

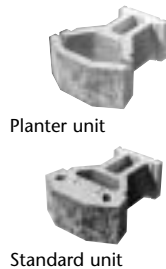


▶ CASE STUDY: GOLF COURSE SITE DEVELOPMENT

Keystone! The right form & function for site solutions at Gale Ranch.



Keystone site solutions include headwalls at tunnels, roadway support, terraces and planter units for landscape amenities.



The vast and beautiful **Gale Ranch** community is located in **San Ramon, CA**. This new development includes large custom homes, apartments, townhomes and condos, in addition to a prestigious world-class golf course.

The initial 4-phase development plan included reinforced slopes throughout the site. **Mike Taylor**, the senior project manager and principal designer with **Ruggeri - Jenson - Azar & Associates**, suggested using the alternative of retaining walls to prevent encroaching on the numerous small creeks throughout the site, and to withstand the lateral loads impacting the toe of the slope near the clubhouse.

Initial thoughts were to use reinforced masonry walls with

- ▶ **PROJECT:** Gale Ranch Dev. - Phase 1
- LOCATION:** San Ramon, California
- PRODUCT:** Standard and Planter units
- SQUARE FOOTAGE:** 30,000 sq. ft.
- GENERAL CONTRACTOR:** Independent Construction
- ENGINEERING CONSULTANT:** Mervell Engineering
- ARCHITECT:** Ruggeri-Jenson-Azar & Associates
- DEVELOPER:** Shapell Industries
- KEYSTONE REPRESENTATIVE:** Basalite Corporation
North Highlands, CA

veneering to match the clubhouse. However, due to a proven reputation, economic advantages, and previous successes in the area, the **Keystone Retaining Wall System** was selected by developer **Al Balogh**, with **Shapell Industries**.

The retaining structures were designed by **Mike Merrill** of **Mervell Engineering**. A key feature with the Keystone System is cost effective construction. **Independent Construction** owner **Brian McCosker** along with **Stuart Campbell** provided this essential element, in addition to stunning construction results.

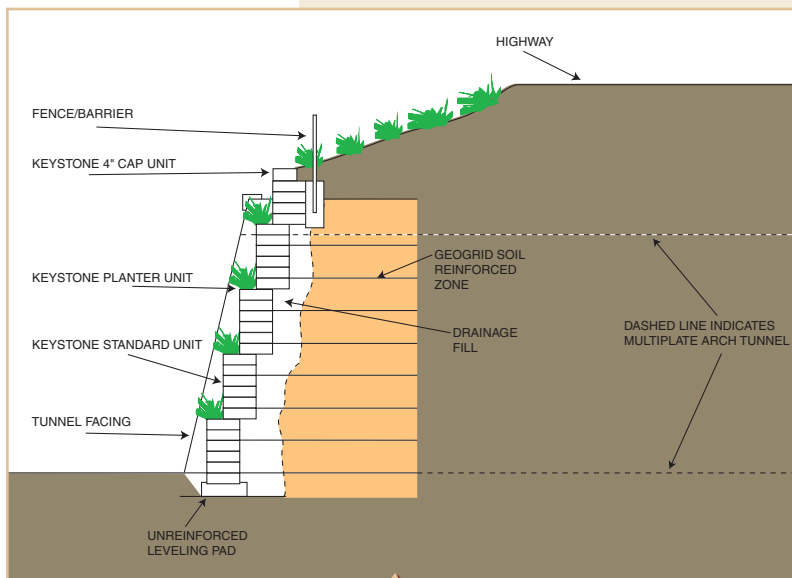
Basalite Corporation, Keystone's manufacturer/representative in North Highlands, CA, supplied approximately 30,000 square feet of units to create the walls for Phase I. There will be over 100,000 square feet of Keystone used on the site when it is complete. Phase I also included seven multiplate arches supplied by **Contech Construction Products, Inc.** Three of these arches help support **Bollinger Canyon Road**, the main thoroughfare for the community.



Combination of reinforced slopes and Keystone walls at clubhouse.



Planter unit and terraces add landscape amenity to structural walls.



Typical cross section at tunnel planter wall.

Additionally, the **Keystone Planter Units** were used to enhance the walls by allowing elaborate landscaping to combine with the natural rockface Keystone units.

Phase I required nearly **18 million cubic yards** of soil be moved on the site before construction. Over **32 million cubic yards** of soil will be excavated before the project is complete, making **Gale Ranch** the largest site improvement project to date in northern California.

