

The image features the OSHA logo prominently in the center. The logo consists of a stylized 'O' with a blue and grey circular design inside, followed by the letters 'S', 'H', and 'A' in a white, serif font with a slight shadow effect. The background is a close-up, slightly blurred view of the American flag, showing the stars and stripes in shades of red, white, and blue.

OSHA

adds value to business,
work and life.

Critical Lift Failure

Rachel K. Banks
Ed Rearick Forum
February 18, 2009

Why Present Lessons Learned?

As adult learners, we learn best when we make mistakes and ensure we do not make those same mistakes again in the future.

“Those who cannot remember the past are condemned to repeat it.”

By: George Santayana

Background

- 1923 Traffic Bridge
- To be demolished and replaced.
- Below the bridge was two sets of active railroad tracks.

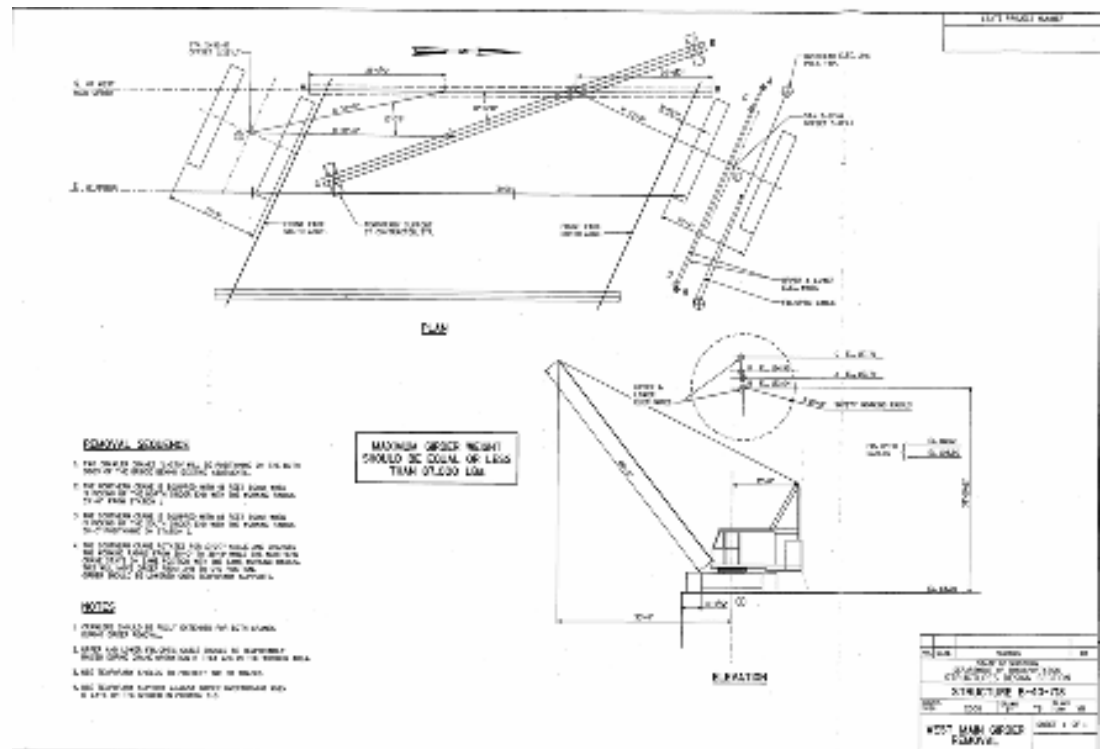


Background

- Two companies created a joint venture.
- Both companies provided one crane and operator.
- Due to limited site availability provided by the Railroad Company the project was behind schedule.
- One crane tipped over.
- Area police department contacted OSHA.

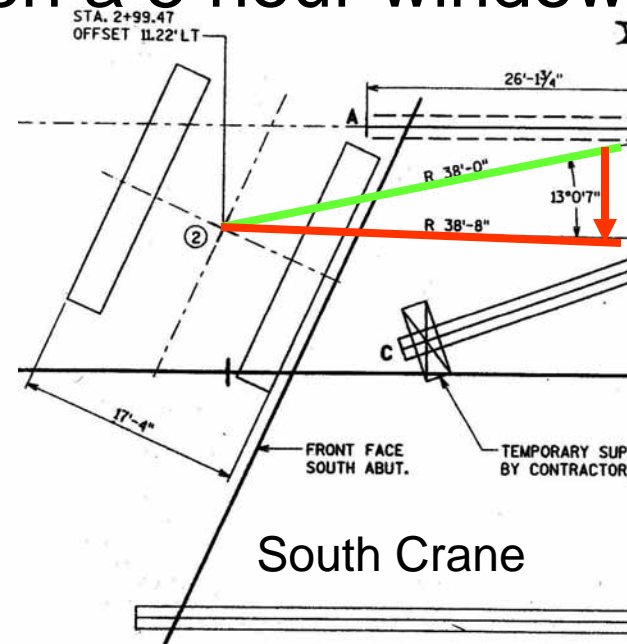
Project Planning by the Joint Venture Contractor

- Several drawings and calculations were performed to determine:
 - What cranes were needed or could be used,
 - Location of the cranes,
 - Rigging, and
 - Angles the boom should be placed at.



Final Plan

- The company was given a 5 hour window by the railroad.
- North crane
 - 48' boom
 - Working radius 33'-6"
 - Remains in position
- South crane
 - 88' boom
 - Working radius 38'-0"
 - Would rotate a little more than 13 degrees



The Accident

- South crane's rear lifted
 - Load dropped
- North crane's rear lifted
 - Employee jumped
 - Crane fell approximately 22-23' onto the railroad tracks.







Company's Explanation



- Dynamic loading due to non-synchronized movements of the cranes.
- Potential movement of the abutment.
- Potential variance in original construction from plans.

Contributing Factors Resulting from the OSHA Investigation

- Contractor's rigging
- Weight of the girder
- Cranes Movement
- Crane boom lengths and radii's
- Lack of communication
- Plans were not followed

Citations Issued...

- General Duty Clause
 - Employees were exposed to crushing hazards.
 - Designated person did not:
 - Follow the design engineers specifications
 - Ensure proper positioning
 - Rigging of the load
 - Movements to be made

Lessons Learned

- Create a completed Critical Lift Plan for both cranes.
- Ensure a Competent Person is on-site.
- Ensure the Crane Operators know the Critical Lift Plan.
- Ensure the Critical Lift Plan is followed.
- Have more direct communication between the two crane operators.

Special Thanks...

- David Brockway, PE
 - Region 5 Civil Engineer
 - Assistance following the accident.



Any Questions ????

The image features the OSHA logo prominently in the center. The logo consists of a stylized 'O' with a blue and grey circular design inside, followed by the letters 'S', 'H', and 'A' in a white, serif font with a slight shadow effect. The background is a close-up, slightly blurred view of the American flag, showing the stars and stripes in shades of red, white, and blue.

OSHA

adds value to business,
work and life.