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資料1. 調査団員・氏名

(1) 第1次現地調査

担 当	氏 名	所 属
業務主任／交通計画	森田 秀明	(株)アンジェロセック
道路設計	久田 慎	(株)東邦コンサルタンツ
橋梁計画/健全度調査	小山 次郎	(株)アンジェロセック
送電線移設計画	日向 泰山	(株)エクシーズ
自然条件調査	石川 敦之	(株)アンジェロセック
環境社会配慮	渡辺 幹治	(株)ソーワコンサルタント

(2) 第2次現地調査

担 当	氏 名	所 属
総括	川原 俊太郎	国際協力機構 経済基盤開発部 参事役
計画管理	久保 良友	国際協力機構 経済基盤開発部 運輸交通・情報通信グループ 運輸交通・情報通信第二課
業務主任／交通計画	森田 秀明	(株)アンジェロセック
道路設計	久田 慎	(株)東邦コンサルタンツ
橋梁計画/健全度調査	小山 次郎	(株)アンジェロセック
送電線移設計画	日向 泰山	(株)エクシーズ
自然条件調査	石川 敦之	(株)アンジェロセック
環境社会配慮	渡辺 幹治	(株)ソーワコンサルタント
施工計画/積算	小川 富士夫	(株)アンジェロセック

(3) 準備調査概要説明時

担 当	氏 名	所 属
総括	本村 洋	国際協力機構 経済基盤開発部 運輸交通・情報通信グループ 運輸交通・情報通信第二課 課長
計画管理	福沢 大輔	国際協力機構 経済基盤開発部 運輸交通・情報通信グループ 運輸交通・情報通信第二課
業務主任／交通計画	森田 秀明	(株)アンジェロセック
道路設計	久田 慎	(株)東邦コンサルタンツ
橋梁計画/健全度調査	小山 次郎	(株)アンジェロセック
送電線移設計画	日向 泰山	(株)エクシーズ

資料2. 調査行程

(1) 現地調査時

月	日	曜 日	総括	計画管理	業務主任／ 交通計画	道路設計	橋梁設計 ／健全度調査	送電線移設計画	自然条件調査	環境社会配慮	施工・調達計画 ／積算		
			JICA	JICA	森田 秀明	久田 慎	小山 次郎	日向 泰山	石川 敦之	渡辺 幹治	小川 富士夫		
6	5	土			日本～								
	6	日			～ダルエスサラーム								
	7	月			大使館、MoID、TANROADS、JICA事務所表敬								
	8	火			インセプションレポート説明、協議(TANROADS)								
	9	水			現地調査(調査団・TANROADS合同のプロジェクトの現状確認、道路境界・支障物件等の確認)								
	10	木			現地調査(BRT関係機関、鉄道局、RAHCO、Port、BP等との協議)			現地調査 (埋設物資料収集) (電力会社協議)	現地調査 (TANROADS、 NEMEC等との協議)				
	11	金			現地調査	現地調査	現地調査						
	12	土					現地調査 (類似プロジェクト確認)						
	13	日			団内協議、資料収集、整理								
	14	月			プロジェクト計画比較案の検討				現地再委託交渉	環境許可取得手続 き確認			
	15	火			プロジェクト計画比較案の提示・説明・協議								
	16	水			現地調査(協議用資料作成)				現地再委託交渉	環境許可取得手続 き確認			
	17	木			TANROADSとの協議(テクニカル・ノート内容等)、大使館、MoID、JICA事務所報告								
	18	金			～ダルエスサラーム								
	19	土			～日本								

(2) 第2次現地調査

月	日	曜日	団長	案件管理	業務主任	道路設計	橋梁設計	送電線移設計画	自然条件調査	環境社会配慮	施工計画・積算						
			JICA	JICA	森田 秀明	久田 慎	小山 次郎	日向 泰山	石川 敦之	渡辺 幹治	小川 富士雄						
8	3	火			日本～						日本～						
	4	水			～ダルエスサラーム						～ダルエスサラーム						
	5	木			TANROADSとの協議						TANROADSとの協議						
	6	金			現地調査	現地調査	現地調査	現地調査			現地調査						
	7	土															
	8	日			団内協議				日本～		団内協議						
	9	月	表敬、協議（TANROADS）			現地調査	現地調査	現地調査	～ダルエスサラーム		現地調査						
	10	火	表敬、協議（MoID）						現地調査								
	11	水	協議（TANROADS）														
	12	木	MD署名（TANROADS）														
	13	金	報告（日本大使館、JICA）														
	14	土	～日本	現地調査													
	15	日			団内協議						団内協議						
	16	月			現地調査	現地調査	現地調査	現地調査	現地調査		現地調査						
	17	火								ダルエスサラーム～ ～日本							
	18	水															
	19	木										日本～					
	20	金										～ダルエスサラーム					
	21	土										現地調査					
	22	日			団内協議				団内協議								
	23	月			現地調査	現地調査	現地調査	現地調査	現地調査	現地調査	現地調査						
	24	火															
	25	水															
	26	木															
	27	金	報告（日本大使館、JICA）									報告（日本大使館、JICA）					
	28	土	ダルエスサラーム～									現地調査	現地調査	現地調査			
	29	日			～日本				団内協議								
	30	月							現地調査	現地調査	現地調査						
	31	火															
	9	1	水						ダルエスサラーム～								
		2	木						～日本								

(2) 準備調査概要説明時

日程	月	日	曜日	団長 JICA	計画管理 JICA	業務主任／ 交通計画 森田 秀明	道路設計 久田 慎	橋梁計画/ 健全度調査 小山 次郎	送電線移設 計画 日向 泰山	
1	1	31	月			移動				
2	2	1	火			移動				
3		2	水			現場踏査、TANROADS表敬				
4		3	木			現場踏査				
5		4	金			TANROADS表敬・協議(ドラフトレポート説明)、M/D案提出、 公共設備(電気・通信・水道)機関との3者協議				
6		5	土			資料整理				
7		6	日	移動		資料整理				
8		7	月	JICAタンザニア事務所表敬						
9		8	火	現場踏査、MoW表敬、大使館表敬						
10		9	水	TANROADS表敬、M/D案協議						
11		10	木	ミニッツ署名(TANROADS、MoW、MoFEA、調査団) JICAタンザニア事務所報告 移動						
12		11	金	移動						

資料3. 関係者（面談者）リスト

建設省 (Ministry of Works, MoW)	
Musa I Iyombe	Director of Transport Infrastructure
Alex Mollel	Road Engineer
財務経済省 (Ministry of Finance and Economic Affairs, MoFEA)	
Mameltha K. Mutagwaba	Ag. Assistant Commissioner, External Finance
Samuel N. Marh	Ag. Assistant Commissioner, Bilateral Aid
James Msma	Finance Management officer
Yosephe Tamamy	Senior Economist
タンザニア道路公団 (Tanzania National Roads Agency, TANROADS)	
Patrick A.L. Mfugale	Ag. Chief Executive
Ephraem C. M. Murema	Chief Executive
Jason Rwiza	Director of Planning
Chrispianus AKO	Ag. Director of Projects
Ebenezer R Mollel	Head of Design and Standards
Bencolias Tinkaligaile	Head of Planning
Noel K Ngowi	Head of Material
Lutengano E. Mwandambo	Project Engineer
Julius Ngusa	Project Engineer
Mohamed Issa	Project Engineer
Browo Kisawo	Surveyor
Martin Anthony	Engineer
Ambari S. Idabaga	Material Engineer
Emanuel Msumba	Structural Engineer
Sanjo M. Mgeta	Senior Environmentalist
ダルエスサラーム高速交通公社 (Dar es Salaam Rapid Transit, DART)	
Cosmas P. M. Takule	Chief Executive
Enoch J. Kitandu	System and operation Director
ダルエスサラーム市役所 (Dar es Salaam City Council, DCC)	
Bakari R. Kingobi	City Director
Mwakyusa P. H.	City Planner
Nyenye S. M.	Project Engineer
イララ市役所 (Irala Municipality)	
Justine Mayoda	Civil Technician
タンザニア電気供給会社 (Tanzania Electric Supply Company Ltd., TANESCO)	
Rukia A. S. Mpako	Principal Engineer, Temeke
Nathaniel Mbogela	Planning Engineer, Temeke
George Mtunda	Planning Engineer, Temeke
Mary Kabakuzi	Planning Engineer, Ilala
タンザニア上下水道公社 (Dar es Salaam Water & Sewage Authority, DAWASA)	
Isimael Kakwezi	Programme Engineer
タンザニア上下水道会社 (Dar es Salaam Water & Sewage Company, DAWASCO)	
Rwgphenem Ngosssa	Engineer
タンザニア電信電話会社 (, TTCL)	
Johon Hoseph Muwmmun	Network Manager
Dominick Ngawnama	Engineer, DSM Central
J. Chilumba	Planning Engineer
タンザニア鉄道公社 (Tanzania Railway, TRL)	
A. H. Hawaii	Planning Engineer
タンザニア港湾公社 (Tanzania Port Authority, TPA)	
J. S. Natianota	Engineering Manager
Thed S. Bilegeya	Ag. Principal Engineer

G. Mugewi	Engineer, DSM HQ
鉄道資産保有会社 (Reli Assets Holding Company, RAHCO)	
Aminiel H. Omari	Senior Engineer
BP タンザニア	
Engelhardt Kongoro	Managing Director
在タンザニア日本大使館 (Embassy of Japan)	
中川 担	特命全権大使
関 行規	2 等書記官
JICA タンザニア 事務所 (JICA Tanzania Office)	
勝田 幸秀	所長
長谷川 敏久	次長
丸尾 信	事務所所員

資料4. 討議議事録 (M/D)

(1) 第2次現地調査時

**Minutes of Discussions
on the Preparatory Survey
on the Project for Widening Gereza Area Road
in the United Republic of Tanzania**

In response to a request from the Government of the United Republic of Tanzania (hereinafter referred to as "Tanzania"), the Government of Japan decided to conduct a Preparatory Survey for Outline Design (hereinafter referred to as "the Survey") on the Project for Widening Gereza Area Road (hereinafter referred to as "the Project"), and entrusted the study to Japan International Cooperation Agency (hereinafter referred to as "JICA").


JICA sent the Preparatory Survey Team for Outline Design (hereinafter referred to as "the Team") to Tanzania, headed by Mr. Shuntaro KAWAHARA, and is scheduled to stay in the country from August 9th to August 13th, 2010.

The Team held discussions with the officials of the Government of Tanzania and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the Attachment. The Team will proceed to further works and prepare the Preparatory Survey Report.


Dar es Salaam, August 12th, 2010



Shuntaro KAWAHARA
Leader
Preparatory Survey Team
Japan International Cooperation Agency




Ephraem C M Mrema
Chief Executive
Tanzania National Roads Agency
The United Republic of Tanzania



Musa I Iyombe
Director of Transport Infrastructure
Ministry of Infrastructure Development
The United Republic of Tanzania

Witness



Jerome Bureta
Ag. Commissioner for External Finance
Ministry of Finance and Economic Affairs
The United Republic of Tanzania

ATTACHMENT

1. Objective of the Project

The objective of the Project is to meet increasing transportation demand and contribute to mitigate traffic congestion, especially in the periphery of the Center of Dar es Salaam City, through the expansion of Gerezani Area Road in Dar es Salaam City in the United Republic of Tanzania.

2. Project Site

The Project site is located in Dar es Salaam City, as shown in Annex-1.

3. Responsible and Implementing Organizations

3-1. The responsible organization is the Ministry of Infrastructure Development (MoID).

3-2. The implementing organization is Tanzania National Roads Agency (TANROADS).

3-3. The organization chart of MoID is as shown in Annex-2.

3-4. The organization chart of TANROADS is as shown in Annex-3.

4. Items Requested by the Government of Tanzania

After discussions with the Team, the items described below were requested by the Tanzanian side.

Widening of Gerezani Area Road (approximately 1.3km, composed of Bandari Road and Gerezani Street)

- Construction of Gerezani Bridge (adequate length over existing railway, including allowable width for the Bus Rapid Transit-Lane)
- Installation of traffic signals at the existing Gerezani roundabout area.
- Installation of level crossing road at RAHCO and TAZARA rail line near BP depot.

JICA will assess the appropriateness of the above-mentioned component through the Preparatory Survey and will report the findings to the Government of Japan. Implementation of the Project will be decided by the Government of Japan.

5. Japan's Grant Aid Scheme

5-1. The Tanzanian side understands the Japan's Grant Aid scheme explained by the Team, as described in Annex-4 and 5.

5-2 The Tanzanian side will take the necessary actions to facilitate the smooth implementation of the Project, if the Japan's Grant Aid is implemented, according to existing agreement between the Government of Japan and the Government of Tanzania.

6. Schedule of the Survey

6-1. The Team will proceed to further study in Tanzania until September 1st, 2010.

6-2. JICA will prepare the draft report in English and dispatch a mission to Tanzania in order to explain its contents around January, 2011.

6-3. In case that the contents of the report is accepted in principle by the Government of Tanzania, JICA will complete the final report in English and send it to the Tanzanian side by the end of February, 2011.

7. Environmental and Social Considerations

7-1. Both sides confirmed that the Tanzanian side conduct the necessary procedure concerning the environmental assessment (including stakeholder meetings for effective public participation about the outline of the Project, the EIA survey etc.) based on the laws and regulations of Tanzania by the commencement of the construction. The expected EIA schedule is as follows

- (1) Preparation for the EIA consultant by the end of August, 2010.
- (2) Contract with the EIA consultant by the end of September, 2010.
- (3) Submission of Draft EIA Report by the end of December, 2010.
- (4) Site Visit and Review of EIA report by National Environmental Management Council (NEMC)
- (5) Revising and submission of EIA final report to NEMC and the Approval by the end of June, 2011.

7-2. Regarding the Project Affected Persons (PAPs) alongside the Project sites, the Tanzanian side agreed to secure and allocate the appropriate budget for the resettlement and the compensation for the PAPs before implementation of the Project. In this regard, the Resettlement Action Plan (RAP) will be prepared as necessary.

8. Other Relevant Issues

8-1. The Tanzanian side confirmed that the following undertakings should be taken by the Tanzanian side at the Tanzanian expenses under the Project

- (1) Acquisition of the land for the Project.
- (2) Relocation and/or removal of existing utilities (power cables, water lines, etc.) including the underground facilities from the Project site.
- (3) Necessary arrangement for traffic control at necessary sections.
- (4) Necessary arrangement for tax exemption of equipment and materials for the Project.
- (5) Securing temporary yard for the Project.
- (6) Securing site for borrow pit and disposal area.

8-2. Both sides confirmed that the Tanzanian side should secure enough budget and personnel necessary for smooth implementation of relocation and/or removal of existing utilities at its own expenses, conduct the necessary arrangement for relocation and/or removal before commencement of tender for the Project, and manage the progress for relocation and/or removal. The expected schedule for the relocation and/or removal (subject to change based on the agreement of both sides) is as follows.

- (1) Budget estimation and registration by the end of March, 2011.
- (2) Preparation of tender document by the end of April, 2011.
- (3) Commencement of tender by the end of June, 2011.
- (4) Contract with the company for relocation and/or removal by the end of August, 2011.
- (5) Completion of relocation and/or removal by the end of December, 2011.

8-3. The Tanzanian side shall secure enough budget and personnel necessary for the operation and maintenance of the road and bridge constructed by the Project, including the periodical maintenance work after the completion of the Project.

8-4. The Team confirmed the Tanzanian side understood that the space for Bus Rapid Transit system will be included in the Project Design but any works for the Bus Rapid Transit system will not be covered by Japanese grant (except for the Gerezaani bridge and roundabout) .

8-5. The Team explained that the refund of Value Added Tax (VAT) and Fuel levy imposed on Japanese nationals with respect to purchase of the products and services has been delayed and reduced in some previous Japan's Grant Aid Projects. The Team expressed great concern of JICA on the above mentioned problem to the Tanzanian side. Further, the Team requested the Tanzanian side to propose feasible measures in writing to prevent recurrence of such problem in this Project. The Tanzanian side understood the above mentioned concern expressed by the Team and promised to request the Ministry of Finance and Economic Affairs to comply with the agreement between the two Governments with respect to tax exemption.

8-6. The Tanzanian side understood that the Team is not in the position to guarantee implementation of the Project.

End

ANNEX-1: Project site

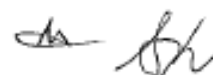
ANNEX-2: Organization chart of TANROADS

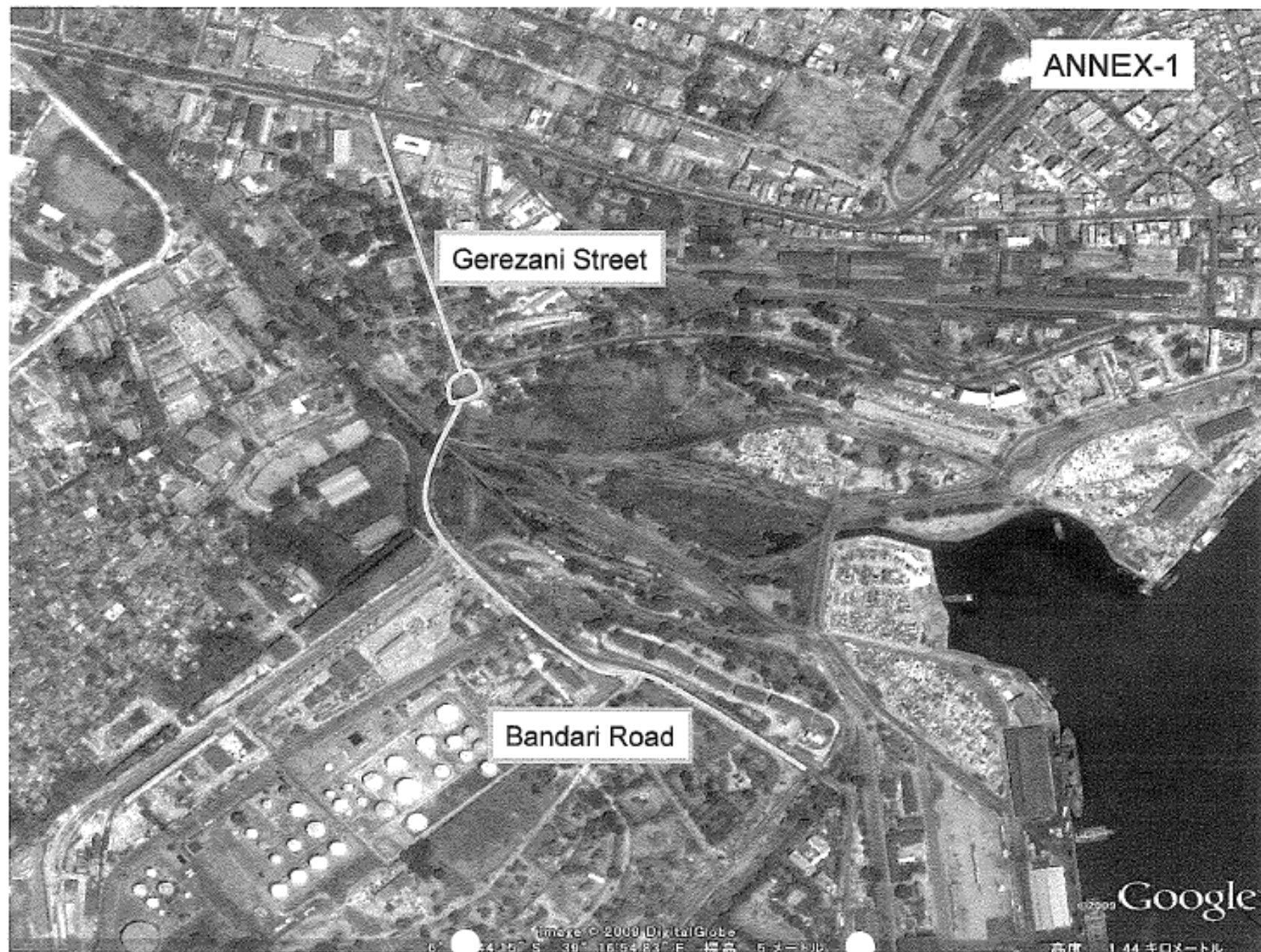
ANNEX-3: Organization chart of MoID

ANNEX-4: Japan's Grant Aid Scheme

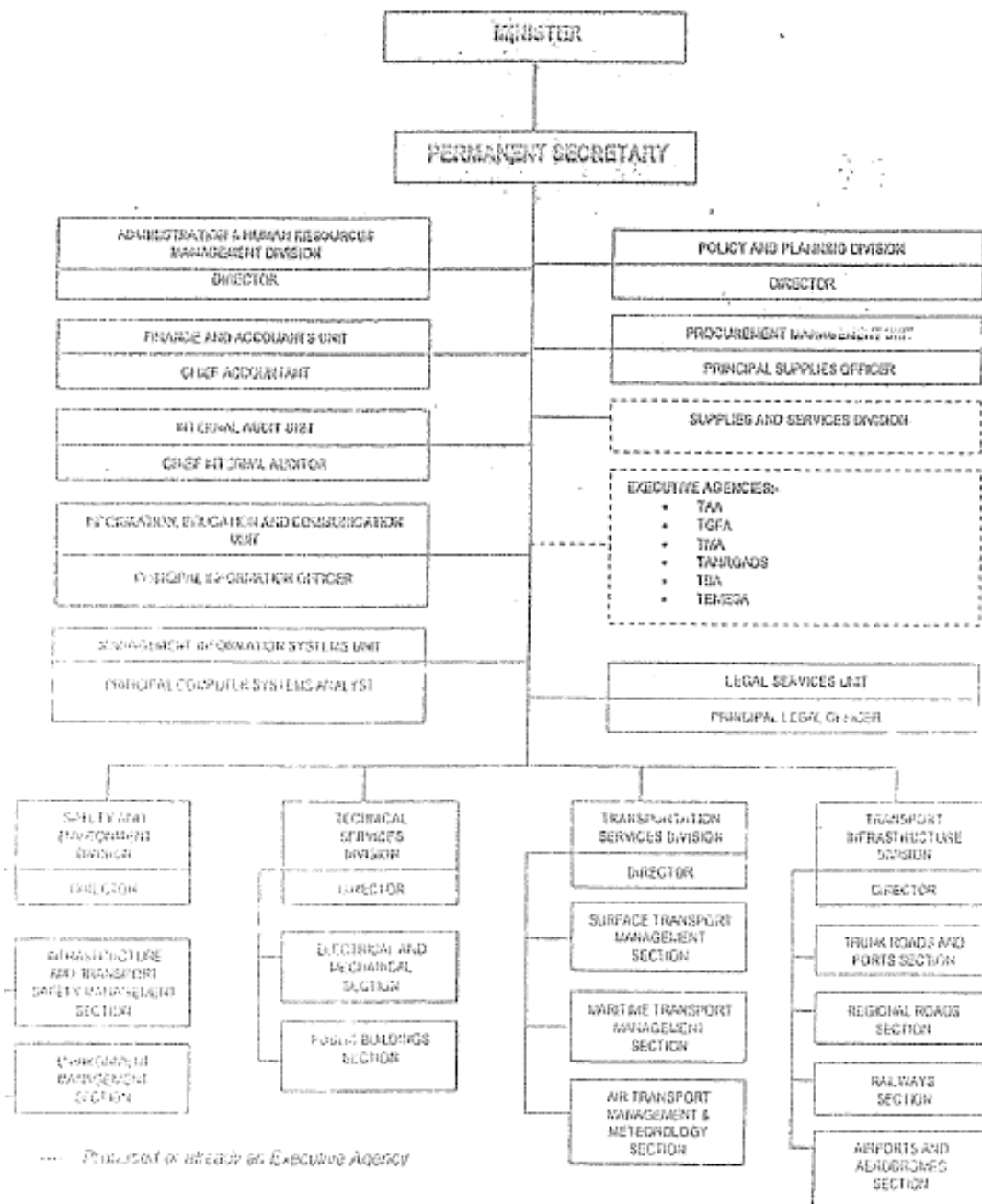
ANNEX-5: Necessary measures taken by Each Government

ANNEX-6: Flow Chart of Japan's Grant Aid Procedures



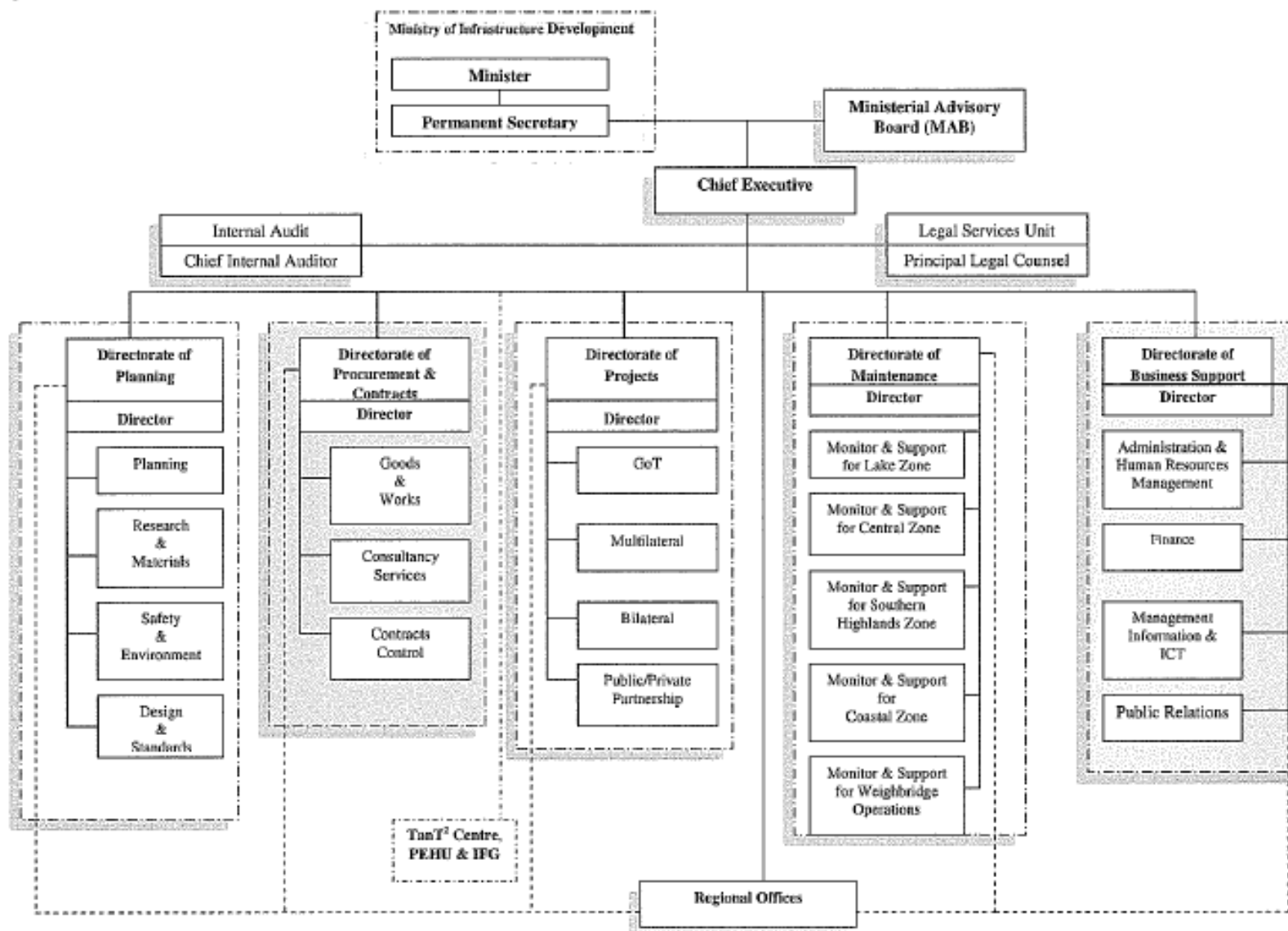


**THE ORGANISATION STRUCTURE OF THE MINISTRY OF
INFRASTRUCTURE DEVELOPMENT**
(Approved by the President on 04th July, 2008)



Organization Structure for TANROADS (Headquarters)

Chart 11



JAPAN'S GRANT AID

The Government of Japan (hereinafter referred to as "the GOJ") is implementing the organizational reforms to improve the quality of ODA operations, and as a part of this realignment, a new JICA law was entered into effect on October 1, 2008. Based on this law and the decision of the GOJ, JICA has become the executing agency of the Grant Aid for General Projects, for Fisheries and for Cultural Cooperation, etc.

The Grant Aid is non-reimbursable fund provided to a recipient country to procure the facilities, equipment and services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

1. Grant Aid Procedures

The Japanese Grant Aid is supplied through following procedures :

- Preparatory Survey
 - The Survey conducted by JICA
- Appraisal & Approval
 - Appraisal by the GOJ and JICA, and Approval by the Japanese Cabinet
- Authority for Determining Implementation
 - The Notes exchanged between the GOJ and a recipient country
- Grant Agreement (hereinafter referred to as "the G/A")
 - Agreement concluded between JICA and a recipient country
- Implementation
 - Implementation of the Project on the basis of the G/A

2. Preparatory Survey

(1) Contents of the Survey

The aim of the preparatory Survey is to provide a basic document necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the recipient country necessary for the implementation of the Project.
- Evaluation of the appropriateness of the Project to be implemented under the Grant Aid Scheme from a technical, financial, social and economic point of view.

- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of a outline design of the Project.
- Estimation of costs of the Project.

The contents of the original request by the recipient country are not necessarily approved in their initial form as the contents of the Grant Aid project. The Outline Design of the Project is confirmed based on the guidelines of the Japan's Grant Aid scheme.

JICA requests the Government of the recipient country to take whatever measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the organization of the recipient country which actually implements the Project. Therefore, the implementation of the Project is confirmed by all relevant organizations of the recipient country based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA employs (a) registered consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the Report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the appropriateness of the Project.

3. Japan's Grant Aid Scheme

(1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes(hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the recipient country to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Government of the recipient country to define the necessary articles to implement the Project, such as payment conditions, responsibilities of the Government of the recipient country, and procurement conditions.

(2) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the recipient country to continue to work on the Project's implementation after the E/N and G/A.




(3) Eligible source country

Under the Japanese Grant Aid, in principle, Japanese products and services including transport or those of the recipient country are to be purchased. When JICA and the Government of the recipient country or its designated authority deem it necessary, the Grant Aid may be used for the purchase of the products or services of a third country. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm are limited to "Japanese nationals".

(4) Necessity of "Verification"

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

(5) Major undertakings to be taken by 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 Annex.

(6) "Proper Use"

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

(7) "Export and Re-export"

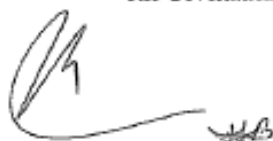
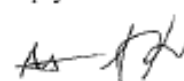
The products purchased under the Grant Aid should not be exported or re-exported from the recipient country.

(8) Banking Arrangements (B/A)

- a) The Government of the recipient country or its designated authority should open an account under the name of the Government of the recipient country in a bank in Japan (hereinafter referred to as "the Bank"). JICA 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 JICA under an Authorization to Pay (A/P) issued by the Government of the recipient country or its designated authority.

(9) Authorization to Pay (A/P)

The Government of the recipient country should bear an advising commission of an Authorization to Pay and payment

commissions paid to the Bank.

(10) Social and Environmental Considerations

A recipient country must carefully consider social and environmental impacts by the Project and must comply with the environmental regulations of the recipient country and JICA socio-environmental guidelines.

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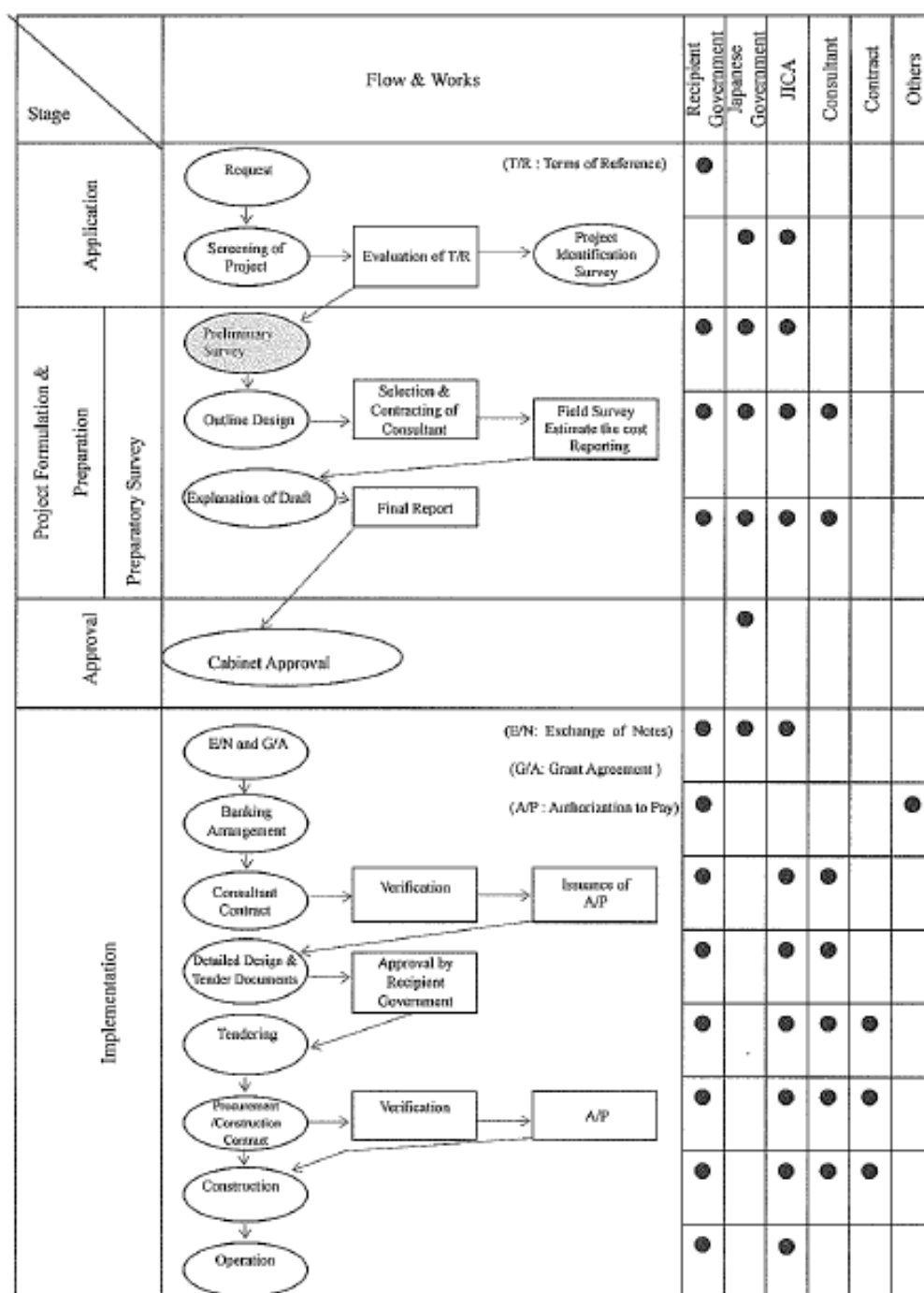
Major Undertakings to be taken by Each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	to secure [a lot] / [lots] of land necessary for the implementation of the Project and to clear the [site]/[sites];		●
2	To ensure prompt unloading and customs clearance of the products at ports of disembarkation in the recipient country and to assist internal transportation of the products		
	1) Marine (Air) transportation of the Products from Japan to the recipient country	●	
	2) Tax exemption and custom clearance of the Products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
3	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the products and the services be exempted		●
4	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
5	To ensure that the Facilities are maintained and used properly and effectively for the implementation of the Project		●
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project		●
7	To bear the following commissions paid to the Japanese bank for banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
8	To give due environmental and social consideration in the implementation of the Project.		●

(B/A : Banking Arrangement, A/P : Authorization to pay)




FLOW CHART OF JAPAN's GRANT AID PROCEDURES



(2) 準備調査概要説明時

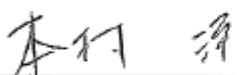
**Minutes of Discussions
on the Preparatory Survey
on the Project for Widening Gerezani Area Road
in the United Republic of Tanzania
(Explanation on Draft Final Report)**

In June 2010 and August 2010, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Teams on the Project for Widening Gerezani Area Road to the United Republic of Tanzania (hereinafter referred to as "Tanzania"), and through discussions, field surveys and technical examination of the results in Japan, JICA prepared a Draft Final Report of the study.

In order to explain and to consult with the concerned officials of the Government of Tanzania on the contents of the Draft Final Report, JICA sent to Tanzania the Preparatory Survey Team (hereinafter referred to as "the Team"), for explaining the Draft Final Report. The team is headed by Mr. Hiromi Motomura, Director, Transportation and ICT Division 2, Economic Infrastructure Department, JICA and is scheduled to stay from February 1 to February 10, 2011.

As a result of the discussions, both sides confirmed the main items described in the attached sheets.

Dar es Salaam, February 10, 2011



Mr. Hiromi Motomura
Leader
Preparatory Survey Team
Japan International Cooperation Agency

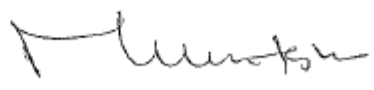


Eng. Patrick A.L. Mfugale
Ag. Chief Executive
Tanzania National Roads Agency



Ambassador Herbert Mrango
Ag. Permanent Secretary
Ministry of Works

Witnessed by



Ms. Mameltha K. Mutagwaba
Ag. Commissioner for External Finance
Ministry of Finance and Economic Affairs

ATTACHMENT

1. Title of the project
The change of the project title from “The Project for Widening Gereza Area Road” to “The Project for Improvement of Transport Capacity in Dar es Salaam” was agreed.
2. Project Component
After the explanation of the contents of the Draft Final Report by the Team, the Tanzanian side agreed in principle to the project contents.
3. Responsible Organizations
Because of the reorganization of government ministries, the responsible organization has become Ministry of Works (MoW) instead of Ministry of Infrastructure Development (MoID).
4. Cost Estimation
Both sides agreed that the Project Cost Estimation as attached in Annex-1 should never be duplicated or disclosed to any third parties before the signing of all the contract(s) with contractor(s) for the Project.
5. Japan's Grant Aid Scheme
The Tanzanian side understood the Japan's Grant Aid scheme and the necessary measures to be taken by the recipient country as explained by the Team and described in Annex-4, Annex-5 and Annex-6 of the Minutes of Discussions signed on August 12, 2010.
6. Schedule of the Study
JICA will complete the final report in accordance with the confirmed items and send it to the Tanzanian side around May, 2011.
7. Environmental and Social Considerations
 - 7-1 The Tanzanian side agreed to complete the EIA certification process and inform the result to JICA Tanzania office by the end of July, 2011.
 - 7-2. Both sides agreed the contents of the Environmental Checklist as shown in Annex-2.
 - 7-3. The Tanzanian side agreed that monitoring for Environmental and Social considerations should be conducted by Tanzania National Roads Agency (TANROADS) in accordance with the Monitoring Plan for the Project described in the Preparatory Study Report and EIA report.
The results of monitoring will be provided to JICA by filling in the Monitoring Form attached as Annex-3, as part of progress reports during the pre- construction phase, construction phase, and after completion of the Project.
 - 7-4. The Tanzanian side agreed that JICA will disclose the results of monitoring conducted by TANROADS on JICA's website to the extent that those are made public in their country and report the results of monitoring to the Advisory Committee for Environmental and Social Considerations established by JICA on a periodic basis.
8. Other Relevant Issues
 - 8-1. Both sides confirmed that the following undertakings should be taken by the Tanzanian side at the Tanzanian expenses under the Project.

- (1) To acquire the land and establish boundary pegs along the Project site and inform the result to JICA Tanzania office by the end of March, 2012
 - (2) Removal of existing buildings, trees and other obstacles within the Project site in accordance with the following schedule and to inform the result to JICA Tanzania office.
 - i) Budget estimation for building demolition by the end of March, 2011.
 - ii) To start payment of compensation by the end of October, 2011.
 - iii) Completion of building demolition by the end of February, 2012.
 - (3) Relocation of existing utilities (power lines and poles/towers, waterpipes, telecom lines, etc.) including the underground facilities within the Project site to designated area or out of the Project site in accordance with the following schedule and inform the result to JICA Tanzania office.
 - i) Budget estimation for relocation by the end of March, 2011.
 - ii) To start utility relocation activity in October, 2011.
 - iii) Completion of relocation by the end of March, 2012.
 - (4) Necessary arrangement for traffic control at necessary sections.
 - (5) Necessary arrangement for detours for public traffic at necessary sections.
 - (6) Securing and clearance of the temporary yard for the Project.
 - (7) Securing site for borrowing pit, quarry and disposal area.
 - (8) Necessary arrangements for issuance of license, permission and other necessary procedures from the Project commencement.
 - (9) Necessary arrangement for tax exemption and custom clearance for project related equipments, materials and facilities.
 - (10) Necessary coordination with concerned officials and stakeholders.
- 8-2. The Tanzanian side promised to ensure necessary budget for land acquisition, compensation and facility relocation and necessary procedures for the Project execution. The expected schedule to ensure the budget is as follows.
- (1) Budget estimation by the end of March, 2011.
 - (2) To start the budget releasing by October, 2011.
- 8-3. The Tanzanian side agreed that the completion of relocation work for all utilities from the Project site is a condition of the commencement of pre-qualification under the contractor bidding procedure.
- 8-4. The Tanzanian side shall bear the banking commissions as a condition for the Japan's Grant Aid to be implemented, and secure the sufficient budget to cover the following cost.
- (1) The commissions for the banking services based upon Banking Arrangement (B/A)
 - (2) The advising commission of the Authorization to Pay (A/P)
- 8-5. The Tanzanian side shall ensure issuance of Government Notice (GN) timely to avoid any unwarranted delays of the project.
- 8-6. The Tanzanian side shall secure enough budget and personnel necessary for the operation and maintenance of the facilities constructed by the Project and conduct the periodical maintenance work after the completion of the Project.
- 8-7. The demolition of the existing bridge and utilities relocation from the existing bridge to the new one are not included in the Project and therefore shall be done by the Tanzanian side at the Tanzanian expenses if they are needed.

Annex-1 Project Cost Estimation
 Annex-2 Environmental Checklist
 Annex-3 Monitoring Form

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


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Category	Environmental Item	Main Check Items	Confirmation of Environmental Considerations
1 Permits and Explanation	(1) EIA and Environmental Permits	① Have EIA reports been officially completed? ② Have EIA reports been approved by authorities of the host country's government? ③ Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? ④ In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	① The EIA report is being prepared and will be submitted to National Environment Management Council (environmental management authority) by April 2011. ②③ If the amendment of the EIA report is not required, the report will be approved by June 2011. ④ The other permissions related to environmental management are not required. Existing borrow pit and quarry site will be used. Relocation of existing power line will be conducted by electric company directly.
	(2) Explanation to the Public	① Are contents of the project and the potential impacts adequately explained to the public based on appropriate procedures, including information disclosure? Is understanding obtained from the public? ② Are proper responses made to comments from the public and regulatory authorities?	① The public consultation was conducted at the preparatory study (I) in November 2009. The general agreement of the local people has been obtained at the consultation. Under the EIA report review, the report will be opened to the public in conformity to the regulation. ② The interview survey to the local people and stakeholder meeting with the other relevant organizations were conducted at the preparatory study (II) in June 2010. The results were reflected in the mitigation measures.
2 Mitigation Measures	(1) Air Quality	① Is there a possibility that air pollutants emitted from various sources, such as vehicle traffic will affect ambient air quality? Does ambient air quality comply with the country's ambient air quality standards? ② Where industrial areas already exist near the route, is there a possibility that the project will make air pollution worse?	①② Because the project site is located in urban area near sea, the traffic volume is much. However, serious air pollution will not occur because of the spreading effect by sea wind.
	(2) Water Quality	① Is there a possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? ② Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater? ③ Do effluents from various facilities, such as stations and parking areas/service areas comply with the country's effluent standards and ambient water quality standards? Is there a possibility that the effluents will cause areas that do not comply with the country's ambient water quality standards?	① Turbid water will be generated in the construction works. There are no intake facilities in and down the site. ② Impacts on water resources of runoff from road surface are none. ③ Development of parking or service areas are not included in the project.
	(3) Noise and Vibration	① Do noise and vibrations from vehicle and train traffic comply with the country's standards?	① The noise and vibration levels will be improved because of the widening works of existing road.
3 Natural Environment	(1) Protected Areas	① Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	① There are no protected areas in and around the site.

Annex-2

3 Natural Environment	(2) Ecosystem	<p>① Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?</p> <p>② Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?</p> <p>③ If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?</p> <p>④ Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation, and traffic accident of wildlife and livestock?</p> <p>⑤ Is there a possibility that installation of roads will cause impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystems due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?</p> <p>⑥ In cases where the project site is located at undeveloped areas, is there a possibility that the new development will result in extensive loss of natural environments?</p>	<p>① There are no ecological valuable habitats in and around the site.</p> <p>② The habitats of endangered species have not been identified in and down the site.</p> <p>③ Significant ecological impacts are not anticipated.</p> <p>④ Wild animals migrating through the site have not been identified.</p> <p>⑤⑥ The project will not cause destruction of forest and poaching because the project is widening of existing road in urban area.</p>
	(3) Hydrology	<p>① Is there a possibility that alteration of topographic features and installation of structures, such as tunnels will adversely affect surface water and groundwater flows?</p>	<p>① Impacts on surface and ground water are none.</p>
	(4) Topography and Geology	<p>① Is there a soft ground on the route that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed?</p> <p>② Is there a possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides?</p> <p>③ Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?</p>	<p>①② Filling works are included in the construction. However, there are no steep slope areas to occur slope failures or landslides in and around the site.</p> <p>③ Adequate filling works prevent accidental and sufficient soil runoff.</p>
	(1) Resettlement	<p>① Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?</p> <p>② Is adequate explanation on relocation and compensation given to affected persons prior to resettlement?</p> <p>③ Is the resettlement plan, including proper compensation, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?</p> <p>④ Does the resettlement plan pay particular attention to vulnerable groups or persons, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?</p> <p>⑤ Are agreements with the affected persons obtained prior to resettlement?</p> <p>⑥ Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?</p> <p>⑦ Is a plan developed to monitor the impacts of resettlement?</p>	<p>① To minimize the impacts on relocation, the most appropriate alignment has been selected. Consequently, removal of 15 structures and involuntary resettlement of 3 families or 17 persons will be required. Additional land acquisition for relocation of existing power line will not required.</p> <p>② The local government will conduct the explanation to the affected persons and estimation of the compensation in advance of the project implementation.</p> <p>③ Adequate compensation will be provided to the project affected persons in conformity to the Tanzanian regulations and world bank's guidelines.</p> <p>④ Vulnerable groups or persons are not included in the project affected persons.</p> <p>⑤ Official agreement with the affected persons will be obtained in parallel with the EIA procedure in near future.</p> <p>⑥ TANROADS, project implementing agency, has sufficient experiences in similar road development projects including world bank projects. Ministry of Works will include the compensation cost in the 2011 fiscal budget.</p> <p>⑦ The monitoring on resettlement will be conducted in the environmental</p>

4 Social Environment	(2) Living and Livelihood	<p>① Where roads or railways are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?</p> <p>② Is there a possibility that the project will adversely affect the living conditions of inhabitants other than the affected inhabitants? Are adequate measures considered to reduce the impacts, if necessary?</p> <p>③ Is there a possibility that diseases, including communicable diseases, such as HIV will be introduced due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?</p> <p>④ Is there a possibility that the project will adversely affect road traffic in the surrounding areas (e.g., by causing increases in traffic congestion and traffic accidents)?</p> <p>⑤ Is there a possibility that roads and railways will cause impede the movement of inhabitants?</p> <p>⑥ Is there a possibility that structures associated with roads (such as bridges) will cause a sun shading and radio interference?</p>	<p>①②③④⑤ The project will not cause significant changes and impacts on the livelihood of the local people and road traffic because the project is widening of existing road in urban area. Street vendors around existing road will be able to continue their business except for some period during the construction works.</p> <p>⑥ Impacts on sun shading and radio interference are none.</p>
	(3) Heritage	<p>① Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage sites? Are adequate measures considered to protect these sites in accordance with the country's laws?</p>	<p>① There are no cultural properties in and around the project sites.</p>
	(4) Landscape	<p>① Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?</p>	<p>① There are no valuable landscape sites in and around the project sites.</p>
4 Social Environment	(5) Ethnic Minorities and Indigenous Peoples	<p>① Where ethnic minorities and indigenous peoples are living in the rights-of-way, are considerations given to reduce the impacts on culture and lifestyle of ethnic minorities and indigenous peoples?</p> <p>② Does the project comply with the country's laws for rights of ethnic minorities and indigenous peoples?</p>	<p>①② The project site is not the area where ethnic minorities and indigenous people having unique culture and lifestyle are living.</p>
	(1) Impacts during Construction	<p>① Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?</p> <p>② If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?</p> <p>③ If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?</p> <p>④ If necessary, is health and safety education (e.g., traffic safety, public health) provided for project personnel, including workers?</p>	<p>① The adequate mitigation measures and monitoring plans to reduce impacts of pollution during the construction will be prepared.</p> <p>② The construction activities will not adversely affect the natural environment.</p> <p>③ Because the construction works are conducted in urban area, countermeasures against traffic jam will be included in the execution scheme.</p> <p>④ Because the construction works are conducted in urban area, safety education for the workers will be included in the environmental management plan.</p>

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5 Others	(2) Monitoring	<p>① Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?</p> <p>② Are the items, methods and frequencies included in the monitoring program judged to be appropriate?</p> <p>③ Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?</p> <p>④ Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?</p>	<p>① The monitoring plans mentioned in the EIA report will be implemented during the construction and operation phase.</p> <p>②③④ Because the EIA report is in progress, the specific monitoring plans have not been prepared yet. JICA study team submitted the draft monitoring plan to TANROADS.</p>
6 Note	Reference to Checklist of Other Sectors	<p>① Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g., projects including large areas of deforestation).</p> <p>② Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g., projects including installation of power transmission lines and/or electric distribution facilities).</p>	<p>① Deforestation is not included in the project.</p> <p>② Relocation of existing power transmission lines will be limited in the right of way and has no serious environmental impacts.</p>
	Note on Using Environmental Checklist	<p>① If necessary, the impacts to transboundary or global issues should be confirmed, if necessary (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).</p>	<p>① Impacts to transboundary or global environmental issues are none.</p>

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from the World Bank Safeguard Policy as other

internationally recognized standards or good practices established by developed countries such as Japan regarding environmental and social considerations, the background and rationale for this deviation, and the measures rectify it if necessary, are to be confirmed. In cases where local environmental regulations are yet to be established in some areas, considerations should be based on comparisons with international standards such as the World Bank Safeguard Policy, and appropriate standards of other countries (including Japan).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

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MONITORING FORM

1. Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Schedule	Responsible Person and Organization	Remarks (Location, Frequency, Method, etc.)	Monitoring Results
Status of implementation of the agreement on land acquisition	Detail design stage Construction phase	- TANROADS - Supervision consultant	Location : Area affected by land acquisition and/or on the ROW line on both sides Method : Visual observation, and interview and meeting with relevant agencies and project affected persons Frequency : Visual observation: Daily Interview and meeting: Monthly or as needed	

2. Environmental Pollution

- Air Quality (Dust)

Item	Standard	Schedule	Responsible Person and Organization	Remarks (Location, Frequency, Method, etc.)	Monitoring Results
Dust during construction phase	Serious impact of dust on local residents and pedestrians	Construction phase	- Supervision consultant - Construction contractor	Location : Construction site Method : Visual observation and interview to local residents and pedestrians Frequency : Visual observation: Daily Interview: Weekly or as needed	

- Waste

Monitoring Item	Schedule	Responsible Person and Organization	Remarks (Location, Frequency, Method, etc.)	Monitoring Results
Disposal methods of demolished buildings for land acquisition	Detail design stage Construction phase	- Municipality office - Supervision consultant	Location : Area affected by land acquisition and disposal site Method : Visual observation, and interview and meeting with waste disposer and project affected persons Frequency : Visual observation: Daily Interview and meeting: Monthly or as needed	
Disposal methods of construction waste	Construction phase	- Supervision consultant - Construction	Location : Construction site and disposal site Method : Visual observation	

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		contractor	and meeting with contractor Frequency : Visual observation: Daily Meeting: Monthly or as needed	
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- Noise

Item	Standard	Schedule	Responsible Person and Organization	Remarks (Location, Frequency, Method, etc.)	Monitoring Results
Noise during construction phase	Serious impact of noise on local people	Construction phase	- Supervision consultant - Construction contractor	Location : Construction site Method : Interview to local people Frequency : Weekly or as needed	
Noise by vehicular traffic during operation phase	Tanzanian environmental standards (Day 70dB, Night 60dB)	Operation phase	- TANROADS	Location : a point of the road side Method : Noise level meter Frequency : Yearly	

3. Natural Environment

- Needless felling of roadside trees

Monitoring Item	Schedule	Responsible Person and Organization	Remarks (Location, Method, Frequency, etc.)	Monitoring Results
Status of tree felling in the right of way	Construction phase	- Supervision consultant - Construction contractor	Location : Construction site Method : Visual observation and meeting with contractor Frequency : Visual observation: Daily Meeting: Monthly or as needed	

4. Social Environment

- Resettlement




Monitoring Item	Schedule	Responsible Person and Organization	Remarks (Location, Method, Frequency, etc.)	Monitoring Results
Status of compensation payment	Detail design stage Construction phase	- TANROADS - Supervision consultant	Location : Area affected by land acquisition Method : Interview and meeting with municipality office and project affected persons Frequency : Monthly or as needed	
Status of relocation or removal of buildings in the right of way	Detail design stage Construction	- Municipality office	Location : Area affected by land acquisition Method : Visual observation,	

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	phase	- TANROADS - Supervision consultant	and interview and meeting with relevant organizations and project affected persons Frequency : Visual observation: Daily Interview and meeting: Monthly or as needed	
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- Accident and risk during construction phase

Monitoring Item	Schedule	Responsible Person and Organization	Remarks (Location, Frequency, Method, etc.)	Monitoring Results
Opinions from local residents and pedestrians	Construction phase	- Supervision consultant - Construction contractor	Location : Construction site Method : Interview and meeting with to local residents and pedestrians Frequency : Monthly or as needed	
Status of street vendors in and around construction site	Construction phase	- Supervision consultant - Construction contractor	Location : Construction site Method : Visual observation and interview to street vendors Frequency : Visual observation: Daily Interview: Monthly or as needed	

資料5. 参考資料（「タ」国と取り交わした技術覚書（Technical Note））

TANZANIA NATIONAL ROADS AGENCY



P.O Box 11364
3rd Floor
Maktaba Complex
Bibi Titi Mohamed Road
Dar es Salaam

Date: 1st September 2010

Our Ref: TRD/D/GEN/HQ/356/01/13

INGEROSEC CORPORATION
6-5-1 Nishi-Shinjuku, Shinjuku-Ku
Tokyo 163-1343, JAPAN
Phone +81-3-5324-0211, Facsimile +81-3-5324-0215
[http:// www.ingerosec.co](http://www.ingerosec.co),

RE: THE PROJECT FOR WIDENING OF GEREZANI AREA ROAD

Sub: Technical Note to be used for the Project

Please refer to the above captioned heading.

We wish to inform you that the Technical Note you submitted through your letter dated 26th August 2010 has been reviewed and found to be in line with the agreement reached during discussions held between your staff and our staff at TANROADS conference room on 25th August 2010.

In view of the above a go ahead is hereby granted to continue with the design using the parameters in the Technical Note.

Ephrem P. Kirenga
ACTING CHIEF EXECUTIVE

cc INGEROSEC CORPORATION
Tanzania Project Office
P.O.Box 71609
Dar es Salaam
Tel/Fax +255-(0)22-2170409

Tel: + 255 22 2162576/51639/50932/52140/52242/52186/2150485 Fax: + 255 22 2150022, E-Mail: tanroadshq@tanroads.org

TANROADS is an Executive Agency of the Ministry of Infrastructure Development, Tanzania, established under the Executive Agencies Act 1997

Memorandum

26-August, 2010

Subject: Technical note of Design Value to be used for the Preparatory Survey on the Project for Widening Gerezani Area Road

The JICA Preparatory Survey Team will propose the following principal standard for the design of captioned project.

Description		Units	Value
Road			
Design Speed		Km/hr	40
No. of Lanes		No.	4
Right of Way width		m	45.0
Carriageway width		m	7.0 / direction
Shoulder width		m	0.5
Central Median width		m	9.0
Footpath width		m	2.0~3.0 (depend on other facilities)
Cross Fall on Carriageway		%	2.5
Minimum Radius of Horizontal Curve		m	50
Maximum Gradient		%	7 (Max = 10)
Maximum Superelevation		%	6
Fill Slope	Granular soil	Angle	1:1.5~2.0 (depend on soil type)
Cut Slope	Hard Rock	Angle	1:0.5
	Decomposed Rock	Angle	1:0.75
	Other than Rock	Angle	1:1.0~1.5 (depend on soil type)
Pavement Design Life		-	15 years
Pavement Type (Carriageway)		-	Asphaltic Concrete Surface
		-	
Gerezani Bridge			
Location		-	Near existing Gerezani Bridge
Live load		-	BS5400, Design Load = HA and HB (37.5 Units)
Horizontal Seismic coefficient		km	0.05
Carriageway width		m	8.0
Footpath width		m	2.0

Sheet 1/2

Clearance value from existing Railway	m	Vertical Clearance= 5.8m from existing rail top Horizontal Clearance = 3.0m from existing outer rail gauge center
Type	-	Concrete bridge
Others	-	Demolition of existing Gerezani Bridge excluded from the project Utility weight of 0.200t/m considered on each side

Note:

1) Existing ROW

ROW for Bandari Road = 30m, Gerezani Road and Sokoine Street = 20m

2) Proposed horizontal road alignment

Alignment will be traced to the selected route (Alternative Route 1 Plan, ALT-1, TANROADS Letter No. TRD/T/GEN/HQ/356/01/6, 15th July, 2010)

3) Major Intersection

- Kamata Junction = At grade intersection + Traffic Signal (Existing traffic signal replacement will be studied for adoption of multi lane traffic)
- Gerezani Roundabout = At grade intersection + Traffic Signal
- Railway crossing (near BP)= Level crossing
- Bandari/Kilwa Junction = At grade intersection + Roundabout

4) Safety facilities

- Traffic Hump = Hump will be studied before and after Railway crossing near BP depot
- Street light = Street light (connection to the existing power line excluded) will be studied at major junction and/or bus stop.

5) Social and Environmental consideration

- Necessary procedure concerning the environmental assessment will be conducted in accordance with the "Minutes of Discussions on the Preparatory Survey" of the project
- Removal and Relocation
 - * Removal of existing steel tower and electricity line required
 - * Removal of existing private properties (house and other structures)
 - * Relocation of Public Utilities (water, telecom, electricity, etc.)
- Adequate disposal area for rubble of the demolished structures and construction waste shall be secured.



Hidcaki MORITA

Chief Consultant of JICA Survey Team

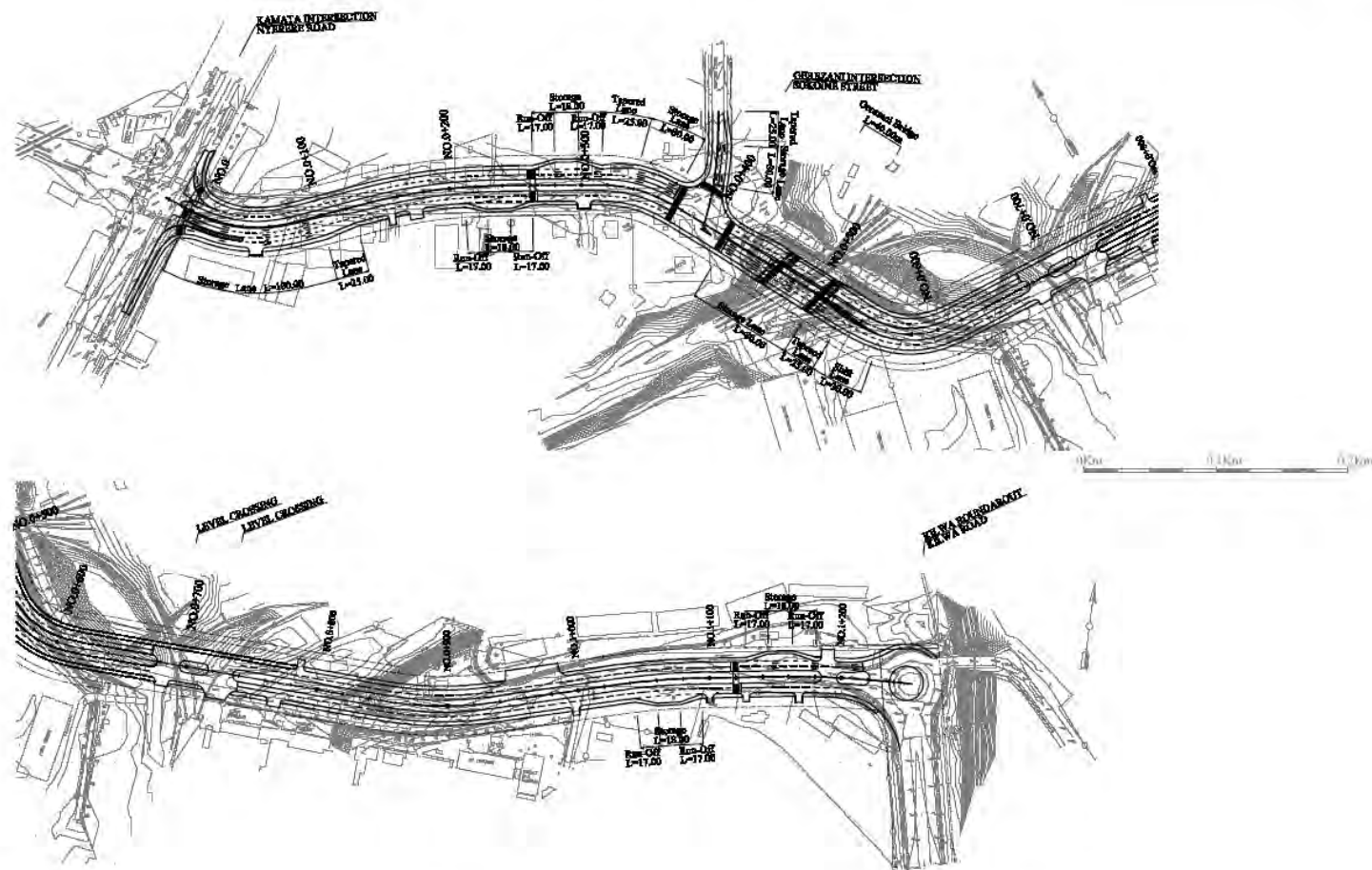
The Project for Widening Gerezani Area Road

Ingérosec Corporation, JAPAN

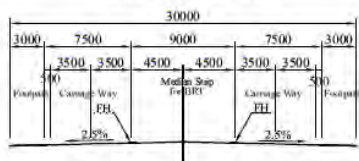
資料 6. その他資料・情報（概略設計図）

概略設計図リスト

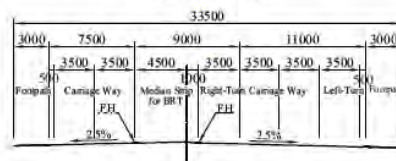
項 目	図面内容	図面枚数
1	道路標準横断図、道路平面・縦断図	5
2	橋梁一般図	1
3	排水施設構造図	2
4	付帯施設構造図	6



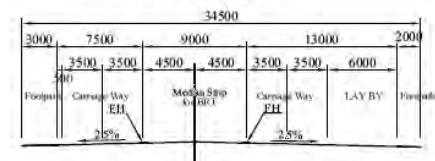
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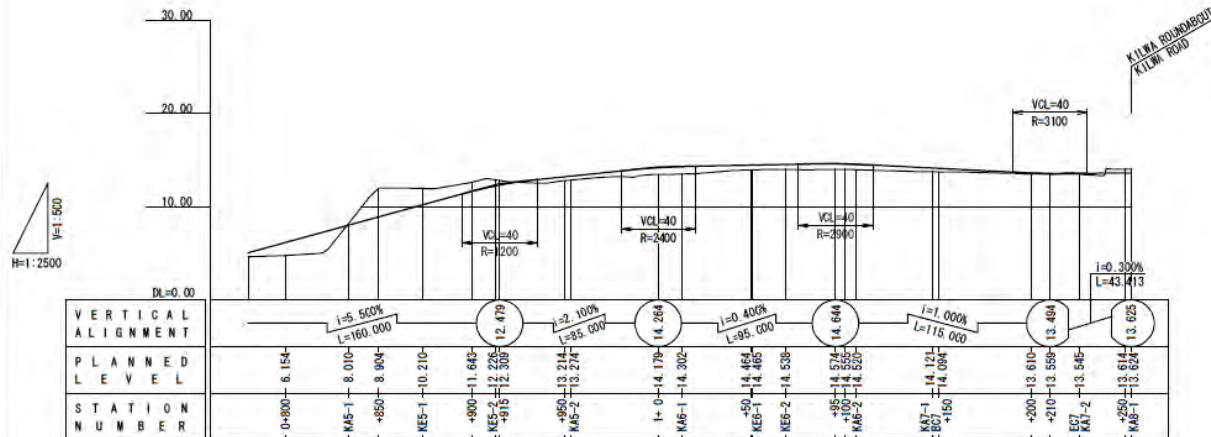
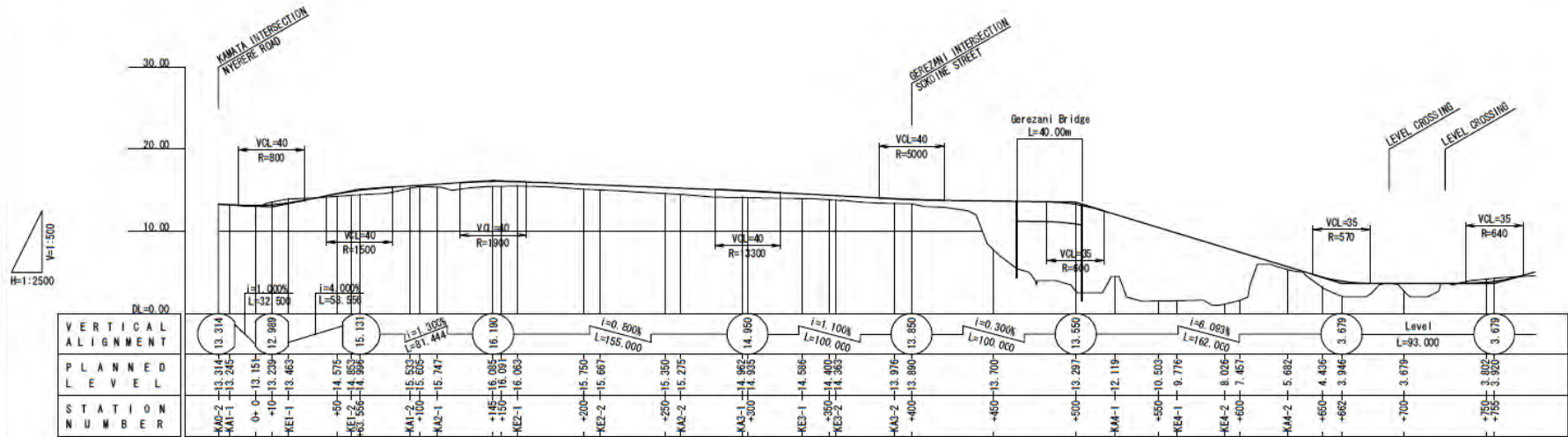
INTERSECTION



LAY BY SECTION



MINISTRY OF WORKS (MOW) THE UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	DATE:	DRAWING No.
	INGEROSEC CORPORATION, JAPAN	THE PROJECT FOR WIDENING GEREZANI AREA ROAD	P L A N	PREPARED BY:	DBD-1
				CHECKED BY:	



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JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
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PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

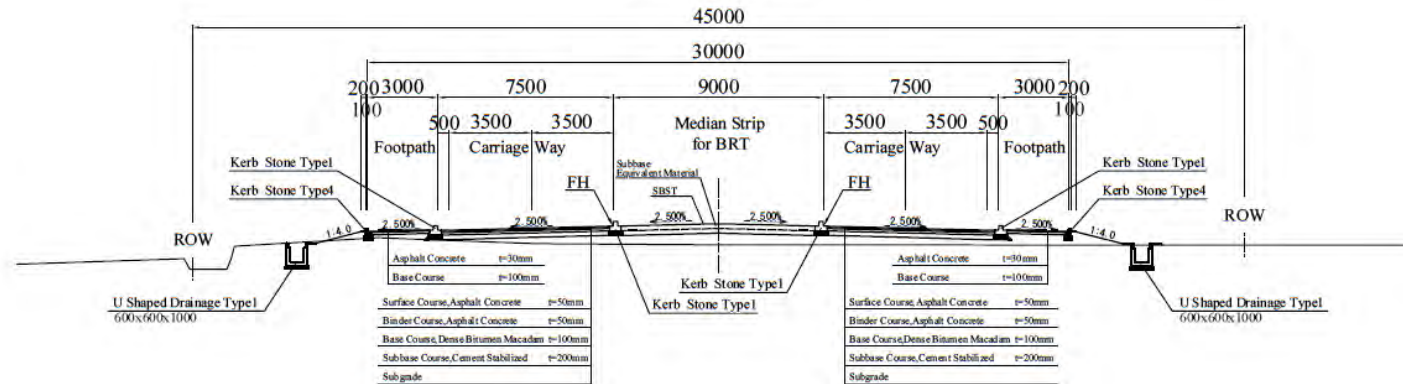
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DATE:
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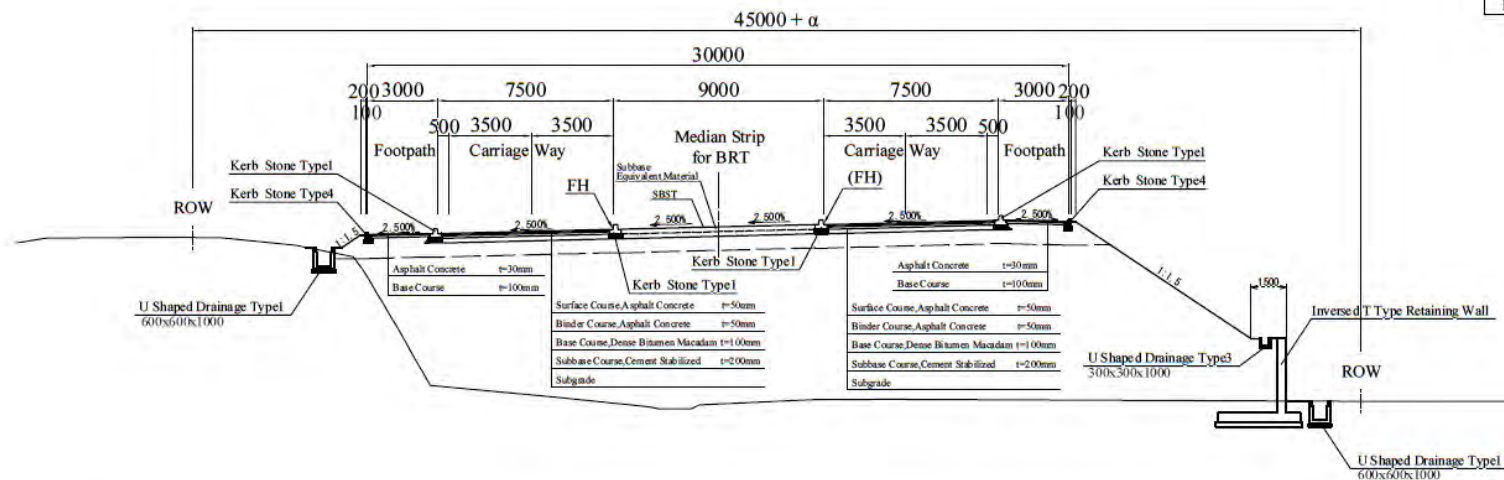
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DBD-2

TYPICAL CROSS SECTION(1) SCALE A3 1:200

FLAT SECTION



EMBANKMENT SECTION



Thickness of Subgrade

Station	Minimum Thickness (cm)
0+0.000 - 0+100.000	60
0+600.000 - 0+900.000	60
1+100.000 - E.P	30

MINISTRY OF WORKS (MOW)
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JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

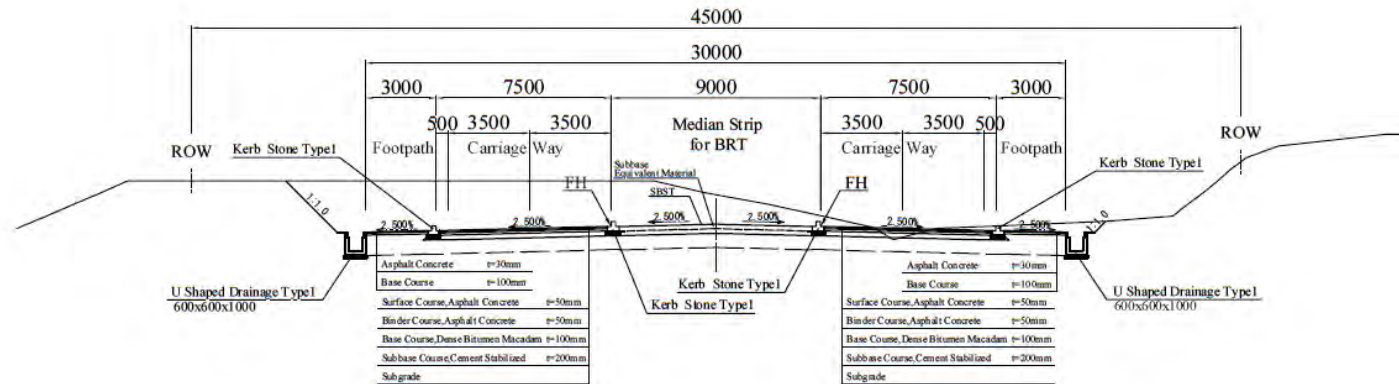
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DATE:
PREPARED BY:
CHECKED BY:

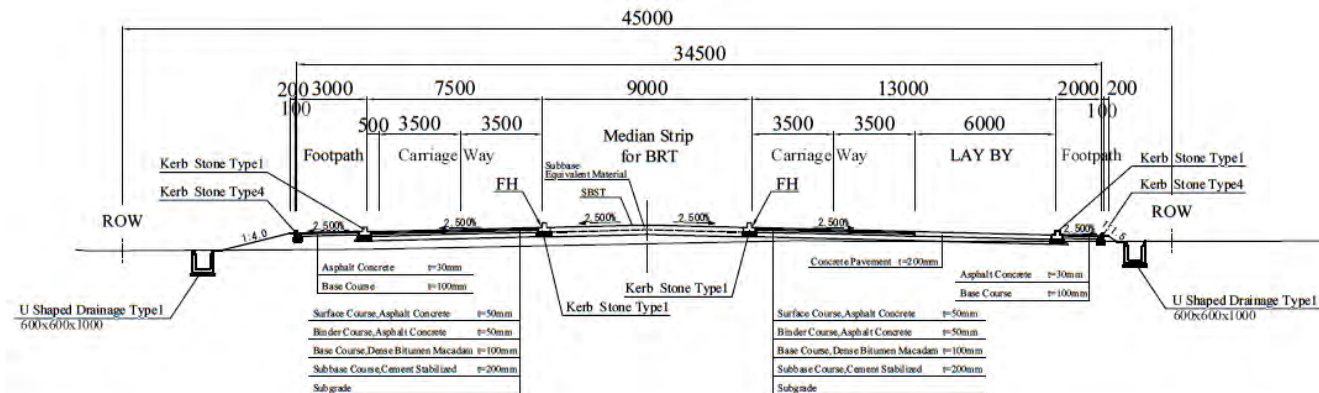
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DBD-3

TYPICAL CROSS SECTION (2) SCALE A3 1:200

CUT SECTION



LAY BY SECTION



MINISTRY OF WORKS (MOW)
THE UNITED REPUBLIC OF TANZANIA
JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

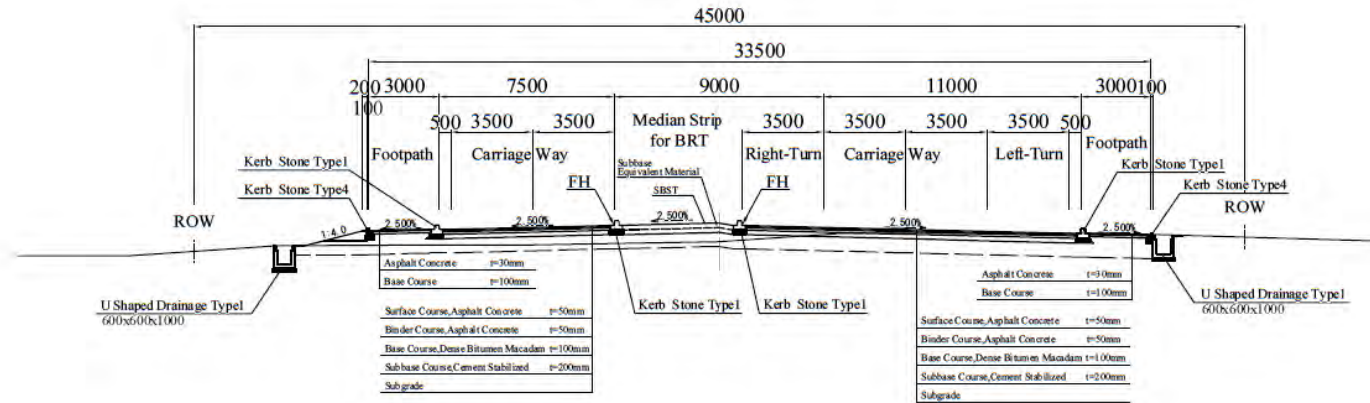
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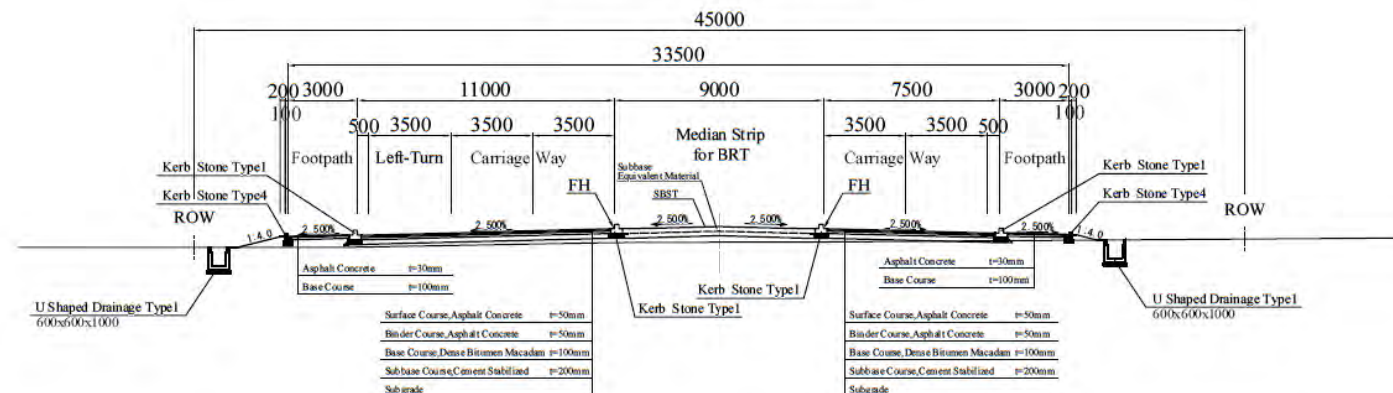
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DBD-4

TYPICAL CROSS SECTION(3) SCALE A3 1:200

INTERSECTION (Kamata)



INTERSECTION (Gerezani)



MINISTRY OF WORKS (MOW)
THE UNITED REPUBLIC OF TANZANIA
JAPAN INTERNATIONAL COOPERATION AGENCY

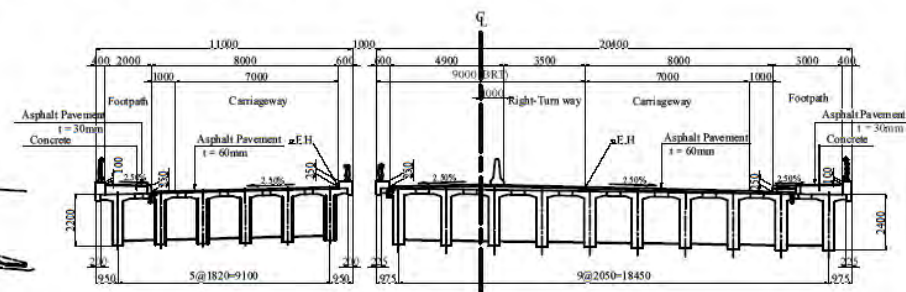
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INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

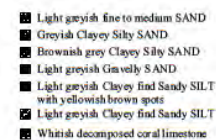
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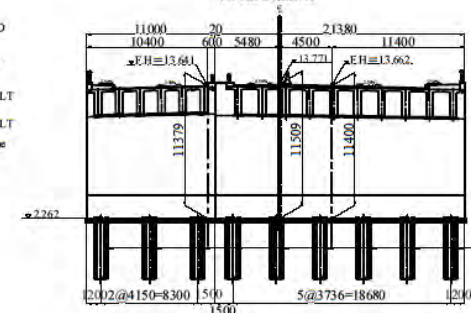
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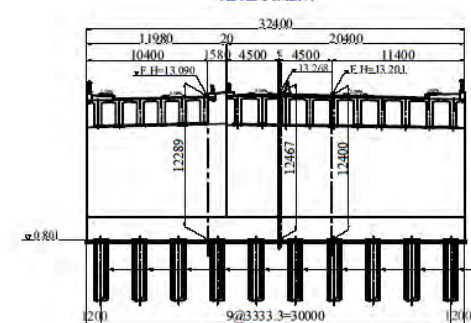
DECK SECTION SCALE 1:100



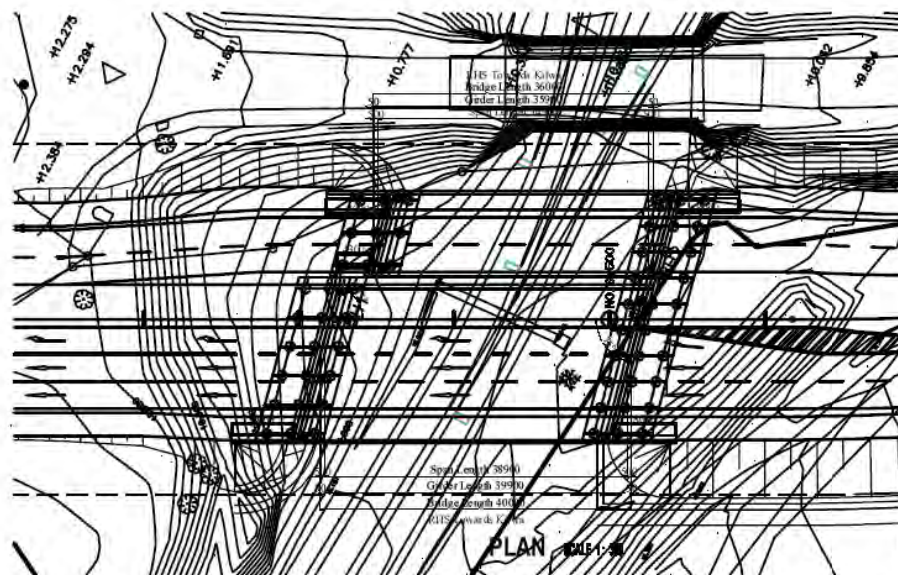
AI ABUTMENT



A2 ABUTMENT



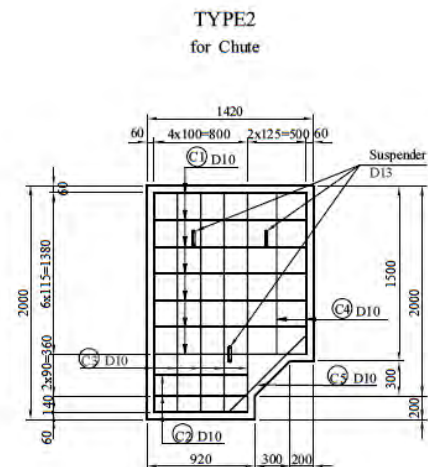
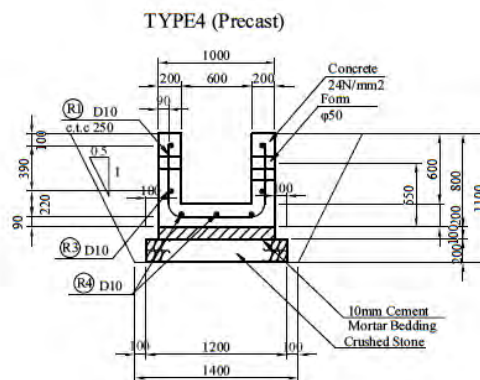
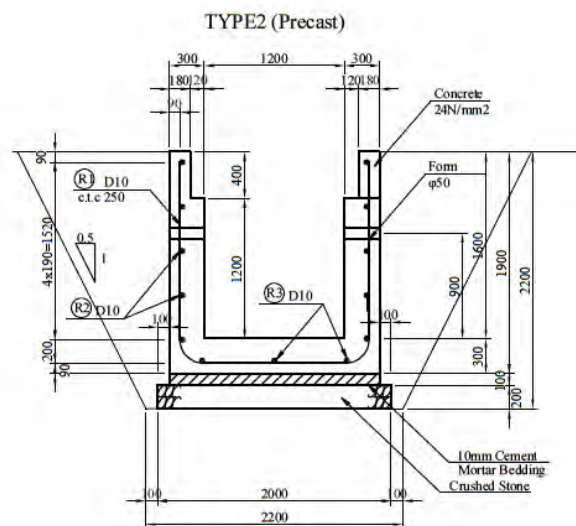
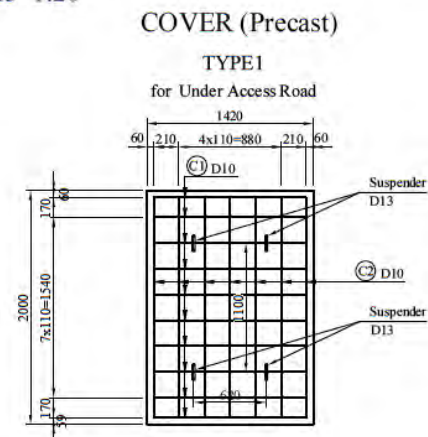
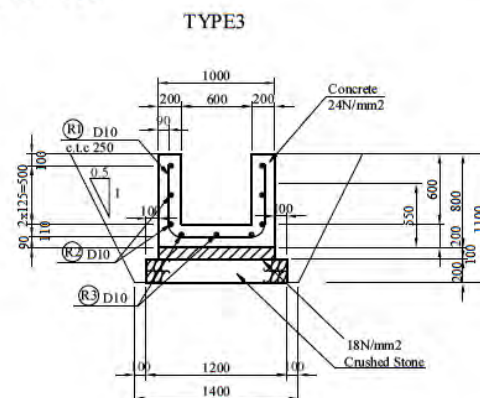
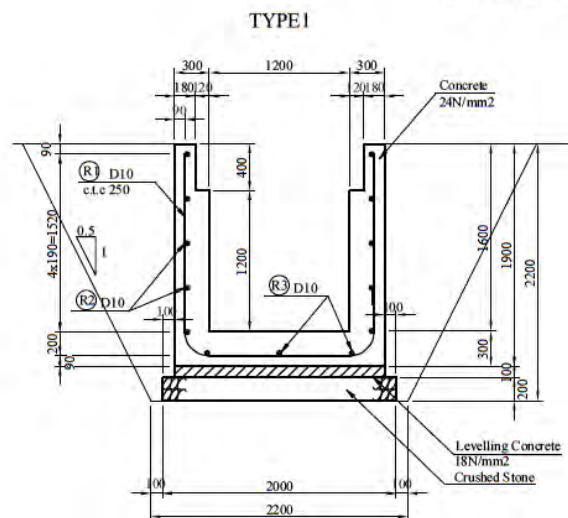
ABUTMENT SECTION SCALE 1:200



ELEVATION **SCALE 1:500**

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	INGEROSEC CORPORATION, JAPAN	THE PROJECT FOR WIDENING GEREZANI AREA ROAD	GENERAL DRAWING GEREZANI BRIDGE	PREPARED BY:	DBD-6
				CHECKED BY:	

DRAINAGE DETAILS (1) SCALE A3 1:20
U SHAPED DRAINAGE

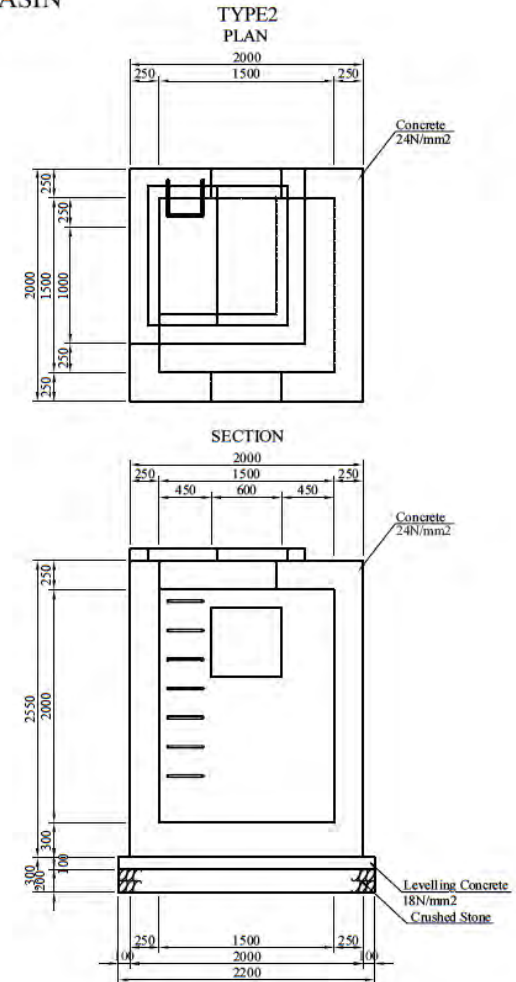
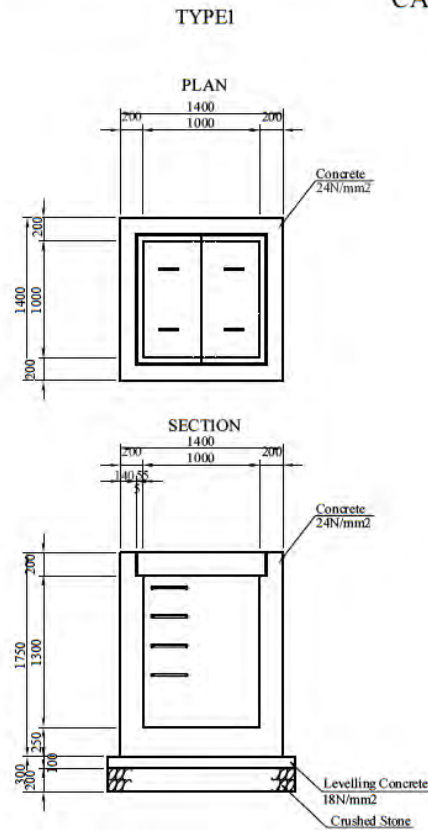
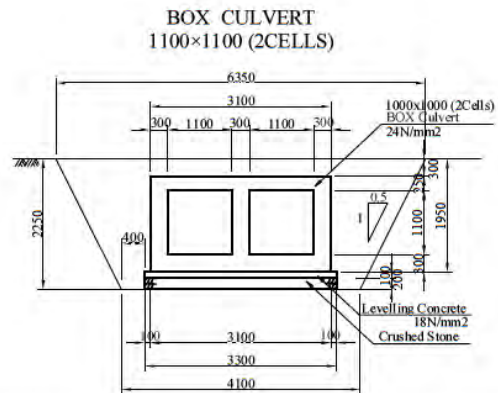
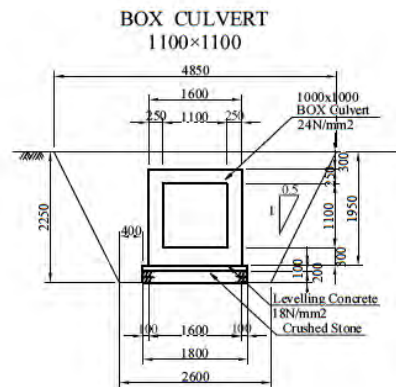
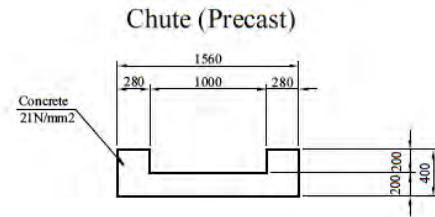


Note :
1) Concrete strength shall be measured by cylinder crushing strength (Cube crushing strength shall be used cylinder crushing strength x 1.25 value)
2) N/mm² = Mpa

MINISTRY OF WORKS (MOW) THE UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	DATE:	DRAWING No. :
	INGEROSEC CORPORATION, JAPAN	THE PROJECT FOR WIDENING GEREZANI AREA ROAD	DRAINAGE DETAILS (1)	PREPARED BY: CHECKED BY:	

DRAINAGE DETAILS (2) SCALE A3 1:20

CATCH BASIN



Note:
1) Concrete strength shall be measured by cylinder crushing strength (Cube crushing strength shall be used cylinder crushing strength x 1.25 value)
2) N/mm² = Mpa

MINISTRY OF WORKS (MOW)
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JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

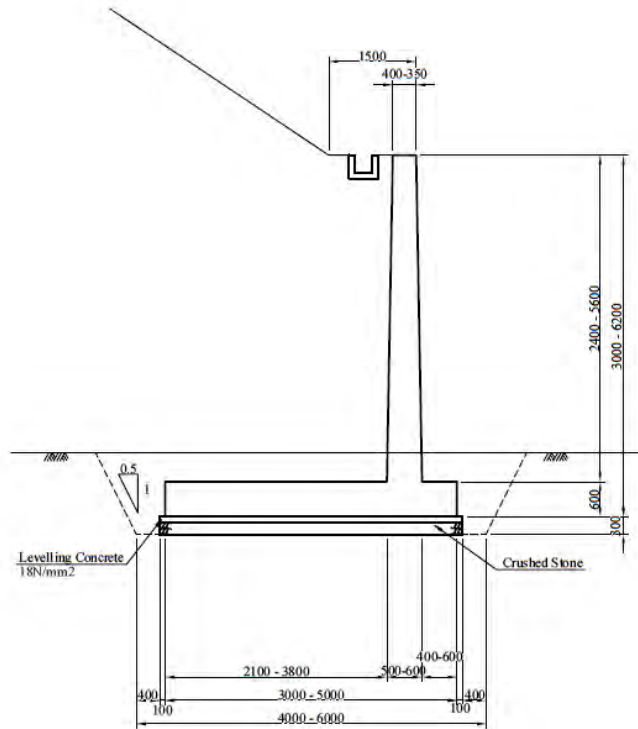
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DATE:
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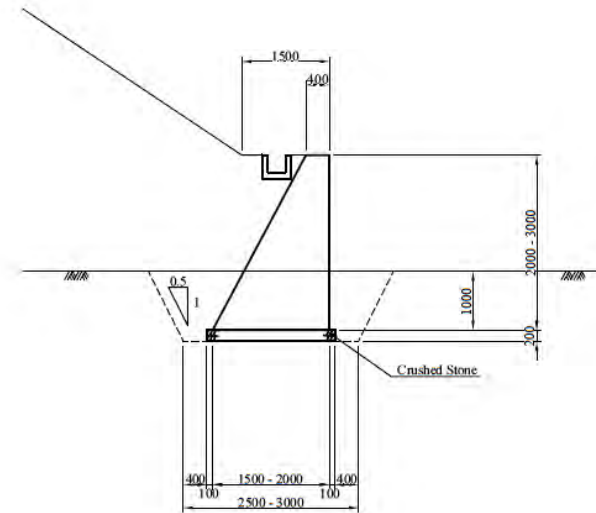
DRAWING No.:
DBD-8

RETAINING WALL DETAILS SCALE A3 1:80

Inversed T Type Retaining Wall



Gravity Retaining Wall



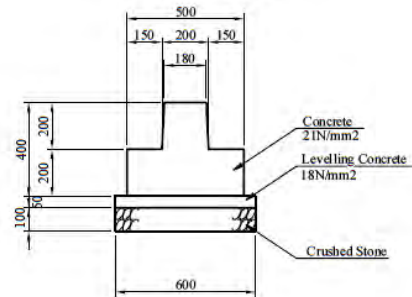
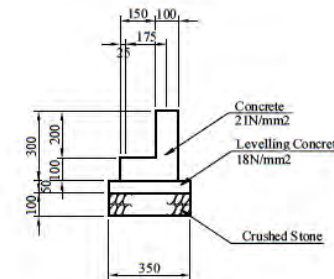
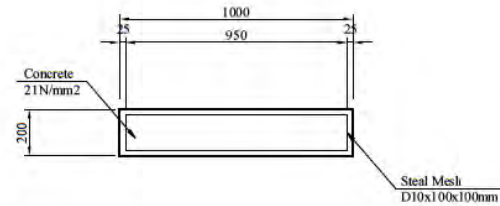
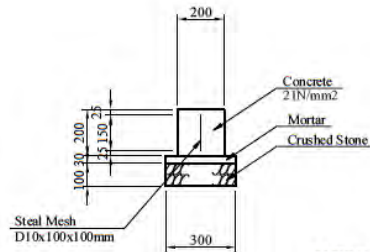
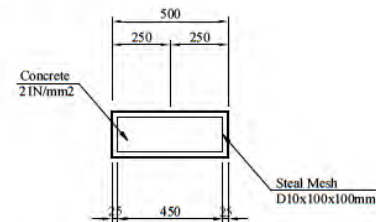
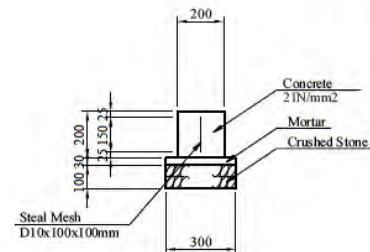
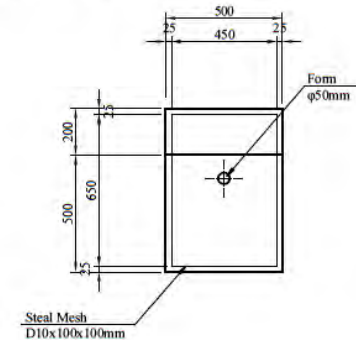
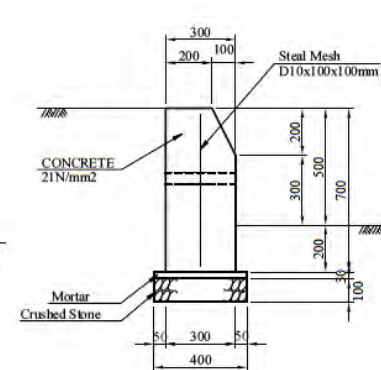
Note :
1) Concrete strength shall be measured by
cylinder crushing strength (Cube
crushing strength shall be used cylinder
crushing strength x 1.25 value)
2) N/mm² = Mpa

A - 42

MINISTRY OF WORKS (MOW) THE UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANTS: INGEROSEC CORPORATION, JAPAN	PROJECT NAME: THE PROJECT FOR WIDENING GEREZANI AREA ROAD	DRAWING TITLE: RETAINING WALL DETAILS	DATE: PREPARED BY: CHECKED BY:	DRAWING No. : DBD-9
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KERB STONE DETAILS

SCALE A3 1:20

KERB STONE TYPE1
for MEDIAN STRIP
for FOOTPATH SIDEKERB STONE TYPE4
for EDGE of FOOTPATHKERB STONE TYPE2
for EDGE of FOOTPATHKERB STONE TYPE3
for EDGE of FOOTPATHKERB STONE TYPE5
for KILWA Roundabout

Note :
1) Concrete strength shall be measured by cylinder crushing strength (Cube crushing strength shall be used cylinder crushing strength x 1.25 value)
2) N/mm² = Mpa

MINISTRY OF WORKS (MOW)
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JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

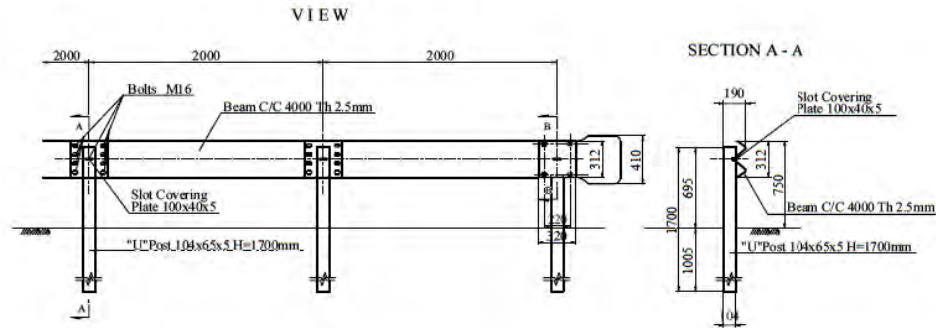
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KERB STONE DETAILS

DATE:
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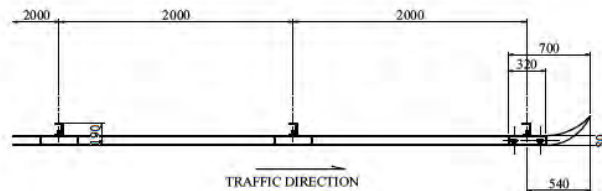
DRAWING No. :
DBD-10

TRAFFIC SAFETY DETAILS (1) SCALE A3 1:40

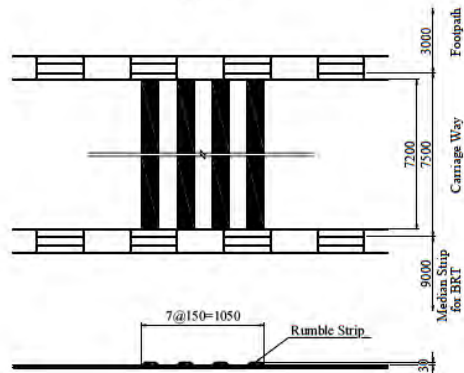
GUARD RAIL



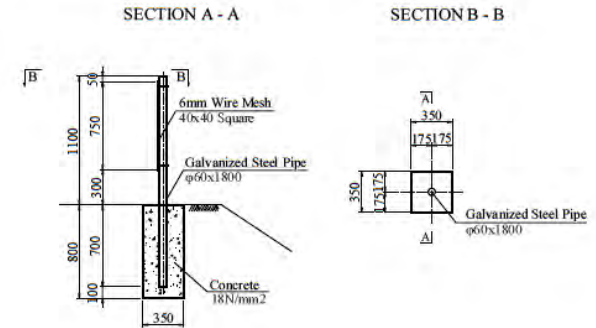
PLAN



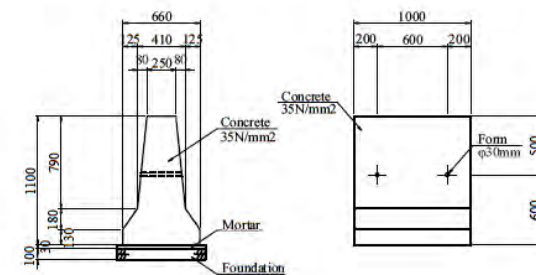
HUMP



GUARD FENCE



STIFFNESS GUARD FENCE



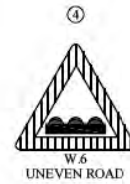
Note :

1) Concrete strength shall be measured by cylinder crushing strength (Cube crushing strength shall be used cylinder crushing strength x 1.25 value)

2) N/mm2 = Mpa

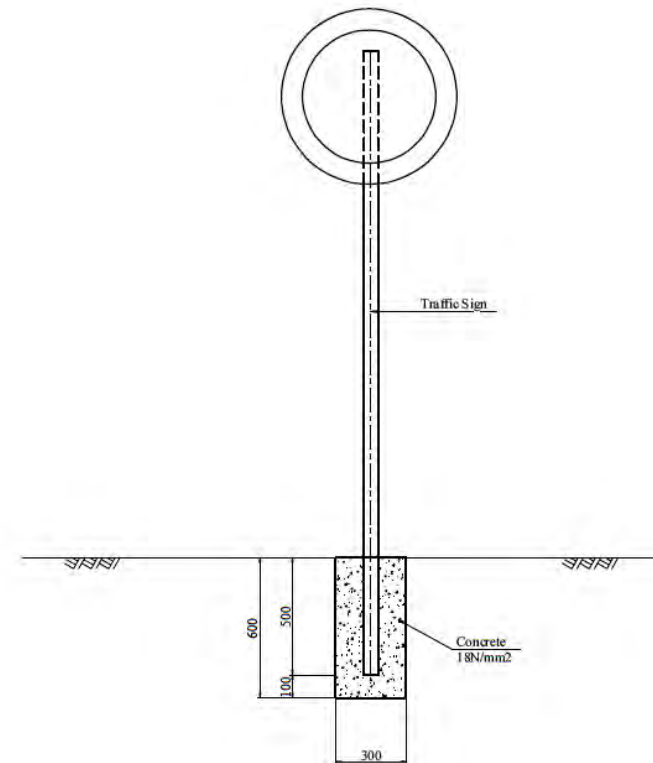
TRAFFIC SAFETY DETAILS (2)

WARNING SIGNS



SIGN POST DETAILS

SCALE A3 1:20



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JAPAN INTERNATIONAL COOPERATION AGENCY

CONSULTANTS:
INGEROSEC CORPORATION, JAPAN

PROJECT NAME:
THE PROJECT FOR WIDENING
GEREZANI AREA ROAD

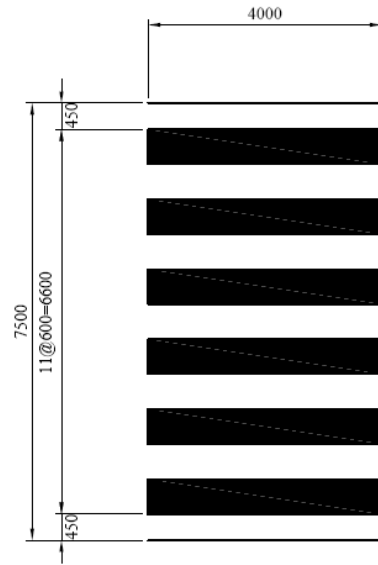
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DATE:
PREPARED BY:
CHECKED BY:

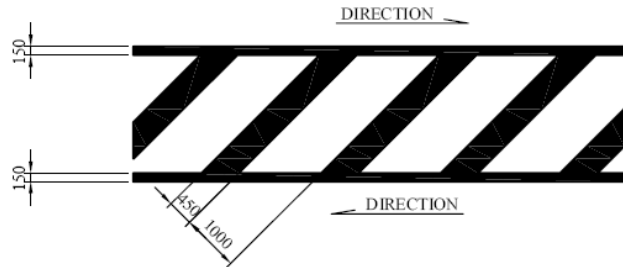
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DBD-12

TRAFFIC MARKING DETAILS SCALE A3 1:80

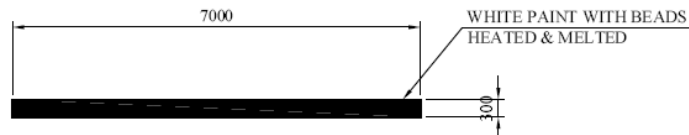
PEDESTRIAN-CROSSING



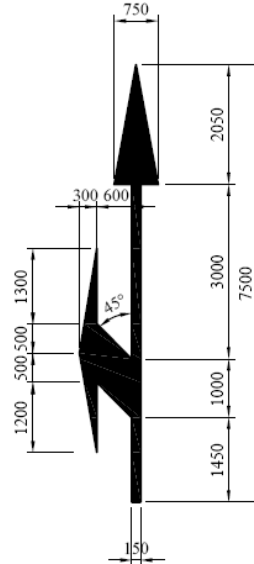
ZEBRA MARKING



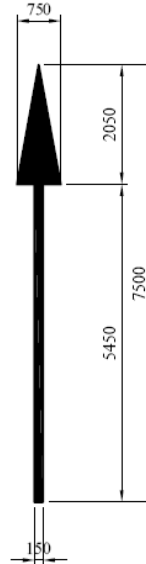
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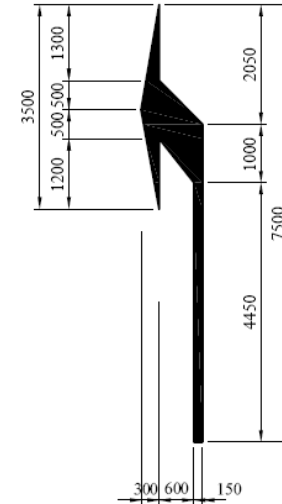
STRAIGHT-LEFT-TURN



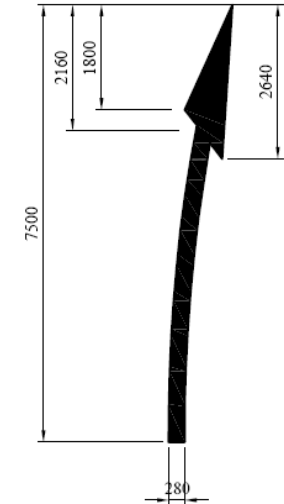
STRAIGHT



ARROW MARK
TURN



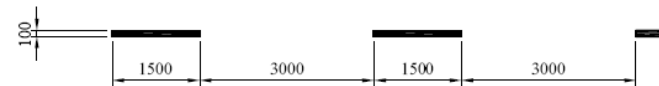
DEFLECTING-ARROWS



CONTINUOUS LINE



LANE LINE



LAY BY

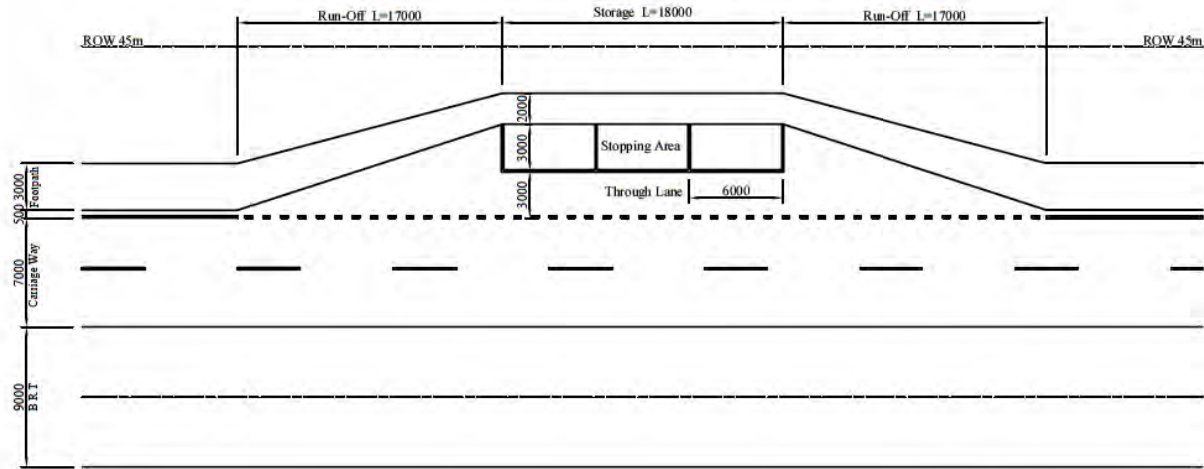


MINISTRY OF WORKS (MOW) THE UNITED REPUBLIC OF TANZANIA JAPAN INTERNATIONAL COOPERATION AGENCY	CONSULTANTS: INGEROSEC CORPORATION, JAPAN	PROJECT NAME: THE PROJECT FOR WIDENING GEREZANI AREA ROAD	DRAWING TITLE: TRAFFIC MARKING DETAILS	DATE: PREPARED BY: CHECKED BY:	DRAWING No. : DBD-13
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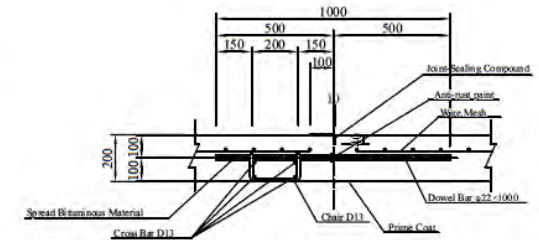
LAY BY DETAILS

PLAN OF LAY BY

SCALE A3 1:300

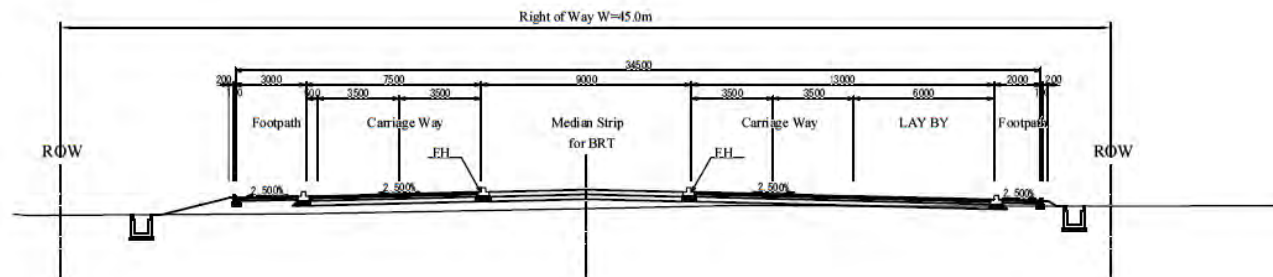


Detail of Joint SCALE A3 1:10



TYPICAL LAYOUT OF LAY BY

SCALE A3 1:200



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