KEYSTONE DIRECTORY





ISSUE 1 VOLUME 1 2004

RETAINING FOCUS



Superock Block 205-970-7676

Polar Supply Co. 907-563-5000

Superlite Block 1-800-366-7877

Keystone Group 1-800-545-0754

Angelus Block Co 909-328-9115

Basalite Concrete Products 1-800-350-5866

RCP Block & Brick 1-800-732-7425

Sierra Building Products 909-355-6422

Anchor Concrete Products 1-800-682-5625

On-Line Resources

LOCAL REPRESENTATION

• Worldwide Distribution

• Product Information

• Construction Details

• Technical Notes

• Design Charts

Specifications

• CADD Details

Photo Library

Installation

• Literature

Anchor Concrete 1-800-682-5625

Keystone Group 1-800-545-0754

Superock Block 205-970-7676

Keystone Group 1-800-545-0754

Tileco 808-682-5737

Amcor Masonry Products

208-522-6150 **Basalite Concrete**

RESOURCE CORNER

208-888-4050 **Keystone Pacific**

1-800-733-7470 **Best Block Company**

1-800-782-7708

Kirchner Block

Schuster's Building 1-800-424-0190

Best Block Company 1-800-782-7708

Concrete Products 712-252-4251

Capitol Concrete 785-233-3271

Miller Material 1-800-289-2244

Lee Brick & Block 859-254-3200

Premier Concrete 1-800-818-1069

Gagne & Sons 1-800-339-3313 Betco Block Company 1-800-486-4011

Hiway Concrete

A.Jandris & Sons 978-632-0089

Fendt Builders Supply 248-474-3211

Aggregate Industries 1-800-338-0016

Premier Concrete 1-800-818-1069

Kirchner Block & Brick

Miller Material 1-800-289-2244

Kanta Products 406-285-3261

Concrete Products 712-252-4251

Basalite Concrete Products 775-358-1200

Superlite Block 1-800-366-7877

New Hampshire **Keystone Northeast** 207-871-1185

Anchor Concrete

1-800-682-5625

Products

Northwest

NEW MEXICO Southwest Block 505-892-5858

Anchor Concrete Products 1-800-682-5625

Domine Builder Supply 1-800-836-2565

Keystone Group 1-800-545-5080

ENGINEERING & DESIGN SERVICES

• Final Stamped Plans - Registered in 48 States

• Education and Training Courses for Design of

• Seminars Available with Continuing Education Credits

• Preliminary Design & Estimating

• Design & Technical Assistance

• Design Software and Support

Segmental Retaining Walls

• Periodic On-site Representation

• CADD Details

Specifications

Contact Keystone to have a local representative provide you with updated technical binders and product information.

• Design & Construction Literature

Dakota Block 605-342-6070

Akron Brick & Block 330-628-2603

Wilson Concrete 937-885-3711

Dolese

1-800-335-9626 800.828.8093 **Keystone Pacific** Eagle-Cordell

1-800-733-7470 Bauer Block 724.297.3200

Domine Builder 1-800-836-2565

York Building 1-800-673-2408

Bloques Carmelo

787.251.9474 **Keystone Northeast**

1-888-447-1157

ON THE INTERNET

Keystone Group Keystone Pacific 1-800-545-5080

Dakota Block

605-342-6070

Keystone Group

1-800-545-5080

Superock Block

Concrete Products

713-691-0022

Jewell Concrete

254-772-3440

Amcor Masonry

801-936-7628

Products

Products

Bauer Block 1-800-242-1261

> Betco Block & 1-800-486-4011

Best Block Company 1-800-782-7708

Best Block Company 303-791-3334

Dakota Block 605-342-6070

Keystone Northeast 1-888-447-1157

HOW TO CONTACT US

1-800-747.8971

952-897.3858

| www.keystonewalls.com

Betco Block & 1-800-486-4011

INTERNATIONAL CUSTOMER SERVICE 952-897.1040



Keystone Supports The NFL

You've seen Keystone products perform perfectly in governmental, commercial, residential, recreational, and water applications. Have you ever thought about the famous sites around the world where Keystone technology and innovation is put to work? At its christening in the fall of 2006, the new Arizona Cardinals stadium will become the toast of the sports world, with its unique, one-of-a-kind design and Keystone will be there in support of the Arizona Cardinals football team — literally. A huge Keystone wall system will provide added support for the massive foundation area.

Bruce Basehore, Keystone Sales Representative with Superlite Block in Phoenix. Arizona, was excited to share news on a spotlight project that recently began in Glendale. He reports that over 110,000 square feet of the Keystone Compac II System will be installed as part of the new Arizona Cardinals' Football Stadium.

After more than two years of negotiations, construction recently began on the award-winning stadium design. Sure, this is a combination government-commercial-recreational application, but this is one

"What's unique about this particular stadium," Basehore notes, "is that it not only has a retractable roof, but its design calls for a retractable field as well." Basehore goes on to comment that the natural grass field will be constructed on a 5500 ton tray resting on 11 railroad tracks. This enables the playing field to be transported to the outside, where it will stay 95 percent of the time, while the permanentfloor free space is used for other stadium events. This stadium is the first of its kind, and how appropriate that Keystone, the nation's foremost segmental retaining wall in the marketplace, is to continue its innovative excellence as part of this major NFL project.

"Where the Keystone system plays its part will actually be below the field, and underground," Basehore explains. "The stadium floor itself is actually 40 feet below grade and supported by concrete caissons. The Keystone retaining wall will surround the caisson and foundation area, and will sustain the significant transfer load from the stadium's outer walls where the spectator seating begins at

Basehore sums it up by stating, "Basically, stadium construction is starting in a hole, and the two, 20-foot terraced Keystone walls will make sure the earth doesn't move even if the Cardinals win their way to a Superbowl!" If you'd like to view the construction progress of this project, you can see it via a real-time webcast www.azcardinals.com/stadium/cam.php. The video streaming may take a few minutes to download, but you'll be able to watch the building process as it happens.





Keystone Retaining Wall Systems -Where Excellence is the Standard

For almost two decades, Keystone Retaining Wall Systems has set the bar for excellence, innovation, and technology within the industry. Keystone represents the worldwide standard in soil retention, erosion control, and landscape systems. Offering a wide range and variety of products, Keystone leads the marketplace in segmental retaining wall performance, as well a aesthetics.

As an industry leader, Keystone has always been a product of the energy, passion, and focus of the people that promote it. Keystone works with the best network of product developers, engineers, sales professionals, and manufacturers in the business. They ensure that Keystone offers only the best in site solutions for residential, commercial, recreational, industrial, and governmental applications on the market.

We also offer technical support, so with every Keystone wall system comes the assurance that you'll receive not only the best in products, but outstanding customer service and assistance as well.

If you are not already familiar with the quality and value in Keystone Retaining Wall Systems products and services, please visit us on the web at www.keystonewalls.com, or call 800-747-8971. We would be happy to connect you with a local sales representative or distributor.

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QUESTIONNAIRE

KEYSTONE DIRECTORY

RESOURCE CORNER

Our Enhanced Web Site is Your Best Resource

The Keystone web site has always been a useful source for all of your questions about retaining wall products and services. We are currently updating our web site, adding features to provide vou with valuable details on Keystone products and technology. Our revised web site will make it even easier to get the information you want when you want it – right at your fingertips.

When launched, our new site will be designed for easy navigation and access to product design and installation information, enhanced application images and ideas, and manufacturing locations. We are creating separate portals for designers, contractors, and homeowners, to quickly connect you with the specific tools you need.

You can quickly download product specifications, literature, or even our latest company newsletter. Our web site will also feature the ability to download CADD® details directly into your own documents using your computer's CADD software.

The internet has given us the ability to give you immediate answers to all of your questions about Keystone walls and will enable us to provide you the utmost in technical support and service.

Please watch for our enhanced site to launch in early 2004. We look forward to having you visit our web site to view the latest enhancements in Keystone technology.

Just remember, our current site is available and can presently provide you with great information and resources regarding

www.keystonewalls.com

Keystone Offers Accredited Seminars

AIA | The American Institute of Architecture

Keystone Retaining Wall Systems is an American Institute of Architects (AIA) accredited provider of Continuing Education Credits (CEUs).

Throughout the United States, we offer training seminars that can help architects understand and solve site issues. These seminars are filled with useful information for the engineer and general contractor, as well.

NCMA | The National Concrete Masonry Association

In October of 2003, NCMA introduced a new designation program for individuals who primarily install retaining walls. Keystone was one of the first to offer accredited NCMA Certified Installer Program courses.

For further information on accredited seminars hosted through Keystone, please contact us at 800.747.8971 or visit our web site at www.keystonewalls.com.







KEYSTONE

SEMINARS



Minneapolis, Minnesota 55435

U.S. POSTAGE PAID KSN

PRSRT STD

MARKETING OPPORTUNITIES

KEYSTONE CASE STUDY ENTRY

Would You Like to Have Your Project Become a Featured Case Study?



If you have a unique Keystone wall project, why keep it to yourself? Especially when you have the opportunity to show off your business to a wide audience, maybe even a national one.

Our marketing team will take your project details and observations, and turn them into a marketing piece – a Keystone Case Study. You'll be able to use this Case Study in presentations or sales calls to current and prospective customers, showing them your capabilities in site solutions using Keystone products.

Your Case Study will also provide Keystone with the opportunity to showcase our technologies, along with your business, to a national audience. We routinely submit Keystone Case Studies to industry and trade publications, which are picked up as spotlight advertorials or story content. We currently have 2004 space reserved in monthly issues of Builder Magazine, exclusively for project case studies.

Please contact Marybeth Reed, at 952-837-8203 or mreed@keystonewalls.com to discuss your unique Keystone project and the possibility of turning the details into a Keystone Case Study – a valuable advertisement for you and your work.

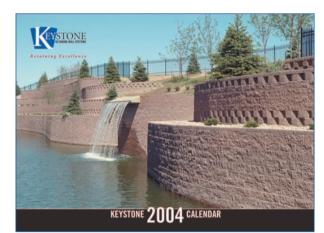
KEYSTONE CALENDAR ENTRY

Showcase Your Project in the Keystone Calendar

With a growing distribution, currently over 25,000 world-wide, the Keystone Project Photo Calendar is a popular and anticipated item each year. Our calendar is filled with dozens of project photos and details that give the viewer a roster of the key team members for each project that is showcased by the month (Keystone supplier, designer, contractor, installer, engineer, etc).

The annual Keystone Project Photo Calendar is a perfect way to get free publicity for the Keystone work you do. Each year, we review numerous project images and make selections for each of the monthly layouts based on project scope and scale, regional sites and themes, and unique applications. We also consider points like colors, textures, and photo quality.

Our photo calendar is a great sales and marketing tool for your business and for the Keystone brand. If you are interested in submitting Keystone project photos for potential publishing in our yearly photo calendar, please contact Elizabeth Drogseth at edrogseth@keystonewalls.com or call 800-747-8971.



NEW PRODUCT SHOWCASE

Keystone Century Wall

Old-World Charm on a Grander Scale...

Keystone Century Wall takes its place in the market where there has been a void. Large capacity, heavy-load applications just beg for a little classic beauty and grace to accompany their need for strength.

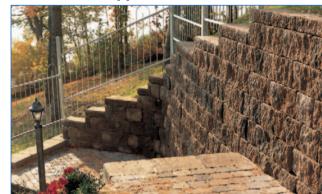
Crafted specifically for taller wall structures and heavy-loading conditions, Keystone Century Wall offers the distinctive appearance and character of a random-pattern, natural stone wall with the structural integrity, performance, and environmental friendliness of concrete. This wall is easy to install and also offers the design freedom to create curves, corners, serpentine and near-vertical walls, tiers and more.

With a quaint and old-world feel and superior strength, Keystone Century Walls rise to heights greater than 40 feet, with proper soil reinforcement.

Watch for further news on this extraordinary new product as we continue to launch marketing and technical materials.

KEYSTONE

Century Wall.



CASE STUDY

Stevenson's Drury Quarry Auckland, New Zealand

PROJECT: W. STEVENSON & SONS

UNITS USED:

PRODUCT: KEYSTONE STANDARD UNITS

17,072

DRURY QUARRY

SQUARE METERS: 1,552 M2

MAIN CONTRACTOR: PREMIER CONSTRUCTION LTD.

SUB CONTRACTOR: ICB RETAINING WALLS
CONSULTING ENGINEERS: PETERS & CHEUNG LTD.

roads, concrete aggregate, paving, and construction.

The W. Stevenson & Sons' Drury Quarry is one of the largest aggregate suppliers in New Zealand. With four loaders dedicated to loading up to 500 trucks daily, the quarry supplies groupelles and which is used as been motiviled in

But it came time to grow even bigger. After four years of research and development by Steve Ellis, Stevenson Quarries' Divisional Manager and his team, the updated Drury Quarry was designed. This quarry would improve productivity and increase the range of products they could

"We looked at what people were doing in Europe, the United States, and Australia over a three year period and made our conclusions and decisions based on what we learned," explained Ellis. "We were able to combine innovation and best-practices gathered from our research into various quarry operations worldwide." Ellis and his team discovered that there were massive gains to be made in productivity and quality – up to three times the previous levels. "This project brought together the latest technology in construction and in quarrying performance and we certainly feel we came up with the right combination," Ellis firmly noted.

Peters and Cheung were the consulting engineers charged with designing and developing the multi-level site, as well as providing geotechnical assistance.

The first part of the development was substantial earthworks and retaining at the site. Premier Construction was the main contractor on the project, assisted by ICB Retaining Walls who constructed the massive Keystone retaining wall system. There were a number of design considerations that made this expansion project no simple task. Aesthetically, an existing wall needed to be considered while trying to tame the 35 degree back slope. Because the existing site was to be upgraded and not built from scratch, space issues led to some complex geometry in the tight radii of internal and external curves needed to wrap around existing quarry equipment. Furthermore, the wall would reach 11 meters in some areas, so key aspects of the design included determining safe cut slope angles and carrying out slope stability analysis.

Additionally, the wall was required to resist static loads of up to 200 tons from the primary crusher, where huge boulders are transported and pass in the first phase of the rock crushing process. From the primary crusher, manageable-sized rock is then able to be processed through a secondary crusher and graded into useable aggregates for road ways, drainage, and concrete manufacture. It was also required that the wall bear the static and live loads of the heavy trucks.

Another challenge for designers Peters & Cheung was New Zealand's seismic activity. New Zealand is situated at the juncture of two tectonic plates, the Australian Plate and the Pacific Plate, whose collision is responsible for New Zealand's beautiful and mountainous landscape. It is also the reason that the Alpine Fault runs the length of New Zealand's south island, marking a prime area for earthquake activity.

The huge scope of the project called for a construction solution that was strong, stable, and cost effective.

Since Stevenson company is a producer of Keystone retaining wall products, it would seem that the use of Keystone was a foregone conclusion for this project, but engineering/design consultants, Peters & Cheung, were most interested in providing the optimum solution for the W. Stevenson & Sons Drury Quarry. "The key properties of Keystone - strength, design flexibility, easy installation, and cost effectiveness - were further enhanced by the aesthetic and environmentally-friendly solution it provided for this application," noted Ka-Ching Cheung, of Peters & Cheung Ltd. "And an extra benefit," he added, "was the great welcome, support, and collaboration we received from the Keystone team." Mr. Cheung also stated that the wall was able to be built vertically without the need for setback, resulting in smooth curves, and concluded that the Keystone wall has been performing remarkably well under the very heavy machine and dump truck loading.

The specific requirements of the design called for a construction system that was able to work with the existing structures, as well as the geographical characteristics of the site and the Keystone system was able to provide this.

"We are over the moon about this new facility," adds Steve Ellis. "It certainly secures our future as one of the leading quarrying organizations in the world."



CASE STUDY

Lake Sumter Landing Lady Lake, Florida

PROJECT: LAKE SUMTER LANDING AT THE VILLAGES

KEYSTONE PRODUCT: KEYSTONE COUNTRY

Units used: 17,072

SQUARE FEET: 40,000 SQ. FT.

CONTECH PRODUCT: CONTECH SUPER-SPANTM

GENERAL CONTRACTOR: STEVE COUNTS, INC., BELLEVIEW, FLORIDA

HEADWALL CONTRACTOR: ACP, INC.
TAMPA, FLORIDA

LANDSCAPE ARCHITECT: JIM HOLDEN

OCALA, FLORIDA
ENGINEERS: FARNER BARLEY

KEYSTONE REPRESENTATIVE: THE KEYSTONE GROUP,

LADY LAKE, FLORIDA

MARIETTA, GEORGIA

The Villages at Lady Lake is part of the revolutionary planned-community trend that has taken the housing industry by storm over the last few years. These all-inclusive, built-from-scratch towns offer all the amenities of small town life and seem to virtually crop up overnight in land areas that appear too challenging for residential construction. The Villages at Lady Lake sit on 1.4 million acres of sandy Florida soil and provide living, entertainment, medical, shopping, and recreational facilities all within a golf cart's drive from one of the seventeen 18-hole golf courses situated on the development site. In 2002, The Villages at Lady Lake was crowned the fastest growing development in the United States.

This site expansion and development called for two bridge structures to support a heavily-traveled county highway system. As part of the original bridge design, a precast structure had been selected to be installed on deep piles due to the very poor foundation soils. Instead, Contech, Inc., proposed a ten-barrel, horizontal-ellipse Super-Span™ system that

required only minimal subgrade remediation. Super-Span structures are site-assembled from pre-formed corrugated steel plates and employ concrete thrust beams that mobilize soil support in the upper portion of the structure. This system offered significant cost-savings and other benefits for the developers. After installation, the thrust beams stabilize the span to prevent horizontal spreading of the top arch and provide shape control. Once this solution was accepted, Keystone segmental retaining wall system headwalls were recommended and used to surround the Contech bridge structure.

The Keystone Group out of Marietta, Georgia, worked in tandem with Contech to provide an efficient, cost-effective, and attractive bridge structure. Because the look and feel of this planned-community is vintage small-town Americana, Keystone Group offered the Keystone Country Manor system as an easy to install headwall option providing an old-world, random-pattern appearance.

Because the Keystone Country Manor units are textured on three sides, they offer the ultimate in design flexibility. Free standing walls, curves, corners, columns, serpentine configurations, stairs, tiers, and more can be readily incorporated into any design when using the Keystone Country Manor system. With proper reinforcement, this random-pattern wall system can also rise to heights in excess of 20 feet.

In this project, the Keystone Country Manor system's handlaid stone appearance allowed The Villages of Lady Lake developers the ability to continue their vision of quaint charm on the planned-community site. But what they really loved about this wall was the \$1.2 million in savings they found over the original, precast design!

Drew Abel of the Keystone Group in Florida offered more detail on the project. "The whole area feels like a 200 year old port town, like something you'd find in the New England area, except the weather is better." Abel states that the individual bridge spans are 565 feet and 424 feet, with the Keystone Country Manor headwall heights ranging from 22 feet to 30 feet. "The design for the bridges included a 32-foot, reinforced parapet wall where fishing will be encouraged," he adds. "These bridges each offer a lane for cars, a lane for golf carts, and a pedestrian/bicycle lane. With the fishing parapet, this is certainly a multi-service bridge handling heavy vehicle and pedestrian traffic in and out of the rustic town center area," Abel concludes.

The project utilized 40,000 square feet of the 6-piece Keystone Country Manor System in the Colonial Blend – over 100 truckloads of units. The final results were two long-span structures, supporting eastbound and westbound traffic, which were reminiscent of classic, early-American, hand-masoned stone arch bridges, but provided all the structural integrity and performance of today's concrete technology.





CONSTRUCTION PRODUCTS INC



QUESTIONNAIRE

Fax, email, or mail your updated infomation

Keystone Retaining Wall Systems. Inc. 4444 West 78th Street Minneapolis, Minnesota 55345

Tel 952.897.1040 Fax 952.897.3858 800.747.8971 edrogseth@keystonewalls.com

Retaining Excellence

Enter to win a Keystone Nike Windvest, by taking a moment to give us your input.

Name Company Address

City State

Email

Phone Fax

1. Do you spec or install Keystone products on a regular basis?

Yes
No

2. Please list the specific Keystone products that you use:

3. Which other retaining wall product brands have you used?

4. What are your reasons for choosing brands other than Keystone?

AVAILABILITY

BETTER FAMILIARITY WITH OTHER BRANDS

EASE OF INSTALLATION

DESIGNER SPECIFICATIONS GENERALLY NAME OTHER BRANDS

OTHER

Yes

5. Would you like us to send you more information about Keystone or any Keystone product?

6. Would you like someone from Keystone to contact you?

IF YES, PLEASE SPECIFY PRODUCT(S):

Yes No Comments:

7. Would you like more information about Keystone accredited AIA CEU courses or Keystone sponsored NCMA Installer Certification seminars?

COMMENTS:					

Please complete the entire form to be entered to win.

*The information you provide is for Keystone use only. It will not be sold to or shared with other organizations.



Have You Seen the New Keystone Logo?

Our new logo represents the standard for excellence we have set for ourselves. It represents our continued commitment to raising the bar within the industry.

It represents the passion, energy, and focus of Keystone employees in developing the ultimate products, technology, and services.

It represents the innovation and creativity that maintains our industry-leading position and drives us confidently

The new Keystone logo stands for retaining excellence.

and successfully into the future.

Retaining Excellence
www.keystonewalls.com

www.keystonewalls.com 800.747.8971

