

April 29, 2020

(Estimated reading time: 90 sec.)

PRECAST CONCRETE BOXES HAVE APPLICATIONS OTHER THAN CULVERTS



Utility structure



ACPA CP News, 2009

Critical infrastructure such as culverts and small bridges comprised of multiple precast concrete box sections are specified because the service life of the boxes match the design life of the project. Single and multi-barrelled culverts and small bridges are most common under roads, but they are also used under railways. Specifiers looking for material and products that have a 100-year service life tend to include precast boxes. Contractors prefer precast because it arrives on site in standard sizes and is easy and fast to install. Installation crews spend less time exposed to health and safety issues compared to crews engaged in poured-in-place projects. There are, however, many applications for precast boxes other than culverts and small bridges that fit the need for a 100-year plus design life.

Precast concrete boxes are used for retention and detention stormwater management systems, sanitary sewer collector systems, pedestrian underpasses, access shafts, service tunnels, stormwater and marine outfalls, road crossings for animals, current deflector structures in river and marine environments, wharves and habitat for aquatic animals, light rail tunnels, energy dissipators for fishways and steep grade changes, and enclosure for conveyors. In some projects, precast concrete boxes are being used for overnight rooms for rent and tiny-house construction. Because precast concrete has a high resistance to fire, concrete is ideal for rapid and safe underground escape structures from industrial and commercial premises, car parks, shopping centers and sports arenas. In addition, precast box systems can accommodate underground services and utilities in urban centers and industrial parks.