STEEL WALL VINYL-LINED RESIDENTIAL SWIMMING POOLS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018 and 2015 International Swimming Pool and Spa Code® (ISPSC)
- 1997 Uniform Building Code™ (UBC)

Compliance with the following standards:

- APSP/ANSI 5-2011, Standard for Residential Inground Swimming Pools

2.0 USES

The Latham Pool Products Corporation’s in-ground steel wall vinyl-lined residential swimming pools are permanently installed for recreational use as swimming pools in residential applications with water circulated through a filter in a closed system. The pools comply with APSP/ANSI-5 as Type 0 pools as noted in Table 1.

3.0 DESCRIPTION

The Latham Pool Products Corporation’s in-ground steel wall swimming pools consist of steel wall panels, steel frames and supports, vinyl liners, and associated accessories (e.g., pool steps, copings, skimmer, filters, and lighting). Steel panels are comprised of No. 14 gage [minimum 0.068 inch (1.75 mm)] base-metal thickness steel sheets complying with ASTM A653 (Type B), with coating designation Z700. Steel frames and supports are comprised of No. 12 gage [minimum 0.097 inch (2.46 mm)] base-metal thickness cold-rolled steel complying with ASTM A 653 (Type B), with coating designation Z720. The vinyl liner is a flexible polyvinyl material that has a minimum thickness of 20 mils (0.51 mm). Copings are aluminum or PVC. Fasteners are 1/8-inch-diameter, 1-inch-long (9.5 mm by 25.4 mm), flanged hex, Grade 2, A 307 steel bolts, JS500 coated, with matching hex nuts complying with ASTM A 563 Grade B, D or DH. The overall dimensions, depths and capacities of recognized models are shown in Table 1.

4.0 DESIGN AND INSTALLATION

The Latham Pool Products Corporation’s in-ground steel wall swimming pools must be installed in accordance with this report and the manufacturer’s published installation instructions. All plumbing and electrical work must comply with the codes in effect at the construction site.

The swimming pools may be installed without a soil investigation by a registered design professional, subject to the code official’s approval, provided none of the following conditions is encountered at the site:

1. The existence of groundwater within the depth of the pool excavation.
2. The existence of uncompacted fill in contact with any portion of the pool.
3. The existence of any expansive-type soils.
4. The existence of any soil types with an angle of repose that will not support the walls of the excavation at desired slopes.
5. Danger to adjacent structures posed by the proposed pool location.
6. The existence of any cracks or openings in soil that would not confine sand bedding.
7. The setback between pools and slopes does not comply with Section 1808.7 of the IBC.

If any of the above conditions are encountered, excavation must cease immediately. The specified conditions at the site must then be reviewed, and recommendations made by a registered design professional. The code official must approve the registered design professional’s analysis before work is resumed.

Details specifically for installations in expansive, clay, or adobe soils apply only when supported by the registered design professional’s analysis and approved by the code official.

The site for the pool must be initially excavated to the required grade below the vertical wall panel depth. The site
must then be overexcavated approximately 2 feet (610 mm) around the perimeter of the pool along its vertical wall panel line to permit installation of the wall panels and back braces. Excavation and fine grading of pool bottom and side slopes must then be completed. Back braces and wall panels must be placed and bolted together. Plumbing and associated accessories must be installed in accordance with the applicable plumbing code. Normal-weight concrete with a minimum 28-day specified compressive strength of 2,500 psi (17.2 mPa), must be placed behind the panels around the perimeter of the pool 8 inches deep by 24 inches wide (203 mm by 610 mm), including the area behind any walk-in staircases, to fill the width of the excavation. Additional concrete must be placed at each back brace to a minimum depth of 12 inches (305 mm). A cementitious pool base mix, such as concrete or vermiculite-cement, must be placed over the pool bottom to a depth of 2 inches to 3 inches (51 mm to 76 mm), and troweled to a smooth finish.

Exception: If groundwater is encountered during excavation, a 3-inch-thick (76 mm) layer of 3/4-inch-diameter (19 mm) stone must be placed, and then a 3-inch-thick (76 mm) layer of concrete must then be placed over the stone. A 1/2-inch-thick (12.7 mm) layer of cementitious pool base mix must be smoothed over the concrete.

The vinyl liner must then be installed in strict compliance with the manufacturer's instructions, to ensure a smooth, waterproof surface that conforms to the pool walls and bottom surfaces. Backfilling behind the pool panels then takes place using clean, porous soils, free of roots and debris, installed and carefully tamped in layers not to exceed 12 inches (305 mm) in thickness to eliminate voids. The backfill placement and filling of the pool with water are to be accomplished concurrently in order to prevent uneven loading on the pool panels and avoid the potential collapse of the pool wall.

5.0 CONDITIONS OF USE

The pools described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

5.1 The pools must be constructed and installed in accordance with this report and the manufacturer's published installation instructions. In the event of a conflict, this report governs.

5.2 Electrical, mechanical and plumbing installations must comply with the applicable codes in effect at the construction site.

5.3 Setback between pools and from slopes must comply with IBC Section 1808.7, or IRC Section R403.1.7

5.4 A barrier is required in accordance with IBC Section 3109 or IRC Section AG105, and ISPSC Section 305, as applicable.

5.5 Slip resistance is outside the scope of this evaluation report. Reports of slip resistance tests that demonstrate compliance with Section 8.1 of APSP/ANSI-5 must be submitted to the code official for approval.

5.6 Diving equipment may not be installed.

5.7 Suction outlets must be designed and installed in accordance with IBC Section 3109.5, ISPSC Section 310 and IRC Section AG106.1.