	" 2 * 6	"	30	17	510	
14	fluorescent lamp 40W	set	5	184	920	completed set
15	" 20W	"	2	150	300	
16	braker 10A	pieces	3	120	360	
17	switch	"	7	27	189	

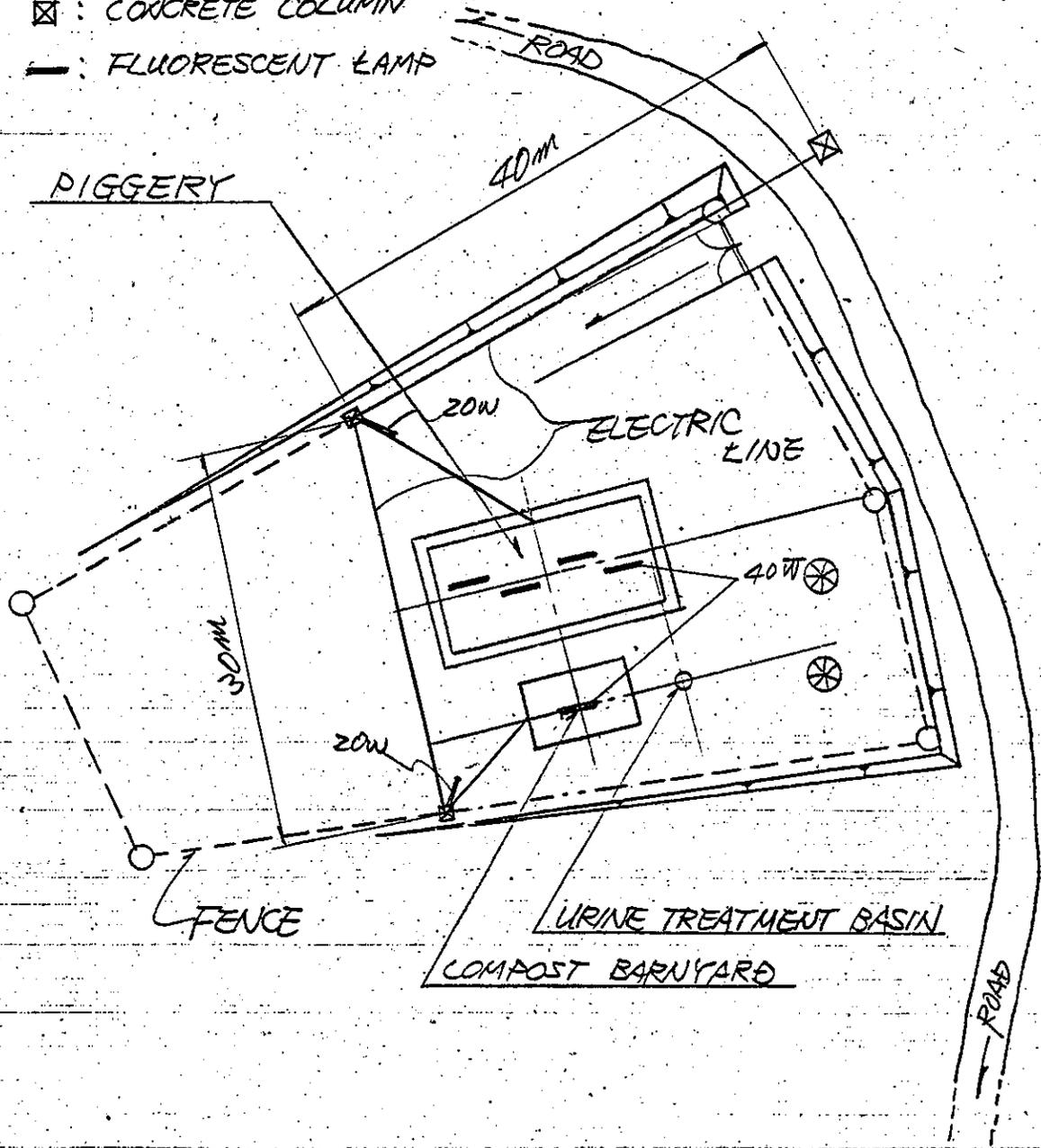
BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (฿)	Price (฿)	Remarks
18	plug	pieces	3	25	75	
19	electric wires fixed	kg	1.5	110	165	
20	nail 3/8" * 1/2"	"	2	30	60	
21	wood 8" * 10"	pieces	3	35	105	
22	wire (circle + flat)	kg	1	100	100	
23	knob 3"	pieces	6	15	90	
24	tape	roll	5	15	75	
	sub total				12,289	
25	Muang provincial electricity authority's charge				35,000	
1-2	PAK-THONG-CHAI					
1	concrete column	pieces	6	1,200	7,200	
2	rack 2 channel with accessory	set	14	60	840	
3	wire cable to fie column	"	3	700	2,100	
4	electric wire 25mm ²	m	360	15	5,250	
5	" copper wire 10mm ²	"	260	24	6,240	
6	balt + screw nut 1/2" * 8"	pieces	18	10	180	
7	preformed used with wire 25mm ²	"	20	45	900	
8	clamo for connection	"	16	17	272	
9	safety switch 2p 30A	set	1	150	150	

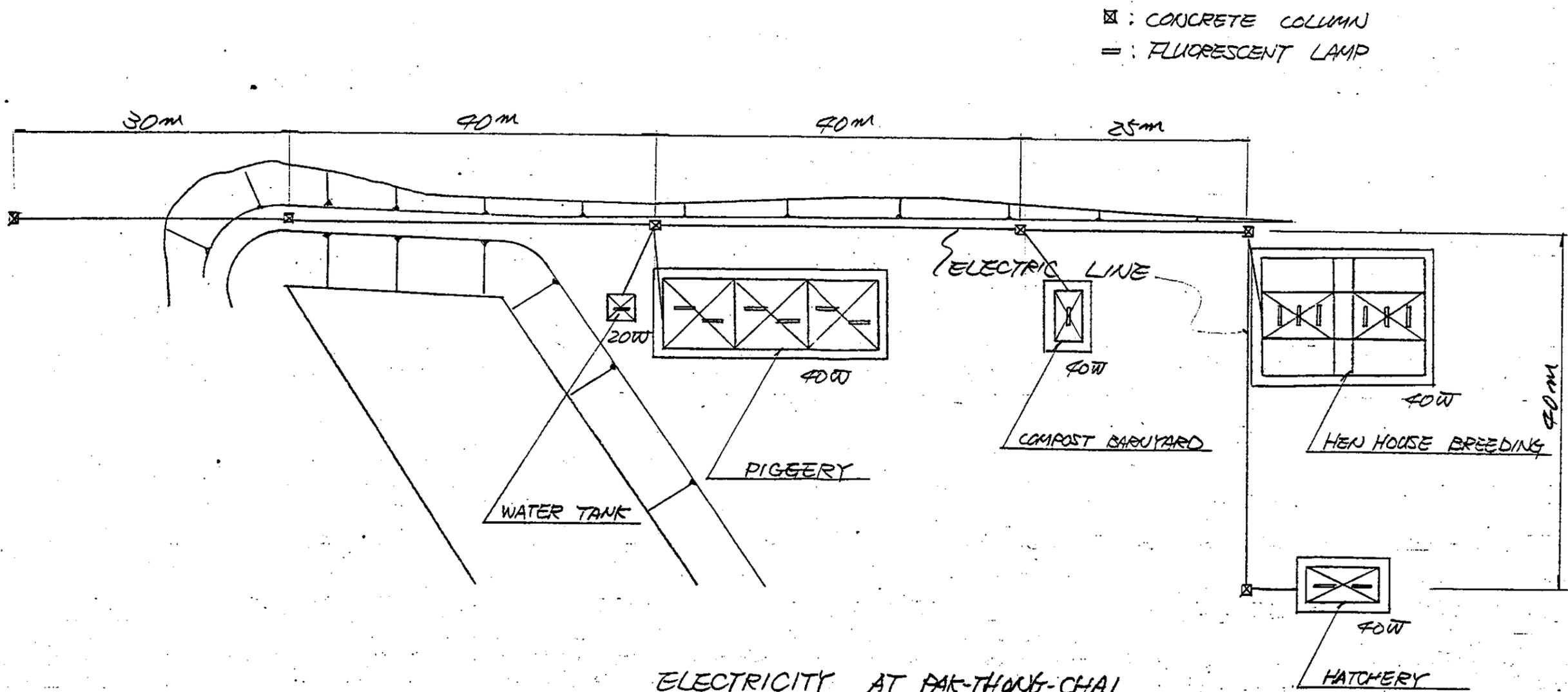
BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
10	electric wire 2 * 1 mm ²	m	360	3.50(฿)	1,260 (฿)	
11	" 2 * 2.50 mm ²	"	60	8	480	
12	" 2 * 6 mm ²	m	80	17	1,360	
13	cartridge fuse	set	1	50	50	
14	fluorescent lamp 40W	"	16	184	2,944	
15	" 20W	"	1	150	150	
16	braker 10A	pieces	7	120	840	
17	switch	"	17	27	459	
18	plug	"	7	25	175	
19	electric wire's fixed	kg	4	110	440	
20	nail 3/8" 1/2"	"	4	30	120	
21	wood 8" * 10"	pieces	7	35	245	
22	wire connector 25mm ²	"	10	45	450	
23	wire (circle + flat)	kg	4	100	400	
24	knob 3"	pieces	10	15	150	
25	tape	roll	15	15	225	
	sub total				32,880	
26	PAK-THONG-CHAI provincial electricity authority's charge				30,000	
	DIRECT COST TOTAL				(110,169)	(1)
	INDIRECT COST				22,033	(1) * 20%
	TOTAL				132,202	
					132,200	round off

- ⊠ : CONCRETE COLUMN
- : FLUORESCENT LAMP



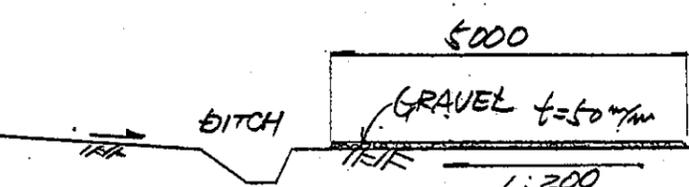
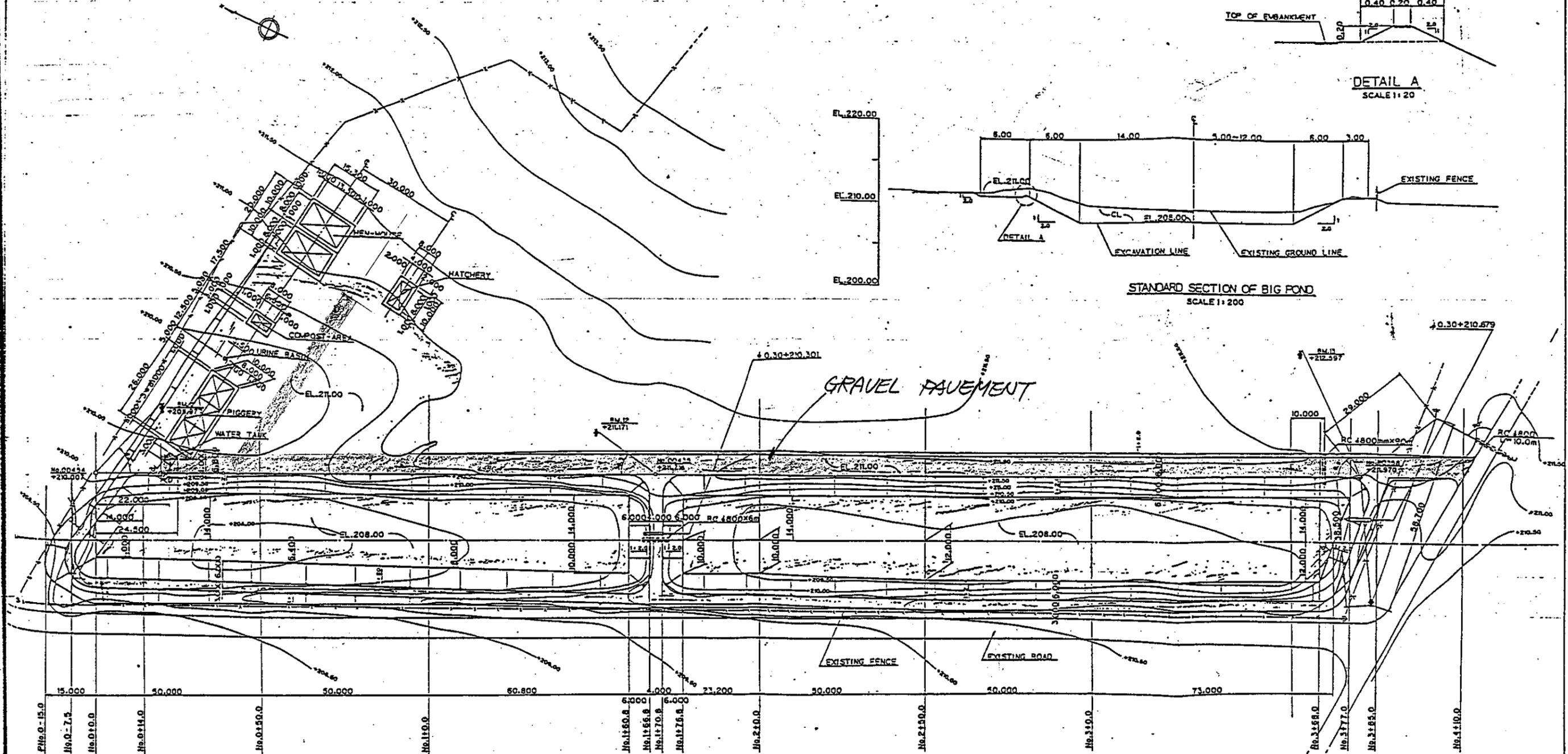
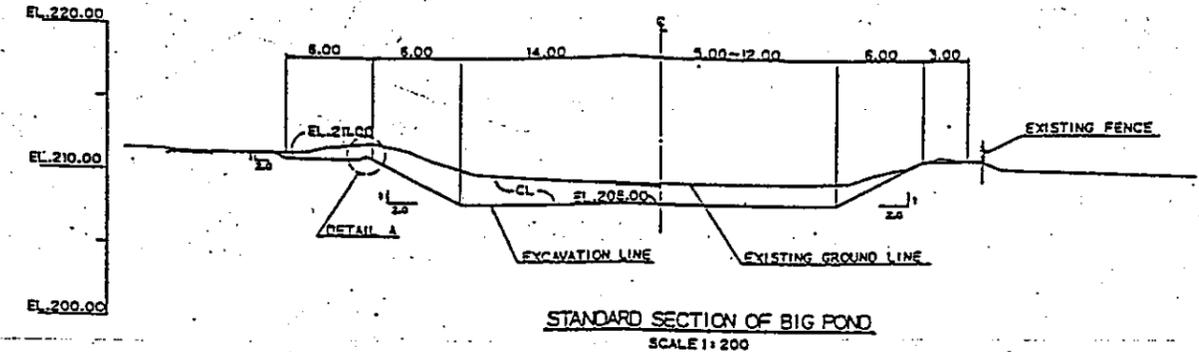
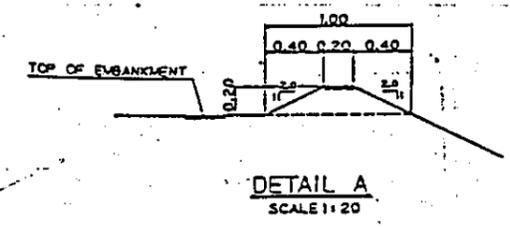
ELECTRICITY AT MUANG
LIVESTOCK FACILITIES
SCALE 1:500



ELECTRICITY AT PAK-THONG-CHAI
 LIVESTOCK FACILITIES
 SCALE - 1:500 -

BILL OF QUANTITIES

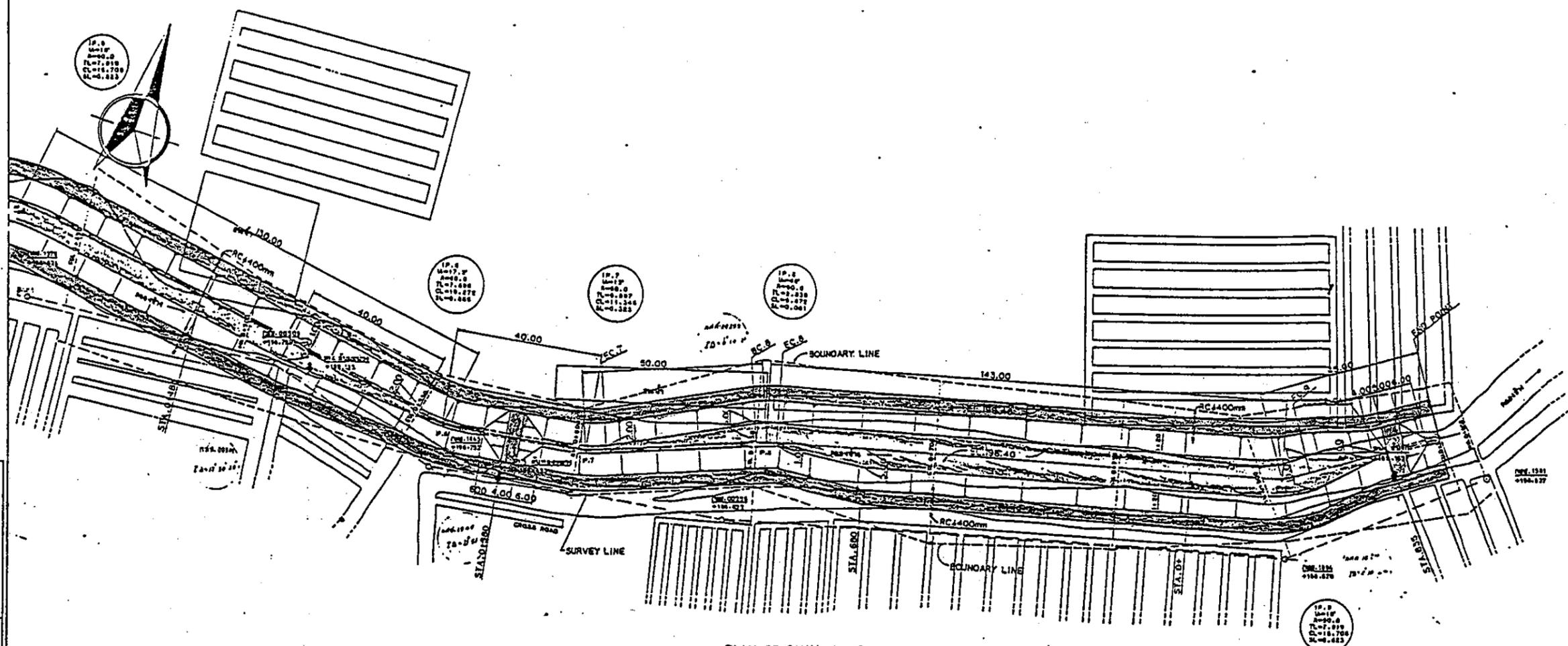
Item No.	Description	Unit	Quantity	Unit Price (฿)	Price (฿)	Remarks
	GRAVEL PAVEMENT DIRECT COST					
1.	PAK-THONG-CHAI					
1	spreading	cum	118	8.00	944	
2	compaction	"	"	17.00	2,006	
3	pavement material	"	"	300.00	35,400	
	sub total				38,350	(1)
2.	MUANG					
1	spreading	"	69	8.00	552	
2	compaction	"	"	17.00	1,173	
3	pavement material	"	"	250.00	17,250	
	sub total				18,975	(2)
	total				4,012	((1)+(2))*7%
					61,337	
					61,300	round off



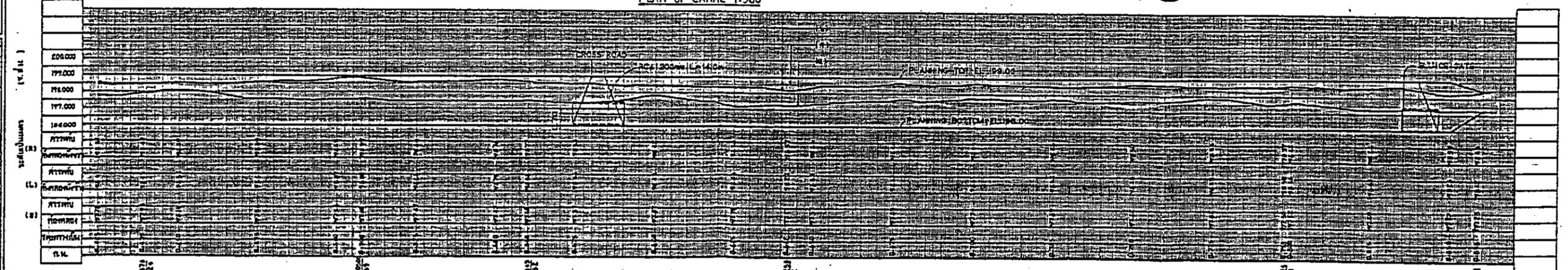
NOTE 1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED.
 2. ABBREVIATION AND SYMBOL
 CL : CENTER LINE
 EL : ELEVATION

JAPAN INTERNATIONAL COOPERATION AGENCY	
THE DETAIL DESIGN SURVEY FOR AGRICULTURAL COOPERATIVE PROMOTION PROJECT IN THAILAND	
PLAN OF BIG POND & LOCATION OF LIVESTOCK FACILITIES	
PREPARED BY	DRAWING NO. 3
CHECKED NO.	

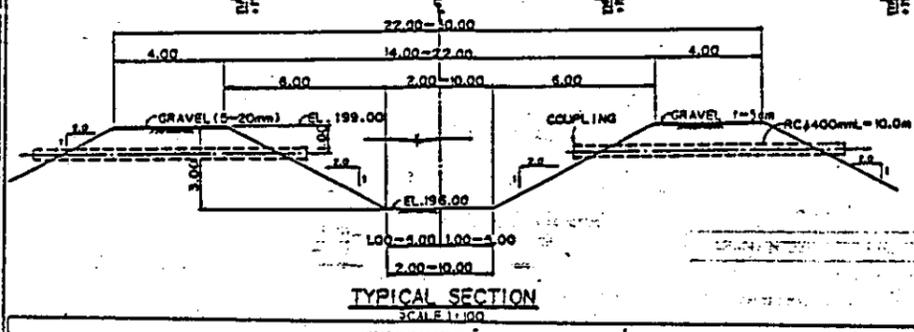
STATION NO.	ANGLE			DISTANCE (M.)	ELEVATION (M.)
	Q	P	R		
1273	5				
00000	7	127	20	20	118.752
1843	8	158	08	30	118.732
00230	9	172	44	20	118.832
1856	10	171	23	30	118.888
1881	11				118.932



PLAN OF CANAL 1:500



SURVEY LINE PROFILE



TYPICAL SECTION SCALE 1:100

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1273															
00000															
1843															
00230															
1856															
1881															

NOTE: 1. ALL DIMENSIONS ARE SHOWN IN METERS UNLESS OTHERWISE INDICATED
 2. ABBREVIATION AND SYMBOL
 E.C.S. : CENTER LINE
 EL. : ELEVATION

JAPAN INTERNATIONAL COOPERATION AGENCY
 THE DETAIL DESIGN SURVEY
 ON
 AGRICULTURAL COOPERATIVE PROMOTION PROJECT IN THAILAND

PLAN OF CANAL(2)

PREPARED BY _____ DRAWING NO. 14
 CHECKED BY _____

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (฿)	Price (฿)	Remarks
	IMPROVEMENT OF CANAL PAK-THONG-CHAI					
	DIRECT COST					
1	excavation common soil	cum	5,490	15.20	83,448	back-hoe
2	spreading	"	"	7.00	38,430	bull-dozer
3	compaction	"	"	7.00	38,430	"
	sub total				160,308	
4	appendant structure	set	2	13,500	27,000	
	INDIRECT COST				(187,308)	(1)
					13,111	(1) * 7%
	total				200,419	
					200,400	round off

บ.ร. ๓๓-๒๕๖๓
+203.253

บ.ร. ๓๓-๒๕๖๓
20

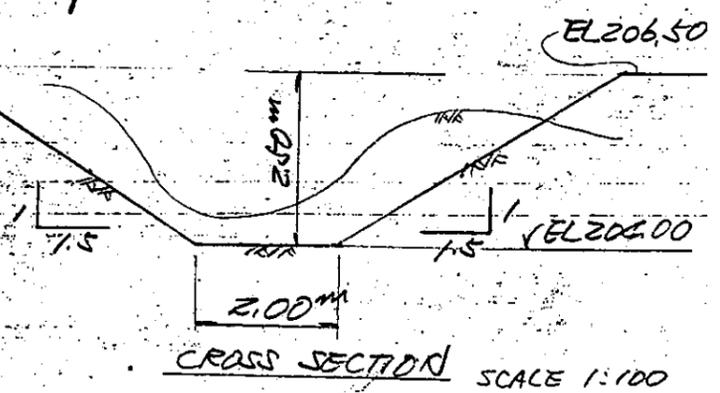
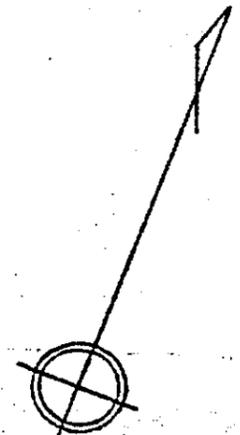
EXISTING POND

EXISTING POND

EXISTING POND

EXISTING POND

EXISTING CANAL



FAK-THONG-CHAI
IMPROVEMENT OF CANAL

บ.ร. ๓๓-๒๕๖๓
10.007

180°

PAK-THONG - CHAI
CANAL IMPROVEMENT

No. _____

測 点	点間距離	斷面	平均	立積	斷面	平均	立積
1101		7.99			累加	累加距離	
+550	45.3	6.34	7.17	324.8	324.8	45.3	
+600	50.0	6.75	6.55	327.5	652.3	95.3	
+650	50.0	6.86	6.81	340.5	992.8	145.3	
+700	50.0	7.79	7.33	366.5	1359.3	195.3	
+750	50.0	5.55	6.67	333.5	1692.8	245.3	
¹¹²¹ +807.617	57.6	6.65	6.10	357.4	2044.2	302.9	
+850	42.4	6.31	6.48	274.8	2319.0	345.3	
+900	50.0	3.71	5.01	250.5	2569.5	395.3	
+950	50.0	2.85	3.28	164.0	2733.5	445.3	
¹²⁰⁶ +1000	50.0	3.68	3.27	163.5	2897.0	495.3	
+1050	50.0	5.79	4.74	237.0	3134.0	545.3	
¹²⁰⁷ +1100	50.0	5.65	5.72	286.0	3420.0	595.3	
+1150	50.0	5.67	5.66	283.0	3703.0	645.3	
¹¹⁴⁰ +1200	50.0	5.50	5.59	279.3	3982.3	695.3	
+1250	50.0	5.55	5.53	276.5	4258.8	745.3	
+1300	50.0	8.79	7.17	358.5	4617.3	795.3	
+1350	50.0	10.23	9.51	475.5	5092.8	845.3	
⁰¹³⁰ +1382.148	32.2	14.58	12.41	399.6	5492.4	877.5	



Cooperatives Promotion Department
Ministry of Agriculture and Cooperatives
12 Krung Kasem Road, Theves
Bangkok 10200 Thailand
Tel. 2810535

No. AC 1113/ 3197

29 March B.E. 2532 (1989)

Dear Mr. T. Saito,

Subject : Request for Additional Assistance on Model Infrastructure
under the Agricultural Cooperative Promotion Project in Thailand

According to our assistance request for additional construction works in Pak-Thong-Chai and Muang-Nakorn-Rachasima; it was agreed by Mr. M. Omiya, short-term expert in Civil Engineer, as his letter No. SV/NG/32/202 Dated March 23, 1989 which attached herewith. The additional works are estimated at the total expenditures of Baht three hundred and ninety-one thousand, one hundred and forty-one (฿ 391,141.-). Details of cost estimation are as follows:

1. Electricity at livestock facilities
 - Pak Thong Chai ฿ 76,435.-
 - Muang ฿ 52,246.-
2. Road pavement with gravel ,50 m.m. thick,
 - Pak Thong Chai ฿ 38,940.-
 - Muang ฿ 19,320.-
3. Improvement of existing canal, in Pak-Thong-Chai, for 880 metres long
 - Excavation and compaction work ฿ 165,000.-
 - Construction of appendant structure ฿ 39,200.-

We, therefore, would like to submit the documents of additional request for assistance as follows:-

1. Details of additional construction works
2. Bill of Quantities.

We greatly appreciate your kind cooperation.

With best regards.

Yours sincerely,

Songyos Narkshamnan
Director General

Mr. Tsutomu Saito
Resident Representative
JICA Thailand Office.

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
THAILAND OFFICE

No. 474/1H

March 30, 1989

Mr. Songyos Narkchamnarn
Director-General
Cooperatives Promotion Department

Dear Sir,

Re: Acceptance of Modification of Construction plan and
Additional Construction Works of the Model Infrastructures
on the Agricultural Cooperative Promotion Project

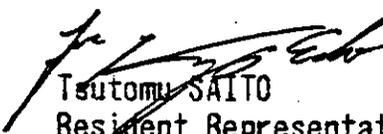
Referring to your letters No. AC 1113/2855 dated March 23rd and
No. AC 1113/3196 dated March 27th, 1989 respectively, we accept your
proposal for changing hen house construction to piggery and additional
construction work.

We would like, therefore, to request you for submitting the
cost proposal in the additional construction of the said infrastructures.
Enclosed herewith are Bill of Quantities for your cost estimation.

According to our proposed implementation schedule for this
project, it should be concluded an agreement between both sides on March
31, 1989. Hence the cost proposal shall be submitted to the JICA
Thailand Office for negotiation on March 30, 1989.

It would be appreciated if you would be kind enough to consider
in this matter.

Sincerely yours.


Tsutomu SAITO
Resident Representative
JICA Thailand Office

追加工事契約書

AGREEMENT

FOR

ADDITIONAL CONSTRUCTION WORKS

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT IN THAILAND

AGREEMENT

for

ADDITIONAL CONSTRUCTION WORKS

CONSTRUCTION ON MODEL INFRASTRUCTURE

ON AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN THAILAND

This agreement is executed on the 31st day of MARCH 1989
at the JICA Thailand Office between

Japan International Cooperation Agency, Thailand Office by
MR. TSUTOMU SAITO Title RESIDENT REPRESENTATIVE as its authorized
representative of the JICA Thailand Office, hereinafter called
"the JICA" of the one part, and Cooperatives Promotion Department,
represented by MR. SONGYOS NARKCHAMNAN Title Director-General hereinafter
called "the CPD", of the other part.

Both parties mutually agree under the terms of this agreement as
follows:-

Article 1. Purpose of Agreement and Contract Price

The CPD agrees with the JICA to perform the additional works for
the construction of two(2) model Infrastructure on Agricultural Cooperative
Promotion Project located at Muang and Pak-Thong-Chai area. For the total
amount of Baht Three Hundred Ninety One Thousand and One Hundred Forty only
(฿ 391,140.-), hereinafter called "Contract Price"

The following documents shall form integral part of this agreement.

Terms and Conditions of this Agreement

Technical Specification (refer to Agreement dated January 20, 1989)

Bill of Quantities and Drawings

Article 2. Payment

The JICA agrees to effect payments for the Additional Works to the CPD in the following manner:-

- a. Advance Payment Baht One Hundred Twenty Thousand only (฿ 120,000.-) which corresponds to thirty (30) percent of the Contract Price shall be paid upon signing of this Contract.
- b. Final Payment To be effected upon the satisfactory completion of the Works by the CPD and accepted by the Engineer.

The remainder of Baht Two Hundred Seventy One Thousand and One Hundred Forty only (฿ 271,140.-) which corresponds to seventy (70) percent of the Contract Price, shall be paid after the Final Certificate by the JICA for payment to the CPD.

Payment shall be effected within the (10) days after the respective acceptance of the Additional Works by the JICA.

Article 3. Completion Time

The CPD agrees to commence the Additional Works at the sites immediately after the date of signing of this Agreement (commencement date) and the CPD agrees to satisfactorily complete the Additional Works within 76 days (completion time) from the date hereof which will become due to on June 15, 1989 (completion date).

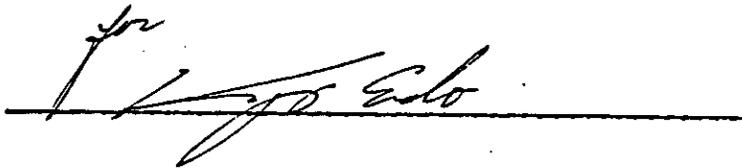
Article 4. Discrepancies among the Agreement Documents.

If, prior to or during the course of the Additional Works, any discrepancies are found in the drawings and/or the Technical specification etc. attached to this Agreement, the CPD shall follow the ruling given by the JICA at no additional cost to the JICA.

Article 5. Acceptance of the Additional Works

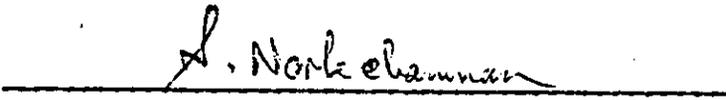
When the entire Works have been completed, the CPD shall submit the invoice in written form indicating the Additional Works actually completed to the Engineer. If there are compliance with drawings or Technical Specifications, the JICA shall accept the Additional Works as the final acceptance of satisfactory completion Works within 10 (ten) days after the receipt of the written form and it shall be deemed that the final acceptance has been made on such date of the receipt the written form.

On the other hand, should non-compliance with drawings or Technical Specifications or defects be found in the Works executed by the CPD, the Engineer will have the right not to accept the Works and to order the rectification of the Works. The final acceptance will be made in the same manner as described in the first paragraph of this Article.



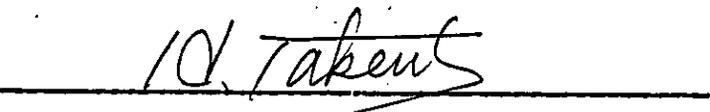
JICA

Mr. Tsutomu SAITO,
Resident Representative
Thailand Office
Japan International Cooperation Agency



CPD

Mr. Songyos NARKCHAMNAN,
Director-General
Cooperatives Promotion Department



Witness

Mr. Hiroshi TAKEUCHI,
Team Leader
Agricultural Cooperative Promotion Project

TERM AND CONDITIONS OF THE AGREEMENT

FOR

ADDITIONAL CONSTRUCTION WORKS-

CONSTRUCTION OF MODEL INFRASTRUCTURE

ON

AGRICULTURAL COOPERATIVE PROMOTION PROJECT

IN

THAILAND

TERMS AND CONDITIONS OF THE AGREEMENT

Section 1. General Information (refer to Agreement dated
January 20, 1989)

Section 2. Submission of Notices

2.1 Work schedule

The CPD shall submit the Work Schedule in following item before the commencement of the Works at the job sites. If the CPD intends to change the Work Schedule, the approval from the Engineer shall be obtained prior to the modification of the schedule.

Electricity at Livestock Facilities (Pak-Thong-Chai, Muang)

Pavement on The Road by gravel (Pak-Thong-Chai, Muang)

Improvement of Existing Canal (Pak-Thong-Chai)

2.2 Notices

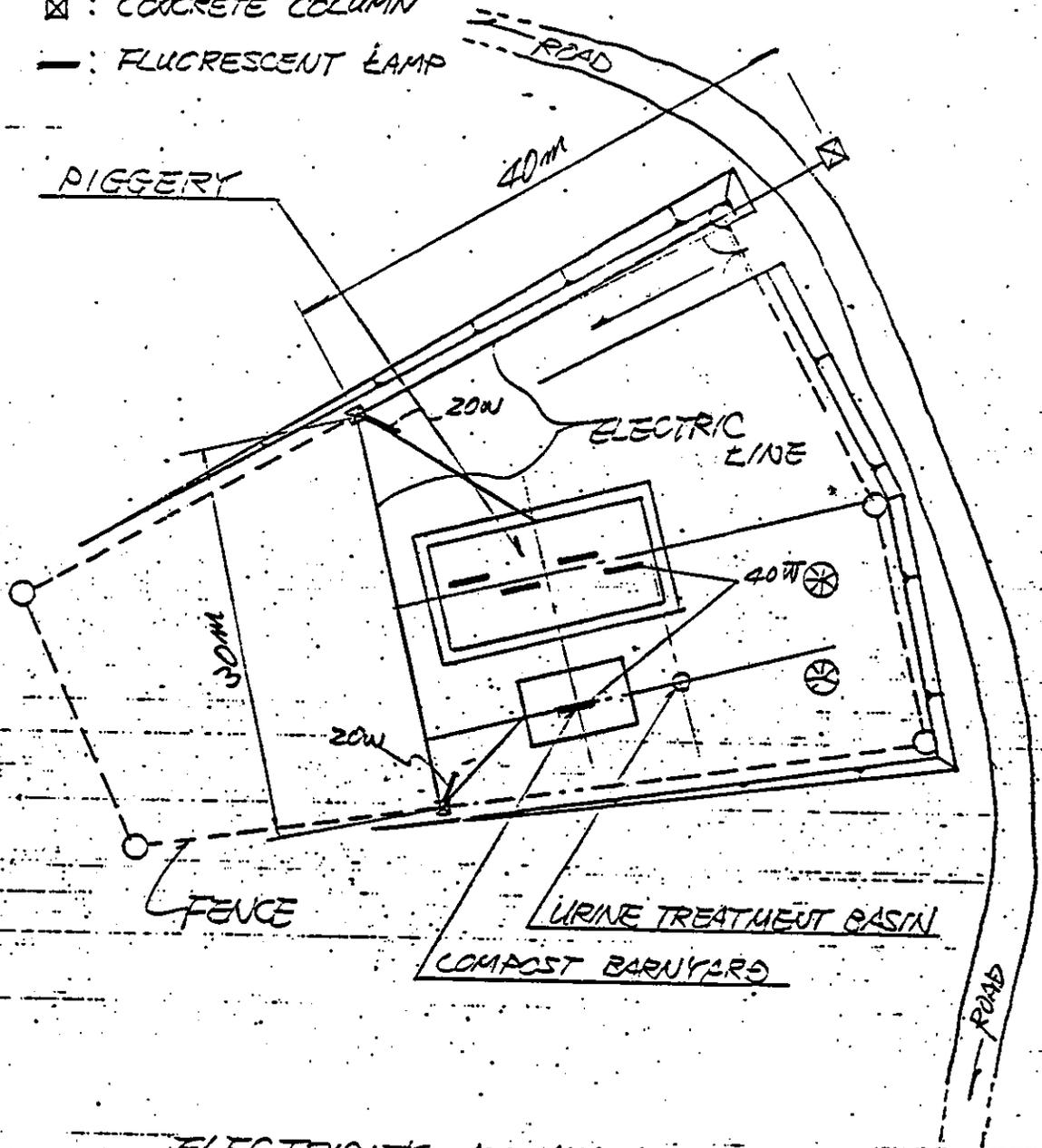
The JICA and the CPD shall submit the notices to each other, as necessary, in accordance with the Construction Agreement Document within reasonable Document and Terms and Conditions of this agreement.

Section 3. Field Test and Inspection (refer to Agreement dated
January 20, 1989)

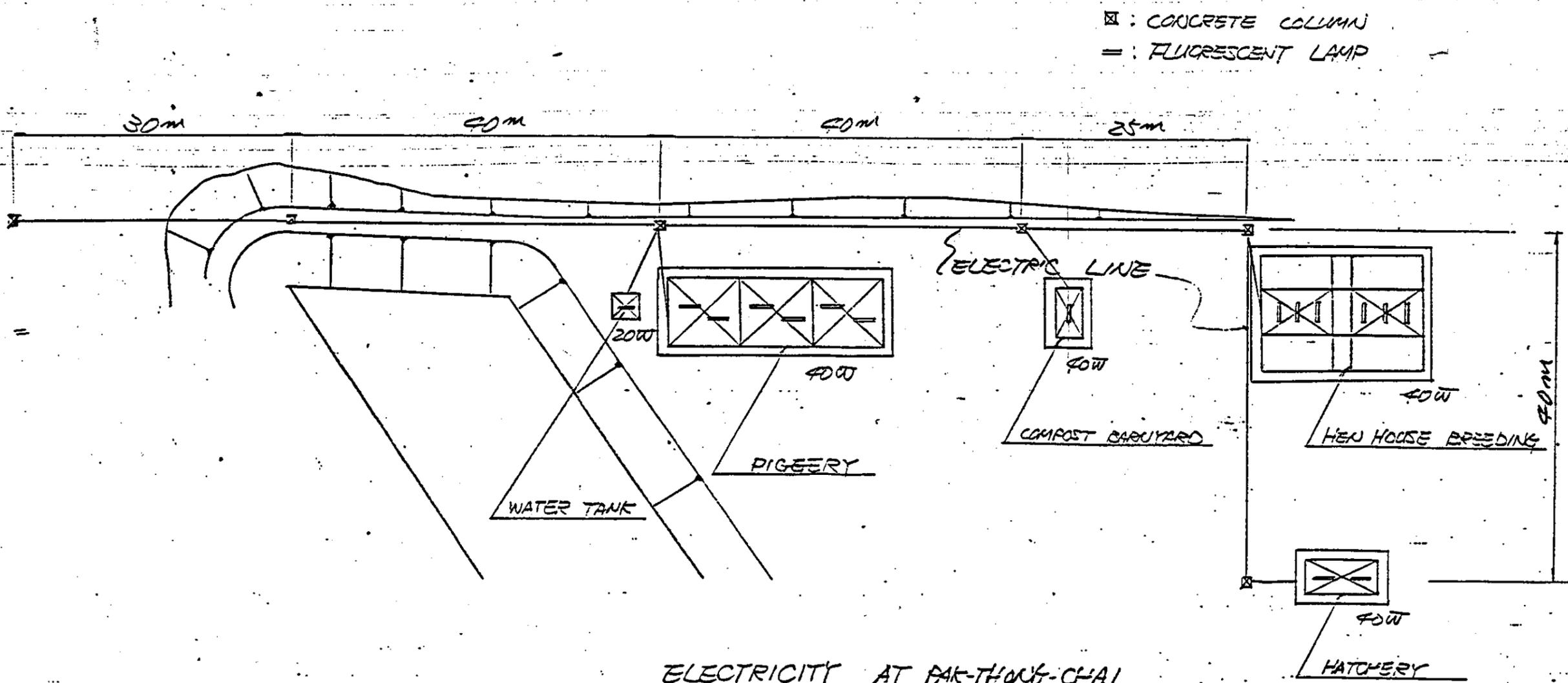
Section 4. Release from the Works (refer to Agreement dated
January 20, 1989)

Section 5. General Obligation of the CPD (refer to Agreement dated
January 20, 1989)

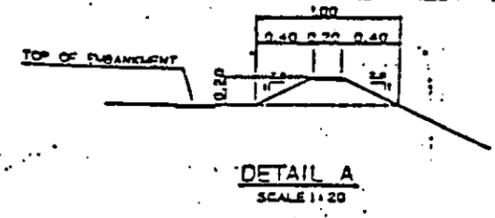
☒ : CONCRETE COLUMN
 — : FLUCRESCENT LAMP



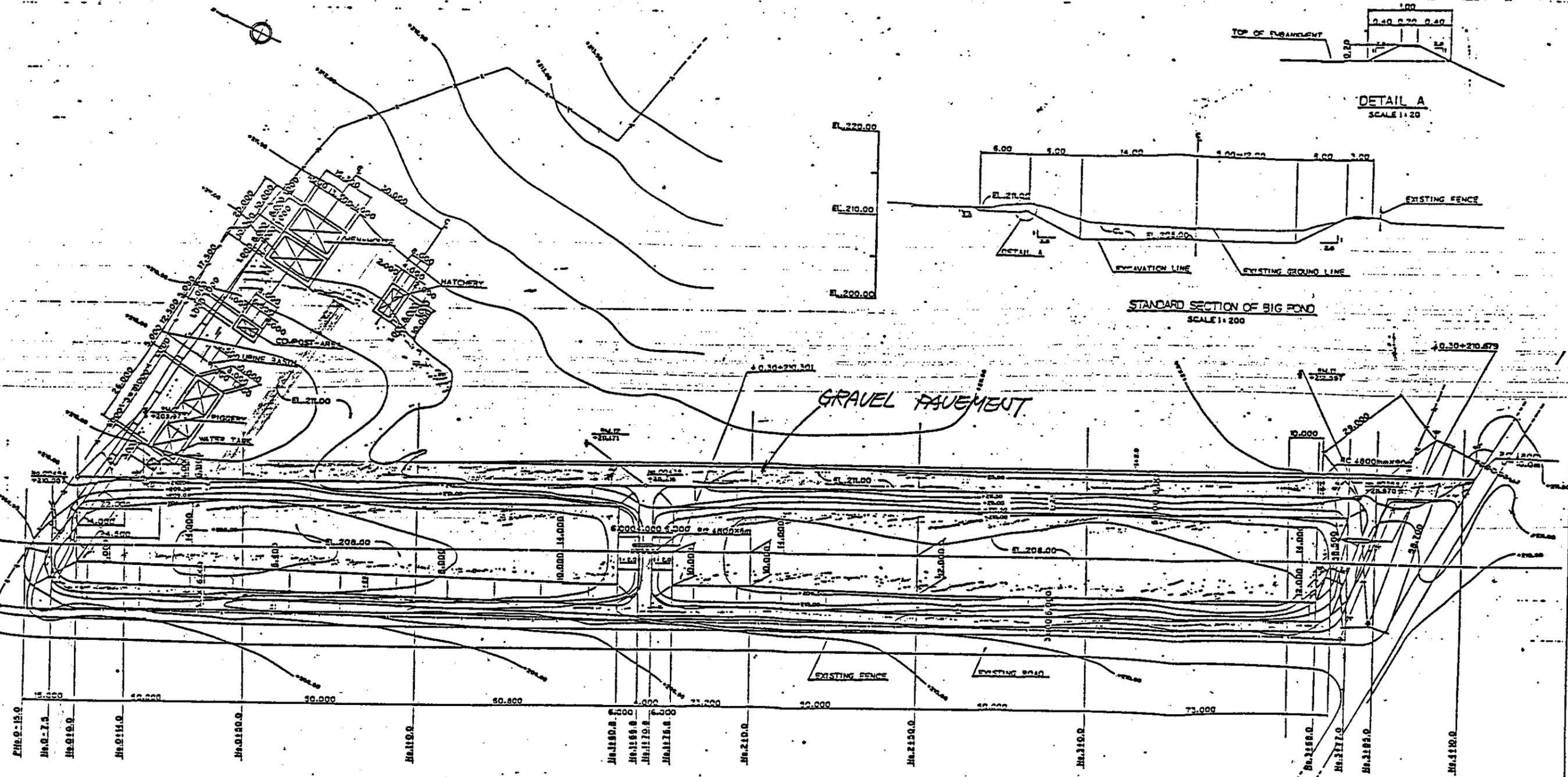
ELECTRICITY AT MUANG
 LIVESTOCK FACILITIES
 SCALE 1:500



ELECTRICITY AT PAK-THONG-CHAI
 LIVESTOCK FACILITIES
 SCALE 1:500



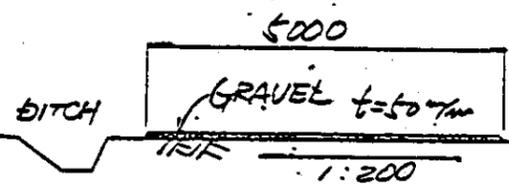
STANDARD SECTION OF BIG POND
SCALE 1:200



GRAVEL PAVEMENT

EXISTING FENCE

EXISTING ROAD



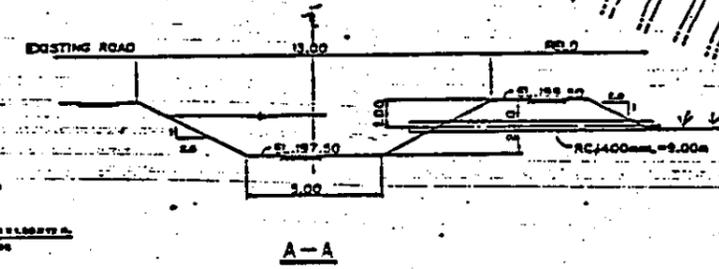
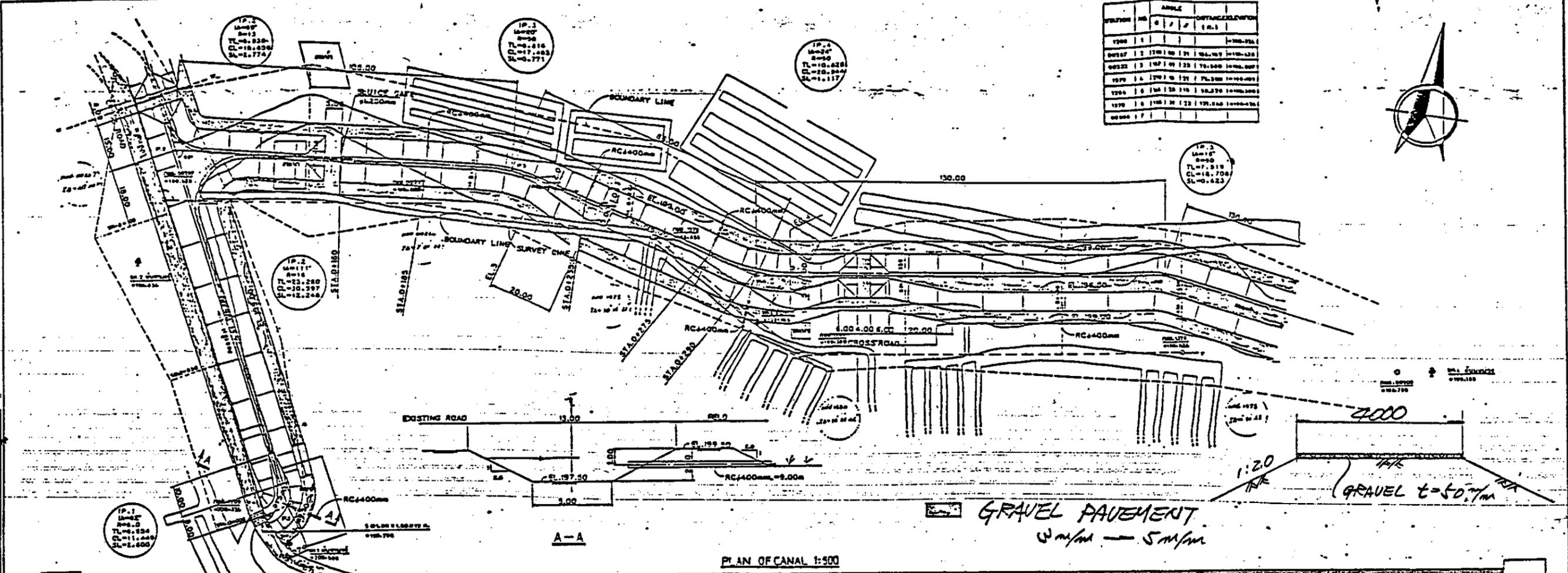
PLANE OF BIG POND & LIVESTOCK FACILITIES
SCALE 1:500

GRAVEL PAVEMENT t=50mm

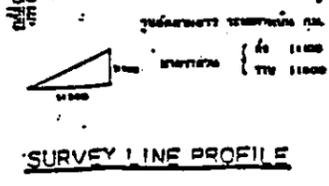
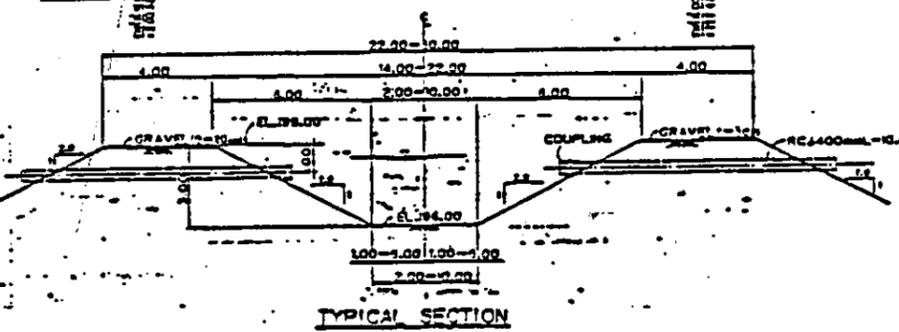
NOTE: 1. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS UNLESS OTHERWISE INDICATED.
2. ABBREVIATION AND SYMBOLS:
C : CENTER LINE
E : ELEVATION

JAPAN INTERNATIONAL COOPERATION AGENCY	
THE DETAIL DESIGN SERVICE	
AGRICULTURAL COOPERATION PROMOTION PROJECT IN THAILAND	
PLAN OF BIG POND & LOCATION OF LIVESTOCK FACILITIES	
PREPARED BY	DRAWING NO.
CHECKED BY	3

STATION	PC	PT	PI	STATION	PC	PT	PI	STATION	PC	PT	PI
1700	1	1	1	1700	1	1	1	1700	1	1	1
1701	1	1	1	1701	1	1	1	1701	1	1	1
1702	1	1	1	1702	1	1	1	1702	1	1	1
1703	1	1	1	1703	1	1	1	1703	1	1	1
1704	1	1	1	1704	1	1	1	1704	1	1	1
1705	1	1	1	1705	1	1	1	1705	1	1	1
1706	1	1	1	1706	1	1	1	1706	1	1	1
1707	1	1	1	1707	1	1	1	1707	1	1	1
1708	1	1	1	1708	1	1	1	1708	1	1	1
1709	1	1	1	1709	1	1	1	1709	1	1	1
1710	1	1	1	1710	1	1	1	1710	1	1	1



Station	PC	PT	PI	Station	PC	PT	PI	Station	PC	PT	PI
1700	1	1	1	1700	1	1	1	1700	1	1	1
1701	1	1	1	1701	1	1	1	1701	1	1	1
1702	1	1	1	1702	1	1	1	1702	1	1	1
1703	1	1	1	1703	1	1	1	1703	1	1	1
1704	1	1	1	1704	1	1	1	1704	1	1	1
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1706	1	1	1	1706	1	1	1	1706	1	1	1
1707	1	1	1	1707	1	1	1	1707	1	1	1
1708	1	1	1	1708	1	1	1	1708	1	1	1
1709	1	1	1	1709	1	1	1	1709	1	1	1
1710	1	1	1	1710	1	1	1	1710	1	1	1

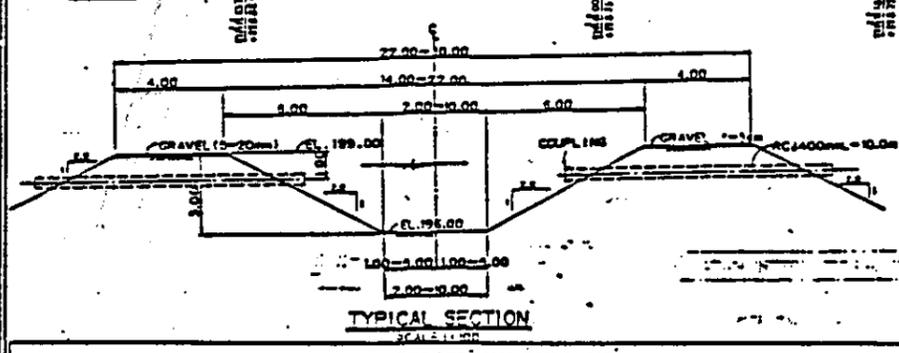
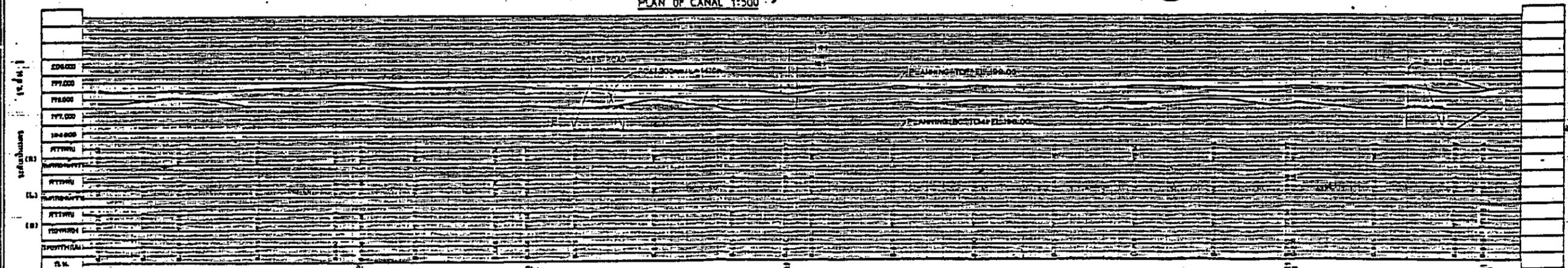
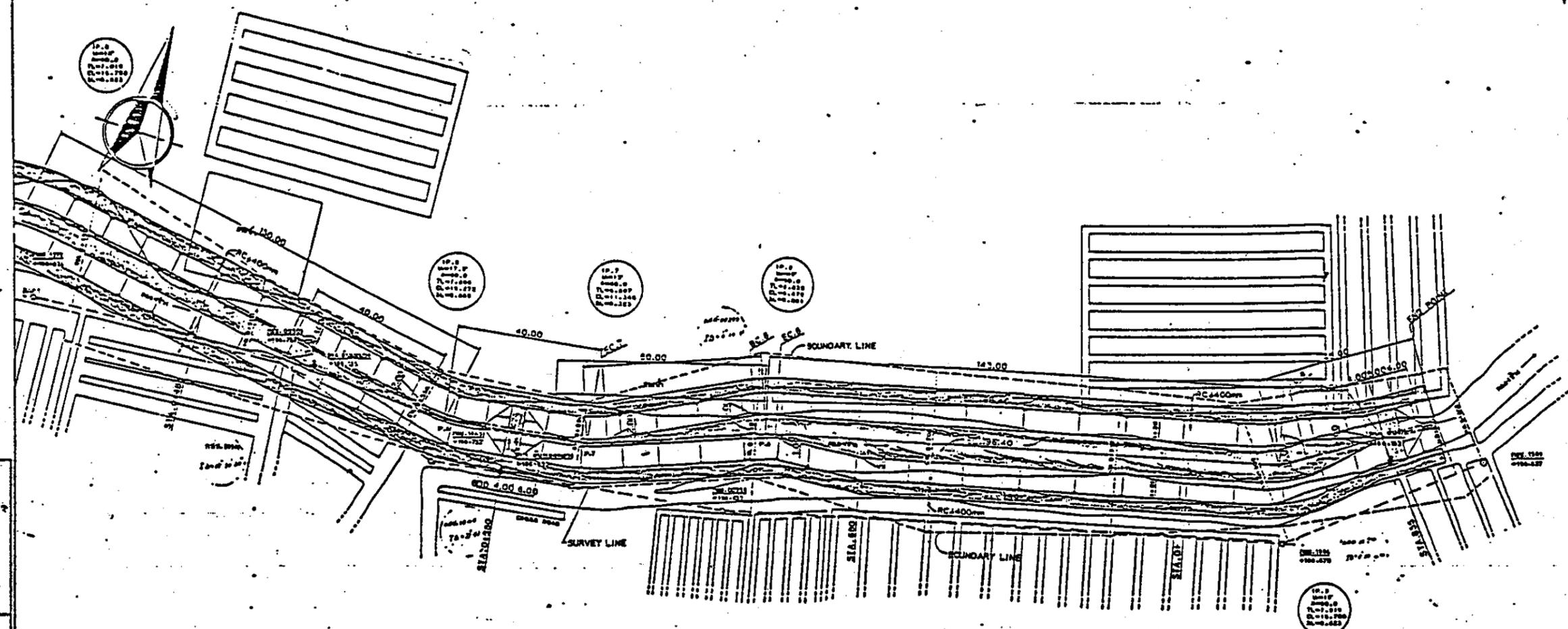


Station	PC	PT	PI	Station	PC	PT	PI	Station	PC	PT	PI
1700	1	1	1	1700	1	1	1	1700	1	1	1
1701	1	1	1	1701	1	1	1	1701	1	1	1
1702	1	1	1	1702	1	1	1	1702	1	1	1
1703	1	1	1	1703	1	1	1	1703	1	1	1
1704	1	1	1	1704	1	1	1	1704	1	1	1
1705	1	1	1	1705	1	1	1	1705	1	1	1
1706	1	1	1	1706	1	1	1	1706	1	1	1
1707	1	1	1	1707	1	1	1	1707	1	1	1
1708	1	1	1	1708	1	1	1	1708	1	1	1
1709	1	1	1	1709	1	1	1	1709	1	1	1
1710	1	1	1	1710	1	1	1	1710	1	1	1

NOTE: 1. ALL DIMENSIONS ARE GIVEN IN METERS UNLESS OTHERWISE INDICATED.
 2. UNDESIGNED AND STIPPLED ARE CENTER LINE
 3. CENTER LINE
 4. CLEARING

JAPAN-INTERNATIONAL COOPERATION AGENCY
 THE SPECIAL DESIGN BUREAU
 FOR
 RECONSTRUCTION AND ECONOMIC DEVELOPMENT PROJECTS IN THAILAND
PLAN OF CANAL (D)
 PREPARED BY: _____ DRAWING NO.: _____
 CHECKED BY: _____

STATION NO.	ANGLE	DISTANCE (METERS)
1771	1	
00000	17	1077.20 20 21.737 2000.700
1000	18	1100.00 20 22.366 2000.700
00720	18	1177.66 20 23.466 2000.700
1000	19	1277.13 20 25.000 2000.700
1001	19	1387.07 20 27.000 2000.700



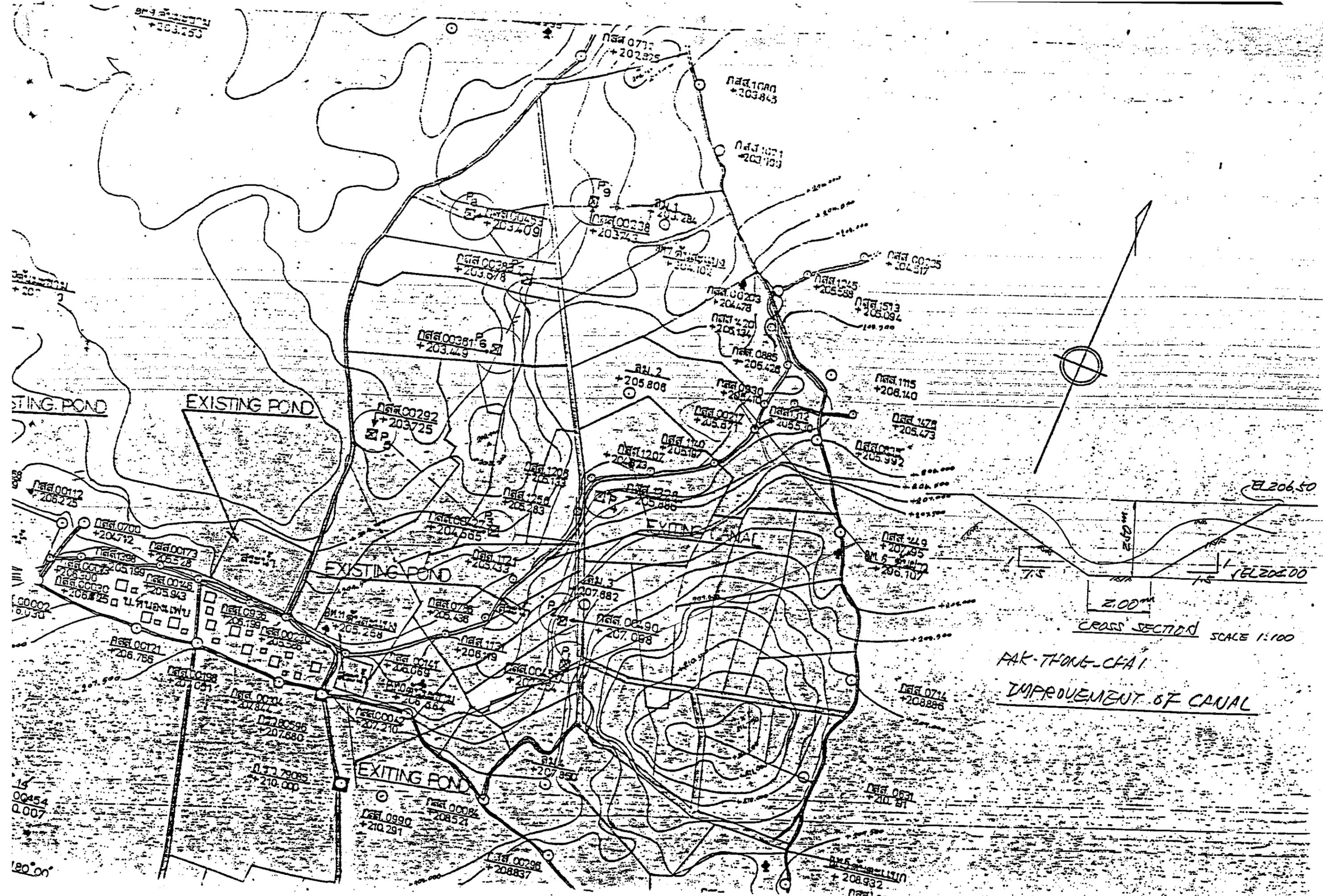
STATION	1	2	3	4	5	6	7	8	9	10
1771										
1772										
1773										
1774										
1775										
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1777										
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1788										
1789										
1790										

- 1. ALL DIMENSIONS ARE GIVEN IN METERS UNLESS OTHERWISE INDICATED
- 2. ADJUSTMENTS AND TURNS
- 3. CENTER LINE
- 4. BOUNDARY

JAPAN INTERNATIONAL COOPERATION AGENCY
 THE BETAH RESERVOIR PROJECT
 AGRICULTURAL COOPERATIVE PROMOTION PROJECT IN THAILAND

PLAN OF CANAL (2)

PREPARED BY: []
 CHECKED BY: []
 DRAWING NO. 14



FAK-THONG-CHAI
IMPROVEMENT OF CANAL

Japan International Corporation A/C 234727



BANGKOK May 12, 1989

1-1-10

PLEASE ONLY PAY TO THE ORDER OF THE BEARER

COOPERATIVES PROMOTION DEPARTMENT

OF BEARER

BAHT 20,000.00

บาท 120,000.00

THE BANK OF TOKYO, LTD.

ธนาคารแห่งไทย จำกัด

62 ถนนสีลม กรุงเทพมหานคร

Handwritten signature

เลขที่เช็ค No. # 2108867	หมายเลขบัญชี Office No. 100001	เลขที่บัญชี Account No.	สำหรับเจ้าหน้าที่ Per Official Only
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175073587



No. AC 1113/ 5498

Cooperatives Promotion Department

24 May B.E. 2532 (1989)

Dear Mr. T. Saito,

Enclosed please find the receipt No. 41 Book No. 3647 to acknowledge the cheque of Bank of Tokyo No. 2108867 dated 21 May 1989 in the amount of $\text{฿} 120,000$ for the additional cost of construction of model infrastructure in Pak Thong Chai and Muang Nakorn Rachasima District.

We greatly appreciate your kind cooperation.

With best regards.

Sincerely yours,

Saparp Sevensai

Deputy Director General

Mr. Tsutomu Saito,
Japan International Cooperation Agency (JICA)
1674/1 New Petchburi Road,
Bangkok 10310



เล่มที่ 3647

เลขที่ 41

ใบเสร็จรับเงิน

ในราชการกรมส่งเสริมสหกรณ์

ที่ทำการ นครราชสีมา

วันที่ 18 เดือน พฤษภาคม พ.ศ. 2532

ได้รับเงินจาก Japan International Cooperation Agency (JICA)

เป็นค่า 50,000 บาท ที่รับจากเงินช่วยเหลือของกรมส่งเสริมสหกรณ์ กระทรวงมหาดไทย จำนวนเงิน 51,120 บาท

จำนวนเงิน 120,000 บาท - สตางค์ (ตัวอักษร หนึ่งแสนสองหมื่นบาทถ้วน)

ไว้เป็นการถูกต้องแล้ว (เจ้าพนักงานเงินโทเกียรติ สวัสดิ์ เลขที่ 2108864

ณ. 12 พฤษภาคม 2532)

(ลงชื่อ) *A. M. S.* ผู้รับเงิน

(ตำแหน่ง) หัวหน้าแผนกเงิน

6-3 施工監理關係

6-3-1 工事実施状況報告書

工事実施状況報告書 (その1) (1989年2月4日)

月日(曜日)	29(日)	30(月)	31(火)	2/1(水)	2(木)	3(金)	4(土)
天候	晴	晴	晴	晴	晴	晴	晴

月日	作業記事及び監督・指示事項	備考
1.29	<ul style="list-style-type: none"> 施工重村 Pak-Thong-Chai job site ~ 移動. Big pond 水路, 掘削開始. 基礎整備 at the 敷地 整地 盛土 掘削 at the 敷地 設定 	
1.31	<p>Muang job site 水路 水路之開始.</p>	
2.4	<p>中村玉井 休性. 両地区作業終了.</p> <ul style="list-style-type: none"> Pak-Thong-Chai Big pond 地敷部 に 20m 露出 以上, 掘削難行. 	

工事実施状況報告書 (その2) (1989年2月11日)

月日(曜日)	5(日)	6(月)	7(火)	8(水)	9(木)	10(金)	11(土)
天候	晴	晴	"	"	"	"	"

月日	作業記事及び監督・指示事項	備考
2.6	Big pond 掘削・盛土レイアウト 及びレベル設定	
2.8	池敷・セパ-レイ-ルを確認し池敷に、ハグを 20m 打ち、ELを記すことにより指示。	
9.	池敷、露出岩の位置、大きさ等把握するため Cross sectionを測りよりに指示。	
	10外干パイ、高倉共同飼育施設建設のため 盛土	
	UP2. 水路改修のため、掘削前整地。 ポンプ、排水系統行改修のため、泥沼化する ところあり、ダブル走行、難行。	
10.	UP2. 不外施設設干野菜圃場の位置決定。 100m 1本、10m 4本。	
	10外干パイ pond の掘削開始。 作業手順 1次掘削、池敷形成 2次 " " 面 "	
	敷均心、転圧、 2-7-22に組み実施	

工事実施状況報告書 (その3) (1989年2月18日)

月日(曜日)	12(日)	13(月)	14(火)	15(水)	16(木)	17(金)	18(土)
天候	晴	"	"	"	"	"	"

月日	作業記事及び監督・指示事項	備考
2.14 -19	<p>Big pond 掘削 30%完了。 盛土転圧 敷均 20%完了。 高層建設所 盛土転圧</p> <p>10号外工場の Pond 掘削 池No. No. A-1, A-2, A-11, A-12, A-13, A-15, A-17, A-18, A-14 TYPE A+A (10+30)%完了。</p> <p>14. 4号 水路掘削開始。 水路路線一部変更。境界線の記入が不明。 セグメント修正測量仕訳決定</p> <p>10号外工場の 各種高層建設資材供給の件について。 トヤ小屋から下り小屋に変更したとき、X200-500-700の 要望あり。これを受入れ、この旨に付、X100 各種の 意向を確認。卒園中に決定する旨に要請。 変更について、要望書と同時に、資材供給の件も 高層建設に付する誓約書(X200-各種連署)を 提出を指示。</p>	<p>Cross section of 貯水量掘削量算出 2.15-16.</p>

工事実施状況報告書 (その4) (1989年2月25日)

月日(曜日)	19(日)	20(月)	21(火)	22(水)	23(木)	24(金)	25(土)
天候	晴	"	"	"	"	"	"

月日	作業記事及び監督・指示事項	備考
2.20	<p>Big pond の平面形状、直線 進道路の EL 決定 (EL 211.50) 路面、砂利舗装 (t=10cm) を追加工事とする 検討。 (石高台施設への取付道路の舗装も含む) 高台建設箇所 盛土直線。勾配敷均し。 1107L2701 Pond 掘削。 TYPE(A+B) (20+70) 完了。</p>	
23	<p>472 高台建設予定地 整地 盛土開始 (EL 200.30) 盛土は、村内への所有地を拡張する ため流出土を流用。 米路 踏線内南側に、R10水路より引取れた水 による泥溜り対策 (大型ポンプ) (4527併用)</p>	
24	<p>1107L2701 共同施設建設資材入荷。 CT1007. 研石. 給水管. Yakuha 等。</p>	
25	<p>472 高台、L1701 変更 (柱木の考慮) 測量、盛土箇所指示。</p>	

工事実施状況報告書 (その5) (1989年2月7日)

月日(曜日)	26(日)	27(月)	28(火)	3(水)	2(木)	3(金)	4(土)
天候	晴	"	"	"	"	"	晴雷

月日	作業記事及び監督・指示事項	備考
2.27	10号外干台 塗材投入 EVA. 木材等. 畜舎建設 Compost barnyard 開始	2
28	Pond 掘削. 二次掘削に切り替 P-13, P-14 (P-14 完了敷均心. 盛土転圧) 畜舎. Hen House breeding 建設開始. 周囲. 支柱太さ変更指示.	
3.1	Compost barnyard 屋根 yakkon 吹き (2日完了) 4P2. 水路 本工区排外 続行 始末部 在岸 既存地は. 7.5m. 道路 狭く 地裏に 新設 した 地を 設け 野糞用場 Pipe 設け 所 測量 干し 設定.	
3	水路 掘削 開始. 排水 境界線 工事. センター 変更 箇所 固化 指示. 10号外干台 Pond P-15. 転圧 敷均心 P-11 二次掘削. P-13 二次掘削完了	
4.	10号外干台 Hen House breeding 1 棟 柱 設け 完了. 4P2 水路. 本工区排外 続行 泥溜 状態.	

工事実施状況報告書 (その6) (1989年3月11日)

月日(曜日)	5(日)	6(月)	7(火)	8(水)	9(木)	10(金)	11(土)
天候	雷・晴	曇・雨	曇・晴	晴	"	"	"

月日	作業記事及び監督・指示事項	備考
3.5	本朝の雷雨大雨に付、pond掘削の面は、 p-11の浸食が見られたため、その面整形転圧を指示。	
6	109外干の Hatchery breeding habitat 及び pond P-11, 12, 13 二次掘削完了。	
8	pond P-18. 敷地の整地 P-1, 2. 二次掘削 P-10 当初の下り土不固に付、位置変更。 4P2 重機による故障掘削一時中断 7P4-9-125の整地作業EPIに向って続行。	
9	4P2 pond 位置確定のための埋量指示 重機足廻り付着土取り作業に付、投入を指示。 水路掘削中の面からの浸透水対策 大型ポンプ排水継続	
10	4P2 水路二次掘削開始。堤防部に面整形 ポンプ排水続行 pond P-2, 4, 6 位置確定埋量の設定	
11	109外干の Hatchery 建設開始。 X-10の7-1-10各箇所の貯水舎建設に付、誓約書及び 4箇所の貯水舎に付、誓約書215より希望書 受領	

工事実施状況報告書 (その7) (1989年3月18日)

月日(曜日)	12(日)	13(月)	14(火)	15(水)	16(木)	17(金)	18(土)
天候	晴	"	"	曇	晴	曇	晴

月日	作業記事及び監督・指示事項	備考
3. 13.	<p>4P2 水路 始末部右岸側砂の1面掘削 高倉 Yahha 搬入 110外干の Piggery 建設開始 Hatchery Yahha 吹き出し Pond P-3 二次掘削にわたる P-4 2面 clay soil 搬入 木柵交換作業 P-13 敷均し 草刈</p>	
14	<p>4P2 高倉 Compost buryard 建設開始 所用木材の調整 9-24 完済の開始 (盗難防止)</p>	
16	<p>110外干の Pond P-11, 12 敷均し P-3 スロープ形成 P-6 二次掘削 4P2 高倉 Piggery 建設開始 周囲と見比べ、位置を2次より指示</p>	
17	<p>4P2 Compost Yahha 吹き出し 補施設 110等資材搬入 丁場+110等基作り作製 Piggery 柱設り 周囲フェンス柱設り開始 110外干の Han House breeding 全網張り</p>	
18	<p>4P2 水路 盛土高 2199m 測量設案 掘削残土敷均し</p>	

工事実施状況報告書 (その8) (1989年3月26日)

月日(曜日)	19(日)	20(月)	21(火)	22(水)	23(木)	24(金)	25(土)
天候	晴	雨	晴	晴	晴	晴	晴

月日	作業記事及び監督・指示事項	備考
3.19	<p>472 水路 44面形成</p> <p>IP 5-6 地盤まで底部水路敷掘削完了。</p> <p>不仕施設 試作パイプを設けるが、遅く行かず。</p> <p>明日までに調整終了の指示。</p> <p>ワヤ取付け作業方法を検討するとの指示。</p>	
20	<p>110外2701 Piggery 棟木設け、接続部分の補強を 行わせる指示。</p> <p>Pond P-6, 7 二次掘削完了。敷均し整地。</p> <p>P-4, 9-12, Pond 仕舞。確定図面作製依頼。</p> <p>472 水路 パイプの掘削継続中であるが、 前は率の遅い。足廻りも悪く、パイプは止。 Piggery 屋根基を設け、yahko吹き。 大型ホウ排気管を進行。</p>	
21	<p>110外2701 Pond P-1, 2, 3, 4, 6, 7 完了。 P-9 二次掘削。</p> <p>Piggery 屋根基を設け yahko吹き (25日)</p>	
22	<p>472 不仕施設 作製(14所)済不仕設けるが、 遅く行かず。(全部1割合で済む。取付け用図面を) 設け方法を検討する指示。</p>	
23	<p>110外2701 Pond P-8 二次掘削 敷均し</p>	
25	<p>water tank コンクリ柱設け完了</p> <p>Pond P-10 掘削開始。</p> <p>(バンクホウ一台 設置不能となり 互降車石)</p> <p>472 Piggery 盛土高さ調整</p>	

工事実施状況報告書 (その9) (1989年4月1日)

月日(曜日)	26(日)	27(月)	28(火)	29(水)	30(木)	31(金)	7/1(土)
天候	晴	晴	晴	曇	曇	雨	晴雷

月日	作業記事及び監督・指示事項	備考
4.31	<p>4P2 水路 土留. 水路敷部掘削進行 高層 piggery 床土の打込前整地完了. 土留の掘削開始.</p> <p>110外土留 water tank 足場工の打込完了. piggery 床土の掘削. Urin drain 部 "</p> <p>pond 掘削 100% 完了. " 盛土. 軽圧敷均し 80% 完了. " 110土留 設干 120% 完了.</p> <p>4P2 水路. 掘削 60% 完了. " 側道 盛土. 軽圧 50% 完了. " Cross road 110土留 設干 120% 完了. 型枠用木材の盗取の発生. 出庫形に影がさす.</p>	

工事实施状況報告書 (その11) (1989年7月15日)

月日(曜日)	9(日)	10(月)	11(火)	12(水)	13(木)	14(金)	15(土)
天候	晴雨	晴	"	"	"	"	"

月日	作業記事及び監督・指示事項	備考
9	107外下パイ Big Pond 外周車道 107外下パイ Pond 107外下パイ 布設継続 472 水路 107外下パイ 雨降のため作業不可能 Piggery Urindrain 基工打ち上げ Urindrain 20-70 1/200 → 1/100	
10	107外下パイ Pond P-16 107外下パイ 布設完了 472 Piggery Well 掘削 (掘削深 3.10m) 周囲コンクリート入り部 除却完了 水路 cross road 107外下パイ 布設完了 埋戻し完了 2ヶ所	
11	472 Urindrain 型枠用木材不足のため作業一時休止 (搬入を急ぐよう指示) (シンクタンク 2ヶ所、レグ 12ヶ所 取付完了 作業進行) 中二部 除却完了	
12	113外下パイ Big Pond 敷均し、車道 Piggery 床工打ち上げ準備 各供給管 管球一部 (8ヶ所) 各柱を埋め戻し 搬入 12 中間検査	
13	4273-2 木目 107外下パイ Big Pond 車道、外周 整地 継続 一度 E.C. 打ち上げ 指示	
14	雨地区 高層建設 休止 Pipe 乾干	

工事実施状況報告書 (その12) (1989年9月22日)

月日(曜日)	16(日)	17(月)	18(火)	19(水)	20(木)	21(金)	22(土)
天候	晴	晴	晴	"	"	"	"

月日	作業記事及び監督・指示事項	備考
9.17	110外2701 Big pond 作業継続 取入パイプ設け部の修繕。 (道路下の布設には、預費が必ず必要の旨を) 季に注意 4P2 水路 Cross road スロップパイプの 転入口整形 4P1 110外設け部修繕終了。 18. 4P2 Piggery Food Box 設け開始。 Urn drain 工事終了。 110外2701 Big pond 中継パイプ設け完了。 取入パイプ基礎修繕終了。 ホウワダホウパイプ " 進入路側溝掘削。	
20	110外2701 各部資材供給運送(豚舎) 季修説明。(共同作業指示) TYPE B P-4122 運送に備える新画策。 4P2 水路、側溝のレベリング。 pond 築り3ヶ所5ヶ所決定し4P外修繕 110外2701 重機 10ヶ所 - 1台 4P2へ移動 地は、2ヶ所 - 3 - 85並、引き上げ	
21	110外2701 Hatchery 700ヶ所 積床終了。 22. Piggery 床工終了。 Big pond ホウワダホウパイプ設け完了。 4P2 pond P-1 掘削開始。(1ヶ所3日) 水路、水路側溝周囲 整地 4P1 取付部工終了(鉄筋組立 (本数、図面指示) Lateral canal 掘削開始	

工事実施状況報告書 (その心) (1989年9月29日)

月日(曜日)	23(日)	24(月)	25(火)	26(水)	27(木)	28(金)	29(土)
天候	晴	晴曇	晴	晴曇	雨曇	晴	"

月日	作業記事及び監督・指示事項	備考
23	<p>4P2 Piggery Food Box 設置完了 Pond P-1 転圧 敷均 P-3 掘削。 Piggery well 掘削完了、10ヶ所設置完了。 10ヶ所中1ヶ所 Hatchery 天井張(耐熱シート) 各部屋建設開始 ナベヤカ-105子 5ヶ所 設置高さ決定 2ヶ所 1ヶ所 設置開始。 4P2 水路 Cross road R1D1 水路等 割地 形成 4ヶ所 設置部 10ヶ所 105子 4ヶ所 掘削。</p>	
24	<p>4P2 Pond P-6 掘削 10ヶ所 105子 2ヶ所 投入 P-5 " 盛土高さ 池敷高さ 調整 105子。畑造成用土の 運土の必要量を 105子に 設定 105子) の指示。 Piggery 周囲 整地 転圧。</p>	
25	<p>4P2 取入 10ヶ所 φ400 布設開始 Pond P-6.5 敷均 転圧。 10ヶ所中1ヶ所 Pond 20ヶ所 7ヶ所 2ヶ所 P-10 1ヶ所 開始</p>	
26	<p>道路工事 水路 掘削 1ヶ所 踏線 測量 指示。 4P2 Piggery 高倉 入口 1ヶ所 設置開始。4ヶ所 取付。 10ヶ所中1ヶ所 高倉 建設は、少人数で実施 地盤 10ヶ所。 20ヶ所 7ヶ所 2ヶ所 2ヶ所 作業へ 投入 (雨の 止まず)</p>	
27	<p>4P2 Pond P-2.4 掘削 水路 4ヶ所 底版部 鉄筋 組立 作業 (2ヶ所 分) 10ヶ所中1ヶ所 各部屋建設 TYPE B P-14 4ヶ所 建設 共同作業 開始。</p>	

工事実施状況報告書 (その1) (1989年5月6日)

月日(曜日)	5/6(日)	5/7(月)	5/8(火)	5/9(水)	5/10(木)	5/11(金)	5/12(土)
天候	晴	晴	晴	晴	晴	晴	晴

月日	作業記事及び監督・指示事項	備考
5.2	<p>4P2 水路取入小(10)P布設完了.</p> <p>Piggery 遊工車. 電気照明設備器具取付中.</p> <p>10外干パイ 各P建設予定. 共同作業に参画.</p> <p>X-10-10uとX-10-20uとの対策検討.</p> <p>4P2 Pond 掘削. 転圧. 敷均し完了.</p> <p>Lateral canal 掘削. 4P面整形完了.</p> <p>水路敷均し. 転圧. 敷均し. 指示.</p>	
3.	<p>10外干パイ. TYPE B 橋涵. 2P Yakuha 吹き完了.</p>	
4.	<p>両地区共 休付. 及び. X-10-10uとX-10-20uとの対策. 作業に 出ている. 一時休止状態.</p> <p>4P2 Piggery 掘削. 干パイ. 転圧. 敷均し. 指示.</p> <p>10外干パイ 追加工事. 水路改修. 作業開始. 一次掘削前. 10外. 敷均し.</p> <p>Pond. P-18. X-10-10uとX-10-20uとの対策. 各P建設. 共同作業. 指示.</p>	
5	<p>4P2 水路. 4P工事. 部. ポンプ. 排水.</p> <p>Pond P-2, P-5. 敷均し. 転圧.</p> <p>10外干パイ. X-10-10uとX-10-20uとの対策. P-13.</p>	
6.	<p>4P2 水路. X-10-10uとX-10-20uとの対策. 入力. 転圧.</p> <p>大雨. 10外. 排水. 指示.</p>	

工事実施状況報告書 (その15) (1989年5月13日)

月日(曜日)	7(日)	8(月)	9(火)	10(水)	11(木)	12(金)	13(土)
天候	晴	☞	晴時雨	晴	曇	晴	曇時雨

月日	作業記事及び監督・指示事項	備考
5. 7	昨夜雨降下河川は野湯川に排水。AP2水路。始末部ヤト工事工止りト打ち準備作業。Pond P-1, 11, 12 設りスロープ作り終了	
8	10外2パイ 造り工事水路掘削(10パイ木杭投入)開始。Pond P-11, 12 スロープ作り終了。各貯水舎建設工止りト柱設り18ヶ所完了。TYPE B P-14 1棟目作り終了。2。床工止りト打ち。A P-5 柱設りヤネ基り設り。AP2 周辺整備整地	
9	野湯川排水続行。AP2 水路下流終了部接続部4ヶ所整形盛土転圧完了。10外2パイ 共同作業 P-14, 15, P-5 Pond P-1, 2 スロープ作り終了	
10	AP2 水路工止り作り排水。始末部ヤト工事。鉄筋組立セト。打ち打ち。10外2パイ 水路掘削。P-4 付近掘削。Pond P-4 スロープ作り終了。共同作業 P-14 作り終了 P-15 Yakuha 小。P-13 ヤネ基り設り。P-5 Piggery 舎。電気照明設り設り9箇所。	
11	AP2 水路始末部ヤト工事。底版部工止りト打ち。(1パイ2パイ工止りト使用) 10外2パイ 共同作業 P-16, 15。	
12	AP2 水路終了部ヤト工事。型枠セト(13箇所)	
13	10外2パイ 造り工事1次掘削完了。14箇所2次掘削	

工事实施状況報告書 (その16) (1989年5月20日)

月日(曜日)	14(日)	15(月)	16(火)	17(水)	18(木)	19(金)	20(土)
天候	曇・雷雨	曇・晴	曇・晴	曇・晴	曇	曇・時雨	曇

月日	作業記事及び監督・指示事項	備考
5.14	10外干の水路(造り工事)二次掘削終了。 pond 20-707070707 P-5 取付作業 P-13, P-5 yakkaw 付	
15	4P2 水路側道 砂利鋪設 4L2井 白KCL 投込(15日) 4P2 昨夜の雷雨により、作業不可能 休止。進入路の乾い等。 10外干の pond 20-707070707 P-5 終了。 水路掘削(二次)終了。敷均の転圧。 piggery 1次休止 2L2作業のやり直し	Food box 設け 可能 water tank 付
16	4P2 水路4L1部 10外干 取付 pond 20-707070707 P-2 10外干の水路二次掘削終了 2L2調整 高舎 piggery water tank	1L2部は雷雨により 休止のやり直し
17	4P2 水路4L1部 設け鉄筋組立 進入道路 7L2付 pond 20-707070707 10外干の Big pond 周囲石次柱設け。20-707070707 水路 盛土 敷均の転圧 高舎 P-1 yakkaw 付 P-6 完 取付場跡 整地を指示	
18	4P2 水路 cross road 部 20-707070707 設け開始 pond P-2 2L2面形成手直し 水路 砂利鋪設 敷均 4L1部 2L2面鉄筋組立 型枠也(下流部)	
19	10外干の 造り水路 10外干 取付 盛土 転圧 整地 Big pond 流入口・流止防止設け piggery Food Box 設け完了(20日) 高舎 P-1 yakkaw 付 完 P-2 柱設け 造り水路 土工事 20日 完 2L2 2L2 掘削完了	

工事実施状況報告書 (その7) (1989年5月27日)

月日(曜日)	21(日)	22(月)	23(火)	24(水)	25(木)	26(金)	27(土)
天候	曇	曇	晴	晴	曇雨	曇雨	曇雨

月日	作業記事及び監督・指示事項	備考
22	107外干パイ Piggery等共同施設周囲整地 造り工事 砂利鋪設開始。 Big pond 周リ 及び 埋設 Urm drain 工割-ト仕上	
23	107外干パイ 電気照明設置 配電柱穴掘削。 UP2 水路 下流部 外トの4面 工割-ト仕上 (22日) 壁部 鉄筋組立 型枠セキ	
24	107外干パイ 共同施設仕上作業 Food box 若干手直し指示。 造り工事 水路 107外干パイ 20-70070222 埋設工事 UP2 水路 上流部 外ト部分の4面 鉄筋組立	
25	107外干パイ Piggery Food box 手直し。 造り工事 107外干パイ UP2 水路 20-70070222 上流部 外ト部分の4面 鉄筋組立 若干準備。	
27	107外干パイ 造り工事 中ト 107外干パイ 20-70070222 Big pond 及び 埋設 降所 大雨に於て 作業中断 対応。要路 (計画) に 進め) に指示。UP-UP2 雨 遠断。 作業続行を指示するに指示。 UP2 水路 下流部 壁部 型枠セキ 上流部 4面 底版部 鉄筋セキ 工割-ト仕上 及び 作業	

工事実施状況報告書 (その/8) (1989年6月) (日)

月日(曜日)	28(日)	29(月)	30(火)	31(水)	6/1(木)	2(金)	3(土)
天候	晴-時雨晴	晴	晴	晴	晴-時雨	晴曇	晴雨

月日	作業記事及び監督・指示事項	備考
28.	10ヶ所パイ 各貯水舎 P-10 石積工 柱設工. Yakha吹き完了. Big pond 2ヶ所パイ-3ヶ所. 仕上り. Piggery UP2 水路. 下流パイ部 壁部 型枠撤去	
29	UP2 " " 鉄筋組立	
30	pond P-2 4ヶ所処理 崩壊箇所交換作業. 1日完了	
31	10ヶ所パイ 追加水路 中流パイ部 布設部 スロアゲパイ工	
6. 1	UP2 Piggery water tank base 作業 10ヶ所パイ 各貯水舎建設 P-9, 7, 6 床工 P-5 土留工完了, P-10 Yakha吹き完了	
2.	UP2 水路 cross head 部 2ヶ所パイ工完了. 此パイ部を撤去す.	
3.	UP2 水路 下流パイ部 型枠補強	

工事実施状況報告書 (その17) (1989年6月10日)

月日(曜日)	7(日)	8(月)	6(火)	7(水)	8(木)	9(金)	10(土)
天候	晴時雨	曇時雨	曇	晴	晴時雨	晴	曇

月日	作業記事及び監督・指示事項	備考
4.	UP2 水路下流Y1部型枠補強 工機上打設予定区、右側、高欄の左側、5台車 進入不可となり、対応は必要。 Pond P-2 10台車打設スロップウォーク	
5.	UP2 水路 工機上打設 高欄を進行の指示。 10台車、電機器打設。 給水10台車、ポンプ機打設	
6.	10台車、通水路 Y1部打設。スロップウォーク 上流部 (Big pond) 周囲 土留 踏みかき。 各作業、P-7, 8, 6 床工機上打設 P-4 作業中。	
7.	UP2 水路 上流Y1部型枠組立 下流スロップウォーク 10台車、水路 Y1部工機上打設 上流部	
8.	UP2 水路 上流Y1部型枠組立完了 工機上打設	
9.	スロップウォーク 高欄打設	
10.	10台車、Big pond 土留 踏みかき 通水路 下流Y1部 スロップウォーク	

工事実施状況報告書 (その20) (1989年6月17日)

月日(曜日)	11(日)	12(月)	13(火)	14(水)	15(木)	16(金)	17(土)
天候	晴	晴曇 雨	曇雨	曇	晴曇	曇	曇晴

月日	作業記事及び監督・指示事項	備考
11.	4P2水路 上流側上部 20-70077約2 下流。仕込み piggery water tank hose仕込み	
12.	4P2水路 下流側上部 227-1 575 (仕込み) Vage field 土留 側道仕込み。piggery 仕込み 10外2777 仕込み。補修 2200水路 42上部 579-1 575仕込み 各戸検査。パイプ積 継続	
13.	4P2 10外2777 仕込み。22777777。 工期。竣工検査12/10/12。 追加電気照明工事 配電箱上の 検査完了。	
15.	10外2777 2200水路 42 下流部 2277-1 575 手直し完了。最終仕込み作業。	

現地作業 (田内作業) 施工監理
網査業務 日誌 (89年2月~ 月分)

1. 調査団名 夕日国専業協同組合振興計画 モデルインフラ整備事業 施工監理業務						団長又は 責任者印 <div style="text-align: right; font-size: large; font-weight: bold;">竹内博 </div>
2. 当月の調査業務予定 施工監理						受理日付 1989年 2月 6日 提出日付 1989年 2月 6日 担当業務 施工監理 団員氏名 大宮正広
3. 調査業務実績表						
日 順	月 / 日	曜 日	天 候	宿 泊 地	行 程	調 査 業 務 の 概 要
1	2.6	Mon	晴	BKK	TYO → BKK	TYO 発 動 日
2	2.7	Tue	"	"	"	JICA 挨拶(山下担当) CPD 挨拶
3	2.8	Wed	"	KOAT	BKK → KOAT	移動日 翌日 KOAT 現場 Pak Thongchai 行 (作業地)
4	2.9	Thu	"	"	"	CPD スタブと打合せ (Mr. CHUMAK) Big pond 掘削出来形測量指示
5	2.10	Fri	"	"	"	Muang 出土本ト施設設置位置調査 決定 建設方法検討指示
6	2.11	Sat	"	"	"	内業 図面資料整理 数量検討
7	2.12	Sun	"	"	KOAT → BKK	工事諸費 Mr. Suda へ連絡 BKK へ移動
8	2.13	Mon	"	"	BKK → KOAT	JICA 山下担当と打合せ 現況報告(口頭) 諸費引継完了
9	2.14	Tue	"	"	"	Big pond 中間出来形高算出 今後作業の検討
10	2.15	Wed	"	"	"	" 落積土量算出 他施設図面内容確認検討
11	2.16	Thu	"	"	"	" 出来形現場にて 7. Muang canal せり 決り測量
12	2.17	Fri	"	"	"	" 岩掘測量算出 Muang canal 路線検討
13	2.18	Sat	"	"	"	" 盛土状況確認 7. 資料整理
14	2.19	Sun	"	"	"	休日
15	2.20	Mon	"	"	"	Maha Satcha day 内業 Nagayatel 資料整理
16	2.21	Tue	"	"	"	Pak Thongchai pond TPEA 施工状況確認
17	2.22	Wed	"	"	"	Muang canal 増水時排水パイプ開始 Pond TPEA 確認
18	2.23	Thu	"	"	"	Muang canal 排水状況確認 倉庫予定地盛土高検討指示
19	2.24	Fri	"	"	"	" 大型ポンプ導入 Pak Thong-chai 倉庫資料搬入内容確認
20	2.25	Sat	"	"	"	" 排水状況確認 盛土状況確認 7. 今後作業内容検討
21	2.26	Sun	"	"	"	休日
22	2.27	Mon	"	"	"	Pak Thong-chai 倉庫建設開始 資料搬入状況確認 7. 指示事項伝達
23	2.28	Tue	"	"	"	" 使用木材の適否検討 Muang pipe 資料搬入状況確認 指示

- (注) ① この業務日誌は業務従事の全期間に亘って記入すること。なお、休祭日はその旨記載するだけでよい。
- ② 業務従事期間が30日間未満の場合は1枚に記入し、30日間以上の場合は、各月毎に1枚を用いて記入すること。
- ③ 当月の調査業務の予定は主要事項を簡潔に記入すること。
- ④ 調査業務実績表は毎日の業務終了後に簡潔に記入すること。
- ⑤ 団員は翌月1日に提出し団長又は責任者は点検し押印すること。
- ⑥ 様式の()のうち該当しない箇所は=で抹消すること。

施工監理
 現地作業 調査業務日誌 (89年 〇月 〇分)
 (国内作業)

1. 調査団名 タイ国農業協同組合振興計画 モデルインフラ整備事業、施工監理業務	団長又は 責任者印 竹内博
2. 当月の調査業務予定 施工監理、中間検査準備、追加工事契約資料作成	受理日付 1989年 〇月 25日 提出日付 1989年 〇月 26日 担当業務 施工監理 団員氏名 大宮正広

3. 調査業務実績表						調査業務の概要	
日順	月/日	曜日	天候	宿泊地	行程		
24	〇/1	Wed	晴	KORAT		P. 屋根(等)使用木材の指示、M. 本場設け所設定	
25	2	Thu	"	"		P. pond 施工状況巡視、M. 水路掘削木材指示等?	
26	3	Fri	"	"		M. pond 建設予定地測量指示、canal 等、測量等?	
27	4	Sat	晴・雷雨	"		P. 高倉建設状況巡視、M. 水路排水の状況指示。	
28	5	Sun	雷雨・晴	"		P. 昨夜雷雨時の施工状況影響巡視。	
29	6	Mon	曇・雨	BKK	KORAT→BKK	移動CPDパス JICA 山下へ中間報告提出、打合せ。	
30	7	Tue	曇・晴	KORAT	BKK→KORAT	Mr. 石川 等による空港見学、P. 高倉建設状況巡視、M. 水路掘削状況	
31	8	Wed	晴	"		今後作業内容大枠検討、P. pond 高倉建設状況巡視、指示。	
32	9	Thu	"	"		M. 水路掘削状況巡視、作業催促等請、排水設備指示。	
33	10	Fri	"	"		M. 水路二次掘削状況等?、pond 建設地測量結果等?	
34	11	Sat	"	"		M. 巡視、P. 高倉建設状況巡視、写真等撮影	
35	12	Sun	"	"		休日 (内業の作成)	
36	13	Mon	"	"		P. 高倉柱基の部設置方法検討、pond 巡視、M. 二次掘削状況等?	
37	14	Tue	晴・曇	"		P. 建設状況巡視、木材指示、M. 巡視、二台のポンプ提出再請求	
38	〇/15	Wed	晴・雷雨	"		M. 水路掘削状況巡視、側面保土方法検討、高倉建設巡視、LP-作成依頼	
39	16	Thu	曇	"		M. 高倉柱基干渉指示(正山等)、P. 建設状況巡視	
40	17	Fri	晴・雨・晴	"		M. Vege field 建設方法指示、巡視、P. 側面内管干渉等指示。	
41	18	Sat	晴	"		P. 排水指示、高倉側面巡視、M. ELation 等指示。	
42	19	Sun	晴・雷雨	"		M. Vege field 高倉側面指示、建設による干渉等指示、必要	
43	20	Mon	"	"		P. 高倉 pond 状況巡視、中間検査用図面作成再請求、M. 巡視	
44	21	Tue	晴・曇・雨	"		M. Vege field 等、張付指示、P. 巡視、柱基(高倉側)干渉等?	
45	22	Wed	晴	"		M. Pond 建設干渉等打合せ、Vege 等、張付指示	
46	23	Thu	晴・曇	"		BKK CPD 案件への変更承認要件 Tel による再請求、P. 高倉巡視	
47	24	Fri	晴	"		M. Canal 高倉巡視、中間検査用資料準備、CPD 追加要件の送付。	
48	25	Sat	"	"		P. 高倉 pond 巡視、修理工等?、M. 高倉水路地球状況等?	
49	26	Sun	"	"		休日	
50	27	Mon	"	BKK	KORAT→BKK	12377-移動 JICA-提出打合せ書類作成 JICA 山下等から山下へ打合せ。	
51	28	Tue	"	"		CPDパスの追加工事契約必要書類作成 CPD 19-待ち	
52	29	Wed	曇	"		同前日作業待機	
53	30	Thu	曇・雨	KORAT	BKK→KORAT	追加工事契約関係必要書類 JICA 山下へ提出した後 KORAT へ移動。	
54	〇/31	Fri	晴・雷雨	"		M. P. 高倉建設状況巡視、CPD 12377-追加作業計画等打合せ。	

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施工監理
 現地作業 (国内作業) 調査業務日誌 (89年 5月 ~ 月分)

1. 調査団名 タイ国農業協同組合振興計画 モデルインフラ整備事業・施工監理業務	団長又は 責任者印 竹内 博
2. 当月の調査業務予定 施工監理 (追加工事)	受理日付 1989年 6月 12日
	提出日付 1989年 6月 12日
	担当業務 施工監理
	団員氏名 大宮正広

3. 調査業務実績表

日	期	月 / 日	曜日	天候	宿泊地	行程	調査業務の概要
85	5	1	Mon	晴	BKK	KORAT → BKK	移動 追加工事施工取組検討
86	2	Tue			KORAT	BKK → KORAT	CPD 事務所打ち合わせ報告・今後の作業予定 打合せ
87	3	Wed	晴				M.P. 施工取組監視 CPD supervisor 104 命令進捗状況報告提出準備
88	4	Thu	晴				" 詳細報告作成
89	5	Fri	晴				" M.P. 追加工事の進捗指示
90	6	Sat	晴				M. " 現場の整備作業
91	7	Sun	晴				M. " "
92	8	Mon					M.P. " P. 各作業区間の共同作業取組開始
93	9	Tue	晴				" " M.P. 追加工事の進捗指示
94	10	Wed	晴				" " "
95	11	Thu	晴				" " M. 追加工事の進捗指示
96	12	Fri	晴				M. " 資料整理 打ち合せ
97	13	Sat	曇				M.P. " "
98	14	Sun	曇				M.P. " "
99	5/15	Mon	曇				M.P. " "
100	16	Tue	曇				" " " 打ち合せ
101	17	Wed	曇				" " " "
102	18	Thu	曇				M. " " "
103	19	Fri	曇				P. " " "
104	20	Sat	曇		BKK	KORAT → BKK	休日 移動
105	21	Sun					"
106	22	Mon	曇		KORAT	BKK → KORAT	CPD 事務所打ち合せ 移動
107	23	Tue	曇				M.P. 施工取組監視
108	24	Wed	曇				" " P. 追加工事の進捗指示
109	25	Thu	曇				" " " 資料整理
110	26	Fri	曇				" " "
111	27	Sat	曇				M. " 資料作成
112	28	Sun					M. " "
113	29	Mon	晴				M.P. " "
114	30	Tue	晴				" " CPD 事務所打ち合せ 現場同行 打ち合せ
115	5/31	Wed					M. " 作業完了指示

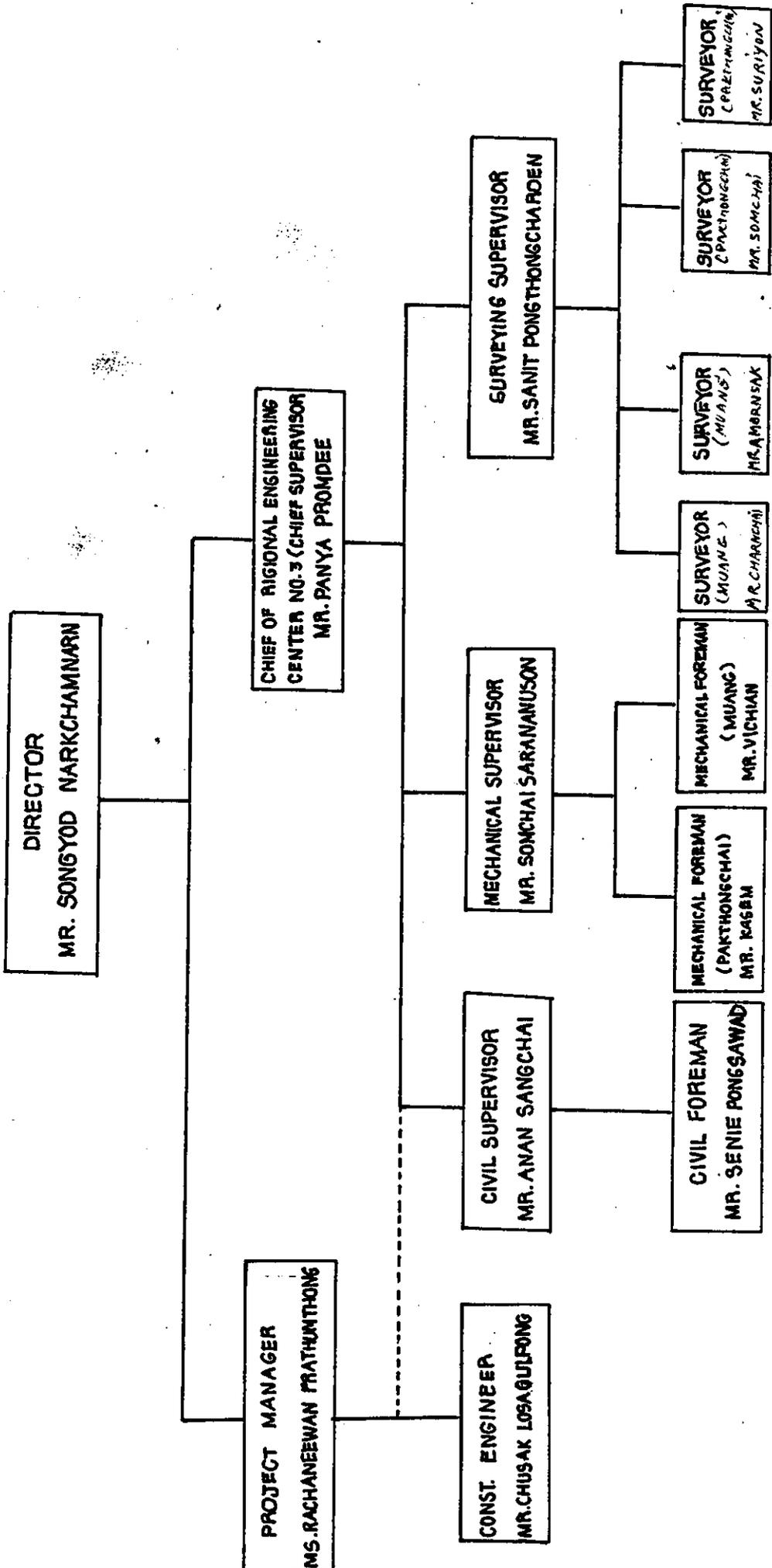
- (注) ① この業務日誌は業務従事の全期間に亘って記入すること。なお、休祭日はその旨記載するだけでよい。
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- ③ 当月の調査業務の予定は主要事項を簡潔に記入すること。
- ④ 調査業務実績表は毎日の業務終了後に簡潔に記入すること。
- ⑤ 団員は翌月1日に提出し団長又は責任者は点検し押印すること。
- ⑥ 欄式の()のうち該当しない箇所は=で抹消すること。

現地作業 施工監理
 (国内作業) 調査業務日誌 (89年6月~ 月分)

1. 調査団名 タイ国農業協同組合振興計画 モデルインフラ整備事業 施工監理業務						団長又は 責任者印	竹内博
2. 当月の調査業務予定 施工監理、竣工検査資料作成 報告書作成						受期日付	1989年 7月 4日
						提出日付	1989年 7月 4日
						担当業務	施工監理
3. 調査業務実績表						団員氏名	大宮正広
日 期	月 / 日	曜 日	天 候	宿 泊 地	行 程	調 査 業 務 の 概 要	
116	6. 1	Thu.	晴	KORAT		M.P.	施工打次巡視、指示
117	2	Fri.	"	"		M	資料整理、報告書作成
118	3	Sat.	晴	"		M	"
119	4	Sun.	晴	"		M.P.	"
120	5	Mon.	曇	"		M	"
121	6	Tue.	晴	"		M.P.	施工打次指示
122	7	Wed.	晴	"		M	資料整理、作成
123	8	Thu.	晴	"		M.P.	"
124	9	Fri.	晴	"		M	"
125	10	Sat.	晴	"		M.P.	施工打次指示、資料整理
126	11	Sun.	"	"		M	資料整理、作成
127	12	Mon.	晴	"		M.P.	施工打次指示
128	13	Tue.	曇	"		M.P.	竣工検査、F60巡回
129	14	Wed.	雨	"		M	資料作成
130	6. 15	Thu.	晴	"		M	"
131	16	Fri.	曇	"		P.M	手廻り、施工打次指示、資料整理、作成
132	17	Sat.	晴	"		M	下次巡視
133	18	Sun.	晴	"		休日	"
134	19	Mon.	曇	"		M.P.	"
135	20	Tue.	晴	AKK	AKK→KORAT	M	"
136	21	Wed.	晴	KORAT	AKK→KORAT	M	CPA 事務所、JICAのF60巡回事務所
137	22	Thu.	晴	"		M	巡視、報告書作成
138	23	Fri.	晴	"		P.	"
139	24	Sat.	晴	"		M.P.	"
140	25	Sun.	晴	AKK	KORAT→AKK	移動日、休日	"
141	26	Mon.	晴	"		M	CPAの事務所、JICAの事務所
142	27	Tue.	曇	"		M	報告書作成、資料整理
143	28	Wed.	曇	"		M	報告書作成
144	29	Thu.	晴	"		M	残務処理、資料整理
145	6. 30	Fri.	晴	KORAT		M	施工打次指示

- (注) ① この業務日誌は業務従事の全期間に見て記入すること。なお、休業日はその旨記載するだけでよい。
 ② 業務従事期間が30日間未満の場合は1枚に記入し、30日間以上の場合は、各月毎に1枚を用いて記入すること。
 ③ 当月の調査業務の予定は主要事項を簡潔に記入すること。
 ④ 調査業務実績表は毎日の業務終了後に簡潔に記入すること。
 ⑤ 団員は翌月1日に提出し団長又は責任者は点検し押印すること。
 ⑥ 團式の()のうち該当しない箇所は=で抹消すること。

6-3-2 PROGRESS · WEEKLY REPORT



(PAKTHONGCHAI)

NAME	POSITION
MR. KASEM KULSITC	EARTHWORKED FOREMAN
MR. SOMCHAI SURITIA	SURVEYOR
MR. SURIYON SALOAD	SURVEYOR
MR. TEM DHIRATTIKARN	BULLDOZER OPERATOR
MR. TRY INSUK	BULLDOZER OPERATOR
MR. ANAN BOCHDOK	BULLDOZER OPERATOR
MR. TUN MANMAI	BULLDOZER OPERATOR
MR. DEAVIL SASINGHA	BULLDOZER OPERATOR
MR. AMNAJ CHANHUANA	EXCAVATOR OPERATOR
MR. JOY DEANOMPUDPA	EXCAVATOR OPERATOR
MR. VIRAT YAMCHAIPUM	DUMPTRUCK DRIVER
MR. VINAI SOKUL	DUMPTRUCK DRIVER
MR. SUCHAT CHANGUAN	WATER TANKER DRIVER
MR. SOMFONG WANSANTIAD	TIRE ROLLER ROLLER COMPACTOR OPERATOR
MR. SOMCHAI SALVISET	SHOVEL TRACTOR OPERATOR
MR. PITAK INSUK	EXCAVATOR OPERATOR
MR. DAENG MAHUMRUNG	SERVICE CAR DRIVER
MR. UDOM SUKSANGPAO	OILER
MR. THONGLOW SRISAP	OILER
MR. PINDHU PIROONRAOR	TRAILER OPERATOR

NAME	POSITION
MR. VICHIAN NCOSENG	EARTHWORKED FOREMAN
MR. CHARNCHEI HARNSUWORN	SURVEYOR
MR. AMORNSAK PHANDHURAK	SURVEYOR
MR. LEAP CHAMCHONG	BULLDOZER OPERATOR
MR. BOONTA WAIPHOM	BULLDOZER OPERATOR
MR. BOONLERT SANITHDHALANG	EXCATOR OPERATOR
MR. GHAK BCONPATEAM	DUMP TRUCK DRIVER
MR. THONGYU LIDHIVEROJ	BULLDOZER OPERATOR
MR. SIDHI SUEKARN	BULLDOZER OPERATOR
MR. NARONG KIJCHARAK	BULLDOZER OPERATOR
MR. SOMGETU KARN SOMPLAN	BULLDOZER OPERATOR
MR. HANJONG JOYCOKESORN	DUMP TRUCK DRIVER
MR. PAIRIN THONGYA	EXCAVATOR OPERATOR
MR. WERA YUTRA CHODPORMRAJ	BULLDOZER OPERATOR
MR. SOMCHAI SANVISET	EXCAVATOR OPERATOR
MR. AMNUAY DONCHANOOKE	DRIVER (SERVICE CAR)
MR. SOMPONG KAJORNRI TRA	OILER
MR. THADA KANTHESORN	OILER
MR. BUALEE HASAP	WATER PUMP OPERATOR
MR. SOMNUK NAMUANWAI	LABOUR

MODEL INFRASTRUCTURE IMPROVEMENT WORKS

PAKTHONGCHAI AND MUANG

MONTHLY PROGRESS REPORT (FEBRUARY)

WORK ACCOMPLISHED

PAKTHONGCHAI

- 1) BIG POND, EXCAVATION AND COMPACTION 50% COMPLETED, BECAUSE OF HARD ROCK THE THE WORK IS NOT PROGRESS..
- 2) POND TYPE A. 1/4 OF ALL TYPE A. EXCAVATED TO BOTTOM LEVEL.
- 3) POND TYPE B. IS IN PROGRESS, EXCAVATION 100% COMPLETED, NOW COMPACTION IS STARTING.
- 4) BACKFILL AND COMPACTION THE LIVESTOCK FACILITIES, IS NEARING COMPLETION.
- 5) COMPOST BARNYARD IS IN PROGRESS, FIXING THE COLUMN AND OTHERS (CARPENTRY WORKED)

MUANG

- 1) BACKFILL AND COMPACTION THE LIVESTOCK FACILITIES.
- 2) TAKE WATER OUT AND EXCAVATE THE CANAL.
- 3) PREPARING THE STEEL PIPE FOR VEGETABLE FARM..

MATERIAL STATUS REPORT

ALL MATERIALS ARE IN ORDER AND BEING RECEIVED AT SITE REGULARLY.

MANPOWER ON SITE

PAKTHONGCHAI

MUANG

	SUPERVISOR	1		
FOREMAN.	1		FOREMAN	1
SURVEYOR	2		SURVEYOR	2
OPERATOR.	13		OPERATOR	11
DRIVER	1		DRIVER	1
OILER	2		OILER	2
LABOUR	8		LABOUR	2
TOTAL	27		TOTAL	19

EQUIPMENT ON SITE

PAKTHONGCHAI

MUANG

BULLDOZER	5	4
EXCAVATOR	2	1
DUMP TRUCK	2	2

	PAKTHONGCHAI	MUANG
WATER TANKER	1	1
SERVICE CAR	1	1
TIRE ROLLER	1	—
ROLLER COMPACTOR	1	—
WATER PUMP	—	8 (6HP.)+(110HP.)
SHOVEL TRACTOR	1	—
TRAILER	1	—

CONSTRUCTION SCHEDULE

DESCRIPTION OF WORK	TERM OF PERIOD					REMARKS	ITEM NO.
	1	2	3	4	5		
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	
PAKTHONG SHAI							
MOBILIZATION & PREPARATION							00
EXCAVATION							1.00
SPREADING & COMPACTION							1.01
SLOPE PROTECTION PIPE							2.00
REINFORCING							3.01
CONCRETE							3.02
PAINTING							4.00
ROOFING							4.01
WATERWORKS							5.00
ELECTRICAL							5.01
MECHANICAL							5.02
LANDSCAPING							6.00
OTHERS							6.01
MOBILIZATION & PREPARATION							7.00
EXCAVATION							7.01
SPREADING & COMPACTION							7.02
ROOFING							7.03
WATERWORKS							8.00
ELECTRICAL							8.01
MECHANICAL							8.02
LANDSCAPING							8.03
OTHERS							8.04
MOBILIZATION & PREPARATION							9.00
EXCAVATION							9.01
SPREADING & COMPACTION							9.02
ROOFING							9.03
WATERWORKS							9.04
ELECTRICAL							9.05
MECHANICAL							9.06
LANDSCAPING							9.07
OTHERS							9.08

C.P.D.	MODEL INFRASTRUCTURES IMPROVEMENT WORK	MUANG
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MONTH NO. 1	MONTHLY PROGRESS REPORT	MONTH ENDING	28 FEB. 1989
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MANPOWER (NO. OF MEN)				SUPERVISOR		1
NOTE : %PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989				FOREMAN		1
				SURVEYOR		2
THIS MONTH				OPERATOR		11
				CARPENTER		-
OVER ALL				MASON		-
				STEELFIXER		-
PLANNED				LABOUR		2
ACTUAL				OTHERS (DRIVER 1 + OILER 2)		3
0.09				TOTAL		20
0.164				VARIANCE		0.084
0.08				VARIANCE		0.084
0.164				VARIANCE		0.084

% WORK COMPLETED

		DESCRIPTION	% WT	LASTMONTH	THIS MONTH	CUMUL	REMARKS
EL.00	0.00	MOBILIZATION	-	-	COMPLETED	-	
EL.01	1.00	CANAL - EXCAVATION	6.27	-	-	0.12	0.12
	1.01	SPREADING + COMPACTION	13.56	-	-	-	-
	1.02	ROAD PROTECTION	1.73	-	-	-	-
EL.02	2.00	APPENDANT STRUCTURE - EARTHWORKED	1.28	-	-	-	-
	2.01	SHUTTERING + CONCRETE	7.14	-	-	-	-
	2.02	PIPE WORKED	2.93	-	-	-	-
	2.03	STEELWORKED (GATE INSTALLATION)	0.98	-	-	-	-
EL.03	3.00	VEGETABLE FARM - PREFABRICATED	0.82	-	-	-	-
	3.01	INSTALLATION STRUCTURE	0.62	-	-	-	-
	3.02	INSTALLATION COVER	0.78	-	-	-	-
EL.04	4.00	SWINE RAISING FACILITIES EARTHWORKED	0.22	-	0.08	0.08	
	4.01	CARPENTRY + ROOFING	3.02	-	0.044	0.044	
	4.02	CONCRETE + MASONRY	0.86	-	-	-	
	4.03	URINE DRAIN	0.42	-	-	-	
	4.04	OTHERS (WATERTANK)	0.54	-	-	-	
EL.05	5.00	COMPOST BARNYARD - EARTHWORKED	0.012	-	-	-	
	5.01	CARPENTRY + ROOFING	0.46	-	-	-	
EL.06	6.00	SHALLOW WELL - EXCAVATION	0.01	-	-	-	
	6.01	INSTALLATION PIPE	0.13	-	-	-	
EL.07	7.00	POND - EXCAVATION	1.35	-	-	-	
	7.01	SPREADING + COMPACTION	1.78	-	-	-	
	7.02	SLOPE PROTECTION + PIPE	0.70	-	-	-	
EL.08	8.00	LATERAL - EXCAVATION	0.16	-	-	-	
	8.01	SPREADING + COMPACTION	0.13	-	-	-	
EL.09	9.00	DEMobilIZATION	-	-	-	-	
I		TOTAL	46.00			0.08 0.164	PLANNED ACTUAL

C.P.D	MODEL INFRASTRUCTURES IMPROVEMENT WORK	PAKTHONGCHAI
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MONTH No. 1	MONTHLY PROGRESS REPORT	MONTH ENDING	28 FEB. 1989
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MANPOWER (NO. OF MEN)	SUPERVISOR	1
	FOREMAN	2
	SURVEYOR	2
	OPERATOR	13
	CARPENTER	2
	MASON	-
	STEELFIXER	-
	LABOURS	8
	OTHERS (DRIVER 1 + OILER 2)	3
	TOTAL	38

NOTE :
 % PROGRESS BASED REVISED CONSTRUCTION
 SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
11.335	9.54	11.335	9.54
VARIANCE	-1.795	VARIANCE	-1.795

% WORK COMPLETED

BARCHHRT ITEM	DESCRIPTION	% WT	LASTMONTH	THIS MONTH	CUMUL	REMARKS
EL.00	0.00 MOBILIZATION	—	—	COMPLETED	—	
EL.01	1.00 BIGPOND - EXCAVATION	5.30	—	2.90	2.90	ROCK PROBLE
	1.01 SPREADING + COMPACTION	10.10	—	4.04	4.04	
	1.02 SLOPE PROTECTION + PIPE	0.92	—	5.06	5.06	
EL.02	2.00 PONDTYPEA - EXCAVATION	4.60	—	1.61	1.61	
	2.01 SPREADING + COMPACTION	6.39	—	1.15	1.15	
	2.02 SLOPE PROTECTION + PIPE	1.96	—	2.24	2.24	
EL.03	3.00 PONDTYPEB - EXCAVATION	0.52	—	—	—	
	3.01 SPREADING + COMPACTION	0.77	—	0.52	0.52	
	3.02 SLOPE PROTECTION + PIPE	0.12	—	—	—	
EL.04	4.00 COMPOST BARNYARD - EARTHWORKED	0.012	—	0.012	0.012	
	4.01 CARPENTRY + ROOFING	0.46	—	0.18	0.18	
EL.05	5.00 HEN HOUSE - EARTHWORKED	0.19	—	0.095	0.095	
	5.01 CARPENTRY + ROOFING	1.43	—	0.019	0.019	
	5.02 MASONARY	0.22	—	—	—	
	5.03 FENCING (WIRE MESH)	0.86	—	—	—	
EL.06	6.00 WATER TANK - EARTHWORKED	0.40	—	0.20	0.20	
	6.01 CARPENTRY + ROOFING	0.73	—	—	—	
EL.07	7.00 HATCHERY - EARTHWORKED	0.04	—	0.008	0.008	
	7.01 CARPENTRY - ROOFING	0.63	—	0.004	0.004	
	7.02 CONCRETE - MASONARY	0.16	—	—	—	
	7.03 FENCING (WIRE MESH)	0.04	—	—	—	
EL.08	8.00 SWINE RAISING FACILITIES - EARTHWORKED	0.24	—	0.05	0.05	
	8.01 CARPENTRY + ROOFING	3.08	—	—	—	
	8.02 CONCRETE + MASONARY	2.10	—	—	—	
	8.03 URINE DRAIN	0.95	—	—	—	
	8.04 OTHERS (HEN HOUSES MATERIAL)	11.28	—	—	—	
EL.09	9.00 DEMOBILIZATION	—	—	—	—	
II	TOTAL	54.00	—	—	11.335	PLANNED
					9.54	ACTUAL
TOTAL (PAKTHONGCHAI + MUANG)		100	—	—	11.415	9.704
(I + II)		VARIANCE	—	—	-1.711	-1.711

PROJECT.: MUANG		COMPLETION PERCENTAGE ROLL - UP SHEET		MONTH NO.1 AS. OF 28 FEB. 1989				
BAR CHART		DESCRIPTION		% WORK	ITEM:WT.	ITEM.WT.	EL.WT.	EL.WI
EL.	ITEM.NO.			COMP:	VALUE	% COMP.	VALUE	% COM
01		CANAL						
	1.00	EXCAVATION		2 %	6.27	0.12		
		ITEM TOTAL			6.27	0.12		
					EL.01	TOTAL	21.56	0.12
02		APPENDANT STRUCTURE			EL.02	TOTAL	11.93	-
03		VEGETABLE FARM			EL.03	TOTAL	2.22	-
04		SWINE RAISING FACILITIES						
	4.00	EARTHWORKED		20 %	0.22	0.044		
		ITEM TOTAL			0.22	0.044		
					EL.04	TOTAL	5.56	0.044
05		COMPOST BARNYARD			EL.05	TOTAL	0.472	-
06		SHALLOW WELL			EL.06	TOTAL	0.14	-
07		POND			EL.07	TOTAL	3.83	-
08		LATERAL			EL.08	TOTAL	0.29	-
I		EL. 01 + 02 + + 08 TOTAL					46.00	0.16

PROJECT : PAKTHONGCHAI		COMPLETION PERCENTAGE		MONTH NO.1				
		ROLL - UP SHEET		AS OF 28 FEB. 1989				
BAK CHART		DESCRIPTION	% WORK COMP.	ITEM.WT. VALUE	ITEM.WT. %COMP.	EL.WT. VALUE	EL.WT. % COMP.	
EL.	ITEM.NO.							
01		BIG POND						
	1.00	EXCAVATION	50%	5.30	2.65			
	1.01	SPREADING + COMPACTION	50%	10.10	5.05			
		ITEM TOTAL		15.40	7.70			
		EL.01 TOTAL				16.32	7.70	
02		POND TYPEA						
	2.00	EXCAVATION	25 %	4.60	1.15			
		ITEM TOTAL		4.60	1.15			
		EL.02 TOTAL				12.95	1.15	
03		POND TYPEB						
	3.00	EXCAVATION	100%	0.52	0.52			
		ITEM TOTAL		0.52	0.52			
		EL.03 TOTAL				1.41	0.52	
04		COMPOST BARNYARD						
	4.00	EARTH WORKED	90%	0.012	0.0108			
	4.01	CARPENTRY + ROOFING	30%	0.46	0.138			
		ITEM TOTAL		0.472	0.1488			
		EL.04 TOTAL				0.472	0.149	
05		HEN HOUSE						
	5.00	EARTH WORKED	10%	0.19	0.019			
		ITEM TOTAL		0.19	0.019			
		EL.05 TOTAL				3.20	0.019	
06		WATER TANK				EL.06 TOTAL	1.13	-
07		HATCHERY						
	7.00	EARTH WORKED	10%	0.04	0.004			
		ITEM TOTAL		0.04	0.004			
		EL.07 TOTAL				0.87	0.004	
08		SWINE RAISING FACILITIES				EL.08 TOTAL	17.65	-
II		EL.01 + EL.02++EL.08 TOTAL				54.00	9.54	
(I+II)		EL. PAKTHONGCHAI + MUANG. TOTAL				100	9.704	

MODEL INFRASTRUCTURE IMPROVEMENT WORKS

PAKTHONGCHAI AND MUANG

MONTHLY PROGRESS REPORT (MARCH)

WORK ACCOMPLISHED

PAKTHONGCHAI

- 1) BIG POND, EXCAVATION AND COMPACTION IS IN PROGRESS. (HARD ROCK IS SOLVED.)
- 2) POND TYPE A. EXCAVATION 100% COMPLETED, COMPACTION 80% COMPLETED, NOW SLOPE PROTECTION AND PIPE IS STARTING.
- 3) POND TYPE B. SPREADING AND COMPACTION 100% COMPLETED AND SLOPE PROTECTION IS IN PROGRESS.
- 4) HEN HOUSE AND COMPOST BARNYARD ARE COMPLETED.
- 5) HATCHERY AND SWINE RAISING FACILITY ARE IN PROGRESS.

MUANG

- 1) CANAL, EXCAVATION AND COMPACTION IS IN PROGRESS. (NEARLY 60% COMPLETED)
- 2) APPENDANT STRUCTURE IS STARTING. (EARTHWORKED AND PIPE WORKED)
- 3) VEGETABLE FARM, THE STRUCTURE IS COMPLETED. (PREFABRICATED) INSTALLATION STRUCTURE IS STARTING.
- 4) SWINE RAISING FACILITY IS IN PROGRESS. (NEARY 60% COMPLETED)
- 5) COMPOST BARNYARD IS COMPLETED.

MATERIAL STATUS REPORT

ALL MATERIAL ARE ALMOST RECEIVED AT SITE.

MANPOWER ON SITE

PAKTHONGCHAI

MUANG

	SUPERVISOR		
FOREMAN	2	FOREMAN	2
SURVEYOR	2	SURVEYOR	2
OPERATOR	10	OPERATOR	13
CARPENTER	4	CARPENTER	4
MASON	4	MASON	3
STEELFIXER	2	STEELFIXER	2
DRIVER	1	DRIVER	1
OILER	2	OILER	2
LABOUR	16	LABOUR	12

TOTAL

43

TOTAL

41

EQUIPMENT ON SITE

PAKTHONGCHAI

MUANG

BULLDOZER

4

5

EXCAVATOR

2

1

DUMPTRUCK

2

2

WATER TANKER

1

1

SERVICE CAR

1

1

TIRE ROLLER

1

-

ROLLER COMPACTOR

1

-

SHOVEL TRACTOR

1

-

TRAILER

-

1

WATER PUMP

-

8(6HP.)+1(110HP.)

POND NO.	EXCAVATION (COMPLETION PERCENTAGE)					SPREADING - COMPACTION (COMPLETION PERCENTAGE)					SLOPE PROTECTION + PIPE (COMPLETION PERCENTAGE)				
	10	30	50	70	90	10	30	50	70	90	10	30	50	70	90
	1				100% comp.						100% comp.				
2				100% comp.						100% comp.					
3				100% comp.						100% comp.					
4				100% comp.						100% comp.					
5				100% comp.						100% comp.					
6				100% comp.						100% comp.					
7				100% comp.						100% comp.					
8				100% comp.						50% comp.					
9				100% comp.						50% comp.					
10				100% comp.						50% comp.					
11				100% comp.						100% comp.					
12				100% comp.						100% comp.					
13				100% comp.						100% comp.					
TYPE B 14				100% comp.						100% comp.					
15				100% comp.						100% comp.					
16				100% comp.						100%					
17				100% comp.						100% comp.					
T. 18				100% comp.						100% comp.					
BIG POND				50%						50%					

C.P.D.	MODEL INFRASTRUCTURE IMPROVEMENT WORK	NUANG
MONTH NO. 2	MONTHLY PROGRESS REPORT	MONTH ENDING 31 MAR. 1989

MANPOWER (NO. OF MEN)

NOTE :
%PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
3.333	14.419	3.236	14.553
VARIANCE	6.063	VARIANCE	6.147

SUPERVISOR	1
FOREMAN	2
SURVEYOR	2
OPERATOR	13
CARPENTER	4
MASON	3
STEELFIXER	2
LABOUR	12
OTHERS (DRIVER (+ GILER) 2)	3
TOTAL	42

% WORK COMPLETED

EL.	DESCRIPTION	% WT	LAST MONTH COMPLETED	THIS MONTH	CUMUL.	REMARKS
EL.00	MOBILIZATION					
EL.01	4.00 CANAL - EXCAVATION	6.27		2.82	2.82	
	1.01 SPREADING + COMPACTION	13.56	0.12	3.64	3.76	
	1.02 ROAD PROTECTION	4.73		6.78	6.78	
EL.02	2.00 APPENDANT STRUCTURE - EARTHWORKED	1.23		0.064	0.064	
	2.01 SHUTTERING + CONCRETE	7.14				
	2.02 PIPE WORKED	2.53		0.51	0.51	
	2.05 STEELWORKED (GATE INSTALLATION)	0.89				
EL.03	3.00 VEGETABLE FARM - PREFABRICATED	0.82		0.82	0.82	
	3.01 INSTALLATION STRUCTURE	0.62		0.62	0.62	
	3.02 INSTALLATION COVER	0.78		0.167	0.167	
EL.04	4.00 SWINE RAISING FACILITIES EARTHWORKED	0.22	0.08	0.14	0.22	
	4.01 CARPENTRY + ROOFING	3.02	0.074	0.154	0.198	
	4.02 CONCRETE + MASONARY	0.86		1.84	1.84	
	4.03 URINE DRAIN	0.92				
	4.04 OTHERS	0.54				
EL.05	5.00 COMPOST BARNYARD - EARTHWORKED	0.012		0.012	0.012	
	5.01 CARPENTRY + ROOFING	0.46		0.46	0.46	
EL.06	6.00 SHALLOW WELL - EXCAVATION	0.01				
	6.01 INSTALLATION PIPE	0.13				
EL.07	7.00 POND - EXCAVATION	1.35				
	7.01 SPREADING + COMPACTION	1.78				
	7.02 SLOPE PROTECTION + PIPE	0.70				
EL.08	8.00 LATERAL - EXCAVATION	0.76				
	8.01 SPREADING + COMPACTION	0.13				
EL.09	9.00 DEMOBILIZATION					
	TOTAL		0.08	8.356	8.436	PLANNED
			0.164	14.419	14.58	ACTUAL

MONTH NO. 2 MONTHLY PROGRESS REPORT MONTH ENDING 31 MAR. 1989

MANPOWER (NO. OF MEN)

SUPERVISOR	1
FORMAN	2
SURVEYOR	2
OPERATOR	10
CARPENTER	4
MASON	2
STEELFIXER	10
LABOURS	3
OTHERS (DRIVER+OILER?)	14
TOTAL	58

NOTE :
 % PROGRESS BASED REVISED CONSTRUCTION
 SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
24.829	21.371	41.174	30.813
VARIANCE	-3.458	VARIANCE	-10.361

% WORK COMPLETED

BARCHRT ITEM	DESCRIPTION	% W/M	LAST MONTH	THIS MONTH	CUMUL.	REM.
EL.00	0.00 MOBILIZATION		COMPLETED	-	-	
EL.01	1.00	BIGPOND - EXCAVATION	5.30	2.90	2.40	5.30
	1.01		10.10	4.04	5.54	9.43
	1.02		0.92	-	2.02	7.07
EL.02	2.00	PONDTYPEA - EXCAVATION	4.50	2.51	2.99	4.60
	2.01		6.39	2.27	2.56	4.80
	2.02		1.96	-	3.11	5.11
EL.03	3.00	PONDTYPEB - EXCAVATION	0.52	-	0.39	0.39
	3.01		0.77	0.52	0.77	0.77
	3.02		0.12	-	0.39	0.39
EL.04	4.00	COMPOST BARNYARD - EARTHWORKED	0.012	0.012	0.012	0.012
	4.01		0.46	0.18	0.012	0.012
EL.05	5.00	HEN HOUSE - EARTHWORKED	0.19	0.095	0.095	0.19
	5.01		1.93	-	0.171	0.19
	5.02		0.22	-	1.35	1.35
	5.03		0.84	-	1.93	1.93
EL.06	6.00	WATER TANK - EARTHWORKED	0.40	0.20	0.20	0.40
	6.01		0.73	-	0.40	0.40
EL.07	7.00	HATCHERY - EARTHWORKED	0.04	0.009	0.032	0.032
	7.01		0.63	0.004	0.032	0.032
	7.02		0.16	-	0.23	0.23
	7.03		0.04	-	0.504	0.504
EL.08	8.00	SWINE RAISING FACILITIES - EARTHWORKED	0.24	0.05	0.19	0.24
	8.01		3.08	-	0.216	0.216
	8.02		2.10	-	2.44	2.44
	8.03		0.95	-	1.63	1.63
	8.04		0.95	-	0.940	0.940
EL.09	9.00	DEMOLITION	11.29	-	0.19	0.19
TOTAL			54.00	11.335	29.839	41.174
TOTAL (PAKTHONGCHAI+MUANG)			100.00	11.415	38.195	30.813
VARIANCE				9.706	35.69	45.393
VARIANCE				-1.709	-2.505	-4.217

PROJECT : MUANG		COMPLETEON PERCENTAGE		MONTH NO. 2		
		ROLL UP SHEET		AS. OF 31 MAR. 1989		
BARCHART	DESCRIPTION	% WORK	ITEM. WT.	ITEM.WT.	EL.WT.	EL.WT.
EL. ITEM.NO.		COMP.	VALUE	%COMP.	VALUE	%COMP.
01	CANAL					
1.00	EXCAVATION	58%	6.27	3.64		
1.01	SPREADING+COMPACTION	50%	13.56	6.78		
ITEM TOTAL			19.83	10.42		
EL.01 TOTAL					21.36	10.42
02	APPENDANT STRUCTURE					
2.00	EARTHWORKED	5%	1.28	0.064		
2.02	PIPE WORKED	20%	2.53	0.51		
ITEM TOTAL			3.81	0.574		
EL.02 TOTAL					11.93	0.574
03	VEGETABLE FARM					
3.00	PREFABRICATED	100%	0.82	0.82		
3.01	INSTALLATION STRUCTURE	15%	0.62	0.167		
ITEM TOTAL			1.44	0.987		
EL.03 TOTAL					2.22	0.987
04	SWINE RAISING FACILITIES					
4.00	EARTHWORKED	70%	0.22	0.154		
4.01	CARPENTRY+ROOFING	60%	3.02	1.812		
ITEM TOTAL			3.24	1.966		
EL.04 TOTAL					5.56	1.966
05	COMPOST BARNYARD					
5.00	EARTHWORKED	100%	0.012	0.012		
5.01	CARPENTRY+ROOFING	100%	0.46	0.46		
ITEM TOTAL			0.472	0.472		
EL.05 TOTAL					0.472	0.472
06	SHALLOW WELL					
EL.06 TOTAL					0.14	
07	POND					
EL.07 TOTAL					3.83	
08	LATERAL					
EL.08 TOTAL					0.29	
EL. 01 + 02 + + 08 TOTAL					46.00	14.419

PROJECT : PAKTHONGCHAI		COMPLETION PERCENTAGE			MONTH NO. 2			
		ROLL UP SHEET			AS OF 31 MAR. 1989			
BARCHART		DESCRIPTION		% WORK	ITEM.WT.	ITEM.WT.	EL.WT.	EL.WT.
EL.	ITEM.NO.			COMP.	VALUE	%COMP.	VALUE	%COMP.
01	BIG POND							
	1.00	EXCAVATION	20%	5.30	1.06			
	1.01	SPREADING+COMPACTION	20%	10.10	2.02			
ITEM TOTAL				15.40	3.08			
				EL.01 TOTAL	16.32	3.08		
02	POND TYPE A							
	2.00	EXCAVATION	75%	4.60	3.45			
	2.01	SPREADING+COMPACTION	80%	6.39	5.11			
	2.02	SLOPE PROTECTION+ PIPE	20%	0.12	0.036			
ITEM TOTAL				6.51	5.146			
				EL.02 TOTAL	12.95	5.146		
03	POND TYPE B							
	3.01	SPREADING+COMPACTION	100%	0.77	0.77			
	3.02	SLOPE PROTECTION+ PIPE	30%	0.12	0.036			
ITEM TOTAL				0.89	0.806			
				EL.03 TOTAL	1.41	0.806		
04	COMPOST BARNYARD							
	4.00	EARTHWORKED	10%	0.012	0.0012			
	4.01	CARPENTRY+ROOFING	70%	0.46	0.322			
ITEM TOTAL				0.472	0.323			
				EL.04 TOTAL	0.472	0.323		
05	HEN HOUSE							
	5.00	EARTHWORKED	90%	0.19	0.171			
	5.01	CARPENTRY+ROOFING	100%	1.93	1.93			
	5.02	MASONARY	100%	0.22	0.22			
	5.03	FENCING (WIRE MESH)	100%	0.86	0.86			
ITEM TOTAL				3.20	3.20			
				EL.05 TOTAL	3.20	3.20		
06	WATER TANK							
	6.00	EARTHWORKED	100%	0.40	0.40			

6.01	CARPENTRY+ROOFING	90%	0.73	0.66		
ITEM TOTAL			1.13	1.06		
			EL.06	TOTAL	1.13	1.06
97	HATCHERY					
7.00	EARTHWORKED	70%	0.04	0.028		
7.01	CARPENTRY+ROOFING	80%	0.63	0.504		
7.02	CONCRETE+MASONARY	20%	0.16	0.032		
ITEM TOTAL			0.83	0.564		
			EL.07	TOTAL	0.87	0.564
08	SWINE RAISING FACILITIES					
8.00	EARTHWORKED	90%	0.24	0.216		
8.01	CARPENTRY+ROOFING	70%	3.08	2.156		
8.02	CONCRETE+MASONARY	40%	2.10	0.84		
8.03	URINE DRAIN	10%	0.95	0.095		
ITEM TOTAL			6.37	3.307		
			EL.08	TOTAL	17.65	3.307
EL. 01 + 02 + + 08 TOTAL					54.00	21.271
EL. PAKTHONGCHAI + MUANG TOTAL					100.00	35.69

MODEL INFRASTRUCTURE IMPROVEMENT WORKS

PAKTHONGCHAI AND MUANG

MONTHLY PROGRESS REPORT (APRIL)

WORK ACCOMPLISH

PAKTHONGCHAI

- 1) BIG POND , EXCAVATION , GRADING AND COMPACTION 100 % COMP. , ONLY SLOPE PROTECTIO IS IN PROGRESS. (70 % COMP.)
- 2) POND TYPE A. , SLOPE PROTECTION IS IN PROGRESS ALL EARTHWORKED HAS BEEN FINISHED
- 3) HATCHERY AND SWINE RAISING FACILITIES ARE IN PROGRESS.
- 4) THE MATERIAL FOR PIGGERY HOUSES HAVE BEEN READY SENT TO THE JOB. SITE. THE FARMER MAKE THE GROUP TO CONSTRUCT ITS .
- 5) SURVEYOR PREPARE THE REAL LOCATION OF POND TYPE A. TO SUBMIT JICA'S ENGINEER.

MUANG

- 1) CANAL , EXCAVATION AND COMPACTION 100 % COMP.
- 2) APPENDANT STRUCTURE , ALL CONCRETE PIPE ARE INSTALLED AND STEEL GATE WILL BE FIXED IN NEXT MONTH.
- 3) VEGETABLE FARM , ALL STEEL STRUCTURE ARE INSTALLED , BUT NYLON MESH NOT YET FIXEI WE HAVE SOME PROBLEM HOW TO FIX IT.
- 4) SWINE RAISING FACILITIES AND COMPOST BARNYARD 100 % COMP.
- 5) URINE DRAIN AND SHALLOW WELL 100 % COMP.

MATERIAL STATUS REPORT

THE FINAL MATERIAL ARE IN ORDER.

MANPOWER ON SITE

PAKTHONGCHAI

MUANG

	SUPERVISOR	
FOREMAN	2	FOREMAN 2
SURVEYOR	2	SURVEYOR 2
OPERATOR	10	OPERATOR 13
CARPENTER	4	CARPENTER 4
MASON	4	MASON 3
STEELFIXER	2	STEELFIXER 2
DRIVER	1	DRIVER 1

OILER	2	OILER	2
LABOUR	16	LABOUR	12
TOTAL	43 PERSONS	TOTAL	41 PERSONS

EQUIPMENT ON SITE

	PAKTHONGCHAI	MUANG
BULLDOZER	4	5
EXCAVATOR	2	1
DUMP TRUCK	2	2
WATER TANKER	1	1
SERVICE CAR	1	1
TIRE ROLLER	1	-
ROLLER COMPACTOR	1	-
SHOVEL TRACTOR	1	-
TRAILER	1	-
WATER PUMP	-	5 (6 HP.) + 1 (110 HP.)

C.P.D.	MODEL INFRASTRUCTURE TYPES IMPROVEMENT WORK	NUANG
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MONTH NO. 3 MONTHLY PROGRESS REPORT MONTH ENDING 30 APR. 1989

MANPOWER (NO. OF MEN)

NOTE :

% PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
18.603	19.051	27.039	33.63
VARIANCE	0.448	VARIANCE	6.591

SUPERVISOR	1
FOREMAN	2
SURVEICOR	2
OPERATOR	13
CARPENTER	4
MASON	3
STEELFIXER	2
LABOUR	12
OTHERS (DRIVER + OILER)	3
TOTAL	42

% WORK COMPLETED

		DESCRIPTION	% WT	LAST MONTH	THIS MONTH	CUMUL.	REMARKS
EL.00	0.00	MOBILIZATION		-	-		
EL.01	4.00	CANAL - EXCAVATION	6.27	2.82	3.76	2.92	5.64
	1.01	SPREADING & COMPACTION	13.56	2.71	6.78	5.42	8.13
	1.02	ROAD PROTECTION	1.73	-	-	-	12.20
EL.02	2.00	APPENDANT STRUCTURE - EARTHWORKED	1.28	-	0.064	0.769	0.96
	2.01	SHUTTERING & CONCRETE	7.14	-	-	3.57	3.57
	2.02	PIPE WORKED	2.53	-	0.51	1.012	1.012
	2.03	STEELWORKED (GATE INSTALLATION)	0.98	-	-	-	1.513
EL.03	3.00	VEGETABLE FARM - PREFABRICATED	0.62	0.62	0.62	-	0.62
	3.01	INSTALLATION STRUCTURE	0.62	0.62	-	-	0.62
	3.02	INSTALLATION COVER	0.78	-	-	-	0.62
EL.04	4.00	SWINE RAISING FACILITIES EARTHWORKED	0.22	0.22	-	-	0.22
	4.01	CARPENTRY & ROOFING	3.02	0.774	1.912	2.246	3.02
	4.02	CONCRETE & MASONARY	0.86	-	-	0.86	0.86
	4.03	URINE DRAIN	0.92	-	-	0.674	0.92
	4.04	OTHERS (WATER TANK)	0.54	-	-	-	0.92
EL.05	5.00	COMPOST BARNYARD - EARTHWORKED	0.012	0.012	-	-	0.012
	5.01	CARPENTRY & ROOFING	0.46	0.46	-	-	0.46
EL.06	6.00	SHALLOW WELL - EXCAVATION	0.01	-	-	0.01	0.01
	6.01	INSTALLATION PIPE	0.13	-	-	0.13	0.13
EL.07	7.00	POND - EXCAVATION	1.35	-	-	0.943	1.35
	7.01	SPREADING & COMPACTION	1.78	-	-	0.178	0.178
	7.02	SLOPE PROTECTION & PIPE	0.70	-	-	-	1.424
EL.08	8.00	LATERAL - EXCAVATION	0.16	-	-	-	0.16
	8.01	SPREADING & COMPACTION	0.13	-	-	-	0.13
EL.09	9.00	DEMOBILIZATION				0.117	0.117
		TOTAL	46.00	8.436	14.58	18.603	27.039
						19.051	33.63
							PLANNED
							ACTUAL

MONTH NO. 3 MONTHLY PROGRESS REPORT

MONTH ENDING 30 APR. 1989

MANPOWER (NO. OF MEN)

NOTE :

% PROGRESS BASED REVERSED CONSTRUCTION
 SCHEDULE DATE 30 JAN 1989

SUPERVISOR
 FOREMAN
 SURVEYOR
 OPERATOR
 CARPENTER
 MASON
 STEELFIXER
 LABOURS
 OFFICERS (DRIVER + OILER)
 TOTAL

1
2
2
10
2
2
2
16
3
24

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
12434	77.857	53.612	48.666
VARIANCE	5.423	VARIANCE	4.946

% WORK COMPLETED

BARCHERMS ITEM	DESCRIPTION	% W/C	LAST MONTH	THIS MONTH	CUMUL	REMARK	
EL.00	0.00 MOBILIZATION						
EL.01	1.00	BIGFOND - EXCAVATION SPREADING + COMPACTION SLOPE PROTECTION + PIPE	5.30	5.30			
	1.01		10.10	9.60	3.74	1.53	5.30
	1.02		0.92		7.07	0.30	3.03
EL.02	2.00	PONDTYPEA - EXCAVATION SPREADING + COMPACTION SLOPE PROTECTION + PIPE	4.60	4.60			
	2.01		6.39	4.60	4.60		4.60
	2.02		1.96	0.39	5.11	1.59	1.29
EL.03	3.00	PONDTYPEB - EXCAVATION SPREADING + COMPACTION SLOPE PROTECTION + PIPE	0.52	0.52			
	3.01		0.77	0.77	0.77		0.77
	3.02		0.12	0.12	0.12	0.12	0.12
EL.04	4.00	COMPOST BARNYARD - EARTHWORKED CARPENTRY + ROOFING	0.46	0.46			
	4.01		0.19	0.19	0.19		0.19
	5.00		1.93	1.35	1.93	0.53	1.43
EL.05	5.00	HEM HOUSE - EARTHWORKED CARPENTRY + ROOFING	0.22	0.10	0.22	0.12	0.22
	5.01		0.96	0.17	0.86	0.29	0.86
	5.02		0.40	0.40	0.40		0.40
EL.06	6.00	BATCHERY - EARTHWORKED CARPENTRY + ROOFING	0.73	0.73	0.66		0.73
	6.01		0.04	0.04	0.032		0.02
	7.00		0.43	0.43	0.804	0.008	0.02
EL.07	7.01	CONCRETE - MASONARY FENCING (WIRE MESH)	0.16	0.16	0.032		0.16
	7.02		0.04	0.04		0.128	0.16
	7.03		0.24	0.24	0.216	0.024	0.24
EL.08	8.00	SWINE RAISING FACILITIES - EARTHWORKED CARPENTRY + ROOFING CONCRETE + MASONARY URINE DRAIN OTHERS (PIGGERY HOUSES MATERIAL)	3.08	2.26	2.156	0.52	3.08
	8.01		2.10	1.48	0.84	0.42	2.10
	8.02		0.95	0.19	0.095	0.76	1.05
	8.03		0.95	0.19	0.095	0.76	1.05
EL.09	9.00	DEMOLITION	11.28	6.33		4.95	7.896
TOTAL			54.00	41.174	30.813	12.534	53.612
TOTAL (PAKTHONGSHAI MUANG)			100	49.61	30.813	17.857	48.667
VARIANCE				4.217	43.39	21.04	36.909

PROJECT: MUANG

COMPLETION PERCENTAGE

MONTEI NO. 3

ROLL UP SHEET

AS.. OF 30 APR. 1989.

BARCHART		DESCRIPTION	% WORK COMP.	ITEM.WT.	ITEM.WT.	EL.WT.	EL.WT..
EL.	ITEM. NO.			VALUE	% COMP.	VALUE	% COMP.
01	CANAL						
	1.00	EXCAVATION	40 %	6.27	2.51		
	1.01	SPREADING+COMPACTION	40 %	13.56	5.42		
	ITEM TOTAL			19.83	7.93		
				EL.01 TOTAL		21.36	7.93
02	APPENDANT STRUCTURE						
	2.00	EARTHWORKED	75 %	1.28	0.96		
	2.01	SHUTTERING+CONCRETE	30 %	7.14	2.14		
	2.02	PIPE WORKED	60 %	2.53	1.518		
	ITEM TOTAL			11.93	4.618		
				EL.02 TOTAL		11.93	4.618
03	VEGETABLE FARM						
	3.01	INSTALLATION STRUCTURE	73 %	0.62	0.453		
	ITEM TOTAL			0.62	0.453		
				EL.03 TOTAL		2.22	0.453
04	SWINE RAISING FACILITIES						
	4.00	EARTHWORKED	10 %	0.22	0.022		
	4.01	CARPENTRY+ROOFING	35 %	3.02	1.057		
	4.02	CONCRETE+MASONARY	100 %	0.86	0.86		
	4.03	URINE DRAIN	100 %	0.92	0.92		
	ITEM TOTAL			5.02	2.859		
				EL.04 TOTAL		5.56	2.859
06	SHALLOW WELL						
	6.00	EXCAVATION	100 %	0.01	0.01		
	6.01	INSTALLATION PIPE	100 %	0.13	0.13		
				EL.06 TOTAL		0.14	0.14
07	POND						
	7.00	EXCAVATION	100 %	1.35	1.35		
	7.01	SPREADING+COMPACTION	80 %	1.78	1.424		
	ITEM TOTAL			3.13	2.774		
				EL.07 TOTAL		3.83	2.774
08	LATERAL						
	8.00	EXCAVATION	100 %	0.16	0.16		
	8.01	SPREADING+COMPACTION	90 %	0.13	0.117		
	ITEM TOTAL			0.29	0.277		
				EL.08 TOTAL		0.29	0.277
05	COMPOST BARNYARD						
				EL.05 TOTAL		0.472	COMP.
	EL. 01 + 02 + + 08			TOTAL		46.00	19.051

PROJECT: PAKTHONGCHAI

COMPLETION PERCENTAGE

MONTH NO. 3

ROLL UP SHEET

AS OF 30 APR. 1989.

BARCHART EL: ITEM. NO.	DESCRIPTION	% WORK COMP.	ITEM.WT.		EL.WT.	
			VALUE	% COMP.	VALUE	% COMP.
01	BIG POND					
1.00	EXCAVATION	30 %	5.30	1.59		
1.01	SPREADING+COMPACTION	30 %	10.10	3.03		
1.02	SLOPE PROTECTION	70 %	0.92	0.644		
	ITEM TOTAL		16.32	5.264		
			EL.01 TOTAL		16.32	5.264
02	POND TYPE A					
2.01	SPREADING+COMPACTION	20 %	6.39	1.28		
2.02	SLOPE PROTECTION+PIPE	50 %	1.96	0.98		
	ITEM TOTAL		8.35	2.26		
			EL.02 TOTAL		12.95	2.26
03	POND TYPE B					
3.02	SLOPE PROTECTION+PIPE	50 %	0.12	0.06		
	ITEM TOTAL		0.12	0.06		
			EL.03 TOTAL		1.41	0.06
04	COMPOST BARNYARD		EL.04 TOTAL		0.472	COMP.
05	HEN HOUSE		EL.05 TOTAL		3.20	COMP.
06	WATER TANK		EL.06 TOTAL		1.13	
07	HATCHERY					
7.00	EARTHWORKED	20 %	0.04	0.008		
7.01	CARPENTRY+ROOFING	10 %	0.63	0.063		
7.02	CONCRETE+MASONARY	80 %	0.16	0.128		
7.03	FENCING (WIRE MESH)	90 %	0.04	0.036		
	ITEM TOTAL		0.87	0.235		
			EL.07 TOTAL		0.87	0.235
08	SWINE RAISING FACILITIES					
8.00	EARTHWORKED	10 %	0.24	0.024		
8.01	CARPENTRY+ROOFING	10 %	3.08	0.308		
8.02	CONCRETE+MASONARY	50 %	2.10	1.05		
8.03	URINE DRAIN	80 %	0.95	0.76		
8.04	PIGGERY HOUSES' MATERIAL	70 %	11.28	7.896		
	ITEM TOTAL		17.65	10.038		
			EL.08 TOTAL		17.65	10.038
	EL. 01 + 02 + + 08		TOTAL		54.00	17.857
	EL. PAKTHONGCHAI + MUANG		TOTAL		100.00	36.908

MODEL INFRASTRUCTURE IMPROVEMENT WORKS
PAKTHONGCHAI AND MUANG

MONTHLY PROGRESS REPORT (MAY)

WORK ACCOMPLISH

PAKTHONGCHAI

- 1) BIG POND , SLOPE PROTECTION IS COMPLETED.
- 2) POND TYPE A , SLOPE PROTECTION IS COMPLETED.
- 3) POND TYPE B , SLOPE PROTECTION IS COMPLETED.
- 4) WATER TANK , PIPE WORKED IS IN PROGRESS.
- 5) ,HATCHERY AND SWINE RAISING FACILITIES IS COMPLETED , ONLY PIGGERY HOUSES MATERIAL SOME MATERIAL IS IN ORDER.
- 6) ADDITIONAL WORKED , THE CANAL IS EXCAVATED 100 % COMPLETED.
- 7) ADDITIONAL WORKED , ELECTRICITY IN THE AREA OF CONSTRUCTION IS COMPLETED.

MUANG

- 1) CANAL , SPREADING AND COMPACTION AND ROAD PROTECTION IS ALMOST COMPLETED.
- 2) APPENDANT STRUCTURE , PIPE WORKED IS COMPLETED , SLOPE PROTECTION OF CROSS ROAD IS IN PROGRESS. STEEL GATE IS RECEIVED AT THE JOB SITE.
- 3) SWINE RAISING FACILITIES , CARPENTRY IS FINISHED.
- 4) POND , SPREADING, COMPACTION, SLOPE PROTECTION, PIPE IS COMPLETED.
- 5) LATERAL , SPREADING AND COMPACTION IS COMPLETED.
- 6) ADDITIONAL WORKED , ELECTRICITY IN SWINE RAISING FACILITIES IS COMPLETED.

MATERIAL STATUS REPORT

STEEL GATE 2 SET IS RECEIVED.

MAN POWER ON SITE

PAKTHONGCHAI

MUANG

	SUPERVISOR		
		1	
FOREMAN	2	FOREMAN	2
SURVEYOR	1	SURVEYOR	1
OPERATOR	3	OPERATOR	13
CARPENTER	4	CARPENTER	4
MASON	3	MASON	4
STEELFIXER	1	STEELFIXER	3
LABOUR	8	LABOUR	10
DRIVER	1	DRIVER	1
OILER	1	OILER	2
TOTAL	25	TOTAL	41
	PERSONS		PERSONS

EQUIPMENT ON SITE

	PANTHONGCHAI	NUANG
BULLDOZER	2	5
EXCAVATOR	1	3
GRADER	-	1
DUMP TRUCK	-	3
WATER TANKER	1	1
SERVICE CAR	1	1
TIRE ROLLER	-	1
SHOVEL TRACTOR	-	1
WATER PUMP	-	(6.5 HP.) 5 + (110 HP.) 1

C.P.D.	MODEL INFRASTRUCTURES IMPROVEMENT WORK	MUANG
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MONTH NO. 4 MONTHLY PROGRESS REPORT MONTH ENDING 31 MAY 1989.

MANPOWER (NO. OF MEN)

SUPERVISOR	1
FOREMAN	2
SURVEYOR	1
OPERATOR	13
CARPENTER	4
MASON	4
STEELFIXER	3
LABOUR	10
OTHERS (DRIVER 1 + OILER 2)	3
TOTAL	41

NOTE :

%PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
18.963	8.176	46.00	41.812
VARIANCE	-10.787	VARIANCE	-4.188

% WORK COMPLETED

BAR CHART ITEM	DESCRIPTION	% WT	LAST MONTH	THIS MONTH	CUMUL	REMARKS	
EL.00	0.00						
EL.01	4.00	6.27	5.64	6.27	6.27		
	1.01	13.56	8.13	12.20	5.43	1.08	13.56
	1.02	1.73	-	-	1.73	1.64	1.73
EL.02	2.00	1.28	0.768	1.024	0.512	0.192	1.28
	2.01	7.14	3.57	2.14	3.57	2.858	7.14
	2.02	2.53	1.012	2.03	1.518	0.50	2.53
	2.03	0.98	-	-	0.98	0.686	0.98
EL.03	3.00	0.82	0.82	0.82	-	-	0.82
	3.01	0.62	0.62	0.62	-	-	0.62
	3.02	0.78	-	-	0.78	-	0.78
EL.04	4.00	0.22	0.22	0.22	-	-	0.22
	4.01	3.02	3.02	2.863	-	0.151	3.02
	4.02	0.86	0.86	0.86	-	-	0.86
	4.03	0.92	0.644	0.92	0.276	-	0.92
	4.04	0.54	-	-	0.54	-	0.54
EL.05	5.00	0.012	0.012	0.012	-	-	0.012
	5.01	0.46	0.46	0.46	-	-	0.46
EL.06	6.00	0.01	0.01	0.01	-	-	0.01
	6.01	0.13	0.13	0.13	-	-	0.13
EL.07	7.00	1.35	0.945	1.35	0.405	-	1.35
	7.01	1.78	0.178	1.424	1.602	0.356	1.78
	7.02	0.70	-	-	0.70	0.70	0.70
EL.08	8.00	0.16	-	0.16	-	-	0.16
	8.01	0.13	-	0.117	0.13	0.013	0.13
EL.09	9.00						
TOTAL		46.00	27.033	33.636	18.963	8.176	46.00
							41.812
							PLANNED
							ACTUAL

C.P.D	MODEL INFRASTRUCTURES IMPROVEMENT WORK	PAKTHONGCHAI
-------	--	--------------

MONTH NO. 4 MONTHLY PROGRESS REPORT MONTH ENDING 31 MAY 1989.

MANPOWER (NO. OF MEN)				SUPERVISOR		1
NOTE : % PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989				FOREMAN		2
				SURVEYOR		1
				OPERATOR		3
				CARPENTER		4
				MASON		5
				STEELFIXER		1
				LABOURS		8
				OTHERS (DRIVER 1 + OILER 1)		2
				TOTAL		25

% WORK COMPLETED

BARCHART ITEM	DESCRIPTION	% W/P	LAST MONTH	THIS MONTH	CUMUL	REMARKS
EL.00	0.00 MOBILIZATION					
EL.01	1.00 BIGPOND - EXCAVATION	5.30	5.30	5.30	5.30	
	1.01 SPREADING + COMPACTION	10.10	10.10	10.10	10.10	
	1.02 SLOPE PROTECTION + PIPE	0.92	0.92	0.644	0.92	
EL.02	2.00 PONDTYPEA - EXCAVATION	4.60	4.60	4.60	4.60	
	2.01 SPREADING + COMPACTION	6.39	6.39	6.39	6.39	
	2.02 SLOPE PROTECTION + PIPE	1.96	1.57	1.57	1.96	
EL.03	3.00 PONDTYPEB - EXCAVATION	0.52	0.52	0.52	0.52	
	3.01 SPREADING + COMPACTION	0.77	0.77	0.77	0.77	
	3.02 SLOPE PROTECTION + PIPE	0.12	0.12	0.092	0.12	
EL.04	4.00 COMPOST BARYARD - EARTHWORKED	0.012	0.012	0.012	0.012	
	4.01 CARPENTRY + ROOFING	0.46	0.46	0.46	0.46	
EL.05	5.00 HEN HOUSE - EARTHWORKED	0.19	0.19	0.19	0.19	
	5.01 CARPENTRY + ROOFING	1.93	1.93	1.93	1.93	
	5.02 MASONARY	0.22	0.22	0.22	0.22	
	5.03 FENCING (WIRE MESH)	0.86	0.86	0.86	0.86	
EL.06	6.00 WATER TANK - EARTHWORKED	0.40	0.40	0.40	0.40	
	6.01 CARPENTRY + ROOFING	0.73	0.73	0.62	0.73	
EL.07	7.00 HATCHERY - EARTHWORKED	0.04	0.04	0.04	0.04	
	7.01 CARPENTRY - ROOFING	0.63	0.63	0.567	0.63	
	7.02 CONCRETE - MASONARY	0.16	0.16	0.16	0.16	
	7.03 FENCING (WIRE MESH)	0.04	0.04	0.032	0.04	
EL.08	8.00 SWINE RAISING FACILITIES - EARTHWORKED	0.24	0.24	0.24	0.24	
	8.01 CARPENTRY + ROOFING	3.08	3.08	2.464	3.08	
	8.02 CONCRETE + MASONARY	2.10	2.10	1.99	2.10	
	8.03 URINE DRAIN	0.25	0.25	0.255	0.25	
	8.04 OTHERS (PIGGERY HOUSES MATERIAL)	11.28	11.28	7.986	11.28	
EL.09	9.00 DEMOBILIZATION					
TOTAL		54.00	53.61	48.67	54.00	PLANNED
TOTAL (PAKTHONGCHAI MUANG)		100	80.65	82.30	100	ACTUAL
VARIANCE			1.65	-6.999	-5.348	

PROJECT : MUMING		COMPLETION PERCENTAGE				MONTH NO. 4	
		ROLL - UP SHEET				AS OF 31 MAY 1989	
BAR CHART		DESCRIPTION	% WORK COMP.	ITEM WT. VALUE	ITEM WT. % COMP.	EL. WT. VALUE	EL. WT. % COMP.
EL.	ITEM NO.						
01	CANAL						
	1.01	SPREADING COMPACTION	8 %	13.55	1.08		
	1.02	ROAD PROTECTION	95 %	1.73	1.64		
				ITEM TOTAL	15.29	2.72	
						EL. 01 TOTAL	21.36 2.72
02	APPENDANT STRUCTURE						
	2.00	EARTHWORKED	15 %	1.28	0.192		
	2.01	SHUTTERING + CONCRETE	40 %	7.14	2.858		
	2.02	PIPE WORKED	20 %	2.53	0.50		
	2.03	STEELWORKED (GATE)	70 %	0.98	0.686		
				ITEM TOTAL	11.93	4.236	
						EL. 02 TOTAL	11.93 4.236
03	VEGETABLE FARM						
						EL. 03 TOTAL	2.22 -
04	SWINE RAISING FACILITIES						
	4.01	CARPENTRY + ROOFING	5 %	3.02	0.151		
				ITEM TOTAL	3.02	0.151	
						EL. 04 TOTAL	5.56 0.151
05	COMPOST BARNYARD						
						EL. 05 TOTAL	8.472 COMP.
06	SHALL WELL						
						EL. 06 TOTAL	0.14 COMP.
07	POND						
	7.01	SPREADING + COMPACTION	20 %	1.78	0.356		
	7.02	SLOPE PROTECTION PIPE	100 %	0.70	0.70		
				ITEM TOTAL	2.48	1.056	
						EL. 07 TOTAL	3.83 1.056
08	LATERAL						
	8.01	SPREADING + COMPACTION	10 %	0.13	0.013		
				ITEM TOTAL	0.13	0.013	
						EL. 08 TOTAL	0.29 0.013
EL. 01 + 02 + 03 + + 08						TOTAL	46.00 8.176

PROJECT : PAKTHONGCHAI

COMPLETION PERCENTAGE

MONTH NO. 4

ROLL - UP SHEET

AS OF 31 MAY 1989.

BAR CHART		DESCRIPTION	% WORK COMP.	ITEM. WT.	ITEM. WT.	EL. WT.	EL. WT.
EL.	ITEM. NO.			VALUE	% COMP.	VALUE	% COMP.
01.		BIG POND					
	1.02	SLOPE PROTECTION + PIPE	30 %	0.92	0.276		
		ITEM TOTAL		0.92	0.276		
				EL. 01 TOTAL		16.32	0.27
02.		POND TYPE A					
	2.02	SLOPE PROTECTION + PIPE	30%	1.96	0.59		
		ITEM TOTAL		1.96	0.59		
				EL. 02 TOTAL		12.95	0.59
03		POND TYPE B.					
	3.02	SLOPE PROTECTION + PIPE	20%	0.12	0.024		
		ITEM TOTAL		0.12	0.024		
				EL. 03 TOTAL		1.41	0.024
04.		COMPOST BARNYARD		EL. 04 TOTAL		0.472	COMP.
05		HEN HOUSE		EL. 05 TOTAL		3.20	COMP.
06		WATER TANK					
	6.01	CARPENTRY + ROOFING	5%	0.73	0.036		
		ITEM TOTAL		0.73	0.036		
				EL. 06 TOTAL		1.13	0.036
07		HATCHERY					
	7.01	CARPENTRY + ROOFING	10%	0.63	0.063		
	7.03	FENCING (WIRE MESH)	10%	0.04	0.004		
		ITEM TOTAL		0.67	0.067		
				EL. 07 TOTAL		0.87	0.067
08		SWINE RAISING FACILITIES					
	8.01	CARPENTRY + ROOFING	20%	3.08	0.616		
	8.02	CONCRETE + MASON	10%	2.10	0.21		
	8.03	URINE DRAIN	10%	0.95	0.095		
	8.04	OTHER (PIGGERY HOUSES MATERIAL)	20%	11.28	2.256		
		ITEM TOTAL		17.41	3.177		
				EL. 08 TOTAL		17.65	3.177
		EL. 01 + 02 + . . . + 08 TOTAL				54.00	4.17
		EL. MUANG + PAKTHONGCHAI TOTAL				100.00	12.346

CONSTRUCTION SCHEDULE

ACTUAL PLANNED

DESCRIPTION OF WORK	1		2		3		4		5		6		RE MARKS
	JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		
FOUNDATION PREPARATION													COMPLETED
210 FOUN													COMPLETED
220 FOUN													COMPLETED
230 FOUN													COMPLETED
240 FOUN													COMPLETED
250 FOUN													COMPLETED
260 FOUN													COMPLETED
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980 FOUN													COMPLETED
990 FOUN													COMPLETED
1000 FOUN													COMPLETED

WEEKLY REPORT (PAKTHONGCHAI)

NO.. 1

DATE JAN. 30 - FEB. 5, 1989

WEEK	DESCRIPTION																				
	<p>A) KIND OF WORKS</p> <p>1) MOBILIZATION. ALL EQUIPMENT WERE TRANSFERED TO JOP SITE</p> <p>2) TAKE WATER OUT AND TO EXCAVATE THE BIG POND 10% COMPLETED</p> <p>3) GRADING AND BACKFILL THE LOWER AREA FOR LAND PREPARATION.</p> <p>4) SET OUT THE ELEVATION FOR EXCAVATION.</p>																				
	<p>B) WORKERS</p> <table border="0"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>1</td> <td>OPERATOR</td> <td>13</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>LABOUR</td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>28</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	1	OPERATOR	13	DRIVER	1	OILER	2	LABOUR	8			TOTAL	28	PERSONS	
SUPERVISOR	1	SURVEYOR	2																		
FOREMAN	1	OPERATOR	13																		
DRIVER	1	OILER	2																		
LABOUR	8																				
TOTAL	28	PERSONS																			
	<p>C) MATERIAL ON SITE</p> <p>NONE</p>																				
	<p>D) EQUIPMENT ON SITE</p> <table border="0"> <tr> <td>BULLDOZER</td> <td>5</td> <td>EXCAVATOR</td> <td>2</td> </tr> <tr> <td>SHOVEL TRACTOR</td> <td>1</td> <td>DUMP TRUCK</td> <td>2</td> </tr> <tr> <td>WATER TANKER</td> <td>1</td> <td>SERVICE CAR</td> <td>1</td> </tr> <tr> <td>TIRE ROLLER</td> <td>1</td> <td>ROLLER COMPACTOR</td> <td>1</td> </tr> </table>	BULLDOZER	5	EXCAVATOR	2	SHOVEL TRACTOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	TIRE ROLLER	1	ROLLER COMPACTOR	1				
BULLDOZER	5	EXCAVATOR	2																		
SHOVEL TRACTOR	1	DUMP TRUCK	2																		
WATER TANKER	1	SERVICE CAR	1																		
TIRE ROLLER	1	ROLLER COMPACTOR	1																		

30 2.5 - 5 2.32

PAKTHONGCHAI PROJECT

JAN. 30 - FEB. 5, 1989

(EQUIPMENT)	☐	☐	☐	☐	☐	☐	☐
BULLDOZER D7E 47A CAT. NO 4117.	●	●	●	●	●	●	⊘
BULLDOZER D7E 47A CAT NO 4128.	●	●	●	●	●	●	⊘
BULLDOZER D6C 74A CAT NO 3493.	●	●	●	●	●	●	⊘
BULLDOZER D41P-3 KOMATSU NO 07152.	●	●	●	●	●	●	⊘
BULLDOZER D31P KOMATSU NO 34539.	●	●	●	●	●	●	⊘
EXCAVATOR PC150LC KOMATSU NO 3665	●	●	●	●	●	●	⊘
EXCAVATOR UH 071 HITACHI. NO 740-0412	●	●	●	●	●	●	⊘
SHOVEL TRACTOR, JOHNDEER JD 450. NO 002975U	●	○	●	●	○	○	⊘
DUMP TRUCK NISSAN. C.N. 3113.	●	●	●	●	●	●	⊘
DUMP TRUCK NISSAN 1000 C.N. 3112.	●	●	●	●	●	●	⊘
WATER TANKER MITSUBISHI. 7.N. 2257.	●	⊘	●	⊘	●	⊘	⊘
SERVICE CAR ISUZU C.N. 2707.	●	●	●	●	●	●	⊘
TIRE ROLLER GALION	⊘	⊘	⊘	⊘	⊘	⊘	⊘
ROLLER COMPACTOR WISCONSIN.	⊘	⊘	⊘	⊘	⊘	⊘	⊘

WEEKLY REPORT (PAKTHONGCHAI)

NO. 2

DATE FEB. 6 - 12, 1989.

WEEK	DESCRIPTION																																				
	<p>A) KIND OF WORKS</p> <p>1) EXCAVATION THE BIG POND 20% COMPLETED.</p> <p>2) SET OUT THE LINE AND THE ELEVATION FOR BACKFILL AND EXCAVATION.</p> <p>3) BACKFILL THE AREA FOR LIVESTOCK FACILITIES 20% COMPLETED.</p> <p>B) WORKERS</p> <table data-bbox="367 705 1244 974"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>1</td> <td>OPERATOR</td> <td>13</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>LABOUR</td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>28</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) MATERIAL ON SITE</p> <p>NONE</p> <p>D) EQUIPMENT ON SITE</p> <table data-bbox="367 1176 1244 1400"> <tr> <td>BULLDOZER</td> <td>5</td> <td>EXCAVATOR</td> <td>2</td> </tr> <tr> <td>SHOVEL TRACTOR</td> <td>1</td> <td>DUMP TRUCK</td> <td>2</td> </tr> <tr> <td>WATER TANKER</td> <td>1</td> <td>SERVICE CAR</td> <td>1</td> </tr> <tr> <td>TIRE ROLLER</td> <td>1</td> <td>ROLLER COMPACTOR</td> <td>1</td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	1	OPERATOR	13	DRIVER	1	OILER	2	LABOUR	8			TOTAL	28	PERSONS		BULLDOZER	5	EXCAVATOR	2	SHOVEL TRACTOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	TIRE ROLLER	1	ROLLER COMPACTOR	1
SUPERVISOR	1	SURVEYOR	2																																		
FOREMAN	1	OPERATOR	13																																		
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TOTAL	28	PERSONS																																			
BULLDOZER	5	EXCAVATOR	2																																		
SHOVEL TRACTOR	1	DUMP TRUCK	2																																		
WATER TANKER	1	SERVICE CAR	1																																		
TIRE ROLLER	1	ROLLER COMPACTOR	1																																		

PAKTHONGCHAI PROJECT

FEB. 6 -- 12, 1989

(EQUIPMENT) เครื่องจักรกล	มี ✓	× ✗	水 WA.	* WATER	金 ON.	土 TO.	石 RO.	
BULLDOZER DYE 47A CAT 180 HP	●	●	●	●	●	●	○	
BULLDOZER DYE 47A CAT 180 HP	●	●	●	●	●	●	○	
BULLDOZER D6C 74A CAT 120 HP	●	●	●	●	●	●	○	
BULLDOZER D31P KOMATSU 90HP	●	●	●	●	●	●	○	
EXCAVATOR KOMATSU PC 150 LC 99HP	●	●	●	●	●	●	○	
EXCAVATOR HITACHI UH 071 160 HP	●	●	●	●	●	●	○	
SHOVEL TRACTOR JOHNDEER JD 450 65 HP	●	●	●	●	●	●	○	
DUMP TRUCK NISSAN 190 HP 8 M ³	●	●	●	●	●	●	○	
DUMP TRUCK NISSAN 320 HP 12 M ³	●	●	●	●	●	●	○	
WATER TANKER SMIT SUBICHI 160 HP	●	○	●	○	●	○	●	
SERVICE CAR ISUZU 110 HP	●	●	●	●	●	●	○	
TIRE ROLLER GALION	○	○	○	○	○	○	○	
ROLLER COMPACTOR WISCONSIN	○	○	○	○	○	○	○	
BULLDOZER DA1P-3 90HP KOMATSU	●	TRANSFERRED TO MIANG PROJECT					○	○

WEEKLY REPORT (PAKTHONGCHAI)

NO. 3

DATE FEB. 13 = 19, 1989

WEEK	DESCRIPTION																				
	<p>A). KIND OF WORKS</p> <p>1) EXCAVATION THE BIG POND 30% COMPLETED.</p> <p>2) GRADING AND COMPACTION THE EMBANKMENT OF BIG POND 20% COMPLETED.</p> <p>3) BACKFILL AND COMPACTION THE LIVESTOCK FACILITIES.</p> <p>4) STARTING EXCAVATE . THE POND TYPE A+B .(10+30) % COMPLETED.</p>																				
	<p>B). WORKERS</p> <table border="0"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>1</td> <td>OPERATOR</td> <td>10</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>3</td> </tr> <tr> <td>LABOUR</td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>28</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	1	OPERATOR	10	DRIVER	1	OILER	3	LABOUR	8			TOTAL	28	PERSONS	
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	<p>C). MATERIAL ON SITE</p> <p>NONE</p>																				
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BULLDOZER	4	EXCAVATOR	2																		
SHOVEL TRACTOR	1	DUMP TRUCK	2																		
WATER TANKER	1	SERVICE CAR	1																		
TIRE ROLLER	1	ROLLER COMPACTOR	1																		

FEB. 13 -- 19 , 1969

PAKTHONGCHAI PROJECT

(EQUIPMENT)
 20/0200/020200 Equipment

| | <input checked="" type="checkbox"/> |
|---|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| BULLDOZER
39/11/730/1905 D7E 47A CAT. 180 H.P. | <input checked="" type="checkbox"/> |
| BULLDOZER
39/11/730/1905 D7E 47A CAT. 180 H.P. | <input checked="" type="checkbox"/> |
| BULLDOZER
39/11/730/1905 D6C 74A CAT. 120 H.P. | <input checked="" type="checkbox"/> |
| BULLDOZER
39/11/730/1905 D31P KOMATSU 90 H.P. | <input checked="" type="checkbox"/> |
| EXCAVATOR
39/11/730/1905 KOMATSU PC 150 LC 99 H.P. | <input checked="" type="checkbox"/> |
| EXCAVATOR
39/11/730/1905 HITACHI. UH. 071. 160 H.P. | <input checked="" type="checkbox"/> |
| SHOVEL TRACTOR
39/11/730/1905 JOHN DEERE. JD450. 63 H.P. | <input checked="" type="checkbox"/> |
| DUMP TRUCK
39/11/730/1905 NISSAN 190 H.P. 8 M. | <input checked="" type="checkbox"/> |
| DUMP TRUCK
39/11/730/1905 NISSAN. 320 H.P. 12 M. | <input checked="" type="checkbox"/> |
| WATER TANKER
39/11/730/1905 MITSUBICHI. 160 H.P. 8.5 M. | <input checked="" type="checkbox"/> |
| SERVICE CAR
39/11/730/1905 ISUZU 110 H.P. | <input checked="" type="checkbox"/> |
| TIRE ROLLER
39/11/730/1905 GALION | <input checked="" type="checkbox"/> |
| ROLLER COMPACTOR
39/11/730/1905 WISCONSIN. | <input checked="" type="checkbox"/> |

WEEKLY REPORT (PAKTHONGCHAI)

NO. 4

DATE FEB. 20 - 26, 1989

WEEK	DESCRIPTION			
	A) KIND OF WORKS			
	1) MAKING THE SIDE SLOPE OF BIG POND			
	2) COMPACTION THE SIDE SLOPE AND EMBANKMENT OF BIG POND.			
	3) COMPACTION THE LIVESTOCK FACILITIES' AREA.			
	4) EXCAVATION POND TYPE A+B. (20+70)% COMPLETED.			
	B). WORKERS			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	3
	LABOUR	8	CARPENTER	2
	TOTAL	29	PERSONS	
	C) MATERIAL ON SITE			
	YAHKA	PIECES		
	D) EQUIPMENT ON SITE			
	BULLDOZER	4	EXCAVATOR	2
	SHOVEL TRACTOR	1	DUMP TRUCK	2
	WATER TANKER	1	SERVICE CAR	1
	TIRE ROLLER	1	ROLLER COMPACTOR	1

20-26 A.W. 52

PAKTHONGCHAI PROJECT

FEB. 20 — 26 , 1989

(EQUIPMENT) အိတ်စီဂီဝဲဂီဝဲဂီဝဲဂီဝဲဂီဝဲ	၉၉၀၀၀၀	၉၉၀၀၀၀	၉၉၀၀၀၀	၉၉၀၀၀၀	၉၉၀၀၀၀	၉၉၀၀၀၀	၉၉၀၀၀၀
BULLDOZER ၉၉၀၀၀၀၀၀၀၀ D7E 47A CAT. 180 H.P.	●	●	●	●	●	●	○
BULLDOZER ၉၉၀၀၀၀၀၀၀၀ D7E 47A CAT. 180 H.P.	●	●	●	●	●	●	○
BULLDOZER ၉၉၀၀၀၀၀၀၀၀ D6C 74A CAT. 180 H.P.	●	●	●	●	●	●	○
BULLDOZER ၉၉၀၀၀၀၀၀၀၀ D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR ၉၉၀၀၀၀၀၀၀၀ KOMATSU PC150LC 99 H.P.	●	●	●	●	●	●	○
EXCAVATOR ၉၉၀၀၀၀၀၀၀၀ HITACHI UH071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR ၉၉၀၀၀၀၀၀၀၀ JOHN DEERE JD450 65 H.P.	●	●	●	○	○	○	○
DUMP TRUCK ၉၉၀၀၀၀၀၀၀၀ NISSAN 170 H.P. 8 M ³	●	●	●	●	●	●	○
DUMP TRUCK ၉၉၀၀၀၀၀၀၀၀ NISSAN 330 H.P. 12 M ³	●	●	●	●	●	●	○
WATER TANKER ၉၉၀၀၀၀၀၀၀၀ MITSUBICHI 160 H.P. 8.5 M ³	●	●	●	●	●	●	○
SERVICE CAR ၉၉၀၀၀၀၀၀၀၀ ISUZU 110 H.P.	●	●	●	●	●	●	●
TIRE ROLLER ၉၉၀၀၀၀၀၀၀၀ GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR ၉၉၀၀၀၀၀၀၀၀ WISCONSIN	○	●	●	●	●	○	○

WEEKLY REPORT (PAKTHONGCHAI)

No. 5

Date FEB.,27- MAR.,5, 1989

Week	Description			
	A) Kind of Works			
	1) EXCAVATION THE POND TYPE A.			
	2) SPREADING AND COMPACTION POND TYPE B.			
	3) TO CONSTRUCT THE HEN 'S HOUSE. (EARTHWORKED AND CARPENTRY)			
	4) INSTALLATION THE HATCHERY 'S COLUMN AND ROOF 'S STRUCTURE.			
	5) INSTALLATION THE COLUMN FOR WATER TANK.			
	B) Workers			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	4
	STEELFIXER	2	LABOUR	16
	TOTAL	44	PERSONS	
	C) Material			
	TIMBER	4.00	M.	
	CEMENT	400	BAGS	
	SAND AND GRAVEL.			
	D) Equipment			
	BULLDOZER	4	EXCAVATOR	2
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	SHOVEL TRACTOR	1
	ROLLER COMPACTOR	1	TIRE ROLLER	1

27 JAN. - 5 MAR. 89

PAKTHONGCHAI PROJECT

FEB. 27 -- MAR. 5, 1989.

(EQUIPMENT)

	၁၅၂	၁၅၃	၁၅၄	၁၅၅	၁၅၆	၁၅၇	၁၅၈
BULLDOZER DYE 47A CAT. 180 H.P.	●	●	●	●	●	●	○
BULLDOZER DYE 47A CAT. 180 H.P.	●	●	●	●	●	●	○
BULLDOZER D6C74A CAT. 180 H.P.	●	○	○	○	○	○	○
BULLDOZER D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR KOMATSU PC150LC 99 H.P.	●	●	●	●	●	●	○
EXCAVATOR HITACHI UH071 160 H.P.	●	●	●	●	●	○	○
SHOVEL TRACTOR JOHN DEERE JD450 65 H.P.	○	○	●	○	○	●	○
DUMP TRUCK NISSAN 190 H.P. 8 M ³	●	●	●	●	●	●	○
DUMP TRUCK NISSAN 320 H.P. 12 M ³	●	●	●	●	●	●	○
WATER TANKER MITSUBICHI 160 H.P. 8.5 M ³	●	●	●	●	●	●	○
SERVICE CAR ISUZU 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR WISCONSIN	●	●	○	●	●	○	○

WEEKLY REPORT (PAKTHONGCHAI)

No. 6

Date MAR., 6-12, 1989

Week	Description																								
	<p>A) Kind of Works</p> <p>1) EXCAVATION THE POND TYPE A.</p> <p>2) BACKFILL AND COMPACTION THE EMBANKMENT OF POND TYPE A..</p> <p>3) TO CONSTRUCT THE HEN HOUSE. (CARPENTRY WORKED)</p> <p>4) INSTALLATION THE ROOF 'S STRUCTURE OF HATCHERY.</p> <p>B) Workers</p> <table data-bbox="438 985 1316 1332"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>2</td> <td>OPERATOR</td> <td>10</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>4</td> </tr> <tr> <td>STEELFIXER</td> <td>2</td> <td>LABOUR</td> <td>16</td> </tr> <tr> <td>TOTAL</td> <td>44</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	10	DRIVER	1	OILER	2	CARPENTER	4	MASON	4	STEELFIXER	2	LABOUR	16	TOTAL	44	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATOR	10																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	4																						
STEELFIXER	2	LABOUR	16																						
TOTAL	44	PERSONS																							
	<p>C) Material</p> <p>CONCRETE PIPE SIZE ϕ 0.40 M.</p> <p>CONCRETE BLOCK SIZE 7*19*39 CM..</p>																								
	<p>D) Equipment</p> <table data-bbox="430 1691 1316 1926"> <tr> <td>BULLDOZER</td> <td>4</td> <td>EXCAVATOR</td> <td>2</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>SHOVEL TRACTOR</td> <td>1</td> </tr> <tr> <td>ROLLER COMPACTOR</td> <td>1</td> <td>TIRE ROLLER</td> <td>1</td> </tr> </table>	BULLDOZER	4	EXCAVATOR	2	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	SHOVEL TRACTOR	1	ROLLER COMPACTOR	1	TIRE ROLLER	1								
BULLDOZER	4	EXCAVATOR	2																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	SHOVEL TRACTOR	1																						
ROLLER COMPACTOR	1	TIRE ROLLER	1																						

6-12 น.ศ. 32

WEEKLY REPORT OF USING EQUIPMENT

PAKTHONGCHAI PROJECT

6 - 12 , MAR., 1989

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	จำนวน	ใช้จริง	วัน	หยุดนิ่ง	ซ่อม	ว่าง	อื่นๆ
BULLDOZER รถแทรกเตอร์ D7E CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถแทรกเตอร์ D7E CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถแทรกเตอร์ D6C CAT 120 H.P.	○	○	○	○	○	○	○
BULLDOZER รถแทรกเตอร์ D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดดิน KOMATSU CP 150 LC 99 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดดิน HITACHI UH 071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดดิน JOHN DEERE JD 450 65 HP	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุก 6 ล้อ NISSAN 190 H.P. 8 M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุก 10 ล้อ NISSAN 320 H.P. 12 M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5 M ³	●	●	●	●	●	●	○
SERVICE CAR รถขนคน 6 ล้อ ISUZU 110 H.P.	●	●	●	●	●	●	○
TYRE ROLLER รถคลอบยาง GALION	●	●	●	●	●	●	○
ROLLER, COMPACTOR รถคลอบหน้า WISCONSIN	○	○	○	○	○	○	○

WEEKLY REPORT (PAKTHONGCHAI)

No. 7

Date MAR., 13-19, 1989

Week	Description																																								
	<p>A) Kind of Works</p> <p>1) EXCAVATION THE POND TYPE A.</p> <p>2) BACKFILL AND COMPACTION THE POND TYPE A. (EMBRANICMENT)</p> <p>3) INSTALLATION THE COLUMN OF WATER TANK AND ALL CARPENTRY WORKED.</p> <p>4) TO CONSTRUCT THE PIGGERY 'S HOUSE , ALL CARPENTRY WORKED IS CONTINUED..</p> <p>5) INSTALLATION THE ROOF OF HATCHERY. (YASKA)</p> <p>B) Workers</p> <table data-bbox="446 996 1324 1332"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>2</td> <td>OPERATOR</td> <td>10</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>4</td> </tr> <tr> <td>STEELFIXER</td> <td>2</td> <td>LABOUR</td> <td>16</td> </tr> <tr> <td>TOTAL</td> <td>44</td> <td>PERSONS.</td> <td></td> </tr> </table> <p>C) Material</p> <p>NONE</p> <p>D) Equipment</p> <table data-bbox="446 1702 1324 1926"> <tr> <td>BULLDOZER</td> <td>4</td> <td>EXCAVATOR</td> <td>2</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>SHOVEL TRACTOR</td> <td>1</td> </tr> <tr> <td>ROLLER COMPACTOR</td> <td>1</td> <td>TIRE ROLLER</td> <td>1</td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	10	DRIVER	1	OILER	2	CARPENTER	4	MASON	4	STEELFIXER	2	LABOUR	16	TOTAL	44	PERSONS.		BULLDOZER	4	EXCAVATOR	2	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	SHOVEL TRACTOR	1	ROLLER COMPACTOR	1	TIRE ROLLER	1
SUPERVISOR	1	SURVEYOR	2																																						
FOREMAN	2	OPERATOR	10																																						
DRIVER	1	OILER	2																																						
CARPENTER	4	MASON	4																																						
STEELFIXER	2	LABOUR	16																																						
TOTAL	44	PERSONS.																																							
BULLDOZER	4	EXCAVATOR	2																																						
DUMP TRUCK	2	WATER TANKER	1																																						
SERVICE CAR	1	SHOVEL TRACTOR	1																																						
ROLLER COMPACTOR	1	TIRE ROLLER	1																																						

13 - 19

พ.ศ. 32

WEEKLY REPORT OF USING EQUIPMENT

PAKTHONGCHAI PROJECT

13 - 19 , MAR., 1989

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	จำนวน	ใช้งาน	หยุด	หยุดซ่อม	จอด	เก็บ	อื่น
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D6C 74A CAT 120 H.P.	○	○	○	○	○	○	○
BULLDOZER รถไถหน้า D51P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดหน้าดิน KOMATSU CP 150 LC 99 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดหน้าดิน HITACHI UH 071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดหน้าดิน JOHN DEERE JD 450 65 H.P.	●	●	○	●	●	○	○
DUMP TRUCK รถบรรทุกดิน 6 ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุกดิน 10 ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถนำส่งวัสดุ 6 ล้อ ISUZU 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถอัดยาง GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถอัดดิน WILCOXSON	○	○	○	○	○	○	○

WEEKLY REPORT (PAKTHONGCHAI)

No. 8

Date MAR., 20-26, 1989

Week	Description																								
	<p>A) Kind of Works</p> <p>1) EXCAVATION THE POND TYPE A. (ALMOST 75% COMPLETED)</p> <p>2) BACKFILL AND COMPACTION THE EMBANKMENT OF POND TYPE A. (ALMOST 65% COMPLETED)</p> <p>3) TO CONSTRUCT THE PIGGERY 'S HOUSE. (TO BE CONTINUED CARPENTRY WORKED)</p> <p>4) TO CONSTRUCT THE HEN HOUSE, MASONARY AND FENCING WORKED.</p> <p>5) PREPARING THE CONCRETE PIPE AND MOVING ITS TO THE POND TYPE A AND TYPE B. TO INSTALL.</p> <p>B) Workers</p> <table data-bbox="430 974 1292 1310"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>2</td> <td>OPERATOR</td> <td>10</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>4</td> </tr> <tr> <td>STEELFIXER</td> <td>2</td> <td>LABOUR</td> <td>16</td> </tr> <tr> <td>TOTAL</td> <td>44</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) Material</p> <p>CONCRETE PIPE SIZE $\phi 0.40 + \phi 0.80$ M.</p>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	10	DRIVER	1	OILER	2	CARPENTER	4	MASON	4	STEELFIXER	2	LABOUR	16	TOTAL	44	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATOR	10																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	4																						
STEELFIXER	2	LABOUR	16																						
TOTAL	44	PERSONS																							
	<p>D) Equipment</p> <table data-bbox="430 1691 1292 1915"> <tr> <td>BUILDZER</td> <td>4</td> <td>EXCAVATOR</td> <td>2</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>SHOVEL TRACTOR</td> <td>1</td> </tr> <tr> <td>ROLLER COMPACTOR</td> <td>1</td> <td>TIRE ROLLER</td> <td>1</td> </tr> </table>	BUILDZER	4	EXCAVATOR	2	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	SHOVEL TRACTOR	1	ROLLER COMPACTOR	1	TIRE ROLLER	1								
BUILDZER	4	EXCAVATOR	2																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	SHOVEL TRACTOR	1																						
ROLLER COMPACTOR	1	TIRE ROLLER	1																						

20 - 26 มี.ค. 32

WEEKLY REPORT OF USING EQUIPMENT

PAKTHONGCHAI PROJECT

20 - 26 , MAR., 1989

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	จันทร์	อังคาร	พุธ	พฤหัสบดี	ศุกร์	เสาร์	อาทิตย์
BULLDOZER รถไถหน้า (เครื่อง) D7E 47A CAT 180 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า (เครื่อง) D7E 47A CAT 180 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า (เครื่อง) D6C 74A CAT 120 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า (เครื่อง) D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดหน้า (เครื่อง) KOMATSU CP150LC 99 H.P	●	●	●	●	●	○	○
EXCAVATOR รถขุดหน้า (เครื่อง) HITACHI UH 071 160 H.P	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดหน้า (เครื่อง) JOHN DEERE JD450 65 H.P	●	●	○	●	○	●	○
DUMP TRUCK รถบรรทุก (เครื่อง) 6ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุก (เครื่อง) 10ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ (เครื่อง) MITSUBISHI 160 H.P 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถขนถ่าย (เครื่อง) 6ล้อ ISUZU 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถอัดยาง (เครื่อง) GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถอัดดิน (เครื่อง) WISCONSIN	○	○	○	○	○	○	○

WEEKLY REPORT (PAKTHONGCHAI)

No. 9

Date MAR.,27- APR.,2 ,1989

Week	Description			
	A) Kind of Works			
	1) EXCAVATION THE POND TYPE A. (100% COMPLETED)			
	2) BACKFILL AND COMPACTION THE EMBANKMENT OF POND TYPE A. (ALMOST 80% COMPLETED)			
	3) INSTALLATION THE CONCRETE PIPE AT POND TYPE A.			
	4) INSTALLATION THE CONCRETE PIPE AT POND TYPE B.			
	5) TO CONSTRUCT THE PIGGERY 'S HOUSE. (TO BE CONTINUED)			
	B) Workers			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	4
	STEELFIXER	2	LABOUR	16
	TOTAL	44	PERSONS	
	C) Material			
	NONE			
	D) Equipment			
	BULLDOZER	4	EXCAVATOR	2
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	SHOVEL TRACTOR	1
	ROLLER COMPACTOR	1	TIRE ROLLER	1

27 มี.ค. - 2 เม.ย. 32

WEEKLY REPORT OF USING EQUIPMENT

PAKTHONGCHAI PROJECT

27 MAR. - 2 APR., 1989

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	วันที่	สถานที่	งาน	ผู้ควบคุม	ผู้ขับ	ช่าง	อื่น
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D6E 74A CAT 120 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดหน้า KOMATSU CP150LC 99 H.P.	○	○	○	○	○	○	○
EXCAVATOR รถขุดหน้า HITACHI UH 071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดหน้า JOHN DEERE JD450 65 H.P.	●	⊙	⊙	●	●	●	○
DUMP TRUCK รถบรรทุก 6ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุก 10ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถบรรทุก 6ล้อ ISUZU 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถกลิ้งยาง GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถกลิ้งหน้า WISCONSIN	⊙	⊙	⊙	⊙	⊙	⊙	○

WEEKLY REPORT (PAKTHONGCHAI)

NO. 10

DATE APR. 3 - 9 , 1989

WEEK	DESCRIPTION			
	A). KIND OF WORKS			
	1) EXCAVATION THE BIG POND AND GRADING THE SIDE SLOPE.			
	2) TO MAKE THE SLOPE PROTECTION AT BIG POND AND POND TYPE A.			
	3) TO CONTINUE THE CONSTRUCTION AT HATCHERY.			
	4) TO CONTINUE THE CONSTRUCTION AT SWINE RAISING FACILITIES.			
	B). WORKERS			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	4
	STEELFIXER	2	LABOUR	16
	TOTAL	44	PERSONS	
	C) EQUIPMENT ON SITE			
	BULLDOZER	4	EXCAVATOR	2
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	SHOVEL TRACTOR	1
	ROLLER COMPACTOR	1	TIRE ROLLER	1
	D) MATERIAL ON SITE			
	CONCRETE PIPE FOR POND TYPE A.			

PAKTHONG CHAI PROJECT

APR. 3 - 9 ; 1989.

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	MON. จันทร์	TUE. อังคาร	WED. พุธ	THU. พฤหัสบดี	FRI. ศุกร์	SAT. เสาร์	SUN. อาทิตย์
BULLDOZER รถไถดินคัท D7E 47A CAT 150 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถดินคัท D7E 47A CAT 150 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถดินคัท D6C 74A CAT 120 H.P	●	●	●	●	●	●	○
BULLDOZER รถไถดินคัท D31P KOMATSU 90 H.P	●	●	●	●	●	●	○
EXCAVATOR รถขุดดินคัท KOMATSU CP 150LC 99 H.P	○	○	○	○	○	○	○
EXCAVATOR รถขุดดินคัท HITACHI UH 071 160 H.P	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดดินคัท JOHN DEERE JD 450 65 H.P	●	○	○	●	●	●	○
DUMP TRUCK รถบรรทุกคัท 6ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุกคัท 10ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถบริการคัท 6ล้อ SUZUKI 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถกลิ้งยาง GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถกลิ้งดิน WISCONSIN	○	○	○	○	○	○	○

WEEKLY REPORT (PAKTHONGCHAI)

NO. 11

DATE APR. 10 - 16 , 1989.

WEEK	DESCRIPTION			
	A) KIND OF WORKS			
	1) EXCAVATION THE TRENCH FOR CONCRETE PIPE AT POND TYPE A.			
	2) GRADING THE SIDE SLOPE AT BIG POND AND POND TYPE A.			
	3) TO CONTINUE THE CONSTRUCTION AT HATCHERY AND SWINE RAISING FACILITIES.			
	4) COMPACTION AND GRADING THE EMBANKMENT OF BIG POND.			
	B.) WORKERS			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	4
	STEELFIXER	2	LABOUR	16
	TOTAL	44	PERSONS	
	C.) EQUIPMENT ON SITE			
	BULLDOZER	4	EXCAVATOR	2
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	SHOVEL TRACTOR	1
	ROLLER COMPACTOR	1	TIRE ROLLER	1
	D) MATERIAL ON SITE			
	THE MATERIAL FOR PIGGERY HOUSES. (FOR FARMER)			

WEEKLY REPORT OF USING EQUIPMENT

PAKTHEONGCHAI PROJECT

APR. 10 - 16, 1989.

NAME OF EQUIPMENT ชื่อเครื่องจักรกล	MON. จันทร์	TUE. อังคาร	WED. พุธ	THU. พฤหัสบดี	FRI. ศุกร์	SAT. เสาร์	SUN. อาทิตย์
BULLDOZER รถไถดินโต D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถดินโต D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถดินโต D6C 74A CAT 120 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถดินโต D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดดินโต KOMATSU CP150LC 99 H.P.	○	○	○	○	○	○	○
EXCAVATOR รถขุดดินโต HITACHI UH071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดดิน JOHN DEERE JD450 65 H.P.	●	○	○	●	●	●	○
DUMP TRUCK รถบรรทุกดิน 6ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุกดิน 10ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถบรรทุกเล็ก 6ล้อ SUZUKI 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถกลิ้งยาง GALION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถกลิ้งดิน WISCONSIN	○	○	○	○	○	○	○

WEEKLY REPORT (PAKTHONGCHAI)

NO. 12

DATE APR. 17 - 23 , 1989.

WEEK	DESCRIPTION			
	A) KIND OF WORKS			
	1) GRADING AND COMPACTION THE EMBANKMENT OF BIG POND.			
	2) EXCAVATION THE TRENCH FOR DRAINAGE WATER TO BIG POND.			
	3) CONSTRUCTION THE SIDE SLOPE PROTECTION FOR POND TYPE A.			
	4) TO CONTINUE THE CONSTRUCTION AT HATCHERY AND SWINE RAISING FACILITIES.			
	B) WORKERS			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	10
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	4
	STEELFIXER	2	LABOUR	16
	TOTAL	44	PERSONS	
	C) EQUIPMENT ON SITE			
	BULLDOZER	4	EXCAVATOR	2
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	SHOVEL TRACTOR	1
	ROLLER COMPACTOR	1	TIRE ROLLER	1
	D) MATERIAL ON SITE			
	THE MATERIAL FOR PIGGERY HOUSES. (FOR FARMER)			

WEEKLY REPORT OF USING EQUIPMENT

PAKTHONGCHAI PROJECT

APR. 17 - 23, 1989.

NAME OF EQUIPMENT ชื่อเครื่องจักร	MON. จันทร์	TUE. อังคาร	WED. พุธ	THU. พฤหัสบดี	FRI. ศุกร์	SAT. เสาร์	SUN. อาทิตย์
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D7E 47A CAT 180 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D6C 74A CAT 120 H.P.	●	●	●	●	●	●	○
BULLDOZER รถไถหน้า D31P KOMATSU 90 H.P.	●	●	●	●	●	●	○
EXCAVATOR รถขุดหน้า D7C KOMATSU CP 150LC 99 H.P.	○	○	○	○	○	○	○
EXCAVATOR รถขุดหน้า HITACHI UH 071 160 H.P.	●	●	●	●	●	●	○
SHOVEL TRACTOR รถขุดหน้า JOHN DEERE JD450 65 H.P.	●	○	○	●	●	●	○
DUMP TRUCK รถบรรทุก 6ล้อ NISSAN 190 H.P. 8M ³	●	●	●	●	●	●	○
DUMP TRUCK รถบรรทุก 10ล้อ NISSAN 320 H.P. 12M ³	●	●	●	●	●	●	○
WATER TANKER รถบรรทุกน้ำ MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	○
SERVICE CAR รถรับส่งคน 6ล้อ SUZUKI 110 H.P.	●	●	●	●	●	●	○
TIRE ROLLER รถกลิ้งยาง GALLION	●	●	●	●	●	●	○
ROLLER COMPACTOR รถกลิ้งดิน WISCONSIN	○	○	○	○	○	○	○

WEEKLY REPORT

PAKTHONGCHAI PROJECT

NO. 14

DATE MAY , 1 - 7 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) TO MAKE THE SLOPE PROTECTION AT BIG POND , POND TYPE A , AND POND TYPE B
- 2) FIXING THE WIRE MESH AT HATCHERY.
- 3) TO CONSTRUCT URINE DRAIN. (IN PROGRESS)
- 4) TO BACKFILL THE NATURAL CANAL FOR PREPARING RECONSTRUCTION.
- 5) STARTING EXCAVATED THE CANAL.

B) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	3
DRIVER	1	OILER	1
CARPENTER	4	MASON	3
STEELFIXER	1	LABOUR	8
TOTAL	25	PERSONS	

C) MATERIAL ON SITE

MATERIAL FOR PIGGERY' S HOUSE

D) EQUIPMENT ON SITE

BULLDOZER	2	EXCAVATOR	1
WATER TANKER	1	SERVICE CAR	1
CONCRETE MIXER	1		

1-7 W.O. 32

PAKTHONGCHAI PROJECT

MAY, 1 - 7, 1989.

NAME OF EQUIPMENT ชื่อเครื่องจักร	MON จันทร์	TUE อังคาร	WED พุธ	THU พฤหัสบดี	FRI ศุกร์	SAT เสาร์	SUN อาทิตย์
BULLDOZER รถไถดิน D 6 C 74 A. CAT. 120 H.P.	●	●	●	●	●	●	●
BULLDOZER รถไถดิน D 31 P. KOMATSU. 90. H.P.	●	●	●	●	●	●	●
EXCAVATOR รถขุดดิน PC 150 LC KOMATSU. 99 H.P.	●	●	●	●	●	●	●
WATER TANKER รถบรรทุกน้ำ MITSUBISHI. 180 H.P. 8 SM.	●	●	●	●	●	●	●
SERVICE CAR รถบริการ 600 ISUZU. 110 H.P.	●	●	●	●	●	●	●

WEEKLY REPORT

PAKTHONGCHAI PROJECT

NO. 15

DATE MAY , 8 - 14 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) TO MAKE THE SLOPE PROTECTION AT POND TYPE A.
- 2) CONSTRUCTION URINE DRAIN.
- 3) TO FIX FLOOR CEILING AT HATCHERY.
- 4) TO FIX FEED BOXES.
- 5) EXCAVATION CANAL AND BACKFILL, COMPACTION THE EMBANKMENT.

B) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	3
DRIVER	1	OILER	1
CARPENTER	4	MASON	3
STEELFIXER	1	LABOUR	8
TOTAL	25	PERSONS	

C) MATERIAL ON SITE

NONE

D) EQUIPMENT ON SITE

BULLDOZER	2	EXCAVATOR	1
WATER TANKER	1	SERVICE CAR	1
CONCRETE MIXER	1		

8-14 710. 32.

PAKTHONGCHAI PROJECT

DATE MAY , 8 - 14 , 1989.

NAME OF EQUIPMENT 80/950080	MON DAYS	TUE DAYS	WED DAYS	THU DAYS	FRI DAYS	SAT DAYS	S DAYS
BULLDOZER D6C 74 P. CAT. 120 H.P.	●	●	●	●	●	●	⊙
BULLDOZER D31 P. KOMATSU 90 H.P.	●	●	●	●	●	●	⊙
EXCAVATOR PC150LC KOMATSU 99 H.P.	●	●	●	●	●	●	⊙
WATER TANKER MITSUBISHI 160 H.P. 8.5M ³	●	●	●	●	●	●	⊙
SERVICE CAR ISUZU 110 H.P.	●	●	●	●	●	●	⊙

WEEKLY REPORT

PAKTIONGCHAI PROJECT

NO. 16

DATE MAY , 15 - 21 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) TO MAKE SLOPE PROTECTION AT POND TYPE A.
- 2) EXCAVATION AND MAKE SLOPE OF THE CANAL.
- 3) TO FIX THE WELL OF URINE.
- 4) CLEANING THE AREA AROUND THE BIG POND.

B) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	3
DRIVER	1	OILER	1
CARPENTER	4	MASON	3
STEELFIXER	1	LABOUR	8
TOTAL	25	PERSONS	

C) MATERIAL ON SITE

THE COLUMN OF FENCE AND BARBED WIRE.

D) EQUIPMENT ON SITE

BULLDOZER	2	EXCAVATOR	1
WATER TANKER	1	SERVICE CAR	1
CONCRETE MIXER	1		

15-21 No. 32.

DATE MAY, 15 - 21, 1989.

NAME OF EQUIPMENT 201050200	MON 2440	TUE 0452	WED 242	THU W4005	FRI 042	SAT 1273	SUN 0149
BULLDOZER 30110201005 D6C 74A CAT. 120. H.P.	●	●	●	●	●	●	○
BULLDOZER 30110201005 D31P KOMATSU 90. H.P.	●	●	●	●	●	●	○
EXCAVATOR 30110201005 PC 150 LC KOMATSU 99 H.P.	●	●	●	●	●	●	○
WATER TANKER 30110201005 MITSUBISHI 160 H.P. 85M.	●	●	●	●	●	●	○
SERVICE CAR 30110201005 ISUZU 116. H.P.	●	●	●	●	●	●	○

WEEKLY REPORT -

PAKTHONGCHAI PROJECT

NO. 17

DATE MAY , 22 - 28 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) EXCAVATION THE CANAL AND SIDE SLOPE IS READY MADE.
- 2) BACKFILL AND COMPACTION THE EMBANKMENT OF THE CANAL.
- 3) TO SET THE LINE FOR FIXING THE FENCE AROUND THE BIG POND.
- 4) TO SET THE PIPE AND FIX IT FOR CROSS ROAD.

B.) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	3
DRIVER	1	OILER	1
CARPENTER	4	MASON	3
STEELFIXER	1	LABOUR	8
TOTAL	25	PERSONS	

C) MATERIAL ON SITE

NONE

D) EQUIPMENT ON SITE

BULLDOZER	2	EXCAVATOR	1
WATER TANKER	1	SERVICE CAR	1
CONCRETE MIXER	1		

22 - 25 May 89

DATE MAY , 22 - 25 , 1989.

NAME OF EQUIPMENT. 801980220	MON 5/22/89	TUE Overs	WED 5/23	THU 5/24/89	FRI 5/25	SAT 5/26	SUN 5/27
BULLDOZER 5D110501005 DEC 74A CAT 120.H.P.	●	●	●	●			
BULLDOZER 5D110501005 D31P. KOMATSU 90.H.P.	●	●	●	●			
EXCAVATOR 5D110501005 PC150LC. KOMATSU 99.H.P.	●	●	●	●			
WATER TANKER 5D110501005 MITSUBISHI. 160HP & 5M ³	●	●	●	●			
SERVICE CAR 5D110501005 ISUZU 110.H.P.	●	●	●	●			

WEEKLY REPORT

PAKTHONGCHAI PROJECT

NO. 18

DATE MAY , 29 - JUNE , 4 , 1989.

WEEK	DESCRIPTION			
A)	KIND OF WORKS			
	1) TO FIX ROOFING OF WATER TANK. AND INSCALLATION WATER SUPPLY TO ALL FACILITIES.			
	2) TO SEND THE MATERIAL OF PIGGERY S HOUSES TO FARMER AND TEACH THEM HOW TO CONSTRUC ITS.			
	3) ADDITION WORKS , TO FIX THE PIPE FOR CROSS ROAD.			
	4) CLEANING THE AREA ALL FACILITIES.			
B)	WORKERS			
	SUPERVISOR	1	SURVEYOR	1
	FOREMAN	2	CARPENTER	2
	MASON	1	LABOUR	2
	OPERATOR	2	DRIVER	1
	OILER	1		
	TOTAL	13	PERSONS	
C)	MATERIAL ON SITE			
	NONE			
D)	EQUIPMENT ON SITE			
	BULLDOZER	2	WATER TANKER	1
	SERVICE CAR	1		

WEEKLY REPORT

PAKTHONGCHAI PROJECT

NO. 19

DATE JUNE , 5 - 11 , 1989.

WEEK	DESCRIPTION			
	A) KIND OF WORKS			
	1) TO CONSTRUCT THE WATER GATE AT FRONT AND BACK OF CANAL.			
	2) INSTALLATION THE ELECTRICITY INSIDE AND OUTSIDE OF FACILITIES.			
	3) TO MAKE SLOPE PROTECTION OF CROSS ROAD.			
	4) DEMOBILIZATION AND CLEANING ALL THE AREA.			
	B) WORKERS			
	SUPERVISOR	1	FOREMAN	2
	SURVEYOR	1	CARPENTER	2
	MASON	1	LABOUR	2
	OPERATOR	2	DRIVER	1
	OILER	1		
	TOTAL	13	PERSONS	
	C) MATERIAL ON SITE			
	NONE			
	D) EQUIPMENT ON SITE			
	BULLDOZER	2	WATER TANKER	1
	SERVICE CAR	1		

WEEKLY REPORT (MUANG)

NO. 1

DATE FEB. 21 - 28, 1989

WEEK	DESCRIPTION																																				
	<p>A) KIND OF WORKS</p> <p>1) MOBILIZATION AND ALL EQUIPMENTS WERE TRANSFERRED TO JOB SITE.</p> <p>2) TO PUMP WATER FROM THE CANAL 40% COMPLETED.</p> <p>3) BACK FILL THE AREA FOR SWINE RAISING FACILITIES 20% COMPLETED.</p> <p>4) EXCAVATION THE CANAL ABOUT 2% COMPLETED.</p> <p>5) GRADING THE SPOIL (SOFT SOIL) OUT OF THE CANAL.</p> <p>B) WORKERS</p> <table data-bbox="662 806 1276 1075"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>1</td> <td>LABOUR</td> <td>2</td> </tr> <tr> <td>OPERATOR</td> <td>11</td> <td>DRIVER</td> <td>1</td> </tr> <tr> <td>OILER</td> <td>2</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>20</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) MATERIAL ON SITE</p> <p>NONE</p> <p>D) EQUIPMENT ON SITE</p> <table data-bbox="662 1276 1436 1500"> <tr> <td>BULLDOZER</td> <td>4</td> <td>EXCAVATOR</td> <td>1</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>WATER PUMP (6 HP.)</td> <td>8</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP (110 HP.)</td> <td>1</td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	1	LABOUR	2	OPERATOR	11	DRIVER	1	OILER	2			TOTAL	20	PERSONS		BULLDOZER	4	EXCAVATOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	WATER PUMP (6 HP.)	8			WATER PUMP (110 HP.)	1
SUPERVISOR	1	SURVEYOR	2																																		
FOREMAN	1	LABOUR	2																																		
OPERATOR	11	DRIVER	1																																		
OILER	2																																				
TOTAL	20	PERSONS																																			
BULLDOZER	4	EXCAVATOR	1																																		
DUMP TRUCK	2	WATER TANKER	1																																		
SERVICE CAR	1	WATER PUMP (6 HP.)	8																																		
		WATER PUMP (110 HP.)	1																																		

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang Rig Pond
 場所: Muang
 日付: Feb, 21-28, 1989

略号
 稼働
 遊休
 修理中

機 械 名	月	火	水	木	金	土	日
BULLDOZER D4E	<input checked="" type="checkbox"/>						
BULLDOZER D6C	<input checked="" type="checkbox"/>						
BULLDOZER D4D	<input checked="" type="checkbox"/>						
BULLDOZER D4D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WATER TANKER Hino (ฮิโน่)	<input checked="" type="checkbox"/>						
SERVICE CAR Nissan (นิสสัน)	<input checked="" type="checkbox"/>						
EXCAVATOR Komatsu (คอมatsu)	<input checked="" type="checkbox"/>						
WATER PUMP Yanmar (ยามาน)	<input checked="" type="checkbox"/>						
WATER PUMP Robin (โรบิน)	<input checked="" type="checkbox"/>						
WATER PUMP Hino (ฮิโน่)	<input checked="" type="checkbox"/>						
DUMP TRUCK (2) ISUZU (อิซูซุ)	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

No. 2

Date MAR., 1-7, 1989

Week	Description																																																												
	<p>A) Kind of Works</p> <ol style="list-style-type: none"> 1) GRADING THE CANAL WIDTH 30 M. LENGTH 700 M. 2) TAKE WATER OUT OF THE CANAL. (ABOUT 250 GALLON.) 3) TAKE OUT THE SPOIL AND CLEANING THE AREA AROUND THE CANAL. (PREPARING THE AREA FOR EXCAVATION) 4) EXCAVATION THE CANAL 15% COMPLETED. 5) INSTALLATION THE COLUMN FOR COMPOST BARNYARD. 6) INSTALLATION THE ROOF'S STRUCTURE. <p>B) Workers</p> <table border="0" style="width: 100%;"> <tr> <td>SUPERVISOR</td> <td align="center">1</td> <td>SURVEYOR</td> <td align="center">2</td> </tr> <tr> <td>FOREMAN</td> <td align="center">2</td> <td>OPERATOR</td> <td align="center">13</td> </tr> <tr> <td>DRIVER</td> <td align="center">1</td> <td>OILER</td> <td align="center">2</td> </tr> <tr> <td>CARPENTER</td> <td align="center">4</td> <td>MASON</td> <td align="center">1</td> </tr> <tr> <td>LABOUR</td> <td align="center">12</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td align="center">38</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) Material</p> <table border="0" style="width: 100%;"> <tr> <td>TIMBER</td> <td align="center">4.00</td> <td align="center">3</td> <td></td> </tr> <tr> <td></td> <td></td> <td align="center">M.</td> <td></td> </tr> <tr> <td>YAHKA</td> <td align="center">1000</td> <td align="center">PIECES.</td> <td></td> </tr> <tr> <td>CONCRETE COLUMN</td> <td align="center">80</td> <td align="center">pieces</td> <td></td> </tr> <tr> <td colspan="4">CEMENT AND AGGREGATE (SAND AND GRAVEL)</td> </tr> </table> <p>D) Equipment</p> <table border="0" style="width: 100%;"> <tr> <td>BULLDOZER</td> <td align="center">5</td> <td>EXCAVATOR</td> <td align="center">1</td> </tr> <tr> <td>DUMTRUCK</td> <td align="center">1</td> <td>WATERTANKER</td> <td align="center">1</td> </tr> <tr> <td>SERVICE CAR</td> <td align="center">1</td> <td>WATER PUMP</td> <td align="center">7 (6HP.)</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP</td> <td align="center">1 (110HP.)</td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	13	DRIVER	1	OILER	2	CARPENTER	4	MASON	1	LABOUR	12			TOTAL	38	PERSONS		TIMBER	4.00	3				M.		YAHKA	1000	PIECES.		CONCRETE COLUMN	80	pieces		CEMENT AND AGGREGATE (SAND AND GRAVEL)				BULLDOZER	5	EXCAVATOR	1	DUMTRUCK	1	WATERTANKER	1	SERVICE CAR	1	WATER PUMP	7 (6HP.)			WATER PUMP	1 (110HP.)
SUPERVISOR	1	SURVEYOR	2																																																										
FOREMAN	2	OPERATOR	13																																																										
DRIVER	1	OILER	2																																																										
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DUMTRUCK	1	WATERTANKER	1																																																										
SERVICE CAR	1	WATER PUMP	7 (6HP.)																																																										
		WATER PUMP	1 (110HP.)																																																										

機械の使用報告

工事名: Muang Liy Peack Weekly Report of using Equipment
 場所: Pakthong Chak Muang
 日付: Mar 1-7, 1957

略号
 稼働
 遊休
 修理中

機械名	月	火	水	木	金	土	日
D4E BULLDOZER	<input checked="" type="checkbox"/>						
D7C BULLDOZER	<input checked="" type="checkbox"/>						
D4D BULLDOZER	<input checked="" type="checkbox"/>						
D4D BULLDOZER	<input checked="" type="checkbox"/>						
洒水车 (Hino) WATER TANKER	<input checked="" type="checkbox"/>						
服务车 (Caterpillar) SERVICE CAR	<input checked="" type="checkbox"/>						
挖掘机 (Caterpillar) EXCAVATOR	<input checked="" type="checkbox"/>						
水泵 (Yamaha) WATER PUMP	<input checked="" type="checkbox"/>						
水泵 (Robin) WATER PUMP	<input checked="" type="checkbox"/>						
翻斗车 (Caterpillar) DUMP TRUCK	<input checked="" type="checkbox"/>						
水泵 (Hino) WATER PUMP	<input checked="" type="checkbox"/>						
D41P (Komatsu) BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

No. 3

Date MAR., 8-14, 1989

Week	Description																								
	<p>A) Kind of Works</p> <ol style="list-style-type: none"> 1) EXCAVATION THE CANAL 30% COMPLETED. 2) TAKE OUT THE SPOIL AND DRYING THE WET SOIL. 3) TAKE WATER OUT OF THE CANAL 150 GALLON. 4) BACKFILL AND COMPACTION THE EMBANKMENT FOR ROAD 'S CONSTRUCTION CONSTRUCTION. 5) INSTALLATION THE FENCE 'S COLUMN. 6) INSTALLATION THE ROOF OF COMPOST BANYARD. (YAHKA) 7) INSTALLATION THE COLUMN OF PIGGERY 'S HOUSE. <p>B) Workers</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">SUPERVISOR</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 30%;">SURVEYOR</td> <td style="width: 10%; text-align: center;">2</td> </tr> <tr> <td>FOREMAN</td> <td style="text-align: center;">2</td> <td>OPERATORS</td> <td style="text-align: center;">13</td> </tr> <tr> <td>DRIVER</td> <td style="text-align: center;">1</td> <td>OILER</td> <td style="text-align: center;">2</td> </tr> <tr> <td>CARPENTER</td> <td style="text-align: center;">4</td> <td>MASON</td> <td style="text-align: center;">2</td> </tr> <tr> <td>LABOUR</td> <td style="text-align: center;">12</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">39</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATORS	13	DRIVER	1	OILER	2	CARPENTER	4	MASON	2	LABOUR	12			TOTAL	39	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATORS	13																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	2																						
LABOUR	12																								
TOTAL	39	PERSONS																							
	<p>C) Material</p> <p>HARBED WIRE</p> <p>CONCRETE PIPE SIZE ϕ 1.20 M.</p>																								
	<p>D) Equipment</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">BULLDOZER</td> <td style="width: 10%; text-align: center;">5</td> <td style="width: 30%;">EXCAVATOR</td> <td style="width: 10%; text-align: center;">1</td> </tr> <tr> <td>DUMP TRUCK</td> <td style="text-align: center;">2</td> <td>WATER TANKER</td> <td style="text-align: center;">1</td> </tr> <tr> <td>SERVICE CAR</td> <td style="text-align: center;">1</td> <td>WATER PUMP (6HP.)</td> <td style="text-align: center;">7</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP (110HP.)</td> <td style="text-align: center;">1</td> </tr> </table>	BULLDOZER	5	EXCAVATOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	WATER PUMP (6HP.)	7			WATER PUMP (110HP.)	1								
BULLDOZER	5	EXCAVATOR	1																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	WATER PUMP (6HP.)	7																						
		WATER PUMP (110HP.)	1																						

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Maung Pong Pond.

場所: Sakuhong chah

日付: Mar 8-14, 1989

略号

稼働

遊休

修理中

機 械 名	月	火	水	木	金	土	日
BULLDOZER D6E	<input checked="" type="checkbox"/>						
BULLDOZER D6E	<input checked="" type="checkbox"/>						
BULLDOZER D6D	<input checked="" type="checkbox"/>						
BULLDOZER D6D	<input checked="" type="checkbox"/>						
WATER TANKER 10500g (Hino)	<input checked="" type="checkbox"/>						
SERVICE CAR SUZUKI (Mitsuba)	<input checked="" type="checkbox"/>						
EXCAVATOR 5000g (Wata)	<input checked="" type="checkbox"/>						
WATER PUMP 10500g (Yamaha)	<input checked="" type="checkbox"/>						
WATER PUMP 10500g (Robin)	<input checked="" type="checkbox"/>						
DUMP TRUCK 10500g (Oshio)	<input checked="" type="checkbox"/>						
WATER PUMP 10500g (Hino)	<input checked="" type="checkbox"/>						
BULLDOZER D411 (Komatsu)	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

No. 4

Date MAR., 15-21, 1989

Week	Description																								
	<p>A) Kind of Works</p> <ol style="list-style-type: none"> 1) EXCAVATION THE CANAL 45% COMPLETED. 2) BACKFILL AND COMPACTION THE EMBANKMENT FOR ROAD 'S CONSTRUCTION. (ALMOST 30% COMPLETED.) 3) TAKE WATER OUT OF THE CANAL. 4) DRYING THE WET SOIL BY USING THE BULLDOZER. 5) INSTALLATION VEGETABLE FARM 'S STRUCTURE. 6) INSTALLATION THE ROOF 'S STRUCTURE OF PIGGERY. <p>B) Workers</p> <table border="0"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>2</td> <td>OPERATOR</td> <td>13</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>3</td> </tr> <tr> <td>LABOUR</td> <td>12</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>40</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) Material</p> <ul style="list-style-type: none"> CONCRETE PIPE SIZE ϕ 1.20 M. CONCRETE BLOCK SIZE 19*39*7 CM. 	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	13	DRIVER	1	OILER	2	CARPENTER	4	MASON	3	LABOUR	12			TOTAL	40	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATOR	13																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	3																						
LABOUR	12																								
TOTAL	40	PERSONS																							
	<p>D) Equipment</p> <table border="0"> <tr> <td>BULLDOZER</td> <td>5</td> <td>EXCAVATOR</td> <td>1</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>WATER PUMP (6HP.)</td> <td>7</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP (110HP.)</td> <td>1</td> </tr> </table>	BULLDOZER	5	EXCAVATOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	WATER PUMP (6HP.)	7			WATER PUMP (110HP.)	1								
BULLDOZER	5	EXCAVATOR	1																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	WATER PUMP (6HP.)	7																						
		WATER PUMP (110HP.)	1																						

機 械 の 使 用 報 告

工事名: Maenam Ry Road *Weekly Report of using Equipment*

場 所: Maenam
日 付: Mar 15-21, 1989

路 号
稼 働
遊 休
修 理 中

機 械 名	月	火	水	木	金	土	日
D7E BULLDOZER	<input checked="" type="checkbox"/>						
D6C BULLDOZER	<input checked="" type="checkbox"/>						
D4D 2 台 BULLDOZER	<input checked="" type="checkbox"/>						
WATER TANKER รถบรรทุกน้ำ (Hino)	<input checked="" type="checkbox"/>						
Service Car รถบริการ (Mitsubishi)	<input checked="" type="checkbox"/>						
WATER PUMP ปั๊มน้ำ (Yanmar) 2 1050	<input checked="" type="checkbox"/>						
WATER PUMP ปั๊มน้ำ Robin 1 1050	<input checked="" type="checkbox"/>						
DUMP TRUCK รถบรรทุกน้ำ (Datsun) 2 台	<input checked="" type="checkbox"/>						
WATER PUMP ปั๊มน้ำ 4" Hino	<input checked="" type="checkbox"/>						
EXCAVATOR รถขุด (Hitachi)	<input checked="" type="checkbox"/>						
BULLDOZER D41 (Komatsu)	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

No. 5

Date MAR., 22-28, 1989

Week	Description																								
	<p>A) Kind of Works</p> <ol style="list-style-type: none"> 1) EXCAVATION THE CANAL 60% COMPLETED. 2) BACKFILL AND COMPACTION THE EMBANKMENT FOR ROAD. (50% COMP.) 3) INSTALLATION VEGETABLE FARM 'S STRUCTURE. 4) TO CONSTRUCT THE PIGGERY 'S HOUSE. (CARPENTRY AND ROOFING) 5) INSTALLATION THE CROSS ROAD. (FIXING THE CONCRETE PIPE.) 																								
	<p>B) Workers</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">SUPERVISOR</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 30%;">SURVEYOR</td> <td style="width: 10%; text-align: center;">2</td> </tr> <tr> <td>FOREMAN</td> <td style="text-align: center;">2</td> <td>OPERATOR</td> <td style="text-align: center;">13</td> </tr> <tr> <td>DRIVER</td> <td style="text-align: center;">1</td> <td>OILER</td> <td style="text-align: center;">2</td> </tr> <tr> <td>CARPENTER</td> <td style="text-align: center;">4</td> <td>MASON</td> <td style="text-align: center;">3</td> </tr> <tr> <td>LABOUR</td> <td style="text-align: center;">12</td> <td>STEELFIXER</td> <td style="text-align: center;">2</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: center;">42</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	13	DRIVER	1	OILER	2	CARPENTER	4	MASON	3	LABOUR	12	STEELFIXER	2	TOTAL	42	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATOR	13																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	3																						
LABOUR	12	STEELFIXER	2																						
TOTAL	42	PERSONS																							
	<p>C) Material Equipment</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">BULLDOZER</td> <td style="width: 10%; text-align: center;">5</td> <td style="width: 30%;">EXCAVATOR</td> <td style="width: 10%; text-align: center;">1</td> </tr> <tr> <td>DUMP TRUCK</td> <td style="text-align: center;">2</td> <td>WATER TANKER</td> <td style="text-align: center;">1</td> </tr> <tr> <td>SERVICE CAR</td> <td style="text-align: center;">1</td> <td>WATER PUMP (6HP.)</td> <td style="text-align: center;">2</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP (110HP.)</td> <td style="text-align: center;">1</td> </tr> </table>	BULLDOZER	5	EXCAVATOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	WATER PUMP (6HP.)	2			WATER PUMP (110HP.)	1								
BULLDOZER	5	EXCAVATOR	1																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	WATER PUMP (6HP.)	2																						
		WATER PUMP (110HP.)	1																						
	<p>D) Equipment Material.</p> <p style="text-align: center;">NONE.</p>																								

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang R19 Paud

路 号

場 所: Muang

稼 働

日 付: Mar 22 - 28, 1989

遊 休

修 理 中

機 械 名	月	火	水	木	金	土	日
DIE	<input checked="" type="checkbox"/>						
D6C	<input checked="" type="checkbox"/>						
D4D 2 台	<input checked="" type="checkbox"/>						
รถแทรกเตอร์ HINO	<input checked="" type="checkbox"/>						
รถแทรกเตอร์ NISSAN	<input checked="" type="checkbox"/>						
รถจักรยานยนต์ Robin 1 100cc	<input checked="" type="checkbox"/>						
รถแทรกเตอร์/รถไถ 2 台	<input checked="" type="checkbox"/>						
รถไถ 14" HINO	<input checked="" type="checkbox"/>						
รถไถ (C110010)	<input checked="" type="checkbox"/>						
รถจักรยานยนต์ 100cc yamaha 100cc	<input checked="" type="checkbox"/>						
D41P (Komatsu)	<input checked="" type="checkbox"/>						
D5 (earth pillar)	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

NO. 6.

DATE MAR. 29 - APR. 4, 1989

WEEK	DESCRIPTION																								
	<p>A) KIND OF WORKS</p> <p>1) EXCAVATION THE CANAL.</p> <p>2) BACKFILL AND COMPACTION THE EMBANKMENT.</p> <p>3) TO CONSTRUCT THE URINE DRAIN FOR PIGGERY.</p> <p>4) INSTALLATION THE CONCRETE PIPE FOR APPENDANT STRUCTURE.</p>																								
	<p>B) WORKERS</p> <table border="0"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>SURVEYOR</td> <td>2</td> </tr> <tr> <td>FOREMAN</td> <td>2</td> <td>OPERATOR</td> <td>13</td> </tr> <tr> <td>DRIVER</td> <td>1</td> <td>OILER</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>3</td> </tr> <tr> <td>LABOUR</td> <td>12</td> <td>STEELFIXER</td> <td>2</td> </tr> <tr> <td>TOTAL</td> <td>42</td> <td>PERSONS</td> <td></td> </tr> </table>	SUPERVISOR	1	SURVEYOR	2	FOREMAN	2	OPERATOR	13	DRIVER	1	OILER	2	CARPENTER	4	MASON	3	LABOUR	12	STEELFIXER	2	TOTAL	42	PERSONS	
SUPERVISOR	1	SURVEYOR	2																						
FOREMAN	2	OPERATOR	13																						
DRIVER	1	OILER	2																						
CARPENTER	4	MASON	3																						
LABOUR	12	STEELFIXER	2																						
TOTAL	42	PERSONS																							
	<p>C) EQUIPMENT</p> <table border="0"> <tr> <td>BULLDOZER</td> <td>5</td> <td>EXCAVATOR</td> <td>1</td> </tr> <tr> <td>DUMP TRUCK</td> <td>2</td> <td>WATER TANKER</td> <td>1</td> </tr> <tr> <td>SERVICE CAR</td> <td>1</td> <td>WATER PUMP</td> <td>5 (6 HP.)</td> </tr> <tr> <td></td> <td></td> <td>WATER PUMP</td> <td>1 (110 HP.)</td> </tr> </table>	BULLDOZER	5	EXCAVATOR	1	DUMP TRUCK	2	WATER TANKER	1	SERVICE CAR	1	WATER PUMP	5 (6 HP.)			WATER PUMP	1 (110 HP.)								
BULLDOZER	5	EXCAVATOR	1																						
DUMP TRUCK	2	WATER TANKER	1																						
SERVICE CAR	1	WATER PUMP	5 (6 HP.)																						
		WATER PUMP	1 (110 HP.)																						
	<p>D) MATERIAL ON SITE</p> <p>NONE</p>																								

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang Dig Pond
 場所: Muang
 日付: Mar 29 - 4 APRIL 1989.

路号
 稼働
 遊休
 修理中

機 械 名	月	火	水	木	金	土	日
D7E BULLDOZER	<input checked="" type="checkbox"/>						
D6E BULLDOZER	<input checked="" type="checkbox"/>						
D4D BULLDOZER (2.94)	<input checked="" type="checkbox"/>						
HINO (รถบรรทุกน้ำ) WATER TANKER	<input checked="" type="checkbox"/>						
NISSAN (รถซ่อม) SERVICE CAR	<input checked="" type="checkbox"/>						
MYA (รถขุด) BACK HOE	<input checked="" type="checkbox"/>						
Yanmar (1 ไร่) WATER PUMP	<input checked="" type="checkbox"/>						
Robin (1 ไร่) WATER PUMP	<input checked="" type="checkbox"/>						
Hino (รถบรรทุกน้ำ) WATER PUMP	<input checked="" type="checkbox"/>						
ISZO (รถบรรทุก) DUMP TRUCK	<input checked="" type="checkbox"/>						
Caterpillar (D5B) 1 ไร่ BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

NO. 7

DATE APR. 5 - 11 , 1989.

WEEK	DESCRIPTION			
	A) KIND OF WORKS DONE.			
	1) EXCAVATION THE CANAL. THE WEST SIDE.			
	2) BACKFILL AND COMPACTION THE EMBANKMENT.			
	3) TO CONSTRUCT THE FEED BOX FOR PIGGERY.			
	4) INSTALLATION THE CONCRETE PIPE FOR APPENDANT STRUCTURE.			
	5) TO EXCAVATE THE SHALLOW WELL.			
	B) WORKERS			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	13
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	3
	LABOUR	12	STEELFIXER	2
	TOTAL	42	PERSONS	
	C) EQUIPMENT ON SITE			
	BULLDOZER	5	EXCAVATOR	1
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	WATER PUMP	5 (6 HP.
			WATER PUMP	1 (110 HP
	D) MATERIAL ON SITE			
	NONE			

WEEKLY REPORT OF USING EQUIPMENT

Equipment

MUANG PROJECT

APR. 5 - 11, 1989.

设备号
 使用
 修理中

设备名	月	火	水	木	金	土	日
D5E BULLDOZER	<input checked="" type="checkbox"/>						
D6C BULLDOZER	<input checked="" type="checkbox"/>						
D4D (2) BULLDOZER	<input checked="" type="checkbox"/>						
Hino (Water Tanker) WATER TANKER	<input checked="" type="checkbox"/>						
Nissan (Service Car) SERVICE CAR	<input checked="" type="checkbox"/>						
Back Hoe BACK HOE	<input checked="" type="checkbox"/>						
Yanmar (Water Pump) WATER PUMP	<input checked="" type="checkbox"/>						
Robin (Water Pump) WATER PUMP	<input checked="" type="checkbox"/>						
Hino (Water Pump) WATER PUMP	<input checked="" type="checkbox"/>						
ISZU (Dump Truck) DUMP TRUCK	<input checked="" type="checkbox"/>						
Caterpillar (BULLDOZER) BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

NO. 8

DATE APR. 12 - 18 , 1989.

WEEK	DESCRIPTION			
	A) KIND OF WORKS			
	1) EXCAVATION THE CANAL.			
	2) BACKFILL AND COMPACTION THE EMBANKMENT.			
	3) TO CONSTRUCT THE FEED BOX FOR PIGGERY.			
	4) TO EXCAVATE AND INSTALL PIPE FOR SHALLOW WELL.			
	B) WORKER			
	SUPERVISOR	1	SURVEYOR	2
	FOREMAN	2	OPERATOR	13
	DRIVER	1	OILER	2
	CARPENTER	4	MASON	3
	LABOUR	12	STEELFIXER	2
	TOTAL	42	PERSONS	
	C) EQUIPMENT ON SITE			
	BULLDOZER	5	EXCAVATOR	1
	DUMP TRUCK	2	WATER TANKER	1
	SERVICE CAR	1	WATER PUMP	5 (6 HP.)
			WATER PUMP	1 (110 HP.)
	D) MATERIAL ON SITE			
	CONCRETE BLOCK AND SAND			

WEEKLY REPORT OF USING EQUIPMENT

Equipment

MUANG PROJECT

APR. 12 - 18, 1989.

设备号

稼働日

連休

修理中

機 械 名	月	火	水	木	金	土	日
D7E BULLDOZER	<input checked="" type="checkbox"/>						
D6C BULLDOZER	<input checked="" type="checkbox"/>						
D4D 2 台 BULLDOZER	<input checked="" type="checkbox"/>						
HINO (水タンク) WATER TANKER	<input checked="" type="checkbox"/>						
NISSAN (サービス) SERVICE CAR	<input checked="" type="checkbox"/>						
バックホウ BACK HOE	<input checked="" type="checkbox"/>						
Yanmar (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
Robin (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
Hino (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
ISZU (ダンプトラック) DUMP TRUCK	<input checked="" type="checkbox"/>						
カマド (ブルドーザ) BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

NO. 9

DATE APR. 19 T 25 , 1989.

WEEK	DESCRIPTION.	
	A) KIND OF WORKS	
	1) EXCAVATION THE CANAL.	
	2) BACKFILL AND COMPACTION THE EMBANKMENT.	
	3) EXCAVATION THE LATERAL.	
	4) EXCAVATION, SPREADING AND COMPACTION THE POND.	
	5) GRADING AROUND THE AREA OF SWINE RAISING FACILITIES.	
	B) WORKERS	
	SUPERVISOR 1	SURVEYOR 2
	FOREMAN 2	OPERATOR 13
	DRIVER 1	OILER 2
	CARPENTER 4	MASON 3
	LABOUR 12	STEELFIXER 2
	TOTAL 42	PERSONS
	C) EQUIPMENT ON SITE	
	BULLDOZER 5	EXCAVATOR 2
	DUMP TRUCK 2	WATER TANKER 1
	SERVICE CAR 1	WATER PUMP 5 (6 HP.
		WATER PUMP 1 (110 HP.
	D) MATERIAL ON SITE	
	NONE	

WEEKLY REPORT OF USING EQUIPMENT

Equipment

MUANG PROJECT

APR. 19 - 25, 1989.

路号
 稼働日
 遊休日
 修理中

機 械 名	月	火	水	木	金	土	日
D7E BULLDOZER	<input checked="" type="checkbox"/>						
D6c BULLDOZER	<input checked="" type="checkbox"/>						
D4D BULLDOZER (2)	<input checked="" type="checkbox"/>						
HINO (コンクリートポンプ車) WATER TANKER	<input checked="" type="checkbox"/>						
NISSAN (トラック) SERVICE CAR	<input checked="" type="checkbox"/>						
トヨタ (バックホウ) BACK HOE (2)	<input checked="" type="checkbox"/>						
Yanmar (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
Robin (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
Hino (ポンプ) WATER PUMP	<input checked="" type="checkbox"/>						
ISUZU (ダンプトラック) DUMP TRUCK	<input checked="" type="checkbox"/>						
Caterpillar (ブルドーザー) BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT (MUANG)

NO. 10

DATE APR. 26 - MAY. 2 , 1989.

WEEK	DESCRIPTION
	A) KIND OF WORKS
	1) EXCAVATION THE CANAL 100 % COMP.
	2) BACKFILL AND COMPACTION THE EMBANKMENT ALMOST 90 % COMP.
	3) EXCAVATION , SPREADING AND COMPACTION THE POND. (EXCAVATION 100 % COMP.)
	4) EXCAVATION AND SPREADING THE LATERAL 100 % COMP.
	B) WORKERS
	SUPERVISOR 1 SURVEYOR 2
	FOREMAN 2 OPERATOR 13
	DRIVER 1 OILER 2
	CARPENTER 4 MASON 3
	LABOUR 12 STEELFIXER 2
	TOTAL 42 PERSONS
	C) EQUIPMENT ON SITE
	BULLDOZER 5 EXCAVATOR 2
	DUMP TRUCK 2 WATER TANKER 1
	SERVICE-CAR 1 WATER PUMP 5 (6 HP.)
	WATER PUMP 1 (110 HP.)
	D) MATERIAL ON SITE
	NONE

WEEKLY REPORT OF USING EQUIPMENT

Equipment

MUANG PROJECT

APR. 26 - MAY. 2, 1989.

番 号
 装 働 日
 遊 休 日
 修 理 中

機 器 名	月	火	水	木	金	土	日
D5E BULLDOZER	<input checked="" type="checkbox"/>						
D6E BULLDOZER	<input checked="" type="checkbox"/>						
D4D BULLDOZER	<input checked="" type="checkbox"/>						
HINO (รถบรรทุกน้ำ) WATER TANKER	<input checked="" type="checkbox"/>						
NISSAN (รถบริการ) SERVICE CAR	<input checked="" type="checkbox"/>						
รถขุด (2) BACK HOE (2)	<input checked="" type="checkbox"/>						
Yanmar (ปั๊ม) WATER PUMP	<input checked="" type="checkbox"/>						
Robin (ปั๊ม) WATER PUMP	<input checked="" type="checkbox"/>						
Hiro (ปั๊ม) WATER PUMP	<input checked="" type="checkbox"/>						
ISZU (รถบรรทุก) DUMP TRUCK	<input checked="" type="checkbox"/>						
Caterpillar (553) BULLDOZER	<input checked="" type="checkbox"/>						

WEEKLY REPORT

MUANG PROJECT

NO. 11

DATE MAY , 1 - 7 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

1. EXCAVATION AND SPREADING THE SOIL OF THE POND.
2. COMPACTION AND BACKFILL THE AREA AROUND THE POND.
3. PREPARATION THE AREA FOR POURING THE BASE OF GATE.
4. GRADING THE TOP OF EMBANKMENT OF CANAL.
5. TO FIX THE PIPE SIZE 0.40 M.
6. PREPARING THE STEEL FOR THE BASE OF GATE.

B) WORKERS

SUPERVISOR	1	SURVEYOR	2
FOREMAN	2	OPERATOR	13
DRIVER	1	OILER	2
CARPENTER	4	MASON	4
STEELFIXER	3	LABOUR	10
TOTAL	42	PERSONS	

C) MATERIAL ON SITE

STEEL FOR THE REINFORCEMENT OF CONCRETE OF THE GATE.

D) EQUIPMENT ON SITE

BULLDOZER	5	EXCAVATOR	3
GRADER	1	DUMP TRUCK	3
WATER TANKER	1	SERVICE CAR	1
TIRE ROLLER	1	WATER PUMP (6.5 HP.)	5
SHOVEL TRACTOR	1	WATER PUMP (110 HP.)	1

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang Big Pond
 場所: Muang
 日付: May 1989

略号
 稼働
 遊休
 修理中

機 械 名	月	火	水	木	金	土	日
TRACTOR D6C 100	<input checked="" type="checkbox"/>						
TRACTOR 2 D4D 200	<input checked="" type="checkbox"/>						
TRACTOR D41P 100	<input checked="" type="checkbox"/>						
TRACTOR D31P 100	<input checked="" type="checkbox"/>						
GRADER Mitsubishi 100 (Mitsubishi)	<input checked="" type="checkbox"/>						
TIRE ROLLER Mitsubishi 100	<input checked="" type="checkbox"/>						
WATER TANKER Mitsubishi 100	<input checked="" type="checkbox"/>						
SERVICE CAR Mitsubishi 100	<input checked="" type="checkbox"/>						
DUMP TRUCK Mitsubishi 100	<input checked="" type="checkbox"/>						
SHOVEL TRACTOR D5P 100	<input checked="" type="checkbox"/>						
EXCAVATOR Mitsubishi 100 (C1100)	<input checked="" type="checkbox"/>						
WATER PUMP 6.5 HP Mitsubishi 6.5 (Mitsubishi) (Eaton)	<input checked="" type="checkbox"/>						
WATER PUMP 6.5 HP Mitsubishi 6.5 (Mitsubishi) (Robin)	<input checked="" type="checkbox"/>						
WATER PUMP 110 HP Mitsubishi 110 (Mitsubishi) (Hino)	<input checked="" type="checkbox"/>						

WEEKLY REPORT

MUANG PROJECT

NO. 12

DATE MAY , 8 - 14 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

1. EXCAVATION THE POND AND COMPACTION AROUND THE AREA .
2. MAKE SIDE SLOPE OF THE POND.
3. GRADING THE EMBANKMENT OF CANAL.
4. PREPARATION THE AREA FOR SLOPE PROTECTION AT THE CROSS ROAD.
5. POURING THE CONCRETE FOR SLOPE PROTECTION AT THE CROSS ROAD.
6. PREPARING THE STEEL AND BENDING ITS FOR THE BASE OF THE GATE.

B) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	13
DRIVER	1	OILER	2
CARPENTER	4	MASON	4
STEELFIXER	3	LABOUR	10
TOTAL	44	PERSONS	

C) MATERIAL ON SITE

NONE

D) EQUIPMENT ON SITE

BULLDOZER	5	EXCAVATOR	3
GRADER	1	DUMP TRUCK	3
WATER TANKER	1	SERVICE CAR	1
TIRE ROLLER	1	WATER PUMP (6.5 HP.)	5
SHOVEL TRACTOR	1	WATER PUMP (110 HP.)	1

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang R9 Road
 場所: Miang
 日付: May 8-14, 1989

路号
 稼働
 遊休
 修理中

機 械 名	月	火	水	木	金	土	日
BULLDOZER D6E 1 台	<input checked="" type="checkbox"/>						
BULLDOZER D4D 2 台	<input checked="" type="checkbox"/>						
BULLDOZER D41P 1 台	<input checked="" type="checkbox"/>						
BULLDOZER D31P 1 台	<input checked="" type="checkbox"/>						
GRADER D6C 1 台 (L01065/107)	<input checked="" type="checkbox"/>						
TIRES ROLLER 1 台	<input checked="" type="checkbox"/>						
WATER TANKER D6C 1 台	<input checked="" type="checkbox"/>						
SERVICE CAR D6C 1 台	<input checked="" type="checkbox"/>						
DUMP TRUCK D6C 3 台	<input checked="" type="checkbox"/>						
SHOVEL TRACTOR D5P 1 台	<input checked="" type="checkbox"/>						
(BACKHOE) EXCAVATOR D6C 3 台 (H01070)	<input checked="" type="checkbox"/>						
WATER PUMP 6.5 HP. D6C 6.5 HP (L01070) 1 台	<input checked="" type="checkbox"/>						
WATER PUMP 6.5 HP. D6C 6.5 HP (L01070) 1 台	<input checked="" type="checkbox"/>						
WATER PUMP 110 HP. D6C 110 HP (H01070) 1 台	<input checked="" type="checkbox"/>						

WEEKLY REPORT

MUANG PROJECT

NO. 13

DATE MAY , 15 - 21 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) COMPACTION THE EMBANKMENT OF THE CANAL.
- 2) PROTECTION THE ROAD (THE EMBANKMENT OF THE CANAL) BY TAKE THE GRAVEL SIZE 3/4" TO COVER THE ROAD.
- 3) GRADING AND COMPACTION THE GRAVEL.
- 4) POURING THE CONCRETE AT THE BASE OF GATE.
- 5) FIXING THE STEEL FOR THE WALL OF THE GATE.
- 6) GRADING AND COMPACTION THE AREA AROUND THE POND.
- 7) MAKE THE SLOPE PROTECTION FOR THE CROSS ROAD.

B) WORKERS

SUPERVISOR	1	SURVEYOR	1
FOREMAN	2	OPERATOR	13
DRIVER	1	OILER	2
CARPENTER	4	MASON	4
STEELFIXER	3	LABOUR	10
TOTAL	41	PERSONS	

C) MATERIAL ON SITE

GRAVEL SIZE 3/4" QUANTILY 340 CUBIC METRE.

D) EQUIPMENT ON SITE

BULLDOZER	5	EXCAVATOR	3
GRADER	1	DUMP TRUCK	3
WATER TANKER	1	SERVICE CAR	1
TIRE ROLLER	1	WATER PUMP (6.5 HP.)	5
SHOVEL TRACTOR	1	WATER PUMP (110 HP.)	1

機 械 の 使 用 報 告

Weekly Report of using Equipment

工事名: Muang Rig Pond

路 号

場 所: Muang

稼働

日 付: Mar 15-21, 1989

遊休

修理中

機 械 名	月	火	水	木	金	土	日
BULLDOZER D6E 1台	<input checked="" type="checkbox"/>						
BULLDOZER D4D 2台	<input checked="" type="checkbox"/>						
BULLDOZER D41P 1台	<input checked="" type="checkbox"/>						
BULLDOZER D311 1台	<input checked="" type="checkbox"/>						
GRADER D41P 1台 (走行機)	<input checked="" type="checkbox"/>						
TIRE ROLLER D41P 1台	<input checked="" type="checkbox"/>						
WATER TANKER D41P 1台	<input checked="" type="checkbox"/>						
SERVICE CAR D41P 1台	<input checked="" type="checkbox"/>						
DUMP TRUCK D41P 3台	<input checked="" type="checkbox"/>						
SHOVEL TRACTOR D5P 1台	<input checked="" type="checkbox"/>						
EXCAVATOR D41P 3台 (走行機)	<input checked="" type="checkbox"/>						
WATER PUMP 1.5 HP D41P 1台	<input checked="" type="checkbox"/>						
WATER PUMP 1.5 HP D41P 1台	<input checked="" type="checkbox"/>						
WATER PUMP 1.5 HP D41P 1台	<input checked="" type="checkbox"/>						

WEEKLY REPORT

MUANG PROJECT

NO. 14

DATE MAY , 22 - 28 , 1989.

WEEK

DESCRIPTION

A) KIND OF WORKS

- 1) MAKE THE SLOPE PROTECTION OF THE CROSS ROAD.
- 2) PREPARING THE STEEL AND BENDING ITS FOR THE BASE , THE WALL , OF THE GATE.
- 3) MAKE THE SLOPE PROTECTION OF THE POND.
- 4) PREPARING THE SHUTTERING FOR THE WALL OF THE GATE.
- 5) CLEANING THE EMBANKMENT OF THE CANAL.

B) WORKERS

SUPERVISOR	1	FOREMAN	1
CARPENTER	4	MASON	4
STEELFIXER	3	LABOUR	10
TOTAL	23	PERSONS	

C) MATERIAL ON SITE

STEEL GATE FOR THE WATER GATE 2 SETS

D) EQUIPMENT ON SITE

CONCRETE MIXER	1	
WATER TANKER	1	(DEPEND ON WATER REQUIREMENT)

WEEKLY REPORT

MUANG PROJECT

NO. 15

DATE MAY, 29 - JUNE , 4 , 1989

WEEK	DESCRIPTION																																
	<p>A) KIND OF WORKS</p> <p>1) SPREADING AND COMPACTION THE EMBANKMENT OF THE CANAL , UNTIL IT WILL BE FINISHED.</p> <p>2) TO FILL THE GRAVEL OVER THE EMBANKMENT FOR ROAD PROTECTION TO THE END AND COMPACTION IT.</p> <p>3) TO FIX THE SHUTTERING AND POURING THE CONCRETE FOR THE GATE.</p> <p>4) TO INSTALL "THE" COVER (NYLON NET) OF VEGETABLE FARM.</p> <p>5) TO FIX THE BASE OF WATER TANK.</p> <p>B.) WORKERS</p> <table data-bbox="259 739 1299 1008"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>FOREMAN</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>4</td> </tr> <tr> <td>STEELFIXER</td> <td>1</td> <td>LABOUR</td> <td>10</td> </tr> <tr> <td>OPERATOR</td> <td>3</td> <td>DRIVER</td> <td>1</td> </tr> <tr> <td>OILER</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>27</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) MATERIAL ON SITE</p> <p>NONE</p> <p>D) EQUIPMENT ON SITE</p> <table data-bbox="259 1120 1299 1232"> <tr> <td>BACKHOE (EXCAVATOR)</td> <td>1</td> <td>BULLDOZER</td> <td>1</td> </tr> <tr> <td>ROLLER COMPACTOR</td> <td>1</td> <td>SERVICE CAR</td> <td>1</td> </tr> </table>	SUPERVISOR	1	FOREMAN	2	CARPENTER	4	MASON	4	STEELFIXER	1	LABOUR	10	OPERATOR	3	DRIVER	1	OILER	1			TOTAL	27	PERSONS		BACKHOE (EXCAVATOR)	1	BULLDOZER	1	ROLLER COMPACTOR	1	SERVICE CAR	1
SUPERVISOR	1	FOREMAN	2																														
CARPENTER	4	MASON	4																														
STEELFIXER	1	LABOUR	10																														
OPERATOR	3	DRIVER	1																														
OILER	1																																
TOTAL	27	PERSONS																															
BACKHOE (EXCAVATOR)	1	BULLDOZER	1																														
ROLLER COMPACTOR	1	SERVICE CAR	1																														

WEEKLY REPORT

MUANG PROJECT

NO. 16

DATE JUNE , 5 - 11 , 1989.

WEEK	DESCRIPTION			
A)	KIND OF WORKS			
	1) INSTALLATION THE GATE.			
	2) TO FIX THE SHUTTERING AND POURING THE CONCRETE FOR THE GATE. (FRONT)			
	3) TO FIX THE WATER TANK AND WATER SUPPLY FOR PIGGERY.			
	4) INSTALLATION THE COVER (NYLON NET) OF VEGETABLE FARM.			
	5) TO EIX THE ELECTRICITY INSIDE AND OUTSIDE SWINE RAISING FACILITIES.			
B)	WORKERS			
	SUPERVISOR	1	FOREMAN	2
	CARPENTER	4	MASON	4
	STEELFIXER	1	LABOUR	10
	DRIVER	1		
	TOTAL	23	PERSONS	
C)	MATERIAL ON SITE			
	NONE			
D)	EQUIPMENT ON SITE			
	EXCAVATOR	1	BULLDOZER	1
	ROLLER COMPACTOR	1	SERVICE CAR	1

WEEKLY REPORT

MUANG PROJECT

NO. 13

DATE JUNE , 12 - 17 , 1989.

WEEK	DESCRIPTION																																				
	<p>A) KIND OF WORKS</p> <p>1) INSTALLATION THE GATE. (FRONT)</p> <p>2) BACKFILL AND COMPACTION OVER THE PIPE AT THE GATE.</p> <p>3) INSTALLATION THE COVER (NYLON NET) OF VEGETABLE FARM. (COMPLETELY)</p> <p>4) CLEANING THE AREA AROUND THE JOB SITE. UNTIL IT WILL BE COMPLETED.</p> <p>5) DEMOBILIZATION</p> <p>B) WORKERS</p> <table data-bbox="300 689 1276 936"> <tr> <td>SUPERVISOR</td> <td>1</td> <td>FOREMAN</td> <td>2</td> </tr> <tr> <td>CARPENTER</td> <td>4</td> <td>MASON</td> <td>4</td> </tr> <tr> <td>STEELFIXER</td> <td>1</td> <td>LABOUR</td> <td>10</td> </tr> <tr> <td>OPERATOR</td> <td>3</td> <td>DRIVER</td> <td>1</td> </tr> <tr> <td>OILER</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>TOTAL</td> <td>27</td> <td>PERSONS</td> <td></td> </tr> </table> <p>C) MATERIAL ON SITE</p> <p>NONE</p> <p>D) EQUIPMENT ON SITE</p> <table data-bbox="300 1075 1276 1205"> <tr> <td>EXCAVATOR</td> <td>1</td> <td>BULLDOZER</td> <td>1</td> </tr> <tr> <td>ROLLER COMPACTOR</td> <td>1</td> <td>SERVICE CAR</td> <td>1</td> </tr> <tr> <td>GRADER</td> <td>1</td> <td></td> <td></td> </tr> </table>	SUPERVISOR	1	FOREMAN	2	CARPENTER	4	MASON	4	STEELFIXER	1	LABOUR	10	OPERATOR	3	DRIVER	1	OILER	1			TOTAL	27	PERSONS		EXCAVATOR	1	BULLDOZER	1	ROLLER COMPACTOR	1	SERVICE CAR	1	GRADER	1		
SUPERVISOR	1	FOREMAN	2																																		
CARPENTER	4	MASON	4																																		
STEELFIXER	1	LABOUR	10																																		
OPERATOR	3	DRIVER	1																																		
OILER	1																																				
TOTAL	27	PERSONS																																			
EXCAVATOR	1	BULLDOZER	1																																		
ROLLER COMPACTOR	1	SERVICE CAR	1																																		
GRADER	1																																				

6-3-3 計画・設計一部変更資料

SD/N6/32/102
RKK Mar. 23, 1989

JICA THAILAND OFFICE

所長 齊藤 勉 殿

又々農協、モットーの整備事業
工務計画設計一部変更件

前略

当該工務計画、PAK-THONGT-CHAI地区 Bill of Quantities
Item No. 1-1-2, 1)及び2)による Hen Houseの資材供給を
Piggeryの資材供給に変更するに当り、CPD提出の概算
図面等検討の結果、当初工事費に支障を及ぼさず
おこなうことを確認しました。

従って、以外に對し、承認頂きたし、施工監理担当者とし、
ご連絡致します。

草々

大宮正廣

施工監理担当

事業団本部			プロジェクト		
部長	課長	担当	リーダー	調整員	担当
					

事務連絡

番号(56)~

昭和元年 3月23日
平成

国際協力事業団

外務所長
青藤勉 殿

外国農協振興プロジェクト
竹内 博

件名 モデルインフラ事業 (バクン4ヤイ地区) の
設計変更について

モデルインフラ事業(バクン4ヤイ地区)の中の養鶏舎の建設について、その後受益者であるモデル営農グループの全員の意向として養豚舎へ変更してほしいという要望が出され、CPD当局もこの要望の実現を公式に要請するに到っています。

営農グループメンバーは、養鶏は日々の飼育作業が丁寧でなければならず、養豚にくらべて手がかかるし、疾病も多発である。養豚は手がかからず管理

(やすい) 特に、最近に於て、農協も養豚のための融資をはじめ、養豚農家が急増し、販賣取引は、鶏卵肉の場合より、向是負が少い。」と云っており、近いうちに、千カラ(隣の郡)に豚の処理加工企業が仕事を始めることを計算に入れていると思われします。否定できぬ判断であると考えます。

このような状況の下では、当初の養鶏舎建設も固執できず、その費用は同額で変更なし。今後の両々変更はしない、ということ。小生もその設計変更を要請する次第です。

恐縮ですが、よろしくお願ひします。



Cooperatives Promotion Department
Ministry of Agriculture and Cooperatives
12 Krung Kasem Road, Theves
Bangkok 10200 Thailand
Tel. 2810535

No. AC 1113/

2855

23 March B.E. 2532 (1989)

Dear Mr. T. Saito,

Ref : Request for the Modification of Plan for Model
Infrastructure on the Agricultural Cooperative Promotion
Project in Thailand.

With concerning about the construction works in Pak Thong Chai, it is asked by farmers that it is necessary to change the plan from hen-house for each farmer to be piggery. This modification was agreed by Mr. M. Oniya, JICA Engineer, because piggery became more useful for farmers.

Additionally, we are enclosing herewith the following documents

1. Copy of Letter No. SV/NG/32/201 dated March 6, 1989
2. Drawings of piggery
3. Bill of Quantities of hen-houses and piggeries
4. Written Oath of members.

We, therefore, would like to request for an approval from JICA for the above plan modification. Your favourable consideration on our request shall be highly appreciated.

With best regards.

Yours sincerely,

A. Kanokvichitra

Auyphole Kanokvichitra
Deputy Director General

Mr. Tsutomu Saito
Resident Representative
JICA Thailand Office.

SV/NG/32/201

KORAT Mar.6 1989

Ms.Rachaneewan Prathomhong

PROJECT MANAGER

Cooperatives Promotion Department

Dear Sir,

Re: Recommendation for the modification of plan
ON MODEL INFRASTRUCTURES IMPROVEMENT WORK (PAK-THONG-CHAI)

Now we have a modification of plan at Hen House for each farmers in Pak-Thong-Chai. It is to change the plan from Hen House to Piggery by request of the farmers.

So we would like you to request that to JICA with the related documents as follows.

- Drawings
- Bill of quantities
- Written oath (to the effect that the farmers will construct the Piggery within a term by themselves)

Hoping to hear from you at an early date.

Your faithfully



OMIYA MASAHIRO MR.

JICA supervisor

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2	Open House					
	Column (wood) 3" x 3" x 2.50m.	pieces	17	175	2,975	(B)
	Wooden structure + Others	cum	0.90	12,000	10,800	
	Column (wood) 4" x 4" x 2.50m	pieces	6	310	1,860	
	Concrete block	sqm	7.7	45	347	
	Mortar	cum	0.30	900	270	
	Plain concrete for column	"	2.90	1,100	3,190	
	Roofing (yahka)	sqm	43	35	1,505	
	Galvanized sheet	pieces	1	90	90	
	Wire mesh #1/2"	sqm	72	20	1,440	
	Nail + Bolt + Others				100	
	Labour cost				1,610	
	Total				24,187	
				Round off	24,100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2	Men House (Material)				(B)	
	Column (wood) 4" x 4" x 2.50m	pieces	6	310	1,860	
	" 3" x 3" x 2.50m	"	17	175	2,975	
	Wooden structure + Others	cum	0.90	12,000	10,800	
	Concrete block	sqm	7.70	45	347	
	Mortar	cum	0.30	900	270	
	Plain concrete for column	"	2.90	1,100	3,190	
	Roofing (yahka)	sqm	43	35	1,505	
	Galvanized sheet	pieces	1	90	90	
	Wire mesh #1/2"	sqm	72	20	1,440	
	Nail + Bolt + Others				100	
	Total				22,577	
					406,386	
				Round off	406,300	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (₪)	Price (₪)	Remarks
1-1-2						
1)	Piggery (model)					
1	concrete pipe $\phi 600\text{mm} * 1.00 \text{ m}$	pieces	1	350	350	
2	" $\phi 1/2 * 600\text{mm} * 0.50 \text{ m}$	"	6	150	900	
3	column (wood) 4" * 4" * 2.50 m	"	6	310	1,860	
4	timber (hard wood)	cum	0.8	12,000	9,600	
5	concrete block (390*190*90m/m)	pieces	130	4.50	585	
6	mortar	cum	3.0	900	2,700	
7	plain concrete (mixed)	"	2.5	1,100	2,750	
8	sand	"	2.0	180	360	
9	yahka (0.20 * 1.20 m)	pieces	320	5	1,600	
10	steel round bar 6mm	kg	65	13	845	
11	concrete column (0.1 * 0.1 * 1.0 m)	pieces	6	100	600	prefabricated
12	galvanized sheet	"	2	90	180	
13	others (nail + balt)	-	-	-	245	
14	laber	-	-	-	1,610	
	total				24,185	
					24,100	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (₱)	Price (₱)	Remarks
1-1-2						
1)	Piggery (material)					
1	concrete pipe ϕ 600mm * 1.00 m	pieces	1	350	350	
2	" ϕ 1/2*600mm * 0.50 m	"	6	150	900	
3	column (wood) 4" * 4" * 2.50 m	"	6	310	1,860	
4	timber (hard wood)	cum	0.8	12,000	9,600	
5	concrete block (390*190*90m/m)	pieces	130	4.50	585	
6	mortar	cum	3.0	900	2,700	
7	plain concrete (mixed)	"	2.5	1,100	2,750	
8	sand	"	2.0	180	360	
9	yahka (0.20 * 1.20 m)	pieces	320	5	1,600	
10	steel round bar 6mm	kg	65	13	845	
11	concrete column (0.1 *0.1 *1.0 m)	pieces	6	100	600	prefabricated
12	galvanized sheet	"	2	90	180	
13	others (nail + balt)	"	-	-	245	
	total				22,575	
					406,350	
					406,300	round off



บันทึกข้อความ

ส่วนราชการ.....

ที่ วันที่ 8 สิงหาคม 2532

เรื่อง ทร ๑๐/๒๕๓๒ กรมการขนส่งทางบก เรื่อง ระเบียบว่าด้วยการปฏิบัติราชการ

ที่นิตยภัตตามระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ ซึ่งองค์การ
 รัฐบาลและหน่วยงานของรัฐที่มิใช่ทบวง (TICA) ได้ให้สัตยาบันหรือให้ใช้, มาตรา ๒๕๓ แห่งกฎกระทรวงว่าด้วยการ
 ระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ พ.ศ. ๒๕๒๕ ซึ่งแก้ไขเพิ่มเติมโดย
 ระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ พ.ศ. ๒๕๒๖ และระเบียบว่า
 กับการว่าจ้าง ๑๐/๒๕๓๒ ของกรมการขนส่งทางบก (TICA) ได้ให้สัตยาบันมาโดยสมบูรณ์
 ในที่นี้ขอแจ้งให้ทราบถึงระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ พ.ศ. ๒๕๒๕
 ซึ่งแก้ไขเพิ่มเติมโดยระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ พ.ศ. ๒๕๒๖ และ
 ระเบียบว่าด้วยการปฏิบัติราชการของข้าราชการพลเรือนสามัญ พ.ศ. ๒๕๒๖ และระเบียบว่า
 กับการว่าจ้าง ๑๐/๒๕๓๒ ของกรมการขนส่งทางบก (TICA) ให้ใช้บังคับตั้งแต่วันที่ ๑๐ สิงหาคม ๒๕๓๒
 เป็นต้นไป ทั้งนี้ เพื่อให้การปฏิบัติราชการของข้าราชการพลเรือนสามัญเป็นไปด้วยความเรียบร้อย

- | | | |
|----|---------------------|------------------|
| 1 | นางสาว..... | 17. นางสาว..... |
| 2 | นางสาว..... | 18. นายเกิด..... |
| 3 | นางสาว..... | 19. นาย..... |
| 4 | นาย..... | |
| 5 | นาย..... | |
| 6 | นาย..... | |
| 7 | นาย..... | |
| 8 | นาย..... | |
| 9 | นาย..... | |
| 10 | นาง..... | |
| 11 | นาย..... | |
| 12 | นาง..... | |
| 13 | นาง..... | |
| 14 | นาย..... | |
| 15 | นาย..... | |
| 16 | นาย..... | |

6-3-4 中間檢查資料

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Subject; MODEL INFRASTRUCTURES IMPROVEMENT WORKS
ON AGRICULTURAL COOPERATIVE PROMOTION PROJECT
INTERIM INSPECTION

In respect of the above-mentioned, Interim Inspection was held on April 12, 1989 by the request for Interim Inspection of CPD Engineering Center No.3 on April 5, 1989.

The completed amount of Construction is as follows.

PAK-THONG-CHAI		MUANG	
Big Pond	78.7 %	Canal	49.8 %
Pond Type A	89.0	Lateral Canal	-
Type B	96.0	Pond	-
Swine Raising		Swine Raising	
Facilities	63.1	Facilities	66.1
Poultry Facilities	100	Vegetable Farm	
Hatchery	65.3	Facilities	64.9
Piggery Materials	50.0		
Evaluation Ave.	77.5 %	Evaluation Ave.	36.2 %
Total Ave. Evaluation		60.2 %	

Inspector

Mr. YAMASHITA Yasunori

Mr. TAKEUCHI Hiroshi

Witness

Mr. CHOOSAK Losakulpong

Mr. OMIYA Masahiro

Inspection Record

April 12, 1989

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Interim Inspection Record

As the request of Interim Inspection with regard to the following, please be informed that the construction works was executed in conformity for contract, Technical Specifications and Drawings.

MODEL INFRASTRUCTURES IMPROVEMENT WORKS at PAK-THONG-CHAI, MUANG

Total amount of construction	4,098,000 Baht
Contractor	CPD Engineering Center NO.3
Construction period	From Jan. 25, 1989 to June 15, 1989
Date of supply	April 5, 1989
Date of Interim Inspection	April 12, 1989
Date of Advance payment	Jan. 20, 1989 (30% of total amount of Construction)
Total amount of Interim payment	1,220,000 Baht (30% of total amount of Construction)

INSPECTOR

Mr. YAMASHITA Yasunori

(JICA Bangkok Office)

Mr. TAKEUCHI Hiroshi

(Project Leader of A.C.P.P)

WITNESS

Mr. CHOOSAK Losakulpong

(CPD Construction Supervisor)

Mr. OMIYA Masahiro

(JICA Construction Supervisor)

C.P.D.	MODEL INFRASTRUCTURES IMPROVEMENT WORK	MUANG
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MONTH NO. 3 INTERIM PROGRESS REPORT DATE OF INSPECTION 12 APR. 1989

MANPOWER (NO. OF MEN)		SUPERVISOR	1
NOTE : %PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE JAN 1989		FOREMAN	2
		SURVEYOR	2
THIS MONTH		OPERATOR	13
		CARPENTER	4
7.597		MASON	3
		STEELFIXER	2
OVER ALL		LABOUR	12
22.18		OTHERS	3
		TOTAL	42

% WORK COMPLETED

		DESCRIPTION	% WT	LASTMONTH	THIS MONTH	CUMUL	REMAR
EL.00	0.00	MOBILIZAION	—	—	—	—	
EL.01	4.00	CANAL - EXCAVATION	6.27	3.76	1.256	5.016	
	1.01	SPREADING + COMPACTION	13.56	6.78	2.712	9.492	
	1.02	ROAD PROTECTION	1.73	—	—	—	
EL.02	2.00	APPENDANT STRUCTURE - EARTHWORKED	1.28	0.064	0.320	0.384	
	2.01	SHUTTERING + CONCRETE	7.14	—	—	—	
	2.02	PIPE WORKED	2.53	0.51	1.261	1.771	
	2.03	STEELWORKED(GATE INSTALLATION)	0.98	—	—	—	
EL.03	3.00	VEGETABLE FARM - PREFABRICATED	0.82	0.82	—	0.82	
	3.01	INSTALLATION STRUCTURE	0.62	0.167	0.453	0.62	
	3.02	INSTALLATION COVER	0.78	—	—	—	
EL.04	4.00	SWINE RAISING FACILITIES EARTHWORKED	0.22	0.198	0.022	0.22	
	4.01	CARPENTRY + ROOFING	3.02	1.812	0.604	2.416	
	4.02	CONCRETE + MASONARY	0.86	—	0.688	0.688	
	4.03	URINE DRAIN	0.92	—	0.276	0.276	
	4.04	OTHERS	0.54	—	—	—	
EL.05	5.00	COMPOST BARNYARD - EARTHWORKED	0.012	0.012	—	0.012	
	5.01	CARPENTRY + ROOFING	0.46	0.46	—	0.46	
EL.06	6.00	SHALLOW WELL - EXCAVATION	0.01	—	0.005	0.005	
	6.01	INSTALLATION PIPE	0.13	—	—	—	
EL.07	7.00	POND - EXCAVATION	1.35	—	—	—	
	7.01	SPREADING + COMPACTION	1.78	—	—	—	
	7.02	SLOPE PROTECTION + PIPE	0.70	—	—	—	
EL.08	8.00	LATERAL - EXCAVATION	0.16	—	—	—	
	8.01	SPREADING + COMPACTION	0.13	—	—	—	
EL.09	9.00	DEMOBILIZATION	—	—	—	—	
TOTAL			46.0	14.583	7.597	22.18	

NTH NO. 3 : INTERIM PROGRESS REPORT DATE OF INSPECTION 12 APR. 1989

POWER (NO. OF MEN)	SUPERVISOR	1
	FOREMAN	2
	SURVEYOR	2
	OPERATOR	10
	CARPENTER	4
	MASON	4
	STEELFIXER	2
	LABOURS	16
	OTHERS	3
	TOTAL	44

PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE JAN 1989

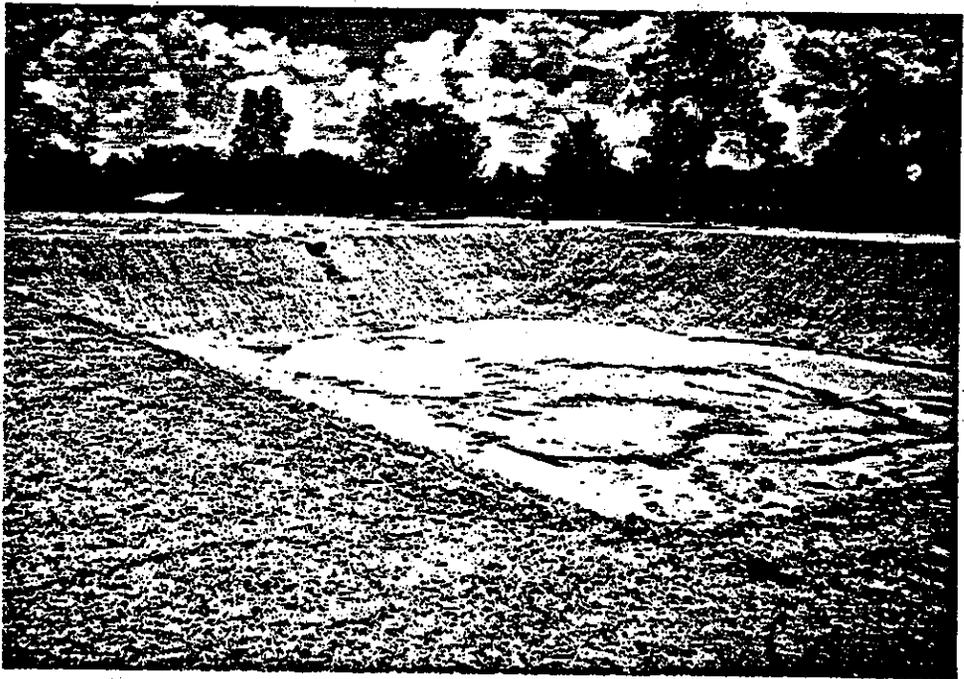
THIS MONTH	OVER ALL
9.363	40.176

% WORK COMPLETED

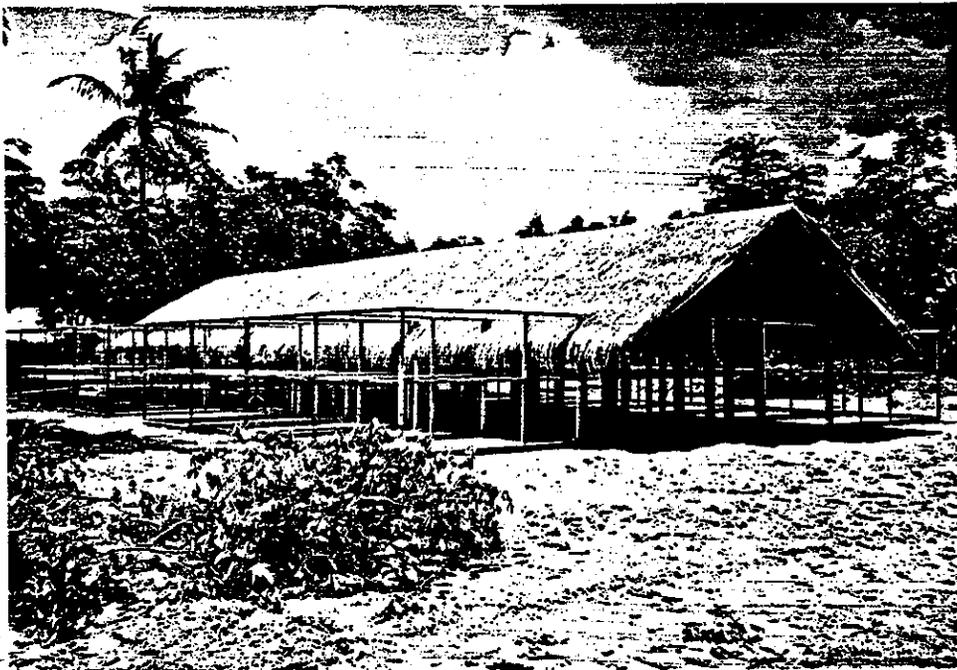
CHRST EM	DESCRIPTION	WT	LASTMONTH	THIS MONTH	CUMUL	REMARKS
0	0.00 MOBILIZATION	-	-	-	-	
1	1.00 BIGPOND - EXCAVATION	5.30	3.71	1.06	4.77	
	1.01 SPREADING + COMPACTION	10.10	7.07	1.01	8.08	
	1.02 SLOPE PROTECTION + PIPE	0.92	-	-	-	
2	2.00 PONDTYPEA + EXCAVATION	4.60	4.60	-	4.60	
	2.01 SPREADING + COMPACTION	6.39	5.11	0.641	5.751	
	2.02 SLOPE PROTECTION + PIPE	1.96	0.39	0.786	1.176	
3	3.00 PONDTYPEB - EXCAVATION	0.52	0.52	-	0.52	
	3.01 SPREADING + COMPACTION	0.77	0.77	-	0.77	
	3.02 SLOPE PROTECTION + PIPE	0.12	0.036	0.036	0.072	
4	4.00 COMPOST BARNYARD - EARTHWORKED	0.012	0.012	-	0.012	
	4.01 CARPENTRY + ROOFING	0.46	0.46	-	0.46	
5	5.00 HEN HOUSE - EARTHWORKED	0.19	0.19	-	0.19	
	5.01 CARPENTRY + ROOFING	1.93	1.93	-	1.93	
	5.02 MASONARY	0.22	0.22	-	0.22	
	5.03 FENCING (WIRE MESH)	0.86	0.86	-	0.86	
6	6.00 WATER TANK - EARTHWORKED	0.40	0.40	-	0.40	
	6.01 CARPENTRY + ROOFING	0.73	0.66	-	0.66	
7	7.00 HATCHERY - EARTHWORKED	0.04	0.032	-	0.032	
	7.01 CARPENTRY - ROOFING	0.63	0.504	-	0.504	
	7.02 CONCRETE - MASONARY	0.16	0.032	-	0.032	
	7.03 FENCING (WIRE MESH)	0.04	-	-	-	
8	8.00 SWINE RAISING FACILITIES - EARTHWORKED	0.24	0.216	-	0.216	
	8.01 CARPENTRY + ROOFING	3.08	2.156	-	2.156	
	8.02 CONCRETE + MASONARY	2.10	0.84	-	0.84	
	8.03 URINE DRAIN	0.95	0.095	0.190	0.285	
	8.04 OTHERS (MATERIAL FOR PIGGERY)	11.28	-	5.64	5.64	
9	9.00 DEMOBILIZATION	-	-	-	-	
	TOTAL	54.0	30.813	9.363	40.176	
	TOTAL (- PAKTHONGCHAI + MUANG)	100	45.396	16.960	62.356	



Aタイプ溜め池（バクトンチャイ）

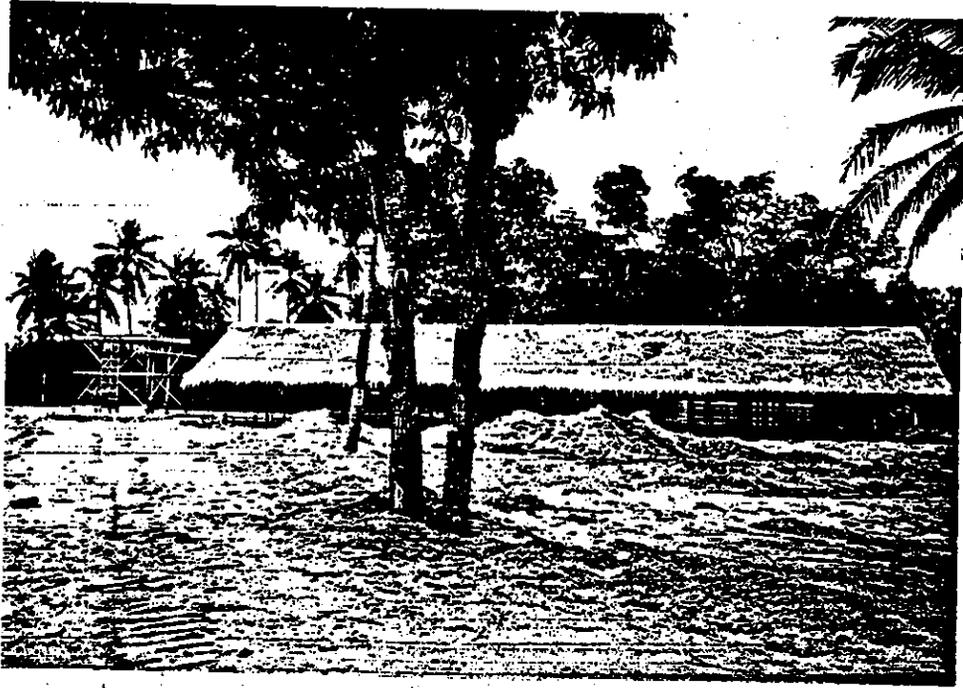


Bタイプ溜め池（バクトンチャイ）



集団養鶏（種鶏）施設（バクトンチャイ）





集団養豚施設（バクトンチャイ）

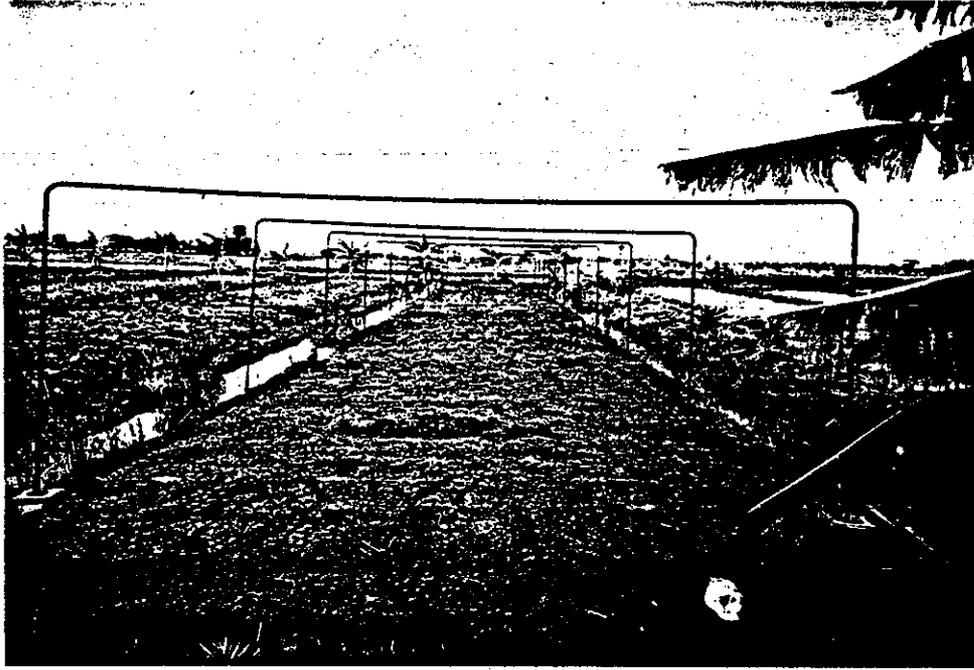




大型溜め池（バクトンチャイ）

（一部底部より岩盤が現われたが、予定容積の確保はできた）



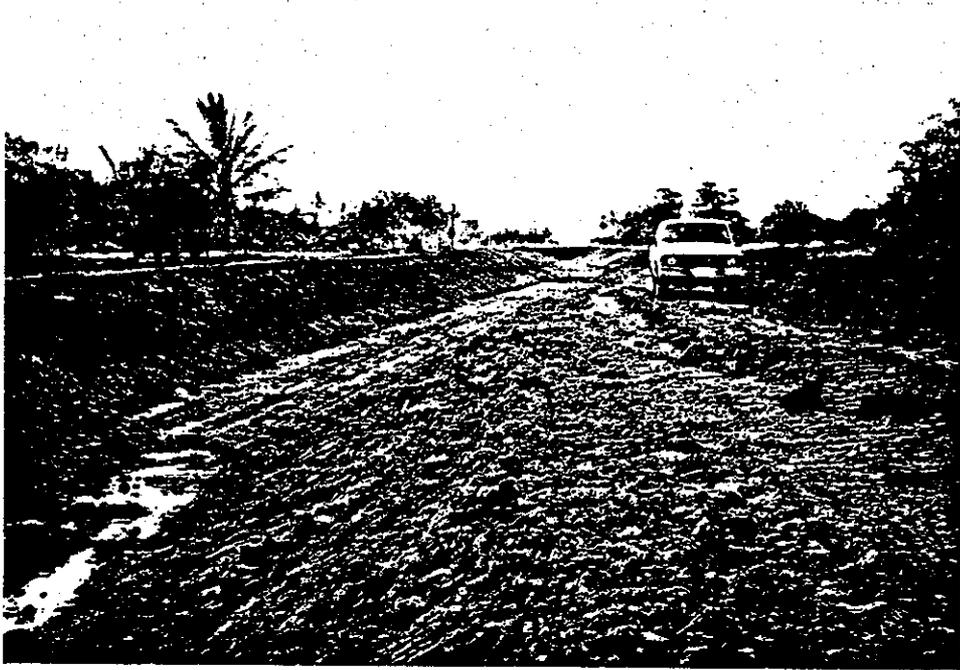


野菜ネット栽培施設（ムアン）

（ネット張りは、引き渡し時に行なう予定）



各農家養豚施設用資材（バクトンチャイ）



水路改修 (ムアン)





集団養豚施設（ムアン）



No. AC 1113/ 4396



Cooperatives Promotion Department

27 April B.E. 2532 (1989)

Dear Mr. T. Saito,

Enclosed please find the receipt No. 3 Book No. 3647 to acknowledge the cheque of Bank of Tokyo No. 2082621 dated 21 April 1989 in the amount of $\text{฿} 1,220,000$ for the cost of construction of model infrastructure in Pak Thong Chai and Muang Nakorn Rachasima District.

We greatly appreciate your kind cooperation.

With best regards.

Sincerely yours,

Songyos Narkchamnan
Director General

Mr. Tsutomu Saito,
Japan International Cooperation Agency (JICA)
1674/1 New Petchburi Road,
Bangkok 10310



เล่มที่ 3647

เลขที่ 3

ใบเสร็จรับเงิน

ในราชการกรมส่งเสริมสหกรณ์

ที่ทำการ คลองคิ้ว

วันที่ 15 เดือน เมษายน พ.ศ. 2532

ได้รับเงินจาก Japan International Cooperation Agency (JICA)

เป็นค่า ก่อสร้างฝายหินทรายสำหรับระบบชลประทานแบบผสมผสานที่อำเภอปักษ์ใต้ เขตอำเภอเมืองนครราชสีมา

จำนวนเงิน 2,220,000 บาท - สตางค์ (ตัวอักษร หนึ่งล้านสองแสนสองหมื่นบาทถ้วน) ภาคที่ 2

ไว้เป็นการถูกต้องแล้ว (ยึดชมตราหนังสือกำกับ เลขที่ 2082621 ลง 21 เม.ย. 32)

(ลงชื่อ) O. M. S. ผู้รับเงิน

(ตำแหน่ง) หัวหน้าแผนกเงิน

★

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★

★

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6-3-5 竣工檢查資料。

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Final Inspection Record

As the request of Final Inspection with regard to the following, please be informed that the construction works was executed in conformity for contract, Technical Specifications and Drawings.

MODEL INFRASTRUCTURES IMPROVEMENT WORKS at PAK-THONG-CHAI, MUANG

Total amount of construction	4,098,000 Baht
Contractor	CPD Engineering Center NO.3
Construction period	From Jan. 25, 1989 to June 15, 1989
Date of supply	June , 1989
Date of Final Inspection	June 13 , 1989
Date of Advance payment	Jan. 20, 1989 (30% of total amount)
Date of interim payment	April 21, 1989 (30% of total amount)
Total amount of	1,658,000 Baht (40% of total amount
Final payment	of Construction)

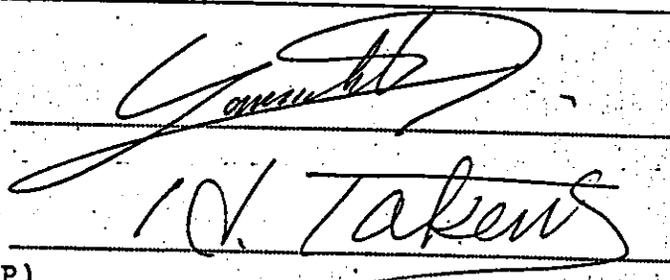
INSPECTOR

Mr. YAMASHITA Yasunori

(JICA Bangkok Office)

Mr. TAKEUCHI Hiroshi

(Project Leader of A.C.P.P)



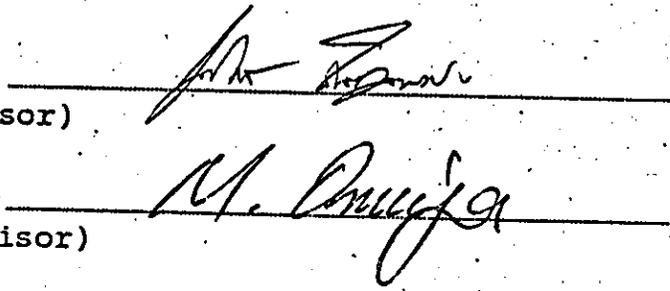
WITNESS

Mr. CHOOSAK Losakulpong

(CPD Construction Supervisor)

Mr. OMIYA Masahiro

(JICA Construction Supervisor)



Inspection Record

June 13, 1989

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Subject; MODEL INFRASTRUCTURES IMPROVEMENT WORKS
ON AGRICULTURAL COOPERATIVE PROMOTION PROJECT
FINAL INSPECTION

In respect of the above-mentioned, Final Inspection was held on June 13, 1989 by the request for Final Inspection of CPD Engineering Center No.3.

The completed amount of Construction is as follows.

PAK-THONG-CHAI		MUANG	
Big Pond	100 %	Canal	100 %
Pond Type A	100	Lateral Canal	100
Type B	100	Pond	100
Swine Raising		Swine Raising	
Facilities	100	Facilities	100
Poultry Facilities	100	Vegetable Farm	
Hatchery	100	Facilities	100
Piggery Materials			
Evaluation Ave.	100 %	Evaluation Ave.	100 %
Total Ave. Evaluation 100 %			

Inspector

Witness

Mr. YAMASHITA Yasunori

Mr. CHOOSAK Losakulpong

Mr. TAKEUCHI Hiroshi

Mr. OMIYA Masahiro

Inspection Record (Additional works)

June 13, 1989

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Final Inspection Record

As the request of Final Inspection with regard to the following, please be informed that the Additional works was executed in conformity for contract, Technical Specifications and Drawings.

MODEL INFRASTRUCTURES IMPROVEMENT WORKS at PAK-THONG-CHAI, MUANG

Total amount of additional	391,140 Baht
Contractor	CPD Engineering Center NO.3
Construction period	From March 31, 1989 to June 15, 1989
Date of supply	June , 1989
Date of Final Inspection	June 13, 1989
Date of Advance payment	May 12, 1989 (30% of total amount of additional works)
Total amount of Final payment	271,140 Baht (70% of total amount of additional works)

INSPECTOR

Mr. YAMASHITA Yasunori

(JICA Bangkok Office)

Mr. TAKEUCHI Hiroshi

(Project Leader of A.C.P.P)

WITNESS

Mr. CHOOSAK Losakulpong

(CPD Construction Supervisor)

Mr. OMIYA Masahiro

(JICA Construction Supervisor)

Inspection Record (additional works)

June 13, 1989

Mr. TSUTOMU SAITO

Resident Representative, Bangkok Office

JAPAN INTERNATIONAL COOPERATION AGENCY

Subject; MODEL INFRASTRUCTURES IMPROVEMENT WORKS
ON AGRICULTURAL COOPERATIVE PROMOTION PROJECT
FINAL INSPECTION (additional works)

In respect of the above-mentioned, Final Inspection was held on June 13, 1989 by the request for Final Inspection of CPD Engineering Center No.3 .

The completed amount of additional works is as follows.

PAK-THONG-CHAI		MUANG	
Improvement of Existing Canal	100 %	Pavement on the Road by gravel	100 %
Pavement on the road by gravel	100	Electricity at Livestock facilities	100
Electricity at Livestock facilities	100		
Evaluation Ave.	100 %	Evaluation Ave.	100 %
Total Ave. Evaluation 100 %			

Inspector

Witness

Mr. YAMASHITA Yasunori

Mr. CHOOSAK Losakulpong

Mr. TAKEUCHI Hiroshi

Mr. OMIYA Masahiro

C.P.D.	MODEL INFRASTRUCTURE IMPROVEMENT WORK	NUANG
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MONTH NO. 5 FINAL PROGRESS REPORT DATE OF INSPECTION 17 JUNE 1989

MANPOWER (NO. OF MEN)				SUPERVISOR	1																
NOTE : PROGRESS BASED REVISED CONSTRUCTION SCHEDULE DATE 30 JAN 1989 <table border="1"> <tr> <th colspan="2">THIS MONTH</th> <th colspan="2">OVER ALL</th> </tr> <tr> <th>PLANNED</th> <th>ACTUAL</th> <th>PLANNED</th> <th>ACTUAL</th> </tr> <tr> <td>-</td> <td>4.19</td> <td>42.00</td> <td>46.00</td> </tr> <tr> <th>VARIANCE</th> <td>4.19</td> <th>VARIANCE</th> <td>-</td> </tr> </table>				THIS MONTH		OVER ALL		PLANNED	ACTUAL	PLANNED	ACTUAL	-	4.19	42.00	46.00	VARIANCE	4.19	VARIANCE	-	FOREMAN	2
				THIS MONTH		OVER ALL															
				PLANNED	ACTUAL	PLANNED	ACTUAL														
				-	4.19	42.00	46.00														
				VARIANCE	4.19	VARIANCE	-														
				SURVEYOR	-																
				OPERATOR	3																
				CARPENTER	4																
				MASON	4																
				STEELFIXER	1																
LABOUR	10																				
OTHERS (DRIVER 1+ OILER 1)	2																				
TOTAL	27																				

% WORK COMPLETED

EL.	NO.	DESCRIPTION	% WT	LAST MONTH	THIS MONTH	CUMUL.	REMARKS
EL.00	0.00	MOBILIZATION	-	-	-	-	
EL.01	4.00	CANAL - EXCAVATION	6.27	6.27	-	6.27	
	1.01	SPREADING & COMPACTION	13.56	13.56	-	13.56	
	1.02	ROAD PROTECTION	1.73	1.73	0.22	1.73	
EL.02	2.00	APPENDANT STRUCTURE - EARTHWORKED	1.28	1.28	-	1.28	
	2.01	SHUTTERING & CONCRETE	7.14	7.14	0.064	7.14	
	2.02	PIPE WORKED	2.53	2.53	2.142	2.53	
	2.03	STEELWORKED (GATE INSTALLATION)	0.98	0.98	-	0.98	
	3.00	VEGETABLE FARM - PREFABRICATED	0.62	0.62	-	0.62	
EL.03	3.01	INSTALLATION STRUCTURE	0.62	0.62	-	0.62	
	3.02	INSTALLATION COVER	0.78	0.78	-	0.78	
	4.00	SWINE RAISING FACILITIES	0.22	0.22	-	0.22	
EL.04	4.01	EARTHWORKED	3.02	3.02	-	3.02	
	4.02	CARPENTRY & ROOFING	0.86	0.86	-	0.86	
	4.03	CONCRETE & MASONRY	0.92	0.92	-	0.92	
	4.04	URINE DRAIN	0.54	0.54	-	0.54	
	4.04	OTHERS (WATER TANK)	0.54	0.54	0.54	0.54	
EL.05	5.00	COMPOST BARNYARD - EARTHWORKED	0.012	0.012	-	0.012	
	5.01	CARPENTRY & ROOFING	0.46	0.46	-	0.46	
EL.06	6.00	SHALLOW WELL - EXCAVATION	0.01	0.01	-	0.01	
	6.01	INSTALLATION PIPE	0.13	0.13	-	0.13	
EL.07	7.00	POND - EXCAVATION	1.35	1.35	-	1.35	
	7.01	SPREADING & COMPACTION	1.78	1.78	-	1.78	
	7.02	SLOPE PROTECTION & PIPE	0.70	0.70	-	0.70	
EL.08	8.00	LATERAL - EXCAVATION	0.16	0.16	-	0.16	
	8.01	SPREADING + COMPACTION	0.13	0.13	-	0.13	
EL.09	9.00	DEMobilIZATION	-	-	-	-	
TOTAL			46.00	46.00	4.19	46.00	PLANNED ACTUAL

MONTH NO. 5 FINAL PROGRESS REPORT

DATE OF INSPECTION 17 JUNE 1989

MANPOWER (NO. OF MEN)

SUPERVISOR
FOREMAN
SURVEYOR
OPERATOR
CARPENTER
MASON
STEELFIXER
LABOURS
OTHERS (DRIVER 1+ OILER 1)
TOTAL

1
2
1
2
2
1
-
2
2
13

NOTE :

% PROGRESS BASED REVISED CONSTRUCTION

SCHEDULE DATE 30 JAN 1989

THIS MONTH		OVER ALL	
PLANNED	ACTUAL	PLANNED	ACTUAL
-	5.35	54.00	54.00
VARIANCE	5.35	VARIANCE	-

% WORK COMPLETED

BARCHART ITEM	DESCRIPTION	PLANNED	LAST MONTH	THIS MONTH	CUMUL	REMARKS
EL.00	0.00 MOBILIZATION	-	-	-	-	
EL.01	1.00 BIGPOND - EXCAVATION	5.30	5.30	5.30	5.30	
	1.01 SPREADING + COMPACTION	10.10	10.10	10.10	10.10	
	1.02 SLOPE PROTECTION + PIPE	0.92	0.92	0.92	0.92	
EL.02	2.00 PONDTYPEA - EXCAVATION	4.60	4.60	4.60	4.60	
	2.01 SPREADING + COMPACTION	6.39	6.39	6.39	6.39	
	2.02 SLOPE PROTECTION + PIPE	1.96	1.96	1.96	1.96	
EL.03	3.00 PONDTYPEB - EXCAVATION	0.52	0.52	0.52	0.52	
	3.01 SPREADING + COMPACTION	0.77	0.77	0.77	0.77	
	3.02 SLOPE PROTECTION + PIPE	0.12	0.12	0.12	0.12	
EL.04	4.00 COMPOST BARNYARD - EARTHWORKED	0.012	0.012	0.012	0.012	
	4.01 CARPENTRY + ROOFING	0.46	0.46	0.46	0.46	
EL.05	5.00 HEN HOUSE - EARTHWORKED	0.19	0.19	0.19	0.19	
	5.01 CARPENTRY + ROOFING	1.93	1.93	1.93	1.93	
	5.02 MASONARY	0.22	0.22	0.22	0.22	
	5.03 FENCING (WIRE MESH)	0.86	0.86	0.86	0.86	
EL.06	6.00 WATER TANK - EARTHWORKED	0.40	0.40	0.40	0.40	
	6.01 CARPENTRY + ROOFING	0.73	0.73	0.696	0.73	
EL.07	7.00 HATCHERY - EARTHWORKED	0.04	0.04	0.04	0.04	
	7.01 CARPENTRY - ROOFING	0.63	0.63	0.63	0.63	
	7.02 CONCRETE - MASONARY	0.16	0.16	0.16	0.16	
	7.03 FENCING (WIRE MESH)	0.04	0.04	0.04	0.04	
EL.08	8.00 SWINE RAISING FACILITIES - EARTHWORKED	0.24	0.24	0.24	0.24	
	8.01 CARPENTRY + ROOFING	3.08	3.08	3.08	3.08	
	8.02 CONCRETE + MASONARY	2.10	2.10	2.10	2.10	
	8.03 URINE DRAIN	0.95	0.95	0.95	0.95	
EL.09	8.04 OTHERS (PIGGERY HOUSES) MATERIAL	11.23	11.23	10.152	11.23	
EL.09	9.00 DEMOBILIZATION	-	-	-	-	
	TOTAL	54.00	54.00	52.84	54.00	PLANNED
					54.00	ACTUAL
	TOTAL (PAKTHONGCHAI + MUANG)	100	100	94.652	100	
	VARIANCE		- 5.35	5.35		

PROJECT : MUANG		COMPLETION PERCENTAGE			MONTH NO. 5		
		ROLL - UP SHEET			AS OF 17 JUNE 1989.		
BARCHART		DESCRIPTION	% WORK	ITEM WT.	ITEM WT.	EL. WT.	EL. WT.
EL.	ITEM NO.		COMP.	VALUE	% COMP.	VALUE	% COMP.
01		CANAL					
	1.01	SPREADING + COMPACTION	2 %	13.56		0.28	
	1.02	ROAD PROTECTION	5 %	1.73		0.09	
		ITEM TOTAL		15.29		0.37	
		EL. 01 TOTAL				21.36	0.37
02		APPENDANT STRUCTURE					
	2.00	EARTHWORKED	5 %	1.28		0.064	
	2.01	SHUTTERING + CONCRETE	30 %	7.14		2.142	
	2.03	STEELWORKED (GATE INSTALLATION	30 %	0.98		0.294	
		ITEM TOTAL		9.40		2.50	
		EL. 02 TOTAL				11.93	2.50
03		VEGETABLE FARM					
	3.02	INSTALLATION COVER	100 %	0.78		0.78	
		ITEM TOTAL		0.78		0.78	
		EL. 03 TOTAL				2.22	0.78
04		SWINE RAISING FACILITIES					
	4.04	OTHERS (WATER TANK)	100 %	0.54		0.54	
		ITEM TOTAL		0.54		0.54	
		EL. 04 TOTAL				5.56	0.54
05		COMPOST BARNYARD					
		EL. 05 TOTAL				0.472	COMP.
06		SHALLOW WELL					
		EL. 06 TOTAL				0.14	COMP.
07		POND					
		EL. 07 TOTAL				3.83	COMP.
08		LATERAL					
		EL. 08 TOTAL				0.29	COMP.
09		DEMobilIZATION					
		EL. 09 TOTAL				COMP.	COMP.
		EL. 01 + 02 + + 08 TOTAL				46.00	4.19

PROJECT : PAKTHONGCHAI

COMPLETION PERCENTAGE

MONTH NO. 5

ROLL - UP SHEET

AS OF 17 JUNE 1989.

BARCHART		DESCRIPTION	% WORK COMP.	ITEM WT. VALUE	ITEM WT. % COMP.	EL. WT. VALUE	EL. WT. % COMP.
EL.	ITEM. NO.						
01		BIG POND		EL. 01 TOTAL		16.32	COMP.
02		POND TYPE A		EL. 02 TOTAL		12.95	COMP.
03		POND TYPE B		EL. 03 TOTAL		1.41	COMP.
04		COMPOST BARNYARD		EL. 04 TOTAL		0.472	COMP.
05		HEN HOUSE		EL. 05 TOTAL		3.20	COMP.
06		WATER TANK					
	6.01	CARPENTRY + ROOFING	5 %	0.73	0.036		
		ITEM TOTAL		0.73	0.036		
				EL. 06 TOTAL		1.13	0.036
07		HATCHERY		EL. 07 TOTAL		0.87	COMP.
08		SWINE RAISING FACILITIES					
	8.04	OTHERS (PIGGERY HOUSES MATERIAL)					
			10 %	11.28	1.128		
		ITEM TOTAL		11.28	1.128		
				EL. 08 TOTAL		17.65	1.128
09		DEMobilIZATION.				COMP.	COMP.
		EL. 01 + 02 + + 08 TOTAL				54.00	7.16
		EL. (MUANG + PAKTHONGCHAI)		TOTAL		100.00	5.35

(2)



Cooperatives Promotion Department
Ministry of Agriculture and Cooperatives
12 Krung Kasem Road, Theves
Bangkok 10200, Thailand
Tel. 2822922, 2810535

No. AC 1113/ 6323

19 June B.E. 2532 (1989)

Dear Mr. T Saito,

Please refer to Agreements for the construction of Model Infrastructure on the Agricultural Cooperative Promotion Project in Thailand, dated January 20, 1989 and March 31, 1989 concerning about the terms of payments to CPD for the construction works located at Pak Thong Chai and Muang Nakorn Rachasima District.

With regard to the progress of the works, which were inspected by coordinator of JICA, the construction works were completed. We, therefore, would like to request the JICA for the final payments of the above two Agreements for the total amount of Baht one million nine hundred and twenty nine thousand and one hundred forty only (฿ 1,929,140). This is equivalent to 40 % of the contract price of the Agreement dated January 20, 1989 and 70 % of the contract price of additional construction works.

We hope that our request will meet your favourable consideration.

With best regards.

Sincerely yours,

Suparp Sevatusai

Deputy Director General

Mr. Tsutomu Saito

Japan International Cooperation Agency (JICA)

1674/1 New Petchburi Road,

Bangkok 10310

6-3-6 実施設計と工事出来高対比表

CONSTRUCTION COST

	<u>designed</u>	<u>as-built</u>
1. PAK-THONG-CHAI		
1-1 construction of livestock facilities		Baht
1) pigg ry	207,800	207,800
2) compost barnyard	18,100	18,100
3) water tank	43,200	47,100
4) urine treatment basin & drain	36,500	36,500
5) hen house breeding	122,700	122,700
6) hatchery	33,200	33,200
1-2 hen house → piggery		
1) hen house (model) piggery (model)	24,100	24,100
2) " (material) " (material)	406,300	406,300
1-3 construction of irrigation facilities		
1) big pond	625,800	646,300
2) pond type A	496,300	527,200
3) " " B	54,300	55,600
sub total	<u>2,068,300</u>	<u>2,124,900</u>
2. MUANG		
2-1 construction of swine raising farm		
1) piggery	157,200	159,200
2) compost barnyard	19,100	18,100
3) water tank	20,300	14,500
4) urine treatment basin & drain	35,100	35,100
5) well	5,500	5,500
2-2 construction of irrigation facilities		
1) canal	826,800	828,000
2) appendant structure	456,500	490,600
3) pond	146,700	165,400
4) lateral canal	11,200	11,000
2-3 installation of vegetable field	84,900	84,900
sub total	<u>1,762,300</u>	<u>1,812,300</u>
total 1. +2.	<u>3,830,600</u>	<u>3,937,200</u>

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1	Construction of livestock facilities			(B)	(B)	
1)	Piggery					実施設計どおり
	• Base	cum	17.20	10	172	
	• Embankment common soil	"	10.90	40	436	
	• Excavation common soil	"	10.00	180	1,800	
	• Sand	"	10.00	25	250	including transportation
	• Hauling L = 20m	"	12.50	30	375	
	• Compaction	"	8.0	1,100	8,800	
	• Plain concrete	"	--	--	300	
	• Material for curing + pouring	--				
	• Installation of concrete block					
	• Concrete block	sqm	13.00	45	585	
	• Mortar	cum	3.00	900	2,700	
	• Carpentry					
	• Column 4" x 4" x 2.50m	pieces	12	310	3,720	
	• Wooden Form + Wooden + Structure	cum	1.70	12,000	20,400	
	• Steel bar φ 6 mm	ton	0.176	12,650	2,226	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
	• Feed box			(B)	(B)	
	Concrete pipe ϕ 0.50 x 1.00m	pieces	10	100	1,000	
	Plain concrete	cum	1	1,100	1,100	
	Sand	"	1.50	180	270	資材変更
	• Roofing					
	Grass (yahka) roofing	sqm	73	35	2,555	
	Galvanize sheet	pieces	2	90	180	
	Bolt + nut ϕ 3/8" x 5"	"	30	5	150	
	Nail	kg	18	20	360	
	• Gate					
	Galvanize pipe ϕ 2" x 6m	pieces	2	300	600	
	Others		--	--	315	
	Wire for tie	kg	10	20	200	
	• Labour cost				20,785	
	Total				69,279	
					207,837	
				Round off	207,800	

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BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (B)	Price (B)	Remarks
1-1.1	. feed box	pieces	30	3.3	99	
1)	concrete block 0.39*0.19*0.07	cum	1.25	1,100	1,375	
	plain concrete	"	1.0	900	900	
	martar					
	. roofing					
	grass (yahka) roofing	sqm	73	35	2,555	
	galvanize sheet	pieces	2	90	180	
	bolt + nut 3/8" * 5	"	30	5	150	
	nail	kg	18	20	360	
	. labour cost	"	-	-	21,900	
	total				69,283	
					207,849	
					207,800	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 2)	Compost barnyard			(B)	(B)	実施設計どおり
	• Base Embankment	cum	8.80	10	88	
	Compaction	"	8.80	25	220	
	Plain concrete	"	0.16	1,100	176	
	• Carpentry					
	Column 4"×4"×3.00m	pieces	6	375	2,250	
	Wooden structure	cum	0.74	12,000	8,880	
	• Roofing					
	Grass roofing	sqm	57.60	35	2,016	
	Galvanized sheet	pieces	2	90	180	
	Nail + Bolt + Others	--	--	--	120	
	• Labour cost	--	--	--	4,200	
	Total				18,130	
				Round off	18,100	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1				(B)	(B)	
3)	Water tank	pieces	4	3,500	14,000	
	• Water tank 1.500 ℓ	"	6	435	2,610	
	• Base Column timber 4"×4"×3.50 wooden structure	cum	0.90	12,000	10,800	資材変更
	• Others					
	Check Valve φ 1"	pieces	1	295	295	
	" φ 2"	"	1	990	990	
	Steel Pipe φ 4"	m	6	212	1,272	
	" Elbow 90° φ 4"	pieces	3	228	684	
	" Pipe φ 2"	m	30	87	2,610	
	" " φ 1"	"	48	42	2,016	
	" Elbow 90° φ 2"	pieces	4	48	192	
	" " 90° φ 1"	"	4	27	108	
	" Cross pipe φ 2"	"	3	72	216	
	" Coupling φ 2"	"	6	30	180	
	• Roof Galvanized Iron Sheet	sqm	20	55	1,100	
	Nails	boxes	4	15	60	
	Nail + Bolt + Nut	kg	6	20	120	
	• Labour cost	--	--	--	6,000	
	Total			Round off	43,253	
					43,200	

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BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (₪)	Price (₪)	Remarks
1-1-1 3)	Water tank	pieces	4	3,500	14,000	
	• water tank 1,500 l	"	6	.435	2,610	
	• base column 4" * 4" * 3.50 m	cum	0.90	12,000	10,800	
	wooden structure	"	3.5	1,100	3,850	
	plain concrete				8,563	
	• others				1,280	
	• roof				6,000	
	• Labour cost				47,103	
	total				47,100	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 4)	Urine Treatment Basin & Drain			(B)	(B)	実施設計どおり
	Excavation common soil	cum	1.70	35	60	
	Embankment	"	2.00	26.25	53	
	Compaction	"	2.00	26.25	53	
	Plain concrete	"	6.50	1.100	7.150	
	Wooden form	"	1.00	12.000	12.000	
	Plywood (1.20×2.40×0.01m)	sheet	6	420	2.520	
	Embankment	cum	0.6	26.25	16	
	Compaction	"	0.6	26.25	16	
	RC - Pipe $\phi 1.00 \times 0.50m$	pieces	5	150	750	
	Sealant	tin	3	100	300	
	Labour cost				13.650	
	Total				36.568	
				Round off	36.500	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
I-1-1 5)	Hen House (Breeding)			(B)	(B)	実施設計どおり
	• Base	cum	60.20	10	602	
	• Embankment	"	23.90	40	956	
	• Excavation	"	23.90	25	598	
	• Loading & Hauling L = 20m	"	60.20	25	1,505	
	• Compaction	"	1.52	1,100	1,672	
	• Plain concrete					
	• Concrete					
	• block (0.39 * 0.19 * 0.07)	sqm	36	45	1,620	
	• Mortar	cum	1	900	900	
	• Carpentry					
	• Wooden structure	cum	3	12,000	36,000	
	• Wire mesh # 1/2"	sqm	165	20	3,300	
	• Roofing					
• Grass (yahka) roofing	sqm	86	35	3,010		
• Labour cost					11,190	
	Total				61,353	
					122,706	
				Round off	122,700	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 6)	Hatchery • Base			(B)	(B)	実施設計どおり
	Embankment	cum	13.0	10	130	
	Excavation common soil	"	5.4	40	216	
	Sand	"	4.9	180	882	
	Hauling L = 20m	"	4.9	25	123	
	Compaction	"	13.0	25	325	
	Plain concrete	"	2.6	1,100	2,860	
	• Installation of concrete block					
	Concrete block(0.39*0.19*0.09)	sqm	13.60	45	612	設計一部変更
	Mortar	cum	3.20	900	2,880	
	• Carpentry					
	Column (4"×4"×2.50m)	pieces	7	310	2,170	
	Wooden structure	cum	0.80	12,000	9,600	
	• Steel bor					
	φ 6 mm	ton	0.02	12,650	253	
	• Wire mesh #1/2"	sqm	35	20	700	
	• Flat sheet t = 6 mm	"	11.50	63	725	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-1 6)	• Roofing			(B)	(B)	実施設計どおり
	Galvanized sheet	pieces	2	90	180	
	Grass (yahka) roofing	sqm	100	35	3,500	
	Nail + Wire + Others				100	
	• Labour cost	--				
	Total			Round off	33,256	
					33,200	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2	Hen House Column (wood) 3" x 3" x 2.50m Wooden structure + Others Column (wood) 4" x 4" x 2.50m Concrete block Mortar Plain concrete for column Roofing (yahka) Galvanized sheet Wire mesh #1/2" Nail + Bolt + Others Labour cost Total	pieces	17	175	2,975	計画設計変更
1)		cum	0.90	12,000	10,800	
		pieces	6	310	1,860	
		sqm	7.7	45	347	
		cum	0.30	900	270	
		"	2.90	1,100	3,190	
		sqm	43	35	1,505	
		pieces	1	90	90	
		sqm	72	20	1,440	
					100	
					1,610	
					24,187	
					Round off	

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BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (B)	Price (B)	Remarks
1-1-2						
1)	Piggery (model)					
1	concrete pipe $\phi 600\text{mm} * 1.00 \text{ m}$	pieces	1	350	350	
2	" $\phi 1/2 * 600\text{mm} * 0.50 \text{ m}$	"	6	150	900	
3	column (wood) $4" * 4" * 2.50 \text{ m}$	"	6	310	1,860	
4	timber (hard wood)	cum	0.8	12,000	9,600	
5	concrete block ($390 * 190 * 90\text{mm/m}$)	pieces	130	4.50	585	
6	mortar	cum	3.0	900	2,700	
7	plain concrete (mixed)	"	2.5	1,100	2,750	
8	sand	"	2.0	180	360	
9	yahka ($0.20 * 1.20 \text{ m}$)	pieces	320	5	1,600	
10	steel round bar 6mm	kg	65	13	845	
11	concrete column ($0.1 * 0.1 * 1.0 \text{ m}$)	pieces	6	100	600	prefabricated
12	galvanized sheet	"	2	90	180	
13	others (nail + balt)	-	-	-	245	
14	laber	-	-	-	1,610	
	total				24,185	
					24,100	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-2				(B)	(B)	
2)	Hen House (Material)					
	Column (wood) 4" x 4" x 2.50m	pieces	6	310	1,860	
	" 3" x 3" x 2.50m	"	17	175	2,975	
	Wooden structure + Others	cum	0.90	12,000	10,800	
	Concrete block	sqm	7.70	45	347	
	Mortar	cum	0.30	900	270	
	Plain concrete for column	"	2.90	1,100	3,190	
	Roofing (yahka)	sqm	43	35	1,505	
	Galvanized sheet	pieces	1	90	90	
	Wire mesh #1/2"	sqm	72	20	1,440	
	Nail + Bolt + Others				100	
	Total				22,577	
					406,386	
				Round off	406,300	
						計画設計変更

出来高は次頁のようである。

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (₱)	Price (₱)	Remarks
1-1-2						
1)	Piggery (material)					
1	concrete pipe ϕ 600mm * 1.00 m	pieces	1	350	350	
2	" ϕ 1/2*600mm * 0.50 m	"	6	150	900	
3	column (wood) 4" * 4" * 2.50 m	"	6	310	1,860	
4	timber (hard wood)	cum	0.8	12,000	9,600	
5	concrete block (390*190*90m/m)	pieces	130	4.50	585	
6	mortar	cum	3.0	900	2,700	
7	plain concrete (mixed)	"	2.5	1,100	2,750	
8	sand	"	2.0	180	360	
9	yahka (0.20 * 1.20 m)	pieces	320	5	1,600	
10	steel round bar 6mm	kg	65	13	845	
11	concrete column (0.1 * 0.1 * 1.0 m)	pieces	6	100	600	prefabricated
12	galvanized sheet	"	2	90	180	
13	others (nail + balt)	"	-	-	245	
	total				22,575	
					406,350	
					406,300	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	Construction of irrigation facilities			(B)	(B)	
1)	Construction of Big Pond					
	• Earth works					
	Excavation common soil	cum	14.924	13.6	202.966	11t Bull-dozer
	Embankment common soil	"	4.183	13.6	56.888	"
	Spreading common soil	"	5.914	7.0	41.398	"
	Compaction common soil	"	5.914	17.0	100.538	Tire Roller
	Loading	"	9.010	15.2	136.952	0.5m ² back-hoe
	Hauling	"	9.010	3.5	31.535	11t Dump truck
	Smoothing face	sqm	5.771	1.4	8.079	L = 500m
	Drainage by pump	days	35	329	11.515	
	• Pipe works					
	RC Pipe φ 800m/m	m	27	600	16.200	
	Excavation common soil	cum	27	35	945	
	Spreading common soil	"	13	26.25	341	
	Compaction common soil	"	13	26.25	341	
	Smoothing face	sqm	27	1.4	37	

出来高は次頁のようである。

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	Construction of irrigation facilities			(B)	(B)	
1)	Construction of Big Pond					
	• Earth works					
	excavation common soil	cum	16,246	13.6	220,945	
	embankment common soil	"	4,183	"	56,888	
	spreading common soil	"	7,236	7.0	50,652	
	compaction common soil	"	5,914	17.0	100,538	
	loading	"	9,010	15.2	136,952	
	hauling	"	9,010	3.5	31,535	
	smoothing face	sqm	5,771	1.4	8,079	
	drainage by pump	days	35	329	11,515	
	• pipe works					
	RC pipe ϕ 800 mm	m	27	600	16,200	
	excavation common soil	cum	27	35	945	
	spreading common soil	"	13	26.25	341	
	compaction common soil	"	13	26.25	341	
	smoothing face	sqm	27	1.4	37	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3				(B)	(B)	
1)	• Slope protection					
	Excavation common soil	cum	10	35	350	
	Stone (Boulder)	"	6	250	1,500	
	Concrete	"	4	1,000	4,000	
	Miscellaneous	%	2		12,272	
	Total				625,857	
				Round off	625,800	

出来高は次頁のようである。

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	• slope protection			(B)	(B)	
1)	excavation common soil	cum	10	35	350	
	concrete	"	10	1,100	11,000	
	total				646,318	
					646,300	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3 2)	Construction of Pond (TYPE A)			(B)	(B)	
	• Earth works					実施設計どおり
	Excavation sand	cum	633	11.4	7.216	0.5m ³ Back-hoe
	" common soil	"	232	13.6	3.155	
	Spreading common soil	"	302	7.0	2.114	
	Compaction	"	302	7.0	2.114	
	Embankment common soil	"	200	15.2	3.040	
	Spreading sand	"	633	7.0	4.431	
	" common soil	"	199	7.0	1.393	
	Soothing face	"	931	1.4	1.303	
	• Pipe works					
	RC - Pipe φ 400m/m	m	10	100	1.000	
	Excavation common soil	cum	3.6	35	126	
	Spreading common soil	"	2.3	26.25	60	
Compaction	"	2.3	26.25	60		
Soothing face	sqm	6.0	1.4	8		

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
I-1-3 2)	(TYPE A)			(B)	(B)	
	• Slope protection					
	Excavation common soil	cum	4.4	35	154	
	Stone (Boulder)	"	2.6	250	650	資材変更
	Concrete	"	1.8	1,000	1,800	
	Miscellaneous	%	2		572	
	Total				29,196	
					496,332	
				Round off	496,300	

出来高は次頁のようである。

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price (/B)	Price (/B)	Remarks
1-1-3						
2)	(TYPE A)					
	• slope protection					
	excavation common soil	cum	4.4	35	154	
	concrete	"	4.4	1,100	4,840	
	total				31,014	
	* 17				527,238	
					527,200	round off

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3	Construction of Pond (TYPE B)			(B)	(B)	
3)	• Earth works					実施設計どおり
	Excavation sand	cum	1.089	11.4	12.414	
	" common soil	"	552	13.6	7.507	
	Spreading common soil	"	414	7.0	2.898	
	Compaction common soil	"	414	7.0	2.898	
	Embankment common soil	"	264	15.2	4.012	
	Spreading sand	"	1.089	7.0	7.623	
	" common soil	"	1.457	7.0	10.199	
	Smoothing face	sqm	1.349	1.4	1.888	
	• Pipe works					
	RC - Pipe ϕ 400m/m	m	10	100	1.000	
	Excavation common soil	cum	3.6	35	126	
	Spreading common soil	"	2.3	26.25	60	
	Compaction common soil	"	2.3	26.25	60	
	Smoothing face	sqm	6.0	1.4	8	

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Price	Price	Remarks
1-1-3 3)	(TYPE B) • Slope protection Excavation common soil	cum	4.4	35	154	
	Stone (Boulder)	"	2.6	250	650	
	Concrete	"	1.8	1,000	1,800	資材変更
	Miscellaneous	%	2		1,066	
	Total				54,363	
				Round off	54,300	

出来高は次頁のようである。