David Heuer
DAKARI POOLS, INC
State License No. 840618 - C53 / B

N

WILL BE INCLUDING
POOL PUMP MOTOR
COVER SERENE+ MODEL L170762

NO SAFETY FENCE WILL BE USED

Will not be building any structure around equipment pad

General purpose GFCI protected receptacle is minimum 6 ft and maximum 20 ft from the inside walls of the swimming pool. Receptacles shall not be located over or within 4 ft horizontally of this purpose shall be listed and shall be identified as "Extra Duty". [CEC 406.9].

36' OF PIPING PROVIDED BETWEEN HEARTER AND FILTER FOR FUTURE SOLAR HEATING EQUIPMENT (CALIFORNIA ENERGY CODE)

POOL LIGHT TRANSFORMERS (LOCATION T.B.D.)

COVER SWITCH (LOCATION T.B.D.)

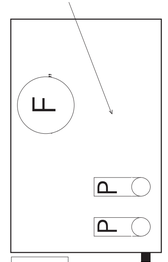
POOL EQUIP (FOR LOCATION SEE SITE PLAN)

50 AMP SUB PANEL AUTOMTOMOUNT STRUT

1 1/2" SCH 40 RIGID PVC NON METALIC CONDUIT TO ELECTRICL SERVICE

GFI OUTLET - MORE THAN 6' LESS THAN 20'

ANTI-SIPHON HOSE BIB



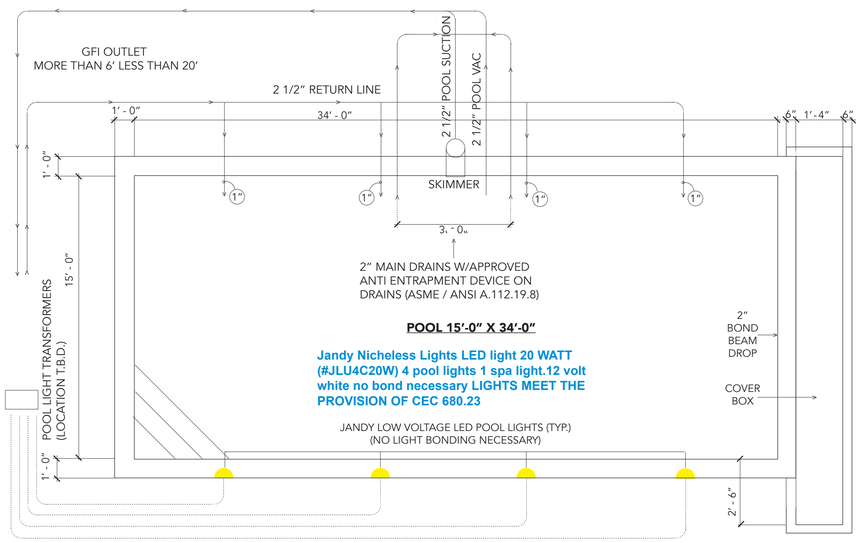
1 POOL PLAN
1/4"= 1'-0"

CA.GOV CALIFORNIA ENERGY COMMISSION
SEARCH

Dedicated-Purpose Pool Pumps (Manufactured On Or After July 19, 2021)

*Model Number: VSSHP220DV2A	
Manufacturer: Zodiac Pool Systems, Inc.	Add Date: 07/19/2021
Brand: Jandy	*Regulatory Status: I - Federally-Regulated Comm
Reference Number:	Dedicated-Purpose Pool Pump Product Group: 1 - Self-priming pool filter pu
Freeze Protection Controls When Shipped: NA - Not applicable	Default Dry-Bulb Air Temperature Setting (F):
Default Run-Time Setting (Minutes):	Default Motor Speed (Rpm):
Default Motor Speed Is More Than Half Of The Maximum Available Speed: None	Weighted Energy Factor (Kgal/Kwh): 8.32
Weighted Energy Factor (Kgal/Kwh) Standard: 5.59	Rated Hydraulic Horsepower (Hp): 1.546
Speed Configuration For Which The Pump Is Being Rated: VS - Variable-speed	True Power Factor At High Load Point: 0.97
Dedicated-Purpose Pool Pump Nominal Motor Horsepower (Hp): 2.2	Dedicated-Purpose Pool Pump Total Horsepower (Hp): 2.2
Dedicated-Purpose Pool Pump Service Factor: 1	Input Power At The High Flow Load Point (Watts): 973.18
Flow Rate At The High Flow Load Point (Gpm): 72.03	Speed At The High Flow Load Point (Rpm): 2730
Input Power At Maximum Rotating Speed (Watts): 1936.4	Flow Rate At Maximum Rotating Speed (Gpm): 92.48
Speed At Maximum Rotating Speed (Rpm): 3450	True Power Factor At Low Load Point: 0.56
Pump Certified With NSF/ANSI 50-2015: True	Vertical Lift (Feet):
True Priming Time (Minutes):	Input Power At The Low Flow Load Point (Watts): 111.73
Flow Rate At The Low Flow Load Point (Gpm): 31.24	Speed At The Low Flow Load Point (Rpm): 1170
Maximum Head (Feet): 69.2	Pool Pump Control Is Integral Or Separate Component: None
Pool Pump Control Maximum Run-Time (Hours):	Pump Meets All 3 Criteria Of DOE Enforcement Policy: None

"Where none of the bonded parts is in direct connection with the pool water, the pool water shall be in direct contact with an approved corrosion-resistant conductive sur-face that exposes not less than (9 sq. in.) of surface area to the pool water at all time. The conductive surface shall be located where it is not exposed to physical damage or dislodgement during usual pool activities, and it shall be bonded in accordance with CEC 680.26(C), if applicable. Water bond shall be installed in an accessible location and always below pool/spa water level at all times per manufacturer's instructions.



An equipotential common bonding grid is to be provided and shall extend under poured concrete, paved & unpaved walking surfaces for (3ft) horizontal-lybeyond the inside walls of the pool and shall be attached to the pool reinforcing steel or copper conductor grid at min of (4) points uniformly spaced around the perimeter of the pool. [CEC 680.26].

CA.GOV CALIFORNIA ENERGY COMMISSION

GAS / OIL POOL HEATERS

* MODEL NUMBER: JXI 400N*	
* MANUFACTURER: ZODIAC POOL SYSTEMS, INC.	* ADD DATE: 04/03/2015
* BRAND: JANDY PRO SERIES	* REGULATORY STATUS: C FEDERALLY-REGULATED CONSUMER PRO
* ENERGY SOURCE: G - NATURAL GAS	* IMPUT BTUH: 399000
* INPUT KWH:	* THERMAL EFFICIENCY: 83
* THERMAL EFFICIENCY STANDARD: 82	* PILOT LIGHT? (T/F): NONE

GENERAL NOTES:

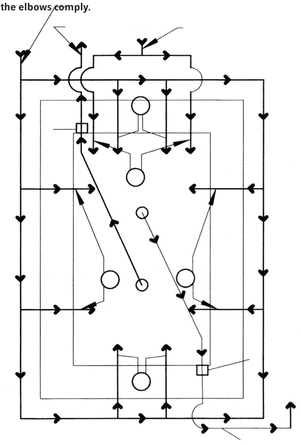
- Plans comply with 2019 CBC,CRC,CMC,CPC, 2019 CEC state codes, and county of Santa Barbara ords #4822, $4766 and planning/zoning ords.
- This project shall comply with the 2019 California Residential Energy Standard.
- Waterproof operation energy efficiency note shall be displayed on heater door.
- Special inspection of shotcrete is required; barriers complying with 2019 CBC Section 31.09.4.4 thru 3109.4.4.8 verified by the city/county inspector prior to filling pool with water. (CBC Sec. 106.3) Barriers to comply with city/county of Santa Barbara barrier codes CBC 3109 & SBC ord#5536.
- The special inspector shall be a qualified person who shall demonstrate competence to the satisfaction of the Building official.
- Provide manufactures installation specs for pool equipment clearances at job site for inspector.

ELECTRICAL:

- Heater to be grounded with a #8 solid copper wire.
- Pool lights shall be installed 18" below waterline or per manufactures specs.
- Provide waterproof/GFCI outdoor receptacles at approx. 6ft min. to 20ft from edge of pool.)2019 CEC 680.22)(B)
- Receptacles in wet locations to have an enclosure that is waterproof whether or not attachment plug is inserted in the receptacle.
- No exterior lights withing 10ft of pool.
- All lighting to be hooded- not to shine on adjacent properties and right of ways.
- Auto control with disconnected- GFI with receptacles outlet.
- All relays and timers in sub panel.
- Bonding to comply with CEC 2019 680.26 Equipotential Bonding. Parts 1 & 2.
  (1) To be constructed of minimum 8 AWG bare solid copper conductors bonded to eachother at a min. 4 points of crossing.
  (2) Conform to contour of pool and deck. (Under paved & unpaved surfaces at a min. of 3 horiz. ft from pool & spa walls)
- Fixed metal parts within 5 ft or less from the inside of pool wall shall be bonded per CEC 680.26(B)(7).

PLUMBING:

- Gas line to be of PE. (See sizing chart this sheet)
- Backflow device to be tested by certified technician prior to final inspection.
- Compliance with 2019 CBC sec. 3109.4.4 thru 3109.4.4.8 VIRGINIA, GRAEME BAKER POOL & SAFETY ACT. ASME/ANSI A112.19.8-2009 for listed covers/ grates where required.
- Pool system has directional inlets and a circulation pump time control.
- All anti-entrapment drain cover device is required. Cover shall meet ASTM or ASME requirements.
- All exposed plumbing to be painted.
- Provide as a minimum a blackflow RP device on the pool fill line.
- In system piping for pools and spas, all elbows shall be sweep elbows or of an elbow type that has pressure drop of less than the pressure drop of a straight pipe with a length of 30 pipe diameters. For use of the latter method, a list must be provided at field inspection that shows that the elbows comply.



LOW PRESSURE NATURAL GAS & PROPANE GAS PIPE SIZE					
HEATER SIZE INPUT BTU	PIPE SIZE				
	3/4"	1"	1 1/4"	1 1/2"	2"
200,000	0'-30'	30'-100'	100'-380'	380'-600'	-
260,000	0'-15'	15'-60'	60'-230'	230'-490'	490'-600'
400,000	0'-5'	5'-30'	30'-110'	110'-230'	230'-600'

SCOPE OF WORK

CONSTRUCTION TYPE:	New in-ground shotcrete pool
POOL SIZE:	15FT X 34FT
SPA SIZE:	NONE
PROJECT OWNERS:	PEARL ZALON
PROJECT ADDRESS:	3424 MARINA DR
	SANTA BARBARA, CA 93110
ZONE:	A-1/S-D-3
A.P.N.:	047-021-011
LOT SIZE:	1.10 AC
SLOPE:	11%
SET BACKS:	SEE SITE PLAN - A1.0
OPEN YARD AREA REQUIRED:	1250SF
OPEN YARD AREA PROVIDED:	1920SF
GRADING CUT:	45 Cubic Yards
GROSS SF RESIDENCE:	N/A
SF of POOL:	510SF
SF of SPA:	N/A
CONTRACTOR / PLAN PREPARER:	
	DAKARI POOLS, INC.
	P.O. BOX 1882, SANTA YNEZ, CA 93460- PH 805.886.9454
ENGINEER:	
	POOL ENGINEERING, INC.
	1201 TUSTIN AVE, ANAHIEM, CA 92807- PH 714.630.6100
	GRADING CALCULATIONS: N/A
SOILS ENGINEER:	
	PACIFIC MATERIALS LABORATORY OF SANTA BARBARA, INC.
	P.O. BOX 96, 35-A SOUTH LA PATERA LANE
	GOLETA, CA 93116

POOL & SPA HEATING SYSTEM EQUIPPED AS FOLLOWS:

- Gas-fired, fan-type pool/spa heaters that have no continuously burning pilot light. L0-nox A.S.M.E.
- Gas-fired heating systems are to be certified for a minimum of 78% thermal efficiency per ASME regulatior
- Weatherproof, operating energy efficiency note shall be displayed on heater door.
- An on/off switch mounted outside of the heater. (must allow shut-off without adjusting thermostat)
- No electric resistance heating.
- System is installed with:
  - Heater to be grounded with a #8 solid copper wire.
  - Heater pad that is 3" above finish grade.
  - At least 36" of pipe between filter and heater for future solar heating.
  - Insulated cover for outdoor heated pools and spas.

INSPECTION NOTES:

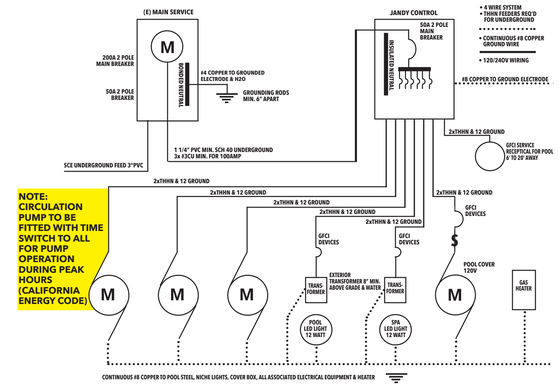
- The Special Inspector shall be a qualified person who shall demonstrate competence to the satisfaction of the building official. Names and qualifications of special inspector(s) shall be submitted to the Building Department for approval.
- Special inspection required for caisson pour and concrete placement of grade beams by deputy inspector and soils inspector.
- Soils engineer shall inspect all foundation elevations as required.

SUMMARY OF DEPUTY AND CONSULTANT INSPECTIONS:

- Soils engineering inspector (where soil engineering has been a project requirement).
- Shotcrete installation by deputy inspector.
- Structural Engineering inspector.

NOTE: Field Inspector will be provided at job site with all pool equipments' manufactures' install specifications to verify required clearances and installation requirements.

DISTANCE FROM PUMP: 12 FT (3.66M)					
JANDY MODEL	SOUND LEVEL dB (1000 RPM)	SOUND LEVEL dB (1725 RPM)	SOUND LEVEL dB (3450 RPM)	SOUND LEVEL dB (60 GPM)	SOUND LEVEL dB (10 GPM)
JEP 2.0 (FEN II)	30.3	41.8	56.2	--	--
VSSHP2 70DV2A	34.1	41.7	60.7	--	--
FHPM 1.5				44.8	--
JEP 1.5 HP				--	50.6



POOL GROUNDING & BONDING DIAGRAM

NOTE : ELECTRICAL SUB-PANEL SHALL HAVE A TIME SWITCH ON THE CIRCULATION PUMP THAT WILL ALLOW OPERATION OF EQUIPMENT DURING OFF PEAK HOURS ONLY.

POOL GENERAL SPECIFICATIONS

SHAPE:	RECTANGLE
PER:	98LF
AREA:	510SF
SIZE:	15FT X 34FT
DEPTH:	3.5FT X 7FT
CAPACITY:	15,300 GALLONS
PUMP:	JANDY PB4-60
FILTER:	Jandy CL340
HEATER:	LAARS
SIZE	400,000 BTU LO NOX
CLEANER:	NAVIGATOR
CHLORINATOR:	JANDY 1400
PIPE SIZE:	2.5"
TYPE:	PVC
RETURN LINE:	2.5"
MAIN DRAIN:	2"
AUTOFILL W/ANTI SIPHON VALVE:	YES
SKIMMER W/VACUUM LINE:	YES
GAS LINE:	PE
SIZE:	1 1/2"
ELECTRICAL:	BY DAKARI POOLS, INC.
BONDING:	BY DAKARI POOLS, INC.
LIGHTS:	4(EA) LED 12WATT
LIGHT TRANSFORMER:	AS SHOWN
AUTO CONTROL:	JANDY RS6
TILE:	CHOICE / DAKARI POOLS, INC.
PLASTER:	BY DAKARI POOLS, INC.
SITE PREPARATION:	N/A
GRADING:	BY DAKARI POOLS, INC.
SOIL CLASS:	EXPANSIVE
DISPOSITION OF DIRT:	HAUL
DECKING BY:	OTHERS
COPING BY:	OTHERS
POOL BASIN EQPMT BY:	N/A
PUMP	
FILTER	
SAFETY COVER	(YES) NO
UL#ASTMF1346-91	
DRAWN BY:	DAKARI POOLS, INC. DATE
CHK'D BY:	DATE

SPA GENERAL ADD'L SPECIFICATIONS

SPA TYPE:	
SIZE:	DEPTH:
TOTAL GALLONS:	N/A
SPA JETS:	
BENCH:	
TILED WALL:	
JET PUMP:	
LIGHT:	

SOLAR GENERAL SPECS

SQ. FT. POOL:	SQ. FT. PANEL:
PANEL SIZE:	
NUMBER OF PANELS:	N/A
AUTOMATIC	
ATMOSPHERIC SENSOR:	

OWNER(S)

TO DETERMINE:

APPROXIMATE ELEVATION OF POOL ON DAY OF EXCAVATION

- EXIT ALARMS ON THE PRIVATE SINGLE-FAMILY HOME'S DOORS OR WINDOWS THAT PROVIDE DIRECT ACCESS TO THE SWIMMING POOL OR SPA.
- THE EXIT ALARM MAY CAUSE EITHER AN ALARM NOISE OR A VERBAL WARNING, SUCH AS A REPEATING NOTIFICATION THAT "THE DOOR TO THE POOL IS OPEN".

DO NOT TURN ON POOL LIGHT WHEN POOL IS EMPTY

OWNER(S)

NAME:	Pearl Zalon
ADDRESS:	3424 Marina Drive
CITY:	Santa Barbara
RES. PHONE:	805-687-7150

POOL PLAN

PEARL ZALON
3424 MARINA DRIVE
SANTA BARBARA, CA 93110

DAKARI POOLS, INC.
776 W HWY 246, BUELLTON, CA 93427
CELL: 805.886.9454
PLANS TO BE ON JOB SITE AT LL TIMES

Dakari Pools, Inc.

NO	REVISIONS	DATE
1	SEE REVISION	6/8/22
	CORRECTIONS	

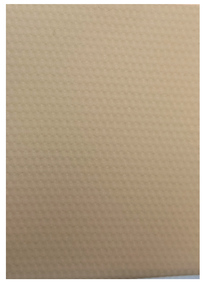
A0.0

DROWNING PREVENTION FEATURE FOR POOL AND/OR SPA CONSISTING OF AT LEAST TWO OF THE FOLLOWING:

1. An enclosure that meets the requirements of HSC Section 115923 and isolates the swimming pool or spa from the private single-family home OR
2. Removable mesh fencing that meets American Society for Testing and Materials (ASTM) Specifications F2286 standard in conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device OR
3. An approved safety pool cover that meets all of the performance standards of ASTM F1346-91 OR
4. Exit alarms on the private single-family home's doors or windows that provide direct access to the swimming pool or spa. The exit alarm may cause either an alarm noise or a verbal warning, such as a repeating notification that "the door to the pool is open." OR
5. A self-closing, self-latching device with a release mechanism placed no lower than 54 inches above the floor of the private single-family home's doors providing direct access to the swimming pool or spa OR
6. An alarm that, when placed in a swimming pool or spa, will sound upon detection of accidental or unauthorized entrance into the water. The alarm shall meet and be independently certified to the ASTM Standard F2208 "Standard Safety Specification for Residential Pool Alarms," which includes surface motion, pressure, sonar, laser, and infrared type alarms. A swimming protection alarm feature designed for individual use, including an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water, is not a qualifying drowning prevention safety feature OR
7. Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the features set forth above and has been independently verified by an approved testing laboratory as meeting standards for those features established by ASTM or the American Society of Mechanical Engineers (ASME).

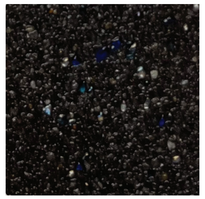
COLOR BOARD

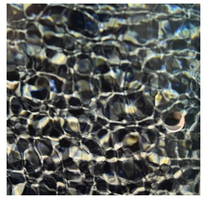
COPING STONE:



POOL COVER

WATERLINE TILE





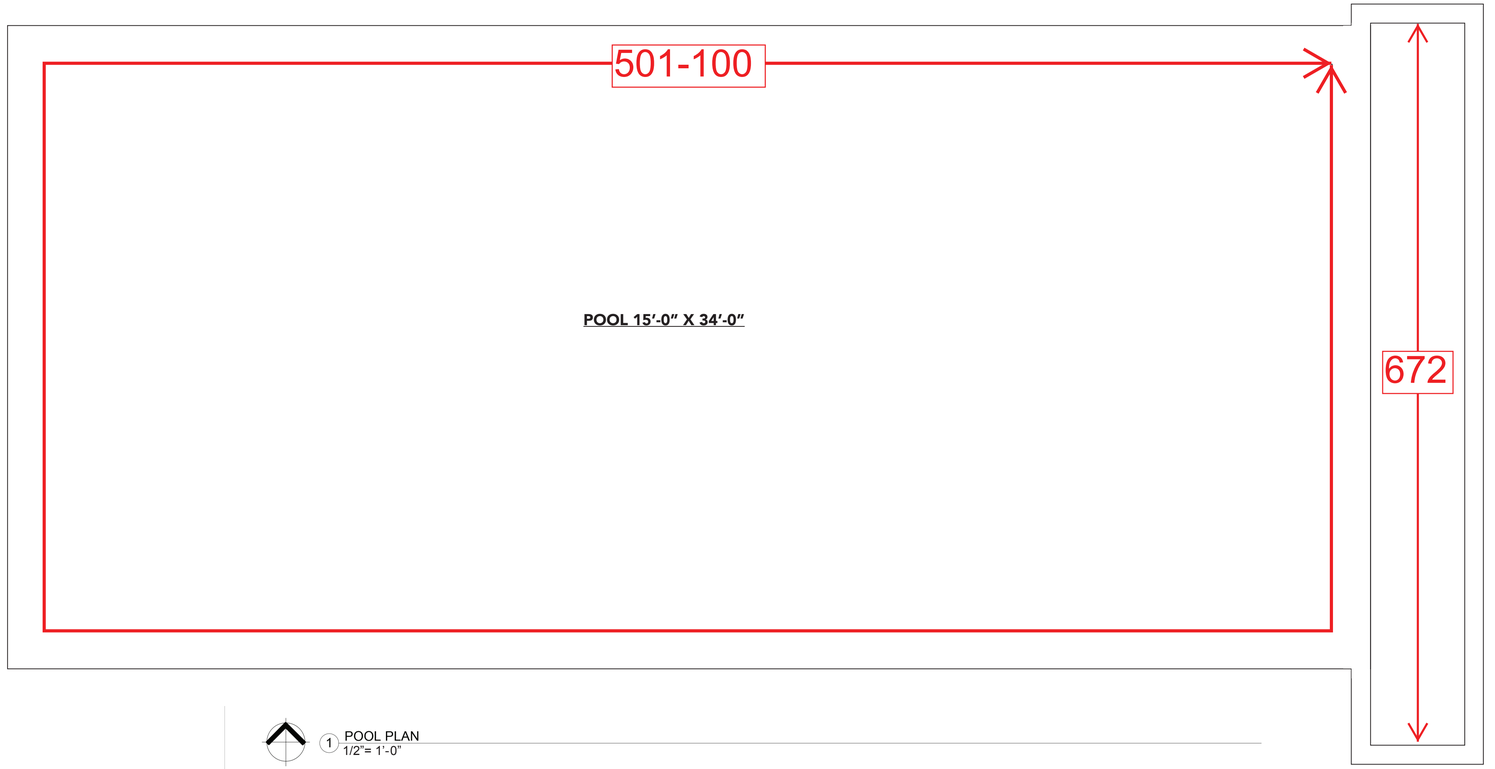
MINI PEBBLE PLASTER

SITE PLAN REVIEWED
for conformance to structural details

Todd L. Lacher, P.E.
Pool Engineering, Inc.
Structural details shall take precedence over conflicts with site plan.

Date: 4/18/2022

Note
Pool excavation shall be inspected by soils engineer prior to steel placement. As a condition of the use of Pool Engineering, Inc. structural plans, Soils Engineer shall certify that the pool bottom conforms to Structural Note 1 on Standard Pool Structural Plan.



1 POOL PLAN
1/2"= 1'-0"

POOL PLAN

PEARL ZALON
3424 MARINA DRIVE
SANTA BARBARA, CA 93110

DAKARI POOLS, INC.
776 W HWY 246, BUELLTON, CA 93427
CELL: 805.886.9454
PLANS TO BE ON JOB SITE AT LL TIMES
Dakari Pools, INC.

NO	REVISIONS	DATE
1	SEE REVISION	6/8/22
	CORRECTIONS	

A1.0

A FIBER ROLLS

Limitations

- Runoff and erosion may occur if fiber roll is not adequately trenched in.
- Fiber rolls at the toe of slopes greater than 1:5 may require the use of 500 mm (20" diameter) or installations achieving the same protection (i.e., stacked smaller diameter fiber rolls, etc.).
- Fiber rolls may be used for drainage inlet protection if they can be properly anchored.
- Difficult to move once saturated.
- Fiber rolls could be transported by high flows if not properly staked and trenched in.
- Fiber rolls have limited sediment capture zone.
- Do not use fiber rolls on slopes subject to creep, slumping, or landslide.

Standards and Specifications

Fiber Roll Materials

- Fiber rolls shall be either:

  (1) Prefabricated rolls.

  (2) Rolled tubes of erosion control blanket.

Assembly of Field Rolled Fiber Roll

- Roll length of erosion control blanket into a tube of minimum 200 mm (8 in) diameter.
- Bind roll at each end and every 1.2 m (4 ft) along length of roll with jute-type twine.

Installation

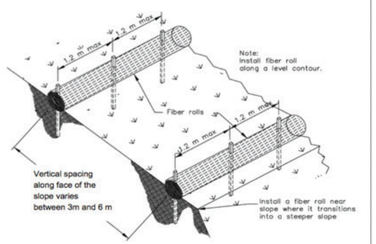
- Slope inclination of 1:4 or flatter: fiber rolls shall be placed on slopes 6.0 m apart.
- Slope inclination of 1:4 to 1:2: fiber rolls shall be placed on slopes 4.5 m apart.
- Slope inclination 1:2 or greater: fiber rolls shall be placed on slopes 3.0 m apart.
- Stake fiber rolls into a 50 to 100 mm (2 to 4 in) trench.
- Drive stakes at the end of each fiber roll and spaced 600 mm (2 ft) apart if Type 2 installation is used (refer to Page 4). Otherwise, space stakes 1.2 m (4 ft) maximum on center if installed as shown on Pages 5 and 6.
- Use wood stakes with a nominal classification of 19 by 19 mm (3/4 by 3/4 in), and minimum length of 600 mm (24 in).
- If more than one fiber roll is placed in a row, the rolls shall be overlapped, not abutted.

Removal

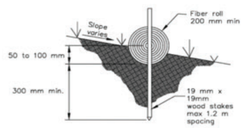
- Fiber rolls are typically left in place.
- If fiber rolls are removed, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions or any other ground disturbance to blend with adjacent ground.

Maintenance and Inspection

- Repair or replace split, torn, unraveling, or slumping fiber rolls.
- Inspect fiber rolls when rain is forecast. Perform maintenance as needed or as required by the RE.
- Inspect fiber rolls following rainfall events and a least daily during prolonged rainfall. Perform maintenance as needed or as required by the RE.
- Maintain fiber rolls to provide an adequate sediment holding capacity. Sediment shall be removed when the sediment accumulation reaches three quarters (3/4) of the barrier height. Removed sediment shall be incorporated in the project at locations designated by the RE or disposed of outside the highway right-of-way in conformance with the Standard Specifications.



TYPICAL FIBER ROLL INSTALLATION
N.T.S.



ENTRENCHMENT DETAIL
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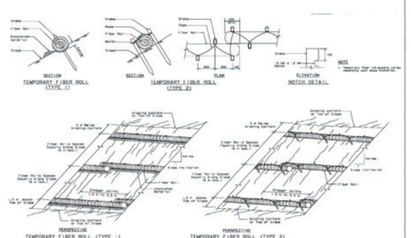

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1 POOL PLAN
1/20"= 1'-0"

David Hewer
DAKARI POOLS, INC
State License No. 840618 - C53 / B

POOL PLAN

PEARL ZALON
3424 MARINA DRIVE
SANTA BARBARA, CA 93110

DAKARI POOLS, INC.
776 W HWY 246, BUELLTON, CA 93427
CELL: 805.886.9454
PLANS TO BE ON JOB SITE AT LL TIMES

Dakari Pools INC.

NO	REVISIONS	DATE
1	SEE REVISION	6/8/22
	CORRECTIONS	

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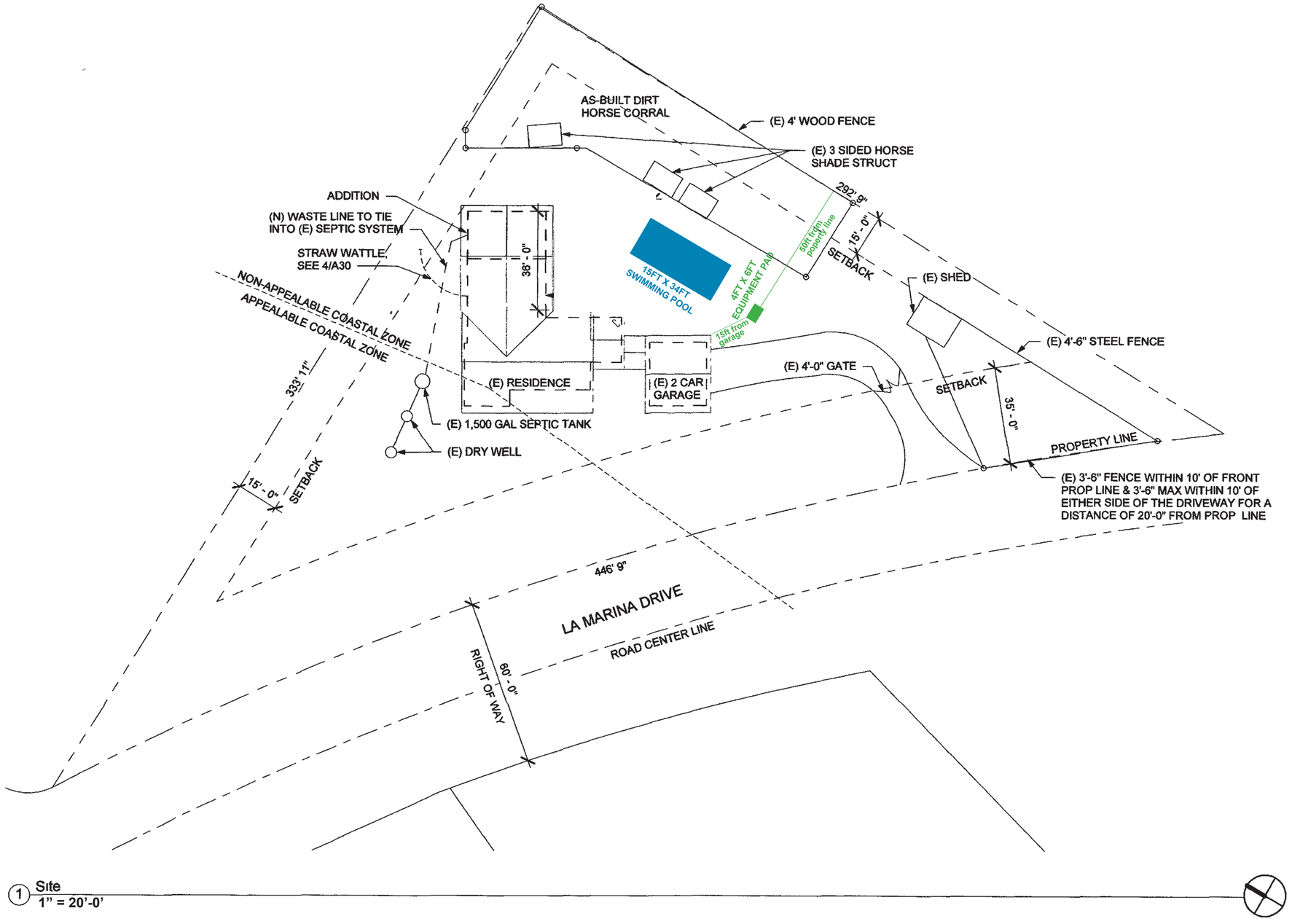

1 Site
1" = 20'-0'

David Hewer
DAKARI POOLS, INC
State License No. 840618 - C53 / B

POOL PLAN

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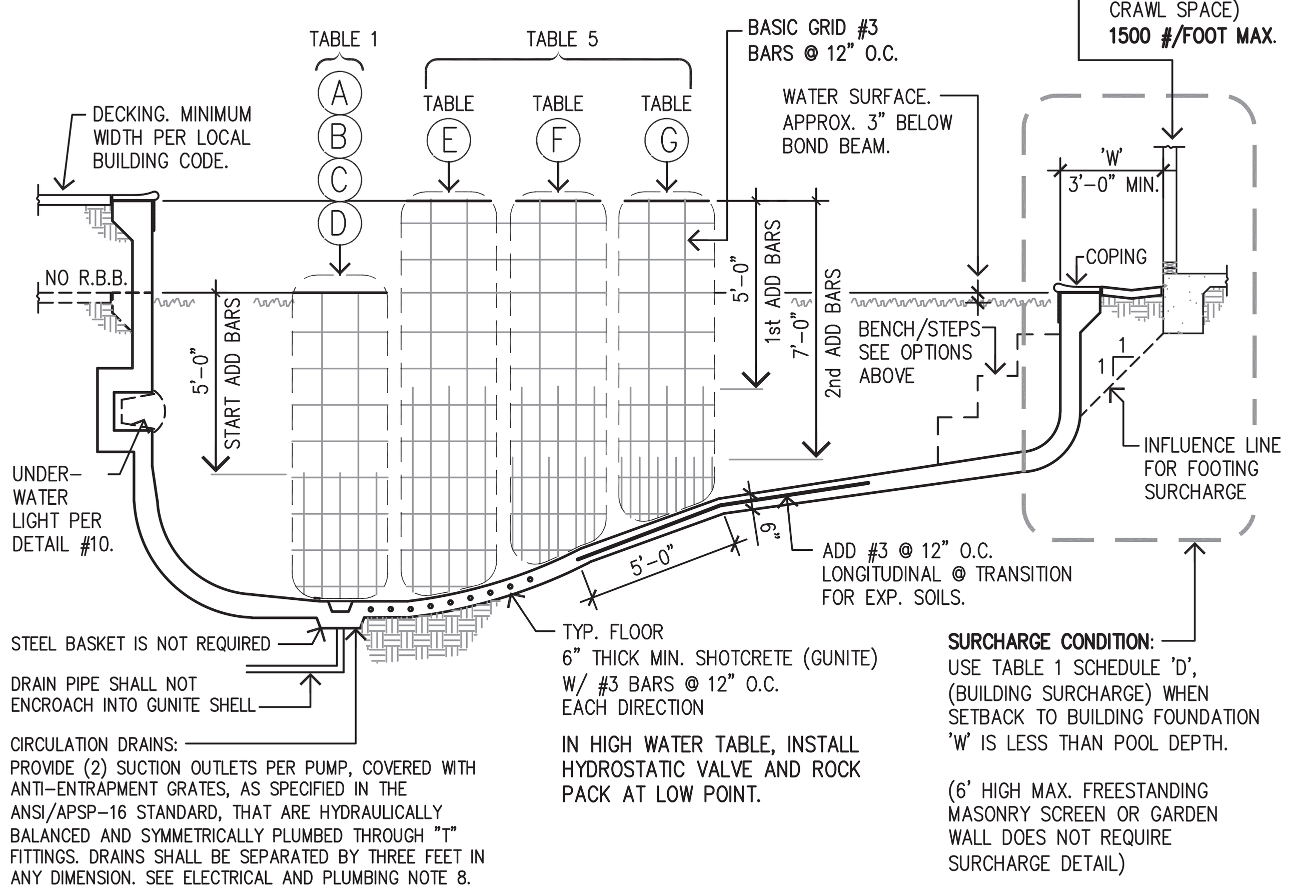
A3.0

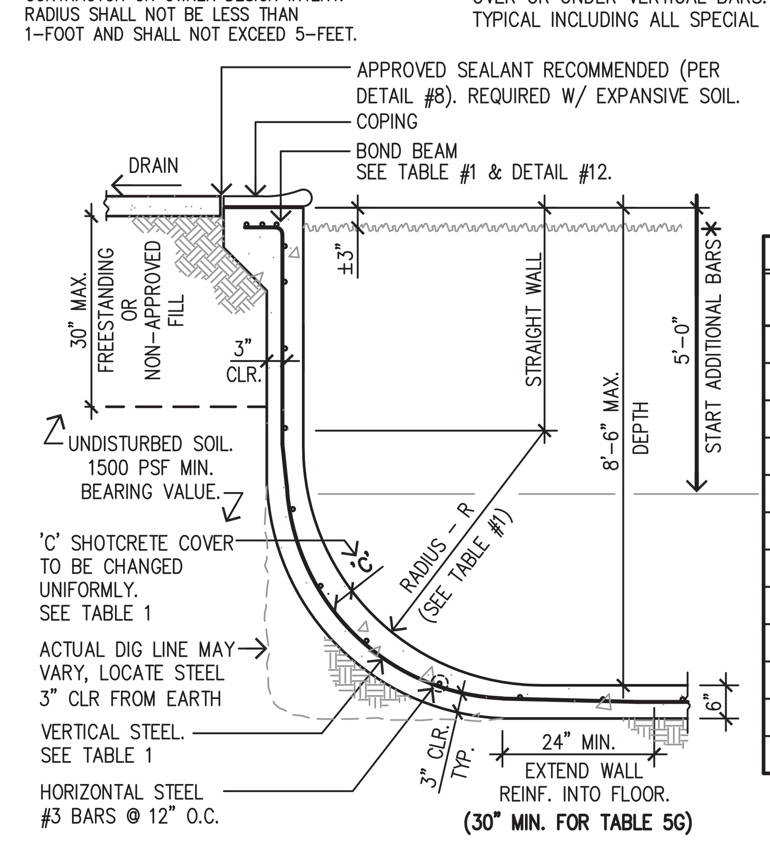
BENCH AND STEP OPTIONS:
1. UNDISTURBED EARTH MAY BE LEFT IN PLACE TO FORM THE STEPS OR BENCHES. REINFORCING STEEL SHOULD BE PLACED AROUND THE STEP OR BENCH SHAPED EARTH (3" CLEAR FROM EARTH).
2. THE EARTH MAY BE REMOVED AND BENCHES AND STEPS MAY BE FORMED OF SHOTCRETE (GUNITE) WITHIN THE STRUCTURAL POOL SHELL. REINFORCING AT THE SURFACE OF THE BENCHES AND STEPS IS OPTIONAL.



TYPICAL LONGITUDINAL SECTION — N.T.S. (2)

RADIUS NOTE: FLOOR TO WALL TRANSITION RADIUS MAY VARY DEPENDING ON CONTRACTOR OR OWNER DESIGN INTENT. RADIUS SHALL NOT BE LESS THAN 1-FOOT AND SHALL NOT EXCEED 5-FEET.

NOTE:
BOND BEAM HORIZONTAL BARS MAY BE OVER OR UNDER VERTICAL BARS. TYPICAL INCLUDING ALL SPECIAL DETAILS.



ADDITIONAL BARS BEGIN AT 5'-0" FROM THE TOP OF THE POOL WALL. (RAISED OR NOT RAISED).

* IF POOL WALL HEIGHT DOES NOT EXCEED 5'-0" THEN NO ADDITIONAL BARS ARE REQUIRED. **(DOES NOT APPLY TO SUPPLEMENT DETAILS)**

TABLE NO. 1

		NON-EXPANSIVE		EXPANSIVE		NO DECK/HIGH EXP.		BUILD'G SURCHARGE	
		A		B		C		D	
		(3) #3 BARS.		(4) #3 BARS.		(4) #3 BARS.		(4) #3 BARS.	
E.F.P.		30 P.C.F.		45 P.C.F.		62.4 P.C.F.		45 P.C.F.	
D	R	C	VERTICAL STEEL	C	VERTICAL STEEL	C	VERTICAL STEEL	C	VERTICAL STEEL
3'0"	1'-0"	3"	#3 @ 12"	3"	#3 @ 12"	3"	#3 @ 12"	3"	#3 @ 12"
3'6"	1'-0"	3"		3"		3"		3"	
4'0"	1'-0"	3"		3"		4"		4"	
4'6"	1'-0"	3"		3½"		5"		5"	
5'0"	1'-6"	3"	#3 @ 6"	4"	#3 @ 6"	5"	#3 @ 6"	5"	#3 @ 6"
5'6"	2'-0"	3"		4"		5"		5½"	
6'0"	2'-6"	3"		4"		6"		5½"	
6'6"	3'-0"	[illegible]		4½"		[illegible]		6½"	
7'0"	3'-6"	3"		[illegible]		[illegible]		[illegible]	
7'6"	4'-0"	3"		5½"		8½"		8½"	
8'0"	4'-6"	3"		6"		9"		8½"	
8'6"	5'-0"	3"		6"		9"		8½"	

ITEM NOT APPLICABLE — POOL ENGINEERING, INC. (×4)

INDICATES TYPICAL RADIUS (ACTUAL RADIUS MAY VARY, SEE RADIUS NOTE AT TOP)

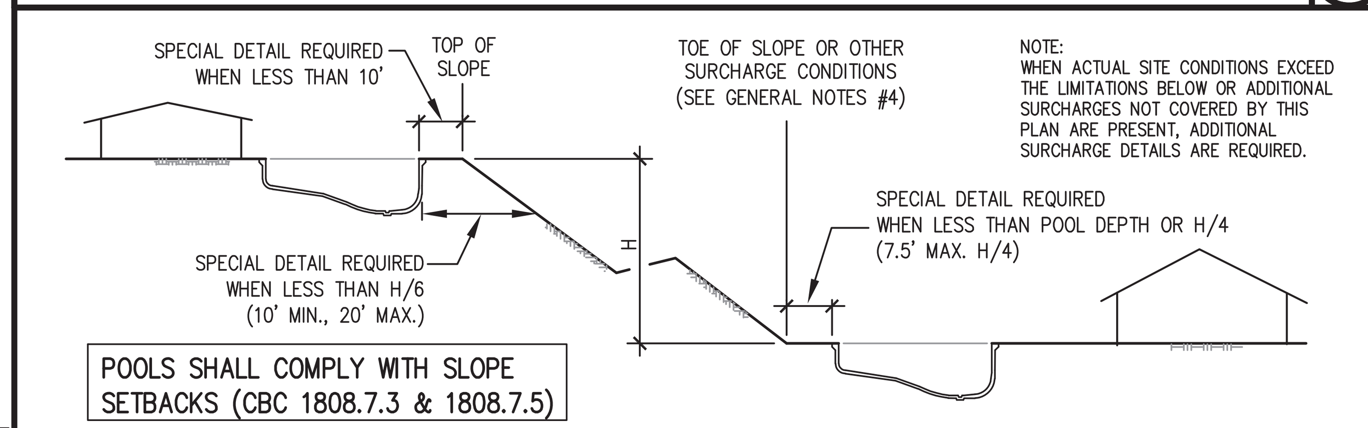
'D' IS DISTANCE DOWN FROM TOP OF POOL WALL.

NO DECK OR HIGH EXPANSIVE SOIL

BUILDING FOOTING SURCHARGE (IN COUNTY OF L.A. USE DETAIL 271-60)

STANDARD WALL SECTION — N.T.S. (1)

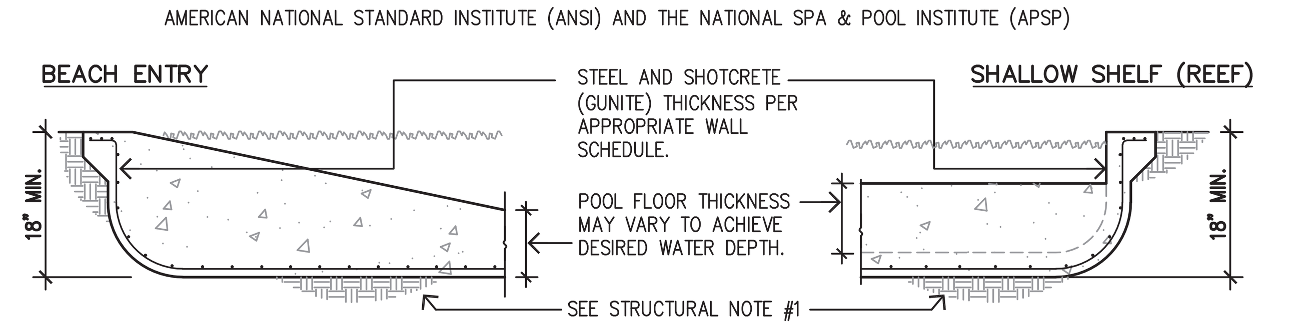
IN THE COUNTY OF ORANGE REFER TO "UNINCOPORATED COUNTY OF ORANGE SPECIAL NOTES" REGARDING DESIGN E.F.P. FOR POOLS.



POOLS SHALL COMPLY WITH SLOPE SETBACKS (CBC 1808.7.3 & 1808.7.5)

SURCHARGE CONDITIONS — ADDITIONAL SPECIAL DETAILS REQUIRED FOR CONDITIONS ABOVE — N.T.S. (3)

REFER TO AMERICAN NATIONAL STANDARD FOR RESIDENTIAL IN-GROUND SWIMMING POOLS PUBLISHED BY AMERICAN NATIONAL STANDARD INSTITUTE (ANSI) AND THE NATIONAL SPA & POOL INSTITUTE (APSP)



SHALLOW FEATURES — MAINTAIN 18" MIN. EMBEDMENT INTO UNDISTURBED OR 90% COMPACTED SOIL — N.T.S. (4)

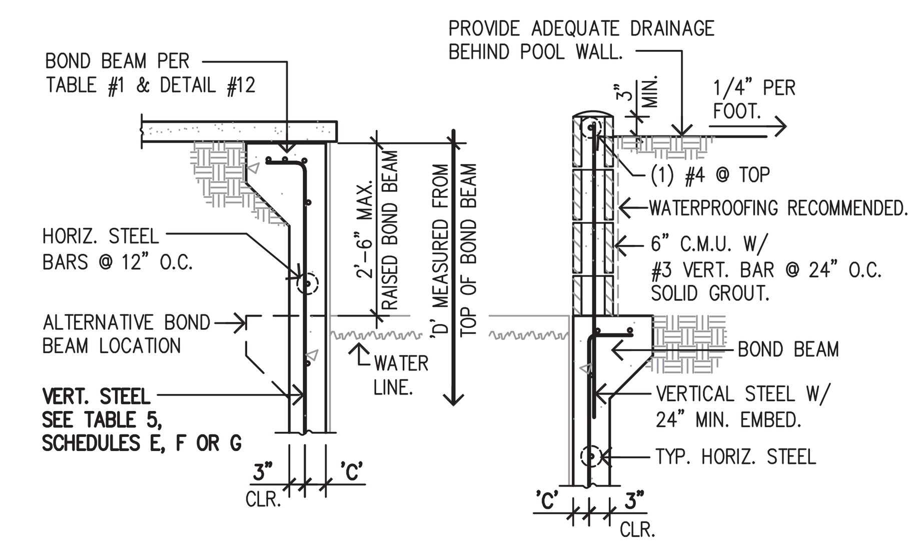


TABLE NO. 5 RAISED BOND BEAM

	NON-EXPANSIVE		EXPANSIVE		NO DECK/HIGH EXP.	
	E		F		G	
E.F.P.	30 P.C.F.		45 P.C.F.		62.4 P.C.F.	
D	C	VERTICAL STEEL	C	VERTICAL STEEL	C	VERTICAL STEEL
3'6"	3"	#3 @ 12"	3"	#3 @ 12"	3"	#3 @ 12"
4'0"	3"		3"		4"	
4'6"	3"		3½		5"	
5'0"	3"	#3 @ 6"	3½"	#3 @ 6"	5"	#3 @ 6"
5'6"	3"		4"		6"	
6'0"	[illegible]		[illegible]		[illegible]	
6'6"	4"		6"		8"	
7'0"	5"		6"	#3 @ 4"	8"	#3 @ 3"
7'6"	5½"		6"		8"	
8'0"	6½"		[illegible]		8½"	
8'6"	[illegible]		[illegible]		[illegible]	
9'0"	[illegible]		[illegible]		10½"	
9'6"	9"		10"		11½"	
10'0"	9"		11"		12"	
11'0"	9"		11"		12½"	

ITEM NOT APPLICABLE — POOL ENGINEERING, INC. (×3)

MASONRY NOTES:
1. CONCRETE BLOCK SHALL BE GRADE N (EXPOSED TO WEATHER), TYPE II (NON-MOISTURE CONTROLLED), NORMAL WEIGHT UNITS (135 PCF), CONFORMING TO CBC/IBC SEC. 2103, AND ASTM C 90. ALL CONCRETE BLOCK SHALL HAVE A DESIGN STRENGTH OF f'm = 2000 psi.
2. GROUT SHALL CONFORM TO CBC/IBC SEC. 2103 & ASTM C 476 WITH f'c=2,000 PSI.
3. MORTAR SHALL BE TYPE M WITH f'c = 2500 psi AND SHALL CONFORM TO CBC/IBC SEC. 2103 & ASTM C 270.

RAISED BOND BEAM — N.T.S. (5)

GENERAL NOTES
1. THIS STANDARD POOL STRUCTURAL PLAN MUST BE ACCOMPANIED BY A CLEAR PLOT PLAN SHOWING POOL AND/OR SPA SHAPE, DEPTH, DISTANCE TO PROPERTY LINE, GRADE CHANGES & SLOPES AND ADJACENT STRUCTURES.
2. REPRESENTATIVES OF POOL ENGINEERING INC. HAVE NOT INSPECTED THE SITE & ARE RELYING ON INFORMATION PROVIDED BY THE CONTRACTOR OR OWNER TO DETERMINE THE ADEQUACY OF THIS STANDARD POOL STRUCTURAL PLAN FOR THE ACTUAL SITE CONDITIONS. SHOULD SITE CONDITIONS VARY FROM THAT COVERED BY THIS STANDARD POOL STRUCTURAL PLAN, IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR THE OWNER TO NOTIFY POOL ENGINEERING INC. AND OBTAIN APPLICABLE SPECIAL ENGINEERING DETAILS PRIOR TO CONSTRUCTION. EXPANSIVE SOIL DETAILS ARE VALID ONLY FOR STATED EQUIVALENT FLUID PRESSURES AND POOL ENGINEERING INC. RECOMMENDS THAT THE OWNER OR CONTRACTOR OBTAIN A SOILS REPORT.
3. POOL ENGINEERING INC. (PEI) RECOMMENDS THAT THE PROPERTY OWNER AND/OR POOL CONTRACTOR RETAIN A LICENSED GEOTECHNICAL CONSULTANT TO OBTAIN GEOTECHNICALLY RELATED DESIGN CRITERIA FOR THE PROPOSED POOL SITE. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR POOL CONTRACTOR TO REQUIRE THAT THE LICENSED GEOTECHNICAL CONSULTANT CONFIRM THAT THE POOL STRUCTURAL PLANS PROVIDED MEET THE REQUIREMENTS OF THE PROJECT SITE AND THE GEOTECHNICAL REPORT. WHEN A GEOTECHNICAL REPORT HAS NOT BEEN PROVIDED TO PEI, IT IS THE OWNER AND/OR CONTRACTOR'S RESPONSIBIILITY TO VERIFY THAT THE SITE GEOTECHNICAL CONDITIONS ARE SUITABLE FOR CONSTRUCTION OF THE PROPOSED POOL BASED ON THE PEI PLANS BEING USED.
4. THIS PLAN IS NOT VALID WITHOUT ADDITIONAL SURCHARGE DETAILS WHEN THE CONDITIONS AS SHOWN IN DETAIL #3 APPLY (PER CBC SECTION 1808.7.3). ALL POOLS SHALL COMPLY WITH SLOPE SETBACKS PER CBC SECTION 1808.7.3.
5. THE STANDARD POOL STRUCTURAL PLAN IS NOT INTENDED TO BE APPLICABLE TO NON-STRUCTURAL ITEMS INCLUDING BUT NOT LIMITED TO PLUMBING, ELECTRICAL, FENCING, CONCRETE DECKING AND POOL GEOMETRICS.
6. DECKING CONSTRUCTION IS SHOWN AS RECOMMENDED MINIMUM CONSTRUCTION AND DOES NOT DEMONSTRATE A SYSTEM THAT WILL RESIST HEAVING DUE TO SOIL EXPANSION.
7. ALL CONSTRUCTION SHALL COMPLY WITH THE 2019 EDITIONS OF THE CALIFORNIA BUILDING CODE (CBC), CALIFORNIA ELECTRICAL CODE (CEC), CALIFORNIA MECHANICAL CODE (CMC), CALIFORNIA PLUMBING CODE (CPC), CALIFORNIA ENERGY CODE, 2019 BUILDING ENERGY EFFICIENCY STANDARDS, 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE, AND LOCAL ORDINANCES.
8. POOLS WITH DIVING BOARDS SHALL MEET DIVING BOARD MANUFACTURER'S POOL GEOMETRIC STANDARDS AND/OR LOCAL CODES.
9. SIGNS & SAFETY EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODES.
10. PUBLIC POOLS REQUIRE COUNTY HEALTH DEPARTMENT APPROVAL AND PROVISIONS FOR ASSISTIVE DEVICES FOR THE DISABLED.
11. CONTRACTOR OR OWNER SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS AT JOB SITE. POOL LENGTH, GRADE BREAK LOCATIONS & DEPTH DIMENSIONS AS NOTED ON THE PLOT PLAN SHALL COMPLY WITH APSP SUGGESTED MINIMUM STANDARDS FOR RESIDENTIAL POOLS OR APPLICABLE STATE AND LOCAL HEALTH DEPARTMENTS REGULATIONS AND MANUFACTURERS RECOMMENDATIONS.

ELECTRICAL AND PLUMBING
1. ALL ELECTRICAL SHALL BE IN CONFORMANCE WITH THE 2019 CEC.
2. POOL SHELL AND PERIMETER PAVED AND UNPAVED SURFACES SHALL BE BONDED IN ACCORDANCE WITH CEC 680.26(B). BONDING TO PERIMETER SURFACES SHALL BE PROVIDED AS SPECIFIED IN CEC 680.26(B)(2)(A) OR (2)(B) AND SHALL BE ATTACHED TO THE POOL REINFORCING STEEL OR COPPER CONDUCTOR GRID AT A MINIMUM OF FOUR (4) POINTS UNIFORMLY SPACED AROUND THE PERIMETER OF THE POOL.
3. OBTAIN ELECTRICAL AND PLUMBING PERMITS ALONG WITH POOL BUILDING PERMIT.
4. ALL EQUIPMENT SHALL BE LISTED AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND IN ACCORDANCE WITH LOCAL REGULATIONS.
5. POOLS SHALL BE EQUIPPED WITH A FILTERING SYSTEM.
6. BACKWASH SHALL BE DISPOSED OF IN AN APPROVED MANNER.
7. POOL/SPA WATER HEATER AND GAS PIPING INSTALLATION TO BE IN CONFORMANCE WITH THE CPC.
8. SUCTION OUTLETS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH ANSI/APSP-7 AND 2019 CBC SECTION 3109 (HS CODE §§ 115920-115929).
9. POTABLE WATER SUPPLY TO SWIMMING POOLS, SPAS, AND HOT TUBS SHALL BE PROTECTED FROM BACKFLOW IN ACCORDANCE WITH CPC 603.5.20
10. CHEMICAL DISPENSERS SHALL COMPLY WITH 2019 CPC SECTION 603.5.21 REQUIREMENTS FOR PROTECTION AGAINST BACKFLOW AND COMPLY WITH ASSE 1055.

STRUCTURAL NOTES
1. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1500 PSF. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR BUILDING DEPARTMENT APPROVED 90% COMPACT FILL. THIS PLAN IS NOT SUITABLE WHERE POTENTIAL EXISTS FOR DIFFERENTIAL MOVEMENT FROM DISSIMILAR SOIL CONDITIONS UNDER POOL, INCLUDING BUT NOT LIMITED TO CUT-FILL TRANSITIONS.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS & CONFORM TO ASTM A615 GRADE 40 FOR #3 BARS AND #4 BARS. SPLICES TO BE LAPPED A MINIMUM OF 24". MINIMUM CLEARANCE BETWEEN PARALLEL BARS IS 2 1/2".
3. (1) #4 BAR IS EQUIVALENT TO AND MAY BE USED IN PLACE OF (2) #3 BARS, WITH THE EXCEPTION THAT IF #4 BARS ARE USED FOR THE BASIC GRID, THE MAXIMUM SPACING IS #4 BARS AT 18" O.C..
4. THE PLAN TABLES SPECIFY THE MINIMUM REQUIRED REINFORCEMENT. FOR CONVENIENCE OF THE INSTALLER, THERE MAY BE MORE REINFORCEMENT THAN SPECIFIED AT ANY GIVEN POINT IN THE POOL STRUCTURE.
5. BONDING/GROUNDING (PER THE CEC) OF THE STRUCTURAL REINFORCING MUST BE INSTALLED PRIOR TO PLACEMENT OF CONCRETE.
6. SHOTCRETE (GUNITE) TO BE IN CONFORMANCE WITH CBC SECTION 1908 & SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. WHERE APPLICABLE, SHOTCRETE (GUNITE) TO BE IN CONFORMANCE WITH CBC SECTION 1904 DURABILITY REQUIREMENTS. AGGREGATE SHALL NOT EXCEED 3/4-INCH.
7. CEMENT SHALL CONFORM TO CBC SECTION 1903.1, ACI 318 CHAP. 19 & ASTM C 150.
8. SHOTCRETE/GUNITE IN CONTACT WITH SOIL SHALL BE IN ACCORDANCE WITH ACI 318 SECTION 19.3 FOR CONCRETE EXPOSURE TO SULFATE AND AS DIRECTED BY LOCAL BUILDING OFFICIAL.
9. KEEP CONCRETE DAMP CONTINUOUSLY FOR 14 DAYS.
10. ALL INTERIOR SURFACES OF POOL/SPA SHALL BE COATED WITH A WATERPROOF SURFACE.

GLAZING IN HAZARDOUS LOCATIONS
WHEN REQUIRED BY THE BUILDING OFFICIAL, GLAZING SHALL COMPLY WITH THE CBC SECTION 2406.4, INCLUDING LOCALLY ADOPTED AMENDMENTS.
1. GLAZING IN WALLS AND FENCES USED AS A BARRIER SHALL BE SAFETY GLAZING WHEN ALL OF THE FOLLOWING CONDITIONS ARE PRESENT:
   A. THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE ANY STANDING OR WALKING SURFACE.
   B. THE GLAZING IS WITHIN 5 FEET OF A SWIMMING POOL OR SPA DECK AREA.

CONTINUOUS SHOTCRETE INSPECTION
WHERE REQUIRED BY THE PERMITTING AGENCY, PNEUMATIC CONCRETE PLACEMENT SHALL BE INSPECTED BY A SPECIAL INSPECTOR IN CONFORMANCE WITH CBC SECTION 1704, WHO SHALL SUBMIT A STATEMENT INDICATING COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.

TITLE 24
1. PUMPS SHALL BE SIZED PER SECTION 150(p) OF THE LATEST ADOPTED EDITION OF THE BUILDING ENERGY EFFICIENCY STANDARDS.
2. A LENGTH OF STRAIGHT PIPE GREATER THAN OR EQUAL TO 4 PIPE DIAMETERS SHALL BE INSTALLED BEFORE THE PUMP.
3. ALL ELBOWS SHALL BE SWEEP ELBOWS.
4. MANDATORY REQUIREMENTS FOR POOL & SPA HEATING SYSTEMS & EQUIPMENT:
   4.1. SYSTEM IS CERTIFIED WITH: THERMAL EFFICIENCY THAT COMPLIES WITH THE APPLIANCE EFFICIENCY REGULATIONS, READILY ACCESSIBLE ON-OFF SWITCH, WEATHERPROOF OPERATING INSTRUCTIONS ON ENERGY EFFICIENT OPERATIONS, NO ELECTRIC RESISTANCE HEATING AND NO PILOT LIGHT.
   4.2. SYSTEM IS INSTALLED WITH:
   A) AT LEAST 36" PIPE BETWEEN FILTER & HEATER FOR FUTURE SOLAR HEATING.
   B) COVER FOR OUTDOOR POOLS OR OUTDOOR SPA.
   4.3. POOL SYSTEM HAS DIRECTIONAL INLETS & A CIRCULATION PUMP TIME SWITCH TO PERMIT OFF PEAK OPERATION.

FENCING AND BARRIERS
1. PRIOR TO FILLING, THE POOL AND OR SPA SHALL BE COMPLETELY ENCLOSED BY 5' MIN. HIGH FENCING & GATES WITH NO OPENINGS 4" OR GREATER. GATES TO BE SELF-CLOSING & SELF-LATCHING WITH LATCH A MIN. OF 5' HIGH. ACCESS GATES THROUGH FENCING SHALL OPEN AWAY FROM THE POOL. MAXIMUM VERTICAL CLEARANCE FROM GROUND TO POOL FENCING SHALL NOT EXCEED 2 INCHES. WHERE THIS VARIES FROM LOCAL CODES, THE LOCAL CODES SHALL PREVAIL.
2. BARRIERS SHALL COMPLY WITH CBC SECTION 3109 (HS CODE §§ 115920-115929), INCLUDING LOCALLY ADOPTED AMENDMENTS.
   A. IN THE COUNTY OF LOS ANGELES, BARRIERS REQUIRED BY CHAPTER 11.50 OF THE LOS ANGELES COUNTY HEALTH AND SAFETY CODE AND ORDINANCE 95-0039 SHALL BE REQUIRED. THESE BARRIER REQUIREMENTS SHALL BE ATTACHED TO THE SWIMMING POOL SITE PLAN.

COUNTY OF LOS ANGELES SPECIAL NOTES
1. IN THE COUNTY OF LOS ANGELES, THE DEPARTMENT OF PUBLIC WORKS, BUILDING & SAFETY/LAND DEVELOPMENT DIVISION NOTES TITLED BARRIERS FOR SWIMMING POOL, SPAS, AND HOT TUBS FOR R-3 OCCUPANCIES SHALL BE ATTACHED TO AND MADE A PART OF THE SITE PLAN.
2. CONSTRUCTION TO BE PER THE LATEST ADOPTED EDITION OF THE LOS ANGELES COUNTY BUILDING CODE (LACBC).
3. IN LOS ANGELES COUNTIES SETBACK TO TOE OF ASCENDING SLOPE SHALL NOT BE LESS THAN 1 1/2 FEET & SETBACK TO TOP OF DESCENDING SLOPE SHALL NOT BE LESS THAN 2 1/2 FEET.
4. ALL POOL CONSTRUCTION SHALL BE BASED ON AN EQUIVALENT FLUID PRESSURE EQUAL TO OR GREATER THAN 60 P.C.F., UNLESS A SOILS REPORT IS SUBMITTED FOR REVIEW.

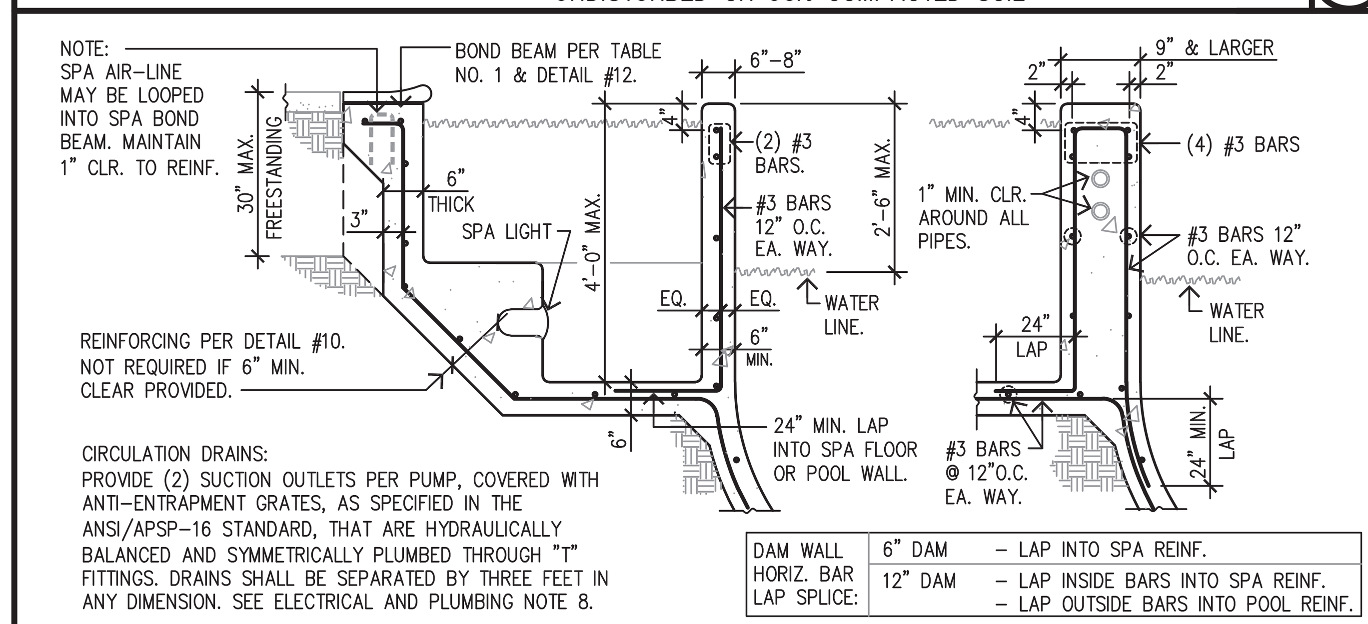
CITY OF SIMI VALLEY SPECIAL NOTES
1. SEE THE ATTACHED "CITY OF SIMI VALLEY RESIDENTIAL SWIMMING POOL NOTES" FOR BUILDING CODE REQUIREMENTS AND DISPOSAL OF POOL WASTEWATER.
2. THE MINIMUM DESIGN EQUIVALENT FLUID PRESSURE (EFP) IS 60 PSF/FT (PCF) FOR POOLS SET IN LEVEL GRADE/LEVEL BACKFILL THAT MEET THE CITY OF SIMI VALLEY SLOPE SETBACK REQUIREMENTS FOR POOL PROJECTS THAT DO NOT SUBMIT OR REQUIRE A SOILS REPORT (CBC TABLE 1610.1).

UNINCORPORATED COUNTY OF ORANGE SPECIAL NOTES
1. WHERE SITE SPECIFIC SOIL TESTING HAS NOT BEEN PERFORMED:
   1.1. POOLS SHALL BE DESIGNED FOR A MINIMUM DESIGN EQUIVILENT FLUID PRESSURE (E.F.P.) OF 100 P.S.F.
   1.2. ALL CONCRETE IN CONTACT WITH SOIL SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'c) EQUAL TO 4,500 P.S.I., TYPE V CEMENT, AND W/C RATIO EQUAL TO 0.45. (THIS SHALL SUPERSEDE ALL OTHER LOWER F'c SPECIFICATIONS SET FORTH).
   1.3. DROWNING PREVENTION SAFETY FEATURES SHALL BE PROVIDED PER COUNTY ORDINANCE NO. 19-006 SECTION 7-1-56 SECTION AV100.

CITY OF SANTA CLARITA SPECIAL NOTES
CONSTRUCTION MATERIALS, CONCRETE, PLASTER, DIRT, GRAVEL, SAND, AND ACIDS AS WELL AS ANY WASH WATERS ARE PROHIBITED FROM ENTERING THE STREET, GUTTER, AND STORM DRAIN SYSTEM PER THE SANTA CLARITA MUNICIPAL CODE.
USE PROPER BEST MANAGEMENT PRACTICES TO PREVENT OR CAPTURE ANY CONSTRUCTION ACTIVITY RUNOFF INTO THE STORM DRAIN SYSTEM.

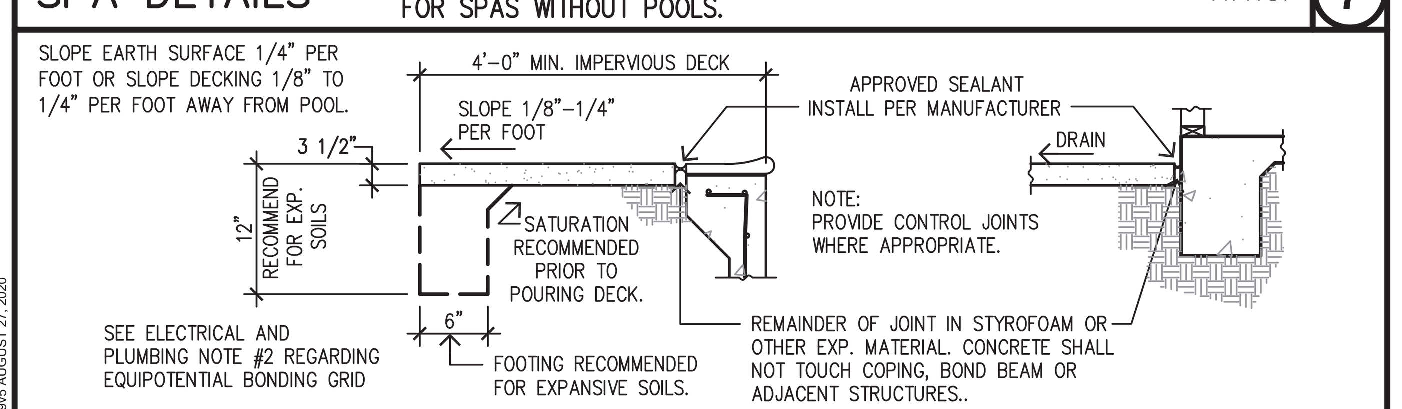
COUNTY OF SAN BERNARDINO SPECIAL NOTES
1. THESE PLANS ARE FOR PRIVATE RESIDENTIAL USE ONLY.
2. ALL POOL CONSTRUCTION SHALL COMPLY WITH THE 2018 INTERNATIONAL SWIMMING POOL AND SPA CODE (ISPSC) AND COUNTY OF SAN BERNARDINO INFORMATION BULLETIN IB-0007. PERMIT APPLICANT SHALL PROVIDE PLANS SHOWING POOL ARCHITECTURAL DESIGN AND GEOMETRY.
3. IN THE ABSENCE OF SITE SPECIFIC SOIL TESTING: POOL CONSTRUCITON SHALL BE BASED ON AN E.F.P. OF 60 P.C.F. OR GREATER AND ALL CONCRETE IN CONTACT WITH SOIL SHALL HAVE AT MIN: F'c = 4,500 PSI, TYPE V CEMENT AND W/C RATIO = 0.45
4. ENGINEER OF RECORD SHALL PROVIDE SITE PLAN REVIEW STAMP AND SIGNATURE ON SITE PLAN VERIFYING APPROPRIATE PROPOSED POOL LOCATION.

NOTES — BY THE USE OF THIS PLAN, THE USER ACKNOWLEDGES THAT HE HAS READ & UNDERSTANDS ALL OF THE NOTES INCLUDED HEREIN. (6)

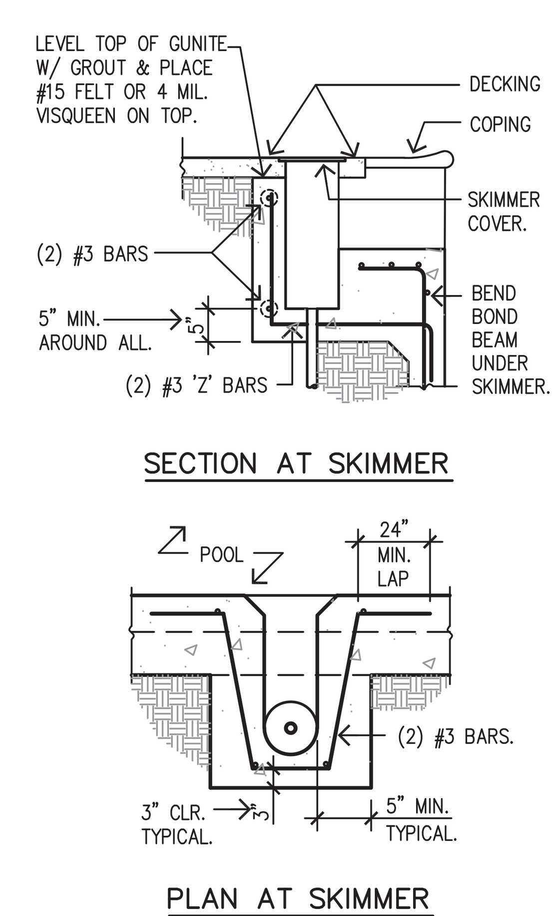


DAM WALL HORIZ. BAR LAP SPLICE:	6" DAM	- LAP INTO SPA REINF.
	12" DAM	- LAP INSIDE BARS INTO SPA REINF. - LAP OUTSIDE BARS INTO POOL REINF.

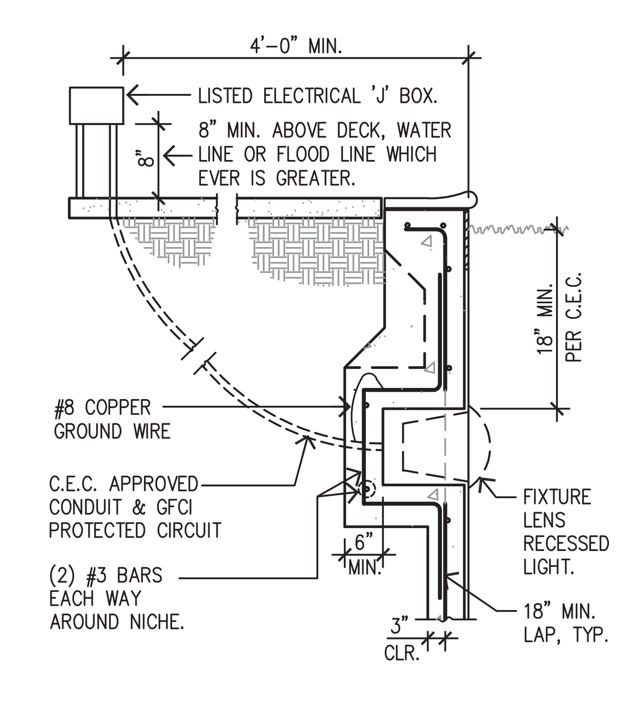
SPA DETAILS — SPA DETAILS MAY BE USED FOR SPAS WITHOUT POOLS. — N.T.S. (7)



EXPANSIVE SOIL DETAILS — IN EXPANSIVE SOILS WHERE MIN DECK REQMTS ARE NOT MET USE TABLE 1, SCHEDULE 'C' — N.T.S. (8)

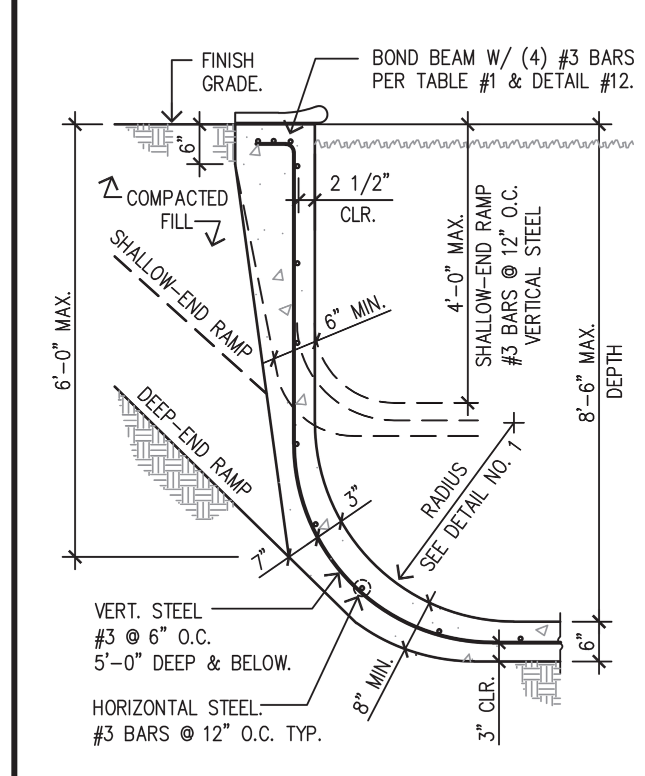


SKIMMER DETAIL — N.T.S. (9)



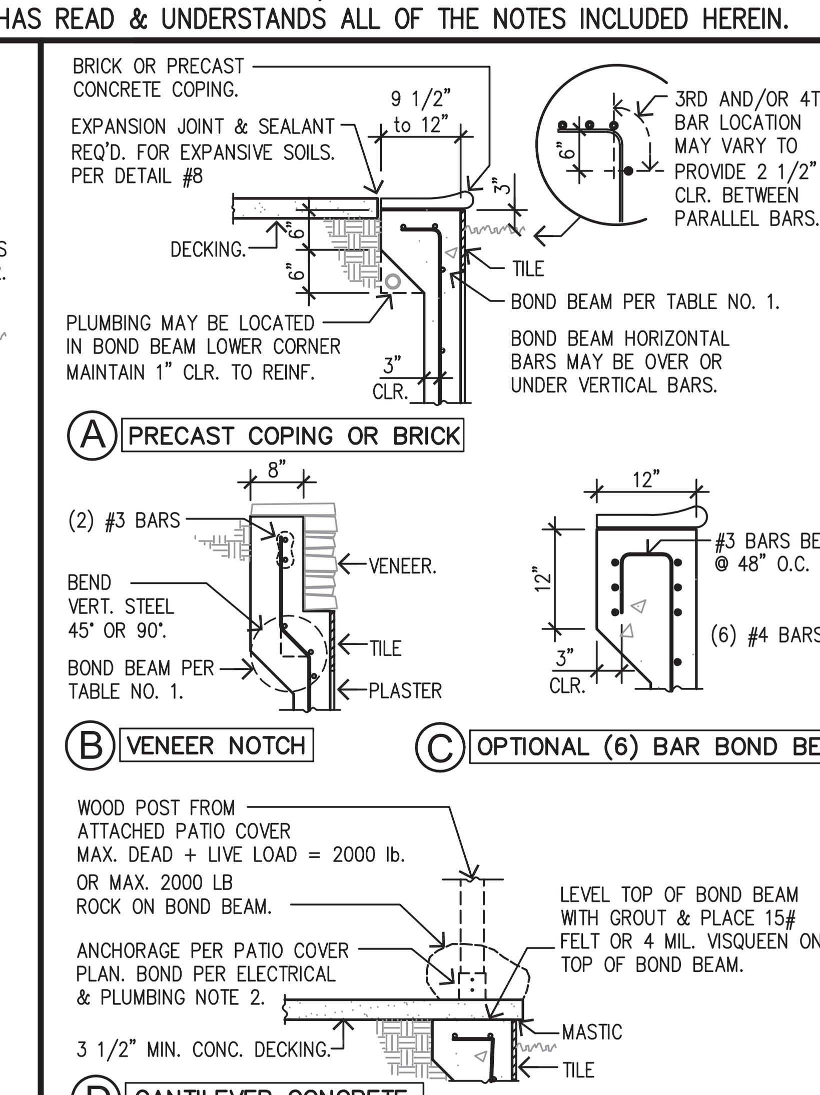
NOTES:
1. INSTALL NO. 8 COPPER GROUND WIRE FROM LIGHT NICHE TO BRASS CONDUIT TO POOL REBAR, OR NON-METALLIC CONDUIT CAN BE USED WITH INSULATED NO. 8 COPPER WIRE INTERIOR W/ APPROVED POTTING COMPOUND PER THE C.E.C.
2. SWIMMING POOL LIGHTING FIXTURES SHALL COMPLY WITH APPLICABLE UNDERWRITERS' LABORATORIES REQUIREMENTS FOR LIGHTING FIXTURES U.L. STANDARD 676.

SECTION AT LIGHT — N.T.S. (10)



NOTE:
EXTRA REINFORCING TO EXTEND 24" MIN. EACH SIDE OF RAMP.

SHALLOW/DEEP END RAMP (11)



BOND BEAM DETAILS — N.T.S. (12)

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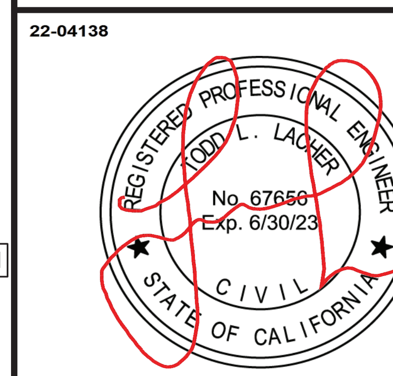
FOR USE ONLY AT
3424 Marina Dr
Santa Barbara CA 93110

22-04138



Date: 4/18/2022

PLAN VALID ONLY WITH WET STAMP & ENGINEER'S SIGNATURE IN RED INK ON PLAN.

AUTHORIZED SIGNATURES:
RONALD L. LACHER, P.E.
TODD L. LACHER, P.E.
CHRIS BIEDENBACH, P.E.
MATTHEW THOMPSON, P.E.

STANDARD PLAN APPROVALS:

CITY OF LOS ANGELES:	#268 (REQUIRES PEI 100-LA)	SAN BERNARDINO:	#POOL-2019-00144	KERN COUNTY:	#K201908764
CITY OF ONTARIO:	#B201904315	RIVERSIDE COUNTY:	#342375	CITY OF FRESNO:	P-00-01 (REQ'S SUPPLEMENTAL NOTES)
SAN DIEGO:	MP #525633	ORANGE COUNTY:	#MB20-0001	FRESNO COUNTY:	REQ'S SUPPLEMENTAL NOTES
SIMI VALLEY:	2019-1	LOS ANGELES COUNTY:	#26077-20	VENTURA COUNTY:	S.P.A. # 6-2017 (REQ'S PEI 100-VCO)
SANTA CLARITA:		CITY OF BEVERLY HILLS:	#13		

STANDARD POOL STRUCTURAL PLAN

PREPARED IN ACCORDANCE WITH THE 2019 CALIFORNIA BUILDING CODE (2018 INTERNATIONAL BUILDING CODE)

pool engineering inc.
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Phone: (714) 630-6100

SHEET: **100**

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STANDARD POOL STRUCTURAL PLAN

19v5 AUGUST 27, 2020

100SC CBC19

CALCULATIONS

METHODOLOGY:

γ = EQUIVALENT FLUID PRESSURE

CASE I

OTM = 1/6 γ H^3 WHERE γ = 100 pcf

NET MOM = OTM − RESISTING MOMENT

CASE II

OTM = 1/6 γ H^3 WHERE γ = 62.4 pcf

NET MOM = OTM + RESISTING MOMENT

$$fs = \frac{M(12\ in/ft)}{As\ j\ d} = \frac{Mt\ (12)}{As\ (0.887)\ d}$$

$$fc = \frac{M(2)\ 12\ in/ft}{j\ k\ b\ d^2}$$

$$= \frac{Mt\ (2)(12)}{(0.887)(0.339)(12)\ d^2} < 1125\ psi$$

$$vc = \frac{(1/2)\ \gamma\ H^2}{(12\ in/ft)\ j\ d}$$

$$= \frac{\gamma\ H^2}{(2)(12)(0.887)\ d} < 55\ psi$$

f'c = 2,500 psi

Fs = 20,000 psi

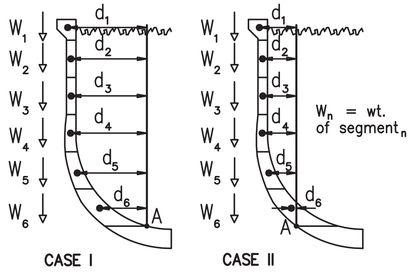
fc = 0.45 f'c = 1125 psi

Vc = 1.1 $\sqrt{f'c}$ = 55 psi

RESISTING MOMENT:

RESISTING MOMENT ABOUT POINT A

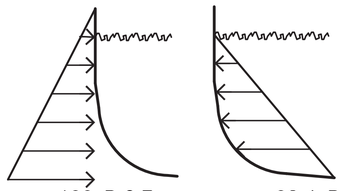
RM = $W_1 d_1 + W_2 d_2 + \ldots W_n d_n$



CASE I CASE II

LOADING DIAGRAM:

THIS DETAIL IS DESIGNED FOR EACH OF THE LOAD CASES DEFINED BELOW.



γ = 100 P.C.F. CASE I

γ = 62.4 P.C.F. CASE II

CALCULATION RESULTS:

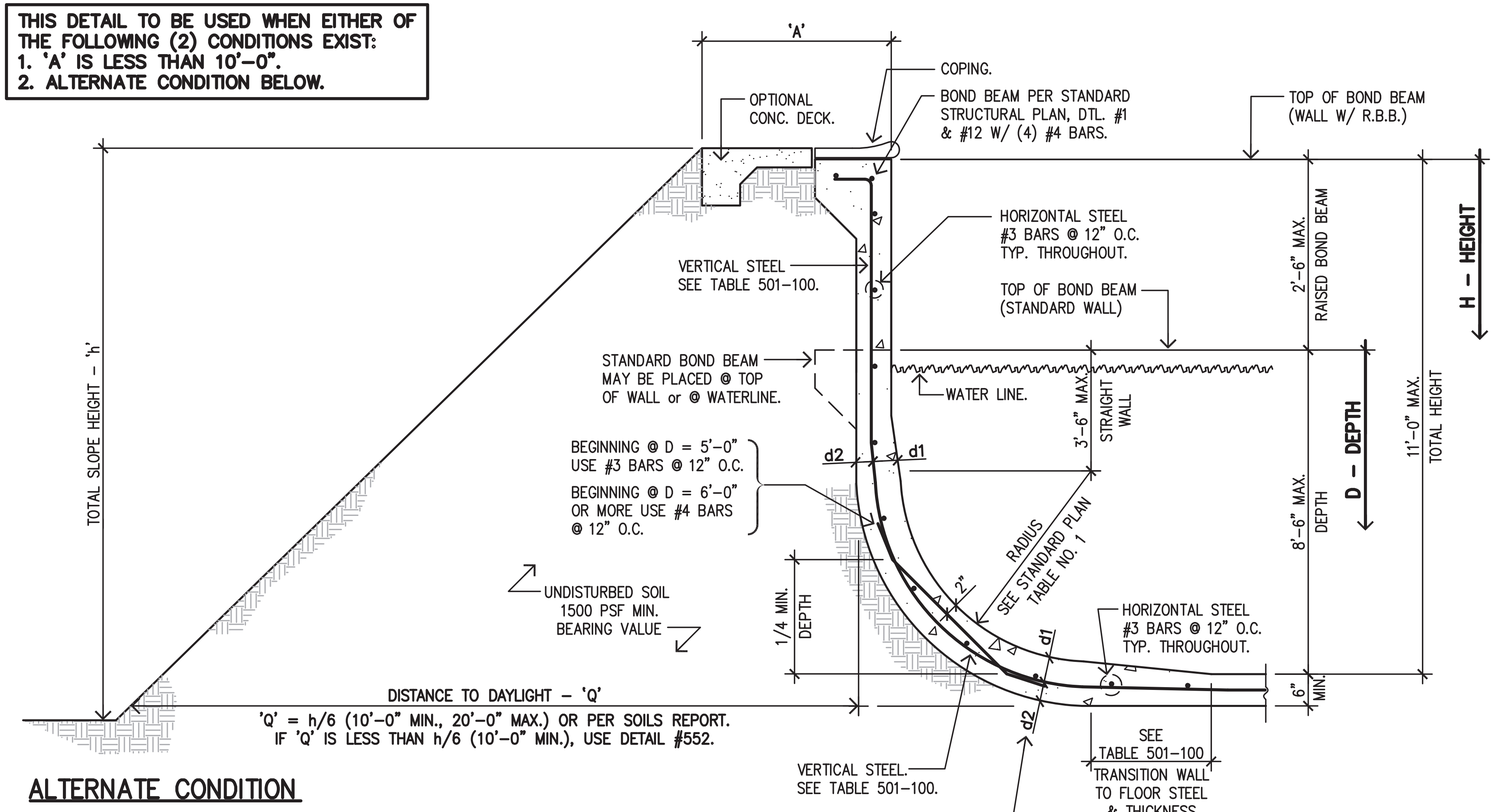
FREESTANDING WALL
EQUIVALENT FLUID PRESSURE = 100 P.C.F.
RESULTS FOR NO RAISED BOND BEAM

DEPTH 'D'	SOIL OTM ft−#	WATER OTM ft−#	SOIL RM ft−#	WATER RM ft−#	NET Mom	CASE I d1 SOIL	CASE II d2 WATER	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
3'−0"	450	281	97	−44	353	3"	3"	#3 @ 12"	13804	384	12.5
4'−0"	1067	666	129	−85	937	4"	3"	#3 @ 4"	9467	420	16.7
5'−0"	2083	1300	241	−36	1842	4"	3"	"	18611	911	26.0
6'−0"	3600	2246	506	28	3094	5"	4"	add 3 #4	12169	793	30.0
7'−0"	5717	3567	1047	380	4670	5"	5"	"	18364	1119	40.8
8'−0"	8533	5325	2265	810	6135	6½"	6"	"	19908	1085	41.0
8'−6"	10235	6387	5031	389	6775	6½"	7"	"	18696	928	46.3

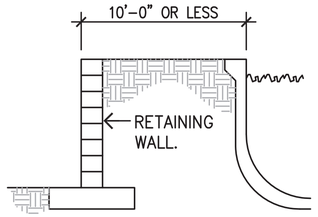
RESULTS FOR 2'−6" MAX. RAISED BOND BEAM

HEIGHT 'H'	SOIL OTM ft−#	WATER OTM ft−#	SOIL RM ft−#	WATER RM ft−#	NET Mom	CASE I d1 SOIL	CASE II d2 WATER	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
3'−0"	450	1	97	−44	353	3"	3"	#3 @ 12"	13804	384	12.5
4'−0"	1067	35	121	−93	946	4"	3"	#3 @ 4"	9556	424	16.7
5'−0"	2083	163	147	−137	1936	4½"	3"	"	17291	716	23.1
6'−0"	3600	446	183	−213	3417	5½"	3"	add 3 #4	12154	698	27.3
7'−0"	5717	948	221	−278	5495	6"	3"	"	17832	972	34.0
8'−0"	8533	1730	274	−451	8260	7½"	3½"	add 3 #5	14680	885	35.6
9'−0"	12150	2856	349	−670	11801	9½"	3½"	"	16351	857	35.5
10'−0"	16667	4388	453	−990	16214	11½"	4"	"	18381	1057	36.6
11'−0"	22183	6387	2214	−1471	19969	13"	5"	"	19909	1044	38.8

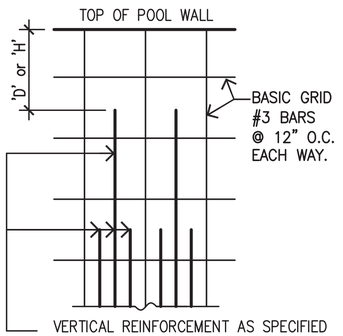
THIS DETAIL TO BE USED WHEN EITHER OF THE FOLLOWING (2) CONDITIONS EXIST:
1. 'A' IS LESS THAN 10'−0".
2. ALTERNATE CONDITION BELOW.



ALTERNATE CONDITION



TYPICAL ADD BAR REINFORCING DIAGRAM



VERTICAL REINFORCEMENT AS SPECIFIED IN TABLE STARTS A DISTANCE 'D' OR 'H' DOWN FROM TOP OF POOL WALL. REINFORCEMENT OTHER THAN BASIC GRID NEED NOT EXTEND TO TOP OF POOL WALL. ADD BARS TO BE EQUALLY SPACED BETWEEN BASIC GRID.

TABLE 501−100

'D' OR 'H' IS DISTANCE FROM TOP OF POOL WALL DOWNWARD.
BEGIN SPECIFIED STEEL & GUNITE THICKNESS AT INDICATED 'D' OR 'H' DEPTH.
(SEE STANDARD STRUCTURAL PLAN, DETAIL #2)

POOL DEPTH	NO RAISED BOND BEAM			REQ'D TRANS.
D	d1	d2	VERTICAL STEEL	
0 to 3'0"	3"	3"	#3 @ 12"	2'−0"
3'−6"	4"	3"	"	2'−0"
4'−0"	4"	3"	#3 @ 4"	2'−0"
4'−6"	4"	3"	"	2'−0"
5'−0"	4"	3"	"	2'−0"
5'−6"	5"	4"	"	2'−0"
6'−0"	5"	4"	add 3 #4	2'−0"
6'−6"	4½"	4"	"	2'−2"
7'−0"	5"	5"	"	2'−5"
7'−6"	6"	5½"	"	2'−8"
8'−0"	6½"	6"	"	2'−10"
8'−6"	6½"	7"	"	3'−0"

TOTAL HEIGHT	2'−6" MAX. RAISED BOND BEAM			REQ'D TRANS.
H	d1	d2	VERTICAL STEEL	
0 to 3'0"	3"	3"	#3 @ 12"	2'−0"
3'−6"	4"	3"	"	2'−0"
4'−0"	4"	3"	#3 @ 4"	2'−0"
4'−6"	4"	3"	"	2'−0"
5'−0"	4½"	3"	"	2'−0"
5'−6"	5½"	3"	"	2'−4"
6'−0"	5½"	3"	add 3 #4	2'−11"
6'−6"	5½"	3"	"	3'−8"
7'−0"	6"	3"	"	4'−4"
7'−6"	7"	3"	"	4'−8"
8'−0"	7½"	3½"	add 3 #5	4'−10"
8'−6"	8½"	3½"	"	5'−0"
9'−0"	9½"	3½"	"	5'−2"
9'−6"	10½"	3½"	"	5'−4"
10'−0"	11½"	4"	"	5'−5"
10'−6"	12½"	4½"	"	5'−6"
11'−0"	13"	5"	"	8'−3"

Ron Lacher, R.C.E.
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Anaheim, CA 92807
Fax: (714) 630-6114
Phone: (714) 630-6100

pool engineering inc.

FOR USE ONLY AT
3424 Marina Dr
Santa Barbara CA 93110

REGISTERED PROFESSIONAL ENGINEER
TODD L. LACHER
No. 67656
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

Date: 4/18/2022

22-04138

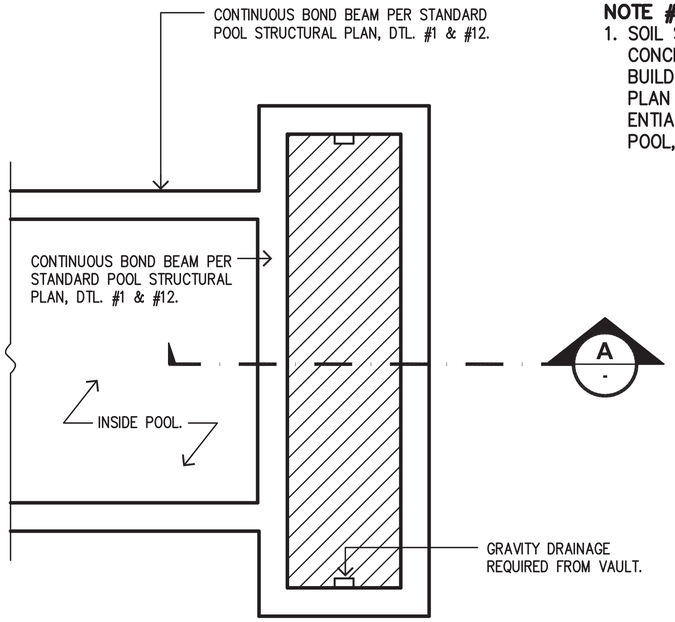
PLAN VALID ONLY WITH ENGINEER'S SIGNATURE IN RED INK ON PLAN.

THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

FREESTANDING WALL
EQUIVALENT FLUID PRESSURE = 100 P.C.F.

DETAIL #501-100

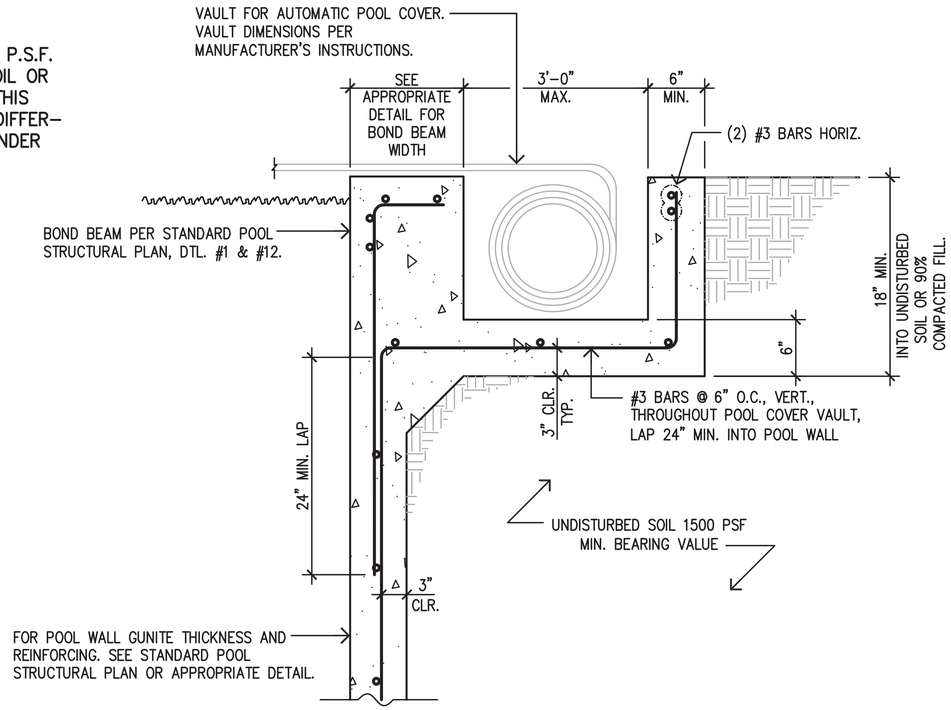
19r1 DECEMBER 18, 2019



VAULT DIMENSIONS PER MANUFACTURER'S INSTRUCTIONS.

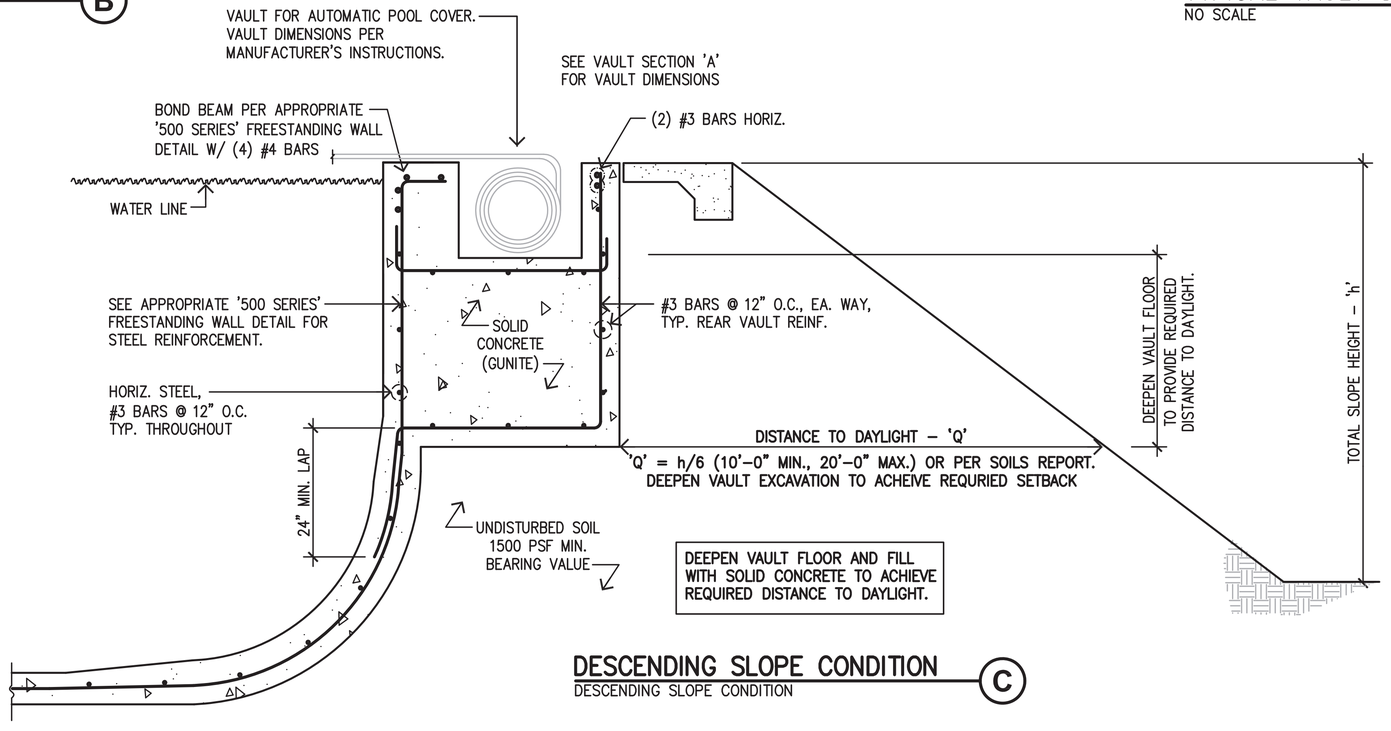
STANDARD POOL STRUCTURAL PLAN, STRUCTURAL NOTE #1 IS REPEATED HERE FOR EMPHASIS:

1. SOIL SHALL HAVE A MINIMUM BEARING VALUE OF 1,500 P.S.F. CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL OR BUILDING DEPARTMENT APPROVED 90% COMPACT FILL. THIS PLAN IS NOT SUITABLE WHERE POTENTIAL EXISTS FOR DIFFER-ENTIAL MOVEMENT FROM DISSIMILAR SOIL CONDITIONS UNDER POOL, SUCH AS CUT-FILL TRANSITIONS.



TYPICAL VAULT SECTION (A)
NO SCALE

VAULT PLAN VIEW (B)
NO SCALE



DESCENDING SLOPE CONDITION (C)
DESCENDING SLOPE CONDITION

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EMAIL: pooleng.com

pool engineering inc.

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TODD L. LACHER
No 67650
Exp. 6/30/23
CIVIL
STATE OF CALIFORNIA

Date: 4/18/2022

22-04138

PLAN VALID ONLY WITH ENGINEER'S SIGNATURE IN RED INK ON PLAN.

THIS DETAIL TO BE USED IN CONJUNCTION WITH STANDARD POOL STRUCTURAL PLAN

AUTOMATIC POOL COVER VAULT DETAIL

DETAIL #672

19v2 MAY 3, 2021

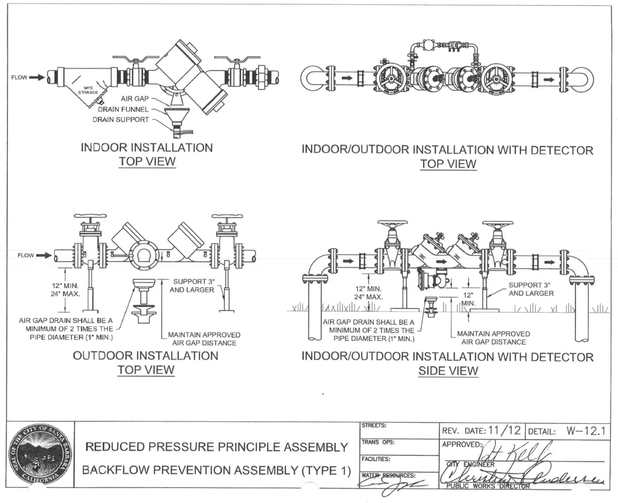
MANDATORY ENERGY CONSERVATION REQUIREMENTS FOR SWIMMING POOL/SPA CF2R-PLB-03-E

NOTES:

Proper installation of the assembly is essential to the protection of the water supply. The following are important characteristics of a proper installation.

1. The assembly shall be installed in a horizontal position with a minimum clearance of 18 inches and maximum of 36 inches between the relief valve discharge port and floor or grade, and a minimum of 18 inches of horizontal clearance around the unit for access and ease of testing and maintenance of the relief valve.
2. A Reduced Pressure Assembly shall not be installed in a pit. Flooding of the pit can result in cross connection contamination.
3. Placement of the assembly should be planned where water discharged from the relief port will not be objectionable.
4. The assembly must be purchased and installed with resilient seat valves as approved by the University of California Foundation for Cross-Connection Control and Hydraulic Research (USC).
   CAUTION: Open and close resilient seated shut-offs slowly to prevent water hammer damage to the system and assembly.
5. Since the reduced pressure assembly is designed to be serviced while in line, the unit need not be removed from the line during servicing. Union connections between the shut-off valves are recommended for ease of removal for damaged units 2 inch and smaller.
6. Ensure the supply water pressure does not exceed the manufacturer's maximum water pressure rating of the assembly to avoid damage to the system or the assembly caused by system pressure. In addition, protection must be provided against thermal water expansion, extreme backpressure and/or water hammer.
7. Most field problems occur because dirt or debris present in the system at the time of installation becomes trapped in the first check seating area, resulting in continuous discharge from the relief valve in a static or backflow condition. THE SYSTEM SHOULD BE FLUSHED BEFORE THE ASSEMBLY IS INSTALLED. If debris is in the water system continues to cause fouling, a strainer can be installed upstream of the assembly.
8. Backflow assembly shall be lead free.

	REDUCED PRESSURE PRINCIPLE ASSEMBLY BACKFLOW PREVENTION ASSEMBLY (TYPE 1) NOTES	STREETS: TRANS OPS: FACILITIES: WATER RESOURCES:	REV. DATE: 11/12 DETAIL: W-12.0 APPROVED: CITY ENGINEER PUBLIC WORKS DIRECTOR



	REDUCED PRESSURE PRINCIPLE ASSEMBLY BACKFLOW PREVENTION ASSEMBLY (TYPE 1)	STREETS: TRANS OPS: FACILITIES: WATER RESOURCES:	REV. DATE: 11/12 DETAIL: W-12.1 APPROVED: CITY ENGINEER PUBLIC WORKS DIRECTOR

POOL AND SPA HEATING SYSTEMS

CEC-CF2R-PLB-03-E (Revised 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF INSTALLATION — CF2R-PLB-03-E
Pool And Spa Heating Systems - For Non-HERS Registered Projects — (Page 1 of 3)

Project Name: PEARL ZALON	Enforcement Agency: SB COUNTY	Permit Number:	
Dwelling Address: 3424 MARINA DRIVE	City: SANTA BARBARA	Zip Code: 93110	

A. Pool and Spa System Type

01	Pool and Spa System Type	In-Ground Pool

B. Pool and Spa Systems and Equipment Requirements (Section 110.4(a) and 110.5)

01	Heater has a thermal efficiency that complies with the Appliance Efficiency Regulations.
02	A readily accessible on-off switch is mounted on the outside of the heater, which allows the heater to be shut off without the user adjusting the thermostat setting.
03	A weatherproof plate or card containing instructions for the energy-efficient operation of the pool or spa heater is permanently mounted.
04	No electric resistance heating except for listed package units that have fully insulated enclosures and tight fitting covers that are insulated to at least R-6. Or if documentation is provided that at least 60% of the annual heating energy is from site solar energy or recovered energy.
05	Heating system has no pilot light.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

C. Pool and Spa System Installation Requirements (Section 110.4(b))

01	To allow for the future addition of solar heating equipment, at least 36" of pipe is installed between the filter and heater, or dedicated suction and return lines are installed, or built-in, or built-up, connections for future solar heating are provided.
02	A cover is provided for outdoor pools or spas that have a heat pump or gas heater.
03	Pool system has directional inlets to adequately mix the pool water.
04	Pool system has a time switch that allows the pump to be set or programmed to run during off-peak periods only.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

CEC-CF2R-PLB-03-E (Revised 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF INSTALLATION — CF2R-PLB-03-E
Pool And Spa Heating Systems - For Non-HERS Registered Projects — (Page 3 of 3)

Project Name: PEARL ZALON	Enforcement Agency: SB COUNTY	Permit Number:
Dwelling Address: 3424 MARINA DRIVE	City: SANTA BARBARA	Zip Code: 93110

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name: David Heuer	Documentation Author Signature: David Heuer
Documentation Author Company Name: Dakari Pools, Inc.	Date Signed: 3/16/2022
Address: 776 W Hwy 246	CEA/HERS Certification Identification (If applicable):
City/State/Zip: Buellton, CA 93427	Phone: 805.886.9454

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
4. I will ensure that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name: David Heuer	Responsible Builder/Installer Signature: David Heuer	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) Dakari Pools, Inc.	Position With Company (Title): President	
Address: 776 W Hwy 246	CSLB License: 840618	
City/State/Zip: Buellton, CA 93427	Phone: 805.886.9454	Date Signed: 3/16/2022

POOL AND SPA HEATING SYSTEMS

CEC-CF2R-PLB-03-E (Revised 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF INSTALLATION — CF2R-PLB-03-E
Pool And Spa Heating Systems - For Non-HERS Registered Projects — (Page 2 of 3)

Project Name: PEARL ZALON	Enforcement Agency: SB COUNTY	Permit Number:
Dwelling Address: 3424 MARINA DRIVE	City: SANTA BARBARA	Zip Code: 93110

D. Pool Pump Sizing and Flow Rate Specification (Section 150.0(p))

✓	01	The pool pump specified is listed in the CEC database of certified pool pumps.	
✓	02	The pool pump flow rate shall not exceed the maximum pump flow rate calculated based on pool sizing in the table below. The return pipe diameter, suction pipe diameter, and filter area shall be at least as large as the required minimums shown in the table. Alternatively, a flow calculation or flow test result shall be provided to demonstrate that the pump flow rate is less than 6 hour filtration turnover, and the return pipe flow rate does not exceed 8 fps and that the suction pipe flow rate does not exceed 6 fps.	
✓	03	An alternative compliance calculation or a flow test result is provided for this pool or spa use (must attach flow calculation or flow test result to this form)	Yes ○ No ✓
✓	04	The pump is capable of operating at 2 or more speeds (not applicable if pump is less than 1 horsepower).	
✓	05	Each auxiliary pool load is served by either a separate pump, or the system is served by a multi-speed pump.	
✓	06	Volume of Pool (gallons)	Gallons 15,300
✓	07	Filter Type (Cartridge, Sand, DE)	

08a Required Min Return Pipe Diameter (inches)	08b Required Min Suction Pipe Diameter (inches)	08c Required Min Filter Area (ft²)	08d Required Max Pump Flow (gpm)
1 1/2"	2"		

✓	09	Return Pipe Diameter (inches)	2.5 inches
✓	10	Suction Pipe Diameter (inches)	2.5 inches
✓	11	Filter Surface Area (ft²)	130 SF
✓	12	Max Pump Flow Rate (gpm)	125 gpm
✓	13	Measured Flow Rate Return Line (fps)	6-8 gallons
✓	14	Measured Flow Rate Suction Line (fps)	6-8 gallons
✓	15	Compliance Statement:	N/A

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

E. Pool System Piping (Section 150.0(p)2)

✓	01	The suction side pipe is straight for at least 4 pipe diameters before entering the pump (See table below for the required straight run lengths for various pipe sizes).
✓	02	All elbows are sweep elbows, or an elbow type that has a pressure drop that is less than the pressure drop of a straight pipe with a length of 30 pipe diameters.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

F. Pool Filters and Valves (Section 150.0(p)3 and 4)

01	If a filter is used in a pool intended for public use, the size of the filter is at least the size specified in NSF/ANSI 50.	
02	If a backwash valve is used: The diameter of the backwash valve is at least 2 inches, or the diameter of the return pipe, whichever is greater.	N/A

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

CERTIFICATE OF INSTALLATION - USER INSTRUCTIONS — CF2R-PLB-03-I
Pool And Spa Heating Systems - For Non-HERS Projects — (Page 1 of 1

Table C
Pool sizing (Values are based on a maximum allowable turnover rate of 6- hours)
Note: *For pumps greater than 1 hp. The maximum Pump Flow is the lowest speed default filtration*

Max Pool Volume (gallons)	Min Pipe D or Greater (inches)		Min Filter Area or more (square feet)			Max Pump Flow (gpm)
	Return	Suction	Cartridge	Sand	DE	
13,000	1.5	1.5	100	2.4	20	36
17,000	1.5	2	130	3.1	25	47
21,000	2	2	160	3.9	30	58
28,000	2	2.5	210	5.2	40	78
42,000	2.5	3	320	7.8	60	117
48,000	3	3	360	8.9	70	133

Table D
Pipe Diameter/Pipe Length

Pipe Diameter (inch)	Required Pipe Length leading into pump (inch)
1.5	6
2	8
2.5	10
3	12

David Heuer
DAKARI POOLS, INC
State License No. 840618 - C53 / B

POOL PLAN

PEARL ZALON
3424 MARINA DRIVE
SANTA BARBARA, CA 93110

DAKARI POOLS, INC.
776 W HWY 246, BUELLTON, CA 93427
CELL: 805.886.9454
PLANS TO BE ON JOB SITE AT LL TIMES
Dakari Pools Inc.

NO	REVISIONS	DATE
1	SEE REVISION	6/8/22
	CORRECTIONS	

A4.0