



A Bridge to the Comarca

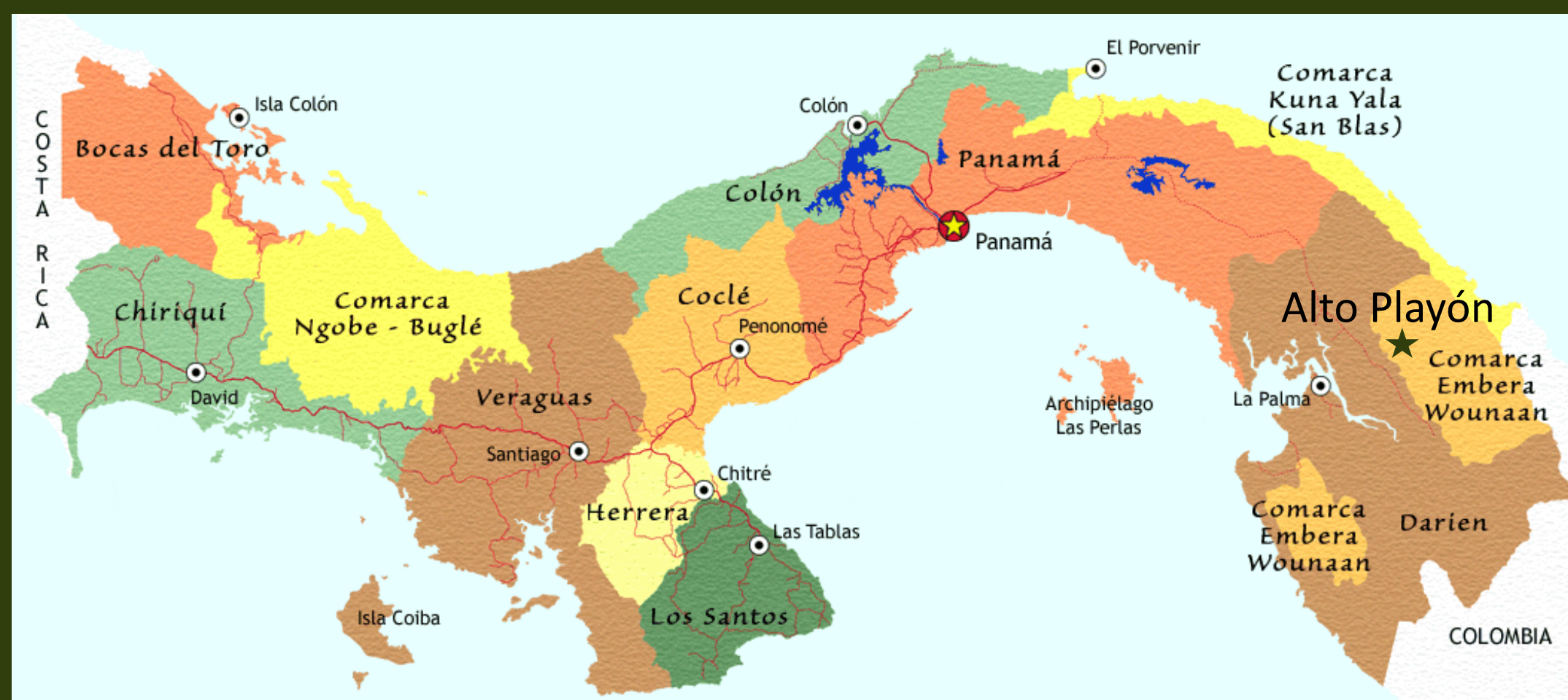
Del Puente Engineering

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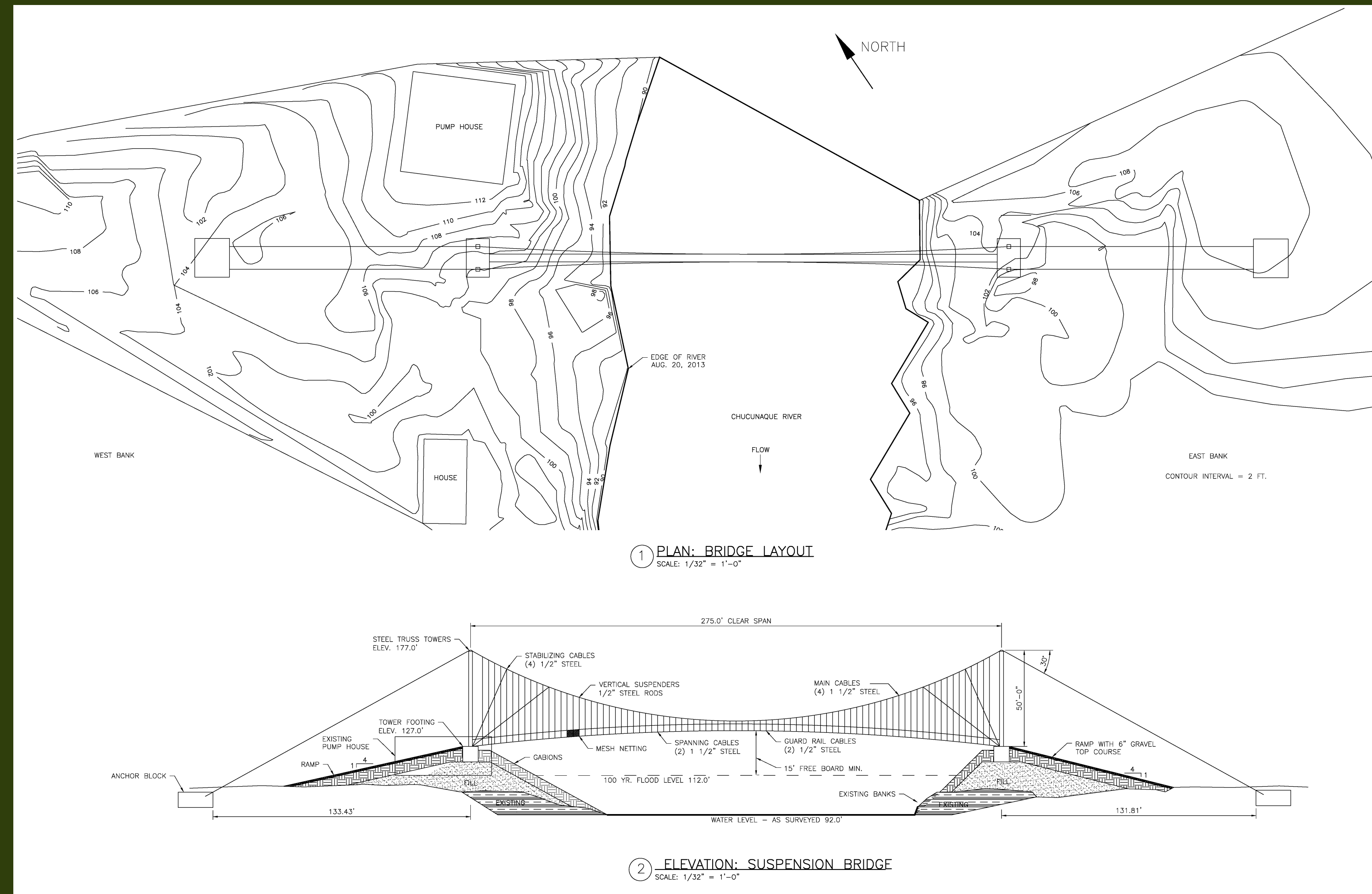
Community Background

- Embera-Wounaan Comarca, Darién province, Panama
Six communities totaling 2,000 people
- Alto Playón
Closest to Puerto Limón, desired bridge location
Subsistence farmers
262 people - 45% under fifteen years old
- Chucunaque River is an important resource
Drinking water
Bathing
Laundry
Defecation
Trash disposal
- No water purification or sanitation system



Objective

To aid the communities of the Embera-Wounaan Comarca with the development of a footbridge in order to provide safer, more convenient, less expensive and faster travel year-round.



Design Components

- Suspension bridge
- 275 ft span
- 15 ft clearance above 100-year flood level
- 8 ft camber
- Supports pedestrian and equestrian loading
- 50 ft steel towers
- Steel cables and suspenders
- Concrete tower foundations
- Concrete anchor blocks
- 4 ft wide timber decking
- Gabion system for slope protection
- Sloped gravel approach

Cost Breakdown

Anchor Blocks	\$54,800
Approaches	\$300
Cables	\$88,100
Gabions	\$170,000
Towers	\$32,700
Tower Foundations	\$21,500
Walkway	\$50,600
Total Estimated Project Cost	\$418,000

Project Description

- Puerto Limón - primary access to Comarca
- Temporary bridge built during dry season
Allows vehicular travel
Only lasts 3 weeks - 3 months
- Rainy season travel is by motorized dugout canoe
10 minute - 4 hour ride
Gas is expensive
- Benefits
Opportunity to sell crops outside of community
Accessible and affordable continued education
Safer and shorter travel



Implementation Requirements

- Professional Engineer review
- Potential funding
Bridges to Prosperity
Engineers Without Borders
- Material donations
- Formation of local bridge committee
Banking system
Maintenance training