

The Reinforced Earth Company

RECON NEWS

SUMMER 2001

The Reinforced Earth Company® (RECo) is always ready to assist Owners, Architects, and Engineers in adding beauty and distinction to structural appearances with a wide selection of architectural panel finishes. Through modern and exacting precasting methods, RECo offers a full array of textures, patterns, colors, and special effects both in unique surfaces or in more traditional treatments. Reinforced Earth® facing panels also accept many of the commercially available concrete stains and coatings for on-site application by the contractor. As a result, an infinite variety of surface treatments can be achieved.

In addition to the standard selection of architectural finishes (see www.reinforcedearth.com), RECo has recently been involved with Owners to create some highly customized finishes. Several of these unique solutions are featured in this issue.

DRESSING UP A RETAINING WALL



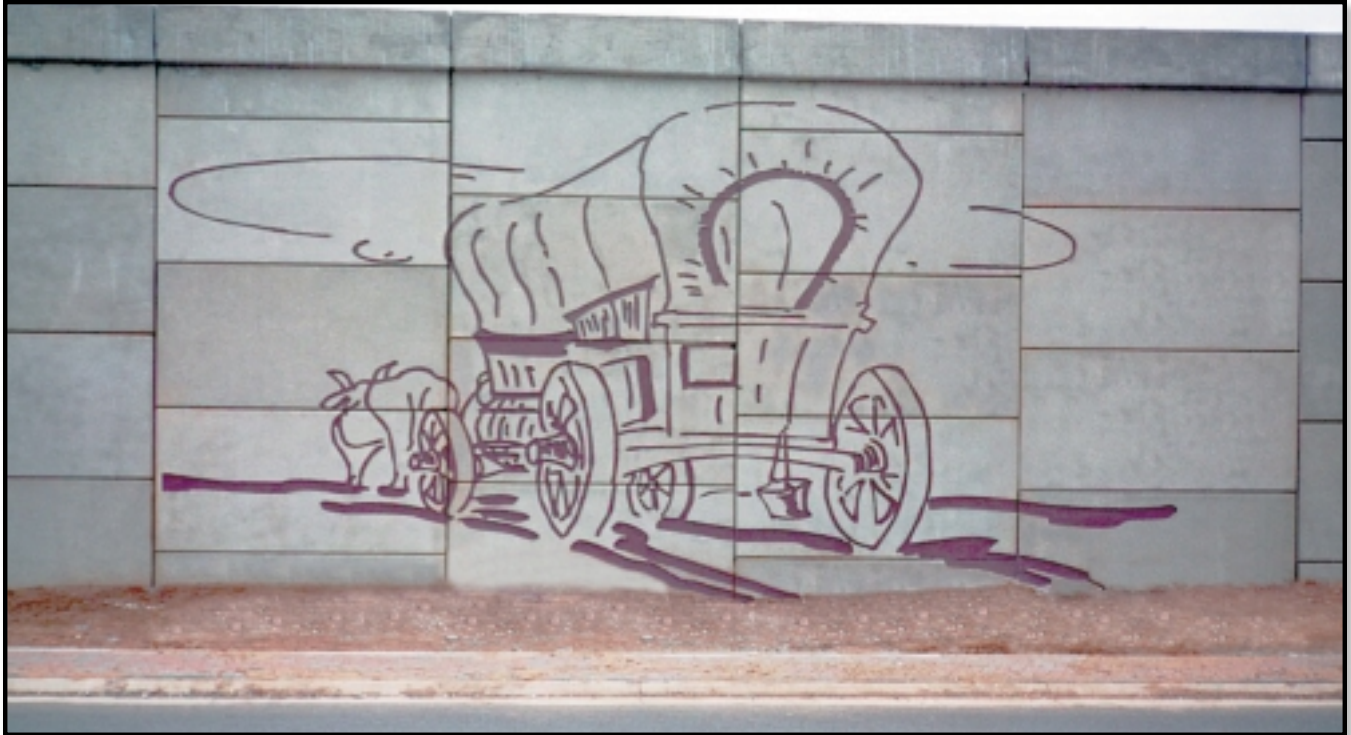
FULFILLING ARTISTIC NEEDS OF TEXAS

There has been a growing trend in Texas for Owners of retaining walls to specify unusual facing panels that will make a lasting architectural statement for their respective projects. No Owner has been more active in this regard than the Texas Department of Transportation (TxDOT), where Mr. Mark

Bloschok, Engineer for Special Projects in the Bridge Division, has provided both coordination and inspiration. He has served as a coordinator between TxDOT's various geographical Districts and the retaining wall industry, including The Reinforced

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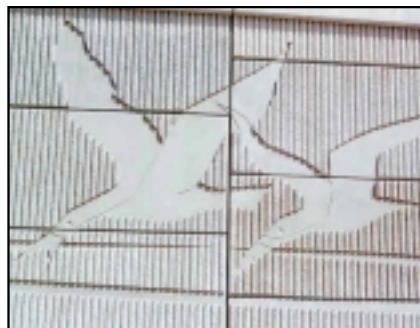
Earth Company (RECo). His efforts have involved various feasibility studies, modeling of structures, and the evaluation of methods of construction. His inspiration comes in the form of encouragement to the various Districts that are planning projects. Mr. Bloschock cites that “It is a very competitive thing among our District Engineers and therefore our Districts are trying something different, pushing the edge, taking a risk, ...that sort of thing.” He added, “The smaller Districts feel they need to get out there and put themselves on the map. The artistic thing is something we developed internally. They (the Childress District) developed the wagon.

“RECo ought to be pretty proud of the wagon and particularly the wheat wall - because you really pulled it off.”

They initially had a lot of very complex art. We kept the level of detail down, but kept folks really interested

in something that was unusual.”

The RECo engineering staff in Eules Texas has been instrumental in this process by offering specialized designs while the manufacturing plant in Waco, Texas supplied high-quality precast panels. The artwork is typically formed by using full-size blockouts made from templates that are prepared with precision by RECo’s Engineers. These templates are used at RECo’s manufacturing plant to fabricate the blockouts, which in turn are carefully set at exact locations within the form. Finally, close control by the project manager brings the pieces together. The results are remarkable; as Mr. Bloschock states, “I think everybody



who looks at this doesn't really see the joints and doesn't see any translation between the joints - they are seeing the art. RECo ought to be pretty proud of the wagon and particularly the wheat wall - because you really pulled it off."

RECo has both the experience and technical expertise to create the special architectural designs profiled on these pages. From wagons, windmills, wheat fields, birds, medallions and viaducts among others, RECo will meet the challenge.



CITY OF VANCOUVER CATCHES THE RECO WAVE



When the City of Vancouver recently completed a CDN\$1.17 billion extension of the Skytrain Millennium Line, Reinforced Earth Company Ltd. was selected by Peter Kiewit Sons Co. Ltd. to provide a retaining wall for support of the light rail transit system. RECo offered a fast-track solution with optimal backfill design, while also meeting the stringent aesthetic requirements required by the owner, Rapid Transit 2000 Ltd.

The wall designer was required to provide an irregular wave pattern within the upper portion of the wall and it also had to be practical for construction within such a narrow construction corridor. To accommodate the architectural requirements Reinforced Earth Company Ltd. employed architectural finishes consisting of fractured finish, raised relief, waveform, and smooth finish. The precast panels were manufactured locally by Con-Force Structures Limited.

The overall wall length is approximately 1.1 km and runs adjacent to the existing rail line operated by Burlington Northern Santa Fe. The RECO wall commences at its eastern abutment where it receives the overhead guideway portion recently completed by SAR (JV). The wall then extends westward through the Grandview cut corridor, while passing under three City of Vancouver bridges and ending at the western extremity in the vicinity of the existing Commercial Station.

FEATURED PRODUCT

THE RECO PANEL

There is much more to a precast panel designed by The Reinforced Earth Company than just a pleasant aesthetics. Many years of research and development have resulted in the optimum panel design. In addition to resisting earth pressure the panels are also designed to handle:

- Differential foundation settlements
- Internal backfill consolidation
- Frost Heave
- Freeze/thaw thermal strains
- Seismic Loading/movement

To ensure the panels meet the critical demands of these loadings, RECo's international group has conducted both FEM analysis and full scale panel testing. FEM analysis confirms both vertical and horizontal panel stresses for both the front face and back under various panel-loading conditions. Full scale testing has been used to optimize panel thickness, location of connections and amount and location of rebar. To confirm this, dozens of panels have been loaded to "first crack" and subsequently to failure.

Key features of RECo's precast facings systems include compressible bearing pads and flexible joints. The patented elastomeric bearing pads stiffen with compression to provide the ultimate performance in tolerating consolidation settlements. Flexible joints allow for independent panel rotation required during differential foundation settlements.

The most important testimony to the integrity and resilience of the RECo panels is their excellent performance globally. Over the past 30 years, tens of millions of precast panels have been installed world wide in walls reaching up to 40 meters in height.

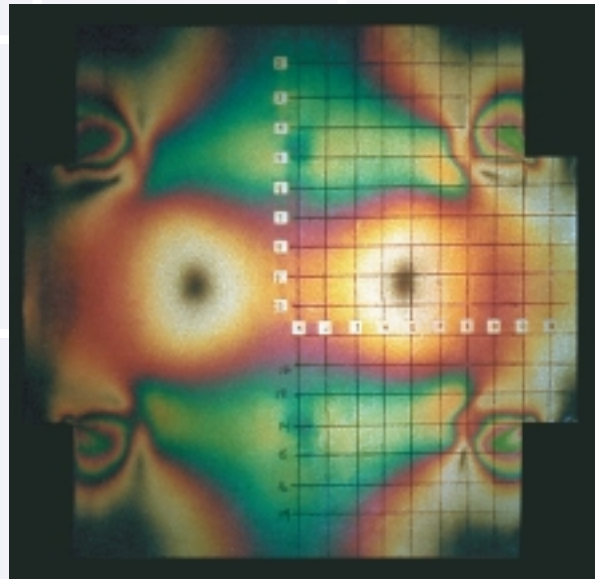
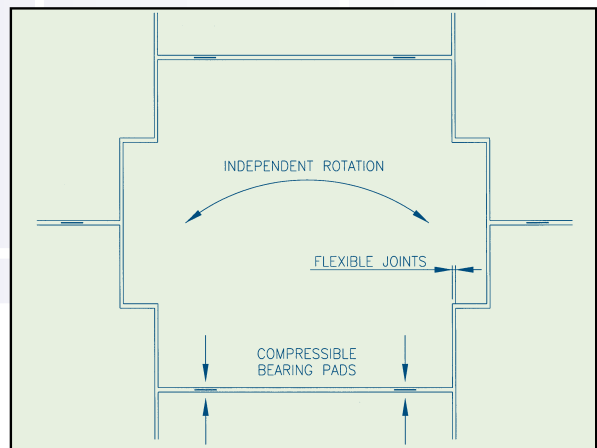


Photo-elastomeric testing

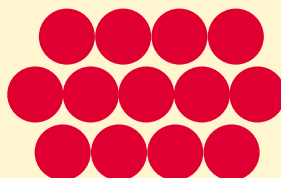


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