



Courtesy of Wieser Concrete Products Inc.

WisDOT Looks to Twin-Cell Box Culverts as Safeguards from Flooding

After nearly five decades spent battling rising water levels in the southwest, Wisconsin Department of Transportation opted to turn to precast concrete to replace an existing 3-cell culvert and steel pipe arch flood control system that was installed near Milwaukee in 1964.

The need for a stormwater system along the Honey Creek watershed arose from the fact that present storm drains installed had proven inadequate, noted an April 1964 newspaper article. Years later

that remains true, as WisDOT replaced the system to minimize the many challenges it poses for the state.

The replacement 4-cell design diverts water under I-94 and through the Wisconsin State Fair Grounds from Honey Creek and bordering residential areas. WisDOT contractors chose to use precast concrete, rather than an original cast-in-place design, due to the tight project deadline and harsh winter weather.

"The project had tight time constraints

and interim completion dates to complete the work prior to the Wisconsin State Fair at the beginning of August," said Mike Burns, P.E., project manager for WisDOT. "There was a very limited duration to shut down interchange ramps and local roads, which presented a challenge to complete the designed cast-in-place box. The contractor chose to use precast sections to complete the project and reopen roadways within the given time constraints."

Wieser Concrete's Plant in Portage,

“We poured 504 twin-cell sections for the project and about six pieces per day. The speed of the production and installation of the precast was something the state needed for this job, especially with the project starting in the middle of winter.”

– Mark Wieser, Wieser Concrete Products



Photos courtesy of Wieser Concrete Products Inc.

Wisconsin, manufactured the twin-cell box culverts. Vice President Mark Wieser said in order to speed production, six pallets and two sets of forms were used, allowing pouring to happen three times a day. To meet the project deadline, pouring began in January and the production process concluded in June. In addition, Wieser installed a new hot water system, utilizing a large insulated precast tank to heat the aggregates and batch plant water during the coldest winter on record. This system helped meet design strengths prior to moving the box culverts from the plant.

The pieces weigh 60,000 lbs, have two interior open areas with 12 ft of span and 10 ft of rise each, and were poured using a self-consolidating concrete mix design that exceeded the 6,000 psi requirements.

“We poured 504 twin-cell sections for the project and about six pieces per

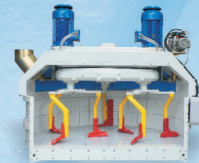
day,” said Wieser. “The speed of the production and installation of the precast was something the state needed for this job, especially with the project starting in the middle of winter.”

The culverts were transported on flatbed trailers to the job site. Special permits had to be obtained from the city to allow the company to travel on the main interstates, which played a big role in the success of the project, he said. WisDOT started installation in February and set about 25-30 sections per day. The length of the 4-cell culvert project runs 1,250 ft long and was installed smoothly and on-time.

Wieser is currently using the twin-cell box culvert forms made by Wieser Form Fabrication for two other projects. The forms are adjustable and can form any box culvert size starting as small as 4 ft by 5 ft. ■

Global solutions for top mixing performance

GUARANTEED



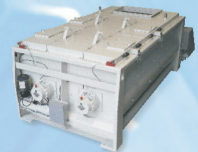
Planetary mixer (MP)
0.07-4.0 cu. yd.
compacted output

Twin shaft mixer (MAO)
1.33-10.5 cu. yd.
compacted output



Turbo-pan (turbine) Mixer (MT)
0.7-4.7 cu. yd.
compacted output

Twin Shaft continuous mixer (MAO/C)
0.07-3.3 cu. yd.
compacted output



Wide range of options and accessories

Concrete distribution system



5 Year Warranty on Gearboxes
Parts In Stock in the USA

SICOMA

Sicoma North America, Inc.
11300 47th St. N.
Clearwater, FL 33762
Toll Free: (800) 921-7559
Phone: (727) 575-7999
Fax: (727) 575-7998
www.sicoma.biz

OMG

60+
1947-2014

WORLD OF CONCRETE
Booth #N747

THE PRECAST SHOW
BOOTH 1333