

第4章 プロジェクトの評価

4.1 事業実施のための前提条件

タジキスタン側分担事項に係る本プロジェクト実施の前提となる主要事項は以下の通りである。

- 日本にある銀行と銀行取極め（Banking Arrangement：B/A）を贈与契約（Grant Agreement）調印後1ヶ月以内に締結すること
- B/Aを締結した日本の銀行に対し、支払手続きの執行権を当該銀行に授与する旨の支払授權（Authorization to Pay：A/P）をコンサルタント契約締結後1ヵ月以内に発給すること
- 本体工事に支障となる電柱、電線及び通信線等の公益施設を資格審査公示前までに工事に支障がない場所に移設すること
- 本体工事に必要となる用地、仮設ヤード、ストックヤード、土取り場、産業廃棄物処理場を資格審査公示前までに確保すること
- RAPに基づき、本体工事におけるPAPsに対して適正な補償、移転を本体工事開始前までに実施すること
- E/N、G/Aを遵守し、必要となる免税措置を実施すること
- 日本国および第三国からの輸入品について、迅速な関税手続きを実施すること
- 本プロジェクト実施のために必要となるをE/N締結後4ヶ月以内に確保すること
- 関係機関（ボフタル市、交通警察、政府直轄の事業承認機関である建設建築局）との事業実施合意が本体工事開始前までになされていること。
- 樹木伐採許可等の許認可について本体工事開始前までに取得すること
- 本体工事中及び工事完了後において大気及び水質汚染等、影響が考えられる自然環境に対してモニタリングの実施を含むモニタリング報告書を工事期間中四半期ごとにJICAに提出すること
- 本体工事中の交通処理・誘導、安全管理について支援を行うこと
- 工事施工ヤードに工事に必要となる動力用水の引き込みを行うこと
- 本体工事実施中、周辺住民及び他の第三者との問題が生じた場合、解決に向け協議・支援を行うこと

4.2 プロジェクト全体計画達成のために必要な相手方投入（負担）事項

整備完了後は円滑な交通を保つだけでなく、本線、構造物及び取付道路の耐用期間を延ばすための維持管理が必要となる。維持管理業務では、日常維持管理におい

て障害物除去、清掃等を実施するとともに、定期点検を確実にを行い構造物および舗装等に損傷が見られた場合は早期に適切な補修を行うことが肝要となる。従って、維持管理および補修に必要なと試算される年間予算（5,000USD）を確保し、継続的に維持管理を実施することが条件である。なお、前節で述べたとおり、タジキスタン側にとってこの予算確保は可能であると考えられる。

4.3 外部条件

本プロジェクト全体計画の効果促進のため、タジキスタン側が取り組むべき外部条件を示す。

- 用排水路を中心として、本プロジェクトで建設する道路、構造物及び照明の維持管理をすること。
- MOT 及び交通警察が協力し、道路ユーザー、沿道住民への交通安全教育活動を実施すること。特に、規制側速度の遵守を徹底すること。

4.4 プロジェクトの評価

4.4.1 妥当性

- プロジェクトの直接裨益効果が、ハترون州人口約 268 万人（事業対象地域人口約 34 万人）の一般国民である。
- プロジェクト実施により渋滞が緩和され、人の移動や物流が円滑となり、国内及び中央アジア全体の物流円滑化への寄与が大きく期待される。
- プロジェクトは、国際幹線道路を含めた幹線道路輸送ネットワークの強化に寄与し、民生の安定や住民の生活改善のため、緊急的に求められる。
- タジキスタンは、整備される橋梁・取付道路の運営・維持管理を独自の資金と人材・技術で実施することができ、過度に高度な技術を必要としない。
- タジキスタンの国家開発計画目標・方針に共通する AH 強化に資するプロジェクトである。
- 環境社会面での負の影響はほとんどない。
- 我が国の工程管理、安全管理、品質管理を含む建設技術を用いる必要性・優位性があると共に、我が国の無償資金協力の制度により、特段の困難なくプロジェクトの実施が可能である。

4.4.2 有効性

4.4.2.1 定量的効果

期待される定量的効果として、表 4.4-1 に示す効果が挙げられる。

表 4.4-1 定量的効果

指標名	基準値 (2018年実績値)	目標値 (事業完成3年後 の2024年)
交通量 (台/日)	15,560	21,100
旅客数 (人/日)	69,966	84,700
貨物量 (トン/日)	7,503	9,700
旅行時間 (分) ※ドゥシャンベからボフタルまでの ADB 区間を含む全 DB 道路の旅行時 間の短縮分	102.2	84

4.4.2.2 定性的効果

期待される定性的効果として、以下の点が挙げられる。

- (1) ドゥシャンベーアフガニスタン間の国際貨物輸送の効率化及び定時性の向上
- (2) 輸送コスト削減による経済活動の活性化
- (3) 道路及び交差点における歩行者の交通安全性の向上
- (4) 夜間の交通安全性の向上

添付資料

【添付資料－1】 調査団員・氏名

【添付資料－2】 調査工程

【添付資料－3】 関係者リスト

【添付資料－4】 討議議事録(M/D) (2018年4月)

【添付資料－5】 1回目テクニカル・ノート (2018年6月)

【添付資料－6】 2回目テクニカル・ノート (2018年8月)

【添付資料－7】 3回目テクニカル・ノート (2018年11月)

【添付資料－8】 討議議事録(M/D) (2018年11月)

【添付資料－9】 概略設計図面

【添付資料－10】 環境承認通知書 (2018年11月)

【添付資料－11】 住民説明会参加者リスト

【添付資料－1】調査団員・氏名

調査団員・氏名

氏名	担当	所属
田中 顕士郎	総括	国際協力機構
川原 俊太郎	総括	国際協力機構
千田 華奈子	協力企画	国際協力機構
渡邊 亮平	業務主任/道路計画1	建設技研インターナショナル
小川 淳一郎	副業務主任/道路計画2	建設技研インターナショナル
シュレスタ・ロビンソン	道路・舗装設計	建設技研インターナショナル
岩政 瞳	橋梁設計	建設技研インターナショナル
宮崎 嵩大	道路付帯構造物設計	建設技研インターナショナル
進藤 宙	河川計画	建設技研インターナショナル
西 修一	調達事情/施工計画/積算	建設技研インターナショナル
高橋 英樹	自然条件調査	建設技研インターナショナル（補強）
永山 淳也	用排水調査/道路イベントリー調査	建設技研インターナショナル（補強）
亀海 泰子	環境社会配慮	建設技研インターナショナル
黒澤 保	照査	建設技研インターナショナル（補強）
岩間 駿	交通計画/交通調査(自社負担)	建設技研インターナショナル
ジャニベック・サトキナリエフ	通訳	建設技研インターナショナル（補強）

【添付資料－2】調査工程

● 第一次現地調査

Schedule		CONSULTANT														
DATE		JICA	Team Leader	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey	Environmental and Social Considerations	Process and Design Verification	Transport Planning / Traffic Survey	Interpreter
9-Apr	Mon		Mr. Tanaka	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
10-Apr	Tue			Travel (EK319) NRT22:00-DXB04:55 Travel (EK2234) DXB22:05-DYU02:55						Travel (EK319) NRT22:00-DXB04:55 Travel (EK2234) DXB22:05-DYU02:55						
11-Apr	Wed			Documentation and preparation for Meeting						Documentation and preparation for Meeting						Documentation and preparation for Meeting
12-Apr	Thu			ICR Explanation (MOT)						ICR Explanation (MOT)						ICR Explanation (MOT)
13-Apr	Fri			Documentation and preparation for site survey				Travel (EK313) HND00:30-DXB07:20		Documentation and preparation for site survey	Travel (EK313) HND00:30-DXB07:20	Travel (EK313) HND00:30-DXB07:20				Documentation and preparation for site survey
14-Apr	Sat		Travel (EK319) NRT22:00-DXB04:55	Site Survey in Bokhtar				Travel (EK2234) DXB22:05-DYU02:55	Travel (EK313) HND00:30-DXB07:20	Site Survey in Bokhtar	Travel (EK2234) DXB22:05-DYU02:55	Travel (EK2234) DXB22:05-DYU02:55				Site Survey in Bokhtar
15-Apr	Sun		Travel (EK2234) DXB22:05 DYU02:55	No Activity				No Activity	Travel (EK313) HND00:30-DXB07:20	No Activity	No Activity	No Activity				No Activity
16-Apr	Mon		Courtesy call JICA, Emcassy of JAPAN & MOT)	Courtesy call JICA, Emcassy of JAPAN & MOT)				Safety briefing & preparation for TOR	Travel (EK2234) DXB22:05-DYU02:55 Safety briefing	Courtesy call JICA, Emcassy of JAPAN & MOT)	Safety briefing & preparation for site survey	Safety briefing & preparation for site survey				Courtesy call JICA, Emcassy of JAPAN & MOT)
17-Apr	Tue		Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar
18-Apr	Wed		Documentation and preparation of MD	Documentation and preparation of MD				Documentation and preparation for site survey	Documentation and preparation for site survey	Documentation and preparation of MD	Documentation and preparation for site survey	Documentation and preparation for site survey				Documentation and preparation of MD
19-Apr	Thu		Meeting for MD (JICA & MOT)	Meeting for MD (JICA & MOT)				Site Survey in Bokhtar	Site Survey in Bokhtar	Meeting for MD (JICA & MOT)	Site Survey in Bokhtar	Site Survey in Bokhtar				Meeting for MD (JICA & MOT)

Schedule		CONSULTANT											Interpreter		
		JICA	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey	Environmental and Social Considerations	Process and Design Verification		Transport Planning / Traffic Survey	
DATE	DAY	Team Leader	Chief Consultant / Road Planning 1	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
20-Apr	Fri	Mr. Tanaka	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
21-Apr	Sat	Singing of MD with MOT & JICA Travel (EK2235) DYU04:15-DXB 06:45	Singing of MD with MOT & JICA Documentation and preparation for site survey		Site Survey in Bokhtar Documentation and preparation for site survey	Site Survey in Bokhtar Documentation and preparation for site survey	Site Survey in Bokhtar Documentation and preparation for site survey	Site Survey in Bokhtar Documentation and preparation for site survey	Singing of MD with MOT & JICA Documentation and preparation for site survey	Site Survey in Bokhtar Documentation and preparation for site survey	Site Survey in Bokhtar Documentation and preparation for site survey				Singing of MD with MOT & JICA Documentation and preparation for site survey
22-Apr	Sun	Travel (EK318) DXB02:40-NRT 17:35	No Activity		No Activity	No Activity	No Activity	No Activity	No Activity	No Activity	No Activity				No Activity
23-Apr	Mon	Travel (EK2235) DYU04:15-DXB 06:45			Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors				Contract negotiation with selectors
24-Apr	Tue	Travel (EK318) DXB02:40-NRT 17:35			Documentation and preparation for site survey	Documentation and preparation for site survey	Documentation and preparation for site survey	Documentation and preparation for site survey	Signing of contract with selectors	Documentation and preparation for site survey	Documentation and preparation for site survey				Signing of contract with selectors
25-Apr	Wed				Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Documentation and preparation for site survey	Collect information	Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar
26-Apr	Thu				Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Documentation and preparation for site survey	Collect information	Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar
27-Apr	Fri				Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Collect information	Documentation of site survey results	Documentation of site survey results				Documentation of site survey results
28-Apr	Sat				Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of Collect information	Documentation of site survey results	Documentation of site survey results				Documentation of site survey results
29-Apr	Sun				No Activity	No Activity	No Activity	No Activity	No Activity	No Activity	No Activity				No Activity
30-Apr	Mon				Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Contract negotiation with selectors	Documentation of site survey results	Documentation of site survey results				Contract negotiation with selectors
1-May	Tue				Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results				Signing of contract with selectors

Schedule	CONSULTANT														
	JICA	Team Leader	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey	Environmental and Social Considerations	Process and Design Verification	Transport Planning / Traffic Survey	Interpreter
DATE	DAY	Mr. Tanaka	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
2-May	Wed		Travel (EK313) HND00:30-DX B07:20				Site Survey and Site visit with contractor	Site Survey and Site visit with contractor	Data collection	Site Survey and Site visit with contractor	Documentation of site survey results				Site Survey and Site visit with contractor
3-May	Thu		Travel (EK2234) DXB22:05-DYU 02:55				Site Survey and Site visit with contractor	Site Survey and Site visit with contractor	Data collection	Site Survey and Site visit with contractor	Documentation of site survey results				Site Survey and Site visit with contractor
4-May	Fri						Contract negotiation with selectors	Contract negotiation with selectors	Data collection	Site Survey and Site visit with contractor	Documentation of site survey results				Contract negotiation with selectors
5-May	Sat		M-41 Existing Road Survey and Data Collection				M-41 Existing Road Survey and Data Collection	M-41 Existing Road Survey and Data Collection	M-41 Existing Road Survey and Data Collection	M-41 Existing Road Survey and Data Collection	M-41 Existing Road Survey and Data Collection				M-41 Existing Road Survey and Data Collection
6-May	Sun		No Activity				No Activity	No Activity	No Activity	No Activity	No Activity				No Activity
7-May	Mon		Signing of contract with selectors				Signing of contract with selectors	Signing of contract with selectors	Data collection	Site Survey in Bokhtar	Site Survey in Bokhtar				Signing of contract with selectors
8-May	Tue		Meeting and making report	Travel (EK313) HND00:30-DX B07:20			Site Survey in Bokhtar	Site Survey in Bokhtar	Data collection	Site Survey in Bokhtar	Site Survey in Bokhtar				Meeting and making report
9-May	Wed		Site Survey in Bokhtar	Travel (EK2234) DXB22:05-DYU 02:55			Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar
10-May	Thu		Meeting with ADB and Reporting work	Meeting with ADB and Reporting work			Meeting with ADB and Reporting work	Meeting with ADB and Reporting work	Meeting with ADB and Reporting work	Documentation of site survey results	Documentation of site survey results				Meeting and Reporting work
11-May	Fri		Meeting and Reporting work	Site Survey in Bokhtar			Meeting and Reporting work	Site Survey in Bokhtar	Collect information	Meeting and Reporting work	Meeting and Reporting work				Meeting and Reporting work
12-May	Sat		M-34 and M-41 Existing Road Survey	M-34 and M-41 Existing Road Survey			M-34 and M-41 Existing Road Survey	M-34 and M-41 Existing Road Survey	Travel (EK2235) DYU04:15-DXB 06:45	M-34 and M-41 Existing Road Survey	M-34 and M-41 Existing Road Survey				M-34 and M-41 Existing Road Survey
13-May	Sun		No Activity	No Activity			No Activity	No Activity	Travel (EK318) DXB02:40-NRT 17:35	No Activity	No Activity	Travel (EK313) HND00:30-DXB 07:20			No Activity

Schedule	CONSULTANT											Interpreter			
	JICA	Team Leader	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey		Environmental and Social Considerations	Process and Design Verification	Transport Planning / Traffic Survey
DATE	DAY	Mr. Tanaka	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
14-May	Mon		Discussion of T/N with Working Group Member	Discussion of T/N with Working Group Member	Documentation of site survey results	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar		Documentation of site survey results	Documentation of site survey results	Travel (EK2234) DXB22:05-DYU02:55			Discussion of T/N with Working Group Member
15-May	Tue		Discussion of T/N with Working Group Member	Discussion of T/N with Working Group Member	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results		Documentation of site survey results	Documentation of site survey results	Kick off meeting of Environmental and Social survey			Discussion of T/N with Working Group Member
16-May	Wed		Travel (EK2235) DYU04:15-DXB 06:45	Meeting with Bokhtar City	Joint laboratory test	Joint laboratory test	Site Survey in Bokhtar	Site Survey in Bokhtar		Travel (EK2235) DYU04:15-DXB 06:45	Travel (EK2235) DYU04:15-DXB 06:45	Site Survey in Bokhtar			Meeting with Bokhtar City
17-May	Thu		Travel (EK318) DXB02:40-NRT 17:35	Meeting with CEP and Kushonion District Government	Joint laboratory test	Joint laboratory test	Site Survey in Bokhtar	Site Survey in Bokhtar		Travel (EK318) DXB02:40-NRT 17:35	Travel (EK318) DXB02:40-NRT 17:35	Site Survey in Bokhtar			Meeting with CEP and Kushonion District Government
18-May	Fri			Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar				Site Survey in Bokhtar			Site Survey in Bokhtar
19-May	Sat			Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results	Documentation of site survey results				Documentation of site survey results			Documentation of site survey results
20-May	Sun			No Activity	Travel (EK313) HND00:30-DXB07:20	No Activity	No Activity	No Activity				No Activity	Travel (EK313) HND00:30-DXB 07:20	Travel (EK313) HND00:30-DXB 07:20	No Activity
21-May	Mon		Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Documentation of site survey results	Documentation of site survey results				Preparation for stakeholder meeting	Travel (EK2234) Safety briefing	Travel (EK2234) Safety briefing	Site Survey in Bokhtar
22-May	Tue		Meeting with Bokhtar City	Meeting with Bokhtar City	Site Survey in Bokhtar	Site Survey in Bokhtar	Documentation of site survey results	Documentation of site survey results				Preparation for stakeholder meeting	Meeting with Bokhtar City	Meeting with Bokhtar City	Meeting with Bokhtar City
23-May	Wed		Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Travel (EK2235) DYU04:15-DXB 06:45	Travel (EK318) DXB02:40-NRT 17:35				Meeting with CEP	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar
24-May	Thu		Meeting with State Traffic Police	Meeting with State Traffic Police	Site Survey in Bokhtar	Site Survey in Bokhtar	Travel (EK318) DXB02:40-NRT 17:35	Travel (EK318) DXB02:40-NRT 17:35				Literature survey	Meeting with State Traffic Police	Meeting with State Traffic Police	Meeting with State Traffic Police
25-May	Fri		Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar						Stakeholder meeting	Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar

Schedule		CONSULTANT											Interpreter		
		JICA	Team Leader	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey		Environmental and Social Considerations	Process and Design Verification
DATE	DAY	Mr. Tanaka	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
26-May	Sat			Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar						Documentation	Site Survey in Bokhtar Travel (EK2235)	Site Survey in Bokhtar	Site Survey in Bokhtar
27-May	Sun			No Activity	No Activity	No Activity						No Activity	Travel (EK318) DXB02:40-NRT1 7:35	No Activity	No Activity
28-May	Mon			Stakeholder meeting	Discussion of T/N with Working Group Member	Site Survey in Bokhtar						Stakeholder meeting		Site Survey in Bokhtar	Discussion of T/N with Working Group Member
29-May	Tue			Documentation of site survey results	Documentation of site survey results	Documentation of site survey results						Meeting with MOI		Site Survey in Bokhtar	Meeting with MOI
30-May	Wed			Documentation of site survey results	Documentation of site survey results	Documentation of site survey results						Travel (EK2235) DYU04:15-DXB0 6:45		Site Survey in Bokhtar	Documentation of site survey results
31-May	Thu			Discussion of T/N with Working Group Member	Documentation of site survey results	Documentation of site survey results						Travel (EK318) DXB02:40-NRT1 7:35		Site Survey in Bokhtar	Discussion of T/N with Working Group Member
1-Jun	Fri			Documentation of site survey results	Documentation of site survey results	Documentation of site survey results								Site Survey in Bokhtar	Site Survey in Bokhtar
2-Jun	Sat			Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar								Site Survey in Bokhtar	Site Survey in Bokhtar
3-Jun	Sun			No Activity	No Activity	No Activity								No Activity	No Activity
4-Jun	Mon			Meeting	Meeting	Documentation of site survey results								Documentation of site survey results	Meeting
5-Jun	Tue			Site Survey in Bokhtar	Site Survey in Bokhtar	Site Survey in Bokhtar								Documentation of site survey results	Site Survey in Bokhtar
6-Jun	Wed			Meeting with MOT	Meeting with MOT	Documentation								Documentation	Meeting with MOT

Schedule	CONSULTANT													
	JICA	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Bridge Design	Road Structure and Ancillary Design	River Planning	Procurement, Planning and Cost Estimation	Natural Condition Survey	Drainage and Road Inventory Survey	Environmental and Social Considerations	Process and Design Verification	Transport Planning / Traffic Survey	Interpreter
DATE	DAY	Mr. Tanaka	Mr. Ogawa	Mr. Shrestha	Ms. Iwamasa	Mr. Miyazaki	Mr. Shindo	Mr. Nishi	Mr. Takahashi	Mr. Nagayama	Ms. Kamegai	Mr. Kurosawa	Mr. Iwama	Mr. Satkynaliev
			Meeting with MOT, JICA	Meeting with MOT, JICA	n of site survey results								of site survey results	
7-Jun	Thu		Meeting with MOT, JICA	Meeting with MOT, JICA	Documentation of site survey results								Documentation of site survey results	Meeting with MOT, JICA
8-Jun	Fri		Meeting with MOT for T/N	Meeting with MOT for T/N	Documentation of site survey results								Documentation of site survey results	Meeting with MOT for T/N
9-Jun	Sat		Meeting with MOT for T/N	Meeting with MOT for T/N	Travel (EK2235) DYU04:15-DXB 06:45								Travel (EK2235) DYU04:15-DXB 6:45	Meeting with MOT for T/N
10-Jun	Sun		No Activity	No Activity	Travel (EK318) DXB02:40-NRT 17:35								Travel (EK318) DXB02:40-NRT 7:35	
11-Jun	Mon		Site Survey in Bokhtar	Site Survey in Bokhtar										
12-Jun	Tue		Site Survey in Bokhtar	Site Survey in Bokhtar										
13-Jun	Wed		Travel (EK2235) DYU04:15-DXB 06:45	Travel (EK2235) DYU04:15-DXB 06:45										
14-Jun	Thu		Travel (EK318) DXB02:40-NRT 17:35	Travel (EK318) DXB02:40-NRT 17:35										

MOT: Ministry of Transport, SETM: State Enterprise for Transport Management, SEHM: State Enterprise of Highway Maintenance, ADB: Asian Development Bank, JICA: Japan International Cooperation Agency

MD: Minutes of Discussion, TOR: Terms of Reference,

EK: Emirates Air, NRT: Narita Airport, HND: Haneda Airport, DXB: Dubai Airport, DYU: Dushanbe Airport

● 補足サイト調査

Schedule		CONSULTANT		
DATE	DAY	Deputy Chief Consultant / Road Planning 2	Environmental and Social Considerations	Interpreter
7-Aug	Tue	Mr. Ogawa	Ms. Kamegai Travel (EK313) HND00:30-DXB07:20	Mr. Satkynaliev
8-Aug	Wed		Travel (EK2234) DXB22:05 DYU 02:55	
9-Aug	Thu		Preparation for Stake Holder Meeting	
10-Aug	Fri		Preparation for Stake Holder Meeting	
11-Aug	Sat		Preparation for Stake Holder Meeting	
12-Aug	Sun		No Activity	
13-Aug	Mon		Preparation for Stake Holder Meeting	
14-Aug	Tue	Travel (EK313) HND00:30-DXB07:20	Preparation for Stake Holder Meeting	Preparation for Stake Holder Meeting
15-Aug	Wed	Travel (EK2234) DXB22:05 DYU 02:55	Preparation for Stake Holder Meeting	Preparation for Stake Holder Meeting
16-Aug	Thu	Stake Holder Meeting	Stake Holder Meeting	Stake Holder Meeting
17-Aug	Fri	Stake Holder Meeting	Stake Holder Meeting	Stake Holder Meeting
18-Aug	Sat	Technical Notes Preparation	Technical Notes Preparation	Technical Notes Preparation
19-Aug	Sun	No Activity	No Activity	No Activity
20-Aug	Mon	Technical Meeting (JICA & MOT)	Travel (EK2235) DYU22:00-DXB04:55	Technical Meeting (JICA & MOT)

Schedule		CONSULTANT			
DATE	DAY	Deputy Chief Consultant / Road Planning 2	Environmental and Social Considerations	Interpreter	
21-Aug	Tue	Mr. Ogawa Technical Meeting (MOT)	Ms. Kamegai Travel (EK318) DXB02:40-NRT17:35	Mr. Satkynaliev Technical Meeting (MOT)	
22-Aug	Wed	Traffic Signal Design		Traffic Signal Design	
23-Aug	Thu	Traffic Signal Design		Traffic Signal Design	
24-Aug	Fri	Traffic Signal Design		Traffic Signal Design	
25-Aug	Sat	Technical Notes Preparation		Technical Notes Preparation	
26-Aug	Sun	Technical Notes Preparation		Technical Notes Preparation	
27-Aug	Mon	Site Survey		Site Survey	
28-Aug	Tue	Site Survey		Site Survey	
29-Aug	Wed	Technical Meeting (MOT)		Technical Meeting (MOT)	
30-Aug	Thu	Technical Meeting (MOT)		Technical Meeting (MOT)	
31-Aug	Fri	Technical Meeting (MOT)		Technical Meeting (MOT)	
1-Sep	Sat	Travel (EK2235) DYU22:00-DXB04:55		Follow-up on submission of IEE	
2-Sep	Sun	Travel (EK318) DXB02:40-NRT17:35		Follow-up on submission of IEE	

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● 第二次現地調査

Schedule		JICA			CONSULTANT			
		Team Leader	Planning coordinator	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Interpreter	
DATE	DAY	Mr. Kawahara	Ms. Senda	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Mr. Satkynaliev	
19-Nov	Mon			Travel (EK319) NRT22:00 -DXB04:55	Travel (EK319) NRT22:00 -DXB04:55	Travel (EK319) NRT22:00 -DXB04:55		
20-Nov	Tue			Travel (EK2234) DXB22:05 DYU 02:55	Travel (EK2234) DXB22:05 DYU 02:55	Travel (EK2234) DXB22:05 DYU 02:55	Preparation	
21-Nov	Wed			DFR Explanation (MOT) MD Preparation	DFR Explanation (MOT) MD Preparation	DFR Explanation (MOT) MD Preparation	DFR Explanation (MOT) MD Preparation	
22-Nov	Thu			MD Preparation	MD Preparation	MD Preparation	MD Preparation	
23-Nov	Fri			MD Preparation	MD Preparation	MD Preparation	MD Preparation	
24-Nov	Sat	Travel (EK319) NRT22:00 -DXB04:55	Travel (EK319) NRT22:00 -DXB04:55	MD Preparation	MD Preparation	MD Preparation	MD Preparation	
25-Nov	Sun	Travel (EK2234) DXB22:05 DYU 02:55	Travel (EK2234) DXB22:05 DYU 02:55	- Ditto -	- Ditto -	- Ditto -	- Ditto -	
26-Nov	Mon	Meeting / Courtesy call (JICA & MOT)	Meeting / Courtesy call (JICA & MOT)	DFR Explanation / Courtesy call (JICA & MOT)	DFR Explanation / Courtesy call (JICA & MOT)	DFR Explanation / Courtesy call (JICA & MOT)	DFR Explanation / Courtesy call (JICA & MOT)	
27-Nov	Tue	Courtesy call / 'Site Survey (Bokhtar city)	Courtesy call / 'Site Survey (Bokhtar city)	Courtesy call / 'Site Survey (Bokhtar city)	Courtesy call / 'Site Survey (Bokhtar city)	Courtesy call / 'Site Survey (Bokhtar city)	Courtesy call / 'Site Survey (Bokhtar city)	
28-Nov	Wed	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	

Schedule		JICA			CONSULTANT		
		Team Leader	Planning coordinator	Chief Consultant / Road Planning 1	Deputy Chief Consultant / Road Planning 2	Road and Pavement Design	Interpreter
DATE	DAY	Mr. Kawahara	Ms. Senda	Mr. Watanabe	Mr. Ogawa	Mr. Shrestha	Mr. Satkynaliev
29-Nov	Thu	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)	Meeting (JICA & MOT)
30-Nov	Fri	Courtesy call (Embassy of Japan)	Courtesy call (Embassy of Japan)	Courtesy call (Embassy of Japan)	Courtesy call (Embassy of Japan)	Courtesy call (Embassy of Japan)	Courtesy call (Embassy of Japan)
1-Dec	Sat	Travel (EK2235) DYU22:00-DXB04:55	Travel (EK2235) DYU22:00-DXB04:55	Travel (EK2235) DYU22:00-DXB04:55	Travel (EK2235) DYU22:00-DXB04:55	Travel (EK2235) DYU22:00-DXB04:55	Follow-up on submission of IEE
2-Dec	Sun	Travel (EK318) DXB02:40-NRT17:35	Travel (EK318) DXB02:40-NRT17:35	Travel (EK318) DXB02:40-NRT17:35	Travel (EK318) DXB02:40-NRT17:35	Travel (EK318) DXB02:40-NRT17:35	Follow-up on submission of IEE

MOT: Ministry of Transport, SETM: State Enterprise for Transport Management, SEHM: State Enterprise of Highway Maintenance, ADB: Asian Development Bank, JICA: Japan International Cooperation Agency

MD: Minutes of Discussion, TOR: Terms of Reference,

EK: Emirates Air, NRT: Narita Airport, HND: Haneda Airport, DXB: Dubai Airport, DYU: Dushanbe Airport

【添付資料－3】関係者リスト

関係者リスト

在タジキスタン日本大使館	
北岡 元	特命全権大使
沖本 昂	二等書記官
筒井 暁之	三等書記官

JICA タジキスタン事務所	
田邊 秀樹	所長
西川 直子	プロジェクト担当
佐藤 慶一	安全管理担当

Ministry of Transport	
Mr. Kh. Z. Khudoyorzoda	Minister
Mr. S. B. Mirzoev	First Deputy Minister
Mr. R. F. Valizoda	Deputy Minister
Mr. Olim Yatimov	Head Department on Cooperation with Foreign Investment
Mr. A. Anoyatshoev	Head, Department on Road Construction and Maintenance
Mr. F. Negmatzoda	Head, Department on Inland Transport
Mr. Sh.Askarova	Head, Finance Management and Accounting Department
Mr. Sh. Saidmurodova	Head, Analysis and Economic Forecasting Department
Mr. D. Olimov	Chief Specialist, International Relationship Department
Mr. F. Kholov	Specialist, Department with Cooperation on Foreign Investment
Mr. S. Odinaev	Chief Specialist, Foreign Investment Department
Mr. B. Ziyoev	Chief Specialist, Department on Road Construction and Maintenance
Mr. S Kodirov	Deputy Head, Department on Inland Transport
Ms. A. Shkurenko	Chief Specialist, Department on Inland Transport
Ms. Ya. Ulugova	Chief Specialist, Department on Inland Transport
Mr. D. Kholov	Specialist, Department on Inland Transport
Mr. A. Ragabzoda	Leading Specialist, Department on Inland Transport

Ministry of Finance	
Mr. I. Makhmadiev	Leading Specialist

Department of Traffic Police under the Ministry of Internal Affairs	
Mr. A.C. Kholov	Chief Advisor to the Head of the Department
Mr. F. H. Dzhabborov	Chief Traffic Officer

State Property and Investment Committee under the Government	
Mr. A. Muhammadi	Chief Specialist

Architecture and Construction Committee under the Government	
Mr. A.S. Nozirov	Head of Department

State Department on Transport Control and Regulation	
Mr. F. Hakimov	Leading Specialist
Ms. Z. Odinaeva	Deputy Head of Department

SETM Bokhtar	
Mr. N. Faizullozoda	Chief
Mr. M. Kholikov	Chief Engineer
Mr. N. Yaqubov	Deputy Head of Bokhtar SETM

Administration of Bokhtar city	
Mr. D. Muhammadzoda	Deputy Head of Bokhtar Government
Mr. T. Arziqullo	Head of State Enterprises on Road Maintenance of Bokhtar City
Mr. V. Yatimzoda	Chief Architector

Governor Office of Khatlon	
Mr. R. Rajabov	Deputy Governor
Mr. U. Zohirzoda	Deputy Governor of Khatlon Region

Administration of Kushoniyon District	
Mr. Sh. Safarzoda	Deputy Governor of Kushoniyon District
Mr. N. Qahhorov	Head of State Enterprises on Highway Maintenance of Kushoniyon

Asian Development Bank	
Mr. Kamel Bouhmad	Transport Specialist
Mr. Farrukh Nuriddinov	Senior Project Officer

PIU	
Mr. I. Rakhmonzoda	Chief Engineer

KOCKS	
Mr. Nirmal Shrestha	Consultant, Team Leader
Mr. Carsten Griese	Project Manager


【添付資料－4】 討議議事録(M/D)

(2018年4月)

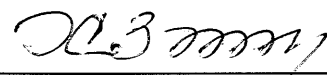
MINUTES OF DISCUSSIONS
ON THE PREPARATORY SURVEY
FOR THE PROJECT
FOR REHABILITATION OF KIZILKALA – BOKHTAR SECTION
OF DUSHANBE – BOKHTAR ROAD

In response to the request from the Government of the Republic of Tajikistan (hereinafter referred to as “Tajikistan”), Japan International Cooperation Agency (hereinafter referred to as “JICA”) dispatched a preparatory survey team for the outline design (hereinafter referred to as “the Team”) of the Project for Rehabilitation of Kizilkala – Bokhtar Section of Dushanbe – Bokhtar Road (hereinafter referred to as “the Project”) to Tajikistan. The Team held a series of discussions with the officials of the Government of Tajikistan and conducted a field survey. In the course of the discussions, both sides have confirmed the main items described in the attached sheets.

Dushanbe, 20th April, 2018



Kenshiro TANAKA
Leader
Preparatory Survey Team
Japan International Cooperation Agency



Khudoyorzoda Khudoyor Zavkibek
Minister
Ministry of Transport
Republic of Tajikistan

ATTACHMENT

1. Objective of the Project

The objective of the Project is to improve passenger and freight as well as traffic safety of Dushanbe – Bokhtar Road by rehabilitating a two-lane road from Kizilkala to Bokhtar, thereby contributing to economic growth of Tajikistan.

2. Title of the Preparatory Survey

Both sides confirmed the title of the preparatory survey as “the Preparatory Survey for the Project for Rehabilitation of Kizilkala - Bokhtar Section of Dushanbe – Bokhtar Road”.

3. Project Section

Both sides confirmed that the section of the Project is approx. 8.9 km, from Kizilkala to Bokhtar of Dushanbe – Bokhtar Road shown in Annex 1.

4. Executing Agency for the Project

Both sides confirmed the executing agency for the Project as follows:

- 4-1. Ministry of Transport (hereinafter referred to as the “MOT”) will be an executing and responsible ministry for the Project. MOT shall coordinate all the relevant authorities to ensure smooth implementation of the Project and to ensure timely and appropriate execution of the obligation of the mentioned authorities. The organization chart is shown in Annex 2.

5. Components Requested by the Government of Tajikistan

- 5-1. As a result of discussions, both sides confirmed that the components requested by the Government of Tajikistan is improvement of the two-lane traffic road between Kizilkala - Bokhtar including additional structures shown in Annex 1. The road width and technical specifications will be defined after the traffic survey. The starting and ending points of the Project road will be adopted after discussions among relevant ministries and agencies.
- 5-2. JICA will assess the feasibility of the above requested components after the preparatory survey and will report the findings to the Government of Japan. The final scope of the Project will be decided by the Government of Japan.

6. Procedures and Basic Principles of Japanese Grant

- 6-1. The Tajik side agreed that the procedures and basic principles of Japanese Grant as described in Annex 3, Annex 4 and Annex 5 would be applied to the Project.

As for the monitoring of the implementation of the Project, JICA requires the Tajik side to submit the Project Monitoring Report, the form of which is attached as Annex 6.

- 6-2. The Tajik side agreed to take the necessary measures, as described in Annex 7, for smooth implementation of the Project. The contents of the Annex 7 will be elaborated and refined during the preparatory survey and be agreed in the mission dispatched for explanation of the draft preparatory survey report.

The contents of Annex 7 will be updated as the preparatory survey progresses, and eventually, will be used as an attachment to the Grant Agreement.

7. Schedule of the Preparatory Survey

The Team will continue the first field survey in Tajikistan until 16th June, 2018. The Team explained the tentative schedule of the preparatory survey as follows:

- 7-1. The Team will prepare a draft preparatory survey report in Russian and explain its contents in Tajikistan around the end of November, 2018.
- 7-2. If the Tajik side accepts the report and the undertakings for the Project, JICA will finalize the report and send it to Tajikistan around April, 2019.
- 7-3. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

- 8-1. The Tajik side confirmed to give due environmental and social considerations before and during implementation, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).
- 8-2. The Project is categorized as “B” from the following considerations: The project is not considered to be a large-scale road, is not located in a sensitive area, and has none of the sensitive characteristics under the JICA Guidelines for Environmental and Social Considerations (April, 2010), it is not likely to have a significant adverse impact on the environment. The guidelines can be downloaded at the following URL.

http://www.jica.go.jp/english/our_work/social_environmental/guideline/pdf/guideline100326.pdf

The Tajik side confirmed to conduct the necessary procedures concerning the environmental assessment (including stakeholder meetings, Environmental Impact Assessment (EIA) / Initial Environmental Examination (IEE) and information disclosure, etc.) and make EIA/IEE report of the Project. The EIA/IEE approval shall be received from the responsible authorities and submitted to JICA. The timing of the submission of the report will be decided with the result of Survey.

- 8-3. For the Project that will result in involuntary resettlement, the Tajik side confirmed to prepare a Resettlement Action Plan (RAP) / Abbreviated Resettlement Action Plan (ARAP) and make it available to the public. In addition, the Tajik side confirmed to provide the affected people with sufficient compensation and/or support in accordance with RAP/ARAP, which is consistent with the JICA Guidelines for Environmental and Social Considerations (April, 2010), in a timely manner.

9. Other Relevant Issues

- 9-1. The Team explained a method of the preparatory survey based on an inception report submitted by the Team. The Tajik side understood the contents and accepted the method.
- 9-2. The Tajik side shall, at its own expense, provide the Team with following items;
 - 1) Necessary data, information and coordination with relevant agencies for the preparatory survey,
 - 2) Answers to the questionnaire submitted by the Team,
 - 3) Assignment of Counterpart personnel,
 - 4) Permissions for entering private properties and restricted places and for taking photographs

- including aerial photographs (Drone),
- 5) Security information in a timely manner,
 - 6) Permissions of conducting field activities, such as a topographic survey, geotechnical investigations, environmental and social considerations, a traffic volume survey, etc., by local consulting firms entrusted by the Team and issuing identification cards for members of the said firms, and
 - 7) Securing traffic safety through the field survey in cooperation with relevant authorities (e.g. traffic police, etc.)

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Annex 1 Project Section

Annex 2 Organization Chart

Annex 3 Japanese Grant

Annex 4 Procedures of Japanese Grant

Annex 5 Financial Flow of Japanese Grant

Annex 6 Project Monitoring Report (template)

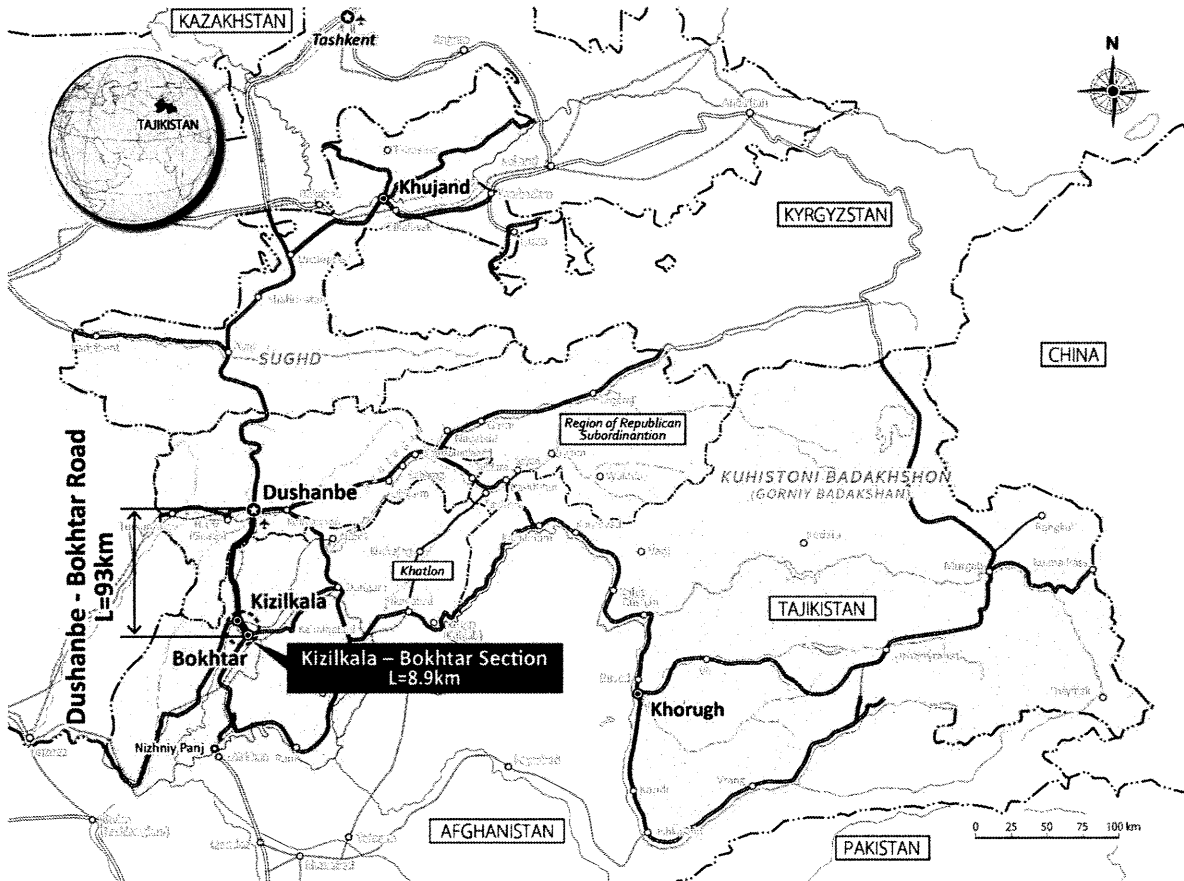
Annex 7 Major Undertakings to be taken by the Government of Tajikistan

Annex 8 Language used in each Document

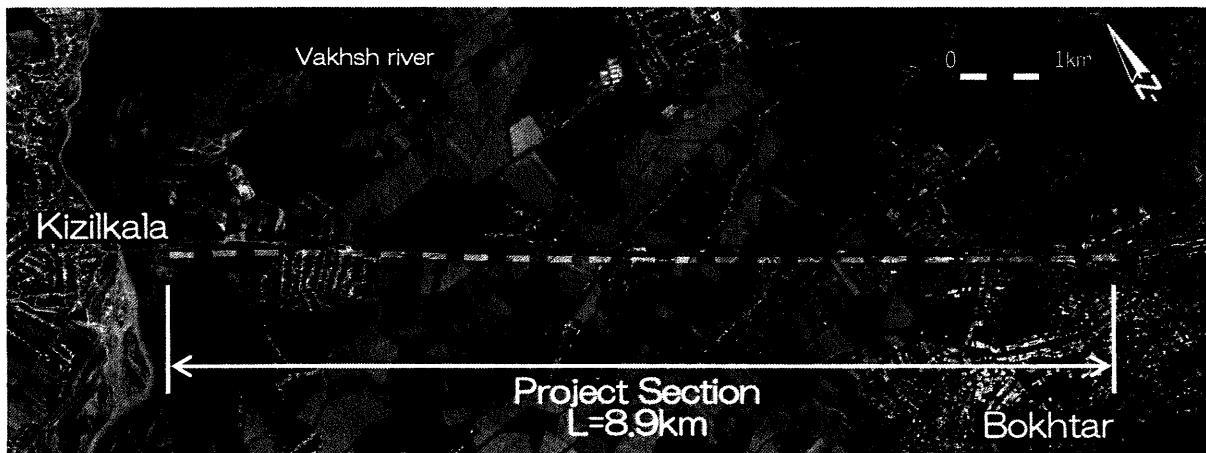
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Project Section



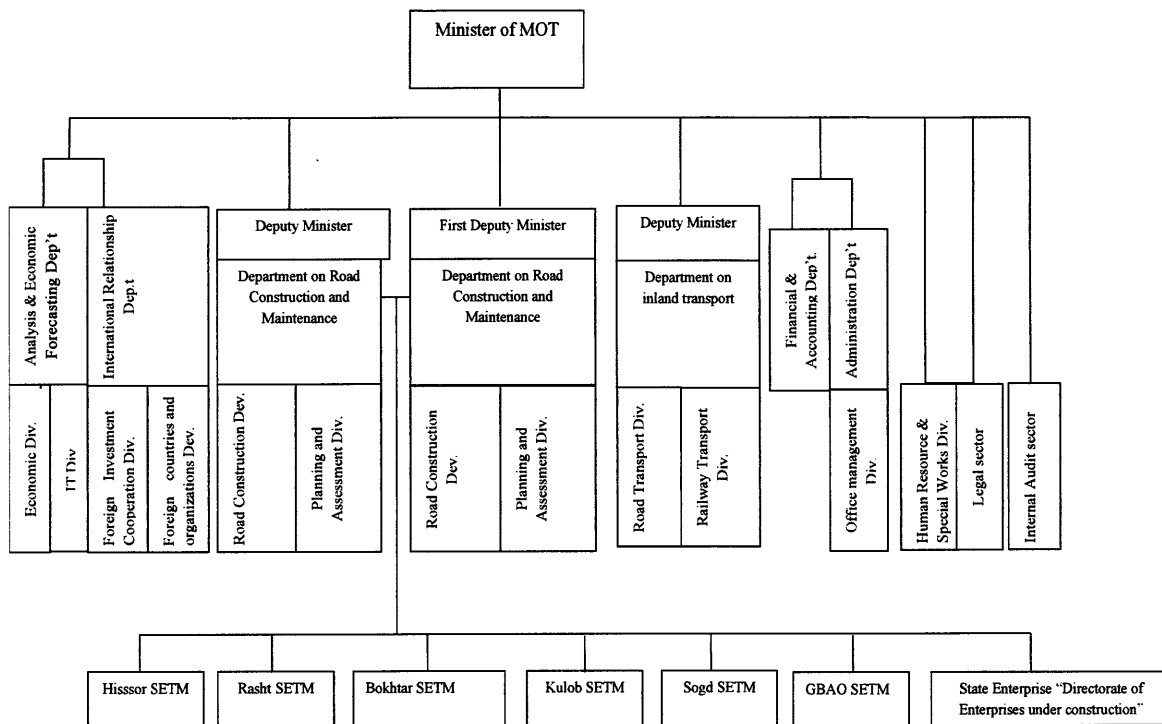
*This map, based on a UN map, modified by JICA Survey Team
The depiction and use of boundaries, geographic names and related data shown on map do not necessarily imply official endorsement or acceptance by JICA.*



Project Location Map

12/4

Organization Chart



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[Handwritten signature]

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or 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. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

- (1) Preparation
 - The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA
- (2) Appraisal
 - Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and Approval by the Japanese Cabinet
- (3) Implementation
 - Exchange of Notes
 - The Notes exchanged between the GOJ and the government of the Recipient
 - Grant Agreement (hereinafter referred to as “the G/A”)
 - Agreement concluded between JICA and the Recipient
 - Banking Arrangement (hereinafter referred to as “the B/A”)
 - Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as “the Bank”) to receive the grant
 - Construction works/procurement
 - Implementation of the project (hereinafter referred to as “the Project”) on the basis of the G/A
- (4) Ex-post Monitoring and Evaluation
 - Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the 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 necessary for the implementation of the Project.
- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant 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 an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take 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 executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) 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 feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

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 to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”

2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.
- b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in

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accordance with JICA's procurement guidelines as stipulated in the G/A.

4) 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 to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

- 1) After the project completion, JICA will continue to keep in close contact with the Recipient in

order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.

2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

②



PROCEDURES OF JAPANESE GRANT

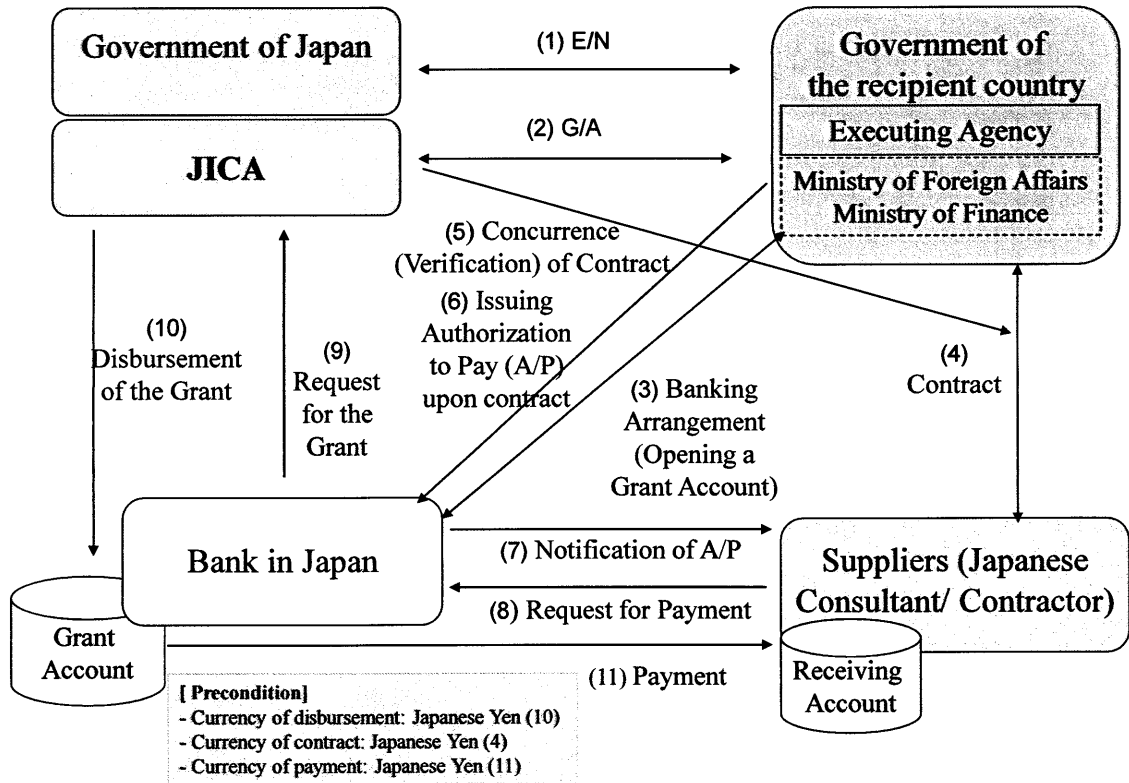
Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x				x	x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

①②③

Financial Flow of Japanese Grant (A/P Type)



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<p><u>Project Monitoring Report</u> on <u>Project Name</u> <u>Grant Agreement No. XXXXXXXX</u> 20XX, Month</p>

Organizational Information

Signer of the G/A (Recipient)	<hr/> Person in Charge (<u>Designation</u>) <hr/> Contacts <u>Address:</u> <u>Phone/FAX:</u> <u>Email:</u>
Executing Agency	<hr/> Person in Charge (<u>Designation</u>) <hr/> Contacts <u>Address:</u> <u>Phone/FAX:</u> <u>Email:</u>

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

②

1: Project Description	
-------------------------------	--

1-1 Project Objective

--

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

--

1-3 Indicators for measurement of “Effectiveness”

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

<i>(PMR)</i>

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2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

--

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant (Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
	1.			
Total				

Note: 1) Date of estimation:

2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
	1.			

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- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design)
name:
role:
financial situation:
institutional and organizational arrangement (organogram):
human resources (number and ability of staff):

Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)

Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

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Original

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):

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Actual Situation and Countermeasures

(PMR)

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

Attachment

1. Project Location Map
 2. Specific obligations of the Recipient which will not be funded with the Grant
 3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
 5. Environmental Monitoring Form / Social Monitoring Form
 6. Monitoring sheet on price of specified materials (Quarterly)
 7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
 8. Pictures (by JPEG style by CD-R) (PMR (final) only)
 9. Equipment List (PMR (final) only)
 10. Drawing (PMR (final) only)
 11. Report on RD (After project)

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials		Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Price (Increased) F=C+D
1	Item 1	●●t	●	●	●	●	●
2	Item 2	●●t	●	●	●		
3	Item 3						
4	Item 4						
5	Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials		1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
1	Item 1	●	●	●			
2	Item 2						
3	Item 3						
4	Item 4						
5	Item 5						

(3) Summary of Discussion with Contractor (if necessary)

-
-
-

Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

Major Undertakings to be taken by the Government of Tajikistan

1. Specific obligations of the Government of Tajikistan which will not be funded with the Grant

(1) Before the Bidding

No.	Items	Deadline	In charge	Cost	Ref.
1	To open Bank Account (Banking Arrangement (B/A))	within 1 month after signing of the G/A	MOT/ NBT		
2	To issue the Authorization to Pay (A/P) to a bank in Japan (the Agent Bank) for the payment to the Consultant	within 1 month after signing of the contract with the consultant	MOT/ NBT		
3	To approve IEE/EIA (Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation of countermeasures obligated in the IEE/EIA.	within 1 month after signing of the G/A	CEP		
4	To secure the necessary budget and implement land acquisition and resettlement (including preparation of resettlement sites), and compensation with full replacement cost in accordance with RAP	before notice of the bidding document(s)	MOT/ MOF/ SCLMG		
5	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	till land acquisition and resettlement complete	MOT		
6	To secure and clear the following lands 1) right of way for the Project 2) temporary construction yard and stock yard near the Project area 3) diversion route for the existing road 4) borrow pit and disposal site near the Project area	before notice of the bidding document(s)	MOT and related agencies		
7	To obtain the planning, zoning, building permit	before notice of the bidding document(s)	MOT and related agencies		
8	To clear, level and reclaim the sites, which will be confirmed in the draft final report	before notice of the bidding document(s)	MOT and related agencies		
9	To submit Project Monitoring Report (with the result of Detailed Design (DD))	before preparation of bidding document(s)	MOT		

Note: MOF – Ministry of Finance

MOFA – Ministry of Foreign Affairs

MIA – Ministry of Internal Affairs

MOT – Ministry of Transport

NBT – National Bank of Tajikistan

SCLMG – State Committee on Land Management and Geodesy

TC – Tax Committee

CEP – Committee on Environmental Protection under the Government of Tajikistan

During the Project Implementation

No.	Items	Deadline	In charge	Cost	Ref.
1	To issue A/P(s) to the Agent Bank in Japan for the payment(s) to the Supplier(s)	within 1 month after signing of the contract(s)	MOT/ NBT		
2	To bear the following commissions to the Agent Bank in Japan for the banking services based upon the B/A	during the Project	NBT		
	1) Advising commission of A/P	within 1 month after signing of the contract(s)	NBT		
	2) Payment commission for A/P	every payment	NBT		
3	To ensure prompt customs clearance and to assist the Supplier(s) with internal transportation in the country of the Recipient	During the Project	MOT and related agencies		
4	To accord Japanese physical persons and/or physical persons of third countries 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 country of the Recipient and stay therein for the performance of their work	during the Project	MOT/ MOFA/ MIA		
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted	during the Project	MOT/ MOF/ TC		
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	MOT		
7	1) To submit Project Monitoring Report	every month	MOT		
	2) To submit Project Monitoring Report (Final).	within one month after signing of Certificate of Completion of the Work under the contract(s)	MOT		
8	To submit a report concerning completion of the Project	within six months after completion of the Project	MOT		
9	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s)				
	1) Electricity The distributing line to the temporary site	before start of the construction	MOT and related agencies		
	2) Water Supply The city water distribution main to the temporary site	before start of the construction	MOT and related agencies		

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10	To take necessary measure for safety construction - traffic control - public notifications	during the construction	MOT and related agencies		
11	To implement Environmental Management Plan (EMP) and Environmental Monitoring Programme (EMoP)	during the construction	MOT/ CEP		
12	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction	MOT/ CEP		
13	To implement RAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program	MOT/ MOF/ CEP		
14	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report - Period of the monitoring may be extended if affected persons' livelihoods are not sufficiently restored. Extension of the monitoring will be decided based on agreement between MOT and JICA.	- until the end of livelihood restoration program (In case that livelihood restoration program is provided)	MOT		

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(3) After the Project

No.	Items	Deadline	In charge	Cost	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP	MOT/CEP		
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semi-annually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between MOT and JICA.	for three years after the Project	MOT/CEP		
3	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	MOT/MOF		

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2. Other obligations of the Government of Tajikistan funded with the Grant

No.	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct roads - Rehabilitation of Qurghonteppa – Qizilqala Road		/
2	To implement detailed design, bidding support and construction supervision (Consulting Service)		
3	Contingencies		
	Total		XXX

*The Amount is provisional. This is subject to the approval of the Government of Japan.

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Language used in each Document

No	Item	Prepared by	Language	
			Russian	English
I	PREPARATORY SURVEY STAGE			
1.	Field Survey Report	Consultant		○
2.	Draft Preparatory Survey Report (Draft Final Report) Note: Technical contents (Technical Drawings, etc.)	Consultant	○	○ (Note)
3.	Preparatory Survey Report (Final Report) Note: Technical contents (Technical Drawings, etc.)	Consultant	○	○ (Note)
II	IMPLEMENTATION STAGE			
1.	Documents for the Agreement for Consulting Services			
1.1	Agreement for Consulting Services	Consultant	○	○ (Note)
1.2	Recommendation of Consultant	JICA		○
1.3	Documents for Banking Arrangement (B/A, A/P)	Bank		○
1.4	Documents for Payment	Consultant	○	○
2.	Documents for the Contract with Contractor			
2.1	Tender Announcement	Consultant		○
2.2	Tender Documents			
	Volume I Tender Conditions and Contract	Consultant	*	○
	Part I : Instructions to Tenderers	Consultant	*	○
	Part II : Forms of Tender	Consultant	*	○
	Part III : Form of Contract	Consultant	*	○
	Volume II Specifications	Consultant	*	○
2.3	Questions and Answers to Tender Documents	Tenderer/ Consultant	○	○
2.4	Document of Submissions of Tenders	Tenderer (Contractor)		○
2.5	Tender Evaluation Report	Consultant	*	○
2.6	Contract for execution	Contractor	○	○ (Note)
2.7	Documents for Banking Arrangement (B/A, A/P)	Bank		○
2.8	Documents for Payment	Contractor	○	○
2.9	Completion Certificate	Consultant/	○	○
2.10	Technical Documents for Approval	Contractor		○

Note: (1) Language

A language used at the implementation stage shall follow the one used in the Exchange of Notes (E/N) regardless of the above table.

The English language has the priority over the translated contents.

(2) * :

Explanatory Note in Russian which are marked as "*" in above table will be prepared by Consultant. However, Tender Drawings which is included in Volume II Specifications will be only in English

【添付資料－5】 1 回目テクニカル・ノート

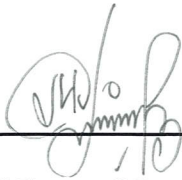
(2018 年 6 月)

TECHNICAL NOTES
ON THE PREPARATORY SURVEY
FOR THE PROJECT
FOR REHABILITATION OF KIZILKALA – BOKHTAR SECTION
OF DUSHANBE – BOKHTAR ROAD
IN THE REPUBLIC OF TAJIKISTAN

The Preparatory Survey Team commissioned to undertake the Outline Design (hereinafter referred to as “The Team”), under Japan International Cooperation Agency (JICA) conducted field surveys and review of existing documents and held several discussions with the implementing agency and other relevant agencies on the scope, basic policies and other technical aspect of “The Project for Rehabilitation of Kizilkala – Bokhtar Section of Dushanbe – Bokhtar Road in the Republic of Tajikistan”.

This note is signed between The Team and Ministry of Transport (hereinafter referred to as “MOT”) to share mutual understandings and agreement on the matters mentioned in Appendix-1.

Dushanbe, 9 June, 2018



Mr. Mirzoev S.B.
First Deputy Minister
Ministry of Transport
Republic of Tajikistan




For

Mr. Ryohei Watanabe
Chief Consultant
Preparatory Survey Team
Japan International Cooperation Agency (JICA)

1. General Items

1.1 Inception Report

The Team explained and MOT understood and agreed on the contents of the Inception Report submitted by The Team on April 12, 2018.

1.2 Consistency with Relevant Plans

The design concept of this project will ensure, to the possible extent, consistency with the concepts of the on-going ABD Phase 2 project and the Master Plan of Bokhtar City.

1.3 Objective Section

The start point of the project shall coincide with the end point of ADB's on-going Phase 2 plan. This was agreed upon after discussion between MOT, ADB, and the Team on May 10, 2018.

The coordinate system applied to this project is similar to that of the ADB section. Therefore, this project shares ADB's coordinates, and the coordinates of the start point are as given in the table below.

Table-1 Details of Start Point

Points	Coordinate in accordance with ADB drawings	Station Number
1 :Left end	X= - 4695.3214, Y=10842.8939	KM 730+50
2: Center line	X= - 4702.6324, Y=10838.5565	
3: Right end	X= - 4709.9435, Y=10834.2191	

1.4 Coordination with Relevant Authorities

The existing irrigation canals, which is under the jurisdiction of the Land reclamation and Irrigation Agency under the Ministry of Melioration and Irrigation, runs parallel to the Project Road and crosses the at several locations. Also, there are various service lines and utilities, identified as of June 4th are water pipes, telecommunication cable, electric poles and transformers, along the roads belonging to different authorities, some of which are buried. Close coordination with these stakeholders is inevitable for relocation of the utilities that may require relocation for rehabilitation of the Project Section. MOT assured it will initiate coordination with these authorities appropriately.

2. Technical Items

2.1 Road Classification

The Team confirmed that the project section is an integral part of the Asian Highway (AH7) and its classification will be determined based on future traffic volume projected for twenty (20) years after completion of the rehabilitation.

2.2 Standard and Guidelines to be Applied

Following standards/guidelines apply for planning/design of roads, structures and road ancillaries.

- (i) Highway Design: Asian Highway Standard (AH) or other equivalent
(Items not covered in the Standard will be referred from past projects carried out under Japanese Grant Aid or standards applied in the Dushanbe – Qurganteppa Road

Improvement Project finance under ADB Projects.

- (ii) Pavement Design: AASHTO Guide for Design of Pavement Structure, 1993 or other equivalent
- (iii) Bridge Design: Specifications for Highway Bridges (Japan Road Association) or other equivalent
- (iv) Structural Design (Retaining Walls, Culverts): Japanese Standard, or other equivalent
- (v) Drainage Design: Japanese Standard or other equivalent
- (vi) Street Light Design: Japanese Standard or other equivalent

2.3 Target Year

The design target year is set to year 2041 (20 years after completion of the project).

2.4 Design Speed and Restricted Speeds

- Design speed of the Project road is set in accordance with the Asian Highway Standard shown in Table-2. As the objective section is flat, the standard design speed of 100km/h will be applied.

Table-2 Proposed Design Speed

Terrain	Design Speed in km/h for Class I Road
Level (L)	100
Rolling (R)	80
Mountain (M)	60
Steep (S)	60

Source: Asian Highway Standard

- Restricted speed of 60km/h will be applied at populated areas, school areas and other areas where number of pedestrians are high. These locations as indicated below:
 - (i) KM 786 ~ KM 820 (L=3.4km)
 - (ii) KM 782 ~ KM 784 (L=0.2km)
 - (iii) KM 759 ~ KM 781 (L=2.2km)
 - (iv) KM 741 ~ KM 752 (L=1.1km)

2.5 Geometric Condition

Parameters of geometric condition to be applied for design are shown in Table-3.

Table-3 Geometric Condition

Highway classification	Class I AH Standard (4 or more lanes)			
	L	R	M	S
Terrain classification				
Design speed (km/h)	100	80	60	
Min. horizontal curve (m)	350	210	80	
Pavement slope (%)	2			
Shoulder slope (%)	3 - 6			
Type of pavement	Asphalt			
Max. vertical grade (%)	4	5	6	7

Source: Asian Highway Standard

2.6 Alignment

Horizontal and vertical alignment will be planned in accordance with the geometric conditions to be applied. In planning of the alignment attention will be paid to avoid the grave yards and minimization of environmental and social adverse impact.

2.7 Basic Cross Section Elements

The basic cross section elements are as follows;

- Number of lanes : 4 (2 lanes on each direction),
- Exclusive lanes for U-turn and left turn will be provided at standard section. Exclusive lane for right and left turning vehicles at Bokhtar Intersection shall necessarily be provided.
- Carriageway width : 3.5m (including U-turn and left turn lanes)
- Shoulder width : 2.5m
- Median width : 2.0-3.0m
- Sidewalk width : 2.25m

*Note

- (i) Typical cross sections will be designed in accordance with the basic elements mentioned above and will be shared with MOT.
- (ii) Cross section elements may vary depending on the embankment section, intersection, urban area or U-turn lane.
- (iii) For the section of 1.5km overlapped with Bokhtar City Master Plan area, total width including carriageway, shoulder and sidewalk will be 24.0m. Total width will remain same even if median (2.0m) is provided. Sidewalk will be non-mounted (flat) and its pavement structure will be the same as that of carriageway pavement, reflecting concept of the Bokhtar City Master Plan.

2.8 Design Vehicle

Vehicle to be considered for the design will be WB-19 as defined by AASHTO (Figure-1). This vehicle type covers the biggest vehicle size regulated in the Government Decree of the Republic of Tajikistan as of December 29 2006, No779 On Approving the Rules of Permit for the Vehicles with Loads and Dimensions exceeding Established Standards.

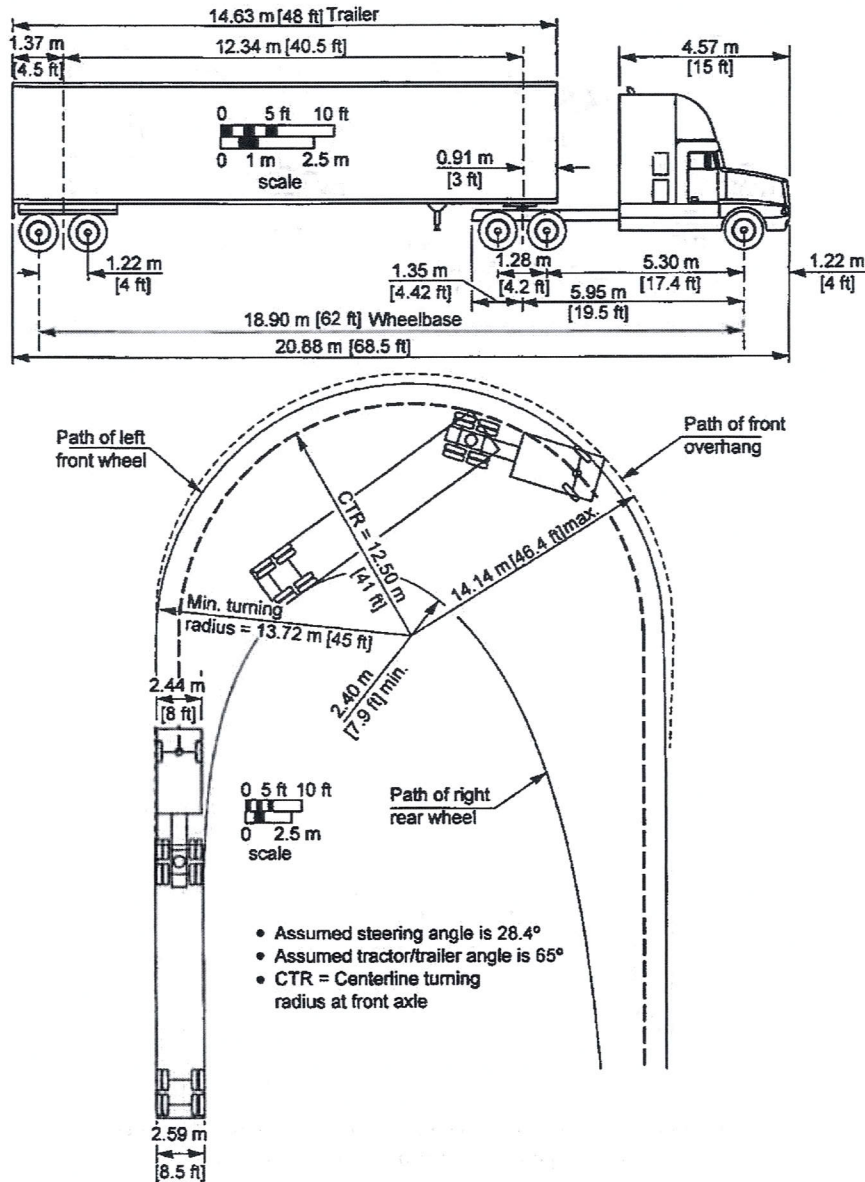


Figure-1 Design Vehicle (WB-19 defined by AASHTO)

2.9 Structures

(1) Earthwork

- Road structures (embankment), at sections other than built-up areas and at intersections, will essentially be elevated (embankment) from the existing ground height to the height of the existing surface level in order to protect the road from washout.
- Embankment slope will be in accordance with SNIIP. In principal, following slopes will be applied;
 - (i) Embankment: 1:1.5 or gentler,
 - (ii) Cut: 1:1 or steeper

(2) Bridges

Two (2) existing bridges located in KM 786+90 (Bridge No.15) and KM 805+50 (Bridge No.16) will be replaced by box culverts with allowable discharge capacity determined by runoff analysis. Design load for structural analysis shall be 100KN in accordance with SNiP.

Detailed description is as follows.

1) Bridge No.15

It will be installed near the current location considering the construction plan. Rehabilitation of the existing box culvert in the downstream of Br. No.15 is inevitable for securing sufficient cross section to allow flow of water downstream. Whether or not the rehabilitation of this culvert will be included in the project will be determined after discussion in Japan. In case that it is not capable of being carried out by Japan side, Tajikistan side shall replace or improve capacity of the box culvert to make it similar with the box culvert at the upstream side appropriately and before commencement of construction.

2) Bridge No.16

It will also be installed near the current location in consideration with the construction plan. Bokhtar City's Master Plan envisages provision of a symbolic roundabout at this location. MOT assured that there will be no impact on the replaced structure (Box culvert) of this bridge, during actual implementation of the said Master Plan.

2.10 Hydrological/Drainage Design Conditions

(1) Return Period

Return periods for calculation of design discharge at bridges and road surface drainage will be as follows;

- (i) Design discharge for bridges: 10 years
- (ii) Road surface drainage: 3 years

(2) Freeboard

Freeboard (minimum clearance between the bottom of the girders (in case of box culvert, the bottom of the top slab) and the design high water will be 1.0m.

SNiP: 2.05.03-84 Bridges and Culverts

The elevation of the bottom of the decks of buildings above the highest static level of water reservoirs at bridges, located in the non-navigational and unplanned zones of water reservoirs, should be not less than 0.75 Height of the calculated wind waves with an increase of 0.25 m.

(3) Road Surface Drainage Design

Road drainage design will be carried out on the basis of runoff analysis result. Surface drainages will be transported and discharged at existing drainage facilities or rivers/canals. MOT shall

obtain permission for draining water from road, if necessary.

(4) Drainage System in Wetland Section

Drainage system in the direction from right side to left side will be planned in the wetland section from KM 75+80 to KM 772+60 so that the area will be dry in order to protect subgrade of the planned road from the underground water.

(5) Drainage at Toe of Embankment Slope

Sections where the embankment height is lower than thickness of designed pavement structure, drainage at toe of embankment will be installed.

(6) Irrigation Facility

Existing irrigation facilities crossing the road will be basically replaced by box culverts with the same cross sectional dimensions as the existing one. However, depending on the condition at the downstream, adjustment of the dimensions shall be made after a review.

2.11 Traffic Control System

(1) Traffic Signal

Necessity for provision of traffic signals at the intersections along the project section will be determined following results of traffic analysis and further studies.

(2) Provision for Road-crossing

At-grade pedestrian crossings (Zebra crossings) is proposed in combination of rumble strips, which will be provided necessarily ahead of the pedestrian crossing for securing traffic safety by alerting drivers of the existence of crossings ahead.

(3) U-Turn Lane

U- Turn lane (exclusive lane) will be provided at an approximate interval of 3.0 km in accordance with the result of discussion with the National Traffic Police.

Design condition for U-turn lane is shown in Table-4 Design Condition for U-Turn Lane.

Table-4 Design Condition for U-Turn Lane

Item	Proposed value	Remarks
Design Vehicle (Small Vehicle)	L=6m	By using full lane and widened shoulder, it is possible even for a heavy vehicle (L=20m) to pass through.
U-Turn Lane width (Median Opening)	W=12 to 15m	
Shoulder	W=4.0m	

(4) Street Lights

Planning policy subject to installation only along densely populated area will be determined after

discussion in Japan side. In addition, where street lights will not be provided, provision of road studs/reflectors will be considered.

2.12 Type of Pavement

- Asphalt pavement will be applied.
- “Traffic Load” expressed by cumulative number of 18-kips (kilo-pound) equivalent single axle load application, which is similar to the value used in the on-going ADB project of the preceding section, will be applied.
- Other design input parameters referable from the pavement design conducted in the on-going ADB project of the preceding section, will be referred necessarily.
- Pavement design calculation will be carried out using AASHTO’s Pavement Design Guideline, 1993 or relevant SNiP (VSN).
- Performance period of pavement will be as follows;
 - (i) Surface course: 12 - 20 Years
 - (ii) Base course: 20 Years
 - (iii) Subbase course : 20 Years

2.13 Bus Bay

Bus bays will be installed at/near the current location and with consultation with MOT. Design of bus bays will be in accordance with the standards of Tajikistan.

Provision of bus shelters will be considered based on the data / information to be provided by MOT.

2.14 Longitudinal Gradient of Side Roads and Access Roads

Maximum vertical gradient to be applied at side roads and access roads will be as follows;

- (i) Side roads: 7% (Asian Highway Standard)
- (ii) Access roads: 10% (Access from community, residents/shops, farm land etc.)

3. Environmental and Social Consideration

MOT agreed to take initiative in managing environmental and social issues related to the project. MOT will take actions for obtaining necessary permissions timely. The Team takes consideration to minimize the extent of affected area and MOT shall sincerely take care of the issues of the land acquisition and resettlement.

4. Procurement and Construction Plan

4.1 Dumping Soil

The Team issued a letter on May 8, 2018, which is attached as Attachment-1, requesting to stop further dumping of soil at the depression area on the roadside as this space is likely to be used during

widening and the soil dumped is feared unsuitable as embankment material. MOT agreed on this matter.

In case dumping of soil continues further, it will have to be removed by Tajikistan side and on its own cost.

4.2 Expected Disposal Site and Temporary Yard

(1) Disposal Site

The Team specified the depression area at the left side of the road from KM 732+10 to KM 740+80 as the disposal site for this project. MOT agreed on this matter.

(2) Temporary Yard

The Team specified an area at the left side of the road from KM 737+20 to 742+10 as the temporary yard for this project. MOT agreed on this matter.

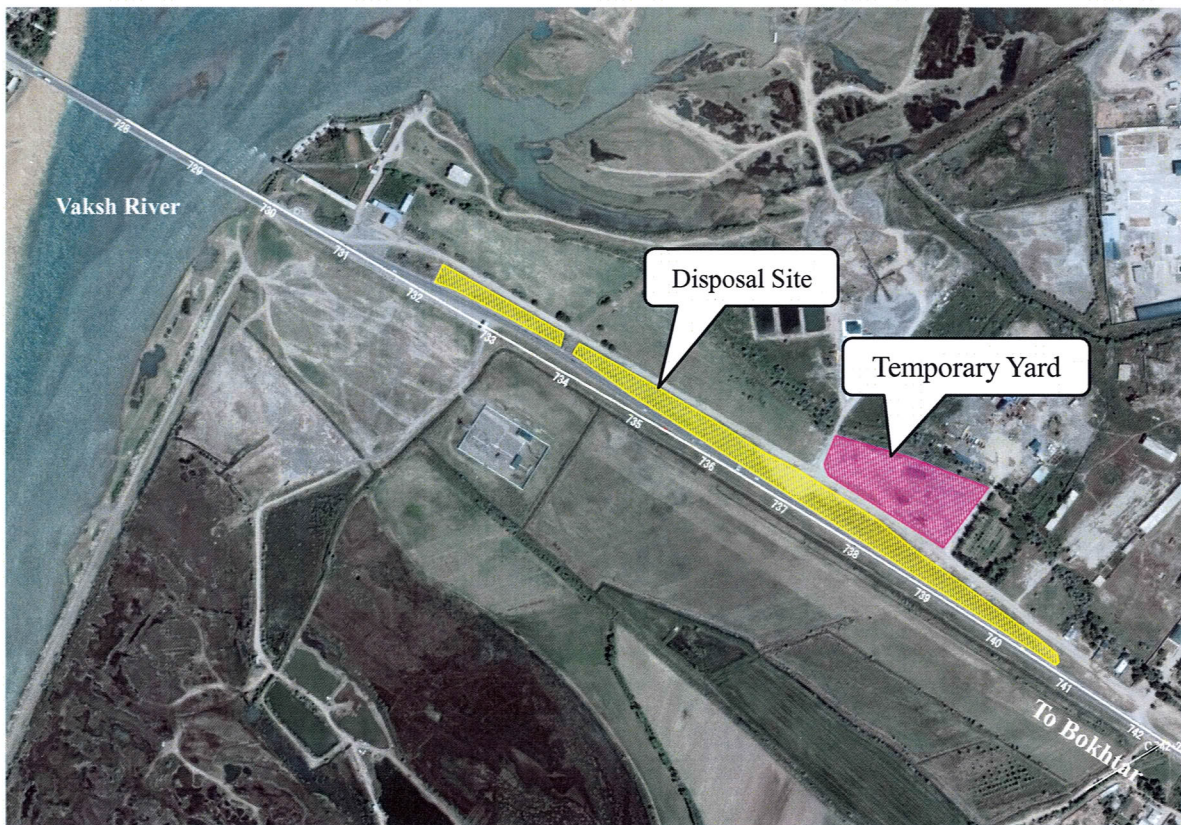


Figure-2 Location of Expected Disposal Site and Temporary Yard

4.3 Road Management during Construction

During construction stage, there will in principle be no road closures and the existing traffic lanes will be secured at all time under the following conditions.

- (i) MOT will assist the Contractor during construction period for traffic safety assurance, in cooperation with traffic police.

(ii) Restricted speed shall be 40km/h or more.

5. Relevant Documents

Letters and minutes of meetings conducted with relevant authorities are attached hereunder.

Attachment-1: Request Letter to Bokhtar SETM on Dumping Soil on the Roadside

Attachment-2: Minutes of Meeting with Bokhtar City Government

Attachment-3: Minutes of Meeting with National Traffic Police Department

Attachment-4: Russian translation of Technical Notes

Attachment-1: Request Letter to Bokhtar SETM on Dumping Soil on the Roadside



ハトロン州 STAM 所長 殿

2018年5月8日
タジキスタン国 クルガンチュベークギルカラ間道路改修計画準備調査
JICA 調査団 チーフコンサルタント 渡邊 亮平

Subject : バクシュ川周辺の道路沿道への廃材・残土埋め立てについて

拝啓

現地調査でバクシュ川周辺の低地、STA.745+60 付近の低地（右側）及び STA.768+20 付近の低地（右側）（次頁写真参照）が廃材・残土で埋め戻しが実施されていることを確認しております。当該箇所は、道路拡幅が予定される場所であり、今後廃材・残土による埋め戻しは将来の道路建設に支障をきたします。

ついでに、埋め戻しを管轄するハトロン州交通局に対し、今後当該箇所への埋め戻し作業を中止していただくよう通知ねがいます。

なお、今後埋め戻しが継続された場合、撤去に係る費用はタジキスタン国側の負担となることとなります。

敬具

CC: MOT ソリム
JICA タジキスタン事務所 田邊所長



Начальнику
Управления автомобильного хозяйства по Хатлонской области
САРДОРУ Файзуллозода Н.Ф.

8 мая 2018 года
Подготовительное Исследование по
Проекту реабилитации участка Кизилкала – Бохтар
автодороги Душанбе - Бохтар
Исследовательская Группа JICA
Главный Консультант Ръёхей ВАТАНАБЕ

Относительно: Выброса отходов и остаточного грунта вдоль дороги вблизи р. Вахш

Уважаемый САРДОР Файзуллозода,

В ходе проведения полевых работ Исследовательская Группа выясняла, что в настоящее время идет засыпка кювета автодороги в начале проектного участка со стороны р. Вахш, а также на км 745+60 с павой стороны и км 768+20 с правой стороны. Для наглядности указанные участки отражены в Приложении на трех листах.

Поскольку указанный участок запланирован под расширение автодороги, дальнейшая засыпка кювета отходами и остаточным грунтом может создать помехи при строительстве дороги в будущем.

В связи с этим прошу Вас оповестить Отдел транспорта и другие соответствующие отделы Хукумата Хатлонской области, которые курируют данный вопрос, о необходимости приостановления процесса засыпки.

В случае, если процесс засыпки будет продолжен, расходы на расчистку участка будут покрываться за счет Таджикистанской стороны.

С уважением,

Ръёхей ВАТАНАБЕ

Копия: Олим Ятимов, Начальник Отдела по работе с иностранными инвестициями
Г-н ТАНАБЕ, Глава Представительство JICA в Республике Таджикистан