

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.1

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Assignment Name: Technical and Economic Feasibility and Detailed Engineering Design of Dual carriageway, Gujranwala - Kharian 94 Km section of National Highway N-5 - Fourth IBRD Highway Project Loan 2841 Pak.		Country: Pakistan
Location within Country: Punjab, Gujranwala and Gujrat Districts.		Number of person-months of the entire project: 155
Name of Client: National Highways Board, Ministry of Communications, Government of Pakistan, Islamabad/The World Bank.		Total value of full project (in million US\$): US \$ 63 million
No. of Staff: 11		No. of persons-months: 155
Start (Month/Year): August 1986	Date	Completion Date (Month/Year): November 1987
		Approx. Value of Services (in million US\$): US\$ 0.344 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Two highway and transportation engineers, three structural engineers, two pavement engineers, two material engineers and one hydrologist and one Contracts Engineer were employed to carry out detailed survey, design, technical feasibility and tender documents preparation including pavement evaluation. One transport economist and one financial analyst provided inputs in economic feasibility report preparation. The team was supported by surveyors, draftsman, laboratory technicians, estimators, enumerators and other support staff.		
Brief Narrative Description of Project: The project consisted of the Preparation of a Technical and Economic Feasibility Study and Detailed Design, Preparation of Construction Drawings and Tender Documents as per World Bank Guidelines for an additional carriageway, 94 kilometers in length along the existing highway between Gujranwala and Kharian (National Highway, N-5) and 260 cross drainage structures of various types and sizes. Three major river bridges – Bridge over River Chenab (760 m), Pulkhu (265 m), and Bhimber (275 m), Railway Overhead Bridges at Dinga (240 m) and Wazirabad (36 m), bridge over Upper Chenab Canal (100 m) and one bridge on Wazirabad Bypass (60 m) were designed.		
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks, soil and sub soil investigations, study of borrow sources and their analyses, Quarry material sources and analysis, traffic counts and surveys, traffic forecasts, design of major intersections and traffic flow analyses, Design of Urban Areas, Design of Street Lighting, Axle loads study and related analyses, Origin Destination Surveys, Hydrological studies, Design of Storm Water Drainage, Existing pavement evaluation using Benkleman Beam Deflection Method, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis, Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities, Pavement Design, Structural Design, Design of Foundations, sub-structures, super structures, River Training Works, Preparation of Construction Drawings,		

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Bill of Quantities, Preparation of Mass Haul Diagram, Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract, Engineering Cost Estimates, Study of Regional

Development Plans, Market Studies – Regional Import Export Volumes, Crop Production etc., Transport Sector Policy Studies, Vehicle Operating Costs, Economic Analysis, Financial Analysis, Preparation of Technical and Economic Feasibility Report, Preparation of Project Planning Approval Document (PC I), Evaluation of Tenders as per IBRD Procurement Guidelines.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, International Transportation Tech., Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, New Structures/Reconstruction, Highways Safety, Road Transport Economics.

Urban Development Sector:

Land Readjustment, Traffic Management, Urban Transport Planning

Water Supply and Sanitation Sector:

Storm Drainage.

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Project Data Sheet No.2

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Assignment Name: Technical and Economic Feasibility and Detailed Engineering Design of Overlay for Existing Carriageway Gujranwala-Kharian 57 Km section of National Highway N-5, Fourth IBRD Highway Project. Loan 2841 Pak		Country: Pakistan	
Location within Country: Punjab, Gujranwala and Gujrat Districts.		Number of person-months of the entire project: 75	
Name of Client: National Highways Board, Ministry of Communications, Government of Pakistan, Islamabad/The World Bank.		Total value of full project (in million US\$): US \$ 17.36 million	
No. of Staff: 9		No. of Persons-Months: 75	
Start Date (Month/Year): January 1987	Completion Date (Month/Year): December 1987	Approx. Value of Services (in million US\$): US \$ 0.10 million	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One highway engineer, three structural engineers, two pavement engineers, and one materials engineer were employed to carry out detailed survey, design, technical feasibility and tender documents preparation including pavement evaluation. One transport economist and one financial analyst provided input in economic feasibility report preparation. Team was supported by surveyors, draftsmen, enumerators, laboratory technicians and other staff.			
Brief Narrative Description of Project: The project consisted of the Preparation of a Technical and Economic Feasibility Study and Detailed Design, Preparation of Construction Drawings and Tender Documents for improvements by means of an overlay on 57 kilometers of existing highway between Gujranwala and Kharian (National Highway, N-5) and rehabilitation/reconstruction of 175 cross drainage structures of various types and sizes.			
Description of Actual Services Provided: The work entailed: <ul style="list-style-type: none"> ▪ Detailed Topographic Survey ▪ Study on Alternate Alignments, Fixing of Permanent Reference Monuments and Establishing Permanent Bench Marks ▪ Soil, Sub Soil Investigations, Borrow Sources, Quarries and their analyses ▪ Traffic Counts & Surveys ▪ Axle Loads Study & related analyses ▪ Origin Destination Surveys ▪ Design of major intersections at bypasses of cities enroute. ▪ Hydrological studies ▪ Storm Water Drainage ▪ Existing pavement evaluation using Benkleman Beam Deflection Method ▪ Present Serviceability Ratings, Effective Thickness Method ▪ Capacity Analysis. ▪ Pavement Design, Detailed Design of Structures. ▪ Preparation of Construction Drawings, Plan and Profiles, Longitudinal Sections and Cross Sections 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.2

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- Bill of Quantities
 - Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract and Evaluation of Tenders as per FIDIC
 - Cost Estimates
 - Technical and Economic Feasibility Study
 - Financial Analysis
- Evaluation of Tender as per IBRD Guidelines

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, International Transportation Tech., Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, New Structures/Reconstruction, Highways Safety, Road Transport Economics, Structures (Airports)

Urban Development Sector:

Land Readjustment, Traffic Management, Urban Transport Planning

Water Supply and Sanitation Sector:

Storm Drainage

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.3

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Assignment Name: Preparation of Proposal for Construction of Lahore – Faisalabad Highways on BOT basis.		Country: Pakistan	
Location within Country: Province of Punjab,		Number of person-months of the entire project: 20	
Name of Client: Frontier Works Organization		Total value of full project (in million US\$): US \$ 75 million	
No. of Staff: 7		No. of Persons-Months: 20	
Start Date (Month/Year): October 2000	Completion Date (Month/Year): March 2001	Approx. Value of Services (in million US\$): US \$ 2,000	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Two Highway Engineers, one Transportation Economist, one Structural Engineer, one Material Engineer, one Measurement Engineer and one Contracts Specialist supported by surveyors and laboratory technicians carried out the assignment.			
Brief Narrative Description of Project: The project consisted of the preliminary design and preparation of a Technical and Financial Feasibility Study for a 4 lane divided highway from Lahore to Faisalabad including urban areas and bypasses. Project is to be undertaken on a BOT basis for a concession period of 25 years.			
Description of Actual Services Provided: The services provided included <ul style="list-style-type: none"> ▪ Preliminary Topographic Survey and alternate alignment studies ▪ Study of Alternative Routes ▪ Regional Development Plans ▪ Soil Surveys ▪ Study of Borrow Sources ▪ Traffic Counts and Surveys ▪ Axle Loads Study ▪ Capacity Analysis ▪ Preliminary Pavement Design ▪ Preliminary Structural Design ▪ Preliminary BOQ and Cost Estimates ▪ Study on Land Acquisition and Right of Way ▪ Study on Relocation of Utilities and Costs ▪ Road Facility Planning ▪ Construction Management and Resource Planning ▪ Planning Studies ▪ Feasibility Studies 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.3

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- Technical Studies
- Economic Studies
- Toll Studies, Road User Charges
- Organization and Management for a Road Building and Operating Company
- Operations and Maintenance Requirements Planning
- Financial Studies, Sensitivity Analysis, Risk Analysis
- Project Financing Advice.

Type of Services provided:

Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Tariff Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Material Testing, Manpower Requirements Studies.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management, Corporate/Firm Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Highways, Organization / Funding & Programming, Highway Traffic Control, Highway Legislation, Highway Safety, Road Transport Economics, Road User Charges, Management Firms, Financial Analysis / Costing & Tariffs (Road Transportation Industry).

Urban Development Sector:

Strategic Development Planning (Incl. Master Planning), Urban Transport Planning.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.4

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Assignment Name: Preparation of Proposal for Design & Construction of Highway on a New Alignment Across Lakh Pass on BOT basis - National Highway N-40.		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 20	
Name of Client: M/s Rakhshani Builders		Total value of full project (in million US\$): US \$ 4.2 million	
No. of Staff: 6		No. of Persons-Months: 20	
Start (Month/Year): October 2000	Date	Completion Date (Month/Year): March 2001	Approx. Value of Services (in million US\$): US \$ 0.02 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One Highway Engineer, one Structural Engineer, one Pavement Engineer, one Material Engineer, one Transport Economist and one Contracts Specialist were deployed for this assignment.			
Brief Narrative Description of Project: A proposal was prepared for a private investor for re-alignment of National Highway N-40 across Lakh Pass near Quetta on a BOT basis for a 25 year concession period. The existing alignment has steep gradients of 10 to 14% with sharp hair pin bends. The project envisages a new alignment and extensive cutting of over 85 meters depth in order to improve the gradients to less than 6% and meeting horizontal geometric standards as per AASHTO. The proposal has been accepted by the Employer National Highway Authority, MOC, Govt. of Pakistan and concession agreement is about to be signed.			
Description of Actual Services Provided: The services provided included <ul style="list-style-type: none"> ▪ Preliminary Topographic Survey ▪ Study of Alternative Alignments ▪ Soil, Borrow Sources, Quarries and their analysis ▪ Traffic Counts and Surveys ▪ Axle Loads Study ▪ Capacity Analysis ▪ Preliminary Pavement Design ▪ Preliminary Geometric Design ▪ Preparation of Typical Cross Sections ▪ Land Acquisition Studies ▪ Relocation of Utilities ▪ Organization for Road Building and Operating Company ▪ Operating and Maintenance Resource Planning ▪ Work Plan 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.4

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- Preliminary Bill of Quantities and Estimates
- Review of Concession Agreement, Conditions of Contract
- Toll Rates/User Charges Study
- Financial Analysis
- Financing Arrangements
- Bid Negotiations

Type of Services provided:

Topographic Surveys, Planning Studies, Feasibility Studies, Economic Studies, Financial Studies, Tariff Studies, Technical Studies, Operations Studies, Project Financing Advice, Design – Architectural / Engineering/ Industrial etc., Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Procurement Services, Materials Testing, Operation Maintenance, Maintenance Planning, Management Studies, Manpower Requirements Studies.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Maintenance of Highways, Organization / Funding & Programming, Highway Legislation, Highway Safety, Road Transport Economics, Road User Charges, Financial Analysis / Costing & Tariffs (Road Transportation Industry).

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.5

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Assignment Name: Detailed Design and Construction Supervision of Farm to Market Roads Project, Phase II: Balochistan – ADB Loan 917 Pak (SF)		Country: Pakistan									
Location within Country: Province of Balochistan		Number of person-months of the entire project: 324									
Name of Client: Communication and Works Department, Government of Balochistan.		Total value of full project (in million US\$): US \$ 29 million									
No. of Staff: 62		No. of Persons-Months: 324									
Start Date (Month/Year): November 1990	Completion Date (Month/Year): June 1997	Approx. Value of Services (in million US\$): US \$ 2.6 million									
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil									
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Top supervision was provided by senior management. A Technical Manager, Highway and Structural Design Engineers, Pavement Design Engineers, Material Engineer, Surveyors, CAD Designers and other staff was deployed for design. For construction supervision Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers Inspectors, Laboratory Technicians, Surveyors, Quantity Surveyors were deployed.											
Brief Narrative Description of Project: Detailed engineering design and construction supervision of the following Farm to Market Roads in the Province of Balochistan: <table border="0"> <tr> <td>1.</td> <td>Nuttal - Gandawa Road</td> <td>89 KM</td> </tr> <tr> <td>2.</td> <td>Winder - Bagh Road</td> <td>24 KM</td> </tr> <tr> <td>3.</td> <td>Loralai - Khanozai Road via Spera Ragma Road</td> <td>96 KM</td> </tr> </table>			1.	Nuttal - Gandawa Road	89 KM	2.	Winder - Bagh Road	24 KM	3.	Loralai - Khanozai Road via Spera Ragma Road	96 KM
1.	Nuttal - Gandawa Road	89 KM									
2.	Winder - Bagh Road	24 KM									
3.	Loralai - Khanozai Road via Spera Ragma Road	96 KM									
Description of Actual Services Provided: The work entailed survey, soil investigations, route alignment, traffic studies, geometric design, pavement design and preparation of all tender documents and drawings in the design stage as per guidelines of the Asian Development Bank. Details of services provided are as follows:- <ul style="list-style-type: none"> - Detailed Topographic Survey - Study on Alternate Alignments - Fixing of Permanent Reference Monuments and Establishing Permanent Bench Marks - Soil, Sub Soil Investigations, Borrow Sources, Quarries and their analysis 											

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.5

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- Traffic Counts and Surveys, Axle Loads Study and related analysis
- Hydrological Studies, Design of River Training Works
- Capacity Analysis
- Pavement Design
- Detailed Design of Bridges, Sub Structures/Super Structures, Drainage Structures
- Storm Water Drainage
- Preparation of Construction Drawings, Plan and Profiles, Longitudinal Sections and Cross Sections
- Bill of Quantities
- Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract as per FIDIC
- Evaluation of Tenders / Bids for Procurement

During Supervision:

- Project Monitoring
- Construction Contract Management
- Quality Control
- Quality Assurance
- Materials Testing
- Contract Interpretation and Evaluation of Claims
- Setting out of Works
- Inspection and Testing as per Specifications
- Processing of Bills/IPC's

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Procurement Services, Supervision/ Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure, Flood/River Control Works.

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction), Bridges (Road Transportation Facilities), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.6

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Assignment Name: Detailed engineering design and construction supervision of Farm to Market Roads Project Phase II: Sukkur and Larkana Districts – ADB Loan 917 Pak (SF).		Country: Pakistan
Location within Country: Province of Sindh		Number of person-months of the entire project: 355
Name of Client: Communication and Works Department, Government of Sindh.		Total value of full project (in million US\$): US \$ 26 million
No. of Staff: 49		No. of Persons-Months: 355
Start Date (Month/Year): April 1991	Completion Date (Month/Year): June 1997	Approx. Value of Services (in million US\$): US \$ 1.136 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Top supervision was provided by senior management. A Technical Manager, Highway and Structural Design Engineers, Pavement Design Engineers, Material Engineer, Surveyors, CAD Designers and other staff was deployed for design. For construction supervision Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers Inspectors, Laboratory Technicians, Surveyors, Quantity Surveyors were deployed.		
Brief Narrative Description of Project: The project comprises detailed engineering design and construction supervision covering about 164 KM of Farm to Market Roads in the following districts of Sindh Province: 1. Larkana District 92.85 KM 2. Sukkur District 71.00 KM		
Description of Actual Services Provided: The work entailed survey, soil investigations, route alignment, traffic studies, geometric design, pavement design and preparation of all tender documents and drawings in the design stage as per guidelines of the Asian Development Bank. Details of services provided are as follows:- ➤ Detailed Topographic Survey ➤ Study on Alternate Alignments ➤ Fixing of Permanent Reference Monuments and Establishing Permanent Bench Marks ➤ Soil, Sub Soil Investigations, Borrow Sources, Quarries and their analysis		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Traffic Counts and Surveys, Axle Loads Study and related analysis
- Hydrological Studies, Design of River Training Works
- Capacity Analysis
- Pavement Design
- Detailed Design of Bridges, Sub Structures/Super Structures, Drainage Structures
- Storm Water Drainage
- Preparation of Construction Drawings, Plan and Profiles, Longitudinal Sections and Cross Sections
- Bill of Quantities
- Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract as per FIDIC
- Evaluation of Tenders / Bids for Procurement

During Supervision:

- Project Monitoring
- Construction Contract Management
- Quality Control
- Quality Assurance
- Materials Testing
- Contract Interpretation and Evaluation of Claims
- Setting out of Works
- Inspection and Testing as per Specifications
- Processing of Bills/IPC's

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Procurement Services, Supervision/ Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure, Flood/River Control Works.

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction), Bridges (Road Transportation Facilities), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.7

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Assignment Name: Detailed Engineering Design and construction supervision of Farm to Market Roads Project in Khairpur District of the Province of Sindh – ADB Loan 917 Pak (SF)		Country: Pakistan															
Location within Country: Province of Sindh		Number of person-months of the entire project: 253															
Name of Client: Communication & Works Department, Government of Sindh.		Total value of full project (in million US\$): US \$ 20.36 million															
No. of Staff: 75		No. of Persons-Months: 253															
Start Date (Month/Year): June 1991	Completion Date (Month/Year): December 1996	Approx. Value of Services (in million US\$): US \$ 0.910 million															
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil															
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Top supervision was provided by senior management. A Technical Manager, Highway and Structural Design Engineers, Pavement Design Engineers, Material Engineer, Surveyors, CAD Designers and other staff was deployed for design. For construction supervision Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers Inspectors, Laboratory Technicians, Surveyors, Quantity Surveyors were deployed.																	
Brief Narrative Description of Project: The project comprised detailed engineering design and construction supervision of the following roads totaling 139 kilometers in Khairpur District: <table border="0"> <tr> <td>1) Thari Mirwah - Mehrabpur Road</td> <td>24 KM</td> </tr> <tr> <td>2) Kot Lalu - Akro Road</td> <td>23 KM</td> </tr> <tr> <td>3) National Highway to Adam Sultan</td> <td>10 KM</td> </tr> <tr> <td>4) Kumb Kot Lalu to Pholri via Bhango</td> <td>17 KM</td> </tr> <tr> <td>5) Nara Gate to Tajjal</td> <td>30 KM</td> </tr> <tr> <td>6) Mehrabpur to Thari Mirwah via Haji Kabul Mojal</td> <td>19 KM</td> </tr> <tr> <td>7) Razidero to Baharo via Sona Bhatti</td> <td>16 KM</td> </tr> </table>				1) Thari Mirwah - Mehrabpur Road	24 KM	2) Kot Lalu - Akro Road	23 KM	3) National Highway to Adam Sultan	10 KM	4) Kumb Kot Lalu to Pholri via Bhango	17 KM	5) Nara Gate to Tajjal	30 KM	6) Mehrabpur to Thari Mirwah via Haji Kabul Mojal	19 KM	7) Razidero to Baharo via Sona Bhatti	16 KM
1) Thari Mirwah - Mehrabpur Road	24 KM																
2) Kot Lalu - Akro Road	23 KM																
3) National Highway to Adam Sultan	10 KM																
4) Kumb Kot Lalu to Pholri via Bhango	17 KM																
5) Nara Gate to Tajjal	30 KM																
6) Mehrabpur to Thari Mirwah via Haji Kabul Mojal	19 KM																
7) Razidero to Baharo via Sona Bhatti	16 KM																
Description of Actual Services Provided: The work entailed survey, soil investigations, route alignment, traffic studies, geometric design, pavement design and preparation of all tender documents and drawings in the design stage as per guidelines of the Asian Development Bank.																	

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Details of services provided are as follows:-

- Detailed Topographic Survey
- Study on Alternate Alignments
- Fixing of Permanent Reference Monuments and Establishing Permanent Bench Marks
- Soil, Sub Soil Investigations, Borrow Sources, Quarries and their analysis
- Traffic Counts and Surveys, Axle Loads Study and related analysis
- Hydrological Studies, Design of River Training Works
- Capacity Analysis
- Pavement Design
- Detailed Design of Bridges, Sub Structures/Super Structures, Drainage Structures
- Storm Water Drainage
- Preparation of Construction Drawings, Plan and Profiles, Longitudinal Sections and Cross Sections
- Bill of Quantities
- Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract as per FIDIC
- After design stage was completed, pre-qualification of contractors, NIT, pre-bid meetings, bid evaluations and recommendation for award was carried out as per ADB Guidelines.

During Supervision:

- Project Monitoring
- Construction Contract Management
- Quality Control
- Quality Assurance
- Materials Testing
- Contract Interpretation and Evaluation of Claims
- Setting out of Works
- Inspection and Testing as per Specifications
- Processing of Bills/IPC's

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Procurement Services, Supervision/ Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure, Flood/River Control Works.

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction), Bridges (Road Transportation Facilities), Highways Safety.

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Project Data Sheet No.8

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Assignment Name: Supervision Services for the Construction of National Highway N-40 between Dalbandin and Nokkundi, 86 Kilometers, Section III-A		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 1040
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 33 million
No. of Staff: 52		No. of Persons-Months: 1040
Start Date (Month/Year): February 1994	Completion Date (Month/Year): February 2001	Approx. Value of Services (in million US\$): US \$ 1.356 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: Construction of Section III-A (86 Kms) is a part of improvement of National Highway N-40 from Lakhpass to Nokkundi. The design of this highway from Quetta (Lakhpass) to Taftan, 607 Kms, was also carried out by ACC (Pvt) Ltd., This project is of great regional and international importance as it is a part of the National Highway N-40 and also of the RCD Highway which constitutes the countries only land link with Iran, Turkey and onwards to Europe. The project is located in a very remote area of Pakistan with logistics support being provided over a distance of 1600 kilometers. Highway consists of 7.3 meters wide asphaltic pavement with 3 meter shoulders on both sides. In this Contract, ACC was the nominated Engineer for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s Al-Khan Construction Co., Pakistan.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.8

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- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No.9

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Assignment Name: Supervision Services for the Construction of National Highway N-40 between Dalbandin and Nokkundi, 88 Kilometers, Section III-B		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 1040
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 37 million
No. of Staff: 52		No. of persons-months: 1040
Start Date (Month/Year): February 1994	Completion Date (Month/Year): September 2000	Approx. Value of Services (in million US\$): US \$ 1.44 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: Construction of Section III-B (88 Kms) is a part of improvement of National Highway N-40 from Lakhpass to Nokkundi. The design of this highway was also carried out by ACC (Pvt) Ltd., This project is of great regional and international importance as it is a part of the National Highway N-40 and also of the RCD Highway which constitutes the countries only land link with Iran, Turkey and onwards to Europe. The project is located in a very remote area of Pakistan with logistics support being provided over a distance of 1600 kilometers. Highway consists of 7.3 meters wide asphaltic pavement with 3 meter shoulders on both sides. In this Contract, ACC was the nominated Engineer for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s Stratus IRDO J.V. Iran.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.9

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- Insitu testing of densities and compaction using AASHTO standards.
 - Preparation of Concrete Mix Designs and testing of Concrete.
 - Preparation of Job Mix Formulae for Asphalt.
 - Review and adjustments to geometric design and design of structures as per site requirements.
 - Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks. Assisting the contractor in improving his logistics and methodology.
 - Evaluation of Contractor's Claims
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector

Flood/River Control Works

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Design Vetting & Supervision Services for the Construction of Overlay on National Highway N-5 between Gujranwala and Kharian (57) kms - Contract 8bl, 4 th IBRD Highway Loan 2841 Pak		Country: Pakistan	
Location within Country: Province of Punjab		Number of person-months of the entire project: 260	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 19 million	
No. of Staff: 12		No. of Persons-Months: 260	
Start Date (Month/Year): July 1993	Completion Date (Month/Year): December 1996	Approx. Value of Services (in million US\$): US \$ 0.62 million	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: For design vetting: Sr. Design Engineer, Pavement Design Engineer, Highway Design Engineer, Surveyors, Quantity Surveyors, and Material Engineer were deployed. For Supervision a Resident Engineer, Site Engineer, Material Engineer, Surveyor and Quantity Surveyor along with other support staff was deployed provided contract administration and quality control and assurance on behalf of the Client.			
Brief Narrative Description of Project: Design of overlay was made in 1987 by ACC, however due to late construction start, design vetting was carried out and overlay design re-evaluated. Construction of Improvement of a 57 km section of National Highway N-5 between Gujranwala and Kharian was a part of improvement of National Highway N-5 from Lahore to Rawalpindi under the 4 th IBRD Highway Project. In this Contract, ACC was the Engineer for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The work was awarded to M/s J&P (Cyprus).			
Description of Actual Services Provided: During design vetting the following tasks were performed:- <ul style="list-style-type: none"> ✓ Traffic Counts and forecasting ✓ Axle Load Studies and calculation of Design ESALS ✓ NDT/FWD and Back Calculations ✓ Pavement Condition Evaluation ✓ Pavement Design ✓ Design of Major Intersections, Traffic Signals ✓ Design of Urban Areas, Bus Bays, Channelization ✓ Plan & Profile Drawings 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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The following supervision services were provided:-

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Assist client in land acquisition proceedings.
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards.
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Quality Control/Quality Assurance
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks. Assisting the contractor in improving his logistics and methodology.
- Evaluation of Contractors Claims
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

Urban Development Sector:

Street Lighting, Traffic Management, Signs & Signalization, Channelization, Traffic Flow, Regulation Measures, Area Traffic Control Schemes, Urban Transport Planning, Traffic/Transport Surveys & Analysis.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Design and Supervision Services for Overlay on National Highway N-5 between Lahore and Gujranwala (40) kms, including Rehabilitation / widening of Structures and improvement of Urban Areas - Pavital Catalyzed Sections, Phase I and II.		Country: Pakistan	
Location within Country: Province of Punjab		Number of person-months of the entire project: 90	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 11.212 million	
No. of Staff: 6		No. of persons-months: 90	
Start (Month/Year): February 1994	Date	Completion Date (Month/Year): June 1995	Approx. Value of Services (in million US\$): US \$ 0.106 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: For design vetting: Sr. Design Engineer, Pavement Design Engineer, Quantity Surveyor, Surveyors, Material Engineer and other support staff were deployed. For Supervision One Resident Engineer, Lab. Technician, One Surveyor, Site Engineer and a Senior Surveyor were deployed to provide Quality Assurance/Quality Control and Contract Monitoring on behalf of the Client.			
Brief Narrative Description of Project: The Project consisted of Design and Construction Monitoring of Improvement of a 40 km section of National Highway N-5 between Lahore and Gujranwala by means of an overlay. Scope included design and construction of urban areas. The project is unique in Pakistan as it introduced a new technology using a stabilized catalyzed base product which is a patented material developed by the Contractor, M/s Pavital SPA (Italy). The pavement structure has a full guarantee of five years by the contractor in an environment consisting of high temperatures, over loading and high tire pressures. Phase I & II consisting of 20 Km each have been completed. In these Contracts, ACC was nominated as the Engineer for the Project, and the interpretation, and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents.			
Description of Actual Services Provided: In design ACC provided surveying, field testing, soil studies, NDT/FWD testing and evaluation, traffic studies and forecasting, axle load studies and design EASLs analysis, cross drainage requirements and design of structures, vetting of pavement design and drawings prepared by the Contractor. Detailed analysis and design of Urban Areas, design of storm water drainage in urban areas, design of intersections, signs, channelization, bus bays, lighting etc., and design of other improvements for better traffic flow in highly congested areas was carried out by ACC.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.11

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The following supervision monitoring tasks are being carried out:

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards.
- Preparation and approval of Concrete Mix Designs and testing of Concrete.
- Preparation and approval of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Maintenance of Highways, Highway Traffic Control, Highways Safety.

Urban Development Sector:

Traffic Management, Signs & Signalization, Channelization, Traffic Flow Regulation Measures, Area Traffic Control Schemes, Urban Transport Planning.

Water Supply and Sanitation Sector:

Strom Drainage

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.12

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Assignment Name: Detailed Engineering Design and Technical & Economic Feasibility Study for Gwadar Ratodero Motorway, Khuzdar- Karkh - Shahdad Kot Section - 208 Kilometers including Nineteen Major Bridges.		Country: Pakistan	
Location within Country: Provinces of Balochistan and Sindh		Number of person-months of the entire project: 180	
Name of Client: National Highways Authority, MOC, Government of Pakistan		Total value of full project (in million US\$): US \$ 133.33 million	
No. of Staff: 15		No. of persons-months: 180	
Start Date (Month/Year): June 1993	Completion Date (Month/Year): January 1995	Approx. Value of Services (in million US\$): US \$ 0.280 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Sr. Design Engineer, Pavement Design Engineer, Sr. Structures Engineer, Highway Designers, Contract Specialist, Transport Economist, Materials Engineer, CAD Engineers, Estimators and support staff were deployed to carry out the detailed design and technical / economic feasibility study.			
Brief Narrative Description of Project: A 208 kilometers long highway from Khuzdar City (Balochistan) to Shahdadkot (Sindh) has been designed. This proposed road traverses through some of the most arid and difficult mountainous regions of Balochistan, providing an East-West link for Sindh and Balochistan provinces in addition to being a vital section of the Gawadar - Ratodero Motorway. The road is a 7.3 meters wide, Asphalt pavement with three meter shoulders. Bypasses for three towns along the route have been provided. The number of major bridges designed in this section is nineteen. A total of 75 additional Kms was traversed to identify alternate alignments for the road in the Kirthar range / Wangu Hills area and extensive use was made of aerial photographs and aerial reconnaissance.			
Description of Actual Services Provided: Tasks executed were: <ul style="list-style-type: none"> • Geodetic survey, detailed topographic survey, route and alignment selection, fixing of permanent reference monuments and permanent benchmarks. • Soil investigations including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests. Sub Soil investigations for bridges were carried by means of boring, SPT etc., study of borrow sources, quarries and related analyses of materials. • Study of Right of Way, land acquisition and relocation of utilities • Traffic counts and surveys, origin - destination studies • Axle load studies and determination of Design ESALs • Pavement Design • Highway Geometric Design • Design of nineteen (19) major bridges over river including sub structure, super structure 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Design of river training works
- Design of Retaining Walls
- Design of intersections.
- Hydrological studies
- Capacity analysis.
- Preparation of Mass Haul Diagrams for cut/fill.
- Geometric pavement design, detailed design of structure,
- Economic studies, sensitivity analysis
- Preparation of Project Approval Documents (PC I)
- Preparation of construction drawings, bill of quantities, preparation of specifications, tender documents etc. as per FIDIC.

Type of Services provided:

Aerial Surveys/Satellite Imagery, Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Designation Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Highways Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.13

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Assignment Name: Construction Supervision Services for Contract Package I (35 Km) of Khuzdar Shahdadkot Section of Gwadar Ratodero Motorway.		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 1050
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 12.2 million
No. of Staff: 15		No. of persons-months: 990
Start Date (Month/Year): September 1994	Completion Date (Month/Year): January 2001	Approx. Value of Services (in million US\$): US \$ 1.085 million
Name of Associated Firm (s), If Any: M/s Irshad Nabi & Associates, Pakistan		No. of Months of Professional Staff Provided by Associated Firm (s): 60
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Resident Engineer, Assistant Resident Engineers, Material Engineers, Site Engineers, Laboratory Technicians, Surveyors, Quantity Surveyors. All staff was deployed to provide fulltime supervision, contract administration, quality control and assurance on behalf of the Client.		
Brief Narrative Description of Project: Construction supervision of the first 35 kilometers section of the Gwadar Ratodero Motorway between Khuzdar and Shahdadkot (208 kms) designed by ACC (Pvt) Ltd. This project is of great regional and international importance as it is a part of the proposed Gwadar Ratodero Motorway linking the new Gwadar Port to the main highway networks of Pakistan. Section traverses hilly to mountainous terrain and includes large cut sections and two major bridges. In this Contracts, ACC was the Engineer for the Project, and the interpretation, and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents.		
Description of Actual Services Provided: The following supervision tasks were carried out during the course of the project as designated Engineer: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist client in land acquisition proceedings. • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards. • Preparation and approval of Concrete Mix Designs and testing of Concrete. • Preparation and approval of Job Mix Formulae for Asphalt. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Quality Control/Quality Assurance
 - Review and adjustments to geometric design and design of structures as per site requirements.
 - Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks. Assisting the contractor in improving his logistics and methodology.
 - Checking of Shop Drawings and approval of plans/programmes.
 - Maintenance planning and supervision of execution after completion of project.
 - Evaluation of Contractors Claims
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Soil Surveys, Topographic Surveys, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Maintenance Planning, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Maintenance of Highways, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.14

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Assignment Name: Design of National Highway N-40 & Updating Technical and Economic Feasibility Study for Improvement of Quetta (Lakhpas) - Nokkundi Section (478 Kilometers).		Country: Pakistan	
Location within Country: Provinces of Balochistan		Number of person-months of the entire project: 215	
Name of Client: National Highways Authority, MOC, Government of Pakistan		Total value of full project (in million US\$): US \$ 191.2 million	
No. of Staff: 22		No. of persons-months: 215	
Start (Month/Year): August 1993	Date	Completion Date (Month/Year): December 1994	Approx. Value of Services (in million US\$): US \$ 0.390 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Technical Manager, four highway engineers, three structural engineers, two pavement engineers and two material engineers, one hydrologist and three junior engineers were employed to carry out detailed survey, design, preparation of technical and economic feasibility and tender documents including pavement evaluation. Economist and financial analyst assisted in the feasibility.			
Brief Narrative Description of Project: This 478 km long highway was earlier designed as a 6.1 m wide two lanes facility in 1985. NHA subsequently decided to revise the design to 7.3 m standard width pavement with improved geometrics. The project covered the engineering services for redesigning and carrying out re-alignment in nearly 45% of the length. Several bridges and railway overhead passes were also designed. The assignment included soil investigation, traffic surveys, improvement of geometrics, pavement evaluation, overlay design and pavement widening from an existing 3.4 m to 7.3 m and new highway design in re-aligned reaches. The work also involved more than 1100 cross drainage structures.			
Description of Actual Services Provided: Services provided were were: <ul style="list-style-type: none"> • Geodetic survey, detailed topographic survey, route and alignment selection, fixing of permanent reference monuments and permanent benchmarks. • Soil investigations including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests. Sub Soil investigations for bridges were carried by means of boring, SPT etc., study of borrow sources, quarries and related analyses of materials. • Study of Right of Way, land acquisition and relocation of utilities • Traffic counts and surveys, origin - destination studies • Axle load studies and determination of Design ESALs • Pavement Design • Highway Geometric Design • Design of nineteen (19) major bridges over river including sub structure, super structure • Design of river training works • Design of Retaining Walls 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Design of intersections.
- Hydrological studies
- Capacity analysis.
- Preparation of Mass Haul Diagrams for cut/fill.
- Determine of Vehicle Operating Costs
- Establishing Toll Rates for cross border traffic
- Economic studies, Financial Studies, Sensitivity Analysis
- Feasibility Studies
- Preparation of Project Approval Documents (PC I)
- Preparation of construction drawings, bill of quantities, preparation of specifications, tender documents etc. as per FIDIC.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, - Traffic/Origin-Destination Surveys, Demand forecasting, Policies & Investment Programs, Highway Planning & Programming, Highways, New Highways/ Improvements & Reconstruction, Too Roads, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Maintenance of Highways, Organization/Funding & Programming, Highways Safety, Road Transport Economics, Road User Charges, Financial Analysis/Costing & Tariffs (Road Transportation Industry).

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.15

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Assignment Name: Detailed Engineering Design & Construction Supervision of Asian Development Bank financed Rural Access Roads Project Phase-I Sindh - Loan 1185 & 1401 Pak (SF)		Country: Pakistan
Location within Country: Province of Sindh		Number of person-months of the entire project: 5000
Name of Client: Communication & Works Department, Government of Sindh.		Total value of full project (in million US\$): US \$ 45 million
No. of Staff: 36		No. of Persons-Months: 2160
Start Date (Month/Year): June 1995	Completion Date (Month/Year): December 2001	Approx. Value of Services (in million US\$): US \$ 2.056 million
Name of Associated Firm(s), If Any: M/s ABM in association with M/s Osmani & Co.		No. of Months of Professional Staff Provided by Associated Firm(s): 1680
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of a Technical Manager, highly experienced Highway, Bridge, Materials and Pavement Design Engineers, Contract Documents Specialist and support staff with extensive experience in detailed engineering design of roads and bridges. The supervision staff comprises of a Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers, Laboratory Technicians, Surveyors and Quantity Surveyors.		
Brief Narrative Description of Project: The project comprised detailed engineering design and construction supervision of roads totaling 398 kilometers in Districts Dadu, Shikarpur, Sukkur, Nawabshah, Badin and Thatta including several major bridges. ACC (Pvt) Ltd. is the lead consultant for the project. Design stage has been completed and Construction supervision is being provided. The associated firms are responsible for the districts of Nawabsha, Badin and Thatta.		
Description of Actual Services Provided: The design work entailed topographic survey, soil investigations, hydrological surveys, route alignment studies, traffic studies, pavement design, design of bridges and structures, river training works/flood control measures, quantity estimation, specifications, environmental assessment studies and preparation of all tender documents and drawings as per ADB guidelines. A total length of 210 k of rural roads were designed by ACC as detailed below:- District Dadu Road # 25503-A Karimori to Mian Nasir Mohammad 12.000 kms Road # 25503-B Karimori to Mian Nasir Mohammad 12.545 kms		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Road # 25503-B	Karimori to Mian Nasir Mohammad	Bridges
Road # 25505	Sita to K.N Shah at Choudagi to Mehr	12.189 kms
Road # 25505	Sita to K.N Shah at Choudagi to Mehr	Bridges
Road # 25508	Jhangara to Nawab Khan Rind	04.651 kms
Road # 25508	Jhangara to Nawab Khan Rind	Causeway
Road # 25511	Jhangara to Bandani	16.281 kms
Road # 25511	Jhangara to Bandani	Causeway
<u>District Sukkur</u>		
Road # 21101-A	Urror to Pir Bachal Shah	15.000 kms
Road # 21101-B	Urror to Pir Bachal Shah	15.000 kms
Road # 21101-C	Urror to Pir Bachal Shah	11.000 kms
Road # 21101-D	Urror to Pir Bachal Shah	11.000 kms
Road # 21102-A	Sangrar to Rohri Saleh Pat Road	08.000 kms
Road # 21102-B	Sangrar to Rohri Saleh Pat Road	08.817 kms
<u>District Shikarpur</u>		
Road # 21601	Road to Ali Khan Goheja	07.624 kms
Road # 21602-A	Khanpur to Garhi Syed	16.342 kms
Road # 21602-B	Zerkhail to Mian Jo Goth	06.903 kms
Road # 21603	Salar to Darwesh	07.008 kms
Road # 21604-A	Garhi Yasin to Jaggan	10.000 kms
Road # 21604-B	Garhi Yasin to Jaggan	08.897 kms
Road # 21605	Sultankot to Zerkhail	08.407 kms
Road # 21607	Tando Sher Ali to Dighpur	12.562 kms
Road # 21609	Noon to Thanherio	06.324 kms
<p>After design stage was completed, services for pre-qualification of contractors, NIT, pre-bid meetings, bid evaluations and recommendation for awards were provided as per bank guidelines.</p> <p>For the supervision stage, all necessary staff to provide full time supervision was deputed to ensure construction as per specifications and provide project management support to the client.</p> <p>Project Benefit Monitoring and Evaluation Studies and post project evaluation was also provided by ACC.</p>		
<p>Type of Services provided: Hydrological Surveys, Soil Surveys, Topographic Surveys, Regional Development Plans, Planning Studies, Feasibility Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Material Testing, Quality Control, Project Post-Evaluation, Project Monitoring and Evaluation.</p>		
<p>Fields of Specialization:</p> <p>Construction Industry Development Sector: Construction Management</p> <p>Transportation Sector: National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Policies & Investment Programs, Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction), Bridges (Road Transportation Facilities), Highways Safety, Road Transport Economics.</p>		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.16

Page 1 of 2

Assignment Name: Detailed Engineering Design & Construction Supervision of Asian Development Bank financed Rural Access Roads Project Phase-I Balochistan - Loan 1185 & 1401 Pak (SF)		Country: Pakistan								
Location within Country: Province of Balochistan		Number of person-months of the entire project: 3510								
Name of Client: Communication & Works Department, Government of Balochistan.		Total value of full project (in million US\$): US \$ 20.67 million								
No. of Staff: 45		No. of Persons-Months: 3510								
Start Date (Month/Year): May 1995	Completion Date (Month/Year): December 2001	Approx. Value of Services (in million US\$): US \$ 2.242 million								
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil								
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: During design the senior staff comprised of a Technical Manager, highly experienced Highway, Bridge, Materials and Pavement, Design Engineers, measurement engineer, surveyors and other technical staff with extensive experience in detailed engineering design of roads and bridges. The design work is completed and supervision services are now being provided during construction. The supervision staff comprises of a Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers, Laboratory Technicians, Surveyors and Quantity Surveyors.										
Brief Narrative Description of Project: The project comprised detailed engineering design and construction supervision of rural roads totaling 188 kilometers. The road projects are: Anjira to Zehri, Mangochar to Zard, Panjgur to Gwargo and Kingri to Musakhel. Design stage which included major bridges has been completed and Construction supervision has been started on the four project roads:- <table border="0" style="width: 100%;"> <tr> <td style="padding-left: 40px;">Kingri-Musakhel Road</td> <td style="padding-left: 40px;">58.962 kms</td> </tr> <tr> <td style="padding-left: 40px;">Anjira-Zehri Road</td> <td style="padding-left: 40px;">57.850 kms</td> </tr> <tr> <td style="padding-left: 40px;">Mangochar-Zard Road</td> <td style="padding-left: 40px;">47.420 kms</td> </tr> <tr> <td style="padding-left: 40px;">Panjgoor-Gwargo Road</td> <td style="padding-left: 40px;">29.390 kms</td> </tr> </table>			Kingri-Musakhel Road	58.962 kms	Anjira-Zehri Road	57.850 kms	Mangochar-Zard Road	47.420 kms	Panjgoor-Gwargo Road	29.390 kms
Kingri-Musakhel Road	58.962 kms									
Anjira-Zehri Road	57.850 kms									
Mangochar-Zard Road	47.420 kms									
Panjgoor-Gwargo Road	29.390 kms									
Description of Actual Services Provided: The design work entailed topographic survey, soil investigations and surveys, route alignment studies, traffic studies, pavement design, retaining walls, hydrological studies, and design of cross drainage structures including 9 major bridges, river training works, guide banks, protection works and preparation of all tender documents, BOQ, Engineers Estimates, Specifications and Drawings. After design stage was completed, services for pre-qualification of contractors, NIT, pre-bid meetings, bid evaluations and recommendations for awards were provided.										

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.16

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For the supervision stage, staff including Project Coordinator, Resident Engineers, Material Engineers, Site Inspectors/Engineers, Laboratory Technicians, Surveyors and Quantity Surveyors have been deputed to ensure construction as per specifications and provide project management support to the client.

Project Benefit Monitoring and Evaluation is also being carried out.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure, Flood/River Control Works

Construction Industry Development Sector:

Construction Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Policies & Investment Programs, Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) New Highways, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Highways Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.17

Page 1 of 2

Assignment Name: Construction Supervision of FHP Contract Section 7a, 7b and 8a, Gujranwala to Kharian Section of 94 Kms on N-5, IBRD Loan 2841 Pak		Country: Pakistan
Location within Country: Province of Punjab		Number of person-months of the entire project: 1200
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 48.5 million
No. of Staff: 30		No. of Persons-Months: 1200
Start Date (Month/Year): January 1988	Completion Date (Month/Year): September 1996	Approx. Value of Services (in million US\$): US \$ 2.27 million
Name of Lead Firm(s), If Any: M/s ACER Freeman Fox, UK		No. of Months of Professional Staff Provided by Associated Firm(s): 192
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of Resident Engineers, highly experienced highway, bridge, materials and site engineers with extensive experience in construction supervision of highway projects. The key staff was supported by surveyors, measurement engineers, laboratory technicians and site inspectors. The functions performed were initially those of the Engineers Representative and later as the Engineer as defined in the FIDIC Contracts.		
Brief Narrative Description of Project: The project was a world bank financed project and a part of the Fourth IBRD Highway Project. The scope of work included full supervision of highway construction for 94 kilometers in two contract packages and also of four major bridges as a separate contract. Bridges included the Chenab River Bridge of 760 meters length. Quality control and assurance, measurements, processing of IPC, claims, escalations and contract management services were provided.		
Description of Actual Services Provided: Initially from 1988 to 1993 M/s FFL were the Engineers and after 1993, M/s ACC were appointed the Engineers for the project. During the role of Engineer M/s ACC resolved several difficult outstanding issues left over from the time of M/s FFL and managed to achieve completion of final account and issue of maintenance certificates. During construction the several design changes and problems at site were tackled by the staff and elegant solutions proposed. Due to effective management and control of the project the final costs have been within the final variation order costs of the project. All services as per role of the Engineer under the Contract were performed including approval of setting out, checking of lines and levels, shop drawings, work plans & programs, civil works, measurements, quality control and quality assurance, evaluation of claims, project cost control, approval of mix designs, approval of maintenance works, checking and certifying of IPCs etc.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.17

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector

Flood/River Control Works

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Organization/Funding & Programming, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.18

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Assignment Name: Detailed Engineering Design for World Bank Financed MBRP/RSP-7156, RSP-7157 and RSP-7158 sections on National Highway N-5 at Sanjani, Hasanabdal and Wah Cantt 9 Kms – Loan 2841 Pak		Country: Pakistan
Location within Country: Province of Punjab		Number of person-months of the entire project: 16
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 3.5 million
No. of Staff: 9		No. of Persons-Months: 16
Start Date (Month/Year): January 1995	Completion Date (Month/Year): March 1995	Approx. Value of Services (in million US\$): US \$ 0.01 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of highly experienced highway, bridge, materials and pavement design engineers. The key staff was supported by surveyors, measurement engineers, laboratory technicians and CAD Drafting personnel. The functions performed were those of detailed design and preparation of tender documents for the rehabilitation of highway N-5.		
Brief Narrative Description of Project: The scope of work included carrying out investigations, NDT using FWD and data analysis, prepared detailed design and contract documents as per IBRD guidelines for the three contracts under Maintenance Backlog Reduction Program. Design was based on the residual strength of the existing carriageway and present road conditions and traffic volumes. For resurfacing and strengthening works, the design was to be based on water bound macadam base with triple surface treatment. For the rehabilitation contracts the design was to be provided for aggregate bases, asphaltic bases and wearing courses.		
Description of Actual Services Provided: The activities carried out included detailed topographic survey and reports, traffic studies and forecasting, axle load studies, soil investigations, pavement analysis using NDT/FWD and data analysis, material surveys and testing. AASHTO/ASTM standards were followed for pavement and geometric design. Structural design for drainage structures to be rehabilitated/reconstructed was prepared. The documents submitted included design and materials reports, tender documents and drawings, and engineer's estimates.		
Type of Services provided: Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing, Maintenance Planning.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.18

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Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, Highways Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.19

Page 1 of 2

Assignment Name: Design Vetting & Supervision Services for Overlay on National Highway N-5 between Lahore to Okara (40) kms, including Rehabilitation / widening of Structures & improvement of Urban Areas - Pavital Sections, Phase III.		Country: Pakistan
Location within Country: Province of Punjab		Number of person-months of the entire project: 290
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 9.6 million
No. of Staff: 7		No. of persons-months: 260
Start Date (Month/Year): February 1996	Completion Date (Month/Year): December 2000	Approx. Value of Services (in million US\$): US \$ 0.29 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: For design vetting: Sr. Design Engineer, Pavement Design Engineer, Quantity Surveyor, Surveyors, Material Engineer and other support staff were deployed. For Supervision One Senior Resident Engineer, Laboratory Technician, Quantity Surveyor, Site Engineer and a Senior Surveyor were deployed to provide Quality Assurance/Quality Control and Contract Monitoring on behalf of the Client.		
Brief Narrative Description of Project: Design and Construction Monitoring of Improvement of a 40 km section of National Highway N-5 between Lahore and Okara. The design vetting of this road was also carried out by ACC (Pvt) Ltd. The project is unique in Pakistan as it is based on stabilized catalyzed base product which is a patented material developed by M/s Pavital SpA (Italy). The pavement structure has been provided a full guarantee of five years by the contractor. Phase III of the project consisted of rehabilitation by direct overlay of 7.3 meters wide pavement with 3 meter shoulders and improvement of drainage and urban areas over a length of 40 kms on N-5 maintenance / rehabilitation priority sections. ACC was the nominated Engineer for the project, and responsible for the interpretation and implementation of the COCs on behalf of the client. The COCs and bidding documents were based on FIDIC sample documents.		
Description of Actual Services Provided: In design ACC provided surveying, field testing, soil studies, NDT/FWD testing and evaluation, traffic studies and forecasting, axle load studies and design EASLs analysis, cross drainage requirements and design of structures, vetting of pavement design and drawings prepared by the Contractor. Detailed analysis and design of Urban Areas, design of storm water drainage in urban areas, design of intersections, signs, channelization, bus bays, lighting etc., and design of other improvements for better traffic flow in highly congested areas was carried out by ACC.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.19

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The following supervision monitoring tasks are being carried out:

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards.
- Preparation and approval of Concrete Mix Designs and testing of Concrete.
- Preparation and approval of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Evaluation of Claims
- Project Monitoring
- Maintenance Planning and programming after completion
- Supervision of Maintenance works execution
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Maintenance of Highways, Organization/Funding & Programming, Highways Safety.

Urban Development Sector:

Traffic Management, Signs & Signalization, Channelization, Traffic Flow Regulation Measures, Area Traffic Control Schemes.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.20

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Assignment Name: Feasibility Study & Detailed Design for the Improvement and Rehabilitation of N-65 Km 90 to Km 155 (from Dera Allahyar to Nuttal).		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 40
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 11.91 million
No. of Staff: 18		No. of persons-months: 40
Start Date (Month/Year): November 1998	Completion Date (Month/Year): February 1999	Approx. Value of Services (in million US\$): US \$ 0.037 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Senior staff included the Technical Manager responsible for coordinating the teamwork both in the field and the design office. The senior technical staff deputed, were a Technical Manager, two Highway Engineers, one Structural Engineer, Material Engineer, Measurement Engineer, a Transportation Economist and a Contract Specialist. This team was supported by surveyors, CAD engineers and laboratory staff.		
Brief Narrative Description of Project: Carried out the feasibility study and detailed design for the improvement of National Highway N-65 from Km 90 (Dera Allahyar) to Km 155 (Nuttal) - excluding the 5 km between Km 105 to Km 110 near Dear Murad Jamali. N-65 is the main highway linking the two provincial capitals Quetta and Karachi. The project length designed is 60 km and traverses area with very poor drainage and soil conditions (A6-A7). The existing pavement conditions were very poor, therefore NHA took up the project rehabilitation/reconstruction on an emergency/ priority basis. The project included design of urban areas in DM Jamali and Dera Allahyar.		
Description of Actual Services Provided: Services provided included: <ul style="list-style-type: none"> • Detailed topographic, traffic and soil surveys/investigations. Evaluation of Borrow sources and quarries. • The detailed design of pavement, studies for pavement evaluation and rehabilitation of the road including existing condition surveys, NDT/FWD and Back Calculations were carried out. • Prepared Traffic Management Plans • Prepared detailed geometric design and drawings, tender documents, specifications, BOQ etc. • Prepared Economic Feasibility Studies using HDM-3. • Prepared design of urban areas and storm water drainage. • Assisted the Employer in bid negotiations. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.20

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing, Maintenance Planning.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Policies & Investment Programs, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Maintenance of Highways, Organization/Funding & Programming, Highways Safety, Road Transport Economics.

Urban Development Sector:

Traffic Management, Signs & Signalization, Channelization, Traffic Flow Regulation Measures, Area Traffic Control Schemes.

Water Supply and Sanitation Sector:

Storm Drainage

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.21

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Assignment Name: Design for Widening and Rehabilitation of Ahmed Pur East to Yazman Road, length (60 Kms).		Country: Pakistan
Location within Country: Province of Punjab		Number of person-months of the entire project: 16
Name of Client: Bahawalpur Rural Development Project, Planning & Development Department, GOP		Total value of full project (in million US\$): US \$ 8.5 million
No. of Staff: 8		No. of Persons-Months: 14
Start Date (Month/Year): May 1999	Completion Date (Month/Year): December 1999	Approx. Value of Services (in million US\$): US \$ 0.02 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One Sr. Design Engineer, One Structural Engineer, One Highway Design Engineer, Hydrologist, Two Staff Engineers, Material Engineer, Chief Surveyor and other supporting staff were employed to carry out detailed survey, design, technical feasibility and tender documents preparation.		
Brief Narrative Description of Project: The project consisted of Preparation of Detailed Design, Preparation of Construction Drawings and Tender Documents for Widening and Rehabilitation of Ahmad Pur East to Yazman Road, length 60 Kms and cross drainage structures of various types and sizes. Project was funded by the ADB and the Islamic Development Bank.		
Description of Actual Services Provided: The work entailed detailed topographic survey, fixing of permanent reference monuments and establishing permanent benchmarks. Soil and sub soil investigations, study of borrow sources and their analyses, traffic counts and surveys, design of major intersections and traffic flow analyses, axle loads study and related analyses, Structural Design, Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents as per FIDIC model documents.		
Type of Services provided: Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.		
Fields of Specialization: Transportation Sector: National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Highways Safety.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.22

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Assignment Name: Feasibility Study & Design for the Improvement and Rehabilitation of Bela to Kararo Section N-25 between Km 182 to Km 222 (40 Kms).		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 18
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 8.3 million
No. of Staff: 10		No. of persons-months: 18
Start Date (Month/Year): April 1999	Completion Date (Month/Year): June 1999	Approx. Value of Services (in million US\$): US \$ 0.017 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One Sr. Design Engineer, One Structural Engineer, One Hydrologist, One Highway Design Engineer, One Transport Economist, Measurement Engineer, Material Engineers, Two Staff Engineers, Hydrologist, CAD Draftsmen, Laboratory Technician and other supporting staff were employed to carry out detailed survey, design, technical and economic feasibility and tender documents preparation.		
Brief Narrative Description of Project: Fesibility Study and Design for the Improvement and Rehabilitation of Bela to Kararo Section N-25 between Km 182 to Km 222 (40 Kms) including improvement of alignment, highway geometrics and design of cross drainage structures.		
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks. <ul style="list-style-type: none"> • Soil and sub soil investigations, study of borrow sources and their analyses, traffic counts and surveys, design of major intersections and traffic flow analyses, axle loads study and related analyses, Origin Destination Surveys. • Hydrological studies, Structural design of bridges and cross drainage structures. • Existing pavement evaluation using Benkleman Beam Deflection Method, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis • Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities • Pavement Design • Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents. • Determination of VOCs and preparation of economic feasibility report. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.22

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Highways Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.23

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Assignment Name: Preparation of Shop Drawings for Islamabad-Peshawar Motorway (M1) – 160 Kms		Country: Pakistan	
Location within Country: Province of Punjab & NWFP		Number of person-months of the entire project: 184	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 400 million	
No. of Staff: 7		No. of persons-months: 168	
Start Date (Month/Year): April 1999	Completion Date (Month/Year): February 2001	Approx. Value of Services (in million US\$): US \$ 0.260 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Technical Manager, One Structural Engineer, Five Cad Operators and supporting staff were deputed to prepare shop drawings, bar bending schedules and other details for the Contractor.			
Brief Narrative Description of Project: Preparation of Shop Drawings for all the structures including five interchanges, major and minor bridges, railway overhead bridges, underpasses, box culverts and for formwork for structures on Islamabad-Peshawar Motorway Project. Major bridges include bridges over river Indus, Kabul and Haro rivres. The Motorway is a 4 lane facility with 16 meters wide median. All structures and embankment are being constructed for a six lane motorway.			
Description of Actual Services Provided: Technical staff provided their expertise in the preparation of over 1400 shop drawings. The complete data required including construction drawings and joint survey levels are being provided by the Client. Senior staff vetted the drawings and data provided by the consulting engineers and any ambiguity was reported to the Contractor for resolution. The shop drawings were prepared on the basis of data supplied. The shop drawing of interchanges and major/minor bridges include pile layout drawings, reinforcement details of all the sub-structures and super-structures elements and the bar bending schedules. The shop drawings of culverts include excavation sketches and the layout drawings, reinforcement details and bar bending schedules. Hard and soft copy of all drawings prepared using Autocad was provided to the Contractor.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.23

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Type of Services provided:

Technical Studies, Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Estimation, Structural Engineering, Supervision/Inspection of Construction, Project Management/ Administration (on behalf of owner), Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Transportation Sector:

New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Interchanges.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Feasibility Study for Prioritization of Rural Roads for Design and Construction – Balochistan.		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 16	
Name of Client: Communication & Works Department, Government of Balochistan.		Total value of full project (in million US\$): US \$ 45.56 million	
No. of Staff: 6		No. of persons-months: 16	
Start Date (Month/Year): July 1991	Completion Date (Month/Year): September 1991	Approx. Value of Services (in million US\$): US \$ 0.04 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of a senior transportation engineer and transport economist supported by a highway design engineer, quantity surveyor and field staff. The team carried out the field data collection, prepared cost estimates and economic feasibility studies and prioritization of candidate projects for implementation.			
Brief Narrative Description of Project: Economic feasibility studies were conducted for 23 rural roads, a total length of 700 kms, in the districts of Kharan, Punjgur, Bela, Kacchi, Tambu, Jafferabad, Loralai, Pishin, Qilla Saifullah, Zhob, Kalat and Khuzdar in Balochistan. The list of candidate roads was then prioritized for section under OECF funding. Socio-economic profiles were developed for the districts, and detailed reconnaissance surveys were carried out for each road to develop Road Viability Profiles. The Road Viability Profiles consisted of Road Scores (in accordance with MLGRD/ADB procedures) and Economic Internal Rates of Return (EIRRs), as well as geophysical profiles for the roads.			
Description of Actual Services Provided: Detailed reconnaissance surveys were carried out for each road to develop Road Viability Profiles. The survey included reconnaissance, assessment of costs including cross drainage structures, population served in the road influence area (RIA), crops production, import and export of farm produce, market statistics, traffic densities, growth potential in the RIA as indicated by regional development plans etc. After the data was collected, compiled and analyzed, the EIRR for each road was prepared. The Road Viability Profiles consisted of Road Scores (in accordance with MLGRD/ADB procedures) and Economic Internal Rates of Return (EIRRs), as well as geophysical profiles for the roads. The roads were then prioritized based on their economic feasibility for development through OECF funding.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Type of Services provided:

Soil Surveys, Topographic Surveys, Regional Development Plans, Project Identification Studies, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Policies & Investment Programs, Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning Program), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Highway Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Data Analysis for Feasibility Study for Prioritization of Rural Roads for Design and Construction under Japanese Funding in NWFP, Sindh and Punjab.		Country: Pakistan
Location within Country: Provinces of NWFP, Sindh and Punjab		Number of person-months of the entire project: 4
Name of Client: SAPROF Mission/OCEF		Total value of full project (in million US\$): US \$ 415 million
No. of Staff: 4		No. of persons-months: 4
Start Date (Month/Year): September 1991	Completion Date (Month/Year): September 1991	Approx. Value of Services (in million US\$): US \$ 0.01 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of a senior transportation engineer and a financial analyst with vast experience in transport sector studies. They prepared spreadsheet templates for data analysis and guided junior engineers/ data analysts in evaluation of the field data provided by the CWD's and PPD's through the SAPROF mission.		
Brief Narrative Description of Project: Data provided by the CWD's in the three provinces on candidate roads was analyzed and processed. Road Viability profiles and Economic feasibility studies were prepared for all rural roads based on data provided by the provinces to the SAPROF/OECF mission for evaluation. The objective was to prepare a prioritization listing of all roads for potential funding.		
Description of Actual Services Provided: Technical assistance services were provided consisting of data compilation, analysis and development of road socio-economic profiles. The Road Viability Profiles developed consisted of Road Scores (in accordance with MLGRD/ADB procedures) and Economic Internal Rates of Return (EIRRs), as well as geophysical/socio-economic profiles for the roads. The roads were then prioritized based on their economic feasibility/EIRRs.		
Type of Services provided: Regional Development Plans, Project Identification Studies, Planning Studies, Feasibility Studies, Economic Studies, Technical Studies, Quantity Surveying / Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services.		
Fields of Specialization: Transportation Sector: National/Regional/Multimodal Transportation Planning, Policies & Investment Programs, Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning Prog.), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) New Highways, Road Transport Economics.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Highway Rehabilitation and Maintenance Project – Medium Term Highway Sector Investment Plan, World Bank (PK-PE-10539)		Country: Pakistan	
Location within Country: Islamabad		Number of person-months of the entire project: 2	
Name of Client: The World Bank / National Highway Authority		Total value of full project (in million US\$): US \$ 0.01 million	
No. of Staff: 2		No. of persons-months: 2	
Start Date (Month/Year): November 1999	Completion Date (Month/Year): January 2000	Approx. Value of Services (in million US\$): US \$ 0.01 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader/Contracts Specialist and Transport Economist were provided to carry out an in depth portfolio analysis of all projects being undertaken/planned by National Highways Authority and to develop a medium term highway sector investment plan.			
Brief Narrative Description of Project: Carried out a World Bank funded study for the rationalization and prioritization of the National Highway Authority, Government of Pakistan on going and planned projects. This study included a complete economic analysis of over 100 ongoing and planned projects of NHA including review of Procurement Contract Documents, Special Conditions of Contract and BOT/Concession Agreement. Prioritization and rationalization of the projects planned was done for a 5 years horizon. A detailed study of the internal and external debts for NHA projects was also carried out.			
Description of Actual Services Provided: Review of a USD \$ 6 billion development portfolio of National Highway Authority, Government of Pakistan. Assignment focused on critical review and analysis of over 54 FIDIC based existing contracts, five O&M concession agreement pertaining to infrastructure assets and over 52 new projects already in the pipeline. Carried out detailed capacity analysis, determined demand, allocation & releases of NHA's PSDP (Public Sector Development Program) & future projections. Analyzed and forecast Revenue Streams, prepared Amortization Schedules for Funded/Aided Projects. Carried out detailed economic/financial analysis, cost benefit analysis, determined NPV/\$ invested of all projects and developed a Rationalized and Prioritized Medium Term Program for the National Highways. Specifically:- <ul style="list-style-type: none"> ▪ Reviewed NHA development and maintenance plans, progress on projects ▪ Reviewed budgetary and constraints/financing plans ▪ Analyzed contractual obligations for each project – with focus on liabilities, claims, and issues related to curtailment, phasing or deletion of each project. ▪ Identification and listed criteria for inclusion of schemes in the core investment and maintenance program (CIMP) for NHA. ▪ Incorporated priority maintenance needs as identified by existing studies. ▪ Prepared 5 year revenue projections for NHA based on likely PSDP allocations (linked to GDP growth), toll revenues, road maintenance fund levies, private sector funding and other possible sources. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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- Provided summary recommendations for a medium term (5 year) highway sector investment program with clearly defined CIMP.

Type of Services provided:

Sector Studies, Policies Studies, Regional Development Plans, Project Identification Studies, Planning Studies, Feasibility Studies, Economic Studies, Financial Studies, Technical Studies, Technical Assistance and Advisory Services.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Policies & Investment Programs, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, Primary Roads, Maintenance of Highways, Organization/Funding & Programming, Road Transport Economics, Road User Charges, Financial Analysis/Costing & Tariffs (Road Transportation Industry).

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

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Assignment Name: North West Frontier Province - Urban Development Project ADB TA-2940-Pak.		Country: Pakistan
Location within Country: Province of NWFP		Number of person-months of the entire project: 55
Name of Client: Asian Development Bank & Government of NWFP.		Total value of full project (in million US\$): US \$ 0.945 million
No. of Staff: 5		No. of persons-months: 19
Start Date (Month/Year): July 1998	Completion Date (Month/Year): December 1999	Approx. Value of Services (in million US\$): US \$ 0.106 million
Name of Lead/Associated Firm (s), If Any: M/s Carlbro International, Denmark (Lead Firm) M/s COWI Consulting Engrs, Denmark (Associated Firm) M/s Associates in Development Pakistan (Associated Firm)		No. of Months of Professional Staff Provided by Lead/Associated Firm (s): 15 Carlbro International 21 N/s COWI & AID
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Deputy Team Leader/Urban Planner, Roads/Drainage Design Engineer, Water and Sanitation Engineer, Financial Analyst, Accounting Specialist. They were supported by Community Development Specialist inputs. The personnel provided services focused on urban planning, design of infrastructure, institutional strengthening, capacity building, and participatory urban development and infrastructure services, mapping/ surveys of urban areas.		
Brief Narrative Description of Project: The TA for NWFP urban development project covered seven urban towns in NWFP and was in three parts: Part-A focused on sector reforms, and prepared an urban sector development strategy for the NWFP government that included a sector policy statement, a time-bound action plan for institutional reforms, a prioritized investment plan, and a financing plan. Part-B provided assistance in institutional capacity building for provincial and local government agencies. For local governments, a pilot town was selected for an in-depth study to identify the steps needed to strengthen its institutional capacity for performing urban development functions, with a view to replicating these steps in other towns. For the provincial government, the capacity building focused on the development of land use and zoning policies, building controls, regulation enforcement, and assessment of the need for an urban database center. Part-C prepared an integrated urban development project followed the Bank's sector lending modality, covered roads, solid waste management, water supply and sanitation, drainage and sewerage, guided land development and housing, slums upgrading, market and commercial facilities, and civil and municipal facilities. Criteria for selecting and appraising sub projects was developed, and a feasibility study for sample sub projects, selected from 6-7 towns, was prepared.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Description of Actual Services Provided:

Services provided by the staff were in the areas of Infrastructure (Water, Sewerage & Roads), Sector Reforms, Urban Planning, Institutional Studies, Community Development, Accounting/Economic/Financial Studies and Evaluation, mapping/surveys of urban towns.

In addition to the above areas of expertise, services provided included socio-economic surveys of 7 major towns in NWFP and development of sub projects within the towns through community participation of infrastructure development with the government agencies and NGOs.

Type of Services provided:

Topographic Surveys, Sector Studies, Policy Studies, Regional Development Plans, Project Identification Studies, Planning Studies, Feasibility Studies, Economic Studies, Financial Studies, Technical Studies, Sociological Studies, Design – Architectural/ Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Organizational Development Studies.

Fields of Specialization:

Construction Industry Development Sector:

Institution Buildings, Development of Construction Capacity of Community Organizations.

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Socio-Economic Surveys, Land Use Surveys, Urban Development Models, Strategic Development Planning (incl. Master Planning), Urban Investment Programming, Shelter/Housing Planning/Design/Engineering & Implementation, Construction Methods & Materials, Urban Services, Municipal Services, Urban Road Construction & Maintenance, Street Lighting, Solid Waste (Refuse) Collection/Disposal, Community Facilities/Planning & Design, Community Participation, Self-Help Programs.

Water Supply and Sanitation Sector:

Water Supply, Low-Cost Urban Sanitation, Storm Drainage, Solid Waste.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Consultancy Services for Support During Planning and Implementation of NWFP Community Infrastructure Project – CR – 2829 Pak.		Country: Pakistan
Location within Country: Province of NWFP		Number of person-months of the entire project: 716
Name of Client: Communication & Works Department, Government of NWFP.		Total value of full project (in million US\$): US \$ 2.020 million
No. of Staff: 16		No. of persons-months: 372
Start Date (Month/Year): July 1996	Completion Date (Month/Year): December 1998	Approx. Value of Services (in million US\$): US \$ 0.300 million
Name of Lead/Associated Firm (s), If Any: M/s OPCV, Australia (Lead Firm) M/s EDC, Pakistan (Associated Firm)		No. of Months of Professional Staff Provided by Associated Firm (s): 35 OPCV 309 EDC
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Design Engineer, Planner, Cost Estimator, Social Organizers, CAD draftsmen, Systems Analyst, Surveyors. Functions performed were rural/urban development planning, detailed design of rural infrastructure for the communities, cost estimating for infrastructure, formation of community based organizations for development, socio-economic surveys, computer drafting work for generating construction drawings, detailed community surveys and mapping.		
Brief Narrative Description of Project: The project was funded by the IDA/SDC. The personnel provided are part of a larger team working within a Project Management Unit (PMU) set up by the Client. The project focuses on upgrading infrastructure systems and on mobilizing and strengthening community development efforts in approximately 55 communities in NWFP through coordinated activities, which engage the active participation of the concerned communities as well as provincial and local government authorities. The project therefore comprises two main components: Management and Technical requirements and Physical Components. The main objectives were to increase the productivity and well being of low income groups in NWFP. Project focused on improving low income living conditions through the provision of basic infrastructure, promotion of community development, applying demand driven participatory design procedures for affordable standards of infrastructure, and strengthening the ability of provincial and local governments to collaborate with the communities.		
Description of Actual Services Provided: The services focused on the components: Community development, awareness, health, hygiene, sanitation, and support to women and children, street pavement/roads design, drainage design, water supply and distribution, sanitation, sewer and sewerage design, street lighting design, solid waste management and others). These components cover Community Development and Mobilization, Training, Conceptual Planning, Detailed Engineering, and Institutional Strengthening.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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The services provided were:-

- Developed communities capacity to mobilize resources and skills towards the self managed development and operation and maintenance of local infrastructure facilities.
 - Training Community Based Organizations
 - Developed the capacity of relevant GONWFP agencies to facilitate and support community level infrastructure improvement through the provision of technical advice, management experience, assistance in design, supervision, operation and maintenance and relevant training.
 - Set up a management information system and the computerized monitoring of project progress and disbursements including the monitoring of all financial covenants of the credit and/or grant agreements.
 - Provided affordable and functional infrastructure facilities and to ensure their effective operation and maintainability through direct community participation.
 - Detailed engineering designs were prepared in close coordination with the communities through social organizers. Infrastructure components involved designing of roads, water supply schemes, sewerage, storm water drains, housing facilities and other infrastructure.
 - Carried out surveys and technical studies as required in each community to firmly establish scope and scale of projects.
 - Ensured completion of all detailed designs, bidding and award procedures in a timely manner and in accordance with the World Banks procedure and guidelines involving PMU counterpart staff in such processes. Procurement Documents were prepared considering the community participatory nature of the projects.
 - Provided assistance in designing and implementing a monitoring and evaluation program for the project
- Trained and strengthened LGE&RRD, PMU and local councils, CBOs to a level where each can undertake, by their own resources and expertise, on a sustainable basis, development projects of a similar nature to CIP (IC).

Type of Services provided:

Soil Surveys, Topographic Surveys, Regional Development Plans, Project Identification Studies, Planning Studies, Economic Studies, Financial Studies, Technical Studies, Sociological Studies, Design – Architectural/ Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering.

Fields of Specialization:

Construction Industry Development Sector:

Development of Appropriate Construction Tech., - Labor-Based Construction & Maintenance Methods, Low Cost Construction Techniques.

Transportation Sector:

New Highways/Improvements & Reconstruction, Access Tracks, New Structures/Reconstruction.

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Socio-Economic Surveys, Land Use Surveys, Urban Development Models, Shelter/Housing Planning/Design/Engineering & Implementation, Sites & Services-Planning/Design & Engineering, Construction Methods & Materials, Solid Waste (Refuse) Collection/Disposal, Community Facilities/Planning & Design, Community Participation, Self-Help Programs.

Water Supply and Sanitation Sector:

Water Supply, Water Resources Development, Storm Drainage, Rural Sanitation, Rural Water Supply & Sanitation Management.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Institutional Strengthening of National Housing Authority – CR 2829 Pak.		Country: Pakistan	
Location within Country: Islamabad, Pakistan		Number of person-months of the entire project: 182	
Name of Client: National Housing Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 1.157 million	
No. of Staff: 12		No. of persons-months: 165	
Start Date (Month/Year): October 1996	Completion Date (Month/Year): December 1999	Approx. Value of Services (in million US\$): US \$ 0.297 million	
Name of Lead Firm (s), If Any: M/s Overseas Projects Corporation of Victoria, Australia.		No. of Months of Professional Staff Provided by Associated Firm (s): 16.5	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Senior Housing Specialist, Building Technologist, Computer Trainer, Financial Analyst, Communications Specialist, Statistician, Technical Advisor, Engineering Advisor, Community Development Specialist, Programme Planner			
Brief Narrative Description of Project: The project was funded by the World Bank and the SDC, to provide institutional strengthening to the National Housing Authority in undertaking a critical role in providing leadership in the housing sector for Pakistan. The Project specifically focused on capacity building of the NHA's management and an evaluation of appropriate building technology and methods of delivery of the NHA's services nationally in collaboration with the Provinces. The end result to be achieved is strengthening of NHA to enable it to fulfil the charter laid down for it under the National Housing Policy finalized in 1994. The role of NHA is to be a catalyst and facilitator for all Housing Sector activities in line with National Housing Policy.			
Description of Actual Services Provided: The technical assistance programme for which consultancy services were rendered, was planned for an initial three year assignment to develop NHA's capability in specific key areas including: <ul style="list-style-type: none"> ✓ institutional strengthening ✓ management assistance ✓ building technology evaluation and dissemination. Assistance in raising awareness of the need for housing action by Provincial Governments and ensuring that effective action is taken were primary tasks of the technical assistance being provided to NHA. Thus training followed by dissemination of information and monitoring are key activities.			

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The areas in which Consultants assisted NHA and provided advice and guidance, assembled data, prepared reports etc., are:

- Assisted NHA on development of policies on housing and related issues for onward dissemination.
- Encouraged provincial governments to finalize their plans and programmes to implement provincial housing policies through establishment of milestones, regular follow up meetings, preparation of working papers and other coordination and monitoring/ evaluation activities within the framework of the National Housing Policy/ National Action Plan.
- Proposed refinement and updating of specific components of the National Housing Policy.
- Improved capability to prepare and implement long and short range plans.
- Activities included assistance with preparation of technical and economic evaluation, financial and human resources identification scheduling, and arranging for increasing implementation capacity of executing.
- Improvement of information on status of public sector and private sector housing construction activity.
- A data information base at district and provincial level was to be reviewed based on initially a prototype exercise in one division in each province. This work was to be coordinated with Planning and Development Division and Provincial P&D Department, PP&H / Division/District/Local Authorities and be reviewed annually.
- Demonstration of housing investment needs through greater contact and cooperation with the donor community (including international NGO's). Tasks included, the provision of information on housing needs, relevant data, geographic opportunities, general programme identification assistance, coordination with provincial agencies.
- Enhancement of awareness of housing sector contribution to national economic and social development through a formalized panel of advisers and specialists.

The specific tasks for institutional strengthening are given below, with the training element being common in these tasks:

- Develop a Plan of Action for the Technical Assistance, concentrating on the first years activities followed by a more general approach for the second and third year.
- Assist in the preparation of a Corporate Plan for NHA activities to deal with the deep rooted problems of the shelter sector. The Corporate Plan requires ongoing monitoring and adjustment to ensure that, at all times, it reflects NHA's requirements and objectives.
- Assist and train in Data Analysis/Sector Monitoring. Activities include specification and procurement of key information on housing related industries, compilation, analysis and assessment of, and where necessary assistance in conducting, shelter related surveys, in order to provide basic tools for better informed investment planning and budgeting.
- As a part of the corporate plan, design computer based models, obtain the required base data, process and analyze such data, make initial interpretations, prepare recommendations and produce suitable reports for NHA review. In parallel, train NHA counterpart staff on the use of the models, processing of data, interpretation techniques and reports preparation.
- Provide Sector monitoring which includes compilation of survey data in fields related to the shelter project, for example income/expenditure, health, construction, agriculture, environmental etc.

Programme Monitoring and Evaluation and Dissemination of Results.

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- Building Technology Evaluation and Dissemination is another key task. This included data search, identification of viable ideas and assessment of their technical merit and economic feasibility.
- Information Exchange - was a key task was to broaden NHA staff's knowledge of shelter sector activities through attendance at conferences and on study tours and visits in the Asia region, local training initiatives, internal seminars, lectures and training courses etc.

The project was however curtailed midway due to subsequent policy and administrative changes in the Govt. of Pakistan.

Type of Services provided:

Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural/ Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying/Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Institutional Strengthening/Restructuring, Management Advisory Services, Organizational Development Studies, Training and Transfer of Technology.

Fields of Specialization:

Construction Industry Development Sector:

Institution Building, Tech./Equipment/Materials & Training, Development of Appropriate Construction Tech., - Labor-Based Construction & Maintenance Methods, Low Cost Construction Techniques, Use of Domestic Materials.

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Strategic Development Planning, (incl. Master Planning), National Urban Policies, Shelter/Housing Planning/Design/Engineering & Implementation, Shelter/Housing Sector Survey & Analysis, Construction Methods and Materials, Buildings Standards & Regulations, Community Participation, Self-Help Programs.

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Assignment Name: National Procurement Reforms Programme (NPRP) – TF 028753		Country: Pakistan	
Location within Country: Islamabad, Pakistan		Number of person-months of the entire project: 36	
Name of Client: Ministry of Finance, Govt. of Pakistan, Islamabad / The World Bank.		Total value of full project (in million US\$): US \$ 0.350 million	
No. of Staff: 4		No. of persons-months: 24	
Start Date (Month/Year): March 1995	Completion Date (Month/Year): March 1996	Approx. Value of Services (in million US\$): US \$ 0.080 million	
Name of Lead Firm (s), If Any: M/s International Procurement Consultants, Inc. USA.		No. of Months of Professional Staff Provided by Associated Firm (s): 12	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader, Project Coordinator, Procurement Specialist, Contracts Specialist.			
Brief Narrative Description of Project: M/s International Procurement Consultants were awarded the project financed through a grant by the World Bank/IDF. Pakistan National Procurement Reforms programme was developed to: <ul style="list-style-type: none"> a. Report on the relevance and needed modifications of the findings and recommendations of the earlier Sindh Procurement Conference for procurement reform at the Federal and provincial levels. b. Provide interim procurement guidelines and written principles to guide revision and formulation of federal and provincial laws and rules. c. Prepare a revised federal procurement code. d. Prepare a model procurement code e. Prepare model procurement documents and engineering code and user handbooks. f. Prepare a contract management with flow charts and description of steps and corresponding concerns g. Prepare a contract management and administration system with standard response times. h. Model provisions and conditionalities for World Bank supported projects in Pakistan. i. Propose a system for monitoring results of procurement reforms. j. Prepare a national training plan for procurement and trainer training. 			
Description of Actual Services Provided: ACC provided the technical, administrative and logistical support to the lead consultants M/s International Procurement Consultants, USA on the National Procurement Reforms Program Phase-I. ACC assisted in collecting all relevant information related to current procurement practice within the government of Pakistan (Federal, Provincial, City). Conducted preliminary evaluations of collected data. Prepared formal reports and executive summaries under direction of IPC. Coordinated steering committee meetings at the highest government decision making levels.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project technical responsibilities included analysis and review of the procurement cycles in the country for goods, services, and works, development of draft standard procurement documents for goods, commodities, services, works, etc. Assisted in development of draft legislation for procurement based on UNCITRAL model law and the draft recommendations for establishing of a National Procurement Authority.

Type of Services provided:

Policy Studies, Planning Studies, Procurement Services, Technical Assistance and Advisory Services, Management Information Systems, Institutional Strengthening/Restructuring, Organizational Development Studies, Training and Transfer of Technology, Legal Services.

Fields of Specialization:

Construction Industry Development Sector:

General, Institution Buildings.

Energy Sector:

General

Industry Sector:

Industry General

Transportation Sector:

General

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Assignment Name: Socio-Economic Survey, Surface and Ground Water Survey and Soil Survey for Chashma Right Bank 1st Lift Canal Project, D.I. Khan		Country: Pakistan
Location within Country: North West Frontier Province		Number of person-months of the entire project: 80
Name of Client: Nippon Giken/JICA.		Total value of full project (in million US\$): US \$ 0.08 million
No. of Staff: 15		No. of persons-months: 80
Start Date (Month/Year): July 1993	Completion Date (Month/Year): February 1994	Approx. Value of Services (in million US\$): US \$ 0.08 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included Agronomist, Financial Analyst, Data Base Specialists, and Enumerators, Social Scientists, Soil Scientists and Marketing Specialist to carry out the four separate studies under the project.		
Brief Narrative Description of Project: The consultancy involved four separate contracts covering: Socio-economic survey, Ground Water Study and Analysis, Surface Water Study and Analysis, and Soil Survey for the proposed command area. The assignment was part of the feasibility study being prepared by M/s Nippon Giken for the Chashma Right Canal 1 st Lift Irrigation Project.		
Description of Actual Services Provided: The socio-economic survey comprised design of a detailed questionnaire covering all aspects of village life and farming practices including land size holdings, farm sizes, living conditions, farm income and expenditure estimates, household income, water supply and sanitation conditions, access to roads, local transportation conditions, health, marketing and sale of farm produce, animal husbandry practices, cropping and agricultural practices, farm and livestock yields, use of pesticides and herbicides, use of fertilizers, availability of farm labor, family size, and social customs. The questionnaire was implemented in villages falling in the proposed command area, and also in villages already under gravity flow command area of the Chashma canal. A total of and 210 households were interviewed in the proposed command area and 30 households from villages already serviced by canal irrigation. A detailed report was prepared for the client on the socio-economic conditions in the project area. The command area of the project is over 150,000 hectares.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Separate investigations were undertaken to determine agricultural extension services, CBOs, marketing practices of fertilizer companies, pesticide companies, seed programs, animal husbandry practices and support, veterinary support etc.,

The second contract was related to Soil Survey in the command area to ascertain the quality and extent of local soils for irrigation. ACC soil scientists carried out the survey using the latest GPS systems and analytical instruments. Collaboration with PARC soil laboratories was made for conducting chemical analysis of soil properties. The Soil Survey covered detailed assessment, classification as per USDA standards and mapping of the command area soils, their potential for agriculture under irrigation, requirements and extent of irrigation needed, permeability of the soils and the suitable types of crops and estimated yields.

The third contract pertained to Ground Water Study and Analysis. The work assigned for water analysis comprised of identifying sources in the Barrani area, collecting samples, detailed physical and chemical analysis of samples and preparation of a comprehensive report on their potential for agricultural use.

The fourth contract pertained to a study of the Surface Water resources in the command area, collection of samples and their physical and chemical analyses.

Type of Services provided:

Soil Surveys, Planning Studies, Market Studies, Financial Studies, Technical Studies, Environmental Studies, Sociological Studies, Technical Assistance and Advisory Services.

Fields of Specialization:

Agriculture & Rural Development Sector:

Agricultural Development Planning, Rural Development Planning, Agricultural Censuses & Statistics, General Agricultural Production, Land Resources Appraisal/Use, Drainage Surveys & Evaluation, Land Classification, Land Use/Capability Studies, Land Suitability for Irrigation, Land Use Planning, Water Resources Appraisal, Water Quality/Characteristics, Water Suitability for Irrigation, Water Requirements for Irrigation, Rural Socio-Cultural Factors, Rural/Farmer Organizations, Cultivation, Production/Harvesting, Livestock Surveys.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.32

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Assignment Name: Consultancy Services for Water Rights Phase I and II, & Soil Survey for Development of Irrigation Based Upon Flood Flows of D.G. Khan Hill Torrents.		Country: Pakistan	
Location within Country: Province of Punjab, D.G. Khan		Number of person-months of the entire project: 40	
Name of Client: Nippon Giken/JICA.		Total value of full project (in million US\$): US \$ 0.025 million	
No. of Staff: 6		No. of persons-months: 40	
Start Date (Month/Year): January 1992	Completion Date (Month/Year): August 1992	Approx. Value of Services (in million US\$): US \$ 0.025 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included Agronomist, Financial Analyst, Data Base Specialists, and Enumerators, Social Scientists, Soil Scientists.			
Brief Narrative Description of Project: The study was carried out to support the feasibility of constructing small dams on hill torrents and provide proper irrigation channels for the project area. The project entailed a study of the existing water rights and practices for utilization of water from hill torrents in the DG Khan district, Punjab Mapping of hill torrents, analysis of land holdings and the utilization of flood water for cultivation was carried out. Soil Survey of the area was carried out to determine the land use capability. Study of local farming practices was also carried out to determine how they could be improved.			
Description of Actual Services Provided: Detailed report was prepared regarding water rights to ascertain the effect of new irrigation projects to be funded by the JICA/OECF on the present land holdings and the water rights. A second report was prepared on the soil survey, which defined the properties of the soils in the project influence area and the type and extent of crops possible, their potential and expected yield. Brief description of each phase of the study is as follows: a) Irrigation Project Using Flood Flows of Hill Torrents in D. G. Khan - Phase I. Phase I of the project involved a study of the water rights and mapping of main distributaries and channels for six selected hill torrents in DG Khan and a preliminary survey regarding the suitability of the area for cultivation using water management practices. b) Irrigation Project Using Flood Flows of Hill Torrents in D. G. Khan - Phase II. Phase II of the project involved detailed study of the water rights for Vidore Hill Torrent and its branches. Detailed maps of all Wahs, Wahis, Shakhs were prepared alongwith water rights in order to ascertain the suitability for new water management schemes to be introduced. Special emphasis was made on the socio-economic aspects in the feasibility study.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.32

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c) Irrigation Project Using Flood Flows of Hill Torrents in D. G. Khan - Soil Survey and Classification of Flood Irrigated Land. Detailed Soil Survey involving physical and chemical testing of soils in the flood irrigated areas of Vidore hill torrent was carried out under supervision of Japanese experts. In addition land use classification was carried out and potential crop types and feasibility study prepared as a part of the water management project for DG Khan Hill Torrents.

Type of Services provided:

Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Sociological Studies, Technical Assistance and Advisory Services.

Fields of Specialization:

Agriculture & Rural Development Sector:

Agricultural Development Planning, Rural Development Planning, Agricultural Censuses & Statistics, General Agricultural Production, Land Resources Appraisal/Use, Drainage Surveys & Evaluation, Land Classification, Land Use/Capability Studies, Land Suitability for Irrigation, Land Use Planning, Water Resources Appraisal, Surface Water, Ground Water, Water Quality/Characteristics, Water Suitability for Irrigation, Water Requirements for Irrigation, Gravity/Irrigation Systems, Dam (Storage), Diversion, Irrigation Field Practices, Flood/River Control Works.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.33

Page 1 of 2

Assignment Name: Project Management for Construction of Tainpura Dam II and Irrigation Channels.		Country: Pakistan	
Location within Country: Province of Punjab		Number of person-months of the entire project: 16	
Name of Client: M/s Vanika Engineers for Small Dams Organization, Punjab Irrigation Department.		Total value of full project (in million US\$): US \$ 0.0244 million	
No. of Staff: 3		No. of persons-months: 16	
Start Date (Month/Year): June 1991	Completion Date (Month/Year): December 1992	Approx. Value of Services (in million US\$): US \$ 0.024 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included a Contracts Specialist, Project Manager and a Planning/Logistics Officer who were deployed for project management.			
Brief Narrative Description of Project: The project entailed the construction of a concrete dam on a perennial stream and construction of lined channels. The main dam was 20 meters in height with a length of approximately 75 meters. The project was in a joint venture with the contractor to provide him technical/project management support.			
Description of Actual Services Provided: Detailed project management services were rendered to the client M/s Vanika Engineers, and the project was completed within the scheduled time period. The channels, approximately 7 kilometers in length provide irrigation water to surrounding farms whereas before they depended on rainwater only for irrigation. The client was advised in the interpretation of the tender documents for the project financed by JICA/OECF. Technical advice was given for construction and setting out and for optimum usage of manpower and machinery. Project monitoring and progress reports, Interim Payment Certificates etc., were prepared for the client.			
Type of Services provided: Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Structural Engineering, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Management Advisory Services.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.33

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Fields of Specialization:

Agriculture & Rural Development Sector:

Physical Infrastructure, Gravity Irrigation Systems, Dam (Storage), Diversion, Irrigation/Drainage Networks, Flood/River Control Works.

Construction Industry Development Sector:

Construction Management

Water Supply and Sanitation Sector:

Water System Planning & Design, Source Reservoirs, Dams

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.34

Page 1 of 2

Assignment Name: Project Management for Construction of Pira Fatehal Dam and Irrigation Channels.		Country: Pakistan	
Location within Country: Province of Punjab		Number of person-months of the entire project: 18	
Name of Client: M/s Vanika Engineers for Small Dams Organization, Punjab Irrigation Department.		Total value of full project (in million US\$): US \$ 0.027 million	
No. of Staff: 3		No. of persons-months: 18	
Start Date (Month/Year): July 1991	Completion Date (Month/Year): December 1992	Approx. Value of Services (in million US\$): US \$ 0.027 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included a Project Manager, Contracts Specialist and a Planner to provide project management and technical support.			
Brief Narrative Description of Project: The project entailed the construction of a RCC dam in the Potohar region on a perennial stream and the construction of lined irrigation channels. The main dam was 22 meters in height with a length of approximately 125 meters. Detailed project management services were rendered to the client M/s Vanika Engineers, and the project was completed within the scheduled time period. The irrigation channels, approximately 10 kilometers in length provided water to surrounding farms whereas before they were depended on rain water (barani) only for irrigation. The stored water allowed better management of the scarce water resources in the area.			
Description of Actual Services Provided: The client was provided construction/project management and technical support for the project. Staff advised in the interpretation of the tender documents for the project financed by JICA/OECF. Technical advice was given for construction and setting out and for optimum usage of manpower and machinery. Project monitoring and progress reports, Interim Payment Certificates etc., were prepared for the client. Logistic Support and precision surveying and soil investigation support was provided.			
Type of Services provided: Hydrological Survey, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Structural Engineering, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.34

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Fields of Specialization:

Agriculture & Rural Development Sector:

Physical Infrastructure, Gravity Irrigation Systems, Dam (Storage), Diversion, Irrigation/Drainage Networks, Flood/River Control Works.

Construction Industry Development Sector:

Construction Management

Water Supply and Sanitation Sector:

Source Reservoirs, Dams

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No.35

Page 1 of 2

Assignment Name: Detailed engineering design and construction supervision of Infrastructure and Township at the Copper Gold Complex Saindak		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 300
Name of Client: Resource Development Corporation, Quetta.		Total value of full project (in million US\$): US \$ 0.180 million
No. of Staff: 12		No. of persons-months: 300
Start Date (Month/Year): September 1991	Completion Date (Month/Year): July 1996	Approx. Value of Services (in million US\$): US \$ 0.180 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of highly experienced town planners, architects, highway, materials, water supply and sewerage systems designers and electrical engineers with extensive experience in detailed engineering design of townships and construction supervision of civil works. After completing the design work and master planning, supervision services were provided during construction. The supervision staff comprises of a Resident Engineer, site engineers, surveyors and laboratory technicians.		
Brief Narrative Description of Project: The project is located at the Saindak Copper Gold mining and refinery complex in Balochistan near Iran border. The work entailed topographic survey, soil investigations, master planning, town planning, housing and commercial areas requirements, detailed design of water supply, sewerage, drainage, roads, electrification, other utilities, preparation of all tender documents and drawings in the design stage. The water supply component alone involved overhead storage tanks, bulk reservoirs, deep tubewells, transportation of water by main pipes across 45 kilometers, pumping stations, internal distribution etc. After award of civil works construction supervision services were provided.		
Description of Actual Services Provided: The project involves the design of a complete township spread over 4 square kilometers including various types of housing units, bungalows, mosques, schools, shopping centers, clubs, industrial buildings and a hospital. Complete infrastructure facilities like roads, water supply and sewerage, electrification etc., were designed. ACC was responsible for pre-qualification of contractors, evaluation of bids and recommendation of procurement awards to the client, and detailed supervision of all civil works.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.35

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Economic Studies, Financial Studies, Technical Studies, Environmental Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Technical, Quality Control, Monitoring and Evaluation.

Fields of Specialization:

Energy Sector:

General, Energy Demand forecasting, Energy Planning

Industry Sector:

Industrial Parks/Estates, Industrial Plant/Factory Buildings

Transportation Sector:

Highway Planning & Programming, New Highways/Improvements & Reconstruction, New Structures/Reconstruction.

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Strategic Development Planning (incl. Master Planning), Shelter/Housing Planning/Design/Engineering & Implementation, Sites & Services-Planning/Design & Engineering, Municipal Services, Community Facilities/Planning & Design, Traffic Management.

Water Supply and Sanitation Sector:

Water System Planning & Design, Water Resource Development, Ground Water, Water Quality, Source Reservoirs, Water Transmission, Low-Cost Urban Sanitation, Storm Drainage

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.36

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Assignment Name: Gadoon Amazai Industrial Estate Environmental Impact Assessment Study and Pollution Control, Master Planning, Housing and Township Design.		Country: Pakistan	
Location within Country: NWF Province, Gadoon Amazai		Number of person-months of the entire project: 10	
Name of Client: M/s SEBCON – Sarhad Development Authority, Peshawar.		Total value of full project (in million US\$): US \$ 0.015 million	
No. of Staff: 3		No. of persons-months: 10	
Start Date (Month/Year): January 1991		Completion Date (Month/Year): April 1991	Approx. Value of Services (in million US\$): US \$ 0.015 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of environmental engineers and town planners who carried out the assignment and prepared environmental impact assessment studies and evaluation of the master planning of the industrial estate and township.			
Brief Narrative Description of Project: The project comprised preparation of an Environmental Impact Assessment Statement and master planning for the industrial estate and residential township. A detailed analysis of the type of industries planned, raw materials, process involved, and possible pollutants, and their disposal were covered. Master plan was evaluated to determine shortcomings and recommended improvements.			
Description of Actual Services Provided: Detailed estimates of the overall population, energy demand and infrastructure requirements were made for preliminary master planning of the industrial estate and township carried out. The site has important environmental characteristics due to close proximity of river Kabul and Tarbela Dam. The proposed industrial projects were examined and analyzed as per type of process involved, raw materials involved, effluents, pollutants, chemical reactivity of effluents, sludge disposal/containment etc. Recommendations were made on the list of industries which should be allowed considering a detailed EIA.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.36

Page 2 of 2

Type of Services provided:

Hydrological Surveys, Topographic Surveys, Policy Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Environmental Studies, Design – Architectural / Engineering / Industrial etc., Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Technical Assistance and Advisory Services.

Fields of Specialization:

Energy Sector:

Energy Demand forecasting, Energy Planning

Industry Sector:

Industrial Parks/Estates, Industrial Plant/Factory Buildings, Environmental Issues & Pollution Control

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Highway Planning & Programming, New Structures/ Reconstruction.

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Strategic Development Planning (incl. Master Planning), Shelter/Housing Sector Surveys & Analysis, Sites & Services-Planning/Design & Engineering, Municipal Services, Urban Transport Planning.

Water Supply and Sanitation Sector:

Water System Planning & Design, Sewage Treatment, Domestic, Industrial Stabilization Ponds, Low-Cost Urban Sanitation, Storm Drainage, Water Pollution Control, Solid Waste.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.37

Page 1 of 2

Assignment Name: Master Planning, Detailed engineering design and construction supervision of Infrastructure for the Gulshan-e-Rail Township in Khana Kaccha Lahore.		Country: Pakistan
Location within Country: Lahore, Province of Punjab.		Number of person-months of the entire project: 36
Name of Client: Federation of Railway Cooperative Housing Society, Lahore		Total value of full project (in million US\$): US \$ 0.07 million
No. of Staff: 6		No. of persons-months: 36
Start Date (Month/Year): September 1995	Completion Date (Month/Year): April 1996	Approx. Value of Services (in million US\$): US \$ 0.07 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of highly experienced town planners, architects, highway, materials, water supply and sewerage systems designers and electrical engineers with extensive experience in detailed engineering design and planning of townships.		
Brief Narrative Description of Project: The project entails carrying out master planning of the housing scheme in conformity to the applicable codes. Providing detailed design for all infrastructure, like water supply, sewerage, storm water drains, power, roads, sidewalks, etc.		
Description of Actual Services Provided: A detailed topographic survey was carried out on the basis of which the Master Plan has been prepared to provide for residential, commercial, recreational areas, internal roads, drainage, water supply, sewage, and all utilities. After approval of master plan, detailed design of all infrastructure was carried out and tender documents were prepared for award of civil works.		
Type of Services provided: Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Environmental Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.37

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Fields of Specialization:

Energy Sector:

General

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Strategic Development Planning (incl. Master Planning), Land Use/Transportation Planning, Sites & Services-Planning/Design & Engineering, Land Development (Residential/Commercial/Industrial), Municipal Engineering, Urban Road Construction & Maintenance, Street Lighting, Community Facilities/Planning & Design, Building Standards & Regulations.

Water Supply and Sanitation Sector:

Water System Planning & Design, Water Resource Development, Ground Water, Water Quality, Water Storage, Water Treatment, Water Distribution, Sanitation, Sewage Treatment, Storm Drainage, Solid Waste, Requirements forecasting.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.38

Page 1 of 2

Assignment Name: Master Planning, Detailed engineering design and construction supervision of the RAILVIEW Township in Rawalpindi.		Country: Pakistan
Location within Country: Rawalpindi, Province of Punjab.		Number of person-months of the entire project: 60
Name of Client: Federation of Railway Cooperative Housing Society, Lahore		Total value of full project (in million US\$): US \$ 0.06 million
No. of Staff: 6		No. of persons-months: 60
Start Date (Month/Year): May 1992	Completion Date (Month/Year): December 1994	Approx. Value of Services (in million US\$): US \$ 0.06 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff comprised of town planners, road, materials, water supply and sewerage systems designers and electrical engineers with extensive experience in detailed engineering design of infrastructure and planning of townships. In addition staff for top supervision comprising of a project engineer supported by surveyors, and quality control personnel was provided during construction of infrastructure.		
Brief Narrative Description of Project: The project comprises master planning and detailed engineering design for the township and the infrastructure. Project included construction supervision of the entire works.		
Description of Actual Services Provided: The work entailed survey, soil investigations, master planning, detailed design of water supply, storm water drainage, sewage, roads, electrification, lighting, preparation of all tender documents and drawings in the design stage and construction supervision of the civil works. The project site required precision surveying due to its undulating and broken topographic characteristics. The Master Plan has been prepared to take advantage of the natural drainage available without taking up valuable real-estate.		
Type of Services provided: Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/ Administration (on behalf of owner), Materials Testing, Quality Control.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.38

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Fields of Specialization:

Energy Sector:

Energy Demand forecasting

Urban Development Sector:

Urban Development Planning, Urban Area Survey/Analysis & Monitoring, Strategic Development Planning (incl. Master Planning), Sites & Services-Planning/Design & Engineering, Land Development (Residential/Commercial/Industrial), Municipal Engineering, Urban Road Construction & Maintenance, Street Lighting, Solid Waste (Refuse), Collection/Disposal, Community Facilities/Planning & Design.

Water Supply and Sanitation Sector:

Water System Planning & Design, Water Resource Development, Ground Water, Water Quality, Water Transmission, Water Distribution, Sanitation, Sewage Treatment, Storm Drainage, Solid Waste.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.39

Page 1 of 2

Assignment Name: Design of Civil Works for Askari Power Plant (50 MW) at Nizampur.		Country: Pakistan
Location within Country: Niazampur, Punjab		Number of person-months of the entire project: 47
Name of Client: M/s Sembawong, Singapore/Army Welfare Trust.		Total value of full project (in million US\$): US \$ 0.070 million
No. of Staff: 7		No. of persons-months: 47
Start Date (Month/Year): January 1998	Completion Date (Month/Year): October 1998	Approx. Value of Services (in million US\$): US \$ 0.070 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior technical staff comprised of Sr. Structural Engineers, water supply and sanitation engineer, architects, road design engineer, and cad engineers with extensive experience in architectural and structural design of industrial, commercial & residential buildings were deputed for the project.		
Brief Narrative Description of Project: Project comprised of design of all civil works for the new 50 MW power plant being constructed by Army Welfare Trust for their cement plant expansion project at Nizampur. The prime contractor for the civil works was M/s Sembawong (Singapore) who awarded the design of all civil works to ACC		
Description of Actual Services Provided: Detailed site topographic survey, sub soil investigations followed by architectural and structural engineering design meeting all international standards such as ACI, BS and UBC was carried out. Included in the services were design of heavy foundations, shear walls, stacks, steel structures, steel tanks, tank farm area, crude decanting yard, main power plant building, double tee roofing system, control room, cooling towers, workshops, guard rooms, ware houses, oil storage areas, auxiliary areas, internal roads and drainage, all electrification, water treatment rooms, plumbing and, sewerage systems, pipe rack etc. Detailed construction drawings and BOQ were prepared. Top supervision during construction was provided.		
Type of Services provided: Soil Surveys, Topographic Surveys, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/ Inspection of Construction, Technical Assistance and Advisory Services.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.39

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Fields of Specialization:

Energy Sector:

General, Energy Demand forecasting

Industry Sector:

Industrial Plant/Factory Buildings

Urban Development Sector:

Office Buildings Design, Building Construction Management, Municipal Services

Water Supply and Sanitation Sector:

Water Supply, Water Storage, Water Treatment, Sanitation, Sewerage Treatment, Storm Drainage.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.40

Page 1 of 2

Assignment Name: Civil Structures Building Works for 7.5 MW Thermal Power Plant Project at Attock Refinery Limited.		Country: Pakistan
Location within Country: Rawaplindi, Province of Punjab		Number of person-months of the entire project: 24
Name of Client: Attock Refinery Ltd., Rawalpindi		Total value of full project (in million US\$): US \$ 0.022 million
No. of Staff: 8		No. of persons-months: 24
Start Date (Month/Year): October 1999	Completion Date (Month/Year): March 2001	Approx. Value of Services (in million US\$): US \$ 0.022 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Sr. Structural Designer, Road Designer, Water Supply and Sanitation Design Engineer, and Architect for design. For top supervision one Sr. Engineer supported by a Site Engineer, Surveyor and one Lab. Technician.		
Brief Narrative Description of Project: A 7.5 MW Power Plant in Attock Refinery Limited, Morgah Rawalpindi was to be constructed for which detailed design and supervision services were provided to the Contractor as a joint venture in this turnkey project. The civil works contractor was responsible for construction of the power plant and ancillary buildings.		
Description of Actual Services Provided: Detailed architectural design and construction drawings for civil works were prepared for a 7.5 MW Power Plant. The work entailed:- <ul style="list-style-type: none"> • Main Power House Design = 1930 sqm • Tank Farm Area = 110 sqm • Purifier Room Area = 110 sqm • Cooling Tower Area = 125 sqm • Workshop and Maintenance areas = 125 sqm • Internal Road = 0.5 km • Foundation designs for heavy equipment including generators • Storm Water Drainage • Pipe Rack supports • Steel Tanks • Water Supply, Plumbing and Sanitation • Interior and exterior finishes • Preparation of detailed BOQ After approval of design, top supervision and on site supervision of construction were provided.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.40

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Type of Services provided:

Soil Surveys, Topographic Surveys, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/ Inspection of Construction, Technical Assistance and Advisory Services, Materials Testing, Quality Control.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Energy Sector:

General

Industry Sector:

Industrial Plant/Factory Buildings

Urban Development Sector:

Office Buildings Design, Building Construction Management, Land Development (Residential/Commercial/Industrial), Municipal Services

Water Supply and Sanitation Sector:

Water Supply, Water System Planning & Design, Sewage Treatment, Storm Drainage.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.41

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Assignment Name: Agricultural Sector Energy Conservation - Tubewell Energy Audits and Survey Project		Country: Pakistan
Location within Country: All of Pakistan		Number of person-months of the entire project: 30
Name of Client: ENERCON/Hagler Bailly, USA		Total value of full project (in million US\$): US \$ 0.05 million
No. of Staff: 5		No. of persons-months: 30
Start Date (Month/Year): March 1989	Completion Date (Month/Year): September 1990	Approx. Value of Services (in million US\$): US \$ 0.05 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included two Sr. Agricultural Engineers trained in Energy Conservation, a Mechanical Engineer, and field Enumerators. The staff carried out energy audits of tubewell installations all over Pakistan.		
Brief Narrative Description of Project: The project entailed field data collection of diesel, electric and tractor driven tubewells throughout Pakistan. The data included measurement of energy consumption, efficiency and condition of pumps, engines, turbines etc.		
Description of Actual Services Provided: Information was collected from the farmers on capital costs, break downs, operating and repair costs, water usage patterns, water sharing and other factors. Questionnaires were designed and used for collecting the data, which was later analyzed using statistical packages. Data was also collected on repair shop facilities and practices. Data from over 500 sites was compiled and analyzed to determine the energy consumption patterns for diesel, electric and tractor driven tubewells. An estimate the energy conservation possible in the Agriculture Tubewell Sector on a country wide basis if correct use of pumps, capacity considerations, head, engine, drive shaft, belts etc., were properly designed and matched as a complete system. Training and guidance was given to the farmers covered by the study for selecting the correct equipment which would give optimum and efficient performance. Planning and Feasibility studies for tubewell retrofits with farmers collaboration were carried out and nationwide program developed.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.41

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Type of Services provided:

Sector Studies, Planning Studies, Feasibility Studies, Market Studies, Technical Studies, Research Design/Evaluation, Supervision/Inspection of Equipment Installation, Technical Assistance and Advisory Services, Maintenance Planning, Equipment/Plant Rehabilitation, Training and Transfer of Technology.

Fields of Specialization:

Agriculture & Rural Development Sector:

Water Resources Appraisal/Use, Water Measurement, Water Requirements for Irrigation, Operation & Maintenance of Irrigation Systems, Physical Infrastructure, Pump Irrigation Systems, Well Drilling/Pumping.

Energy Sector:

Energy Demand forecasting, Energy Economics, Energy Planning, Energy Related Training, Energy Conservation.

Water Supply and Sanitation Sector:

Pumping Stations.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.42

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Assignment Name: Design and Construction Supervision of Crude Decanting Yard and New Crude Tank for Attock Refinery Limited.		Country: Pakistan
Location within Country: Morgah, Rawalpindi, Province of Punjab		Number of person-months of the entire project: 32
Name of Client: M/s Attock Refinery Limited		Total value of full project (in million US\$): US \$ 0.022 million
No. of Staff: 7		No. of persons-months: 32
Start Date (Month/Year): August 1998	Completion Date (Month/Year): November 1998	Approx. Value of Services (in million US\$): US \$ 0.000 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
<p>Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed:</p> <p>For Design: One Senior Design Engineer, One Structure Engineer, One Staff Engineer, One Cad Operator along with supporting staff.</p> <p>For Supervision: One Senior Engineer, One Site Engineer, One Assistant Site Engineer, and One Senior Lab. Technician along with supporting staff. Both the engineers and SLT reported to ARL Civil Engineer. In addition, Sr. Engineer visited the project once a month and as and when required by ARL.</p>		
<p>Brief Narrative Description of Project:</p> <p>Detailed Engineering Design for new crude decanting station inside the refinery and for a new crude tank was carried out. This included detailed designing, preparation of cost estimates, BOQs, construction drawings and tender documents for implementation of design.</p> <p>Scope of design work include:</p> <ul style="list-style-type: none"> ✓ Design and cost estimation of civil works including approach roads and area preparation. ✓ Design of 40 feet wide shed and overhead walkway. ✓ Preparation of specifications and BOQs for the above. ✓ Preparation of drawings for implementation of the design. ✓ Soil testing ✓ Design of civil works, including cost estimates, for Oil/Water drains, storm water drains and RCC slabs for covering pipe trenches and drains etc. ✓ RCC platform capable of handling 20 bowsers 60 tons each simultaneously. <p>Construction supervision services for Quality Control of Crude Decanting Facility and New Crude Tank were subsequently provided.</p>		
<p>Description of Actual Services Provided:</p> <p>Staff was responsible for quality of works including detailed site supervision of the execution of the works. The Consultant assisted in interpretation of construction drawings and applied checks on quality of work, materials</p>		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.42

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and workmanship for compliance with Specifications and Contract Documents with the assistance of ARL staff.

Type of Services provided:

Soil Surveys, Topographic Surveys, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Supervision/Inspection of Equipment Installation, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Quality Control.

Fields of Specialization:

Energy Sector:

Petroleum, Petroleum Storage/Terminals

Industry Sector:

Industrial Plant/Factory Buildings

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.43

Page 1 of 1

Assignment Name: Interior Design and Construction of Askari Information Systems Corporate Offices – Turnkey Basis		Country: Pakistan	
Location within Country: Islamabad, Pakistan		Number of person-months of the entire project: 8	
Name of Client: M/s Askari Information Systems/AWT		Total value of full project (in million US\$): US \$ 0.075 million	
No. of Staff: 4		No. of persons-months: 8	
Start Date (Month/Year): August 1998	Completion Date (Month/Year): November 1998	Approx. Value of Services (in million US\$): US \$ 0.075 million	
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior technical staff comprised of a structural engineer, architect, interior designer and cad engineers for detailed interior and architectural design.			
Brief Narrative Description of Project: This was a turnkey interior design and furnishing project for the corporate head quarters of the newly established Askari Information Systems (Pvt) Ltd., Approximately 8,000 sq.ft of floor space was planned and designed for this ultra high tech software development company. All furniture was designed and produced by ACC. The work included design of all concealed ducting for computer cabling and communications, interior paneling, lighting, offices, waiting areas, receptions etc.,			
Description of Actual Services Provided: Interior design, programmer stations, reception area, and officers rooms, color coordination and construction/ supply of all office furniture, design and furnishing/furbishing of all executive offices, air conditioning, employees mess, kitchen, etc.			
Type of Services provided: Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Supervision/ Inspection of Construction, Supervision/Inspection of Equipment Installation, Technical Assistance and Advisory Services, Turnkey Operations, Quality Control, Civil Works Rehabilitation.			
Fields of Specialization: Industry Sector: Medium & Small-Scale Industries. Urban Development Sector: Office Buildings Design			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.44

Page 1 of 1

Assignment Name: Project Preparation of Low Cost Urban Housing Project – 25000 units in 25 selected districts of Pakistan.		Country: Pakistan
Location within Country: All Provinces		Number of person-months of the entire project: 1.5
Name of Client: Ministry of Local Government and Rural Development, Government of Pakistan		Total value of full project (in million US\$): US \$ 0.003 million
No. of Staff: 4		No. of persons-months: 1.5
Start Date (Month/Year): August 1994	Completion Date (Month/Year): September 1994	Approx. Value of Services (in million US\$): US \$ 0.003 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff included an architect, and a structural engineer supported by a financial analyst and a quantity surveyor.		
Brief Narrative Description of Project: The project entailed preparing a cost estimate/feasibility document (PC-I) for a low cost mass housing project entailing construction of 25,000 units in 25 districts of Pakistan.		
Description of Actual Services Provided: Typical design of various options were prepared and evaluated along with quantities and costs. Various investment alternatives were looked at in the study including private financing, co-financing, self-help approach in construction and others. Cost of conventional technologies, system built modular housing units, and traditional methods of construction were evaluated and compared using life cycle cost analysis. Feasibility report was prepared.		
Type of Services provided: Sector Studies, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Research Design/Evaluation, Project Financing Advice, Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Structural Engineering, Technica Assistance and Advisory Services.		
Fields of Specialization: Urban Development Sector: Urban Development Planning, Strategic Development Planning (incl. Master Planning), Shelter/Housing Planning/Design/Engineering & Implementation, Construction Methods & Materials, Urban Finance, Shelter Sector Finance.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.45

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Assignment Name: Design of Income Tax Offices for Azad Jammu & Kashmir Government		Country: Pakistan
Location within Country: Muzaffarabad, Azad Kashmir		Number of person-months of the entire project: 6
Name of Client: Income Tax Office AJ&K.		Total value of full project (in million US\$): US \$ 0.008 million
No. of Staff: 3		No. of persons-months: 6
Start Date (Month/Year): May 1998	Completion Date (Month/Year): November 1998	Approx. Value of Services (in million US\$): US \$ 0.008 million
Name of Associated Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior technical staff comprised of, an architects, electrical engineer and structural design engineer with supported by quantity estimator to carry out detailed engineering design of buildings including all utilities, electrification, water supply and sewage.		
Brief Narrative Description of Project: Project comprised of design of multistory office buildings and preparation of detailed architectural and structural drawings and tender documents.		
Description of Actual Services Provided: Detailed site topographic survey, followed by architectural and structural engineering design was carried out. Included in the services were design of electrification, plumbing and, sewerage systems. Detailed construction drawings and tender documents were prepared.		
Type of Services provided: Soil Surveys, Topographic Surveys, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation/Preparation of Contract Documents and Bid Evaluation, Structural Engineering.		
Fields of Specialization: Urban Development Sector: Sites & Services-Planning/Design & Engineering, Office Buildings Design. Water Supply and Sanitation Sector: Water Supply, Sanitation, Storm Drainage.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.46

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Assignment Name: Preparation of Proposal for Construction of Sialkot – Sambrial Road on BOT basis.		Country: Pakistan
Location within Country: Province of Punjab,		Number of person-months of the entire project: 20
Name of Client: Frontier Works Organization		Total value of full project (in million US\$): US \$ 4 million
No. of Staff: 7		No. of Persons-Months: 20
Start Date (Month/Year): October 2000	Completion Date (Month/Year): January 2001	Approx. Value of Services (in million US\$): US \$ 2,000
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Two Highway Engineers, one Transportation Economist, one Structural Engineer, one Material Engineer, one Measurement Engineer and one Contracts Specialist supported by surveyors and laboratory technicians carried out the assignment.		
Brief Narrative Description of Project: The project consisted of the preliminary design and preparation of a Technical and Financial Feasibility Study for a 2 lane highway from Sialkot to Sambrial including urban areas and bypasses. Project is to be undertaken on a BOT basis for a concession period of 25 years.		
Description of Actual Services Provided: The services provided included <ul style="list-style-type: none"> ▪ Preliminary Survey and alternate alignment studies ▪ Regional Development Plans ▪ Preliminary Soil Survey ▪ Capacity Analysis ▪ Preliminary Pavement Design ▪ Preliminary Structural Design ▪ Preliminary BOQ and Cost Estimates ▪ Road Facility Planning ▪ Planning Studies ▪ Feasibility Studies 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.46

Page 2 of 2

- Technical Studies
- Economic Studies
- Toll Studies, Road User Charges
- Financial Studies, Sensitivity Analysis, Risk Analysis
- Project Financing Advice.

Type of Services provided:

Sector Studies, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Tariff Studies, Technical Studies, Preliminary Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Material Testing, Manpower Requirements Studies.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management, Corporate/Firm Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Highways, Organization / Funding & Programming, Highway Traffic Control, Highway Legislation, Highway Safety, Road Transport Economics, Road User Charges, Management Firms, Financial Analysis / Costing & Tariffs (Road Transportation Industry).

Urban Development Sector:

Strategic Development Planning (Incl. Master Planning), Urban Transport Planning.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.47

Page 1 of 2

Assignment Name: Preparation of Proposal for Construction of Lahore-Kahna- Kasur Dual carriageway on BOT basis.		Country: Pakistan
Location within Country: Province of Punjab,		Number of person-months of the entire project: 20
Name of Client: Frontier Works Organization		Total value of full project (in million US\$): US \$ 9 million
No. of Staff: 7		No. of Persons-Months: 20
Start Date (Month/Year): October 2000	Completion Date (Month/Year): January 2001	Approx. Value of Services (in million US\$): US \$ 2,000
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One Highway Engineers, one Transportation Economist, one pavement Engineer, one Structural Engineer, one Material Engineer, one Measurement Engineer and one Contracts Specialist supported by surveyors and laboratory technicians carried out the assignment.		
Brief Narrative Description of Project: The project consisted of the preliminary design and preparation of a Technical and Financial Feasibility Study for a 4 lane divided carriageway from Lahore to Kahna and 2 lane highway from Kahna to Kasur including urban areas and bypasses. Project is to be undertaken on a BOT basis for a concession period of 25 years.		
Description of Actual Services Provided: The services provided included The services provided included <ul style="list-style-type: none"> ▪ Preliminary Survey and alternate alignment studies ▪ Regional Development Plans ▪ Preliminary Soil Survey ▪ Capacity Analysis ▪ Preliminary Pavement Design ▪ Preliminary Structural Design ▪ Preliminary BOQ and Cost Estimates ▪ Road Facility Planning ▪ Planning Studies ▪ Feasibility Studies 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.47

Page 2 of 2

- Technical Studies
- Economic Studies
- Toll Studies, Road User Charges
- Financial Studies, Sensitivity Analysis, Risk Analysis
- Project Financing Advice.

Type of Services provided:

Sector Studies, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Tariff Studies, Technical Studies, Preliminary Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Material Testing, Manpower Requirements Studies.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management, Corporate/Firm Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Highways, Organization / Funding & Programming, Highway Traffic Control, Highway Legislation, Highway Safety, Road Transport Economics, Road User Charges, Management Firms, Financial Analysis / Costing & Tariffs (Road Transportation Industry).

Urban Development Sector:

Strategic Development Planning (Incl. Master Planning), Urban Transport Planning.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.48

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Assignment Name: Preparation of Proposal for Construction of Khanewal – Lodhran Road on BOT basis.		Country: Pakistan
Location within Country: Province of Punjab,		Number of person-months of the entire project: 20
Name of Client: Frontier Works Organization		Total value of full project (in million US\$): US \$ 20 million
No. of Staff: 7		No. of Persons-Months: 20
Start Date (Month/Year): October 2000	Completion Date (Month/Year): January 2001	Approx. Value of Services (in million US\$): US \$ 2,000
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Two Highway Engineers, one Transportation Economist, one Structural Engineer, one Material Engineer, one Measurement Engineer and one Contracts Specialist supported by surveyors and laboratory technicians carried out the assignment.		
Brief Narrative Description of Project: The project consisted of the preliminary design and preparation of a Technical and Financial Feasibility Study for a 2 lane highway from Khanewal to Lodhran including urban areas and bypasses. Project is to be undertaken on a BOT basis for a concession period of 25 years.		
Description of Actual Services Provided: The services provided included <ul style="list-style-type: none"> ▪ Preliminary Survey and alternate alignment studies ▪ Regional Development Plans ▪ Preliminary Soil Survey ▪ Capacity Analysis ▪ Preliminary Pavement Design ▪ Preliminary Structural Design ▪ Preliminary BOQ and Cost Estimates ▪ Road Facility Planning ▪ Planning Studies ▪ Feasibility Studies 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 48

Page 2 of 2

- Technical Studies
- Economic Studies
- Toll Studies, Road User Charges
- Financial Studies, Sensitivity Analysis, Risk Analysis
- Project Financing Advice.

Type of Services provided:

Sector Studies, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Tariff Studies, Technical Studies, Preliminary Design – Architectural / Engineering / Industrial etc., Quantity Surveying / Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Material Testing, Manpower Requirements Studies.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management, Corporate/Firm Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Toll Roads, New Structures/Reconstruction, Highways, Organization / Funding & Programming, Highway Traffic Control, Highway Legislation, Highway Safety, Road Transport Economics, Road User Charges, Management Firms, Financial Analysis / Costing & Tariffs (Road Transportation Industry).

Urban Development Sector:

Strategic Development Planning (Incl. Master Planning), Urban Transport Planning.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.49

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Assignment Name: Supervision Services for the Construction of National Highway N-65 between Dera Allah Yar and Nuttal, 55 Kilometers.		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 930
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 12.15 million
No. of Staff: 29		No. of Persons-Months: 930
Start Date (Month/Year): May 2000	Completion Date (Month/Year): Dec 2004	Approx. Value of Services (in million US\$): US \$ 0.342 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: This road from Sukkur to Quetta, designated as N-65 by NHA, is an important section of the national highway network connecting the N-5, N-55 and N-25. Apart from being the only significant highway joining Balochistan and Sind provinces, it also feeds central part of Balochistan. The total length of existing highway between Sukkur and Quetta is about 385 Kms. The general living standard of the inhabitant of the road influence area is below the mark on account of poor infrastructure provisions. There is hardly any noteworthy industry except the recently constructed Uch Power Station. In this Contract, ACC was the nominated Engineer for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s Al-Khan Construction Co., Pakistan.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.49

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- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No. 50

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Assignment Name: Design and Construction supervision of approach road to Shell Depot Chaklala		Country: Pakistan	
Location within Country: Province of Punjab		Number of person-months of the entire project: 18	
Name of Client: Shell, Pakistan		Total value of full project (in million US\$): US \$ 0.05 million	
No. of Staff: 6		No. of Persons-Months: 15	
Start (Month/Year): Jan 2002	Date	Completion Date (Month/Year): Apr 2002	Approx. Value of Services (in million US\$): US \$ 1 million
Name of Associated Firm(s), If Any: Nil			No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Project Engineer and Planning Engineers. Detailed engineering design teams consist of Highway Engineer, Structure Engineer, Material Engineer, Traffic Engineer & Quantity Surveyor. The Project also includes the complete supervision of the project and the staff includes 1 Assistant Resident Engineers, 1 Material Engineers and 1 Quantity Surveyors.			
Brief Narrative Description of Project: The project requires rehabilitation and construction of the existing road going towards Shell Oil Depot Chaklala, Rawalpindi and is used by heavy loaded oil tankers. The project has to be deigned to cater for the heavy traffic. We have introduced the crushed water bound macadam at this project and proper construction supervision was done. By providing a thick layer of WBM, thickness of asphalt was reduced to just 4 inches. For the asphalt refusal density tests and softening point tests were introduced in the specifications.			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Detailed Topographic Surveys • Traffic analysis • Detailed Geometric Design • Detailed Engineering Design consists of Pavement design, Hydrological Studies, Structural design • Bidding Documents and BOQs • Detailed Construction Supervision • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards • Preparation of Job Mix Formulae for Asphalt. • Review and adjustments to geometric design and design of structures as per site requirements. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 50

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Type of Services Provided:

Design –/ Engineering / etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration, Material Testing, Quality Control

Fields of Specialization:

Construction Industry Development Sector:

Construction Management,

Transportation Sector:

Transportation Planning, Highway Planning, Research and Development, New Highways/Improvements & Reconstruction,

Urban Development Sector:

Strategic Development Planning and transport Planning

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.51

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Assignment Name: Topographic Survey Work of National Highways		Country: Pakistan
Location within Country: Four Provinces of Pakistan		Number of person-months of the entire project: 180
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): N.A
No. of Staff: 6		No. of Persons-Months: 180
Start Date (Month/Year): July, 2002	Completion Date (Month/Year): Jan 2006	Approx. Value of Services (in million US\$): US \$ 0.11 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): None
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: One Senior Design Engineer, Two Highway Engineers, One Chief Surveyor, Five Senior Surveyors supported by junior Surveyors and helpers for carrying out the assignment.		
Brief Narrative Description of Project: The project work includes carrying out topographic works of certain portions of existing & proposed National Highways, establishment of permanent control stations, detail inventory of structures at the given NHA format etc.		
Description of Actual Services Provided: Carrying out the detailed Topographic Surveys of proposed new highways, existing highways and bridges for National Highway Authority. Collection of all features, buildings, utilities structures, side roads on either side within 35 meters of the centre line of the proposed highway. Establishment of permanent control stations and horizontal control through EDM traversing. Establishment of vertical control through BM leveling. Detailed inventory of each structure and cross sections at 50m interval. Counting of trees. Plotting of survey data on AutoCad for use in RoadCalc and Moss Programs.		
Type of Services provided: Topographic Survey and detailed inventory of existing and new highways and bridge.		
Fields of Specialization: Construction Industry Development Sector: Highway Industry Transportation Sector: Detailed Topographic Survey and inventory of the highway. .		

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No. 52

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Assignment Name: Technical and Concession Management Services, including Project Engineer and O&M Manager for Lahore-Sheikhupura-Faisalabad Dual Carriageway (BOT)		Country: Pakistan															
Location within Country: Province of Punjab		Number of person-months of the entire project: 3400															
Name of Client: M/s LAFCO (Pvt.) Ltd. (Road Building Operating Company consisting of M/s FWO, M/s Habib Rafique, M/s Khalid Rauf and M/s Sachal).		Total value of full project (in million US\$): US \$ 66.67 million															
No. of Staff: 80		No. of Persons-Months: 3000															
Start Date (Month/Year): June 2002	Completion Date (Month/Year): June 2008	Approx. Value of Services (in million US\$): US \$ 4.05 million															
Name of Associated Firm(s), If Any: M/s MMP (Pvt.) Ltd.		No. of Months of Professional Staff Provided by Associated Firm(s): 1500															
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Project Engineer, Planning and Contract Engineers for coordination with Client and LAFCO. Detailed engineering design teams consist of Ten Highway Engineers, Five Structures Engineers, Four Materials Engineers, Two Traffic Engineers, Transportation Engineers, Quantity Surveyors. The Project also includes the complete supervision of the BOT project and the staff includes 2 Resident Engineers, 4 Assistant Resident Engineers, 4 Material Engineers and 4 Quantity Surveyors. All staff will be deployed to provide contract administration and quality control and assurance on behalf of the client. The scope of work also includes Operation and Maintenance Management led by O&M Manager, Dy. Manager Program Development, Dy. Manager Maintenance, Controller Planning, Controller Operations, Controller Technical, Controller Maintenance Management, Financial Specialist, Concession Specialist, Traffic safety Engineer, Quantity Surveyor to control the operations and maintenance phase of the BOT project.																	
Brief Narrative Description of Project: The Project of Lahore-Sheikhupura-Faisalabad Dual Carriageway is a Build-Operate-Transfer (BOT) Project. The road length is 115.5 km. Lahore, Sheikhupura and Faisalabad have over 25% population of the province of Punjab and thus have immense potential. The existing road from Sheikhupura to Faisalabad is a single carriageway (90 kms) and has to be improved to dual carriageway. The scope of work consists of Feasibility studies, Detailed Engineering Design, Traffic and Tolling Analysis and Strategy, Contract Administration, Construction Supervision and Management, Operations and Maintenance Management, Concession Management. Based upon the traffic data and road intersecting to the project road toll plazas were constructed at the following locations:- <table border="0"> <tr> <td>Section I</td> <td>Toll Location 1</td> <td>At approximately 1+800 km just after Saggian Bridge intersection</td> </tr> <tr> <td>Section II</td> <td>Toll Location 2</td> <td>After Sheikhupura Bypass on Main road @ km 33+000</td> </tr> <tr> <td></td> <td>Toll Location 3</td> <td>At km 54+000</td> </tr> <tr> <td>Section III</td> <td>Toll Location 4</td> <td>After Shahkot Urban Area @ km 86+000</td> </tr> <tr> <td>Section IV</td> <td>Toll Location 5</td> <td>Near end of the project road @ km 114+000</td> </tr> </table>			Section I	Toll Location 1	At approximately 1+800 km just after Saggian Bridge intersection	Section II	Toll Location 2	After Sheikhupura Bypass on Main road @ km 33+000		Toll Location 3	At km 54+000	Section III	Toll Location 4	After Shahkot Urban Area @ km 86+000	Section IV	Toll Location 5	Near end of the project road @ km 114+000
Section I	Toll Location 1	At approximately 1+800 km just after Saggian Bridge intersection															
Section II	Toll Location 2	After Sheikhupura Bypass on Main road @ km 33+000															
	Toll Location 3	At km 54+000															
Section III	Toll Location 4	After Shahkot Urban Area @ km 86+000															
Section IV	Toll Location 5	Near end of the project road @ km 114+000															

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 52

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Description of Actual Services Provided:

The following supervision tasks are being carried out during the course of the project:

- Detailed Topographic Surveys
- Traffic counts and analysis
- Tolling strategy
- Capacity Analysis
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- ROW Analysis and Plans
- FWD Studies
- Feasibility Studies
- Detailed Geometric Design
- Detailed Engineering Design consists of Pavement design, Hydrological Studies, Structural design
- Bidding Documents and BOQs
- Design of Landscaping/Arboriculture/Horticulture
- Project Impact Assessment Study
- Environmental Study
- Detailed Construction Supervision
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Assist the client in land acquisition proceedings and utilities relocation
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.
- As built drawings
- Operations management
- Highway Maintenance Survey
- Maintenance Management includes maintenance strategy, supervision, approvals and certifications
- Coordination with Stakeholders
- Tolling Strategy and Revenue Analysis/Management
- ROW Management/Controls, Leasing, Concessions
- Development Control and NOCs
- Hoarding, Signology, Planning and Management
- Road Space Management
- Traffic Safety and Control Planning and Management
- Expropriation and Monitoring Performance of Commercial Model
- Advising RBOC/LAFCO for Remedial Measures
- Advise, Plan and Execute Arboriculture works
- Concession Marketing Strategies and Plans
- Concession Assets Management
- Rolling Maintenance Program
- Concession Management

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 52

Page 3 of 3

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Environmental and Social Studies, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of LAFCO), Material Testing, Quality Control, Project Monitoring and Evaluation, Concession Management, Maintenance Management, Arboriculture studies

Fields of Specialization:

Construction Industry Development Sector:

Construction Management, Corporate Firm Management, Concession Management

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Highway Planning & Programming, Traffic Surveys and Demand Forecasting Transportation Models, Policies and Investment Programs New Highways/Improvements & Reconstruction, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety, tolling Strategies and Analysis, Concession management, Highway Traffic Control, Highway legislation, Road Transport Economics, Road User Charges, Financial Analysis and Costing of Tariffs (Road Transportation Industry).

Urban Development Sector:

Strategic Development Planning and transport Planning

Concession Management:

Coordination with Stakeholders Tolling Strategy and Revenue Analysis/Management, ROW Management/Controls, leasing, Concession, Development Control and NOCs, Hoarding, Signology, Planning and Management, Road Space Management, Traffic Safety and Control Planning and Management, Expropriation, Monitoring Performance of Commercial Model.

Assets Management:

Asset management, asset administration, value engineering

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 53

Page 1 of 2

Assignment Name: ADB Assisted Balochistan Roads Development Sector Project, TA No. 3897-PAK		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 60	
Name of Client: Asian Development Bank		Total value of full project (in million US\$): US \$ 0. 511	
No. of Staff: 13		No. of Persons-Months: 50	
Start Date (Month/Year): Feb, 2003	Completion Date (Month/Year): August, 2003	Approx. Value of Services (in million US\$): US \$ 0.381 million	
Name of Associated Firm(s), If Any: M/s Dainichi, Japan		No. of Months of Professional Staff Provided by Associated Firm(s): 10	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Transport Economist, Highway Engineer, Bridge Engineer, Material Engineer, Survey Engineer, Traffic Engineer, Contract and Procurement Specialist, Resettlement Expert, Environmental Expert and Social & Poverty Expert.			
Brief Narrative Description of Project: Balochistan Road Development Sector Project involves screening and prioritization of more than 3000 km rural and provincial roads based on the economic analysis of the project on HDM-4. Economic analysis and feasibility studies of 500 km of National Highways including Kalat-Quetta-Chamman Section and Gwadar Turbat Section of M-8, 1200 km of rural and provincial roads and 250 km national highways are selected based upon the economic returns. Socio economic and poverty studies of all the project roads including national, provincial and rural roads. Resettlement and Environmental analysis of 6 core roads covering 400 km of rural & and provincial roads and 250 km of national highways. Detailed design of 400 kms of core rural and provincial roads which includes the detailed topographic surveys, geo-tech and materials testing, traffic analysis, axle load surveys, OD surveys, geometric and pavement design, hydrological studies and structures design, rate analysis and engineers estimate and contract documentation. Work also involves preparation of contract packages and detailed TORs for the construction supervision of Consultants. Detailed implementation plans and financial layout of the loan. Work also involve preparation of pre-qualification documents for Contractors.			
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Screening and Prioritization of roads • Roughness surveys • Deflection surveys • Socio economic surveys • Economic Surveys based upon HDM-4 • Poverty Analysis and surveys • Environmental Surveys and analysis • Resettlement Analysis • Community Analysis 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 53

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- Training needs assessment
- Institutional Development studies
- Detailed Implementation Plan Traffic Surveys
- Axle Load Surveys
- Origin Destination Surveys
- Highway / Traffic Safety Studies
- Rate Analysis
- Engineer's Estimate
- Procurement Studies
- Contract Packaging
- Preparation of Pre-Qualification Documents for Contractors
- Cross Border Analysis
- Contract Documents
- Construction Drawings

Type of Services provided:

Design – Engineering etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Drawings , Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Socio and Poverty, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Resettlement Sector

Socio and poverty Sector

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis, Axle Load Surveys and Analysis, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 54

Page 1 of 2

Assignment Name: ADB Assisted NWFP Roads Development Sector Project, TA No. 4116-PAK		Country: Pakistan	
Location within Country: Province of NWFP		Number of person-months of the entire project: 60	
Name of Client: Asian Development Bank		Total value of full project (in million US\$): US \$ 0. 480	
No. of Staff: 13		No. of Persons-Months: 50	
Start (Month/Year): October, 2003	Date	Completion Date (Month/Year): May 2004	Approx. Value of Services (in million US\$): US \$ 0.280 million
Name of Associated Firm(s), If Any: M/s Dainichi, Japan		No. of Months of Professional Staff Provided by Associated Firm(s): 10	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Transport Economist, Highway Engineer, Bridge Engineer, Material Engineer, Survey Engineer, Traffic Engineer, Contract and Procurement Specialist, Resettlement Expert, Environmental Expert and Social & Poverty Expert.			
Brief Narrative Description of Project: NWFP Road Development Sector Project involves screening and prioritization of more than 2500 km rural and provincial roads based on the economic analysis of the project on HDM-4. Economic analysis and feasibility studies of more than 200 kms of National Highways including Peshawat Torkhum Section of N-5 and Sarai Gambila to Milana Junction of Indus Highway N-55, 2500 km of rural and provincial roads. National, provincial and rural roads have to be selected based upon the economic returns. Socio economic and poverty studies of all the project roads including national, provincial and rural roads. Resettlement and Environmental analysis of core roads including rural & and provincial roads and national highways will be carried out. Detailed design of 400 kms of core rural and provincial roads which includes the detailed topographic surveys, geo-tech and materials testing, traffic analysis, axle load surveys, OD surveys, geometric and pavement design, hydrological studies and structures design, rate analysis and engineers estimate and contract documentation. Work also involves preparation of contract packages. Detailed implementation plans and financial layout of the loan. Work also involves preparation of pre-qualification documents for Contractors.			
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Screening and Prioritization of roads • Roughness surveys • Deflection surveys • Socio economic surveys • Economic Surveys based upon HDM-4 • Poverty Analysis and surveys • Environmental Surveys and analysis • Resettlement Analysis • Community Analysis 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 54

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- Training needs assessment
- Institutional Development studies
- Detailed Implementation Plan Traffic Surveys
- Axle Load Surveys
- Origin Destination Surveys
- Highway/Traffic Safety Studies
- Rate Analysis
- Engineer's Estimate
- Procurement Studies
- Contract Packaging
- Preparation of Pre-Qualification Documents for Contractors
- Cross Border Analysis
- Contract Documents
- Construction Drawings

Type of Services provided:

Design – Engineering etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Drawings , Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Socio and Poverty, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Resettlement Sector

Socio and poverty Sector

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis, Axle Load Surveys and Analysis, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 55

Page 1 of 2

Assignment Name: Feasibility Study and Detailed Design to Enhance the Traffic Handling Capacity of Marir Chowk and Gawalmandi Chowk		Country: Pakistan
Location within Country: Province of Punjab		Number of person-months of the entire project: 20
Name of Client: Rawalpindi Development Authority		Total value of full project (in million US\$): To be Estimated
No. of Staff: 10		No. of Persons-Months: 16
Start Date (Month/Year): August, 2003	Completion Date (Month/Year): Dec 2004	Approx. Value of Services (in million US\$): US \$ 0.01million
Name of Associated Firm(s), If Any: No		No. of Months of Professional Staff Provided by Associated Firm(s): 10
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Transport Economist, Highway Engineer, Bridge Engineer, Material Engineer, Survey Engineer, Traffic Engineer, Contract and Procurement Specialist and Environmental Expert.		
Brief Narrative Description of Project: The project involves the feasibility study and detailed designing of underpasses, flyovers and bridges at Marir Chowk and Gawalmandi Chowk, Rawalpindi. These two chowks are facing a huge problem of traffic congestions in urban area of Rawalpindi and thus there is an urgent need for improvement the traffic handling capacity of these areas in the context of overall plan of traffic and transportation development for the Murree Road. The project involves detailed topographic surveys, traffic surveys, turning movement surveys, materials testing, detailed designing of bridges and underpasses, costs estimates, economic analysis and tender documents.		
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Condition surveys • Traffic Surveys • Topographic Surveys • Conceptual Planning of Intersection • Materials Testing • Structures Design of Underpasses • Structures Design for Bridges and Flyovers • Geometric Design • Pavement Design • Costs Estimates • Bill of Quantities • Tender Documents • Transportation Study • Economic Analysis • Preparation of PC-I 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 55

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- Environmental Studies
- Highway Safety Studies
- Rate Analysis
- Engineer's Estimate
- Contract Packaging
- Construction Drawings

Type of Services provided:

Design – Engineering etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Drawings, Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Transportation Sector:

Urban Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.56

Page 1 of 2

Assignment Name: Supervision Services for the Construction of Makran Coastal Highway Project, Ormara Pasni Section II.		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 552	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 12.04 million	
No. of Staff: 26		No. of Persons-Months: 552	
Start (Month/Year): November, 2002	Date	Completion Date (Month/Year): Jan 2005	Approx. Value of Services (in million US\$): US \$ 0.23 million
Name of Associated Firm(s), If Any: None			No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.			
Brief Narrative Description of Project: This road section is the part of Makran Coastal Highway Project. Makran Highway Project starts from Karachi and ends at Gwadar passing Ormara and Pasni along the shore of Arabian sea. This is an important section of the national highway network connecting Karachi with the new port being constructed at Gwadar. In this Contract, ACC was the nominated Engineer for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineer on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s AM Construction Co., (Pvt.) Ltd. And M/s Nazir and Company (Pvt.) Ltd. Pakistan.			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. • Preparation of drawings for the offices of the Contractor • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards • Preparation of Concrete Mix Designs and testing of Concrete. • Preparation of Job Mix Formulae for Asphalt. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.56

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- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 57

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Assignment Name: Outline Design and Preparation of PC-I of National Highway N-65 (Quetta – Dhadhar Section)		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 18	
Name of Client: National Highway Authority		Total value of full project (in million US\$): US \$ 48	
No. of Staff: 7		No. of Persons-Months: 18	
Start (Month/Year): November, 2003	Date	Completion Date (Month/Year): January 2004	Approx. Value of Services (in million US\$): US \$ 0.200 million
Name of Associated Firm(s), If Any: Nil		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Transport Economist, Highway Engineer, Bridge Engineer, Survey Engineer, Traffic Engineer, Resettlement Expert, Environmental Expert and Social & Poverty Expert.			
Brief Narrative Description of Project: Sukkur-Jacobabad-Dera Allahyar-Nuttal-Sibbi road with a total length of 385 Km is part of the National Highway Systems (N-65). The present road condition is a severe impediment in the development of the area, particularly for serving the remote areas of Balochistan province. It is therefore essential that national highway N-65, with more than 2500 vehicles per day, comprising of 70% commercial vehicles, is improved and constructed for its whole length, on priority basis, to meet the immediate and future requirements of a dependable link. The section under consideration has to be attended under high priority.			
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Preliminary Topographic Survey • Geometric Design • Preliminary Pavement Design • Inventory of Structures and Rehabilitation Strategy • Bill of Quantities • Cost Estimates • Economic Analysis using HDM-4 			
Type of Services provided: Design – Engineering etc., Geometric Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of PC-I and Drawings , Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Socio and Poverty, Environmental, Community Infrastructure, Procurement			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 57

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Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Resettlement Sector

Socio and poverty Sector

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 58

Page 1 of 2

Assignment Name: Design review of Improvement and Rehabilitation of Kalat – Quetta – Chamman Section of N-25 (240 Kms).		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 50	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 80 million	
No. of Staff: 18		No. of persons-months: 36	
Start (Month/Year): May 2004	Date	Completion Date (Month/Year): August 2004	Approx. Value of Services (in million US\$): US \$ 1 million
Name of Associated Firm (s), If Any: M/s ACE (Pvt.) Ltd. Lahore			No. of Months of Professional Staff Provided by Associated Firm (s): 14
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Sr. Design Engineer, Structural Engineer, Hydrologist, Highway Design Engineer, Transport Economist, Measurement Engineer, Material Engineers, Two Staff Engineers, Hydrologist, CAD Draftsmen, Laboratory Technician and other supporting staff were employed to carry out detailed survey, design, technical and economic feasibility and tender documents preparation.			
Brief Narrative Description of Project: Design review for the Improvement and Rehabilitation of Kalat – Quetta – Chamman Section of N-25 (240kms) including improvement of alignment, highway geometrics and design of cross drainage structures. The project was financed by Asian Development Bank under the Balochistan Road Development Sector Project.			
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks. <ul style="list-style-type: none"> • Design Review • Topographic surveys • Soil and sub soil investigations, study of borrow sources and their analyses, traffic counts and surveys, design of major intersections and traffic flow analyses, axle loads study and related analyses, Origin Destination Surveys. • Roughness Surveys • Hydrological studies, Structural design of bridges and cross drainage structures. • Existing pavement evaluation using FWD Deflection Method, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis • Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities • Pavement Design • Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents. • Determination of VOCs and preparation of economic feasibility report. • Toll study and analysis 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

- Land acquisition studies

Project Data Sheet No. 58

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.

Fields of Specialization:

Transportation Sector:

National/Regional/Multimodal Transportation Planning, Traffic/Origin-Destination Surveys, Demand forecasting, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, Bridges (Road Transportation Facilities), Highways Safety, Road Transport Economics.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 59

Page 1 of 2

Assignment Name: Supervision Services for the Construction of Gawadar Ratodero Motorway Project (M-8) Section IV – Khuzddar Shahdadkot, Package III Khori - Wangu Hill Section (Km 35+000 to Km 84+500).		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 375
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 20 million
No. of Staff: 14		No. of Persons-Months: 375
Start Date (Month/Year): October, 2004	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.232 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineer, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: This road section is part of the Gwadar - Ratoderao Motorway (M-8) with total length of 891.75 km and was divided into five sections for ease in construction and design. This section is part of Khuzdar – Shahdadkot Section IV of the project. There is only a katcha track present and a new two lane asphaltic road will be constructed with improved horizontal and vertical geometry. The general living standard of the inhabitant of the road influence area is below the mark on account of poor infrastructure provisions. Improvement of the road will improve the living standard of the people in the area. In this Contract, ACC was the nominated Engineers Representative for the Project, and the interpretation and implementation of the COCs is the responsibility of the Engineer Representative on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s AM Group (Pvt.) Ltd. Pakistan.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. • Preparation of drawings for the offices of the Contractor • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards • Preparation of Concrete Mix Designs and testing of Concrete. • Preparation of Job Mix Formulae for Asphalt. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 59

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- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

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Assignment Name: Detailed Design and Supervision Services for the Construction of Sibbi – Dhaddar Section of National Highway N-65.		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 210
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 6.5 million
No. of Staff: 17		No. of Persons-Months: 210
Start Date (Month/Year): November, 2004	Completion Date (Month/Year): June 2008	Approx. Value of Services (in million US\$): US \$ 0.115 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Highway Engineers, Structural Engineers, Pavement Engineer, Quantity Surveyor, Material Engineer, Surveyors and Laboratory Technicians for detailed design and Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: This road from Sukkur to Quetta, designated as N-65 by NHA, is an important section of the national highway network connecting the N-5, N-55 and N-25. Apart from being the only significant highway joining Balochistan and Sindh Provinces, it also feeds central part of Balochistan. The total length of existing highway between Sukkur and Quetta is about 385 Kms. The general living standard of the inhabitant of the road influence area is below the mark on account of poor infrastructure provisions. There is hardly any noteworthy industry except the recently constructed Uch Power Station. This section includes construction of additional carriageway between Sibbi and Dhaddar with total length of 25 kms. ACC carried out the detailed design and is also responsible for the construction supervision of the Project. In this Contract, ACC was the nominated Engineers Representative for the Project, and the interpretation and implementation of the COCs was the responsibility of the Engineers Representative on behalf of the Client. The COCs and bidding documents are based on FIDIC sample documents. The works were awarded to M/s Frontier Works Organization Pakistan.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project:		
<ul style="list-style-type: none"> • Alignment Studies • Topographic Surveys • Land Surveys • Material Testing and Borrow Sources • Geometric Design • Urban Area Design 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Traffic counts and surveys, and traffic flow analyses,
- Hydrological studies, Structural design of bridges and cross drainage structures.
- Condition Surveys, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis
- Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities
- Pavement Design
- Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents.
- Determination of VOCs and preparation of economic feasibility report.
- Toll study and analysis
- Preparation of PC-I

Construction Supervision

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Assist the client in land acquisition proceedings.
- Preparation of drawings for the offices of the Contractor
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Sindh Road Sector Development Programme – ADB Loan No.1892 PAK (SF) and OPEC 899-P		Country: Pakistan
Location within Country: Province of Sindh		Number of person-months of the entire project: 2914
Name of Client: Works & Services Department, Government of Sindh		Total value of full project (in million US\$): US \$ 100 million
No. of Staff: 35		No. of Persons-Months: 971
Start Date (Month/Year): December, 2004	Completion Date (Month/Year): June 2009	Approx. Value of Services (in million US\$): US \$ 1.5 million
Name of Associated Firm(s), If Any: KAMSAX, ECIL, REC, OCL, ABM		No. of Months of Professional Staff Provided by Associated Firm(s): 1943
<p>Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed:</p> <p>During design the senior staff comprised of a Technical Manager, highly experienced Highway, Bridge, Materials and Pavement, Design Engineers, measurement engineer, surveyors and other technical staff with extensive experience in detailed engineering design of roads and bridges. The design work is completed and supervision services are now being provided during construction.</p> <p>The supervision staff comprises of a Chief Resident Engineer, Resident Engineers, Material Engineers, Site Engineers, Laboratory Technicians, Surveyors and Quantity Surveyors</p>		
<p>Brief Narrative Description of Project:</p> <p>The project being funded by Asian Development Bank includes the improvement of about 164 kms of provincial highways and 1200 of rural access roads and Institutional Strengthening of CWD. ACC is responsible for detailed engineering and construction supervision of over 300 kms of rural access roads in different districts of Sindh. The project roads includes core roads for which design review is to be carried out and identification of new rural access roads where detailed engineering design will be carried out.</p>		
<p>Description of Actual Services Provided:</p> <p>The design work entailed topographic survey, soil investigations and surveys, route alignment studies, traffic studies, pavement design, retaining walls, hydrological studies, and design of cross drainage structures including 9 major bridges, river training works, guide banks, protection works and preparation of all tender documents, BOQ, Engineers Estimates, Specifications and Drawings.</p> <p>After design stage was completed, services for pre-qualification of contractors, NIT, pre-bid meetings, bid evaluations and recommendations for awards were provided.</p> <p>For the supervision stage, staff including Project Coordinator, Resident Engineers, Material Engineers, Site Inspectors/Engineers, Laboratory Technicians, Surveyors and Quantity Surveyors have been deputed to ensure construction as per specifications and provide project management support to the client.</p> <p>Project Benefit Monitoring and Evaluation is also being carried out.</p>		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Supervision Services for the Construction of Gawadar Ratodero Motorway Project (M-8) Section IV – Khuzddar Shahdadt Package-IV, Wangu Hill Reach (Km 84+500 to Km 117+500).		Country: Pakistan
Location within Country: Province of Balochistan		Number of person-months of the entire project: 294
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 10 million
No. of Staff: 17		No. of Persons-Months: 294
Start Date (Month/Year): March, 2004	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.164 million
Name of Associated Firm(s), If Any: Osmani & Company (Pvt) Ltd.		No. of Months of Professional Staff Provided by Associated Firm(s): 90
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineer, Assistant Resident Engineers, Material Engineers and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: This road section is part of the Gwadar - Ratoderao Motorway (M-8) with total length of 891.75 km and was divided into five sections for ease in construction and design. This section is part of Khuzdar – Shahdadt Section IV of the project. There is only a katcha track present and a new two lane earthen track will be constructed with improved horizontal and vertical geometry. The general living standard of the inhabitants of the road influence area is below the mark on account of poor infrastructure provisions. Improvement of the road will improve the living standard of the people in the area. In this Contract, ACC was the nominated Engineers Representative for the Project, and the interpretation and implementation of the COCs is the responsibility of the Engineer Representative on behalf of the Client.		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. • Preparation of drawings for the offices of the Contractor • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Drought Emergency Rehabilitation Assistance (DERA) Program – Road Sector Analysis		Country: Pakistan	
Location within Country: Sindh, Punjab and Balochistan Provinces		Number of person-months of the entire project: Not Applicable	
Name of Client: The World Bank, Islamabad		Total value of full project (in million US\$): US \$ 40 million	
No. of Staff: 1		No. of Persons-Months: 0.5	
Start Date (Month/Year): September, 2004	Completion Date (Month/Year): December 2004	Approx. Value of Services (in US\$): US \$ 3,350	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Infrastructure/Road Sector Specialist			
Brief Narrative Description of Project: The DERA program supports the Government's strategy to revive the rural economy after the drought that hit the country in the late 1990s and lasted for nearly four years. Its objectives are to: (i) assist the Government to alleviate the impact of the drought by restoring and improving productive capacity and the livelihoods and incomes of people most severely impacted by the drought; and (ii) help alleviate the macroeconomic impact of the drought through financing essential drought related import costs associated with re-establishing productive capacity. The program has four components. <i>Component 1: Rural Water Sector (infrastructure) Rehabilitation.</i> This component provides support for the recovery of livelihoods and rehabilitation of assets in rural sectors, in particular for improved water management. Estimated cost: US\$36.5 million. <i>Component 2: Drought induced imports.</i> This component provides support for essential imports necessary to restore productive capacity and assets that have been affected by drought conditions, including animal vaccines, agriculture and water sector equipment and inputs, petroleum and fuel products, construction and power generating machinery and seed and fertilizers. Estimated cost: US\$125 million. <i>Component 3: Emergency Preparedness and Coordination.</i> This was intended to support initial strengthening of emergency management preparedness and capacity building. Estimated cost: US\$0.5 million. <i>Component 4: Program Implementation and Coordination:</i> Support for overall management and coordination of the program including technical assistance. Estimated cost: US\$3.0 million. The project entailed evaluation of the DERA in meeting its objectives and targets. Services related to evaluation of infrastructure sector were provided.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Description of Actual Services Provided:

As a part of the Mission following tasks were carried out:

- Compile list of roads selected and constructed under the DERA, and gather information on the selection criteria and procedures related to Drought Mitigation and community participation.
- Randomly select schemes at different stages of implementation (schemes where construction is about to start, if any, to schemes where construction is completed).
- Assess the organization of the work, particularly the participation of local governments and communities in the schemes, discuss with communities and find out their level of participation in the construction phase, and how they intend to operate and maintain the schemes after completion of construction.
- Discuss with the contractors/communities about the work and identify issues that the contractor may have in carrying out the tasks
- Assess the quality of the works of visited schemes from the engineering/technical point of view, to determine if it meets the specifications/requirements of the contract, and if it meets standard practices.
- Assess the sustainability of the schemes based on discussion with communities, local government officials and contractors
- Identify areas where improvements are needed and prepare specific recommendations for improvement.
- Share the key findings of mission and recommendations to the Provincial DERA Coordinator before completing the mission and reach an understanding on ways to implement agreed actions.
- Submit a consolidated report for each province highlighting major findings and recommendation.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Cross Border Facility and Efficient Transit Facilitation at Chaman, Balochistan ADB TA No.4221-PAK		Country: Pakistan
Location within Country: Balochistan		Number of person-months of the entire project: 31.5
Name of Client: Asian Development Bank, Islamabad		Total value of full project (in million US\$): US \$ 0.20 million - approx
No. of Staff: 2		No. of Persons-Months: 4.13
Start Date (Month/Year): January, 2005	Completion Date (Month/Year): Feb 2005	Approx. Value of Services (in US\$): US \$ 28,508
Name of Associated Firm(s), If Any: Engineering Consultants International (Pvt) Ltd., Pakistan NEA Transport Research & Training Intl., Netherlands CPCS Transcom, Canada		No. of Months of Professional Staff Provided by Associated Firm(s): 20.62 2.21 3.61
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) The senior staff includes Legal Specialist and Institutional Expert.		
Brief Narrative Description of Project: To develop a concept, prepare a plan and complete a package including outline design and specifications, for a pilot cross border facility to be established and operated at the Chaman Border Point. The pilot cross border facility will take cognizance of the environment and opportunities for coordinated operating of immigration, customs, vehicles inspections, and health and other phytosanitary inspection. The facility must be administratively least cumbersome, client-friendly and transparent in all processes while fully complying with applicable government policies, regulations and interests.		
Description of Actual Services Provided: As a part of the team following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> Briefly review all significant recent (last 5 years) assessments of trade facilities arrangements (including port clearance and storage fees and other levies) at ports and border crossings conducted by the Government of Pakistan or internal or external agencies, ascertain the validity of such assessments and analyze why any proposals, if any, have not been implemented. Review the major legal financial, and administrative issues affecting cross-border transit and trade between Pakistan and Afghanistan, and identify any major gaps and required changes in the 1965 Transit Agreement to develop a comprehensive transit agreement that considers the interest and concerns of both governments and the competitive situation. Identify review and assess the key issues on transit of goods and vehicles carrying such goods. The review will include but will not be limited to (a) regulation of vehicle movement across the borders (b) harmonization of vehicle standards on dimensions, weights axle loads, emissions etc. (c) harmonization and cross acceptability of roadworthiness inspection criteria. Evaluate the one-step pilot trade facilitation arrangements at Qasim Port and Karachi Port and any border crossings where similar efforts may be underway and delineate the primary causes of the success and failures of such efforts. Analyze existing and identify institutional and administrative arrangements required for the facility. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Balochistan Rural Development and Drought Mitigation Project – ADB TA No.4367		Country: Pakistan	
Location within Country: Balochistan		Number of person-months of the entire project: 27.5 - approx	
Name of Client: Asian Development Bank, Islamabad		Total value of full project (in million US\$): US \$ 0.120 million	
No. of Staff: 1		No. of Persons-Months: 2.5	
Start Date (Month/Year): February, 2005	Completion Date (Month/Year): March 2005	Approx. Value of Services (in US\$): US \$ 12,750	
Name of Associated Firm(s), If Any: M/s Halcrow Pakistan (Pvt) Ltd.		No. of Months of Professional Staff Provided by Associated Firm(s): Lead Firm, approximately 25	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Rural Road Specialist			
Brief Narrative Description of Project: The TA Project entails preparation of drought mitigation program for Balochistan and covers the sectors of livestock, irrigation, small dams, and community infrastructure. Assess the requirements and priorities of communities for physical infrastructure. Review the existing rural road network in Balochistan and identify the improvements in road network needed in Drought affected areas with the consultation of communities in selected areas.			
Description of Actual Services Provided: As a part of the team following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Review the existing rural access road network in the project districts and the proposed plans and schemes of the provincial and district government including technical standards, costs and construction practices. • Critically examine the repair and maintenance practices, costs, budgetary allocation and funding. In particular examine the appropriateness of performance based maintenance contracts, including institutional constraints to introducing these methods. • Assess the extent of corruption in the performance of maintenance contractors, and recommend methods of limiting such practices • Identify gaps and linkages in the existing and planned networks and in consultation with the district government indicate priority roads linkages for inclusion in the project. • Prepare outline technical specifications, unit costs and cost estimates for road linkages to be included in the project and discuss these with the concerned district government staff. • Develop selection criteria for various infrastructure sub-components. • Develop monitoring indicators for sub-projects. • Develop implementation procedures for sub-projects. • Develop maintenance and sustainability procedures for sub projects. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.66

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Assignment Name: New MRRD Office Building at Darulaman, Kabul, Afghanistan		Country: Afghanistan	
Location within Country: Kabul, Afghanistan		Number of person-months of the entire project: 10	
Name of Client: The World Bank, Islamabad		Total value of full project (in million US\$): US \$ 1.65 million	
No. of Staff: 5		No. of Persons-Months: 10	
Start Date (Month/Year): December, 2004	Completion Date (Month/Year): January 2005	Approx. Value of Services (in US\$): US \$ 26,792	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) The senior staff includes architect, structural engineer, electrical engineer, utilities engineer, contract specialist and supporting staff.			
Brief Narrative Description of Project: Re-engineering of the new 3 storey MRRD office building at Darulaman, Kabul. The building is a 4,000 square meter office building with conference hall, audio video facilities, offices, and other features. All procurement documents prepared according to World Bank guidelines.			
Description of Actual Services Provided: The following tasks were carried out during the course of the project: <ul style="list-style-type: none"> • Architectural detail drawings • Structural design calculations • Reinforcement detail drawings • Rebar schedules • Electrical layouts and detail drawings • Heating and air conditioning layouts and detail drawings • Plumbing and services layouts and detail drawings • IT Layouts • Bill of Quantities • Engineer's Estimate • Detail Technical Specifications • Contract Document based on the World Bank document as applicable • Time schedule, showing when a tender package would be ready and a full construction package would be complete. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 67

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Assignment Name: Road and Road Sector Assessment Study – Including Community Social Surveys - ADB TA No.4469-PAK		Country: Pakistan	
Location within Country: All Over Pakistan		Number of person-months of the entire project: 22	
Name of Client: Asian Development Bank, Islamabad		Total value of full project (in million US\$): US \$ 56,000	
No. of Staff: 12		No. of Persons-Months: 22	
Start Date (Month/Year): February 2005	Completion Date (Month/Year): May 2005	Approx. Value of Services (in US\$): US \$ 56,000	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes, Highway Engineers, Social Scientists, Enumerators etc.			
Brief Narrative Description of Project: To assist ADB in preparing a post completion review of ADB's road sector assistance and contribution in Pakistan.			
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Road Sector Assessment Study of the Completed project funded by ADB • Completion of surveys and other activities to obtain data related to approximately 40 rural access and provincial roads in eight locations throughout Pakistan selected from all projects funded by ADB. • Preparation of survey questionnaires for – Road condition survey, Road History, Survey of Households - communities/beneficiaries, and Transporters and conducting such surveys in selected road influence areas, construction supervision. • Compiling engineering and traffic related data for selected 20 roads completed under ADB. • Field surveys in the communities along and around the selected roads to obtain information that will identify changes, if any due to the ADB funded road improvements. • Compilation of all data for SPSS and preparation of a report for roads surveyed. • Obtain data and provide assistance with the conduct of a broad sector study and preparation of the report. • Traffic Safety Study • Environmental and Resettlement Study 			

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Assignment Name: National Emergency Employment Program Afghanistan		Country: Afghanistan
Location within Country: Afghanistan		Number of person-months of the entire project: Not Relevant
Name of Client: The World Bank, Islamabad		Total value of full project (in million US\$): US \$ 83 million approximately
No. of Staff: 1		No. of Persons-Months: 1.5
Start Date (Month/Year): December, 2004	Completion Date (Month/Year): February 2005	Approx. Value of Services (in US\$): US \$ 12,900
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) The senior staff include Community Infrastructure/Road Sector Specialist		
Brief Narrative Description of Project: NEEP (National Emergency Employment Project) involves primarily generating employment through provision of basic rural access and labor intensive construction of infrastructure by communities in all provinces of Afghanistan. Under the project, to date achievements have been the improvement of more than 7,000 km of rural roads, key remote airstrips (e.g., in Chaghcharan), more than 10,000 running meters of cross-drainage structures (bridges, culverts, cause-ways), conservation works (seeding, nursery rehabilitation, and canal cleaning), and other sundry rural infrastructure. To achieve this delivery, NEEP has to-date, implemented more than 1,500 sub-projects executed by local contractors and Shuras, while investing US\$ 58.18 mil in infrastructure assets. Through three of the NEEP Projects (LIWP, NEEP-1, and NEEPRA) alone, an average of US\$ 1.5 mil in infrastructure assets has been committed to-date in each province (translating to an average infrastructure investment of US\$ 3/capita, inclusive of labor inputs)—actual assets worth an average US\$ 0.8 mil/province have been created. More than 80 percent of the allocations have been to rural access projects, which, within the wide rural infrastructure portfolio, have provided nation wide coverage and substantial rates of return on investment. MPW and MRRD have been the lead implementing ministries, while UNOPS, CARE and other international agencies have been the implementing partners.		
Description of Actual Services Provided: The assignment involved a detailed review of the outputs under NEEP, an evaluation of the implementing agencies, review of design standards, specifications and contracts, implementation capacity, institutional arrangements and needs, extensive community interviews, and field visits to project sites to determine the future direction for the program. A review was carried out structured around four key issues, and covered the two key implementation ministries—Ministry for Public Works (MPW) and Ministry for Rural Rehabilitation and Development (MRRD)—and the large Donors (Wbank, ARTF, JSDF, EC, USAID, WFP) and Implementing Partners (UNOPS, ILO, CARE, IOM, and UNHCR):		
<ul style="list-style-type: none"> • Future strategy and policy directions for the program; • Greater clarity on ministerial roles, responsibilities and mandates; • Performance of the various Implementation Partners; • How to improve program management and delivery systems, and find ways in which the Government can assume greater ownership of the program. 		
The Provinces/District Road visited during NEEP review:- Nagarhar (Achin Khogyani, Sherzad) Wardak, Balkh (Char bolak, Mazar, Dehbedi) Samangan (Feroz Naksher, Surbag) Kabul-Torkham and Kabul Solang.		
A detailed report on the Infrastructure component of the project was prepared including evaluation of implementation partner organizations.		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.69

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Assignment Name: Structural Evaluation of Goverdish School Buildings in Nooristan – UNOPS Project (Multiple school buildings)		Country: Afghanistan
Location within Country: Nooristan, Afghanistan		Number of person-months of the entire project: Not Relevant
Name of Client: UNOPS, Afghanistan		Total value of full project (in million US\$): US \$ 600,000
No. of Staff: 3		No. of Persons-Months: 1
Start Date (Month/Year): February 2005	Completion Date (Month/Year): March 2005	Approx. Value of Services (in US\$): US \$ 9,750
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes senior structure engineer, structure engineer and supporting staff.		
Brief Narrative Description of Project: Structural Evaluation of Goverdish School Building Nooristan being built by the communities using traditional construction methods through self help basis/USAID and recommendation for the improvements in design to enhance safety.		
Description of Actual Services Provided: As a part of the Mission, following tasks were carried out during the course of the project: <ul style="list-style-type: none"> • Evaluate the design of the structure which is based on traditional construction methods and determine whether a design fault exists which may cause the structure to collapse or be unstable. • Devise a methodology, which can provide an analytical approach to evaluate such structures, which are composite in Stone Masonry using Mud Mortar and Wood Beams/Columns as embedded structural elements. • Carry out Finite Element Analysis using appropriate software for modeling. • Prepare recommendations for improving the safety of the design provided by UNOPS and increase the reliability of these structures being built by the communities on self-help basis. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.70

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Assignment Name: Preparation of Second Pakistan Poverty Alleviation Fund, infrastructure component			Country: Pakistan
Location within Country: All Over Pakistan			Number of person-months of the entire project: Not Applicable
Name of Client: The World Bank, Islamabad			Total value of full project (in million US\$): US \$ 238 million
No. of Staff: 1			No. of Persons-Months: 1
Start Date (Month/Year): June, 2003	Completion Date (Month/Year): July 2003		Approx. Value of Services (in US\$): US \$ 5,200
Name of Associated Firm(s), If Any: None			No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Sr. Consultant Community Infrastructure Projects			
Brief Narrative Description of Project: During Pakistan Poverty Alleviation Fund (PPAF) Phase-I \$28 million were provided for 2,500 Community Physical Infrastructure projects benefiting 3.7 million persons in over 75 districts of Pakistan. Projects were implemented through 28 partner organizations (NGOs) of PPAF. Several supervision missions were undertaken by the Bank and areas identified where further administrative, procedural and technical improvements could be done to further improve the efficiency and efficacy of the program. The purpose of this Appraisal Mission was to evaluate the progress achieved under Phase I and assist the Bank in preparing the Project Appraisal Document for planned Phase-II Program - determine targets, performance and monitoring indicators, scope of CPI projects, technology initiatives and procedures of enhancing capacity of POs (NGOs).			
Description of Actual Services Provided: As a part of the mission, following tasks were carried out: <ul style="list-style-type: none"> • Evaluate the proposed plans for Phase-II and the strategies and mechanisms for implementation of each CPI sub program – finalize targets for Phase II program. • Review the Bank Rural Access and Mobility report (John Howe, 2002) and explore the possibility of developing a business line in Rural Access and Mobility (Infrastructure + Micro finance + CB) • Agree with the PPAF the targets and mechanisms to be adopted to achieve the delivery targets • Agree on Performance Monitoring and Evaluation Criteria • Evaluate and identify potential bottlenecks in proposed Phase-II, agree on proposed remedial actions. • Analyze proposed CPI staff career development paths and expansion of the unit to handle increased projects scope. • Review the CPI unit operations manual and other relevant documents, suggest measures to improve keeping in view the enhanced scope of CPI. • Review and finalize PPAF selection and eligibility criteria, including per capita limits, the size of the community contribution, and possibility of loans for infrastructure. • Assess the capacity and evaluate training needs of partner organizations • Review the impact assessment of CPI interventions and plans for Phase-II • Discuss the appropriate technology plan of PPAF and agree on targets and objectives • Discuss and finalize drought mitigation and preparedness plans and steps taken to address critical issues • Assist in preparation of Project Appraisal Document for Phase II \$USD 238 million program. 			

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No. 71

Page 1 of 1

Assignment Name: Supervision of Pakistan Poverty Alleviation Fund Project Phase-I Program		Country: Pakistan	
Location within Country: All Over Pakistan		Number of person-months of the entire project: Not Relevant	
Name of Client: The World Bank, Islamabad		Total value of full project (in million US\$): US \$ 28 million	
No. of Staff: 1		No. of Persons-Months: 1	
Start Date (Month/Year): March, 2004	Completion Date (Month/Year): April 2004	Approx. Value of Services (in US\$): US \$ 6,500	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Sr. Consultant Community Infrastructure			
Brief Narrative Description of Project: PPAF Phase-I was started in order to address the alarming levels of poverty and lack of access to opportunities amongst the poor communities of Pakistan. Funded by the World Bank, in a short period of three years, the project has delivered through its partner organization (NGOs) over 6,500 Community Physical Infrastructure projects benefiting over 3.7 million persons in 75 districts of Pakistan. In addition to grants to communities for infrastructure, micro credit is also being provided to the poor for livestock, farm inputs, small businesses, transport etc., The Bank being the donor agency carries out supervision missions on a regular basis of the project and NGOs. These involve review of all operational manuals, environmental monitoring reports, progress reports, benefit monitoring and evaluation, targets and objectives, cost analysis, specifications, community participation, implementation bottlenecks and constraints at both the PPAF and NGO levels. The purpose being to identify areas where administrative, procedural and technical improvements could be done to further improve the efficiency and efficacy of the program. The supervision mission also involved village immersion within the beneficiary communities households in Punjab in order to appreciate, first hand, their daily struggles in life.			
Description of Actual Services Provided: As a part of the Mission, the following tasks were carried out: <ul style="list-style-type: none"> • Evaluate achieving Synergies through integrated CPI delivery and other PPAF Assisted interventions • Evaluate progress in Alliance building and components sharing with local governments and other donors • Review the use of appropriate technologies and diffusion of innovations • Review environmental conservations and sustainable development objectives and achievements • Participate in village immersion missions with the Bank staff. • Analyze and review technical specifications, institutional arrangements, operational procedures of PPAF and NGOs • Evaluate targets and achievements, and quality assurance being carried out through top supervision • Review and analyze the Benefit monitoring and evaluation (BME) systems of PPAF and NGOs • Review progress achieved in the Drought mitigation and preparedness – Pilot project Rodh Malazi • CPI Credit Facility (CCF) for One-site Interventions • Prepare Supervision mission aide memoir 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.72

Page 1 of 1

Assignment Name: Supervision of Pakistan Poverty Alleviation Fund, infrastructure component – Phase II		Country: Pakistan	
Location within Country: All Over Pakistan		Number of person-months of the entire project: Not Relevant	
Name of Client: The World Bank, Islamabad		Total value of full project (in million US\$): US \$ 238 million	
No. of Staff: 1		No. of Persons-Months: 3	
Start Date (Month/Year): Feb 2005	Completion Date (Month/Year): On-going	Approx. Value of Services (in US\$): US \$ 19,300	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Sr. Consultant Community Infrastructure			
Brief Narrative Description of Project: Pakistan Poverty Alleviation Fund (PPAF) Phase II \$USD 238 million program consists of several components including Micro Credit, Community Infrastructure, Training of Partner Organizations (including operation and technical assistance), MIS, health and education. Under the community infrastructure component, over 7,000 sub projects, 300 integrated area development projects, 4 drought mitigation and preparedness projects, and 130 technology intervention projects are planned. The aim of the project is to make a significant impact on poverty alleviation by community level interventions in over 90 districts of Pakistan through 38 partner organizations (NGOs). Purpose of the supervision mission is to provide continuous monitoring and evaluation of the program implementation, objectives and targets.			
Description of Actual Services Provided: The following tasks are being carried out during the course of the supervision Mission: <ul style="list-style-type: none"> • Review of the proposed CPI targets for Phase-II and the strategies and mechanisms for implementation of each CPI sub program. Assess whether these are still valid or if modifications are being suggested. • Discuss PPAF's overarching vision for its CPI work (e.g. poverty impact, increased outreach, sustainability of schemes etc.) and lack of clarity or concerns about competing objectives, if any. • Conduct a detailed review of PPAF's work with each PO that has an active CPI program. This would include the current status of each PO (portfolio of schemes, PPAF commitments over the next few years, etc.) • Review of PPAF's and PO's Monitoring system (indicators used, types of reports generated, etc.) • Review with PPAF staff the status of important issues mentioned in the previous aide memoirs: PPAF's medium term vision for each PO and how each one will move towards having an effective CPI program. • Analyze CPI staff career development paths and expansion of the unit to handle increased projects scope. • Review PPAF's drought mitigation and integrated plans for CPI for each PO. In addition, PPAF's system for managing the portfolio will be reviewed • Review and agree with PPAF selection and eligibility criteria, including per capita limits, the size of the community contribution, and possibility of loans for infrastructure. • Review the impact assessment methodology for CPI interventions and plans for Phase-II • Review and monitor the progress of engaging new NGOs and steps taken to support such organizations • Evaluate the proposed new MIS for CPI unit of PPAF and cost of delivery of schemes • Prepare and submit supervision aide memoirs 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 73

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Assignment Name: Design and Construction Supervision (Provincial Highways & Rural Access Roads) for ADB Assisted Balochistan Roads Development Sector Project, TA No. 2019-PAK		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 860	
Name of Client: Communication & Works Department, Government of Balochistan, Quetta		Total value of full project (in million US\$): US \$	
No. of Staff: 44		No. of Persons-Months: 799	
Start Date (Month/Year): June, 2005		Completion Date (Month/Year): Ongoing	Approx. Value of Services (in million US\$): US \$ 6.165 million
Name of Associated Firm(s), If Any: M/s SMEC International (Pvt) Ltd. Australia M/s Dainichi Consultants Inc., Japan M/s Louise Berger Group (LBG), USA M/s NESPAK (Pvt) Ltd. M/s SEBCON (Pvt) Ltd.			No. of Months of Professional Staff Provided by Associated Firm(s): 61
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes:- <u>International:</u> Team Leader, Contract Specialist, Structural Specialist, Environmental Specialist, Social/Resettlement Specialist <u>Local:</u> Deputy Team Leader, Senior Resident Engineers, Resident Engineers, Senior Highway Engineers, Highway Design Engineers, Material Engineers, Social/Resettlement Specialist, Transport Economist, Environmental Specialist, Senior Structural Engineer/Bridge Engineers, Structural/Bridge Design Engineers, Drainage Engineers, Geodetic Engineers, Contract Specialist, Traffic Engineer, Quantity Surveyors etc.			
Brief Narrative Description of Project: The Government of Balochistan has applied for a loan from Asian Development Bank (ADB) towards the cost of the Balochistan Road Sector Development Project involving improvement of about 462 kilometers (Km) provincial highways and about 583 km of rural roads. Balochistan Road Development Sector Project involves screening and prioritization of more than 3000 km rural and provincial roads based on the economic analysis of the project on HDM-4. Economic analysis and feasibility studies of 500 km of National Highways including Kalat-Quetta-Chamman Section and Gwadar Turbat Section of M-8, 1200 km of rural and provincial roads and 250 km national highways are selected based upon the economic returns. Socio economic and poverty studies of all the project roads including national, provincial and rural roads. Resettlement and Environmental analysis of 6 core roads covering 400 km of rural & and provincial roads and 250 km of national highways. Detailed design of 400 kms of core rural and provincial roads which includes the detailed topographic surveys, geo-tech and materials testing, traffic analysis, axle load surveys, OD surveys, geometric and pavement design, hydrological studies and structures design, rate analysis and engineers estimate and contract documentation. Work also involves preparation of contract packages and detailed TORs for the construction supervision of Consultants. Detailed implementation plans and financial layout of the loan. Work also involve preparation of pre-qualification documents for Contractors.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 73

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Description of Actual Services Provided:

The following tasks are being carried out during the course of the project:

- Review the design of roads mentioned which have already been designed by the ADB TA Consultant. Consultant will suggest changes in the design if found necessary viz a viz site conditions. Such changes shall of course be approved by the Employer.
- Carry out social analysis including assessment of gender and indigenous people and prepare appropriate action plan, as required, in accordance with ADB's relevant policies and guidelines.
- Investigate land acquisition and resettlement impacts, carry out resettlement planning and prepare Resettlement Plan with ADB's Policy on Involuntary Resettlement, Hand book on Resettlement. A Guide to Good Practice.
- Carry out poverty impact assessment for selected roads in accordance with ADB's Handbook on Poverty and Social Analysis. Prepare a distribution ratios for selected roads.
- Carryout environment impact assessment (EIA) and/or initial environment examination (IEE) and summary IEE and/or EIA for selected roads in accordance with ADB guidelines and other requirements.
- Detail Survey and Design of selected roads as per requirements of the Client.
- Propose suitable contract packaging for selected roads.
- Prepare complete civil works prequalification (including evaluation guidelines) and bidding documents following ADB's Guidelines on Procurement and Sample Bidding Documents for Civil Works.
- Estimate maintenance cost (routine and periodic maintenance separately) on existing and improved roads for the purpose of economic evaluation.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 74

Page 1 of 2

Assignment Name: Feasibility Study for Road from Ghulam Khan – Khost in Afghanistan.		Country: Pakistan
Location within Country: Province of NWFP (FATA), Afghanistan		Number of person-months of the entire project: 4.65
Name of Client: National Highway Authority, M/o Communications Government of Pakistan		Total value of full project (in million US\$): To be Estimated
No. of Staff: 4		No. of Persons-Months: 4.65
Start Date (Month/Year): November 2005	Completion Date (Month/Year): February, 2006	Approx. Value of Services (in million US\$): US \$ 0.17 million
Name of Associated Firm(s), If Any: No		No. of Months of Professional Staff Provided by Associated Firm(s): Nil.
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Project Manager, Technical Manager/Highways Engineer, Sr. Highway Engineer, Quantity Surveyor, Staff Engineer, Sr. CAD Draftsman, Cad Operators, Computer Operator etc.		
Brief Narrative Description of Project: The project involves the preliminary feasibility study of Ghulam Khan to Khost in Afghanistan (Approximately 45 kms) for improving the present condition of the road so as to transform it into an all-weather 2-lane highway conforming to international standards. The project involves condition survey for roadway and cross drainage structures, traffic counts, rough cost estimates, preliminary feasibility, analysis on HDM-4.		
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Condition surveys • Traffic Surveys • Topographic Surveys • Conceptual Planning of Intersection • Materials Testing • Structures Design of Underpasses • Structures Design for Bridges and Flyovers • Geometric Design • Pavement Design • Costs Estimates • Bill of Quantities • Tender Documents • Transportation Study • Economic Analysis • Preparation of PC-I 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 74

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- Environmental Studies
- Highway Safety Studies
- Rate Analysis
- Engineer's Estimate
- Contract Packaging
- Construction Drawings

Type of Services provided:

Design – Engineering etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Drawings, Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Transportation Sector:

Urban Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.75

Page 1 of 2

Assignment Name: Review of Procurement Procedures of Capital Development Authority, Islamabad		Country: Pakistan	
Location within Country: Islamabad, Pakistan		Number of person-months of the entire project: 06	
Name of Client: Public Procurement Regulatory Authority (PPRA), Finance Division, Govt. of Pakistan, Islamabad		Total value of full project (in million US\$):	
No. of Staff: 1		No. of persons-months: 06	
Start Date (Month/Year): May 2003	Completion Date (Month/Year): Nov 2003	Approx. Value of Services (in million US\$): US \$ 10,000/-	
Name of Lead Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Procurement Specialist			
Brief Narrative Description of Project: Public Procurement Regulatory Authority (PPRA) has undertaken a review of procurement procedures of major public sector departments, the assignment required review of procurement procedures of Capital Development Authority, re-engineering and design of standard bidding documents, and preparation of procurement manual in compliance with PPRA rules. The overall objective being to bring transparency and efficiency in public procurement of goods, services and works.			
Description of Actual Services Provided: The services provided: Collection and compilation of all existing procurement regulations, procedures and practices for procurement of goods, services and works, including appeal and grievance redressal procedure, bid/tender evaluation methodology and existing delegation of powers. Identification of existing procurement procedures applicable during emergency and extraordinary conditions. 1. A critical review and analysis of existing procurement procedure and practices with a view to: <ul style="list-style-type: none"> i) Identify redundant procedures and practices resulting in non-transparency and corruption as well as expensive and substandard procurement of goods, services and works. ii) Analyze quality of bidding documents and bid evaluation procedure. iii) Analyze existing mechanism for ensuring transparency and accountability. 2. Review of existing code of ethics & conduct. 3. Undertake complete and comprehensive re-engineering of regulations, procedures and policies of public sector entity for transparent procurement, inspection and quality of goods, services and works with a view to: <ul style="list-style-type: none"> • Devise new mechanism and procedures for public procurement for ensuring transparency & accountability in public procurement. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.75

Page 2 of 2

- Laying down code of ethics, bid evaluation guidelines as well as review of existing standard bidding documents.
 - Propose steps for improvement, transparency and accountability
 - Prepare simplified procurement procedures for advertisement, contract award etc.
 - Develop procedures for procurement monitoring.
 - Make recommendations for improvement in institutional framework of public sector entities.
4. Identify potential for indigenous development of goods, services and works and propose procurement systems and procedures fostering indigenous technology development leading to indigenous manufacture of goods services, and works.
 5. Undertake an assessment of the quality and competence of procurement professionals and make recommendations for procurement management capacity building in order to improve transparency and reduce corruption.
 6. Define and identify emergency situations and to recommend appropriate procurement procedures applicable during emergencies calling for immediate and prompt procurement of goods, services and works to expeditiously meet extraordinary conditions. Such recommended procedure shall ensure transparency and prompt response to the emergency situations.

Type of Services provided:

Policy Studies, Planning Studies, Procurement Services, Technical Assistance and Advisory Services, Management Information Systems, Institutional Strengthening/Restructuring, Organizational Development Studies, Training and Transfer of Technology, Legal Services.

Fields of Specialization:

Construction Industry Development Sector:

General, Institution Buildings.

Energy Sector:

General

Industry Sector:

Industry General

Transportation Sector:

General

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.76

Page 1 of 2

Assignment Name: Review of Procurement Procedures of Pakistan Telecommunication Company Limited (PTCL).		Country: Pakistan	
Location within Country: Islamabad, Pakistan		Number of person-months of the entire project: 06	
Name of Client: Public Procurement Regulatory Authority (PPRA), Finance Division, Govt. of Pakistan, Islamabad		Total value of full project (in million US\$):	
No. of Staff: 1		No. of persons-months: 06	
Start Date (Month/Year): Mar 2005	Completion Date (Month/Year): Sep 2005	Approx. Value of Services (in million US\$): US \$ 16,670/-	
Name of Lead Firm (s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm (s): Nil	
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Procurement Specialist			
Brief Narrative Description of Project: Public Procurement Regulatory Authority (PPRA) has undertaken a review of procurement procedures of major public sector departments, the assignment required review of procurement procedures of Capital Development Authority, re-engineering and design of standard bidding documents, and preparation of procurement manual in compliance with PPRA rules. The overall objective being to bring transparency and efficiency in public procurement of goods, services and works.			
Description of Actual Services Provided: The services provided: <ol style="list-style-type: none"> 1. Collection and compilation of all existing procurement regulations, procedures and practices for procurement of goods, services and works, including appeal and grievance redressal procedure, bid/tender evaluation methodology and existing delegation of powers. <ul style="list-style-type: none"> • Identification of existing procurement procedures applicable during emergency and extraordinary conditions. 2. A critical review and analysis of existing procurement procedure and practices, in the light of Public Procurement Rules 2004, and any Regulations in this matter with a view to: <ol style="list-style-type: none"> i) Identify redundant procedures and practices resulting in non-transparency and corruption as well as expensive and substandard procurement of goods, services and works. ii) Analyze quality of bidding documents and bid evaluation procedure. iii) Analyze existing mechanism for ensuring transparency and accountability. 3. Review of existing code of ethics & conduct. 4. Undertake complete and comprehensive re-engineering of regulations, procedures and policies of public sector entity in accordance with Public Procurement Rules 2004, and any Regulations in this matter, for transparent procurement, inspection and quality of goods, services and works with a view to: <ul style="list-style-type: none"> • Devise new mechanism and procedures for public procurement for ensuring transparency & accountability in public procurement. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.76

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- Laying down code of ethics, bid evaluation guidelines as well as review of existing standard bidding documents.
 - Propose steps for improvement, transparency and accountability
 - Prepare simplified procurement procedures for advertisement, contract award etc.
 - Develop procedures for procurement monitoring.
 - Make recommendations for improvement in institutional framework of public sector entities.
5. Identify potential for indigenous development of goods, services and works and propose procurement systems and procedures fostering indigenous technology development leading to indigenous manufacture of goods services, and works.
 6. Undertake an assessment of the quality and competence of procurement professionals and make recommendations for procurement management capacity building in order to improve transparency and reduce corruption.
 7. Define and identify emergency situations and to recommend appropriate procurement procedures applicable during emergencies calling for immediate and prompt procurement of goods, services and works to expeditiously meet extraordinary conditions. Such recommended procedure shall ensure transparency and prompt response to the emergency situations.

Type of Services provided:

Policy Studies, Planning Studies, Procurement Services, Technical Assistance and Advisory Services, Management Information Systems, Institutional Strengthening/Restructuring, Organizational Development Studies, Training and Transfer of Technology, Legal Services.

Fields of Specialization:

Construction Industry Development Sector:

General, Institution Buildings.

Energy Sector:

General

Industry Sector:

Industry General

Transportation Sector:

General

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.77

Page 1 of 1

Assignment Name: Design of Customs Head Quarter Building in Kabul Afghanistan Contract No.C05-341 / 00038222		Country: Afghanistan	
Location within Country: Kabul, Afghanistan		Number of person-months of the entire project: 16.5	
Name of Client: United Nations Offices for Project Services (UNOPS) Afghanistan Project Implementation Facility (APIF), UNOPS House, UNOCA Compound, Jalalabad Road, Kabul, Afghanistan		Total value of full project (in million US\$): US \$ 5.00 million	
No. of Staff: 8		No. of Persons-Months: 16.5	
Start (Month/Year): 01 June 2005	Date	Completion Date (Month/Year): 31 March 2006	Approx. Value of Services (in US\$): US \$ 98,000/-
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) The senior staff includes architect, structural engineer, electrical engineer, utilities engineer, contract specialist, measurement engineer, geotechnical engineer, chief surveyor and supporting staff.			
Brief Narrative Description of Project: Structural Design and Bidding Documents for National Customs & Revenue Head Quarters, 5 storey Building Kabul, Afghanistan, funded by the World Bank. The building is a 5600 square meter office building with conference hall, minister and other senior staff offices, and other features. All procurement documents prepared according to World Bank guidelines.			
Description of Actual Services Provided: The following tasks were carried out during the course of the project: <ul style="list-style-type: none"> • Architectural detail drawings • Structural design calculations • Reinforcement detail drawings • Rebar schedules • Electrical layouts and detail drawings • Heating and air conditioning layouts and detail drawings • Plumbing and services layouts and detail drawings • IT Layouts • Bill of Quantities • Engineer's Estimate • Detail Technical Specifications • Contract Document based on the World Bank document as applicable 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.78

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Assignment Name: Multi-Sector Rehabilitation and Improvement Project in Azad Jammu and Kashmir (MSRIP) – ADB Loan No.2153-PAK (SF)		Country: Pakistan	
Location within Country: Azad Jammu & Kashmir		Number of person-months of the entire project: 687	
Name of Client: Additional Chief Secretary, Planning & Development Department (PDD), Government of State of Jammu & Kashmir		Total value of full project (in million US\$): To be estimated	
No. of Staff: 11		No. of Persons-Months: 113	
Start Date (Month/Year): March 2006		Completion Date (Month/Year): January 2009	Approx. Value of Services (in US\$): US \$ 483,000/-
Name of Associated Firm(s), If Any: M/s ECIL, M/s Anjum Asim Shahid Rehman & M/s Barqaab Consulting Services (Pvt) Ltd.		No. of Months of Professional Staff Provided by Associated Firm(s): 574	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) The senior staff includes two highway/design engineers, two bridge engineers, structure engineer, contract engineer, geotechnical engineer, resident engineer, project quantity surveyor and quantity surveyor etc.			
Brief Narrative Description of Project: Multi-Sector Rehabilitation and Improvement Project in Azad Jammu and Kashmir (MSRIP) was funded by Asian Development Bank covering three components i.e. roads and bridges, water supply system and power sector.			
Description of Actual Services Provided: The following tasks were carried out during the course of the project: <ul style="list-style-type: none"> • Condition surveys • Traffic Surveys • Topographic Surveys • Conceptual Planning of Intersection • Materials Testing • Structures Design for Bridges and Flyovers • Geometric Design • Pavement Design • Costs Estimates • Bill of Quantities • Tender Documents • Transportation Study • Economic Analysis • Preparation of PC-I • Socio economic and Environmental Studies 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No.78

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- Resettlement Surveys and Study
- Highway Safety Studies
- Rate Analysis
- Engineer's Estimate
- Contract Packaging
- Construction Drawings

Type of Services provided:

Design – Engineering etc., Soil Mechanics and Foundation Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Drawings, Structural Engineering, Material Testing, Traffic Engineering, Economic Analysis, Resettlement, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:

Detailed Implementation Plans

Environmental Sector

Transportation Sector:

Urban Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Traffic Surveys and Analysis, Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 79

Page 1 of 2

Assignment Name: Design and Construction Supervision (Rural Access Roads Package-B) for ADB Assisted NWFP Roads Development Sector and Sub-Regional Connectivity Project, Loan No.2013-PAK		Country: Pakistan
Location within Country: Province of NWFP		Number of person-months of the entire project: 2348
Name of Client: Works & Services Department, Government of NWFP, Peshawar		Total value of full project (in million US\$): To be estimated
No. of Staff: 39		No. of Persons-Months: 1748
Start Date (Month/Year): January, 2005	Completion Date (Month/Year): Ongoing	Approx. Value of Services (in million US\$): US \$ 2.2 million
Name of Associated Firm(s), If Any: M/s Engg. Consultants International (ECIL) Karachi M/s Engineering Associates (EA) Karachi M/s Associated Consulting Engineers (ACE) Lahore M/s Associates in Development (AID) Peshawar		No. of Months of Professional Staff Provided by Associated Firm(s): 600
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Team Leader, Contract Specialist, Structural Specialist, Environmental Specialist, Social/Resettlement Specialist Resident Engineers, Senior Highway Engineers, Highway Design Engineers, Material Engineers, Social/Resettlement Specialist, Transport Economist, Environmental Specialist, Senior Structural Engineer/Bridge Engineers, Structural/Bridge Design Engineers, Drainage Engineers, Geodetic Engineers, Contract Specialist, Traffic Engineer, Quantity Surveyors etc.		
Brief Narrative Description of Project: The project involved design review, update of already done designs, detailed engineering design and feasibility study of the rural access roads in the province. The roads are located in the northern part of NWFP. The activities include the feasibility study, environmental studies, resettlement studies, soil studies, traffic studies and analysis detailed engineering design and construction supervision of the roads.		
Description of Actual Services Provided: The following tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Review the design of roads mentioned which have already been designed by the ADB TA Consultant. Consultant will suggest changes in the design if found necessary viz a viz site conditions. Such changes shall of course be approved by the Employer. • Carry out social analysis including assessment of gender and indigenous people and prepare appropriate action plan, as required, in accordance with ADB's relevant policies and guidelines. • Investigate land acquisition and resettlement impacts, carry out resettlement planning and prepare Resettlement Plan with ADB's Policy on Involuntary Resettlement, Hand book on Resettlement. A Guide to Good Practice. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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- Carryout environment impact assessment (EIA) and/or initial environment examination (IEE) and summary IEE and/or EIA for selected roads in accordance with ADB guidelines and other requirements.
- Detail Survey and Design of selected roads as per requirements of the Client.
- Propose suitable contract packaging for selected roads.
- Prepare complete civil works prequalification (including evaluation guidelines) and bidding documents following ADB's Guidelines on Procurement and Sample Bidding Documents for Civil Works.
- Estimate maintenance cost (routine and periodic maintenance separately) on existing and improved roads for the purpose of economic evaluation.
- Construction Supervision
- Construction Management

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

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Assignment Name: Construction Supervision / Design Review of Kalat-Quetta-Chaman Section of N-25 including Design/ Supervision of Cross Border Facility at Chaman		Country: Pakistan	
Location within Country: Province of Balochistan		Number of person-months of the entire project: 1317	
Name of Client: National Highways Authority, Government of Pakistan.		Total value of full project (in million US\$): US \$ 50 million	
No. of Staff: 17		No. of Persons-Months: 400	
Start Date (Month/Year): January, 2006	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 2.125 million	
Name of Associated Firm(s), If Any: M/s SMEC International Pty. Ltd. Australia M/s Pacific Consultant International Japan M/s Associated Consulting Engineers (ACE) Lahore M/s National Engineering Consultant M/s SEBCON (Pvt) Ltd, Islamabad		No. of Months of Professional Staff Provided by Associated Firm(s): 917	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineer, Assistant Resident Engineers, Material Engineers, Bridge Engineer and Quantity Surveyors. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.			
Brief Narrative Description of Project: The project involves rehabilitation and upgradation of the National Highway N-25, from Kalat to Chamman via Quetta. The road shall become after its upgradation to a 7.3 m wide asphaltic carriageway with treated shoulders. The project envisages widening and up-gradation of existing road and improvement of road geometry.			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Traffic Safety study • Assist the client in land acquisition proceedings. • Preparation of drawings for the offices of the Contractor • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards • Preparation of Concrete Mix Designs and testing of Concrete. • Preparation of Job Mix Formulae for Asphalt. • Review and adjustments to geometric design and design of structures as per site requirements. 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Feasibility and Detailed Design for Dualization of Tarnol – Fateh Jang Section of National Highway N-80		Country: Pakistan	
Location within Country: Punjab		Number of person-months of the entire project: 54	
Name of Client: National Highways Authority, Ministry of Communications, Government of Pakistan, Islamabad		Total value of full project (in million US\$): US \$ 45.4 million	
No. of Staff: 22		No. of persons-months: 54	
Start (Month/Year): December 2006	Date	Completion Date (Month/Year): February 2007	Approx. Value of Services (in million US\$): US\$ 0.069 million
Name of Associated Firm(s), If Any: None			No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader, one Senior Structure Engineer, One Traffic / Pavement Engineer, One Hydraulic / Drainage Engineer, One Contractor Engineer, one Environmental Engineer, One Junior Highway / Survey Engineer. Staff were employed to carry out detailed survey, design, technical feasibility and tender documents preparation including pavement evaluation. One transport economist provided inputs in economic feasibility report preparation. The team was supported by surveyors, draftsman, laboratory technicians, estimators, enumerators and other support staff.			
Brief Narrative Description of Project: The project consisted of the Preparation of a Feasibility Study and Detailed Design, Preparation of Tender Drawings and Tender Documents for an additional carriageway, 40 kilometers in length. The project is situated in Punjab Province and forms a part of National Highway N-80 (Turnol – Fatehjang – Jand – Kohat). The project envisages widening and up-gradation of existing road and improvement of road geometry. In pursuance of the vision of the Economic and Social Development, the Tarnol – Kohat Highway has recently been federalized. Roads and bridges play a pivotal role in realization of this vision. This section would become further traffic load once the Khushal Garh Bridge on river Indus is reconstructed. Keeping in view the aforementioned objectives, the NHA intends to upgrade, widen and improve Fatehjang – Jand Section to international standards.			
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks, soil and sub soil investigations, study of borrow sources and their analyses, Quarry material sources and analysis, traffic counts and surveys, traffic forecasts, design of major intersections and traffic flow analyses, Design of Urban Areas, Design of Street Lighting, Axle loads study and related analyses, Origin Destination Surveys, Hydrological studies, Design of Storm Water Drainage, Existing pavement evaluation using Benkleman Beam Deflection Method, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis, Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities, Pavement Design, Structural Design, Design of Foundations, sub-structures, super structures, River Training Works, Preparation of Construction Drawings, Traffic Audits, Traffic Safety Measures, Strategy for Road Safety			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Bill of Quantities, Preparation of Mass Haul Diagram, Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract, Engineering Cost Estimates, Study of Regional

Development Plans, Market Studies – Regional Import Export Volumes, Crop Production etc., Transport Sector Policy Studies, Vehicle Operating Costs, Economic Analysis, Financial Analysis, Preparation of Technical and Economic Feasibility Report, Preparation of Project Planning Approval Document (PC I), Evaluation of Tenders as per IBRD Procurement Guidelines.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, International Transportation Tech., Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, New Structures/Reconstruction, Highways Safety, Road Transport Economics.

Urban Development Sector:

Land Readjustment, Traffic Management, Urban Transport Planning

Water Supply and Sanitation Sector:

Storm Drainage.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Feasibility and Detailed Design for Upgradation, Widening and Improvement of Fateh Jang – Jand Section of National Highway N-80		Country: Pakistan
Location within Country: Punjab		Number of person-months of the entire project: 25
Name of Client: National Highways Authority, Ministry of Communications, Government of Pakistan, Islamabad		Total value of full project (in million US\$): US \$ 31.9 million
No. of Staff: 18		No. of persons-months: 25
Start Date (Month/Year): Jan 2007	Completion Date (Month/Year): April 2007	Approx. Value of Services (in million US\$): US\$ 0.083 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader, one Geometric Expert, one Pavement Engineer, one Structural Specialist, one Contract Specialist, one Drainage Engineer, one Highway Engineer, one Material Engineer, Two Surveyors. Staff was employed to carry out detailed survey, design, technical feasibility and tender documents preparation including pavement evaluation. One transport economist provided inputs in economic feasibility report preparation. The team was supported by surveyors, draftsman, laboratory technicians, estimators, enumerators and other support staff.		
Brief Narrative Description of Project: The project consisted of the Preparation of a Feasibility Study and Detailed Design, Preparation of Tender Drawings and Tender Documents for an additional carriageway, 67 kilometers in length. The project is situated in Punjab Province and forms a part of National Highway N-80 (Turnol – Fatehjang – Jand – Kohat). The project envisages widening and up-gradation of existing road and improvement of road geometry. In pursuance of the vision of the Economic and Social Development, the Tarnol – Kohat Highway has recently been federalized. Roads and bridges play a pivotal role in realization of this vision. This section would become further traffic load once the Khushal Garh Bridge on river Indus is reconstructed. Keeping in view the aforementioned objectives, the NHA intends to upgrade, widen and improve Fatehjang – Jand Section to international standards.		
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks, soil and sub soil investigations, study of borrow sources and their analyses, Quarry material sources and analysis, traffic counts and surveys, traffic forecasts, design of major intersections and traffic flow analyses, Design of Urban Areas, Design of Street Lighting, Axle loads study and related analyses, Origin Destination Surveys, Hydrological studies, Design of Storm Water Drainage, Existing pavement evaluation Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis, Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities, Pavement Design, Structural Design, Design of Foundations, sub-structures, super structures, River Training Works, Preparation of Construction Drawings,		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Project Data Sheet No.82

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Bill of Quantities, Preparation of Mass Haul Diagram, Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract, Engineering Cost Estimates, Study of Regional

Development Plans, Market Studies – Regional Import Export Volumes, Crop Production etc., Transport Sector Policy Studies, Vehicle Operating Costs, Economic Analysis, Financial Analysis, Preparation of Technical and Economic Feasibility Report, Preparation of Project Planning Approval Document (PC I), Evaluation of Tenders as per IBRD Procurement Guidelines.

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, International Transportation Tech., Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, New Structures/Reconstruction, Highways Safety, Road Transport Economics.

Urban Development Sector:

Land Readjustment, Traffic Management, Urban Transport Planning

Water Supply and Sanitation Sector:

Storm Drainage.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Consultancy Services for Planning, Designing and Construction Supervision of Talli Tangi Storage Dam, Sibbi		Country: Pakistan														
Location within Country: Province of Balochistan		Number of person-months of the entire project:														
Name of Client: National Logistic Cell / Irrigation and Power Department, Government of Balochistan.		Total value of full project (in million US\$): To be estimated														
No. of Staff:		No. of Persons-Months:														
Start Date (Month/Year): March 2007	Completion Date (Month/Year): Ongoing	Approx. Value of Services (in million US\$): US \$ 0.5 million														
Name of Associated Firm(s), If Any: M/s Infra-D Consultants Islamabad		No. of Months of Professional Staff Provided by Associated Firm(s):														
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed:																
Brief Narrative Description of Project: Talli Tangi storage dam, located in Sibbi for availability of water at the proposed dam site through comprehensive reservoir on Chakar River 16 miles North East of Sibbi Town. Details are as under:- <table border="0"> <tr> <td>Catchment Area</td> <td>573 sq. miles</td> </tr> <tr> <td>Design Flood Discharge</td> <td>67,000 cusec</td> </tr> <tr> <td>Type of Dam</td> <td>Concrete Gravity</td> </tr> <tr> <td>Length of Dam</td> <td>200 feet</td> </tr> <tr> <td>Height of Dam</td> <td>175 feet</td> </tr> <tr> <td>Storage Capacity</td> <td>93,000 Acres Feet</td> </tr> <tr> <td>Area of Benefit</td> <td>37,000 Acres</td> </tr> </table>			Catchment Area	573 sq. miles	Design Flood Discharge	67,000 cusec	Type of Dam	Concrete Gravity	Length of Dam	200 feet	Height of Dam	175 feet	Storage Capacity	93,000 Acres Feet	Area of Benefit	37,000 Acres
Catchment Area	573 sq. miles															
Design Flood Discharge	67,000 cusec															
Type of Dam	Concrete Gravity															
Length of Dam	200 feet															
Height of Dam	175 feet															
Storage Capacity	93,000 Acres Feet															
Area of Benefit	37,000 Acres															
Description of Actual Services Provided: Details of services provided are as follows:- <ul style="list-style-type: none"> - Detailed Topographic Survey and Geo-technical Investigations - Layout optimization - Hydrological and hydraulic studies - Identification of command area and design of conveyance system - Socio-Economic and environmental studies - Feasibility level design and cost estimates - Detailed design of the project 																

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Procurement Services, Supervision/ Inspection of Construction, Project Management/Administration (on behalf of owner), Technical Assistance and Advisory Services, Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Agriculture & Rural Development Sector:

Rural Development Planning, Physical Infrastructure, Flood/River Control Works.

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Highway Planning & Programming, Rural Feeder Roads (Farm to Market) (Highway Planning & Programming), New Highways/Improvements & Reconstruction, Rural Feeder Roads (Farm to Market) (New Highways, New Structures/Reconstruction), Bridges (Road Transportation Facilities), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Feasibility Study and Detailed Design of Sibbi – Kohlu – Rakhni Road.		Country: Pakistan
Location within Country: Balochistan		Number of person-months of the entire project: 72
Name of Client: Communication & Works Department, Government of Balochistan / National Logistic Cell (NLC)		Total value of full project (in million US\$): US \$ 50 million
No. of Staff: 18		No. of persons-months: 36
Start Date (Month/Year): Jan 2007	Completion Date (Month/Year): April 2007	Approx. Value of Services (in million US\$): US\$ 0.6 million
Name of Associated Firm(s), If Any: M/s Infra-D Consultants, Islamabad		No. of Months of Professional Staff Provided by Associated Firm(s): 36
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader, one Geometric Expert, one Pavement Engineer, one Structural Specialist, one Contract Specialist, one Drainage Engineer, one Highway Engineer, one Material Engineer, Two Surveyors were employed to carry out detailed survey, design, technical feasibility and tender documents preparation including pavement evaluation. One transport economist provided inputs in economic feasibility report preparation. The team was supported by surveyors, draftsman, laboratory technicians, estimators, enumerators and other support staff.		
Brief Narrative Description of Project: C&W Department, Government of Balochistan intended to construct Sibbi-Kohlu-Rakhni road to provide fast and efficient route for trade related traffic between various parts of Balochistan province. The designated route is Sibbi-Talli Tangi-Sharif Tangi – Loekumb – Mawaind – Fazalchell – Kohlu. For the purpose C&W Deptt. Govt. of Balochistan has tasked to prepare alignment studies/design of the work. Detail is as under:- Total length 134 kms Carriageway Width 6.7 m (21 ft) Shoulders 0.77 m (2.5 ft) Carriageway design TST Four to five wide crossing places in a Km in mountainous region Road from Kohlu to Fazil Chel already constructed widened and improved to above specifications		
Description of Actual Services Provided: The work entailed detailed topographic survey, study on alternate alignments, fixing of permanent reference monuments and establishing permanent benchmarks, soil and sub soil investigations, study of borrow sources and their analyses, Quarry material sources and analysis, traffic counts and surveys, traffic forecasts, design of major intersections and traffic flow analyses, Design of Urban Areas, Axle loads study and related analyses, Origin Destination Surveys, Hydrological studies, Design of Storm Water Drainage, Existing pavement evaluation Capacity Analysis, Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities, Pavement Design, Structural Design, Design of Foundations, sub-structures, super structures, River Training Works, Preparation of Construction Drawings, Socio Economic and Environmental Studies		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Bill of Quantities, Preparation of Mass Haul Diagram, Preparation of Specifications, Tender Documents, General and Special Terms and Conditions of Contract, Engineering Cost Estimates, Study of Regional Connectivity

Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Sector Studies, Regional Development Plans, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Earthquake Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Technical Assistance and Advisory Services, Material Testing.

Fields of Specialization:

Agriculture & Rural Development Sector:

Flood/River Control Works

Transportation Sector:

National/Regional/Multimodal Transportation Planning – Traffic/Origin-Destination Surveys – Demand forecasting, - Transportation Models, - Policies & Investment Programs, International Transportation Tech., Road Transportation Facilities, Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, New Structures/Reconstruction, Highways Safety, Road Transport Economics.

Urban Development Sector:

Land Readjustment, Traffic Management, Urban Transport Planning

Water Supply and Sanitation Sector:

Storm Drainage.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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Assignment Name: Detailed Design and Construction Supervision of Kohala Dhirkot (27 Kms) Road Project.		Country: Pakistan	
Location within Country: Azad Jammu & Kashmir		Number of person-months of the entire project: 204	
Name of Client: Kashmir Highways Authority, Government of Azad Jammu & Kashmir, Muzaffarabad.		Total value of full project (in million US\$): US \$ 20 million	
No. of Staff: 33		No. of Persons-Months: 204	
Start Date (Month/Year): April 2007	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.29 million	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Highway Engineers, Structural Engineers, Pavement Engineer, Quantity Surveyor, Material Engineer, Surveyors and Laboratory Technicians for detailed design and Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.			
Brief Narrative Description of Project: The AJK Highway Authority intends to undertake detailed design for upgradation, widening and construction of Kohala – Dhirkot (27 kms) in AJK for improving the present condition of the road so as to transform it to an all-weather 2-lane highway, conforming to international standards: AJK Highway Authority engaged consultants to provide the engineering services for technically sound and economically viable designs, and preparation of tender documents / drawings and estimates.			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project:			
<ul style="list-style-type: none"> • Alignment Studies • Topographic Surveys • Land Surveys • Material Testing and Borrow Sources • Geometric Design • Urban Area Design 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Traffic counts and surveys, and traffic flow analyses,
- Hydrological studies, Structural design of bridges and cross drainage structures.
- Condition Surveys, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis
- Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities
- Pavement Design
- Socio Economic and Environmental Studies
- Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents.
- Determination of VOCs and preparation of economic feasibility report.
- Toll study and analysis
- Preparation of PC-I

Construction Supervision

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Assist the client in land acquisition proceedings.
- Preparation of drawings for the offices of the Contractor
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Detailed Design and Construction Supervision of Arja Tain – Dhalkot (29 Kms) Road Project.		Country: Pakistan	
Location within Country: Azad Jammu & Kashmir		Number of person-months of the entire project: 174	
Name of Client: Kashmir Highways Authority, Government of Azad Jammu & Kashmir, Muzaffarabad.		Total value of full project (in million US\$): US \$ 20 million	
No. of Staff: 32		No. of Persons-Months: 174	
Start Date (Month/Year): June 2007	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.23 million	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Highway Engineers, Structural Engineers, Pavement Engineer, Quantity Surveyor, Material Engineer, Surveyors and Laboratory Technicians for detailed design and Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.			
Brief Narrative Description of Project: The AJK Highway Authority intends to undertake detailed design for up-gradation, widening and construction of Arja-Tain Dbalkot Road (29km) in AJK for improving the present condition of the road so as to transform It to an all-weather 2- lane highway, conforming to international standards. Kashmir Highway Authority engaged consultants to provide the engineering services for technically sound and economically viable designs, and preparation of tender documents/ drawings and estimates			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Alignment Studies • Topographic Surveys • Land Surveys • Material Testing and Borrow Sources • Geometric Design • Urban Area Design • Traffic counts and surveys, and traffic flow analyses, • Hydrological studies, Structural design of bridges and cross drainage structures. • Condition Surveys, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis • Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities • Pavement Design 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 86

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- Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents.
- Socio economic and environmental studies
- Determination of VOCs and preparation of economic feasibility report.
- Toll study and analysis
- Preparation of PC-I

Construction Supervision

- Staking out, verification of PRM and permanent benchmarks.
- Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials.
- Assist the client in land acquisition proceedings.
- Preparation of drawings for the offices of the Contractor
- Testing of materials brought on site like steel, cement, asphalt, aggregates etc.
- Insitu testing of densities and compaction using AASHTO standards
- Preparation of Concrete Mix Designs and testing of Concrete.
- Preparation of Job Mix Formulae for Asphalt.
- Review and adjustments to geometric design and design of structures as per site requirements.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: Detailed Design for Rehabilitation of Existing North and South Carriageway and Design of 3 rd & 4 th Rigid Lanes of Kashmir Highway from Peshawar More to G.T. Road (Both Sides)		Country: Pakistan
Location within Country: Islamabad		Number of person-months of the entire project: 16.25
Name of Client: Capital Development Authority (CDA), Islamabad.		Total value of full project (in million US\$): US \$ 70 million
No. of Staff: 18		No. of Persons-Months: 16.25
Start Date (Month/Year): November 2007	Completion Date (Month/Year): April 2008	Approx. Value of Services (in million US\$): US \$ 0.044 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Team Leader/Highway Engineers, Project Manager/Contract Specialist, Transport Economist, Two Structural Engineers, Pavement Engineer, Two Quantity Surveyors, Two Staff Engineer, Surveyors and Cad Operators.		
Brief Narrative Description of Project: Capital Development Authority (CDA) intends to undertake the rehabilitation of Kashmir Highway and additional of two rigid lanes with each carriageway. Kashmir Highway was constructed in 1964 and serves vehicular as well as freight traffic and occasionally it is also used for VVIP movement. During last decade a substantial increase in traffic volume, especially multi axle vehicles, has been observed with a rapid development of capital and opening of motorway. The Authority has already dualized the Kashmir Highway, however according to ultimate cross section of Kashmir Highway, two lanes (rigid) with each carriageway are to be added to make it four lanes divided carriageway. The inter provincial heavy traffic including trucks coming from Margalla and Lawrencepur usually carry load more than the specified load limits. The survey has indicated that most of the heavy traffic carry as much as 20 to 25 tones per axle against the permissible load limit of 8 tones per axle and there are approx. As many as 8000 to 10000 heavy vehicles passing from Kashmir Highway in 24 hours. The Consultant services required for depth study for providing sustainable and cost efficient engineering solution for catering the heavy traffic on Kashmir Highway including extension of existing bridges, culverts and ultimate extension of 4 lanes (two lanes of flexible and two lanes of rigid pavement on either side).		
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Alignment Studies • Topographic Surveys • Land Surveys • Material Testing and Borrow Sources • Geometric Design • Urban Area Design 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Traffic counts and surveys, and traffic flow analyses,
- Hydrological studies, Structural design of bridges and cross drainage structures.
- Condition Surveys, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis
- Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities
- Pavement Design (Rigid Pavement as well as Flexible Pavement)
- Geometric Design of the Interchange
- Structural Design of Bridges
- Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents.
- Determination of VOCs and preparation of economic feasibility report.
- Toll study and analysis
- Preparation of PC-I

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

MAJOR WORK DURING LAST TEN YEARS WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Data Sheet No. 88

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Assignment Name: Detailed Design for Construction Supervision of Grade Separation Facility at the Intersection of 9 th Avenue with the I.J. Principal Road Islamabad and Stadium Road.		Country: Pakistan
Location within Country: Islamabad		Number of person-months of the entire project: 202
Name of Client: Capital Development Authority (CDA), Islamabad.		Total value of full project (in million US\$): US \$ 17.5 million (estimated)
No. of Staff: 29		No. of Persons-Months: 202
Start Date (Month/Year): January 2009	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.236 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
<p>Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Highway Engineers, Structural Engineers, Pavement Engineer, Quantity Surveyor, Material Engineer, Surveyors and Laboratory Technicians for detailed design and Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.</p>		
<p>Brief Narrative Description of Project: Capital Development Authority (CDA) intends to undertake the design of overhead bridge / grade separation facility at the Intersection of 9th Avenue with the I.J. Principal Road Islamabad and Stadium Road.</p> <p>During last decade a substantial increase in traffic volume, especially multi axle vehicles, has been observed with a rapid development of capital and opening of motorway. The intersection of 9th Avenue with I.J. Principal road has been constructed a few years ago. It is being widely used for traffic movement between Rawalpindi and Islamabad. The I.J. Principal road is a main road dividing the twin cities of Islamabad and Rawalpindi. It is about 15 Km long starting from Faizabad interchange on Islamabad Highway and ending at its connection with the G.T road. Hundreds of thousands of people travel daily using a huge number of vehicles. Similarly the 9th Avenue is serving as a main entrance to the capital city from Rawalpindi and IJP. At present these two main roads have been constructed on grade and traffic movement is being controlled through signals. However due to the numbers of vehicles increasing day by day, this signal is often found choked causing a lot of inconvenience to users. It also causes a great loss to the nation in terms of time and unnecessary fuel consumption every day.</p>		
<p>Description of Actual Services Provided:</p> <p>The following tasks are being carried out during the course of the project:</p> <ul style="list-style-type: none"> • Soil and Sub Soil Investigations • Alignment Studies • Topographic Surveys • Land Surveys • Material Testing and Borrow Sources • Geometric Design 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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- Design of Urban Areas
- Traffic counts and surveys, and traffic flow analyses,
- Hydrological studies, Structural design of bridges and cross drainage structures.
- Condition Surveys, Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis
- Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities
- Pavement Design
- Socio Economic and Environmental Studies
- Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents.
- Determination of VOCs and preparation of economic feasibility report.
- Structural Design of Bridges / Underpasses
- Preparation of PC-I
- Construction Management
- Construction Supervision

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 89

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Assignment Name: Detailed Design and Construction Supervision for Rehabilitation of Kamber – Shahdadt Road.		Country: Pakistan
Location within Country: Sindh		Number of person-months of the entire project: 183
Name of Client: National Highway Authority, Ministry of Communications, Government of Pakistan, Islamabad		Total value of full project (in million US\$): US \$ 11.0 million
No. of Staff: 42		No. of Persons-Months: 183
Start Date (Month/Year): January 2009	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.139 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Highway Engineers, Structural Engineers, Pavement Engineer, Quantity Surveyor, Material Engineer, Surveyors and Laboratory Technicians for detailed design and Resident Engineers, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: National Highway Authority intends to rehabilitate the Kamber – Shahdadt Road as a single two land carriageway as per NHA's standard. The surrounding area along the road alignment is all cultivated land. The paved width of existing road is approximately 6.0 m with earthen shoulders varying from 1.5m to 2.0m. There are bridges, culverts and level railway crossing on this alignment. The assignment require to carry out the detailed engineer design for the project as per the latest engineering standards and to carry out the construction supervision of the project.		
Description of Actual Services Provided: <ul style="list-style-type: none"> • Soil investigations, study of borrow sources and their analyses, traffic counts and surveys, design of major intersections and traffic flow analyses, axle loads study and related analyses, Origin Destination Surveys. • Hydrological studies, Structural design of bridges and cross drainage structures. • Existing pavement evaluation using Present Serviceability Ratings, Effective Thickness Method, Capacity Analysis • Study on Land Acquisition and Right of Way, Reports on Relocation Requirements for Utilities • Pavement Design • Geometric Design • Structural Design of Bridges • Preparation of Construction Drawings, Bill of Quantities, preparation of Mass Haul Diagram, preparation of specifications, tender documents. • Determination of VOCs and preparation of economic feasibility report. • Preparation of PC-I, Feasibility Study using HDM-4 • Preparation of Tender Documents • Environmental Studies • Construction Supervision 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 89

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Type of Services provided:

Hydrological Surveys, Soil Surveys, Topographic Surveys, Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Technical Studies, Design – Engineering etc., Environmental Studies, Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Material Testing.

Fields of Specialization:

Construction Industry Development Sector:

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 90

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Assignment Name: Study on the Rural Road Construction Project Punjab.		Country: Pakistan	
Location within Country: Punjab		Number of person-months of the entire project: 7.2	
Name of Client: Japan International Cooperation Agency (JICA)		Total value of full project (in million US\$): US \$ million (To be estimated)	
No. of Staff: 11		No. of Persons-Months: 7.2	
Start Date (Month/Year): December 2008	Completion Date (Month/Year): January 2009	Approx. Value of Services (in million US\$): US \$ 0.048 million	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Team Leader, Rural Road Specialist, Transport Economist, Resettlement Specialists, Rural Road Engineer, Enumerators, Quantity Surveyor, Cad Operator and office support staff.			
Brief Narrative Description of Project: The transport sector is an important sector of the economy contributing to about 10% of the GDP and over 17% of the Gross Capital Formation. The sector consumes 35% of the total energy annually and is recipient of 20% to 25% of the annual federal public sector development program. The Government of Japan (GOJ) provided an ODA loan for Rural Roads Construction Project in 1993 for four provinces. After completion of the Project, its phase-II that planned to be provided in each province has started and GOJ approved the first Project for Sindh province in this year. Now to find out necessity and priority a basic survey in Punjab province is scheduled. The purpose of the study to confirm necessary cost such as construction cost and total project cost, EIRR and operation and affect indicator of the project through observing current condition of every candidate roads (6 provincial and 24 district and 4 bridges) including Resettlement and Environmental Analysis. Prioritization of roads based upon economic analysis, social and environmental assessment.			
Description of Actual Services Provided: The following supervision tasks are being carried out during the course of the project: <ul style="list-style-type: none"> • Alignment Studies • Land Surveys • Condition Surveys • Resettlement Surveys and Analysis • Environmental Surveys and Analysis • Costs estimation • Social Surveys and Assessment • Traffic counts and analysis. Economic Analysis • Poverty Analysis 			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 90

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- Economic Analysis using HDM-4
- Prioritization of Roads

Type of Services provided:

Design – Engineering etc., Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents, Structural Engineering, Traffic Engineering, Economic Analysis, Resettlement, Socio and Poverty, Environmental, Community Infrastructure, Procurement

Fields of Specialization:

Construction Industry Development Sector:
Detailed Implementation Plans

Environmental Sector

Resettlement Sector

Socio and poverty Sector

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 91

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Assignment Name: Construction Supervision for Dualization and Rehabilitation of Larkana - Moenjodaro Road.		Country: Pakistan
Location within Country: Sindh		Number of person-months of the entire project: 348
Name of Client: National Highway Authority, Ministry of Communications, Government of Pakistan, Islamabad		Total value of full project (in million US\$): US \$ 31 million
No. of Staff: 29		No. of Persons-Months: 348
Start Date (Month/Year): 18 May 2009	Completion Date (Month/Year): On-going	Approx. Value of Services (in million US\$): US \$ 0.298 million
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: The senior staff includes Resident Engineer, Assistant Resident Engineers, Material Engineers and Quantity Surveyors for the construction supervision. All staff was deployed to provide contract administration and quality control and assurance on behalf of the client.		
Brief Narrative Description of Project: The project aims at the widening and improvement of existing road from Larkana to Moenjodero covering a total length of 28 kms. The project road starts from Larakana and ends at Meonjodero and Airport. The project has been designed to be a dual carriageway. It has been divided into two sections i.e., Package I from km 0+000 to km 14+000 and Package II from km 14+000 to km 27+950. NHA has also proposed two teams for these two sections for the completion of the road in shortest time schedule. The existing road width varies from 6.1 to 6.5 m wide. The existing traffic requires that the subject road is to be dualized which will attract more tourism in the area and more easy access to the Airport from the city. The project involves dualization of the existing road.		
Description of Actual Services Provided: <ul style="list-style-type: none"> • Design Review and Technical Audit of the Project • Construction Management • Staking out, verification of PRM and permanent benchmarks. • Soil investigations and approval of borrow areas including particle size analysis, CBR, atterberg limits, salt contents, water table determination and other standard tests, approval of quarries and related analyses of materials. • Assist the client in land acquisition proceedings. • Construction Management • Testing of materials brought on site like steel, cement, asphalt, aggregates etc. • Insitu testing of densities and compaction using AASHTO standards • Preparation of Concrete Mix Designs and testing of Concrete. • Preparation of Job Mix Formulae for Asphalt. • Review and adjustments to geometric design and design of structures as per site requirements. 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
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- Assisting the contractor in improving his logistics and methodology. Construction Management Support.
- Liaison with the client and keeping him abreast of day to day problems and progress of works. Informing him ahead of time regarding contractual problems, delays and anticipated bottlenecks.
- Checking and verifying IPCs and overall contract administration.

Type of Services provided:

Design – Architectural / Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Hydraulics Studies and Engineering, Quantity Surveying / Cost Estimating, Estimation / Preparation of Contract Documents and Bid Evaluation, Structural Engineering, Supervision/Inspection of Construction, Project Management / Administration (on behalf of owner), Material Testing, Quality Control, Project Monitoring and Evaluation.

Fields of Specialization:

Construction Industry Development Sector:

Construction Management

Transportation Sector:

Highway Planning & Programming, Highways, New Highways/Improvements & Reconstruction, Primary Roads, New Structures/Reconstruction, - Bridges (Road Transportation Facilities), Maintenance of Highways, - Execution (Highways), Highways Safety.

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: ADB Assisted Bahawalpur Rural Development Project – RSC-C80508 (PAK)		Country: Pakistan
Location within Country: Bahawalpur, Punjab		Number of person-months of the entire project: Not Applicable
Name of Client: Asian Development Bank, Manila		Total value of full project (in million US\$): -
No. of Staff: 1		No. of Persons-Months: 0.75
Start Date (Month/Year): 9 Jul 2008	Completion Date (Month/Year): 30 Jul 2008	Approx. Value of Services (in US\$): US \$ 4440
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Rural Roads Engineer		
Brief Narrative Description of Project: Bahawalpur Rural Development Project (BRDP) was designed to increase rural income and employment and improve the quality of life in a relatively less developed division in Pakistan. Components included rural roads, water course improvements, small scale infrastructure, rural electrification and institutional strengthening. The Project aimed to increase the rural incomes, quality of life and employment through improvements in infrastructure services to permit value-added production and economic and market activities and institutional strengthening through organizational and skills training for beneficiaries in village communities. The project was designed to reduce the poverty in the Bahawalpur Division, which is considered one of the least developed areas in Punjab. The Project objectives supported the Government's strategic objectives of economic and social development, increased private sector participation, improvements in agriculture production, more efficient use of increasingly scarce irrigation water and development of rural areas		
Description of Actual Services Provided: Following services has been performed: <ul style="list-style-type: none"> ➤ Assist the Project Completion Review Mission ➤ Review selected background documents prior to the start of the field work including RRP, Phase-I Evaluation Report, Project Reports, BME Reports, Cost Tables and relevant PPTA reports etc. ➤ Assist the associate project analyst in reviewing road related procurement documents ➤ Assist the associate project analyst in assessing whether road related procurement was effective and efficient ➤ Review adequacy of the design including technical specifications and scope of the rural roads component and assess its relevance to the project impact, especially the inclusion of the main/provincial road. Work with the international economist on the costs and benefits of the main/provincial road. ➤ Review the cost comparisons of project roads as prepared in the Phase I evaluation and assess whether the design and construction of the roads was cost-efficient. ➤ Review the budget situation and physical capacity of district governments and community organizations (COs) to undertake operations and maintenance of the roads. ➤ Provide relevant inputs to the aide memoaire and project completion report ➤ Prepare a rural roads evaluation report 		

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 93

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Assignment Name: Ex-Post Monitoring Survey 2006 on JBIC Financed Projects in Pakistan		Country: Pakistan	
Location within Country: Sindh, Punjab and Balochistan		Number of person-months of the entire project: Not Applicable	
Name of Client: M/s IC Net Limited Japan/JBIC		Total value of full project (in million US\$): -	
No. of Staff: 3		No. of Persons-Months: 1.75	
Start Date (Month/Year): 24 Jul 2006	Completion Date (Month/Year): 30 Sept 2006	Approx. Value of Services (in US\$): US \$ 19,287	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Tariq Rizwan Farooqi Senior Electrical Engineer, Syed Rehan Ali Junior Electrical Engineer, Ahmad Luqman Sarwar Coordination Engineer alongwith support staff			
Brief Narrative Description of Project: Ex-Post Survey for the following two JBIC Financed projects has been done:- <ul style="list-style-type: none"> ➤ Bin Qasim Thermal Power Station Unit No.6 Project (I) and (II) ➤ Second 220 KV Guddu-Sibbi-Quetta Transmission Project <p>The main objectives of the survey were:- To access a certain project's effectiveness and impact so that one can draw lessons to reflect in JBIC's future policy thereby enhancing the quality of JBIC's assistance operation and to review the current situation, operation, maintenance and management of the completed projects, so that one can make recommendations, to the Borrower/Executing Agency to ensure proper operation in the future.</p> <p>The Ex-post monitoring on JBIC-financed projects is to be done on three of the five evaluation criteria, i.e. 1) Relevance, 2) Efficiency in Implementation, 3) Effectiveness, 4) Impact and 5) Sustainability. The monitoring focus on Effectiveness, Impact and Sustainability because Relevance and Efficiency in Implementation have already been examined in the previous Ex-post evaluation.</p>			
Description of Actual Services Provided: Conducted interviews with the implementation agencies based on the prepared comprehensive questionnaire and site visits. Meetings with CEO of NTDC, WAPDA, KESC etc. Also conducted meeting alongwith site visit to Bin Qasim Thermal Power Station Unit No.6, Project I and II. Study the current status of the project including the organizational setup etc. Conducted statistical research of the power sector in Pakistan and the economic situation in general and reporting. Assist the Japanese consultant in finalization of the report. Discuss with the executing agency to confirm the availability of necessary information based on the PCR form.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

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Assignment Name: JBIC Ex-Post Monitoring Survey 2007 in Pakistan		Country: Pakistan	
Location within Country: NWFP and Islamabad/Rawalpindi		Number of person-months of the entire project: Not Applicable	
Name of Client: M/s IC Net Limited Japan/JBIC		Total value of full project (in million US\$): -	
No. of Staff: 2		No. of Persons-Months: 1.5	
Start Date (Month/Year): 1 July 2008	Completion Date (Month/Year): 31 August 2008	Approx. Value of Services (in US\$): US \$ 14,835	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Water Expert, Project Coordinator Field Survey Staff alongwith Office Support Staff			
Brief Narrative Description of Project: Ex-Post Survey for Metropolitan Water Supply Project (Khanpur I) was done. The Ex-post monitoring survey, part of post-evaluation and monitoring activities of the Japan Bank for International Cooperation (JBIC), covers all the JBIC-financed Yen loan projects in their second year after completion. Main objectives of the post-evaluation are:- To review the implementation of the project, assess the effectiveness/impact resulting from the project, and draw valuable lessons to be reflected in future JBIC projects to enhance the quality of JBIC's assistance. To review the current situation, operation, maintenance and management of the completed projects and make recommendations to the Borrower/Executing Agency to ensure proper operation in the future. The survey method consists of i) interview survey with executing agencies, operation and maintenance agencies and relevant organizations ii) visit to project facilities and iii) interviews with direct beneficiaries. The questions are to address three areas of concerns (effectiveness, impact and sustainability).			
Description of Actual Services Provided: The following activities were done during the study:- Preparation of the Questionnaire/Pre-survey in Pakistan/Arrangement for field survey by the Japanese Consultant. Advanced Survey by local consultants. Field survey by the Japanese/local consultants team to various department like WASA, CDA etc. Compile the information collected and prepare the evaluation Report/Project Post and Ex-post Comparison Chart. Provide logistic services for the Japanese consultant including arrangement for accommodation, transportation, communication etc.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 95

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Assignment Name: Project Completion Report on JBIC Financed Projects 2005		Country: Pakistan	
Location within Country: NWFP and Islamabad		Number of person-months of the entire project: Not Applicable	
Name of Client: M/s IC Net Limited Japan/JBIC		Total value of full project (in million US\$): US \$ 2,989	
No. of Staff: 2		No. of Persons-Months: 0.75	
Start Date (Month/Year): Feb 2005	Completion Date (Month/Year): March 2005	Approx. Value of Services (in US\$): US \$ 2,989	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Highway Engineer, Telecommunication Engineer along with supporting staff			
Brief Narrative Description of Project: Ex-Post Survey for the following two JBIC Financed projects has been done:- <ul style="list-style-type: none"> ➤ Kohat Tunnel Construction Project ➤ Telecommunication Network Expansion Project <p><u>Kohat Tunnel Construction Project</u> Main objective of the project is to provide an alternative route to the existing road over Kohat Pass, which has numerous hairpin bends on steep thus resulting in a traffic bottleneck and it is anticipated that due to constant traffic growth it will become progressively more so in the future. Another objective is to assist the socio-economic development of the southern districts of NWFP and also to help improve the communication between the Southern Areas and the Northern Areas of the Country. The project comprise of a tunnel approximately 28.2 km long by passing Kohat town and Dara Adam Khel.</p> <p><u>Telecommunication Network Expansion Project</u> Objective of the project is to improve and expand the telecommunication network in order to satisfy the telephone demand and provide high-quality and more reliable service of telecommunications, thereby accelerating the commercial and industrial activities. The project included procurement, installation and commissioning of optical fibre cable, digital radio links, digital communication system of earth station, international transit switch and coast station.</p>			
Description of Actual Services Provided: During the survey the local consultant provided support in survey of many ways those who know the detailed situation in Pakistan in terms of social, economical and political issues. The overall flow of the survey was:- Confirm the status of the project and PCR edition, including the organizational setup data and information collected etc. Fill the PCR form based on the data and information collected. Follow up the executing agency to complete the PCR after the Mission. Arrange appointments with the executing agency. Confirm the current status of the project and PCR, including the organizational setup etc. Discuss with the executing agency to confirm the availability of necessary information based on the PCR form. Provide logistic services for the Japanese consultant including arrangement for accommodation, transportation, communication etc.			

**MAJOR WORK DURING LAST TEN YEARS WHICH BEST
ILLUSTRATES QUALIFICATIONS**

Project Data Sheet No. 96

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Assignment Name: Post Evaluation Data Collection Survey (PEDACS) 2004 on JBIC Financed Projects in Pakistan		Country: Pakistan	
Location within Country: NWFP/Punjab/Sindh		Number of person-months of the entire project: Not Applicable	
Name of Client: M/s IC Net Limited Japan/JBIC		Total value of full project (in million US\$): US \$ 45,000	
No. of Staff: 5		No. of Persons-Months: 6.75	
Start Date (Month/Year): 20 Aug 2004	Completion Date (Month/Year): 30 Jan 2005	Approx. Value of Services (in US\$): US \$ 45,000	
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil	
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Transportation Planner, Railway Planner, Traffic Survey Specialist, Transportation Specialist, Railway Engineer along with office support staff etc.			
Brief Narrative Description of Project: Conducted the post evaluation survey for the following projects:- <ul style="list-style-type: none"> ➤ Indus Highway Project Phase I & II ➤ Pakistan Locomotive Factory Connection Project ➤ Diesel Electric Locomotives Rehabilitation Project ➤ Diesel Electric Locomotives Rehabilitation Project <p>The Ex-post monitoring survey, part of post-evaluation and monitoring activities of the Japan Bank for International Cooperation (JBIC), covers all the JBIC-financed Yen loan projects in their second year after completion. Main objectives of the post-evaluation are:-</p> <p>To review the implementation, effectiveness and impact of the project, and draw valuable lessons for enhancing the quality of JBIC's assistance in the future.</p> <p>To review the current situation, operation, maintenance and management of the completed projects and make recommendations to the Borrower/Executing Agency to ensure proper operation in the future.</p> <p>The survey method consists of i) questionnaire based interviews with the executing agencies, operation and maintenance agencies and relevant organizations ii) visit to project facilities and iii) interviews with direct beneficiaries. The questions are to address three areas of concerns (effectiveness, impact and sustainability).</p>			
Description of Actual Services Provided: Following services were provided:- <ul style="list-style-type: none"> ➤ Support the Japanese consultant in collection and compiling data/information from various sources including NHA, MOCR, NTRC and NLC as well as making appointments, making logistical arrangements for field trips, and following up on data collection after the return of Japanese Consultant. ➤ Support in conducting individual / group interviews with such entities as bus/transportation companies and authorities of selected districts and to analyze the projects impact on transportation and regional development. 			

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- Carry out traffic volume survey and OD survey at least six locations along the Indus Highway.
- Calculated EIRR for each of 5 sections of the Indus Highway improved by the Project using available data including the results of above survey.
- Analyze and describe the Indus Highway Project's impact on transportation of goods and passengers (including changes in transportation patterns/modes in national context).
- Analyze and describe the Indus Highway Project's impact on regional development and poverty alleviation using available socio-economic statistics, results of traffic survey and field trips to the two cities.
- Assess sustainability of NHA from financial, human-resources and institutional aspects and make recommendations, referring to the past studies by JBIC and using available information and new collection information.
- Collection and compiling data/information from Pakistan Railway including the data/information requested through questionnaires and the follow up data collection.
- Visit to Locomotive factory/workshop at Risalpur and Lahore with Japanese Consultant.
- Report on various aspects of the Project

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Assignment Name: Institutional Development and Management Consultancy – Loan No. ADB 2019 Pak		Country: Pakistan
Location within Country: Balochistan, Pakistan		Number of person-months of the entire project: 214
Name of Client: Communication & Works Department, Government of Balochistan, Quetta		Total value of full project (in million US\$): -
No. of Staff: 8		No. of persons-months: 60
Start Date (Month/Year): 14 June 2005	Completion Date (Month/Year): 30 June 2009	Approx. Value of Services (in million US\$): US \$ 1.7 million
Name of Lead Firm (s), If Any: M/s SMEC International Pty. Ltd. Australia M/s Dainichi Consultants Inc. Japan M/s Louis Berger Group (LBG) National Engineering Services of Pakistan (NESPAK) M/s SEBCON (Pvt) Ltd.		No. of Months of Professional Staff Provided by Associated Firm (s): 180
Names of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: Team Leader, HDM Specialist, Environment Specialist, Social/Poverty Specialist, Privatization Specialist, Road Safety Specialist, Contract Specialist, Road Safety Specialist, Transport Economist, Computer Trainer, Social Gender Dev. Specialist, Computer Programmer and other office support staff.		
Brief Narrative Description of Project: The primary objectives of the services provided by the Institutional Development Management Consultants (IDMC) are: ➤ To assist CWD in strengthening capacity for project implementation, road asset management, road maintenance, environmental and social aspects of road development and ➤ To assist CWD in Project Implementation support through planning, monitoring, coordination, budget and financial control, project performance monitoring system and ensuring that the environment and resettlement plans are satisfactorily carried out. CWD officers worked in association with the IDMC and construction supervision Consultants (the Engineers) with regard to the management, administration, construction supervision, including checking of physical works of the project roads as well as compliance with environmental and resettlement requirements. This was facilitated the transfer of management, administration techniques, environmental, social and resettlement, and technical knowledge between CWO, the IDMC and the supervision consultants. EA staff participation is limited only as counter part staff, or for on the job training, etc. and not as team member of the Consultants.		
Description of Actual Services Provided: Institutional Development The objectives and summary of scope of the consulting services for the institutional development component are to assist the Balochistan Provincial Government and CWD to:- i) Build and strengthen capacity building of the road maintenance unit (RMU) in road maintenance. ii) Support RMU to develop modern maintenance concept and prepare maintenance procedures and manuals for typical road maintenance;		

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- iii) Assist RMU to prepare complete contract documentation, including specifications for contracting out of periodic and routing road maintenance;
- iv) Assist RMU to prepare complete contract documentation including specifications for introduction of (a) network management and (b) performance - based road maintenance on a pilot basis;
- v) Asses road maintenance funding sources and user charges and develop a sustainable system and prepare complete with legislation and/or regulation and administrative arrangement, for secure and stable funding of road maintenance including establishment of a road maintenance fund;
- vi) Further develop and extend the existing road asset management system to districts with provision of additional functions and applications to support the District Government activities;
- vii) Introduce Highway Design and maintenance model - (HDM-4) at CWD and provide training of staff;
- viii) Assist CWO to prepare and implement an action plan for improved axle load control of heavy vehicles, covering preventive and corrective measures;
- ix) Asses the causes and prepare an action plan for improved enforcement of road safety and traffic regulations;
- x) Prepare and introduce a road safety design audit system including provision of training;
- xi) Assist the CWO in preparing its programme and activities and its policy and strategy papers for enhancement of awareness; and strengthening education and drivers training and the knowledge of road safety matters among road users, road sector institutions and other stakeholder;
- xii) Strengthen capacity of CWO in environmental and social assessment and provide training of staff;
- xiii) Carry out poverty monitoring of the project roads;
- xiv) Conduct an assessment of the present CWD organization to ensure that the staffing (numbers and skills) matches the functions and prepare recommendations for reforms along-with detailed implementation schedule with milestones to be achieved during the project;
- xv) Review opportunities and identify areas for further evolvment of the private sector in operations, maintenance, and rehabilitation and provision of road infrastructure and other areas; and
- xvi) Implement other related activities as may be agreed with Development Bank, supporting the project objectives.

Project Management Assistance - Scope of Services

- i) Assisting CWD in Management, Coordination, and Reporting
- ii) Progress monitoring and updating overall project planning as reported by supervision Consultants to CWD.
- iii) Supervising implementation of poverty monitoring program, health information, education campaign, and compliance with Labor Laws for construction workers.

Project Planning: Reviewing at the onset of the project the detailed implementation schedule (partly or completely in the form of a critical path network) showing all major activities and critical links between activities for the implementation of the entire project. Thereafter periodically reviewing progress monitored and reported by the supervision consultant in relation to the project schedule.

Environmental and Social Matters: The IDMC will assist CWD and relevant agencies in monitoring, coordinating and supervising the measures necessary to mitigate the project effects on the environment, as outlined in the project's Initial Environmental Examinations and the conditions, if any imposed by the Provincial and Central Environmental Authority as part of its approval of the project. The assistance will include preparation of environmental guidelines in coordination with CWD in road safety.

The IDMC will assist CWD in preparing Initial Social Assessments (ISAs) and Resettlement Plans for non-core RAR subprojects and assist staff with monitoring and supervising the implementation of the resettlement implementation plans. The ISAs will also include any indigenous people and other social issues that may arise with respect to the proposed road improvements.

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Assist CWD, and relevant agencies such as Ministry of Labor and Health in monitoring, coordinating supervising the implementation of health awareness campaign and compliance of Labor Laws for construction workers. The assistance will include preparation of manual and materials for health awareness campaign and compliance with Labor Laws.

Training Programmes.

The IDMC will formulate and / or assist in formulation and implementation of training programmes for CWD management and project staff, in project and contract management, environmental impact management, resettlement, poverty and social development matters, and other relevant activities.

Type of Services provided:

Planning Studies, Feasibility Studies, Market Studies, Economic Studies, Financial Studies, Technical Studies, Design – Architectural/ Engineering / Industrial etc., Soil Mechanics and Foundation Engineering, Quantity Surveying/Cost Estimating, Structural Engineering, Technical Assistance and Advisory Services, Institutional Strengthening/Restructuring, Management Advisory Services, Organizational Development Studies, Training and Transfer of Technology.

Fields of Specialization:

Construction Industry Development Sector:

Institution Building, Tech./Equipment/Materials & Training, Development of Appropriate Construction Tech., - Labor-Based Construction & Maintenance Methods, Low Cost Construction Techniques, Use of Domestic Materials, Traffic Safety and Audits .

Monitoring, Strategic Development Planning, Design/Engineering & Implementation, Construction Methods and Materials, Buildings Standards & Regulations, Community Participation, Self-Help Programs.

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Assignment Name: Training of Partners Organizations (Pos), PPAF Staff and Verification / Inspection of Construction of Houses in Earthquake Areas		Country: Pakistan
Location within Country: NWFP		Number of person-months of the entire project: 6
Name of Client: Pakistan Poverty Alleviation Fund (PPAF) Islamabad		Total value of full project (in million US\$): Not Applicable
No. of Staff: 5		No. of Persons-Months: 6
Start Date (Month/Year): 15 May 2007	Completion Date (Month/Year): 07 August 2007	Approx. Value of Services (in US\$): US \$ 23,334
Name of Associated Firm(s), If Any: None		No. of Months of Professional Staff Provided by Associated Firm(s): Nil
Name of Key Experts of the firm (Project Director/Coordinator, Team Leader) Involved and Functions Performed: (Specialist Input / Individual Experience) Senior Engineer, Structure Engineer, Junior Structure Engineer, Materials Inspector and Sr. Laboratory Technician were engaged.		
Brief Narrative Description of Project: PPAF was undertaken the Emergency Relief, Rehabilitation and Reconstruction Program (E3RP) under the PPAF-II project funded by the World Bank in 34 union councils in the earthquake affected areas of AJK and NWFP, PPAF's Rehabilitation and Reconstruction (PNR) team and its Partner Organizations (POs) were responsible for the overall supervision of the construction of the houses and quality control. A careful house to house damage assessment of all 122,000 housing units in the 34 unions of NWFP and AJK found that 118,000 houses were completely destroyed (107,000) or partially damaged (10,900). At the time, 75,000 cases have been passed as eligible for compensation. There are 7000 completed destroyed houses in three Union Councils of Abbottabad where the inspection of the houses was to be carried out as per ERRA guidelines. PPAF desired to engage a technical consultant who can provide technical services to PPAF for quality check of the house and carry out the inspection of the houses at plinth level where disbursement has to be made. The three union councils i.e. Boi, Dalola and Khokhmang.		
Description of Actual Services Provided: In order to comply with the ERRA guidelines and to provide proper supervision/inspection of the houses which have been constructed, PPAF desired that proper inspection of the houses was to be carried out. The construction of houses should follow the ERRA guide lines of construction and proper measures should be developed for quality control, inspection and training of PPAF staff and Partner Organizations (Pos). Following activities are required was to be carried out:- <ul style="list-style-type: none"> ➤ Verification / inspection of construction of houses in three union councils on sample basis. 15% of the houses to be checked on random basis. ➤ Inspection of the construction of houses to be carried out in three Union Councils upon receiving the inspection checklist from PPAF RCO. ➤ Houses already cleared by the POs shall be cross checked. ➤ Training on various aspects of Inspection/Verification of houses in accordance with ERRA guide lines to PPAF staff and its Partner Organization (POs) was provided ➤ Inspection Check List to be provided by PPAF ➤ Inspection for staff travelling for inspection and checking of houses 		

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