WELCOME TO THE GLOBAL ENGINEERING CONFERENCE 2014

TRANSFORMING VISION TO REALITY

Celebrating the 100th Anniversary of the Panama Canal
Key Challenge: Long term bridge maintenance

- Panama Canal Authority’s vision was a concrete deck bridge instead of steel or composite.
- Goal was to reduce long term maintenance despite the highly corrosive environment.

- Project required a cable-stayed bridge with a span greater than 500 meters and no current cable-stayed bridges in the world had a span longer than 400 meters.
3rd Bridge over the Panama Canal

• Two bridges already span the canal, but expansion of the canal called for the construction of a third bridge by 2016.

• The new bridge will link the key seaport of Colon to communities to the west of the canal.

• Louis Berger was selected to design the bridge in JV with China Communications Construction Company/Highway Planning and Design Institute.
Panama Canal Authority remained committed to its vision of a concrete superstructure. The team analyzed several different types of superstructures. Even full-pre-stressed long-span concrete bridges must have both routine and periodic maintenance to achieve design life of 100+ years. The concrete superstructure required a much larger number of cables due to a much heavier girder compared with composite or steel superstructures. This is also required for much larger towers and foundations to resist the impact of an earthquake with such a heavy superstructure.
Solution: Record breaking bridge

**Key Statistics:**
- 530 meter main span (world record)
- 4 travel lanes
- 75 meter clearance
- 1050 meter length

**Key Technical Features:**
- Light and flexible concrete superstructure
- Providing all the necessary reinforcement to provide tensile capacity

**Key Benefits:**
- Reduced maintenance costs
- Increased tourism
- Will stimulate economy
- Critical link between the Port of Colon and the rest of the Island
THANK YOU FOR ATTENDING THE GLOBAL ENGINEERING CONFERENCE 2014

WE LOOK FORWARD TO SEEING YOU NEXT YEAR IN NEW YORK CITY!