



Illinois Section
Founded 1916

INSIDE:

**President's
Notes**
2

**IL 115 over Gar Creek
Bridge Replacement**
3

**The Underground
Profession in the 21st
Century**
4

**The Rise of
Sustainable Status
Living: from Golf
Estates to Agrihoods**
5

**Bringing Potable
Water to Torewa,
Bolivia**
6

**Communication
Workshop – Special
Event**
8

**News & Secretary
Report**
14

Section Activities
15

ASCE Illinois Section

News

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McCook Reservoir Stage 1 Nears Completion

By Jerome F. McGovern, P.E.

In November 2017, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) will commission the operation of the McCook Reservoir, Stage 1 in southwest suburban Bedford Park, Illinois. The Stage 1 Reservoir, with a capacity of 3.5 billion gallons of water, is the next to

In November 2017, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) will commission the operation of the McCook Reservoir, Stage 1 in southwest suburban Bedford Park, Illinois.

(continued on page 8)



McCook Reservoir Stage 1, looking west. The Sanitary and Ship Canal is on the left, the Des Plaines River is on the right. MWRD Photo.

IL 115 over Gar Creek Bridge Replacement

(continued from page 3)

The precast abutment caps are to be set on the driven piles and grouted into place using cast holes in the abutment cap and high strength quick setting grout. The roller guide system is to be

The new superstructure will be slid into place along the roller guide system using hydraulically driven rollers placed beneath each girder.

installed on top of the abutment caps in order to allow the rolling of the bridge off of the temporary bents and onto the abutments. The new superstructure will be slid into place along the roller guide system using hydraulically driven rollers placed beneath each girder. Vertical hydraulic jacks are integrated into the roller system allowing the superstructure to be simply lowered on the bearing seats.

Once the superstructure is in place, the precast wing walls are set on the driven H piles, grouted and the structure will then be backfilled. The precast approach sleeper slabs, full depth precast approach slabs, and approach connector pavement will then be installed. Lastly, hot mix asphalt is placed to match into the approach slab, along with pavement markings and the guardrail is installed. After all of the above has been completed within the 72 hour bridge closure, the new bridge will be reopened to traffic. After the bridge is reopened, the temporary bents will be removed. The construction engineering for the project is led by WHKS working for the prime contractor, Tobey Construction.

Utilizing an ABC design allowed the project team and contractor to reduce the cost of detours and

ABC techniques can reduce traffic impacts (closures, detours, etc.), improve site safety, and decrease project delivery time while minimizing the overall budget.

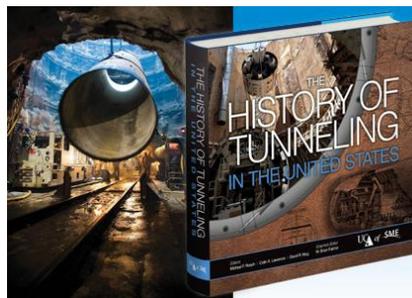
staged construction, reduced the need of a detour from 60-90 days to 3 days, and provided a safer working environment for construction workers and drivers as the majority of construction is performed away from traffic.

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The Underground Profession in the 21st Century

(continued from page 4)

the vast majority of tunnels have been successful, beneficial and cost-effective solutions to some of society's greatest needs. (The book has 552 pages in 9 chapters, including an attempt at an exhaustive list of all major tunnels to date, and an impressive timeline of tunneling history alongside US History. Available for purchase on the UCA of SME Website)



Building off this past, the future is incredibly bright but not without its challenges. One of the biggest

challenges to the tunnel business is training and keeping qualified staff at all levels. Ironically as the industry booms, the Boomers are retiring leaving big knowledge/experience gaps in academia and the private sector. Many university programs that catered to tunneling and civil engineering have died on the vine as old iconic professors have (continued on page 12)