



Schuyler Heim Bridge Fender Lowering

Long Beach, CA

SDI Scope

Heavy Lowering:
Bridge Fenders

Contractor

MCM Construction,
Inc.

Owner

State of California,
Department of
Transportation

Location

Long Beach, California



PROJECT DESCRIPTION

The original Schuyler Heim bridge was decommissioned on October 12, 2015 to be replaced by a new bridge that would meet demands of increased traffic and current earthquake standards. The Schuyler Heim Replacement Bridge was designed to carry seven lanes of State Route 47 across the Cerritos Channel to Terminal Island. Decommissioning and replacement work was awarded to MCM Construction, Inc. and began in 2011. The new bridge was completed in September 2020 and provides a 180 ft. wide navigable channel for passage of ships.

At the navigable channel, protection against accidental ship collision with the bridge piers is provided by concrete “fenders” weighing over two million pounds each. MCM Construction, Inc. elected to construct the bridge fenders above water line then lower each to their final position. The fender lowering portion of the project was awarded to Schwager Davis, Inc.



SCHUYLER HEIM BRIDGE FENDER LOWERING

Schwager Davis, Inc.
198 Hillsdale Avenue – San Jose, CA 95136
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SCOPE OF WORK

SDI'S scope of work included the supply of the following services:

- Two bridge fenders lowered from casting position to final position:
 - Each fender lowered: 20ft.
 - Each fender weight: 2,160,000lb.
 - Fender geometry:
132ft. Long x 18ft. Wide x 20ft. Height

- Lowering Procedure:
 - System Design
 - Mechanical
 - Hydraulics
 - In-House Testing

- Material Supply:
 - Embedded Lowering Anchors



LOWERING PROCEDURE AND CHALLENGES

Spatial constraints imposed by the bridge soffit above necessitated design of special bar couplers and components.

Prior to mobilization, SDI completed full scale proof testing of all lowering components and equipment to insure proper function of the lowering system.

Eight center-hole hydraulic jacks were employed to support and lower the fender without imposing uneven loading into the structure.

As a critical path activity, each fender was safely lowered from casting position to final position, accelerating the Client's schedule.



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