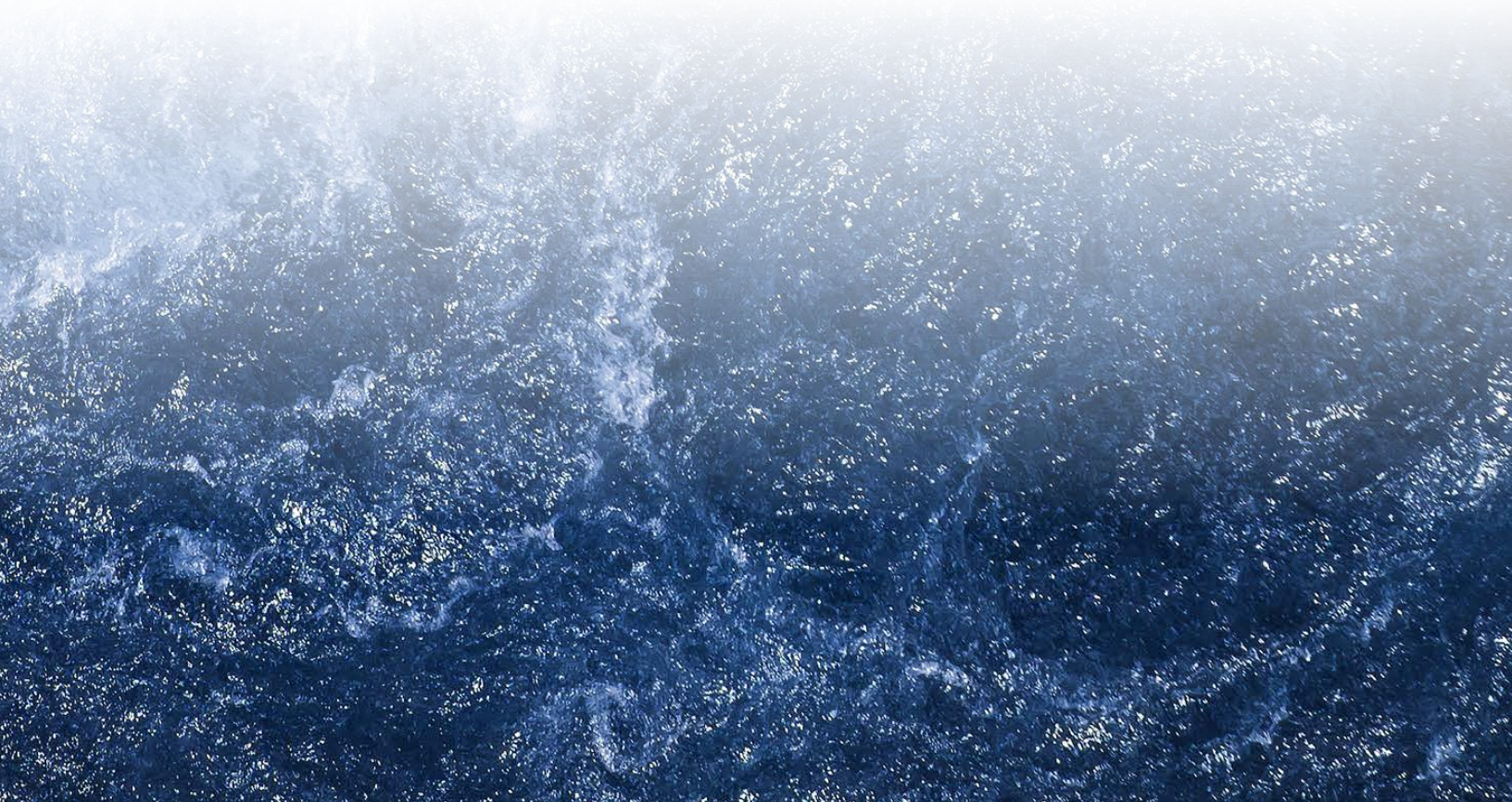
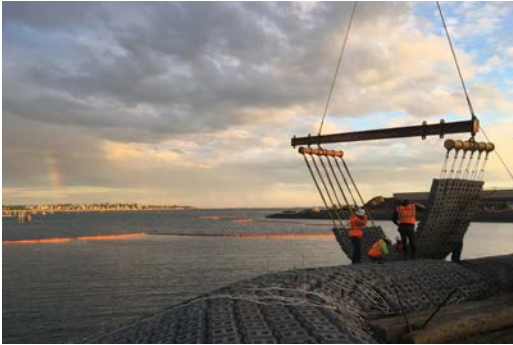
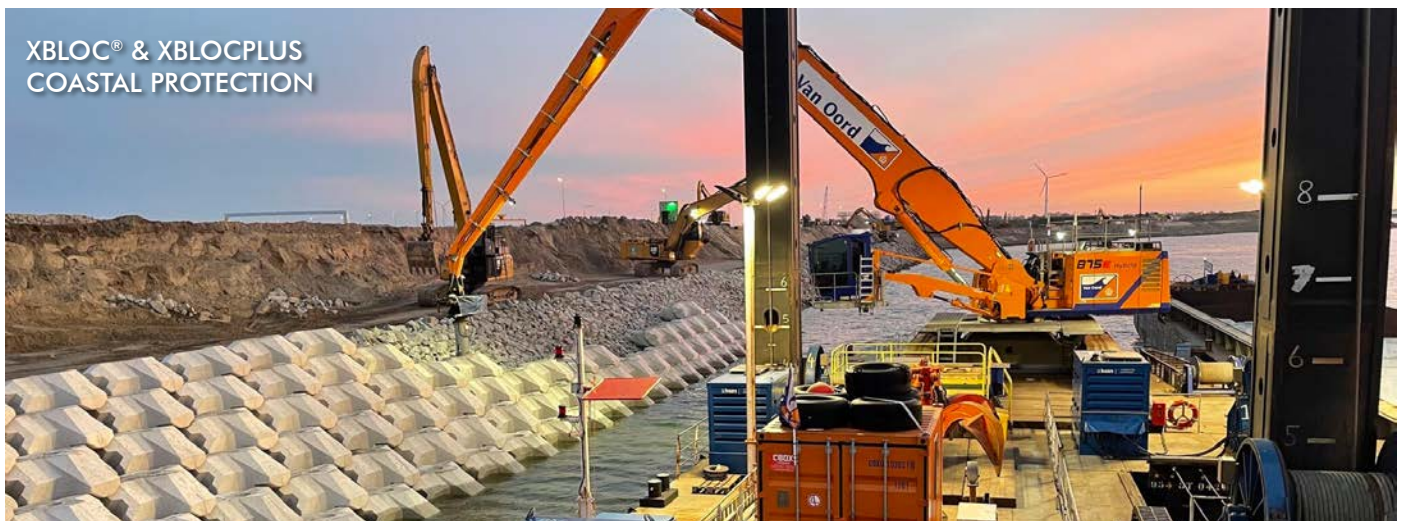


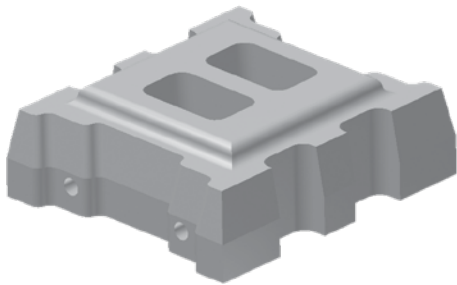
ARMORTEC® HARD ARMOR SOLUTIONS



Armortec® Hard Armor Solutions



Engineered Hard Armoring Revetment Systems

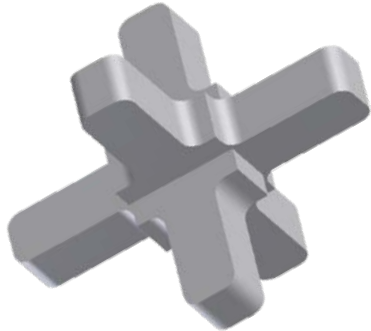


ARMORFLEX® ARTICULATING CONCRETE BLOCKS

- Permanent solution
- Specific hydraulic capacities
- Flexible and interlocking
- Zero soil loss
- Rapid, easy installation

Learn More:

www.ContechES.com/armorflex

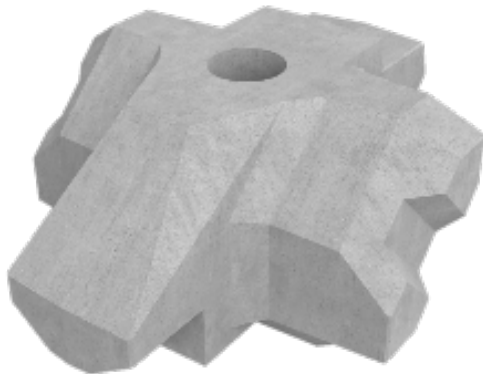


A-JACKS® CONCRETE ARMOR UNITS

- High stability
- Flexible and highly permeable
- Hand-placed or bundle installation
- FHWA design standard
- No dewatering required

Learn More:

www.ContechES.com/a-jacks



XBLOC® & XBLOCPLUS COASTAL PROTECTION

- Unreinforced, monolithic concrete
- Resilient to climate change
- Reduced material quantities over alternatives
- Minimizes carbon footprint
- Aesthetically pleasing
- Little to no ground labor

Learn More:

www.ContechES.com/xbloc

ArmorFlex® Articulating Concrete Blocks (ACB) Applications





DOWNCHUTES



OUTLETS



SPILLWAYS



WEIRS



CONVEYANCE



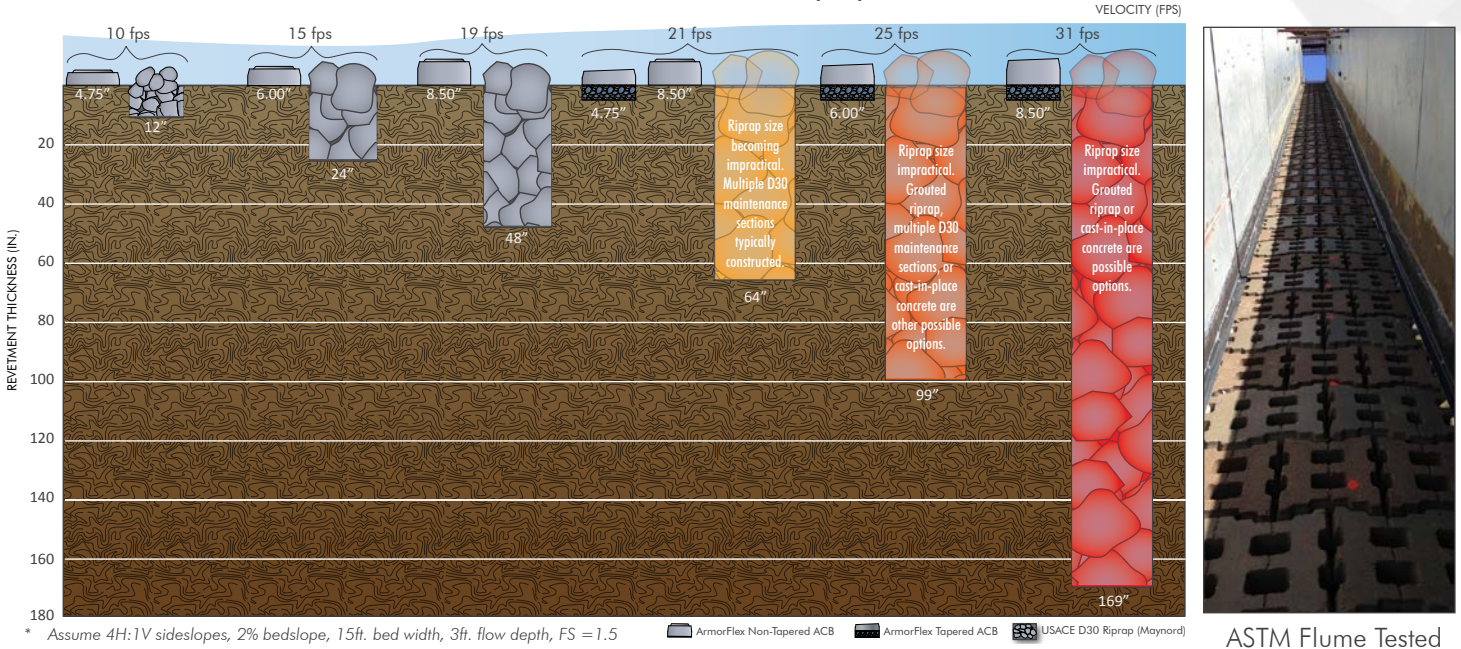
ACCESS ROADS



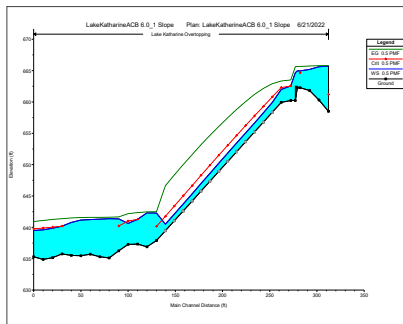
BOAT RAMPS

ArmorFlex® Design Considerations

ARMORFLEX® ACB VS. TRADITIONAL RIPRAP*

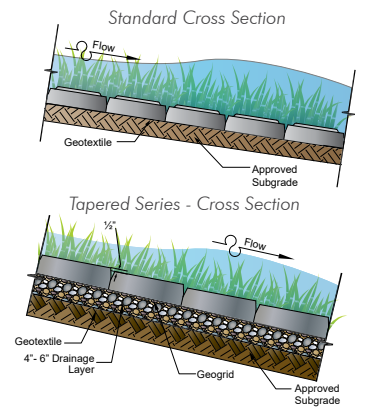


Complete Design Support



Hydraulic Analysis

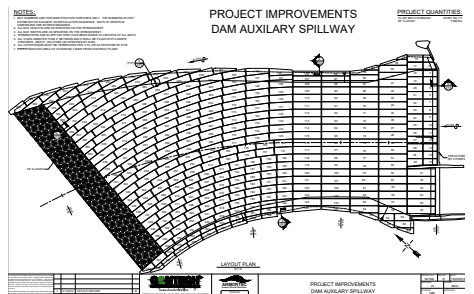
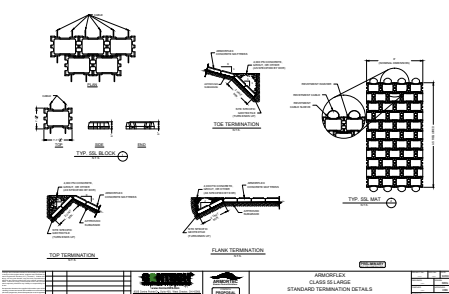
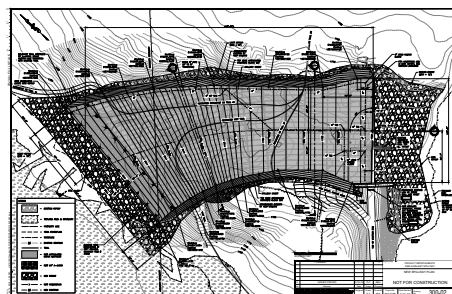
Parameter	Value
Design Velocity (ft/s)	12.0
Design Discharge (cfs)	100.0
Channel Slope (ft/ft)	0.02
Channel Bed Material	Gravel
Channel Bank Material	Gravel
Design Shear Stress (psf)	0.5
Recommended Factor of Safety	1.5



Online Project Design Tools

HEC RAS Model Review

Hydraulic Analysis



ArmorFlex® Installation



STEP 1 | SITE PREPARATION

All areas to receive ArmorFlex should be compacted and graded smooth to ensure intimate contact between subgrade, geosynthetics, and ArmorFlex blocks.



STEP 2 | FILTER LAYER

The filter layer should be sized to retain the subgrade soils while still maintaining permeability and can be either a graded granular layer(s) or an appropriate geosynthetic.

If a geosynthetic is utilized, it should be installed in a manner to eliminate folds, wrinkles, and excess tension.



STEP 3 | MAT PLACEMENT/FINISHING

ArmorFlex mats can be delivered directly from flat bed trailers or can be staged on-site according to site plans and pre-approved layout drawings.

Additional installation information is available in the ArmorFlex Installation Guide or ASTM D 6884.

A-Jacks® Concrete Armor Units (CAU) Applications



A-Jacks® Installation



Hand-Placed Option

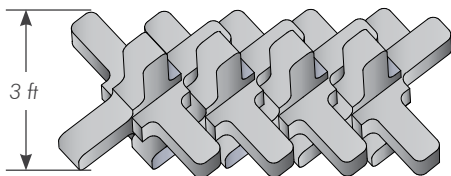


Bundled Option - No Dewatering Required

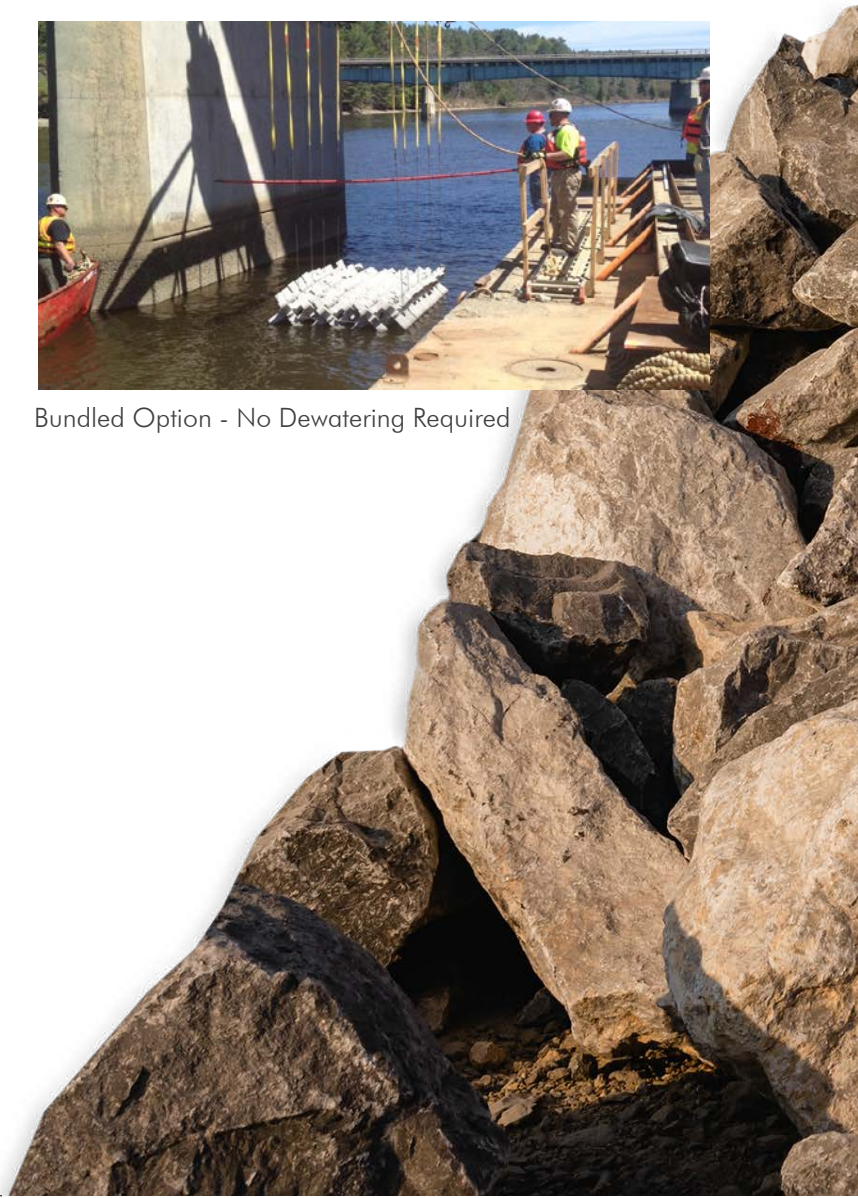
A-Jacks® Design

Utilizing HEC 23 as the basis of design, the Tennessee DOT determined the following equivalent sections for scour protection of an interstate bridge crossing the Mississippi bridge.

48-inch A-Jack Bundle



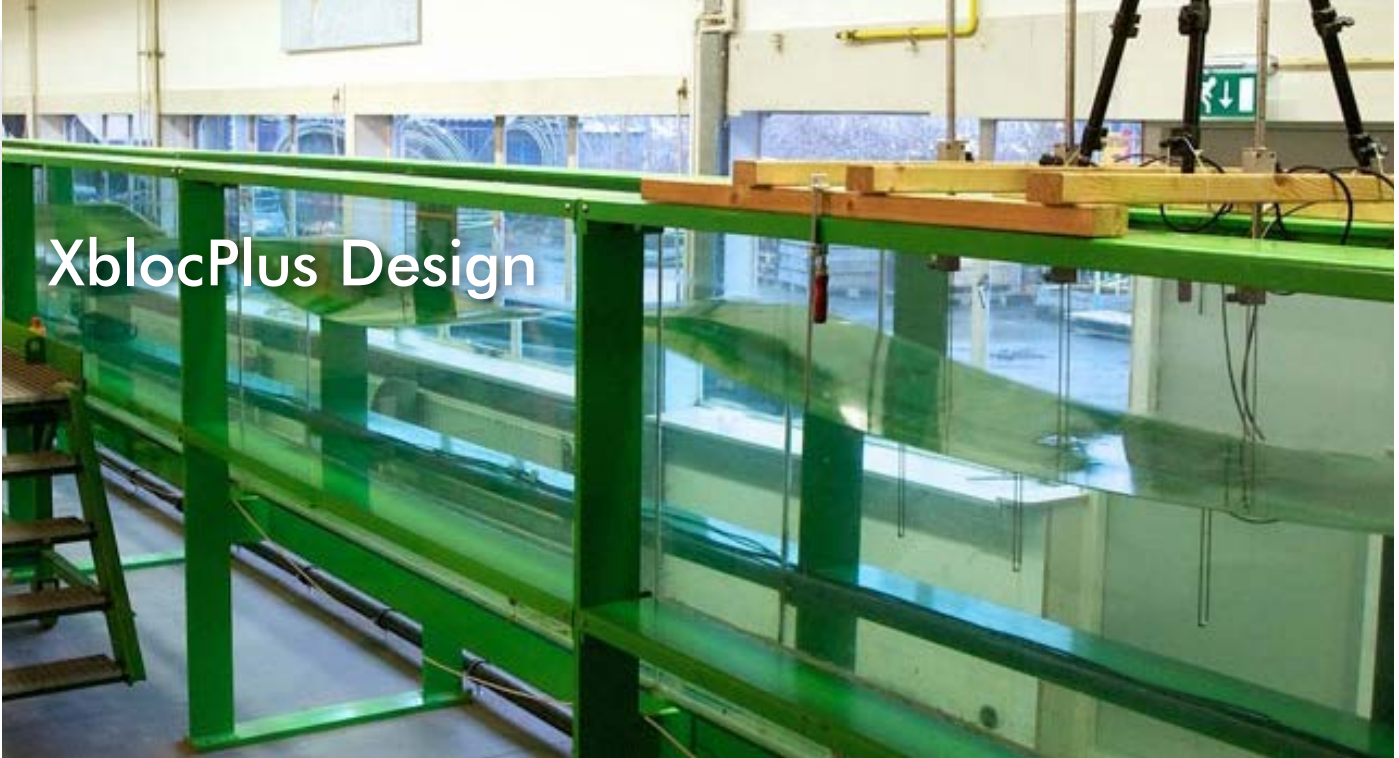
29 ft
2 Ton
Class 9
Riprap



Xbloc® and XblocPlus Applications



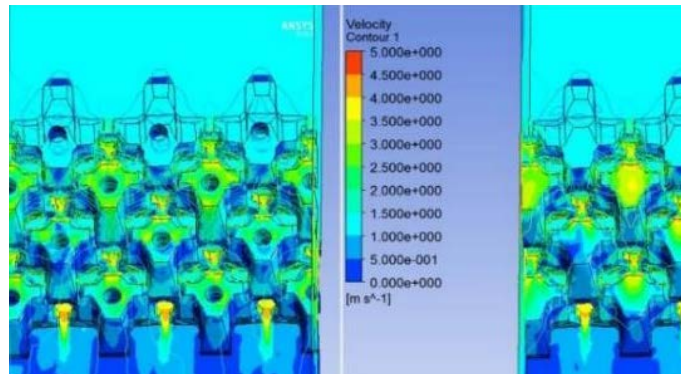
XblocPlus Design



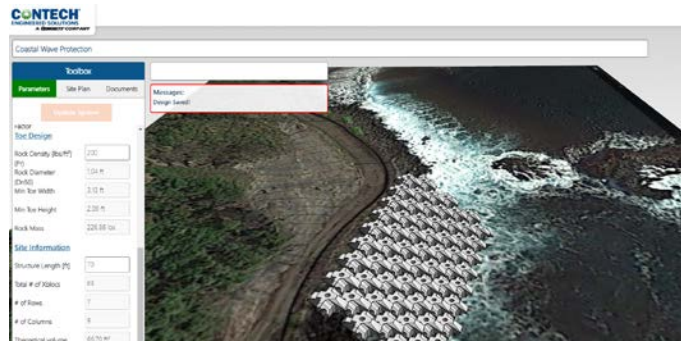
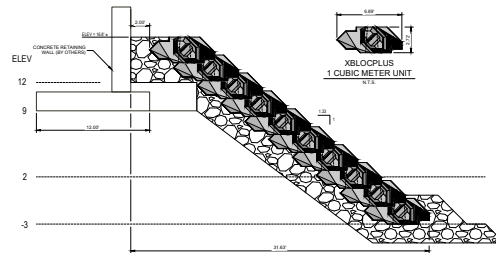
The Xbloc and XblocPlus products build on 40 years experience in the design of marine constructions and 20 years of in-ground performance.



Units have been proven stable in testing up to 200% of the design wave height.



Modeling wave attack.



Contech Design Center allows you to size units and create conceptual layouts on site plans or project site photos.





Contech® Engineered Solutions provides innovative, cost-effective site solutions to engineers, contractors and developers on projects across North America. Our portfolio includes bridges, drainage, erosion control, retaining wall, sanitary sewer and stormwater management products.



For more information, call one of Contech's Regional Offices located in the following cities:

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