

**SECTION 13 1106
SPRAYGROUND EQUIPMENT**

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Sprayground equipment items required for this Work as indicated on the Drawings and specified herein.
- B. Provide start up and operation instructions to the Owner for both the sprayground and mechanical equipment. Properly balance sprayground water chemistry until such time that the Owner takes occupancy of the project.

1.02 QUALITY ASSURANCE

- ~~A. Qualifications of Workers:~~
 - ~~1. The entity performing the work for this Section shall have been successfully engaged with a C-53 license as an RME or RMO for at least the past four (4) years immediately prior to the commencement of the work. The Qualified contractor shall submit documentation of a minimum of three (3) interactive spray ground play equipment and climb on structure installations completed in the last four (4) years.~~
 - ~~2. For actual construction operations, use only trained and experienced workers with a minimum of three (3) years experience with the materials and methods specified.~~
 - ~~3. Provide at least one person who shall be present at all times during execution of the work of this Section, with a minimum of five (5) years experience with the type of materials being installed, the referenced standards, and who shall direct all Work performed under this Section.~~
- B. All equipment supplied or work performed shall comply with regulations governing public sprayground areas as contained within State and Local Codes.

1.03 SUBMITTALS AND SUBSTITUTIONS

- A. Provide submittals in conformance with the requirements of Section 01 33 00.
- B. Required submittals include:
 - 1. Sprayground Deck and Mechanical Equipment as specified in Article 2.1-2.13 of this Section.
- ~~C. Submit proof of qualifications as specified in Article 1.2.A of this Section.~~
- D. The equipment shown on the plans represent the first listed items in the technical specifications. The Contractor shall be responsible for all required field coordination and installation of any approved equal product to provide a fully working and warranted system. The Contractor shall submit detailed shop drawings for any products used other than the first listed specified items. Contractor provided shop drawings shall include details and quality equal to the original plans and construction documents. The Contractor shall provide any and all required engineering including but not limited to structural and anchorage requirements for any proposed equipment other than the first listed specified equipment. The Contractor is responsible to provide a factory certified representative(s) to start-up and provide on-site training for all swimming pool mechanical equipment provided.

1.04 PRODUCT HANDLING

- A. Protection: Use all means necessary to protect sprayground equipment items before, during and after installation and to protect the installed work specified in other Sections.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner's Representative.

PART 2 GENERAL

2.01 DECK EQUIPMENT

A. Sprayground Safety Signs: As required by the Department of Health. Submittal required. Placement at the pool site shall be in conformance with Health Department Inspector. One (1) set minimum per site.

B. Sprayground Elements:

Addendum #1
Enclosure #7
March 26, 2026

	Elements	QTY	Total Flow (GPM)
1	SPLASH BUCKETS III 'Watersplash' S-25.04.05	1	50
2	AQUA LOOP SET 'Watersplash' S-03.03	1	42
3	START FLAG 'Watersplash' S-03.07.09	1	20
5	HORSESHOE POST 'Watersplash' S-01.37.02	1	8
4	BELL SHOWER 'Watersplash' S-99.01	1	10
6	OBSTACLE CURTAIN 'Watersplash' S-03.07.10	1	10
7	AQUA SPLASH AMERICAN BULL 'Watersplash' S-04.10.13	1	10
8	AQUA BARREL 'Watersplash' S-02.03	1	6
9	AQUA TUNNEL JR. 'Watersplash' S-05.05.02	1	8
10	AQUA ACCENTS VARIANT 'Watersplash' S-97.10.06	1	10
11	VULTURE POST 'Watersplash' S-01.25.03	1	19
12	CIRCULAR SHOWER 'Watersplash' S-05.03	3	30
13	AQUA OIL DERRICK II 'Watersplash' S-99.97.01	1	18
14	LASSO FLOWER 'Watersplash' S-01.16.04	1	30
15	THREE BUCKETS - HORSE 'Watersplash' S-01.23.16	1	15
16	OBSTACLE POST 'Watersplash' S-99.57.01	1	10
17	WURMY 'Watersplash' S-01.09.08	1	18
18	THREE VARREL SET 'Watersplash' S-02.03.02	1	18
19	FIBERGLASS SEATING 'Watersplash' S-26.08	1	10
20	WESTERN MULTILEVEL SLIDE 'Watersplash' S-25.12.B3.0003	1	80
21	LONGHORN BUCKETS 'Watersplash' S-06.01.01	1	10
22	HORSE CANNON III 'Watersplash' S-04.01.07	2	14

23	OBSTACLE WALL 'Watersplash' S-01.33.08	1	30
24	AQUA LOOP 'Watersplash' S-03.02	1	10
25	WOOD SPRAY 'Watersplash' S-02.56	1	10
26	CURVY RIVER 'Watersplash' S-09.02.07	1	12
27	BULL LOOP 'Watersplash' S-03.02.14	1	10
28	WATERFALL ROCK 'Watersplash' S-01.16.06	1	50
29	CUP POST 'Watersplash' S-01.71.01	1	15
30	HORSE LOOP 'Watersplash' S-03.02.31	1	10
31	HAY BALE POST 'Watersplash' S-01.73	1	50
32	AQUA SERPENT MIST -TOT 'Watersplash' S-98.01.03.02	1	6
33	LED ACTIVATOR 'Watersplash' S-20.14	2	-
34	FOUNTAIN ROCK III 'Watersplash' S-02.36.02	1	10
35	COWBOY SLIDE 'Watersplash' S-25.01.02.02	1	15
36	AQUA CACTUS 'Watersplash' S-01.25	1	19
37	WATER WOOD TOWER 'Watersplash' S-01.94	1	25
38	THE OREGON TRAIL 'Watersplash' S-06.05.03	1	15
39	AQUA HORSE 'Watersplash' S-01.27	1	7
40	BASH III 'Watersplash' S-97.10.02	1	10
41	AQUA SPHERE I 'Watersplash' S-02.09.01.06	1	7
42	Maintenance Minimizer 'Water Odyssey'	9	-
Total Feature Flow Rate			888 GPM

Note: Sprayground Decks Shall Have Non-Slip Finish And Shall Slope 2% Max. In Any Direction.

~~2.02 ENTRY PORTAL~~

~~A. General Description:~~

- ~~1. The entry portal for the splash park shall be a robust and aesthetically pleasing structure made of galvanized steel. The design will include horse shapes and letters, laser cut from steel sheets and welded onto the main body. The entire structure shall be securely anchored to a concrete wall on one side and to concrete blocks on the other.~~

~~B. Material Specifications:~~

- ~~1. Main Structure:~~

- ~~a. Material: Galvanized Steel-~~
 - ~~b. Thickness: 1/8"~~
 - ~~c. Finish: Powder Coated-~~
 - ~~d. Color: To be chosen by the customer and approved before production.-~~
 - ~~2. Horse Shapes and Letters:-~~
 - ~~a. Material: Galvanized Steel-~~
 - ~~b. Thickness: 1/4"~~
 - ~~c. Method: Laser Cut-~~
 - ~~1) Attachment: Welded onto the main body as per provided drawing.-~~
- ~~C. Structural Requirements:-~~
- ~~1. Welding:-~~
 - ~~a. All horse shapes and letters shall be welded onto the main structure following the provided drawings.-~~
 - ~~b. Letters must be welded with spacing off the main body as per the drawing to create a three-dimensional effect.-~~
 - ~~2. Anchoring:-~~
 - ~~a. Concrete Wall Side:-~~
 - ~~1) Secure with provided stainless steel anchors (3/4" stainless steel anchor, 6" length, secured in by epoxy).-~~
 - ~~2) Anchors shall be installed according to manufacturer specifications to ensure maximum load-bearing capacity.-~~
 - ~~b. Concrete Ground:-~~
 - ~~1) Anchoring shall be done using provided stainless steel anchors and additional concrete supports as shown in the drawing. (3/4" stainless steel anchor, 6" length, secured in by epoxy)-~~
 - ~~2) Installation of anchors should follow the guidelines provided in the drawings and ensure that the structure is securely fastened.-~~
- ~~D. Fabrication Requirements:-~~
- ~~1. Laser Cutting:-~~

~~All horse shapes and letters shall be precision laser cut from 6 mm galvanized steel sheets to ensure clean edges and uniform shapes as per the provided design.-~~
 - ~~2. Powder Coating:-~~

~~The entire structure, including horse shapes and letters, shall be sandblasted, and polyester powder coated. The powder coating shall be applied as per the customer's color choice and approved samples. It should provide high corrosion resistance and durability suitable for outdoor conditions.-~~
- ~~E. Installation:-~~
- ~~1. The entry portal structure shall be assembled and welded in the workshop to ensure accuracy in alignment and attachment of the horse shapes and letters.-~~
 - ~~2. On-site installation will involve securing the structure to a concrete wall using stainless steel anchors and to concrete blocks as per the drawing.-~~
 - ~~3. Care must be taken to ensure that all components are installed plumb, level, and square.-~~
- ~~F. Quality Control:-~~
- ~~1. The structure shall undergo a thorough inspection to ensure all welds are consistent and meet the strength requirements.-~~
 - ~~2. The powder coating finish shall be inspected for uniformity, color consistency, and absence of defects.-~~
 - ~~3. All anchor points and connections shall be tested for stability and security.-~~
- ~~G. Approval:-~~
- ~~1. A final shop drawing must be provided to the customer for approval before fabrication.-~~
 - ~~2. Color samples for powder coating must be submitted for customer approval before coating.-~~

2.03 FENCE GATE

- A. General Description:
1. This specification outlines the requirements for the installation of commercial-grade aluminum fences and gates around the shower, seating areas, and the perimeter of the splash park. The fencing will provide safety, security, and aesthetic appeal. The design shall be based on Alumission Modern Fences & Gates "Los Angeles Style" or an approved equal.
- B. Material Specifications:
1. Fence Panels:
 - a. Type: Los Angeles Style Panels or approved equal.
 - b. Material: Powder-coated aluminum for corrosion resistance and durability.
 - c. Height:
 - 1) 4 Feet: For shower and seating areas around the splash park.
 - d. Finish: Powder-coated to match the architectural requirements (Color to be approved by the customer).
 - e. Panel Assembly: Panels shall be pre-assembled and modular, allowing easy on-site installation and replacement if needed.
 2. Fence Posts:
 - a. Corner Posts:
 - 1) Size: 4 inches x 4 inches aluminum tubes.
 - 2) Material: Powder-coated aluminum for enhanced durability and rust resistance.
 - 3) Installation: Posts shall be anchored with concrete footings per the manufacturer's recommendations and approved drawings.
 - b. Inner Support Posts:
 - 1) Size: 3 inches x 3 inches aluminum tubes.
 - 2) Material: Powder-coated aluminum.
 - 3) Installation: Posts shall be spaced as per manufacturer recommendations and indicated on the site drawing.
- C. Structural Requirements:
1. Load and Wind Resistance:
 - a. The fence and gate system shall be designed to withstand wind loads as per the local building codes and standards.
 2. Foundations and Footings:
 - a. All posts shall be securely anchored in concrete footings with dimensions specified by the manufacturer or approved equal. Minimum depth and diameter of footings shall comply with local building codes and structural engineer recommendations.
 - b. Concrete used for footings shall be a minimum of 3000 psi compressive strength.
- D. Fabrication Requirements:
1. Manufacturing Standards:
 - a. All components shall be manufactured according to ASTM standards for aluminum fence systems.
 - b. Welds shall be smooth and free from defects. All sharp edges and burrs shall be removed.
 - c. All fences and gates must be powder-coated in a controlled environment to ensure even coverage and long-lasting finish.
- E. Installation Requirements:
1. Fence Installation:
 - a. Fence panels shall be installed plumb, level, and square per the manufacturer's guidelines.
 - b. Posts shall be set at intervals as recommended by the manufacturer and as indicated on the drawings to ensure maximum stability and security.

- c. All fasteners and hardware used in the installation shall be stainless steel or aluminum to prevent corrosion.
- F. Quality Control:
1. Inspection:
All installed fences and gates shall be inspected for structural integrity, alignment, finish, and secure installation. Any defects or damages must be repaired or replaced as per the manufacturer's warranty guidelines.
 2. Approval:
Samples of the aluminum panels, posts, and gate hardware must be submitted for customer approval prior to fabrication.
- G. Warranty:
1. The fence and gate system shall come with a minimum manufacturer's warranty of 10 years against defects in materials and workmanship.

2.04 METAL SHADE STRUCTURE

- A. General Description
1. The metal shade structure shall be constructed with galvanized steel tubular posts and a metal roof system. The shade structure is designed to provide protection from the sun and weather elements in outdoor spaces such as parks, playgrounds, and commercial areas.
- B. Structural Components
1. Posts:
 - a. Material: Galvanized steel
 - b. Size: 6" x 6" square tubular posts
 - c. Thickness: 0.25 inches (1/4 inch) wall thickness
 - d. Finish: Hot-dip galvanized to ASTM A123 standards
 - e. Height: 10 feet above grade (adjustable based on site requirements)
 - f. Base Plate: 10" x 10" x 1/2" steel base plate welded to the post, pre-drilled for anchor bolts
 2. Roof Frame:
 - a. Material: Galvanized steel
 - b. Configuration: Rectangular or square perimeter frame, with cross members for support
 - c. Size of Members: 4" x 4" square tubular beams with 0.25 inches (1/4 inch) wall thickness
 - d. Finish: Hot-dip galvanized to ASTM A123 standards
 3. Roof Panels:
 - a. Material: Galvanized or coated steel panels
 - b. Type: Corrugated or standing seam metal roof panels
 - c. Thickness: 24-gauge steel
 - d. Coating: Galvalume or powder-coated finish in standard or custom colors
 - e. Pitch: Minimum 3:12 roof pitch for water runoff
 - f. Panel Fasteners: Stainless steel screws with neoprene washers, color-matched to roof panels
 4. Anchoring System:
 - a. Type: Heavy-duty concrete anchors or anchor bolts
 - b. Diameter: 3/4 inch
 - c. Length: Minimum 8 inches
 - d. Material: Zinc-plated or stainless steel
- C. Design and Load Requirements
1. Wind Load:
 - a. Structure designed to withstand a wind load of up to 90 mph or higher (as per local building codes).
 2. Snow Load:

- a. Structure designed to support a snow load of up to 30 psf or higher (as per local building codes).
3. Live Load:
 - a. Structure capable of supporting a minimum live load of 20 psf.
- D. Assembly and Installation
 1. Post Installation:
 - a. Posts to be installed in pre-drilled holes in the concrete foundation.
 - b. Anchor bolts to be secured with epoxy or grout as specified.
 - c. Posts must be plumb and level before final tightening of bolts.
 2. Roof Assembly:
 - a. Roof frame components are to be assembled on-site using pre-drilled bolt holes and high-strength bolts.
 - b. Roof panels to be attached to the frame using specified fasteners, ensuring watertight installation.
 - c. Adequate bracing and cross members should be used to prevent sagging or movement.
- E. Finish and Protection
 1. Galvanization:
 - a. All steel components must be hot-dip galvanized after fabrication to protect against rust and corrosion.
 2. Powder Coating :
 - a. Additional powder coating is available for improved aesthetics and additional protection.
 - b. Colors to be chosen from the manufacturer's standard color palette or custom-matched upon request.
- F. Maintenance and Warranty
 1. Maintenance Requirements:
 - a. Periodic inspections for rust, damage, or loose fasteners.
 - b. Touch-up any damaged areas with compatible zinc-rich paint or coating.
 - c. Clean roof panels as needed to remove debris and prevent buildup.
 2. Warranty:
 - a. Minimum 10-year warranty on structural integrity and galvanization against rust and corrosion.
 - b. Warranty on powder coating finish (if applied) subject to manufacturer's standard terms.
- G. Safety and Compliance
 1. Standards Compliance:
 - a. Structure must comply with local building codes and regulations, including IBC, ASCE 7-16, and AISC standards.
 - b. Fabrication and welding to conform to AWS D1.1 standards.
 2. Safety Measures:
 - a. Appropriate signage and barriers should be in place during installation to ensure public safety.
 - b. All installers must be trained and certified for working at heights and handling heavy materials.
- H. Additional Options
 1. Gutter and Downspout System:
 - a. Optional gutter and downspout system for managing water runoff.
 - b. Material and finish to match the roof panels.
 2. Lighting and Accessories:
 - a. Provisions for integrated lighting, fans, or other accessories upon request.

2.05 CANTILEVER SHADE CANOPY

- A. General Description:
 - 1. Product Type: Cantilever Shade Canopy
 - 2. Dimensions: 14 ft x 14 ft (4.27 m x 4.27 m)
 - 3. Coverage Area: 196 sq. ft. (18.2 m²)
 - 4. Use: Commercial-grade outdoor shade structure
- B. Structure Material:
 - 1. Frame Material: Commercial grade galvanized steel
 - a. Grade: ASTM A123 or equivalent
 - b. Finish: Hot-dip galvanized, powder-coated finish for enhanced corrosion resistance
 - 2. Column Size: 6" x 6" (152 mm x 152 mm) square tubular steel or equivalent
 - 3. Crossbeam Size: 4" x 8" (102 mm x 203 mm) rectangular tubular steel or equivalent
 - 4. Base Plate: 12" x 12" (305 mm x 305 mm) steel plate with pre-drilled holes for anchor bolts
- C. Fabric Shade:
 - 1. Material: High-Density Polyethylene (HDPE) fabric or equivalent UV-stabilized material
 - 2. Fabric Weight: 8 oz/sq. yd. (270 gsm)
 - 3. UV Protection: Up to 50 to 95% UV block
 - 4. Color: Available in various colors (customizable)
 - 5. Warranty: 10-year warranty against UV degradation
- D. Design Specifications:
 - 1. Wind Load Capacity: Designed to withstand up to 90 mph (145 km/h) wind speed
 - 2. Snow Load Capacity: 20 psf (96 kg/m²)
 - 3. Shade Shape: Square, single-post cantilever design for unobstructed shading
 - 4. Tilt: Adjustable angle tilt option (0°-15°) for optimal shade coverage
- E. Anchoring and Installation:
 - 1. Anchor Type: Heavy-duty anchor bolts or cast-in-place J-bolts (specified as per site conditions)
 - 2. Footing Depth: Minimum 3 ft. (90 m) depth, 2 ft. (0.61 m) width (concrete foundation required)
 - 3. Installation Method: Bolt-together assembly with welding required for the crossbeam-column connection
- F. Coating and Corrosion Protection:
 - 1. Galvanization: Hot-dip galvanizing inside and out to ASTM A123 standards
 - 2. Powder Coating: Optional polyester powder coating available in various RAL colors (for additional corrosion resistance and aesthetics)
- G. Hardware and Accessories:
 - 1. Bolts and Fasteners: Stainless steel or galvanized, conforming to ASTM A307 standards
 - 2. Drainage: Integrated drainage holes in canopy design to prevent water pooling
- H. Compliance and Standards:
 - 1. Standards: Designed and manufactured in compliance with ASCE 7-16 (Minimum Design Loads for Buildings and Other Structures)
 - 2. Fire Retardancy: Meets NFPA 701 fire retardancy standards for fabric materials
- I. Maintenance and Care:
 - 1. Cleaning: Use mild soap and water; avoid abrasive cleaners
 - 2. Inspection: Annual inspection of the structure, anchors, and fabric for wear and tear
 - 3. Replacement Parts: Available upon request; fabric can be replaced as needed

2.06 SPRAYGROUND CIRCULATION PUMP

- A. 'Pentair' EQK750 7.5 3PH pump, 460V with accudrive variable frequency drive; self-priming pump; 3,450 RPM; rated at 400 GPM at 60 ft. TDH; with integral strainer, pump to be programmed with flow rate of 175 GPM. One (1) total.

2.07 SPRAYGROUND BOOSTER PUMP

- A. 'Pentair EQK500 5.0, 3PH 460V, 5HP with acudrive variable frequency drive; self-priming pump; 3,450 RPM; rated at 275 GPM at 60 ft. TDH; with integral strainer, pump to be programmed with flow rate of 175 GPM. Four (4) total.

2.08 SPRAYGROUND FILTER

- A. 'Pentair' Triton #2-TR-140C-3 hi-rate permanent media filter with 7.06sq. ft. of filter area rated at 106 GPM at 15 GPM/sq. ft. Complete with 4" flanges and tandem filter piping manifold kit, 4" backwash, seismic anchorage. Provide all utilities, piping, valving, etc. Three (3) tanks total. (1,007 lbs. each)

2.09 SPRAYGROUND ULTRAVIOLET SYSTEM

- A. 'Evoqua' WF-125-6N, 1x2.5kw with 30A breaker, rated at 660 GPM @ 40 mj/cm², 208V 1 PH, 6" pipe size. Complete with controller 20" x 20" x 10" deep, 148 lbs. Install per manufacturer's instructions. One (1) total. UV to be interlocked with circulation pump so either pump won't operate if UV system is off.

2.10 CARBON DIOXIDE STORAGE/FEED SYSTEM

- A. Provide one (1) NOVO-750, 1139 lb. cryogenic liquid CO2 storage tank with remote fill port. 789 liquid lbs. (6897 cubic feet of gaseous CO2 at NTP) One (1) total. Provide with BecSys CO2 flow control units with flow adjustments from 4-30 SCFH with pressure regulator and gauges for up to 850 PSI nominal cylinder pressure and 40 PSI output to CO2 feed unit fed from storage tanks with multi tank CO2 automatic switchover. Contractor to install per manufacturer's requirements. Provide with in mechanical room hard wired 'Analog' API KIT CO2 detector with audible and visual alarms, UL 1971 standard listed. One (1) total.

2.11 CHLORINE STORAGE/FEED SYSTEM

- A. Provide 'Chemtainer' 500 gallon #TC5971DC, dual storage/containment tank with lid seismically restrained; operating weight = 4165 lbs. Complies with Fed. Reg. #40CFR-264-193. Feed pump shall be Stenner 85M3, 40 GPD @ 15 PSI with FRP shelf brackets. Hard pipe to point of injection.

2.12 WATER CHEMISTRY CONTROLLER

- A. Provide one (1) Hayward CAT 2000 and dedicated ethernet line for one (1) CAT 2000 installed per manufacturer's recommendations. One (1) total.

2.13 EYEWASH/SHOWER

- A. 'Honeywell' Eyesaline Wall Station #32-000462-0000 with double 32 oz bottles mounted to the wall. 19" x 14" x 14" deep. One (1) total. Provide a pair of replacement refill bottles (23 lbs.)

2.14 BACKWASH

- A. Provide 12" ø PVC bell receptor at +3'-0" A.F.F. with 6" P trap outlet to sanitary sewer. Provide 2x pipe size air gap at bell receptor.

2.15 SPRAYGROUND FILL SYSTEM

- A. 1" 'Levelor' fill system to include 1" solenoid control valve, 1" bronze body, 12V. solenoid wiring shall be wired to and controlled by Levelor K1100 water level controller with water level sensor to balance tank. Provide 2" air gap at fill point.

2.16 SPRAYGROUND CONTROL PANEL

- A. Water Splash Inc.

2.17 FLOWMETER(S)

- A. 'Blue/White' F-300, circulation pump line = 4" line size. Booster pump line = 4" line size. Five (5) total.

PART 3 GENERAL**3.01 SURFACE CONDITIONS**

- A. Inspection:
 - 1. Prior to installing the items of this Section, carefully inspect the installed Work of other trades and verify that all such Work is complete to the point where this installation may properly commence.
 - 2. Verify that the sprayground equipment items may be installed in strict accordance with original design, pertinent codes and regulations, and the manufacturers' recommendations.
- B. Discrepancies:
 - 1. In the event of discrepancy, immediately notify the Owner.
 - 2. Do not proceed with installation in areas of discrepancy until all such discrepancies are fully resolved.
 - 3. Failure to notify the Owner and give written notice of discrepancies shall constitute acceptance by the Installer of existing conditions as fit and proper to receive its Work.

3.02 INSTALLATION

- A. Supply and install items of sprayground equipment in strict accordance with applicable codes and regulations, the original design, and the manufacturer's published recommendations, anchoring firmly and securely for long life under hard use.
- B. Coordinate with other trades to insure all imbedded items are set plumb and flush. Railing ends must have anchor sockets and escutcheon plates. Be certain that deck equipment and railings are properly bonded prior to imbedding.
- C. All mechanical equipment shall be braced and/or anchored to resist horizontal force acting in any direction using the criteria shown on the Drawings.

3.03 EQUIPMENT ACTIVATION

- A. Start Up:
 - 1. Retain a qualified chemistry consultant, familiar with the operation and maintenance of aquatic facilities, to supervise and properly balance the sprayground water chemistry.
 - 2. Demonstrate to the Owner's Representative and to all appropriate officials (including State of California) that all systems are fully operational and that calcium hardness, total alkalinity, chlorine residual and pH levels are within the specified limits.
 - 3. Standards: Contractor shall furnish labor and chemicals as required to condition the water properly to the following specifications:
 - a. Calcium Hardness: 150-300 ppm
 - b. Total Alkalinity: 100-125 ppm
 - c. Chlorine residual: 2.0-5.0 ppm
 - d. pH 7.4-7.6
- B. All water chemistry and filtration mechanical equipment shall be operational upon filling of the balance tank. Chemicals and other related support items as supplied by the Contractor, shall be in supply at start-up.
- C. Start up and provide qualified personnel to operate the sprayground mechanical equipment for a period not less than fourteen (14) days after the sprayground systems are placed in operation, or until the Owner takes occupancy of the facility or letter of substantial completion. During this time, Contractor shall instruct and supervise the Owner's personnel in the various operating and maintenance techniques involved. Contractor shall insure that the sprayground filtration equipment is continuously running during the initial fourteen (14) day period. Contractor shall be responsible for supply of chemicals during this not less than fourteen (14) day period and at the time of turnover to Owner, chemical storage tanks shall be full. Owner's personnel shall be fully trained and capable of assuming sprayground maintenance tasks; training may begin prior to Owner taking occupancy.

3.04 CLEAN-UP

- A. Upon completion of sprayground equipment, remove all debris, materials and equipment occasioned by this Work to the approval of the Owner.

END OF SECTION