

PEABODY GRANDSTAND REPLACEMENT  
AND STADIUM RENOVATION  
Santa Barbara High School  
700 E. Anapamu Street  
Santa Barbara, CA 93103

Issued By:  
KRUGER BENSEN ZIEMER ARCHITECTS, INC.  
30 West Arrellaga Street  
Santa Barbara, CA 93101

To all bidders submitting proposal(s) for the captioned project: this Addendum is hereby made part of the Contract Documents to the same extent as though it was originally included therein and takes precedence over the original documents and any previous addenda.

Signatures

DSA STAMP & SIGNATURE

IDENTIFICATION STAMP DIVISION OF THE STATE ARCHITECT FILE NUMBER: 42-H3		
APPL 03-116210		
AC _____	FLS _____	SS _____
DATE _____		

OPSC/DSA TRACKING NUMBER: 76786-18



Acknowledge receipt of the Addendum on Form of Proposal

**A. PROJECT MANUAL**

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ITEM NO. A1: SECTION 051200 – STRUCTURAL STEEL FRAMING

1. Revised PART 1, Section 1.5, A, to include AISC certification as a valid Fabricator Qualification

ITEM NO. A2: SECTION 099646 – INTUMESCENT PAINTING

1. Revised PART 1, Section 1.2, A, to reference "...surfaces in unconditioned space exposed to environment."
2. Revised PART 2, Section 2.1, A, to reference The Carboline Company as the Basis-of-Design Manufacturer

3. Revised PART 3, Section 3.5, A, 1., a., 1), to reference "Thermo-Sorb-E"  
ITEM NO. A3:SECTION 260000 – GENERAL ELECTRICAL PROVISIONS

1. Remove PART 1, Section 1.19 CREDITS AND EXTRAS

**B. DRAWINGS**

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NONE

**C. ATTACHMENTS**

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- 1. Section 051200 – Structural Steel Framing ..... Revision
- 2. Section 099646 – Intumescent Painting..... Revision
- 3. Section 260000 – General Electrical Provisions ..... Revision

END OF ADDENDUM NUMBER FOUR

**SECTION 051200 – STRUCTURAL STEEL FRAMING**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

## A. Section Includes:

- 1. Structural steel.
- 2. Grout.

## B. Related Sections:

- 1. Division 01 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.
- 2. Division 05 Section "Architecturally Exposed Structural Steel Framing" for additional requirements for architecturally exposed structural steel.
- 3. Division 05 Section "Steel Decking" for field installation of shear connectors through deck.
- 4. Division 05 Section "Metal Fabrications" for steel lintels and shelf angles not attached to structural steel frame, miscellaneous steel fabrications and other metal items not defined as structural steel.
- 5. Division 09 painting Sections and Division 09 Section "High-Performance Coatings" for surface preparation and priming requirements.

## 1.3 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."
- B. Seismic-Load-Resisting System: Elements of structural-steel frame designated as "SLRS" or along grid lines designated as "SLRS" on Drawings, including columns, beams, and braces and their connections.
- C. Heavy Sections: Rolled and built-up sections as follows:
  - 1. Welded built-up members with plates thicker than 2 inches (50 mm).
  - 2. Column base plates thicker than 2 inches (50 mm).
- D. Demand Critical Welds: Those welds, the failure of which would result in significant degradation of the strength and stiffness of the Seismic-Load-Resisting System and which are indicated as "Demand Critical" or "Seismic Critical" on Drawings.

## 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.

- B. Green Building Standards Code Submittal:
    - 1. Product data or products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include statement indicating costs for each product having recycled content.
  - C. Shop Drawings: Show fabrication of structural-steel components.
    - 1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
    - 2. Include embedment drawings.
    - 3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld. Show backing bars that are to be removed and supplemental fillet welds where backing bars are to remain.
    - 4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
    - 5. Identify members and connections of the seismic-load-resisting system.
    - 6. Indicate locations and dimensions of protected zones.
  - D. Welding Procedure Specifications (WPSs) and Procedure Qualification Records (PQRs): Provide according to AWS D1.1/D1.1M, "Structural Welding Code - Steel," for each welded joint whether prequalified or qualified by testing, including the following:
    - 1. Power source (constant current or constant voltage).
    - 2. Electrode manufacturer and trade name, for demand critical welds.
    - 3. Preheat and interpass temperatures.
  - E. Qualification Data: For qualified Installer and fabricator.
  - F. Welding certificates.
  - G. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.
  - H. Mill test reports for structural steel, including chemical and physical properties.
  - I. Product Test Reports: For the following:
    - 1. Bolts, nuts, and washers including mechanical properties and chemical analysis.
    - 2. Direct-tension indicators.
    - 3. Tension-control, high-strength bolt-nut-washer assemblies.
    - 4. Shear stud connectors.
    - 5. Shop primers.
    - 6. Nonshrink grout.
  - J. Source quality-control reports.
- 1.5 QUALITY ASSURANCE
- A. Fabricator Qualifications: A qualified fabricator that holds an approved fabricator's license with AISC, the City of Los Angeles or other municipality.

- B. Installer Qualifications: A qualified installer that has at least five years experience.
- C. Shop-Painting Applicators: Qualified according to AISC's Sophisticated Paint Endorsement P1 or SSPCQP 3, "Standard Procedure for Evaluating Qualifications of Shop Painting Applicators."
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
  - 1. Welders and welding operators performing work on bottom-flange, demand-critical welds shall pass the supplemental welder qualification testing, as required by AWS D1.8. FCAW-S and FCAW-G shall be considered separate processes for welding personnel qualification.
- E. Comply with applicable provisions of the following specifications and documents:
  - 1. AISC 303.
  - 2. AISC 341 and AISC 341s1.
  - 3. AISC 360.
  - 4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- F. Preinstallation Conference: Conduct conference at Project site.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from corrosion and deterioration.
  - 1. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.
- B. Store fasteners in a protected place in sealed containers with manufacturer's labels intact.
  - 1. Fasteners may be repackaged provided Owner's testing and inspecting agency observes repackaging and seals containers.
  - 2. Clean and relubricate bolts and nuts that become dry or rusty before use.
  - 3. Comply with manufacturers' written recommendations for cleaning and lubricating ASTM F 1852 fasteners and for retesting fasteners after lubrication.

#### 1.7 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

## PART 2 - PRODUCTS

## 2.1 STRUCTURAL-STEEL MATERIALS

- A. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.
- B. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than the following:
  - 1. W-Shapes: 60 percent.
  - 2. Channels, Angles, Shapes: 60 percent.
  - 3. Plate and Bar: 25 percent.
  - 4. Cold-Formed Hollow Structural Sections: 25 percent.
  - 5. Steel Pipe: 25 percent.
  - 6. All Other Steel Materials: 25 percent. C. W-Shapes: ASTM A 992/A 992M.
- D. Channels, Angles, Shapes: ASTM A 36/A 36M.
- E. Plate and Bar: ASTM A 36/A 36M.
- F. Gusset Plates used on Braced Frames: ASTM A572, Grade 50.
- G. Cold-Formed Hollow Structural Sections: ASTM A 500, Grade B, structural tubing.
- H. Steel Pipe: ASTM A 53/A 53M, Type E or S, Grade B.
  - 1. Weight Class: As indicated on the Drawings.
  - 2. Finish: Black except where indicated to be galvanized.
- I. Steel Castings: ASTM A 216/A 216M, Grade WCB with supplementary requirement S11.
- J. Steel Forgings: ASTM A 668/A 668M.
- K. Welding Electrodes: Comply with AWS requirements. Electrodes shall be E70 Series and shall meet a Charpy V-Notch Impact Energy of 20 Ft-Lbs. at -20°F.

## 2.2 BOLTS, CONNECTORS, AND ANCHORS

- A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C, (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers; all with plain finish.
  - 1. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible washer type with plain finish.
- B. Zinc-Coated High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade DH (ASTM A 563M, Class 10S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers.

1. Finish: Hot-dip or mechanically deposited zinc coating.
  2. Direct-Tension Indicators: ASTM F 959, Type 325 (ASTM F 959M, Type 8.8), compressible washer type with mechanically deposited zinc coating finish.
- C. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, round head assemblies consisting of steel structural bolts with splined ends, heavy-hex carbon-steel nuts, and hardened carbon-steel washers.
1. Finish: Plain.
- D. Unheaded Anchor Rods: ASTM F 1554, Grade as indicated on the Drawings.
1. Configuration: Straight.
  2. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
  3. Plate Washers: ASTM A 36/A 36M carbon steel.
  4. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
  5. Finish: Plain.
- E. Headed Anchor Rods: ASTM F 1554, Grade as indicated on the Drawings.
1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
  2. Plate Washers: ASTM A 36/A 36M carbon steel.
  3. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
  4. Finish: Plain.
- F. Threaded Rods: ASTM A 36/A 36M.
1. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
  2. Washers: ASTM A 36/A 36M carbon steel.
  3. Finish: Plain.
- G. Clevises and Turnbuckles: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1035.
- H. Eye Bolts and Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1030.
1. Sleeve Nuts: Made from cold-finished carbon steel bars, ASTM A 108, Grade 1018.
- 2.3 PRIMER**
- A. Primer: Dunn Edwards Carbozinc 859 epoxy (carboline) prime coat.
  - B. Galvanizing Repair Paint: MPI#18, MPI#19, or SSPC-Paint 20.
- 2.4 GROUT**
- A. Metallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, metallic aggregate grout, mixed with water to consistency suitable for application and a 30-minute working time.

- B. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive and nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

## 2.5 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.
  - 1. Camber structural-steel members where indicated.
  - 2. Fabricate beams with rolling camber up.
  - 3. Identify high-strength structural steel according to ASTM A 6/A 6M and maintain markings until structural steel has been erected.
  - 4. Mark and match-mark materials for field assembly.
  - 5. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.
- B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
  - 1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1/D1.1M.
- C. Bolt Holes: Cut, drill, mechanically thermal cut, or punch standard bolt holes perpendicular to metal surfaces.
- D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.
- E. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 2, "Hand Tool Cleaning."
- F. Holes: Provide holes required for securing other work to structural steel and for other work to pass through steel framing members.
  - 1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
  - 2. Baseplate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
  - 3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

## 2.6 SHOP CONNECTIONS

- A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Slip critical.
- B. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, preheating, post-weld cooling and methods used in correcting welding work.
  - 1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC 303 for mill material.
  - 2. Preheat and interpass temperatures shall conform to Table 3.2 of AWS D1.1.



## 2.7 SHOP PRIMING

- A. Shop prime steel surfaces except the following:
1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches (50 mm).
  2. Surfaces to be field welded.
  3. Surfaces to be high-strength bolted with slip-critical connections.
  4. Surfaces to receive sprayed fire-resistive materials (applied fireproofing).
  5. Galvanized surfaces.
- B. Surface Preparation: Clean surfaces to be painted. Remove loose rust and mill scale and spatter, slag, or flux deposits. Prepare surfaces according to the following specifications and standards:
1. SSPC-SP 2, "Hand Tool Cleaning."
  2. SSPC-SP 3, "Power Tool Cleaning."
  3. SSPC-SP 7/NACE No. 4, "Brush-Off Blast Cleaning."
  4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
  5. SSPC-SP 14/NACE No. 8, "Industrial Blast Cleaning."
  6. SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
  7. SSPC-SP 10/NACE No. 2, "Near-White Blast Cleaning."
  8. SSPC-SP 5/NACE No. 1, "White Metal Blast Cleaning."
  9. SSPC-SP 8, "Pickling."
- C. Priming: Immediately after surface preparation, apply primer according to manufacturer's written instructions and at rate recommended by SSPC to provide a minimum dry film thickness of 1.5 mils (0.038 mm). Use priming methods that result in full coverage of joints, corners, edges, and exposed surfaces.
1. Stripe paint corners, crevices, bolts, welds, and sharp edges.
  2. Apply two coats of shop paint to surfaces that are inaccessible after assembly or erection. Change color of second coat to distinguish it from first.

## 2.8 GALVANIZING

- A. Hot-Dip Galvanized Finish: Apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/A 123M.
1. Fill vent and drain holes that will be exposed in the finished Work unless they will function as weep holes, by plugging with zinc solder and filing off smooth.
  2. Galvanize lintels, shelf angles, and welded door frames attached to structural-steel frame and located in exterior walls.

## 2.9 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Bolted Connections: Shop-bolted connections will be tested and inspected according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
  - 1. Liquid Penetrant Inspection: ASTM E 165.
  - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
  - 3. Ultrasonic Inspection: ASTM E 164.
  - 4. Radiographic Inspection: ASTM E 94.
- E. In addition to visual inspection, shop-welded shear connectors will be tested and inspected according to requirements in AWS D1.1/D1.1M for stud welding and as follows:
  - 1. Bend tests will be performed if visual inspections reveal either a less-than-continuous 360-degree flash or welding repairs to any shear connector.
  - 2. Tests will be conducted on additional shear connectors if weld fracture occurs on shear connectors already tested, according to requirements in AWS D1.1/D1.1M.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.1. Prepare a certified survey of bearing surfaces, anchor rods, bearing plates, and other embedments showing dimensions, locations, angles, and elevations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place unless otherwise indicated.
  - 1. Do not remove temporary shoring supporting composite deck construction until cast-in-place concrete has attained its design compressive strength.

#### 3.3 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.

- B. Base Bearing and Leveling Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
  - 1. Set plates for structural members on wedges, shims, or setting nuts as required.
  - 2. Weld plate washers to top of baseplate.
  - 3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
  - 4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for shrinkage-resistant grouts.
- C. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- D. Align and adjust various members that form part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
  - 1. Level and plumb individual members of structure.
  - 2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service. E. Splice members only where indicated.
- F. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1/D1.1M.
- G. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

### 3.4 FIELD CONNECTIONS

- A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
  - 1. Joint Type: Slip critical.
- B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
  - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.
  - 2. Remove backing bars or runoff tabs where indicated, back gouge, and grind steel smooth.
  - 3. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances in AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
  - 4. Comply with AWS D1.1, Table 3.2 for preheat and interpass temperatures.

3.5 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections. See Section 014523.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

3.6 REPAIRS AND PROTECTION

- A. Galvanized Surfaces: Clean areas where galvanizing is damaged or missing and repair galvanizing to comply with ASTM A 780.
- B. Touchup Painting: Immediately after erection, clean exposed areas where primer is damaged or missing and paint with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.
  - 1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
- C. Touchup Painting: Cleaning and touchup painting are specified in Division 09 painting Sections.

END OF SECTION 051200

**SECTION 099646 - INTUMESCENT PAINTING**

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. Section includes surface preparation and application of fire-retardant intumescent paint to structural steel components and surfaces in unconditioned space exposed to environment.
- B. Related Requirements:
  - 1. Section 099000 "Painting" for primers and finish coats that may be used with intumescent paint finishes.

## 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

## 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
  - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each intumescent paint finish indicated.
- C. Samples for Verification: For each type of coating system of intumescent paint finish indicated.
  - 1. Submit Samples on actual substrate, not less than 8 inches square.
  - 2. Apply coats on Samples in steps to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Material Test Reports: For each intumescent paint.

## 1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that are from same production run (batch mix) as materials applied and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. of each material applied.

## 1.7 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Architect will select one surface to represent surfaces and conditions for application of each coating system.
    - a. Ceiling Surfaces and Steel Beams: Provide samples of at least 100 sq. ft.
    - b. Other Items: Architect will designate items or areas required.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.

## 1.9 FIELD CONDITIONS

- A. Apply waterborne intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 50 and 90 deg F.
- B. Apply solvent-thinned intumescent paints only when temperatures of surfaces to be painted and ambient air temperatures are between 45 and 95 deg F.
- C. Do not apply intumescent paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- D. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before starting or continuing coating operation.

## PART 2 - PRODUCTS

## 2.1 MANUFACTURERS

- A. Basis-of-Design Manufacturer: The Carboline Company, St Louis, MO.
  - 1. Local Representative Contact: Janine Carraway; ph (949) 458-2853; email: jcarraway@carboline.com
- B. Products: Subject to compliance with requirements, provide product listed in the Exterior Intumescent Painting Schedule and Interior Intumescent Painting Schedule for the paint category indicated.

## 2.2 INTUMESCENT PAINT MATERIALS, GENERAL

- A. Surface-Burning Characteristics of Fire-Retardant Systems: As tested according to ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: 0.
  - 2. Smoke-Developed Index: 5.
- B. Material Compatibility:
  - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each material or coat, products and spreading rates shall be as recommended in writing by intumescent paint manufacturer for use on substrate indicated. Comply with requirements for fire-retardant coating classification and surface-burning characteristics indicated.
- C. Colors and Finish: White, smooth.

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with manufacturer's requirements for surface treatments, shop-primed surfaces, maximum moisture content, and other conditions affecting performance of the Work.
- B. Begin coating no sooner than 28 days after substrate is constructed and is visually dry on both sides.
- C. Verify suitability of substrates, including surface conditions, and compatibility with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected and surfaces are dry.

### 3.2 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and coating systems indicated.
- B. Remove hardware and hardware accessories, plates, machined surfaces, light fixtures, and similar items already installed that are not to be coated. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and coating.
  - 1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants. Do not coat surfaces if surface moisture content or alkalinity exceeds that permitted in manufacturer's written instructions.
  - 1. Remove incompatible primers, and reprime substrate with compatible primers as required to produce coating systems indicated.
  - 2. Perform cleaning and coating application so dust and other contaminants from cleaning process do not fall on wet, newly coated surfaces.

### 3.3 APPLICATION

- A. General: Apply intumescent paints according to manufacturer's written instructions and to comply with requirements for listing and labeling for surface-burning characteristics specified.
  - 1. Use equipment and techniques best suited for substrate and type of material being applied.
  - 2. Coat surfaces behind movable items the same as similar exposed surfaces.
  - 3. Apply each coat separately according to manufacturer's written instructions.
  - 4. Finish doors on faces with intumescent finish. Paint tops, bottoms, and side edges with fire-inert finish.
- B. Apply coatings to prepared surfaces as soon as practical after preparation and before subsequent surface soiling or deterioration.
- C. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Produce sharp lines and color breaks.
  - 1. Pigmented Finishes: If undercoats or other conditions show through pigmented topcoat/overcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
  - 2. Clear Finishes: Produce a smooth surface film of even sheen, using multiple coats where necessary.

### 3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.



- C. Protect work of other trades against damage from coating application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

### 3.5 INTERIOR INTUMESCENT PAINTING SCHEDULE

- A. Steel Substrates: Structural steel shapes, metal decking, etc..
  - 1. Pigmented, Fire-Retardant, Water-Based System:
    - a. Prime Coat: As recommended in writing by topcoat manufacturer.
    - b. Intermediate Coat: As recommended in writing by topcoat manufacturer.
    - c. Topcoat: Fire-retardant coating, intumescent.
      - 1) Carboline; Thermo-Sorb-E, 1-Hour minimum rating.

END OF SECTION 099646

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**SECTION 260000 - GENERAL ELECTRICAL PROVISIONS****1.1 - GENERAL**

- A. The general contract provisions of Section 0100 apply to this section and take precedent over this section in case of conflict.

**1.2 GENERAL PROVISIONS**

- A. This division supplements the applicable requirements of other divisions.

**1.3 DEFINITIONS**

- A. For the purposes of Division 260000, the following definitions apply:
1. Provide: Furnish and install.
  2. Indicated: As shown on the drawings or specified herein.
  3. Circuit Designation: Panel designation and circuit number, i.e., CHA-13.

**1.4 SCOPE OF WORK**

- A. The Specifications for Work of Division 260000 include, but are not limited to the following sections:

260000 - General Electrical Provisions  
 260030 - Tests and Identification  
 260050 - Basic Electrical Materials and Methods  
 260051 - Common Work Results for Electrical  
 260060 - Electrical Demolition for Remodeling  
 260080 - Technical Services Division Start-up Service  
 260115 - Wireways  
 260133 - Terminal Cabinets  
 260519 - Low-Voltage Electrical Power Conductors and Cables  
 260526 - Grounding and Bonding for Electrical Systems  
 260529 - Hangers and Supports for Electrical Systems  
 260533 - Raceways and Boxes for Electrical Systems  
 260543 - Underground Ducts and Raceways for Electrical Systems  
 260544 - Sleeves and Sleeve Seals for Electrical Raceways and Cabling  
 260548 - Seismic Controls for Electrical Systems  
 260553 - Identification for Electrical Systems  
 260572 - Overcurrent Protective Device Shortcircuit Study  
 260573 - Overcurrent Protective Device Coordination Study  
 260574 - Overcurrent Protective Device Arc-Flash Study  
 260714 - Communications Equipment Room Fittings  
 260716 - Communications Backbone Cabling  
 260923 - Lighting Control Devices  
 261500 - Communications Horizontal Cabling  
 262200 - Low-Voltage Transformers  
 262300 - Low-Voltage Switchgear  
 262413 - Switchboards

262416 – Panelboards  
 262726 - Wiring Devices  
 262813 – Fuses  
 263111 – Digital, Addressable Fire – Alarm System  
 263213 – Engine Generators  
 263600 – Transfer Switches  
 265119 – LED Interior Lighting  
 265219 – Emergency and Exit Lighting  
 265613 – Lighting Poles and Standards  
 265619 - LED Exterior Lighting  
 265621 - LED HID Exterior Lighting  
 265668 - Exterior Athletic Lighting

- B. Work Included: All labor, materials, appliances, tools, equipment, facilities, transportation and services necessary for and incidental to performing all operations in connection with furnishing, delivery and installation of the work of this division, complete, as shown on the drawings and/or specified herein. Work includes, but is not necessarily limited to the following:
1. Examine all divisions for related work required to be included as work under this division.
  2. General provisions for electrical work.
  3. Coordinate with serving utility companies for utility services, system demolition, and remodel. Applications for service including service charges are part of this Contract.
  4. Underground utility service systems. Perform work in accordance with the requirements of the serving utility companies.
  5. Secondary underground conduit system for electrical service to buildings and secondary feeders as shown on the Drawings.
  6. Concrete encasement for service feeders, and feeders and branch circuit wiring over 250 volts to ground.
  7. Provision of precast concrete pull boxes and manholes.
  8. Main switchboard complete with all required metering, transformation, distribution equipment, and connections to existing feeders and equipment which is to be reused.
  9. Branch circuit panelboards and feeders.
  10. Feeders, disconnects, and connection to equipment.
  11. Branch circuit wiring, connections and devices for all equipment, outlets, and lighting systems.
  12. Lighting fixtures, lamps, ballasts, transformers, hangers, supports, standards, bases and accessories.
  13. Lighting control equipment.
  14. Wiring and control equipment for mechanical systems.
  15. Feeders, disconnects, controls, and connection to sports lighting equipment.
  16. Electrical outlets and connections to all motors and equipment.

17. Conduits, cables, outlets, and fittings for computer network systems, telephone, and CATV outlets within the building and stadium.
  18. "Conduit-only" installation for security alarm and camera system.
  19. Special outlets and wiring for examination equipment, computers, and main telephone equipment.
  20. Isolated ground receptacles and conductors for server and data room computer terminals.
  21. Complete fire alarm within the new building and connection to existing campus fire alarm system.
  22. Press box and stadium sound reinforcement and paging systems.
  23. Conduit, wiring, outlets, and connections for system for HVAC equipment controls.
  24. Dimming system for all lighting complete with power and control conduits and wiring.
  25. Wall box dimming systems.
  26. Lift station pump lighting, power, special equipment, and connections as shown and required for a complete system.
  27. Fire alarm system complete with conduits, wiring, equipment, and connections.
  28. Power and control conduits and wiring for fire sprinkler system as required.
  29. Feeders, disconnects, and connection to scoreboard.
  30. Complete emergency power generating system, emergency lighting, exit lighting, seating aisle, and elevator systems.
  31. Emergency power generation and distribution systems.
  32. Removal of existing electrical systems and equipment which will be affected by the work of this Contract and reinstallation of same as shown or as is required.
  33. Work in existing facility and shut down of existing services shall be performed only at times approved.
  34. All cutting and patching required for the electrical system installation.
  35. Temporary power systems, generators, and construction power during construction.
- C. Related Work Specified Elsewhere:
1. Motors and their installation.
  2. Control wiring and conduit for heating, ventilating and air conditioning.
- D. Coordination
1. The following supplements are additional General Requirements pertaining to work of this Division. Provisions of Division 01 - General Requirements shall remain in effect.
    - a) Coordinate work of various sections of Division 26.
    - b) Coordinate work of this Division 26 with work of Divisions 02 through 25.

### 1.5 REFERENCE STANDARDS

- A. American National Standards Institute (ANSI).
- B. Association of Edison Illuminating Companies (AEIC).

- C. Electrical Testing Laboratories (ETL).
- D. Illuminating Engineering Society (IES).
- E. Institute of Electrical and Electronic Engineers (IEEE).
- F. Insulated Cable Engineers Association (ICEA).
- G. National Electrical Manufacturers Association (NEMA).
- H. National Fire Protection Association (NFPA).
- I. Underwriters Laboratories, Inc. (UL).
- J. California State Fire Marshal (CSFM).

## 1.6 QUALITY ASSURANCE

- A. Regulations: All the electrical equipment and materials, including their installations, shall conform to the following applicable latest codes and standards:
  - 1. National Electric Code, Latest Adopted Edition (NEC), 2014 unless a more current version has been adopted.
  - 2. California Electric Code, Latest Adopted Edition (CEC), 2013
  - 3. Local and State Fire Marshal.
  - 4. Occupational Safety and Health Act (OSHA).
  - 5. Requirements of the Serving Utility Company.
  - 6. Local Codes and Ordinances.
  - 7. Requirements of the Office of the California State Architect (OSA).
  - 8. California Administrative Code, Title 8, Chapter 4, Industrial Safety Orders.
  - 9. California Administrative Code, Title 24.
  - 10. County of Santa Barbara Codes and Regulations.
- B. Variances: In instances where two or more codes are at variance, the most restrictive requirement shall apply. In instances where plans and specifications are at variance or conflict the most restrictive requirement shall apply. Contractor shall be responsible for all his associated work and materials and also the work and materials of related or affected trades.
- C. Contractor's Expense: Obtain and pay for all required bonds, insurance, licenses, and pay for all taxes, fees and utility charges required for the electrical work.
- D. Testing and Adjustment:
  - 1. Perform all necessary tests required to ascertain that the electrical system has been properly installed, that the power supply to each item of equipment is correct, and that the system is free of grounds, ground faults, and open circuits, that all motors are rotating in the proper directions, and such other tests and adjustments as may be required for the proper completion and operation of the electrical system.
  - 2. If, during the course of testing, it is found that system imbalance is in excess of 20%, rearrange single-pole branch circuit in lighting and receptacle panels to bring system balance to within 20% on all phases. Record all such changes on the panelboard schedule and submit a summary of changes to the Engineer on the

record drawings.

## 1.7 SUBMITTALS

- A. Procedure: In accord with Section 013300.
- B. Show drawings: Detailed shop drawings for the following equipment:
  - (1) Sport lighting.
  - (2) Distribution panelboards.
  - (3) Branch circuit panelboards.
  - (4) Circuit breaker load center.
  - (5) Cable trays and accessories.
  - (6) Lightning protection.
  - (7) Switchboards.
  - (8) Ground fault protection.
  - (9) Ground fault detection and alarm.
  - (10) Sport lighting and walkway lighting light poles.
  - (11) Dimmer cabinets.
  - (12) Emergency generators.
  - (13) Fire alarm system.
  - (14) Audio, voice, data, and security systems.
  - (15) HVAC and motor control.
  - (16) Sports lighting contactors and cabinet.
- C. Product data: Detailed manufacturer's data for:
  - (1) Underfloor duct.
  - (2) Cable tray.
  - (3) Cabinets.
  - (4) Concrete pull boxes.
  - (5) Disconnects.
  - (6) Circuit breakers.
  - (7) Auto-transfer switches.
  - (8) Transformers.
  - (9) Lighting fixtures and associated equipment.
  - (10) Generators.
  - (11) Audio, voice, data, and security systems.
  - (12) Gel-filled wire connectors.
- D. Test results for the following:

- (1) Generator systems.
  - (2) Fire alarm system.
  - (3) Audio, voice, data, and security systems.
  - (4) Circuit breakers.
  - (5) Grounding systems.
  - (6) Cables.
- E. Include sufficient information to indicate complete compliance with Contract Documents. Include illustrations, catalog cuts, installation instructions, drawings, and certifications. On each sheet show manufacturer's name or trademark.
- F. Operating, maintenance, and instruction data for:
- (1) Auto-transfer switches.
  - (2) Power supplies.
  - (3) Switchboards.
  - (4) Ground fault protection.
  - (5) Alarm and detection.
  - (6) Emergency generators.
  - (7) Audio equipment.
- G. Instruction materials:
- (1) Provide at the time of personnel instruction period three bound copies of instruction manuals for the systems used on this project.
  - (2) Include the following (minimum) information in each copy of instruction manual:
    - (a) Manufacturers' names and addresses.
    - (b) Serial numbers of items furnished.
    - (c) Catalog cuts, exploded views and brochures, complete with technical and performance data for all equipment, marked to indicate actual items furnished and intended use.

## 1.8 OWNER'S PERSONNEL INSTRUCTIONS

- A. Prior to completion of the contract, and at the Owner's convenience, instruct verbally and demonstrate to the Owner's personnel, the operation of the systems as listed under operating, maintenance, and instructional data and/or emergency generator, automatic transfer switch and fire alarm annunciator panel.

## 1.9 CLEANING

- A. Clean exterior surfaces of equipment and remove all dirt, cement, plaster and other debris. Protect interior of equipment from dirt during construction and clean thoroughly before energizing.
- B. Clean out cracks, corners and surfaces on equipment to be painted. Remove grease and oil spots so that paint may be applied without further preparation.



- 1.10 PROJECT RECORD DOCUMENTS** - Prepare the following and submit to the engineer before final acceptance:
- A. Mark Project Record Documents daily to indicate all changes made in the field.
    - 1. In addition to general requirements of Project Record Drawings, indicate on drawings, changes of equipment locations and ratings, trip sizes, and settings on circuit breakers, alterations in raceway runs and sizes, changes in wire sizes, circuit designations, installation details, one-line diagrams, control diagrams and schedules.
  - B. Use green to indicate deletions and red to indicate additions.
    - 1. Use the same symbols and follow the same drafting procedures used on the Contract Drawings.
  - C. Locate underground conduit stubbed-out for future use, underground feeder conduits, and feeder pull box locations using building lines by indicating on the Project Record Drawings.
  - D. At the completion of underground conduit installation provide underground conduit record documents to owner's representative.
  - E. Two copies, in binder form, of all test results as required by these specifications - 260030.
  - F. Two copies of local and/or state code enforcing authorities final inspection certificates.
  - G. Fire alarm system records and testing reports as outlined in NFPA 72, Chapter 10.
  - H. Two copies, in binder form, of electrical equipment cut sheets, manufacturer's installation instructions, warranty certificates, and product literature for all products utilized on project.
- 1.11 SERVICE INTERRUPTIONS AND UTILITY**
- A. Coordinate with the Owner the interruption of services necessary to accomplish the work.
  - B. Coordinate with the utility company all work associated with power and communications distribution systems and service entrance equipment.
  - C. Electrical contractor shall supply temporary power for all trades.
- 1.12 MINIMUM SPECIFICATION REQUIREMENTS (ALL WORK OF DIVISION 260000)**
- A. As a minimum Specification requirement, all materials and methods shall comply with applicable governing codes.
- 1.13 PENETRATION SEALING**
- A. Seal penetration through exterior walls and fire rated walls, floors, ceilings, and roofs with 3M Firestopping materials of fire rating capacity per architectural plans and Building Code requirements.
- 1.14 PLACING EQUIPMENT IN SERVICE**
- A. Do not energize or place electrical equipment in service until all interested parties have been duly notified and are present or have waived their rights to be present. Where equipment to be placed in service involves service or connection from another contractor of the Owner, notify the Owner in writing when the equipment will be ready. Notify the Owner two weeks in

advance of the date the various items of equipment will be complete.

#### **1.15 OWNER-FURNISHED ITEMS**

- A. Pick up Owner-furnished items and handle, deliver, install, and make all final connections.
  - 1. Assume responsibility for the items when consigned at the storage facility in accord with requirements of the Contract Documents.

#### **1.16 ELECTRIC ITEM LOCATION**

- A. Electrical drawings are generally diagrammatic. Verify equipment sizes with shop drawings and manufacturers' data and coordinate location layout with other trades. Notify Owner of any changes of location requirements prior to installation.

#### **1.17 DEMOLITION**

- A. Scope: Provide and perform demolition, preparatory and miscellaneous work as indicated and specified, complete.
- B. Principle Items of Work:
  - 1. Demolition and removal of existing electrical conduit, wiring and equipment required to complete the project.
  - 2. Preparation of the existing building to receive or connect the new work.
  - 3. Miscellaneous demolition, cutting, alteration, and repair work in the existing building necessary for the completion of the entire project.
  - 4. Disconnecting and reconnection of electrical equipment as required by the construction modifications.
- C. Existing Conditions: Make a detailed survey of the existing conditions pertaining to the work. Check the locations of all existing structures, equipment and wiring (branch circuiting and controls).
- D. Salvage and Disposal: All removed material other than items to be reused shall be returned to the Owner or disposed of in accordance with instructions from the Owner's representative. Disposal shall be done in accordance with EPA and governing body requirements and regulations. Contractor shall pay all fees and charges for disposal.

#### **1.18 ELECTRICAL WORKMANSHIP REQUIREMENTS**

- A. It is required that all electrical construction of this Contract be performed by State of California licensed journeyman electricians.
  - 1. Before each journeyman electrician commences work, deliver to Owner at project site a photocopy of journeyman's valid State of California license.
- B. All electrical systems shall be installed in a neat and workmanlike manner per National Electrical Code requirements and ANSI approved NEIS National Electrical Installation Standards.

#### **1.19 DESIGN CHANGES AFTER AWARD OF BID**

- A. When a change in the quantity or size of conductors is made, the conduit size will remain in accordance with that indicated in the original contract drawings rather than the drawing

symbol conduit table. When code permits, provide conductor insulation 'THWN' where required to maintain conduit fill conformance with the National Electrical Code.

#### **1.20 MATERIAL AND EQUIPMENT SUBSTITUTION**

- A. Where two or more trade names or manufacturers are mentioned, selection shall be made from the group listed for use in the base bid. The order in which names are listed is not intended to be any indication of preference.
- B. Where a single manufacturer, product or trade name is stated, that manufacturer, product or trade name shall be used in the base bid. The use of other manufacturers, products or trade names will be considered (unless that product is indicated for no substitution) only if submitted as alternate items at the time of bidding, with evidence of equality and a statement of net price difference as compared to the specified item. The Architect and Owner reserve the right to review such submittals and to determine the acceptability for use.
- C. Equipment other than that specified will be accepted only when written approval is given by the Architect, in accordance with Division 01.
- D. The Contractor shall be held responsible for all physical changes in piping, equipment, etc. resulting from equipment substitution and likewise bear any increased cost of other trades in making said substitution. Approval by the Architect of equipment other than that specified does not relieve this Contractor of this responsibility.

#### **1.21 REQUESTS FOR INFORMATION**

- A. The contractor shall submit all requests for information (RFI's) on the attached form.

**END OF SECTION 260000**

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