1 GENERAL

1.01 DESCRIPTION

.1 This section specifies pool accessories as follows:
- .1 Lane Rope Anchors.
- .2 Lifeguard Stand.
- .3 3.0 m Diving Boards.

1.02 RELATED WORK

.1 Concrete – Refer to Drawings.

.2 Section 05 50 00 – Metal Fabrications.

.3 Section 09 01 00 – Finishes Repair.

.4 Section 09 30 13 – Ceramic Tiling.

.5 Division 26 – Electrical.

1.03 QUALITY ASSURANCE

.1 Products of manufacturers regularly engaged in manufacturing items of type specified.

.2 Installation by experienced mechanics capable of installing each item in accordance with shop and erection drawings.

.3 Fabricate Work of this Section within tolerances specified for Work into which it is built.

1.04 ACTION AND INFORMATION SUBMITTALS

.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

.2 Shop Drawings:
- .1 Show details of construction and installation of materials.
- .2 Finish of each item.

.3 Manufacturers' Literature and Data:
- .1 Brochures or catalog cuts.
- .2 Manufacturer's installation procedures and instructions.

.4 Calculations: Grating and supports.

.5 Verify field dimensions prior to submittal of Shop Drawings. Indicate size and description of systems, components, attachment devices, construction details, transitional pieces, closures, and seals. Submit colour/sample chips.

1.05 REFERENCE STANDARDS

.1 Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.

.2 ASTM International (ASTM):
- .1 ASTM A240/A240M-14 – Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
- .2 ASTM A269/A269M-14e1 – Seamless and Welded Austenitic Stainless Steel Tubing for General Service.
- .3 ASTM B209M-14 – Aluminum and Aluminum-Alloy Sheet and Plate (Metric).
- .4 ASTM B221M-13 – Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric).
- .5 ASTM C827/C827M-10 – Test Method for Change in Height at Early Ages if Cylindrical Specimens of Cementitious Mixtures.
- .6 ASTM C1107/C1107M-14 – Packaged Dry, Hydraulic-Cement Grout (Non-shrink).
- .7 ASTM D2287/D1187M-97(2011E1) – Asphalt-Base Emulsions for use as Protective Coatings for Metal.
- .8 ASTM F593-13A – Stainless Steel Bolts, Hex Screws, and Studs.

.3 American Welding Society (AWS):
- .1 AWS D1.1/D1.1M-10 – Structural Welding Code Steel.
- .2 AWS D1.2/D1.2M-14 – Structural Welding Code Aluminum.

.4 National Association of Architectural Metal Manufacturers (NAAMM):
- .1 NAAMM AMP 500-06 – Metal Finishes Manual.
- .2 NAAMM AMP 521-01(R2012) – Pipe Railing Manual.
- .3 NAAMM MBG 531-09 – Metal Bar Grating Manual.

1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

.1 Package or crate, and brace products to prevent distortion in shipment and handling. Label packages and crates, and protect finish surfaced by sturdy wrappings.

.2 Deliver products to location at building site, designated by General Contractor with approval of Departmental Representative.

1.07 CLOSEOUT SUBMITTALS

.1 Provide maintenance data and operating instructions for all items specified herein, for incorporation into Operation and Maintenance Manual, as specified in Section 01 78 00 – Closeout Submittals.

1.08 WARRANTY

.1 Provide an extended warranty for a period of two (2) years beyond the expiration of the standard one (1) year warranty.

.2 Warranty to cover the cost of faulty and defective materials and poor workmanship, at no extra cost to the Departmental Representative.

2 PRODUCTS

2.01 GENERAL

.1 Provide reinforcing, fastenings, and anchorage required for building in of products.

.2 Insulate between dissimilar metals, and metal and masonry materials, to prevent electrolysis with bituminous paint, to meet specified requirements of CAN/CGSB 1.109-M89; or with methacrylate lacquer, CBN/CGSB 1.159-02, if exposed to view.

.3 Prime and paint of steel: To Section 09 01 00 – Finishes Repair.

.4 Galvanizing:
- .1 Zinc-Coated Sheet: To meet specified requirements of ASTM Specification A525-93, Zinc Coating Designation G90.
- .2 Wipe-Coated Sheet: Zinc-wiped coating 0.25 oz./ft^2.
- .3 Zinc-Coated Hardware: Galvanizing to meet specified requirements of CAN/CSA G164-M92(R2003).

.5 Products shall not have attached plates, nor shall they be imprinted or labeled with manufacturer's name or trademark, unless approved by the Departmental Representative.

.6 Specified materials are minimum acceptable quality. Manufacturer's standards exceeding specified quality will be accepted.

2.02 MATERIALS

.1 Stainless Steel: ASTM A240/A240M, Type 302B.

.2 Stainless Steel Tubing: ASTM A269/A269M, Type 304.

.3 Fasteners: ASTM F593, non-corroding.

.4 Aluminum: ASTM B209M (B209) and B221M (B221), Alloy suitable for intended use.

.5 Bronze: Manufacturer's standard copper-zinc-lead alloy.

.6 Non-Shrink Grout: Grout, free of ferrous metal or oxide. ASTM C1107/C1107M with no ASTM C827/C827M shrinkage.

.7 Bituminous Coating: ASTM D1187/D1187M; provide cold-applied inert-type noncorrosive compound bituminous coating, nominally free of sulfur components and other deleterious impurities.

2.03 FABRICATION

.1 General:
- .1 Grind welds smooth and finish to match adjacent surface.
- .2 Ease sharp edges or round them smooth. Finish rough surfaces smooth and remove projections unless specified otherwise.
- .3 Weld in accordance with AWS.
- .4 Provide non-slip surface on walk surfaces.
- .5 Threaded connections: Do not expose threads.

.2 Finishes on Metal:
- .1 NAAMM AMP 500-505.
- .2 Unless specified otherwise:
  - .1 Stainless Steel: No. 4.
  - .2 Aluminum: Clear anodic coating, AA-C22A41.

.3 Bronze: Chromium plated.

.3 Lane Rope Anchors:
.1 Supply lane rope cup anchors to be cast into tank pool wall and connected to pool grounding system.
.2 Cup anchor to be 86 mm diameter x 95 m deep chrome-plated bronze, complete with removable chrome-plated eye bolt with 12.7 mm – 13-tread lock washer and 10-24 x 9.5 mm brass grounding screw.

.4 Lifeguard Stand:
.1 Supply Lifeguard Stand with column supporting Observation platform (footboard), swivel chair, ladder assembly, rescue tube holder, and umbrella stand (Platform height is 1043 mm AFF). Stand to be designed to be permanently installed and anchored to existing, suspended concrete slab. Stand components include:
.1 Support Column and Swivel Stand: 76.2 mm diameter Schedule 10 stainless-steel pipe with 9.5 mm thick stainless-steel bottom plate, 16.4 mm thick stainless-steel top plate, and powder-coat spray finish. Column and stand installed at 15º angle from vertical.
.2 Foot Board: Observation platform (foot board) measuring 44.5 mm x 762 mm x 1067 mm, with solid laminate fir core and fiberglass-reinforced acrylic finish. Top surface to have non-skid sanded tread.
.3 Seat with Swivel Base: Contoured, low-side, fiberglass seat with swivel mechanism to allow for 360º rotation. Swivel mechanism is attached to upper end of swivel stand.
.4 Ladder and Handrail Assembly: Handrails of Type 304 stainless-steel tubing with 48.3 mm O.D. x 1.65 mm thickness, complete with three (3) slip-resistant, black, molded-plastic steps (127 mm x 508 mm) mechanically fastened to observation platform with stainless-steel handrail.
.5 Anchor Assembly: Front anchor for support column of 6.35 mm x 203 mm x 203 mm stainless-steel plate, complete with four (4) stainless-steel couple nuts welded to the plate. Support column secured to the anchor plate using four (4) 12.7 mm x 38.1 mm stainless-steel bolts. Two (2) rear anchors for ladder rails are 101.6 mm deep, cast bronze socket, complete with a 1/4-20 brass grounding screw for bonding, and 114 mm diameter x 5.8 mm polished stainless-steel escutcheon plate.

.5 Deluxe 3-Meter Left-Mount Diving Tower:
.1 Provide heavy-duty, 3-meter, left-mount diving tower with all steel components construction from carbon-steel with prime-coat finish. Tower to be suitable for 4.27 m or 4.88 m diving board. Components include, but are not necessarily limited to, the following:
.1 Anchor Assembly – Anchor plates are constructed of carbon steel:
.1 Front post anchor plate to be 19.1 mm thick with six (6) 25.4 x 8 zinc-plated carbon-steel bolts.
.2 Ladder anchor plates to be 19.1 mm thick x 1.27 mm diameter with four (4) 12.7 mm x 6 zinc-plated bolts.
.3 Heel post anchor to be 19.1 mm thick x 127 mm diameter with four (4) 12.7 mm x 6 zinc-plated bolts.
.2 Front Post Assembly: The front post assembly is to be fabricated and concentrically welded to form the 15º angle of the front post when installed. Post is to be manufactured of 254 mm diameter, 6.35 mm wall, Schedule-20

carbon-steel pipe, and is complete with a 381 mm x 381 mm x 19.05 mm carbon-steel baseplate, and 381 mm x 381 mm x 15.88 mm carbon-steel top flange.

.3 Tray Assembly: Tray is fabricated from 4.76 m carbon-steel plate and reinforced with 9.53 mm carbon-steel plate at front and rear sections, and two (2) 6.35 mm carbon-steel gussets at the upper side of the tray.

.4 Ladder, Heel Post, and Handrail Assembly: Supply two (2) ladder posts and one (1) heel post constructed of 48.25 mm x 3.68 mm Type 304 stainless-steel tube welded with a mirror finish. Steps are to be formed and drawn 1.6 mm Type 304 stainless steel, complete with replaceable skid-resistant pads. The ladder handrails are to be 41.28 mm x 1.65 mm stainless-steel tube. The upper hand-rail assembly is to be constructed of 48.25 mm x 1.65 mm Type 304 stainless-steel tube with a polished finish. The assembly is attached to the front and rear of the tray assembly.

.5 Tie-Down Assembly: Tie-down assembly to be designed to allow easy access to components located below the board, and to raise the board during swim competitions. Assembly is to include a tie-down anchor subassembly, two (2) tie-down straps, and additional hardware.

.6 Quick Adjustable Fulcrum: The fulcrum assembly is to consist of brass gears and track that enable incremental ratcheting of the fulcrum adjustment from a standing position.

.6 Diving Board:

.1 Supply heavy-duty, commercial, aluminum diving board featuring an epoxy and welded beam extrusion construction with welded ends and a non-slip tread. Board dimensions to be 508 mm x 4876.8 mm, complete with two (2) 15 mm mounting holes at 305 mm o.c., and 101.6 mm from board end.

.2 Board to be supplied with mounting kit comprised of two (2) 12.7 mm x 127 mm stainless-steel carriage bolts, one (1) 508 mm top-mounting bottom plate, two (2) 508 mm rubber mounting pads, one (1) 508 mm bottom mounting plate, two (2) 12.5 mm stainless-steel lock washers, bottom two (2) 12.7 mm brass hex nuts, and two (2) 12.7 mm white rubber nut caps.

.7 Backstroke Stanchion: Purpose-made backstroke flags and rope; stainless-steel stanchion; and deep anchor socket, 152 mm.

.1 Backstroke flags and rope: Polyester with nylon core rope and alternating navy blue and white vinyl flags (305 mm x 457 mm) at 330 mm o.c. Size of rope to suit pool; two (2) required.

.2 Backstroke Stanchion: Body of 2438.4 mm long x 48.3 mm diameter Type 304 polished stainless-steel tube, complete with welded end cap and 50.8 mm diameter stainless-steel eye bolt. Four (4) units required.

.3 Anchor Socket: Cast-bronze 152.4 mm deep anchor socket, complete with wedge assembly, 1/4-20 UNC brass grounding screw and brass floor-mounting caps for use when fixture is removed. Four (4) units required.

.8 False Start Rope and Stanchions: Purpose-made polyester cord with floats, stainless-steel stanchions, and 152 mm deep anchor socket.

.1 False Start (Recall) Rope: Polyester cord with floats and quick-release mechanism. Unit to be sized to suit pool dimensions. One (1) unit required.

.2 False Start (Recall) Stanchion: Body of 1371.6 mm long x 43.3 mm diameter x 2.7 mm Type 304 stainless-steel tube, complete with welded end cap and 50.8 mm diameter

stainless-steel eye bolt. Each unit to be complete with additional stainless-steel collar band with eye bolt and control knob for adjustable height. Two (2) units required.

.3 Anchor Socket: Cast-bronze 152.4 mm deep anchor socket, complete with wedge assembly, ¼-20 UNC brass grounding screw and brass flush-mounting cape for use when fixture is removed. Two (2) units required.

3 EXECUTION

3.01 INSTALLATION

.1 Suppliers shall provide information and templates required for installation of Work of this Section, and assist or supervise, or both, the setting of anchorage devices and construction of other Work incorporated with products specified in this Section, in order that they function as intended.

.2 Install Work to meet manufacturer's recommended specifications, true and tightly fitted, and level or flush to adjacent surfaces, as suitable for installation.

.3 Set Work accurately, in alignment and where shown, plumb, level, free of rack and twist, and set parallel or perpendicular, as required, to line and plane of surface.

.4 Items set into concrete:
- .1 Provide temporary bracing for such items until concrete is set.
- .2 Place in accordance with setting drawings and instructions.

.5 Set lane-rope anchors, sleeves, and similar items flush with finished floor or wall surface and, where applicable, flush with side of opening.

.6 Field weld in accordance with AWS.
- .1 Finish as specified for shop welding.
- .2 Use continuous weld, unless specified otherwise.

.7 Install anchoring devices and fasteners as shown on Shop Drawings and as necessary for securing pool accessories to building construction as specified.

.8 Isolate aluminum from dissimilar metals and from contact with concrete and masonry materials with bituminous coating, to prevent electrolysis and corrosion.

.9 Secure escutcheon plate with set screw(s).

.10 Set posts in pipe sleeves with non-shrink grout.

.11 Secure flange to post at base with set screw(s).

.12 Set wall plate for ladders flush with finished surface. Secure ladder to plate with screws specified.

3.02 ADJUSTMENT AND CLEANING

.1 Verify, under Work of this Section, that installed products function properly, and adjust them accordingly to ensure satisfactory operation.

.2 Refinish damaged or defective Work, so that no variation in surface appearance is discernible. Refinish Work at site, only if approved by the Departmental Representative.

.3 After installation, clean accessories as recommended by the manufacturer, and keep protected from damage until completion of the project.

END OF SECTION