**SPECIFICATIONS**

**FOR**

**TBD**

**UNIVERSITY OF CALIFORNIA**

**{CAMPUS}**

**{CITY}, CALIFORNIA**

**{MONTH & YEAR}**

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**SECTION 01 11 00**

**SUMMARY OF WORK**

**1. GENERAL**

**1.1 DESCRIPTION**

Provide all labor, materials, equipment, tools, transportation, insurance, and services to construct a {Describe Project}

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 12 00**

**MULTIPLE CONTRACT SUMMARY**

{**INFO IN THIS SECTION IS SAMPLE ONLY; EDIT AS NEEDED.**}

**1. GENERAL**

**1.1 DESCRIPTION**

A. The Work required to complete the Project has been divided into a number of separate Contracts (Multiple Bid Packages). Scheduling of work, utilization of the Project site, and access to the Project site for the Multiple Bid Packages that comprise the Project will be coordinated until Project completion by University's Representative.

B. Due to the importance of coordinating and maintaining timely performance of the Work called for by the Multiple Bid Packages, University has developed a Representative Contract Schedule, which is included in Section 01 32 00, CONSTRUCTION PROGRESS DOCUMENTATION, for information only. The purpose of planning and scheduling the construction Project prior to bidding is to establish a realistic time frame for Contractor; the Representative Contract Schedule depicts the Contract Time to be adhered to by Contractor.

C. Multiple Contractors with separate construction contracts for this Project will be on the Project site and in surrounding areas performing work simultaneously with the Work of this Bid Package. Disagreements between Contractor and other Multiple Contractors or Separate Contractors about concurrent use of Work areas or access to the Project site that are not resolved by the participants shall be referred to University's Representative. Contractor agrees to abide by University's Representative's determination concerning concurrent use or priority of access and to perform its work in compliance with University's Representative's resolution at no additional cost to University.

D. Bid Packages for which Contract Documents are available for review at University's Representative's office include:

1. Bid Package #1 - Earthwork and Shoring

2. Bid Package #2A - Heavy Equipment Rental

3. Bid Package #2B - Concrete Pump Rental

4. Bid Package #2C - Concrete Materials

5. Bid Package #2D - Concrete Labor

6. Bid Package #2E - Reinforcing Steel

7. Bid Package #2F - Shotcrete

8. Bid Package #2G - Masonry

9. Bid Package #2H - Concrete Finishing

10. Bid Package #3A - Structural Steel, Metal Fabrications

11. Bid Package #3B - Structural Steel Erection

12. Bid Package #3C - Metal Deck

13. Bid Package #4 - Duct Bank Relocation

14. Bid Package #5 - Hollow Metal Doors/Frames, Wood Doors, Finish Hardware & Finish Carpentry

15. Bid Package #6 - Roofing, Insulation, Flashing & Sheet Metal & Expansion Joints

16. Bid Package #7 - Waterproofing

17. Bid Package #8 - Metal Support Systems, Gypsum Board, Cement Plaster, Insulation, E.I.F.S. & Specialties

18. Bid Package #9 - Glass & Glazing

19. Bid Package #10 - Tile

20. Bid Package #11 - Painting

21. Bid Package #12 - Plumbing

22. Bid Package #13 - HVAC

23. Bid Package #14 - Fire Sprinklers

24. Bid Package #15 - Electrical

25. Bid Package #16 - General Carpentry

26. Bid Package #17 - Landscape & Irrigation

27. Bid Package #18 - Elevators

28. Bid Package #19 - Resilient Flooring

29. Bid Package #20 - Kitchen Equipment

30. Bid Package #21 - Window Coverings

31. Bid Package #22 - Dock Levelers

32. Bid Package #23 - Folding Partitions

33. Bid Package #24 - Acoustical Ceilings & Panels

34. Bid Package #25 - Smoke Containment System

35. Bid Package #26 - Rolling Grilles

36. Bid Package #27 - Site Development

37. Bid Package #28 - AV Built-In Equipment

38. Bid Package #29 - Signage

E. Scope of work definitions for all Bid Packages are included herein. Definitions listed below for all Bid Packages other than this Bid Package are for information only. Contract Documents may be subject to revision.

F. The work of each Multiple Bid Package consists of providing all materials, labor, equipment, tools and other items and services required by the Contract Documents for the construction of said Bid Package as hereinafter described.

G. All Work shall be performed and completed in accordance with the Contract Documents, as defined in the Agreement.

H. The Work of each Bid Package shall consist of:

1. All the Work of the Specification Sections listed in the appropriate bid package definition below; and

2. All of the Work of the Drawings listed in the List of Drawings, to the extent the Work depicted is also specified as being a part of said Bid Package.

**1.2 ALL BID PACKAGES**

A. Each Multiple Contractor shall perform the following work as applicable to said Multiple Contractor's Bid Package:

1. Conform to the requirements of Paragraph 3.13 of the General Conditions. Furnish a laborer for a minimum of one hour daily to clean and scrap areas affected by the work of said Bid Package. The laborer will be available to respond to the direction of University's Representative. Provide debris boxes to remove scrap generated by the work of said Bid Package. Schedule with University's Representative, at least 24 hours in advance, periods when debris boxes will be delivered and hauled away.

2. Upon completion of work, thoroughly clean all work areas.

3. Provide adequate ventilation during cutting, welding, or any activity which produces dust or fumes.

4. Temporary power will be provided at a central point on each floor by Bid Package #15 Multiple Contractor.

5. Provide task lighting necessary to perform the work of said Bid Package. General purpose lighting will be provided by Bid Package #14 (Electrical) Multiple Contractor.

6. Take all necessary precautions to limit noise, dust and vibration transmission to surrounding buildings in accordance with Section 01 35 43, ENVIRONMENTAL PROCEDURES.

7. Maintain, replace or restore to original condition all temporary shoring barriers, fences, guard rails and floor opening plates, which have been damaged or temporarily removed during performance of the work of said Bid Package. Provide materials and means to make watertight any openings created during performance of the work of said Bid Package.

8. Perform all required move-ins. Schedule move-ins as schedule dictates.

9. Furnish University's Representative with a floor loading plan. Spread materials on each floor in a manner such that the productivity of other Multiple Contractors is not decreased.

10. Provide all hoisting required for the work of said Bid Package.

11. Provide drinking water for all workers performing work of said Bid Package.

12. Provide caulking, sealants and, if applicable, fire safing of all work of said Bid Package.

13. Furnish daily time tickets for University's Representative signature.

**1.3 BID PACKAGE #{#} - {NAME}**

A. In addition to the work specified in Paragraph 1.2 above, Bid Package #{**#**} includes all the work of the Specification Sections listed below and all of the work depicted on the drawings listed in List of Drawings.

1. DIVISION 1 - GENERAL REQUIREMENTS

a. (Refer to Index to Specifications, bound herein)

2. DIVISION {**#**} - {**DIV NAME**}

a. Section {**#**} {**SECTION NAME**}

B. The following items of work are also included in the scope of work for Bid Package #{**#**}.

1. {**FILL IN DESCRIPTION**}

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 14 00**

**WORK RESTRICTIONS**

**1. GENERAL**

**1.1 STORAGE**

A. Contractor's use of the Project site for the Work and storage is restricted to the areas designated on the Drawings or as approved by University's Representative. Refer also to Section 01 60 00, PRODUCT REQUIREMENTS.

**1.2 SECURITY SERVICES**

A. During all hours that Work is not being prosecuted, furnish such security services as Contractor may consider necessary to safeguard materials and equipment in storage on the Project site, including Work in place or in process of fabrication, against theft, acts of malicious mischief, vandalism, and other losses or damages.

B. University will not be liable for any loss or damage.

**1.3 RUBBER-TIRED EQUIPMENT**

A. Where carts, hand trucks, wheelbarrows, and similar wheeled conveyances are used on or in any portions of any structure, equip with pneumatic tires.

**1.4 SITE DECORUM**

A. Contractor shall control the conduct of its employees so as to prevent unwanted interaction initiated by Contractor's employees with students, staff, or other individuals (except those associated with the Project), adjacent to the Project site. Unwanted interaction by Contractor employees would include whistling at or initiating conversations with passersby. In the event that any Contractor employee initiates such unwanted interaction, or utilizes profanity, Contractor shall, either upon request of University's Representative or on its own initiative, replace said employee with another of equivalent technical skill, at no additional cost to University. No radios, other than two-way communication type, will be allowed on the Project site. The use of cigarettes, cigars, oral tobacco, electronic cigarettes and all other tobacco products is prohibited on the campus and other sites owned or leased by the University.

**1.5 CONTROL OF CONSTRUCTION WATER**

A. Provide impermeable floor coverings and suitable dams to prevent damage by water used for the Work. Immediately clean up and remove all surplus water and water spilled in non-working areas. Do not allow water to overflow gutters or flood streets.

**1.6 WORK HOURS**{***PM: PLEASE CONFIRM THE BELOW WORK HOURS OR EDIT AS NEEDED.***}

A. Unless otherwise approved in advance by University's Representative, the Work of this Project shall be accomplished only during the following hours:

Mondays through Fridays 7:00 a.m. to 6:00 p.m.

Saturdays 8:00 a.m. to 6:00 p.m.

No work shall be performed on Sundays or University holidays.

**1.7 CONSTRUCTION SIGNAGE**

A. All signage shall be as approved by University's Representative.

B. University-Furnished Warning Signs: Whenever required by University's Representative, post University-furnished warning signs in locations as directed.

C. Advertising Signage: The use of Contractor/subcontractor advertising signage is prohibited.

D. Project Sign: Contractor shall furnish support structures consisting of 6" x 6" painted wooden posts to support 2 University-furnished project signs. University will deliver the signs to the Project site and Contractor shall install them by bolting support structure to the wooden signs and placing them in locations approved by University's Representative.

**1.8 MEDICAL CENTER DIRECTORY SIGNS**

A. For projects within the Medical Center only, remove all directory signs as needed in a manner which will preserve and protect signs from damage. Contact University's Representative to determine where signs should be delivered within the Medical Center.

**1.9 KEY PROTOCOL**

A. Room Access Key Protocol: Contractor shall furnish to University’s Representative a list of all rooms (including mechanical and electrical rooms) to which Contractor will need access. University’s Representative will furnish a key ring for access to those specific areas. Upon completion of the Project, Contractor shall return the key ring to University’s Representative.

**1.10 HISTORICAL, ARCHEOLOGICAL AND PALEONTOLOGICAL RESOURCES**

A. In order to preserve and protect potentially historic, archeological or paleontological resources that could be encountered on a construction site, Contractor shall ensure that all Subcontractors comply with any and all applicable requirements during excavation and construction, and that they understand that the unauthorized collection of historic, archeological or paleontological resources is prohibited by law. Contractor's responsibility includes: (1) distributing this information to all construction personnel working on a site prior to commencing any earthmoving activities; (2) immediately halting all work in all areas where any potentially historic, archeological or paleontological remains are uncovered; and (3) immediately notifying University's Representative if such materials are found. Contractor shall not resume work in the affected areas until authorized by University's Representative.

**1.11 TRAFFIC CONTROL**

A. Provide traffic control barriers and flagperson(s) throughout the construction period.

1. Furnish flagperson(s) at pedestrian crossings of construction equipment right of ways one hundred percent of the time such equipment is operating. When equipment is not operating, such equipment right of ways shall be closed to equipment by means of a chain link gate.

2. Provide temporary traffic control barriers to ensure safety of all persons and property.

3. Furnish numbers of flagperson(s) necessary for vehicular and pedestrian traffic control. Flagperson(s) shall be on duty at all times when the Work is in progress. See additional notes on Drawings.

4. Traffic control on campus shall be performed only with a University approved Traffic Control Plan, that has been stamped by a registered engineer, and that is in accordance with the requirements of the latest edition of the California Manual on Uniform on Traffic Control Devices.

**1.12 PROJECT PHASING**

A. Description:

1. The Work of this Contract is divided into phases as indicated herein and in Article 4 of the Agreement.

2. All of the work required for each phase, as shown on the drawings and as specified, shall be fully completed within the time stipulated for the phase, and all Work of the Contract shall be fully completed within the Contract Time, whether or not included in the phase description. The deadlines for completion of each phase shall be subject to adjustment under the Contract procedures for adjustment of the Contract Time, including those procedures specified in Articles 4 and 8 of the General Conditions.

3. University reserves the right to vary the sequence of phasing upon written notice to Contractor prior to the date on which Contractor is to proceed with the work of any phase affected by the change.

B. Phases:

|  |  |  |
| --- | --- | --- |
| Phase 1: | | |
| 1. | The work of Phase 1 shall include TBD. |
| 2. | To be completed within TBD days from the date designated in the Notice to Proceed for this phase. |
| Phase 2: | | |
| 1. | The work of Phase 2 shall include TBD. |
| 2. | To be completed within TBD days from the date designated in the Notice to Proceed for this phase, which is currently anticipated to be issued TBD days after University's acceptance of the work of Phase 1. |

**1.13 WORK SEQUENCE**

A. General:

1. The Work of this Contract is divided into the sequences indicated below.

2. At the completion of each sequence, University intends to take beneficial occupancy of the sequence for immediate use, if applicable.

3. University reserves the right to vary the order of sequencing upon written notice to Contractor prior to the date on which Contractor is to proceed with the work of any sequence affected by the change.

4. All of the work required for each sequence shall be fully completed prior to commencement of the work of the next sequence, and all work of the contract shall be fully completed by completion of the final sequence, whether or not included in the sequence description.

B. Sequences:

1. Sequence 1:

a. The Work of Sequence 1 shall include { **TYPE IN DESCRIPTION**}.

b. Contractor shall commence the Work of Sequence 1 on the date specified in the Notice to Proceed.

2. Sequence 2:

a. The Work of Sequence 2 shall include {**TYPE IN DESCRIPTION**}.

b. Contractor shall commence the Work of Sequence 2 approximately {**#**} days following completion of the Work of Sequence 1.

**1.14 INTERRUPTION OF UTILITIES/BUILDING SERVICES**

A. Maintain continuous utility services to all existing facilities during the period of construction except for the following conditions:

1. Perform Work that involves "shut-down" of existing facilities at such times as will cause the least inconvenience to the University activities, performing at night, on Saturdays, Sundays, holidays and at the discretion of University's Representative. Furnish University's Representative written notice of exact date and time of "shut-down" at least 15 working days in advance, unless a longer period is specified or shown on the Drawings. On jobs with short performance time, Contractor shall verify with University's Representative the number of days required in advance for shut-down.

2. Include in Contractor's bid the cost of overtime necessary for the Work. No extra payment will be allowed for overtime to meet this requirement or the Contract Schedule.

**1.15 BENEFICIAL OCCUPANCY**

A. University intends to take Beneficial Occupancy prior to completion of the entire Project, including the following:

1. TBD

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 21 00**

**ALLOWANCES**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Included in the Contract Sum are all Allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as University's Representative may direct.

B. The following shall apply, unless specified otherwise in the Contract Documents:

1. Allowances shall cover the cost to Contractor of materials and equipment delivered at the Project site and all required taxes, less applicable trade discounts.

2. Contractor's costs required for storage on and off the Project site, security, loading and unloading, handling at the Project site, labor, installation costs, overhead, profit, and other expenses contemplated for stated Allowance amounts shall be included in the Contract Sum and not in the Allowances.

3. Whenever costs are more than or less than Allowances, the Contract Sum shall be adjusted by Change Order based on (i) the difference between actual costs and the Allowances under Subparagraph 1.1 B.1, and (ii) changes in Contractor's costs under Subparagraph 1.1 B.2.

**1.2 DESCRIPTION OF ALLOWANCES**

A. Allowance 1: {**TYPE IN APPLICABLE INFORMATION**}

B. Allowance 2: {**TYPE IN APPLICABLE INFORMATION**}

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 22 00**

**UNIT PRICES**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Unit price quotations are to be inserted in the appropriate spaces in the Bid Form for each unit of work described herein. Also see Bid Form for related provisions.

B. Unit prices stated in the Agreement shall be used to compute adjustments of the Contract Sum for approved unit price items of Work. Such adjustments shall be made by Change Order.

C. Unit prices shall include labor, materials, tools, equipment; all other direct and indirect costs necessary to complete the item of Work and to coordinate the unit price Work with adjacent work; and overhead and profit. Contractor shall accept compensation computed in accordance with the unit prices as full compensation for furnishing such Work.

D. Compensation will be paid for those items of Work described in Paragraph 2.1 below.

E. There shall be no entitlement to an extension of the Contract Time with respect to the Work based on the fact that an actual quantity of any unit item exceeds any approximate quantity of such unit item as described in the Contract Documents.

**1.2 SPECIFIED WORK**

A. Applicable Sections of the Specifications describe the materials and methods required under the various unit price items of Work.

**1.3 ADJACENT WORK**

A. Make all necessary modifications to other work required by the use of unit prices at no additional cost to University.

**2. PRODUCTS**

**2.1 UNIT PRICES**

A. List of Unit Price Items and Descriptions:

|  |  |
| --- | --- |
| Unit Price 1: | TBD |

**3. EXECUTION**

**3.1 ADVANCED COORDINATION**

A. Immediately notify University's Representative when conditions require the use of unit price items.

B. The applicability of, measurement methods for, documentation of, and the final adjustment of the Contract Sum for unit price items of Work shall be determined by University's Representative.

C. After performing the Work of unit price items as directed by University's Representative, Contractor shall take necessary measurements in the presence of University's Representative and shall submit calculations of quantities to University's Representative for approval. Contractor shall notify University's Representative 1 day in advance of taking measurements.

END OF SECTION

**SECTION 01 23 00**

**ALTERNATES**

**1. GENERAL**

**1.1 DESCRIPTION**

A. This Section identifies each Alternate and describes basic changes to the Work only when that Alternate is made a part of the Work by specific provision in the Agreement.

B. The Lump Sum Base Bid and Alternates shall include the cost of all supporting elements required, so that the combination of the Lump Sum Base Bid and any Alternates shall be complete. The scope of Work for all Alternates shall be in accordance with the applicable Drawings and Specifications.

C. Except as otherwise specifically approved by University, the Work described in Alternates shall be completed with no increase in Contract Time.

D. This Section includes only the non-technical descriptions of the Alternates. Refer to the specific Sections of of the Specifications and to Drawings for technical descriptions of the Alternates.

E. Coordinate related Work and modify surrounding Work as required to accurately and completely integrate the Alternates into the Work.

**1.2 DESCRIPTION OF ALTERNATES**

|  |  |
| --- | --- |
| Alternate # 1: | TBD |

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 25 13**

**PRODUCT SUBSTITUTION PROCEDURES**

**1. GENERAL**

**1.1 GENERAL PROVISIONS REGARDING SPECIFICATION OF PRODUCTS, MATERIAL OR EQUIPMENT BY BRAND OR TRADE NAME**

A. Products, material or equipment specified by both brand or trade name and model number are approved for use, provided that Contractor complies with all Contract requirements. Specification of a product, material or equipment by brand or trade name and model number is not a representation or warranty that the product, material or equipment can be used without modification, to meet the requirements of the plans and specifications; Contractor shall, at its sole cost, modify such products, material, or equipment so that they comply with all requirements of the plans and specifications.

B. The first-named product, material or equipment specified by brand or trade name and model number is the basis for the Project design and the use of any item other than the first-named one may require modifications of that design. If Contractor uses any product, material or equipment other than the first-named one, Contractor shall, at its sole cost:

1. Make all revisions and modifications to the design and construction of the Work necessitated by the use of the product, material or equipment.

2. Be responsible for all costs of any changes resulting from the use of the product, material or equipment including costs or changes which affect other parts of the Work, the work of Separate Contractors, or any other property or operations of University.

C. When a product, material or equipment specified by brand or trade name is followed by the words “or equal,” a substitution may be permitted if the substitution is equal to or superior to the first-named product, material or equipment in quality, utility and appearance, and if the substitution complies with all other requirements of the plans and specifications.

D. A product, material or equipment specified by brand or trade name followed by the words “or equal, no known equal,” signifies that University does not have sufficient knowledge to specify a product, material or equipment, other than the one specified by brand or trade name, that is suitable for use on the Project. The use of the words "no known equal" is not intended to discourage substitution requests in accordance with the requirements specified herein.

E. When catalog numbers and specific brands or trade names not followed by the designation "or equal" are used in conjunction with a product, material or equipment required by the specifications, substitutions will not be allowed and the named product, material or equipment must be used.

F. Specification of a product, material or equipment by brand or trade name and model number is not a representation or warranty that the product, material or equipment is available; Contractor shall confirm, prior to submitting its Bid, the availability of any product, material or equipment specified by brand or trade name and model number.

**1.2 SPECIAL REQUIREMENTS FOR PRODUCTS, MATERIAL OR EQUIPMENT, OTHER THAN THE FIRST-NAMED PRODUCT, MATERIAL OR EQUIPMENT, SPECIFIED BY BOTH BRAND OR TRADE NAME AND MODEL NUMBER.**

A. In addition to complying with all other submittal requirements of the Contract, submit within 70 days after the date of commencement specified in the Notice to Proceed, for review and approval by University's Representative, Contractor-prepared specifications and drawings, including design and engineering calculations, prepared by an appropriate licensed professional, depicting all revisions and modifications to the design and construction of the Work necessitated by the use of the product, material or equipment. If no revisions or modifications are necessary, submit within 70 days after the date of commencement specified in the Notice to Proceed, a written representation that no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment. Contractor shall utilize the first-named product, material or equipment if Contractor fails to make the appropriate required submittal pursuant to this paragraph within the 70-day period.

B. A product, material or equipment, other than the first-named product, material or equipment, specified by both brand or trade name and model number may be used if no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment. If such revisions or modifications are necessary, the product, material or equipment may be used only if the revisions or modifications are approved in writing by University's Representative. Contractor has the burden of demonstrating, through the procedures specified herein, that any such revisions or modifications will not be detrimental to the quality, utility or appearance of the Project or any portion of the Project. The University's Representative may refuse to approve any such proposed revisions or modifications where, in the reasonable opinion of University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the revisions or modifications are not detrimental to the quality, utility or appearance of the Project or any portion of the Project.

**1.3 SPECIAL REQUIREMENTS FOR SUBSTITUTIONS**

A. In addition to complying with all other submittal requirements of the Contract, submit written data demonstrating that the proposed substitution is equal to or superior to the first-named product, material or equipment in quality, utility and appearance and otherwise complies with all requirements of the plans and specifications, including:

1. Complete technical data including drawings, performance specifications, samples, and test reports of the article proposed for substitution.

2. Statement by Contractor that the proposed substitution is in full compliance with the requirements of the Contract Documents and Applicable Code Requirements.

3. List of Subcontractors, if any, that may be affected by the substitution.

4. Contractor-prepared specifications and drawings, including design and engineering calculations, prepared by an appropriately licensed professional, depicting all revisions and modifications to the design and construction of the Work necessitated by the use of the substitution. If no revisions or modifications are necessary, submit a written representation that no revisions or modifications to the design or construction of the Work are necessitated by the use of the product, material or equipment.

B. At the request of and within the timeframes specified by University's Representative:

1. Submit samples as deemed necessary by University's Representative to evaluate the proposed substitution.

2. Submit proposed substitution to tests deemed necessary by University's Representative to evaluate the proposed substitution. Such tests shall be made by an independent Testing Laboratory and at the sole expense of Contractor, after review and approval of the test procedures by University's Representative. If re-testing is deemed necessary by University's Representative to evaluate the proposed substitution, such re-testing shall be made by an independent Testing Laboratory at the sole expense of the Contractor.

3. Furnish all additional information deemed necessary by University's Representative to evaluate the proposed substitution.

C. If University's Representative, in reviewing a proposed substitution, requires revisions or corrections to be made to previously accepted shop drawings and supplemental supporting data to be resubmitted, Contractor shall do so within the time period specified by University's Representative. A proposed substitution may be rejected if Contractor fails to submit such revisions, corrections, or supplemental supporting data within the specified time period.

D. Except for products, material or equipment designated in the Bidding Documents for evaluation of substitutions prior to award, requests for substitution, including the data required by Paragraph 1.3.A herein, must be submitted to University's Representative not later than 35 days after the date of commencement specified in the Notice to Proceed. No requests for substitutions of products, material or equipment subject to the 35-day deadline shall be considered unless the request and supporting data is submitted on or before the deadline, except those deemed, in University's Representative's sole opinion, to be necessary because (i) previously specified or approved manufactured products, material or equipment are no longer manufactured, (ii) of University initiated change orders, or (iii) it is in the best interest of University to accept such substitution.

E. If a product, material or equipment is designated in the Bidding Documents for evaluation of substitutions prior to award, then a request for substitution of the product, material or equipment, including the data required by Paragraph 1.3.A herein, must be submitted by the deadline specified in the Bidding Documents. Because of time constraints, only one submittal will be allowed for each such substitution request. Requests for substitutions of products, material or equipment designated for evaluation prior to award may not be made after the deadline specified in the Bidding Documents, and such requests be shall not be considered unless the request and supporting data is submitted on or before the deadline specified in the Bidding Documents. Notwithstanding the forgoing, University may consider, after award of the Contract, requests for substitution of a product, material or equipment designated for evaluation prior to award where, in University's Representative's sole opinion, a substitution is necessary because (i) previously specified or approved manufactured products, material or equipment are no longer manufactured, (ii) of University initiated change orders, or (iii) it is in the best interest of University to accept such substitution.

F. In reviewing the supporting data submitted for substitutions, University's Representative will use, for purposes of comparison, all the characteristics of the specified material or equipment as they appear in the manufacturer's published data even though all the characteristics may not have been particularly mentioned in the Specifications. If more than 2 submissions of supporting data are required, the cost of reviewing the additional supporting data shall be at Contractor's expense.

G. Contractor has the burden of demonstrating, through the procedures specified herein, that its proposed substitution is equal to or superior to the first-named product, material or equipment in quality, utility and appearance and complies with all other requirements of the plans and specifications. If revisions or modifications to the design or construction of the work are necessitated by the use of the substitution, Contractor also has the burden of demonstrating, through the procedures specified herein, that the use of the substitution will not be detrimental to the quality, utility or appearance of the Project or any portion of the Project.

H. The University's Representative may refuse to approve any requested substitution where, in the reasonable opinion of University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the proposed substitution is equal to, or superior to, the first-named product, material or equipment, in quality, utility and appearance and that the proposed substitution complies with all other requirements of the plans and specifications.

I. University's Representative may reject any substitution not proposed in the manner and within the time limits prescribed herein.

J. Substitutions are not allowed unless approved in writing by University's Representative. Any such approval shall not relieve Contractor from the requirements of the Contract Documents.

K. The 35-day and 70-day submittal periods do not excuse Contractor from completing the Work within the Contract Time or excuse Contractor from paying liquidated damages if Final Completion is delayed.

L. If revisions or modifications to the design or construction of the Work are necessitated by the use of a substitution, the substitution may be used only if the revisions and modifications are approved in writing by University's Representative. The University's Representative may refuse to approve any such proposed revisions or modifications where, in the reasonable opinion of University's Representative, Contractor has failed to demonstrate, through the procedures specified herein, that the revisions or modifications are not detrimental to the quality, utility and appearance of the Project or any portion of the Project.

M. If a substitution request is finally rejected by University Representative, Contractor shall furnish and install:

1. the first-named product, material, or equipment; or

2. a product, material, or equipment, other than the first-named product, material or equipment, specified by both brand or trade name and model number, provided Contractor complies with the submittal requirements (including deadlines) specified in Paragraph 1.2 herein.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 26 00**

**CONTRACT MODIFICATION PROCEDURES**

**1. GENERAL**

**1.1 REQUEST FOR INFORMATION PROCEDURES**

A. This Paragraph contains the procedures to be followed by Contractor upon discovery of any apparent conflicts, omissions, or errors in the Contract Documents or upon having any question concerning interpretation.

B. Procedures:

1. Notification by Contractor:

a. Submit all requests for clarification or additional information in writing to University's Representative using the Request for Information (RFI) form furnished by University's Representative or a similar form approved by University's Representative.

b. Number RFIs sequentially. Follow RFI number with sequential alphabetical suffix as necessary for each resubmission. For example, the first RFI would be "001." The second RFI would be "002." The first resubmittal of RFI "002" would be "002a."

c. Limit each RFI to one subject.

d. Submit an RFI if one of the following conditions occur:

1) Contractor discovers an unforeseen condition or circumstance that is not described in the Contract Documents.

2) Contractor discovers an apparent conflict or discrepancy between portions of the Contract Documents that appears to be inconsistent or is not reasonably inferred from the intent of the Contract Documents.

3) Contractor discovers what appears to be an omission from the Contract Documents that cannot be reasonably inferred from the intent of the Contract Documents.

e. Contractor shall not:

1) Submit an RFI as a request for substitution.

2) Submit an RFI as a submittal.

3) Submit an RFI under the pretense of a Contract Documents discrepancy or omission without thorough review of the Documents.

4) Submit an RFI in a manner that suggests that specific portions of the Contract Documents are assumed to be excluded or by taking an isolated portion of the Contract Documents in part rather than whole.

5) Submit an RFI in an untimely manner without proper coordination and scheduling of Work of related trades.

If Contractor submits an RFI contrary to the above, Contractor shall pay the cost of all review, which cost shall be deducted from the Contract Sum.

f. Contractor shall submit request for information or clarification immediately upon discovery. Contractor shall submit RFIs within a time frame so as not to delay the Contract Schedule while allowing the full response time described below.

2. Response Time:

a. University's Representative, whose decision will be final and conclusive, shall resolve such questions and issue instructions to Contractor within a reasonable time frame. In most cases, RFIs will receive a response within 14 days. If in the opinion of University's Representative more than 14 days is required to prepare a response to an RFI, Contractor will be notified in writing.

b. Should Contractor proceed with the Work affected before receipt of a response from University's Representative, within the response time described above, any portion of the Work which is not done in accordance with University's Representative's interpretations, clarifications, instructions, or decisions is subject to removal or replacement and Contractor shall be responsible for all resultant losses.

c. Failure to Agree: In the event of failure to agree as to the scope of the Contract requirements, Contractor shall follow procedures set forth in Article 4 of the General Conditions.

**1.2 CHANGES IN THE WORK**

A. Refer to General Conditions, Article 7.

B. Request for Estimate (RFE) and Special Drawings:

1. Changes in the Work will be initiated by University's Representative in the written form of a RFE and numbered in sequence using the "500" series.

2. Special Drawings that are issued with RFE's will be numbered in sequence using the RFE number.

3. Contractor shall price and return RFE's within 7 days after receipt.

C. Field Orders: Field Orders, if necessary to preclude unnecessary delays/costs, will be initiated by University's Representative and numbered sequentially using the "300" series.

D. Change Orders will be numbered in sequence 1, 2, 3, etc.

E. Clarification Drawings: Clarification Drawings will be numbered in sequence using "1000" series.

F. Cost Proposals for changes as follows: Original and 2 copies to University's Representative, and 3 copies to University's Project Manager. (Attach RFE and/or Field Order to each Cost Proposal.)

1. Submit in accordance with the General Conditions.

G. Cost Proposals shall show detailed breakdown of material, labor, etc., plus applicable percentages for Contractor Fee as specified in Article 7 of the General Conditions. (Sample format for submittal will be distributed at the Pre-Construction Meeting specified in Section 01 31 19, PROJECT MEETINGS.)

H. University's Representative will prepare and process Change Orders. Final distribution will be made by University's Project Manager after Change Orders are fully executed.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 30 00**

**ADMINISTRATIVE REQUIREMENTS**

**1. GENERAL**

**1.1 CONTRACTOR'S CORRESPONDENCE**

A. Contractor's correspondence directed to University's Representative.

1. Original to University's Representative.

2. 1 copy to University's Project Manager.

**1.2 UNIVERSITY'S REPRESENTATIVE'S CORRESPONDENCE**

A. University's Representative's correspondence directed to Contractor.

1. Original to Contractor.

2. 1 copy to University's Project Manager.

**1.3 CERTIFIED PAYROLL RECORDS**

A. In the event that Contractor or any of its Subcontractors that are required to submit certified payrolls fail to fully complete the web-based electronic certified payroll reporting (eCPR) applicable to any period covered by an Application for Payment, a delay in the University's processing said progress payment shall occur until the eCPR is completed. Refer to General Conditions and Supplementary Conditions Article 14.4.

**1.4 CONTRACTOR'S DAILY REPORTS**

A. Contractor and each subcontractor on site shall completely fill out a Contractor's Daily Report, on forms furnished by University's Representative (refer to Exhibits, bound herein), for each day worked. It is the responsibility of Contractor to submit all Daily Reports, including those of subcontractors, by 9:00 a.m. the following work day. Failure to submit Daily Reports in a timely manner may result in delayed progress payment(s).

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 31 13**

**PROJECT COORDINATION**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.

B. Anticipate the interrelationship of all Subcontractors and their relationship with the Work.

C. Resolve differences or disputes between Subcontractors concerning coordination, interference, or extent of Work between sections of the Work.

D. Coordinate the Work of Subcontractors so that portions of the Work are performed in a manner that minimizes interference with the progress of the Work.

E. Do not obstruct spaces and installations that are required to be clear by Applicable Code Requirements. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.

F. Apparatus and Equipment Locations:

1. Locations of apparatus and equipment indicated on the Drawings are approximate only, and are subject to change to suit operational service as approved by University's Representative.

2. Furnish and install apparatus and equipment in a manner and in locations which keep openings and passageways clear. Make changes in locations of equipment and materials which may be necessary to accomplish these purposes as approved by University's Representative.

G. Do not cover any piping, wiring, ducts, or other installations until they have been inspected and approved, and required certificates of inspection issued.

H. Remove and replace all Work which does not comply with the Contract Documents. Repair or replace any other Work or property damaged by these operations with no adjustment of Contract Sum.

I. Coordinate all portions of the Work requiring careful coordination in order to fit in space available. Before commencing such portions of the Work, prepare supplementary Drawings for review by University's Representative.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 31 19**

**PROJECT MEETINGS**

**1. GENERAL**

**1.1 PRECONSTRUCTION CONFERENCE**

A. Prior to commencement of Work, a pre-construction conference (Kick–Off Meeting) will be conducted by University's Representative to discuss procedures which are to be followed during performance of the Work.

B. Location: As designated by University's Representative.

C. Attending shall be:

1. University's Representative.

2. University.

3. University's consultants and University's Representative's consultants, as appropriate.

4. Contractor.

5. Contractor's Superintendent.

6. Subcontractors, as appropriate.

7. Others, as appropriate.

**1.2 BILLING MEETING**

A. A billing meeting shall be conducted by University's Representative each month prior to submittal of the Application for Payment.

B. Location: As designated by University's Representative.

C. Attending shall be:

1. University's Representative.

2. University.

3. University's consultants and University's Representative's consultants, as appropriate.

4. Contractor.

5. Contractor's Superintendent.

6. Subcontractors, as appropriate.

7. Others, as appropriate.

**1.3 PROGRESS MEETING**

A. During the course of construction, progress meetings will be held to discuss and resolve field problems. Progress meetings will be on a weekly basis unless determined otherwise by University's Representative.

B. Location: As designated by University's Representative.

C. Attending shall be:

1. University's Representative.

2. University.

3. University's consultants and University's Representative's consultants, as appropriate.

4. Contractor.

5. Contractor's Superintendent.

6. Subcontractors, as appropriate.

7. Others, as appropriate.

D. The minutes of these meetings will be prepared by University's Representative and issued as expeditiously as possible to:

1. Contractor (number of copies agreed upon).

2. University's Project Manager (number of copies agreed upon).

E. Contractor shall submit in writing questions and answers (previously obtained verbally) to be confirmed at each meeting in sufficient numbers for distribution to each person in attendance.

**1.4 GUARANTEES, BONDS, AND SERVICE AND MAINTENANCE CONTRACTS REVIEW MEETING**

A. Eleven months following the date of Beneficial Occupancy, Substantial Completion, if applicable, or Final Completion, whichever occurs earliest, a meeting shall be conducted by University for the purpose of reviewing the guarantees, bonds, and service and maintenance contracts for materials and equipment.

B. Attending shall be:

1. University.

2. University's Consultants, as appropriate.

3. Contractor.

4. Subcontractors, as appropriate.

5. Others, as appropriate.

**1.5 AS-BUILT DRAWING REVIEW MEETING**

A. When required by University’s Representative, a meeting shall be conducted by University’s Representative every 30 days to review the as-built drawings. Refer to Section 01 78 39, PROJECT RECORD DOCUMENTS.

B. Attending shall be:

1. University’s Representative.

2. University.

3. University’s consultants, as appropriate.

4. Contractor.

5. Subcontractors, as appropriate.

6. Others, as appropriate.

**1.6 NOT USED**

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**{USE THIS SECTION ONLY FOR SMALLER, SIMPLER PROJECTS.**

**USE NEXT SECTION 01 32 00 FOR LARGER / CAPITAL PROGRAMS-MANAGED PROJECTS.}**

**SECTION 01 32 00**

**CONSTRUCTION PROGRESS DOCUMENTATION**

**1. GENERAL**

**1.1 PRELIMINARY CONTRACT SCHEDULE**

A. Submission:

1. Submit the Preliminary Contract Schedule to University's Representative within 10 days after receipt of Notice of Selection as Apparent Lowest Responsible Bidder.

2. Within 7 days after receipt of the Preliminary Contract Schedule, University's Representative will notify Contractor of its acceptance of, or its review comments about, the schedule so that appropriate adjustments may be made by Contractor in the development of the Contract Schedule.

B. Form:

1. Prepare the Preliminary Contract Schedule as a CPM, time-scaled network diagram showing continuous flow from left to right.

2. Prepare the Preliminary Contract Schedule in sufficient detail to demonstrate preliminary planning for the Work and to represent a practical plan to complete the Work within the Contract Time.

3. Identify the following milestone events on the Preliminary Contract Schedule:

a. TBD

4. Identify all holidays and non-working days on the Preliminary Contract Schedule.

C. Activities: Identify all work activities which constitute the critical path.

**1.2 CONTRACT SCHEDULE**

A. Submission:

1. Submit the Contract Schedule, in the form and having general content acceptable to University's Representative within 15 days following Notice to Proceed and prior to submitting the first Application for Payment.

2. University's Representative will determine acceptability of the Contract Schedule within 7 days after its receipt.

3. No Application for Payment will be processed nor shall any progress payment become due until the Contract Schedule is accepted by University's Representative.

B. Form:

1. The Contract Schedule shall be a CPM, time-scaled network diagram showing continuous flow from left to right.

2. Identify the following milestone events on the Contract Schedule:

a. Refer to Paragraph 1.1.B.3 above.

3. Identify all holidays and non-working days on the Contract Schedule.

4. If the Contract Schedule is shown on more than 1 sheet, furnish a summary sheet.

C. Activities:

1. Identify all Work activities in correct sequence for the completion of the Work. Work activities shall include the following:

a. Major Contractor-furnished equipment, materials, and building elements, and scheduled activities requiring submittals or University's prior approval.

1) Show dates for the submission, review, and approval of each submittal. Dates shall be shown for the procurement, fabrication, delivery, and installation of major equipment, materials, and building elements, and for scheduled activities designated by University.

2) A minimum of 21 days shall be allotted for University's Representative to review each submittal.

b. System test dates.

c. Scheduled overtime Work if required by Contract Documents.

d. Dates Contractor requests designated working spaces, storage areas, access, and other facilities to be furnished by University.

e. Dates Contractor requests orders and decisions from University on designated items.

f. Dates Contractor requests University-furnished equipment.

g. Dates Contractor requests University-furnished utilities.

h. Connection and relocation of existing utilities.

i. Connecting to or penetrating existing structures.

j. Scheduled inspections as required by Codes, or as otherwise specified.

2. Identify all Work activities that constitute the critical path.

3. Critical Work activities are defined as Work activities which, if delayed or extended, will delay the scheduled completion of one or more of the milestones specified in this Section or the scheduled completion of the Work, or both. All other Work activities are defined as non-critical Work activities and are considered to have float.

4. Float is defined as the time that a non-critical Work activity can be delayed or extended without delaying the scheduled completion of milestones specified in this Section or the scheduled completion of the Work, or both. Neither Contractor nor University shall have an exclusive right to the use of float. The party using float shall document the effect on the updated Contract Schedule.

5. Delays of any non-critical Work shall not be the basis for an extension of Contract Time until the delays consume the float associated with that non-critical Work activity and cause the Work activity to become critical.

6. The presentation of each Work activity on the Contract Schedule shall include a brief description of the Work activity, the duration of the Work activity in days, and a responsibility code identifying the organization or trades performing the Work activity.

7. Contractor shall furnish cost estimates for each Work activity which cumulatively equal the total contract cost. Mobilization costs may be shown separately; however, other costs, i.e., profit and bond shall be pro-rated throughout all activities.

D. Updating:

1. Review the Contract Schedule with University's Representative once each week to incorporate in the Contract Schedule all changes in the progress, sequences, and scope of Work activities.

2. Prepare and submit to University's Representative an updated Contract Schedule once each month, or as mutually agreed.

a. The updated Contract Schedule shall accurately represent the as-built condition of all completed and in-progress Work activities as of the date of the updated Contract Schedule.

b. The updated Contract Schedule shall incorporate all changes mutually agreed upon by Contractor and University during preceding periodic reviews and all changes resulting from Change Orders and Field Orders.

c. Contractor shall perform the Work in accordance with the updated Contract Schedule. Contractor may change the Contract Schedule to modify the order or method of accomplishing the Work only with prior agreement by University.

3. Contractor shall submit the updated Contract Schedule, in the form acceptable to University's Representative, at least 7 days prior to submitting the Application for Payment.

4. University's Representative will determine acceptability of the updated Contract Schedule within 7 days after its receipt.

5. No Applications for Payment will be processed nor shall any progress payments become due until updated Contract Schedules are accepted by University's Representative.

6. The accepted, updated Contract Schedule shall be the Contract Schedule of record for the period it is current and shall be the basis for payment during that period.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

{**USE ONLY FOR LARGE CAP PROGRAM PROJECTS}**

**SECTION 01 32 00**

**CONSTRUCTION PROGRESS DOCUMENTATION**

**(Network Analysis System)**

**1. GENERAL**

**1.1 DESCRIPTION**

A. The work specified in this Section identifies the requirements for the development and submittal of the Preliminary 90-Day Schedule, Contract Schedule, Monthly Status Reports and As-Built Schedules. The preparation and submittal of the Contract Schedule, procedures for its approval and revision, and the submittal, review and approval of the Monthly Status Reports are collectively referred to as the Network Analysis System (NAS). The planning, scheduling, management, and execution of the work in accordance with the Contract Documents is the responsibility of Contractor. The NAS requirements are established to ensure the adequate planning, scheduling and management of the Work by Contractor and to enable University's Representative to evaluate Work progress.

**1.2 APPROVALS**

A. University's Representative shall have the right to accept or reject the performance by Contractor's own organization or the proposed scheduling consultant.

B. Acceptance of the Contract Schedule will be a condition precedent to the making of any progress payment for work performed beyond 90 days from receipt of the Notice to Proceed (NTP).

C. The required schedules and reports shall be prepared and submitted by hand for review and approval in accordance with the General Conditions and this Section.

D. For submittals due within the first 60 days following NTP, and prior to approval of the Contract Schedule, University's Representative review will not exceed 15 days from receipt of required submittals.

E. The monthly updating of the Contract Schedule and reports shall be a required element of the estimate upon which progress payments will be made. Submittal by hand by Contractor, and review and approval by University's Representative of these items shall be a condition precedent to the making of progress payments. If, in the judgment of University's Representative, Contractor fails or refuses to furnish a complete updated Contract Schedule or reports, as specified, Contractor will be deemed to have not furnished the required estimate upon which progress payments may be made, and shall not be entitled to such progress payments unless or until it has furnished the aforesaid schedules.

**2. REQUIREMENTS**

**2.1 NAS COMPONENTS**

A. The NAS is comprised of 6 primary components:

1. Preliminary 90-Day Schedule.

2. Contract Schedule.

3. Schedule of Values.

4. Updates to the Contract Schedule.

5. Contract Schedule Revisions.

6. As-Built Schedule.

**2.2 PRELIMINARY 90-DAY SCHEDULE**

A. Contractor shall prepare a Preliminary 90-Day Schedule detailing the first 90 days following the issuance of NTP. The Preliminary 90-Day Schedule shall conform to all requirements identified below in Paragraph 2.3, CONTRACT SCHEDULE, with the exception that only those activities projected to begin within the first 90 days of the Contract need to be included. The Preliminary 90-Day Schedule shall be submitted by hand within 10 days of receipt of Notice of Selection as Apparent Lowest Responsible Bidder for review by University's Representative. Upon completion of this review, University's Representative will either approve the Preliminary 90-Day Schedule or direct Contractor to amend and resubmit the Schedule by hand 7 days after receipt of University's Representative's comments.

B. The Preliminary 90-Day schedule shall identify all work activities which will take place during the first 90 days of the Project. This includes mobilization, submittals, procurement, fabrication, and construction activities. It shall also identify activities and milestones that may affect or be affected by the activities of University, utilities, and/or other third parties.

C. The Preliminary 90-Day Schedule shall be accompanied by a narrative describing Contractor's approach to mobilization, procurement, and construction during the first 90 days. The narrative shall identify the basis for durations, production rates, equipment to be used, and shall identify major assumptions used to develop the schedule. Mobilization will be broken down into a minimum of two parts including:

1. Job site fencing, equipment, office trailer utility hook-up and furniture.

2. Job site staff, office supply.

D. During the first 90 day period, Contractor shall submit by hand a Monthly Status Report on the first working day of the month. This narrative report shall describe the monthly accomplishments for the Project progress achieved to date, as well as objectives for the following month. Problems and proposed corrective action shall be addressed. The report shall be accompanied by an updated Preliminary 90-Day Schedule which identifies progress compared with the approved Preliminary 90-Day Schedule and a forecast for all in-progress activities as well as those which have not been started.

E. The Preliminary 90-Day Schedule, and the logic, sequence and durations for activities contained therein shall establish the basis for all work scheduled during the first 90 days following NTP in the Contract Schedule submittal.

F. Contractor shall prepare and submit by hand a Preliminary Schedule of Values with the initial Preliminary 90-Day Schedule and all subsequent Monthly Status Report submittals prior to acceptance of the final Contract Schedule. The Preliminary Schedule of Values shall conform to all requirements identified in Paragraph 2.4, SCHEDULE OF VALUES, herein.

G. The Preliminary Schedule and all associated submittals shall be developed utilizing Primavera Suretrak Version 2.0 for Windows or later, or equal scheduling software which is 100% compatible with Primavera. Submit diskette copy to University's Representative.

**2.3 CONTRACT SCHEDULE**

A. Contractor shall develop and maintain a network schedule for the Project in accordance with the requirements of this Section, demonstrating fulfillment of all Contract requirements. This Contract Schedule shall identify the planning, coordination and performance of all Work of this Contract, including all activities of Subcontractors, Vendors and Suppliers.

1. The Contract Schedule shall include the following:

a. The Contract Schedule shall be comprised of a computer generated, logically networked schedule identifying all activities required to adequately plan and manage the Work to be accomplished. The Contract Schedule shall be a graphic depiction of the construction plan which identifies all sequential elements required to complete the Work and shall be developed utilizing the Precedence Diagram Method format of Critical Path Method (CPM) Scheduling for identifying all interrelationships among the scheduled activities.

b. The Contract Schedule and all associated submittals shall be developed utilizing Primavera Suretrak Version 2.0 for Windows or later, or equal scheduling software which is 100% compatible with Primavera. Should Contractor choose to utilize an automated scheduling system other than the above-referenced Primavera systems, Contractor shall, prior to Contractor's development of Preliminary 90-Day Schedule and Contract Schedule and no later than 5 days after the Notice to Proceed, submit same to University's Representative by hand for approval. Prior to approval, Contractor shall, at its cost, demonstrate to University's Representative said software's capability of, as a minimum, producing schedules and documents which meet all criteria specified herein. If University's Representative approves the substitution, Contractor shall, at its cost, provide University with the software, hardware and training sufficient to operate Contractor's system for the duration of the Project.

c. All Project/Work Activities shall be of sufficient detail to furnish identification of all components utilized in executing, monitoring and evaluating progress of the Work. A Project/Work activity is defined as a schedule element which requires time and resources (manpower, equipment, materials, etc.) to complete in a continuous operation.

d. Activity descriptions shall briefly cover the scope of Work indicated. Activities shall be discrete items of Work that must be accomplished under the Contract and constitute definable, recognizable entities within the Project.

e. All activities shall have a defined duration. All durations shall be in multiples of working days.

f. Activities shall have durations of twenty (20) working days or less. Should an activity require more than twenty (20) working days, it shall be subdivided to define appropriate activities. University's Representative may approve using longer durations on non-construction activities, including the procurement and fabrication of materials and equipment.

g. Activities shall include Contract deliverables, including the submittal and approval of permit applications (as necessary), samples of materials, shop drawings, working drawings, inspection and test plans, safety and security plans, worksite control plans, utility company, Point-of-Connection (POC) installations and applications. In addition, activities shall be included for the procurement of materials and equipment impacting the critical path, fabrication of special materials and equipment and their installation and testing, and delivery of University-furnished items. Activities of University that may impact activities shall be reflected, as well as those of utilities and other similarly involved third parties.

h. The critical path activities shall be identified, including critical paths for Contract interim and final completion milestone dates. Critical Activities are defined as Work Activities which, if delayed, will delay the scheduled completion of the work (i.e. activities which comprise the path of least total float). All other Work Activities are defined as non-critical and are considered to have float.

i. Scheduled start or completion dates imposed on the schedule by Contractor shall be consistent with Contract milestones as identified in the Contract Documents. Milestone dates shall be defined as the interim and final completion milestone dates connected to the appropriate activities.

j. All activities shall be coded to allow logical summarization by Construction Specifications Institute (CSI) Division and Floor (as a minimum). Refer to Part 4, ADDITIONAL SCHEDULE CODING REQUIREMENTS, herein for additional coding requirements.

k. All activities for which costs may be associated (i.e. work activities) shall be manpower, resource and cost loaded in accordance with requirements defined herein in Paragraph 2.4, SCHEDULE OF VALUES.

l. Failure to include any element of work required for performance of this Contract shall not excuse Contractor from completing work required to achieve milestones, notwithstanding the acceptance of the Contract Schedule submittal.

m. All holidays and non-work periods shall be identified in the Contract Schedule's calendar.

n. Contractor shall not sequester float through strategies including extending activity duration estimates to consume available float, using preferential logic, using extensive or insufficient crew/resource loading, use of float suppression techniques, special lead/lag logic restraints or imposed dates. Use of float time disclosed or implied by the use of alternate float suppression techniques shall not be for the exclusive use or benefit of either University or Contractor.

o. It is acknowledged that University-caused time savings (i.e., critical path submittal reviews returned in less time than allowed by the Contract Documents, approval of substitution requests which result in a savings of time for Contractor, etc.) create float which shall not be for the exclusive use or benefit of either University or Contractor. Accordingly, University-caused delays may be offset by University-caused time savings.

p. Refer to General Conditions Paragraph 3.9.

2. Contract Schedule Submittal

a. The Contract Schedule submittal shall include a Contract Schedule - Time Scaled Logic Diagram, computer generated reports, a computer generated cash flow and direct labor hour curves, and a narrative describing Contractor's approach for meeting the required interim and final completion milestone dates. The above items shall be submitted by hand to University's Representative within 30 days after the date of NTP and shall use the NTP date as day number one. University's Representative will have 15 days after receipt of the submittal to respond. Upon receipt of comments from University's Representative, Contractor shall confer with University's Representative on the appraisal and evaluation of the proposed Contract Schedule. Necessary changes resulting from this review shall be made by Contractor, and the Contract Schedule submittal shall be resubmitted by hand for acceptance within 7 days after the receipt of comments from University's Representative. Upon acceptance, the Contract Schedule shall establish the baseline from which changes in durations and logic will be determined. The logic, sequence and duration for activities for the first 90 days of the Contract Schedule shall be based on the Preliminary 90-Day Schedule. The accepted Contract Schedule shall furnish the basis for planning, scheduling, managing and executing the Work to be accomplished by Contractor.

b. The Contract Schedule - Time Scaled Logic Diagram shall be time-scaled (by week, starting Monday) and grouped (banded) by work areas and sorted by early start dates. The Contract Schedule shall be clear, neat and legible, and shall be submitted on sheets 30 inches by 42 inches or alternatively on a continuous 36 inch roll on a medium suitable for reproduction. Each sheet shall contain a title block and a revision block.

c. Reports and Curves - The initial submittal requires five separate computer generated reports, two separate computer generated cash flow and direct labor hour reports, and one each project cash flow and direct labor hour curve, as described below:

1) Schedule Reports shall contain the following information as a minimum: activity identification number, activity description, estimated total duration, estimated remaining duration, computed or specified early start date, computed early finish date, computed late start date, computed or specified late finish date, and total float. These reports shall be produced as follows:

a) Ascending Activity Report - This report shall contain all activities as shown on the Contract Schedule listed in order of ascending activity number.

b) Total Float Report - This report shall contain all activities as shown on the Contract Schedule listed in the order of the ascending total float values.

c) Early Start Report - This report shall contain all activities as shown on the Contract Schedule listed in chronological order by early start date.

d) Predecessor/Successor Report - This report shall contain all activities as shown on the Contract Schedule listed in order of ascending activity number, and identify predecessor and successor activity number.

e) Subcontractor Activity Report - This report shall contain all activities grouped by Subcontractor as shown on the Contract Schedule listed in chronological order by early start date.

2) Cash Flow and Direct Labor Hour Reports

a) Cash Flow Report - This report shall contain activities as shown on the Contract Schedule listed in order of ascending activity number, and identify the total dollar value for each activity. It is recognized that not all costs will be identified by activities in the Contract Schedule. However, the total dollar value in the report must equal the total Contract value.

b) Direct Labor Hour Report - This report shall contain activities as shown on the Contract Schedule listed in order of ascending activity number, and identify the total direct labor hour value for each activity.

c) Project Cash Flow Curve - This curve shall display by month, the cumulative dollars planned for the duration of the Contract.

d) Project Direct Labor Hour Curve - This curve shall display by month, the cumulative direct labor hours planned for the duration of the Contract.

d. Narrative - The Contract Schedule submittal shall include a narrative sufficient to explain the basis of Contractor's determination of durations and shall describe Contractor's approach for meeting the required interim and final completion milestone dates, as specified by the Contract. Such explanation shall be a "stand-alone" document that conveys to the reader, at a minimum: Contractor's basis and assumptions; restraints; critical path/activities and why they are critical; equipment requirements, production rates; activities requiring overtime, additional shifts, holidays and special non-workdays; potential problem areas; permits; coordination required with University, utilities or any other parties; and long lead delivery items. Should University's Representative require similar information on other activities, this information shall be supplied by Contractor at no additional cost to University.

e. The Contract Schedule submittal shall include a CD containing a copy of the Contract Schedule - Time Scaled Logic Diagram, cash flow and direct labor hour data used to develop the submittals. All data shall be written to disk via the P3 Backup utility. If Contractor utilizes a scheduling software system other than Primavera Suretrak Version 2.0 for Windows or later (refer to Paragraph 2.3.A.1.b above), all data shall be written to disk in the manner consistent with said scheduling software for data backup/transfer.

f. The Contract Schedule submittal shall include 4 copies of the Contract Schedule - Time Scaled Logic Diagram, computer generated reports, and project cash flow and direct labor hour curves and narrative. Documents in one submittal shall have the same data date irrespective of the dates when the individual documents were prepared.

**2.4 SCHEDULE OF VALUES**

A. All work activities which comprise the Contract Schedule and Preliminary 90-Day Schedule shall be manpower, resource and cost loaded and coded by CSI Division as specified in Paragraph 2.3.A.1.j herein. This will allow summarization of project budgets and actual costs by CSI Division (at a minimum) for establishment of the Schedule of Values (for sample, see Schedule 1 of the APPLICATION FOR PAYMENT, bound herein). This summarization will be the basis for Contractor's monthly Application for Payment. Refer to Part 4, ADDITIONAL SCHEDULE CODING REQUIREMENTS, herein.

B. The Schedule of Values shall include all Project manpower, resources and costs and shall total to equal the Contract Sum.

C. Revision to the Schedule of Values shall be in accordance with the requirements specified in Paragraph 2.6, CONTRACT SCHEDULE REVISIONS, herein.

**2.5 UPDATES TO THE CONTRACT SCHEDULE**

A. Monthly Status Report:

1. Not later than 30 days after NTP and monthly thereafter, Contractor shall review with University's Representative a draft Monthly Status Report with data as of the date assigned by University's Representative for the reporting period in question. The list of data dates for the contract time of performance will be furnished by University's Representative at the Initial Weekly Progress Meeting (refer to Section 01 31 19, PROJECT MEETINGS).

2. Contractor shall review the draft Monthly Status Report with University's Representative in a Monthly Status Meeting on the first work day of each month (refer to Section 01 31 19, PROJECT MEETINGS). The purpose of the meeting is the joint review and agreement on job status as included in the draft Monthly Status Report.

3. After establishing job status, Contractor shall submit by hand to University's Representative final copies of the Monthly Status Report within 5 days after the date of the review with University's Representative.

4. The Monthly Status Report shall consist of:

a. An Updated Contract Schedule - Time Scaled Logic Diagram (format as specified under Paragraph 2.3.A.2.b), computer generated reports (format as specified under Paragraphs 2.3.A.2.c and 2.3.A.2.d) and a 3½ inch 1.44 MB floppy disk or CD-ROM containing an exact copy of the submittal. All data shall be written to disk via the P3 Backup utility (refer to Paragraph 2.3.A.2.e above).

b. A Variance Report shall be submitted by hand monthly comparing the approved Contract Schedule with the current month's updated Contract Schedule. The report shall include a description of all activities completed during the preceding month, a description of progress made, and planned activities listed as started but not completed on the updated Contract Schedule, and shall report all activities which have been delayed five (5) or more working days. The format of this report shall include:

1) Activity code and description.

2) Scheduled early start/finish dates.

3) Current anticipated early start/finish dates.

4) Working days remaining to complete the activity.

5) Percentage complete of the activity.

6) Total float of the activity.

c. A narrative which identifies the work actually completed and reflects the progress along the critical path in terms of days ahead of or behind the Contract interim and final completion milestone dates as specified in the Contract Documents. Specific requirements of the narrative are as follows:

1) Actual completion dates for activities completed during the report period.

2) Actual start dates for activities started during the report period.

3) Estimated start dates for activities scheduled to start during the month following the report period.

4) Changes in the duration(s) of any activities and/or logic changes to activities which were performed in a different sequence than the accepted Contract Schedule.

5) Identification of the current critical path(s) to interim and final completion milestones.

6) Activities proposed to be added to the Contract Schedule.

7) Identification of executed Change Orders that will be incorporated into the Contract Schedule, following approval by University's Representative.

8) The narrative shall identify any variances or changes in the direct labor hour allocation, the cause, and the activities affected, and shall furnish an explanation of the proposed corrective action to meet the planned allocation as in the accepted Contract Schedule.

d. If the Monthly Status Report indicates an actual or potential delay to the Contract interim or final completion milestone dates as specified in the Contract Documents, Contractor shall identify the problem, cause, and the specific activities affected and shall furnish a proposed corrective action plan to mitigate the indicated delays.

e. Updated Project Cash Flow and Direct Labor Hour Curves:

1) Updated Project Cash Flow Curve which displays the cumulative planned versus cumulative actual as of the report period. Also, Contractor shall include a forecast of cost for the remaining Contract duration.

2) Updated Project Direct Labor Hour Curve which displays the cumulative planned versus cumulative actual as of the report period. Also, Contractor shall include a forecast of direct labor hours for the remaining Contract duration.

f. Incorporation of all University's Representative accepted schedule revisions.

g. The mutually agreed-to Monthly Status Report shall be the basis for evaluating Contractor's progress. Documents in a single Monthly Status Report shall have the same data date irrespective of the dates of preparation of the individual documents.

h. If the latest completion time for any required interim or final completion milestone date as indicated by the current Monthly Status Report does not fall within the time allowed by the Contract, Contractor shall prepare and submit by hand a fragnet, as described in Paragraph 2.6 herein, from the Contract Schedule which identifies the plan to recover the lost time. Such recovery measures as concurrent operations, logic and sequence changes, additional manpower, additional shifts, or overtime, shall be adopted to ensure that Contract interim and final completion milestone dates will be met. Such fragnet schedules shall not be incorporated into the Contract Schedule until it has been reviewed and approved by University's Representative.

5. University's Representative may call for more frequent Contract Schedule status meetings (weekly, biweekly, etc.) at no cost to University at which Contractor will furnish the required information.

6. Weekly Updates:

a. The Contract Schedule shall be updated to include current Project progress on a weekly basis.

b. Contractor shall prepare a Three Week Look-Ahead Schedule including a Three Week As-Built Schedule based on the Contract Schedule, for submittals and review at the Weekly Progress Meeting.

**2.6 CONTRACT SCHEDULE REVISIONS**

A. Revisions to the accepted Contract Schedule shall be introduced to University's Representative in a Time Impact Analysis package, including a separate fragnet schedule for review and approval prior to incorporation into the current Contract Schedule. This fragnet shall adhere to the requirements identified in Paragraph 2.3.A in the development of revisions and must clearly outline the impact of the revision within the context of the Contract Schedule. Each proposed revision shall be submitted on separate fragnets taken from the proposed revision with the following minimum components:

1. A time scaled logic diagram showing revised and affected activities, and how these activities are incorporated into the current Contract Schedule.

2. An Activity Report and Predecessor/Successor Report as specified in Paragraph 2.3.A.2.c for all revised and affected activities.

3. A narrative report identifying Contractor's basis for determining activity durations, assumptions, restraints, requirements and required coordination necessary to complete the revised/affected work contained in the fragnet schedule.

4. All work activities contained in the fragnet schedule shall be manpower, resource and cost loaded.

5. Any request for an adjustment of the Contract Time for completion submitted by Contractor by hand for changes or alleged delays shall be accompanied by a complete Time Impact Analysis, which shall be submitted by hand for review within 20 days after the request by Contractor. Time extensions will not be granted unless substantiated by the Contract Schedule, and then not until the Project float becomes zero.

6. The Time Impact Analysis shall be determined on the basis of the date or dates when the change or changes were issued, or the date or dates when the alleged delay or delays began. The status of the Project and Time Impact Analysis shall include event time computation for all affected activities.

7. University's Representative may require that Time Impact Analysis be furnished in order to demonstrate the time impact upon the overall Project and the time for completion, at no additional cost to University.

8. If University's Representative determines after review of the Time Impact Analysis that Contractor is entitled to any extension of time for completion, the time for completion will be adjusted accordingly by University's Representative, and Contractor shall then revise the Contract Schedule accordingly.

9. The Contract Schedule will be used in the calculation of liquidated damages or Compensable Delay for each day of delay after the Contract completion date, as adjusted, until the Work is accepted.

B. Upon acceptance of the fragnet, all schedule, direct labor hour and cash flow data shall be added or revised for all new and/or revised activities for incorporation into the current Contract Schedule.

C. Revisions to the Contract Schedule shall include a CD containing a copy of the proposed revision. All data shall be written to disk via the P3 Backup utility (refer to Paragraph 2.3.A.2.e above).

**2.7 CONTRACT TIME ADJUSTMENTS**

A. Float time is not time for the exclusive use or benefit of either University or Contractor. Extensions of time for Contract performance as specified in the Contract will be granted only to the extent that time adjustments to the affected work items exceed the total float time along the affected paths of the Contract Schedule current at the time of the delay. Refer to General Conditions Article 8.3.

**2.8 AS-BUILT SCHEDULE AND DOCUMENTATION**

A. Within 30 days after final acceptance of the Work by University, Contractor shall submit by hand for University's Representative acceptance, an As-Built computer generated report, an As-Built Contract Schedule - Time Scaled Logic Diagram, and As-Built computer generated cash flow and direct labor hour curves. The documents shall be prepared in accordance with the requirements for Contract record drawings specified in Section 01 78 39, PROJECT RECORD DOCUMENTS, and in Paragraph 2.3.A.2 above. Final payment of retention will not be paid until this work is accomplished.

**2.9 NAS DOCUMENTS**

A. Once accepted by University's Representative, and until they are superseded by subsequent approved iterations, NAS documents are part of the Contract and shall be used by Contractor for planning, organizing, and directing its work, for reporting progress and cash flow distribution and for determining adjustments to interim and final completion milestone dates as specified in the Contract Documents.

B. Suspension of Payments: Should Contractor's NAS document submittals not be approved, University may suspend monthly progress payments for all or any portion of work performed per General Conditions Article 9.2. When Contract Schedules, or revisions as appropriate, satisfy the Contract Specifications and present a realistic approach to the Work required to meet the Contract completion date/interim milestone dates and form the basis for a reasonable cash flow distribution, University's Representative will approve the Contract Schedule and University will resume making progress payments. The determination as to whether the foregoing conditions have been met will be in the sole opinion of University's Representative, based on information furnished by Contractor as to Contractor's equipment, resources, crew sizes, crafts, planned unit rates, reasonableness of procurement times, costs, and other pertinent factors.

**3. SUBMITTALS**

**3.1 GENERAL**

A. Except as modified in this Section01 32 00, CONSTRUCTION PROGRESS DOCUMENTATION, the procedures specified in Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, shall be observed.

B. Contractor shall submit by hand 1 reproducible and 4 blue-line prints/copies of each required schedule and report. Contractor shall also submit by hand a copy of the computer data used to produce the submittal via CD as stated in this Section. Refer to Paragraph 2.2.B and 2.3.A.1.g herein.

**3.2 CONTRACTOR'S SCHEDULING ORGANIZATION/CONSULTANT**

A. Within 10 days following receipt of Notice of Selection as Apparent Lowest Responsible Bidder and with signed Agreement, and prior to engaging a consultant or commencing performance of the work specified in this Section with its own forces, Contractor shall submit by hand to University's Representative for approval:

1. Information sufficient to show that Contractor's own organization or Contractor's proposed scheduling consultant has staff and computer facilities meeting the requirements specified herein.

2. A list of prior projects for which Contractor's own organization or proposed scheduling consultant or staff thereof has performed services similar to those required for this Contract. Experience on a minimum of three (3) prior projects of similar size, and cost, and complexity is required.

**3.3 PRELIMINARY 90-DAY SCHEDULE SUBMITTALS**

A. Bar chart schedule.

B. Narrative of the schedule basis.

C. Schedule of Values.

**3.4 CONTRACT SCHEDULE SUBMITTALS**

A. Contract Schedule - Time Scaled Logic Diagram.

B. Computer generated reports.

C. Computer generated cash flow curve.

D. Narrative of the schedule basis.

E. Schedule of Values.

**3.5 STATUS REPORTS**

A. Monthly Status Report Submittals:

1. Updated Contract Schedule - Time Scaled Logic Diagram.

2. Computer generated reports.

3. Computer generated cash flow curve.

4. Computer generated direct labor hour curve.

5. Narrative of the schedule status.

6. Schedule of Values.

B. Weekly Three Week Look-Ahead Report.

**3.6 REVISIONS TO CONTRACT SCHEDULE SUBMITTALS**

A. Contract Schedules - Time Scaled Logic Diagram.

B. Computer generated reports.

C. Computer generated cash flow curve.

D. Computer generated direct labor hour curve.

E. Narrative of the schedule basis.

F. Schedule of Values.

**3.7 AS-BUILT SCHEDULE DOCUMENTATION**

A. Contract Schedules - Time Scaled Logic Diagram.

B. Computer generated reports.

C. Computer generated cash flow curve.

D. Computer generated direct labor hour curve.

E. Narrative of the schedule basis.

F. Schedule of Values.

**4. ADDITIONAL SCHEDULE CODING REQUIREMENTS**

**4.1 GENERAL**

A. In addition to the requirements specified in Paragraph 2.3.A.1.j, comply with the following.

1. Activity Identification Number: Each activity shall be identified by a unique nine (9) digit alpha/numeric code structured/partitioned as follows:

a. Sequence Numbers (First 5 Digits - Left Justified): This element shall be comprised of a numeric or alpha/numeric combination such that when combined with the additional three Activity Identification Number elements, furnishes a unique identifier.

b. Project Identifier (6th Digit from Left): The following character codes shall be utilized with this position to identify the Project elements:

1) {**INDICATE THE LETTER DIGIT TO IDENTIFY THE PROJECT**}

c. Construction Specifications Institute (CSI) Division (7th and 8th Digits from Left):

1) 01 - General Requirements

2) 02 - Sitework

3) 03 - Concrete

4) 04 - Masonry

5) 05 - Metals

6) 06 - Wood and Plastics

7) 07 - Thermal and Moisture Protection

8) 08 - Doors and Windows

9) 09 - Finishes

10) 10 - Specialties

11) 11 - Equipment

12) 12 - Furnishings

13) 13 - Special Construction

14) 14 - Conveying Systems

15) 15 - Mechanical

16) 16 - Electrical

17) 17 - Hazardous Materials/Asbestos Abatement

d. Floor Identifier (9th Digit from Left):

1) 1 - First Floor

2) 2 – Second Floor

3) 3 - Third Floor

4) 4 - Fourth Floor

5) 5 - Fifth Floor

6) 6 - Sixth Floor

7) 7 - Seventh Floor

8) 8 - Eighth Floor

9) 9 - Ninth Floor

10) 10- Tenth Floor

11) A - A Level

12) B - B Level

2. Activity Coding: The following codes shall be applied as a minimum for all scheduled activities; additional codes may be added/utilized by Contractor for special requirements.

a. Project Phase:

1) 0 - Submittals/Preconstruction{**DELETE REMAINING REFERENCES TO PHASES IF N/A**}

2) 1 - Phase 1

3) 2 - Phase 2

4) 3 - Phase 3

5) 4 - Phase 4

b. Sub-Phase:

1) C - Construction

2) S - Staging

c. Work Type:

1) 05 - Submittals

2) 10 - Asbestos Abatement

3) 15 - Demolition

4) 20 - Utilities

5) 25 - Underground Utilities

6) 30 - Excavation/Foundation/Slab-On-Grade

7) 35 - Columns

8) 40 - Walls

9) 45 - Structural Steel

10) 50 - Plumbing

11) 55 - Fire Sprinklers

12) 60 - Mechanical/HVAC

13) 65 - Electrical

14) 70 - Drywall/Paint

15) 75 - Millwork/Casework

16) 80 - Fixtures/Hardware/Floor Coverings

17) 95 - Irrigation/Landscaping

18) 99 – Punch List

d. Responsibility: Additional codes shall be defined by Contractor to identify responsible subcontractors.

1) O - University

END OF SECTION

**SECTION 01 33 23**

**SHOP DRAWINGS, PRODUCT DATA & SAMPLES**

**1. GENERAL**

**1.1 REQUIREMENTS INCLUDED**

A. Shop Drawings, Product Data, and Samples, other than in connection with proposed substitutions, shall be submitted to University's Representative only when specifically required; and University's Representative will not review any other such submittals. Product Data and Samples for proposed substitutions shall be submitted to University's Representative in accordance with Section 01 25 13, PRODUCT SUBSTITUTION PROCEDURES. Contractor shall be responsible for obtaining such copies of Shop Drawings, Product Data, and Samples as it may require for its own use.

**1.2 RELATED REQUIREMENTS**

A. Definitions:

1. The terms "Shop Drawings" and "Product Data" as used herein also include fabrication, erection, layout and setting drawings, manufacturers' standard drawings, descriptive literature, catalogues, brochures, performance and test data, wiring and control diagrams, all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment, or systems and the positions thereof conform to the Contract Documents.

2. As used herein, the term "manufactured" applies to standard units usually mass-produced. The term "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall establish the actual detail of all manufactured or fabricated items, indicate correct relation to adjoining Work, and amplify design details of mechanical and electrical equipment in accurate relation to physical spaces in the structure.

B. Manufacturers' Instructions: Where any item of Work is required by the Contract Documents to be furnished, installed, or performed in accordance with a specified product manufacturer's instructions, Contractor shall procure and distribute the necessary copies of such instructions to University's Representative and all other concerned parties; and Contractor shall furnish, install, or perform the Work in strict accordance therewith.

C. Submittal Schedule:

1. A schedule for submission of Shop Drawings, Product Data, and Samples by Contractor (the "Submittal Schedule"), and their processing and return by University's Representative, shall be agreed upon by both parties in order that the items covered by these submittals will be available when needed by the construction process and so that each party can plan its workload in an orderly manner.

2. Contractor shall prepare the Submittal Schedule using a form to be furnished by University's Representative at the Pre-Construction Meeting (see Section 01 31 19, PROJECT MEETINGS) and coordinate it with the Contract Schedule. No submittals will be processed before the Submittal Schedule has been submitted by hand to and accepted by University's Representative, except in such cases where the processing of submittals is required before the acceptance of the Submittal Schedule.

3. In preparing the Submittal Schedule, Contractor shall first determine from the Contract Schedule the date the particular item is needed for the Work. Working backwards, Contractor shall add the required number of days for shipment, time for fabrication, and similar items to determine the date of the first submittal.

4. The Submittal Schedule shall be adjusted to meet the needs of the construction process and Contract Schedule. Submit by hand 2 copies of the Submittal Schedule after it is completed and each time it is updated by Contractor.

**1.3 SHOP DRAWINGS**

A. Present information required on Shop Drawings in a clear and thorough manner. Identify details by reference to drawing and detail, schedule, or room numbers shown and specified. The room numbers referenced or shown shall be the University-assigned room numbers, which Contractor can obtain from University's Representative.

**1.4 PRODUCT DATA**

A. Preparation:

1. Clearly mark each copy to identify pertinent products or models.

2. Show performance characteristics and capacities.

3. Show dimensions and clearances required.

4. Show wiring or piping diagrams and controls.

B. Manufacturers' standard schematic drawings and diagrams:

1. Modify the standard schematic drawings and other diagrams to delete information which is not applicable to the Work.

2. Supplement standard information to furnish information specifically applicable to the Work.

**1.5 SAMPLES**

A. Office Samples shall be of sufficient size and quality to clearly illustrate the following:

1. Functional characteristics of the products, with integrally related parts and attachment devices.

2. Full ranges of color, texture, and pattern.

B. Field Samples and Mock-Ups:

1. Erect at the Project site, at a location as directed by University's Representative.

2. Size: As specified.

3. Fabricate each Sample and mock-up to be complete and fully finished.

4. Remove mock-ups at conclusion of Work.

**1.6 CONTRACTOR'S REVIEW OF SUBMITTALS**

A. Review, mark up as appropriate, and stamp Shop Drawings, Product Data, and Samples prior to submission. Submittals shall clearly show that they have been reviewed by Contractor for conformance with the requirements of the Contract Documents and for coordination of the Work.

B. Determine and Verify:

1. Field measurements.

2. Field construction criteria.

3. Catalog numbers and similar data.

4. Conformance with Contract Documents.

C. Coordinate each submittal with requirements of the Work and of the Contract Documents.

D. Notify University's Representative in writing, at time of submission, of any changes in the submittals from requirements of the Contract Documents.

E. Begin no fabrication or Work which requires submittals until the return of University's Representative's final reviewed submittals.

**1.7 SUBMISSION REQUIREMENTS**

A. Make submittals promptly in accordance with the Submittal Schedule and in such sequence as to cause no delay in the Work or in the work of any Separate Contractor.

B. Number of Submittals Required:

1. Shop Drawings: Submit (1) opaque bond copy (plus additional copies as if specified in technical specifications or requested by University's Representative) and (1) digital PDF copy. After checking, University's Representative will make prints for itself, University and their consultants, and then return the reproducible copy to Contractor. Contractor may make prints as it requires for its use and for Subcontractors' use.

2. Product Data and Non-Reproducible Submittals: Submit the number of copies which Contractor will need, plus 3 copies which will be retained by University's Representative.

3. Samples: Submit the number specified in the Section which requires them.

C. Submittals shall contain:

1. Date of submission and dates of any previous submissions.

2. Project name and number.

3. Contract identification.

4. The names of:

a. Contractor.

b. Subcontractor.

c. Supplier.

d. Manufacturer.

5. Identification of the product, with the Specification Section number.

6. Field dimensions, clearly identified as such.

7. Relation to adjacent or critical features of the Work or materials.

8. Reference standards, such as ASTM or Federal Specification numbers.

9. Identification of changes from requirements of the Contract Documents.

10. Identification of revisions on resubmittals.

11. An 8-inch x 3-inch blank space for review stamps.

12. Contractor's stamp, initialed or signed, certifying to the review of the submittal; verification of materials and field measurements and conditions; and compliance of the information within the submittal with requirements of the Work and of the Contract Documents.

D. Resubmission Requirements:

1. Shop Drawings and Product Data:

a. Revise Shop Drawings or Product Data, and resubmit as specified for the initial submittal.

b. Identify any changes which have been made other than those requested.

c. Note any departures from the Contract Documents or changes in previously reviewed submittals which were not commented upon by University's Representative.

2. Samples: Submit new samples as required for initial submittal.

E. Distribution:

1. Reproduce and distribute copies of Shop Drawings and Product Data, which carry University's Representative's review stamp, to the following locations:

a. Contractor's Project site file.

b. As-built files maintained by Contractor.

c. Separate Contractors.

d. Subcontractors.

e. Supplier or manufacturer.

2. Distribute samples which carry University's Representative's review stamp as directed.

F. University's Representative's Review: University's Representative will review Contractor's submittals, such as Shop Drawings, Product Data, and Samples, for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of Contractor as required by the Contract Documents.

G. Submittal of Qualifications: Unless otherwise specified, when technical specification sections or drawings identify qualification criteria (prior experience; certification; manufacturer approval; etc.) for any entity (installer; manufacturer; engineer; testing agency; etc.), Contractor shall submit proof that the entity meets said criteria at least 15 days prior to start of the applicable work.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 35 13**

**SPECIAL PROJECT PROCEDURES**

**1. GENERAL**

**1.1 HAZARDOUS MATERIALS PROCEDURES**

A. Refer to General Conditions Article 3.19.

B. Lead Based Paint (LBP):

1. Lead coatings may exist on this Project site, and Work may involve the demolition, removal and disposal of materials coated in LBP. University will disclose all known information about such hazards, including location and quantity of lead in coating materials. If further information is desired, Contractor shall furnish sampling and analysis.

2. Where LBP is determined or suspected to exist, Contractor shall comply with all regulations pertaining to its removal, including the Cal/OSHA Lead Construction Standard (CCR Title 8 section 1532.1) and the General Industry Safety Orders hazard communication requirements (CCR Title 8 section 5194). Contractor shall furnish all required employee monitoring, personal protective equipment, and engineering controls designed to minimize lead exposures. Contractor is responsible for characterization and disposal of all lead-containing waste and debris. University will furnish environmental monitoring.

3. During construction and demolition work, Contractor shall prevent lead dust contamination of surrounding areas. Contractor shall contact University's Office of Environment, Health & Safety regarding all Project elements which may result in significant migration of lead-containing materials off the Project site. Currently, the Department of Toxic Substances Control does not generally consider intact painted building materials to be hazardous wastes. Paint separated from its substrate shall be evaluated independently from the building material to determine proper management. Materials or solvents meeting the requirements of a Federal Hazardous Waste as determined by CCR Title 22 shall be disposed of at a location approved in advance by University's Office of Environment, Health & Safety.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 35 43**

**ENVIRONMENTAL PROCEDURES**

**1. GENERAL**

**1.1 DUST CONTROL, AIR POLLUTION AND ODOR CONTROL**

A. Contractor shall employ measures to prevent the creation of dust, air pollution and odors.

1. Comply with SCAQMD Rules 401, 402 and 403.

2. Unpaved areas where vehicles are operated shall be periodically wetted down or given an equivalent form of treatment as defined in Air Quality Management District (AQMD) Rule 403 to eliminate dust formation.

3. All volatile liquids including fuels or solvents shall be stored in closed containers.

4. No open burning of debris, lumber or other scrap will be permitted.

5. Equipment shall be maintained in a manner to reduce gaseous emissions.

6. Use alternative fuel construction equipment (i.e., compressed natural gas, liquid petroleum gas, unleaded gasoline) and low-emission diesel construction equipment to the extent that the equipment is readily available and cost effective.

7. Stockpiles of excavated materials shall be covered with material approved by University's Representative.

8. Refer to Section 01710, CLEAN-UP & DISPOSAL, Paragraph 3.1.B, for silt clean up.

**1.2 NOISE CONTROL**

A. The following noise control procedures shall be employed:

1. Maximum Noise: The Contractor shall use equipment and methods during the course of this work that are least disruptive to adjacent offices or residences. Noise levels for trenchers, graders, trucks and pile drivers shall not exceed 90 dBA at 50 feet as measured under the noisiest operating conditions. For all other equipment, noise levels shall not exceed 85 dBA at 50 feet.

2. Equipment. Jack hammers shall be equipped with exhaust mufflers and steel muffling sleeves. All diesel equipment shall have exhaust muffled. Air compressors shall be of a quiet type such as a "whisperized" compressor.

3. Operations: Machines shall not be left idling. Electric power shall be used in lieu of internal combustion engine power wherever possible. Equipment shall be maintained to reduce noise from vibration, faulty mufflers, or other sources.

4. Scheduling: Noisy operations shall be scheduled so as to minimize their disturbance to occupied adjacent areas and duration at any given location.

**1.3 STORM WATER POLLUTION CONTROL - LESS THAN ONE ACRE:**{***PM: THIS LANGUAGE IS TO BE USED FOR ALL PROJECTS WHERE THE PROJECT CONSTRUCTION LIMIT (AREA OF POTENTIAL EARTH DISTURBING ACTIVITY) IS LESS THAN 1 ACRE. THE PROJECT MUST INCLUDE IMPLEMENTATION OF SITE DESIGN MEASURES ON PROJECTS THAT CREATE OR REPLACE 2,500-5,000 SF IMPERVIOUS AREA.***}

A. Contractor is required to implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification for a project less than one acre in size.

1. Contractor shall implement measures designed to evapotranspire, infiltrate, harvest/use, and/or bio-treat storm water to meet at least one of the following hydraulic sizing design criteria:

1. Volume Criteria: determined using Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (approx. 85th percentile 24-hour storm).
2. Volume Criteria: volume of annual runoff required to achieve 80% or more capture determined in accordance with Section 5 of CAQA's Storm water BMP Handbook (2003) using local rainfall data.
3. Flow-Based Criteria: runoff produced from rain event equal to or greater than 1.2 inches/hour.
4. Flow-Based Criteria: runoff produced from rain event equal to at least 2 times the 85th percentile hourly rainfall intensity.

2. Site Design Measures shall be based on objective of achieving infiltration, evapotranspiration, and/or harvest/reuse of the 85th percentile rainfall event, to meet the numeric sizing criteria.

3. Contractor shall submit a Storm Water Pollution Prevention Plan (SWPPP) detailing measures to be implemented and hydraulic sizing design criteria to be met.

**1.3 STORM WATER POLLUTION CONTROL – GREATER THAN ONE ACRE:**{***PM: THIS LANGUAGE IS TO BE USED FOR ALL PROJECTS WHERE THE PROJECT CONSTRUCTION LIMIT (AREA OF POTENTIAL EARTH DISTURBING ACTIVITY) IS GREATER THAN 1 ACRE***}

A. The Contractor shall take all precautionary actions to prevent or reduce the discharge of pollutants from construction activities (including paving operation, concrete waste washouts, cold milling, water line flushing and vehicle and equipment fueling) from entering storm drain system. These precautionary actions are required as dictated by the Statewide General Permit issued by the State Water Resource Control Board (SWRCB) entitled “Order No. 2012-0006-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002, Waste Discharge Requirements (WDRS) for Discharges of Storm Water Associated with Construction Activity,” (General Construction Permit) which regulates discharges of storm water and non-storm water from construction activities disturbing one acre or more of soil in a common plan of development. Copies of the permit and modifications are available for review at [www.swrcb.ca.gov/stormwtr/construction.html](http://www.swrcb.ca.gov/stormwtr/construction.html).

B. Contractor shall prepare a Storm Water Pollution Prevention Plan (SWPPP). Contractor shall include in the SWPPP and implement as a minimum, the Best Management Practices (BMPs) indicated SWPPP. Additional BMPs may be required as warranted to maintain compliance with the General Construction Permit. The SWPPP shall be prepared in conformance with the requirements of the General Construction Permit, and all BMPs shall be implemented consistent with the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook (January 2003). Copies of the handbook are available through the Internet web site [www.sabmphandbooks.com](http://www.sabmphandbooks.com). Contractor shall include the following items in the SWPPP:

1. Revisions to the BMP layout sheets (attachment B) as appropriate.

2. Name and contact information for a designated Storm Water Pollution Control Manager for the Project (Sec 300).

3. Materials used in construction (update list in Sec 500).

4. Materials stored on site (update list in Sec 500).

5. Construction activities with potential to contribute sediment to storm water discharges (update list in Sec 500).

6. Emergency measures to be employed (update list in Sec 500).

7. Non-storm water control BMPs to be employed with descriptions (update list in Sec 500).

8. Waste Management narrative description of each BMP to be employed (update list in Sec 500).

9. Identify sampling locations prior to start of construction activities, based on activities scheduling (update list in Sec 600).

10. Identify Sampling personnel and Lab for sampling analysis.

11. Attachment C – Completed BMP Consideration Checklist.

12. Attachment D – Completed Runoff Computation Sheet.

13. Attachment E - Completed Run-on Coefficient Computation Sheet.

14. NOI (furnished by University).

15. Attachment I - Trained Contractor personnel log Information.

16. Attachment N – Copies of Other plans and permits (furnished by University).

17. Attachment P – Cut sheets of BMPs selected for the project.

C. Within (10) working days after the dated specified in the Notice to Proceed of Phase 2, Contractor shall submit (3) copies of the draft SWPPP to University's Representative. University's Representative will have (10) working days to review the SWPPP. If revisions are required, as determined by University's Representative, Contractor shall have 5 days to revise and resubmit. No work having potential to cause water pollution shall be performed until the SWPPP has been accepted by University's Representative.

D. The SWPPP shall be amended whenever there is a change in construction or operations that may affect the discharge of pollutants and at a minimum once annually 30 days prior to the beginning of the Wet Season (Wet Season begins on October 1). This annual amendment shall include updated Water Pollution Control Drawings to reflect the then current site conditions and a schedule for implementation of Sediment and Erosion Control BMPs prior to the beginning of the Wet Season.

E. Upon the approval of SWPPP, Contractor shall be responsible throughout the duration of the Project for installing, constructing, inspecting, maintaining, removing, and disposing of the water pollution control practices specified in the Project SWPPP.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 41 00**

**REGULATORY REQUIREMENTS**

**1. GENERAL**

**1.1 DESCRIPTION**

A. The Work shall be performed in accordance with Applicable Code Requirements and applicable requirements of all other regulatory agencies, including the following:

1. California Code of Regulations (CCR), Title 8, Industrial Safety.

2. CCR, Title 13, Hazardous Materials Transportation.

3. CCR, Title 17, Radiation Safety.

4. CCR, Title 19, Public Safety.

5. CCR, Title 20, Public Utilities and Energy.

6. CCR, Title 21, Public Works.

7. CCR, Title 23, Underground Storage Tank Regulations.

8. CCR, Title 24

a. Part 1, Building Standards Administrative Code (2013).

b. Part 2, California Building Code (2012 IBC with 2013 California Amendments).

c. Part 3, California Electrical Code (2011 NEC with 2013 California Amendments).

d. Part 4, California Mechanical Code (2012 UMC with 2013 California Amendments).

e. Part 5, California Plumbing Code (2012 UPC with 2013 California Amendments).

f. Part 6, California Energy Code (2010).

g. Part 7, California Elevator Safety Construction Code.

h. Part 8, California Historical Building Code.

i. Part 9, California Fire Code (2012 IFC with 2013 California Amendments).

j. Part 10, California Code for Building Conversion.

k. Part 11, California Green Building Standards Code (2013).

l. Part 12, California Referenced Standards Code (2013).

9. CCR, Title 25, Housing and Community Development.

10. CCR, Title 26, Toxics.

11. National Fire Protection Association (NFPA):

NFPA Standards Edition

10 Portable Fire Extinguishers 2011

11 Low-, Medium- and High-Expansion Foam 2011

12 Carbon Dioxide Extinguishing Systems 2011

12A Halon 1301 Fire Extinguishing Systems 2011

13 Installation of Sprinkler Systems 2011

13D Sprinkler Systems for One- and Two-Family Dwellings 2011

13R Sprinkler Systems for Residential Occupancies 2010

14 Installation of Standpipes and Hose Systems 2011

15 Water Spray Fixed Systems 2011

16 Installation of Foam-Water Sprinkler

& Foam-Water Spray Systems 2011

17 Dry Chemical Extinguishing Systems 2011

17A Wet Chemical Extinguishing Systems 2011

20 Installation of Stationary Pumps for Fire Protection 2011

22 Water Tanks for Private Fire Protection 2011

24 Installation of Private Fire Service Mains 2011

30 Flammable and Combustible Liquids Code 2011

37 Stationary Combustion Engines and Gas Turbines 2011

45 Laboratories Using Chemicals 2011

54 National Fuel Gas Code 2011

58 Liquefied Petroleum Gas Code 2011

72 National Fire Alarm Code 2011

80 Fire Doors and Other Opening Protectives 2011

92A Smoke-Control Systems 2011

99 Health Care Facilities 2011

101 Life Safety Code (for Laboratory

and Hospital Licensed Space Construction) 2011

105 Standard for Installation of Smoke Door Assemblies 2011

110 Emergency and Stand-by Power Systems 2011

253 Test for Critical Radiant Flux of Floor Covering Systems 2011

B. When the California Building Code does not specifically cover any subject relating to building design and construction, recognized fire prevention engineering practices shall be employed. The following may be used as authoritative guides when determining recognized fire prevention engineering practices:

1. The National Fire Codes.

2. The Fire Protection Handbook.

C. Unless otherwise specified, specific references to codes, regulations, standards, manufacturers' instructions, or requirements of regulatory agencies, when used to specify requirements for materials or design elements, shall mean the latest edition of each in effect at the date of submission of bids, or the date of the Change Order or Field Order, as applicable.

D. Representatives of the City Fire Department, Division of State Architect (DSA) and California Occupational Safety and Health Act (Cal/OSHA) have the right to inspect all Work and workplace conditions.

E. In accordance with California Labor Code ("CLC") Section 3099.2, all employees performing electrical work for a contractor/subcontractor holding a C-10 license shall become certified pursuant to CLC Section 3099.

**1.2 CONFLICTS**

A. If a conflict exists between referenced regulatory requirements or between referenced regulatory requirements and the Contract Documents, Contractor shall notify University's Representative and request that the conflict be resolved. The fact that the Contract Documents may establish higher or more costly requirements than the minimum Code or other regulatory requirements referenced above shall not constitute a "conflict."

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 42 00**

**REFERENCES**

**1. GENERAL**

**1.1 ABBREVIATIONS**

A. The following abbreviations of organizations may be used in the Contract Documents.

AA Aluminum Association

AABC Associated Air Balance Council

AAMA Architectural Aluminum Manufacturers Association

AAN American Association of Nurserymen, Inc.

AASHTO American Association of State Highway and Transportation Officials

ABPA Acoustical and Board Products Association

ACI American Concrete Institute

ACIL American Council of Independent Laboratories

ACPA American Concrete Pipe Association

ADA Americans with Disabilities Act

ADC Air Diffusion Council

AFBMA Anti-Friction Bearing Manufacturers Association

AFI Air Filter Institute

AGA American Gas Association

AGC Associated General Contractors of America

AHERA Asbestos Hazard Emergency Response Act

AI The Asphalt Institute

AIA American Institute of Architects

AIMA Acoustical Insulating Material Association

AISC American Institute of Steel Construction, Inc.

AISI American Iron and Steel Institute

AITC American Institute of Timber Construction

ALSC American Lumber Standards Committee

AMCA Air Moving and Conditioning Association

ANSI American National Standards Institute

AOAC Association of Official Analytical Chemists

APA American Plywood Association

API American Petroleum Institute

AQMD Air Quality Management District

ARI Air-Conditioning and Refrigeration Institute

ASA American Standards Association

ASAHC American Society of Architectural Hardware Consultants

ASHRAE American Society of Heating, Refrigerating and Air-Conditioning

Engineers, Inc.

ASME American Society of Mechanical Engineers Association, Inc.

ASTM American Society for Testing and Materials

AWCI Association of Wall and Ceiling Industries

AWI Architectural Woodwork Institute

AWPA American Wood-Preservers' Association

AWPB American Wood Preservers Bureau

AWPI American Wood Preservers Institute

AWS American Welding Society, Inc.

AWWA American Water Works Association, Inc.

BHMA Builders Hardware Manufacturers Association

BIA Brick Institute of America

BOCA Building Officials and Code Administrators

CAC California Administrative Code

Cal/OSHA California Occupational Safety and Health Act

CARB California Air Resources Board

CBM Certified Ballast Manufacturers Association

CCR California Code of Regulations

CDA Copper Development Association, Inc.

CE Corps of Engineers (U. S. Dept. of the Army)

CEC California Energy Commission

CESO California Elevator Safety Order

CGA Compressed Gas Association

CLFMI Chain Link Fabric Manufacturers Institute

CLPCA California Lathing and Plastering Contractors Association, Inc.

CPSC Consumer Product Safety Commission

CRSI Concrete Reinforcing Steel Institute

CS Commercial Standards of NBS (U.S. Dept. of Commerce)

CTI Cooling Tower Institute

CTLA Council of Tree and Landscape Appraisers

DHI Door & Hardware Institute

DISS Diameter Index Safety System

EPA Environmental Protection Agency

ETL Electrical Testing Laboratories

FFDA Federal Food and Drug Administration

FIA Factory Insurance Association

FM Factory Mutual Engineering Corp.

FS Federal Specification

FSC Forest Stewardship Council

GA Gypsum Association

GANA Glass Association of North America (formerly FGMA)

GFI Ground Fault Interrupter

GBCI Green Building Certification Institute

HEPA High Efficiency Particulate Air

HI Hydronics Institute

HMI Hoists Manufacturers Institute

HMMA Hollow Metal Manufacturers Association

HPMA Hardwood Plywood Manufacturers Association

IBEW International Brothers of Electrical Workers

IBR Institute of Boiler and Radiator Manufacturers

ICBO International Conference of Building Officials

ICEA Insulated Cable Engineering Association

IEEE Institute of Electrical and Electronic Engineers

IEC International Electric Code

IES Illuminating Engineers Society

IGCC Insulation Glass Certification Council

ISA Instrument Society of America

LEED Leadership in Energy & Environmental Design

LIA Lead Industries Association

MFMA Maple Flooring Manufacturers Association

MIA Marble Institute of America

MIL U.S. Government, Military Specification

MLSFA Metal Lath/Steel Framing Association

MOC Ministry of Communications General

MSHA Mine Safety and Health Administration

MSS Manufacturers Standardization Society of Valve and Fittings

NAA National Arborist Association

NAAB National Association of Air Balance

NAAMM The National Association of Architectural Metal Manufacturers

NACE National Association of Corrosion Engineers

NBFU National Board of Fire Underwriters

NBGQA National Building Granite Quarries Association, Inc.

NBHA National Builders' Hardware Association

NBS National Bureau of Standards (U. S. Dept. of Commerce)

NCMA National Concrete Masonry Association

NCPWB National Certified Pipe Welding Bureau

NEBB National Environmental Balancing Bureau

NEC National Electrical Code by NFPA

NECA National Electrical Contractors Association

NEMA National Electrical Manufacturers Association

NESHAP National Emissions Standard for Hazardous Air Pollutants

NETA International Electrical Testing Association

NFPA National Fire Protection Association

NHLA National Hardwood Lumber Association

NICET National Institute for Certification in Engineering Technologies

NIOSH National Institute of Occupational Safety and Health

NPA National Particleboard Association

NRC Noise Reduction Coefficient

NRCA National Roofing Contractors Association

NRMCA National Ready Mixed Concrete Association

NSF National Sanitation Foundation

NUSIG National Uniform Seismic Installation Guidelines

NWMA National Woodwork Manufacturers Association, Inc.

NWWDA National Wood Window and Door Association

OPL Omega Point Laboratories

OSHPD Office of Statewide Health Planning and Development

PCA Portland Cement Association

PCB Polychlorinated Biphenyl

PCI Prestressed Concrete Institute

PDI Plumbing and Drainage Institute

PI Perlite Institute

PS Product Standard of NBS (U.S. Dept. of Commerce)

RFCI Resilient Floor Covering Institute

RIS Redwood Inspection Service (Grading Rules)

SAE Society of Automotive Engineers

SAS Saudi Arabian Standard Organization

SBC State Building Code

SCAQMD South Coast Air Quality Management District

SDI Steel Door Institute

SIGMA Sealed Insulating Glass Manufacturers Association

SJI Steel Joist Institute

SMACNA Sheet Metal & Air Conditioning Contractors' National Assoc., Inc.

SPIB Southern Pine Inspection Bureau (Grading Rules)

SSPC Society for Protective Coatings

STC Sound Transmission Coefficient

SWI Sealant and Waterproofers Institute

TCA Tile Council of America, Inc.

UBC Uniform Building Code

UFAS Uniform Federal Accessibility Standards

UHMW Ultra-High Molecular Weight

UL Underwriters' Laboratories, Inc.

UMC Uniform Mechanical Code

UPC Uniform Plumbing Code

USDA United States Department of Agriculture

USGBC United States Green Building Council

USSG United States Steel Gauge

WCLIB West Coast Lumber Inspection Bureau (Grading Rules)

WH Warnock Hersey

WIC Woodwork Institute of California

WWPA Western Wood Products Association (Grading Rules)

**1.2 DEFINITIONS**

A. The following terms, when used on the Drawings or in the Specifications, shall have the following meanings:

1. ADEQUATE; CAREFUL; PROPER; SUFFICIENT; SUITABLE; SATISFACTORY: These terms refer to interpretation by University's Representative, and are subject to approval upon request.

2. APPLICABLE CODES: "Codes listed in Section 01 41 00, REGULATORY REQUIREMENTS."

3. APPROVED: "As approved by University's Representative."

4. AS DIRECTED: "As directed by University's Representative."

5. AS REQUIRED: "As required by Applicable Code Requirements; by good building practice; by the conditions prevailing; by the Contract Documents; by University, or by University's Representative".

6. AS SELECTED: "As selected by University's Representative."

7. BY OTHERS: Work on the Project that is outside the scope of Work to be performed by Contractor under the Contract, but that will be performed by University, Separate Contractors, or other means.

8. EQUAL: Of same quality, appearance, and utility to that specified, as determined by University's Representative. Contractor bears the burden of proof of equality.

9. FURNISH: "Supply only, not install (unless required to be provided or installed elsewhere in the Contract Documents)."

10. INCLUDE/INCLUDING: "Include/including, without limitation."

11. INSTALL: "Install or apply only, not furnish (unless required to be provided or furnished elsewhere in the Contract Documents)".

12. MANUFACTURER'S DIRECTIONS/INSTRUCTIONS/ RECOMMENDATIONS/SPECIFICATIONS: Manufacturer's written directions, instruction, recommendations, specifications.

13. MUST; SHALL; TO; WILL: When used as a directive to Contractor, these terms indicate a mandatory action.

14. NECESSARY: "Essential to completion of Work".

15. UNIVERSITY-FURNISHED, CONTRACTOR INSTALLED: "To be furnished by University at its cost and installed by Contractor as part of the Work."

16. PROJECT SITE; JOB SITE: Geographical location of the Project.

17. PROVIDE: "Furnish and install".

18. SHOWN: "As indicated on the Drawings".

19. SPECIFIED: "As written in the Contract Documents."

20. SUBMIT: "Submit to University's Representative."

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 43 00**

**QUALITY ASSURANCE**

**1. GENERAL**

**1.1 GENERAL**

A. Definitions:

1. The term "University's Testing Laboratory" means a testing laboratory retained and paid for by University for the purpose of reviewing material and product reports and performing other services as determined by University.

2. The term "Contractor's Testing Laboratory" means a testing laboratory retained and paid for by Contractor to perform the testing services required by the Contract Documents. Contractor's Testing Laboratory shall be an organization other than University's Testing Laboratory and shall be acceptable to University's Representative. It may be a commercial testing organization, the testing laboratory of a trade association, the certified laboratory of a supplier or manufacturer, Contractor's own forces, or other organization. Contractor's Testing Laboratory shall have performed testing of the type specified for at least 5 years.

B. Tests, inspections, and acceptances of portions of the Work required by the Contract Documents or by Applicable Code Requirements shall be made promptly to avoid delay of the Work. Except as otherwise specified, Contractor shall make arrangements for such tests, inspections, and approvals with Contractor's Testing Laboratory. Contractor shall give University's Representative timely notice of when and where tests and inspections are to be made.

C. If such procedures for testing, inspection, or acceptance reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, Contractor shall bear all costs made necessary by such failure including those of repeated procedures and compensation for University's Representative's services and expenses.

D. If University's Representative is to observe tests, inspections, or make acceptances required by the Contract Documents, University's Representative will do so promptly and, where practicable, at the normal place of testing.

E. Do not incorporate into the Work materials represented by samples under test without the written approval of University's Representative.

**1.2 CONTRACTOR'S RESPONSIBILITIES REGARDING UNIVERSITY'S TESTING LABORATORY**

A. Secure and deliver to University's Testing Laboratory specified quantities of representative samples of materials proposed for use as specified.

B. Submit to University's Testing Laboratory the preliminary design mixes proposed to be used for concrete and other materials which require review by University's Testing Laboratory.

C. Submit copies of product test reports as specified.

D. Furnish incidental labor and facilities:

1. To furnish University's Testing Laboratory access to Work to be tested.

2. To obtain and handle samples at the Project site or at the source of the product to be tested.

3. To facilitate inspections and tests.

4. For storage and curing of test samples.

E. Submit written notice to University's Representative and University's Testing Laboratory 72 hours in advance of operations to allow for assignment of personnel and scheduling of tests.

F. When tests or inspections are not performed after such notice, Contractor shall reimburse University for University's Testing Laboratory personnel and travel expenses incurred.

**1.3 TESTS, INSPECTIONS AND APPROVALS**

A. Certain portions of the Work will be tested and/or inspected at various stages. Nothing in any prior acceptance or satisfactory test result shall govern, if at any subsequent time the Work, or portion thereof, is found not to conform to the requirements of the Contract Documents.

B. In addition to the requirements of the General Conditions, if any law, ordinance or public authority or the Specifications or University's Representative's instructions require any work to be specially tested or approved (including use of ionizing radiation for radiography), Contractor shall give University's Representative timely notice of its readiness for inspection, and if the inspection is by another authority than University's Representative, of the date fixed for such inspection.

C. Re-examination of questioned work may be ordered by University's Representative.

D. The Office of Statewide Health Planning and Development (OSHPD) requires a list of structural tests and inspections to be included in the Specifications for hospital projects. Structural tests and inspections required by OSHPD are listed in the special OSHPD Structural Tests and Inspections form attached at the end of this Section.{***PM: PLEASE EMAIL PDF OF THE OSHPD STRUCTURAL TESTS & INSPECTION FORM FOR THIS PROJECT***}.

**1.4 ADDITIONAL TESTING AND INSPECTION**

A. If initial tests or inspections made by University's Testing Laboratory or University's Geotechnical Engineer reveal that any portion of the Work does not comply with Contract Documents, or if University's Representative determines that any portion of the Work requires additional testing or inspection, additional tests and inspections shall be made as directed.

1. If such additional tests or inspections establish that such portion of the Work complies with the Contract Documents, all costs of such additional tests or inspections shall be paid by University.

2. If such additional tests or inspections establish that such portion of the Work fails to comply with the Contract Documents, all costs of such additional tests and inspections, and all other costs resulting from such failure, including compensation for University's Representative and University's consultants, shall be deducted from the Contract Sum.

**1.5 TEST REPORTS**

A. University's Testing Laboratory and Contractor's Testing Laboratory shall submit 1 copy of all reports to University's Representative, indicating observations and results of tests and indicating compliance or non-compliance with the Contract Documents.

B. University's Representative will distribute 1 copy of the reports to University, University's Consultants, and Contractor.

**1.6 GEOTECHNICAL ENGINEER**

A. If applicable, University will retain and pay the expenses of a Geotechnical Engineer to perform inspection, testing, and observation functions specified by University. The Geotechnical Engineer shall communicate only with University and University's Representative. University's Representative will then give notice to Contractor, with a copy to University, of any action required of Contractor.

**1.7 UNIVERSITY'S INSPECTORS**

A. University shall supply personnel, reporting to University's Representative, who shall observe construction in progress. Inspectors shall have the following responsibilities and limitations on authority:

1. Act under the direction of University's Representative.

2. Observe installations and work in progress as a basis for determining conformance of the work, materials and equipment with the Construction Documents. Inspector will report any discrepancies observed to University's Representative and Contractor. Only University's Representative has the authority to make approvals or rejections.

3. Only University's Representative shall interpret the requirements of the Construction Documents. If any item is ambiguous, University's Representative shall make a written interpretation. If Contractor requests changes or modifications to the Construction Documents, University's Representative shall make a written determination on the requested changes or modifications.

4. Prepare and submit an inspection report to University's Representative for each inspection performed.

5. Review the monthly progress payment request before Contractor submits it to University's Representative.

6. Assist University's Representative in reviewing the test and inspection results of testing laboratories.

7. The Inspector is not authorized to permit deviations from the requirements of the Contract Documents unless such deviation has been approved by University's Representative in writing.

8. The Inspector is not authorized to advise on or issue directions to Contractor about any aspect of construction means, methods, techniques, sequences or procedures, or relating to safety programs in connection with the Project.

B. The failure of University, University's Representative and its representatives and consultants, or University's Inspector to observe or inspect the Work, or to detect deficiencies in the Work, or to inform Contractor of any deficiencies which may be discovered, shall not relieve Contractor, its subcontractors regardless of tier, or suppliers from their responsibility for construction means, methods, techniques, sequences and procedures, construction safety, nor from their responsibilities to carry out the work in accordance with the Contract Documents and to detect and correct defective work. The term "defective work" means work that is unsatisfactory, faulty, omitted, incomplete, deficient, or does not conform to the requirements of the Contract Documents, directives of University's Representative, or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents, or has been damaged prior to final completion, unless responsibility for the protection of such work has been assumed by University through beneficial occupancy in accordance with Article 9.6 of the General Conditions or through substantial completion in accordance with Article 9.7 of the General Conditions.

**1.8 INSPECTION REQUESTS**

A. Contractor shall request inspection of completed portions of the Work through University's Representative at least 72 hours in advance of the inspection to be performed. Contractor shall submit said request for inspection using a form to be furnished by University's Representative at the Pre-Construction Meeting (see Section 01 31 19, PROJECT MEETINGS).

B. For each inspection request received from Contractor for which University's Representative determines that such work is not ready for inspection, University will back charge Contractor the amount of ($75.00) per hour as partial compensation for the University's Inspector's time spent to respond to the unnecessary request.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 45 00**

**QUALITY CONTROL**

**1. GENERAL**

**1.1 SUPERINTENDENT**

A. In addition to requirements specified in Article 3 of the General Conditions, submit Superintendent's qualifications showing a minimum of 5 years' experience in coordinating projects of similar scope and size as this Project within the United States.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 51 00**

**TEMPORARY UTILITIES**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Provide and maintain temporary utilities for construction operations and related necessary temporary structures. Remove them when they are no longer needed.

B. Pay for connections for water and electricity to Project site sources.

C. University does not guarantee amounts of water and electricity available from existing University's sources, nor will University be responsible for interruptions in service.

**1.2 REQUIREMENTS OF REGULATORY AGENCIES**

A. Install and use temporary utilities in accordance with requirements specified in Section 01 41 00, REGULATORY REQUIREMENTS, and all Applicable Code Requirements.

**2. MATERIALS**

**2.1 GENERAL**

A. Materials may be new or used, but shall be adequate for the required purposes. Their use and methods of installation shall not create unsafe conditions or violate requirements of applicable codes and requirements.

**2.2 TOILET FACILITIES**

A. Toilet facilities for use by workers on the job or other personnel of Contractor will be provided by University in existing toilet facilities. These facilities shall be used for toilet purposes only and not for disposal of materials or cleaning of tools.

**2.3 TEMPORARY TELEPHONE**

A. Telephone service will not be provided by University, except in case of emergency involving life and safety. Contractor shall use the public pay phones available on campus or, after coordinating with University's Representative, make arrangements with University's Information Technology Services (ITS) department for temporary telephone service.

**2.4 TEMPORARY ELECTRIC SERVICE**

A. University will furnish electric power for construction purposes at no cost to Contractor.

1. The characteristics of current furnished by University are limited to that existing and available. If current of other characteristics or quantity is required by Contractor, it shall supply the power as necessary at no extra cost to University.

2. All parts of the permanent electrical system used for construction purposes shall be operated in a manner so as to ensure the safety of all personnel and to prevent interference with the orderly progress of the Work.

3. Contractor shall repair and make good all damage to existing electrical facilities caused by Contractor's use, as requested and approved.

B. Furnish, install and maintain all temporary electrical equipment and connections (including, without limitation, conduit and wires, drops, circuit breaker and disconnect switches) as necessary for the Work.

C. Service connections shall be made by Contractor to the existing electrical distribution system at the following point(s) of connection:

1. Power for small tools and lighting may be taken from the existing 120 Volt 60 Hz 1-phase convenience receptacles in the building.

2. Power for larger equipment may be taken directly from the existing 208Y/120V 3-phase 4-wire lighting panelboard on the same floor of this Project.

D. The load connected to any circuit shall not exceed 25% of the circuit or feeder capacity as labeled in the panelboard.

E. There shall be no disturbance to building occupants and functions. Cables and conductors shall not prevent closing of fire labeled doors.

F. Before final acceptance, all temporary equipment and connections installed by Contractor shall be removed in a manner approved by University's Representative.

**2.5 TEMPORARY WATER**

A. Water service outlet shall be provided at locations where shown and as approved. Contractor shall furnish, install and maintain necessary temporary supply connections, piping, fittings, etc., as necessary for the Work. Before final acceptance, all temporary connections and piping installed by Contractor shall be removed in a manner approved by University's Representative. Water will be provided by University at no cost to Contractor for construction purposes.

1. Contractor shall furnish and install a double check valve assembly, water meter, and pressure regulator, approved by University's Representative, at the point of connection to University's water system.

**2.6 TEMPORARY FIRE PROTECTION**

A. Provide and maintain fire protection equipment including extinguishers, fire hoses, and other equipment as necessary for complete fire protection during the course of the Work.

1. Install a reduced pressure type backflow device, approved by University's Representative, at point of connection to University's water system.

B. Use fire protection equipment only for fighting fires.

**2.7 TEMPORARY HEAT AND VENTILATION**

A. Provide temporary heat and ventilation as required to maintain adequate environmental conditions to meet specified minimum conditions for installation of materials; and to protect equipment, materials, and finishes from damage due to temperature or humidity.

B. Provide adequate forced ventilation of enclosed areas to cure installed materials, to prevent excessive humidity, and to prevent hazardous accumulations of dust, fumes, vapors, or gases.

**3. EXECUTION**

**3.1 GENERAL**

A. Comply with applicable requirements specified in Section 01 41 00, REGULATORY REQUIREMENTS, DIVISION 22, PLUMBING, Division 23, HEATING, VENTILATING AND AIR CONDITIONING, and Division 26, ELECTRICAL, as applicable.

B. Maintain and operate systems to furnish continuous service.

C. Modify and extend systems as required.

**3.2 REMOVAL AND RECONDITIONING**

A. Remove all temporary services installed as a requirement of the Contract Documents. Restore utilities to their original condition at the completion of the Work.

B. Legally and properly dispose of all debris resulting from removal and reconditioning operations.

END OF SECTION

**SECTION 01 52 00**

**CONSTRUCTION FACILITIES**

**1. GENERAL**

**1.1 JOB SITE OFFICE**

A. Erect and maintain, for duration of operations and in locations as approved, suitable temporary office facilities as required for Contractor's, University's and University's Representative's administration of the work. Provide necessary sheds and facilities for the storage of tools, materials, and equipment employed in the performance of the work. Temporary buildings shall be weathertight with raised solid floors, solid sheathed and composition roofs, and adequately glazed and screened windows for light and ventilation. Provide for University and University's Representative a clean 12' x 40' (minimum) trailer in good condition inside and outside electricity, heating and lighting, complete with air conditioning and a 120-208 volt/100 amp electric service and hook up for University's Representative and University with a cylinder locked door and at least 4 keys. The trailer shall have (2) 12' long partitions with doors located as approved by University's Representative. Configuration shall be as approved by University's Representative. Temporary buildings shall be painted using colors as approved. Contractor shall furnish daily janitorial service in the trailer. Provide stairs and handicapped ramp per code. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 54 00**

**CONSTRUCTION AIDS**

**1. GENERAL**

**1.1 TEMPORARY STAIRS, SCAFFOLD AND RUNWAYS**

A. Provide all scaffolds, stairs, hoist plant, runways, platforms, and similar temporary construction as may be necessary for the performance of the Contract. Such facilities shall be of the type and arrangement as required for their specific use, substantially constructed throughout and strongly supported, well secured and complying with all applicable rules and regulations of the Industrial Accident Commission of the State of California and all applicable laws and ordinances. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.

B. Arrange for construction equipment access to areas which may be partly blocked by existing obstructions.

**1.2 TEMPORARY HOISTS**

A. Provide temporary hoist as required by job conditions for the installation of materials and equipment. Install and operate in accordance with all safety regulations of authorities having jurisdiction. Refer to Section 01 41 00, REGULATORY REQUIREMENTS.

**1.3 TRENCHING AND SHORING**

A. All trenching and shoring work shall be in full accordance with, but not necessarily limited to the following codes and regulations: Titles 8, 19, 21, 22, & 24, State of California, California Code of Regulations (CCR), California Occupational Safety and Health Administration (OSHA).

1. General Protection. Pursuant to Labor Code Sections 6705 and 6707, Contractor shall include in its base bid all costs incident to the provision of adequate sheeting, shoring, bracing or equivalent method for the protection of life and limb which shall conform to the applicable Federal and State Safety Orders.

2. Before beginning excavation five feet or more in depth, Contractor shall submit to University's Representative a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation. The proposed plan shall comply with the standards established by the California Construction Safety Order and Title 24 of the California Code of Regulations (CCR). If the detailed plan varies from such shoring system standards, it shall be prepared by a California registered civil or structural engineer whose name and registration number shall be indicated on the drawing. If a dispute arises as to whether the plan must be prepared by a registered civil or structural engineer, University's Representative's determination of the matter shall be final and conclusive on Contractor and University. The cost of any required engineering services shall be borne by Contractor and shall be deemed to have been included in the Contract Sum.

3. Neither the review nor approval of any plan showing the design of shoring, bracing, sloping, or other provisions for worker protection shall relieve Contractor from its obligation to comply with Construction Safety Orders Standards and CCR, Title 24, for the design and construction of this protective Work, and Contractor shall indemnify University and University's Representative from any and all claims, liability, costs, actions and causes of action arising out of or related to the failure of these protective systems. Contractor shall defend University and its officers, employees, and agents, and University's Representative in any litigation of proceeding brought with respect to the failure of these protective systems.

4. Comply with State of California Construction Safety Orders, Article 6 - Excavations, Trenches, Earthwork – whether or not the excavation, trench, or earthwork is five feet or more in depth.

**1.4 USE OF CRANE**

A. If Contractor elects to utilize a crane in the performance of Work of this Project, operation of crane shall be in accordance with California Code of Regulations, Title 8, and the following requirements.

1. To ensure compliance with these guidelines, notify University Fire & Life Safety Division prior to crane use. Call (###) 867-5309 to schedule an appointment.

2. Entrance and exit path to and from the Project site shall be evaluated and predetermined to ensure most appropriate and safest route. Alternate access routes may be necessary depending on the size and tonnage of the crane used.

3. The crane travel path shall be predetermined by a California registered structural engineer to ensure the safety and integrity of underground vaults, tunnels and equipment. Depending on the size of the crane, alternative routes may be necessary.

4. Contractor, in consultation with University's Representative, shall predetermine the crane operation location. Contractor shall arrange for inspection of the location by University Fire & Life Safety Division prior to crane lift commencement.

5. In accordance with California Code of Regulations, Title 8, Section 5025, a certificate indicating that all required tests and examinations have been performed, including all identified defects that have been corrected, shall be made available with each crane or at the Project site. The certificate shall verify that the equipment is in safe operating condition at the time of examination.

6. In accordance with California Code of Regulations, Title 8, Section 5006.1, Contractor shall only permit operators who have a valid certificate of competency (certificate) issued by an Accredited Certifying Entity. Certificates shall be valid for a maximum of 5 years.

a. Exception to Section 5006.1: Mobile cranes having a boom length of less than 25 feet or a maximum rated load capacity of less than 15,000 pounds.

7. Comply with the following during crane lift operations:

a. Building occupants and/or construction personnel may be required to evacuate areas under the lift and swing radius. University Fire & Life Safety Division shall predetermine this requirement on a per project basis. If evacuation of building occupants is not feasible, document why relocation/evacuation is not feasible in accordance with California Code of Regulations, Title 8, Section 5002.

b. The entire swing radius shall be barricaded using, at a minimum, safety cones, barrier tape, and/or saw horses. Furnish flagpersons to monitor and control all traffic. Vehicular and pedestrian traffic is not permitted under the load at any time.

1) At Contractor’s option, it may hire University Community Service Officers (CSOs) to assist in traffic control.

c. The immediate area shall be kept clear of all vehicles and equipment at all times. Only trucks that are supplying equipment to be lifted may be located in the immediate area.

8. All University personnel working in the lift area shall wear appropriate hard hats, safety shoes, and safety glasses.

9. As necessary, notify or coordinate crane lift operations with the following departments:

a. Cal-OSHA - Tower Crane Certification Unit;

b. University’s Facilities Management - Outage Notification Coordinator: {Name} (telephone (###) 867-5309);

c. Capital Programs, Structural Engineers; (###) 867-5309

d. University’s Facilities Management - Grounds Senior Superintendent for landscape protection (telephone (###) 867-5309);

e. Building Coordinators (Employee Notification);

f. University’s Transportation Services - Traffic Management (telephone (###) 867-5309);

g. University’s Environment, Health and Safety - Fire Protection Division (telephone (###) 867-5309);

h. UC Police Department (Escorts, CSOs, etc.).

B. Additional Requirements for Use of Cranes Outside Construction Fences:

1. Pedestrians shall not be allowed to walk under the load at any time. To ensure this, the entire swing radius shall be barricaded and traffic in both directions shall be prohibited. Objects to be used as pedestrian barricades shall include barrier tape, cones, saw-horses, lift personnel, flagpersons, CSOs or any combination of these.

2. Furnish the services of flagpersons, CSOs, etc. to control or prohibit pedestrian access when the lift area is immediately adjacent to high traffic areas, including entrances to buildings and major walkways. One flagperson/CSO is recommended for each point of entry into the lift area.

3. It may be necessary to evacuate portions of the top two floors when a crane is used to deliver or remove equipment and materials from the roof of an occupied building. Occupants shall be evacuated in the areas immediately beneath the swing radius of the boom, from rooms with external facing windows and areas immediately beneath the pick or drop location. University's Representative and the University Fire & Life Safety Division representative will predetermine the extent of the evacuation.

4. Engineering calculations from a California registered civil or structural engineer may be used in lieu of evacuation building occupants from areas beneath crane activities.

C. Additional Requirements for Use of Cranes Entirely Inside Construction Fences:

1. Contractor shall ensure that both the crane and crane operators are currently certified under Cal-OSHA requirements. Contractor shall submit a copy of such documentation to University's Representative in advance.

2. Contractor shall ensure that subcontractors working adjacent to crane activities have administered “crane awareness safety” or equivalent training to their employees. Contractor shall submit a copy of such documentation to University's Representative in advance.

3. At all times that the boom or load travels outside the perimeter of the construction fence, the crane operation shall be immediately subject to the additional requirements for use of cranes outside construction fences.

4. When the crane or load encroaches upon University streets, and barricades and warning signs cannot control moving traffic, the crane operation shall be conducted using flagpersons trained in accordance with Cal-OSHA.

D. References:

1. California Code of Regulations, Title 8, GISO Sections 344.60-344.81:

a. License Requirements - Crane and Derrick Certification.

b. Tower Cranes – Operating Permit and Certification Requests.

c. Certification Requirements.

2. California Code of Regulations, Title 8, GISO Sections 4884 – 5049:

a. Cranes and Other Hoisting Equipment.

b. Overhead Loads.

c. Mobile Crane and Tower Crane - Operator Qualifications and Certification.

3. California Code of Regulations, Title 8, CSO Sections 1597 – 1599:

a. Vehicles, Traffic Control, Flaggers, Barricades and Warning Signs.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 55 00**

**VEHICULAR ACCESS & PARKING**

**1. GENERAL**

**1.1 USE OF PUBLIC THOROUGHFARES AND UNIVERSITY ROADS**

A. Contractor shall make its own investigation of the condition of available public thoroughfares and University roads, and of the clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress at the Project site.

B. Where materials are transported in the prosecution of the Work, do not load vehicles beyond the capacity recommended by manufacturer of the vehicles or prescribed by any applicable state or local law or regulation.

C. Use only established roads on the campus; provided, however, that such temporary haul roads as may be required in the work shall be constructed and maintained by Contractor, subject to the approval of University's Representative.

D. Provide protection against damage whenever it is necessary to cross existing sidewalks, curbs, and gutters in entering upon the University roads. Repair and make good at the expense of Contractor all damages thereto, including damage to existing utilities and paving, arising from the operations under the Contract.

E. Truck staging is not allowed on campus or on any residential street surrounding the campus.

**1.2 PARKING**

A. No vehicle shall be allowed to park on the campus without displaying the appropriate permit(s), as follows:

1. For Parking in Designated Parking Space (i.e. Parking Structure, Open Lot) and For Construction Parking at the Project Site in Non-Fenced Areas on Hardscape: A valid parking permit is required. Permits may be purchased by the day, week, month or quarter on an as-available basis. Permits may be purchased on a daily basis from any Parking Service Kiosk. For longer term parking, permits must be purchased directly from Parking Service located at {Address}. Permits are valid in the area of assignment only. Violators are subject to citation.

B. PARKING ARRANGEMENTS FOR THIS PROJECT: Contractor shall arrange and pay for all parking for itself, its subcontractors, and its employees.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 56 00**

**TEMPORARY BARRICADES & ENCLOSURES**

**1. GENERAL**

**1.1 TEMPORARY BARRICADES**

A. Provide temporary barricades as necessary. Maintain barricades in a clean and neat condition until no longer required and removal is approved or requested.

B. When Work involves modification to an existing egress corridor, Contractor shall provide temporary barricades as necessary, constructed in a manner that maintains the fire resistive integrity of the affected corridor(s). Construction and placement of the barricades shall be approved by University's Representative.

**1.2 REMOVAL AND RECONDITIONING**

A. Temporary facilities, barricades, utilities and other construction of temporary nature shall be removed from the Project site as soon as the progress of the work will permit in the opinion of University's Representative; and the portions of the Project site and building occupied by same shall be reconditioned and restored to original condition. For temporary utilities, refer to Section 01 51 00, TEMPORARY UTILITIES.

B. Legally dispose of all debris resulting from removal and reconditioning operations.

**1.3 BARRICADE FENCING**

A. Barricade chain link fencing shall be installed straight and plumb, using galvanized steel pipe and 9 gauge galvanized 2 inch diamond mesh wire fabric fastened to the posts and rails.

B. Posts shall be 2.375 inch O.D.; securely set in the ground and spaced a maximum of 10'-0" O.C. and 8'-0" height with a continuous top pipe rail. Posts shall not be set in or on existing concrete paving or walls to remain, but shall be located in soil, planter or brick paved areas.

C. Wire fabric shall be covered on the outside of the barricade with NJP Sports, Inc. Polypropylene Fabric #1231, Green, or equal) fastened securely to the barricade.

D. Maintain fencing in a straight, clean and neat condition throughout construction as approved by University's Representative.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 60 00**

**PRODUCT REQUIREMENTS**

**1. GENERAL**

**1.1 TRANSPORTATION AND HANDLING**

A. Deliver manufactured products in their original unbroken containers or bundles, clearly labeled with manufacturer's name, brand, and grade seal or model number.

B. Keep materials clean, dry, and undamaged. Handle materials and equipment in a manner to avoid damage to products and their finishes.

C. Promptly remove damaged or defective products from the Project site and replace with no adjustment of Contract Sum.

**1.2 STORAGE AND PROTECTION**

A. Store manufactured products in accordance with manufacturers' instructions and with seals and labels intact and legible.

1. Store products subject to damage by the elements in weathertight enclosures.

2. Maintain temperature and humidity in accordance with manufacturers' recommendations (refer to Section 01 51 00, TEMPORARY UTILITIES).

B. Exterior Storage:

1. Store materials and equipment above ground on blocking or skids to prevent soiling, staining, and damage.

2. Cover products which are subject to damage by the elements with impervious protective sheet coverings. Provide adequate ventilation to prevent condensation.

3. Store sand, rock, or aggregate material in a well-drained area on solid surfaces to prevent mixing with foreign matter.

C. Arrange storage to allow adequate inspection.

D. Periodically inspect stored products to assure that products are maintained under specified conditions and are free from damage and deterioration.

E. Use of mechanical and electrical rooms for storage of materials or furniture is prohibited.

F. Protection After Installation:

1. Prevent damage to materials and equipment.

2. Use whatever protective materials or methods are necessary to prevent damage to installed products from traffic, construction operations, and weather. Remove protection when no longer required.

3. Maintain temperature and humidity conditions in interior spaces for the Work in accordance with manufacturers' instructions for the materials and equipment being protected.

**1.3 UNDERWRITERS LABORATORIES, INC. (UL) LABEL**

A. Materials and equipment, for which UL standards have been established and their label service is available, shall bear the appropriate UL Label.

**1.4 MANUFACTURERS' TRADE MARKS AND NAMES**

A. University's Representative reserves the right to review and request the removal or redesign of manufacturers' trade marks and names on items of materials and equipment which will be exposed to view in the completed Work. Such removal or redesign shall be with no adjustment of Contract Sum.

**1.5 UNIVERSITY-FURNISHED ITEMS**

A. General:

1. Certain materials, equipment and other items are identified in the Contract Documents as being furnished by University and installed by Contractor.

2. In all cases so identified, Contractor shall give timely notice to University's Representative of its readiness to perform the Work.

3. Contractor shall receive all material furnished by others at the Project site location(s) designated by University's Representative. Upon delivery to Contractor at the location designated by University's Representative, Contractor shall inspect the material and notify University's Representative of any damage or insufficiency that would preclude Contractor performing the Work.

4. Where material furnished by others requires connections or attachments made by Separate Contractors, Contractor shall coordinate with such other Separate Contractors to assure a complete installation.

5. Contractor shall store and protect material furnished by University and assume all responsibility for security and protection of such equipment from the time it is received by it until Final Completion.

6. Once received by Contractor per Paragraph 1.5.C above, all material or equipment furnished by University installed by Contractor shall be subject to all terms of the Contract, including General Conditions.

B. Items Furnished by University / Installed by Contractor:

1. {***PM: PLEASE LIST THE UNIVERSITY FURNISHED / CONTRACTOR INSTALLED ITEMS HERE AND CROSS REFERENCE APPLICABLE TECH SECTIONS AND/OR DWGS AS APPLICABLE.***}

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 71 23**

**FIELD ENGINEERING**

**1. GENERAL**

**1.1 LAYING OUT OF THE WORK**

A. Contractor shall employ a California registered Civil Engineer or Land Surveyor to lay out the Work and set grades, lines, levels, and positions throughout the Project site. Before beginning the Work, locate general reference points, establish monuments, and take action as is necessary to prevent their destruction; then lay out all lines, elevations, and measurements for buildings, grading, paving, utilities, and other parts of the Work. Verify figures and dimensions shown on the Drawings and accept responsibility for any error resulting from failure to so verify, including the cost of any additional re-surveying. Establish permanent monuments on curbs, manholes, or pavements, or with concrete embedded steel pipe with lead plug and brass nail, as approved.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 71 33**

**PROTECTION OF ADJACENT CONSTRUCTION**

**1. GENERAL**

**1.1 SURROUNDING SITE CONDITION SURVEY**

A. Prior to commencing the Work, Contractor and University's Representative shall tour the Project site together to examine and record damage to existing adjacent buildings and improvements. This record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed by all parties making the tour. Any cracks, sags, or damage to the adjacent buildings and improvements not noted in the original survey, but subsequently discovered, shall be reported to University's Representative.

**1.2 PROTECTION OF EXISTING STRUCTURES AND UTILITIES (Refer also to General Conditions)**

A. The Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, hot water, and other utilities which are known to University.

B. Locate all known existing utility installations before proceeding with construction operations which may cause damage to such installations. The existing installations shall be kept in service where shown and damage shall be repaired with no adjustment of Contract Sum.

C. If any other structures or utilities are encountered, request University's Representative to furnish direction on how to proceed with the Work.

D. If any structure or utility is damaged, take immediate action to ensure the safety of persons and property.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 73 23**

**BRACING & ANCHORING**

**1. GENERAL**

**1.1 ANCHORS AND FASTENERS**

A. Anchors and fasteners may be utilized for this Project on a limited basis only. Submit manufacturer's literature and calculations for anchoring and fastening devices to University's Representative for approval prior to their use.

1. For concrete, use two-piece cinch anchors.

2. The use of pneumatic-driven anchors or fasteners, and power-driven or powder-driven anchors or fasteners is prohibited.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**SECTION 01 73 29**

**CUTTING & PATCHING**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Work Included

1. Patching and matching existing Work altered or disturbed to accommodate new construction.

2. Patching and matching existing Work damaged or defaced during new construction as required to restore to condition at time of award of Contract.

3. Matching of new Work in existing construction to adjacent existing Work unless otherwise noted.

4. Execute cutting, patching and matching in a manner to prevent damage to other Work and to provide proper surfaces for the installation of repairs, penetrations through surfaces, equipment or other items.

**1.2 SUBMITTALS**

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

B. Product Literature and Shop Drawings: Submit for review materials, methods, or systems different from existing Work to be matched.

C. Samples as requested by University's Representative.

**1.3 QUALITY ASSURANCE**

A. Design Criteria

1. Patching shall achieve security and protection where exposed to weather, and shall preserve the continuity of existing fire ratings.

2. Cutting, patching and matching shall successfully duplicate the undisturbed adjacent finishes, colors, textures, and profiles. Where there is dispute over whether the duplication is successful or has been achieved to a reasonable degree, the judgment of University's Representative shall be final.

3. Contractor shall notify University’s Representative in writing if non-complying existing construction or field conditions are encountered.

**1.4 DELIVERY, STORAGE, AND HANDLING**

A. Refer to Section 01 60 00, PRODUCT REQUIREMENTS.

**1.5 PROJECT CONDITIONS**

A. Environmental Requirements: Follow the manufacturer's recommendations.

**2. PRODUCTS**

**2.1 MATERIALS**

A. Materials shall be as required to match the appearance, quality and performance of the existing finishes to be duplicated and materials to be replaced.

B. Where the existing finish to be duplicated was achieved with materials now out of production or otherwise unavailable, obtain review and acceptance of substitutions by University's Representative.

C. Provide primers, sealers, underlayments, backing, blocking, furring, suspension systems and related items required for any purpose in patching existing Work.

D. Materials shall be subject to the review of and acceptance by University's Representative.

**3. EXECUTION**

**3.1 GENERAL REQUIREMENTS**

A. Perform Work in accordance with the manufacturer's recommendations, deviating only as approved by University's Representative to achieve a good match.

B. For the following items, employ the installer or fabricator to perform any cutting, patching or matching of such items:

1. Weather-exposed or moisture-resistance elements.

2. Fireproofing.

3. Finishes surfaces exposed to view.

C. Adjust and fit products to provide a neat installation.

D. Keep noise to a minimum. Inform University's Representative of locations where Work will be noisy, and obtain University's Representative’s approval of the times during which such Work will be done.

E. Finish or refinish surfaces as required to match adjacent finishes. Refinish to nearest intersection or refinish entire assembly.

F. Patching of old ceramic tile surfaces:

1. Match tile if practical.

2. If matching tile is unavailable, provide stock tile of color acceptable to University's Representative. Install replacement tile in a uniform, rectilinear pattern that is symmetrical to the repair area (e.g., not a zigzag or checkerboard). Pattern shall be acceptable to University's Representative.

3. Minor small screw holes may be filled with a rubberized grout of a color close to the tile color.

**3.2 PAINTING**

A. Extent of Painting:

1. Paint over the entire surface plane, unless otherwise noted.

2. Over patched wall, soffit or ceiling surfaces, paint to the nearest cut off line for the entire surface, such as the intersection with the adjacent wall or ceiling, a beam, a pilaster, or to nearest opening frame where a total cut off does not occur within 10 feet of the patch, unless otherwise noted.

B. Ensure painted surfaces do not present a spotty, touched-up appearance.

C. Provide a smooth continuous surface in texture, coverage, and color.

**3.3 PAVEMENT**

A. Asphaltic and Portland Cement concrete shall be patched to match adjacent surfaces and thickness, with similar material (e.g., exposed aggregate concrete, colored concrete, etc.).

B. Remove and replace all damaged concrete and all concrete to be demolished to the nearest full depth joint. Surface scribed and partial depth sawn joints shall not be acceptable in lieu of full depth joints unless specifically approved by University’s Representative.

C. Restore pavement markings.

D. Other paving materials and systems such as decomposed granite; stone pavers, etc. shall be replaced or restored in kind. Replace or restore an entire panel or area to present a uniform appearance to the satisfaction of University's Representative.

E. All new surfaces shall be within ¼inch elevation of adjacent surfaces. All slopes to adjacent surfaces shall be less than 1 in 20, unless approved by University's Representative.

**3.4 LANDSCAPING AND IRRIGATION**

A. Unless otherwise specified, restore to pre-existing condition, using similar materials.

**3.5 MECHANICAL AND ELECTRICAL SYSTEMS**

A. Matching non-compliant materials currently in place will not be acceptable.

B. Where equipment or devices have been removed, and where the active side of the pipe remains, cap or plug all abandoned piping using either threaded or soldered fittings. Do not rely on the existing valves for a positive shutoff.

END OF SECTION

**SECTION 01 74 00**

**CLEANING & WASTE MANAGEMENT**

**1. GENERAL**

**1.1 DESCRIPTION**

A. Clean up and disposal.

**2. PRODUCTS (Not Applicable)**

**3. EXECUTION**

**3.1 CONTINUOUS CLEAN UP**

A. Under no circumstances shall rubbish, debris, waste, dust, dirt, or surplus materials be allowed to accumulate in the building, or on the Project site, and all such shall be removed continually as the Work progresses and by the end of each day's Work.

1. Materials: In occupied building areas, only sufficient materials and flammable or toxic substances necessary for the Work being performed that day or shift shall be brought into the building and work areas. In no case shall flammable or toxic substances be stored in the building, and these substances shall be immediately removed from the building when not needed and not later than the end of the day's Work.

2. Splatterings or spills of materials shall be promptly cleaned up at time of occurrence.

B. Contractor shall provide street sweeping whenever silt from construction site is carried over to adjacent public thoroughfares.

**3.2 FINAL CLEAN UP**

A. University's Representative's Inspection: Notify University's Representative at least 24 hours in advance of readiness for inspection. Any deficient cleaning operations, as determined by University's Representative, shall be immediately corrected as approved at Contractor's expense.

B. Interior surfaces and areas where Work is performed shall be left in vacuum clean condition with all dust, dirt, stains, handmarks, paint spots, plaster droppings, and other blemishes and defects completely removed. To the extent of Contractor's operations, use or materials, the following requirements apply to all areas where Work is performed:

1. Walls: Bare and painted surfaces shall be cleaned and free of dust, lint, streaks, or stains.

2. Hardware and metal surfaces shall be cleaned and polished using non-corrosive and non-abrasive materials.

3. Glass: New glass and soiled existing glass shall be washed and polished both sides and left free of dirt and spots. Labels shall be removed.

4. Ceilings shall be clean and free of stains, handmarks, and defacing.

5. Fixtures and Equipment: New mechanical and electrical fixtures and like items shall be cleaned and polished. Lighting fixtures shall be free of dust, dirt, stains, or waste material. Equipment and machinery shall be cleaned, serviced, and ready for use. Existing items shall be cleaned as required including ventilating supply and return equipment in walls and ceilings.

6. Surfaces not mentioned shall be cleaned according to the intent of this Section and as required for University's Representative's approval.

**3.3 DISPOSAL**

A. Under no circumstances shall debris, rubbish, or waste material be disposed of on University's property by burying or otherwise, and all shall be removed from University's property to a legal disposal area. Contractor shall bear all dumping charges.

B. Contractor is prohibited from cleaning out buckets, containers, and tools contaminated with paints, plaster, or any other materials in University storm drains.

**3.4 CORRECTIVE WORK**

A. Where existing Work has been dirtied, stained, defaced, or otherwise made defective and cleaning operations are not satisfactory, as determined by University's Representative, Contractor shall remove the Defective Work and install new Work as requested and approved, at no extra cost to University.

**3.5 CLEAN UP SPECIFIED IN OTHER SECTIONS**

A. Any clean up specified in other Sections of these Specifications shall be in addition to, and not in lieu of, these requirements.

END OF SECTION

**SECTION 01 78 00**

**CLOSE-OUT SUBMITTALS**

**1. GENERAL**

**1.1 PROJECT RECORD DOCUMENTS / CONTRACTOR’S AS-BUILT DOCUMENTS**

A. Refer to Section 01 78 39, PROJECT RECORD DOCUMENTS.

**1.2 SUBMITTAL**

A. Deliver closeout submittals and samples to University’s Representative.

B. Include typed list identifying each item submitted as closeout document.

**1.3 OPERATIONS AND MAINTENANCE MANUALS**

A. Prepare data in form of instructional manual.

1. Where written instructions are required, use personnel skilled in technical writing to extent necessary for communication of essential data.

2. Where drawings or diagrams are required, use personnel capable of preparing drawings clearly in understandable format.

B. Examine for completeness.

C. Submit to University’s Representative (1) digital copy (PDF or other standard file type approved by University’s Representative) of completed volumes in draft form no later than 45 days prior to request for final acceptance of the Work. This digital copy will be returned with University’s Representative’s comments. Revise as necessary prior to final submittal of (1) final digital copy in same approved format.

D. Prepare and insert additional data in manuals when need for such data becomes apparent during instruction of University’s personnel.

E. Identify each manual with title OPERATIONS AND MAINTENANCE MANUAL, title of project, and subject matter of binder when multiple binders are required.

F. Separate contents into sections logically organized with section title clearly identified.

G. Manuals shall contain:

1. Table of contents.

2. Directory listing names, addresses, and telephone numbers of Contractor and appropriate subcontractors.

3. List names, addresses and telephone numbers of subcontractors, suppliers, and service representatives, including local source of supplies and replacement parts.

4. General system or equipment description.

5. Copies of applicable shop drawings and product data.

6. Mark product data to clearly identify specific products and component parts.

7. Supplement product data with drawings necessary to illustrate relationship of component parts of equipment and systems, include control and flow diagrams.

8. Arranged by product, system, or process flow, and subdivided by Specification section. Identify following:

a. Significant design criteria.

b. List of equipment.

c. System or equipment identification, including:

1) Name of manufacturer.

2) Model number.

3) Serial number of each component.

d. Parts list for each component.

e. Operating instructions.

f. Maintenance instructions and schedules for equipment and systems.

g. Emergency instructions.

h. Wiring and piping diagrams.

i. Inspection and test procedures.

j. Precautions against improper use and maintenance.

9. Copies of warranties (see Paragraph 1.6 below).

10. Text material:

a. Furnish manufacturer’s standard printed material or typewritten specially prepared data.

b. Furnish text in 8-1/2 inches by 11 inches format.

11. Drawings and diagrams.

H. Environmental Requirements:

1. Identify environmentally preferable materials and systems incorporated into the Project. Include: product model; manufacturer’s name, address, phone, and website; and local technical representative, if any.

a. Verify that plastic products incorporated into the Project are labeled in accordance with ASTM D1972. Where products are not labeled, furnish product data indicating polymeric information in Operation and Maintenance Manual.

1) Type 1: Polyethylene Terephthalate (PET, PETE).

2) Type 2: High Density Polyethylene (HDPE).

3) Type 3: Vinyl (Polyvinyl Chloride or PVC).

4) Type 4: Low Density Polyethylene (LDPE).

5) Type 5: Polypropylene (PP).

6) Type 6: Polystyrene (PS).

7) Type 7: Other. Use of this code indicates that the package in question is made of resin other that the six listed above, or is made of more than one resin listed above, and used in a multi-layer combination.

b. Describe maintenance procedures associated with environmentally preferable materials and systems. Include cleaning recommended in accordance with ASTM E1971.

1) Include potential environmental impacts of recommended maintenance procedures and materials.

2) Include potential indoor air quality impacts of the recommended maintenance procedures and materials.

3) Where the proposed maintenance procedures incorporate composting of plastics, assess and the potential effect of each type of plastic to be included on the composting process in accordance with ASTM D5509 or ASTMD5512.

c. Identify maintenance agreements, take-back programs, green leases, and appropriate contact information for the following:

1) Carpet.

2) Ceiling Tile.

3) Office Equipment.

d. Material Safety Data Sheet: Include MSDS in product specifications.

**1.4 MATERIAL AND FINISHES MAINTENANCE MANUAL**

A. Manual:

1. Submit to University’s Representative (1) digital copy (PDF or other standard file type approved by University’s Representative) of each materials and finishes manual in final form.

2. Furnish (1) section for interior products, including applied materials and finishes, and (1) section for exterior products.

B. Interior Products:

1. Furnish manufacturer’s data and instructions on care and maintenance of architectural products, including applied materials and finishes.

2. Product Data: Furnish complete information on architectural products, including following, as applicable:

a. Manufacturer’s catalog number.

b. Size.

c. Material composition.

d. Color.

e. Texture.

f. Reordering information for specially manufactured products.

3. Care and Maintenance Instructions: Furnish information on care and maintenance including manufacturers’ recommendations for types of cleaning agents to be used and methods of cleaning. Furnish information regarding cleaning agents and methods that could prove detrimental to product. Include manufacturers’ recommended schedule for cleaning and maintenance.

C. Exterior Products:

1. Furnish complete manufacturer’s data with instructions on inspection, maintenance, and repair of products exposed to weather or designed for moisture-protection purposes.

2. Manufacturer’s Data: Furnish manufacturers’ data giving detailed information, including following, as applicable.

a. Applicable standards.

b. Chemical composition.

c. Installation details.

d. Inspection procedures.

e. Maintenance information.

f. Repair procedures.

**1.5 SPARE PARTS AND MAINTENANCE MATERIALS**

A. Furnish tools, spare parts, and maintenance and extra stock materials in quantities specified in individual Specification sections.

B. Deliver to Project site and place in locations as approved; obtain receipt from subcontractors and suppliers.

C. No later than at time of inspection for final acceptance, submit a letter identifying by item and quantity, all spare parts and maintenance materials submitted.

**1.6 GUARANTEES, WARRANTIES, BONDS, SERVICE & MAINTENANCE CONTRACTS**

A. General: Guarantees from Subcontractors shall not limit Contractor's warranties and guarantees to University. Whenever possible, Contractor shall cause warranties of Subcontractors to be made directly to University. If such warranties are made to Contractor, Contractor shall assign such warranties to University prior to final payment.

B. Form of Guarantee: Submit written guarantees in the form contained at the end of this Section.

C. Submittal Requirements:

1. Assemble required guarantees, bonds, and service and maintenance contracts.

2. Number of original signed copies required: (2) each. Also submit (1) digital copy (PDF or other standard file type approved by University’s Representative).

3. Table of Contents: Neatly typed and in orderly sequence. Furnish complete information for each item as follows:

a. Product or Work item.

b. Firm name, address, and telephone number; and name of principal.

c. Scope.

d. Date of beginning of guarantee, bond, or service and maintenance contract.

e. Duration of guarantee, bond, or service and maintenance contract.

f. Contractor's name, address, and telephone number; and name of responsible principal.

g. Furnish information for University's personnel:

1) Correct procedure in case of failure.

2) Circumstances which might affect the validity of guarantee or bond.

D. Form of Submittals:

1. Prepare in duplicate packets.

2. Format:

a. Size 8½-inch x 11-inch sheets punched for 3-ring binder. Fold larger sheets to fit into binders.

b. Identify each packet on the cover with typed or printed title "GUARANTEES AND BONDS," and the following:

1) Title of Project.

2) Name of Contractor.

3. Binders: Commercial quality, 3-ring, with durable and cleanable plastic covers.

E. Time of Submittals:

1. Within 10 days after the date of Substantial Completion, and prior to request for final payment.

2. For Work activities, where Final Completion is delayed materially beyond the date of Substantial Completion, furnish updated submittal within 10 days after Final Completion, listing the date of Final Completion as the start of the Guarantee to Repair Period.

F. Submittals Required: Submit guarantees, bonds, and service and maintenance contracts specified in the individual Sections.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

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**GUARANTEE**

Date:

Project Name:

Project Number Order Number

Project Location:

GUARANTEE FOR (the "Contract"), between The Regents of the

(Specification Section); Contract No.

University of California ("University") and ("Contractor").

hereby guarantees to University

(Name of Subcontractor)

that the portion of the Work described as follows:

which it has provided for the above referenced Project, is of good quality; free from defects; free from any liens, claims, and security interests; and has been completed in accordance with Specification Section and the other requirements of the Contract.

The undersigned further agrees that, if at any time within months after the date of the guarantee the undersigned receives notice from University that the aforesaid portion of the Work is unsatisfactory, faulty, deficient, incomplete, or not in conformance with the requirements of the Contract, the undersigned will, within 10 days after receipt of such notice, correct, repair, or replace such portion of the Work, together with any other parts of the Work and any other property which is damaged or destroyed as a result of such defective portion of the Work or the correction, repair, or replacement thereof; and that it shall diligently and continuously prosecute such correction, repair, or replacement to completion.

In the event the undersigned fails to commence such correction, repair, or replacement within 10 days after such notice, or to diligently and continuously prosecute the same to completion, the undersigned, collectively and separately, do hereby authorize University to undertake such correction, repair, or replacement at the expense of the undersigned; and Contractor will pay to University promptly upon demand all costs and expenses incurred by University in connection therewith.

SUBCONTRACTOR

Signed: Title:

Typed Name:

Name of Firm:

Contractor

License Number:

Address:

Phone Number:

CONTRACTOR

Signed: Title:

Typed Name:

Name of Firm:

END OF SECTION

**SECTION 01 78 39**

**PROJECT RECORD DOCUMENTS**

**1. GENERAL**

**1.1 MAINTENANCE OF DOCUMENTS AND SAMPLES**

A. Store Contractor's as-built documents and Samples in Contractor's field office separate from documents used for construction.

B. Maintain as-built documents in order and in a clean, dry, legible condition.

C. Do not use as-built documents for construction.

**1.2 AS-BUILT DOCUMENTS**

A. University's Representative will, at no cost, furnish Contractor a digital set of Drawings of the original Contract Documents, which shall be used for recording the "as-built" condition of the Work.

B. As-Built Drawings: Record the following kinds of information on the As-Built Drawings:

1. Locations of Work buried under or outside the building, such as plumbing and electrical lines and conduits. Furnish horizontal and vertical dimensions from fixed points.

2. Actual numbering of each electrical circuit.

3. Locations of all HVAC, plumbing and electrical Work concealed inside the building; and other work that is changed by Contractor from that shown on the Drawings.

4. Locations of all items, not necessarily concealed, which vary from the locations shown on the Drawings.

C. The following requirements for As-Built Drawings are in addition to those specified elsewhere:

1. As-built conditions shall be carefully and neatly recorded by a competent drafter, familiar with the Work involved, using methods acceptable to University's Representative. Final Drawings shall be submitted in re-usable digital format (PDF and additional digital format identified by University’s Representative), and (1) hard copy on bond paper to match size of the original Contract Drawings.

2. They shall be kept up to date during the entire progress of the Work and made available to University's Representative at any time.

3. Additional drawings shall be furnished as required to accurately describe changes.

4. Record all changes in size, location, and other features of installation shown on the Drawings.

5. Record all locations of underground Work, points of connection, valves, manholes, catch basins, capped stubouts, invert elevations, etc.

6. Record sufficient information such that Work concealed in, under or outside the building may be located with ease and accuracy. This may be accomplished by dimensioning or by stating the relationship to the spaces in the building near which the Work was installed. University's Representative's decision on what constitutes sufficient information shall be final.

D. Shop Drawings: Furnish final Shop Drawings which have been updated to show actual conditions, for Work specified in the individual Sections.

E. Specifications and Addenda:

1. Record the following:

a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment actually installed.

b. Changes made by Addenda, Change Order, or Field Order, and clarifications and interpretations made by Letter of Instruction. All changes made shall be shown on the as-builts.

**2. PRODUCTS (NOT USED)**

**3. EXECUTION (NOT USED)**

END OF SECTION

**LIST OF DRAWINGS**

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