

**LASSEN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT
CONSTRUCTION PLAN APPROVAL PROCEDURE
FOR PUBLIC SWIMMING POOLS AND SPAS**

California Health & Safety Code, Section 24101.1 requires that a plan approval must be obtained from the Lassen County Environmental Health Department before constructing, reconstructing, or altering a swimming pool or ancillary structure or equipment in any manner. The following is required to process and approve swimming pool or spa plans as well as to obtain final approval prior to its use:

1. Submit one (1) set of detailed plans and specification.
2. The plan must include sufficient information to demonstrate compliance with California Health & Safety Code, California Code of Regulations & Uniform Building Code.
3. The applicant will be notified after the plan has been reviewed and approved or rejected. Plans that are incomplete, need significant changes or otherwise are not approved will be returned for revision before approval may be granted.
4. When the plans are approved, the applicant must provide an approved set of plans to the Building Department for their review and approval.
5. If any changes on the plans are desired, after approval has been obtained, additional written approval from this Department must be obtained for such changes. (Amended plans shall be required).
6. By law, building permits for swimming pool/spas are not to be issued until plan approval has been obtained from the Department of Environmental Health.
7. The swimming pool/spa shall not be open for use until final approval is granted by the Department of Environmental Health and current Public Health Permit fees are paid. (Building Department final approval must be granted).

PLANS MUST INCLUDE THE FOLLOWING:

1. Name of pool builder – address, phone number, and fax number.
2. Project name and job site address - street number, city & zip
3. Plan of entire project site/tract map (including all building structures and roads).
4. Plot plan, deck detail and pool enclosure
 - A. Location of pool, filtration equipment, and backwash disposal
 - B. Location, floor plan and finish schedules for ancillary structures, restrooms and showers
 - C. Deck details
 1. Dimensions
 2. Pool/spa location
 3. Type of deck drainage
 4. Deck material
 5. Enclosure details (i.e., fence, gate, building wall) of structures surrounding the pool area. Show a profile view of each structure to scale.
 6. Hose bib location(s)
5. Pool/Spa Structure Details

A. Scale – plans must be drawn or printed in ink, on paper of sufficient dimensions to allow for all approval notes and stamps without obscuring any portion of the submitted drawings (e.g. 17 inches x 22 inches)

1. Swimming pools 1/4 inch = 1 foot (top & profile view)
2. Spa pools - 1/2 inch = 1 foot (top & profile view)

B. Specifications

1. Dimensions
2. Surface area in sq. ft. and pool capacity
3. Volume in gallons

C. Diagrams - profile view (see figures 31B-1, B-2, B-3, and B-4).

1. Length and depth
2. Safety rope anchors, if required
3. Stairs with tread and riser dimensions
4. Gutter systems
5. Diving board, if any

D. Diagrams - top view

1. Geometric dimensions
2. Equipment layout
3. Skimmer(s), equalizer(s), split main drains, returns, etc.
4. Pipe sizes and type of pipe material
5. Stairs, ladders & handrails
6. Contrasting tile at 4 1/2 ft. depth, if required

6. Equipment list - include make and model number and also, list on plans. **NOTE:** Equipment is to be *ANSI/NSF* approved or on the Los Angeles County approved swimming pool equipment list.

- A. Filtration pump - type, rate of flow
- B. Filter – type, square footage
- C. Skimmer(s)
- D. Anti-entrapment covers
- E. Chlorinator
- F. Flow meter

7. Other items to be shown or listed

- A. Location of depth markers
- B. Type of coping (show dimensions)
- C. Safety rope and anchors, if required.
- D. Pool light
- E. Fill line
- F. Backwash disposal method
- G. Solar heater system detail, if installed
- H. Effluent and Influent Gauges
- I. Spa emergency shut off switch
- J. Main drain covers

8. Safety Equipment and Signs. **NOTE:** Signs are to be easily visible from pool and spa. Safety equipment is to be readily accessible.

- A. Approved Signs (all with minimum 4 inch high lettering)

1. No Lifeguard/child supervision warning sign
2. Illustrated artificial respiration sign
3. Emergency phone number (911) sign
4. Occupant capacity sign (pool & spa)
5. No Diving sign, if needed
6. Spa warning sign
7. Emergency shut off switch sign (spas)

B. Approved Safety Equipment

1. Body hook on at least a 12 foot pole
2. Life ring with rope attached

C. An approved pool test kit

NOTE: See #17 (Spa - Special Requirements).

CONSTRUCTION GUIDELINES

All pools shall conform to the requirements of Chapter 31-B, Title 24, *Public Swimming Pools, California Code of Regulations*. This guideline is intended for the construction of general use pool(s) and spa(s). Please contact this Department for further details if your pool varies from the standard construction.

1. STRUCTURE

- A. All swimming pools must be lined with white plaster or other approved finish materials. If tile is used within a pool or spa, a sample of the tile must be submitted to this department for approval (except water line tile). Designs shall NOT be permitted on the pool shell.
- B. Swim outs, islands, *benches*, recessed areas or projections are NOT permitted.
- C. Water depth at the shallow end of the pool cannot exceed 3 ½ feet.
- D. All swimming pools must have a minimum width of 15 ft. at the main drains. At no point shall the body of the pool be less than 12 feet in width.
- E. The slope must be no greater than 1 ft. vertically in 10 ft. horizontally. For pools with a break in slope, the slope must be no greater than 1 ft. vertically in 3 ft. horizontally through the break. All slopes must be continuous and uniform. Pools less than 6 ft. deep will not be permitted to have a break in slope.

2. TILE MARKINGS (Lines/Depth Markers)

- A. Contrasting tile used along the edge of pool steps must be slip-resistant.
- B. In pools greater than 5 ft. in depth, a straight line of slip-resistant tile of contrasting color must be installed where the water depth is 4 1/2 ft. The tile must be at least 4 inches but no greater than 6 inches wide.
- C. Depth markers shall be located at the minimum, maximum and break in slope depths and at both ends of the pool.
- D. If the pool is greater than 20 ft. wide, durable slip-resistant depth markers shall be applied on the deck by the vertical depth markers.

3. LADDERS

A. A ladder, with hand railings, is required at deep ends of pools over 4 ½ feet deep.

B. Steps and step holes of ladders must have a minimum tread of 5 inches and width of 14 inches. Steps of ladders shall have a clearance of not less than 3 inches or more than 5 inches from the wall.

C. Two hand railings shall be provided at the top of the step holes and shall extend to the edge of the coping. They shall be located not less than 24 inches or more than 30 inches apart as measured from the rail center line. The bottom of the hand railings shall be no more than 18 inches from the top step hole.

4. STAIRS (See figure 31B-5)

A. Stairs are required at the shallow end of all pools when the depth exceeds 2 ft. All pools with multiple shallow ends shall have stairs at each shallow end.

B. Treads must be uniform and at least 12 inches wide.

Exceptions:

1. Top steps that are rectangular must have treads at least 12 inches wide. (See Figure 31B-5)

2. Top steps that are convex, concave, or triangular must have treads at least 18 inches wide. (See Figure 31B-5)

3. All remaining treads must be uniform and at least 12 inches wide.

4. The bottom step must terminate in water less than 3 ½ feet deep.

5. See spa pools 17C.

C. All risers must be uniform in height and not exceed 12 inches.

D. Hand rails are required for all stairs. The rail must not be less than 28 inches and no more than 36 inches above the coping and step treads. The handrail must terminate at the tread of the bottom step and shall have a clearance of not less than 3 inches or more than 5 inches from the riser.

5. HANDHOLDS

A. All coping on pools and spas shall be no greater than 2 1/2 inches thick and shall extend out over the pool at least one inch and not more than two inches. All corners shall be coved and edging shall be rounded. (See figure 31B-6)

6. RECIRCULATION SYSTEM

A. The minimum turn over rates are to be:

Swimming pools - six hours or less

Wading pools - one hour or less

Spa pools - one half hour or less

B. Each pool must be provided with a separate recirculation and disinfection system.

C. Each pool is required to have split main drains on the floor in the deepest part of the pool. They shall be located a minimum of 3 ft. apart on center and a minimum 3'6" from any pool wall. Each drain suction must be plumbed so there is at least one 90 degree angle between the suction outlet opening and the main suction line going to the pump. The piping must be uniform in size from the main drains to the pump.

D. Each drain outlet must be covered with an approved anti-vortex or anti-entrapment grate which is removable only with tools.

E. Pool(s) and spa(s) must be capable of being completely emptied via the main drains.

F. Skimmers and their equalizers shall be plumbed and valved to be separate from the main drains.

G. Skimmers shall:

1. Be required for each 500 sq. ft. of pool surface area or fraction thereof.
2. Have its own equalizer line with an anti-vortex cover.
3. Be recessed into the wall.
4. Have an anti-air lock protective device, have a removable basket accessible from the deck, and an approved skimming weir.
5. **Not** be used in pools over 5000 square feet.

H. Return inlet lines shall be located to enhance water circulation and shall have directional fittings. Two return lines are required for the first 10,000 gallons and one return line for each additional 10,000 gallons or fraction thereof. Return line inlets must be located at least 18 inches below the water line, except for spas. For pools exceeding 40 ft. in width, bottom return lines with approved covers must be provided.

I. All piping and fittings shall be approved for potable water supply.

J. Plumbing must be sized so that the rate of flow does not exceed 8 ft. per second in all copper lines and P.V.C. suction lines. P.V.C. return lines shall not have a rate exceeding 10 ft. per second. Wading pool plumbing will be sized at a rate of flow not to exceed 6 feet per second.

K. Hydrostatic Relief valves are required for pool(s) and spa(s) located in high ground water areas.

L. All plumbing lines shall be marked to show direction of pool and/or spa water flow.

7. FILTERS

A. Filters must be sized according to the following schedule: **NOTE:** Cartridge filters are not approved.

Diatomaceous earth 2 GPM/sq. ft.

Rapid sand 3 GPM/sq. ft.

High rate sand 15 GPM/sq. ft.

B. For disposal of filter backwash: No direct connection of a pool or its recirculating system shall be permitted to a sanitary sewer, storm drain or waste water system. All filters must be permanently plumbed to an approved waste water system via legal air gap. A sight glass is required when an air gap is not visible from filter location.

C. Backwash waters may not be returned into pool or spa. Backwash piping of any pool or spa may not be interconnected.

8. FLOWMETER & GAUGES

A. Influent and effluent pressure gauges are required to be installed at the same elevation. Installation shall not be at a point of turbid flow. The effluent gauge shall be installed directly downstream of the filter.

B. A flow meter must be installed on a horizontal straight run of pipe downstream of the filter, as per manufacturer's instructions. It should be positioned after the filter and before the heater.

C. All gauges and flow meters are to be located so they can be easily read without having to climb over equipment or piping.

9. CHLORINATOR

A. An approved automatic disinfectant feeder or chlorinator(s) is required to be installed on the recirculation system of every pool and/or spa. Models, which allow fumes to escape, shall not be permitted to be installed in any room that is not properly vented.

B. Units using "Trichlor" must have a one way valve downstream of the water heater and up stream of the chlorinator.

C. All disinfectant feeders are to be sized at a rate equivalent to not less than three (3) pounds of chlorine per 10,000 gallons of water per day.

10. EQUIPMENT AREA

A. Provide adequate floor space for pool equipment in a location which will facilitate easy access to the equipment. The floor shall be constructed of a continuous cement pad under all equipment and sloped 1/4 inch per foot to insure adequate drainage. (except at the point where the pipes(s) emerge from ground).

B. Equipment shall not be installed in pits.

11. FILL LINE AND BACKFLOW DEVICES

A. Potable water shall be supplied via a permanently installed fill line protected by an approved backflow prevention device. The following backflow devices are minimum protection required on fill lines of all pools and spas:

1. An atmospheric vacuum breaker is required for below rim lines with no downstream valving.
2. A pressure vacuum breaker is required for automatic fill lines with downstream valving.
3. A reduced pressure principal backflow prevention device is required for fill lines connected to a filtration line or any pressurized line.

B. An adequate number of hose bibs are required in the pool area to allow a 75 ft. hose to reach all areas of the deck. An approved backflow device must protect each hose bib.

12. DECK

A. A minimum 4 ft. wide continuous and unobstructed deck, measured from the water edge of the coping, shall be provided around the pool. Decking must be

flush with the coping. Adjacent pools shall be separated by a minimum of 6 ft. of decking. The deck must be extended an additional 4 feet behind, and on the sides, of diving boards, slides, and their appurtenances.

B. The deck shall be constructed of concrete or like material. Materials, other than concrete, must be approved by this Department. Wood decking or indoor - outdoor carpeting or other similar coverings are not permitted within 4 feet of the pool.

C. All parts of the deck must drain at a slope of 1/4 inch per foot away from pools and shall not accumulate pockets of water. Water shall drain to floor drains or approved surface water disposal areas.

D. Stress protection is required at contact points of the deck and the pool shell. Expansion joints and spaces shall be sealed with approved caulking.

E. Decking elevation differences must not create a safety hazard. If decking is to have a difference of elevation safety barriers may be required.

13. SAFETY STRUCTURES AND EQUIPMENT

A. In pools having a change in slope, flush mounted devices for fastening a safety rope must be installed where the water depth is 4 1/2 ft.

B. An underwater white light is required in all swimming pools. Lighting is to be positioned to adequately illuminate all parts of the pool.

C. A body hook attached to a minimum 12 ft. pole is required.

D. A minimum 17-inch diameter life ring with an attached 3/16th inch rope, long enough to span the width of the pool, is required.

E. All required signs shall be visible from the immediate pool and/or spa area.

F. A sign in letters 4 inches high, stating NO LIFEGUARD ON DUTY, is required. In addition, the sign should state "Children under the age of 14 should not use pool without a parent or adult guardian in attendance".

G. An illustrated artificial respiration sign is required. This sign shall show the correct procedure to administer mouth-to-mouth resuscitation.

H. An emergency phone number or (911) sign is required to be posted.

I. In pools with a depth of 6 ft. or less, a sign, with letters at least 4 inches high, stating "NO DIVING", is required.

J. A sign, with letters at least 4 inches high, must be posted indicating the maximum number of occupants allowed for each pool or spa. The occupant capacity shall be based on one bather for every 20 sq. ft. of pool surface area and one bather for every 10 sq. ft. of spa surface area.

14. ANCILLARY FACILITIES

A. Ancillary structures shall be at the pool/spa site. Public toilet facilities may be omitted only when the bathers have access to toilet facilities, showers, dressing facilities, drinking fountains, either in living quarters located within 300 feet walking distance from the pool or in an adjacent building such as a recreational facility, clubhouse, or cabana.

B. For the purpose of calculating the number of showers, toilets and lavatories, one bather shall be considered for every 15 sq. ft. of pool surface area.

1. One shower with hot and cold water must be provided for every 50 bathers.

2. One lavatory with hot and cold water must be provided for every 50 bathers

3. Separate toilet facilities must be provided for each sex. One toilet must be provided for every 60 women and one toilet and one urinal for every 75 men bathers.

4. One drinking fountain must be provided for the first 250 bathers and one additional fountain for each additional 200 bathers.

C. Construction - showers and lavatories

1. Floors must be slip-resistant, nonabsorbent, and easily cleanable. Floors must have a minimum 4 inch cove base at the floor/wall junction and shall be sloped not less than 1/4" per foot to floor drains.
2. Walls must be smooth, moisture - resistant and easily cleanable.
3. Showers and lavatories shall be provided with hot and cold water. Permanently mounted single-service soap and towel dispensers shall be provided at hand washing sinks. Showers shall be provided with soap dispensers.

15. ENCLOSURE OF POOL AREAS

A. The pool shall be enclosed by one or a combination of the following: a fence, wall, portion of a building, or other approved durable enclosure. Doors, openable windows, or gates of living quarters or associated private premises shall not be permitted as part of the pool enclosure. The enclosure, doors and gates shall meet all of the following specifications:

1. The enclosure shall have a minimum effective perpendicular height of 5 feet as measured from the outside as depicted in Figures 31B-7a and 31B-7b.
2. Openings, holes or gaps in or under the enclosure, doors and/or gates shall not allow the passage of a 4-inch diameter sphere. The enclosure shall be constructed over concrete or other hard and permanent material.
3. The enclosure shall be designed and constructed so that it cannot be readily climbed by small children. Horizontal and diagonal member designs, which might serve as a ladder for small children, are prohibited. Horizontal members shall be spaced at least 48 inches apart. Planters, trees, or other structures shall not be permitted to encroach upon the clear span area as depicted in Figure 31B-7b. Chain link may be used provided that the openings are not greater than 1-3/4 inches measured horizontally.

B. Gates and doors opening into the pool enclosure shall also meet the following specifications:

1. Gates and doors shall be equipped with self-closing and self-latching devices. The self-latching device shall keep the gate or door securely closed. Gates and doors shall open outward away from the pool except where otherwise prohibited by law. Hand activated door or gate-opening hardware shall be located at least 3½ feet above the deck or walkway.
2. Gates and doors shall be capable of being locked during times when the pool is closed. Exit doors, which comply with Chapter 10, shall be considered as meeting these requirements.
3. The pool enclosure shall have at least one means of egress without a key for emergency purposes. Unless all gates or doors are so equipped, those gates and/or doors, which will allow egress without a key, shall have a sign in letters at least 4 inches high stating "EXIT".
4. The enclosure shall be constructed so that all persons will be required to pass through common pool enclosure gates or doors in order to gain access to the pool area. All gates and doors exiting the pool area shall open into a public area.

16. SOLAR HEATING/POOL COVERS

A. If solar heating is to be utilized:

1. The solar heating system connected to a pool or spa recirculating system, must be equipped with a separate recirculating pump for the solar heating system.
2. The solar heating system shall not allow water to bypass the filtration system.
3. If solar heating is anticipated, suction and return lines, separate from the recirculation system, should be plumbed in, and then be capped off for future use. These types of systems will be reviewed on a case-by-case basis.

B. If pool covers are to be utilized, they must be submitted to this Department for approval and must comply with A.S.T.M. standards and Departmental guidelines.

17. SPA POOLS - (Special Requirements) (see Figure 31B-4)

A. The water surface area of a spa must not exceed 250 sq. ft. and the water depth must not exceed 4 ft. The water depth over the benches shall be uniform and shall not exceed 24 inches. Bench level must be the same as a step tread.

B. Stairs must descend down to the floor of the spa.

C. Each step of a spa shall have a tread width not less than 12". Risers shall not exceed 9" in height when one hand railing is provided or 12" in height when two hand railings are provided. The hand railing(s) shall be installed over the steps (see figure 31B-5).

D. The minimum clearance between parallel benches, or the bench and the bottom step riser, must be at least 2 ft.

E. A spa aeration and/or hydro-jet system must be completely separate from its filtration system and must not be interconnected with any non-spa pool.

F. One return line will be required in a spa for each 50 GPM of designed filtration rate or fraction thereof. Example: If a spa has a filtration rate of 78 GPM, it is required to have 2 return lines.

G. All jet pump suction outlets must be split so that they are at least 3 ft. apart on center or located on different design planes. All suction outlets must be located so that the bottom edge of the anti-entrapment cover is within 2 inches of the spa floor.

H. Main suction drains, jet suction drains and skimmer equalizer line(s) must be provided with their own anti-entrapment or anti-vortex covers.

I. A single clearly labeled "Emergency Shut-Off Switch" (on/off type) is required. It must be readily accessible within the pool enclosure. It must be visible from the spa, and turn off all filtration, jet and blower pumps.

J. Warning signs for spa pools are required and must be posted in a prominent place near the entrance to the spa.

K. A spa pool must have a minimum of two depth markers.

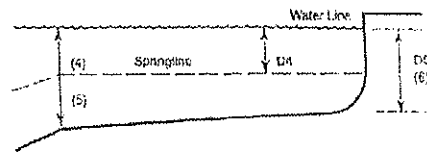
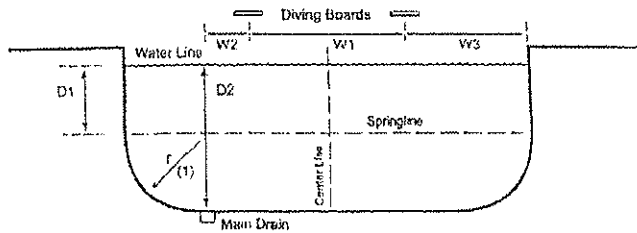
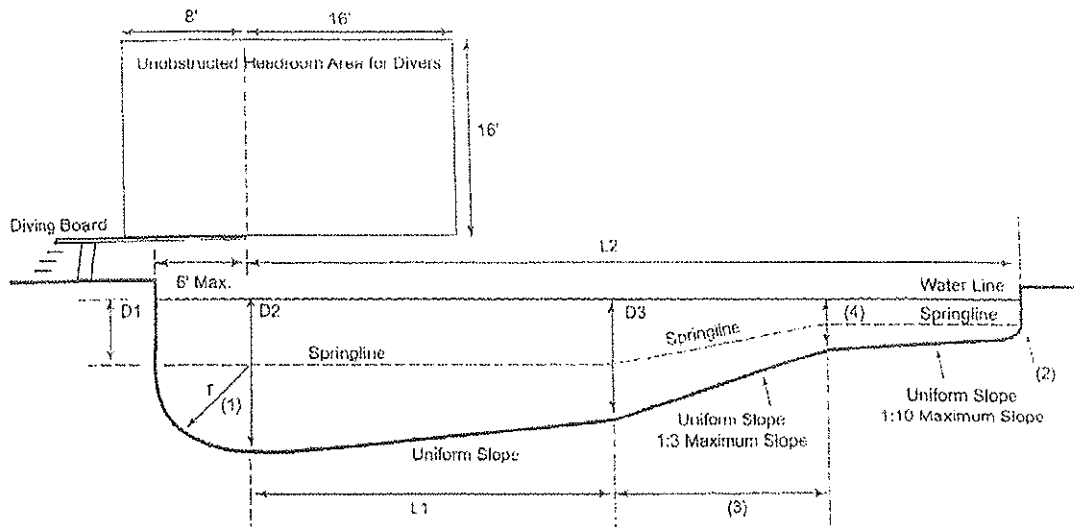
L. Contrasting slip resistant tile is required along the edge of benches and steps. It must be at least one (1) inch but no greater than 2 inches in width.

M. The maximum allowable water temperature of a spa shall be 104° F.

Figure 31B-1

Depths and Clearances for Pools with Diving Boards
Greater than 30 Inches Above the Water Line

Longitudinal Section



Enlarged Shallow End Section

Transverse Section
through Main Drain, Deep End

Table 31B-1

Boards & Platforms	Dim.	Depth of Water					Length of Section				
		D1	D2	D3	D4	D5	L1	L2	W1	W2	W3
1-Meter Board	Min.	6' 0"	12' 0"	11' 0"	2' 6"	0' 0"	20' 0"	30' 0"	10' 0"	5' 0"	11' 0"
3-Meter Board	Min.	7' 0"	13' 0"	12' 0"	2' 6"	0' 0"	20' 0"	40' 0"	10' 0"	5' 0"	12' 0"

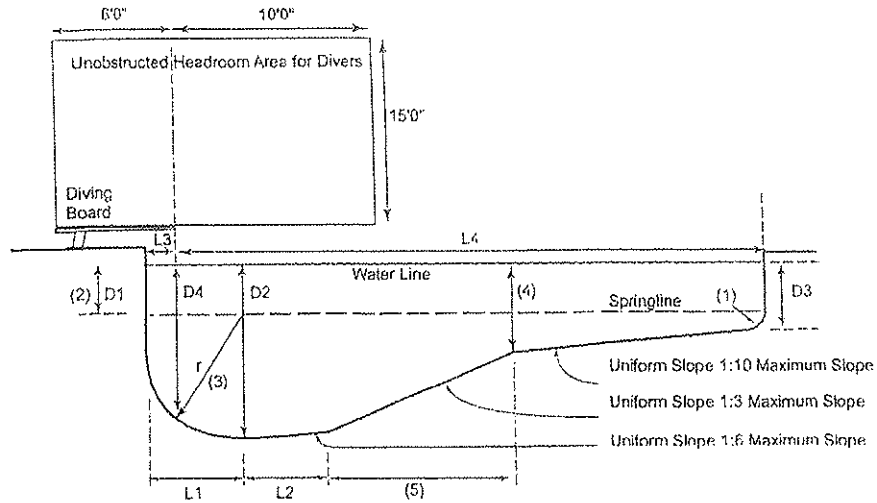
Notes for Figure 31B-1 and Table 31B-1:

- (1) Maximum radius shall equal D2 minus D1 dimensions.
- (2) Radius at the shallow end shall not be less than 6 inches nor more than 12 inches.
- (3) Length of section based on maximum slope and other maximum and minimum dimensions.
- (4) Where there is a break in slope, the break shall be located at a water depth equal to 4'6".
- (5) The springline depth at (4) shall not be less than 2'6" nor more than 4'0".
- (6) The maximum water depth shall be 3'6".

Figure 31B-2

Depths and Clearances for Pools with Diving Boards
30 Inches or Less Above the Water Line

Longitudinal Section



Transverse Section at D2

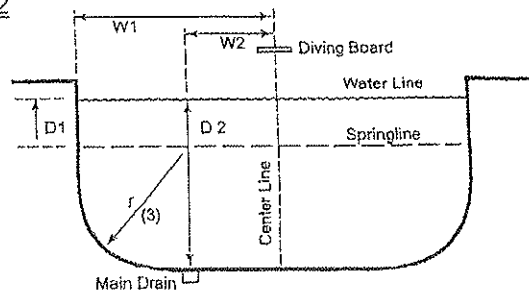


Table 31B-2

Dimension	Depth of Water				Length of Section					
	D1	D2	D3	D4	L1	L2	L3	L4	W1	W2
Minimum	2' 6"	8' 6"	0' 0"	7' 0"	6' 0"	6' 0"	2' 6"	30' 0"	9' 0"	3' 0"
Maximum	—	—	3' 6"	—	10' 0"	—	4' 0"	—	—	—

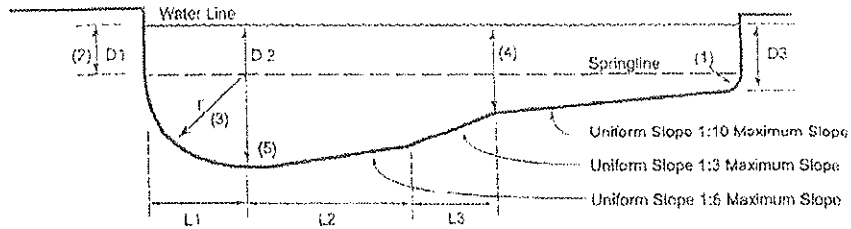
Notes for Figure 31B-2 and Table 31B-2:

- (1) Radius at the shallow end shall have a minimum 0'6" and a maximum 1'0".
- (2) Springline D1 shall extend to the break in slope between the shallow area and the deep area.
- (3) Maximum radius shall equal D2 minus D1 dimensions.
- (4) Where there is a break in slope, the break in slope shall be located at a water depth equal to 4'6".
- (5) Length of section based on maximum slope and other maximum and minimum dimensions.

Figure 31B-3

Depths and Clearances for Pools without Diving Boards

Longitudinal Section



Transverse Section at D2

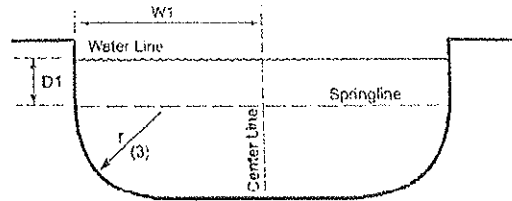


Table 31B-3a

Pools with Maximum Water Depth \leq 6'0"

Dimension	Depth of Water			Length of Section			
	D1	D2	D3	L1	L2	L3	W1
Minimum	2' 6"	(5)	0'0"	3'6"	3'0"	3'0"	6'0"
Maximum	--	6'0"	3'6"	--	--	--	--

Table 31B-3b

Pools with Maximum Water Depth > 6'0"

Dimension	Depth of Water			Length of Section		
	D1	D2	D3	L1	L2	W1
Minimum	2' 6"	(5)	0'0"	3'6"	3'0"	7'6"
Maximum	--	--	3'6"	--	--	--

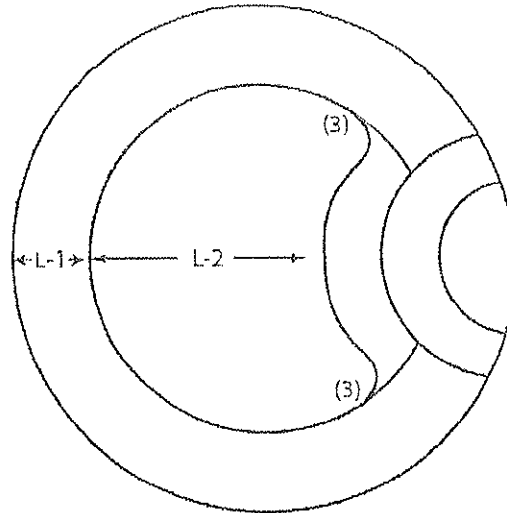
Notes for Figure 31B-3, and Tables 31B-3a and 31B-3b:

- (1) Radius at the shallow end shall have a minimum 0'6" and a maximum 1'0".
- (2) Springline D1 shall extend to the break in slope between the shallow area and the deep area.
- (3) Maximum radius shall equal D2 minus D1 dimensions.
- (4) Where there is a break in slope, the break in slope shall be located at a water depth equal to 4'6".
- (5) Main drain shall be located to provide complete drainage of the pool.

Figure 31B-4

Depths and Dimensions for Spa Pools

Top View



Transverse Section

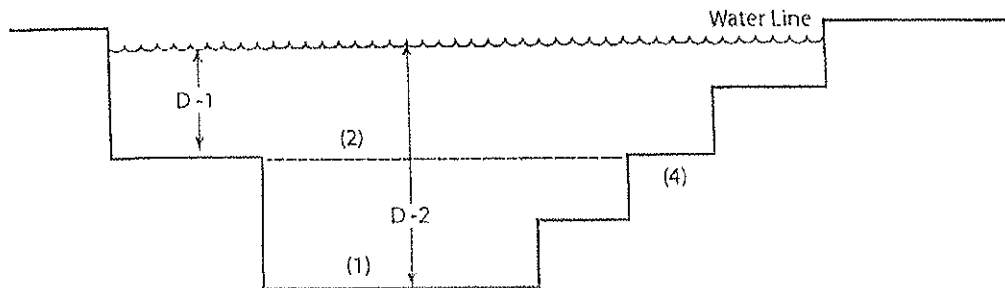


Table 31B - 4

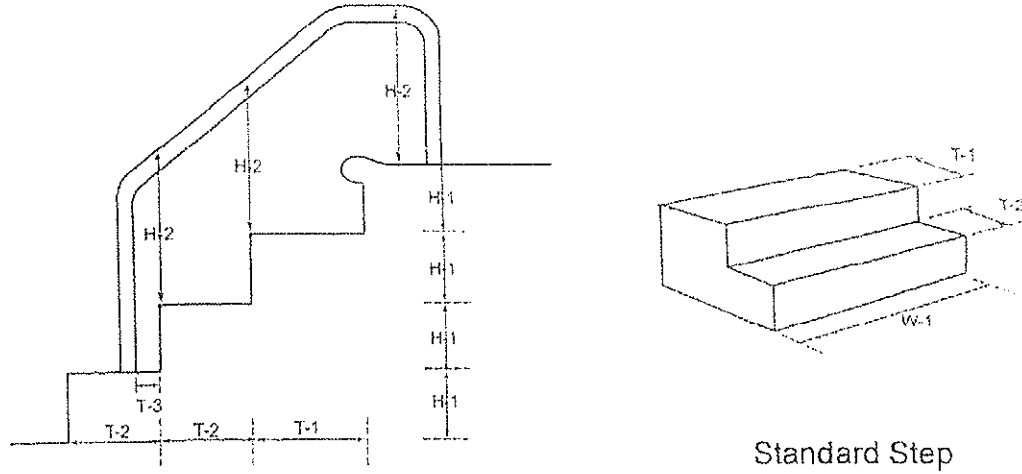
Dimension	Depth of Water		Length of Sections	
	D - 1	D - 2	L - 1	L - 2
Minimum	-----	24"	12"	24"
Maximum	24"	42"	24"	-----

Notes for Figure 31B-4 and Table 31B-4:

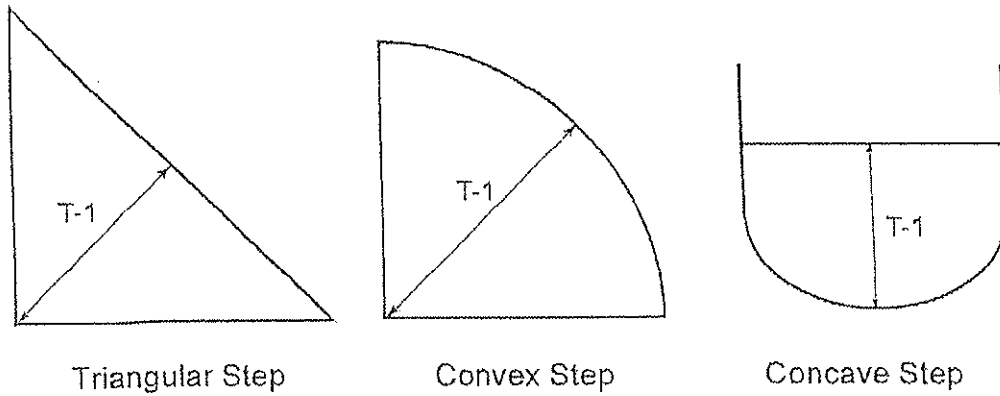
- (1) Bottom slope not to exceed 1:10 and must be uniform.
- (2) Bench ramping not to exceed 1:10 uniform slope, measured at the inner circumference of the bench.
- (3) Six inch minimum radius at "pinch points".
- (4) See Section 3111-B for step and handrail dimensions.

Figure 31B-5

Stair and Handrail Dimensions



Standard Step



Triangular Step

Convex Step

Concave Step

Table 31B-5

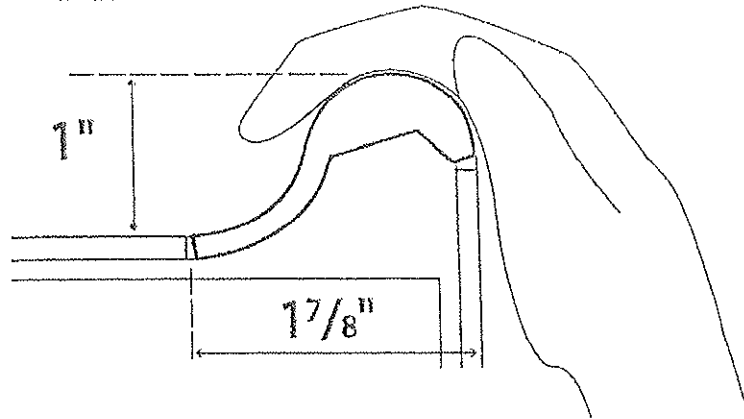
Dimensions	T-1 Standard	T-1 Triangular, Concave, Convex	T-2	T-3	W-1	H-1	H-2
Minimum	12"	18"	12"	3"	24"	6"	28"
Maximum	---	---	---	---	---	12"	36"

Steps must be uniform

Figure 31B-6

HANDHOLD CONFIGURATION

BULLNOSE



Note: All dimensions are plus/minus 1/8"

CANTILEVERED

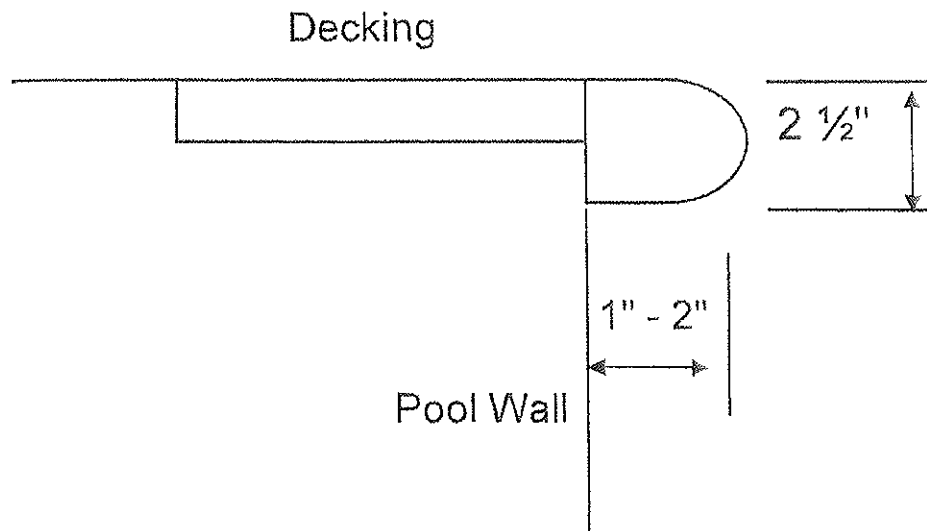


Figure 31B-7a
Perpendicular Fencing Dimensions
On Sloping Ground

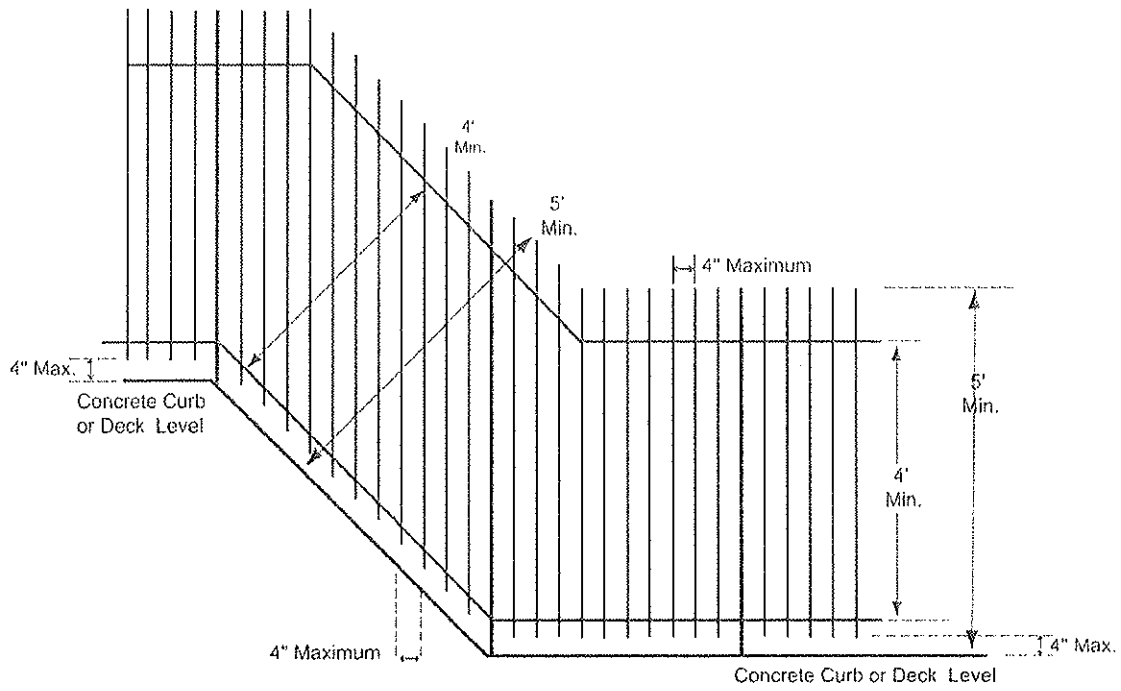


Figure 31B-7b
Effective Fencing Height

