

付属資料 1 協議議事録 (M/D)

MINUTES OF DISCUSSIONS
PREPARATORY STUDY ON THE PROJECT FOR
REHABILITATION AND EXPANSION OF WATER SUPPLY FACILITIES
IN SAVANNAKHET AREA IN
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

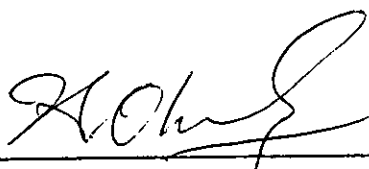
In response to a request from the Government of the Lao People's Democratic Republic (hereinafter referred to as "Laos"), the Government of Japan decided to conduct a Preparatory Study on the Project for Rehabilitation and Expansion of Water Supply Facilities in Savannakhet Area (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

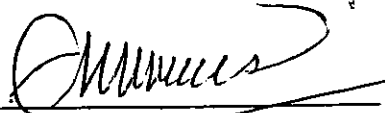
JICA sent to Laos the Preparatory Study Team (hereinafter referred to as "the Team"), headed by Mr. Hisatoshi Okubo, First Project Management Div, Grant Aid Management Department, JICA, from 2nd to 29th March 2000.

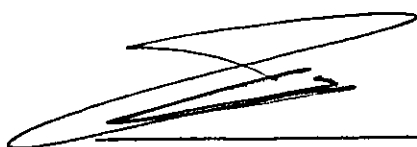
The Team held discussions with the officials concerned of the Government of Laos and conducted a field survey in the study area.

As a result of discussion and field survey, both sides confirmed the main items described on the attached sheets. Subject to the decision by the Government of Japan, JICA will conduct a Basic Design Study on the Project.

Vientiane, March 7, 2000


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Leader
Preparatory Study Team
Japan International Cooperation Agency
Japan


Dr. Somphone Dethoudom
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Water Supply Authority (WASA)
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Laos

ATTACHMENT

1. Objective of the Project

The Objective of the Project is to alleviate severe water deficit and improve treated water quality in Savannakhet Area by rehabilitating and expanding the Water Supply Facilities.

2. Project Site

The Project site is Savannakhet Province in Laos (see map in Annex-I).

3. Responsible and Implementing Agencies

- 3-1. The responsible agency is Water Supply Authority (WASA), Ministry of Communication, Transport, Post and Construction (MCTPC).
- 3-2. The Implementing agency is Savannakhet Provincial Government in collaboration with Nam Papa State-owned Enterprise (NPSE), Savannakhet.
- 3-3. The Government of Laos has recently been introducing a set of new regulations concerning management and development of Water Supply sector, involving many government agencies. The decision was made by Prime Minister on September 30, 1999 (Prime Minister's Decision No.37), which is attached in Annex-II, for a proper understanding of the situation.

4. Items Requested by the Government of Laos

After discussions with the Team, the items described in Annex-III were finally requested by the Lao side. JICA will assess the appropriateness of the request and will report the findings to the Government of Japan.

5. Japan's Grant Aid Scheme

- 5-1. The Lao side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-IV.
- 5-2. The Lao side will take necessary measures, as described in Annex-V, for smooth implementation of the Project, as a condition for the Japanese Grant Aid to be implemented.



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6. Schedule of The Study

- 6-1. The Consultant will proceed to further studies in Laos until 29 March, 2000.
- 6-2. If the Project is found feasible as a result of the Preparatory Study, JICA will send the Basic Design Study Team to Laos for further studies around in June, 2000.

7. Other Relevant Issues

7-1. On facilities in Seno area

The Lao side expressed its hope that water supply facilities be included in the Project besides the main project components as described in Article 4 above. In response to this, the Team gave a few remarks on this matter as follows:

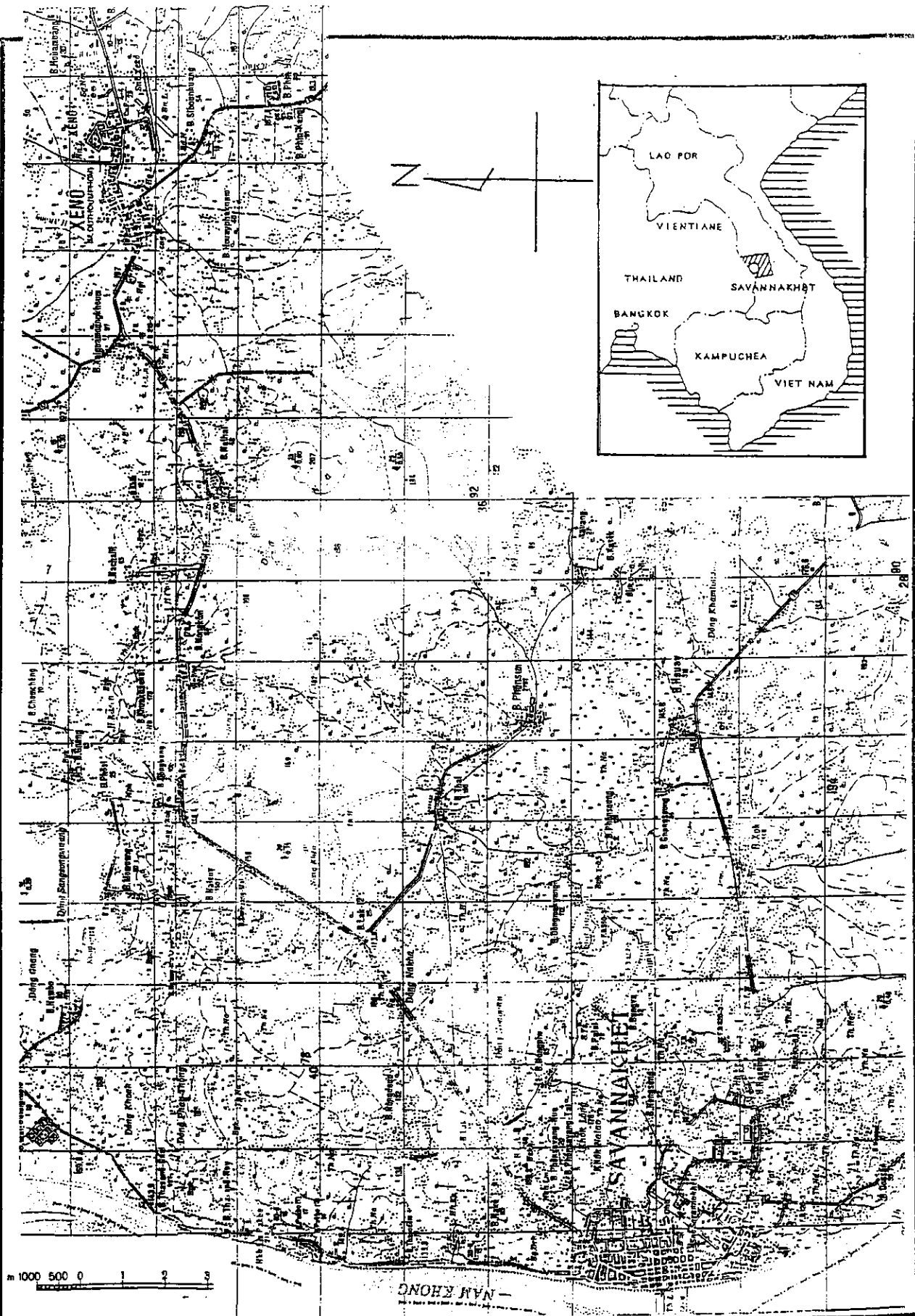
- (i) The facilities in Seno have not been included in the official request on the Project from the Lao Government submitted to the Japanese Government in 1997;
- (ii) The Lao side already had a contract negotiation with a consultant company for the detailed design study of water supply facilities in Seno under a sector loan project funded by ADB;
- (iii) In Seno area, a considerable number of private wells have been developed rapidly. It is most likely that the acute water shortage in the area will be solved to some extent by the ADB project giving consideration to these private wells;
- (iv) Therefore, it would be much ideal and sensible to prepare a separate project proposal concerning facilities in Seno after the ADB project is implemented. Then the needs for Japan's Grant Aid will be clearly identified, if necessary.

In conclusion, Seno facilities will not be included in the Project.

- 7-2. Justification and rationale of provision of equipment such as water meters and maintenance machinery listed in the original project proposal has not yet been evaluated. This will be done later in this Study and will be officially discussed between both sides and concluded at the Basic Design Study stage.



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Annex- I

LOCATION MAP

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Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Prime Minister's Office

No 37 /PM

Prime Ministerial Decision
on
Management and Development of Water Supply Sector
(non official translated from Lao version)

- Referring to the Law No 01/NA dated 08 March 1995 on the Government of Lao People's Democratic Republic;
- Based on the proposal No 438/SPC dated 13 September 1999 of the President of the State Planning Committee;
- Based on the proposal No 3154/MCTPC dated 09 September 1999 of the Minister of the Ministry of Communication Transport Post and Construction.

The Prime Minister of the Lao PDR issues a Decision:

Article 1: General Objective

This Decision has an objective defining the policy of the Government of the Lao PDR on management and development of water supply sector to be referred for ministries, their departments, their authorities and their institutes, provincial governments, water supply entities, consumers, nongovernment organizations, donor organizations and other stakeholders of the strategies, targets, and operational frameworks aiming at concentration of all efforts for the effective and sustainable financing, development, and management of water supply and wastewater management systems in urban and rural areas throughout the country.

In addition, this Decision is a policy of the Government in terms of sector administration, regulation, financing, cost recovery, utility operation, community awareness and participation, human resource development, water resources and private sector participation.

Article 2: Division of Responsibilities on Sector Administration

2.1 The Ministry of Communication Transport Post and Construction (MCTPC) will carry out the function of:

- facilitation and coordination of the development process for water supply and wastewater management systems in urban and rural areas throughout the country, and
- Promotion and mobilization of all available resources toward achieving the set goals and objectives.

The Department of Housing and Urban Planning (DHUP) will assist the Minister of MCTPC in state administration on the water supply sector as follows:



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- setting out short, medium and long term strategies on water supply development,
- planning of staff training on planning and management of water supply systems, and
- studying of regulations, standards, technical specifications, and performance indicators of water supply systems operation, in collaboration with the Water Supply Authority (WASA)

The WASA will carry out the function of:

- assisting the Minister of MCTPC in technical issues of the Water Supply Sector, including redevelopment of the MCTPC strategic plan on water supply and wastewater management system which set out in more detail planning, action plan and detailed projects in urban and rural areas throughout the country,
- setting norms, regulations, technical standards and technico-economic specifications on water supply and wastewater management systems, and
- Directing on behalf of the MCTPC the management and monitoring the implementation of the water supply sector policy.

2.2 The Ministry of Public Health shall be responsible for the facilitation, coordination and direction of all rural water supply, and urban and rural environmental hygiene activities throughout the country.

The National Center of Environmental Health and Water Supply (NEW) shall be responsible for the management of technical aspects in promoting rural water supply, and urban and rural environmental hygiene throughout the country.


2.3 The Ministry of Finance (MOF) will carry out the function of:

- investment support and financial arrangement for all funds utilized in the development of water supply and wastewater management systems, and environmental hygiene, and
- Financial support in the short- to medium-term to NPSEs where commercial targets cannot readily achieved.

2.4 The Water Resource Coordination Committee (WRCC) will be responsible for coordination of planning, management, monitoring, water and water resource protection in order to secure the sustainable development and use of water and water resource.

2.5 Provincial Governments will be responsible for:

- coordination, facilitation, and investment support in the development of water supply and wastewater management systems, and environmental hygiene;
- collaboration with the Department of Communication Transport Post and Construction (DCTPC) of the province concerned in finding out suitable solution to assist low income households which cannot afford the cost of sanitary facility,
- setting by-laws on water supply sector within the province concerned,

- direction of water supply and sanitation sector project implementation in the province concerned,
- collaboration with the WASA in proposal for admission of water sources development through the WRCC in accordance with the Prime Minister's Decree No 09/PM dated 08 February 1999 on Organization and Activities of the WRCC,
- institutional arrangements for the implementation and management of centralized wastewater management systems as for water supply when these systems become economically and financially viable, but until such time on site treatment will be pursued and the implementation and management of the facilities shall be the responsibility of the individual owner, and.
- Rural water supply, and urban and rural environmental hygiene in the province concerned.

Nam Papa State-owned Enterprises (NPSEs) shall be responsible for:

- management and operation of all water supply and wastewater management systems and development of raw water in urban and rural areas within their respective provincial boundaries. The operation shall be on commercial principles and in accordance with three-year rolling corporate plans; and
- compliance of the management of sanitary facilities with the sanitation regulation issued.

NPSE, which cannot readily achieve the commercial target, shall receive financial and technical support from the central government as well as from provincial government concerned.

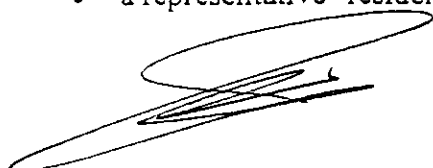
All communities throughout the country shall be responsible for protection of water supply and wastewater management systems, and environmental hygiene within the area they live.

Article 3: Establishment of the Water Supply Authority's Regulatory Board

3.1 The Prime Minister will approve the establishment of the Water Supply Authority's Regulatory Board to assume functions of key decision making and direction including consideration of regulatory matters and complaints or grievances from any consumer or Nam Papas entity.

3.2 The Water Supply Authority's Board has a Secretariat, which is housed in the MCTPC and comprises of nine (9) members as follows:

- | | |
|---|-----------------------------|
| • a Vice Minister of MCTPC, | as Chairman |
| • the Director of DHUP, MCTPC | as Vice Chairman |
| • a representative of the Ministry of Justice, | as a general counsel |
| • a representative of the Ministry of Finance, | as a financial adviser |
| • a representative of the Science, Technology
And Environment Authority, | as an environmental adviser |
| • a representative of the Prime Minister Office, | as a member |
| • a representative "industrial consumer", | as a member |
| • a representative "residential consumer", | as a member |



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- the Director of the WASA,

as a member

3.3 The Secretariat of the Board has the Director of the WASA as full-time Secretary General and a number of full-time officers and is responsible for coordination and production of report on action plans of the water supply sector.

3.4 Each Government member on the Board is nominated by their respective ministry and then approved by the Prime Minister. Positions on Board are part-time for a period of three years with no limitation on renominations.

3.5 The two private sector representatives are selected by invitation and appointed on the basis of their standing in any community.

Article 4: Financing of Sector Operations and Cost Recovery

4.1 All capital investments for water supply and wastewater management systems are the responsibility of the NPSEs. They may request permission from the government to utilize a combination of debt financing and retained earnings as sources of funding.

4.2 Where low levels of consumer affordability do not permit NPSEs to generate sufficient revenues to acquire funds in this way, the provincial and central governments may consider supporting investments with grants from budgetary resources on a case by case basis. In such cases, the WASA and the DCTPC of the province concerned will provide technical assistance.

4.3 Where external assistance is provided by a donor agency, MCTPC will facilitate and coordinate the level and direction of development funding, and MOF will disburse the funds.


The funds may either be provided to the NPSEs as debt, a mix of grant and debt, or provided completely as a grant.

For the debt component, financing arrangements between the MOF and a NPSE will be determined in accordance with donor and Government requirements, and affordability levels, on a case by case basis. In any case, the Government will require an interest rate on loans of at least 6-7 percent per annum.

Full debt service is sought on all loans, except where this requirement needs to be relaxed, because tariff levels are constrained due to low affordability levels in the consumer population.

For external loans, the Government will assume the foreign exchange risk. The NPSEs will repay debts under onlending agreement at the exchange rate prevailing on the date the principal loan agreement is signed.

NPSEs are responsible for setting tariffs to generate sufficient revenue to meet the cost recovery for all water supply and wastewater systems, but this tariff should be within the constraints of affordability and willingness to pay of consumers. However, no system shall have a tariff less than that required meeting all recurrent costs including operating and maintenance costs. Where



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necessary, tariffs should be set to generate surplus revenue in order to meet a proportion of depreciation or debt service.

4.4 NPSEs shall adopt uniform province-wide tariffs to maximize the potential to cross-subsidize the poorer townships and communities.

4.5 NPSEs shall set tariffs in a progressive block rate structure for each consumer category with a lifeline block for the poorer groups in the community.

4.6 When setting the lower block tariff of the domestic consumer category NPSEs should aim at an affordability level of around 3 percent of the household income.

4.7 For higher block tariff, NPSEs should aim for a higher level of around 5 percent of the household income to enable cross-subsidy between the different income groups in the community, whilst at the same time promote conservation of the resource.

4.8 NPSEs shall adjust tariffs in a function of the component costs of labor, power and/or fuel, chemicals, and materials and in accordance with the guidelines set down by WASA. NPSEs shall seek approval of the provincial Governor concerned for tariffs adjusted.

Article 5: Utility Operation

5.1 NPSEs shall be responsible for management and operation of all metered water supplies within their respective provincial boundaries. They will operate on commercial principles, and in accordance with three year rolling corporate plans, which should be reported to WASA. All water production and consumption shall be fully and accurately metered.

5.2 NPSEs shall implement the nonrevenue water (NRW) recommended by WASA aiming at maintaining NRW levels of no more than 30 percent.

5.3 NPSEs shall adopt and maintain full commercial accounting systems, and shall prepare annual financial accounts, which should be reported to WASA.

5.4 Accounts receivable of NPSEs shall not exceed three months of billings. NPSEs shall adopt a strict disconnection policy for consumers whose bills are more than three months overdue. All NPSEs shall adopt a target of 90 percent collection efficiency for water bills as standard policy.

5.5 NPSEs shall operate and maintain their systems in accordance with performance indicator such as water use efficiency, water quality, reliability of supply, staff utilization and the level of consumer complaints.

5.6 NPSEs shall make provision for depreciation in accordance with norms, regulation and laws issued by the state. All depreciation provision shall be maintained in a dedicated account for such purpose and shall constitute an expense item in the PNP budget, and qualify as a tax-deductible item.



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Article 6: Community Awareness and Participation

6.1 All beneficiary communities participate in the development of water supply and wastewater management systems from the beginning stage until during the period of operation and maintenance.

6.2 At the project preparation stage, all beneficiary communities shall be consulted on their needs, expectations, affordability, and willingness to pay for improved facilities. Feedback shall be incorporated into project design.

6.3 After the project has been completed and has been commissioned, NPSEs shall mount regular consumer surveys to gauge the level of public appreciation of the service provided. Feedback shall be incorporated into operation and maintenance of the systems.

Article 7: Human Resources Development

7.1 Nam Papa Vientiane (NPV) shall develop skill and provide training courses and workshops, and disseminate information and manuals on all training and capacity building it has received. NPV shall also provide technical assistance to all Provincial Nam Papa State-owned Enterprises (PNPs) on project implementation.

7.2 PNPs shall adopt a policy of ongoing skill development for all areas and shall be responsible for the cost of trainees attending the courses and training fees. PNPs shall allocate an adequate budget for training purposes, and shall establish a dedicated account for such purpose. Training costs will be eligible as an expense item in the PNP budget as a tax-deductible item.

Article 8: Sector Development

8.1 The Government's goal is to provide 24-hour per day access to safe drinking water for 80 percent of the urban population by the year 2000. To meet this goal, the Government has prepared a sector investment plan, which is appended, and constitutes an integral part of this statement. The plan has been prepared with the intention of bringing about equitable development benefits for all regions of the country.

8.2 The Water Supply Sector has an investment plan as follows:

- continuing investment in Vientiane and identifying the financing needs of provincial capitals to the year 2012,
- Identifying the financial needs of small town communities to the year 2020.

Article 9: Private Sector Participation

9.1 The Government requires an appropriate regulatory framework for the involvement of the private sector in order to ensure open and effective competition.



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9.2 The WASA in collaboration with the DHUP, establish a regulation on promotion of private sector participation in the development of water supply and wastewater management systems and submit to the Government for approval.

Article 10: The MCTPC, MOF, State Planning Committee, other line ministries concerned, and provincial governments shall be informed and implement this Decision effectively.

Article 11: This Decision is effective from the date of signature.

Vientiane, 30 September 1999

The Prime Minister of the Lao PDR

Sisavath KEOBOUNPHANH



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Annex-III


Items requested by the Lao side

1. Rehabilitation of Water Supply Facilities in Savannakhet

- a) Water intake pumps
- b) Rapid mixing basin
- c) Flocculation basin
- d) Sedimentation Basin (Inlet & outlet valves, gates and wires)
- e) Filtration (Sand bed)
- f) Electrical Equipment (Substation Equipment)
- g) Distribution Pumps

2. Expansion of Water Supply Facilities in Savannakhet

- a) Raw water transmission pipe
- b) Flocculation basin
- c) Sedimentation basin
- d) Electrical Equipment (Switch & Panels, Diesel generator)
- e) Distribution pipes
- f) Treated water reservoir
- g) Elevated tank in the city
- h) Bank protection works around the intake tower



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Japan's Grant Aid Scheme

1. Grant Aid Procedures

- 1) Japan's Grant Aid Program is executed through the following procedures.

Application	(Request made by a recipient country)
Study	(Basic Design Study conducted by JICA)
Appraisal & Approval	(Appraisal by the Government of Japan and Approval by Cabinet)
Determination of Implementation	(The Notes exchanged between the Governments of Japan and the recipient country)

- 2) Firstly, the application or request for a Grant Aid project submitted by a recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA (Japan International Cooperation Agency) to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the Project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes signed by the Governments of Japan and the recipient country.

Finally, for the implementation of the Project, JICA assists the recipient country in such matters as preparing tenders, contracts and so on.



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However the prime contractors, namely, consulting, contracting and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese corporations controlled by persons of Japanese nationality.)

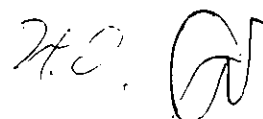
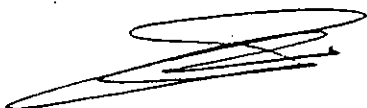
5) Necessity of the "Verification"

The Government of recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be verified by the Government of Japan. This "Verification" is deemed necessary to secure accountability to Japanese taxpayers.

6) Undertakings required of the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- (1) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the construction.
- (2) To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites.
- (3) To secure buildings prior to the procurement in case the installation of the equipment.
- (4) To ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid.
- (5) To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts.
- (6) To accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such



facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid should not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority should open an account in the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by the Government of the recipient country or its designated authority under the verified contracts.
- b) The payments will be made when payment requests are presented by the Bank to the Government of Japan under an authorization to pay issued by the Government of the recipient country or its designated authority.



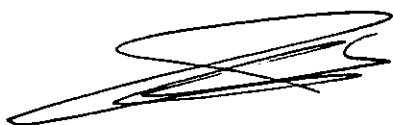
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Annex-V

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grand Aid	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
5	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
6	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
7	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
8	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
9	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities		●



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付属資料 2 現地調査結果中間報告概要

サバナケット地区上水道施設改善計画予備調査
現地調査結果中間報告概要

2000年3月8日

1. 概要

標記調査団は、3月2日より、先方 通信運輸郵政建設省（MCTPC）、住宅局長、水道総局（WASA）局長らと協議を開始。3月3日より、計画対象地域サバナケット県を県水道局技術者と共に視察、県副知事を表敬、3月6日、7日のヴィエンチャンの協議を経て、3月7日ラオス側WASA局長及び、サバナケット県通信運輸郵政建設局副局長との間で、ミニッツ署名を了した。

主な調査結果及び協議内容は以下のとおり。

2. 主な調査・協議項目

（1）セノ地区の取り扱いについて

計画対象サバナケット地区から、東方約30キロに位置するセノ地区は、国道9号線開発に伴い急速に発展し、人口が急増している。そのため、本計画を実施した場合、給水対象地区にセノ地区を含めるとの案について、先方ラオス側の強い要望が調査開始以前から日本側に非公式に伝えられており、セノ地区の現状と他ドナーの動向の把握及び、本計画対象とすることの妥当性を検証することも本調査の課題のひとつであった。

調査結果から以下の理由により、セノ地区は本計画の対象とすることは妥当でないと結論できた。

- ① 当該地区においては、プライベートの井戸掘削が盛んに行われており、公共井戸の生産井が2ないし3であるのに対し、すでに50の生産井が建設済みである。これにより、同地区内では、日量数百トン前後の水量（給水人口1人当たりでは、数十リットル）が既に得られている。
- ② 個人による井戸掘削は、基礎となる水文地質データもなく、通常自宅庭に作られており、地下水脈にあたる打率は相当に高いと思われる。
- ③ 一井戸あたりの建設工事費は掘削工事が約\$400、電動ポンプが\$300、貯水槽が\$300と合計約\$1000の由である。既に報告されている「水不足による買水の日常化」も数件先の個人井戸からドラム1缶約1000キップにより購入しているとのことである。
- ④ 同地区内の市場などの経済活動の様子から見ても、同地区では潤沢とは言わないまでも、相当量の水供給がなされていると結論できる。

- ⑤ 他方 ADB は、ラオス側とサイン済のセクターローン（約 \$ 20 百万）「Small Town Water Supply and Sanitation Project」により、全国の 12 districts における 20 のサブプロジェクトを実施する計画であり、当該セノ地区は右計画のフェーズ 1 に含まれ、この 4 月からノルウェイコンサルタントによる詳細設計が開始、2001 年初より建設開始予定である。当該コンサルタントとラオス側の契約交渉も終了している。
- ⑥ セノ地区における右 ADB 計画の詳細は不明であるが、想定できる予算規模（\$ 1～2 百万）とローンアグリーメントの概要から推察するに、深井戸による公共水栓の増設と簡便な下水道の整備を行うと思われる。これにより、上記の水供給の現状と併せ、緊急的な水供給量増加は十分対応できる。
- ⑦ 以上と、1 月の岩堀無償調査員の報告結果を踏まえると、本計画対象地域にセノ地区を含めることは技術面、コスト面、ラオス政府の新要請作成、ADB との調整のいずれから見ても、あり得るオプションではない。
- ⑧ 他方、以上のことは、当該地区におけるわが方の協力の余地がないということの意味するものではない。
- 上記のように、無計画に個人井戸が建設される一方水質には何の注意も払われないし、下水道整備は全く行われておらず、ゴミの収集も行われていない状況である。
- そもそも都市計画のないまま移入民が住居建設、私道敷設を勝手に行っており、同地区の問題は、こと生活用水の量の問題によって解決できるものではなく、多角的な視点による地域総合開発の策定と、道路・電気・下水・水道等の整備はむしろ急務であると言える。実際、ヴィエンチャンでのヒアリングによれば、98 年 MCTPC に属する Urban Institute がセノ地区（Outhoumphone District）の都市計画マスタープランを策定済と由であった（報告書未入手）。
- ⑨ 従って、国道 9 号線沿い開発に対するわが国の貢献策としては、上記先方マスタープランにのっとった無償要請があった場合、対応を検討するか、S/W 署名済みの「サバナケット地域総合開発計画」中でセノに特別の配慮をし、それを無償資金協力により実現するのが最も現実的・効果的で、外交上のプレゼンスにも大きく貢献できるものと思料する（以上ミニッツ 7-1 参照）。

（２）実施体制

昨年 9 月に首相決定が発効し、水セクターの政府組織の改革と業務分掌の変更が行われた。

内容的には、世銀を含めた開発銀行が世界各国で実施している構造調整プログラ

ム下の公共サービスの一部民営化（ないしは国営企業化）と同列のものであり珍しいものではない。しかし、改革の中身の詳細になる当事者であるラオス側関係機関の説明がバラバラで、要領を得ないため、右首相決定の英訳写そのものをミニッツに添付することとした（ミニッツ 3 参照）。主たるポイントは、Nam Papa を事実上分割し、政策部門を Water Supply Authority(WASA)として、通信運輸郵政建設省大臣（MCTPC）直列としたことであろう。

（３）サバナケット市浄水場の現況と必要な要請内容

現在同市には、ナケ浄水場が１箇所あり、既給水区域に給水している。同浄水場は１９７７年に稼働し、その浄水能力は、１５，０００ｍ^３/日であるが、システムの老朽化により、浄水量が低下している。取水側にも配水池側にも流量計測装置がなく、実態は不明である。供給量については、取水ポンプの定格と運転時間により推計しているようであるが、正確とは考えられない。

緊急を要するコンポーネントとしては、取水施設及び、浄水施設全般の改善、浄水施設の３系列目の増設等が必要である。

以上から、上記セノ問題以外は、概ね当初要請内容のとおりと確認された。但し、当初要請内容中には、システム上は必要と考えられる浄水池・高架水槽・護岸工事の建設が含まれていなかったため、ミニッツに記載した。他方、水道メーター、維持管理用機材については、先方の財務状況等のデータを解析したのちに検討することとして、本ミニッツには記載しなかった（ミニッツ 4 参照）

（４）維持管理体制

１９７７年に完成し、今日まで用いられてきているサバナケット浄水場施設は、当初から施設拡張を想定して設計されている。また、経済の低迷期を含む２６年間に大改修をしていないということは、メンテナンスについても相当配慮された設計だったのであらうと思われる。

一方、９１年に９本建設されたセノ地区の井戸が、数年の内に大半が使用不能となったのも、地下水源の問題ばかりでなく、単にポンプやケーシングの維持管理上の問題による故障が原因の休止井戸も多いように見受けられた。

本計画のＢ／Ｄにおいては、維持管理体制の拡充をどうはかるかという点（技術協力及びソフトコンポーネントの利用を含め）と可能な限りメンテナンスの負担の少ない施設設計に努めるべきであらう。

3. 今後の予定／課題

コンサルタント2名は、3月28日まで調査を継続する。主な調査項目は以下のとおり。

① ドナー関連

A D Bコンサルタントからセノ計画を含む水供給セクタローンの詳細を聴取。
併せて世銀等のメジャードナーより、サバナケット周辺の開発計画の内容の確認。

② 組織関連

上述首相令に関連した実施細則等の確認と、関連省庁（MOH等）からのヒアリング。

③ 実施機関の技術能力の把握

④ 実施機関の財務状況の把握

⑤ 浄水場施設及び給水システムにかかる技術的調査

今回の調査では実施調査はできないが、既存資料、ヒアリング、視察により、なるべく正確な施設の現況を把握する。

また、上記に関連して以下を事務所にお願いしたい。

① 「サバナケット地域総合開発計画」にかかる情報について、コンサルタントにブリーフ、資料貸与を行う。

② 当国で活動中の専門家／J O C V隊員との面会のアレンジ及び、業務報告書等の貸与（当該分野の職務の方、及びサバナケット地域在住の方）

③ 上記①の開発調査との連携の推進。

セノの将来計画のみならず、本無償案件全体の計画策定に少なからず関連が強い。
これに関し、国道9号線沿い開発全般にかかる情報の提供。

付属資料 3 調査団構成

LIST OF TEAM MEMBERS :

Preparatory Study Team for the Project for Rehabilitation and Expansion of Water Supply Facilities in Savannakhet Area in Lao People's Democratic Republic

Name	Job Title	Occupation	Period
1. Hisatoshi OKUBO (大久保 久俊)	Leader	First Project Management Div. Grant Aid Management Department Japan International Cooperation Agency	Mar. 2 – Mar.9
2. Osamu NAKAGOME (中込 修)	Facility Planning	Tokyo Engineering Consultants Co., Ltd.	Mar. 2 – Mar.29
3. Kaoru SUZUKI (鈴木 薫)	Water Supply Planning	Tokyo Enginerring Consultants Co., Ltd.	Mar. 2 - Mar. 29

付属資料 4 調査日程

Date	Day	Activities	Accommodation
Mar. 1	Wed.	Depart NARITA for Bangkok (Arr. 15:30 TG641)	Bangkok
Mar. 2	Thu.	Depart Bangkok for Vientiane (Arr. 9:30 TG690) Courtesy call 13:00 MCTPC 14:00 JICA Office 14:30 Embassy of Japan	Vientiane
Mar. 3	Fri.	08:30 WASA 09:30 NPL (Discussion) 13:00 Depart Vientiane for Savannakhet	Savannakhet
Mar. 4	Sat.	08:30 Savannakhet Province 10:00 Savannakhet Water Supply Authority 14:00 Site Survey (Savannakhet, Seno)	Savannakhet
Mar. 5	Sun.	Site Survey(Savannakhet, Seno)	Savannakhet
Mar. 6	Mon.	08:30 Savannakhet Water Supply Authority 09:30 Vice Governor 13:00 Depart Savannakhet for Vientiane	Vientiane
Mar. 7	Tue.	08:30 Discussion of the Draft of the M/D 16:00 M/D sign	Vientiane
Mar. 8	Wed.	08:30 Visit to ADB Report to 14:00 JICA Office 15:30 Embassy of Japan	Vientiane
Mar. 9	Thu.	Depart Vientiane for Bangkok (Dep. 10:30 TG691) 09:30 Chinaimo Water Treatment Plant 15:00 JICA 16:30 MOH	Bangkok(Mr.Okubo) Vientiane
Mar. 10	Fri.	Depart Bangkok for Narita (Mr.Okubo) (Dep. 11:20 TG640) 08:30 WASA 10:00 Nam PaPa 14:00 WB 15:00 ADB	Vientiane
Mar. 11	Sat.	Internal Meeting	Vientiane
Mar. 12 to Mar. 24	Sat. Thu.	Site Survey Savannakhet	Savannakhet
Mar. 24	Fri.	08:30 Savannakhet Province 09:30 Nam PaPa Depart Savannakhet for Vientiane	Vientiane
Mar. 25	Sat.	Internal Meeting	Vientiane
Mar. 26	Sun.	Internal Meeting	Vientiane
Mar. 27	Mon.	Report to MCTPC and NPL	Vientiane
Mar. 28	Tue.	Report to Embassy of Japan and JICA Office	Vientiane
Mar. 29	Wed.	Depart Vientiane for Bangkok (Dep. 10:30 TG691)	Bangkok
Mar. 30	Thu.	Depart Bangkok for Narita (Dep. 08:35 JL708)	

付属資料 5 主要面談者リスト

Lao PDR SIDE

MCTPC (Ministry of Communication, Transport, Post and Construction)

Department of Housing and Urban Planning(DHU)

Mr. Bounleuam SISOULATH	Director
Mr. Khanthone VORACHITH	Vice Head of Water Supply Division in DHU

Water Supply Authority

Dr. Somphone DETHOUDOM	Director
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Nam Papa State-owned Enterprise, Vientiane

Mr. Daophet BOUAPHA	General Manager
Mr. Oth KEOMANIVONG	Chief Engineering Section

Chinaimo Water Treatment Plant

Mr. Lath PABPHANE	General Manager
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Savannakhet Provincial Government

Mr. Soukaseum BODHISANE	Deputy Governor
Mr. Thongthieng SIDAVONG	Deputy Chief of Provincial Office
Mr. Sisaket XAIYABOUTHDY	Foreign Affairs & International Cooperation Office

DCTPC(Department of Communication, Transport, Post and Construction)

Mr. Vanhkhram INTHICHAC	General Director
Mr. Sinouane SIHARATH	Deputy Director
Mr. Phoummady Hongchaleune	Head of Housing and City Planning Office
Ms. Phavanh Boualouanglath	

Nam Papa State-owned Enterprise, Savannakhet

Mr. Somsy KONGDALA	Director
Mr. Phandola KHOUANMOUANGCHANH	Director of Water Treatment Plant
Mr. Somboune HEUANGSAVANH	Head of Planning and Design
Mr. Soutty KHOTHOSOMVONG	Head of Accountant
Mr. Bounthieng SAYMOUNTY	Head of Seno Branch

J A P A N S I D E

ラオス日本大使館

小林 茂紀 一等書記官

ラオス J I C A 事務所

青木 眞 所長

熊谷 信広 職員

正木 幹生 企画調査員

J I C A 専門家

松木 洋忠 通信 運輸 郵政 建設省 (M C T P C)

天野 博之 保健省 (M O H)

村山 明雄 保健省 ナムサード (M O H N a m s a a d)

J O C V

丸山 はる美 チナイモ浄水場 水質分析

国際機関

A D B

Mr. Paul TURNER Resident Advisor

W o r l d B a n k

Mr. Santanu LAHIRI Specialist (Lao PDR & Cambodia Office)

付属資料 6 水及び水源法

WATER AND WATER RESOURCES LAW.

LAO P.D.R.

UNOFFICIAL TRANSLATION

BY

ADB TA 1764-LAO (SRIDP)

Unofficial translation by ADB TA 1764-LAO.

Lao Peoples Democratic Republic.

Peace, Independence, Democracy, Unity, Prosperity.

No 106.

Presidential Statement

concerning the Use of Water and Water Resource Law.

Based on the Constitution of Lao PDR, item No 1 of article 53 under Group V;

Based on the resolutions of the Ninth Regular Parliament Meeting concerning the endorsement of the Water and Water Resource Law Act as per letter No 005 dated October 11, 1996;

Based on the proposal made by permanent Representatives of Parliament as per letter No 08 dated October 16, 1996;

The President of Lao Peoples Democratic Republic has issued as:

Article 1 - To announce the adoption of the Water and Water Resource Law.

Article 2 - This statement is effective from the date shown below.

Nouhak PHOUMSAVANH.
The President.

Vientiane, November 2, 1996.

Unofficial translation by ADB TA 1764-LAO.

Lao Peoples Democratic Republic.

Peace, Independence, Democracy, Unity, Prosperity.

Parliament House

No 05.

Endorsement of the Parliament of the Water and Water Resource Law.

Based on Article No 40, item 2 of the Constitution and based on Article No 2, item 2 of the Constitution Law of the Lao Peoples Democratic Republic;

Based on the proposal made by HE Kham Ouane BOUPHA, Minister, Ministry of Justice, Lao Peoples Democratic Republic;

After a long and in-depth study of the proposed Law, the Ninth Regular Meeting of the 111 Parliamentarians in the afternoon session of October 11, 1996,

AGREED

Article 1 - To unanimously endorse the Water and Water Resources Law.

Article 2 - The endorsement is to be effective from the date set out below.

Samane VINHAKET
Parliamentary Chairman.

Vientiane, October 11, 1996.

WATER AND WATER RESOURCE LAW.

GROUP I - GENERAL PROVISIONS.

Article 1 - The Role of the Water and Water Resources Law.

The Water and Water Resources Law provides Principles, Regulations and Measures governing the Management, Exploitation, Development and Use of Water and Water Resources within Lao PDR; with the aim to protect and sustain Water Resources and Water particularly with regard to the assurance of water in sufficient quantity and of sufficient quality to satisfy the national needs in terms of domestic, agricultural, industrial uses and the uses of other sectors in such manner as to protect the Natural Environment.

Article 2 - Water and Water Resource.

For the purpose of this Act, Water is defined as the natural liquid substance which is the basic element of Water Resources. Water Resources are natural resources, living and non-living, which are in the water and include aquatic weeds, sand, gravel, fish, minerals, etc.

Article 3 - Water Sources and Basins.

A Water Source occurs when water is collected or stored, or where there is a natural movement, either permanent or temporary. Water Sources may be on the ground surface, underground or in the atmosphere.

Surface Water is a water source on the ground surface in a continuous line or at a specific location, such as rivers, streams, swamps, reservoirs or ponds.

Underground Water is the water source located under the ground in strata, in layers, in bulk or mixed with the soil.

Atmospheric Water is the water source located in the atmosphere as cloud, rain snow, fog, etc.

A River Basin is the land and forest from the upstream reach of the river to the effluent of that river where all rain water falling within its boundary will tend to flow towards the effluent of the river, as a water resource system.

Article 4 - Ownership of Water Resource and Water.

Water Resources and Water are the property of the people of Lao PDR as a whole. The Government acts on behalf of the people to manage and to evenly and equitably share the uses of the water. Individuals and organisations will have the right to use the water for specific purposes only when authorisation is given by the concerned authority, except for use of a minor nature, as indicated in this Law hereafter.

Unofficial translation by ADB TA 1764-LAO.

Article 5 - Promotion, Development and Protection of Water and Water Resources.

The Government promotes the Exploitation, Use, Preservation and Protection of Water and Water Resources and the control of related harmful effects.

Article 6 - Basic Principles in Water and Water Resource Management and Use.

Water and Water Resource management and use must follow the principals of national planning, and the planing cycle, as set out in Article 22 of this Law.

Article 7 - Duty to Preserve Water and Water Resource.

In order to preserve and to use Water and Water Resources in the most effective way, individuals, organisations and communities have a responsibility to strictly obey the Water and Water Resources management and use Regulations.

GROUP II - WATER RESOURCE AND RIVER BASINS SURVEY, REGISTRATION AND CLASSIFICATION.

Article 8 - Survey and Registration.

The Ministry of Agriculture and Forestry is directly responsible for the survey and inventory of Water Resources and River Basins, nation wide, in collaboration with relevant agencies and local authorities.

Article 9 - Water Resources Classification.

To assist National Planning in Lao PDR, Water Resources are to be classified as follows:

- (i). Drinking Water and Domestic Water Sources are sources of water to be specifically reserved for human consumption and use.
- (ii). Reserved Water Sources are sources of water reserved for natural wild life and other living creatures, including activities related to environmental protection.
- (iii). Water Sources for Irrigation are sources of water for Agriculture, Forestry and Livestock production.
- (iv). Water Sources for Hydropower are sources of water for hydropower production.
- (v). Water Sources for Industry are sources of water for industrial use.
- (vi). Water Sources for Water Communication are sources of water for water transport and navigation.
- (viii). Water Resources for Recreation are sources of water for recreation.
- (ix). Water Resources for Health and Hygiene are sources of water for health and hygiene.

Unofficial translation by ADB TA 1764-LAO.

Article 10 - Types of River Basins.

River Basins are classified into three types:

- (i). Main River Basin, is the Basin of the Mekong River, within Lao territory.
- (ii). Tributary River Basin is the Basin of the Tributary River of the Mekong, or other river in Lao territory.
- (iii). Small Basins are the Basins of Water Resources that flow into Mekong tributaries and other rivers.

The organisation stated under Article 8 of this Law is responsible for classifying and defining boundaries of these River Basins.

Article 11 - Water Resource and River Basin Planning.

The planning of Water Resources and River basins must be based on surveys undertaken and data collected. This is to ensure that water and water resources are managed in the most effective way and in accordance with priorities and targets.

Article 12 - Water Resource and Water Distribution.

The Government will determine the distribution of Water and Water Resources in order that they will be equitably and sustainably shared and that targets may be met.

GROUP III - USES OF WATER AND WATER RESOURCES.

Article 13 - Purpose of the Utilisation of Water and Water Resources.

Water and Water Resources may be legally used for different purposes such as: family domestic use; irrigation; fishery; agricultural production; livestock; hydropower; industrial production; navigation; sport; recreation; cultural; medicinal; etc.

For Hydropower and Irrigation, there will be specific Regulations for Uses.

Water Resources may also be available for multi-purpose use as appropriate.

The use of underground water must be reserved for drinking purposes and its use for medium and large scale activities must receive prior authorisation by the responsible organisation.

Unofficial translation by ADB TA 1764-LAO.

Article 14 - The Right to the use of Water and Water Resources.

Individuals, communities and organisations have the Right to use Water and Water Resources for family domestic or business purposes.

The Right to use Water and Water Resources are classified into Small Scale Right to Use, Medium Scale Right to Use and Large Scale Right to Use.

The Rights to use Water and water Resources must be in accordance with National Water Resource Planning.

Article 15 - Small Scale Use.

The following purposes are considered Small Scale Use:

- * family domestic use and community requirement, cultural use and sport.
- * fishing, fisheries and for other water life.
- * soil, sand gravel, aquatic weeds which are situated in, or nearby the Water Resource.
- * basic agriculture, forestry and livestock production needs of the family.

The above Small Scale Use will always be permitted except where there are restrictions by concerned Ministries or Local Authorities.

Article 16 - Medium Scale Use.

The following purposes are considered Medium Scale Use:

- * small weir or dam across, or to change the direction of flow of, a stream; a rock wall, dyke to be used as a roadway or reservoir for irrigation or hydropower generation, livestock or fisheries.
- * extraction of sand, gravel, soil, minerals, trees or aquatic weeds which are situated in or near the water resource and which will create minor harmful effects to the existing natural environment.
- * small scale pump installations to pump water for agricultural use other than for production for family consumption.
- * tourism, sport and culture.

Unofficial translation by ADB TA 1764-LAO.

Article 17 - Large Scale Use.

The following purposes are considered Large Scale Use:

- * medium and large scale reservoirs for irrigation, domestic water supply and hydropower generation.
- * installation of structures, industrial plant, workshops, other large equipment within the Water Resource zone; or across or nearby a Water Resource.
- * the use of a high quantity of water for industrial production or processing.

Article 18 - Operational Systems for Use of Water.

Small Scale Users need not seek permission for use. The Medium Scale User and Large Scale User must seek and receive permission and the use of the resource must be registered. In the case of Large Scale Use, a feasibility study including an environmental impact study, sociological study and overall plan must be submitted with adequate solutions to any defined problems before the use of the resource is allowed.

Article 19 - Water and Water Resource Management.

Management of Water and Water Resources will be centrally controlled as follows:

Permits for Large Scale Use will be issued by the Government. Permits for Medium Scale Use may be issued by the ministry concerned, except where the use is considered important, then it must be issued by the Government.

Management, monitoring and control of Water and Water Resources use are the responsibility of concerned sectoral agencies and local authorities.

GROUP IV - WATER RESOURCE DEVELOPMENT AND MANAGEMENT.

Article 20 - Water Resource Development Schemes.

Water Resource Development Schemes are those related to construction, exploitation, installation, improvement, extension, rehabilitation of catchment, ponds, underground works, ditches, dikes or pipe works, storage of water on the surface, underground or in the atmosphere for any purpose as stated in Article 13 of this Law, including flood, drought and erosion protection schemes.

Article 21 - Water Resource Development Activities.

Except in the case of Small Scale Use, individuals or organisations may not initiate any development works unless Right to Use has been authorised by the concerned organisations.

Unofficial translation by ADB TA 1764-LAO.

Article 22 - Principles in Water Resource Development Management.

Principles to be adopted are as follows:

- (i). development must be in accordance with the National Social, Economic and Environmental Master Plan; Sector Development Plans and the Implementation Plan of each National Program.
- (ii). development must ensure the preservation of Water and Water Resources, Nature, the Environment and Scenic Beauty of the countryside.
- (iii). development must be undertaken in such way as to provide protection from the harmful effects of water.
- (iv). development must be controlled by the relevant organisation responsible for Water and Water Resources.

Article 23 - Management of Water Resource Development Schemes.

Government organisations responsible for Water and Water Resource Management will issue regulations concerning water resource development. Individuals and organisations undertaking Water Resource Development Activities must properly maintain work in good order and safe condition. Individuals and organisations benefitting from any Water Resource Development must contribute to the operation and maintenance of these schemes.

Article 24 - Funds for Watershed and Water Resource Protection.

Developers of Water Resources must contribute funds for Watershed and Water Resource protection.

Article 25 - Promotion of Watershed and Water Resource Protection for Hydropower Development.

The Government will encourage the use of water sources for large, medium and small scale Hydropower Generation wherever suitable. Water sources must be used to their full potential, and where possible, hydropower development should be planned to provide other benefits. Planning should be comprehensive, covering the whole river basin. Hydropower projects must be developed with due concern for environmental protection, flood protection, water supply, irrigation, navigation, fisheries and others.

Article 26 - Encouragement of Reservoir Development for Agricultural Purposes.

The Government encourages the development of reservoirs for Agriculture, Forestry and Livestock production. Local authorities have the responsibility to promote and support these activities through the provision of credit facilities, exemption of taxes, etc.

Unofficial translation by ADB TA 1764-LAO.

Article 27 - Change of Direction of Flow.

In medium scale Water Resources Development, the change of direction of flow must only follow the approval of Government. For large scale Water Resources Development, change of direction of flow must also be approved by the National Parliament.

Article 28 - Human Resettlement.

If Water Resources Development requires Human Resettlement, the developer or project must make adequate arrangements and funding for such resettlement.

GROUP V - WATER AND WATER RESOURCE PROTECTION.

Article 29 - Water and Water Resource Protection.

Individuals and organisations are required to protect Water and Water Resources from drying up or becoming spoilt or polluted. Water and Water Resources must be used in the most economical way and in such way as not to adversely effect the environment or scenic beauty of the countryside. Furthermore, forest and land resources within the watershed must be protected in accordance with Water Resource, Forest and Land Allocation Plans. In order to preserve the water resource, the Government will reserve areas and determine protection procedures for all water resources.

Article 30 - Water and Water Resource Protected Zones.

The Government will determine Water and Water Resources Protected Zones to ensure adequate supplies of water of sufficient quality to serve the drinking and domestic needs of people in both urban and rural areas. Protected Zones shall be delineated with boundary fencing. No development including building, agriculture, industry, extraction of rock, sand or minerals nor cemeteries will be allowed within the Protected Zone. The discharge of wastewater and the dumping of garbage, chemicals, mine tailings or any harmful material will not be allowed within the Protected Zone.

In the event that the quality and quantity of water available for human consumption is threatened, the Government will extend the area of the Protected Zone and add additional protective measures.

Unofficial translation by ADB TA 1764-LAO.

Article 31 - Restrictions.

In order to protect Water and Water Resources in the most effective manner, individuals and organisations are not allowed to undertake the following activities adjacent to Water Resources:

- * exploit, use or destroy Water or Water Resources.
- * cut trees.
- * excavate, clear or undertake land levelling which will create erosion.
- * dump materials which will adversely effect, or pollute, the Water Resource.

Except where authorised, it is not permitted to undertake the following activities adjacent to Water Resources:

- * to construct any building.
- * to extract sand, gravel or rock.
- * to excavate drainage lines, modify or change public swampy areas and ponds including the property of individuals where such change may adversely effect the public.
- * to obstruct the flow of water in natural water sources or navigational ways.
- * to change the direction of flow, construct dikes, install gates or excavate medium or large drains.

As well as the above restrictions the Government must promote Tree Planting and Reforestation in Protected Zones.

Article 32 - Water Quality Standards.

The Government will control the standard of Waste Water to be discharged to water resources and elsewhere.

Unofficial translation by ADB TA 1764-LAO.

GROUP VI - RIGHT OF WAY.

Article 33 - Right of Way.

Water must be allowed to follow its natural course.

Article 34 - Natural Right of Way.

Land owners must allow the natural flow of water to proceed downstream, unhindered. If the natural flow of water is obstructed, the land owner creating the obstruction will be responsible for all resultant loss to upstream or downstream land owners who are adversely effected by the obstruction.

Article 35 - Legal Right of Way.

Individuals or organisations having obtained a permit to develop a Water Resource shall have the right to convey all types of water, including waste water, by pipe or trench through land owned by other individuals or organisations provided there is no harm or loss to these other land owner(s). Where harm or loss does occur, the developer will compensate the other land owner(s).

Article 36 - Rights of Land ~~Owners~~. *Occupiers*

Where water passes through, or adjacent to, the land of another ~~owner~~ ^{*occupier*}, that ~~owner~~ ^{*occupier*} shall have the right to the use of the water. That land ~~owner~~ shall also contribute to the cost of construction, and operations and maintenance.

Article 37 - Government Rights.

Government organisations managing Water and Water Resources have the right to instal equipment, construct structures or reticulate electricity, necessary for water distribution or control of water quality, on, or across, the land of another land owner. The other land owner(s) will be duly compensated for any loss or harm done.

Article 38 - Resolution of Disputes.

Disputes will be resolved by the mediation of Local Authorities. If agreement, at this level cannot be reached, the dispute will be referred to the Court.

GROUP VII HARMFUL EFFECTS, CONTROL AND PROTECTION OF WATER.

Article 39 - Harmful Effects of Water.

Harmful effects of water includes flood damage, damage by rising and falling river levels, saline intrusion, waste water pollution, lack of water, sedimentation and erosion

Unofficial translation by ADB TA 1764-LAO.

Article 40 - Flood Protection.

Relevant authorities at all levels must take a lead role and use effective measures to control flooding and protect from subsequent damage in accordance with the overall National Plan. During flash floods or any emergency, local authorities will make decisions necessary to reduce the damage and loss.

To control and protect against floods, all levels of all authorities have the right to requisition materials, labour and Government budget, and the mobilisation of organisations and individuals. Once the flood situation has passed, all equipment will be returned to the owners and payment will be duly made to compensate for any loss or damage.

All elements of government authorities and the community must cooperate in the control of flooding and prevention and reduction of subsequent damage.

Article 41 - Erosion and Protection.

Relevant Government agencies at all levels are responsible, and must take all practical measures, for the control and protection of erosion by water. Activities such as construction work; logging; mining of minerals; extraction of sand or gravel; and speeding boats, that are likely to cause erosion, are prohibited.

Additionally, in order to effectively control erosion, all relevant Government agencies at all levels must have plans for erosion protection structures and must initiate tree planting programs and take other suitable measures along river banks.

Article 42 - Waste Water Protection.

Waste Water is previously used water which may be reused after treatment. Polluted Water is Waste Water containing dirty or contaminated substances which cause the water to be a danger to the environment. All individuals and organisations must observe the regulations concerning the control of polluted water.

Activities likely to damage Water Resources, the environment or quality of human life are prohibited. The discharge of water or dumping of waste into a water source is prohibited if such discharge or dumping will lower the quality of the water source.

Waste water from industries, factories, abattoirs and hospitals must be treated prior to discharge to water sources.

The public has a responsibility to report prohibited discharge or dumping of waste water, or other waste, to relevant Government agencies.

Unofficial translation by ADB TA 1764-LAO.

Article 43 - Monitoring and Checking.

In order to protect Water and Water Resources and the Environment, avoiding adverse effects and loss of life or property relevant Government agencies must regularly monitor and check the following:

- * Standard, quality and quantity of water as determined.
- * Proper use of Water and Water Resources in accordance with defined types and operational systems.
- * That development is executed in accordance with National Socio-Economic and Environmental planning and to the Water Resource Allocation Plan.
- * That regulations and other provisions under the Water Law are followed.

Additionally, a ^{Fund} Foundation for Water and Water Resources Protection should be established.

GROUP VIII INTERNATIONAL COOPERATION ON THE USES, MANAGEMENT AND DEVELOPMENT OF WATER AND WATER RESOURCES.

Article 44 - Development and Management of International Water and Water Resources.

Exploitation, use, management, protection and sustainable development of international Water and Water Resources must be in accordance with International Laws or agreements among countries. The uses and preservation of international water sources and water resources must respect each others equality, independence, authority and integrity.

Article 45 - Dispute Resolution for International Water and Water Resources.

Disputes relating to the exploitation, use, management and protection of international Water and Water Resources between Lao PDR and neighboring countries will be resolved by the Government of Lao PDR and the government of the respective country on the basis of friendship, using diplomatic avenues according to international agreement.

GROUP IX INCENTIVES AND PENALTIES.

Article 46 - Incentives for Individuals and Organisations upholding the Water Law.

Individuals and organisations successfully protecting, developing, exploiting, using and preserving Water and Water Resources within the Water Law and protecting the Environment with the most effective results and in accordance with the National Economic Plan, the Water Sources Allocation Plan and the Preservation and Protection of the Environment Plan, will be awarded with felicitations and other incentives to be determined by the Government from time to time.

Unofficial translation by ADB TA 1764-LAO.

Article 47 - Penalties.

Individuals or organisations offending, under the provision of this Water Law will be educated, fined and imprisoned according to the seriousness of the case. In case individuals or organisations are found to be guilty, under criminal law, all equipment and vehicles used in the offence will be seized by the Government and construction work will be demolished and removed.

GROUP X FINAL PROVISIONS.

Article 48 - Responsible Organisations.

The Government of Lao PDR is authorised to issue detailed regulations related to this Water Law in order to make it effective.

Article 49 - Effectiveness.

This Water Law will become effective ninety days after the official Presidential announcement and previous regulations and provisions in conflict with this Water Law are canceled from that date.

Vientiane, 11 October, 1996.
National Parliament Chairman.

Samane VINHAKET.

付属資料 7 資料収集リスト

番号	資料の名称	内容	入手先	入手日	形態	発行年度	備考
1	Prime Ministerial Decision No.37	水セクターマネジメントに関する首相令	WASA	3月3日	コピー	1999年9月	
2	Water Sector Investment Plan by MCTPC		WASA	3月3日	コピー	1999年9月	
3	Socio Economic Profile of Savannakhet Province		ADB	3月8日	コピー	1998年4月	
4	Report and Recommendation of the President to The Board of Directors on a Proposed Sector Loan to the Lao PDR for the Water Supply and Sanitation Sector Project	Water Supply and Sanitation Project の概要	ADB	3月8日	コピー	1999年10月	
5	Report and Recommendation of the President to The Board of Directors on a Proposed Loan to the Lao PDR Secondary Towns Urban Development Project		ADB	3月8日	コピー	1997年6月	
6	1999 Nam Papa Lao Water Quality Annual Report	1999年水質年報 チナイモ浄水場	チナイモ浄水場 水質室	3月8日	コピー		
7	Water Quality Standards		"	"	コピー	1999年10月	
8	チナイモ浄水場水質監視項目		"	"	コピー		
9	Proposal No.438/SPC 13 September 1999 of the President of the State Planning Office		WASA	3月10日	コピー	1999年9月	
10	Decree No.66 Organization and Activity of MCTPC		WASA	3月10日	コピー	1999年5月	初シナは、ラオ語

付 7-2

付属資料 8 添付図

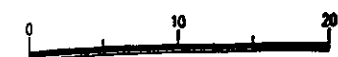
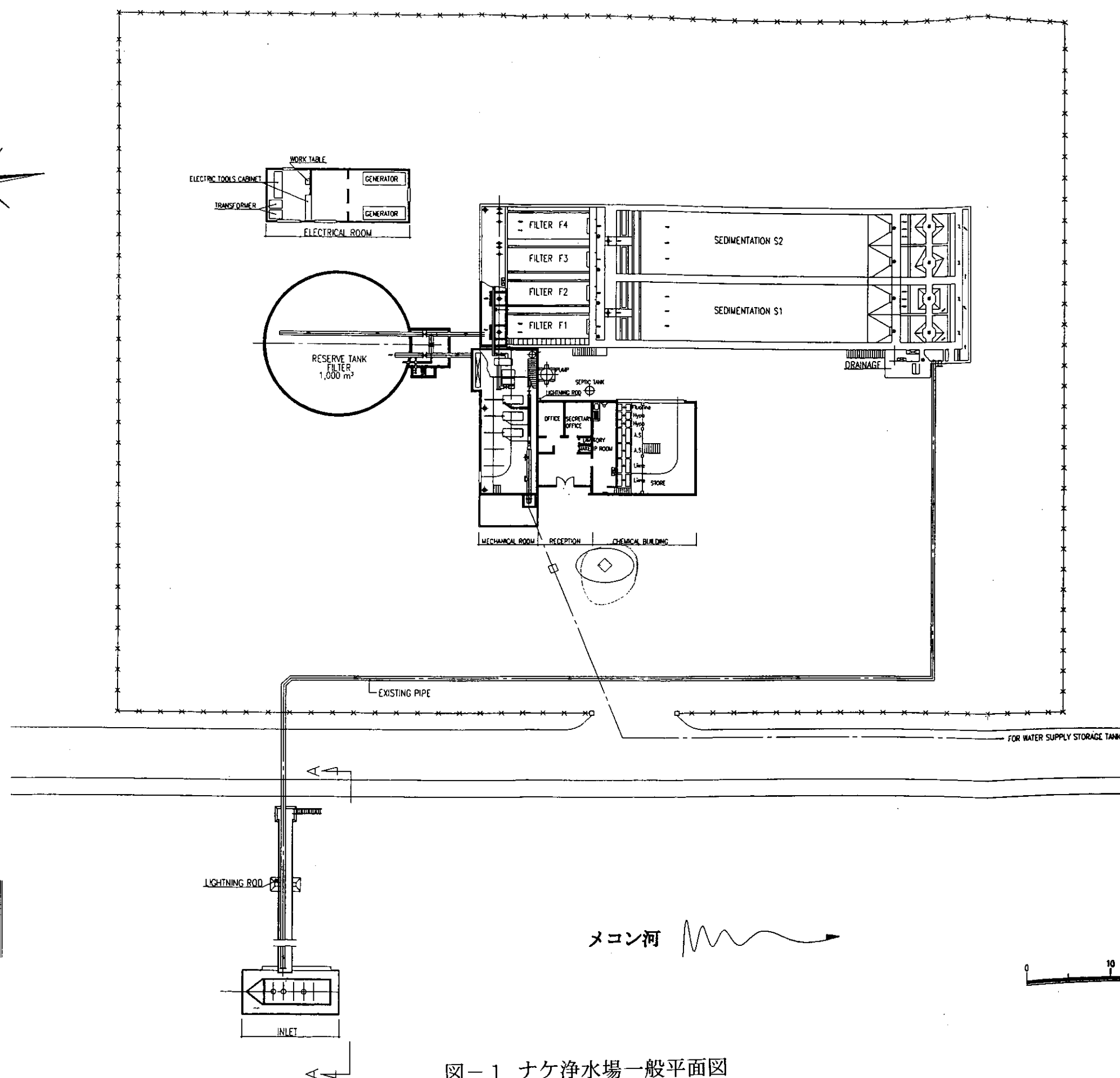
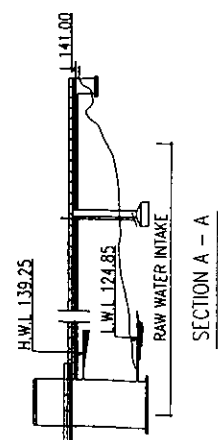
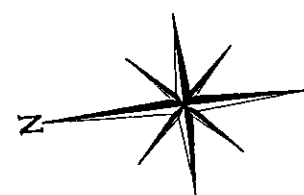


図-1 ナケ浄水場一般平面図

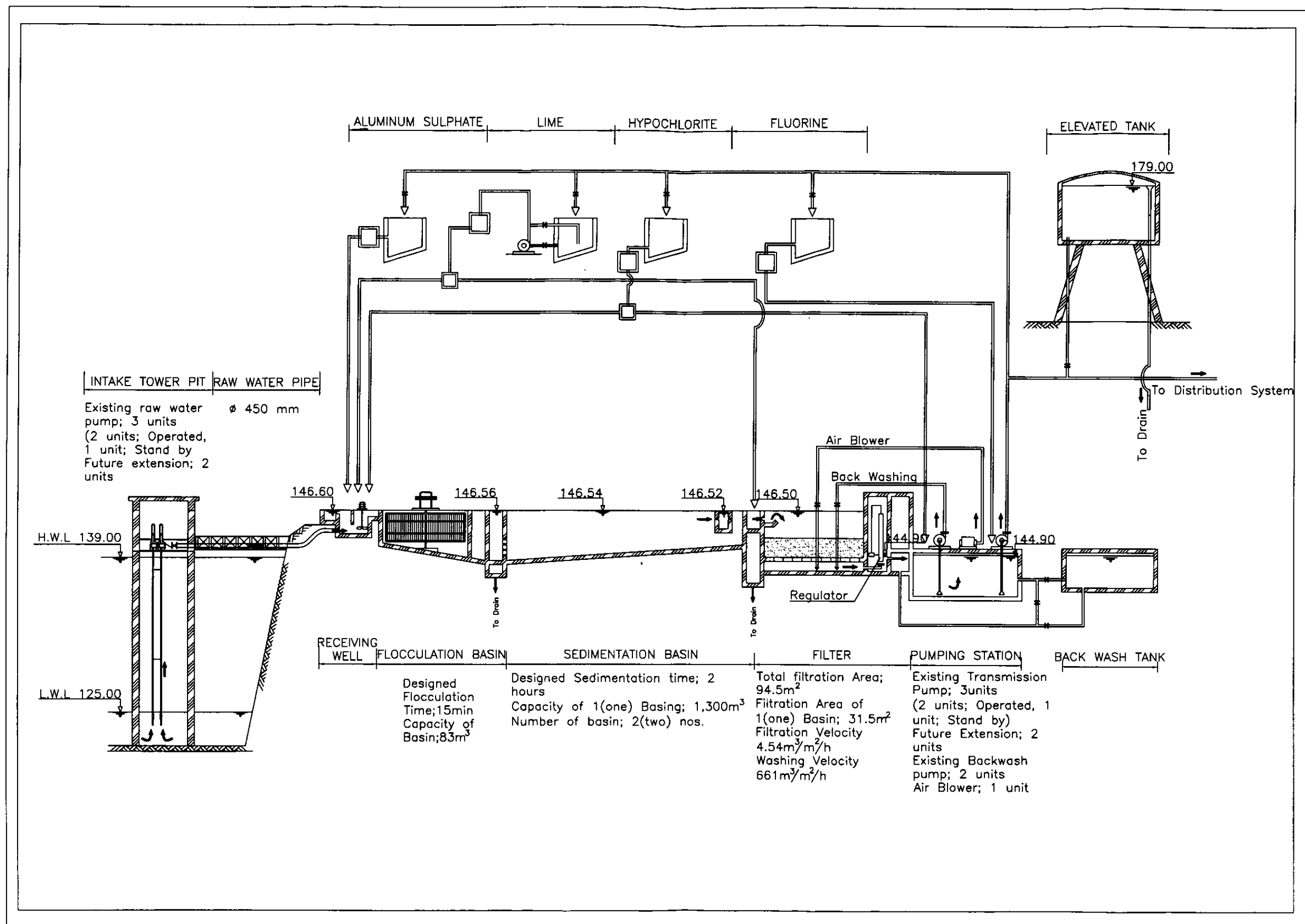
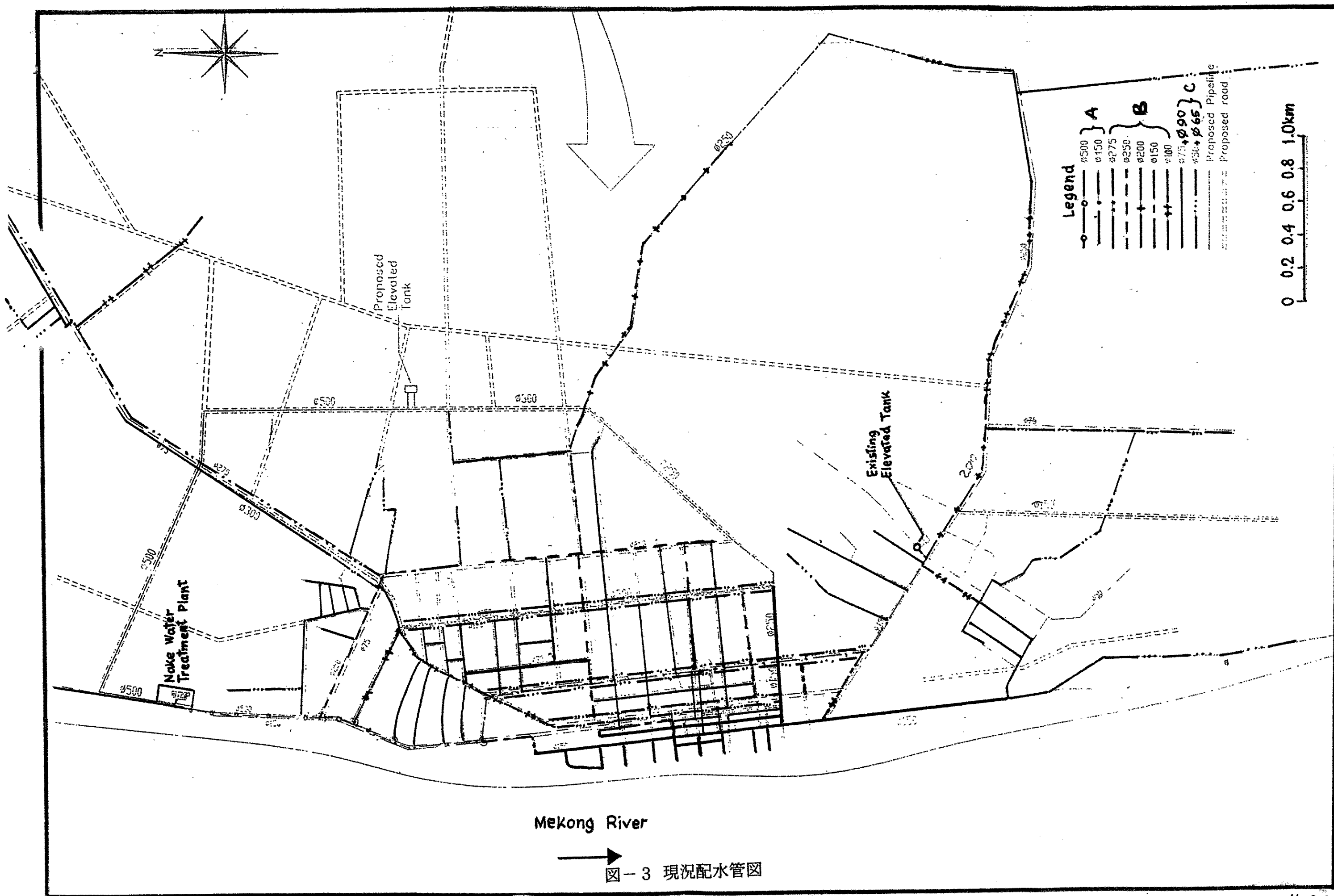


图-2 水位高低图



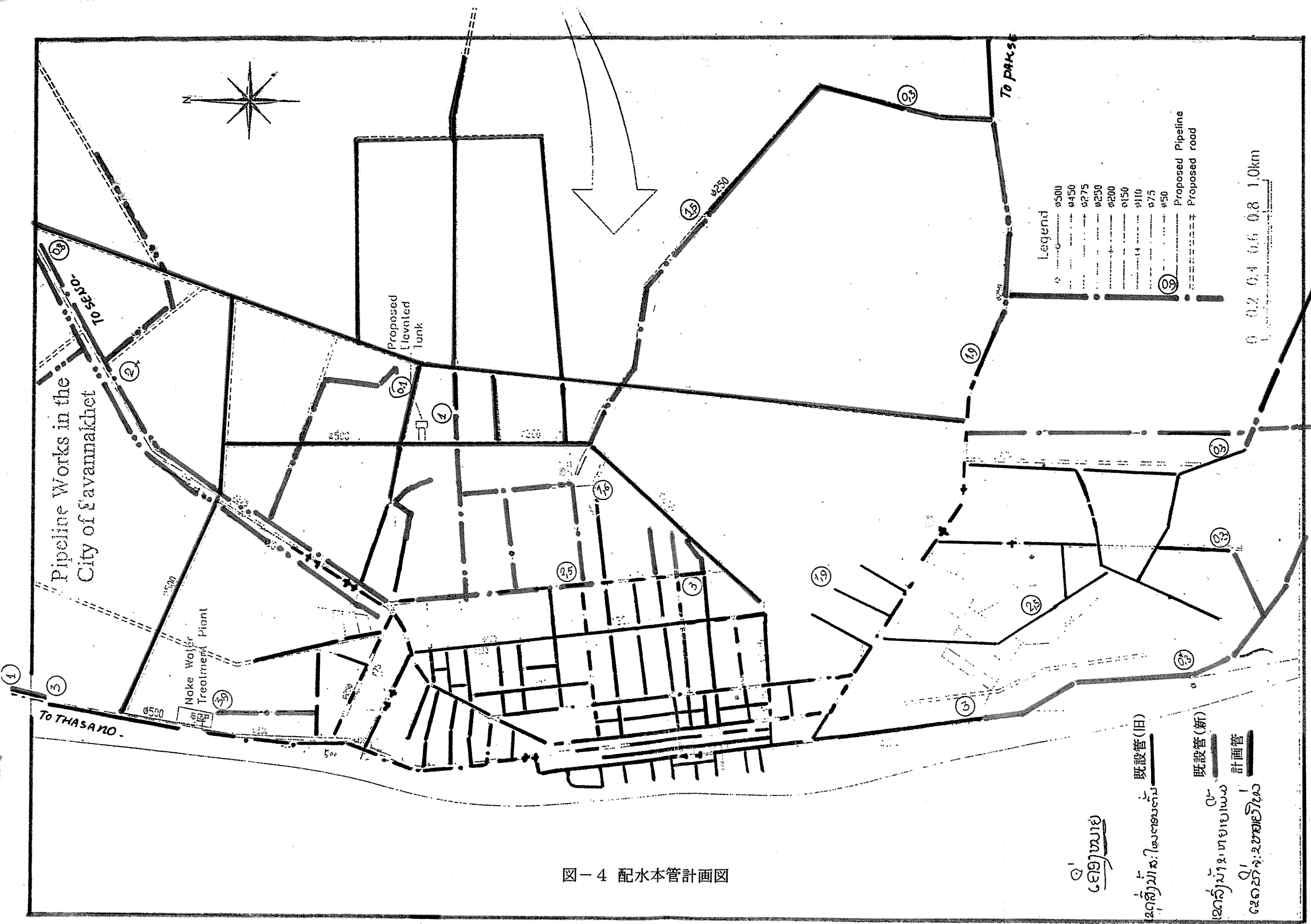


图-4 配水本管計画図

ເຄື່ອງໝາຍ

ຂໍ້ຕົກລົງກ່ຽວກັບ: ໄລຍະທາງເກົ່າ — ຈັດຕັ້ງ (ເກົ່າ)

ຂໍ້ຕົກລົງກ່ຽວກັບ: ໄລຍະທາງໃໝ່ — ຈັດຕັ້ງ (ໃໝ່)

ຂໍ້ຕົກລົງກ່ຽວກັບ: ໄລຍະທາງ — ກຳລັງສ້າງ