ARBOR VILLAGE HOMEOWNERS ASSOCIATION

1/25/2024

Arthur Bestecki
10121 1/5 Washington Street
Bellflower, CA 90706

RE: ARCHITECTURAL COMMITTEE / BOARD OF DIRECTORS
ARCHITECTURAL APPROVAL LETTER (IN GROUND POOL)

Dear Homeowner,

Thank you for being a valued member of the Arbor Village Homeowners Association. Your architectural request to install an in ground pool was **APPROVED** by the Architectural Committee / Board of Directors

Once the work has been completed please submit the enclosed **Notice of Completion Form** to our office for final review by the Architectural Committee / Board of Directors.

The Architectural Committee has the right to inspect improvements constructed or being constructed to ascertain that such improvements have been or are being built in compliance with the plans and specifications approved by the Architectural Committee / Board of Directors.

Should you have any questions, please contact Nexus Smart Communities at (949) 491-1444 or via email at ARCHITECTURAL@NSC.TEAM

Sincerely,

Nexus Smart Communities
On Behalf of the Arbor Village Homeowners Association Board of Directors

EXCAVATION:

This pool plan may or may not have attached engineering details that directly relate to the excavation phase, depths, and footing guidelines for the steel rebar and gunite/shotcrete process. It will be the responsibility of the excavator to review and determine ALL attached engineering details of this plan that could affect the excavation and cost of this phase to include the following: Bidding, Proper layout, Depths, and Footings and Soil removal and compaction to ensure the required details are followed. Should underground water tables be found that affect the excavated site, excavator agrees to pause for remedy. Please refer to the structural engineer, for direct questions.
All exported dirt/materials shall be discharged to a legal disposal site. The approval of this project does not allow processing and sale of the material, all such activities require a separate Conditional Use Permit.
NOTE: Homeowner to go over with excavator all depths and heights of any raised bond beams, Reef/Baja seats, and type of coping to be used to determine the finished height of the forms.

STEEL:

Confirm all steps, seats, Reef/ Baja seat elevations with homeowner and plans.

Notch for cascade fountains 6" larger than actual cascade width to allow for final adjustments.

NOTE: Check if handholds are required for raised bond beams. In areas the require handholds they must be placed no more 6" above the waterline in all areas where pool depth is more than 42" Refer to attached engineering plan for steel placement, size of bars not to exceed #5.

See homeowner for size of dam wall spillways and any special requests.

PLUMBING:

1. Pool and spa must have at least two circulation suction inlets per pump and separated at least 3' apart, and covered with anti-entrapment grates conforming to ANSI/APSP - 16 standard.
2. Suction outlets shall be designed and installed in accordance with ANSI/APSP - 7 (3109.5) water bonding tee below suction inlet of the circulation pump. #8 bond wire. provide 4 (four) #8- 4ft stringers placed equally around the pool.
3. 2 1/2" suction pool, 3" suction spa, fountain suction 3"
Minimum of 3 returns lines. Jandy valve on return line to spa by pass return to spa with ball valve. 6 jets on one pump-for additional jets a booster pump is required.
4.verify return line locations (minimum of three), and possibly an additional return line at seats/benches.
5.See plumber for possible deep heat return lines to the bottom of the pool with a valve at equipment.

Homeowner to consult with plumber for best layout of jets and locations such as piggy back jet locations, staggered height and or calf jets.

Pool vac line on Jandy valve at equipment. Auto filter and overflow line. 30 lbs. of water pressure for leak test. At least 36" of pipe shall be installed between the filter and the heater or dedicated suction and return lines, or built-in or built-up connections shall be installed to allow for future addition of solar heating equipment.

Note: Some areas with high water table may require a hydrostatic valve with rock

ELECTERICAL:

110V GFCI protected at pool equipment.

See homeowner for additional GFCI protected outlets.

No closer to the pool than 10ft. All switches at pool equipment. J-box located at pool equipment or within 50' of light locations. Sub-panel / Power center - Four #8 AWG THWN copper wires main panel to equipment area in min. of 1" conduit at least 18" deep.

Review configuration with homeowner for product choice and location

Minimum of 1 light for pool and 1 light for spa- locations per plan. Nichless lights, grounding wire not required. Schedule 40 1" conduit. Main panel to equipment.- 3 wire AWG #4 - Ground #8. Low voltage lights use 1 1/2" female thread PVC 12" min. to 1" conduit.
Variable speed pumps - 3.4 to 9.7A (1,000 - 3,400 rpm)

GUNITE/SHOTCRETE:

SEE PLAN - if handholds are required per code.

How to calculate your gunite/shotcrete needs

Swimming pool cubic yard gunite requirement.

Example pool: 15' X30' freeform pool, 3'-6' depth, 80' perimeter and 390 pool sq. ft.

Step 1: Calculate average depth of pool (3' + 6' = 9' divide by 2= 4.5' average depth)

Step 2: Calculate sq. ft. walls (Average depth { 4.5'} X perimeter {80'} - Sq. Ft. walls

Step 3: Calculate Sq. Ft. of material (Pools Sq. Ft. {390} + wall Sq. Ft. {360} =750 Sq. Ft. divide by 2 (walls are 6" thick) = 375 Sq. Ft. of

Step 4: Calculate cubit yards. (Sq. Ft. of material {375} divide by 27 (cu. ft. per cu. yd.) = 14 cubic yards. ** ADD 3 yards for raised bond beam and 3 yards for steps and benches.

ATTN: Gunite Shotcrete Company-

Yardage tickets from delivery company are required upon completion.

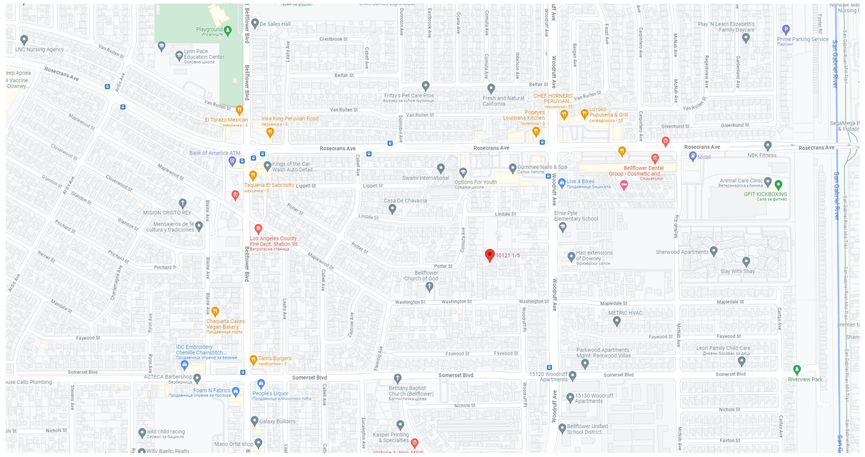
This pool plan may not have attached engineering details that directly relate to the proper layout and depths and footings guidelines for the steel rebar process. It will be your responsibility to review all attached engineering to make this determination for your bidding and guniting/shotcrete process. Refer to engineer for direct questions.

If plan includes art rock work notify art rock crew to be on site day of shotcrete/gunite. Strip and Finish requirements may apply see plan and homeowner.

- Round all steps and seats- Notch for overflow line- Pool or Spa 1st step at max of 12" deep from top of coping - Love seats and steps per plan - Bring Sono tubes 12" dia. for bar stools in pool if required. DO NOT USE REBOUND (this causes crackage and leaks) Baja/ Reef Seat at 1st step elevation to be 1' from top of coping. Pool steps at 12" max risers to 48" wd. X min. 10" tread to follow ANSI/APSP/OCC-5 2011454.2.18

*** WET POOL SHELL-TWO TO THREE TIMES PER DAY FOR 7 DAYS**

VINCINITY MAP



HARDSCAPE:

All concrete paving shall be a minimum 4" thickness at patios and walkways, 6" at driveways.
Concrete color to be selected by Homeowner

All subsurface areas for concrete paving shall be pre-saturated and receive a 2" layer of imported sub-base for patios and walks, or 4" layer for all driveways. All concrete paving and concrete base tile, granite or stone shall be constructed with #3 rebar minimum @ 18" o.c. both directions within the concrete. All stucco weep-screeds shall remain exposed upon completion of hardscape adjacent to the residence. Contractor shall install expansion joints and control joints per industry standards. All scorelines shall be hand-troweled lines or saw-cut joints. Contractor shall glue all pipe connection under paved areas. Contractor shall coordinate the drainline piping with all proposed and existing tree locations. Grade & compact to 98% - install 4" drains in appropriate locations per decking layout. Insure proper flow to street and core curb if required. Tie into all down spouts. Attach overflow to

**** All metallic items within 5' apart of the pool edge shall be effectively grounded.**

This included but limited to: A) Pool Steel B) Deck reinforcing Steel C) Metallic fencing with 5' D) Diving board bases E) Handrail bases F) Motorized pool cover housing G) Exposed patio/deck posts bases within 5' H) All metallic piping and conduit within 5ft. I) Pump J) Water heaters K) Filters if metallic and electronically controlled. Most Cities Require a #8 bonding wire clamped to 4 connections to the pool steel to be 3' away from water.

Bond Loop/ Equipotential Bonding Grid per Local Code. Waterline Tile-Silicone top of tile line between tile and coping only. Grout fill sides only.

DRAINAGE NOTES:

Subcontractors shall grade the lot as necessary to ensure positive drainage throughout the whole project. All paved areas must slope to drain at a minimum rate of 1%, with all planter beds and turf / grass areas sloped at 2% minimum away from all structures, house walls, property line walls, Pool & Spa etc. and towards drains. Subcontractor shall install 4" diameter perforated drain line with filter fabric and gravel (French drain) behind all retaining & planter walls and raised bond beam.

SLIDES OR DIVING BOARDS AND RAILS :

To be determined by the homeowner and installing subcontractor. The exact shape, color, style, and size may be different than shown on your plan. Follow the manufacturer's instructions and details. Diving boards and slides are incredibly dangerous and are not allowed in all jurisdictions (check with yours to be sure) With an increase in risk, insurance companies will generally charge a higher premium for someone who owns a diving board/slide many insurance companies will not cover a diving board injury at all, and some may even cancel coverage. Check with your insurance provider as some may have an umbrella policy (extra liability insurance)

SCOPE OF WORK

1.Swimming Pool & Spa Construction

2.Electrical Line Runs To Pool Equipment and Outdoor Kitchen, Approx. 87' + 18' + 50' long

3.Gas Line Runs To Pool Equipment and BBQ, Approx. 82' long

305.4 Structure wall as barrier. Where a wall of a dwelling or structure serves as part of the barrier and where doors and windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1.Operable windows having a sill height of less then 48" (1219 mm) above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017. In dwellings or structures no required to be accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located 54" (1372 mm) or more above the finished floor In dwellings or structures required to be accessible units. Type A units or Type B units the operable parts of the alarm deactivation switches shall be located not greater then 54" (1372 mm) and not less than 48" (1219 mm) above the finished floor.

2. A safety cover that is listed and labeled in accordance with ASTM F 13456 is installed for the pool and spas.

3. An approved means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by item 1 or 2.

Pools shall have energy conserving measures in accordance with section N1103.8.1 through N1103.8.3.All pool heaters shall be equipped with a readily accessible on-off switch to allow shutting off the heater without adjusting the thermostat setting. Pool heaters fired by natural gas or LPG shall not have continuously burning pilot lights. - N1103.8.1 Pool Heaters. Time switches that can automatically turn off and on heaters and pumps according to a preset schedule shall be

N1103.8.2 Time Switches. Heated pools shall be equipped with :

A vapor retardant pool cover on or at the water surface. Pools heated to more than 90 degrees F (32 degrees C) shall have a pool cover with a minimum insulation value of R-12. - N1103.8.3 Pool Covers

PROJECT NOTES:

1.These Plans demonstrate design intent only and are not intended to communicate construction means or methods. All subcontractors shall verify all site conditions, dimensions, and all proposed construction item. Any discrepancies shall be reported immediately to homeowner for clarification
2. All subcontractors are required to comply with all applicable state and local ordinances, codes and regulations that pertain to the construction of this project. It is the responsibility of the subcontractors to verify all ordinances, codes and regulations prior to commencement of this project.

3. Owner is responsible for obtaining all necessary permits as required. Owner shall be responsible for coordinating all regulating agencies field inspection as pertaining to the permit process. It is the responsibility of the owner to obtain any additional structural engineering or soil reports. DIY to supply standard Pool Engineering Only, unless additional engineering was clearly requested and paid for by owner. Additional requirements such as (but not limited to): Storm water management plans(BMP), Electrical load calculations, certificates of installation, Title 24 reports, Impervious area report, Grading reports, and soils reports.

4. Homeowners Excavation Subcontractor shall call your local underground service alert to verify location of all underground utilities at least 7 days prior to any digging.
5. All materials, colors and finishes proposed on these plans are to be complimentary to the house architecture and selected by the homeowner.
6. The subcontractor shall store their equipment in areas approved by owner and comply with governing codes per scope of work.
7. the subcontractor shall control their work areas, laborers and equipment in a manner which will not interfere with adjoining areas.
8. The Homeowner and subcontractors shall protect the adjacent properties & public right of way from, but not limited to pollution, trash, or damage due to demolition, excavation, construction, erosion and/or flooding originating on site.
9. The Homeowner and subcontractors shall be responsible for appropriate " connection" to all utilities required to support the scope of work.
10. Neither the owner, DIY Pools and Spas Inc. Nor the Engineers shall enforce safety measures or regulations. All subcontractors shall design, construct and maintain all safety devices, including shoring according to federal and local governing safety and health standards, laws, regulations and current building codes as required.
11. Subcontractor shall be responsible for the coordination of their work with the work of others. Subcontractor shall verify that any work related to them, which must be approved by others, has been completed and is adequate prior to commencing their work.
12. The Homeowner and subcontractors shall be responsible to enforce all environmental, health, and safety measures or regulation that have been issued by federal, state, local agencies and governing building codes.
13. Subcontractor shall verify the location of any retaining walls prior to the start of construction

14.Sunken areas may require a sump pump for drainage. See local codes and subcontractor for details that should include: A dedicated GFCI outlet, sealed sump basin/pit, access cover, submersible pump with float switch, a check valve, and code may require a vent pipe

SHEET INDEX:

Owner / Applicant

Arthur Bestecki

10121 1/5 Washington St.

Bellflower, CA 90706

Contractor: Owner/Builder

Arthur Bestecki

10121 1/5 Washington St.

Bellflower, CA 90706

Architect / Engineer

Ron Lacher, R.C.E.

1201 N. Tustin Ave.

Anaheim, CA 82807

PLANS BY:

DIY POOLS AND SPAS

PROJECT DATA

Bestecki, Arthur

10121 1/5 Washington St. Bellflower, CA 90706

APN: 6274016043

Gas Meter Requirements:

Homeowner to call local gas company to verify size of meter meets new demand of pool/spa heater

SHEET TITLE:

A- 1

IMPORTANT INFORMATION:

1.The construction shall not restrict a five-foot clear and unobstructed access to any water or power distribution facilities (Power poles, pull-boxes, transformers, vaults, pumps, valves, meters, appurtenances, etc.) or to the location of the hook-up. The construction shall not be within ten feet of any power lines-whether or not the lines are located on the property. Failure to comply may cause construction delays and/or additional expenses.

2.Suction outlets shall be designed and installed in accordance with ANSI / APSP-7. 3109.5

3.An approved Seismic Gas Shutoff Valve or Excess Flow Shut-off Valve will be installed on the fuel gas line on the downstream side of the utility meter and be rigidly connected to the exterior of the building or structure containing the fuel gas piping. A separate plumbing permit is required. Ordinance 170,158

4.The recirculation and purification of any swimming pool, fish pond, or any body of water required to be fenced by Section 6109, shall be operated and maintained so as to keep the water in such pool or other body of water of water clean and of reasonable clarity. 8118

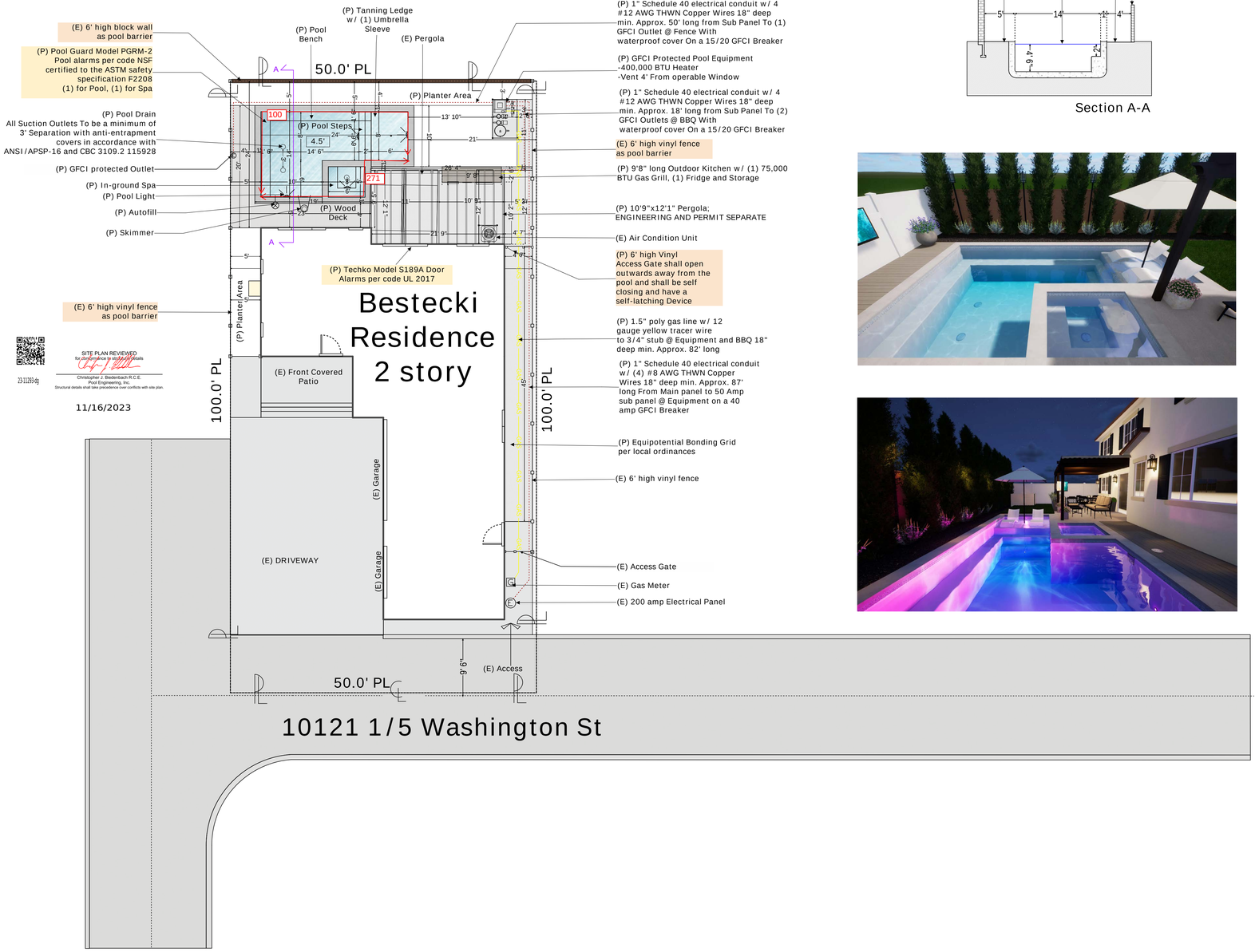
5.New permanent outdoor pools/spas for a dwelling or duplex shall be equipped with a cover having a "manual or power-operated reel system." Ordinance 184,248

Glazing in walls, enclosures, or fences containing hot tubs, spas, and swimming pools where the bottom exposed edge of the glazing is less than 60 inches measured vertically above any standing or walking surface shall be considered a hazardous location and shall comply with Section 2406.1.1 through 2406.1.4.

For Residential swimming pools, A minimum of (2) drowning prevention safety features shall be installed per Section 3109.2 of the Building Code and Section 11592 of the California Swimming Pool Safety Act

Proposed Pool Enclosure

Proposed Safety Features

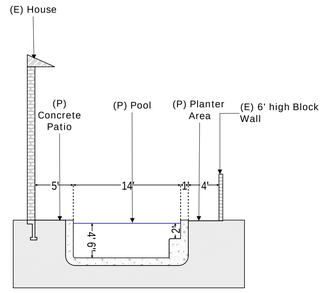


SITE PLAN REVIEWED
for conformance to applicable laws

Christopher J. Biedenbach R.C.E.
Pool Engineering, Inc.
Structural details shall take precedence over conflicts with site plan.

23-11293-dg

11/16/2023



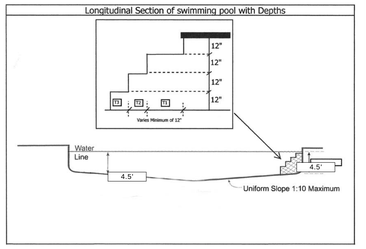
Section A-A

STORM MANAGEMENT / BMP / DRAINAGE AND EROSION CONTROL PLAN BY OTHER

NO PROPOSED LANDSCAPE

IMPORTANT INFORMATION

Longitudinal Section of swimming pool with Depths



Final equipment location per homeowner to meet local codes

No construction within any easements.

SWIMMING POOLS AND SPAS SHALL HAVE:

At least two circulation suction outlets per pump and separated at least 3' apart, and covered with anti- entrapment grates conforming to ASNI/APSP-16

Filtration flow rate

Pool Volume =(gpm) / 360 OR, 36 gpm, whichever is Greater

MUST MAINTAIN EXISTING DRAINAGE: TO DRAIN AWAY FROM HOUSE AND POOL

CONTRACTORS SHALL PROVIDE, IMPLEMENT AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION

1. This is a conceptual construction drawing does not detail all construction items. The property owner and/or contractor shall determine all final dimensions and construction details. Homeowner or contractors are responsible for all necessary building permits.

2. This is not a surveyed plan and only shows dimensions given by homeowner. Property measurements should be confirmed with a licensed land surveyor if required.

3. In field adjustments may be required verify any changes with homeowner

4.Prior to start of every phase of construction verify with homeowner materials, locations, and options

Safety

1. Exit alarms on the private single family home's doors that provide direct access to the swimming pool or spa Compliant with ASTM Standard f.2208

2. An alarm that, when placed in the pool or spa will sound off if it detects an unauthorized or accidental entrance to the water Compliant with ASTM Standard f.2208

3.Pool area to be fenced and alarms per local ordinance gates to be self closing and self latching , gate latch to be min. of 54" above grade per local codes.

. Any new or replacement gas or electric swimming pool heater system in a residential occupancy shall be equipped with all of the following:

. An On-Off switch mounted on the outside of the heater for easy access

. A permanent weatherproof plate or card, easily readable, giving instruction for the efficient operation of the swimming pool.

. Pool and spa heaters may not have continuously burning pilot lights.

Contractors shall meet or exceed all local codes and engineering

2023 County of Los Angeles Building Code (Title 26)

2023 County of Los Angeles Electrical Code (Title 27)

2023 County of Los Angeles Plumbing Code (Title 28)

2023 County of Los Angeles Mechanical Code (Title 29)

2023 County of Los Angeles Residential Code (Title 30)

2023 County of Los Angeles Green Building Standards Code (Title 31)

2023 County of Los Angeles Existing Building Code (Title 33)

Design by: DIY Pools and Spas.com

Pool Information

Size: 24' X 14' Return Lines: 3 min. Lights: (3)- Nichless multi colored LED lights with 100 foot cords.

Depth: 4.5' Confirm Final Depth with Homeowner Before Excavation Tile Group: Choice

Est Total Gallons: 5,391 Interior Material: See homeowner for plaster type

Sq. Ft: 252 Perimeter: 76' Skimmers: See Plan

Auto Fill Unit: Yes with clear pour a lid

Pool Note: Overflow- Yes (Tie into drainage system)
See homeowner for pool light locations min. of 1 light(s)
See homeowner for pool coping to determine height of forms at time of dig
Storm management plan if required by H.O.
Approx. 35 yards of minimum PSI shotcrete for 15' X 30' pool
Approx. 148 yards of dirt to be removed to legal dump site
Grading/ Storm management / BMP - Plan if required by H.O.

Spa Information

Size: 6'x5' Interior Material: See homeowner for plaster Lights: (1)- Nichless multi colored LED lights with 100 foot cords.

Spillway: See H.O. for spillway notch width (typical 18") Depth: 3.5 deep See H.O. for final depth of spa

Spa notes: Up to 6 jets on one pump system vary height of jets
See H.O. for jets locations
In-Ground Spa
2- level seating and step into spa
3" suction line with 3' separated main drains
See H.O. for spa dam wall spillway into pool or equalizer lines
See H.O. for optional air blower for spa

Sq. Ft: 30

Perimeter: 22'

Deck/Masonry

Total Deck Sq Ft: 487 Compaction required prior to pour of pool decking Raised Beam: None

Deck Type: 156-Wood, 331-Concrete

Coping Type: Stone See homeowner, prior to excavation to set elevation

Drains: Min. 3" PVC pipe @2% flow away from house and pool to tie into existing positive drainage or cored out to street

Deck/Masonry: Equipotential grounding grid may be required per code, separate inspection required
See homeowner for material's and locations of any walls, BBQ's, firepits, or masonry items on plan
Prior to any work being performed.
Use city standard plan or H.O. to supply extra. engineering
Plaster- See homeowner for options including colored plater, quartz, mini pebble, etc.
See H.O. for waterline tile options including trim tile options on steps & seats
Decks shall be slip resistant and cleanable per ISPSC 306.2
"See Homeowner for optional Sleeves for: Umbrellas, Basketball Hoops, Volleyball nets, etc."

POOL EQUIPMENT

Cartridge Filter: 4030 Swimclear Cleaner: " 2 wheel suction drive" Booster Pump: None

Pump: Tristar VS XL 2.7 HP Purification: Salt system- 950 Aqua-rite Fountain Pumps: None

Heater: 400,00 BTU -Natural gas Fountains: None

Lights: (4)- Nichless multi colored LED lights with 100 foot cords.

Transformer: 300W- supply and installed by electrician

Remote/Automation: 4 function with smartphone app and 2 auto valves

Notes See homeowner- For exact equipment location prior to plumbing
Pool equipment shall not block the only access to mechanical equipment

Electrical

Electrical run Approx. 87 linear feet With 1" PVC conduit , & (4) #8 copper THWN Wires to GFCI Protected Pool Equipment
(4)- Nichless multi colored LED lights with 100 foot cords.
J-box to be located within 50' of pool/spa lights
L.V. lights use 1 1/2" PVC pipe a min. of 12" to a 1" conduit running to the J- box
No bonding wire, wet niche or grounding wire required for (L.V. lights)
Minimum of 30" working clearance at the pool sub panel board
Standard 50 amp panel with overcurrent protective device (circuit breaker) at least equal to or greater than the circuit voltage
One outlet at equipment, all outlets to be GFCI protected, Tamper Resistant, Weather Resistant, and provided with an "in-use" type cover.
14 volts to LED transformer for low voltage lights, supply & install 300 watt transformer & Label breakers when applicable
Minimum of 30" working clearance at the pool sub panel board
A 12" separation must be maintained between the gas line and electric conduit runs.

Plumbing

Use sweep elbows 10" minimum prior to pump Pool equipment shall be anchored to concrete pad
Gas Line runs to Pool Equipment and BBQ
PVC pipes should be painted to protect them from ultraviolet rays
Heater shall be 4' from an opening window
"Shade" plumbing trenches after inspection if rocky soil is present
A gas shut-off valve is required outside of, and within 3 feet of the heater
Skimmer and auto fill with clear "pour a lids"
Verify skimmer location for common wind flows direction, not in any raised areas
Stub plumbing for solar heating with valves- (see homeowner)
A length of plumbing (36" min.) between the filter and the heater to allow for future solar heating
2.5" suction and 2" return lines min. for pool with directional inlets that adequately mix the pool water
See H.O. for separate suction line and valve for pool cleaner in zero elevation .
Plaster /start-up to install pool sweep safety cover
All gas lines under slabs, and/or foundations, shall be sleeved per the 2018 UPC section 1210.1.6
Gas line installed underground under roof structure shall be installed as per (CPC 1210.16).
Hose bib to comply with ISPC 306.9.1
Water supply must be protected from backflow ISPC 302.5.
Salt system- See homeowne
A 12" separation must be maintained between the gas line and electric conduit runs.

Notes

Soil report or additional engineering that may be required - By H.O.
BMP/Storm Management Plan Prepared Required - By H.O.
Tractor Access- See homeowner, rebuild walls and replace fence & reverse gates to meet local codes
Variable speed pump operates at below 50 decibels
All elevations are approximate. Verify heights and elevations prior to building
See local codes for possible P-Trap
See homeowner for colors and materials prior to start
Outdoor pools/spas equipped with gas or electric heater shall also be equipped with a pool/spa cover. The cover should be fitted and installed during the final inspection
Outdoor lighting: All luminaries mounted to the building or to other building or to other buildings on the same lot shall be high efficacy luminaries or must be controlled by a motion senor And controlled by one of these: Photocontrol or Astronomical time clock or Energy management control system (EMCS)
A time switch or similar control mechanism shall be installed as part of a pool water circulation control system that will allow all pumps to be set or programmed to run only during the off-peak electric demand period and for the minimum time necessary to maintain the water in the condition required by applicable public health standard
All metal within 5' of water edge must be bonded

Customer Info

Name: Arthur Bestecki Tract: 73400

Address: 10121 1/5 Washington St. Lot: 10

City: LOS ANGELES State: CA Zip: 90706 Block:

Phone: (772) 267-0945 Map Ref.

Email: ajbestecki@gmail.com APN: 6274016043

Customer Approval:

Date:

Plans By: diy POOLS AND SPAS

Scale 1/8" = 1'

N

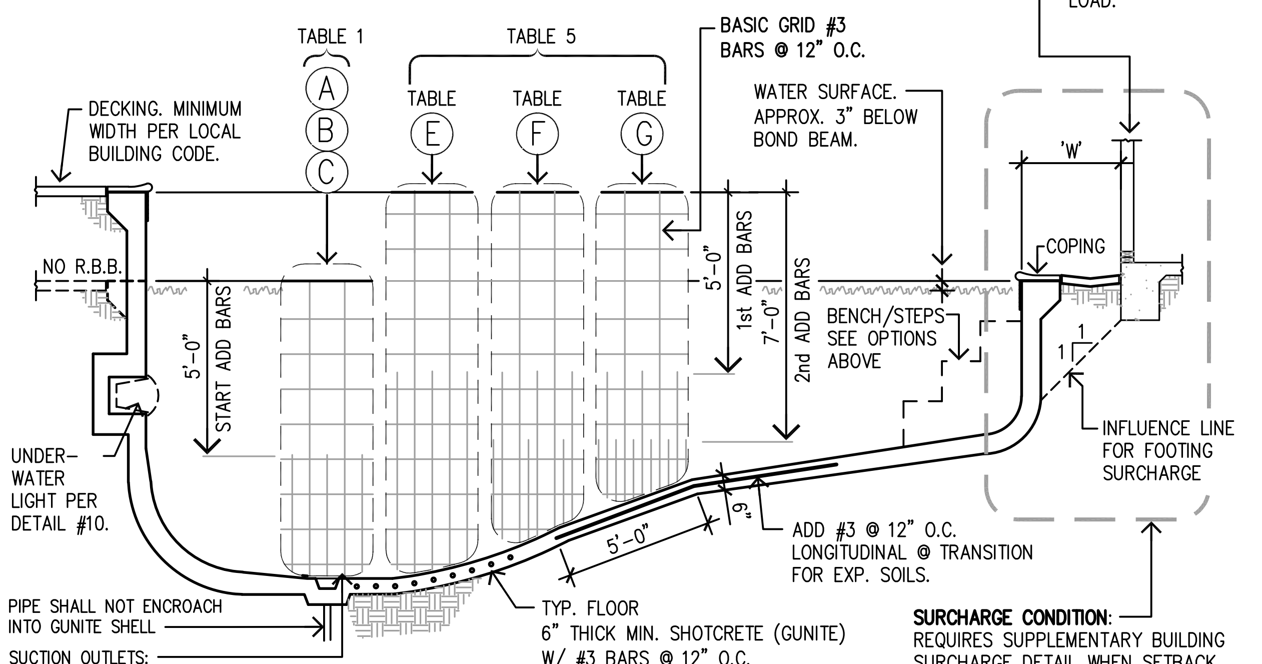
SHEET TITLE:

A-2

STANDARD POOL STRUCTURAL PLAN

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.



SUCTION OUTLETS:
WHERE CIRCULATION SUCTION OUTLETS ARE USED PROVIDE (2) SUCTION OUTLETS PER PUMP COVERED WITH ANTI-ENTRAPMENT GRATES THAT ARE HYDRAULICALLY BALANCED AND SYMMETRICALLY PLUMBED THROUGH "T" FITTINGS. DRAINS SHALL BE SEPARATED BY THREE FEET IN ANY DIMENSION. SEE ELECTRICAL AND PLUMBING NOTE 8.

ALTERNATIVES TO SUCTION OUTLETS, INCLUDING SKIMMERS OR PERIMETER OVERFLOW SYSTEMS, MAY BE USED TO CONDUCT WATER TO THE RECIRCULATION PUMP.

IN HIGH WATER TABLE, INSTALL HYDROSTATIC VALVE AND ROCK PACK AT LOW POINT.

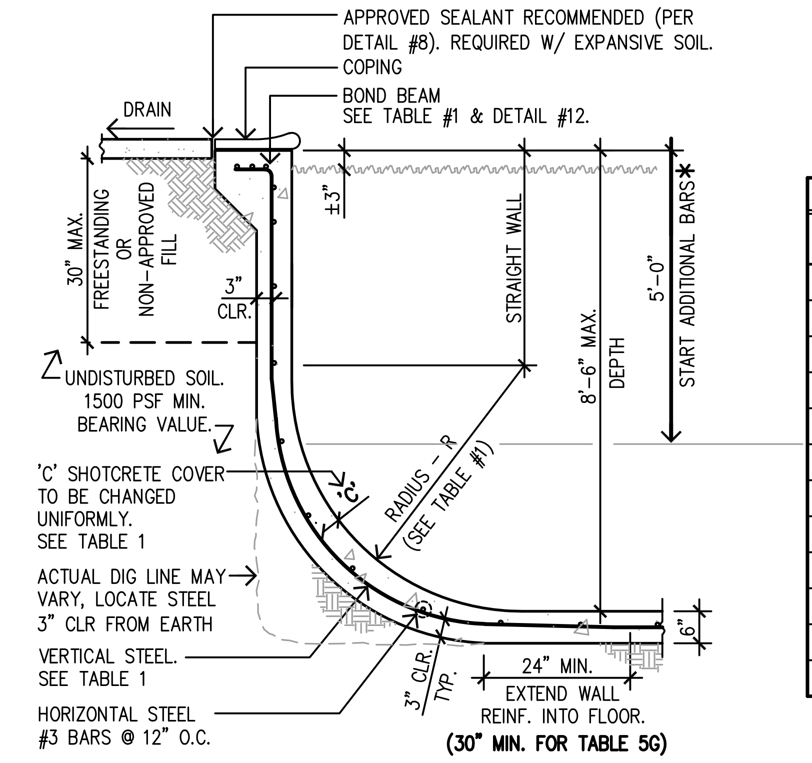
SURCHARGE CONDITION: REQUIRES SUPPLEMENTARY BUILDING SURCHARGE DETAIL WHEN SETBACK TO FOOTING 'W' IS LESS THAN POOL DEPTH.

(6' HIGH MAX. FREESTANDING MASONRY SCREEN OR GARDEN WALL DOES NOT REQUIRE SURCHARGE DETAIL)

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

RADIUS NOTE: FLOOR TO WALL TRANSITION RADIUS MAY VARY SLIGHTLY 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 A ((3) #3 BARS)		EXPANSIVE B ((4) #3 BARS)		NO DECK/HIGH EXP. C ((4) #3 BARS)	
E.F.P.		[illegible] P.C.F.		[illegible] P.C.F.		62.4 P.C.F.	
D	R	C	VERTICAL STEEL	C	VERTICAL STEEL	C	VERTICAL STEEL
3'0"	1'-0"	3"	#3 @ 12"	3"	#3 @ 12"	3"	#3 @ 12"
3'6"	1'-0"	3"		3"		3"	
4'0"	1'-0"	3"		3"		4"	
4'6"	1'-0"	3"		3½"		5"	
5'0"	1'-6"	3"	[illegible]	3"	[illegible]	5"	#3 @ 6"
5'6"	2'-0"	3"		4"		5"	
6'0"	2'-6"	3"		4"		6"	
6'6"	3'-0"	3"		4½"		7"	
7'0"	3'-6"	[illegible]		5"		8"	
7'6"	4'-0"	5"		5½"		8½"	
8'0"	4'-6"	[illegible]		[illegible]		9"	
8'6"	5'-0"	[illegible]		6"		9"	

ITEM NOT APPLICABLE — POOL ENGINEERING, INC. (columns A and B)

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

STANDARD WALL SECTION — N.T.S. (1)

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 2022 EDITIONS OF THE CALIFORNIA BUILDING CODE (CBC), CALIFORNIA ELECTRICAL CODE (CEC), CALIFORNIA MECHANICAL CODE (CMC), CALIFORNIA PLUMBING CODE (CPC), CALIFORNIA ENERGY CODE, 2022 BUILDING ENERGY EFFICIENCY STANDARDS, 2022 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 AND SHALL BE RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF CONSTRUCTION.
12. POOL LENGTH, GRADE BREAK LOCATIONS & DEPTH DIMENSIONS AS NOTED ON THE PLOT PLAN SHALL COMPLY WITH ANSI/APSP/PHTA SUGGESTED MINIMUM STANDARDS FOR RESIDENTIAL POOLS AND LOCALLY ADOPTED POOL AND SPA CODES. PUBLIC POOLS SHALL COMPLY WITH APPLICABLE STATE AND LOCAL HEALTH DEPT. REGULATIONS.

ELECTRICAL AND PLUMBING

1. ALL ELECTRICAL SHALL BE IN CONFORMANCE WITH THE 2022 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 2022 CBC SECTION 3109.2 (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 2022 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 APPROVED COMPACTED 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". #5 BARS USED ON SUPPLEMENTARY DETAILS SHALL BE GRADE 60 (UNLESS NOTED) AND BE LAPPED A MIN OF 30".
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. BONDING/GROUNDING (PER THE CEC) OF THE STRUCTURAL REINFORCING MUST BE INSTALLED PRIOR TO PLACEMENT OF CONCRETE/SHOTCRETE.
5. PORTLAND CEMENT SHOTCRETE SHALL CONFORM TO ASTM C150 AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2,500 PSI AND A WATER/CEMENT RATIO LESS THAN OR EQUAL TO 0.45.
6. WHERE SHOTCRETE IS EXPOSED TO SOIL OR WATER CONTAINING DELETERIOUS AMOUNTS OF WATER SOLUBLE SULFATE, OR WHERE INTENDED TO HAVE LOW PERMEABILITY WHERE EXPOSED TO WATER, SHOTCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 4,500 PSI, W/C RATIO ≤ 0.45, AND SHALL UTILIZE TYPE V CEMENT.
7. KEEP CONCRETE DAMP CONTINUOUSLY FOR 14 DAYS.
8. ALL INTERIOR SURFACES OF POOL/SPA SHALL BE COATED WITH A WATERPROOF SURFACE.

GLAZING IN HAZARDOUS LOCATIONS

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 3109.2 (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.

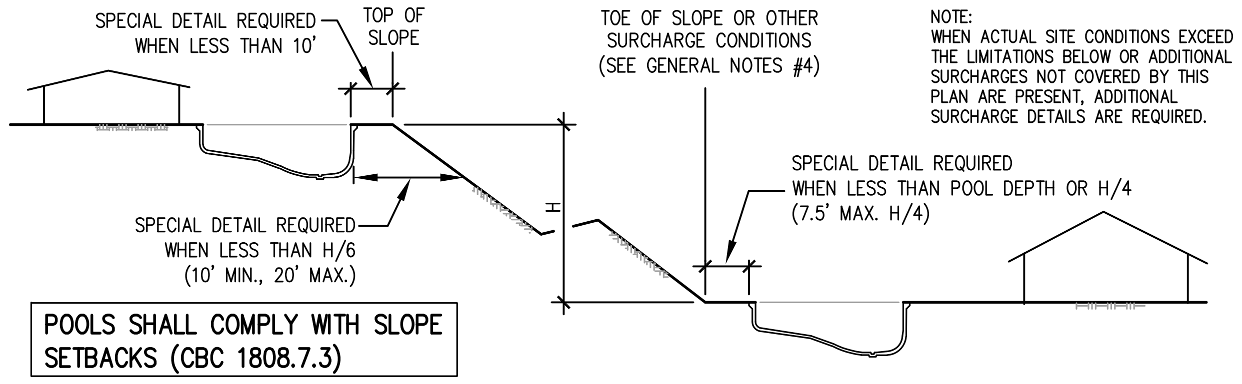
COUNTY OF SAN BERNARDINO SPECIAL NOTES

1. THESE PLANS ARE FOR PRIVATE RESIDENTIAL USE ONLY.
2. ALL POOL CONSTRUCTION SHALL COMPLY WITH THE 2021 INTERNATIONAL SWIMMING POOL AND SPA CODE (ISPSC) AND COUNTY OF SAN BERNARDINO INFORMATION BULLETIN IB-0007. PERMIT APPLICANT SHALL PROVIDE PLANS SHOWING POOL ARCHITECTUAL 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.

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.

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

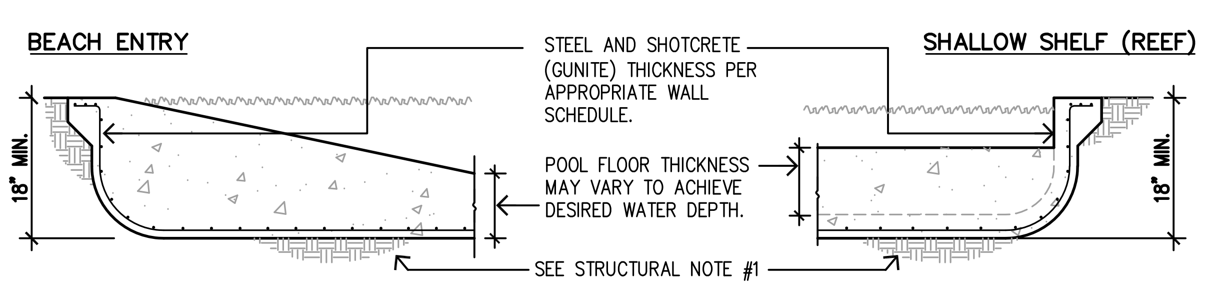


NOTE: WHEN ACTUAL SITE CONDITIONS EXCEED THE LIMITATIONS BELOW OR ADDITIONAL SURCHARGES NOT COVERED BY THIS PLAN ARE PRESENT, ADDITIONAL SURCHARGE DETAILS ARE REQUIRED.

POOLS SHALL COMPLY WITH SLOPE SETBACKS (CBC 1808.7.3)

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

SLOPING ENTRIES SHALL CONFORM TO ANSI/APSP/ICC-5 AND/OR THE ISPSC (WHERE ADOPTED)



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

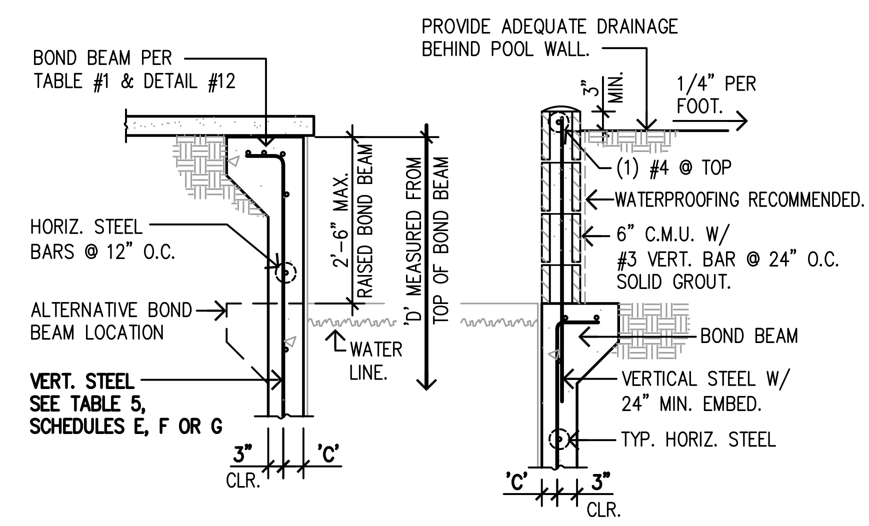


TABLE NO. 5 RAISED BOND BEAM

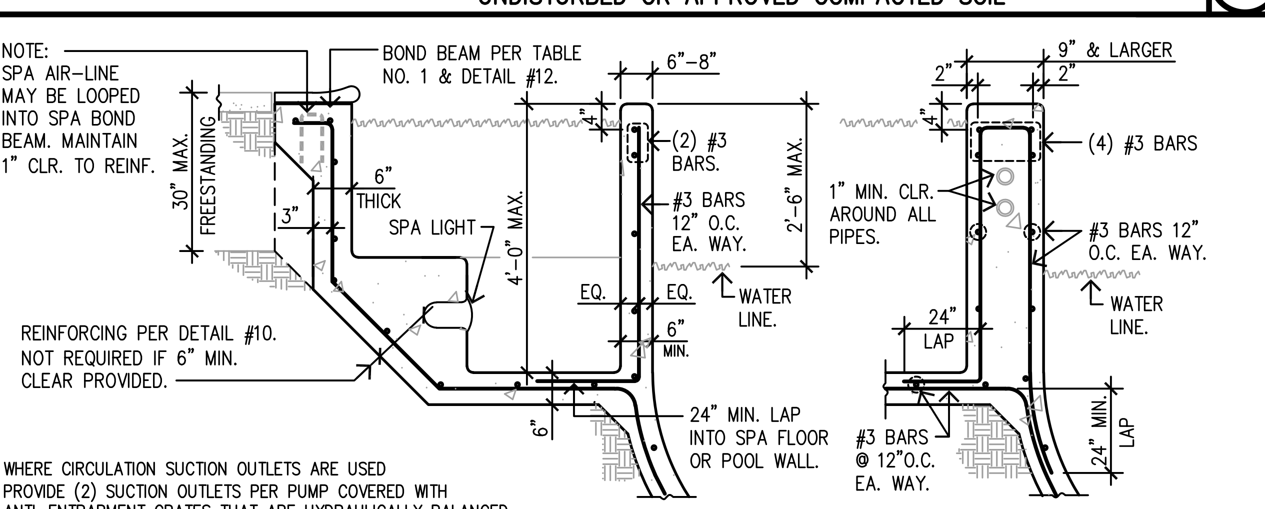
	NON-EXPANSIVE E		EXPANSIVE F		NO DECK/HIGH EXP. G	
E.F.P.	[illegible] P.C.F.		P.C.F.		62.4 P.C.F.	
D	C	VERTICAL STEEL	C	VERTICAL STEEL	C	VERTICAL STEEL
3'6"	3"	#3 @ 12"	3"	#3 @ 12"	3"	#3 @ 12"
4'0"	3"		3"		4"	
4'6"	3"		3½"		5"	
5'0"	3"	[illegible]	3½"	[illegible]	5"	#3 @ 6"
5'6"	3"		4"		6"	
6'0"	[illegible]		[illegible]		7"	
6'6"	[illegible]		[illegible]		8"	
7'0"	5"		6"	[illegible]	8"	#3 @ 3"
7'6"	5½"		6"		8"	
8'0"	6½"		7"		8½"	
8'6"	[illegible]		[illegible]		9½"	
9'0"	[illegible]		[illegible]		10½"	
9'6"	[illegible]		[illegible]		11½"	
10'0"	9"		11"		12"	
11'0"	[illegible]		[illegible]		12½"	

ITEM NOT APPLICABLE — POOL ENGINEERING, INC. (columns E and F)

MASONRY NOTES:

1. CONCRETE BLOCK SHALL BE 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)

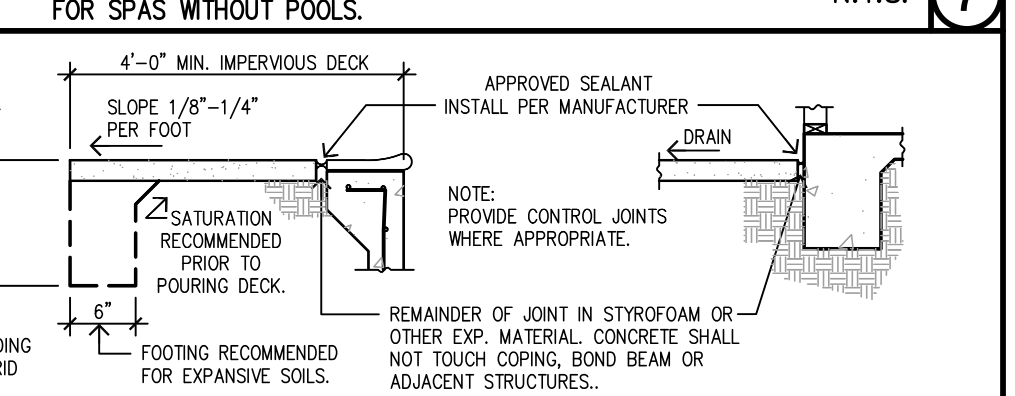


WHERE CIRCULATION SUCTION OUTLETS ARE USED PROVIDE (2) SUCTION OUTLETS PER PUMP COVERED WITH ANTI-ENTRAPMENT GRATES THAT ARE HYDRAULICALLY BALANCED AND SYMMETRICALLY PLUMBED THROUGH "T" FITTINGS. DRAINS SHALL BE SEPARATED BY THREE FEET IN ANY DIMENSION. SEE ELECTRICAL AND PLUMBING NOTE 8.

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.

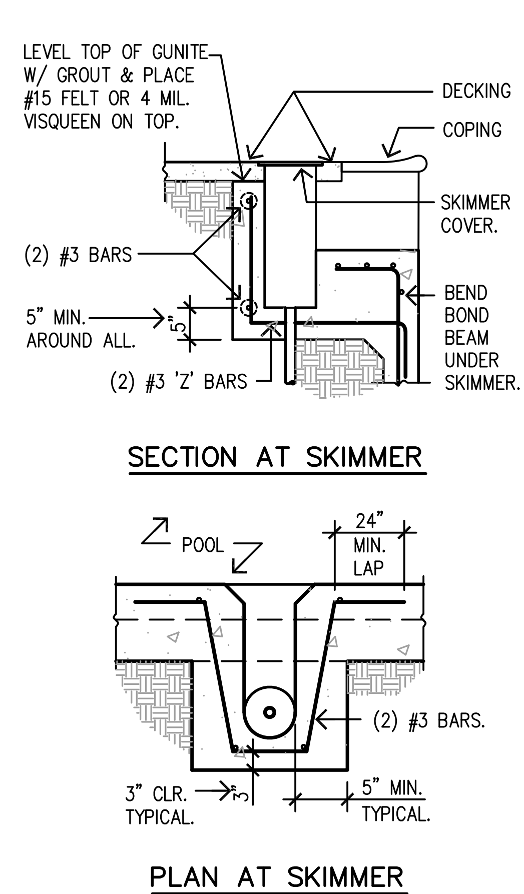
SPA DETAILS — SPA DETAILS MAY BE USED FOR SPAS WITHOUT POOLS. — N.T.S. (7)

SLOPE EARTH SURFACE 1/4" PER FOOT OR SLOPE DECKING 1/8" TO 1/4" PER FOOT AWAY FROM POOL.

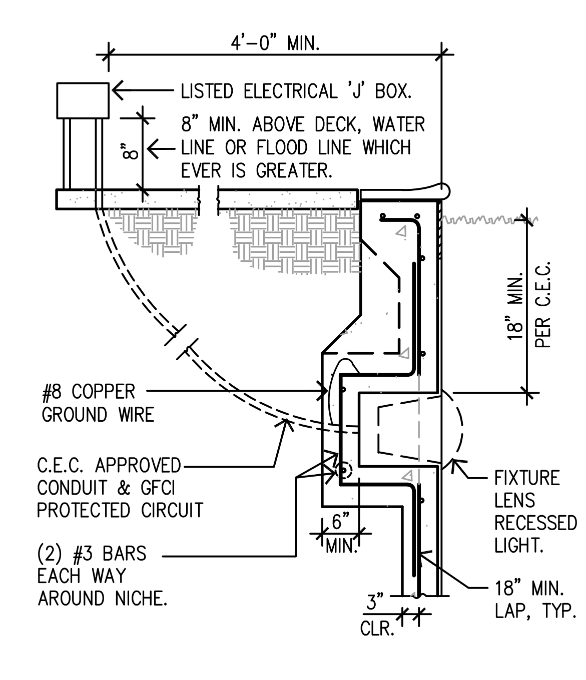


SEE ELECTRICAL AND PLUMBING NOTE #2 REGARDING EQUIPOTENTIAL BONDING GRID

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



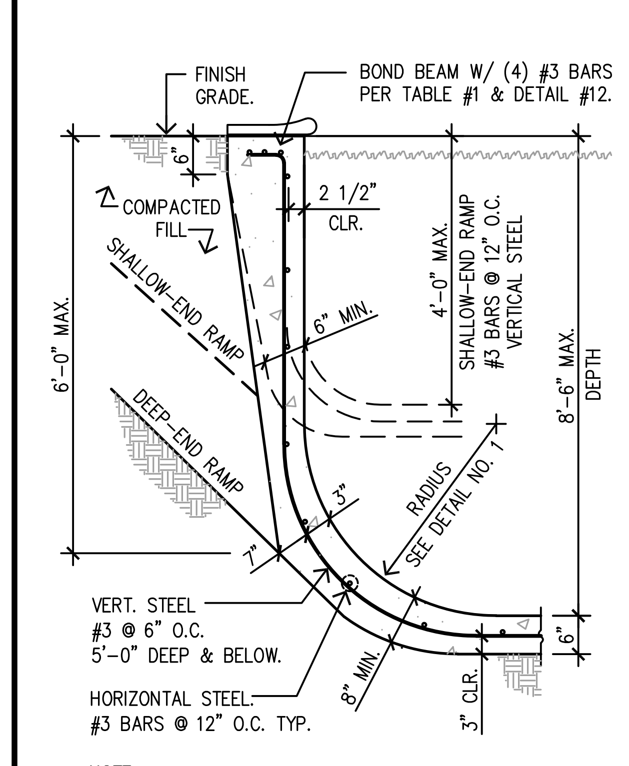
SKIMMER DETAIL — N.T.S. (9)



NOTES:

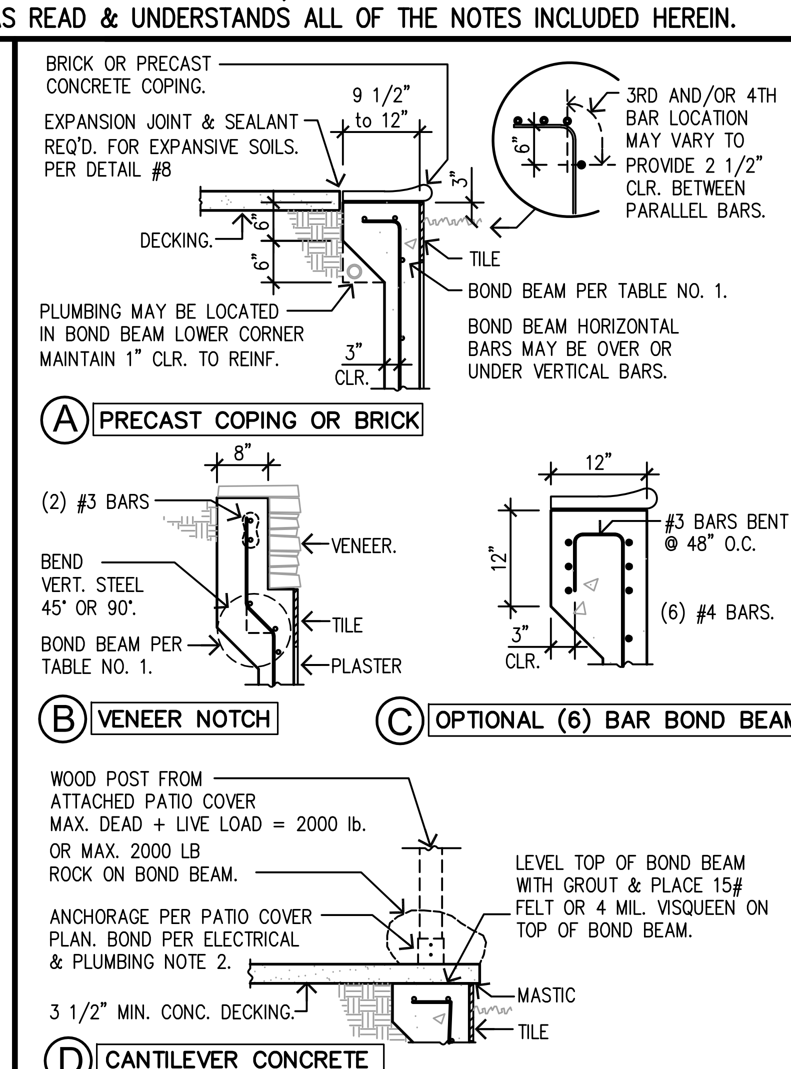
1. **INSTALL NO. 8 COPPER GROUND WIRE FROM LIGHT NICHE TO BRASS CONDUIT TO POOL REBAR, OR NON-METALLIC CONDUIT CAN BE USED WITH INSULATED NO. 8 COPPER WIRE INTERIOR W/ APPROVED POTTING COMPOUND PER THE C.E.C.**
2. **SWIMMING POOL LIGHTING FIXTURES SHALL COMPLY WITH APPLICABLE UNDERWRITERS' LABORATORIES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

FOR USE ONLY AT:
10121 1/5 Washington St
Bellflower, CA 90706-3228

23-11293-dg

11/16/2023

THIS PLAN IS VALID ONLY WITH QR CODE THAT WHEN SCANNED DISPLAYS THE PROJECT ADDRESS AND JOB NUMBER MATCHING THAT SHOWN ABOVE ENGINEER'S STAMP

AUTHORIZED SIGNATURES:
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-2022-00296
CITY OF ONTARIO:	#B202207386	ORANGE COUNTY:	#MB22-0100
SAN DIEGO:	PRJ-1075937	LOS ANGELES COUNTY:	#26077-23
SIMI VALLEY:	2022-1	KERN COUNTY:	#K202210895
SANTA CLARITA:	BLD22-02362	CITY OF FRESNO:	#22-TEMP-077
		FRESNO COUNTY:	#22-002
		VENTURA COUNTY:	S.P.A. #6-2022 (REQ'S PEI 100-VCO)

STANDARD POOL STRUCTURAL PLAN

PREPARED IN ACCORDANCE WITH
THE 2022 CALIFORNIA BUILDING CODE
(2021 INTERNATIONAL BUILDING CODE)

pool engineering inc.
1201 N. Tustin Ave.
Anaheim, California 92807
Email: info@PoolEng.com
Phone: (714) 630-6100

SHEET: 100

22v5.3 MARCH 7, 2023
100SC CBC22

CALCULATIONS

METHODOLOGY:

(SURCHARGE LOADING BASED ON BOUSSINESQ METHOD, MODIFIED BY TERZAGI FOR TYPICAL BUILDING/FOOTING 1,000 P.S.F. BEARING PRESSURE).

γ = EQUIVALENT FLUID PRESSURE

$OTM = 1/6\ \gamma H^3 + \sum[(P_i)(r_i)]$

WHERE γ = 60 p.c.f. AND

$P_i = 1/2(\sigma_i + \sigma_{i-1})(6\text{ in})$

r_i = vertical dist. from P_i to z depth.

NET MOM = OTM − RESISTING MOMENT

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

$$fc = \frac{M(2)\ 12\text{ in/ft}}{j\ k\ b\ d^2} = \frac{Mt\ (2)(12)}{(0.887)(0.339)(12)\ d^2} < 1125\text{ psi}$$

$$vc = \frac{(1/2)\ \gamma H^2}{(12\text{ in/ft})\ j\ d} = \frac{\gamma H^2}{(2)(12)(0.887)\ d} < 55\text{ psi}$$

f'c = 2,500 p.s.i.

Fs = 20,000 p.s.i.

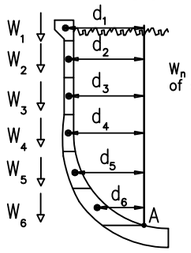
fc = 0.45 f'c = 1125 p.s.i.

$Vc = 1.1\sqrt{f'c}$ = 55 p.s.i.

RESISTING MOMENT:

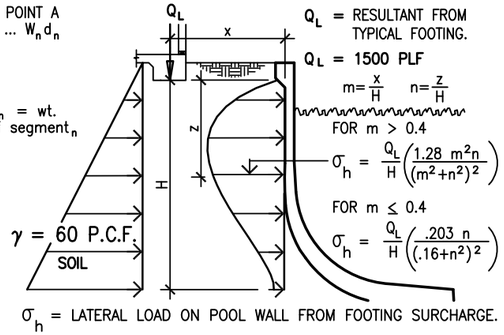
RESISTING MOMENT ABOUT POINT A

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



W_n = wt. of segment$_n$

LOADING DIAGRAM:



Q_L = RESULTANT FROM TYPICAL FOOTING.

Q_L = 1500 PLF

$m = \frac{x}{H}$ $n = \frac{z}{H}$

FOR m > 0.4

$$\sigma_h = \frac{Q_L}{H}\left(\frac{1.28\ m^2 n}{(m^2+n^2)^2}\right)$$

FOR m ≤ 0.4

$$\sigma_h = \frac{Q_L}{H}\left(\frac{.203\ n}{(.16+n^2)^2}\right)$$

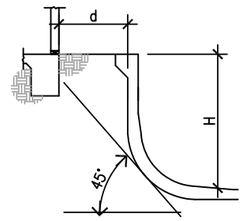
σ_h = LATERAL LOAD ON POOL WALL FROM FOOTING SURCHARGE.

CALCULATION RESULTS:

BUILDING/FOOTING SURCHARGE
EXPANSIVE SOIL
EQUIVALENT FLUID PRESSURE = 60 P.C.F.
RESULTS FOR 'X' = 1'−0" W/ 2'−6" MAX. RAISED BOND BEAM

HEIGHT 'H'	SOIL OTM ft−#	LOAD OTM ft−#	SOIL RM ft−#	NET Mom	t	VERTICAL STEEL	fs p.s.i.	fc p.s.i.	vc p.s.i.
2'−0"	80	19	78	20	6"	#3 @ 12"	853	25	5.2
3'−0"	270	135	100	304	7"	#3 @ 6"	4763	172	10.0
4'−0"	640	395	134	901	9"	"	9103	258	11.7
5'−0"	1250	797	183	1864	10"	#3 @ 3"	8201	315	14.9
6'−0"	2160	1317	235	3242	10"	"	14261	548	20.2
7'−0"	3430	1926	367	4989	11"	add 3 #4	12372	578	22.8
8'−0"	5120	2603	704	7018	11"	"	17404	813	28.2
9'−0"	7290	3329	1371	9249	12½"	"	19057	801	28.6
10'−0"	10000	4094	2687	11407	14½"	"	19158	719	28.0
11'−0"	13310	4887	8115	10082	15"	"	16183	592	31.5

THIS DETAIL IS NOT NEEDED WHEN 'd' IS GREATER THAN 'H'.



SHORING NOTES:

1. THIS PLAN DEPICTS THE STRUCTURES IN A COMPLETED STATE ONLY. THE INSTALLER IS RESPONSIBLE FOR JOB SITE CONDITIONS AND THE SAFETY OF ALL PERSONS & PROPERTY DURING THE COURSE OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND PROVIDING BRACING DURING CONSTRUCTION AND/OR ERECTION TO SUPPORT ALL LOADS TO WHICH THE STRUCTURES AND SUPPORTING SOIL MAY BE SUBJECTED.

NOTE:
THIS DETAIL APPLIES TO STRUCTURES WITH ROOF RAFTER & FLOOR JOIST SPANS OF UP TO 32'−0" TRIBUTARY TO FOOTING.

FOOTING LOAD FROM BUILDING OR PATIO STRUCTURE = 1,500 P.L.F.

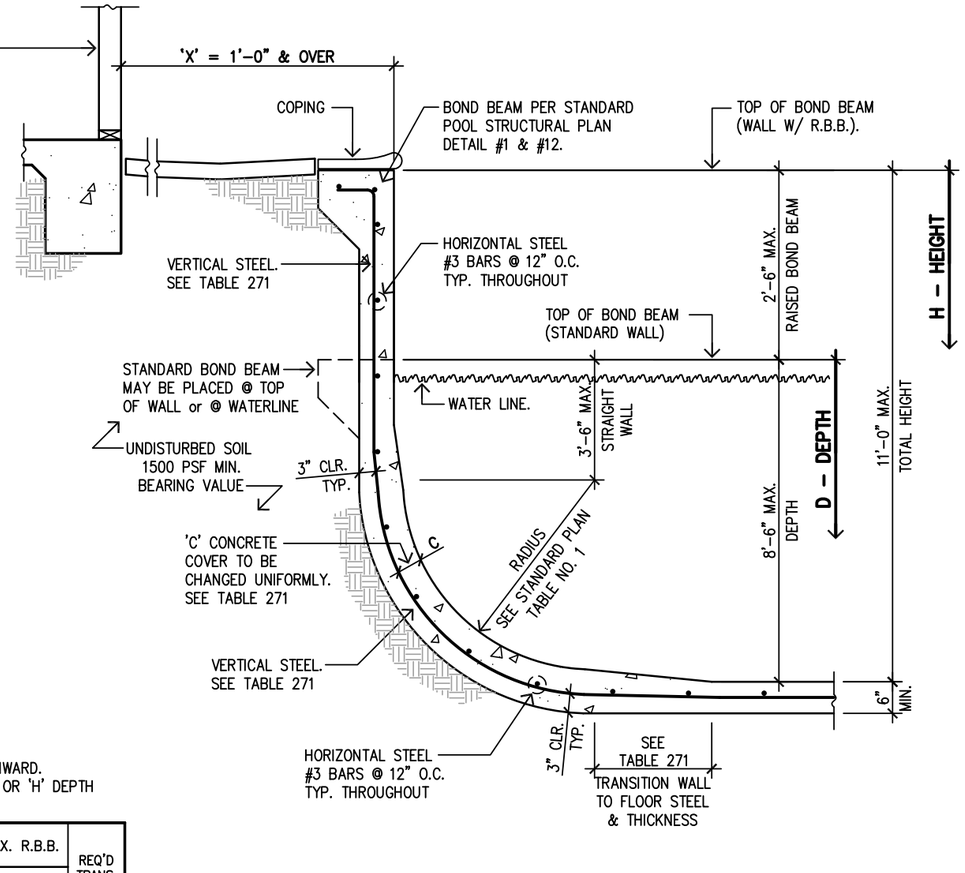


TABLE 271

'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)

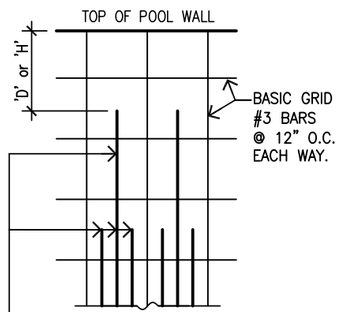
POOL DEPTH	NO R.B.B.		REQ'D TRANS.
D	C	VERTICAL STEEL	
0 to 2'0"	3"	#3 @ 12"	2'−0"
2'−6"	3½"	"	2'−0"
3'−0"	3½"	#3 @ 6"	2'−0"
3'−6"	4½"	"	2'−0"
4'−0"	5½"	"	2'−0"
4'−6"	6½"	"	2'−3"
5'−0"	6½"	#3 @ 3"	2'−3"
5'−6"	6½"	"	2'−4"
6'−0"	6½"	"	2'−4"
6'−6"	6½"	"	2'−5"
7'−0"	6"	add 3 #4	2'−6"
7'−6"	6"	"	2'−8"
8'−0"	6"	"	2'−10"
8'−6"	6"	"	2'−11"

SEE ADD BARS DIAGRAM

TOTAL HEIGHT	2'−6" MAX. R.B.B.		REQ'D TRANS.
H	C	VERTICAL STEEL	
0 to 2'0"	3"	#3 @ 12"	2'−0"
2'−6"	3½"	"	2'−0"
3'−0"	4"	#3 @ 6"	2'−0"
3'−6"	5"	"	2'−0"
4'−0"	6"	"	2'−0"
4'−6"	7"	"	2'−2"
5'−0"	7"	#3 @ 3"	2'−6"
5'−6"	7"	"	2'−11"
6'−0"	7"	"	3'−4"
6'−6"	8"	"	3'−9"
7'−0"	7½"	add 3 #4	4'−2"
7'−6"	7½"	"	4'−2"
8'−0"	7½"	"	4'−2"
8'−6"	8½"	"	4'−2"
9'−0"	9"	"	4'−2"
9'−6"	10"	"	4'−2"
10'−0"	11"	"	4'−2"
10'−6"	11½"	"	4'−2"
11'−0"	11½"	"	4'−2"

SEE ADD BARS DIAGRAM

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.

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REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. BIEDENBACH No. 74003 Exp. 6/30/25 CIVIL STATE OF CALIFORNIA

11/16/2023

PLAN VALID ONLY WITH EMBEDDED QR CODE ON DETAIL, WHICH WHEN SCANNED DISPLAYS THE INTENDED PROJECT ADDRESS

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

BUILDING/FOOTING SURCHARGE
1'−0" MIN. FROM POOL
EQUIVALENT FLUID PRESSURE = 60 P.C.F.
(PLUS SURCHARGE)

23-11293-dg

DETAIL #271

22r1 December 06, 2022