



COMMERCIAL

PRODUCT OFFERING

MIDWEST

MICHIGAN, MINNESOTA, NEBRASKA, NORTH DAKOTA,
IOWA, ILLINOIS, INDIANA, KENTUCKY, OHIO, SOUTH
DAKOTA, WISCONSIN, WESTERN PENNSYLVANIA,
KANSAS, MISSOURI, NORTHEAST OKLAHOMA
& ARKANSAS



BELGARD
COMMERCIAL

PAVER APPLICATIONS



Pedestrian

Designated for areas that are primarily for pedestrian applications including commercial plazas that may require occasional access for emergency or maintenance vehicles, as well as residential driveways.



Light Vehicles

Designated for commercial vehicular areas, access ways, and parking lots where only cars and light trucks are anticipated. Heavy vehicles should have limited access and use.



Occasional Heavy Vehicles

Designated for vehicular areas, parking lots, and roadways where limited heavy vehicles are anticipated daily such as large delivery trucks or garbage trucks.



Frequent Heavy Vehicles

Designated for vehicular areas, parking lots, and roadways where heavy vehicles are a regular component of the daily traffic volume.

Paver application icons are general recommendations. Site conditions and pavement cross section must be considered. Paver application icons are based on placement over unbound aggregates for setting beds, base and subbase.

PAVER COLORS & FINISHES

Standard Colors



GRAPHITE



FOUNDRY



LINEN*



COTSWOLD MIST

** Light colored paver has an SRI value of ≥ 29 and/or an SR value of ≥ 0.33*

Regional Colors

In addition to our standard color offering, Belgard Commercial products come in a number of local colors. Check with your local Belgard Sales Representative for more information.

Finishes

Manufacturing processes generate various finishes that are distinctive and can create the exact look you desire for your project. All processes are not available in all locations. Check with your local Belgard Sales Representative for more information.



Standard (smooth)

Unit surfaces and micro-chamfers are carefully molded using a high-quality precision machined steel shoe assembly which creates units with an extremely smooth surface and precision detailed chamfer.



Ground Face

The top of the paving units are ground smooth which exposes the aggregate colors and pigmented background.



Shot Blast

Exposes the surface of the paving unit to reveal the natural beauty of the aggregates and pigmentation. Shot Blast cannot be combined with Texturgard.



Antiqued

Units are molded to form specific surface and side textures that are processed through tumbling equipment, imparting a distressed or aged appearance.

DuraFusion™

DuraFusion fuses a top layer of rich pigments with Belgard's core color process. The result is a paver with a richness and purity of color that's sleek and vibrant.

T2™

T2 multiplies the enhancement of DuraFusion™ with the protection of TrueColor™ to offer the highest quality concrete paver available today. The result is a smooth, gentle finish and vibrant color blend with unmatched protection against fading, stains and scratches.

TrueColor™

Belgard's exclusive premium surface level color-enhancing protectant. TrueColor enhances the original color depth of Belgard pavers and extends color fastness and durability over time. TrueColor is not a sealer, and does not create a glossy or wet look. It enhances the original color of the paver without losing the surface texture of real stone.









DIMENSIONS™ SERIES VEHICULAR & ARCHITECTURAL PAVERS																			
UNITS		THICKNESS	SIZE	APPLICATIONS				ADA*	MECHANICAL INSTALL	FINISHES						CHAMFER WIDTH	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)
										Standard	Ground Face	Shot Blast	Antiqued	DuraFusion	TrueColor				
	3" x 12"	60 mm 80 mm	3" x 12"	60 mm	80 mm			✓		✓	✓	✓		✓	✓	3 mm	110 (60 mm) 88 (80 mm)	440 (60 mm) 352 (80 mm)	3,102 (60 mm) 3,300 (80 mm)
	6" x 6"	60 mm 80 mm 101.6 mm	6" x 6"	60 mm 80 mm 101.6 mm	80 mm 101.6 mm	101.6 mm		✓		✓	✓	✓		✓	✓	3 mm	120 (60 mm) 96 (80 mm) 72 (101 mm)	480 (60 mm) 384 (80 mm) 288 (101 mm)	3,173 (60 mm) 3,590 (80 mm) 3,370 (101 mm)
	6" x 9"	60 mm 80 mm	6" x 9"	60 mm	80 mm	80 mm	80 mm	✓		✓	✓	✓		✓	✓	3 mm	112.5 (60 mm) 90 (80 mm)	300 (60 mm) 240 (80 mm)	3,173 (60 mm) 3,366 (80 mm)
	6" x 12"	60 mm 80 mm 101.6 mm	6" x 12"	60 mm 80 mm 101.6 mm	80 mm 101.6 mm	101.6 mm	101.6 mm	✓		✓	✓	✓		✓	✓	3 mm	120 (60 mm) 96 (80 mm) 72 (101 mm)	240 (60 mm) 192 (80 mm) 144 (101 mm)	3,384 (60 mm) 3,717 (80 mm) 3,370 (101 mm)
	12" x 12"	60 mm 80 mm 101.6 mm	12" x 12"	60 mm 80 mm 101.6 mm	80 mm 101.6 mm	101.6 mm		✓		✓	✓	✓		✓	✓	3 mm	120 (60 mm) 96 (80 mm) 72 (101 mm)	120 (60 mm) 96 (80 mm) 72 (101 mm)	3,384 (60 mm) 3,590 (80 mm) 3,370 (101 mm)
	12" x 12" ADA	60 mm	12" x 12"	60 mm				✓		✓						3 mm	120	120	3,384
	12" x 18"	60 mm	12" x 18"	60 mm				✓		✓	✓	✓		✓	✓	3 mm	120	80	3,384
	12" x 24"	60 mm	12" x 24"	60 mm				✓		✓	✓	✓		✓	✓	3 mm	120	60	3,384
	18" x 18"	60 mm	18" x 18"	60 mm				✓		✓	✓	✓		✓	✓	3 mm	90	40	2,511
	18" x 24"	60 mm	18" x 24"	60 mm				✓		✓	✓	✓		✓	✓	3 mm	120	40	3,348
	24" x 24"	60 mm	24" x 24"	60 mm				✓		✓	✓			✓	✓	3 mm	80	20	2,256
	24" x 30"	60 mm	24" x 30"	60 mm				✓		✓	✓			✓	✓	3 mm	100	20	2,820
	24" x 36"	60 mm	24" x 36"	60 mm				✓		✓	✓			✓	✓	3 mm	120	20	3,300












Note: The Dimensions Series is all made to order. Lead times will apply. Check with your local Belgard representative for applicable lead times.

Interlocking pavers can be used for a variety of different vehicular applications. Appropriate shape and thickness is based on project-specific conditions including type of loading, base design, and subgrade conditions. It is recommended that you consult a Belgard representative in your area before specifying products for vehicular applications.

** May be Suitable for ADA applications. Always evaluate site-specific uses to ensure surface suitability. Product installation and surface maintenance influence compliance with ADA Standards for Accessible Design Section 302 Floors or Ground Surfaces. Tumbling or antiquing pavers can also create surface or edges that may make the product unsuitable for ADA applications.*

Secondary processes and finishes including, but not limited to, face-grinding, may impact dimensional tolerances from base dimensions.

MODULINE PLANKS																			
UNITS		THICKNESS	SIZE	APPLICATIONS				ADA*	MECHANICAL INSTALL	FINISHES						CHAMFER WIDTH	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)
										Standard	Ground Face	Shot Blast	Antiqued	DuraFusion	TrueColor				
	4" x 18"	80 mm	4" x 18"	80 mm				✓		✓	✓	✓		✓		3 mm	72	144	2,706
	4" x 24"	80 mm	4" x 24"	80 mm				✓		✓	✓	✓		✓		3 mm	96	144	3, 533

VEHICULAR & ARCHITECTURAL PAVERS																			
UNITS	THICKNESS	SIZE	APPLICATIONS				ADA*	MECH. INSTALL	FINISHES						CHAMFER WIDTH	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)	
									Standard	Ground Face	Shot Blast	Antiqued	DuraFusion	T2					
 Brooklyn	60 mm	3" x 9"	60mm												✓	N/A	103.13	550	2,805
 Holland Stone	60 mm 80 mm	4" x 8"	60 mm	80 mm	80 mm	80 mm	✓	80 mm (Herringbone pattern)	✓				✓	✓		7 mm	Check with your local Belgard Sales Rep.		
 Melville™ Plank Slim	60 mm	5" x 11 ¹³ ₁₆ " 5" x 15 ³ ₄ " 5" x 19 ¹ ₁₆ "	60 mm				✓		✓					✓		3 mm	122.7	210	3,595
 Melville™ Plank Large	60 mm	7½" x 11 ¹³ ₁₆ " 7½" x 15 ³ ₄ " 7½" x 19 ¹ ₁₆ "	60 mm				✓		✓					✓		3 mm	114.5	150	3,298
 6" Bishop Hat	60 mm 80 mm 101.6 mm	6" Bishop Hat	60 mm 80 mm 101.6 mm	80 mm 101.6 mm	80 mm 101.6 mm	80 mm 101.6 mm	✓		✓	✓	✓		✓	✓		3 mm	84.5 (60 mm) 67.6 (80 mm) 50.7 (101 mm)	280 (60 mm) 224 (80 mm) 168 (101 mm)	2,383 (60 mm) 2,528 (80 mm) 2,373 (101 mm)








Note: The Moduline Series is all made to order. Lead times will apply. Check with your local Belgard representative for applicable lead times.

Interlocking pavers can be used for a variety of different vehicular applications. Appropriate shape and thickness is based on project-specific conditions including type of loading, base design, and subgrade conditions. It is recommended that you consult a Belgard representative in your area before specifying products for vehicular applications.

** May be Suitable for ADA applications. Always evaluate site-specific uses to ensure surface suitability. Product installation and surface maintenance influence compliance with ADA Standards for Accessible Design Section 302 Floors or Ground Surfaces. Tumbling or antiquing pavers can also create surface or edges that may make the product unsuitable for ADA applications.*

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PERMEABLE PAVERS																			
UNITS	THICKNESS	SIZE	APPLICATIONS				ADA*	MECHANICAL INSTALL	FINISHES					MANUF. JOINT WIDTH	% SURFACE OPENING	CHAMFER WIDTH	SQ. FT. PER PALLET	PALLET WEIGHT	
									Standard	Ground Face	Shot Blast	Antiqued	DuraFusion						
AQUALINE™ SERIES <i>(all sizes made to order)</i>																			
 3" x 12"	80 mm	3" x 12"	✓	✓			✓	✓	✓	✓	✓		✓	7 mm	10%	3 mm	88	3,291	
 4½" x 9"	80 mm	4½" x 9"	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	10 mm	10%	3 mm	90	3,423	
 4½" x 9" Herringbone	80 mm	4½" x 9"	✓	✓	✓	✓	✓	✓	✓				✓	10 mm	10%	3 mm	90 (36 full units/ layer; 8 half units/layer)	3,423	
 6" x 6"	80 mm	6" x 6"	✓	✓	✓		✓		✓	✓	✓		✓	7 mm	7%	3 mm	96	3,590	
 6" x 12"	80 mm	6" x 12"	✓	✓			✓		✓	✓	✓		✓	7 mm	5%	3 mm	96	3,590	
 9" x 9" L-Stone	80 mm	9" x 9"	✓	✓	✓	✓	✓	✓	✓				✓	10 mm	10%	3 mm	90	3,375	
 12" x 12"	80 mm	12" x 12"	✓	✓			✓		✓	✓	✓		✓	7 mm	3%	3 mm	96	3,590	
ADDITIONAL PRODUCT LINES																			
 Aqua Roc™	80 mm	4½" x 9"	✓	✓	✓	✓	✓							8 mm	9%	3 mm	Check with your local Belgard Sales Rep.	Check with your local Belgard Sales Rep.	
 Aqua Roc™ II	80 mm	4" x 4" 4" x 8"	✓	✓	✓	✓	✓	✓						8 mm	9%	3 mm			
 Eco Dublin®	80 mm	6 ¹⁵ / ₁₆ " x 3 ⁷ / ₁₆ " 6 ¹⁵ / ₁₆ " x 6 ¹⁵ / ₁₆ " 6 ¹⁵ / ₁₆ " x 10 ⁹ / ₁₆ "	✓	✓			✓	✓	✓					12 mm	7%	N/A			
 Holland Permeable	80 mm	5" x 10"	✓	✓			✓	✓	✓				✓	10 mm	7%	2 mm			

CONCRETE GRID PAVEMENTS																
UNITS	THICKNESS	SIZE	APPLICATIONS				ADA	MECHANICAL INSTALL	FINISHES				% SURFACE OPENING	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)
									Standard	Ground Face	Sand Blast	Antiqued				
 Turfstone™	80 mm	15¾" x 23⅝"	80 mm						✓				40%	103.2	40	2,377

* May be Suitable for ADA applications. Always evaluate site-specific uses to ensure surface suitability. Product installation and surface maintenance influence compliance with ADA Standards for Accessible Design Section 302 Floors or Ground Surfaces. Tumbling or antiquing pavers can also create surface or edges that may make the product unsuitable for ADA applications.

Secondary processes and finishes including, but not limited to, face-grinding, may impact dimensional tolerances from base dimensions.

CASE STUDY: PAN AM PLAZA

Dimensions™ Pavers Provide The Ultimate In Pattern Versatility For Pan Am Plaza

LOCATION:
Indianapolis, Indiana

PRODUCTS:
Dimensions™ Pavers

COLORS:
Napoli

INSTALLED AREA:
81,900+ sq. ft.

ENGINEER:
Fink Roberts & Petrie, Inc.

ARCHITECT:
Ratio Architects

GENERAL CONTRACTOR:
Wilhelm Construction Co., Inc.

INSTALLER:
Decorative Paving Company
Loveland, Ohio



Background

The site of the 1987 Pan American games is not only historic and rich with athletic inspiration, but it also serves today as a city center to Indianapolis connecting Union Station, Lucas Oil Stadium, the Indiana Convention Center, and

the Crown Plaza Hotel. Originally constructed to accommodate the games, the site included clay brick pavers, fountains, flag poles, and sports monuments sitting atop a three-level underground parking garage. Time and weather, compounded by drainage issues, began to take its toll on the plaza.

The Challenge

“The condition of the plaza didn’t properly pay homage to the athleticism and patriotism displayed in 1987,” said Yves LeGoff, Commercial Sales Specialist for Northfield an Oldcastle Company. Property Owners, Kite Realty Group, wanted to revitalize the plaza and

fix the drainage issues once and for all. To accomplish this goal, the old brick pavers and fountains would be removed and replaced with a new waterproof membrane and new interlocking concrete pavers.

The Solution

Ratio Architects was called in to design the new layout, which included three different mosaic pattern modules using five different colors in three sizes of Belgard® Dimensions™ pavers. Dimensions™ is a 14-stone system available in nine colors and four textures. It allows for unique accents, highlights and borders for mosaics and creative design and is equally appealing in standalone designs. Dimensions™ pavers may be laid in a 24” pattern either singularly or with additional sizes in a 3” Ashlar format. “Dimensions’ clean lines make it appealing to the eye and smooth underfoot,” said Ken O’Neill, Vice President of Sales and Marketing for Belgard Hardscapes. “It’s a completely modern aesthetic experience and Pan Am Plaza was an exciting project for this new product from Belgard.”

Dimensions™ was developed to create the ultimate in design versatility, with a defined and linear 2mm chamfer for a seamless transition from paver to paver that enhances surface smoothness and exceeds ADA requirements. All units are based on three-inch dimensional increments and have a raster that is exactly specified and produced, allowing all pieces to fit together as intended. While the new interlocking pavers would solve aesthetic and functional issues, the install wasn’t without its own challenges.

“Ratio Architects wanted to honor this historic site by creating a plaza that would captivate visitors and be pleasing to the eye,” LeGoff said. “We worked with Ratio to custom match their chosen colors for a truly unique palette designed in three modules.” Due to this level of detail in size and color, one installer would stage the pavers, laying out the sizes and color patterns for each 4’x4’ module on wooden pallets while others installed the pavers from the wooden pallets.

While a downtown project site with very limited access proved to be difficult for delivery and staging of over 55 truckloads of Dimensions™ pavers, it was an effort worthwhile to pay tribute to Pan Am Plaza.

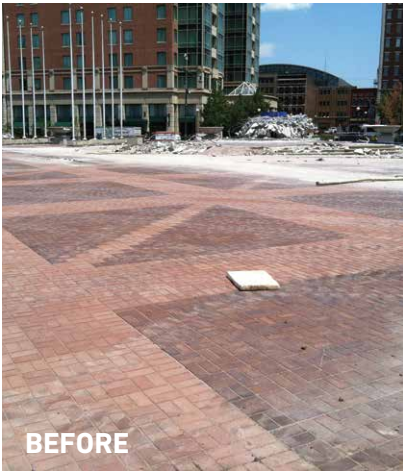
“Dimensions™ pavers were a great choice for this project because the architect wanted to incorporate three module designs to give the plaza an updated look.”



Yves LeGoff
Commercial Sales Specialist

The Result







“Dimensions™ pavers were a great choice for this project because the architect wanted to incorporate three module designs to give the plaza an updated look,” LeGoff said. “Developed to be extremely versatile, the three-inch dimensional increments allowed Dimensions™ to work together in the three modules.”

The new 80,000 plus square foot plaza offers a variety of activities for different users, while upholding the civic pride and memorial to the original games. “We’re proud to have been involved in a project so important to the city and glad that our innovative solutions were able to revitalize this historic plaza,” said LeGoff.



PORCELAIN PAVERS										
UNITS		APPEARANCE	THICKNESS	SIZE	COLOR OPTIONS	ADA	PEDESTAL APPLICATION	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)
										
	Glocal	Concrete	¾"	24" x 24"	Clear, Ideal, Type, Classic	✓	✓	232.5	60	2,160
	Noon	Wood	¾"	8" x 48"	Daylight, Ember, Honey	✓	✓	151.8	60	1,415
	Quarziti 2.0	Stone	¾"	24" x 24"	Glacier, Mountains, Waterfall, River, Mantle	✓	✓	232.5	60	2160
	Quarziti 2.0	Stone	¾"	24" x 48"	Glacier, Mountains, Waterfall, River, Mantle	✓	✓	271.25	35	2,621
	Unico	Various	¾"	13" x 24"	Glacier, Mountains, Waterfall, River, Mantle, Daylight, Ember, Honey	✓	✓	254.82	120	2,080
	Porcelain Veneer	Stone or Wood	¾"	4" x 17½"	Glacier, Mountains, Waterfall, River, Mantle, Daylight, Ember, Honey			390.7	770	1,900
	Verona	Stone	¾"	24" x 24"	Blue Stone, Platinum, Taos, Yukon	✓	✓	232.5	60	2,160

SEGMENTAL RETAINING AND FREESTANDING WALLS (SRW & FSW)

UNITS		UNIT SIZE			CONNECTION TYPE		ACCESSORIES* (SOLD SEPARATELY)		TEXTURE			FACE STYLES				BATTER/ SETBACK	SQ. FT. PER PALLET	PCS. PER PALLET	PALLET WEIGHT (LBS)
		Height	Width	Depth	Block	Other	Column/ Corner Unit	Step Unit	Sculpted	Split	Tumbled	Straight	Beveled	Virtual Joint	Stone Cut				
	Ashlar Tandem™	7"	13⅜", 15⅜", 18⅞"	2⅝"		Polypropylene Connectors or Modular Block			✓							0 / 4°	70.1	90	2082
	Belair Wall® 2.0 Freestanding Wall	6"	6", 10", 16"	5"			✓		✓							Vertical	60	120	3080
	Belair Wall® 2.0 Retaining Wall	6"	6", 10", 16"	8"	Rear Lip		✓		✓							9°; 1" Per Course	30	60	2406
	Diamond Pro® Straight	8"	18"	12"	Rear Lip					✓		✓				7.1°; 1" Per Course	Check with your local Belgard Sales Rep.		
	Diamond Pro® Beveled	8"	18"	12"	Rear Lip					✓			✓			7.1°; 1" Per Course	Check with your local Belgard Sales Rep.		
	Diamond Pro® Smooth	8"	18"	12"	Rear Lip							✓				7.1°; 1" Per Course	Check with your local Belgard Sales Rep.		
	Diamond Pro Stone Cut® Virtual Joint	8"	18"	12"	Rear Lip					✓				✓	✓	7.1°; 1" Per Course	Check with your local Belgard Sales Rep.		
	Diamond Pro Stone Cut®	8"	18"	12"	Rear Lip					✓				✓	✓	7.1°; 1" Per Course	Check with your local Belgard Sales Rep.		
	Highland Stone® SRW Small & Medium	6"	12", 6"	12"	Rear Lip		✓			✓		✓				10.6°; 1.125" Per Course	24	64	2912
	Highland Stone® SRW Large	6"	18"	12"	Rear Lip		✓			✓		✓				10.6°; 1.125" Per Course	24	32	2592
	Highland Stone® FSW Small & Medium	6"	12", 6"	9"			✓			✓		✓				Vertical	26.8	80	3280
	Highland Stone® FSW Large	6"	18"	9"			✓			✓		✓				Vertical	28.4	40	3480
	Lamina Tandem™	7"	15⅜", 18⅞", 21⅜"	2⅝"		Polypropylene Connectors or Modular Block			✓							0 / 4°	56.08	72	1666
	Mega Tandem™ 3-in-1 Wall System	12"	24"	3"		41", 22" & 7" Polypropylene Connectors			✓							2.4°	96	192	3029
	Melville Tandem™	7"	13⅜", 15⅜", 18⅞"	2⅝"		Polypropylene Connectors or Modular Block						✓				0 / 4°	70.1	90	2082
	Melville™ Wall	4"	20"	10"								✓				Vertical	26.66 SRW 53.33 FSW	48	3149
	Melville™ Wall Cap	2"	20"	13"								✓				Vertical	100 LF	60	2550
	Sterling®	6"	17¾"	12"		Fiberglass Pins				✓		✓				10.6°	33.3	45	3983
	Tandem Modular Block	7⅞"	7⅞"	7⅞"												N/A	49.29	128	2816

CASE STUDY: EAGAN MINNESOTA COSTCO WHOLESALE

Aggressive Timeline and Steep Grade Change
Prove No Match for Belgard® Diamond Pro® HD

- LOCATION:
Eagan, MN
- MANUFACTURED BY:
Oldcastle® APG, Inc., Northfield
- PRODUCTS:
Diamond Pro® HD, 8 x 18 x 12"
Mirafi® Geogrid - 5XT, 8XT, & 10XT
- COLOR:
Gray
- QUANTITY:
52,634 SF
- INSTALLER:
Structures, Inc.
- GENERAL CONTRACTOR:
Novak Construction
- PROJECT ENGINEER:
Joseph W. Kowalski, PE



Background

In 2019, Costco Wholesale set out to open a new 152,000 square foot warehouse and gas station complex in Eagan, Minnesota. Groundbreaking was in the spring with an aggressive completion timeline of seven months. However, the land selected had more than a 50-foot grade difference from the South to North end of the site, making a flat surface a challenge to create.

The Challenge

Elevation changes required seven segmental retaining walls of varying heights across the site, with the need to design two vehicle ramp accessways at either end. Adding to the challenge: the build had to be completed in less than 90 days to meet the grand opening schedule. Belgard® Diamond Pro® HD blocks (8" x 18" x 12") were chosen for the segmental retaining walls because they can be installed quickly, provided

the needed aesthetics, and offered the durability to withstand Minnesota's harsh winters. Diamond Pro is approved by the Minnesota Department of Transportation for its higher resistance to freeze/thaw degradation.

The Solution

The massive amount of earth being moved while block was being laid required materials that performed efficiently.

"The mechanically stabilized earth (MSE) walls constructed for Costco are comprised of alternating layers of compacted granular backfill affixed to the Diamond Pro wall face," explained Joseph Kowalski, Project Engineer. The MSE walls were backfilled using alternating layers of 8 to 16 inches of sand and gravel and Mirafi® geogrid reinforcement.

The geogrids are extended to near the face of the Belgard Diamond Pro HD blocks.

"The downward lip at the back of the Diamond Pro also provides an extra mechanism to easily connect the geogrid to the block," said Craig Vardy, construction manager of Structures, Inc., the firm responsible for constructing the MSE walls. "That's one of the reasons we enjoy working with the Diamond Pro block."

Vardy noted the natural texture and earth-tone colors blend easily into any environment while providing the needed stability. "It's all about the plant, how they produce the look and aesthetic, and needing to make sure that we get the block from a consistent run," he said. "The Belgard plant did a great job to make sure it matched up."

Kowalski agreed that the design and ease of Belgard Diamond Pro block was a big time-saver for this job. "They are ideal for demanding commercial applications like this," he added, noting that the block's cores were filled with an angular stone. The combined weight of the blocks and the stones pushing through some of the apertures in the geogrid keep the material firmly in place.

One of the two largest walls on the property is 1,350 feet long and approximately 30 feet high. The wall was designed to take the live load of large semi-trucks and firetrucks. The largest wall on site was 32 feet high, but not nearly as long as the other. It

retains the earth and supports the back, northeast corner of the warehouse. There are three different types of Mirafi geogrid in this section (5XT, 8XT, and 10XT), and the grids are 33 feet long where the building gets closest to the wall.

It's not that common to have walls that tall. We had no structural concerns, though, because we were working with good material and in accordance with the Federal Highway Administration's design methodology for wall design; it results in a resilient and conservative structure.

Joseph Kowalski, P.E.
Architect

Structures began construction of the walls in April of 2019, laying 1,000 sq. ft. of blocks a day, in a choreographed effort to meet the tight timeframe.

The Result

Costco opened its new facility on Friday, November 15, just in time for holiday shopping. "Building on a site like this with cast-in-place retaining walls would've been cost-prohibitive and many developers would not have attempted it," noted Kowalski. "The technology of these types of walls has become more advanced, and engineers are more aware of what can be done with reinforced soils."

For future segmental retaining wall projects of this magnitude, both Kowalski and Vardy stated they have the confidence in Diamond Pro HD blocks to bring the project in on time, with durability and aesthetics—even in the most severe climates.





AQUALINE 9" L-STONE

PROFESSIONAL SUPPORT



ENVIRONMENTAL SOLUTIONS

Belgard consultants can work with your team to develop the best PICP system design or retaining wall configuration to control runoff volume and discharge rates, improve the quality of local groundwater, reduce or prevent downstream impacts, and minimize the land consumed for stormwater management.



CAD FILES

For your convenience, Belgard offers a constantly expanding library of easy-to-download CAD files of our products and patterns.



CONTINUING EDUCATION

Belgard offers a variety of ongoing educational programs for our industry partners, including Lunch & Learns, online CEU courses, and our Belgard University training program.



SITE PLANNING

The experts at Belgard can help you optimize your site in a number of ways—whether you're looking for creative ways to define public spaces, manage or harvest stormwater, or increase the useable space for development.



ENGINEERING SERVICES

Our team of design consultants can help address both aesthetic and engineering design concerns, material quantity estimates and permit ready plans.

MIDWEST LOCATIONS



Oldcastle APG
A CRH COMPANY

One Hunt Court
Mundelein, IL 60060
Ph: 877-222-1557
FX: 847-816-9062
Chicago Land: 847-557-5008

901 E. Troy Avenue
Indianapolis, IN 46203
Ph: 800-424-0190

5190 Oster Road
Sheffield Village, OH 44054
Ph: 440-949-1167

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