



BEB0 Arch™ Systems

PRODUCT GUIDE & TECHNICAL REFERENCE MANUAL

Providing the right solutions.



BEBO ARCH™ SYSTEMS

BEBO ARCH™ 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 BEBO ARCH™ unit is a precast concrete arch, which relies upon the soil cover pressures to provide structural support. Typically, the structure is founded on a concrete strip footing which may be either precast or cast-in-place. The standard BEBO ARCH™ unit width is 2.44m, with heavier longer span units produced in 1.83m widths.

Shaw Precast Solutions can produce BEBO ARCH™ units in low profile elliptical cross sections, with spans ranging from 3.66m to 21.94m, and also units in a high profile circular cross section with spans of 9.14m, 10.97m, and 12.80m. Heights of arch cross sections can be matched to suit project requirements. Designers should consult with our design staff to determine the availability of a particular arch size.

DESIGN OF BEBO ARCH UNITS:

The structural design for each BEBO ARCH™ 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 arch at mid span
- FILL COVER: The depth of soil over the structure
- SPECIFIED DESIGN LOADS: For example CL-625/CS-700 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 BEBO ARCH™ units for delivery to the site.

Shaw Precast Solutions will assist Consultants with layout, unit size, and installation issues on BEBO ARCH™ projects. Project specific CAD drawings for proposals and tenders can be developed upon request.

BEBO ARCH™ ADVANTAGE

A PRECAST BEBO ARCH™ STRUCTURE WILL PROVIDE:

A HIGH QUALITY PRODUCT: Fabrication of BEBO ARCH™ 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 BEBO ARCH™ structures are highly cost competitive with cast in place structures, particularly when installed in deep fills.

QUICK AND EASY ON-SITE INSTALLATION: The installation of a BEBO ARCH™ involves preparation of the site, casting or placement of strip footings, placement of BEBO ARCH™ 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 BEBO ARCH™ unit is carried out by crane and is a straightforward and rapid operation.

SCHEDULE: Precast fabrication of BEBO ARCH™ units reduces the amount of work on-site and possible impact of weather on project schedules. BEBO ARCH™ 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 BEBO ARCH™ 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.

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

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.

INSTALLATION:

A Shaw Precast Solutions representative is available to provide hands on technical assistance during the installation of BEBO ARCH™ units. Shaw Precast Solutions provides all materials required for on-site installation, including joint materials, and lifting connection devices. The contractor is responsible for providing all lifting cables, rigging equipment and site coordination 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.







