shawprecastsolutions.com

SHAW
PRECAST SOLUTIONS

ShawSpan™

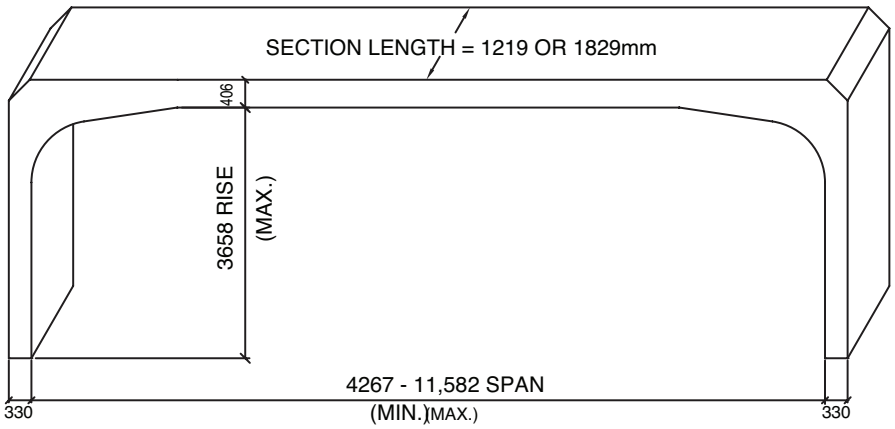
PRODUCT GUIDE & TECHNICAL REFERENCE MANUAL

Providing the right solutions.

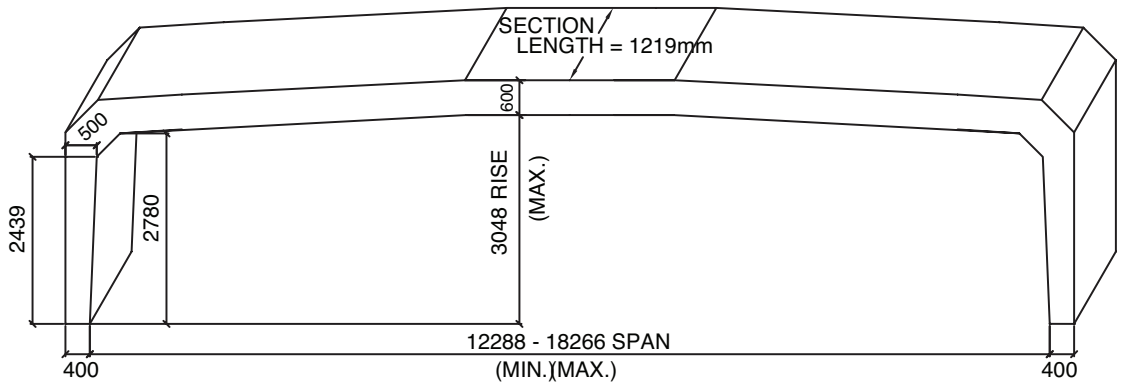
SHAWSPAN™

ShawSpan™ units are high quality, low maintenance precast structures which can be used in a variety of applications including bridges for larger brooks and streams. Each ShawSpan™ unit is a precast concrete rigid-portal frame, with the horizontal top member of the frame functioning as a deck supporting soil cover, roadway and traffic loads across the clear span, and the vertical legs retaining the side fill soils to provide the desired opening height or rise for the structure. Typically, each leg is founded on a concrete strip footing which may be precast or cast-in-place. The standard ShawSpan™ unit width is 1.2m, therefore a 12m road width would be accommodated by placing 10 units side by side.

Shaw Precast Solutions produces ShawSpan™ units in a broad range of sizes from 4.27m to 15.33m clear spans (in 610mm increments), and clear rise from 1.22m to 3.05m (in 610mm increments). The maximum allowable span for a ShawSpan™ unit is primarily a function of soil cover (depth of soil over the deck) and the specified live load. Based on transportation restrictions, the maximum inside clear height is approximately 3.0m. Additional opening height can be provided by setting the ShawSpan units on a pony wall/footing assembly.



TYPICAL SHAWSPAN DIMENSIONS



TYPICAL SUPER SHAWSPAN DIMENSIONS

REVISED DECEMBER 26, 2012

DESIGN OF SHAWSPAN™ UNITS

The structural design for each ShawSpan™ project is carried out by experienced Professional Engineers at Shaw Precast Solutions. The design and reinforcement for a typical unit are functions of the following:

- Clear span: measured from the inside face of each leg
- Clear rise: measured from bottom of the leg to underside of deck at midspan
- Fill cover: The depth of soil over the deck
- Specified Design Loads: For example CL625/CS700 truck live load.

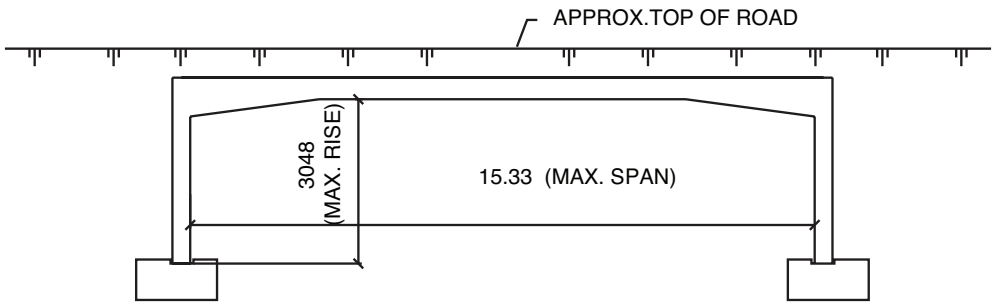
Footing design is based on the parameters noted above and the site specific geotechnical conditions. Strip footings can be cast-in-place on site or precast at our plant with the ShawSpan™ units for delivery to the site.

ShawSpans™ have been successfully installed on other foundation systems such as piles, and cantilevered retaining walls. Because of the nature of the rigid portal frame, and the interaction between frame and foundation, Shaw Precast Solutions recommends that there be close co-operation between the foundation designer and our design staff to ensure the design of both systems will be adequate to carry the specified loads on the frame, and in turn the loads transferred to the foundation by the frame.

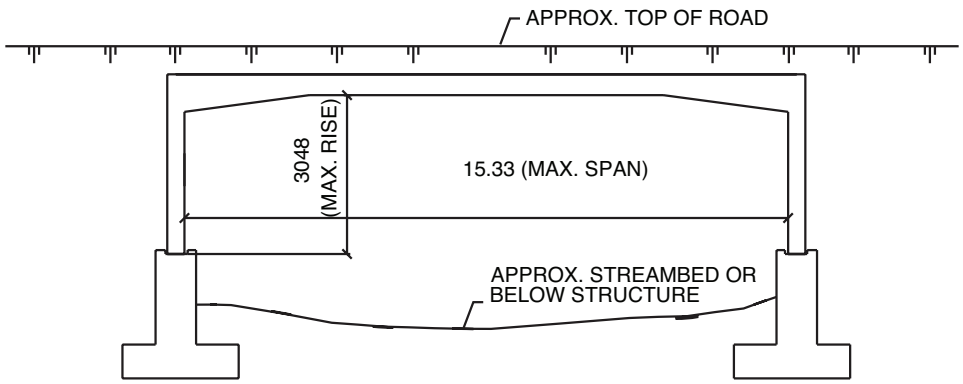
SHAWSPAN™ CONFIGURATIONS

Shaw Precast Solutions will assist Consultants with layout, unit size, and installation issues on ShawSpan™ projects. Project specific CAD drawings for proposals and tenders can be developed upon request. Details for items to be cast into the ShawSpan™ units such as guardrail inserts, scupper drains or concrete curb connections should be discussed with our engineering staff prior to issue of project drawings, to ensure that these details are feasible. Our staff can also provide sketches for inclusion on project drawings.

TYPICAL DEVELOPED ELEVATION



DEVELOPED ELEVATION - PEDESTAL FOOTING



SHAWSPAN™ ADVANTAGES

A PRECAST SHAWSPAN™ STRUCTURE WILL PROVIDE:

A HIGH QUALITY PRODUCT: Fabrication of ShawSpan™ units by experienced crews in a controlled environment ensures a high quality product. Units are cast in the plant under comprehensive quality control eliminating the drawbacks imposed by weather and site conditions.

ECONOMY: Precast ShawSpan™ structures are cost competitive with cast in place structures.

QUICK AND EASY ON-SITE INSTALLATION: The installation of a ShawSpan™ involves preparation of the site, placement of ShawSpan™ sections and final backfilling of the structure. Depending on project size, preparation of the site may be completed in a matter of hours. This preparation work may be scheduled for immediately prior to delivery of the precast units to the site. Placement of each ShawSpan™ unit is carried out by crane and is a straightforward and rapid operation.

SCHEDULE: Precast fabrication of ShawSpan™ units reduces the amount of work on-site and possible impact of weather on project schedules. The culvert sections can be installed, backfilled and placed into service immediately upon delivery to the site. ShawSpan™ units can be preordered to allow projects to proceed on-site in early spring.

REDUCED WATER CONTROL COSTS: On projects where the work site involves a water course, a precast structure eliminates the need to maintain a dry site for the entire duration of the project to prevent damage or disruption to form work, rebar, etc. reducing water control requirements and costs.

EASE OF INSPECTION: The Purchaser has the option to inspect the ShawSpan™ units at the plant prior to delivery. With cast in place structures, deficiencies such as low concrete strength represent a costly problem as the product is already in place.

DURABILITY: Precast concrete products have all the durability advantages of high quality concrete, without the concern of breakdown of protective coatings, corrosion or other problems associated with other materials. Precast concrete culverts are a low maintenance solution. Shaw Precast Solutions utilizes High Performance Concrete (HPC) in the manufacture of ShawSpan™ units.

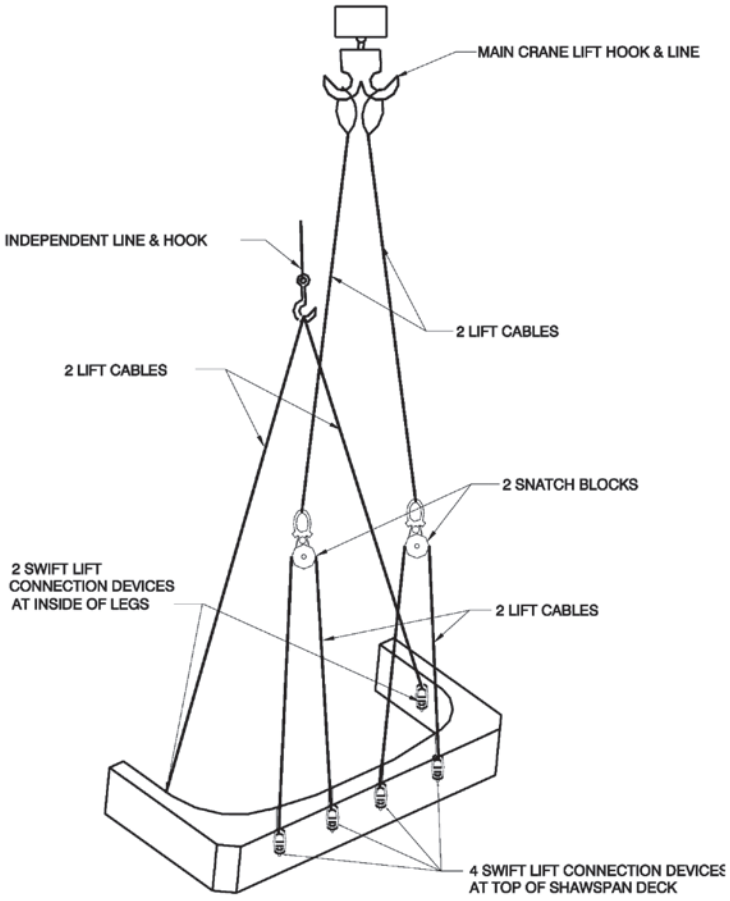
DESIGN SAVINGS: Experienced Professional Engineers employed by Shaw Precast Solutions will provide the structural design of the ShawSpan™.

SHAW PRECAST SOLUTIONS ASSISTANCE: Our staff stands ready to assist our clients. We are prepared to visit potential sites, take detailed measurements, make recommendations, prepare accurate cost estimates and develop drawings for inclusion in tender packages.

REVISED DECEMBER 26, 2012

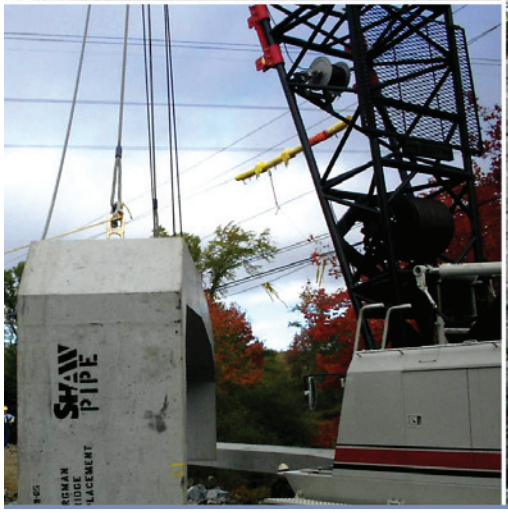
SHAWSPAN™ INSTALLATION

A Shaw Precast Solutions representative is available to provide hands on technical assistance during the installation of ShawSpan™ units. Shaw Precast Solutions provides all materials required for on-site installation, including joint materials, asphalt fiberboard, and lifting connection devices. The contractor is responsible for providing all lifting cables, rigging equipment and site co-ordination with the crane supplier. Past experience has shown that a site visit by the contractor and crane supplier prior to delivery of the units, to determine the correct crane capacity required and develop a comprehensive lifting plan, helps to ensure smooth placement on the day of delivery, and is highly recommended.



SUGGESTED RIGGING DIAGRAM


SHAW
PRECAST SOLUTIONS
SHAW
PRECAST SOLUTIONS
SHAW
PRECAST SOLUTIONS


SHAW
PIPE