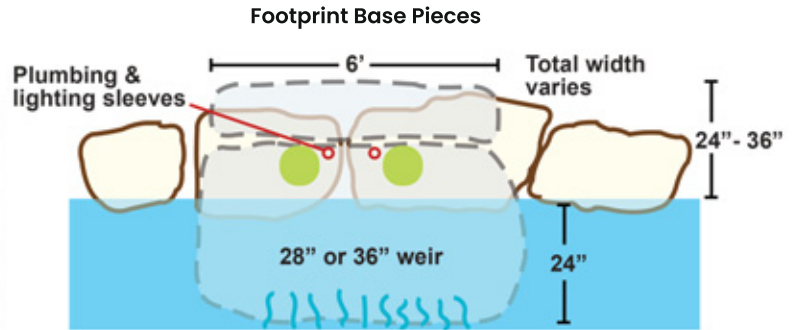
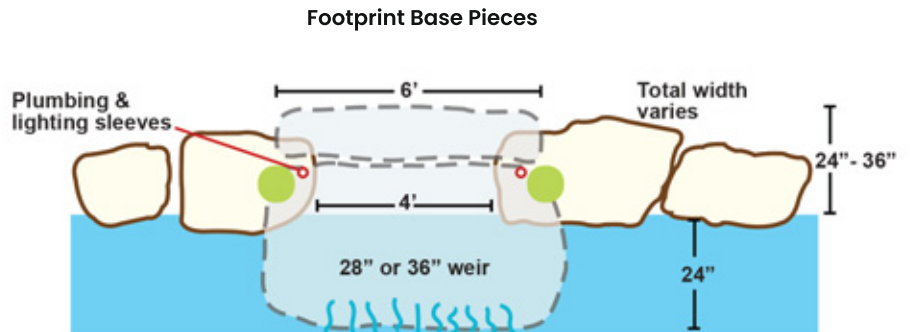
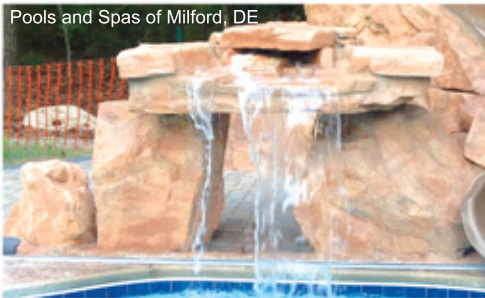


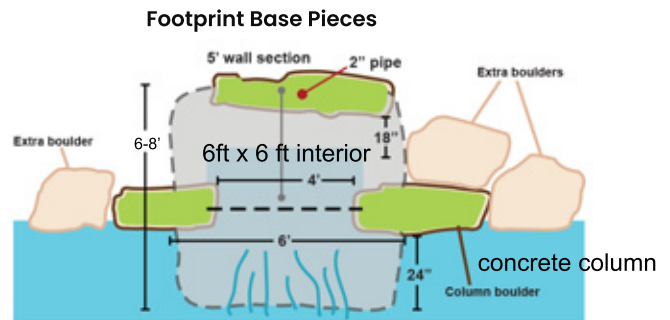
Simple Grotto



Tunnel Effect



Component Mini-Cave

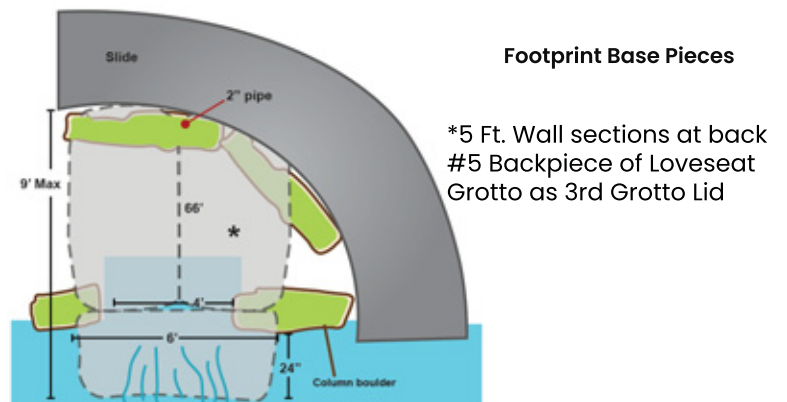


front column rocks and back wall are filled with concrete on site, steel frames in kit

Extended Version



Genco Pools, NC



*5 Ft. Wall sections at back #5 Backpiece of Loveseat Grotto as 3rd Grotto Lid

Columns/Walls: all 42" high

All Component Columns come as two pieces, in some situations only one half is needed and the backside can be be pegboard or plywood as a form, against a slide for example. All Columns are 42 inches high; the top weirs and pieces

are from the Loveseat Grotto kit. The Simple configuration does not get castings 1, 2 and 3. The Mini-cave version gets extra grotto lids. The Extended version requires more flat ledgers to cover the top area.



CS 36"
36" wide, 24" deep, 42" high



CS 48"
48" wide, 24" deep, 42" high



CS BC
27" wide, 22" deep, 42" high



CS FAT
60" wide, 44" deep, 42" high



CS 5FT WALL
60" wide, 20" deep, 42" high



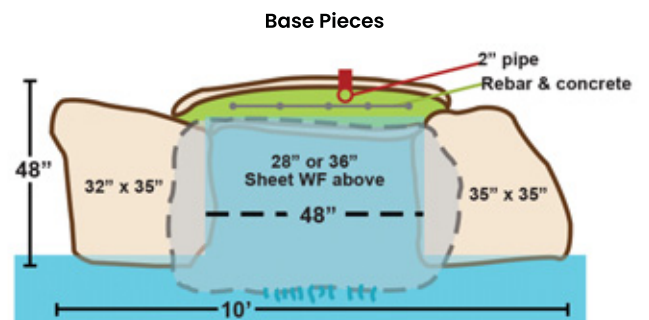
GROTTO LID, TOP, WEIR: 28" OR 42"

Loveseat Grotto



42" WEIR AVAILABLE INSTEAD OF STANDARD 28"

This structural waterfall has a 4 ft back wall that must be anchored into a gunite pool wall or a separate footing must be poured for fiberglass or vinyl pools. The side boulders appear to hold the ledger but are not structural so they can be placed as needed.



Construction



This new system for grotto construction using steel reinforced concrete is far easier than previous models or full custom applications. HOWEVER experience with reinforcing rebar, concrete placement, cutting of masonry products, mortar skills, and coloring techniques are all needed; plus some enthusiasm for 2 or 3 days of hard work. Tech support is extra and available on a limited basis.

Dealers are responsible for local codes and local conditions. Codes vary widely across the US and the local HOA may have rules if a grotto is considered a Structure. Engineering of similar grottos is available but no wet stamp sets are available from RicoRock and the pool engineer should also consider the surcharge of 8,000 lbs of concrete on the pool shell. Bonding is often the only requirement.



Pools and Spas of Milford, DE

Mark Henderson of Pools and Spas of Milford (DE) installed a Component Grotto as a Tunnel Effect, probably to provide a shortcut to the slide staircase which was built using Modular Staircase pieces backfilled with concrete.



Both sides of the Inter-fab 15 Ft Garden Ride slide were encased with rockwork, Rushmore panels were backfilled with concrete, using pegboard as an inside form.



Genco Pools, NC

Genco Pools (NC) had Ken Gibson build a Component Grotto, Extended Version so the cave effect goes all the way to slide. This design requires 3 grotto lids and some cutting to make it fit the curve of the slide.



Castings backfilled with concrete encase the backside, gaps against the slide were hand textured for a built-in look. Eight yards of concrete were used including filling the Modular Staircase castings.

Tools Needed

- Rebar Benders for #3 and #4; RicoRock sells small specialty benders for precise bending but not critical.
 - Hammer Drill for concrete, 5/8 bit recommended.
 - Bolt Cutters or other means of cutting rebar.
 - 4-inch or larger side Grinder for cutting castings as needed.
- Instead of cutting, holes can be drilled to create a break point—less dust, important if working in a covered area.

Materials Needed

- Gloves for handling castings; a dolly is nice for heavier pieces about 150 lbs.
- #4 Rebar for footings or dowels, splices, and 5 Ft Wall if used. Grotto lids come from RicoRock with steel rebar welded in place; columns with four #4 rebar are provided for each Column.
- Tie wire for splicing rebar.
- Epoxy or anchor cement for securing dowels into deck or slab.
- Metal lathe for gaps larger than 1/2 inch; sometimes newspaper is used for small gaps to prevent concrete spills.
- Foam, EPS foam pieces or slabs save on concrete and weight.
- 2x4" lumber for bracing grotto lids; the shipping pallets work well in some cases.

- Truck straps for strapping columns before concrete backfill.
- Typical masonry and concrete trade tools like wheelbarrows, buckets, hoses, trowels, masonry hammer, sponges, and brushes.
- **GOGGLES AND FACEMASKS** are recommended for any cutting and drilling of concrete including cast rock.

- PVC for return pipe.
- 3/4 blue flex or similar for light sleeves to interior and top of the grotto.
- Concrete mix, 3000 psi recommended. 4 or 5-inch slump will minimize blowouts. Quantity needed depends on the configuration of the grotto.
- Mortar mix may be needed to secure additional rocks although small stones can be secured with construction adhesive.
- In applications with Waterslides, it is important to have a good selection of random foam filled boulders that can be cut and placed as needed OR hollow cast rocks that can be cut and backfilled with concrete as needed.

Optional Tools

- Texture Mat and Release Powder
- Stains (Kit comes with a touch up kit but quarts needed for major coloring changes.)

Construction Sequence: requires rebar dowels & concrete backfill



1. Columns are clam shell pieces wired to a rebar column, part of kit.



2. 5 Ft Wall sections are wired to rebar frame as back of cave.

Plumbing return goes here also.



3. Columns should be strapped and braced before filling with concrete.



4. Fill with 3000 psi concrete mix. Foam can be used as filler.



5. Place Grotto Lids, cut as needed. Splice steel. Brace.



6. Top requires 1 yard of concrete. Note T brace under front grotto.



7. Place weir in fresh concrete or mortar the next day.



8. Set weir level left to right; draindown feature included.



9. Extend plumbing into basin; set additional small boulders as needed.