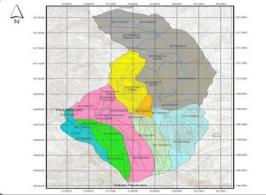
| Tajumulco Bridge Construction Supervision |                      |                              |               | ANZUETO & ASOCIADOS          |  |
|---|----------------------|------------------------------|---------------|------------------------------|--|
|   |                      |                              |               | and Consulting Engineers     |  |
| LOCATION                                  |                      |                              | YEARS         |                              |  |
| Guatemala                                 |                      | PROFFI                       | ESIONAL<br>ES | CONSTRUCTION (if applicable) |  |
|   |                      |                              | - 2008        |                              |  |
| PROJECT OWNER INFORMATION                 |                      |                              |               |                              |  |
| a. PROJECT OWNER                          | b. CONTACT           | CONTACT                      |               | c. CONTACT PHONE NUMBER      |  |
| MICIVI                                    | Dirección General de | Dirección General de Caminos |               | +502-2223-4000               |  |
| PROJECT REPORT (Reach, Size and Co        | ost)                 |                              | •             |                              |  |

**Project Background** – The Project is located on the Tajumulco municipality on the San Marcos department, and it was destroyed during the Stan tropical store on October 2005.

The design of the bridge had to be changed given the topographic and hydrologic conditions on the site, a technical study was made for the new design with a longer bridge was made. For this change



the study and the new design was submitted to the client office for its approval.

**Project Description** - The new bridge has a length of 66 meters with a road track with of 8 meters and 1 meter sidewalks at each side.

Supporting structure and upper structure were built on reinforced concrete.

## Project Key Elements

## > Bridges

- > Technical Supervision
- Hydrology and Hydraulics studies review and approval
- Detail Engineering Design Review and Approval
- Construction Schedule Review and Approval
- Quality Assurance Inspection
- Construction Contractor Payment Approval

Control and alleviation works 200 meters upstream and 200 meters downstream were also built.

Project cost was Q 16,500,000.00 (about US \$ 2 millions) and the project was built in 16.5 months.

**Technical Supervision** – A plan was made to make sure all work is up to the client technical specifications. Technical Supervision included hydrologic, hydraulic studies review and approval for all 16 rivers that were going to be crossed with bridges. All detailed engineering design and construction schedule was also reviewed and approved. A day to day log was kept on work progress and construction materials quality assurance tests. Anzueto y Asociados certified work progress and approved construction contractor payments.

**Hydrologic and Hydraulic Studies** – Hydrologic and Hydraulic Studies were taken into account for their design. Anzueto y Asociados reviewed all studies and certified that designs did take into account those studies.

**Quality Assurance** - Day to day verifications were made on the necessary construction materials tests including geotechnical soil tests, soil mechanics tests, concrete and asphalt tests and steel quality certificates.

**Construction Schedule and Payments** – On site personnel was available at all time to verify construction progress and make reports to the financial officer for payments authorization.

