



ENGINEERS WITHOUT BORDERS-USA  
CHICAGOLAND PROFESSIONAL CHAPTER

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## IAFSM Conference 2011

### Engineers Without Borders-USA and the Chicagoland Professional Chapter

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# Engineers Without Borders-USA

## ■ Vision

- *“Our vision is a world in which all communities have the capacity to meet their basic human needs.”*

## ■ Mission

- *“Engineers Without Borders – USA supports community-driven development programs worldwide through the design and implementation of sustainable engineering projects, while fostering responsible leadership.”*

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# Engineers Without Borders-USA

- Started in 2001
- Overall Membership: 12,000
- 300 Chapters
  - 60% Student Chapters
  - 40% Professional Chapters
- Over 400 projects in 40 different countries
- Sponsors and Partners
  - Rotary, ASCE, ASME, AECOM, Baker, Boeing, Black & Veatch, CH2MHill, CDM, Chevron Texaco

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# Engineers Without Borders-USA

- Typical EWB-USA Projects
  - ❑ Energy Projects (20%)
  - ❑ Structure Projects (10%)
  - ❑ Water Supply Projects (40%)
  - ❑ Sanitation Projects (12%)
  - ❑ Bridge/Road Projects (6%)
  - ❑ Agricultural Projects (12%)
- Typical project costs \$10k-\$25k
  - ❑ There have been projects > \$100k

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# Engineers Without Borders-USA

- Unique organization
  - Nearly all 12,000 members are volunteers
  - ~25 people on staff at National office
  - Chapters need to raise all of project funds on their own
  - *Community-driven projects*

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# Engineers Without Borders-USA

- Community-driven projects
  - ❑ A minimum involvement of 5 years with a community
  - ❑ This allows the initial trust to strengthen and create a solid foundation for a lasting working relationship with the community
  - ❑ This helps to ensure a project is sustainable. You might not be a member of the same chapter after 5 years

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# Engineers Without Borders-USA

## ■ Project Process

- A potential project comes to a Chapter
  - Through an NGO, International Organizations, etc...
- Assessment Trip
- Implementation Trip
- Post-Implementation Trip
- >11 submittals to National office for review and approval
  - Health and Safety Plan for each trip

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# Assessment Trips

- Length ~ 1-3 weeks
- Establishing Relationships
  - A very awkward blind date...potentially
  - Fighting stereotypes
  - Setting boundaries
- Learning about the community
  - Social, Economic and Political scene
  - Who are the leaders (official and unofficial)
  - What's going on behind the scenes

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# Assessment Trips

- Assessing overall project feasibility
  - View location first hand
  - Understanding availability of materials
  - Understanding skills and resources already available
- Collecting data (sustainable project design)
  - Design specific
  - Numbers, numbers, numbers
  - Collect more than you think you need

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# Engineers Without Borders-USA

## ■ Keys to a Successful Project

- ❑ The community is actively involved in *every step* of the process
- ❑ The community takes complete ownership of the project
- ❑ The project utilizes familiar technology or technology that the community can understand
- ❑ The project is environmentally, economically, and socially sustainable
- ❑ Project members facilitate all of the above

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# EWB-USA, Chicagoland Professional Chapter

- Founded in 2005
- 5 Active programs
- Guatemala, Honduras, Mexico, Mali, and Kenya
- 75 active members
- Work closely with student chapters
  - NIU, UIC, IIT, Valparaiso University

# Cuetzala, Guerrero, Mexico- La Pila



3/21/2011

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# Mexican Federal Grant

- Mexican Federal Government “3x1” Grant
  - Funds provided matched three times
    - Federal
    - State
    - County
  - Local share of \$40K (~\$10K) provided by both Cuetzala Chicago and EWB
    - Labor, supplies, in-kind donations counted
  - EWB portion raised through Rotary fundraising and EWB Chapter funds



3/21/2011



3/21/2011



3/21/2011



3/21/2011



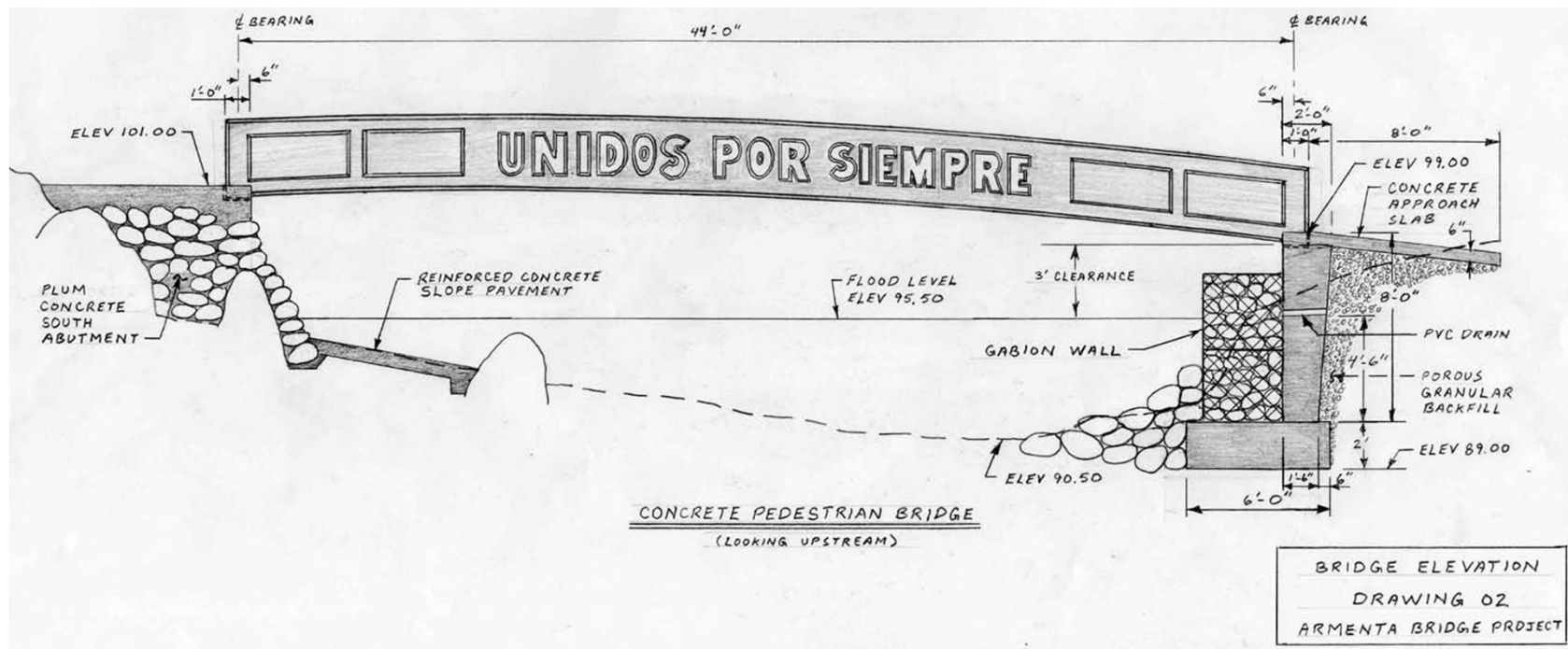
# Armenta, Honduras Bridge Project



3/21/2011

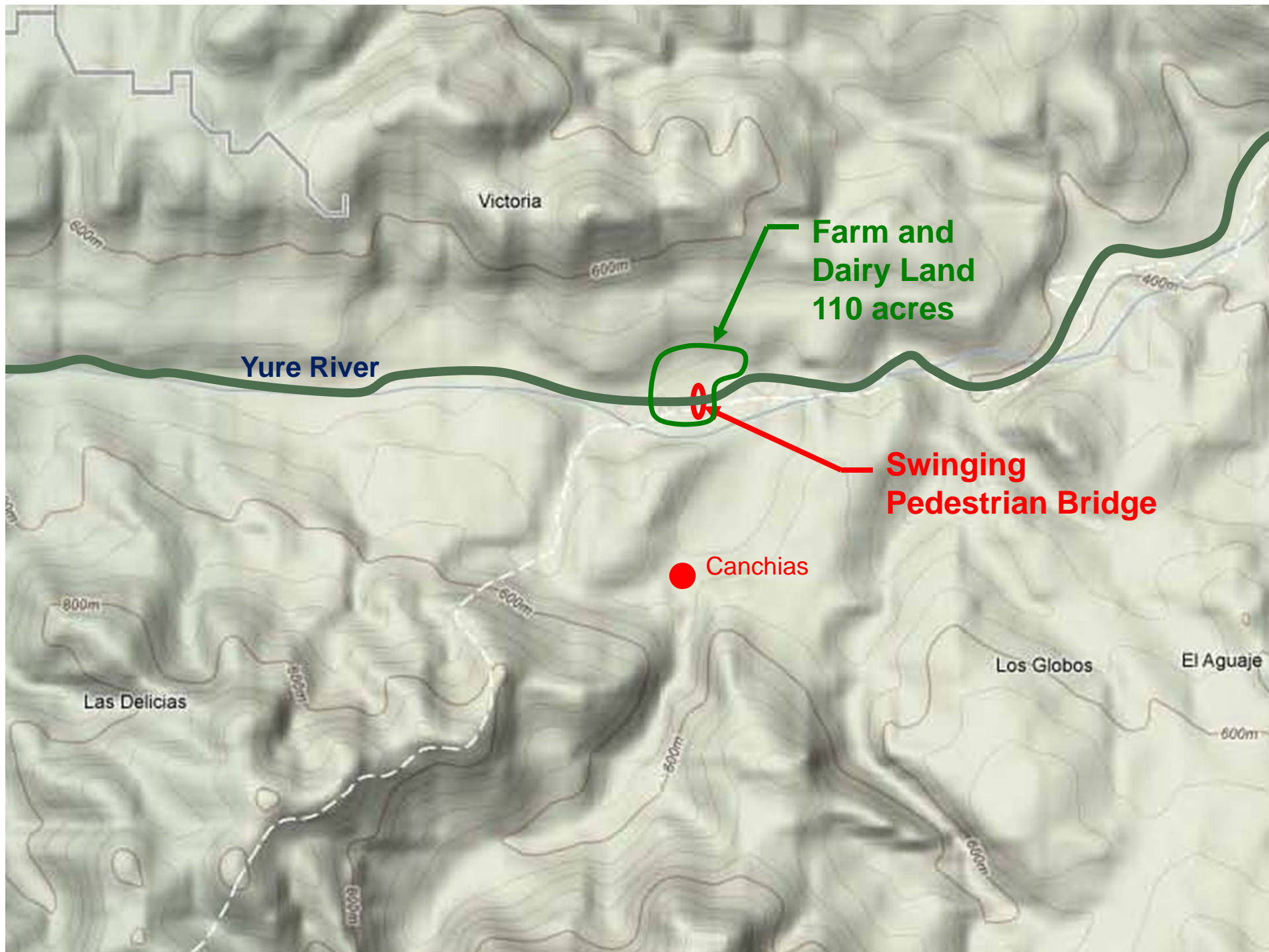
# Armenta, Honduras Bridge Project

## ■ Final Design





3/21/2011











Las Cruces, Guatemala

Population Apx.17,500

2,800 families

Primarily Agricultural &  
Ranching Jobs

October 2008  
Tropical  
depression  
produced 18 days  
of intense rainfall



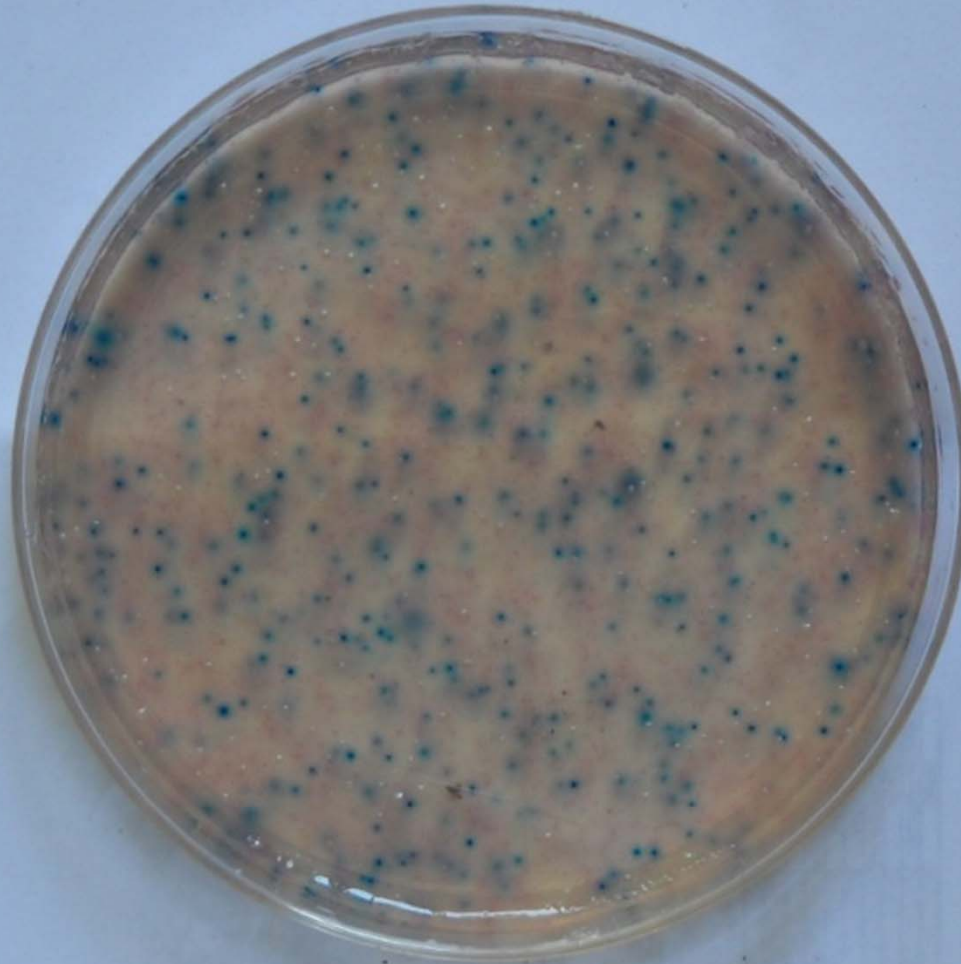
Flood depths over 10 feet occurred, inundating homes up to their roofs





~~7013~~

1009



Only one well  
out of 10  
tested did not  
contain e. coli



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# Additional Projects

## ■ Niono, Mali

- ❑ Infrastructure Improvements, Sanitation
- ❑ 50,000 residents in community
- ❑ Project broken into several parts to address multitude of issues: flooding and drainage, municipal waste management, and latrine improvements
- ❑ Total Program Cost: \$500,000-\$700,000



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# Questions?

## Thank You For Your Time

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