



March 9, 2007

**MEMORANDUM**

**BULLETIN E-01-07**

**To: All Permits Applicants**

**From: Thomas H. Goldsbury, P.E., C.B.O.**  
Chief, Building Inspection Division

**Subject: EQUIPOTENTIAL BONDING GRID FOR SWIMMING POOLS**

Section 680.26(C) of the National Electrical Code (NEC) requires an Equipotential Bonding Grid to extend under walking surfaces of swimming pools for one meter horizontally. The NEC lists various items which could be used as this bonding grid. One item allowed by the code is structural steel reinforcing with steel wire ties. While this method would work fine encapsulated in concrete for a deck, we believe the reinforcing with steel wire ties would be subject to considerable corrosion if left in the soil/sand under a paver deck.

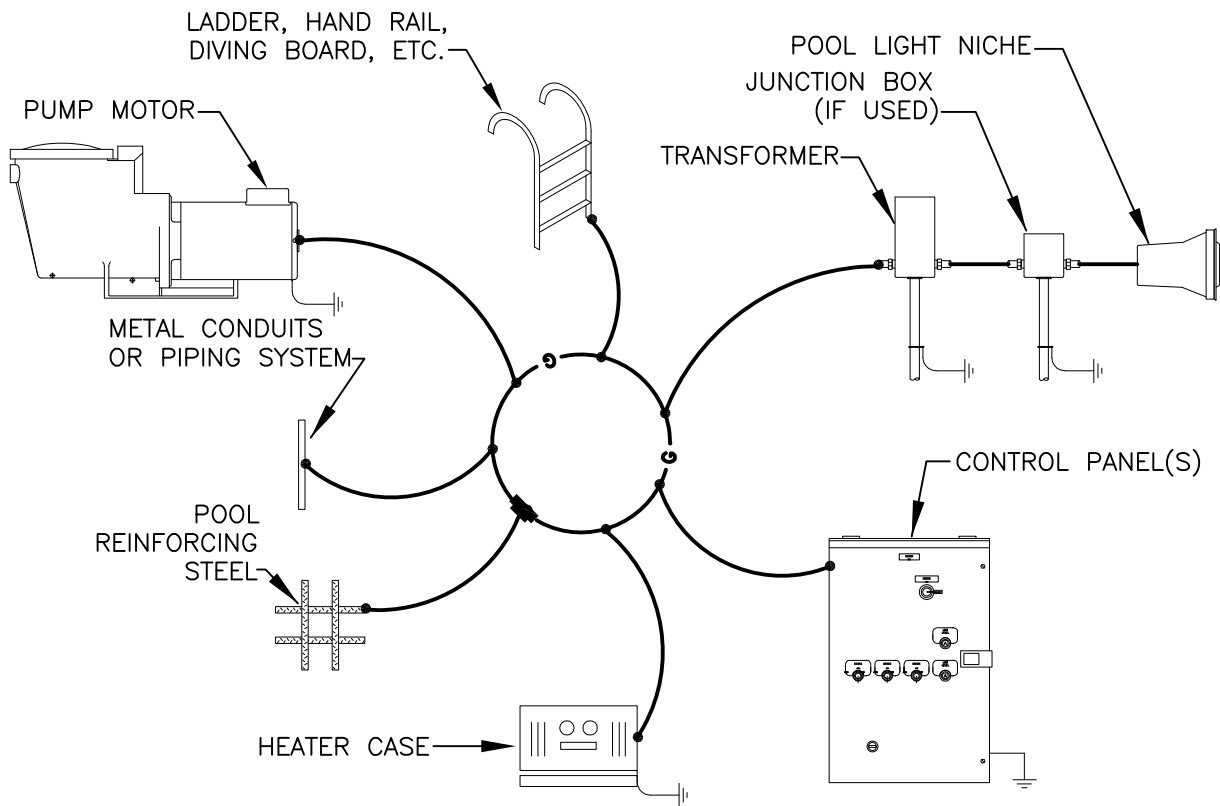
**Effective for all swimming pool permits submitted after March 9, 2007**, in coordination with the Florida Swimming Pool Association we have all agreed to not allow structural reinforcing steel that is not encapsulated in concrete to serve as the equipotential bonding grid, but have approved an alternative means and method for the grid. This alternative has been accepted by the NFPA 70 council to be included in the 2008 NEC, and consists of a single conductor, #8 awg solid copper wire. All connections to this grid shall be by a listed means per NEC 250.8.

A generic diagram with notes and details which can be used as general guidelines for installation are shown on the attached sheets:

- PB-1 Typical Pool Bonding Plan
- PB-2 Pool Bonding Notes
- PB-3 Typical Pool Bonding Schematic
- PB-4 Typical Bonding Types

I would like to thank the Florida Swimming Pool Association and electrical engineers Ossi and Myler, Inc., for their assistance.

Xc: Jimmy Douglas  
Rick Taylor  
All Electrical Inspectors



# TYPICAL POOL BONDING SCHEMATIC

NOT TO SCALE

## SCHEMATIC NOTES:

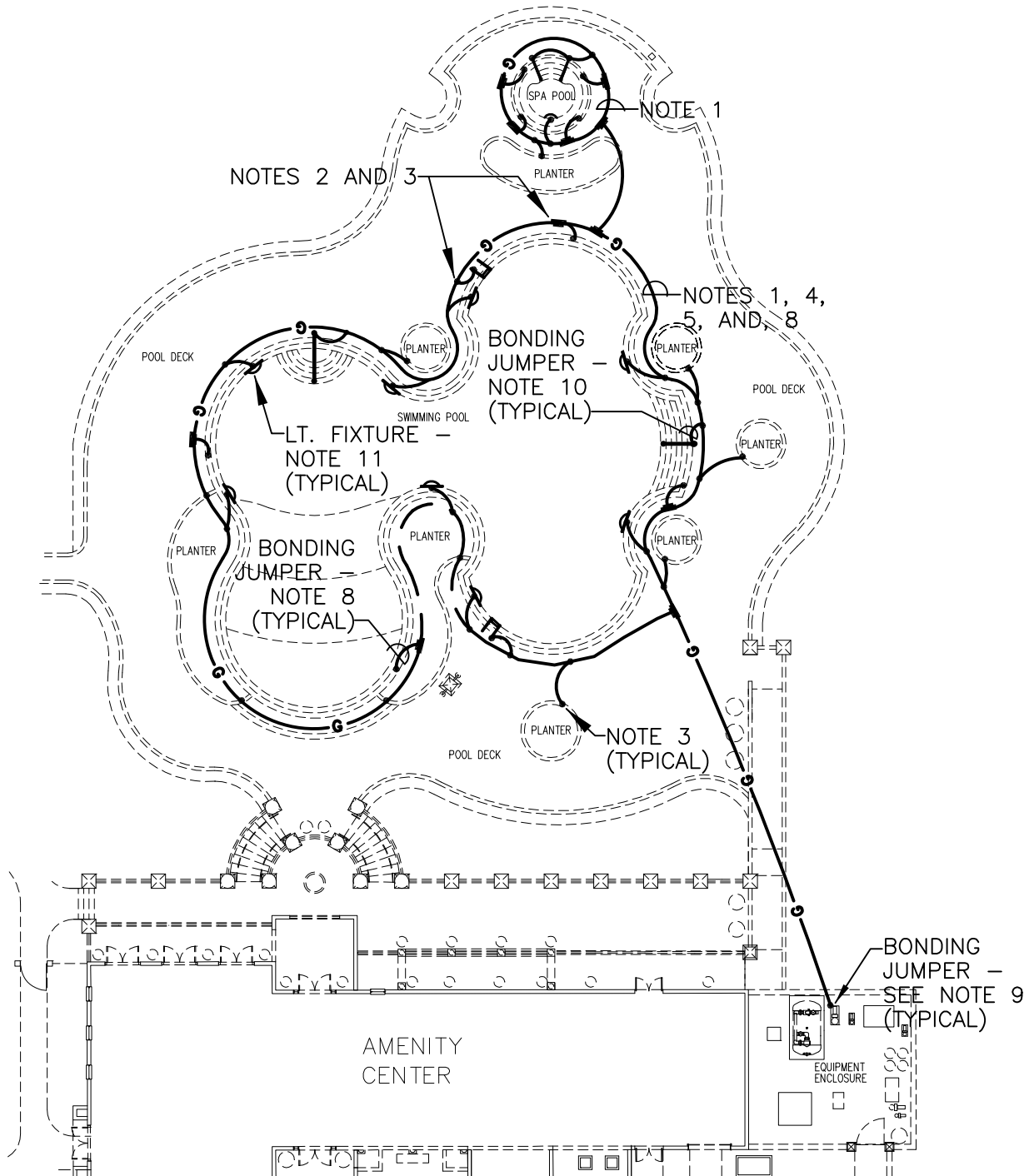
1. THE EQUIPOTENTIAL BONDING OF ALL CONDUCTIVE POOL SHELLS, PERIMETER SURFACES, METALLIC COMPONENTS, UNDERWATER LIGHTING, METAL FITTINGS, ELECTRICAL EQUIPMENT, AND METAL WIREWAYS/CONDUITS SHALL BE IN ACCORDANCE WITH NEC 680.26, OR, AS ACCEPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
2. REFERENCE POOL BONDING NOTES ON SHEET PB-2.

# POOL BONDING NOTES:

1. BONDING CONDUCTOR SHALL BE #8 AWG BARE SOLID COPPER WIRE BURIED TO A MINIMUM DEPTH OF 4"-6" BELOW SUBGRADE, AND 18"-24" FROM INSIDE WALL OF POOL OR SPA.
2. ALL UNDERGROUND OR UNDER SLAB CONNECTIONS SHALL BE BY LISTED MEANS PER NEC 250.8. BONDING CABLES UNDER SLAB SHALL BE PLACED AT THE BOTTOM OF EXCAVATION.
3. WHEN REBAR IS UTILIZED FOR THE CONSTRUCTION OF PLANTERS AND FOOTERS ADJACENT TO THE POOL (WITHIN 5'), THIS REBAR SHALL BE BONDED USING #8 AWG BARE SOLID COPPER CONDUCTOR BY LISTED MEANS PER NEC 250.8 TO THE BONDING CONDUCTOR.
4. LOCATION OF COPPER BONDING CONDUCTOR, BONDING JUMPERS, AND CONNECTIONS SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL FIELD ROUTE TO DETERMINE EXACT LOCATION. BONDING CONDUCTOR SHALL CONFORM TO THE SHAPE OF THE POOL WHILE MAINTAINING SMOOTH RADIAL CURVES - NO 90° RADIUS SHALL BE PERMITTED.
5. RESISTANCE OF THE GROUND SYSTEM SHALL NOT EXCEED 25 OHMS.
6. IF REQUIRED, ALL GROUND RODS SHALL BE 5/8" COPPER CLAD STEEL, 8' LONG AND DRIVEN TO A DEPTH OF 18" BELOW FINISHED GRADE, MINIMUM, AND, WHERE USED, SHALL BE BONDED USING #8 AWG BARE SOLID COPPER CONDUCTOR BY LISTED MEANS PER NEC 250.8 TO THE BONDING CONDUCTOR.
7. SPECIAL CASES MAY INCLUDE, BUT ARE NOT LIMITED TO, VANISHING EDGE POOLS, POOLS WITH PERIMETERS OF VARYING (VERTICAL) GRADES, DIMINISHED PERIMETER SURFACES LIKE EDGE PLANTERS, STOP/RETAINING WALLS, AND ZERO-LOT LINES. IN THESE CASES, THE BONDING CONDUCTOR SHALL BE INSTALLED IN ACCORDANCE WITH NEC 680.26, NOTE 1 (ABOVE), AND DIRECTION FROM THE AUTHORITY HAVING JURISDICTION (AHJ). THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF THE BONDING WITH THE AHJ IN THE DETERMINATION OF ITS APPLICATION OF THE NEC.
8. COPPER BONDING CONDUCTOR SHALL BE BONDED TO THE POOL AND SPA REBAR AS SHOWN, 4 LOCATIONS, MINIMUM AT EACH SEPARATE BODY OF WATER, USING A #8 AWG BARE SOLID COPPER CONDUCTOR. FOR NON-CONDUCTIVE POOL SHELLS, BONDING AT 4 POINTS SHALL NOT BE REQUIRED.
9. COPPER BONDING CONDUCTOR SHALL BE BONDED TO THE EQUIPMENT GROUND OF THE POOL PUMP MOTOR AND OTHER ELECTRICAL COMPONENTS AS REQUIRED BY NEC 680.26 (VERIFY LOCATIONS) USING #8 AWG BARE SOLID COPPER WIRE.
10. COPPER BONDING CONDUCTOR SHALL BE BONDED TO ALL METALLIC COMPONENTS OF THE POOL AND SPA, AND METAL STRUCTURES, INCLUDING, BUT NOT LIMITED TO, ALL HANDRAILS, DIVING BOARDS, AND LADDER GRABRAILS IN THE POOL AND SPA AND INCLUDE ALL METAL WIRING AND ALL FIXED METAL PARTS THAT ARE WITHIN 5' HORIZONTALLY OF THE INSIDE WALL OF THE POOL (SPA) AND 12' VERTICALLY ABOVE THE MAXIMUM WATER LEVEL OF THE POOL USING #8 AWG BARE SOLID COPPER WIRE.
11. ALL POOL AND SPA LIGHTING NICHES SHALL BE BONDED TO POOL AND SPA REBAR PER NEC 680. THE COPPER BONDING CONDUCTOR SHALL BE BONDED TO THE REBAR AT BOTH THE POOL AND THE SPA, PER NOTE 8, ABOVE, WHICH SHALL, IN TURN, PROVIDE BONDING OF THE LUMINAIRE NICHES.
12. ELECTRICAL CONTRACTOR SHALL CALL FOR THE INSPECTION OF THE BONDING OF THE POOL AND ITS PERIMETER SURFACES PRIOR TO COVER-UP OF THESE AREAS.

# BONDING LEGEND

- BOND CONNECTION, PER NEC 250.8
- PARALLEL TAP CONNECTION, PER NEC 250.8
- G— UNDERGROUND BONDING CONDUCTOR, #8 AWG (MINIMUM)



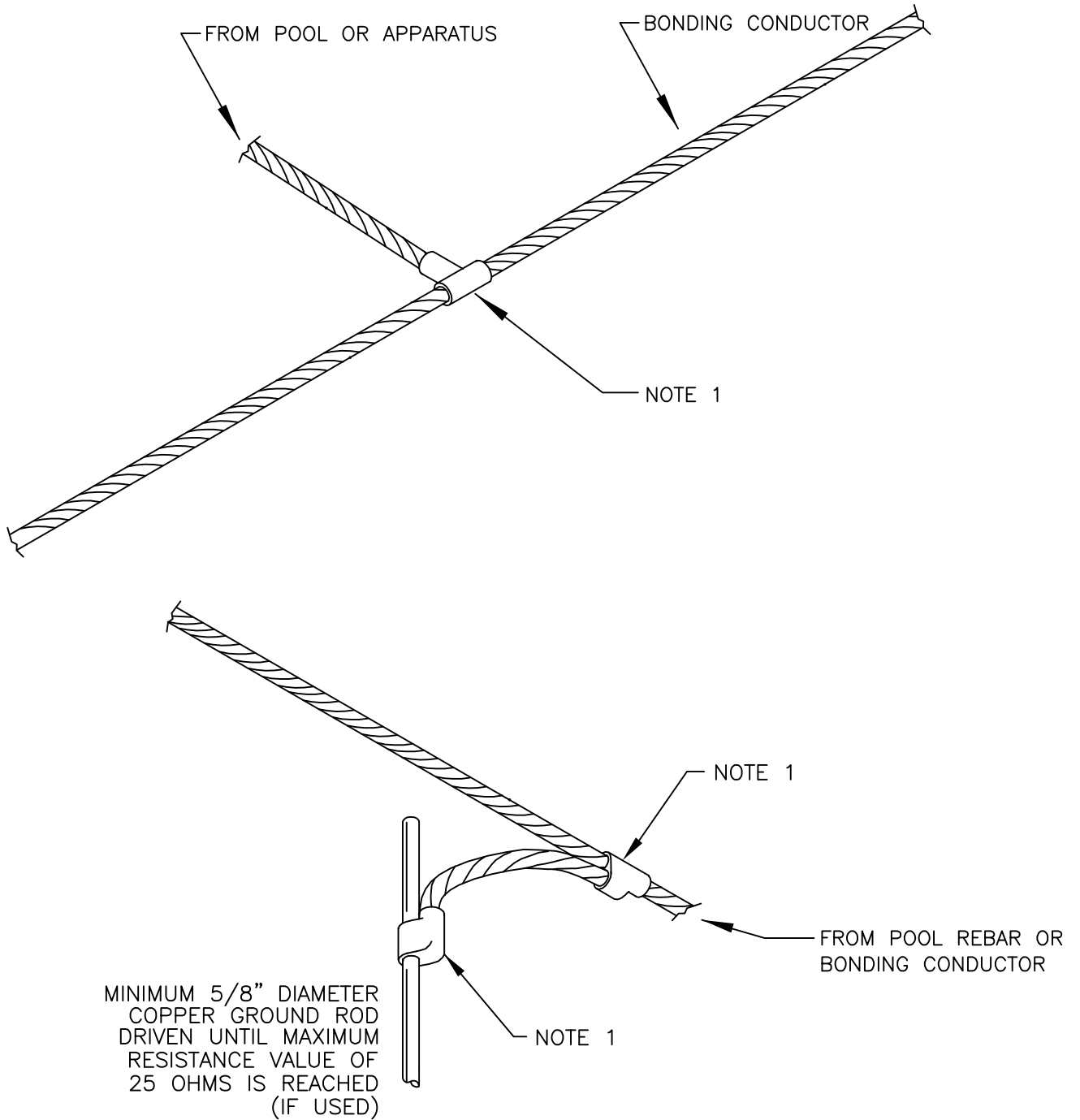
## TYPICAL POOL BONDING PLAN

NOT TO SCALE

REFERENCE POOL BONDING NOTES ON SHEET PB-2 AND TYPICAL POOL BONDING SCHEMATIC ON SHEET PB-3.

**PB-1**

(1 OF 4)



## TYPICAL BONDING TYPES

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### NOTES:

1. SPLICES (WELDED OR MECHANICAL) SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

**PB-4**

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