MAJOR WORK DURING THE LAST TEN YEARS
WHICH BEST ILLUSTRATES QUALIFICATIONS

Project Name: **DETAILED ENGINEERING DESIGN, PRE-CONSTRUCTION, CONSTRUCTION SUPERVISION AND INSTITUTIONAL CAPABILITY BUILDING OF THE PINATUBO HAZARD URGENT MITIGATION PROJECT, PHASE III**	***Country:*** Philippines
Project Location with Country: Pampanga, Philippines	***Professional Staff Provided:*** 15
Name of Client: Department of Public Works and Highways	***No. of Staff:***
Address: Bonifacio Drive, Port Area, Manila	***No. of Person-Months:*** Total : 748 M/M PKII : 349.5 M/M
Start Date: (Month/Year) October 2008 ***Completion Date (Month/Year)*** September 2013	***Approx. Value of Service:*** ₱ 67,502,500
Name of Associated Firm(s), if any: Nippon Koei Co., Ltd. (NK) Woodfields Consultants, Inc. (WCI) Pertconsult International (PERT)	***No. of Months of Professional Staff Provided by Associated Firm(s):*** NK : 180 M/M WCI : 75.5 M/M PERT : 143 M/M

Name of Key Staff Involved and Position :

Wilfredo Tiangco	- Co-Team Leader	Oscar Samson	- Flood Mgmt. Specialist
Raul Antonio	- Bridge Engineer	Teresita Dungca	- Civil Specialist
Rosalia Punay	- Road Engineer	Reynante Templo	- Hydraulic Engineer
Mario Estremera	- Structural Engineer	Maria Lyra Estaris	- Environmental Specialist
Marcelo Delfin	- Materials Engineer	Emilio Rosario	- Social Forestry Specialist
Rey Pantino	- Topo Survey Expert	Andrelita Sto. Domingo	- Environmentalist
Dante Cruz	- Parcellary Expert	Arnel Mendoza	- Hydrogeologist
Teddy Viloria	- Cost Estimator/Quantity Surveyor		

Detailed Narrative Description of Project:

The target area of the Project has severely suffered from perennial flooding since Mt. Pinatubo eruption in 1991. The main cause of flooding in the area is the clogging of river channels due to lahar deposition. The Government of the Philippines demands the implementation of flood control projects to mitigate the flooding damage in the target area.

More than a decade after the historic eruption, Central Luzon has slowly regained its strength through the rehabilitation works including Pinatubo Hazard Urgent Mitigation Project, Phase I and II. However, there are still some areas debilitated by the effects of lahar and associated flooding, which should be fully addressed. The project is expected to result in lower peak flood levels, and inundation of shorter duration thus alleviating the serious flood damages having been experienced by the people in the municipalities of Lubao, Guaga, Sasmuan and City of San Fernando. The Government of the Philippines prioritizes this project due to expected significant contribution to the regional and national economic growth in the coming years.

The project area which is located some 100 km northwest of Manila in the southern-central region of Luzon is bounded on the west by the Zambales Range, to the south by Manila Bay, to the east by the Pampanga River and to the north by the Sacobia-Bamban River catchment.

Detailed Description of Actual Services Provided:

The scope of consulting services are divided into two (2) parts:

Part I : Detailed Engineering, Pre-Construction and Construction Supervision of Flood/Mudflow Control Works for Porac-Gumain River Basin in Pasac Delta and City of San Fernando

A. Detailed Engineering Design Stage

1. Assessment of existing conditions
   - Clarification of flow capacity of main river and its tributaries,
   - Monitoring of riverbed aggradations/degradation of the rivers,
   - Monitoring of seawater intrusion,
   - Investigation and survey of the existing roads/bridges, and
   - Inventory/Assessment and evaluation of existing drainage facilities.
2. Topographic, Hydrographic and Location Surveys
   - Topographic Survey for Roads and Bridges
   - Topographic Survey for Structures (dikes and other retention structures)
   - River/Hydrographic Surveys
3. Parcellary and Right of Way Surveys
4. Geological/Geotechnical Surveys and Investigations
5. Hydrological Survey
6. Detailed Design
7. Cost Estimate
8. Study and Construction Execution Proposal
9. Preparation of Tender Documents
10. Safety and Health Training

B. Pre-Construction Stage

C. Construction Phase

D. Assistance and Monitoring Works during Construction

Part II : Monitoring and Planning of Non-structural Measure and Institutional Capability Building (ICB)

A. Collection and Review of Existing Data and Information

1. Hydrological Data
2. Socio-Economic Data
3. Natural Environment Data
4. Topo Survey Data
5. Sediment Data and Monitoring Lahar Movement
6. Existing Related Development Plans/Programs

B. Field Investigation

1. Land Use Survey
2. Socio-economic Survey
3. Study on Lahar Deposits
4. Study on Sedimentation
5. Water Quality and Salt Water Intrusion
6. Monitoring of Land Subsidence
7. Flood Hazard Assessment

C. Preparation of Thematic Maps

D. Analysis of the Present Condition

E. Determination of Basic Strategies for Non-Structural Measure

F. Formulation of a Comprehensive Non-Structural Management Plans

G. Preparation of Detailed Plans for Selected Sub-projects

1. Planning and Designing
2. Conduct of Initial Environmental Examination (IEE)
3. Study on Implementation Schemes and Necessary Arrangement
4. Assessment of Project Viability

H. Preparation of Monitoring and Institutional Capability Building Plan

1. Participatory Approach for Monitoring and Planning
2. Conduct of Technology Transfer
3. Monitoring and Evaluation of Flood Management and Watershed Management
4. Establishment of Community Organizations and Coordination System Among Stakeholders