３．第３章（洪水対策の現状）の関連資料

3.1 チュニジアにおける水利用分野に関するドナーの活動

(1)世界銀行

世銀は現在まで様々なタイプの援助をチュニジアに行ってきた。水分野でもっとも大きな援助は飲料水供給と上下水道網整備である。これまで実施された主要なプロジェクトは以下のとおりである。

プロジェクト名	実施期間	コスト	事業内容
チュニス都市圏における上下水道網および廃水再利用プロジェクト	1997-2005	1億700万米ドル	チュニジア水道公社と農業・水資源・漁業省(MARHP)がサービス向上を目的として、下水網補強と廃水再利用設備建設。
水セクター投資プロジェクト､水セクター投資計画I(PISEAU1)	2000-2007	2億5800万米ドル	農業・水資源・漁業省(MARHP)が水資源保護と環境保全を目的として水資源総合管理システムを構築。世銀(1 億 300 万米ドル)と KfW(1750 万米ドル)の共同出資(註：水セクター投資計画II(PISEAU II)、AfDB 参照)
飲料水･上下水道網プロジェクト	1994-2003	1億1090万米ドル	水資源開発公社（SONEDE）とチュニジア水道公社(ONAS)のニーズを管理し、その管理能力を強化。
北西地方開発プロジェクト	1993-2001	5070万米ドル	主要目的は貧困対策及び自然環境破壊対策。農業生産高改善による収入増加、農業地帯の土壌侵食対策、貯水池の沈殿物削減。
都市部飲料水供給プロジェクト	2005-2012	4715万米ドル	水資源開発公社(SONEDE)がチュニスおよびその他の大都市の飲料水供給システム改善を目的に実施。
チュニス西部地区上下水道網整備プロジェクト	2006-2011	7190万米ドル	チュニス水道公社(ONAS)がチュニス西部地区の下水網整備を目的として実施。
第2回上下水道セクタープロジェクト	2009-2015	1億6295万米ドル	飲料水の需要増大および水資源の減少に対処することを目的としたプロジェクトで、農村地帯における飲料水へのアクセスを改善。AFD と AfDB との共同出資。
チュニス北部地区廃水処理プロジェクト	2010-2015	6860万米ドル	チュニス北部地区における廃水処理量を増やし、再利用を容易に行えるようにすることが目的。

(2)ドイツ国際協力公社(GIZ)

1975年以来チュニジアに対する援助を行っており、現在、この機関は経済成長と環境保全に力を入れている。GIZ は1995年から2004年にかけて GEORE という水管理のための大規模プロジェクトを農業省の主管により実施した。以下のプロジェクトが現在実施中である。

プロジェクト名	事業内容
水資源総合管理のための AERE(水資源の効果的行政)プロジェクト	GEORE プロジェクトから派生したもの。
アルジェリア国境地帯における水利計測プロジェクト	NEPAD 資金で実施されており､チュニジア側の水質と水量を観測。
PISEAU(水セクター投資計画)プロジェクト	主な目的はメジェルダ川流域における気象水利測候所の新規建設。AFD、世界銀行、GITZ、その他の機関による共同出資。

(3)フランス開発機構(AFD)

フランス開発機構(AFD)は1992年以来チュニジアで活動を行っており、特に農村飲料水と上下水道を含む水利用分野に重点を置いている。AFD が水利用分野へ出資した累計金額は2億4400万ユーロにのぼる。最近は年間3500万から4000万ユーロの割合で融資を行っている。

1)農村飲料水分野

フランス開発機構(AFD)は1998年以来、以下の事業を実施している。

プロジェクト名	実施時期	コスト	事業内容
国の保証による水資源開発公社(SONEDE)に対する直接融資によるサヘル[2]およびスファックス地方の飲料水安定供給	2001	2500 万ユーロ	ベリ[3]～スース[4]間の送水容量が 2 倍になり、複数の貯水池が建設されたことで、ピーク時期における南部地方の水消費を安定化することが可能となった。
補助金で返還される融資による農村部における飲料水供給 第 1 回プロジェクト	1998-2004	1900 万ユーロ	(第 9 次農村部飲料水供給) 農村部住民 168,000 人に対しても飲料水を供給することができるようになった。農村部における供給率は 1999 年 4 月の 75%から 83.3%になった。
同上 第 2 回プロジェクト	2003-2009	3300 万ユーロ	(第 10 次農村部飲料水供給) 住民 124 000 人に対して飲料水を供給するという目標のもとに、第 10 次計画の一環として継続された。
同上 第 3 回プロジェクト	2008-2014	2140 万ユーロ	(第 11 次農村部飲料水供給)
水セクター投資計画 第 1 フェーズ(PISEAU 1)	2002-2007		AFD、世銀、KfW による共同出資。
同上 第 2 フェーズ(PISEAU 2)	2009-2013	1.023 億ユーロ	AfDB が1922万ユーロ、世銀が3100万米ドル、AFD が6100万米ドルを出資している。このうち、「農村部飲料水供給」コンポーネントの費用は3176万ユーロであり、灌漑整備は5746万ユーロ。

2)上下水道分野

フランス開発機構(AFD)によるチュニジア水道公社(ONAS)への資金供与は、農村部へ拡大する低所得者層居住地区の上下水道整備と既存設備の改修および拡張を目的として、以下の事業を実施している。

a) 低所得者層居住地区上下水道整備国家計画(PNAQP)

社会経済開発のための国家計画に引き続いて 1989-2013 の期間で実施されている。最終的には 1008 地区に上下水道網が整備され、208,000 世帯 140 万人の住民が裨益することになる。これら投資計画では、総額 TND2 億 4500(1 億 3400 万ユーロ)が動員される。実施中の計画には 15 村落における上下水道整備パイロット計画が含まれる。

b) 改修および拡張のため計画

飽和状態になった廃水浄化場と上下水道網の改修の必要性に対応するものであり、次の 2 事業より構成されている。

[2] Sahel
[3] Belli
[4] Sousse

	対象事業	内容
1	上下水道容量増大のための施設整備	2007～2012 の期間について、8000 万ユーロの融資が合意された。
2	上下水道容量増大のための廃水浄化施設(STEP)整備	2008 年 12 月に、フランス開発機構(AFD)国家委員会によって KfW と欧州委員会近隣諸国投資制度による共同出資 1850 万ユーロの融資が承認された。

c) 企業の汚染除去設備設置のために使われる融資の金利を引き下げ

2007 年に企業の汚染除去設備設置のために使われる融資の金利を引き下げるため、KfW と欧州委員会と連携して、チュニジアの 3 銀行に対して 4000 万ユーロの環境融資枠を設けた。これら融資は、企業活動による環境(水、大気、廃棄物)への影響を抑えるための投資を民間企業に促すことを目的とする汚染除去基金 FODEP を補うものとなる[5]。

3)パートナーとしてのチュニジア政府機関支援

フランス開発機構(AFD)は水資源の総合管理にかかわる主要な3パートナーを次のように支援している。

a)農業省

AfDB と世界銀行との共同出資による水セクター投資計画(PISEAU) (4500万ユーロ) への出資と流域管理計画 (4000万ユーロ) への出資により、農業省(MA)を支援する。これらの計画は、農業用水供給とその効果改善、水資源状況のモニタリング、国内の悪影響を受けやすい流域の保全を目的とする。

b) チュニジア水道公社(ONAS)

庶民居住地区の上下水道整備のための国家計画と、上下水道網拡張および改修のための国家計画の枠内でチュニジア水道公社(ONAS)を支援する。

c) 水資源開発公社(SONEDE)

農村部飲料水網整備と水資源開発公社(SONEDE)の生産能力強化のための国家計画を通して水資源開発公社(SONEDE)を支援する。

4) フランス世界環境基金(FFEM)の役割

フランス世界環境基金(FFEM)の役割も注目すべきである。これはフランス開発機構(AFD)が事務局を務め、節水型農業とシステムの保全を目的とする。

(4)アフリカ開発銀行（AfDB）

アフリカ開発銀行(AfDB)は、チュニジアにおいて様々な事業に出資してきた。水利用分野では以下のような状況である。

1)水セクター投資計画事業の第2フェーズ（PISEAU II）

2009年にスタートし、5年の予定で実施中である。総事業費用が1億230万ユーロであるが、そのうち AfDB が1922万ユーロを出資している。

2)チュニジアにおける水需要の長期的展望に基づく「EAU 2050」プロジェクト

この長期的戦略は水セクター投資計画 II(PISEAU II)と関連付けられ、水不足解消のため

5 出所：AFD 資料：チュニジアの水部門：課題と教育

に国が必要とする技術、資金、人材、制度の問題と取り組むための機会になると考えられる。プロジェクト実施期間は3年で、総コストは152万ユーロと見積もられた。そのうちの78%をアフリカ水制度(the African Facility for Water)が出資する。主な実施内容は以下のとおりである。

a)実施の枠組みの作成

b)2050 年の展望と戦略の策定

c)業務指示書（TOR）、マスタープラン、アクションプランの作成

d)プロジェクト管理

(5)ヨーロッパ基金

チュニジアではヨーロッパ投資銀行(EIB/BEI)と近隣諸国投資制度(FIV、英語で NIF)の2つのヨーロッパ基金が活動している。

1) ヨーロッパ投資銀行(EIB/BEI)

ヨーロッパ投資銀行(BEI)は以下のような事業を対象に融資を実施した。

	対象事業	融資時期	融資金額
1	サヘルおよびスファックス東部の沿岸地域における飲料水供給のための 3 つのプロジェクト（水資源開発公社(SONEDE)）	2001	9500 万ユーロ
2	プロジェクト目標は各都市における廃水集水処理プロジェクト「ONAS4」	2006	9000 万ユーロ

2) 近隣諸国投資制度(NIF/FIV)

近隣諸国投資制度(FIV)はヨーロッパ近隣諸国政策(PEV)の一環として、2008年5月にスタートした出資制度である。これは EU の近隣諸国の運輸、エネルギー、環境、社会事業などの部門においてキーとなるインフラ事業へ無償あるいは有償の融資を行うこと、また民間部門(特に中小企業)の発展を促すことを目的とする。主なプロジェクトを実施された時期ごとにまとめると以下のようになる。

対象事業	実施時期	金額	内容
19か所の浄化場と130か所の揚水場の改修と拡張	2008～2009	800万ユーロ (無償資金協力)	水質と環境が汚染から保護され、住民の生活環境が改善されることを目標とした事業である。(註：プロジェクトリーダー機関：KfW、その他の出資機関：AFD、全事業費は1億2780万ユーロ)

(詳細：http://ec.europa.eu/europeaid/where/neighbourhood/regionalcooperation/irc/investment_fr.htm)

(6)アラブ社会経済開発基金(FADES)

ダム建設については、アラブ社会経済開発基金(FADES)が多額の資金を提供している。具体的な事業は以下のとおりである。

	対象事業	実施時期	出資金額
1	総合計容量 7700 万 m^3 の 6 つの大規模ダム（ルミル、ブレック[6]、エル・フマ[7]、エル・アビド[8]、ゼルガ[9]、スフィシファ[10]）建設	2000 ～ 2006	1 億 2000 万米ドル
2	総合計容量 117 Mm^3 の別の 6 つの大規模ダム（ガムグム[11]、エル・ハルカ[12]、メラ[13]、ティネ[14]、ドゥイミス[15]、ズィアティヌ[16]）建設	2002 ～ 2011	

出典：アフリカにおける農業とエネルギーのための水に関する高官会議

(7)国際協力機構（JICA）

有償資金協力として、2011年に地方都市給水網整備事業計画の実施について LA が締結された。また無償資金協力として、2009年に南部地方地下水淡水化計画の交換公文が締結された。

この他、これまでに2006年にジェンドゥーバ地方給水事業、2003年に北部地域導水事業、についてそれぞれ LA が締結されている。

地方都市給水網整備事業計画	水資源開発公社（SONEDE）	2011年 LA	6,094億円	有償資金協力
チュニジア全国の地方都市の既存給水施設、計32ヵ所を改善することにより、将来の水需要に対応する供給能力の向上、安定性の向上を図り、もって地域経済の活性化、地域住民の生活環境改善に寄与するもの。チュニジア全国における既存給水施設の改修・拡張のための土木工事、資機材調達が実施される。				
南部地方地下水淡水化計画		2009年 LA	10億円	無償資金協力
水不足の著しいチュニジア南部の都市ベン・ゲルデェーヌ地区に安定した水供給を確保するため、同地区で揚水される塩分濃度の高い地下水を逆浸透膜で淡水化するプラントを建設する。				
ジェンドゥーバ地方給水事業	農業省	2006年 LA	54.12億円	有償資金協力
チュニジア国内で最も給水率の低い北西部地域の農村部において導水網や排水網等の給水を整備するものであり、同地域の水へのアクセスの改善により住民の生活環境を向上及び地域経済の活性化を促すことを目的としている。本件に係る貸付資金は給水施設建設及び関連資機材の調達（ポンプ、排水管等）費用に充当される。				
北部地域導水事業		2003年 LA	80.26億円	有償資金協力
チュニジアの首都チュニスを中心とした、大チュニス首都圏及び周辺地域への良質な飲料水、工業用水、灌漑用水の供給を図るため、同国北部にて実施する、導水管敷設（総延長約90km）、既存ポンプ施設の拡張に必要な資金を供与するものである。本事業の実施により、給水人口が440万人（2002年）から560万人（2010年）に向上することが見込まれる。				

[6] Breck
[7] El Hma
[8] El Abid
[9] Zerga
[10] Sfisifa
[11] Breck
[11] El Hma
[11] El Abid
[11] Zerga
[11] Sfisifa
[11] Gamgoum
[12] El Harka
[13] Melah
[14] Tine
[15] Douimis
[16] Ziatine

4 第 6 章（橋梁の基本設計）の関連資料

4.1 現況橋梁諸元

No.	Bridge Name	Channel		Route	Bridge Length	Bridge Width	Remarks
		Name	Distance				
1	K.LANDAOUS BRIDGE	Medjerda	4.664	Rue Sadok Belhadi	19.600	8.750	
2	TOBIAS BRIDGE	Medjerda	10.828	MC50	87.400	10.500	
3	TOBIAS OLD BRIDGE	Medjerda	10.836	MC50	81.400	5.100	New bridge and location of piers do not match up
4	GP8 BRIDGE OVER OUED MEJERDA	Medjerda	13.728	GP8	145.200	9.040	
5	A4 MOTORWAY BRIDGE	Medjerda	16.017	MOTORWAY A4	126.500	14.500	
6	FOOTBRIDGE	Medjerda		Sidewalk	60.000	1.200	Wooden suspension bridge
7	WATER PIPE BRIDGE	Medjerda	34.440	Water supply	-	5.540	
8	JEDEIDA RAILWAY OLD BRIDGE	Medjerda	37.848	RAILWAY	60.500	4.160	New bridge and location of piers do not match up
9	JEDEIDA RAILWAY BRIDGE	Medjerda	37.834	RAILWAY	63.000	10.000	Girders show evidence of afflux from flooding
10	JEDEIDA BRIDGE	Medjerda	41.071	RVE507	87.200	12.000	
11	JEDEIDA OLD BRIDGE	Medjerda	41.091	RVE507	64.500	5.600	Historical bridge over narrow channel
12	JEDEIDA BRIDGE ON GP7	Medjerda	41.926	GP7	73.600	11.300	
13	EL BATTAN BRIDGE	Medjerda	53.111	MC64	94.070	8.500	Historical bridge
14	TEBOURBA IRRIGATION CANALS BRIDGE	Medjerda	56.899	IRRIGATION CANALS	125.000	5.540	
15	GP7 BRIDGE ON CHAFUROU	Chafurou		GP7	38.200	11.000	Bridge abutments located in flood channel
16	GP7 OLD BRIDGE ON CHAFUROU	Chafurou		GP7	-	-	New bridge and location of piers do not match up
17	EL H'BIBIA BRIDGE	Chafurou		Local Road	16.900	8.140	
18	Bridge on the local road	Mabtouh		Local Road	20.700	5.700	
19	FARM BRIDGE ON Driving CHANNEL	Mabtouh		Farm Road	-	-	Bridge for small farm road
20	FARM BRIDGE ON Driving CHANNEL	Mabtouh		Farm Road	-	-	Bridge for small farm road
21	FARM BRIDGE	Mabtouh		Farm Road	-	-	Bridge for small farm road
22	MC50 EL MABTOUH BRIDGE	Mabtouh		MC50	20.460	14.610	
23	FARM BRIDGE ON Oued Mabtouh	Mabtouh		Farm Road	-	-	Bridge for small farm road
24	A4 BRIDGE OVER Mabtouh	Mabtouh		MOTORWAY A4	52.600	14.000	
25	FARM BRIDGE ON Oued Mabtouh	Mabtouh		Farm Road	-	-	Bridge for small farm road
26	FARM BRIDGE ON Oued Mabtouh	Mabtouh		Farm Road	-	-	Bridge for small farm road
27	GP8 BRIDGE AND ROAD OVER Mabtouh	Mabtouh		GP8	36.500	9.900	
28	FARM BRIDGE ON Oued Mabtouh	Mabtouh		Farm Road	-	-	Bridge for small farm road
29	FARM BRIDGE ON Oued Mabtouh	Mabtouh		Farm Road	-	-	Bridge for small farm road

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

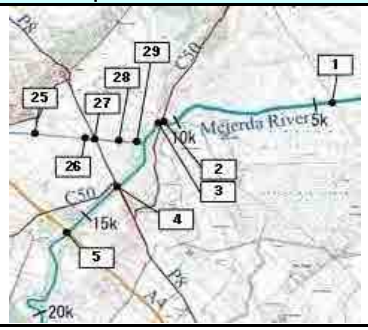
Basics

No. Name	1. K.LANDAOUS BRIDGE	Maximum span	6.20 (m)	Verification digit margin	
		Total width	8.75 (m)	NG	
Route Name	RueSadok Belhadi	Effective width	8.20 (m)	Plan for renovation	
Location	QaL'at al Andalus	Planar shape	right bridge	☐ No measures	
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish	
Structure format	Reinforced concrete box culvert	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	5 (substructures)	☐ Improvement	
Bridge length	19.6 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	4 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	Surrounding environment: Purpose	Arable land	☐ Excavation	
Intersection property: distance	4.664 (km)	Surrounding environment: Detour	No	■ widening	
Intersection property: H.W.L (NGT)	10 years 3.67	Historical value	No	☐ banking	
	100 years 6.20	Road surface	1.93 (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 660	Lower surface of the deck	1.33 (NGT)	☐ Other	
	100 years 780	Margin	-2.34 (m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	■ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	■ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	■ Full	☐ Other
Superstructure: Main girder	The number of girder	1	Height (m)	0.30	
Superstructure: Angle	Skew (deg.)	73	Crossing (deg.)	-	
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	■ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Peir: Width of Pillar (m)	Longitudinal	0.37	Transverse	unknown	
Peir: Height (m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	■ Other		
Abutment: Height (m)	Parapet	-	Wall	-	
Abutment: Width of abutment (m)	unknown				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	無し	

Construction Overview

1. Widening channel & Reconstruction

Other Important Issues

冠水橋のため架け替え

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

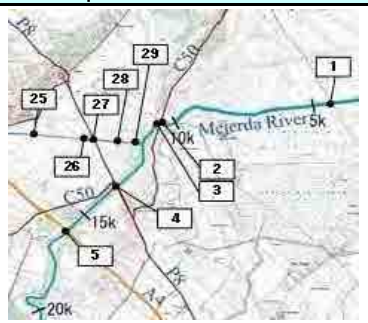
Basics

No. Name	2. TOBIAS BRIDGE	Maximum span	29.10 (m)	Verification digit margin	
		Total width	10.50 (m)	OK	
Route Name	MC50	Effective width	9.80 (m)	Plan for renovation	
Location	El Kantara	Planar shape	right bridge	■ No measures	
Year of const.	2011	Type of pavement	Asphalt	□ Demolish	
Structure format	Precast I-girders with on-site concrete slab 3 isostatic spans	Pavement thickness	90.00 (mm)	□ Reconstruction	
		Substructures	4 (substructures)	□ Improvement	
Bridge length	87.4 (m)	Purpose of the bridge	Main road	□ Other	
Spans	3 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
Intersection property: distance	10.828 (km)	environ: Detour	No	□ widening	
Intersection property: H.W.L (NGT)	10 years 7.09	Historical value	No	□ banking	
	100 years 9.85	Road surface	12.43 (NGT)	□ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 660	Lower surface of the deck	9.68 (NGT)	□ Other	
	100 years 1100	Margin	2.59 (m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	■ PC	□ RC	□ Metal	□ Composite	□ Stone
Superstructure: Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Superstructure: Cross-sectional shape	■ I beam	□ T beam	□ Box/Hollow	□ Full	□ Other
Superstructure: Main girder	The number of girder	4	Height (m)	1.80	
Superstructure: Angle	Skew (deg.)	90	Crossing (deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Peir: Form	□ Single column	□ Bearing wall	■ Pile bent	□ Rahmen	□ Other
Peir: Width of Pillar (m)	Longitudinal	φ1.0	Transverse	φ1.0×3	
Peir: Height (m)	Pier	8.55	beam	1.20	
Abutment: Material	■ RC	□ Stone	□ Other		
Abutment: Form	■ Inverted T type	□ Gravity type	□ Other		
Abutment: Height (m)	Parapet	2.26	Wall	1.20	
Abutment: Width of abutment (m)	10.50				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	Nothing	

Construction Overview

1. Excavation & Corrosion measures

Other Important Issues

2011架設の新設橋である。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

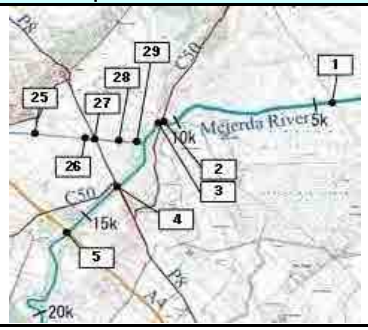
Basics

No. Name	3. TOBIAS OLD BRIDGE	Maximum span	15.20 (m)	Verification digit margin	
		Total width	5.10 (m)	unknown	
Route Name	MC50	Effective width	3.60 (m)	Plan for renovation	
Location	El Kantara	Planar shape	right bridge	☐ No measures	
Year of const.	Berore 1948	Type of pavement	Concrete	☐ Demolish	
Structure format	Girder type reinforcrd concrete bridge with 5 spans	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	6 (substructures)	☐ Improvement	
Bridge length	81.4 (m)	Purpose of the bridge	Nonuse	☐ Other	
Spans	5 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	10.836 (km)	Detour	No	☐ widening	
H.W.L (NGT)	10 years 7.10	Historical value	No	☐ banking	
	100 years 9.85	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 660	Lower surface of the deck	unknown (NGT)	☐ Other	
	100 years 1100	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	■ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder	2	Height(m)	3.30	
Angle	Skew(deg.)	90	Crossing(deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	■ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal	0.50	Transverse	5.10	
Height(m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Form	■ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	5.10				

Location map



Deterioration & damage	Condition	Not good
Main Deterioration	路面のひび割れ、滞水、鋼製高欄の劣化	

Construction Overview

1. Demolish

Other Important Issues

①桁下に添架管有り(未使用)。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

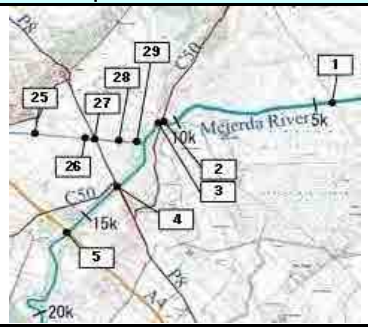
Basics

No. Name	4. GP8 BRIDGE OVER OUED MEJERDA	Maximum span	16.10 (m)	Verification digit margin	
		Total width	9.04 (m)	OK	
Route Name	GP8	Effective width	8.50 (m)	Plan for renovation	
Location	El Kantara	Planar shape	skew bridge	☐ No measures	
Year of const.	Berore 1973	Type of pavement	Asphalt	☐ Demolish	
Structure format	9 isostatic reinforced concrete spans	Pavement thickness	90.00 (mm)	■ Reconstruction	
		Substructures	10 (substructures)	☐ Improvement	
Bridge length	145.2 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	9 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	13.728 (km)	Detour	No	☐ widening	
H.W.L (NGT)	10 years 8.54	Historical value	No	☐ banking	
	100 years 11.40	Road surface	12.38 (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 660	Lower surface of the deck	10.11 (NGT)	☐ Other	
	100 years 600	Margin	1.57(m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	■ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder	2	Height(m)	3.30	
Angle	Skew(deg.)	75	Crossing(deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	■ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal	0.60	Transverse	0.6×2	
Height(m)	Pier	unknown	beam	unknown	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	■ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	8.20				

Location map



Deterioration & damage	Condition	Not good
Main Deterioration	支間中央の曲げひびわれ、支点付近のせん断ひびわれ、コンクリート剥離、鉄筋露出、鋼材腐食	

Construction Overview

1. Excavation
2. Reconstruction(1.のみでは困難の場合)

Other Important Issues

①劣化･損傷程度が大きい。
②交通量が多く、架け替え時は仮橋が必要。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

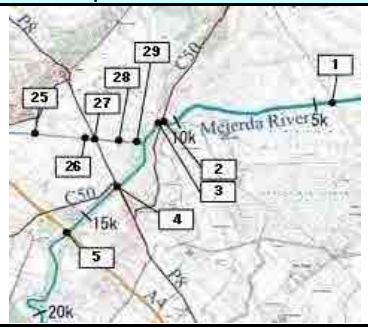
Basics

No. Name	5. A4 MOTORWAY BRIDGE	Maximum span	22.50 (m)	Verification digit margin	
		Total width	14.50 (m)	OK	
Route Name	MOTORWAY A4	Effective width	14.00 (m)	Plan for renovation	
Location	El Kantara	Planar shape	skew bridge	■ No measures	
Year of const.	2002	Type of pavement	Asphalt	□ Demolish	
Structure format	6 isostatic reinforced concrete spans	Pavement thickness	unknown (mm)	□ Reconstruction	
		Substructures	7 (substructures)	□ Improvement	
Bridge length	126.5 (m)	Purpose of the bridge	MOTORWAY	□ Other	
Spans	6 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	16.017 (km)	Detour	No	□ widening	
H.W.L (NGT)	10 years 9.69	Historical value	No	□ banking	
	100 years 12.05	Road surface	13.98 (NGT)	□ Removal of sediment	
Discharge (m^3/sec)	10 years 660	Lower surface of the deck	11.98 (NGT)	□ Other	
	100 years 600	Margin	2.29 (m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	■ PC	□ RC	□ Metal	□ Composite	□ Stone
Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Cross-sectional shape	■ I beam	□ T beam	□ Box/Hollow	□ Full	□ Other
Main girder	The number of girder	14	Height (m)	1.80	
Angle	Skew (deg.)	78	Crossing (deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Form	□ Single column	□ Bearing wall	■ Pile bent	□ Rahmen	□ Other
Width of Pillar (m)	Longitudinal	φ2.0	Transverse	φ2.0×4	
Height (m)	Pier	unknown	beam	unknown	
Abutment: Material	■ RC	□ Stone	□ Other		
Form	■ Inverted T type	□ Gravity type	□ Other		
Height (m)	Parapet	2.10	Wall	unknown	
Width of abutment (m)	12.00				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	1999-2002架設の新橋のため、損傷なし。	

Construction Overview

1. Excavation

Other Important Issues

①1999-2002架設
②上下線分離の橋梁である。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

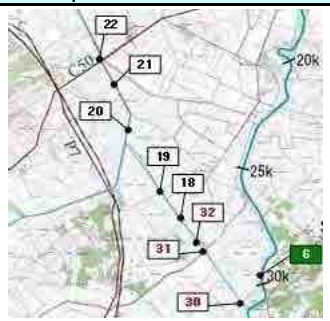
Basics

No. Name	6. SOUTHERN FOOTBRIDGE	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Sidewalk	Effective width	unknown (m)	Plan for renovation	
Location	Sidi Thabet	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	No pavement	■ Demolish	
Structure format	Simple footbridge？	Pavement thickness	0.00 (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Side Walk	☐ Other	
Spans	unknown (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	No	☐ widening	
H.W.L (NGT)	10 years 17.51	Historical value	No	☐ banking	
	100 years 19.40	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 660	Lower surface of the deck	unknown (NGT)	■ Other	
	100 years 950	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

No measures

Other Important Issues

おそらく単純桁で再利用不可のため、詳細調査は不要、橋長、幅員の計測のみ

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

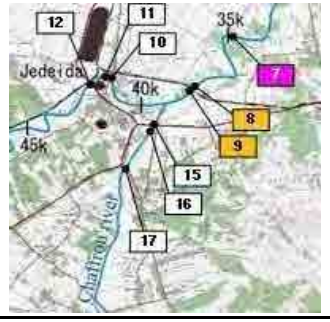
Basics

No. Name	7. WATER PIPE BRIDGE	Maximum span	unknown (m)	Verification digit margin	
		Total width	5.54 (m)	unknown	
Route Name	Water supply	Effective width	unknown (m)	Plan for renovation	
Location	Jedeida	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	–	☐ Demolish	
Structure format	Pipe Bridge	Pavement thickness	– (mm)	☐ Reconstruction	
		Substructures	6 (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Irrigation Canals	■ Other	
Spans	5 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	34.44 (km)	Detour	No	☐ widening	
H.W.L (NGT) 10 years	17.79	Historical value	No	☐ banking	
100 years	20.20	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec) 10 years	860	Lower surface of the deck	unknown (NGT)	☐ Other	
100 years	950	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	■ Metal	☐ Composite	☐ Stone
Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	■ Other
Main girder	The number of girder	3	Height(m)	unknown	
Angle	Skew(deg.)	90	Crossing(deg.)	–	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	■ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal	unknown	Transverse	unknown	
Height(m)	Pier	unknown	beam	unknown	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Form	■ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	unknown				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	特になし	

Construction Overview

Excavation

Other Important Issues

3連の水管橋である。左岸側橋台位置は各々異なる。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

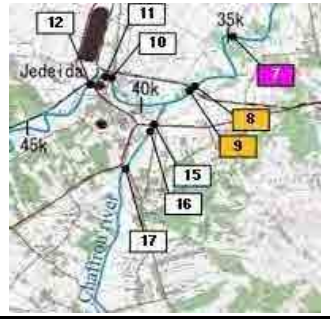
Basics

No. Name	8. JEDEIDA RAILWAY OLD BRIDGE	Maximum span	30.25 (m)	Verification digit margin	
		Total width	4.16 (m)	unknown	
Route Name	RAILWAY	Effective width	4.00 (m)	Plan for renovation	
Location	Jedeida	Planar shape	right bridge	☐ No measures	
Year of const.	More than 50 years ago	Type of pavement	–	■ Demolish	
Structure format	2 spans continuous steel truss girder	Pavement thickness	0.00 (mm)	☐ Reconstruction	
		Substructures	3 (substructures)	☐ Improvement	
Bridge length	60.5 (m)	Purpose of the bridge	Nonuse	☐ Other	
Spans	2 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	37.848 (km)	Detour	No	☐ widening	
H.W.L (NGT)	10 years 19.28	Historical value	No	☐ banking	
	100 years 22.65	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 860	Lower surface of the deck	unknown (NGT)	☐ Other	
	100 years 950	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	■ Metal	☐ Composite	☐ Stone
Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	■ Other
Main girder	The number of girder	2	Height(m)	unknown	
Angle	Skew(deg.)	90	Crossing(deg.)	–	
Peir: Material	☐ RC	☐ Metal	☐ Composite	■ Stone	☐ Other
Form	☐ Single column	■ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal	2.28	Transverse	6.50	
Height(m)	Pier	unknown	beam	unknown	
Abutment: Material	☐ RC	■ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	■ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	6.00				

Location map



Deterioration & damage	Condition	Not good
Main Deterioration	①鋼材腐食	

Construction Overview

Demolish

Other Important Issues

①鋼2径間連続下路式トラス橋である。
②桁側面(上流側)に添架管有り。
③鉄道は2011年に新橋に移設済み。
④新設とスパン長が異なり、流下を阻害している。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

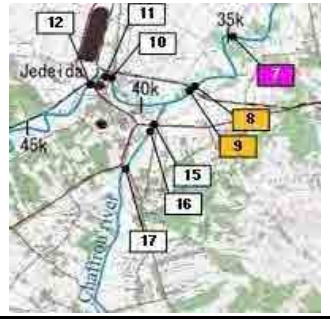
Basics

No. Name	9. JEDEIDA RAILWAY BRIDGE	Maximum span	21.00 (m)	Verification digit margin	
		Total width	10.00 (m)	NG	
Route Name	RAILWAY	Effective width	9.40 (m)	Plan for renovation	
Location	Jedeida	Planar shape	right bridge	■ No measures	
Year of const.	1982	Type of pavement	ballast	□ Demolish	
Structure format	3 isostatic spans reinforced concrete section	Pavement thickness	30.00 (mm)	□ Reconstruction	
		Substructures	4 (substructures)	□ Improvement	
Bridge length	63 (m)	Purpose of the bridge	Railway	□ Other	
Spans	3 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	37.834 (km)	Detour	No	□ widening	
H.W.L (NGT) 10 years	19.27	Historical value	No	□ banking	
H.W.L (NGT) 100 years	22.65	Road surface	21.00 (NGT)	□ Removal of sediment	
Discharge (m^3/sec) 10 years	860	Lower surface of the deck	19.20 (NGT)	□ Other	
Discharge (m^3/sec) 100 years	950	Margin	-0.07(m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	■ PC	□ RC	□ Metal	□ Composite	□ Stone
Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Cross-sectional shape	□ I beam	■ T beam	□ Box/Hollow	□ Full	□ Other
Main girder	The number of girder	4	Height(m)	1.70	
Angle	Skew(deg.)	90	Crossing(deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Form	□ Single column	■ Bearing wall	□ Pile bent	□ Rahmen	□ Other
Width of Pillar(m)	Longitudinal	1.00	Transverse	10.00	
Height(m)	Pier	9.60	beam	-	
Abutment: Material	■ RC	□ Stone	□ Other		
Form	■ Inverted T type	□ Gravity type	□ Other		
Height(m)	Parapet	2.20	Wall	1.00	
Width of abutment(m)	10.30				

Location map



Deterioration & damage	Condition	Mild damage

Main Deterioration: ①衝突によるコンクリート剥離・鉄筋露出(橋脚)

Construction Overview

Excavation(底版上面までの掘削) & Constracticting of by-pass

Other Important Issues

①鉄道橋であり、嵩上げの場合は影響範囲が大きくなる。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

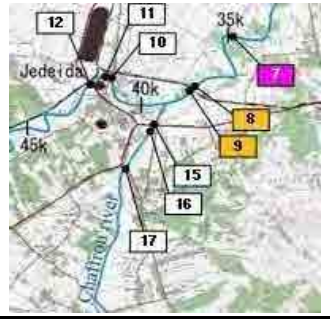
Basics

No. Name	10. JEDEIDA BRIDGE	Maximum span	28.00 (m)	Verification digit margin	
		Total width	12.00 (m)	OK	
Route Name	RVE507	Effective width	11.40 (m)	Plan for renovation	
Location	Jedeida	Planar shape	right bridge	■ No measures	
Year of const.	2011	Type of pavement	Asphalt	□ Demolish	
Structure format	Precast I-girders with on-site concrete slab 3 isostatic spans	Pavement thickness	80.00 (mm)	□ Reconstruction	
		Substructures	4 (substructures)	□ Improvement	
Bridge length	87.2 (m)	Purpose of the bridge	General road	□ Other	
Spans	3 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	urban area	■ Excavation	
distance	41.071 (km)	Detour	No	□ widening	
H.W.L (NGT)	10 years 20.85	Historical value	No	□ banking	
	100 years 23.95	Road surface	24.04 (NGT)	□ Removal of sediment	
Discharge (m^3/sec)	10 years 780	Lower surface of the deck	21.40 (NGT)	□ Other	
	100 years 1000	Margin	0.55 (m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	■ PC	□ RC	□ Metal	□ Composite	□ Stone
Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Cross-sectional shape	■ I beam	□ T beam	□ Box/Hollow	□ Full	□ Other
Main girder	The number of girder	4	Height (m)	1.80	
Angle	Skew (deg.)	90	Crossing (deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Form	□ Single column	□ Bearing wall	■ Pile bent	□ Rahmen	□ Other
Width of Pillar (m)	Longitudinal	φ1.0	Transverse	φ1.0×4	
Height (m)	Pier	7.30	beam	1.20	
Abutment: Material	■ RC	□ Stone	□ Other		
Form	■ Inverted T type	□ Gravity type	□ Other		
Height (m)	Parapet	2.10	Wall	1.20	
Width of abutment (m)	12.00				

Location map



Deterioration & damage	Condition	Good

Main Deterioration: 2011架設の新橋のため、なし。

Construction Overview

1. removing of sediment
2. constracticting of by-pass

Other Important Issues

①2011架設
②周辺宅地のため、河積不足の場合は掘削が望ましい。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

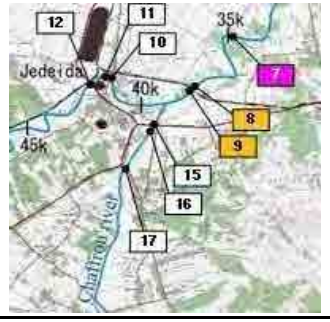
Basics

No. Name	11. JEDEIDA OLD BRIDGE	Maximum span	33.50 (m)	Verification digit margin	
		Total width	5.60 (m)	unknown	
Route Name	RVE507	Effective width	5.00 (m)	Plan for renovation	
Location	Jedeida	Planar shape	right bridge	☐ No measures	
Year of const.	the 16th century	Type of pavement	Asphalt	■ Demolish	
Structure format	Steel upper arch type truss girder on the main span, Massive stone arch bridge for	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	5 (substructures)	☐ Improvement	
Bridge length	64.5 (m)	Purpose of the bridge	Nonuse	☐ Other	
Spans	4 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	urban area	■ Excavation	
distance	41.091 (km)	Detour	No	☐ widening	
H.W.L (NGT)	10 years 20.86	Historical value	Yes	☐ banking	
	100 years 23.95	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 780	Lower surface of the deck	unknown (NGT)	☐ Other	
	100 years 1000	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	■ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	■ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	■ Other
Main girder	The number of girder	2	Height(m)	unknown	
Angle	Skew(deg.)	90	Crossing(deg.)	-	
Peir: Material	☐ RC	☐ Metal	☐ Composite	■ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Width of Pillar(m)	Longitudinal	4.70	Transverse	11.70	
Height(m)	Pier	unknown	beam	-	
Abutment: Material	☐ RC	■ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	■ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	5.60				

Location map



Deterioration & damage	Condition	Not good

Main Deterioration
①舗装のひび割れ、滞水
②主径間の深刻な損傷
③土砂堆積による部分的な河道閉塞

Construction Overview

1. removing of sediment
2. constracticting of by-pass

Other Important Issues

Because of historical biridge, removing bridge is difficult.

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

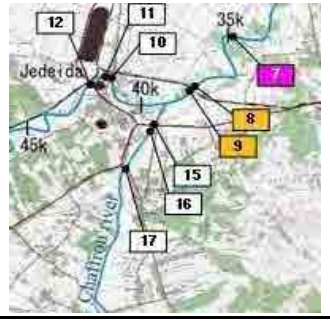
Basics

No. Name	12. JEDEIDA BRIDGE ON GP7	Maximum span	31.80 (m)	Verification digit margin	
		Total width	11.30 (m)	OK	
Route Name	GP7	Effective width	10.50 (m)	Plan for renovation	
Location	Jedeida	Planar shape	right bridge	■ No measures	
Year of const.	1945(repairing2009)	Type of pavement	Asphalt	□ Demolish	
Structure format	Concrete gerder beam bridge	Pavement thickness	unknown (mm)	□ Reconstruction	
		Substructures	6 (substructures)	□ Improvement	
Bridge length	73.6 (m)	Purpose of the bridge	Main road	□ Other	
Spans	5 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Arable land	■ Excavation	
distance	41.926 (km)	Detour	No	□ widening	
H.W.L (NGT)	10 years 21.28	Historical value	No	□ banking	
	100 years 24.55	Road surface	26.70 (NGT)	□ Removal of sediment	
Discharge (m^3/sec)	10 years 780	Lower surface of the deck	25.13 (NGT)	□ Other	
	100 years 1000	Margin	3.85(m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	■ PC	□ RC	□ Metal	□ Composite	□ Stone
Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Cross-sectional shape	■ I beam	□ T beam	□ Box/Hollow	□ Full	□ Other
Main girder	The number of girder	unknown	Height(m)	1.50	
Angle	Skew(deg.)	90	Crossing(deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Form	□ Single column	■ Bearing wall	□ Pile bent	□ Rahmen	□ Other
Width of Pillar(m)	Longitudinal	2.00	Transverse	12.00	
Height(m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	□ Stone	□ Other		
Form	■ Inverted T type	□ Gravity type	□ Other		
Height(m)	Parapet	unknown	Wall	unknown	
Width of abutment(m)	11.10				

Location map



Deterioration & damage	Condition	Good

Main Deterioration
①橋梁本体に損傷は確認できない。
②側径間の橋脚～橋台間に土砂堆積がある。

Construction Overview

1. Excavation

Other Important Issues

①中央径間の橋脚はパイルベント式橋脚である。
②近接橋として、水管橋がある(Picture-6)。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	13. EL BATTAN BRIDGE	Maximum span	5.11 (m)	Verification digit margin	
		Total width	8.50 (m)	unknown	
Route Name	MC64	Effective width	8.00 (m)	Plan for renovation	
Location	Al Battan	Planar shape	right bridge	☐ No measures	
Year of const.	More than 100 years ago	Type of pavement	Asphalt	☐ Demolish	
Structure format	Ancient arch type stone bridge	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	21 (substructures)	☐ Improvement	
Bridge length	94.07 (m)	Purpose of the bridge	Main road	■ Other	
Spans	20 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Residential area	☐ Excavation	
Intersection property: distance	53.111 (km)	environ: Detour	No	☐ widening	
Intersection property: H.W.L (NGT)	10 years: unknown	Historical value	Yes	☐ banking	
	100 years: 30.40	Road surface	29.10 (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years: 780	Lower surface of the deck	28.05 (NGT)	■ Other	
	100 years: 1200	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	■ Stone
Superstructure: Form	☐ Simple	☐ Continuous	☐ Culvert	■ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	■ Full	☐ Other
Superstructure: Main girder	The number of girder	1	Height (m)	unknown	
Superstructure: Angle	Skew (deg.)	90	Crossing (deg.)	–	
Peir: Material	☐ RC	☐ Metal	☐ Composite	■ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Peir: Width of Pillar (m)	Longitudinal	2.24	Transverse	unknown	
Peir: Height (m)	Pier	unknown	beam	–	
Abutment: Material	☐ RC	■ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	■ Other		
Abutment: Height (m)	Parapet	–	Wall	–	
Abutment: Width of abutment (m)	–				

Location map

Deterioration & damage	Condition	Good

Main Deterioration

1. water stagnation of surface
2. Preventing water flow brought Tamarix vegetation
3. Narrowness of gates call for jamming of debris

Construction Overview

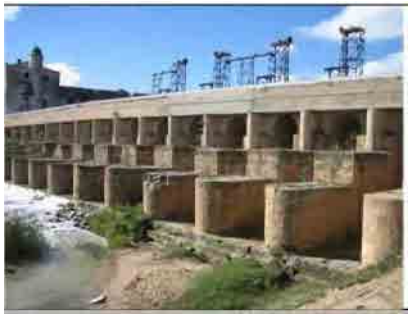
1. Removing of sediment
2. Constracticting of by-pass

Other Important Issues

Because of historical biridge, removing bridge is difficult.

Pictures of Site

Picture-1 Deck surface



Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	14. TEBOURBA IRRIGATION CANALS BRIDGE	Maximum span	unknown (m)	Verification digit margin	
		Total width	5.54 (m)	unknown	
Route Name	IRRIGATION CANALS	Effective width	unknown (m)	Plan for renovation	
Location	Tebourba	Planar shape	unknown	☐ No measures	
Year of const.	Before 1958	Type of pavement	–	☐ Demolish	
Structure format	Reinforced concrete structure	Pavement thickness	– (mm)	☐ Reconstruction	
		Substructures	5 (substructures)	☐ Improvement	
Bridge length	125 (m)	Purpose of the bridge	Irrigation Canals	■ Other	
Spans	4 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Medjerda	environ: Purpose	Residential area	☐ Excavation	
Intersection property: distance	56.899 (km)	environ: Detour	No	■ widening	
Intersection property: H.W.L (NGT)	10 years: unknown	Historical value	No	☐ banking	
	100 years: 33.00	Road surface	33.93 (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years: 780	Lower surface of the deck	unknown (NGT)	☐ Other	
	100 years: 1930	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	■ Other
Superstructure: Main girder	The number of girder	1	Height(m)	unknown	
Superstructure: Angle	Skew(deg.)	90	Crossing(deg.)	–	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	■ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar(m)	Longitudinal	unknown	Transverse	unknown	
Peir: Height(m)	Pier	unknown	beam	unknown	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	■ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height(m)	Parapet	unknown	Wall	unknown	
Abutment: Width of abutment(m)	unknown				

Location map

Deterioration & damage	Condition	Not good
Main Deterioration	①水漏れ	

Construction Overview

Excavation

Other Important Issues

①水漏れ対策が必要。
②左岸側は市街地、右岸側は農地
③谷がやや深い

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

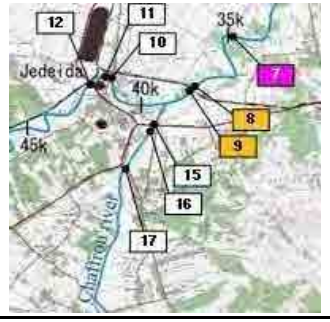
Basics

No. Name	15. GP7 BRIDGE ON CHAFUROU	Maximum span	unknown (m)	Verification digit margin	
		Total width	11.00 (m)	OK	
Route Name	GP7	Effective width	unknown (m)	Plan for renovation	
Location	Jedeida	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish	
Structure format	3 spans continuous reinforced concrete slab bridge	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	4 (substructures)	☐ Improvement	
Bridge length	38.2 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	3 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Chafurou	environ: Purpose	Arable land	☐ Excavation	
Intersection property: distance	- (km)	environ: Detour	No	■ widening	
Intersection property: H.W.L (NGT)	10 years 19.80	Historical value	No	☐ banking	
	100 years 23.25	Road surface	22.41 (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 50	Lower surface of the deck	21.41 (NGT)	☐ Other	
	100 years 120	Margin	1.61 (m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	■ Box/Hollow	☐ Full	☐ Other
Superstructure: Main girder	The number of girder	1	Height (m)	unknown	
Superstructure: Angle	Skew (deg.)	unknown	Crossing (deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	■ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar (m)	Longitudinal	unknown	Transverse	unknown	
Peir: Height (m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	■ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height (m)	Parapet	-	Wall	-	
Abutment: Width of abutment (m)	unknown				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	特になし。	

Construction Overview

No measures

Other Important Issues

①水理評価のため断面の把握(測量)が必要。
②旧橋には添架管有り。
③近接して水路橋？がある。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

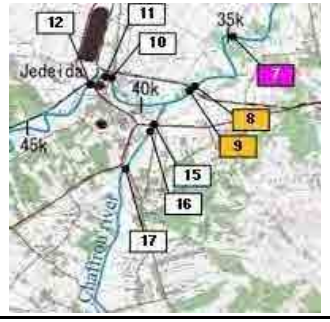
Basics

No. Name	16. GP7 BRIDGE ON CHAFUROU	Maximum span	unknown (m)	Decision: Verification digit margin	
		Total width	11.00 (m)	OK	
Route Name	GP7	Effective width	unknown (m)	Plan for renovation	
Location	Jedeida	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish	
Structure format	3 spans continuous reinforced concrete slab bridge	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	4 (substructures)	☐ Improvement	
Bridge length	38.2 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	3 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Chafurou	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	No	■ widening	
H.W.L (NGT): 10 years	19.80	Historical value	No	☐ banking	
100 years	23.25	Road surface	22.41 (NGT)	☐ Removal of sediment	
Discharge (m^3/sec): 10 years	50	Lower surface of the deck	21.41 (NGT)	☐ Other	
100 years	120	Margin	1.61 (m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	■ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	■ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder	1	Height (m)	unknown	
Angle	Skew (deg.)	unknown	Crossing (deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	■ Pile bent	☐ Rahmen	☐ Other
Width of Pillar (m)	Longitudinal	unknown	Transverse	unknown	
Height (m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Form	■ Inverted T type	☐ Gravity type	☐ Other		
Height (m)	Parapet	-	Wall	-	
Width of abutment (m)	unknown				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	特になし。	

Construction Overview

No measures

Other Important Issues

①水理評価のため断面の把握(測量)が必要。
②旧橋には添架管有り。
③近接して水路橋？がある。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	17. EL H'BIBIA BRIDGE	Maximum span	4.50 (m)		
		Total width	8.14 (m)		
Route Name	Local Road	Effective width	unknown (m)		
Location	Jedeida	Planar shape	unknown		
Year of const.	unknown	Type of pavement	Asphalt		
Structure format	4 spans reinforced concrete box culvert	Pavement thickness	unknown (mm)		
		Substructures	5 (substructures)		
Bridge length	16.9 (m)	Purpose of the bridge	General road		
Spans	4 (spans)	Sidewalk	No		
Intersection property: channel	Chafurou	environ: Purpose	Wasteland		
Intersection property: distance	- (km)	environ: Detour	Yes		
Intersection property: H.W.L (NGT)	10 years 19.80	Historical value	No		
Intersection property: H.W.L (NGT)	100 years 23.50	Road surface	21.53 (NGT)		
Intersection property: Discharge (m^3/sec)	10 years 50	Lower surface of the deck	20.40 (NGT)		
Intersection property: Discharge (m^3/sec)	100 years 120	Margin	0.60 (m) (10 years)		

Decision

Verification digit margin
OK
Plan for renovation
☐ No measures
☐ Demolish
■ Reconstruction
☐ Improvement
☐ Other
Plan for improvement of channel
☐ Excavation
■ widening
☐ banking
☐ Removal of sediment
☐ Other
☐ No measures

Bridge survey

Superstructure	Material	☐ PC	■ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure	Form	☐ Simple	☐ Continuous	■ Culvert	☐ Arch	☐ Other
Superstructure	Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	■ Full	☐ Other
Superstructure	Main girder	The number of girder	1	Height (m)	unknown	
Superstructure	Angle	Skew (deg.)	unknown	Crossing (deg.)	-	
Peir	Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	■ Other
Peir	Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Peir	Width of Pillar (m)	Longitudinal	unknown	Transverse	unknown	
Peir	Height (m)	Pier	unknown	beam	-	
Abutment	Material	■ RC	☐ Stone	☐ Other		
Abutment	Form	☐ Inverted T type	☐ Gravity type	■ Other		
Abutment	Height (m)	Parapet	-	Wall	-	
Abutment	Width of abutment (m)	unknown				

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

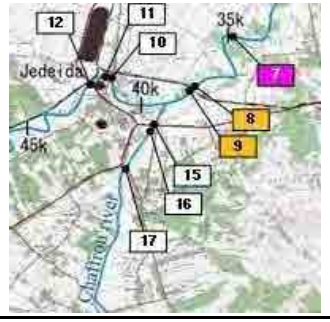
Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

Location map



Deterioration & damage	Condition	Not good

Main Deterioration: 全体的に良くない。

Construction Overview

No measures

Other Important Issues

①水理評価のため断面の把握(測量)が必要。

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

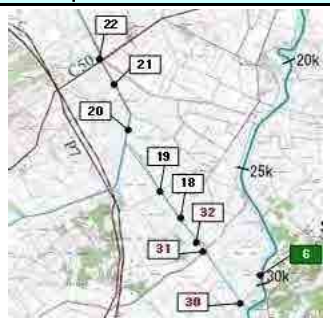
No. Name	18. Bridge on the local road	Maximum span	unknown (m)	Verification digit margin
		Total width	unknown (m)	unknown
Route Name	Local Road	Effective width	unknown (m)	Plan for renovation
Location	El Kantara	Planar shape	unknown	☐ No measures
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction
		Substructures	unknown (substructures)	☐ Improvement
Bridge length	unknown (m)	Purpose of the bridge	Main road	■ Other
Spans	unknown (spans)	Sidewalk	Yes	Plan for improvement of channel

Intersection property				environ		
channel	Driving			Purpose	Arable land	☐ Excavation
distance	- (km)			Detour	No	☐ widening
H.W.L (NGT)	10 years	13.71		Historical value	No	☐ banking
	100 years	unknown		Road surface	unknown (NGT)	☐ Removal of sediment
Discharge (m^3/sec)	10 years	200		Lower surface of the deck	unknown (NGT)	■ Other
	100 years	300		Margin	unknown (10 years)	☐ No measures

Bridge survey

Superstructure	Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
	Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
	Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
	Main girder	The number of girder		Height(m)		
	Angle	Skew(deg.)		Crossing(deg.)		
Peir	Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
	Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
	Width of Pillar(m)	Longitudinal		Transverse		
	Height(m)	Pier		beam		
Abutment	Material	☐ RC	☐ Stone	☐ Other		
	Form	☐ Inverted T type	☐ Gravity type	☐ Other		
	Height(m)	Parapet		Wall		
	Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

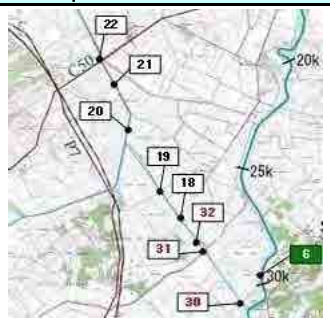
Basics

No. Name	19. FARM BRIDGE ON Driving CHANNEL	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Shuwat	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	☐ Excavation	
Intersection property: distance	- (km)	environ: Detour	Yes	☐ widening	
Intersection property: H.W.L (NGT)	10 years 13.10	Historical value	No	☐ banking	
Intersection property: H.W.L (NGT)	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 200	Lower surface of the deck	unknown (NGT)	■ Other	
Intersection property: Discharge (m^3/sec)	100 years 300	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Superstructure: Main girder	The number of girder		Height(m)		
Superstructure: Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar(m)	Longitudinal		Transverse		
Peir: Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height(m)	Parapet		Wall		
Abutment: Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	20. FARM BRIDGE ON Driving CHANNEL		Maximum span	unknown (m)	
			Total width	unknown (m)	
Route Name	Farm Road		Effective width	unknown (m)	
Location	Shuwat		Planar shape	unknown	
Year of const.	unknown		Type of pavement	Concrete	
Structure format	unknown		Pavement thickness	unknown (mm)	
			Substructures	unknown (substructures)	
Bridge length	unknown (m)		Purpose of the bridge	Farm road	
Spans	unknown (spans)		Sidewalk	No	
Intersection property: channel	Driving		environ: Purpose	Arable land	
Intersection property: distance	- (km)		environ: Detour	Yes	
Intersection property: H.W.L (NGT)	10 years	11.82	Historical value	No	
	100 years	unknown	Road surface	unknown (NGT)	
Intersection property: Discharge (m^3/sec)	10 years	200	Lower surface of the deck	unknown (NGT)	
	100 years	300	Margin	unknown (10 years)	

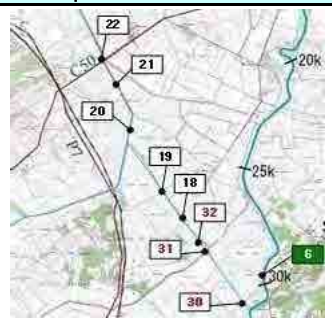
Decision

Verification digit margin	
	unknown
Plan for renovation	
☐	No measures
☐	Demolish
☐	Reconstruction
☐	Improvement
■	Other
Plan for improvement of channel	
☐	Excavation
☐	widening
☐	banking
☐	Removal of sediment
■	Other
☐	No measures

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Superstructure: Main girder	The number of girder		Height(m)		
Superstructure: Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar(m)	Longitudinal		Transverse		
Peir: Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height(m)	Parapet		Wall		
Abutment: Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

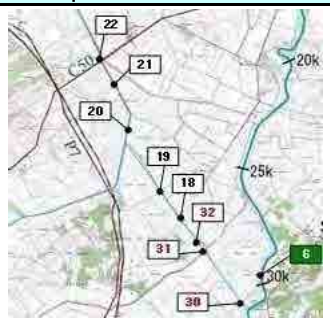
Basics

No. Name	21. FARM BRIDGE	Maximum span	unknown (m)	Verification digit margin	
		Total width	5.70 (m)	NG	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Dawwar Guerfdjana	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	Single span reinforced concrete slab	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	2 (substructures)	☐ Improvement	
Bridge length	20.7 (m)	Purpose of the bridge	Farm road	☐ Other	
Spans	1 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	■ Excavation	
Intersection property: distance	- (km)	environ: Detour	Yes	☐ widening	
Intersection property: H.W.L (NGT) 10 years	10.97	Historical value	No	☐ banking	
Intersection property: H.W.L (NGT) 100 years	unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec) 10 years	200	Lower surface of the deck	-10.91 (NGT)	☐ Other	
Intersection property: Discharge (m^3/sec) 100 years	300	Margin	-21.88 (m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	■ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	■ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	■ T beam	☐ Box/Hollow	☐ Full	☐ Other
Superstructure: Main girder	The number of girder	2	Height (m)	unknown	
Superstructure: Angle	Skew (deg.)	90	Crossing (deg.)	-	
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar (m)	Longitudinal	-	Transverse	-	
Peir: Height (m)	Pier	-	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	■ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height (m)	Parapet	unknown	Wall	unknown	
Abutment: Width of abutment (m)	unknown				

Location map



Deterioration & damage	Condition	Mild damage
Main Deterioration	①排水装置の欠陥	

Construction Overview

Reconstruction
(既存水路50m3/sから200m3/sへの改修のため、断面不足は明らか)

Other Important Issues

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

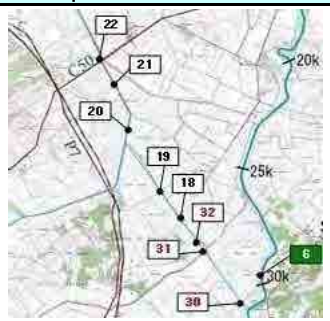
Basics

No. Name	22. MC50 EL MABTOUH BRIDGE	Maximum span	unknown (m)	Verification digit margin	
		Total width	14.61 (m)	NG	
Route Name	MC50	Effective width	unknown (m)	Plan for renovation	
Location	Dawwar Guerfdjana	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish	
Structure format	6 spans reinforced concrete box culvert	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	7 (substructures)	☐ Improvement	
Bridge length	20.46 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	6 (spans)	Sidewalk	Yes	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	☐ Excavation	
Intersection property: distance	- (km)	environ: Detour	No	■ widening	
Intersection property: H.W.L (NGT)	10 years 10.44	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 200	Lower surface of the deck	-10.75 (NGT)	☐ Other	
	100 years 300	Margin	-21.19(m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	■ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	■ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	■ Full	☐ Other
Superstructure: Main girder	The number of girder	1	Height(m)	unknown	
Superstructure: Angle	Skew(deg.)	unknown	Crossing(deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Peir: Width of Pillar(m)	Longitudinal	unknown	Transverse	unknown	
Peir: Height(m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	■ Other		
Abutment: Height(m)	Parapet	-	Wall	-	
Abutment: Width of abutment(m)	unknown				

Location map



Deterioration & damage	Condition	Good
Main Deterioration	特になし	

Construction Overview

1. Reconstruction
(既存水路50m3/sから200m3/sへの改修のため、断面不足は明らか)

Other Important Issues

平面図と側面図･写真が不一致(平面図は単純の桁橋、写真は6径間のBoxCulvert)

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	23. FARM BRIDGE ON Oued Mabtouh	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Almoubaraka	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	Yes	☐ widening	
H.W.L (NGT)	10 years 7.19	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 30	Lower surface of the deck	unknown (NGT)	■ Other	
	100 years 125	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map

Deterioration & damage	Condition: Good
Main Deterioration	

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	24. A4 BRIDGE OVER Mabtouh	Maximum span	unknown (m)	Verification digit margin	
		Total width	14.00 (m)	OK	
Route Name	MOTORWAY A4	Effective width	unknown (m)	Plan for renovation	
Location	El Kantara	Planar shape	unknown	■ No measures	
Year of const.	2002	Type of pavement	Asphalt	□ Demolish	
Structure format	2径間連続PCT桁(想定)	Pavement thickness	unknown (mm)	□ Reconstruction	
		Substructures	3 (substructures)	□ Improvement	
Bridge length	52.6 (m)	Purpose of the bridge	MOTORWAY	□ Other	
Spans	2 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	■ Excavation	
distance	- (km)	Detour	No	□ widening	
H.W.L (NGT)	10 years 7.13	Historical value	No	□ banking	
	100 years 11.15	Road surface	13.50 (NGT)	□ Removal of sediment	
Discharge (m^3/sec)	10 years 30	Lower surface of the deck	11.30 (NGT)	□ Other	
	100 years 125	Margin	4.17(m) (10 years)	□ No measures	

Bridge survey

Superstructure: Material	□ PC	■ RC	□ Metal	□ Composite	□ Stone
Form	□ Simple	■ Continuous	□ Culvert	□ Arch	□ Other
Cross-sectional shape	□ I beam	■ T beam	□ Box/Hollow	□ Full	□ Other
Main girder	The number of girder	unknown	Height(m)	unknown	
Angle	Skew(deg.)	unknown	Crossing(deg.)	-	
Peir: Material	■ RC	□ Metal	□ Composite	□ Stone	□ Other
Form	□ Single column	□ Bearing wall	■ Pile bent	□ Rahmen	□ Other
Width of Pillar(m)	Longitudinal	unknown	Transverse	unknown	
Height(m)	Pier	unknown	beam	-	
Abutment: Material	■ RC	□ Stone	□ Other		
Form	■ Inverted T type	□ Gravity type	□ Other		
Height(m)	Parapet	-	Wall	-	
Width of abutment(m)	unknown				

Location map

Deterioration & damage	Condition	Good

Main Deterioration: 特になし

Construction Overview

No measures

Other Important Issues

橋梁の詳細が不明のため、測量を実施する必要がある。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

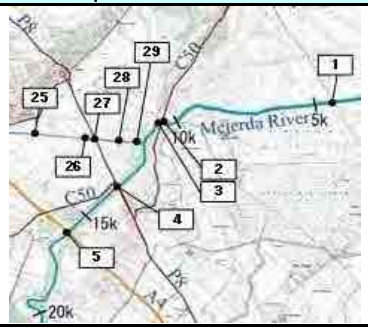
Basics

No. Name	25. FARM BRIDGE ON Oued Mabtouh	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	El Kantara	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	Yes	☐ widening	
H.W.L (NGT)	10 years 6.55	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 30	Lower surface of the deck	unknown (NGT)	■ Other	
	100 years 125	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good	
Main Deterioration			

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

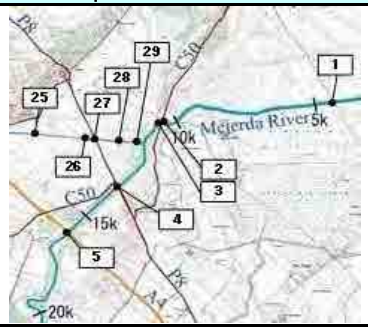
Basics

No. Name	26. FARM BRIDGE ON Oued Mabtouh	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Shuwat	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	Yes	☐ widening	
H.W.L (NGT)	10 years 6.14	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 30	Lower surface of the deck	unknown (NGT)	■ Other	
	100 years 125	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

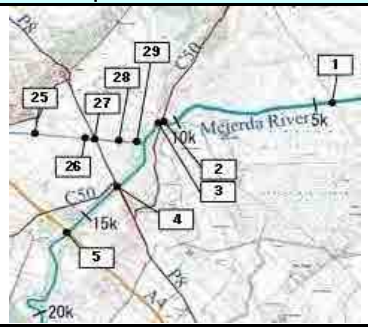
Basics

No. Name	27. GP8 BRIDGE AND ROAD OVER Mabtouh	Maximum span	8.90 (m)	Verification digit margin	
		Total width	9.90 (m)	OK	
Route Name	GP8	Effective width	9.40 (m)	Plan for renovation	
Location	El Kantara	Planar shape	skew bridge	☐ No measures	
Year of const.	unknown	Type of pavement	Asphalt	☐ Demolish	
Structure format	4 spans reinforced concrete box culvert	Pavement thickness	unknown (mm)	■ Reconstruction	
		Substructures	5 (substructures)	☐ Improvement	
Bridge length	36.5 (m)	Purpose of the bridge	Main road	☐ Other	
Spans	4 (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	☐ Excavation	
Intersection property: distance	- (km)	environ: Detour	No	■ widening	
Intersection property: H.W.L (NGT)	10 years 7.58	Historical value	No	☐ banking	
	100 years 11.15	Road surface	8.68 (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 30	Lower surface of the deck	7.68 (NGT)	☐ Other	
	100 years 125	Margin	0.10(m) (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	■ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	■ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	■ Full	☐ Other
Superstructure: Main girder	The number of girder	1	Height(m)	0.80	
Superstructure: Angle	Skew(deg.)	62.5	Crossing(deg.)	-	
Peir: Material	■ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	■ Other
Peir: Width of Pillar(m)	Longitudinal	0.90	Transverse	11.70	
Peir: Height(m)	Pier	unknown	beam	unknown	
Abutment: Material	■ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	■ Other		
Abutment: Height(m)	Parapet	-	Wall	-	
Abutment: Width of abutment(m)	10.80				

Location map



Deterioration & damage	Condition	Mild damage

Main Deterioration
①伸縮装置の劣化
②排水装置の欠陥

Construction Overview

No measures

Other Important Issues

①河床を掘削する場合は掛け替えとなる。
②側面に添架管有り。

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

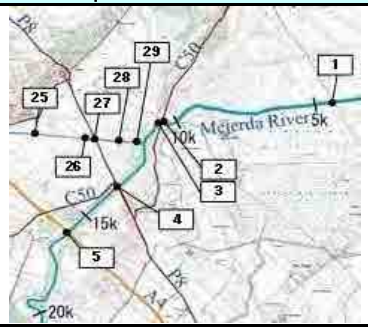
Basics

No. Name	28. FARM BRIDGE ON Oued Mabtouh	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Shuwat	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	Concrete	☐ Demolish	
Structure format	unknown	Pavement thickness	unknown (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	No	Plan for improvement of channel	
Intersection property: channel	Mabtouh	environ: Purpose	Arable land	☐ Excavation	
distance	- (km)	Detour	Yes	☐ widening	
H.W.L (NGT): 10 years	7.58	Historical value	No	☐ banking	
100 years	unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec): 10 years	30	Lower surface of the deck	unknown (NGT)	■ Other	
100 years	125	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good	
Main Deterioration			

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

Basics

No. Name	29. FARM BRIDGE ON Oued Mabtouh	Maximum span	unknown (m)		
		Total width	unknown (m)		
Route Name	Farm Road	Effective width	unknown (m)		
Location	unknown	Planar shape	unknown		
Year of const.	unknown	Type of pavement	Concrete		
Structure format	unknown	Pavement thickness	unknown (mm)		
		Substructures	unknown (substructures)		
Bridge length	unknown (m)	Purpose of the bridge	Farm road		
Spans	unknown (spans)	Sidewalk	No		
Intersection property: channel	Mabtouh	environ: Purpose	Arable land		
distance	- (km)	Detour	Yes		
H.W.L (NGT)	10 years 7.58	Historical value	No		
	100 years unknown	Road surface	unknown (NGT)		
Discharge (m^3/sec)	10 years 30	Lower surface of the deck	unknown (NGT)		
	100 years 125	Margin	unknown (10 years)		

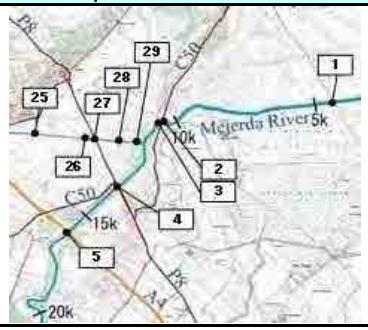
Decision

Verification digit margin
unknown
Plan for renovation
☐ No measures
☐ Demolish
☐ Reconstruction
☐ Improvement
■ Other
Plan for improvement of channel
☐ Excavation
☐ widening
☐ banking
☐ Removal of sediment
■ Other
☐ No measures

Bridge survey

Superstructure	Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
	Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
	Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
	Main girder	The number of girder		Height(m)		
	Angle	Skew(deg.)		Crossing(deg.)		
Peir	Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
	Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
	Width of Pillar(m)	Longitudinal		Transverse		
	Height(m)	Pier		beam		
Abutment	Material	☐ RC	☐ Stone	☐ Other		
	Form	☐ Inverted T type	☐ Gravity type	☐ Other		
	Height(m)	Parapet		Wall		
	Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

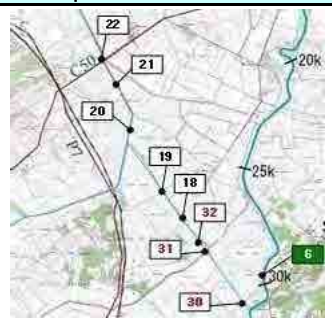
Basics

No. Name	30. FARM BRIDGE(NEW)	Maximum span	- (m)	Verification digit margin	
		Total width	- (m)	NG	
Route Name	Farm Road	Effective width	- (m)	Plan for renovation	
Location	Shuwat	Planar shape	-	☐ No measures	
Year of const.	unknown	Type of pavement	-	☐ Demolish	
Structure format	No structure	Pavement thickness	- (mm)	☐ Reconstruction	
		Substructures	- (substructures)	☐ Improvement	
Bridge length	- (m)	Purpose of the bridge	Farm road	■ Other	
Spans	- (spans)	Sidewalk	-	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	■ Excavation	
Intersection property: distance	- (km)	environ: Detour	Yes	☐ widening	
Intersection property: H.W.L (NGT)	10 years 14.50	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 200	Lower surface of the deck	-15.61 (NGT)	☐ Other	
	100 years 300	Margin	-30.11(m) (10 years)	☐ No measures	

Bridge survey

Superstructure	Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
	Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
	Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
	Main girder	The number of girder		Height(m)		
	Angle	Skew(deg.)		Crossing(deg.)		
Peir	Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
	Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
	Width of Pillar(m)	Longitudinal		Transverse		
	Height(m)	Pier		beam		
Abutment	Material	☐ RC	☐ Stone	☐ Other		
	Form	☐ Inverted T type	☐ Gravity type	☐ Other		
	Height(m)	Parapet		Wall		
	Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

New Construction

Other Important Issues

現況構造無し

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

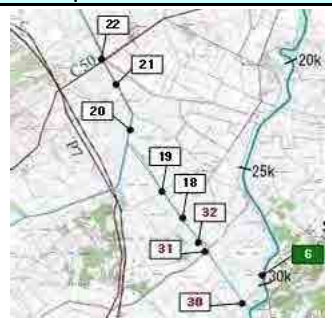
Basics

No. Name	31. FARM BRIDGE(NEW)	Maximum span	- (m)	Verification digit margin	
		Total width	- (m)	unknown	
Route Name	Farm Road	Effective width	- (m)	Plan for renovation	
Location	Shuwat	Planar shape	-	☐ No measures	
Year of const.	unknown	Type of pavement	-	☐ Demolish	
Structure format	No structure	Pavement thickness	- (mm)	☐ Reconstruction	
		Substructures	- (substructures)	☐ Improvement	
Bridge length	- (m)	Purpose of the bridge	Farm road	■ Other	
Spans	- (spans)	Sidewalk	-	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	■ Excavation	
distance	- (km)	Detour	Yes	☐ widening	
H.W.L (NGT)	10 years 14.35	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Discharge (m^3/sec)	10 years 200	Lower surface of the deck	unknown (NGT)	☐ Other	
	100 years 300	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Main girder	The number of girder		Height(m)		
Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Width of Pillar(m)	Longitudinal		Transverse		
Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Height(m)	Parapet		Wall		
Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

New Construction

Other Important Issues

現況構造無し

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

Picture-5 Bearing or Attachment

Picture-6 Enviroment

List record field survey and renovation policy decision(1)

Creation Date	2012/8/8
Revised Date	
Shooting Date	2012/9/1

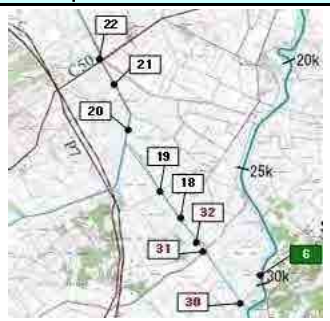
Basics

No. Name	32. FARM BRIDGE(NEW)	Maximum span	unknown (m)	Verification digit margin	
		Total width	unknown (m)	unknown	
Route Name	Farm Road	Effective width	unknown (m)	Plan for renovation	
Location	Almoubaraka	Planar shape	unknown	☐ No measures	
Year of const.	unknown	Type of pavement	–	☐ Demolish	
Structure format	unknown	Pavement thickness	– (mm)	☐ Reconstruction	
		Substructures	unknown (substructures)	☐ Improvement	
Bridge length	unknown (m)	Purpose of the bridge	Farm road	■ Other	
Spans	unknown (spans)	Sidewalk	–	Plan for improvement of channel	
Intersection property: channel	Driving	environ: Purpose	Arable land	☐ Excavation	
Intersection property: distance	– (km)	environ: Detour	Yes	☐ widening	
Intersection property: H.W.L (NGT)	10 years 14.08	Historical value	No	☐ banking	
	100 years unknown	Road surface	unknown (NGT)	☐ Removal of sediment	
Intersection property: Discharge (m^3/sec)	10 years 200	Lower surface of the deck	unknown (NGT)	■ Other	
	100 years 300	Margin	unknown (10 years)	☐ No measures	

Bridge survey

Superstructure: Material	☐ PC	☐ RC	☐ Metal	☐ Composite	☐ Stone
Superstructure: Form	☐ Simple	☐ Continuous	☐ Culvert	☐ Arch	☐ Other
Superstructure: Cross-sectional shape	☐ I beam	☐ T beam	☐ Box/Hollow	☐ Full	☐ Other
Superstructure: Main girder	The number of girder		Height(m)		
Superstructure: Angle	Skew(deg.)		Crossing(deg.)		
Peir: Material	☐ RC	☐ Metal	☐ Composite	☐ Stone	☐ Other
Peir: Form	☐ Single column	☐ Bearing wall	☐ Pile bent	☐ Rahmen	☐ Other
Peir: Width of Pillar(m)	Longitudinal		Transverse		
Peir: Height(m)	Pier		beam		
Abutment: Material	☐ RC	☐ Stone	☐ Other		
Abutment: Form	☐ Inverted T type	☐ Gravity type	☐ Other		
Abutment: Height(m)	Parapet		Wall		
Abutment: Width of abutment(m)					

Location map



Deterioration & damage	Condition	Good
Main Deterioration		

Construction Overview

Other Important Issues

未調査

Pictures of Site

Picture-1 Deck surface

Picture-2 Side

Picture-3 The underside of the beam

Picture-4 Substructure

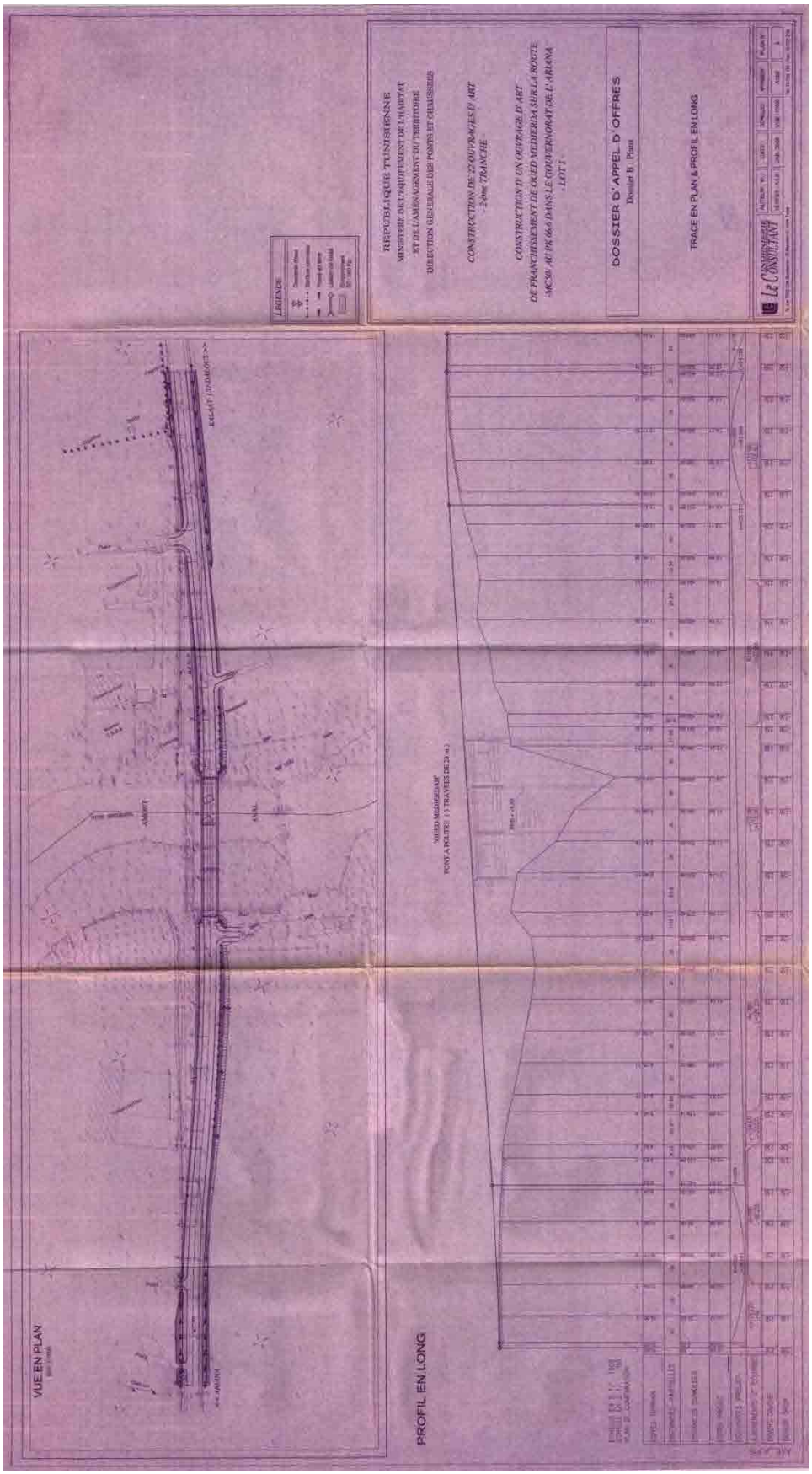
Picture-5 Bearing or Attachment

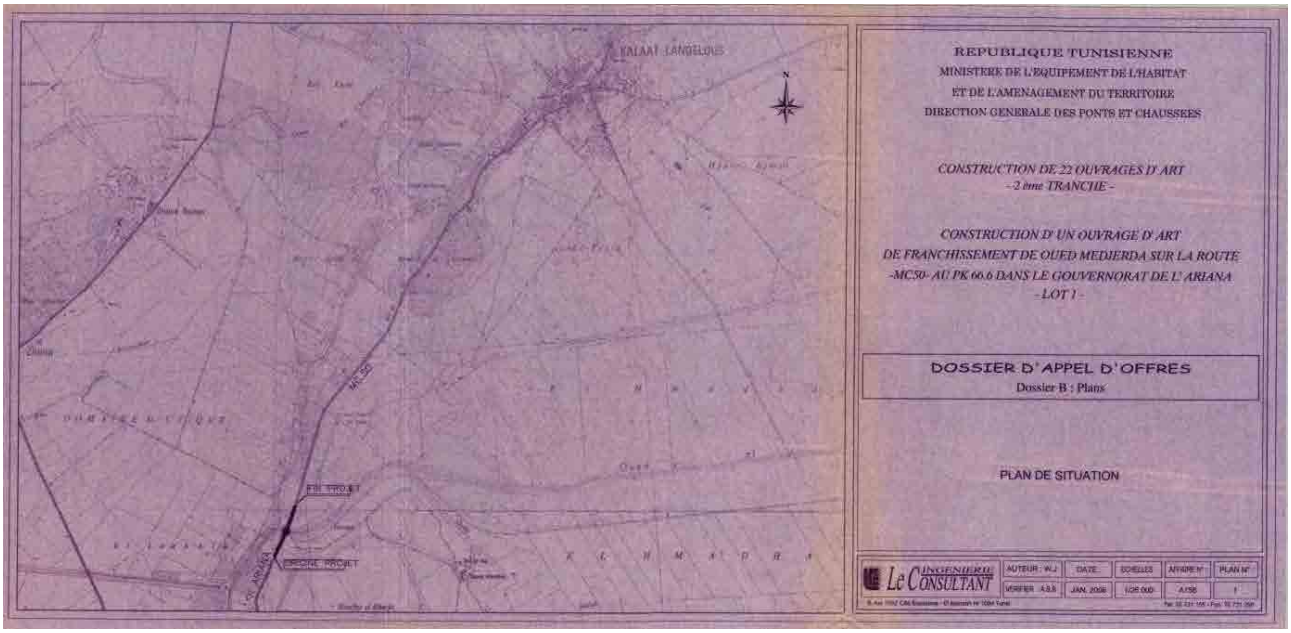
Picture-6 Enviroment

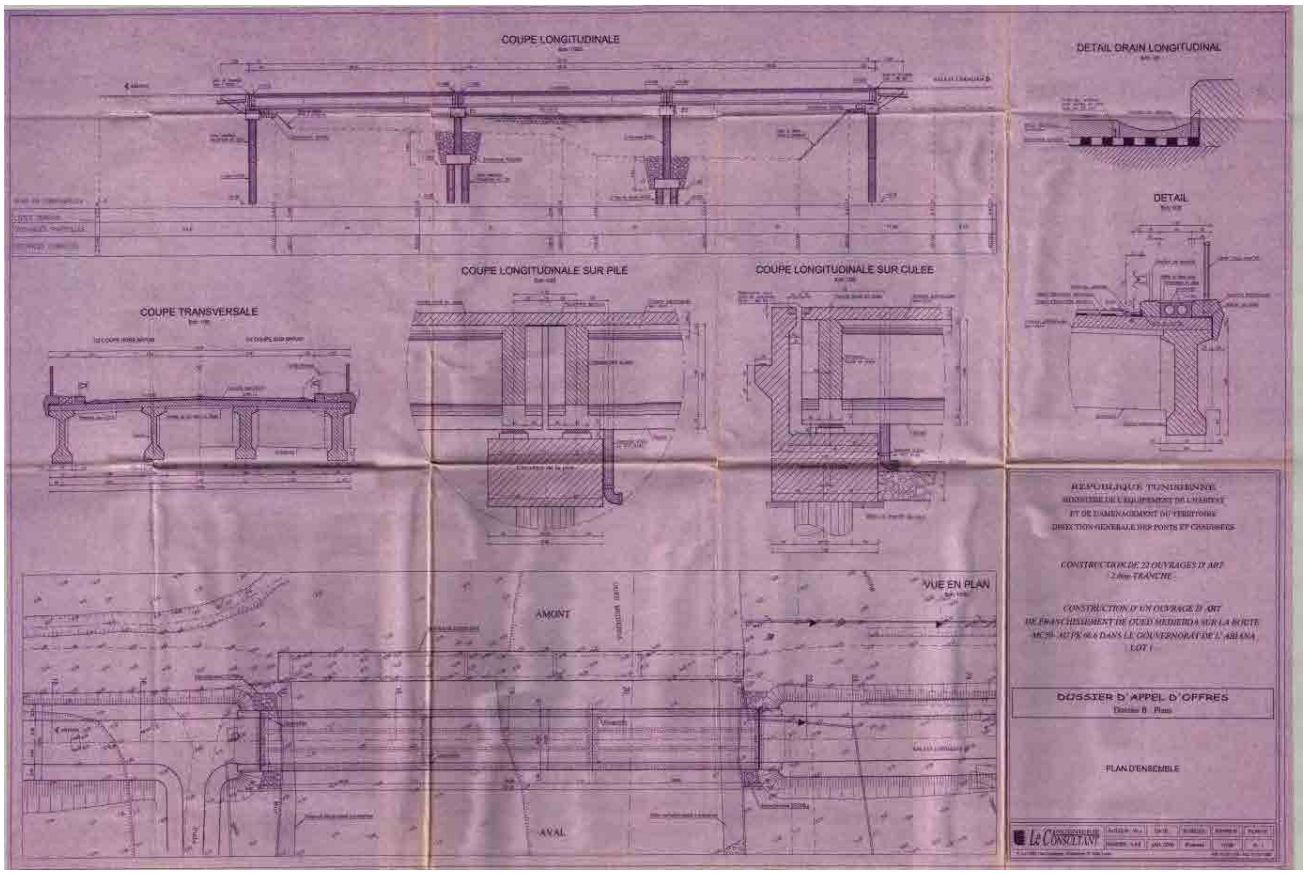
4.2 既存橋梁資料

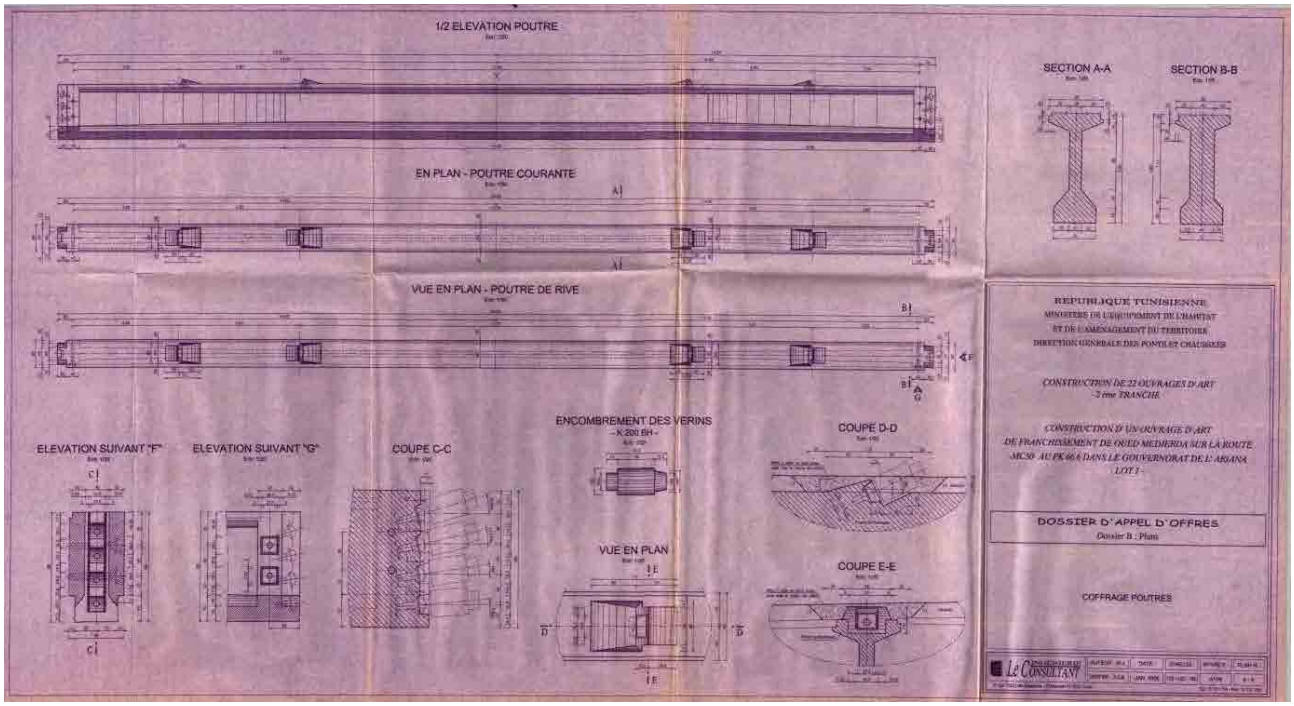
No.	Name	Drawings
2	TOBIAS BRIDGE	13 structural and other drawings
10	JEDEIDA BRIDGE	Overall drawings
9	JEDEIDA RAILWAY BRIDGE	Seven overall and other drawings

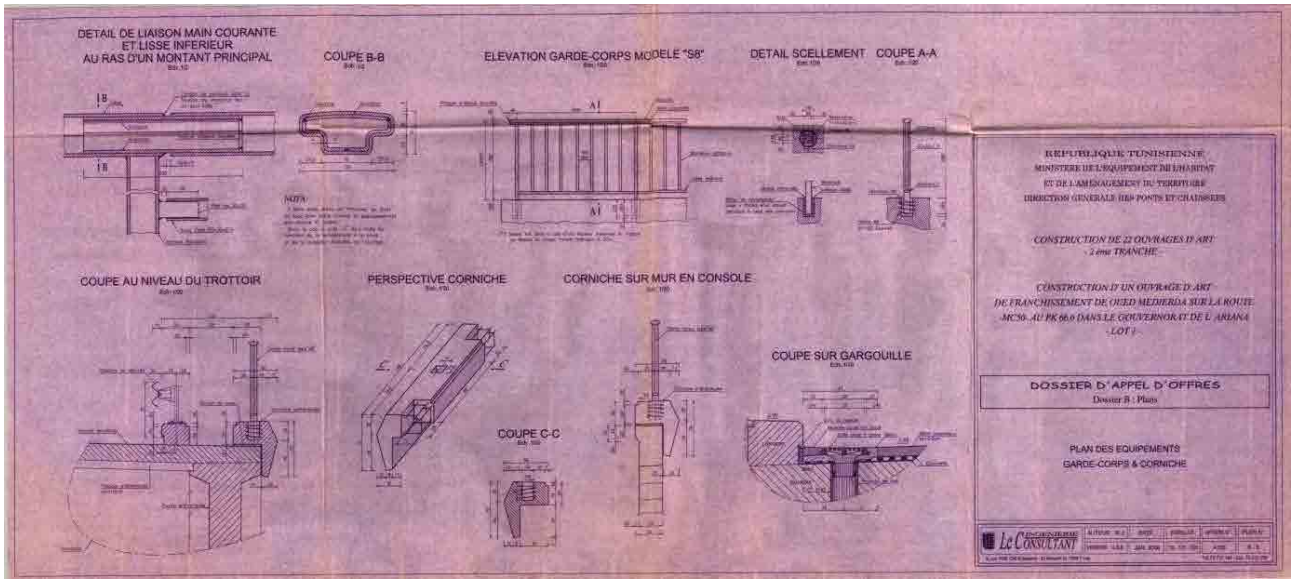
(1) TOBIAS BRIDGE

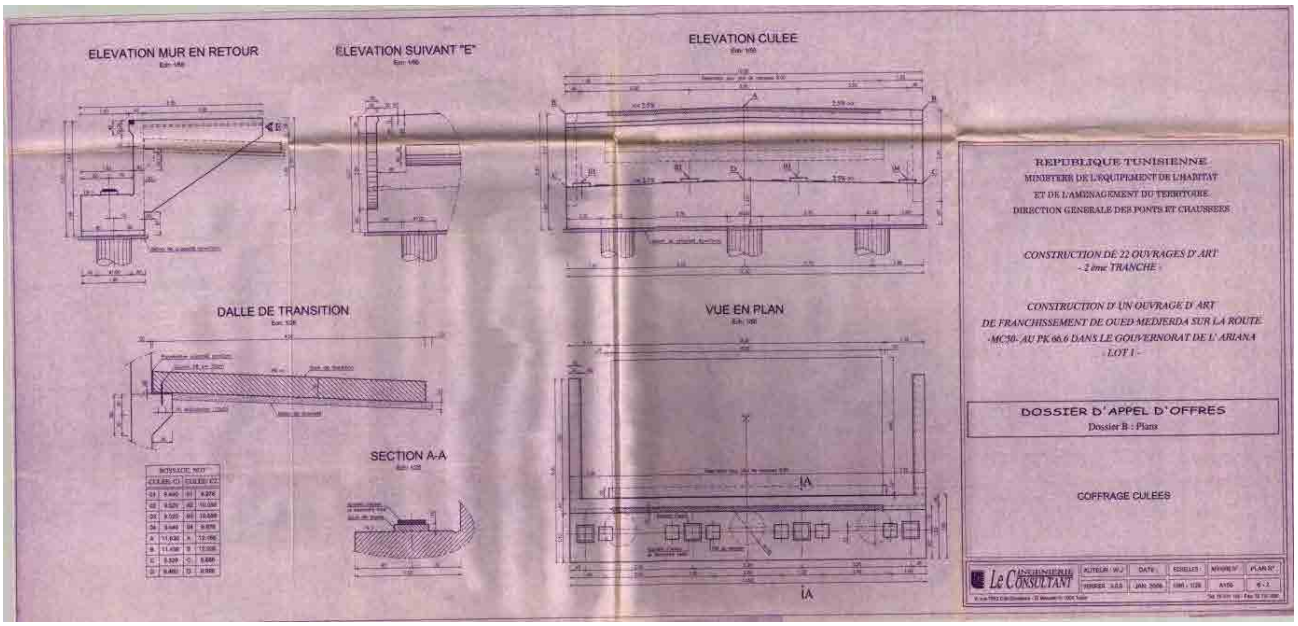


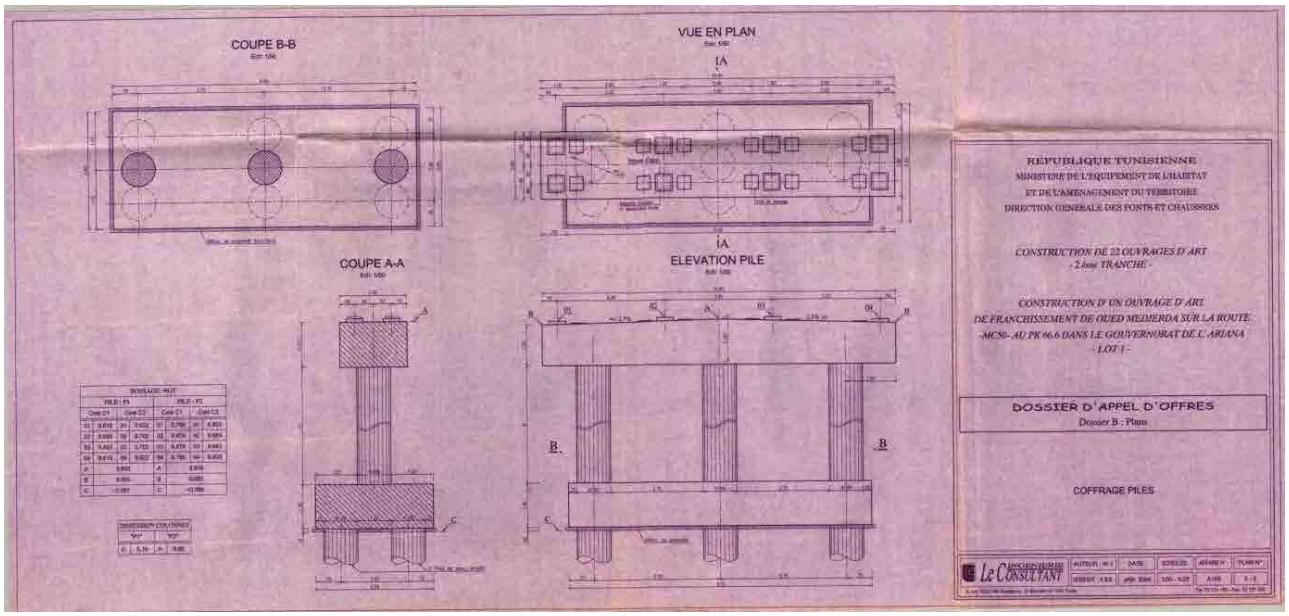

REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2 ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT I -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN DE SITUATION
Le CONSULTANT
INGENIERIE

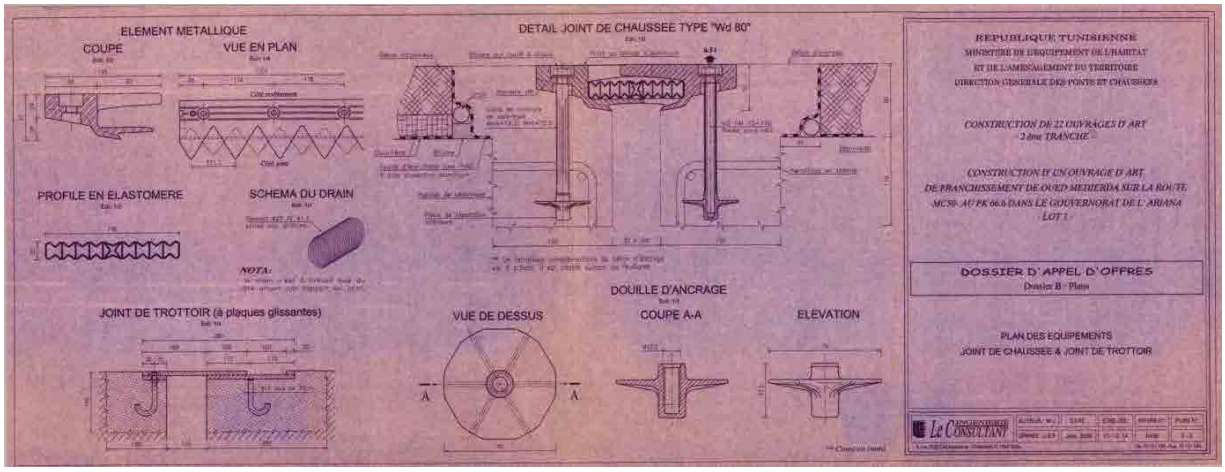

COUPE LONGITUDINALE
DETAIL DRAIN LONGITUDINAL
DETAIL
COUPE LONGITUDINALE SUR PILE
COUPE LONGITUDINALE SUR CULEE
COUPE TRANSVERSALE
VUE EN PLAN
AMONT
AVAL
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2 ème TRANCHE -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN D'ENSEMBLE
Le CONSULTANT

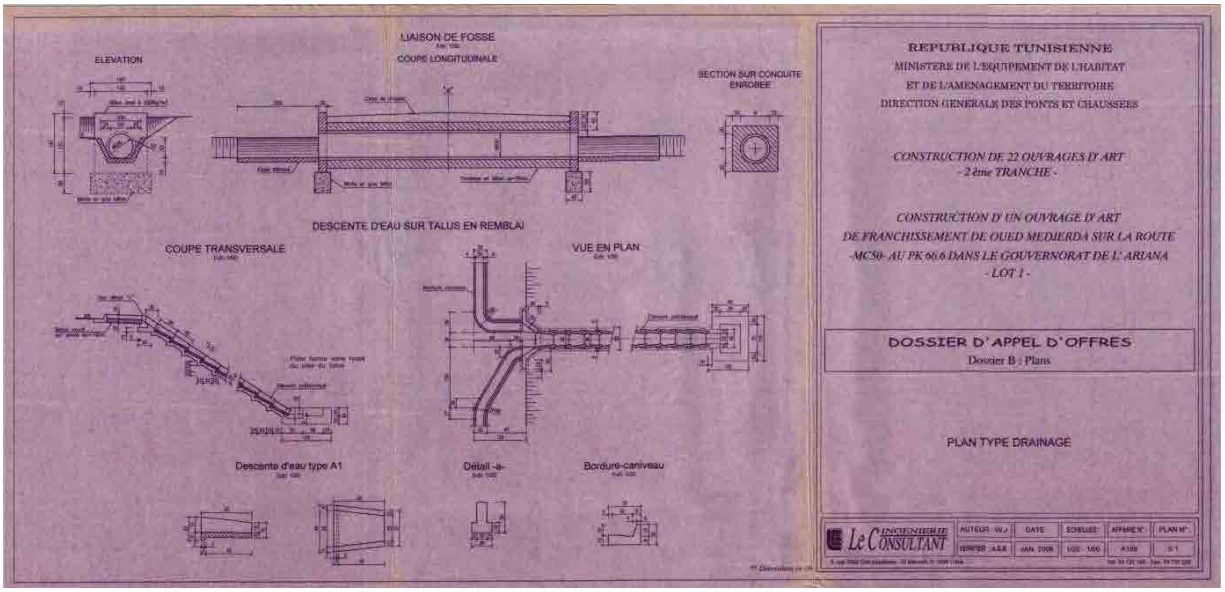

1/2 ELEVATION POUTRE
EN PLAN - POUTRE COURANTE
VUE EN PLAN - POUTRE DE RIVE
SECTION A-A
SECTION B-B
ELEVATION SUIVANT "F"
ELEVATION SUIVANT "G"
COUPE C-C
ENCOMBREMENT DES VERINS
COUPE D-D
VUE EN PLAN
COUPE E-E
REPUBLIQUE TUNISIENNE
CONSTRUCTION DE 22 OUVRAGES D'ART
DOSSIER D'APPEL D'OFFRES
COFFRAGE POUTRES
Le CONSULTANT

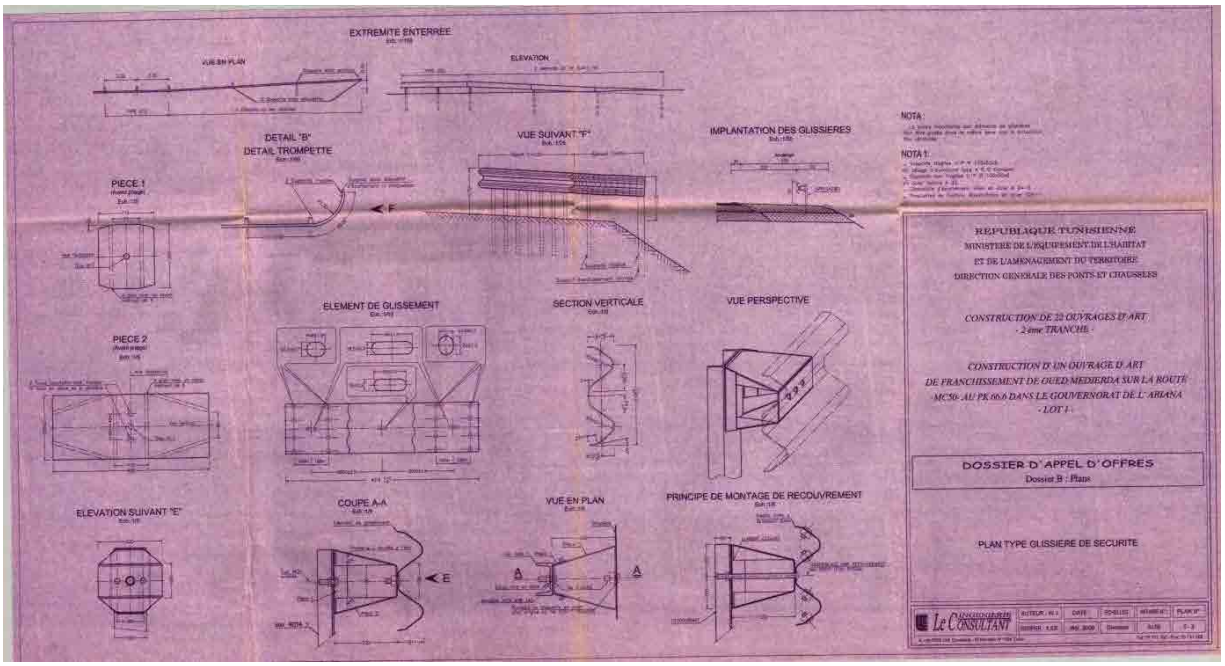

DETAIL DE LIAISON MAIN COURANTE ET LISSE INFERIEUR AU RAS D'UN MONTANT PRINCIPAL
COUPE B-B
ELEVATION GARDE-CORPS MODELE "S8"
DETAIL SCELLEMENT
COUPE A-A
COUPE AU NIVEAU DU TROTTOIR
PERSPECTIVE CORNICHE
CORNICHE SUR MUR EN CONSOLE
COUPE SUR GARGOUILLE
COUPE C-C
REPUBLIQUE TUNISIENNE
CONSTRUCTION DE 22 OUVRAGES D'ART
DOSSIER D'APPEL D'OFFRES
PLAN DES EQUIPEMENTS
GARDE-CORPS & CORNICHE
Le CONSULTANT

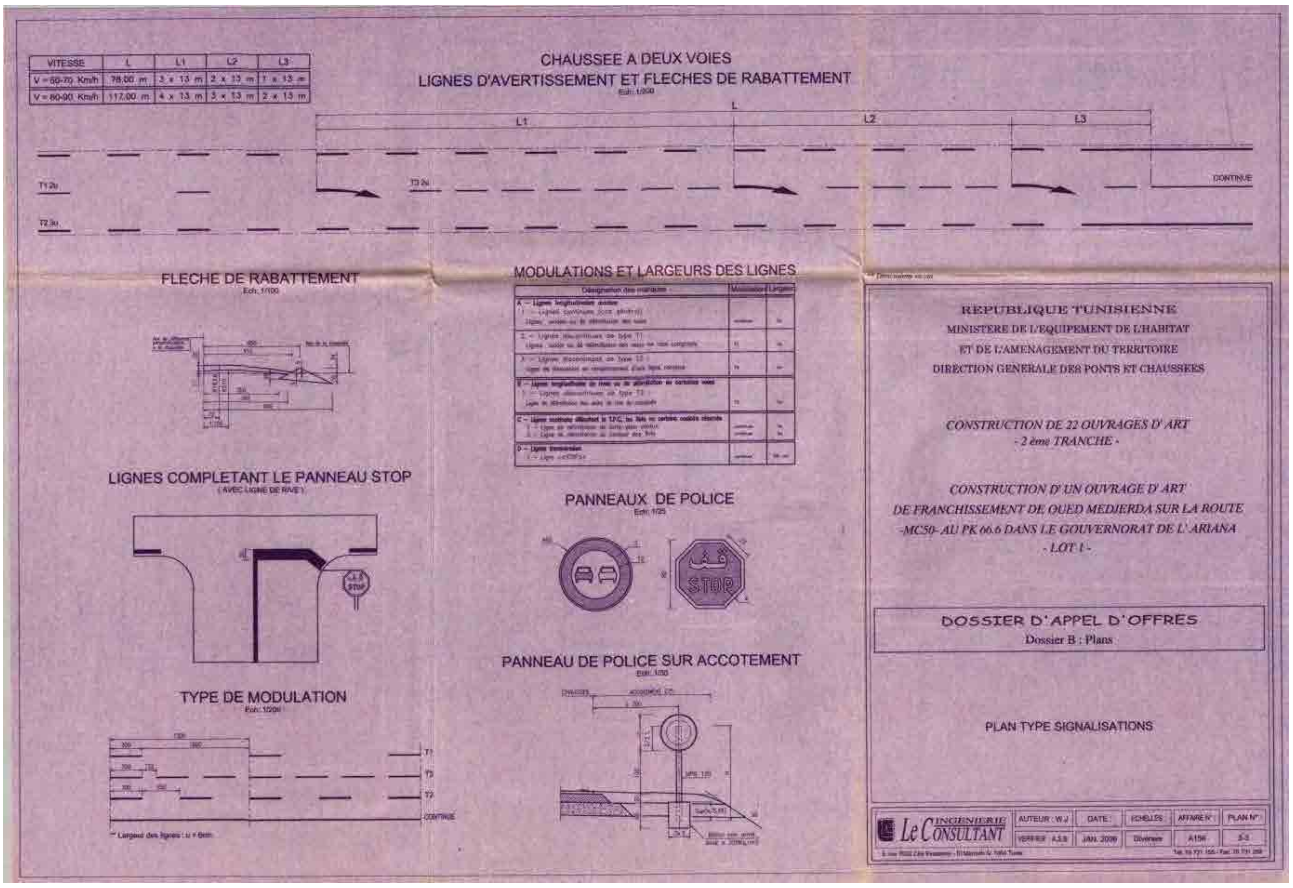

ELEVATION MUR EN RETOUR
ELEVATION SUIVANT "E"
ELEVATION CULEE
DALLE DE TRANSITION
VUE EN PLAN
SECTION A-A
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2 ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
COFFRAGE CULEES
Le CONSULTANT

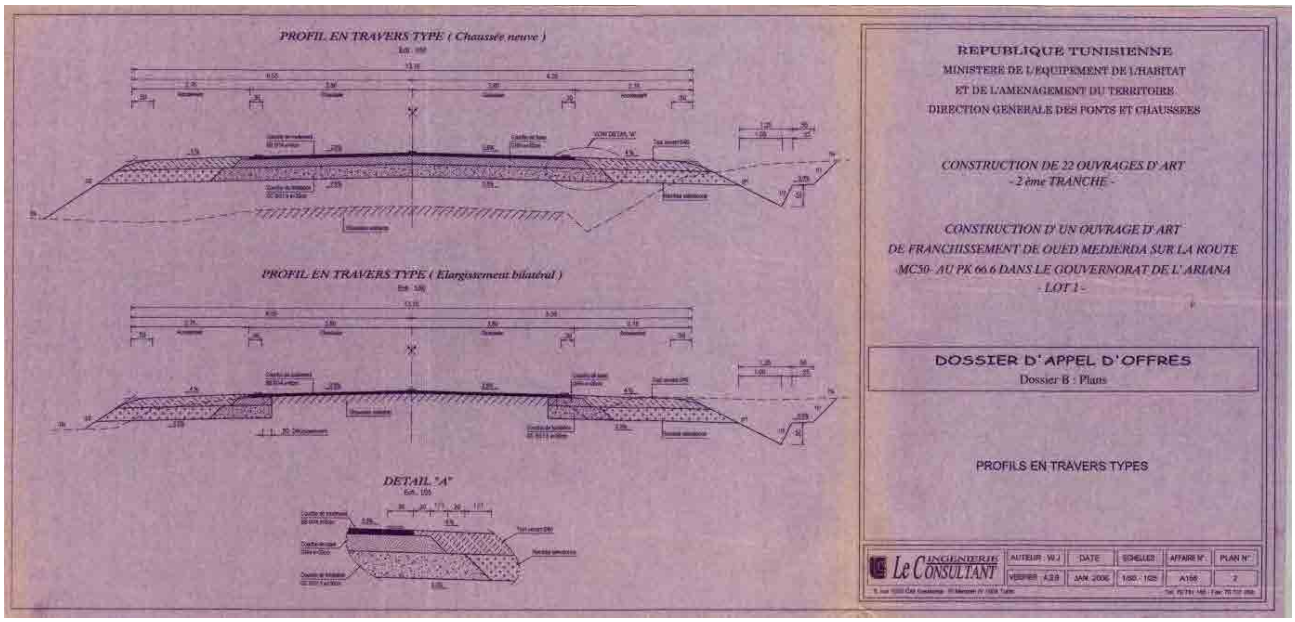

COUPE B-B
VUE EN PLAN
COUPE A-A
ELEVATION PILE
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2 ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
COFFRAGE PILES
Le CONSULTANT

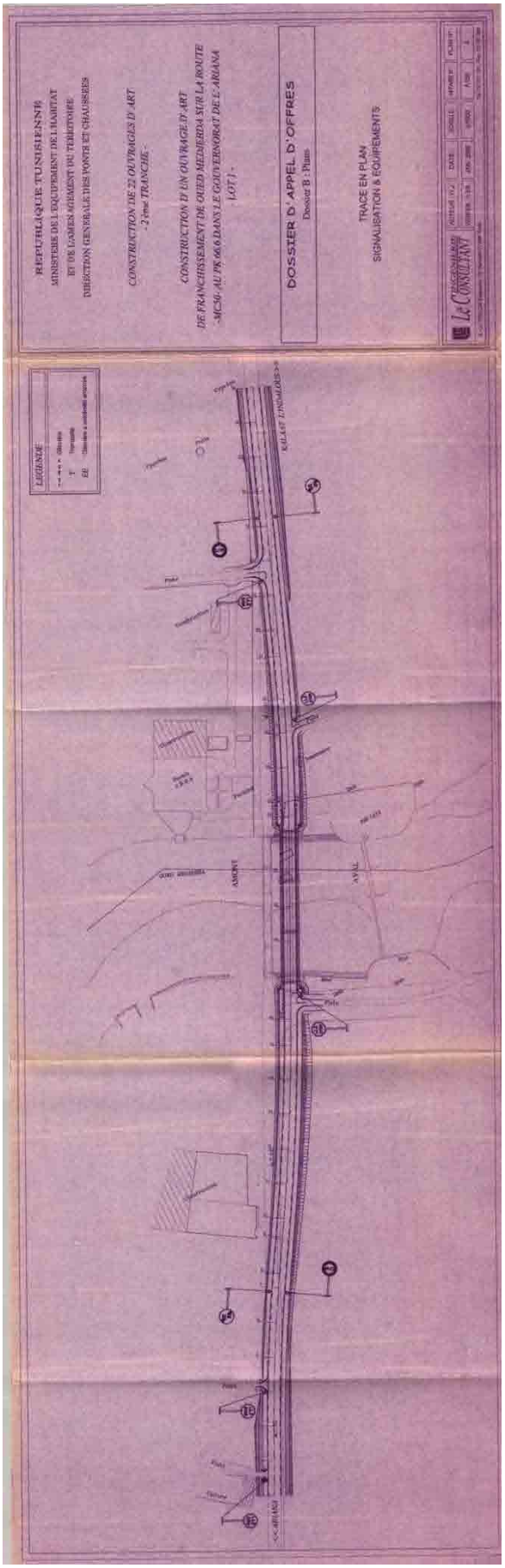

ELEMENT METALLIQUE
COUPE
VUE EN PLAN
DETAIL JOINT DE CHAUSSEE TYPE "Wd 80"
PROFILE EN ELASTOMERE
SCHEMA DU DRAIN
NOTA:
DOUILLE D'ANCRAGE
JOINT DE TROTTOIR (à plaques glissantes)
VUE DE DESSUS
COUPE A-A
ELEVATION
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDIERDA SUR LA ROUTE
MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN DES EQUIPEMENTS
JOINT DE CHAUSSEE & JOINT DE TROTTOIR
Le CONSULTANT


LIAISON DE FOSSE
COUPE LONGITUDINALE
ELEVATION
SECTION SUR CONDUITE ENROBEE
DESCENTE D'EAU SUR TALUS EN REMBLAI
COUPE TRANSVERSALE
VUE EN PLAN
Descente d'eau type A1
Détail -a-
Bordure-caniveau
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDIERDA SUR LA ROUTE
MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN TYPE DRAINAGE
Le CONSULTANT


EXTREMITE ENTERREE
VUE EN PLAN
ELEVATION
DETAIL "B"
DETAIL TROMPETTE
VUE SUIVANT "F"
IMPLANTATION DES GLISSIERES
NOTA :
NOTA 1 :
PIECE 1
PIECE 2
ELEMENT DE GLISSEMENT
SECTION VERTICALE
VUE PERSPECTIVE
ELEVATION SUIVANT "E"
COUPE A-A
VUE EN PLAN
PRINCIPE DE MONTAGE DE RECOUVREMENT
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2ème TRANCHE -
CONSTRUCTION D'UN OUVRAGE D'ART
DE FRANCHISSEMENT DE OUED MEDIERDA SUR LA ROUTE
MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN TYPE GLISSIERE DE SECURITE
Le CONSULTANT


CHAUSSEE A DEUX VOIES
LIGNES D'AVERTISSEMENT ET FLECHES DE RABATTEMENT
FLECHE DE RABATTEMENT
MODULATIONS ET LARGEURS DES LIGNES
LIGNES COMPLETANT LE PANNEAU STOP
PANNEAUX DE POLICE
PANNEAU DE POLICE SUR ACCOTEMENT
TYPE DE MODULATION
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D' ART
- 2 ème TRANCHE -
CONSTRUCTION D' UN OUVRAGE D' ART
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L' ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PLAN TYPE SIGNALISATIONS
Le CONSULTANT INGENIERIE


PROFIL EN TRAVERS TYPE (Chaussée neuve)
PROFIL EN TRAVERS TYPE (Elargissement bilatéral)
DETAIL "A"
REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D' ART
- 2 ème TRANCHE -
CONSTRUCTION D' UN OUVRAGE D' ART
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50- AU PK 66.6 DANS LE GOUVERNORAT DE L' ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
PROFILS EN TRAVERS TYPES
Le CONSULTANT INGENIERIE


REPUBLIQUE TUNISIENNE
MINISTERE DE L'EQUIPEMENT DE L'HABITAT
ET DE L'AMENAGEMENT DU TERRITOIRE
DIRECTION GENERALE DES PONTS ET CHAUSSEES
CONSTRUCTION DE 22 OUVRAGES D'ART
- 2ème TRANCHE -
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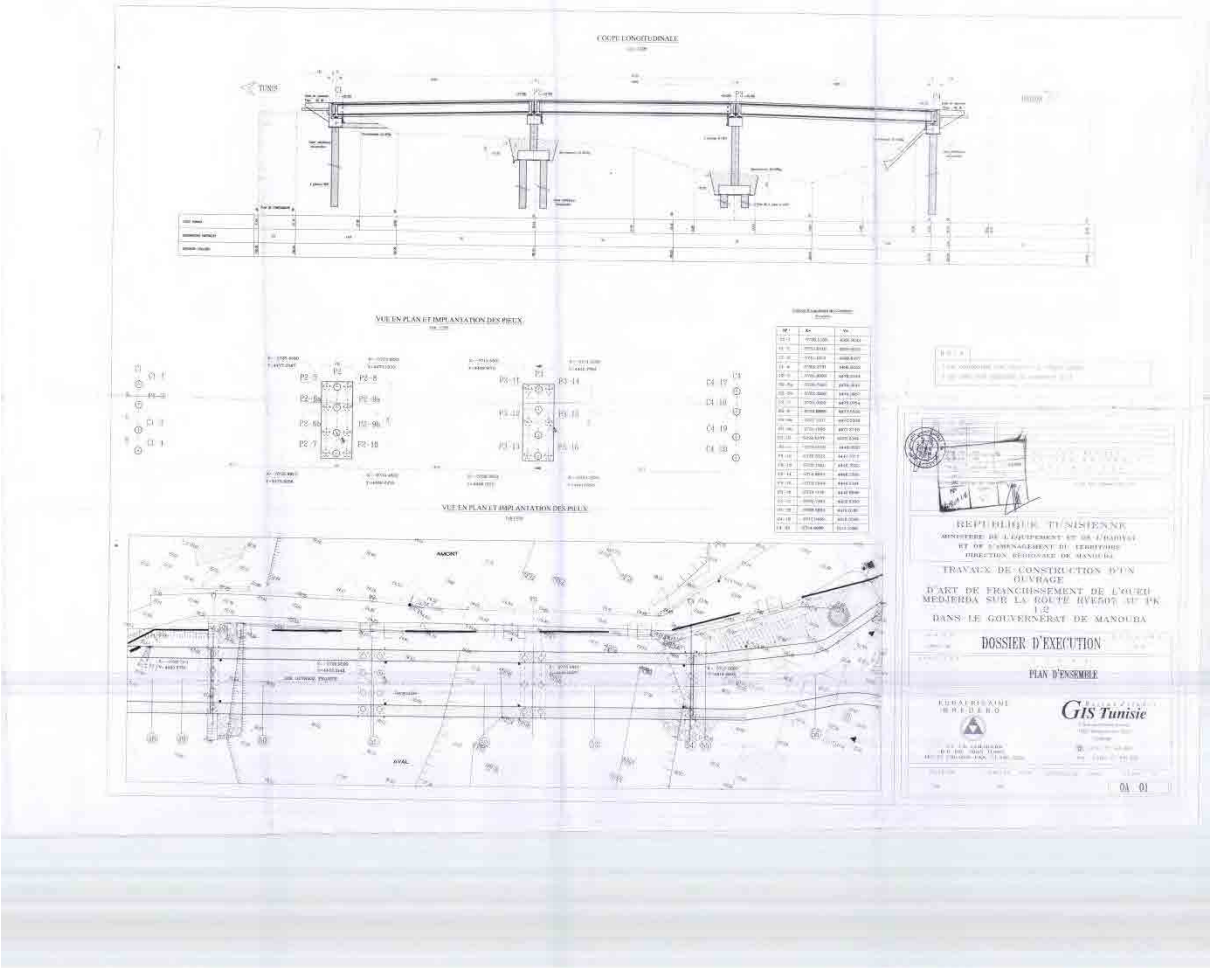
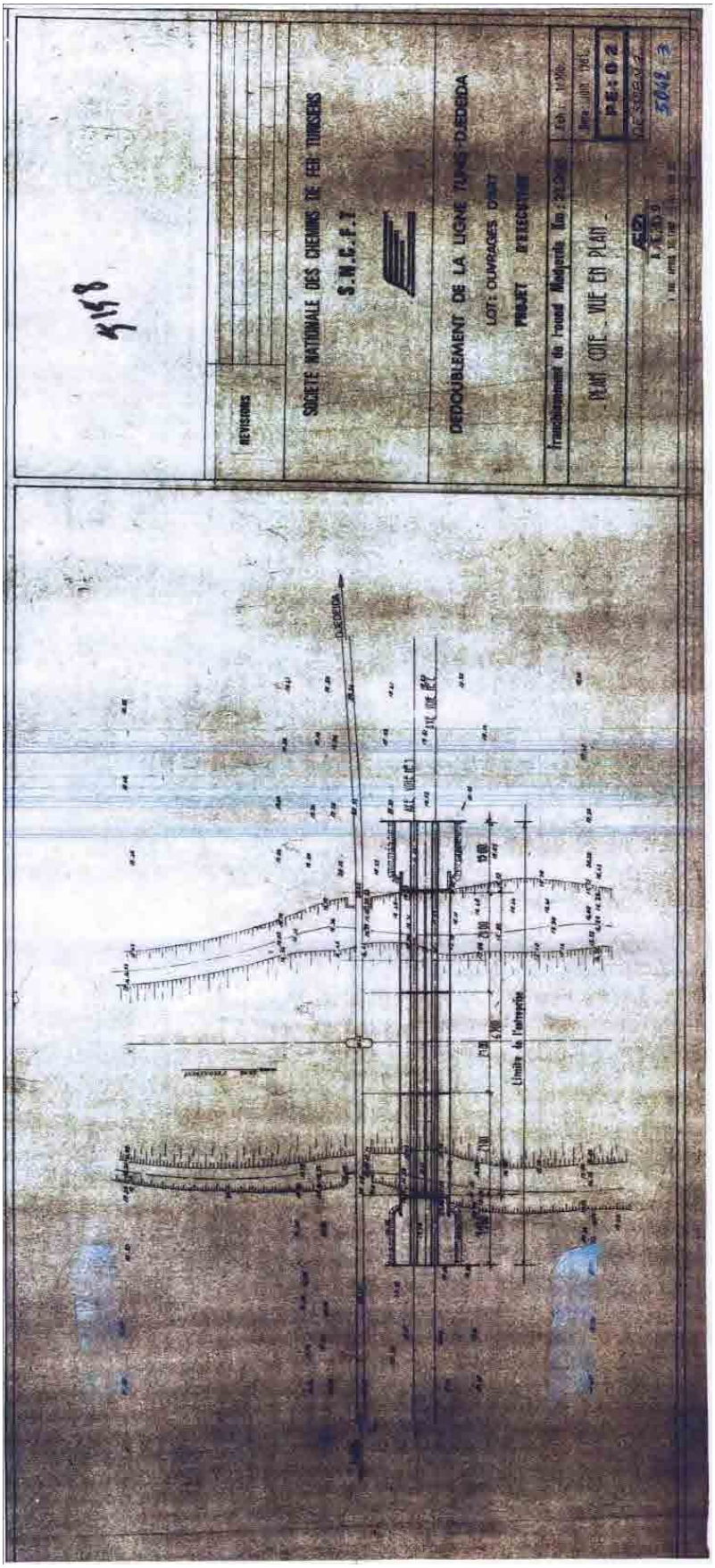
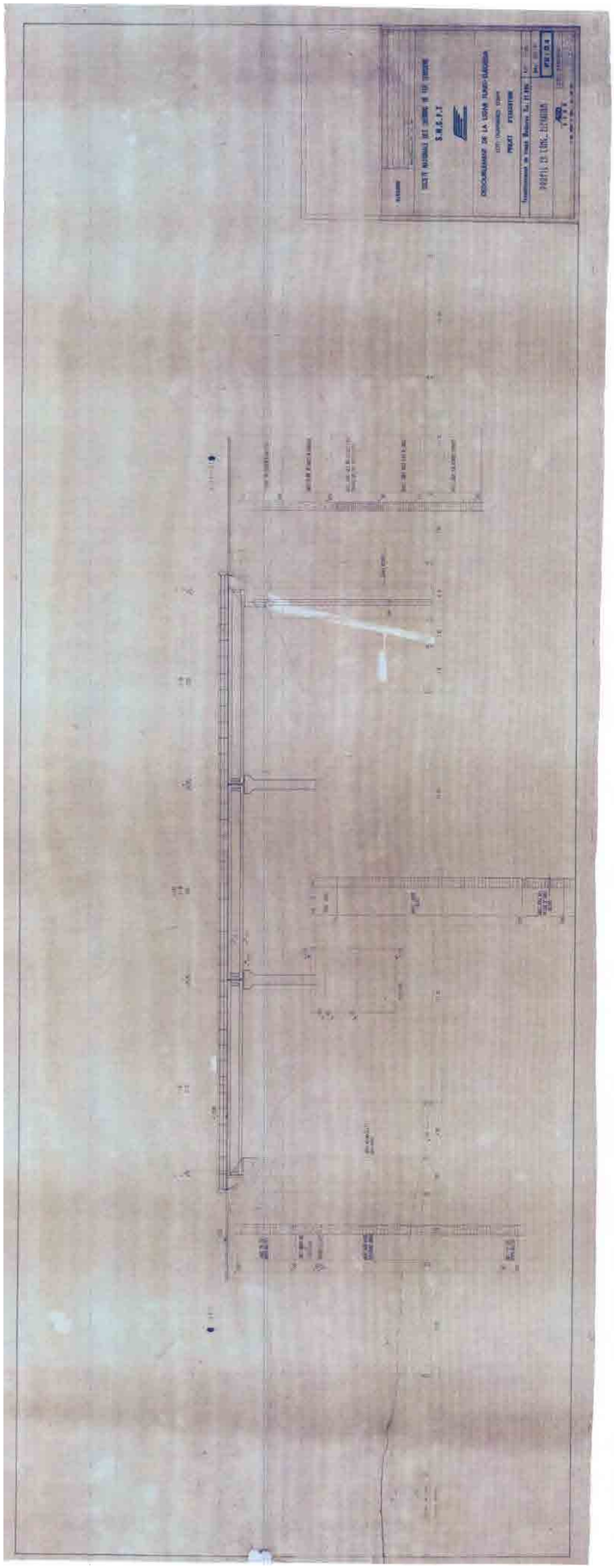
DE FRANCHISSEMENT DE OUED MEDJERDA SUR LA ROUTE
-MC50 - AU PK 66.6 DANS LE GOUVERNORAT DE L'ARIANA
- LOT 1 -
DOSSIER D'APPEL D'OFFRES
Dossier B : Plans
TRACE EN PLAN
SIGNALISATION & EQUIPEMENTS
LEGENDE
AMONT
AVAL
KILAAT L'NSAIRIA

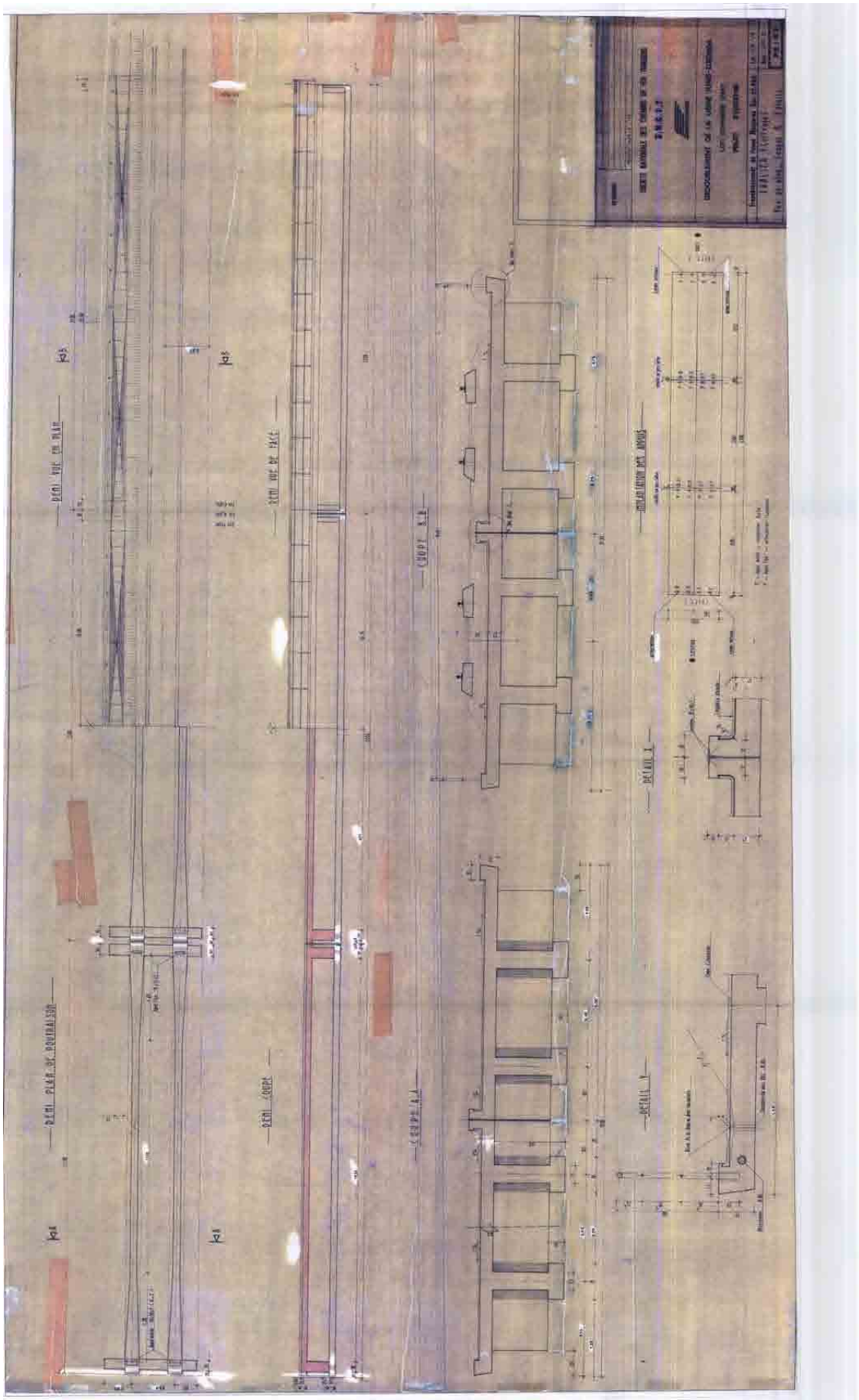
(2) JEDEIDA BRIDGE

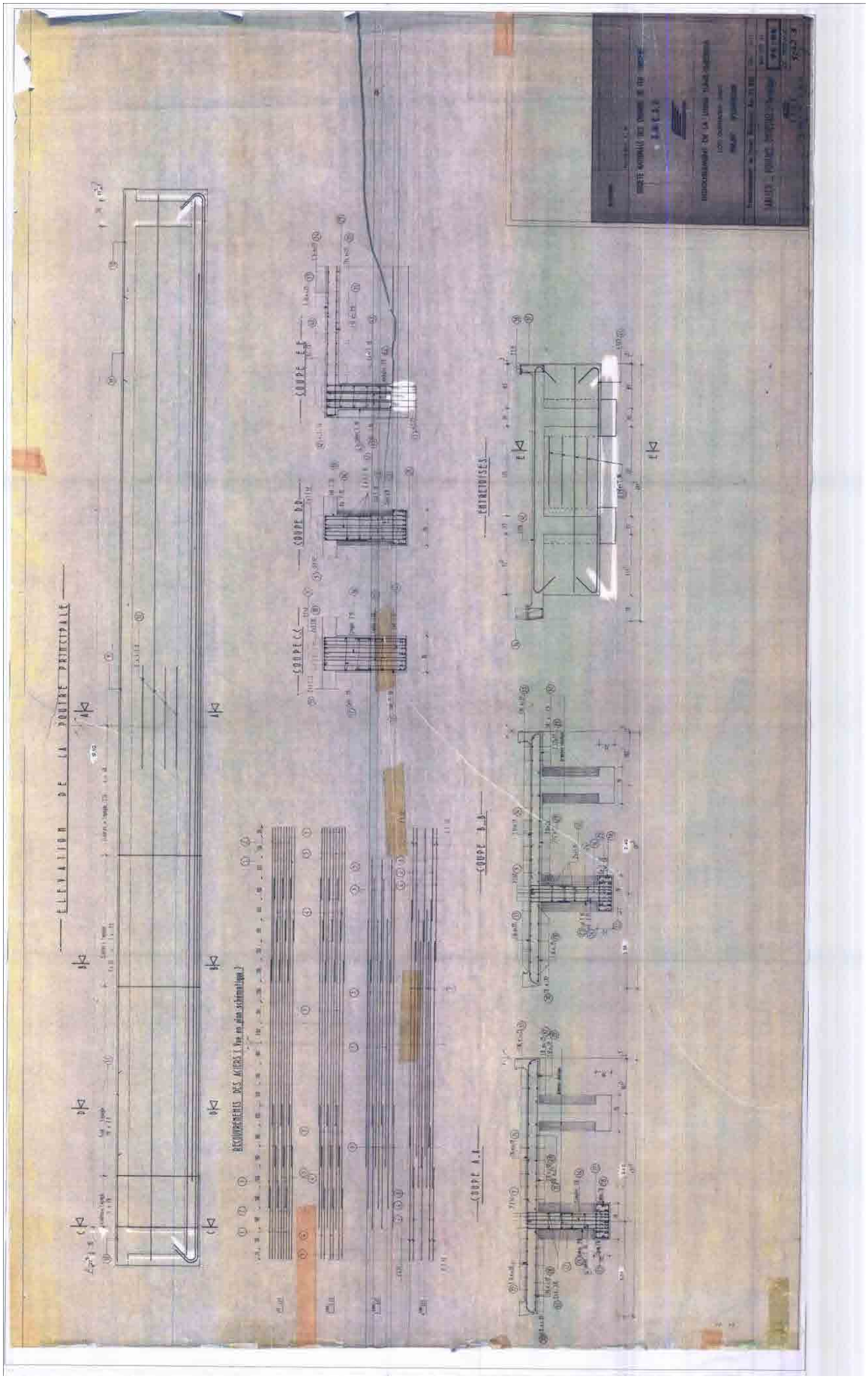


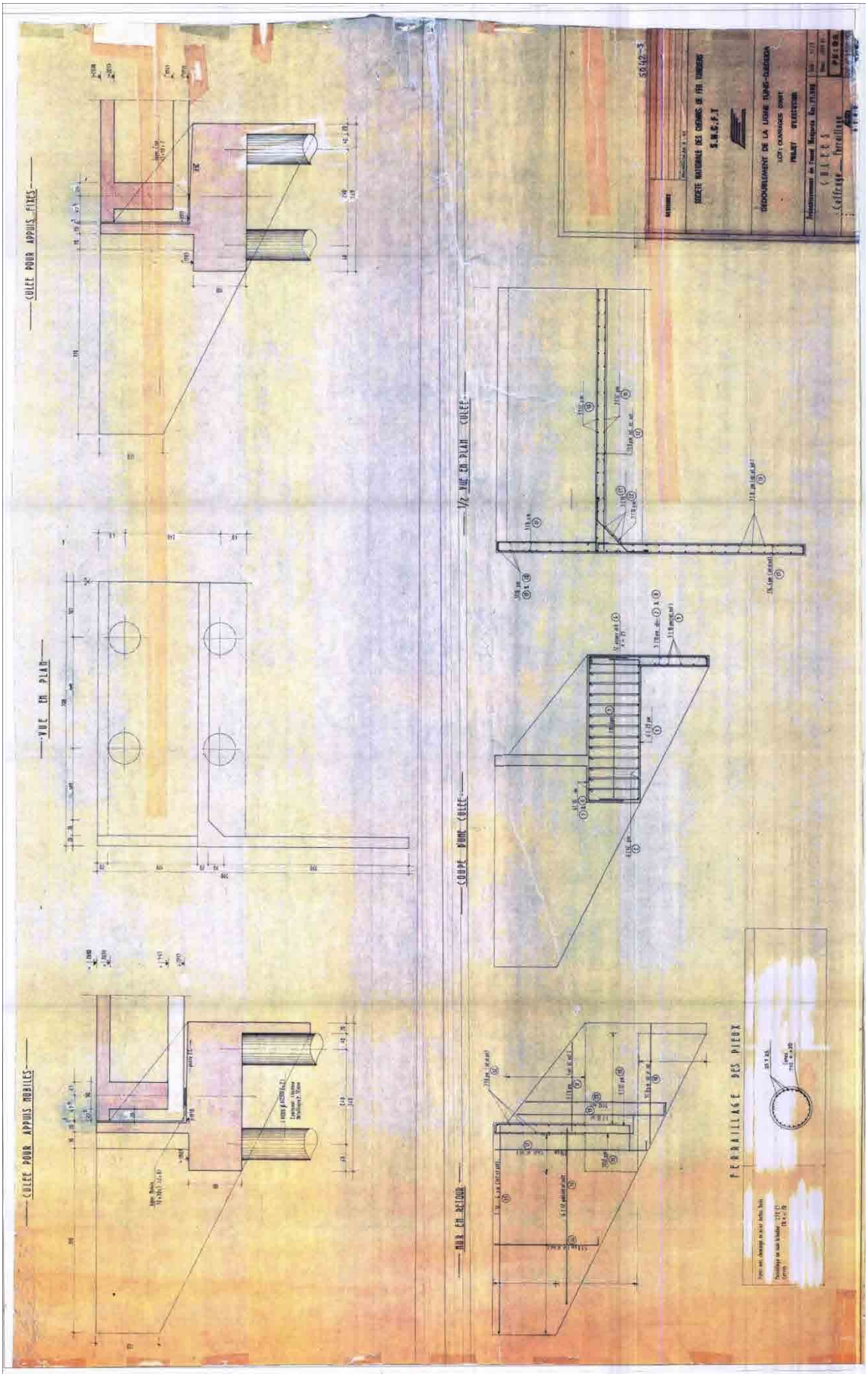
(3) JEDEIDA RAILWAY BRIDGE








ELEVATION DE LA DOUBLE PERIPHERIE
COUPE A-A
COUPE B-B
COUPE C-C
COUPE D-D
COUPE E-E
COUPE F-F
ENTRETOISES
RECOUVREMENTS DES ACIERS (Voir en plan schématique)


COUPE DUNE COLEE
1/2 VUE EN PLAN COLEE
VUE EN PLAN
COLEE POUR APPUIS FIXES
COLEE POUR APPUIS MOBILES
MUR EN RETOUR
FERRAILLAGE DES PIEUX

4.3 鉄道橋改修計画

(1) 改修計画検討条件

1) 橋梁条件

Item	Content
Bridge Length	L=63.0m(21.0+21.0+21.0m)
Vertical alignment	Level （Rail Level 21.0m）
Horizontal alignment	R=∞
Elevation of Orbit	Rail Level～Slab Level＝0.600m
Superstructure Type	Simple PCT girder ×3 span Girder Heights H=1.650m（Slab t=0.250m）

2) 河川条件

Item	Content	
River	Mejerda	
Position	37.834km	
River Width	Existing	W=58.92m
	Plan	W=86.43m（+27.51m）
Elevation of Levee	Right：20.9m , Left：21.2m	

3) 嵩上げ量

Item		Content
Elevation	Rail Level	21.0m
	Bottom of Girder	19.200m
	HWL	20.056m
Heights	HWL～Bottom of Girder	1.0m～
	New Girder	2.250m
	Rail Level～Slab Level	0.600m
Raising Amount		3.0m
	Rail Level 23.906m ～ Raising Amount 2.906m → 3.0m	

4) 仮線設置条件

Item	Content
Horizontal alignment	R=160m ～
Relaxation curve length	L＝400.000m
Longitudinal gradient	i ＝9.0‰
Horizontal alignment	R=2000m

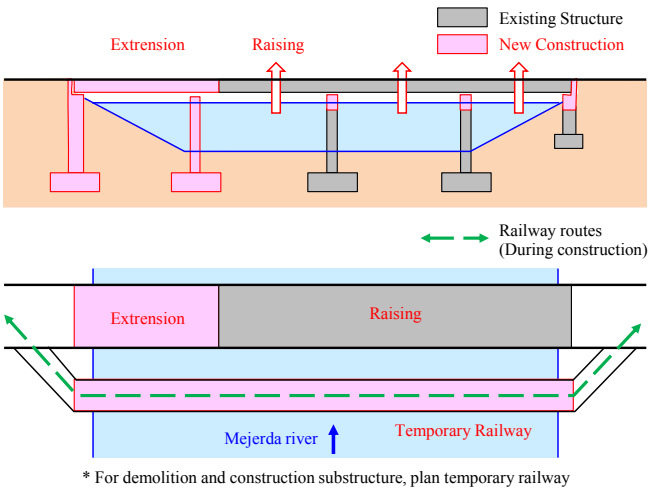
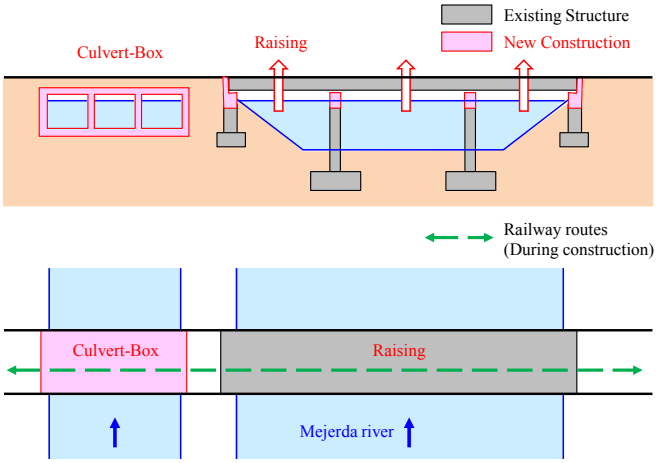
(2) 改修計画

1) 改修計画

本橋の条件下では、通常であれば、Plan A「仮線による線路切り回し＋橋梁改修」が最も経済性に優れる案となる。しかし、一般的には、仮線による線路切り回しは、仮線の施工延長が長くなるため、周辺への影響範囲が大きいと考えられる。

よって、代替案(Plan A)として、必要な河川断面を BOX 内空断面にて確保し、鉄道運行を妨げずに BOX を構築する工法を提案する。代表的な工法として HEP&JES 工法が挙げられる。(詳細は本文 6.4.1(1)参照)

比較の結果、Plan A「仮線による線路切り回し＋橋梁改修」を選定する。

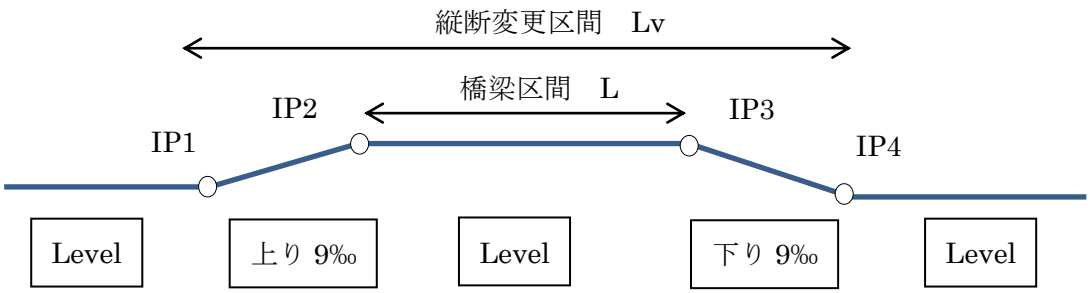
	Image	Cost(million yen)			
		item	Quantity	Cost	
Plan A	 * For demolition and construction substructure, plan temporary railway	Structire	1 Unit	95	○
		Excarvation	---	---	
		Approach	775m	37	
		Temporary railway	366m	8	
		TOTAL		140 (1.00)	
Plan B		Structire	1 Unit	154	×
		Excarvation	90,000m^3	32	
		Approach	748m	36	
		Temporary railway	---	---	
		TOTAL		222 (1.59)	

線路延長

a) 嵩上げに伴う軌道の施工延長の算出

縦断の変更高に対する軌道の施工延長を算出する。

1. 嵩上げ高　　⊿H＝3.0m
2. 嵩上げ延長　　A 案：L=90m（スパン 27+21+21+21m）
   B 案：L= 63m（スパン 21+21+21m）
3. 縦断勾配　　ｉ＝9‰



4. 軌道施工延長　　A 案：L=775m
   B 案：L= 748m

b) 線路仮切回しに伴う軌道の施工延長の算出

平面の切り回しに対する軌道の施工延長を算出する。

1. 平行移動距離　　⊿B＝12.0m
2. 仮線直線延長　　L=63m
3. 分岐角度　　4°46′（＝勾配 8.33%）
4. 緩和曲線　　なし

4. 軌道施工延長　　A 案：L=366m