

SECTION 13 1736

SPAS

This section includes editing notes to assist the user in editing the section to suit project requirements. These notes are included as hidden text, and can be revealed or hidden by one of the following methods:

Microsoft Word 2007: Click the OFFICE button, select Word Options, select Display, THEN select or deselect the HIDDEN TEXT option.

Microsoft Word (earlier versions): From the pull-down menus select TOOLS, then OPTIONS. Under the tab labeled VIEW, select or deselect the HIDDEN TEXT option.

Corel WordPerfect: From the pull-down menus select VIEW, then select or deselect the HIDDEN TEXT option.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Spa shell.
 - 2. Spa mechanical system.
 - 3. Spa heating system.
 - 4. Interior spa finish.
 - 5. Final testing and demonstration to Owner.
- B. Related Sections:
 - 1. Division 01: Administrative, procedural, and temporary work requirements.
 - 2. Section [03 3000 - Cast-in-Place Concrete:] [____ - ____]: Concrete deck.
 - 3. Section [____ - ____]: Water supply.
 - 4. Section [____ - ____]: Drainage system.
 - 5. Section [____ - ____]: Power supply.

1.2 REFERENCES

- A. American National Standards Institute (ANSI) A108/A118/A136.1 - American National Standard for Installation of Ceramic Tile.
- B. American National Standards Institute/National Spa and Pool Institute (ANSI/NSPI) ANSI/NSPI 2 - American National Standard for Public Spas.
- C. American National Standards Institute/American Society of Mechanical Engineers (ANSI/ASME) A112.19.8 - Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, Includes Addenda A.
- D. American Welding Society (AWS):
 - 1. D1.1 - Structural Welding Code - Steel.
 - 2. D1.6 - Structural Welding Code - Stainless Steel.
- E. ASTM International (ASTM):
 - 1. A36/A36M - Standard Specification for Carbon Structural Steel.
 - 2. D1784 - Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds.
 - 3. D1785 - Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120.
 - 4. D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.

- 5. D2855 - Standard Practice for Making Solvent-Cemented Joints with Poly(Vinyl Chloride) (PVC) Pipe and Fittings.
- F. International Association of Plumbing and Mechanical Officials (IAPMO).
- G. National Fire Protection Association (NFPA) 70 - National Electric Code.
- H. National Sanitary Foundation/American National Standards Institute (NSF/ANSI) Standard 50 - Circulation System Components and Related Materials for Swimming Pools, Spas/Hot Tubs.

1.3 SYSTEM DESCRIPTION

- A. Spa Walls and Floors: [Stainless steel.] [Stainless steel with tile trim finish.] [Fully tiled finish.]

1.4 SUBMITTALS

A. Submittals for Review:

- 1. Shop Drawings:
 - a. Show spa layout, dimensions, wall and floor panel layout, and stiffeners.
 - b. Include diagrammatic layout for equipment and piping.
 - c. Show termination and finish details for interface with adjacent construction.
- 2. Product Data: Manufacturer's descriptive data for:
 - a. Piping.
 - b. Filters.
 - c. Pumps and strainers.
 - d. Heaters.
 - e. Chemical controller, feeder, and storage tank.
 - f. Valves.
 - g. Gauges, thermometers, and flow meters.
 - h. Inlets and gratings.
- 3. Performance Criteria: For products specified by performance criteria only, document conformance with design calculations or past performance records with list of previous installations and contact information.

B. Quality Control Submittals:

- 1. Certificates of Compliance: Submit certification that spa system complies with requirements of applicable codes, ordinances, rules, and regulations, ANSI/NSPI 2, and ANSI/ASME A112.19.8.

C. Closeout Submittals:

- 1. Operation and Maintenance Data: Include data for spa and spa equipment, and warranty information.
- 2. Project Record Documents.
- 3. Owner's Certificate of Instruction.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications:

- 1. Minimum [5] [] years experience in work of this Section, or successful completion of minimum [5] [] projects of similar scope and complexity within past [5] [] years.
- 2. Manufacture all stainless steel components in-house.
- 3. Certification – Manufacturer shall be ISO 9001 certified.

B. Installer Qualifications:

- 1. Minimum [5] [] years experience in work of this Section, or successful completion of minimum [5] [] projects of similar scope and complexity within past [5] [] years.
- 2. Trained by manufacturer of spa system.

- C. Regulatory Requirements: Perform work in accordance with applicable codes, ordinances, rules, and regulations.
- D. Spa Equipment System:
 - 1. Tested to NSF/ANSI 50.
 - 2. [Bear NSF Approval Rating.]
 - 3. Tested to ANSI/NSPI 2; certified by IAPMO.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Store spa system components off ground and protect with waterproof covering.
- B. Protect piping and accessories from exposure to ultraviolet and from contact with chemicals that could cause damage or deterioration.

1.7 WARRANTIES

- A. Furnish spa system manufacturer's 25 year warranty providing coverage for:
 - 1. Workmanship, materials, and performance of spa wall and floor.
 - 2. Structural stainless steel bracing system, stainless steel floor, stainless steel skimmer, and stainless steel wall panel systems against structural failure.
- B. Furnish tile setting material manufacturer's 1 year warranty against loss of tile adhesion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Contract Documents are based on products by Bradford Products LLC.
- B. Substitutions: [Under provisions of Division 01.] [Not permitted.]

2.2 MATERIALS

- A. Stainless Steel: ASTM A240, Type [304L,] [316L,] buffed non-directional finish where exposed.
- B. Steel: ASTM A36/A36M, hot-rolled.

2.3 EQUIPMENT

- A. Equipment Layout:
 - 1. All equipment [excluding gas heaters] organized, mounted, wired, and plumbed to stub-outs on stainless steel skid.
 - 2. Finished skid assembly approved by UL.
- B. Filtration and Sanitation System:
 - 1. Provide complete filtration system with all components.
 - 2. Include pumps, filters, flow meters, gages, valves, and controls as required.
- C. Pumps and Motors:
 - 1. Type and capacity as dictated by spa design to meet required flow rate.
 - 2. Filtration pumps: Sized to spa capacity.
 - 3. Motors:
 - a. Open drip-proof (ODP), with hygroscopic insulation, service factor 1.15, insulation Class F, sized to operate at full load and speed, designed for continuous operation.
 - b. Motor starter with current interrupter overload.
 - c. Combination motor starters: Hand-off auto switch and positive overload heater coil; as manufactured by Furnas, Square D, or Westinghouse.

- d. Electrical enclosures: NEMA 12 type, suitable for surface mounting.
- D. Heater: [Electric] [Gas] [Heat exchanger] type, sized to suit spa capacity.
- E. Valves and Piping:
 1. Piping: Polyvinyl chloride (PVC) composition; ASTM D1784 or ASTM D1785, Schedule 40 or 80.
 2. Cement: ASTM D2564.
 3. Provide check and ball valves as required; by same manufacturer when practical.
 4. Valve connections: Suitable for connection of adjoining pipe; of pipe size values.
 5. Hangers and supports: Sized to project conditions.
- F. Spa Fittings:
 1. Compatible with spa system components.
 2. Sized to code requirements; ensure proper hydraulic balance.
 3. Stainless steel skimmer: NSF approved.

2.4 ACCESSORIES

- A. Fasteners: Stainless steel.
- B. Tile:
 1. Type: [Frostproof ceramic.] [Frostproof porcelain.] [Glass.] [____].
 2. Source: [____] by [____].
 3. Size: [__ x __] inches by [__] inch thick.
 4. Color: [____].
- C. Tile Setting Materials: ANSI A118.3, epoxy type, as manufactured by Laticrete International, Inc.

2.5 FABRICATION

- A. Fabricate interior of spa using manufacturer's standard processes and quality control.
- B. Perform welding using AWS certified welders in accordance with AWS D1.1 and D1.6.
- C. Utilize Type 316L stainless steel filler metal at welded joints to produce uniform raised weld. Do not grind raised welds.
- D. Wall Panels:
 1. Precision fabricated for welded installation.
 2. Cut perforations for skimmers, lights, and fittings using CNC laser technology.
 3. Support panel-to-panel joints using prefabricated support brace manufactured from 12 gage stainless steel.
 4. Prevent dissimilar metals from direct contact with stainless steel.
 5. Support panels on stainless steel base support.
- E. Floor Panels: [12 gage] [3/16 inch] stainless steel plate.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to beginning installation verify that spa slab:
 1. Has minimum 3-1/2 inches of leveled concrete over waterproofing layer.
 2. Is level within 1/8 inch from high to low point across entire floor.

3.2 INSTALLATION

- A. Install equipment and system in accordance with manufacturer's instructions and approved Shop Drawings.
- B. Perform welding using AWS certified welders in accordance with AWS D1.1 and D1.6.
- C. Set equipment on secure foundations.
- D. Make piping joints in accordance with ASTM D2855.
- E. Support overhead piping and at connections to valves, pumps, and equipment.
- F. Install electrical components in accordance with NFPA 70.
- G. Install tile in accordance with ANSI A108.6, thin set with epoxy adhesive.

3.3 FIELD QUALITY CONTROL

- A. Piping Testing:
 - 1. After installation and before covering piping, test to minimum 20 PSI pressure for 12 hours.
 - 2. If necessary, repair leaks and retest. Do not cover piping until proven watertight.
 - 3. Furnish test results prior to covering piping.
- B. Flushing: Flush completed piping with clean water prior to making final connections.
- C. Water Treatment:
 - 1. Submit chemical analysis of source water supply showing:
 - a. Total alkalinity in PPM.
 - b. Calcium hardness in PPM.
 - c. Chlorine in PPM.
 - d. pH.
 - 2. Treat and balance spa water just prior to Substantial Completion.
 - a. Establish total alkalinity of 80 to 150 PPM and calcium hardness of 175 to 250 PPM.
 - b. Balance spa water to local health code requirements.

3.4 ADJUSTING

- A. Adjust spa system for proper operation through all cycles.

3.5 CLEANING

- A. Clean spa, equipment, and related surfaces.

3.6 DEMONSTRATION

- A. Demonstrate proper operation and maintenance of spa system to Owner.

END OF SECTION