



NESPA
TILED SPAS

Production Booklet

"for

O G T F K C P SPA

2800 Richter Ave. Suite C, Oroville, CA 95965 • **voice:** (530)534-9910
fax: (530)534-9915 • **email:** sales@tiledspas.com • **website:** www.tiledspas.com



RECOMMENDED MAINTENANCE

Please Note:

These are only recommended guidelines to care for a Nespa all tiled spa. Local codes may require additional procedures, therefore consult with a pool professional that is LA county Health Department certified for more information on local codes and requirements.

SPA SURFACE

Your spa tile is acid resistant and frost-proof. The Tile does not absorb germs or algae. Tile does not stain and is very easy to clean. Color does not fade or lose its luster. All grouts are epoxy based and are extremely durable. To remove scum line use soft nylon brush and small amounts of biodegradable soaps. Do not use abrasive brushes or chemicals.

MAINTENANCE

A. CHEMICALS:

- 1) It is important to maintain a chlorine residual of 2 PPM in the spa. That residual can be provided by chlorine or bromine.
- 2) It is recommended to use Bromine or dichlor (granular) forms of chlorine. If bromine Tabs are used we suggest floating or inline dispenser.
- 3) Never use acid to lower Ph in the tile spa.
- 4) Never use trichlor chlorine (1" or 3") tablets in the Nespa spas.
- 5) Never place tablets in skimmer basket.

B. DRAINING THE SPA:

- 1) It is recommended to drain the spa at least once every 2 months depending on bath load and water clarity.
- 2) The spa should be drained through valve exiting re-circulation pump in the spa equipment room or sump pump.
- 3) Note: Use caution to drain spa in the winter months or rainy season when water table is at its highest. It is possible for the spa to float due to hydraulic pressure from surrounding water table. We advise that you consult with your local spa specialist prior to draining the spa.

C. SPA EQUIPMENT:

- 1) Clean filter cartridge at least once every month, or when needed; i.e., if water clarity does not improve after several days.
- 2) Keep area free and clear from leaves and debris build-up.
- 3) Keep area free and clear from flooding.

D. SPA LIGHT:

- 1) Spa light has to be on GFCI circuit. It is controlled at spa side with ON/OFF.

E. TILE SERVICING:

- 1) Contact manufacture when servicing tile or grout. @ (530) 534-9910

PLAN APPROVAL DOCUMENTATION

APPROVED

DRAWING REVISION HISTORY

SHEET 1 - SD (Spa Detail)

- REV NOTE: 11-16 Added Skimmer Tab
- REV NOTE: 12-10 Added Second Strip Drain
- REV NOTE: 2-24 Changed Spa Dims
- REV NOTE: 4-01 Removed Lateral Skids
- REV NOTE: 04-06 Added to Depth of Spa

SHEET 2 - SPA Layout

- REV NOTE: 11-16 Added Skimmer Tab
- REV NOTE: 12-10 Added Second Strip Drain

SHEET 3-4 - Vault Detail

- REV NOTE: 04-06 Added Dims to Skids

SHEET 5 - Plumbing Layout

- REV NOTE: 11-16 Added Skimmer Tab
- REV NOTE: 12-10 Added Second Strip Drain

SHEET 6-7 - Main Drain Detail

- REV NOTE:

SHEET 8-11 - Main Drain Documents

SHEET 12 - TILE

- REV NOTE:

SHEET 13 - TILE Detail

- REV NOTE:

SHEET 14 - Equipment Layout

- REV NOTE: 12-10 Added Second Strip Drain and Equipment

SHEET 15 - Equipment Docs

- REV NOTE:

SHEET 16 - Bonding Detail

- REV NOTE:

SHEET 17 - Electrical Detail

- REV NOTE:

SHEET 18 - Electrical Detail (2)

- REV NOTE:

SHEET 19-20 - Handrail

- REV NOTE:

I approve the above drawings _____ Date: _____

Any changes to these plans from here forward shall be directed in writing to Nespa.

SPA FABRICATION AUTHORIZATION

Nespa's engineering and structural manufacturing departments may find it necessary to make slight adjustments (= 1") to your spa.

This may include the size of the spa (OD/ID), tile cuts, depths, jet location, bench steps etc. These adjustments must be made in the primary stages of building the spa. The adjustments are generally made to ad structural and aesthetic integrity to the vessel. IE: balance of supporting gussets (exterior) and less tile cuts/ symmetrical cuts, grout lines, etc. (interior)

Please initial next to the following number that describes your project needs .

- _____ 1. YES, I understand adjustments need to be made. Nespa will use their expertise to make these adjustments as needed. I give them the authority to make changes. I will receive final accurate drawings prior to receipt of spa or spa hole construction (if changes were made to the size)
- _____ 2. NO, No changes can be made even under 1". Dimensions are fixed. More tile cuts may be needed, Structural supports may be altered to accommodate.
- _____ 3. Nespa will need to contact us for any changes to spa dimensions prior to continued spa fabrication.

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Office: (530) 534-9910

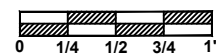
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DWG TYPE

Revisions

DWG NAME

MERIDIAN

DATE

4/1/2010

SHEET

Cover Sheet


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SPECIFICATIONS	
DRY WEIGHT	2650 LBS.
TOTAL WEIGHT	14062 LBS.
WATER	1369 GAL.
VOLUME	183 Cu.Ft.
WEIGHT	11412 LBS.
SURFACE AREA	69 SQ. FT.
IAPMO#	1138
FDA#	2030305


SKID SUPPORT STRUCTURE BONDED TO SPA


☒  SKIDS SUPPLIED BY NESPA


LIGHT NICHE
 SPA BRIGHT, 120 V, 100 WATT, 50' CORD, U.L. APPROVED

MAIN DRAIN

 AquaStar 32CDFLFR, 32" Channel Drain, Approved Max Flow Rate: Floor = 236 GPM @ 3.4 fps Wall = 136 GPM @ 1.9 fps V.G.B Approved Safety Drain

SIDEWALL SUCTION

 AquaStar WAV9101, 9"x 9" Frame, Approved Max Flow Rate: Floor = 207 GPM @ 1.5 fps Wall = TRD 44.2 Sq In = Open Area V.G.B Approved Safety Drain

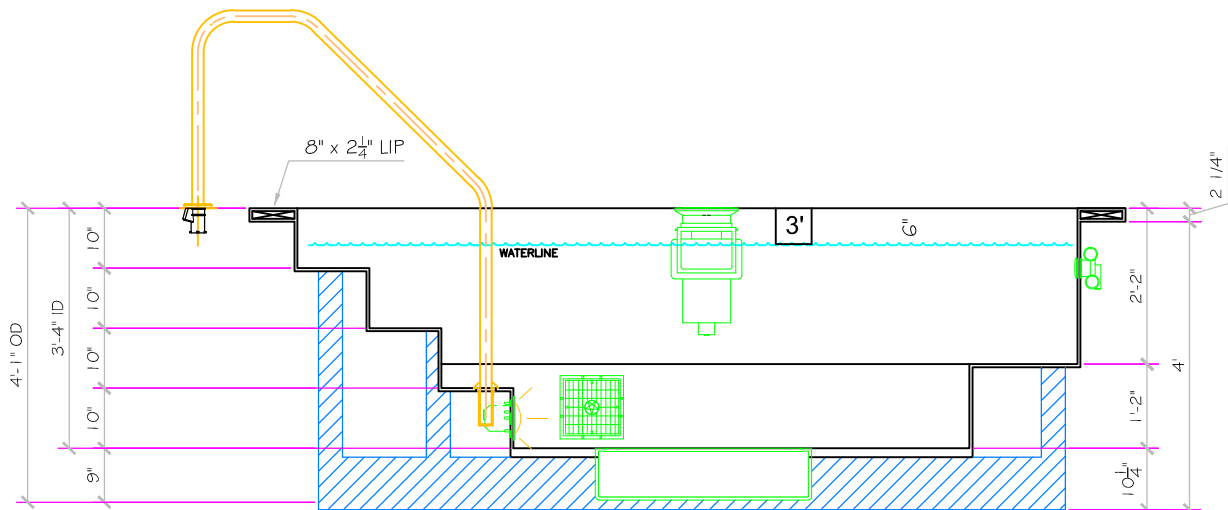
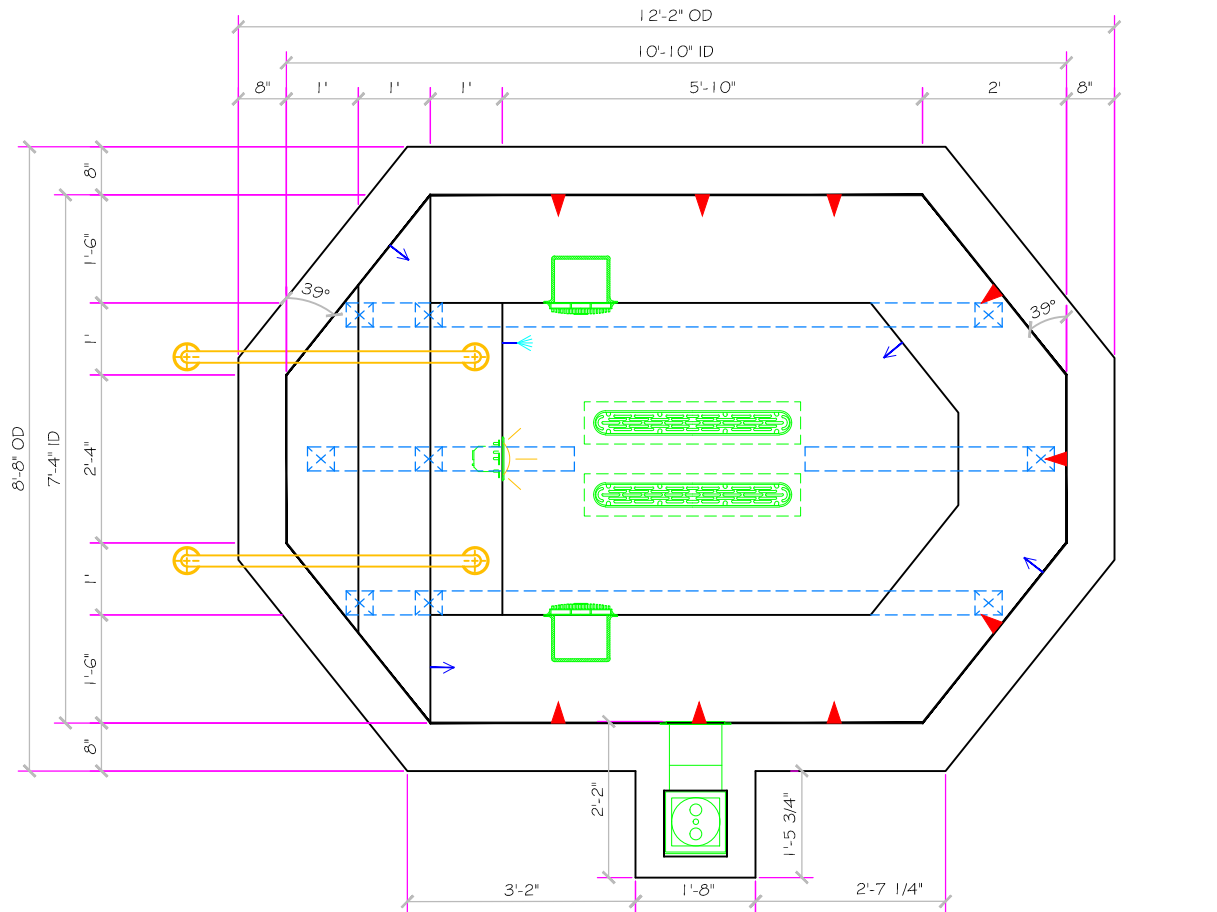
SKIMMER

 HAYWARD SP-1084FVE SURFACE SKIMMER W/ EQUALIZER, NSF APPROVED

JET

 HYDRO INLETS 1-1/2" WATER - 1-1/2" AIR HYDROAIR #10-5100 COMPLIES W/ ANSI CODE ASME A112.19.8-07 U.L. APPROVED

RETURN

 INLET FITTINGS 1-1/2" WALL TYPE W/ EYEBALL HYDROAIR #10-3500 COMPLIES W/ ANSI CODE ASME A112.19.8-07 U.L. APPROVED

FILL

 INLET FITTINGS 1-1/2" WALL TYPE W/ EYEBALL HYDROAIR #10-3500 COMPLIES W/ ANSI CODE ASME A112.19.8-07 U.L. APPROVED



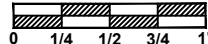
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ALL DIMENSIONS SUBJECT TO 1/4" TOLERANCES

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 2800 Richter Ave. Suite C Oroville, CA 95966
 Office: (530) 534-9910 Fax: (530) 534-9915
 E-Mail: sales@tiledspas.com Web Site: www.tiledspas.com

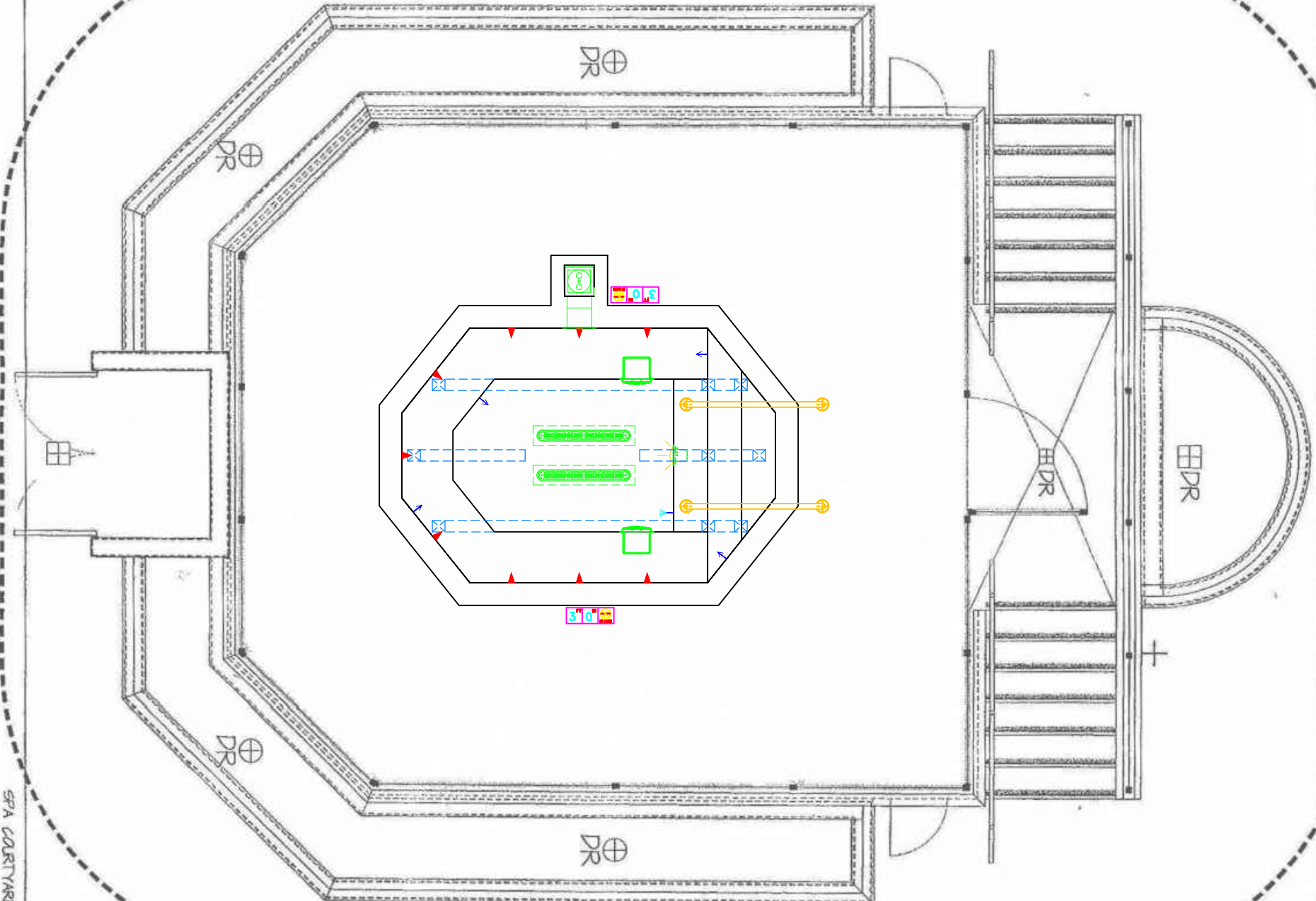


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 DATE 4/6/2010

DWG TYPE SD
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Apr 06, 2010 - 10:57am

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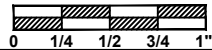
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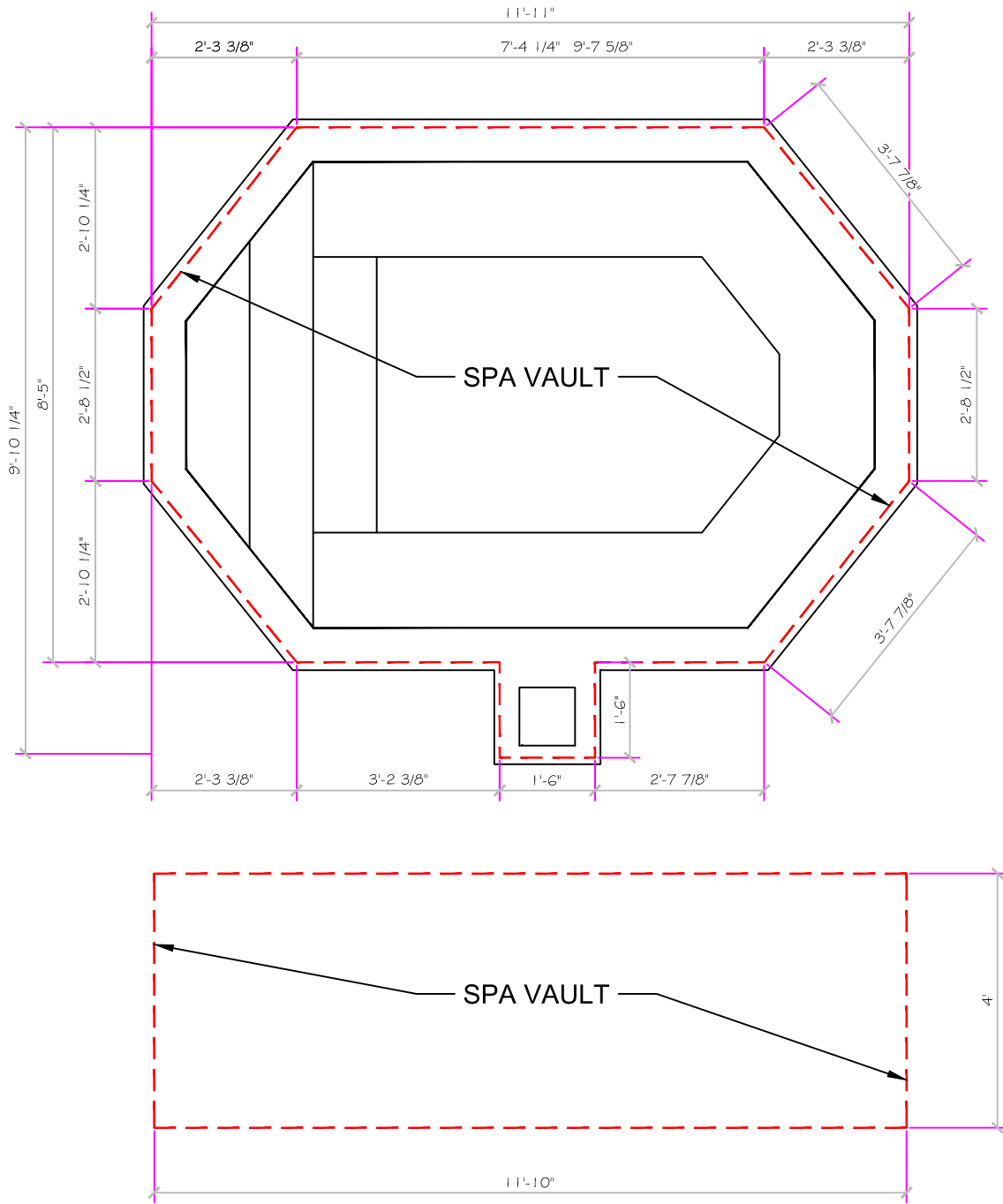
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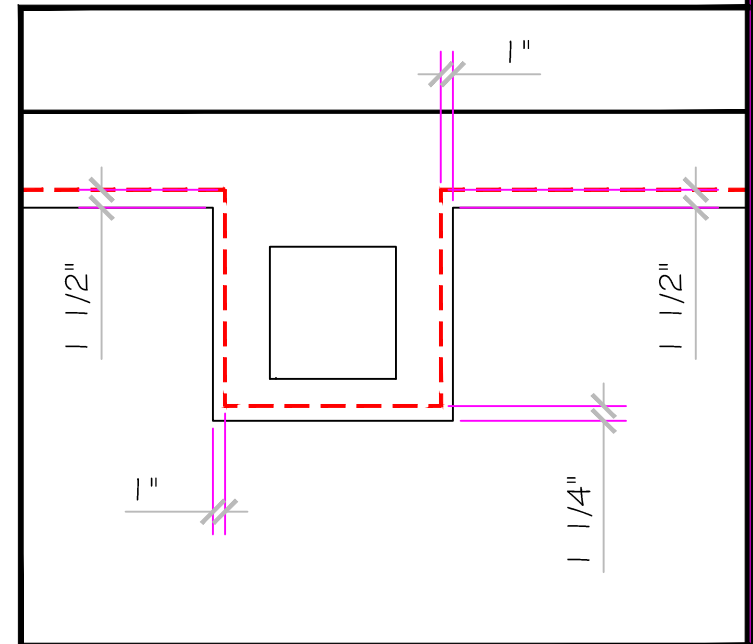
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DWG TYPE
 SPA LAYOUT
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SKIMMER LIP DETAIL

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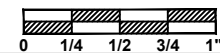
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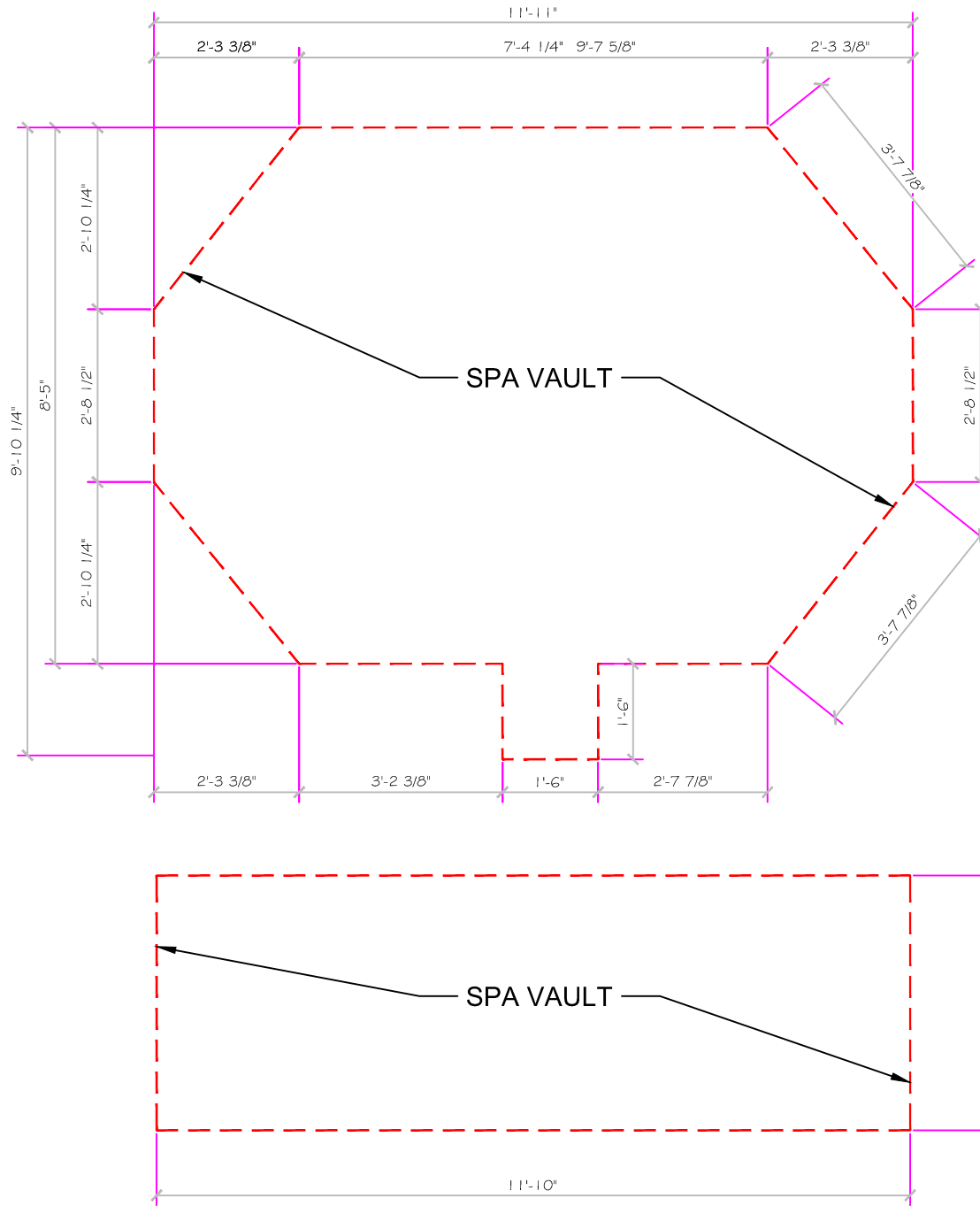


DWG TYPE
 Vault Detail

DWG NAME
 MERIDIAN

DATE
 4/6/2010

SHEET
 PAGE 3 OF 20



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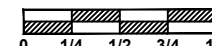
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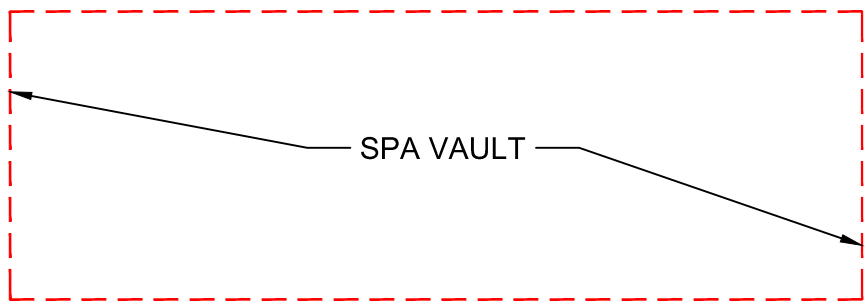
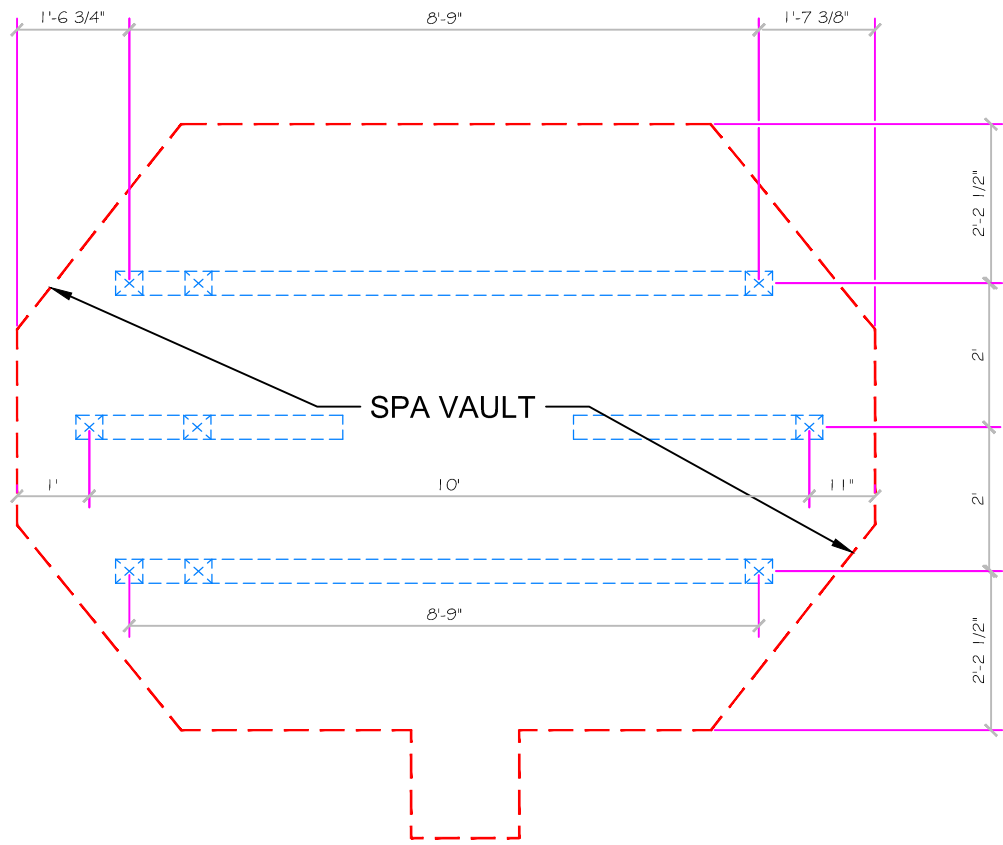
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DWG TYPE
 Vault Detail (2)
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 PAGE 4 OF 20



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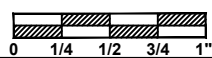
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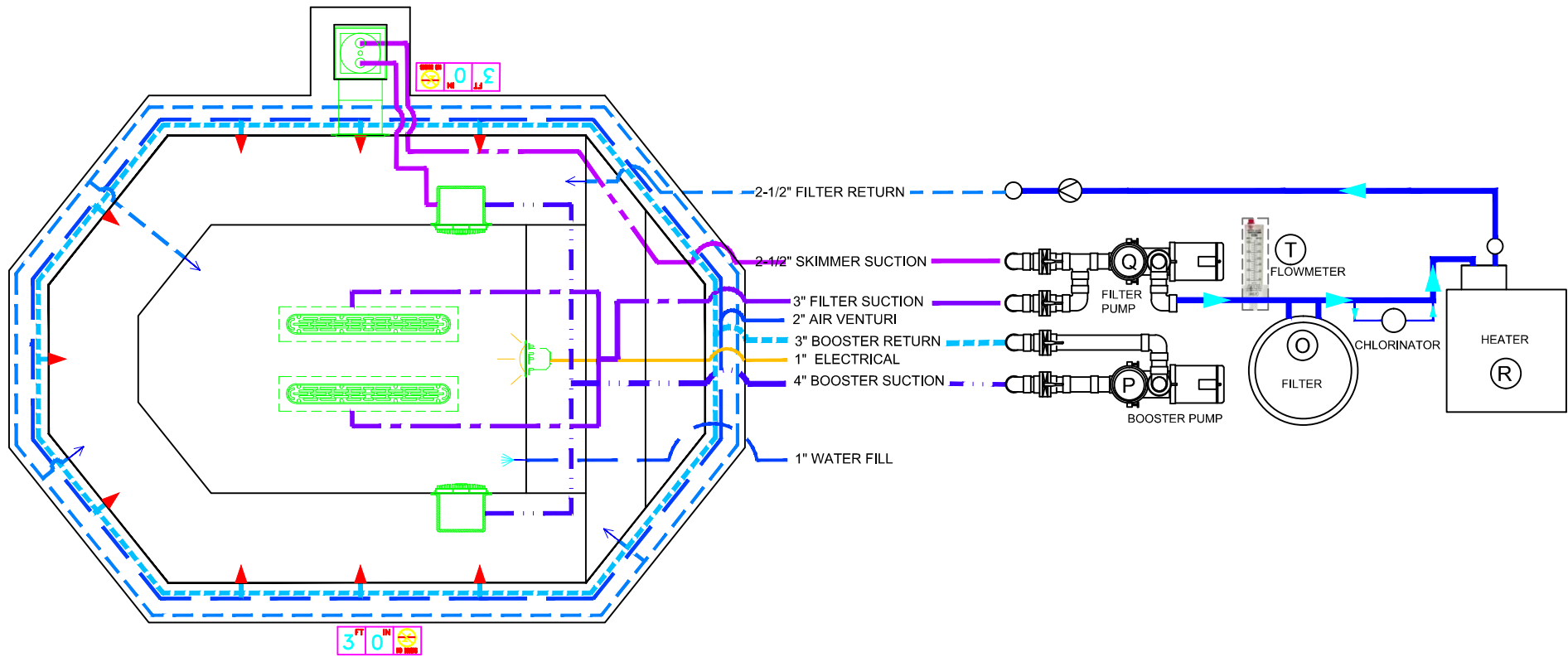
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DATE
 4/6/2010

DWG TYPE
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 SHEET
 PAGE 4A OF 20



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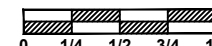
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 MERIDIAN

DATE
 4/6/2010

DWG TYPE
 Plumbing Layout
 SHEET
 PAGE 5 OF 20



Air venturi 1.5"

Jet return bank 2.5"

Filter return 2"

Reflection 2"

Booster jet suction 3"

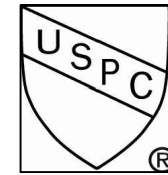
Light 1"

Filter suction 2.5"

Note: Plumbing Flow rate of approved sump not to exceed VGB 2008 rating of drain grate.

Note : Sump not intended to carry load of pool or spa.
Sump to be protected from vessel weight bearing.

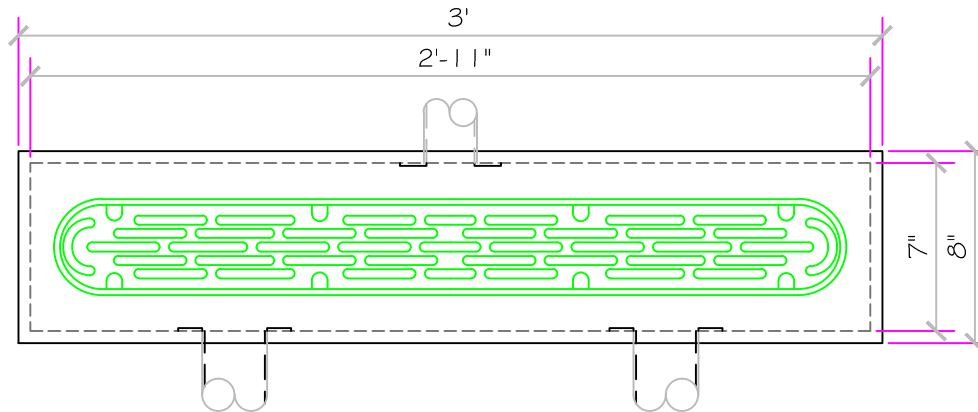
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Listed



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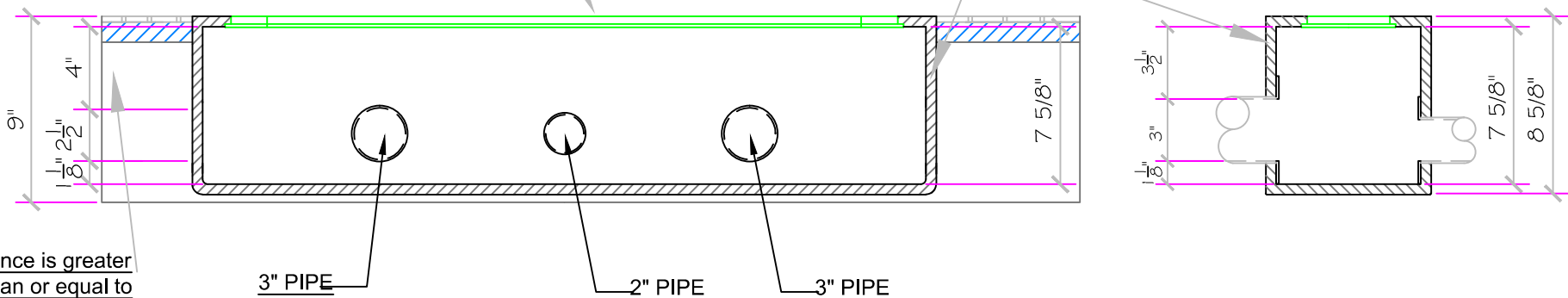
IAPMO # SP-4900

Nespa.32CD,3332



AquaStar 32CDFLFR, 32" Channel Drain,
Approved Max Flow Rate: Floor = 236 GPM @ 3.4 fps
Wall = 136 GPM @ 1.9 fps
V.G.B Approved Safety Drain

SPA FIBERGLASS COMPOSITE DRAIN SUMP



Distance is greater than or equal to 1-1/2 x Pipe Diameter

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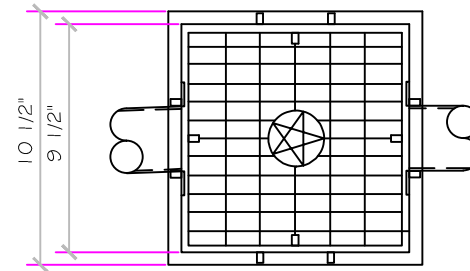


DWG NAME
MERIDIAN

DATE
4/1/2010

DWG TYPE
Main Drain Detail
SHEET
PAGE 6 OF 20

NESPA.SQ.992ss



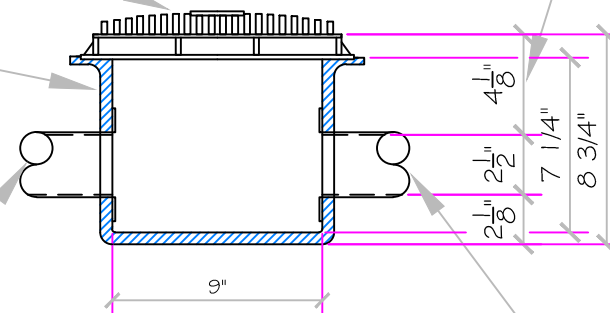
AquaStar WAV9101, 9" x 9" Frame, Approved Max Flow Rate:
 Floor = 207 GPM @ 1.5 fps Wall = TBD
 44.2 Sq In - Open Area V.G.B Approved Safety Drain

SPA FIBERGLASS COMPOSITE DRAIN SUMP

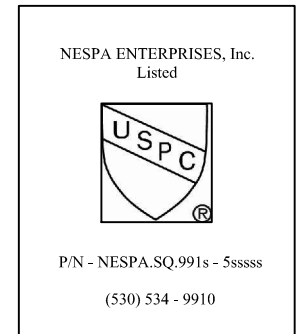
Note: Plumbing Flow rate of approved sump not to exceed
 VGB 2008 rating of drain grate.
 Note : Sump not intended to carry load of pool or spa.
 Sump to be protected from vessel weight bearing.

Distance is greater than or equal to
1-1/2 x Pipe Diameter

2-1/2" PIPE



2-1/2" PIPE



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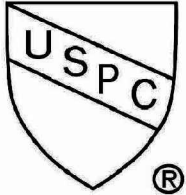
DWG TYPE
 Main Drain Detail (2)
 SHEET
 PAGE 7 OF 20

DWG NAME
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DATE
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IAPMO RESEARCH AND TESTING, INC.

5001 East Philadelphia Street, Ontario, California 91761-2816 • (909) 472-4100 Fax (909) 472-4244 • www.iapmo.org



CERTIFICATE OF LISTING

IAPMO Research and Testing, Inc. is a product certification body which tests and inspects samples taken from the supplier's stock or from the market or a combination of both to verify compliance to the requirements of applicable codes and standards. This activity is coupled with periodic surveillance of the supplier's factory and warehouses as well as the assessment of the supplier's Quality Assurance System. This listing is subject to the conditions set forth in the characteristics below and is not to be construed as any recommendation, assurance or guarantee by IAPMO Research and Testing, Inc. of the product acceptance by Authorities Having Jurisdiction.

-Rev. 11/24/2009-

Void After: February 2010

Product: Suction Fittings File No. SP-4900

Issued To: Aquastar Pool Products, Inc.
1666 Garnet Ave. #224
San Diego, CA 92109

IDENTIFICATION: Fittings shall be permanently marked as follows in a manner so as to be visible after installation in the following sequence (1) The statement "For Single or Multiple Drain Use Only", "For Single Drain Use", or "For Multiple Drain Use only"; (2) Maximum flow rate; (3) Type of fitting; (4) Life of the fitting in years; (5) Installation position; (6) Manufacturers name or registered trademark; (7) Model designation, and the USPC® certification mark.

CHARACTERISTICS: The assembly is comprised of safety cover (brass, stainless steel, or plastic) drain ring and security screws. The cover must require the use of a tool to remove it. May or may not be self-draining. For use in swimming pools, spas, whirlpool bath tubs and hot tubs. To be installed in accordance with the manufacturer's instructions and the latest edition of the USPC®.

Products comply with the applicable sections of the latest edition of the Uniform Swimming Pool, Spa and Hot Tub Code®. Manufactured in compliance with ASME ASME A112.19.8-2007 and ASME A112.19.8a-2008.


Chairman, Product Certification Committee


Senior Director of R&T

For the most accurate and updated information please visit <http://pld.iapmo.org/SP-4900>

This listing is for the period indicated herein and is void after the date shown above. Any change in material, manufacturing process, marking or design without having first obtained the approval of the Product Certification Committee, or any evidence of non-compliance with applicable codes and standards or of inferior workmanship, may be deemed sufficient cause for revocation of this listing. Reproduction of or reference to this form for advertising purposes may be made only by specific written permission of IAPMO Research and Testing, Inc. Any alteration of this certificate could be grounds for revocation of the listing.



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DOC#081A

ALL DIMENSIONS SUBJECT TO 1/4" TOLERANCES

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SCALE: N/A
DATE: 4/1/2010

DWG TYPE: MD Docs
SHEET: PAGE 8 OF 20

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IAPMO RESEARCH AND TESTING, INC. CERTIFICATE OF LISTING

Page 2

-Rev. 11/24/2009-

Void After: February 2010

Product: Suction Fittings

File No. SP-4900

Issued To: Aquastar Pool Products, Inc.

Products listed on this certificate have been tested by an IAPMO R&T recognized laboratory. This recognition has been granted based upon the laboratory's compliance to the applicable requirements of ISO/IEC 17025.

MODELS:

Models preceded by a "*" indicates the model is in compliance with Standard NSF 50.

- *10AV-XXX (Floor: 206 GPM, Wall: 96 GPM)
- *10AVDDSBxxx (Floor: 206 GPM, Wall: 96 GPM)
- *10AVDDACSBxxx (Floor: 206 GPM, Wall: 96 GPM)
- *10AVDDSBVxxx (Floor: 206 GPM, Wall: 96 GPM)
- *10AVRCFRxxx (Floor: 206 GPM, Wall: 96 GPM)

- *1216-XXX (Floor: 460 GPM, Wall: 445 GPM)
- *R1216-XXX (Floor: 460 GPM, Wall: 445 GPM)
- *24XXX (Floor: 1531 GPM, Wall: 1531 GPM)

- *32CAV-XXX (Floor: 236 GPM, Wall: 136 GPM)
- *32CAVFR-XXX (Floor: 236 GPM, Wall: 136 GPM)
- *32CAVV-XXX (Floor: 236 GPM, Wall: 136 GPM)
- *32CAVAC-XXX (Floor: 236 GPM, Wall: 136 GPM)

- *32CDFL-XXX (Floor: 316 GPM, Wall: 208 GPM)
- *32CDFLFR-XXX (Floor: 316 GPM, Wall: 208 GPM)
- *32CDFLV-XXX (Floor: 316 GPM, Wall: 208 GPM)
- *32CDFLAC-XXX (Floor: 316 GPM, Wall: 208 GPM)

- *4RNDxxx (Floor: 90 GPM, Wall: 72 GPM)

- *Sun 9xxx (Floor: 212 GPM, Wall: 128 GPM)
- *Sun 12xxx (Floor: 280 GPM, Wall: 280 GPM)
- *Sun 18xxx (Floor: 405 GPM, Wall: 405 GPM)

- *LPRFS9xxx (Floor: 100 GPM, Wall: 70 GPM)

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ALL DIMENSIONS SUBJECT TO 1/4" TOLERANCES

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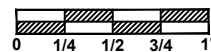


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DWG TYPE

MD Docs (2)

DWG NAME

MERIDIAN

DATE

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PAGE 9 OF 20

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IAPMO RESEARCH AND TESTING, INC. CERTIFICATE OF LISTING

Page 7

-Rev. 11/24/2009-

Void After: February 2010

Product: Suction Fittings

File No. SP-4900

Issued To: Aquastar Pool Products, Inc.

ADDITIONAL COMPANY LISTINGS:

NESPA ENTERPRISES, INC.

- NESPA.RD.8 (1-5; S-SSSSS)
- NESPA.LPRD.8 (1-5; S-SSSSS)
- NESPA.RD.10 (1-5; S-SSSSS)
- NESPA.SQ.99 (1-5; S-SSSSS)
- NESPA.SQ.12 (1-5; S-SSSSS)
- NESPA.SQ.18 (1-4; S-SSSSS)
- NESPA.SQ.186B (1-4; S-SSSSS)
- NESPA.SQ.188B (1-4; S-SSSSS)
- NESPA.SQ.24 (1-5; S-SSSSS)
- NESPA.SQ.24BIO (1-5; S-SSSSS)
- NESPA.SQ.24BI2 (1-5; S-SSSSS)
- NESPA.SD.32 (1-5; S-SSSSS)
- NESPA.FLSQ.24 (1-5; S-SSSSS)
- NESPA.FLSQ.24B (1-5; S-SSSSS)

PIPE CODES:
(VALUE FOR S)

- 1" = 10
- 1.5" = 15
- 2" = 20
- 2.5" = 25
- 3" = 30
- 4" = 40
- 6" = 60
- 8" = 80
- 10" = 100

- "1-5" = # of Ports'
- xxx = Color Code

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 2800 Richter Ave. Suite C Oroville, CA 95966
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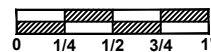


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MD Docs (4)

DWG NAME

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- #1 - FIELD TILE: Dal Tile 2 X 2 Biscuit - D317
- #2 - WATERLINE (optional): Dal Tile 2 X 2 Artisan Brown - DK144
- #3 - BENCH & STEP EDGES (optional): Dal Tile 2 X 2 Artisan Brown - DK144
- #4 - TILED LIP (optional): Dal Tile - C701 - Biscuit - D317

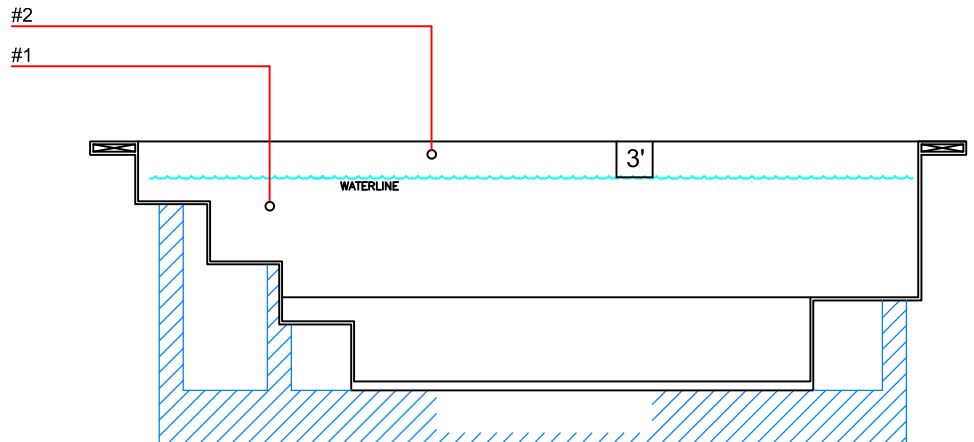
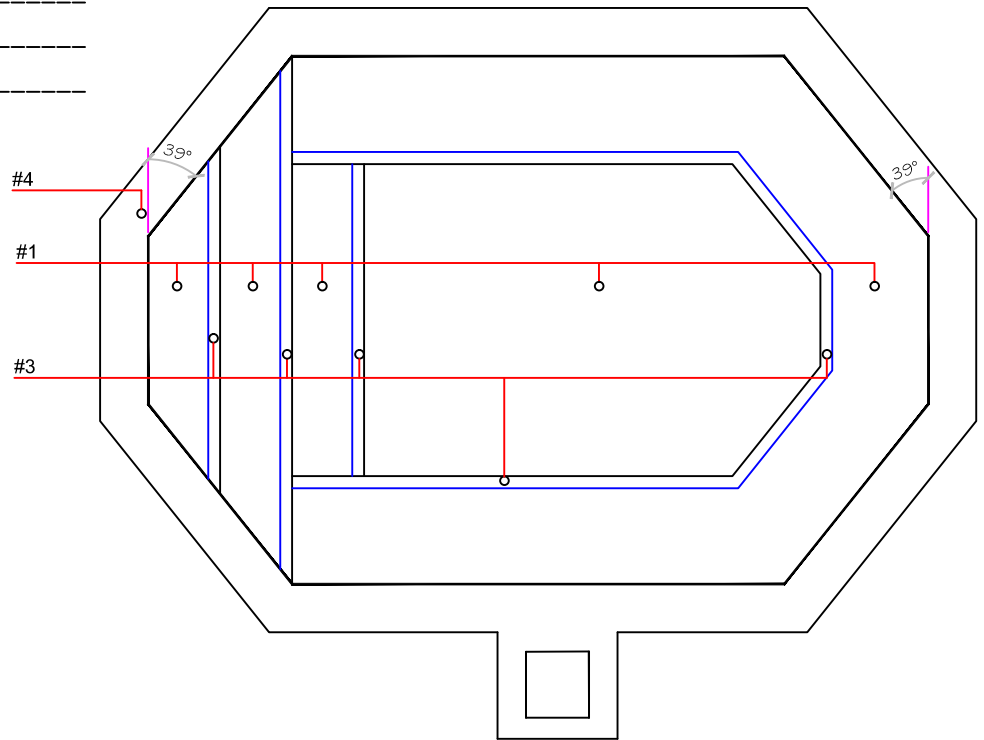
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Approval: _____

#1 - GROUT: _____

#2 - GROUT: _____

#3 - GROUT: _____



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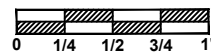
Apr 06, 2010 - 10:58am

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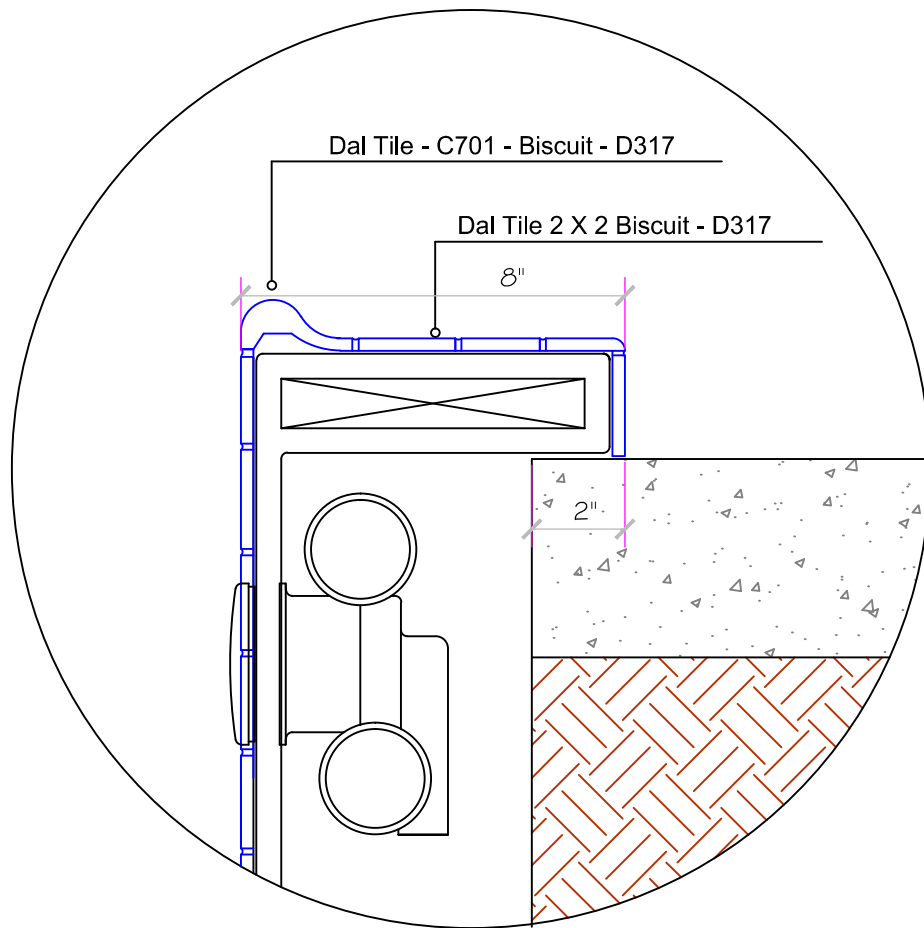
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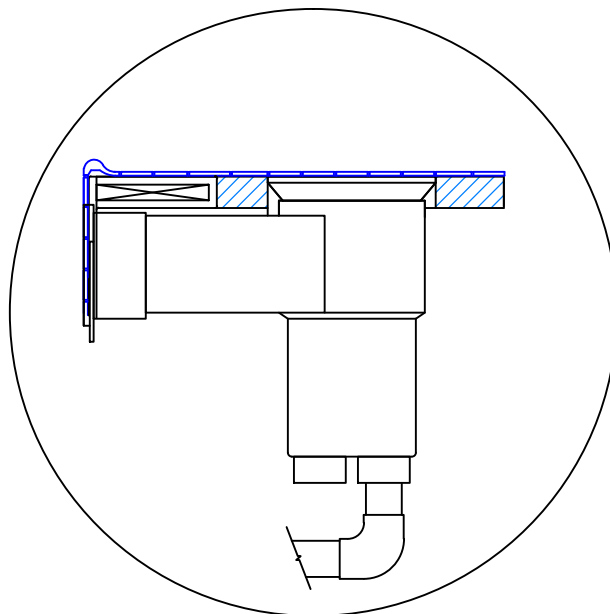


DWG TYPE: TILE
 SHEET: PAGE 12 OF 20

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All tiled lip, C701 Coping Tile,
horizontal and vertical, finish deck under lip



SKIMMER TAB DETAIL

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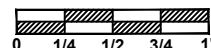
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Page Scaling:
DWG NAME: MERIDIAN

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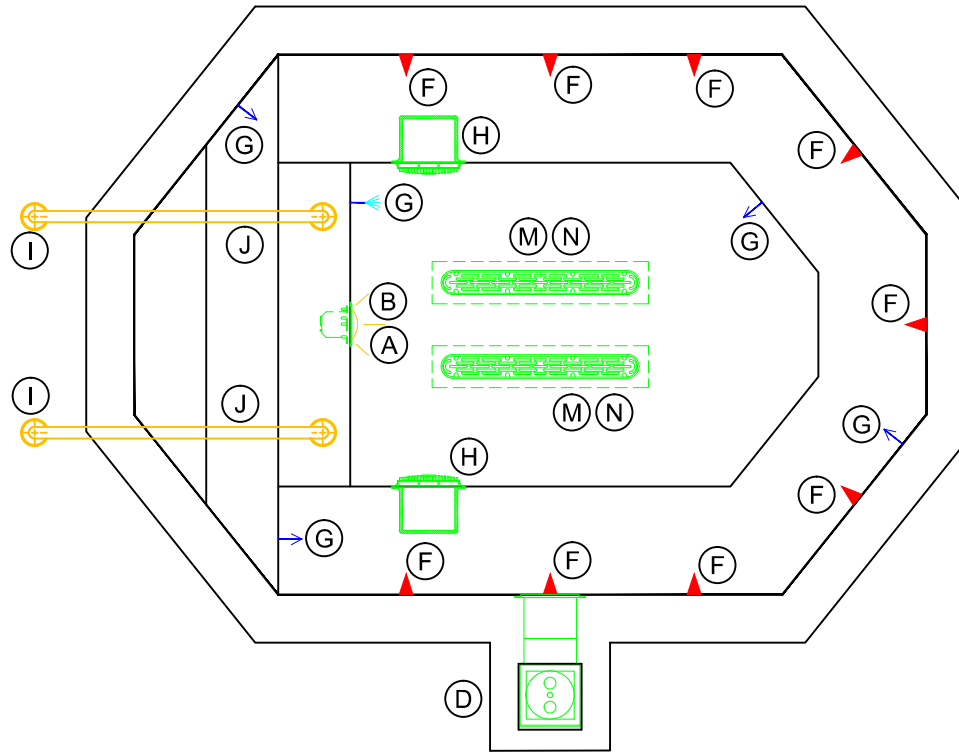
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DATE: 4/1/2010
SHEET: PAGE 13 OF 20

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U



ITEM	DESCRIPTION	MANUFACTURER	CATALOG NO.	QTY.
A	LIGHT NICHE (FOR UNDERWATER LIGHT) W/ 1" HUB	PENTAIR	782423	1
B	SPA BRIGHT UNDERWATER LIGHT, 120 VOLT, 100 WATT, 50' CORD, U.L. APPROVED	PENTAIR	78108100	1
C	LIGHT J-BOX	PENTAIR	78310700	1
D	SURFACE SKIMMER W/ EQUALIZER, NSF APPROVED	HAYWARD	SP-1084 FVE	1
F	HYDRO INLETS, 1 1/2" WATER, 1 1/2" AIR	HYDROAIR	10-5100	9
G	INLET FITTINGS, 1 1/2", WALL TYPE, W/ EYEBALL	HYDROAIR	10-3500	5
M	<i>AquaStar</i> WAV9101, 9" x 9" Frame, Approved Max Flow Rate: Floor = 207 GPM @ 1.5 fps Wall = TBD 44.2 Sq In - Open Area V.G.B Approved Safety Drain	AQUASTAR	WAV9101	2
I	HAND RAIL, STAINLESS STEEL, 4' 0" LENGTH, W/ .065TUBING WALL THICKNESS	S.R. SMITH	DMS-101	2
J	BRONZE COMPRESSION CUP ANCHOR (6" X 1-1/2")	STANDARD BRONZE	PART # 5794	2
M	<i>AquaStar</i> 32CDFLFR, 32" Channel Drain, Approved Max Flow Rate: Floor = 236 GPM @ 3.4 fps Wall = 136 GPM @ 1.9 fps V.G.B Approved Safety Drain	AQUASTAR	32CDFLFR	2
N	<i>Nespa</i> MAIN DRAIN SUMP	NESPA	NESPA.32CD. 4,2,2,2.5,2.5	2

ITEM	DESCRIPTION	MANUFACTURER	CATALOG NO.	QTY.
O	CARTRIDGE FILTER 420 SQ. FT. CLEAN & CLEAR PLUS SERIES	PENTAIR	CCP420	1
P	SELFPRIMING PUMP AND MOTOR, 143 GPM @ 60 FT. HEAD, 3 HP, 230 VOLT, 20 AMP 1 PHASE, 2" DISCHARGE UNIT WITH PUMP STRAINER	PENTAIR	WFE-12	1
Q	SELFPRIMING PUMP AND MOTOR, 60 GPM @ 60 FT. HEAD, 3/4 HP, 230 VOLT, 20 AMP 1 PHASE, 2" DISCHARGE UNIT WITH PUMP STRAINER	PENTAIR	WFE-3	1
R	NATURAL GAS HEATER W/ POWER ASSISTED VENTILATION, 400,000 BTU	PENTAIR	PowerMax 400K	1
V	AUTOMATIC CHLORINE / BROMINE FEEDER	PENTAIR	RAINBOW 320	1
T	Blue White Flow Meter, 2in Pvc Flowmeter 15-70 gpm	BLUE WHITE	F-300	1
U	SPA RULES SIGNAGE	-	-	1
X	CONTROLS SYSTEM, POWER CENTER W/ CIRCUIT BREAKER, DUAL TIME CLOCKS, REMOTE EMERGENCY SHUT OFF SWITCH AND JET ACTIVATION BUTTON (LOCATED ADJACENT TO SPA)	COMPOOL	LX802L	1

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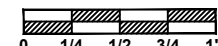
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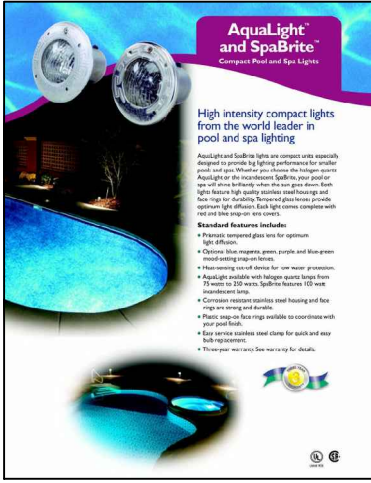


DWG NAME
MERIDIAN

DATE
4/1/2010

DWG TYPE
Equipment Layout
SHEET
PAGE 14 OF 20

A B



AquaLight[™] and SpaBrite[™]
Compact Pool and Spa Lights

High intensity compact lights from the world leader in pool and spa lighting

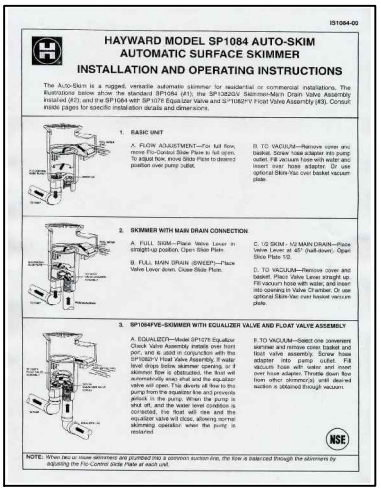
AquaLight and SpaBrite lights are compact units especially designed for superb lighting performance for residential pools and spas. Whether you choose the halogen or AquaLight or the non-halogen SpaBrite, your pool and spa will shine brilliantly when the sun goes down. Each light features high quality stainless steel housings and clear lens for durability. Superior glass optics provide optimum light diffusion. Each light comes complete with wire and tie-in options on coils.

Standard features include:

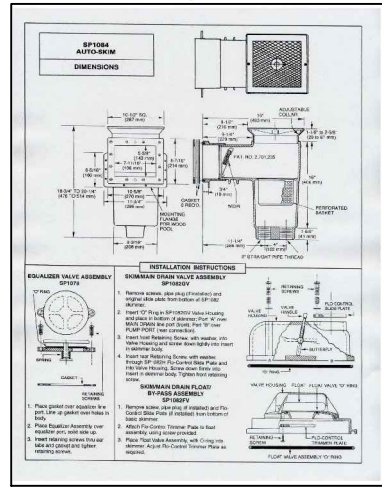
- Chrome plated glass lens for optimum light diffusion.
- Choice of blue, orange, purple and blue-green mood-lighting options.
- Has opening on/off switch for easy water protection.
- AquaLight models with halogen lamps have bases from 75 watts to 200 watts. SpaBrite features 100 watt tungsten lamps.
- Compact stainless stainless steel housing and face ring are strong and durable.
- Easy service stainless steel clamp for hose and may help replacement.
- *Shipping weights See nearby for details.



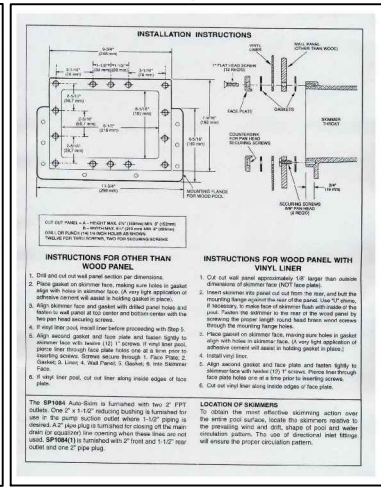
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N

IAPMO Approved
Nespa Drain Sump
(Fiberglass Composite)
Listed under
AquaStar IAPMO #SP-4900

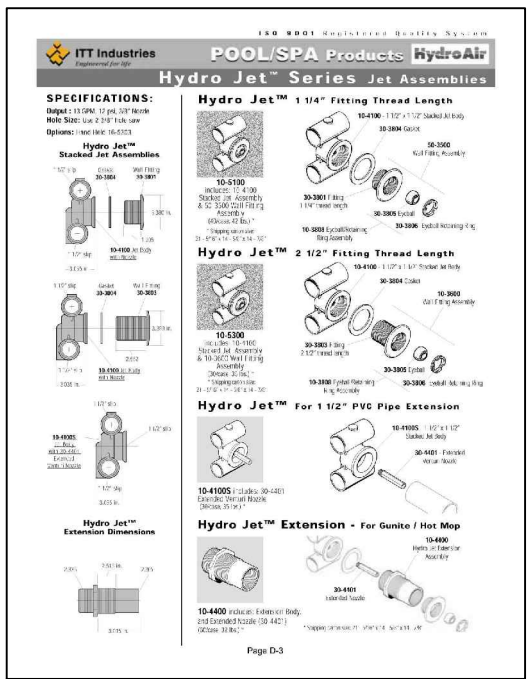
NESPA ENTERPRISES, Inc.
Listed

USPC

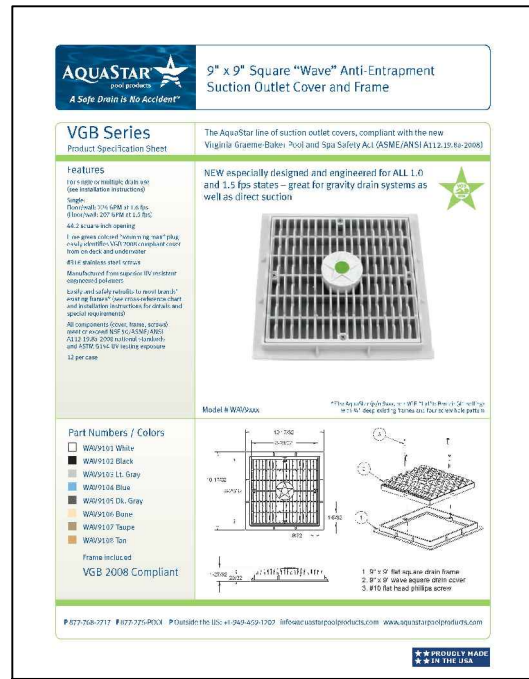
P/N -
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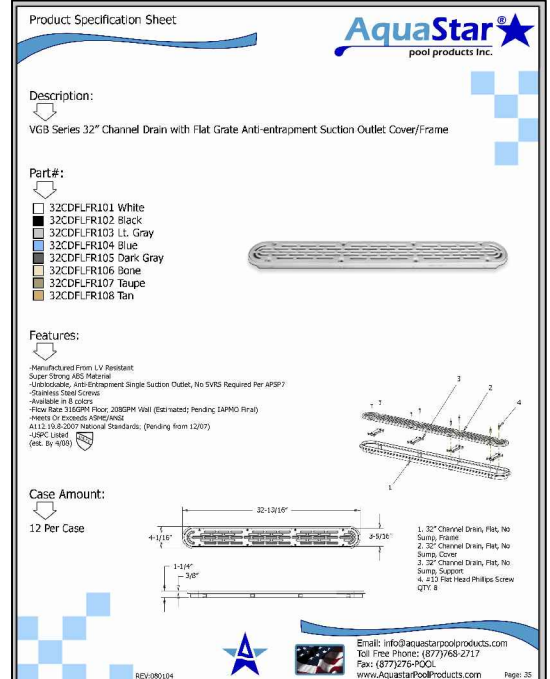
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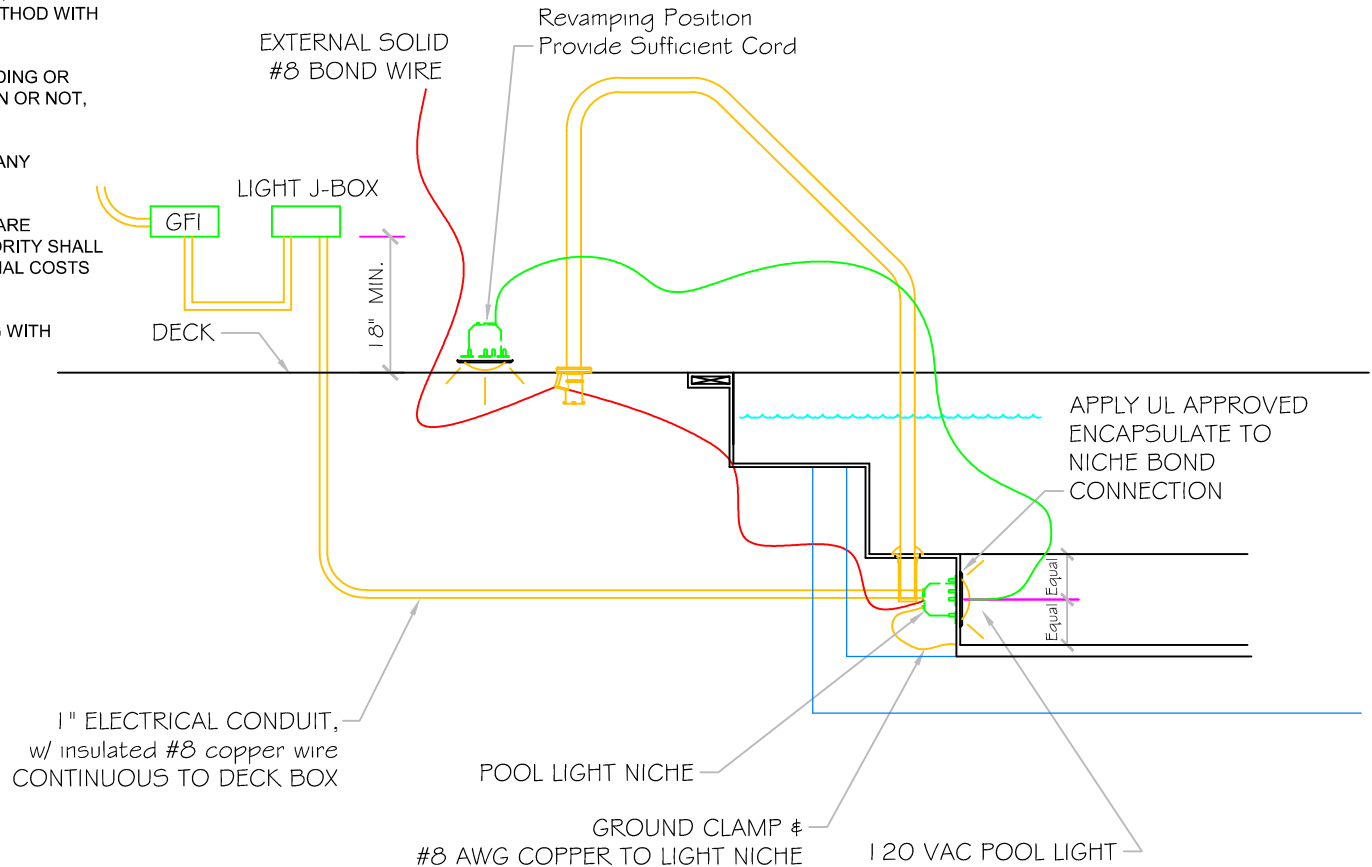
M



POOL BONDING REQUIREMENTS:

1. THE FOLLOWING PARTS SHALL BE BONDED TOGETHER AND CONNECTED TO THE COMMON BONDING GRID.
 - A. ALL THE METALLIC PARTS OF THE POOL STRUCTURE INCLUDING COPING STONES, DECK, PERMANENT PLAY STRUCTURES, PERMANENT EXERCISE STRUCTURES.
 - B. ALL METAL FITTINGS WITHIN OR ATTACHED TO THE POOL STRUCTURE
 - C. METAL PARTS ASSOCIATED WITH THE POOL WATER CIRCULATING SYSTEM, INCLUDING PUMPS, FILTERS, AND HEATERS.
 - D. METAL PARTS ASSOCIATED WITH POOL COVERS
 - E. METAL SHEATHED CABLES AND RACEWAYS, METAL PIPING AND ALL FIXED METAL PARTS WITHIN 5 FEET HORIZONTALLY OF INSIDE WALLS OF POOL AND WITHIN 12 FEET ABOVE MAXIMUM WATER LEVEL OF POOL.
 - F. METAL PARTS ASSOCIATED WITH OBSERVATION STANDS, TOWERS, PLATFORMS, AND DIVING STRUCTURES.
2. BONDING CONDUCTORS SHALL BE MINIMUM #8 SOLID COPPER, INSULATED E.C. SHALL COORDINATE APPROVED CONNECTOR TYPE AND METHOD WITH LOCAL ELECTRICAL AND/ OR POOL INSPECTOR.
3. SPECIFIC MANUFACTURER'S INSTRUCTIONS REGARDING BONDING OR GROUNDING OF POOL EQUIPMENT, WHETHER INDICATED HEREIN OR NOT, SHALL BE STRICTLY FOLLOWED.
4. THE COMMON BONDING GRID SHALL NOT BE CONNECTED TO ANY ELECTRICAL DISTRIBUTION EQUIPMENT.
5. ANY PARTS IN ADDITION TO THOSE DESCRIBED HEREIN THAT ARE INDICATED BY POOL CONTRACTOR OR LOCAL INSPECTION AUTHORITY SHALL BE BONDED TO THE COMMON BONDING GRID WITH NO ADDITIONAL COSTS INCURRED BY THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL COORDINATE BONDING WITH GENERAL CONTRACTOR.

LIGHT DETAIL



NOTE:
All electrical wiring schematics must be reviewed and approved by electrical engineer or licensed electrician for the latest NEC code compliancy.

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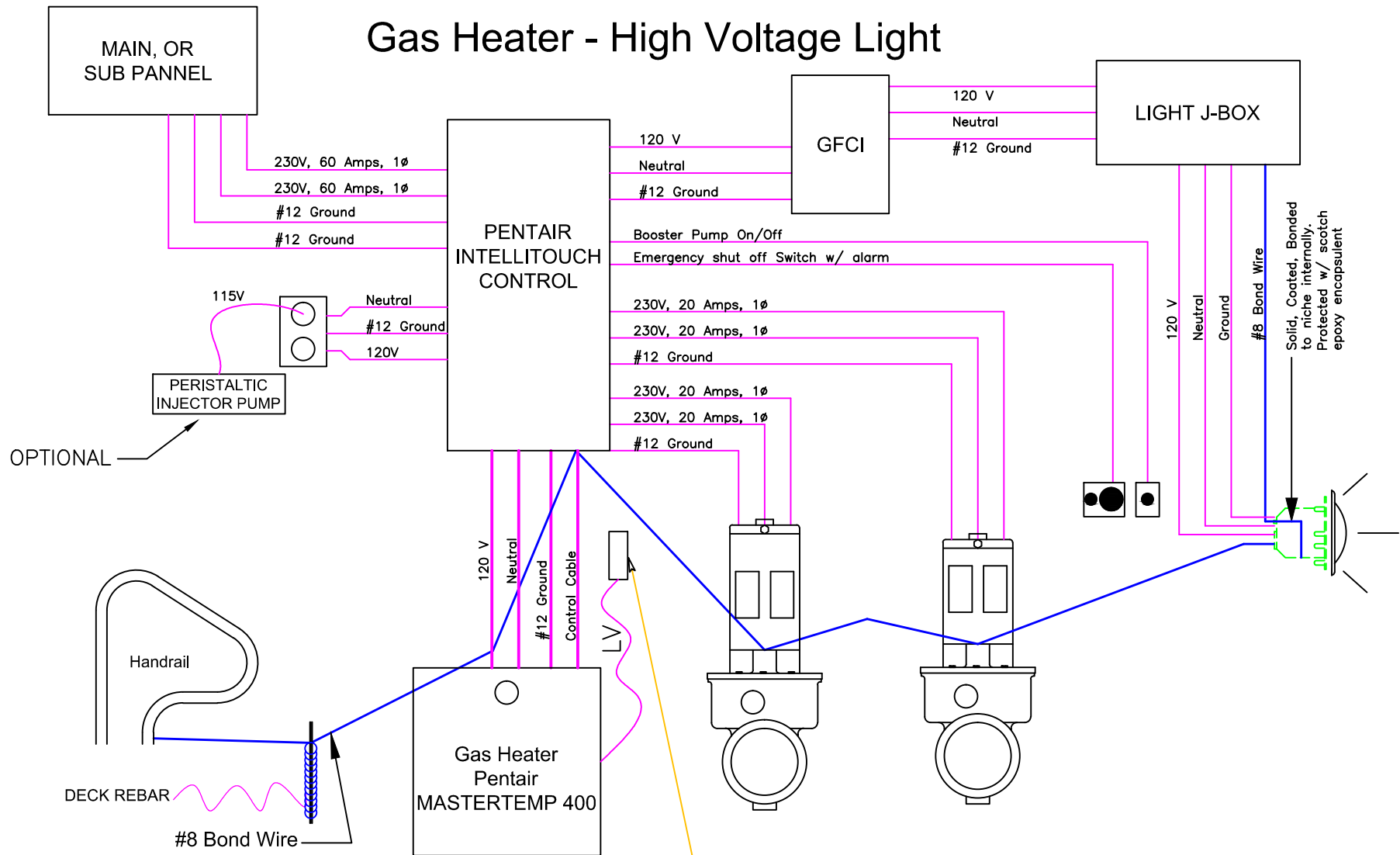


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SCALE: 121/256" = 0 1/4 1/2 3/4 1"
DATE: 4/1/2010

DWG TYPE: Bonding Detail
SHEET: PAGE 16 OF 20

- COMMERCIAL 2 PUMP - Gas Heater - High Voltage Light



Heater Water Flow switch
Plumb before intake to heater. Remove purple wires from heater pressure switch and connect to flow switch leads.

NOTE:
All electrical wiring schematics must be reviewed and approved by electrical engineer or licensed electrician for the latest NEC code compliancy.

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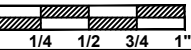
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DWG TYPE
Electrical Detail

DWG NAME
MERIDIAN

DATE
4/1/2010

SHEET
PAGE 17 OF 20

Apr 06, 2010 - 10:58am

ELECTRICAL LOADS AND PIPE SCHEDULE

COMPONENT	HP	VOLTS	RUNNING LOADS	FUSED	SKIMMER PIPE	SUCTION PIPE	RETURN PIPE	ELECTRICAL
Spa Filter Pump	1	230/1PH	8	20	2.5	3	2.5	
Spa Jet Pump	2	230/1PH	11	20		4	3	
Spa Side Controls								1"
Light (GFCI Protected)			1amp	15				1"
Heater power circuit		120v	1	15				
Heater LV control circuit								
Jet air Venturi pipe stub by light						2"		
Extra Pipe To Spa								

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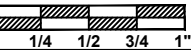
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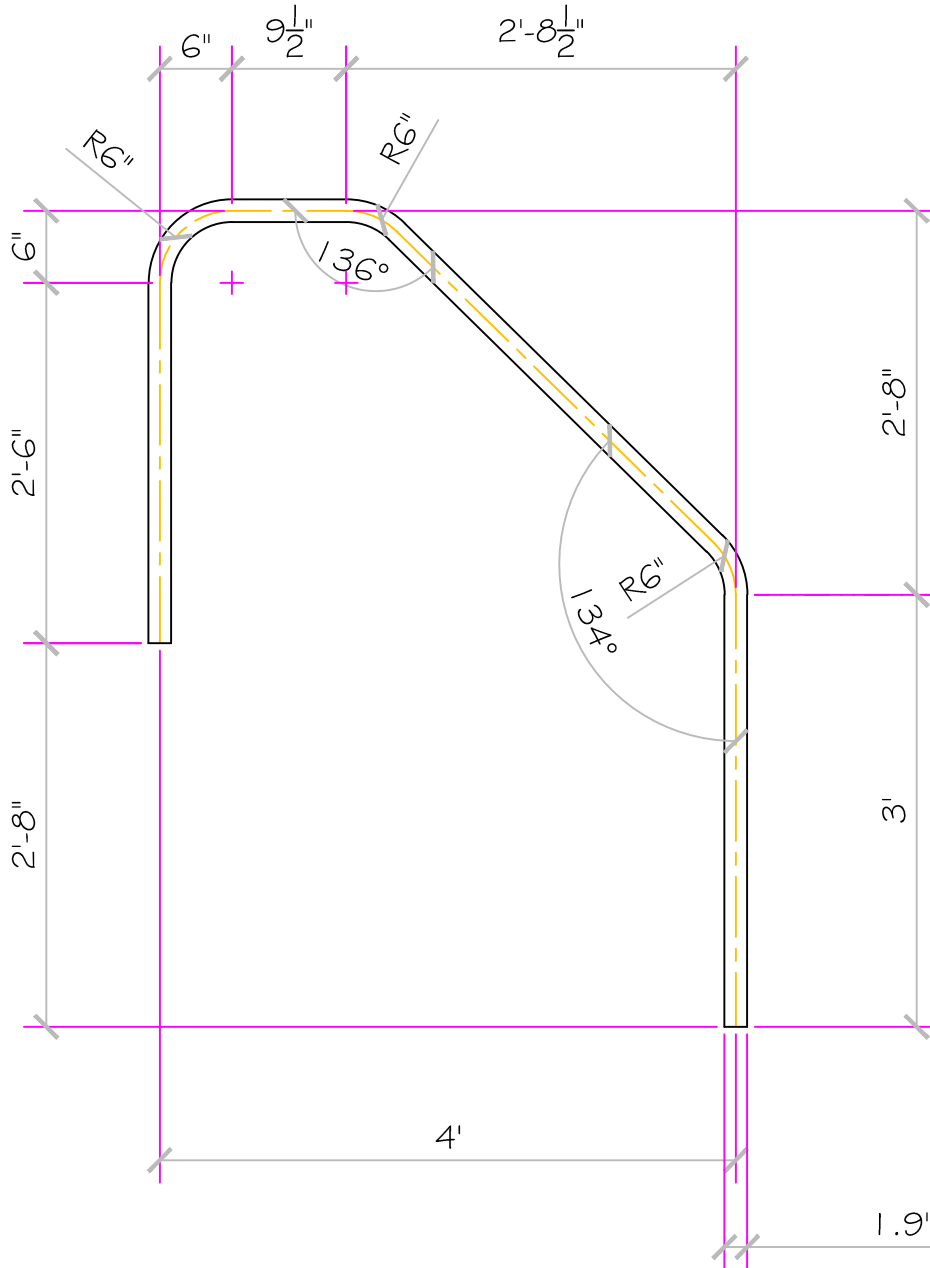
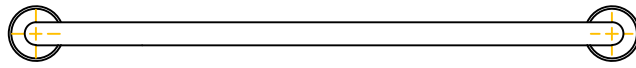
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DWG NAME
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DATE
4/1/2010

DWG TYPE
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PAGE 18 OF 20



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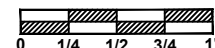
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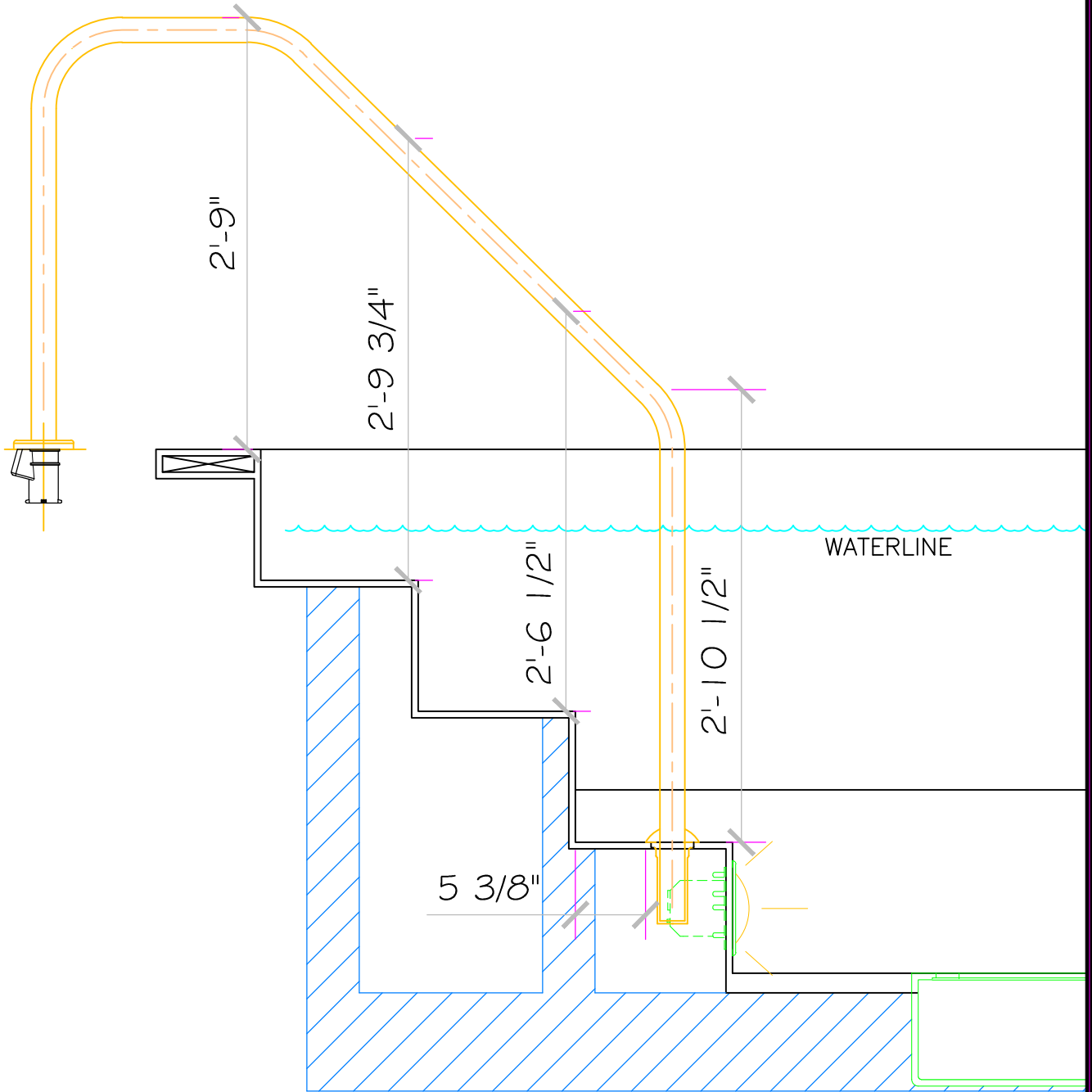
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SCALE
 3/4" = 1'



DWG TYPE: Handrail
 DATE: 4/1/2010
 SHEET: PAGE 19 OF 20

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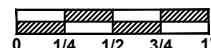
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SCALE
 1" = 1'



DWG TYPE: Handrail (2)
 SHEET: PAGE 20 OF 20
 DATE: 4/1/2010

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TEST REPORT



Ph: 909.472.4100 • Fax 909.472.4243 • Web: www.iapmo.org
5001 East Philadelphia Street • Ontario, California 91761-2816 - USA

Report Number: 668-09001-002
Report Issued: April 29, 2009 **Project No.:** 15785
Client: Nespa Corporation **Contact:** Mr. Jim Milligan
2800 Richter Ave Unit E
Oroville, CA 95965
Source of Samples: The samples were sent by Nespa Corp. and received by IAPMO R&T Lab in good condition on March 30, 2009.
Date of Testing: April 16, 2009 through April 27, 2009
Sample Description: Sump for Suction Fittings for Pools. Note WAV9xxx, WAV12xxx, WAV18xxx, and WAV24xxx suction fittings are UPC listed.
Model No.: See Page 2
Scope of Testing: The purpose of the testing was to determine if the samples tested of the suction fittings met the requirements of ASME A112.19.8-2007 entitled, "Suction Fittings for use In Swimming Pools, Wading Pools, Spas, and Hot Tubs" with addenda ASME A112.19.8a-2008.

CONCLUSION: The samples tested of the suction fitting sump models listed above from Nespa Corp. **COMPLIED** with the applicable requirements of ASME A112.19.8-2007 with addenda ASME A112.19.8a-2008.

By our signatures below, we certify that all the testing and sample preparation for this report was performed under continuous, direct supervision of IAPMO R&T Lab, unless otherwise noted.

Tested By,

Jeffrey Yu, Test Engineer

Reviewed by,

Kris Adilukito, P.E. Manager Testing and QA

JY: KA

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Page 1 of 4

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ALL DIMENSIONS SUBJECT TO 1/4" TOLERANCES

NESPA ENTERPRISES INC.
2800 Richter Ave. Suite C Oroville, CA 95966
Office: (530) 534-9910 Fax: (530) 534-9915
E-Mail: sales@tiledspas.com Web Site: www.tiledspas.com



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DATE: 12/29/2009

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Nespa Sump Model No.

*Nespa.Sq.18 (1-4; SSSS) sump – with Aquastar WAV18xxx listed suction fitting with up to one 8” diameter outlet and three 4” diameter outlets.
(20-1/2” x 20-1/2” x 25-5/8” square sump with WAV18xxx listed suction fitting, sump depth = 25”)

*Nespa.Sq.24 (1-4; SSSS) sump – with WAV24xxx listed suction fitting with up to one 10” outlet maximum and three 4” diameter outlets.
(26-3/8” x 26-3/8” x 31-1/2” sump with WAV24xxx listed suction fitting, sump depth = 31”)

Nespa.Sq.24SS (1-4; S-SSSS) sump – with 24xxx listed suction fitting with up to one 10” outlet maximum and three 4” diameter outlets.
(26-3/8” x 26-3/8” x 31-1/2” sump with 24xxx listed suction fitting, sump depth = 31”)

Nespa.Sq.99 (1-5; S-SSSSS) sump – with WAV9xxx listed suction fitting with one 4” outlet maximum and up to three 2” diameter outlets.

Nespa.Sq.12 (1-5; S-SSSSS) sump – with WAV12xxx listed suction fitting with one 5” outlet maximum and up to three 2” diameter outlets.

*Tested models

S = Pipe size

- 1” = 10
- 1.5” = 15
- 2” = 20
- 2.5” = 25
- 3” = 30
- 4” = 40
- 6” = 60
- 8” = 80
- 10” = 100

Note: Aquastar WAV 9xxx, WAV12xxx, WAV18xxx, and WAV24xxx suction fittings are UPC listed.

Primary Standards: ASME A112.19.8-2007 with addenda ASME A112.19.8a-2008

Sections tested/evaluated:

- 3.3 Vertical Load and Deformation Test
- 3.4 Horizontal Load and Deformation Test
- 3.5 Point Load to Excess Test
- 3.6 Shear Load Test
- 3.7 Vacuum and Point Impact Test
- 3.8 Pull Load Test

Test Results: All tests and evaluations were conducted per the written procedures in the specified standard.

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3.3 Vertical Load and Deformation Test – COMPLIED

Six sumps intended for installation in the floor or wall were tested. A point load of 300 lbf was applied at the following locations using the tup and a 2 inch diameter "Skin Pad" on the face of the tup on the fitting face, at two points midway between the center and edge, and at two points between stiffeners.

Finding: The sumps did not permanently deform, crack, or lose any material from the fitting.

3.4 Horizontal Load and Deformation Test – COMPLIED

The sumps tested were from the six as previously tested in Clause 3.3. A point load of 150 lbf was applied at the following locations using the tup and a 2 inch diameter "Skin Pad" on the face of the tup on the fitting face, at two points midway between the center and edge, and at two points between stiffeners.

Finding: Sumps did not permanently deform, crack, or lose any material from the fitting.

3.5 Point Load to Excess Test – COMPLIED

The sumps tested were from the six as previously tested in Clauses 3.3 and 3.4, loaded in the same manner. The test equipment was the same and positioned as described in Clause 3.3, with "Skin Pad". The units were subjected to additional loading, with a load speed of 0.25 in./min until the tup protrudes through the cover/grate or until a value of 600 lbf is reached.

Finding: The sumps did not sustain loss of any material at 600 lbf.

3.6 Shear Load Test – COMPLIED

Six sumps were tested by the application of a 150 lbf test load applied 30 degrees from the mounting plane by a loading face 2 inch square covered with a 2 inch "Skin Pad" on its face. Three fittings were tested with fasteners directly in line with the load to test the fastener's strength, and three were tested with the load midway between fasteners for general strength.

Finding: The cover/grate remained in place. The sump did not permanently deform, crack, or lose any material.

3.7 Vacuum and Point Impact Test – COMPLIED

The same six sumps used in the Shear Load Test (Clause 3.6) were used. The fittings were covered with a 20 mil plastic material or other suitable material. The outlet was connected to a vacuum system and the assembly was subjected to a 28.5 in. Hg vacuum applied within 60 seconds and held for 5 minutes. The vacuum was then stopped, the plastic film removed, and the

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SHEET: PAGE 3 OF 4

fitting was impacted at 15 ft-lbf using the test method in ASTM D 2444, with a 5 lb, 2 inch diameter, 2 inch radius nose steel tup.

Finding: The cover/grate remained in place. The sumps did not permanently deform, crack, or lose any material from the fitting.

3.8 Pull Load Test – NOT APPLICABLE

The same six fittings used in the Vacuum and Point Impact Test (see Clause 3.7) were used. The cover/grate were tested by the application of a 150 lbf test load to the underside of the cover/grate assembly and perpendicular to the mounting surface directly adjacent to the fasteners, and mid-way between fasteners when the fitting is installed in accordance with the manufacturer's instructions.

Finding: The cover/grate opening was not 0.375" or more. The actual opening size was 0.287" x 1.25" and 0.348" x 1.525" for model WAV18xxx and model 24xxx, respectively. The actual opening size was 0.348" x 1.525" for model 24xxx.

Photograph of a tested sample:



Model Nespa.Sq18 (1-4; S-SSSS)

One 8" diameter outlet with three 4" diameter outlets



Model Nespa.Sq24 (1-4; S-SSSS)

One 10" diameter outlet with three 4" outlets

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STANDARD NESPA IN-GROUND INSTALLATION *INSTRUCTIONS* **SET-UP AND EXCAVATION**

Prerequisites: Before installing your Nespa spa. You may be required to acquire a permit from your local State, County, and City building dept and or Health department. (Commercial jobs need Health Dept. Approval). Your spa installation must comply with the most current codes. (**Uniform Swimming Pool, Spas & Hot Tub Code 2006 (USPC 2006)**).

Spa drawings: Request from Nespa a current spa specific construction detail, plan and section, spa plumbing detail.

Delivery Access: Clearly determine the method of getting the spa to jobsite and into the hole. This may require the use of a crane, forklift, hoist, backhoe and/or manpower etc.

- 1) The following instructions are general guidelines and may not apply to your specific jobsite conditions. When excavating for your spa remember to provide for plumbing and light connection clearances. In order to determine how to excavate for your spa or swim spa, measure spas outside dimension (O.D.) and add minimum 3” to all sides. This 3” clearance is to accommodate jet and suction plumbing. This 3” clearance can change or be reduced upon request. Note: skimmer location, this area may have to be larger than 3”, if commercial 22”.
- 2) **Freeze Climates-** If the spa is place into a vault (typical of freeze climates) a standard 18” or more of clearance minimum from spa perimeter should be provided. This dead air space is for possible future access to spa plumbing in case of a freeze. Area drain is mandatory. **Ask your local installer** for his experienced opinion. Do not hesitate to call us because we want to be sure that your installation progresses as smoothly as possible. If you have questions call us. (888) 479-4677.
- 2) **Hole depth** is determined by spa’s outside height dimension. This height may vary depending if spa has skids or no skids. The spa lip may be finished or non- finished. How is the perimeter deck elevation transitioning to the spa? Focus on the finish surrounding deck elevations, thickness of the finish material on spa upper horizontal lip, equal to lip or under the spa lip. This material can be tile, stone, concrete or brick.
- 3) **Preplumb** the spa before it goes into the hole. If there are needs for electrical , bonding or control conduits run them as well before dropping in hole. Connect bond wire to niche would be best.
- 4) **Spa should sit on level 3 ½” thick reinforced concrete pad. Sweep debris off pad prior to dropping in hole.**
- 5) **Install spa** into the hole on top of concrete pad. Use the Eye bolts provided for crane, forklift etc. rigging. Do not hold onto pipes. Use caution with suction and jet plumbing when lowering into hole. **DO NOT STRESS FITTINGS!** Fill Spa with water and check for leaks prior to backfill.

- 6) **Check site reference** points for proper spa positioning (i.e., squaring to house, garage, etc.).
- 7) **Shim to level spa.** Shim with non-compression able material. Re square to house, or ref. point.
- 8) **Dry pack** with cement the gaps that have been created when shimming spa level.
- 9) **Connect pipes to tees** if spa is preplumb. Installers properly support your new plumbing from stressing spas preplumb fittings. After electrical conduit and bond wire is connected to light niche, water test spa before back filling with sand.
NOTE: All Nespa products are water tested prior to leaving factory.

ELECTRICAL:

- 1) All electrical connections to spa or equipment should comply with the most recent national electrical code (NEC), state and local codes.
- 2) Connect electrical conduit to light niche. This work should be done or reviewed by a licensed electrician.
- 3) To install spa light you will need to include inside the PVC conduit to the light niche a solid #8 coated copper wire. (If you are use brass conduit, internal bond wire is not required.) This bond wire should be pulled with the light cord at the same time. This bond wire needs to be attached to the internal bonding lug of the light niche. An approved encapsulate should be applied to bond wire connection in niche.
- 4) An external #8 copper wire shall be connected to the external bonding lug on the rear of the light niche. This copper wire can then be used for additional bonding requirements (i.e., handrails or any other metallic object within 5' of the spa.

PLUMBING:

- 1) **When plumbing a Nespa it is important to properly size the plumbing. We highly recommend that you follow the pump manufacturer's pipe sizing requirements and Uniform Swimming Pool, Spas & Hot Tub Code 2006 (USPC 2006). This code book is available at www.IAPMO.org or (909) 472 4100.**
- 2) The jet air venturi should be a Hartford loop design adjacent to spa shell and air entry point can be located next to spa or remotely at equipment.
- 3) Fill spa with water and test the system for leaks PRIOR to backfilling with sand.

SAND BACK FILL:

- 1) **With water in spa, back-fill around spa perimeter with dry plaster sand and wet wash with hydraulic attachment to hose. Let set for one hour and hydraulic dry again. Be sure water level in spa is at the highest level. Any questions please call us. (888) 479-4677.**
- 2) **If spa is free standing on elevated deck or a structure, it is important to fill spa with water and load area prior to installing coping or perimeter decking. If spa is installed in a vault situation a area drain is needed.**

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Oroville, CA 95966

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E-Mail: nespa@pacbell.net www.tiledspas.com

IN-GROUND

INSTALLATION

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SCALE: 1/2" = 1'-0"

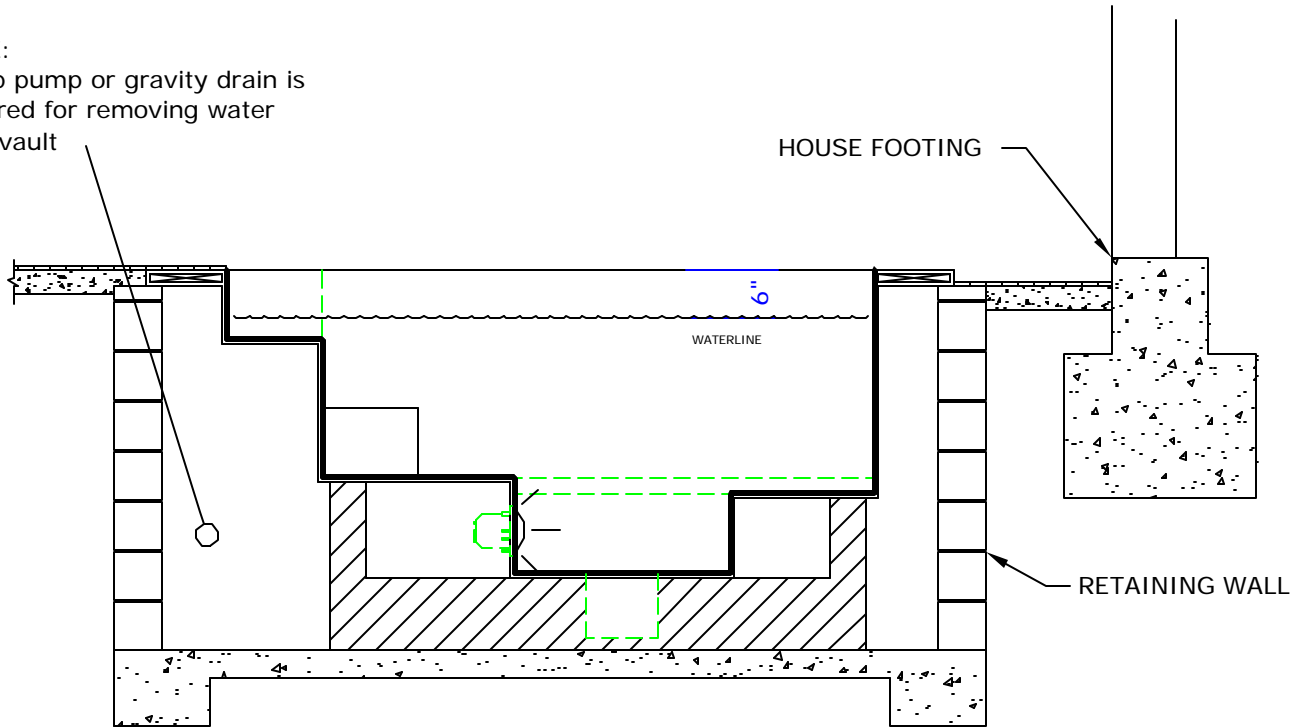
DATE: 3/27/02

JOB : STANDARD INSTALL

DW #: SI-1, SI-2

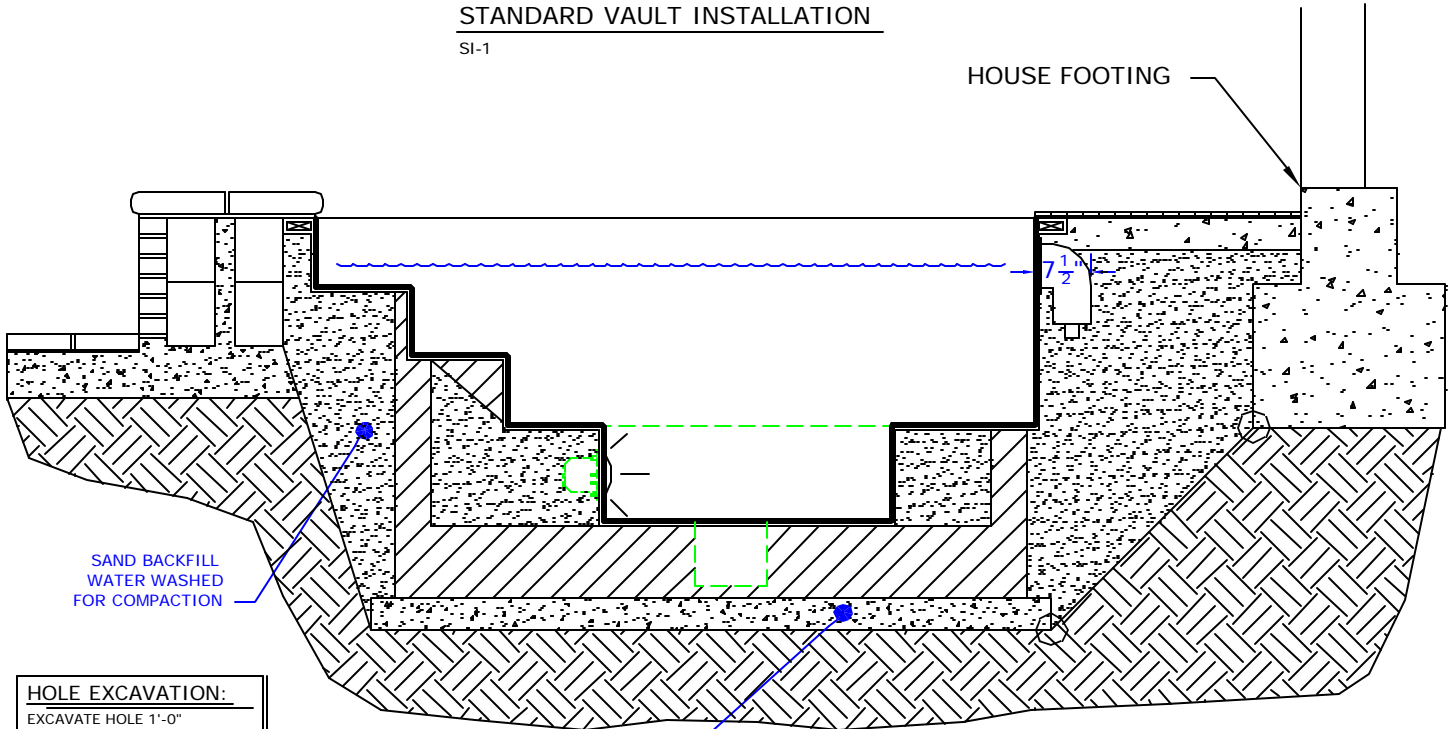
NOTE:

Sump pump or gravity drain is required for removing water from vault



STANDARD VAULT INSTALLATION

SI-1



HOLE EXCAVATION:
EXCAVATE HOLE 1'-0"
LARGER THAN THE OUTSIDE
DIAMETER (OD) OF SPA

4" CONCRETE SLAB
REINFORCED WITH
#10 MESH

STANDARD INGROUND INSTALLATION

SI-2

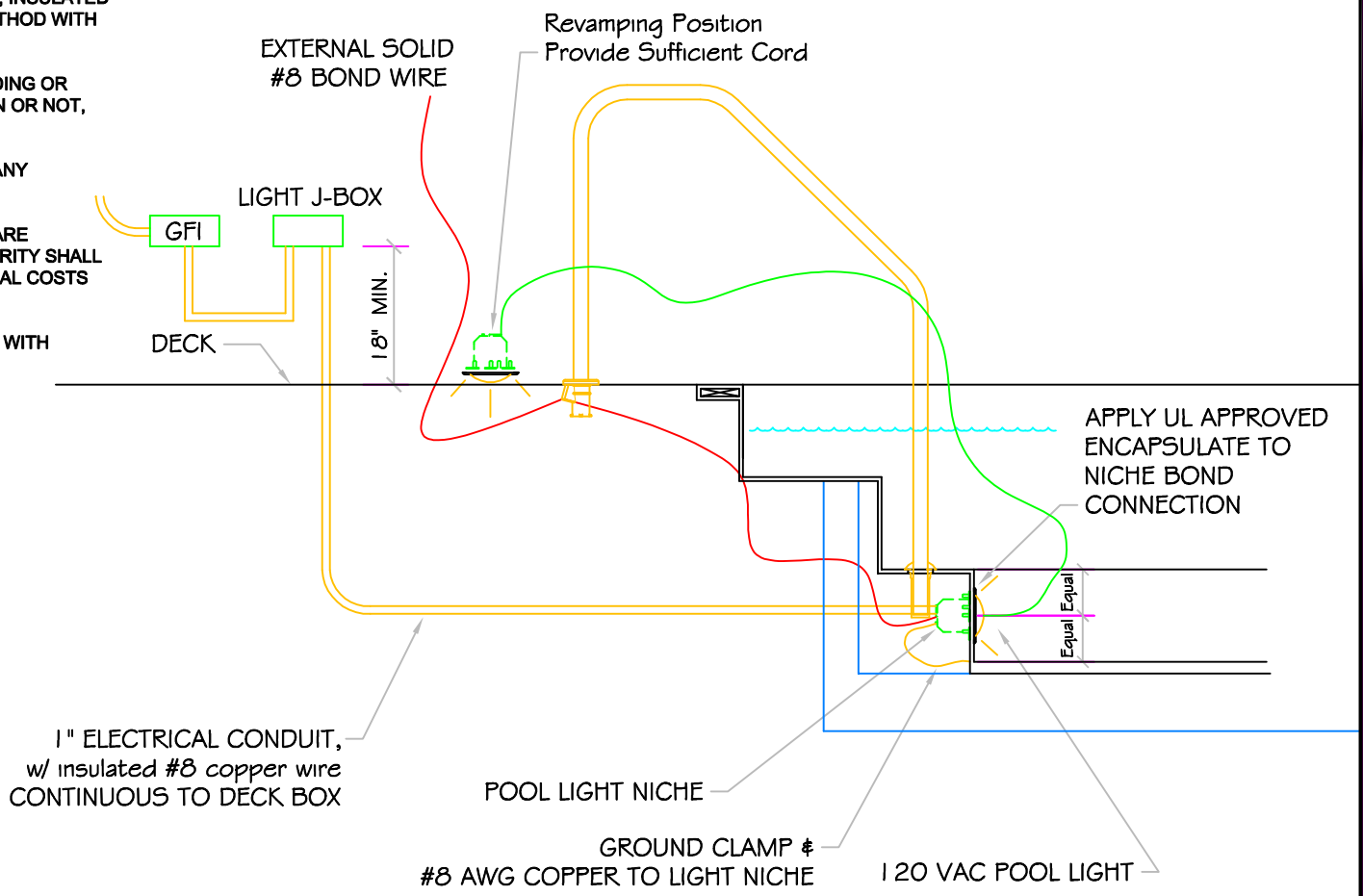
NOTE:

Footing can not surcharge spa.
Slope from bottom of slab to
nearest corner of house footing
must not exceed 1" = 1".

POOL BONDING REQUIREMENTS:

1. THE FOLLOWING PARTS SHALL BE BONDED TOGETHER AND CONNECTED TO THE COMMON BONDING GRID.
 - A. ALL THE METALLIC PARTS OF THE POOL STRUCTURE INCLUDING COPING STONES, DECK, PERMANENT PLAY STRUCTURES, PERMANENT EXERCISE STRUCTURES.
 - B. ALL METAL FITTINGS WITHIN OR ATTACHED TO THE POOL STRUCTURE
 - C. METAL PARTS ASSOCIATED WITH THE POOL WATER CIRCULATING SYSTEM, INCLUDING PUMPS, FILTERS, AND HEATERS.
 - D. METAL PARTS ASSOCIATED WITH POOL COVERS
 - E. METAL SHEATHED CABLES AND RACEWAYS, METAL PIPING AND ALL FIXED METAL PARTS WITHIN 5 FEET HORIZONTALLY OF INSIDE WALLS OF POOL AND WITHIN 12 FEET ABOVE MAXIMUM WATER LEVEL OF POOL.
 - F. METAL PARTS ASSOCIATED WITH OBSERVATION STANDS, TOWERS, PLATFORMS, AND DIVING STRUCTURES.
2. BONDING CONDUCTORS SHALL BE MINIMUM #8 SOLID COPPER, INSULATED E.C. SHALL COORDINATE APPROVED CONNECTOR TYPE AND METHOD WITH LOCAL ELECTRICAL AND/ OR POOL INSPECTOR.
3. SPECIFIC MANUFACTURER'S INSTRUCTIONS REGARDING BONDING OR GROUNDING OF POOL EQUIPMENT, WHETHER INDICATED HEREIN OR NOT, SHALL BE STRICTLY FOLLOWED.
4. THE COMMON BONDING GRID SHALL NOT BE CONNECTED TO ANY ELECTRICAL DISTRIBUTION EQUIPMENT.
5. ANY PARTS IN ADDITION TO THOSE DESCRIBED HEREIN THAT ARE INDICATED BY POOL CONTRACTOR OR LOCAL INSPECTION AUTHORITY SHALL BE BONDED TO THE COMMON BONDING GRID WITH NO ADDITIONAL COSTS INCURRED BY THE OWNER.
6. THE ELECTRICAL CONTRACTOR SHALL COORDINATE BONDING WITH GENERAL CONTRACTOR.

LIGHT DETAIL



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SIZE A	DWG NAME DETAILS	DWG TYPE Detail
SCALE 1/2" = 1'	DATE 7/24/2008	SHEET PAGE 1 OF 1

NESPA ENTERPRISES, Inc. LIMITED WARRANTY

This LIMITED WARRANTY covering NESPA products is extended to the ORIGINAL PURCHASER-USER BY NESPA ENTERPRISES Inc.(NESPA), 2800 Richter Ave. Unit C California 95966.

NESPA products are thoroughly inspected and tested prior to factory shipment. NESPA warrants to the ORIGINAL PURCHASER-USER that NESPA Spas and Swim Spas will be free of defect in workmanship, accessories and parts, provided said accessories and parts were manufactured by NESPA. NESPA, under this LIMITED WARRANTY, warrants only that its Spas and Swim Spas shall be structurally sound, shall retain their shape, and shall retain water for the warranty period. NESPA warrants the adhesion of tile to fiberglass for a period of three (3) years and structural soundness for ten (10) years. NESPA warrants epoxy grout adhesion for a period of three years. If any such defects appear and are reported within the warranty period, NESPA shall repair or replace such defective parts without charge if an inspection proves the claim.

The provisions of the LIMITED WARRANTY shall not apply to tile cracked, split, chipped or damaged after the product has left the factory, nor damage to tile caused by freezing nor to damage, defect, malfunction or failure to conform with the above warranty provisions where the damage, defect, malfunction or failure to conform was caused during shipment or by distributor or by unreasonable use by ORIGINAL PURCHASER-USER including improper water balance and improper sand pack or support.

This LIMITED WARRANTY shall not apply to any plumbing, equipment, or installation of spas and Swim Spas and shall not apply to any alterations made to or upon NESPA products except alterations made by NESPA employees or NESPA authorized representatives.

This LIMITED WARRANTY is expressly in lieu of all other warranties expressed or implied including the warranties of merchantability and fitness for use and all other obligations or liabilities on NESPA'S part, and NESPA neither assumes nor authorizes any other person to assume for NESPA any other liability in connection with the sale of this NESPA product. This LIMITED WARRANTY shall not apply to this NESPA product or any part thereof which has been subject to accident, negligence, alteration, abuse or misuse. NESPA makes no warranty whatsoever with respect to accessories or parts not manufactured by NESPA.

The term "ORIGINAL PURCHASER-USER" as used in this LIMITED WARRANTY shall be deemed to mean that person for whom the NESPA product is originally installed.

The LIMITED WARRANTY provided herein and the obligations and liabilities of NESPA hereunder are exclusive and are in lieu of, and buyer and original PURCHASE-USER hereby waive all other remedies, warranties, guarantees or liabilities, expressed or implied, arising by law or otherwise (including without limitation and obligations of NESPA with respect to fitness, merchantability, and consequential damages) or whether or not occasioned by NESPA'S negligence.

This LIMITED WARRANTY shall not be extended, altered or varied except by a written instrument signed by NESPA and original PURCHASER-USER.