

DBE CONNECTION

MID-COAST CORRIDOR TRANSIT PROJECT



MCTC



Mid-Coast Transit Constructors
Stacy and Witbeck · Herzog · Skanska

May 2019

DBE & SB STATS

CONSTRUCTION UPDATE

DID YOU KNOW?

FUN FACT

PROCUREMENT OPPORTUNITIES

CONSTRUCTION BENCH OPPORTUNITIES



DBE & SB STATS
(Through April 2019)

93 SB Firms
Contracted with MCTC

\$64 Million
Committed to SB Firms

89 DBE Firms
Contracted with MCTC

\$126 Million
Committed to DBE Firms

CONSTRUCTION UPDATE: STRAY CURRENT MITIGATION

The San Diego Metropolitan Transit System Trolley is powered by electricity. The trolley cars create a circuit between the rail and overhead power lines. As the trolley moves on the track, a small amount of electrical current can escape the circuit and be dispersed into the ground or structures. Electricity that leaks from the trolley power system is known as *stray current*. This can potentially cause structural damage over the long term if not properly mitigated and monitored.

The concrete bridges and walls of the Mid-Coast Corridor Transit Project (Project) are reinforced with steel rebar. Steel is a conductive material and exposure to electrical current could eventually cause corrosion. Corroded rebar can compromise structural integrity by weakening the reinforcing steel. To prevent this, the rebar is insulated so it is protected from stray current.

Disadvantaged Business Enterprise (DBE) firm **Moor Electric** provides corrosion control throughout the Project. For almost two years now, they have been performing stray current mitigation and testing for the bridges and walls. Before concrete is placed, Moor Electric performs preliminary continuity testing of the rebar and installs a test box. The test box allows rebar to be tested in the future to ensure it is staying insulated and free from corrosion.



Moor Electric performs current testing on steel rebar prior to a concrete pour.

Connecting the test boxes requires wires to be joined using a method called [exothermic welding](#). This technique uses a special powder, called a *reactant*, which induces a chemical reaction, heating the metal elements, and fusing them together. In exothermic welding, an outside heating source (such as a blowtorch, which could damage the wiring) is not needed. Make no mistake, this chemical process still creates plenty of heat. The chemical reaction produced by the powder emits temperatures in excess of 2,500 degrees Fahrenheit.



A mold is clamped down around the wires being joined together, then a special powder is used to create an exothermic reaction which produces enough heat to melt the metals together.

Due to the high-strength bond produced by this type of weld, exothermic welding is not limited to corrosion control on the Project. MCTC's track crews will also use exothermic welding at various points during construction, such as insulated joint installation and rail destressing operations.

DID YOU KNOW?

In the city of San Diego, there are 37 DBE-certified welders.

FUN FACT

Welding has its [origins](#) in the Bronze Age, over two thousand years ago, and a technique known as *forge welding*. This joined two metals by heating them up, then hammering them together, and was practiced by blacksmiths for centuries. In the early 1800s, discoveries in electricity were used to create *arc* and *resistance welding* that more closely resemble techniques used today.

The exothermic method described in the Construction Update was coincidentally first used in [building railways](#). German chemist, Hans Goldschmidt, developed the technique in 1899 to weld rails together and the process soon spread worldwide. Exothermic welding was first used for an American railway during the construction of the streetcar system in Holyoke, Massachusetts in 1904. These days, rails are typically joined using a process called *flash-butt welding*, but exothermic welding is still widely used, including Moor Electric's stray current mitigation.

PROCUREMENT OPPORTUNITIES

- RFP #154: Landscaping and Irrigation - "Caltrans" Package

Visit the Mid-Coast Corridor Transit Project's [Vendor Portal](#) for more information.



CONSTRUCTION BENCH OPPORTUNITIES

- Currently none available

Click [HERE](#) to fill out the Questionnaire to apply for the MCTC Construction Bench for future opportunities. We encourage all DBEs and SBs to apply!

For additional information about the Mid-Coast Corridor Transit Project,
please visit www.mctcjr.com.