

SECTION 13 11 00

SWIMMING POOL - ALTERNATE 1

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Owner has determined that the nature of the proposed swimming pool construction make the requirement for proper and adequate experience of paramount importance. This section of these specifications describe swimming pool construction which must be performed by a specialty contractor, herein referred to generically as Pool Contractor or Contractor, who, under their own name, shall be capable of meeting all experience pool construction qualifications herein stated, and who is an experienced Swimming Pool Contractor specializing in commercial, municipal and/or institutional swimming pool construction and swimming pool equipment installation and service. All work called for in this specification division shall be and will remain throughout the warranty period, the sole responsibility of a single contractor specializing in the construction of institutional swimming pools and the installation and service of institutional swimming pool equipment.
- B. Experience and construction qualifications must be specific to the Swimming Pool Contractor, not to said Contractor's vendors, subcontractors or employees.
- C. It is the intent of these specifications that the Pool Contractor delivers a complete and operational swimming pool with its associated mechanical support systems. Systems shall include all control valves as hereinafter specified, and all customary or necessary accessories including plumbing components whether or not shown or implied on the drawings. Any item of work or equipment obviously a part of the pool construction, the filter system, the water chemistry system or the heating system and/or necessary to their operation but not specifically mentioned herein or on the drawings shall be furnished by this Contractor at no extra cost.

1.02 QUALIFICATIONS OF SWIMMING POOL CONTRACTOR

- A. The Swimming Pool Contractor must have a proven record of competence and experience in the construction of similar, municipal and/or institutional facilities. The following requirements have been established to insure that only properly qualified Contractors will be considered.
- B. The successful bidder must submit their chosen Pool Contractor for approval. Documentation establishing the following minimum experience must be included with the submission:
 - 1. Pool Contractor's certification that it has been continuously engaged for and has had at least ten (10) years experience in the construction of the type of swimming pool herein specified.
 - 2. Pool Contractor's project listing which shall include as a minimum at least ten (10) new, indoor, institutional pool projects similar to the subject project. Reference projects must include stainless steel perimeter systems, must have been

constructed within 100 miles of the proposed project site, and must have a water surface area of not less than 1,100 sq. ft. Pools shall be new construction, which the Pool Contractor has constructed under its current name and which upon investigation, would be found to have been completed in a satisfactory manner. Renovation projects shall not be considered as meeting the experience criteria of these qualification requirements.

- C. The Architect and/or Owner reserves the right to reject any Pool Contractor if the evidence submitted by, or investigation of, such Contractor fails to satisfy the Architect\Owner that such Contractor is properly qualified to carry out the obligations of the contract and to complete the work described, or if the Contractor does not meet the minimum qualifications stated above and herein.

1.03 SUBSTITUTIONS

- A. The Architect and Owner have made a detailed investigation before selecting the specified swimming pool recirculation, filtration, deck, and other special pool equipment. The operation and maintenance of the swimming pool facility, the building structural design, the interface of related equipment within the building structure, the interface with the pool room HVAC equipment, sustainability features and governmental approvals specific to this project are predicated upon utilization of the equipment identified as the basis for design.
- B. The materials, products and equipment described in the bidding documents establish a standard of required function, design, appearance and quality to be met by any proposed substitution. Contractors wishing to base their bid upon the use of components or methods of construction other than those specified may refer to relevant section for product substitution information.
- C. Bidders who propose substitutions shall be responsible for the design and implementation of any modifications to the pool structure, pool systems, the building, the building foundations, or such other component of the overall construction that must be changed to accommodate the proposed substitution. The Architect/Owner reserve the right to required sealed drawings detailing any such required changes as a prerequisite to their consideration of a proposed substitution.
- D. In the event the Architect / Owner shall not accept any proposed substitution, then the Contractor shall be required to furnish the specified basis of design at no extra cost to the Owner.

1.04 SCOPE OF WORK

- A. The Contractor shall provide all labor, material, equipment and services required for installation of all items of work specified herein. It is understood that the intent of the said plans and specifications is to require the Contractor to furnish a pool ready for use.
- B. Water to fill and/or test the pool, and any other pool related items specifically excluded from the work of this section, by these specifications or as noted on the drawings shall be by the Owner or others.

C. WORK OF THIS SECTION:

In general, the work of this section includes but is not necessarily limited to the following:

1. Layout pool, with bench mark elevation and exact location supplied by other trades, supervise the pool excavation, hand trim the excavation to proper template, provide and install all required forms for pool construction including forming the beam as required.
2. Provide and install the specified steel reinforcing.
3. Construct the pool shell of pneumatically-placed concrete in the manner specified.
4. Provide and install the pool filter and recirculation system as indicated on the drawings or as specified in subsequent sections of these specifications.
5. Provide all fixtures such as weirs, overflow fittings, filtered water inlets, bottom outlets and the required process piping to interconnect such in-pool fittings with the filter system.
6. Provide sleeves and flexible penetration systems for all pipes passing through walls.
7. Provide and install the specified filtration, water chemistry and make-up water systems.
8. Provide and install the specified sanitizing equipment including low-pressure UV disinfection.
9. Provide and install branches in the filtered water supply piping for the connection of the pool heat exchanger and dehumidification system heat recovery lines. The Pool Contractor shall make necessary CPVC connections to said equipment. The actual provision of said equipment is not included in the scope of this section.
10. Provide deck anchorage and equipment, and erect deck accessories as required by these specifications.
11. Provide pool interior finish consisting of quartz-aggregate pool plaster with ceramic tile trim and markings as indicated in these specifications and/or on the drawings.
12. Provide initial start-up of the pool, balancing of pool water, initial chemical inventory, instructions to the Owner's personnel and written instructions on the proper operation of the pool equipment.
13. Provide shop drawings on construction, equipment layout, equipment anchor instructions.
14. Make application to appropriate Health Department agencies for approval conformance to Health Department regulations specific to the swimming pool, if required.

D. RELATED AND INTERFACING WORK:

The following related work is not included in the work of this section and may be further defined or specified in other divisions of these specifications.

1. Bulk pool excavation, disposal of excavated material as required.

- a) Furnish, place, and proof-roll 6" minimum layer of $\frac{3}{4}$ " clean stone sub-base on floor of excavation.
 - b) Stripping pool area, grading, backfilling and any other area preparation required prior and subsequent to start of pool construction.
 - c) Furnish and place any backfill material for pool structure, main drain piping, etc., as required.
 - d) Dewatering of site and/or excavation.
2. All work involving potable, fresh water lines including fresh water connection to pool filter or handicapped lift as required and noted.
 3. All work involving provision and placement of pool water heat exchanger.
 4. All work involving boiler water supply or controls for pool heat exchanger.
 5. All work pertaining to the pool dehumidification system including interconnecting piping between filter system and dehumidification system shall be by other trades. (The work of this section includes the source-capture chloramine ductwork to a point noted on the drawings.)
 6. Waste or drainage: The work of this section includes the installation of a discharge pipe from the filter system to discharge through an air gap into a sump in the pool equipment room as indicated on the plans. The sump, drain, backflow check-valves if required or noted, drain lines and the outfall for this sump are not included in the work of this section as noted on the project drawings. Deck drains are not included in the work of this section.
 7. Concrete flatwork, walks, decks, deck graphics or markers, concrete sumps, foundations, and any other work other than construction of the pool shell shall be performed by other trades as noted on the project drawings and specified in other sections of these specifications.
 8. Electrical work: All electrical work including power and control wiring, conduits, disconnects, power panels and breakers, etc., to make system operational, grounding of the pool, deck equipment anchorage, and filter room equipment are not included in the work of this section. The work of this section does include the provision of the solenoid valves, chemical feed equipment, recirculation pumps and motors, specialized control panels (specific to pool equipment), motor starters, and the mounting of such equipment.
 9. Reasonable and efficient site access for work crews and heavy equipment are not included in the work of this section
 10. Water and electricity, as required, shall be provided by the Owner/Others during pool construction and testing.
 11. Placement of all necessary sleeves, openings or other penetrations in equipment room and building walls as required for pool construction are not included in the work of this section.

12. All related general construction work not called for in pool specifications but specified and noted on the project drawings is not included in the work of this section.

1.05 QUALITY OF MATERIAL

- A. Special attention is directed to the specifications and/or drawings relative to materials and equipment specified in this Division.
- B. Where more than one manufacturer's name is mentioned or the term "or equal" is used, a particular item of equipment or material, the Contractor may base its bid on other manufacturers, but will be subject to Architect's approval per Instructions to Bidders.

1.06 TESTING

- A. Unless otherwise provided by the owner or owner's representative, the Contractor shall be responsible for the following test procedures in accord with procedures described in ACI 506.2.
1. Pneumatic Concrete Compressive Strength:
 - a) Two (2) test cylinders shall be taken for every 40 yards of concrete placed with a minimum of four taken for each days shooting and placement.
 - b) Contact certified testing laboratory and advise them to pick up the panels on the fourth or fifth day transporting them to their laboratory for curing, and testing in accordance with ACI Standard 506-66, Section 320.
 - c) Submit test results to Architect before completion of the project.
 2. Piping
 - a) All pressure supply lines shall be air tested at 20 psi and shall hold the desired pressure for a period of two (2) hours. In case of pressure loss exceeding 1 psi in two (2) hours, all joints shall be checked with a soapy solution to determine if leaking. Leaking joints shall be repaired and the system rechecked until all joints in piping are proven to be satisfactory.
 - b) All piping systems normally operated at a negative pressure (suction) shall be tested at 10 psi for a period of two (2) hours. In case of pressure loss exceeding 1 psi in two (2) hours, all joints shall be checked and repaired if faulty.

1.07 CONSTRUCTION TOLERANCES

- A. The Contractor shall be responsible for the following tolerances:
1. Pool depth in shallow area - plus 2" minus 1".
 2. Pool depth in deep area - plus 2" minus 1".
 3. Dimensions: length - plus 1/2" minus 0",
width - plus 2" minus 1".
 4. Vertical walls - plus or minus 1/2" in top 3' 6" feet
vertical dimension, remaining wall
down to radius to be within eleven
degrees of vertical.

1.08 WARRANTY & GUARANTEE

A. The following warranties shall apply to all work under this contract specific to the Swimming Pool:

1. One (1) year contractual warranty

- a) The Contractor shall warrant that all materials used in the completing the installation contracted for are new and of high quality; that all work has been done in a competent and workmanlike manner; that if any substantial defect occurs in the workmanship or materials it will be remedied without cost to the Owner if written notice is given to the Contractor within one (1) year after the performance of such work and within ten (10) days of evidence of the defect. Assemblies or units (such as heaters, pumps and motors, etc.) and standard fittings or accessories purchased by the Contractor for use in this installation are subject only to the extent of the manufacturer's warranty. The foregoing agreement in respect to warranties is in lieu of all other warranties or guarantees, expressed, implied or statutory except Extended Warranties, if called for in the detailed pool specifications.
- b) The filter manufacturer shall guarantee in writing that this filter, if operated in accordance with written instructions given and accepted by the Owner, will perform in complete accord with the specifications. This Contractor shall supply complete drawings and printed instructions for installation and operation of all equipment specified herein and shown on the plans.
- c) The integrated chemistry controller shall be covered by a standard manufacturer warranty of one (1) year. All sensors will be covered by a standard one (1) year warranty. Other parts shall be covered by their own manufacturer's warranty. The controller shall not require a service technician for annual calibration, seasonal start up, or whenever chemicals supplier or type are changed.
- d) The low-pressure ultra violet light disinfection equipment shall be warranted in writing that when operated and maintained according to the manufacturer's operating instructions provided and accepted, it will perform in complete accord with these specifications. All components (excluding the UV arc tube) have a limited warranty to be free from defects in workmanship and materials for a period of 12 months from date of start-up or 18 months from date of shipment, whichever ever occurs first.
- e) It is specifically understood and agreed that no claims may be filed under this warranty or the Extended Warranty, and no obligation to make adjustment thereto will accrue until the full indebtedness of the Owner to the Contractor is satisfied.

2. Extended Warranties:

a) Pool Structure

The Contractor shall warrant for two (2) full years, the repair of the pneumatic pool structure covering any structural defects, and/or leaking in the pneumatic concrete

pool shell caused by defective workmanship or material, exclusive of damages due to sub-surface movement, settlement, or hydrostatic conditions, provided the pool is kept full of water at all times except for the required cleaning and that during such cleaning the pool does not remain entirely empty for more than a forty-eight (48) hour period.

This warranty is void if the pool is not serviced by the Contractor, or by others in strict compliance with the detailed instructions furnished to the Owner by the Contractor.

Tile, coping, deck, colors, interior finishes, plaster, paint, deck equipment, accessories, piping, filter, pumps, chemical feeders, and electronic analyzers are by definition not included as part of the pool structure.

This warranty does not cover filter media, elements, pumps, motors or other mechanical equipment furnished by the third parties.

3. Period of Time:

Period of time of guarantee, warranties and/or maintenance bonds, notwithstanding anything contrary in Contract documents, shall commence with and include date of final certificate of payment, date of issuance of temporary or final certificate of occupancy to Owner, or beneficial occupancy, whichever is earliest. Beneficial occupancy in connection with this article is defined as actual use of premises by Owner for purpose intended.

1.09 SUBMITTALS

- A. Manufacturer's Data: Unless different requirements are established in other sections of these specifications, submit six (6) copies of the manufacturer's specifications and installation instructions for the complete swimming pool system, and for each component and product used in the system. Include certified laboratory test reports on components as specified or required by regulatory agencies.
- B. Shop Drawings: Unless different requirements are established in other sections of these specifications, submit six (6) copies of shop drawings for the swimming pool system and all its components, including typical details of pool shell, equipment anchors, floor and wall markings drawn at large scale. Submit smaller scale drawings of the overall plan and sections. Include piping and wiring diagrams for recirculation, filtration and chemical treatment systems.
- C. Maintenance Manuals: Unless different requirements are established in other sections of these specifications, submit two (2) copies of bound maintenance manual for swimming pool system. Include full maintenance and operating instructions, part lists, recommended spare parts and emergency parts inventory, chemical treatment and supply list and recommended stock, sources of purchase and similar information.

1.10 START-UP SERVICES

- A. The contractor shall start all equipment and insure that it is operating normally and in every way consistent with industry standards before turnover to owner.
- B. The Contractor shall supply the services of an experienced swimming pool operator/instructor for not less than two instructional periods to instruct and familiarize Owner's personnel on the use and operation of the pool equipment. These sessions shall consist of an initial meeting after the pool has been started, balanced and finished operational testing and a second at the owner's convenience during the first six months of operation to review any topics the owner may wish.
- C. The Contractor shall test the water before the interior finish is applied and shall be prepared to initially balance the water to meet the following parameters;
 - 1. Free chlorine: 1.5 - 2.0 ppm
 - 2. pH 7.4
 - 3. Total Alkalinity: 100 - 125 ppm
 - 4. Calcium Hardness: 150 - 250 ppm
 - 5. Chelating agent as required if the iron content is above 0.1 ppm or if the copper is above 0.5 ppm.
- D. The contractor shall leave start-up chemicals in the new storage tanks as follows; 50 gallons liquid chlorine, 5 gallons of buffered muriatic acid, "Acid Magic" or approved equal.

1.11 PATENTED MATERIALS

- A. The Contractor shall pay all royalties and license fees. The Contractor shall also defend all suits or claims for infringement of any patent rights and shall save the Owner, Architect, Architect's consultants and/or Owner's Representative harmless from loss on account thereof. The Contractor shall not be responsible for any such loss when it uses a specified manufacturer or manufacturers. If the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, the Contractor shall be responsible for such loss unless he promptly gives such information to the Owner, Architect and/or Owner's Representative.

1.12 CODES

- A. All work in this division shall be according to all applicable Local, State and National codes and regulations.

1.13 JOB CO-ORDINATION

- A. All Contractors are cautioned to clearly understand the limits of responsibility as detailed in these specifications. Prior to a work start, a meeting shall be held at the jobsite to establish work limits, job schedule and liaison among the Prime Contractor, Sub-Contractors, and the Owners Representative to ensure a coordinated construction process.