SUGGESTED UNDERWATER PROFILES

For

DIVING ROCKS

By LEIF ZARS

11/19/01

BASIC PREMISE:

A conservative steering effort of 1 G was used in all calculations regarding my suggested underwater profiles to accommodate a dive from the edge of a pool from a stable platform from certain heights – basically referred to as a dive from "Diving Rocks".

THE RANGE:

Heights above the normal pool water level of 6", 12", 18", 24", 30", and 36" were used.

THE LOCATION:

All dives were calculated as beginning from the water's edge – i.e. no overhang.

THE GEOMETRY:

Calculations were based on the mathematics used in Dr. Stone's work on diving geometry. A 1 G response curve was then added thereto to indicate the possible reasonable limits of such dives.

THE PROFILES:

The attached profiles show both the underwater curve generated by a 1 G recovery effort from each of the diving heights as well as the suggested minimum profiles we use for each.

THE TABLE:

The following Table lists the dimensions we use in sizing underwater geometry to various diving rock heights. The "Minimum Depth" occurs at the "Distance Out" which is accompanied by the "Typ. Radius" between the vertical wall and the pool floor at that location. The "Overall Length" is the distance out from the vertical wall, at which point the "Shallow Depth" is the minimum desired for each profile. A straight line is designated between the "Minimum Depth" and the "Shallow Depth". Again, this represents the minimum geometry we use.

DIVING ROCKS - SUGGESTED UNDERWATER PROFILES

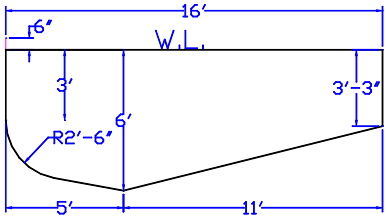
Rock Height	Rock Overhang	Minimum Depth	Distance Out	Overall Length	Shallow Depth	Typical Radius
6"	0"	6'	5'	16'	3'3"	2'6"
12"	0"	6'6"	5'	17'	3'6"	3'0"
18"	0"	7'	6'	18'	4'0"	3'6"
24"	0"	7'6"	5'	19'	4'0"	4'0"
30"	0"	8'	6'	19'	4'9"	4'0"
36"	0"	8'6"	6'	20'	5'0"	5'0"

Rocks are assumed to be firmly in place and provide good footing to facilitate a straight forward dive.

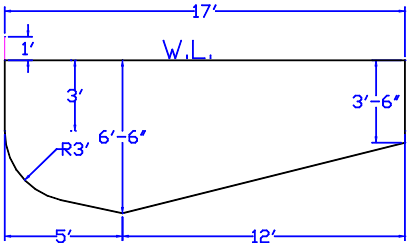
The above dimensions are predicated on a conservative 1 G steering effort on the part of the Diver.

Desired horizontal dimensions from centerline are not addressed in this work Similar dimensions as contained in NSPI 5 Standard for Residential Pools should prove appropriate as based on our experience.

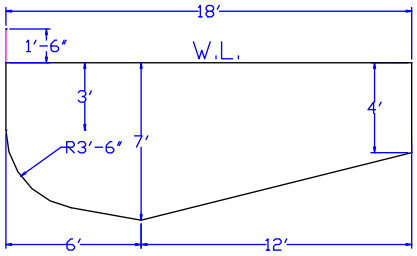
Diving Rock 6″ High



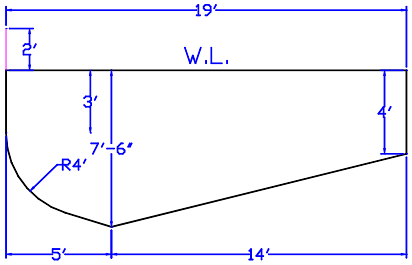
Diving Rock 12″ High



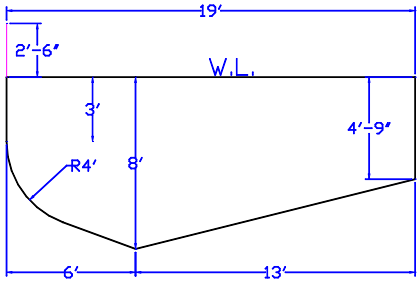
Diving Rock 18″ High



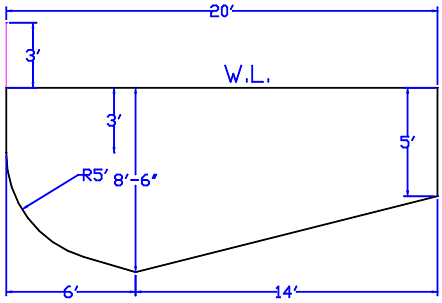
Diving Rock 24″ High



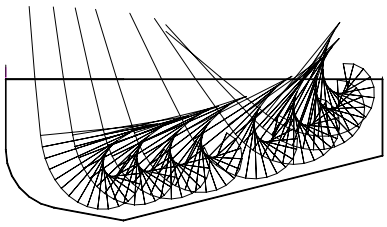
Diving Rock 30″ High



Diving Rock 36″ High



Diving Rock 6″ High



UNDERWATER CURVES GENERATED BY 1 G STEERING EFFORT

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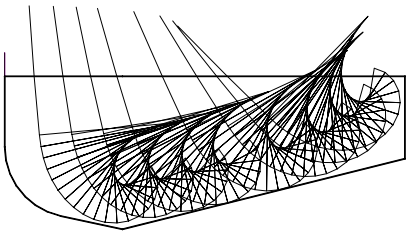
Diving Rock 12″ High



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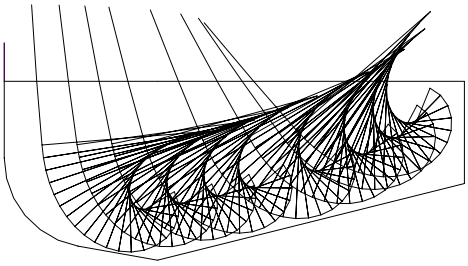
Diving Rock 18″ High



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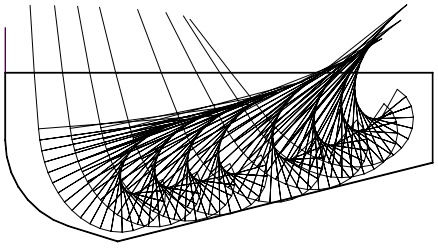
Diving Rock 24″ High



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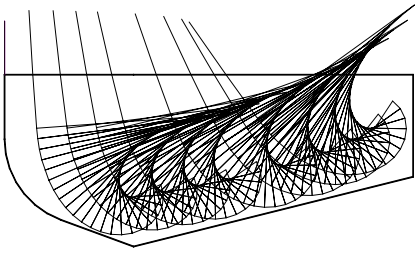
Diving Rock 30″ High



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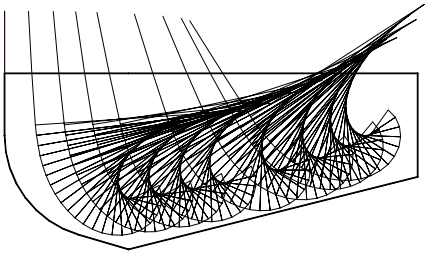
Diving Rock 36″ High



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