California Labor Code
Section 2810 Checklist
California Labor Code Section 2810 Checklist

In accordance with **CALIFORNIA LABOR CODE COMPLIANCE**, please provide the following information. Attach additional sheets if necessary.

1. Contractor has collective bargaining agreement(s) with its own labor force (check one):
   - Yes [ ]
   - No [ ] (If ‘No’ is checked, provide the information requested in items 3 through 7 below.)

2. All of the subcontractors used by Contractor under this Contract have collective bargaining agreements (check one):
   - Yes [ ]
   - No [ ] (If ‘No’ is checked, provide the information requested in items 3 through 7 below.)

3. Vehicle identification number for each vehicle owned by Contractor and/or subcontractor and used for transportation in connection with any service provided pursuant to this contract:

   ____________________________________________  ____________________________________________
   ____________________________________________  ____________________________________________
   ____________________________________________  ____________________________________________

4. Vehicle liability insurance policy number covering the vehicles listed in item 3, and the name, address, and telephone number of the insurance carrier:

   Policy Number: ____________________________________________
   Insurance Carrier: ____________________________________________
   Address: ____________________________________________
   ____________________________________________
   ____________________________________________
   Telephone No.: ( ) - ________

5. The address of any real property to be used to house workers in connection with this contract:

   ____________________________________________
   ____________________________________________
   ____________________________________________
6. **Contractor’s Own Labor Force.** Provide the following information in connection with Contractor’s own labor force. If the exact number of workers, amount of wages, and pay dates are unknown at the time this Contract is executed, provide an estimate and so indicate. It is agreed that when Contractor has firm numbers, Contractor will notify Owner in writing.

   The total number of workers to be employed under this contract: ________________
   
   The total amount of all wages to be paid: ________________
   
   The date or dates when those wages are to be paid: ________________

7. **Contractor’s Subcontracted Work Force.** Provide the following information in connection with Contractor’s subcontracted work force. If the exact subcontracted firm(s) or individual(s) are unknown at the time this Contract is executed, provide an estimate and so indicate. It is agreed that when Contractor has finalized contracts with the subcontracted firm(s) or individual(s), and has firm numbers, Contractor will present Owner with the updated information in writing.

   The total number of persons who will be utilized under the contract or agreement as subcontractors:

   Name of subcontract firm or individual, and the current local, state and federal contractor license identification numbers for each:

<table>
<thead>
<tr>
<th>Name of Subcontracted Firm or Individual</th>
<th>License #</th>
<th>Total Wages to be Paid</th>
<th>Date Wages to be Paid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
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<td></td>
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</tbody>
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   ____________________________  ____________________________
   Signature                  Date

   ____________________________
   Typed Name
GENERAL CONDITIONS FOR CONSTRUCTION PROJECTS
STANFORD UNIVERSITY

GENERAL CONDITIONS

FOR CONSTRUCTION PROJECTS

March 2013
(Updated 3/6/2013)
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>ARTICLE</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ARTICLE 1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>ARTICLES 2 DEFINITIONS</td>
<td>1</td>
</tr>
<tr>
<td>2.1</td>
<td>Owner</td>
<td>1</td>
</tr>
<tr>
<td>2.2</td>
<td>Contractor</td>
<td>1</td>
</tr>
<tr>
<td>2.3</td>
<td>Contract Documents</td>
<td>1</td>
</tr>
<tr>
<td>2.4</td>
<td>Work</td>
<td>1</td>
</tr>
<tr>
<td>2.5</td>
<td>Project</td>
<td>1</td>
</tr>
<tr>
<td>2.6</td>
<td>Contracting Officer</td>
<td>1</td>
</tr>
<tr>
<td>2.7</td>
<td>Project Manager</td>
<td>1</td>
</tr>
<tr>
<td>2.8</td>
<td>Architect</td>
<td>1</td>
</tr>
<tr>
<td>2.9</td>
<td>Construction Manager</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>ARTICLES 3 PROJECT ADMINISTRATION</td>
<td>1</td>
</tr>
<tr>
<td>3.1</td>
<td>Owner</td>
<td>1</td>
</tr>
<tr>
<td>3.2</td>
<td>Designated Representative</td>
<td>1</td>
</tr>
<tr>
<td>3.3</td>
<td>Communications</td>
<td>1</td>
</tr>
<tr>
<td>3.4</td>
<td>Job Site Meetings</td>
<td>2</td>
</tr>
<tr>
<td>3.5</td>
<td>Approvals/Interpretations/Clarifications</td>
<td>2</td>
</tr>
<tr>
<td>3.6</td>
<td>Owner Access</td>
<td>2</td>
</tr>
<tr>
<td>3.7</td>
<td>Owner Authority</td>
<td>2</td>
</tr>
<tr>
<td>3.8</td>
<td>Owner/Contractor Responsibilities</td>
<td>2</td>
</tr>
<tr>
<td>3.9</td>
<td>Owner's Right to Carry Out the Work</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>ARTICLES 4 CONTRACTOR'S EXECUTION AND SUPERVISION</td>
<td>2</td>
</tr>
<tr>
<td>4.1</td>
<td>Review of Contract Documents</td>
<td>2</td>
</tr>
<tr>
<td>4.2</td>
<td>Supervision and Construction Procedures</td>
<td>2</td>
</tr>
<tr>
<td>4.3</td>
<td>Project Management</td>
<td>3</td>
</tr>
<tr>
<td>4.4</td>
<td>Labor and Materials</td>
<td>3</td>
</tr>
<tr>
<td>4.5</td>
<td>Warranty</td>
<td>3</td>
</tr>
<tr>
<td>4.6</td>
<td>Taxes</td>
<td>3</td>
</tr>
<tr>
<td>4.7</td>
<td>Permits, Fees and Notices</td>
<td>3</td>
</tr>
<tr>
<td>4.8</td>
<td>Documents and Samples at the Site</td>
<td>4</td>
</tr>
<tr>
<td>4.9</td>
<td>Shop Drawings, Product Data and Samples</td>
<td>4</td>
</tr>
<tr>
<td>4.10</td>
<td>Use of Site</td>
<td>5</td>
</tr>
<tr>
<td>4.11</td>
<td>Cutting and Patching of Work</td>
<td>6</td>
</tr>
<tr>
<td>4.12</td>
<td>Cleaning Up</td>
<td>6</td>
</tr>
<tr>
<td>4.13</td>
<td>Communications</td>
<td>6</td>
</tr>
<tr>
<td>4.14</td>
<td>Royalties and Patents</td>
<td>6</td>
</tr>
<tr>
<td>4.15</td>
<td>Equal Employment Opportunity</td>
<td>6</td>
</tr>
<tr>
<td>4.16</td>
<td>Use of University Trademarks</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>ARTICLES 5 SUBCONTRACTORS</td>
<td>6</td>
</tr>
<tr>
<td>5.1</td>
<td>Definitions</td>
<td>6</td>
</tr>
<tr>
<td>5.2</td>
<td>Award of Subcontracts and Other Contracts For Portions of the Work</td>
<td>7</td>
</tr>
<tr>
<td>5.3</td>
<td>Subcontractual Relations</td>
<td>7</td>
</tr>
<tr>
<td>6</td>
<td>ARTICLES 6 WORK BY OWNER OR BY SEPARATE CONTRACTOR</td>
<td>7</td>
</tr>
<tr>
<td>6.1</td>
<td>Owner's Right to Perform Work and to Award Separate Contracts</td>
<td>7</td>
</tr>
<tr>
<td>6.2</td>
<td>Mutual Responsibility</td>
<td>7</td>
</tr>
<tr>
<td>6.3</td>
<td>Owner's Right to Clean Up</td>
<td>8</td>
</tr>
<tr>
<td>7</td>
<td>ARTICLES 7 MISCELLANEOUS PROVISIONS</td>
<td>8</td>
</tr>
<tr>
<td>7.1</td>
<td>Governing Law</td>
<td>8</td>
</tr>
<tr>
<td>7.2</td>
<td>Successors and Assigns</td>
<td>8</td>
</tr>
<tr>
<td>7.3</td>
<td>Bonds</td>
<td>8</td>
</tr>
<tr>
<td>7.4</td>
<td>Continuation of Work During Disputes</td>
<td>8</td>
</tr>
<tr>
<td>7.5</td>
<td>Owner’s Field Office</td>
<td>8</td>
</tr>
<tr>
<td>7.6</td>
<td>Valid Agreement</td>
<td>9</td>
</tr>
<tr>
<td>7.7</td>
<td>Contractor/Owner Not Employer/Employee</td>
<td>9</td>
</tr>
<tr>
<td>7.8</td>
<td>Owner/Contractor Right of Interest</td>
<td>9</td>
</tr>
<tr>
<td>7.9</td>
<td>Words and Abbreviations</td>
<td>9</td>
</tr>
<tr>
<td>7.10</td>
<td>Entire and Complete Agreement</td>
<td>9</td>
</tr>
<tr>
<td>7.11</td>
<td>Construction Lender</td>
<td>9</td>
</tr>
<tr>
<td>7.12</td>
<td>Entire and Complete Agreement</td>
<td>9</td>
</tr>
<tr>
<td>7.13</td>
<td>Living Wage and Benefit Guidelines</td>
<td>9</td>
</tr>
<tr>
<td>7.14</td>
<td>Original Signatures</td>
<td>9</td>
</tr>
<tr>
<td>8</td>
<td>ARTICLES 8 TIME LIMIT - SCHEDULE &amp; PROGRESS OF THE WORK</td>
<td>9</td>
</tr>
<tr>
<td>8.1</td>
<td>Definitions</td>
<td>9</td>
</tr>
<tr>
<td>8.2</td>
<td>Progress and Completion</td>
<td>9</td>
</tr>
<tr>
<td>8.3</td>
<td>Delays and Extensions of Time</td>
<td>10</td>
</tr>
<tr>
<td>8.4</td>
<td>Owner's Right to Stop the Work</td>
<td>11</td>
</tr>
<tr>
<td>9</td>
<td>ARTICLES 9 PAYMENTS AND COMPLETION</td>
<td>11</td>
</tr>
<tr>
<td>9.1</td>
<td>Schedule of Values</td>
<td>11</td>
</tr>
<tr>
<td>9.2</td>
<td>Applications for Payment</td>
<td>11</td>
</tr>
<tr>
<td>9.3</td>
<td>Certificates for Payment</td>
<td>11</td>
</tr>
<tr>
<td>9.4</td>
<td>Progress Payments</td>
<td>12</td>
</tr>
<tr>
<td>9.5</td>
<td>Payments Withheld</td>
<td>12</td>
</tr>
<tr>
<td>9.6</td>
<td>Substantial Completion</td>
<td>12</td>
</tr>
<tr>
<td>9.7</td>
<td>Final Completion and Final Payment</td>
<td>13</td>
</tr>
<tr>
<td>9.8</td>
<td>Records, Accounts and Allowances</td>
<td>13</td>
</tr>
<tr>
<td>9.9</td>
<td>Price Reduction for Defective Cost or Pricing Data</td>
<td>14</td>
</tr>
<tr>
<td>10</td>
<td>ARTICLES 10... PROTECTION OF PERSONS AND PROPERTY</td>
<td>14</td>
</tr>
<tr>
<td>10.1</td>
<td>Safety Precautions and Programs</td>
<td>14</td>
</tr>
<tr>
<td>10.2</td>
<td>Safety of Persons and Property</td>
<td>14</td>
</tr>
<tr>
<td>10.3</td>
<td>General and Public Safety</td>
<td>15</td>
</tr>
<tr>
<td>10.4</td>
<td>Protection of Work During Inclement Weather or Suspension of Construction</td>
<td>16</td>
</tr>
<tr>
<td>10.5</td>
<td>Emergencies</td>
<td>16</td>
</tr>
<tr>
<td>10.6</td>
<td>Jobsite and Worker Safety</td>
<td>16</td>
</tr>
<tr>
<td>10.7</td>
<td>Archeological Sites</td>
<td>16</td>
</tr>
<tr>
<td>10.8</td>
<td>Discovery of Asbestos or Other Hazardous Materials</td>
<td>16</td>
</tr>
<tr>
<td>10.9</td>
<td>Costs of Protection of Persons and Property</td>
<td>16</td>
</tr>
<tr>
<td>11</td>
<td>ARTICLES 11... INSURANCE AND INDEMNITY</td>
<td>17</td>
</tr>
<tr>
<td>11.1</td>
<td>Contractor's Liability Insurance</td>
<td>17</td>
</tr>
<tr>
<td>11.2</td>
<td>Builder's Risk Insurance</td>
<td>18</td>
</tr>
<tr>
<td>11.3</td>
<td>Indemnity</td>
<td>18</td>
</tr>
<tr>
<td>11.4</td>
<td>Waiver</td>
<td>18</td>
</tr>
<tr>
<td>11.5</td>
<td>Exclusions</td>
<td>19</td>
</tr>
<tr>
<td>11.6</td>
<td>Special Definition of &quot;Owner&quot;</td>
<td>19</td>
</tr>
<tr>
<td>12</td>
<td>ARTICLES 12........... CHANGES IN THE WORK</td>
<td>19</td>
</tr>
<tr>
<td>12.1</td>
<td>Change Order/Agreement Modification</td>
<td>19</td>
</tr>
<tr>
<td>12.2</td>
<td>Concealed Conditions</td>
<td>20</td>
</tr>
<tr>
<td>12.3</td>
<td>Claims for Additional Cost and/or Time</td>
<td>20</td>
</tr>
<tr>
<td>12.4</td>
<td>Agreement Modification Proposal</td>
<td>20</td>
</tr>
<tr>
<td>12.5</td>
<td>Field Orders</td>
<td>20</td>
</tr>
<tr>
<td>13</td>
<td>ARTICLES 13 UNCOVERING AND CORRECTION OF WORK</td>
<td>21</td>
</tr>
<tr>
<td>13.1</td>
<td>Uncovering of Work</td>
<td>21</td>
</tr>
<tr>
<td>13.2</td>
<td>Inspection, Testing, Rejection of Materials and Workmanship</td>
<td>21</td>
</tr>
<tr>
<td>13.3</td>
<td>Correction of Work</td>
<td>21</td>
</tr>
<tr>
<td>13.4</td>
<td>Acceptance of Defective or Non-Conforming Work</td>
<td>22</td>
</tr>
</tbody>
</table>
ARTICLE 1

THESE GENERAL CONDITIONS are a part of the construction Agreement between the Owner and the Contractor. If any provisions of these General Conditions are inconsistent with the provisions of the "Agreement", then the latter shall prevail.

ARTICLE 2

DEFINITIONS

2.1 Owner: Wherever the title "Owner" is used it is mutually understood to refer to The Board of Trustees of the Leland Stanford Junior University, a body having corporate powers under the State of California.

2.2 Contractor: Wherever the word "Contractor", "General Contractor" or the personal pronoun used in place thereof is used herein it shall be mutually understood to refer to an independent Contractor who has or have entered into a contract with Stanford University to do the contemplated work.

2.3 Contract Documents: Wherever the word "Agreement" or "Contract Documents" is used it is mutually understood to refer to the "Agreement" and the documents listed therein, plus any (a) subsequent written amendments signed by the Owner and the Contractor, (b) Change Orders, (c) field orders issued pursuant to Paragraph 12.5, (d) any other document required to be produced hereunder and which these General Conditions specify shall become part of the Agreement Documents or the construction Agreement. The Contract Documents form the construction Agreement. Any conflicts between any of the provisions of the Contract Documents shall be resolved by the Owner in its sole reasonable judgment. Contractor agrees to notify Owner in writing of any such conflicts which become known to Contractor.

2.4 Work: Wherever the word "Work" is used it is mutually understood to refer to the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction. "Work" includes everything not specified in the Contract Documents but consistent therewith and reasonably inferable therefrom as being necessary to produce the intended results.

The Contractor and all Subcontractors shall refer to all of the Agreement Documents, including those showing primarily the work of the mechanical, electrical and other specialized trades, and to all of the Sections of the Specifications, and shall perform all work reasonably inferable therefrom as being necessary to produce the indicated results.

2.5 Project: Wherever the word "Project" is used it is mutually understood to refer to the total construction of which the Work performed under the Contract Documents may be the whole or part.

2.6 Contracting Officer: Wherever the word "Contracting Officer" is used it is mutually understood to refer to a representative of the Owner authorized to execute the "Agreement", amendments to the Contract Documents and Change Orders. The Owner's Provost, Institutional Planning; Director of Procurement, and their successors and written delegates are authorized Contracting Officers.

2.7 Project Manager: Wherever the word "Project Manager" is used it is mutually understood to refer to the representative of the Owner authorized to represent the Owner on all matters affecting the Project, except that the Project Manager may not be authorized to act as Contracting Officer. The Project Manager shall be designated in writing by the Owner and may be replaced from time to time by Owner upon written notice to the Contractor.

2.8 Architect: Wherever the word "Architect" is used it is mutually understood to refer to the person designated as such in writing by the Project Manager. Architect may be either an independent contractor of Owner or may be an engineer or other professional. The Project Manager may replace the Architect, if so will provide written notice to the Contractor. The Architect shall have no authority to bind the Owner, except as authorized or ratified by the Project Manager.

2.9 Construction Manager: For this document only, the word "Construction Manager" shall mean the Owner's field representative.

2.10 All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

2.11 The Mechanical and Electrical Drawings are diagrammatic only, and are not intended to show exact physical locations or configurations of work. Such work shall be installed to clear all obstructions, permit proper clearances for the work of other trades, and present an orderly appearance with exposed. Exact locations of fixtures and outlets shall be coordinated with the construction documents and a shop drawing submitted to the Architect and its consultants for approval before the work is roughed in.

2.12 Test boring and soil test information included with the Contract Documents or otherwise made accessible to the Contractor was obtained by the Owner for use by the Architect in the design of the Work. The Owner does not hold out such information to the Contractor as an accurate or approximate indication of sub-surface conditions, and no claim for extra cost or extension of time resulting from a reliance by the Contractor on such information shall be allowed except as provided in subparagraph 12.2.

ARTICLE 3

PROJECT ADMINISTRATION

3.1 The Owner, acting through the Project Manager, shall administer this construction Agreement as provided herein.

3.2 Designated Representative: The Project Manager may delegate any duty with respect to construction and/or contract administration to a designated representative. Contractor shall refer to the Project Manager for resolution of any dispute, problem or confusion encountered with any delegate or consultant of the Owner.

3.3 Communications: The Project Manager from time to time may require lines of communication, meetings, presentations,
inspections, written or oral reports, or other procedures appropriate in
his judgment to improve the administration, quality or progress of the
Project. Contractor agrees to cooperate fully with all such requests. All communication will be addressed to and flow through the Project
Manager unless otherwise directed.

3.4 Job Site Meetings: Job site meetings shall be held on a
regular basis, once a week or on such other schedule established by the
Project Manager. The Architect and appropriate consultants, the
Contractor's Superintendent and the Contractor will attend. The
Construction Manager will chair the meeting, the Contractor will
prepare the official minutes, and the Contractor will prepare an agenda
for new business. Decisions reached in the meeting shall be recorded
and binding upon the Owner, Architect and Contractor unless Owner,
Architect or Contractor objects thereto at or before the next job
meeting following distribution of the minutes.

3.5 Approvals/Interpretations/Clarifications: When requested by
the Contractor or the Owner the Architect will prepare and issue to the
Owner such written recommendations, clarifications, interpretations of
the Contract Documents as may be required for the complete and
accurate installation of the Work including drawings and specifications, within a reasonable time agreed upon with the
Contractor and/or the Owner.

3.6 Owner Access: Owner and its agents and invitees shall at all
times have access to the Work by the Project Manager or the
Construction Manager (including for site visits by potential occupants)
wherever it is in preparation or progress. Contractor shall cooperate
with Owner and shall facilitate such access, including providing
facilities, furnishing escorts and preparing the Work so that it is safe
for access.

3.7 Owner Authority: The Project Manager or his designated
representative shall have authority to reject Work which does not
conform to the Contract Documents. Whenever, in his opinion, he
considers it necessary or advisable for the implementation of the intent
of the Contract Documents, he will have authority to require special
inspection or testing of the Work in accordance with these General
Conditions whether or not such Work be fabricated, installed or
completed.

3.8 Owner/Contractor Responsibilities

3.8.1 Owner shall furnish the Contractor with a site plan showing
utility locations, existing buildings and improvements, and
physical characteristics, all as derived from existing records of the Owner. If necessary for the Project, Owner will
provide a geologic study or soil survey. Contractor shall promptly review all such materials and shall inspect the
Project site to verify their accuracy and completeness. Contractor shall report any discrepancies (whether perceived
from such inspection or later discovered) promptly to the
Project Manager.

3.8.2 Owner shall furnish Contractor with a specified number (set
forth elsewhere in the Contract Documents) of sets of
Drawings and Specifications. Contractor shall purchase them
directly from source designated within the Contract
Documents for additional sets requested by him. Contractor
may retain possession of all such sets, but agrees to take
reasonable precautions to prevent disclosure of their contents
to persons other than Subcontractors and others working on
the Project. All Drawings and Specifications furnished by the
Architect, and all copies thereof and the copyright therein, are
the property of the Architect or the Owner. Contractor agrees
not to copy them or use them for purposes other than
construction of the Work without Owner's prior written
consent.

3.9 Owner's Right to Carry Out the Work: If the Contractor
defaults or neglects to carry out the Work in accordance with the
Contract Documents and fails within seven days after receipt of
written notice from the Owner to commence and continue correction
of such default or neglect with diligence and promptness, the Owner,
following receipt by the Contractor of such notice, may, without
prejudice to any other remedy he may have, make good such
deficiencies. In such case, an appropriate Change Order shall be issued
deducting from the payments then or thereafter due the Contractor the
cost of correcting such deficiencies. If the payments then or thereafter
due the Contractor are not sufficient to cover such amount, the
Contractor shall pay the difference to the Owner.

ARTICLE 4

CONTRACTOR'S EXECUTION AND SUPERVISION

4.1 Before starting the Work, and at frequent intervals during the
progress thereof, the Contractor shall carefully study and compare the
Agreement, Conditions of the Contract, Drawings, Specifications,
Addenda and other Contract Documents and shall at once report to the
Architect any error, inconsistency or omission he may discover. Any
necessary change shall be ordered as provided in Article 12, subject to
the requirements of 1.2 and other provisions of the Contract
Documents. If the Contractor proceeds with the Work without such
notice to the Architect and Owner, having discovered such errors,
inconsistencies or omissions, or if by reasonable study of the Contract
Documents he could have discovered such, the Contractor shall bear
all costs arising therefrom.

4.1.1 The Contractor shall give the Architect timely notice of any
additional design drawings, specifications, or instructions
required to define the Work in greater detail, or to permit the
proper progress of the Work.

4.1.2 The Contractor shall not proceed with any work not clearly
and consistently defined in detail in the Contract Documents,
but shall request additional drawings or instructions from the
Architect as provided in subparagraph 4.1.1. If the Contractor
proceeds with such work without obtaining further drawings
or instructions, he shall correct work incorrectly done at his
own expense.

4.2 Supervision and Construction Procedures

4.2.1 The Contractor shall supervise and direct the Work, using his
best skill and attention. He shall be solely responsible for all
construction means, methods, techniques, sequences and
procedures and for coordinating all portions of the Work
under the Agreement.

4.2.2 The Contractor shall be responsible to the Owner for the acts
and omissions of his employees, Subcontractors and their
GENERAL CONDITIONS

agents and employees, and other persons performing any of the Work under a contract with the Contractor.

4.2.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in the administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the Contractor.

4.3 Project Management

4.3.1 Before commencing any work, the Contractor shall provide a written description of its management team satisfactory to Owner. Such team shall include at least one competent Superintendent and necessary Assistants identified by name and satisfactory to Owner who shall be present at the work site at all times that work is being performed, and available for consultation with the Owner. Failure to do so may be just cause for a suspension of operations until a qualified superintendent is assigned to the project. This delay will not be grounds for extension of the contract completion date. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Communications shall be confirmed in writing if requested by Contractor, in each case.

4.3.2 The Owner shall have the right to require replacement of the superintendent employed by the Contractor, if the Owner has reasonable grounds for rejection. The Contractor shall not remove or reassign the superintendent, without the concurrence of the Owner.

4.3.3 The Contractor shall retain a competent Registered Professional Engineer or Registered Land Surveyor, acceptable to the Architect and Owner, who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated work.

4.3.4 The Contractor shall establish the building grades, lines, levels, column, wall and partition lines required by the various subcontractors in laying out their work.

4.3.5 The Contractor shall coordinate and supervise the work of all Subcontractors to the end that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. The Contractor and all Subcontractors shall at all times afford each trade, any separate contractor, or the Owner, every reasonable opportunity for the installation of work and the storage of materials.

4.3.6 The Contractor shall prepare and submit to the Owner for approval a progress schedule as described in subparagraph 8.2.3 (6 month major - every 2 week rolling).

4.4 Labor and Materials

4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, utilities, transportation and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work. For temporary electric power, Contractor shall connect at location specified by Owner, provide meter if so directed, and pay a reasonable charge for such services. Water will be provided by Owner free of charge and Contractor agrees to take all reasonable steps to conserve water. Upon permanent building connection to electric power, steam, chilled water, gas or other utilities, Contractor shall pay the cost of such Owner supplied utilities until acceptance by Owner of the Project mechanical and electrical systems.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him.

4.5 Warranty

4.5.1 The Contractor warrants to the Owner that all materials and equipment furnished under this Agreement will be new unless otherwise specified in Contract Documents, and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, shall be considered defective. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of material and equipment. This warranty is not limited by the provisions of Paragraph 13.3.

4.5.2 Warranty on Substitution: Warranty on substitutions, if approved by Owner, shall be identical to the as-specified warranty set forth elsewhere in the Contract Documents.

4.5.3 In all cases in which a manufacturer's name, trade name or other proprietary designation is used in connection with materials or articles to be furnished under this Agreement, whether or not the phrase "or equal" is used after such name, the Contractor shall furnish the product of the named manufacturer(s) without substitution, unless a written request for a substitute has been submitted by the Contractor and approved in writing by the Architect and Owner.

4.6 Taxes

The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.7 Permits, Fees and Notices

4.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspection necessary for the proper execution and completion
4.7.2 The Contractor shall give and post all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work.

4.7.3 It is not the responsibility of the Contractor to make certain that the Contract Documents reviewed by him are in accordance with applicable laws, statutes, building codes and regulations. If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Owner and Architect in writing, and any necessary changes shall be accomplished by appropriate modification.

4.7.4 If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Architect and Owner, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

4.8 Documents and Samples at the Site

4.8.1 The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other modifications, in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Owner and shall be delivered to the Owner upon completion of the Work.

4.8.2 Record (As Built) Drawings and Annotated Specifications:
The Architect or Owner shall provide the Contractor with reproducible drawings for recording changes in the Work from the official plans and specifications. Contractor will prepare or cause to be prepared and maintain on a current basis an accurate and complete set of (i) Record Drawings showing clearly all changes, revisions and substitutions during construction, including without limitation field changes and the final location of all mechanical equipment, utility lines, ducts, outlets, structural members, walls, partitions and other significant features and (ii) annotated specifications showing clearly all changes, revisions and substitutions during construction. In the event of a specification that allows the Trade Contractor to elect one of several brands, makes or types of material of equipment, the annotations shall show which of the allowable items the Trade Contractor furnished. These Record Drawings and annotated specifications will be kept at the site, and Contractor will update them as often as necessary to keep them current, but no less often than monthly. The Record Drawings and annotated specifications will, throughout the Construction Phase, be available for inspection by Owner and Architect.

On completion of the Work, Contractor will provide a complete set of Record Drawings and annotated specifications to Architect, certifying them to be a complete and accurate reflection in all material respects of the actual construction conditions of the Work. Contractor will also review the record set of drawings prepared by Architect pursuant to the Architect's Agreement and either notify Owner that such drawings are consistent in all material respects with the Record Drawings and annotated specifications. If not, specify any inconsistencies so that such drawings can be corrected by Architect and again reviewed by Contractor until Contractor can notify Owner that such drawings are consistent in all material respects with the Record Drawings and annotated specifications. Recording of such changes by the Contractor and Subcontractor shall be a prerequisite to the acceptance of the monthly progress payment and final payment. All such record drawings and specifications prepared by the Contractor shall be legible, complete, and contain all necessary explanations and measurements. At the completion of the construction, this Record set will be turned over to the Architect for his assistance in preparing the final as-built drawings and specifications. All such Record drawings and specifications submitted by the Contractor shall be legible, clean, complete and contain all necessary explanations and measurements.

4.8.3 The Contractor shall prepare and deliver to the Architect for its review and comments, copies of an operating and maintenance manual for the project in accordance with FDG guidelines. The manual shall contain full information for each item of mechanical, electrical, or other operating equipment, copies of warranties therefore, schematic diagrams of control systems, circuit directors for each electric and communications panelboard, and charts showing the tagging of all valves. The Contractor shall obtain and include in the manual reduced scale photocopies of the revised electrical, mechanical and plumbing drawings. The manual shall also contain complete keying schedules and paint color schedules and paint color samples. Each volume of the manual shall be clearly indexed, and shall include a directory of all subcontractors and maintenance contractors, indicating the area of responsibility of each, and the name and telephone number of the responsible member of each organization. The volumes shall be bound in multi-ring binders with black plastic covers. Typewritten, drawn or photographic material shall be protected by clear plastic sleeves.

4.9 Shop Drawings, Product Data and Samples

4.9.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

4.9.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

4.9.3 Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

4.9.4 The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the Work of the Owner or any separate Contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.
4.9.5 By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

4.9.6 The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Architect and/or Owner's approval of Shop Drawings, Product Data or Samples unless the Contractor has specifically informed the Architect and/or Owner in writing of such deviation at the time of submission and the Owner has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Owner's approval thereof.

4.9.7 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Owner on previous submittals.

4.9.8 No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Owner. All such portions of the Work shall be in accordance with approved submittals.

4.9.9 All shop drawings, Product Data and Samples submitted to Owner or his representative become the property of Owner. Additionally, Owner shall own all copyright and other intangible rights to Shop Drawings, and Contractor agrees to execute any documents acknowledging or evidencing such ownership.

4.9.10 Contractor agrees to maintain all shop drawings in confidence and to prevent their disclosure to any persons and prevent any copying thereof, except for Contractor's use on the Project.

4.9.11 Shop Drawings, Product Data and Samples shall be reviewed and their acceptance so noted by the Contractor prior to submittal to the Architect or Consultants. The Architect and/or the Consultants shall also review and forward the submittals and their appropriate recommendation to the Owner. The Owner shall return the submittal to the Contractor with appropriate comments. The Owner will retain two copies of accepted submittals, one for the Owner's records and one for the Construction Manager's use on the jobsite.

4.9.12 The Contractor shall submit one reproducible copy and 4 prints of each Shop Drawing. Drawings shall be rolled on mailing tubes, not folded. He shall submit six (6) copies of manufacturer's Product Data unless otherwise instructed by the Architect. Each submission shall be accompanied by a transmittal form in a format determined by the Architect and Owner.

4.9.13 Samples shall be identified by a permanent label giving the manufacturer's name, trade name, material type, intended application, project name, Contractor's name, and Subcontractor's or supplier's name and date of submission. Manufacturer's installation directions shall be provided with each sample. Each submission shall be accompanied by a transmittal form in a format determined by the Architect and Owner. The Contractor shall prepay all transportation costs and deliver samples to the Architect's office, job site or testing laboratory as directed by the Architect. Samples will not be returned unless return is requested at time of submission; all packing and transportation costs for the return of samples shall be paid by the Contractor.

4.9.14 Samples shall be of adequate size to permit proper evaluation of the material by the Architect. Where variations in color, texture, dimensions or other characteristics are to be expected, the Contractor shall submit samples showing the maximum range of variation. Materials exceeding the range of variation of the approved samples shall not be used in the work.

4.9.15 In order to permit coordinated selection of colors and finishes, the Contractor shall deliver samples of all items of interior finish to the Architect at one time. Samples of such materials will not be accepted if submitted individually.

4.9.16 If both Shop Drawings and Product Data or Samples are required for the same item, the Architect may require both to be submitted before approving either.

4.9.17 No mechanical or electrical engineer or other consultant to the Architect shall have authority to approve Shop Drawings, Product Data or Samples unless the Architect has notified the Contractor in writing that such authority has been delegated by him to such engineer or consultant.

4.9.18 No acceptance or approval of any Shop Drawing, Product Data or Sample, nor any indication or request marked by the Architect on any Shop Drawing shall constitute an authorization for any increase in the Contract Sum. Any claim by the Contractor for such increase must be made in accordance with subparagraph 12.1 before proceeding with the work. One complete file of submittals, etc. shall be maintained in CSI format for use by the Owner and Architect. This file shall be turned over to the Owner at the close of the project.

4.10 Use of Site

4.10.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment. The Project Manager may designate off site staging areas.

4.10.2 Owner will designate adequate parking space for vehicles of Contractor and person working at the site. Contractor agrees to require all Subcontractors and other persons working under this Construction Contract to park only in such designated parking space and to comply with all of Owner's rules and regulations pertaining to parking and traffic. Owner will designate routes to be used by trucks and other vehicles
4.12.2 Immediately prior to the Architect's inspection for Substantial Completion, the Contractor shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures, and equipment shall be thoroughly cleaned. Stains, spots, dust, marks and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken and scratched glass and plastic shall be replaced by the Contractor at his expense.

4.12.3 If the Contractor fails to clean up at the completion of the Work, the Owner may do so as provided in Paragraph 3.9 and the cost thereof shall be charged to the Contractor.

4.12.4 All materials except waste, rubbish and spoilage, equipment and facilities paid for or provided directly by the Owner shall be transferred to the Owner upon completion of the Work.

4.13 Communications

The Contractor shall forward all communications to the Owner through the Project Manager, with copies to person designated by the Project Manager.

4.14 Royalties and Patents

The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner/Architect harmless from loss on account thereof, except that the Owner/Architect shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner and Architect.

4.15 Equal Employment Opportunity: During the performance of this Agreement, Contractor agrees to comply with all the requirements concerning Equal Employment Opportunity and Affirmative Action contained in the attachment hereto. Submission of monthly Manpower Utilization Reports required for compliance with the Equal Employment Policy of the Owner shall be a prerequisite for acceptance of the Monthly Progress Payment.

4.16 Use of University Trademarks: Contractor agrees not to use University’s name or other trademarks (together referred to herein as the “Marks”), or the name or trademarks of any related organization, or to quote the opinion of any of University’s employees or agents (“Quotes”), either in writing or orally, without the prior written consent of the University’s Assistant Vice President of Business Development. This prohibition includes, but is not limited to, use of the Marks or Quotes in press releases, advertising, marketing materials, other promotional materials, presentations, case studies, reports, websites, application or software interfaces, and other electronic media.

ARTICLE 5

SUBCONTRACTORS

5.1 Definitions

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site. The term subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractors.
GENERAL CONDITIONS

5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the Work at the site. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.

5.2 Award of Subcontracts and Other Contracts for Portions of the Work

5.2.1 The Contractor was required to set forth in his bid a list of the names of Subcontractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed by him to perform all portions of the Work having a value in excess of one-half of one percent (.005) of the Contractor's total bid. The Contractor was required, further, clearly to set forth and identify in his bid the portion of the Work which each such Subcontractor, person or organization will perform.

5.2.2 If the Contractor failed to list in his bid a Subcontractor for any portion of the Work having a value in excess of one-half of one percent (.005) of the Contractor's total bid, he shall perform such portion of the Work himself, and he shall not be permitted to subcontract such portion of the Work to any person or organization without the prior written consent of the Owner.

5.2.3 The Contractor shall not be permitted to substitute any person or organization for any Subcontractor, person or organization who has been accepted by the Owner, nor to permit any subcontract to be transferred, or to allow the Work under any subcontract to be performed by any person or organization other than the Subcontractor, person or organization (including those who are to furnish materials or equipment fabricated to a special design) who has been accepted by the Owner, without the prior written consent of the Owner.

5.2.4 The Contractor shall not contract with any Subcontractor or person or organization who has not been accepted by the Owner. The Contractor will not be required to contract with any Subcontractor or person or organization against whom he has a reasonable objection, unless the Subcontractor has been specified by Owner before receipt of Contractor's bid.

5.2.5 The Agreement Sum shall remain unchanged if the Owner requires a change in any subcontractor or person or organization previously accepted by the Owner due to performance unsatisfactory to the Owner, otherwise the Agreement Sum shall be increased or decreased by the difference in cost occasioned by such change and an appropriate Change Order shall be issued.

5.3 Subcontractual Relations

5.3.1 By an appropriate agreement, written where legally required for validity, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the Owner. Said agreement shall preserve and protect the rights of the Owner under the Contract Documents with respect to the Work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with his Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such documents available to his Sub-subcontractors.

ARTICLE 6

WORK BY OWNER OR BY SEPARATE CONTRACTOR

6.1 Owner's Right to Perform Work and to Award Separate Contracts

6.1.1 The Owner reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or any similar or dissimilar conditions. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, he shall make such claim as provided elsewhere in the Contract Documents.

6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

6.1.3 The Owner will provide for the coordination of the work of his own forces and of each separate contractor with the Work of the Contractor, who shall cooperate therewith as provided in Paragraph 6.2.

6.2 Mutual Responsibility

6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall connect and coordinate his Work with theirs as required by the Contract Documents.

6.2.2 If any part of the Contractor's work depends for proper execution or results upon the work of the Owner or any separate Contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Owner any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the Owner's or separate Contractor's work as fit and proper to
GENERAL CONDITIONS

receive his Work, except as to latent defects which may subsequently become apparent in such work by others.

6.2.3 Any cost caused by defective or ill-timed work shall be borne by the party responsible therefor.

6.2.4 Should the Contractor cause any damage to the Work or property of the Owner, or to other work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

6.2.5 Should the Contractor cause any damage to the work or property of any separate Contractor, the Contractor shall upon due notice promptly attempt to settle with such other Contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the Owner on account of any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor. Either the Owner or the Contractor at Owner's option shall defend such proceedings at the Contractor's expense, and if any judgment or award against the Owner arises therefrom the Contractor shall pay or satisfy it and shall reimburse the Owner for all attorney's fees and court or arbitration costs which the Owner has incurred.

6.3 Owner's Right to Clean Up

6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.12, the Owner may clean up and charge the cost thereof to the Contractors responsible therefor as the Owner shall determine to be just.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 Governing Law: The Agreement shall be governed by the laws of the State of California.

7.2 Successors and Assigns: The Owner and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Agreement shall assign the covenants, agreements and obligations contained in the Contract Documents and the rights and remedies available thereunder except as may be specifically agreed in writing.

7.3 Bonds and Letter of Credit

7.3.1 All bonds required hereunder, unless waived in writing by Owner, shall be in the amount of 100% of the Agreement Sum and shall be in such form, and with such California corporate surety, as are satisfactory to the Owner in Owner's sole discretion. The amount of the bonds shall be increased in accordance with any increase in the Agreement price as established by Change Order. Contractor shall deliver all bonds required hereunder to the Owner not later than the date of execution of this Agreement, or if the Work is commenced prior thereto in response to a notice to proceed, the Contractor shall, prior to commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be issued. Owner may require an irrevocable stand-by Letter of Credit in lieu of the Payment and Performance bonds. If Performance bonds are waived in favor of a Letter of Credit, an acceptable form of Letter of Credit shall be submitted prior to execution of the Agreement, in accordance with Owner’s Letter of Credit Agreement, which shall accompany, and be a part of the Agreement.

7.3.2 Contractor shall deliver to the Owner a payment bond securing the faithful payment of all obligations arising under this Agreement. Contractor shall pay all premiums for such bond, which costs shall be included within the bid submitted by the Contractor on this Agreement.

7.3.3 Contractor shall deliver a performance bond securing the faithful performance of this Agreement. Contractor shall pay all premiums for such bond, which costs shall be included within the bid submitted by the Contractor on this Agreement. Concurrent with the submission of bids on this Agreement, the Contractor shall list separately the identity of the surety for the performance bond and the amount of the premium therefor.

7.3.4 When required by Owner, Contractor shall deliver a Letter of Credit securing the faithful payment of all obligations arising under this Agreement. Contractor shall pay all premiums for the Letter of Credit, The Contractor’s estimated cost for the Letter of Credit shall be identified within the Contractor’s bid proposal and the actual cost shall be included within this Agreement, which will be reimbursed to Contractor by Owner.

7.4 Rights and Remedies

7.4.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.4.2 No action or failure to act by the Owner or Contractor shall constitute a waiver of any right or duty afforded any of them under the Agreement, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder except as may be specifically agreed in writing.

7.5 Continuation of Work During Disputes: Unless otherwise specified in writing by Owner, Contractor shall continue to maintain full progress in the Work during any court or other dispute-resolution proceedings and Contractor shall not cease or slow down work. While work is proceeding, Owner shall continue to make payments to Contractor in accordance with the Contract Documents.

7.6 Owner's Field Office: Unless otherwise provided for in the Contract Documents, the Contractor shall provide at the site, from commencement to completion of the Work, a field office, minimum size 10' x 12', for the exclusive use of the Owner and any other person designated by the Owner. The Contractor shall provide the field office with a separate telephone and data line for the use of the Owner and its
agents, with suitable lighting and space heating (as determined by the Owner), and with suitable janitorial service. The Contractor shall furnish the field office with an adequate table for examining drawings, storage for the drawings, a file cabinet, chairs and a desk capable of being locked.

7.7 Valid Agreement: This Agreement shall be and remain valid, and any bond required to be furnished hereunder and the obligation of any surety or sureties shall be and remain valid, binding and effectual and shall not be discharged by any change, modification or alteration made in this Agreement, or by the performance of any extra work by the Contractor, or by any extension of time for performance hereunder, or otherwise.

7.8 Contractor/Owner not Employer/Employee: The Agreement Documents shall create only an independent contractor relationship between Owner and Contractor. In no event shall the Contract Documents be construed as creating any employer-employee, joint venture or partnership relationship between Owner and Contractor for any subcontractor or any Sub-subcontractor.

7.9 Owner/Contractor Right of Interest: The Contract Documents shall not be deemed or construed to confer upon any person or entity, other than the Owner and Contractor, any right or interest, including any third party beneficiary status or any right to enforce any provision of the Contract Documents.

7.10 Words and Abbreviations: Words and abbreviations used in the Contract Documents which have a well-known technical or trade meaning in the San Francisco Bay Area are used in accordance with such recognized meanings.

7.11 Entire and Complete Agreement: The Contract Documents constitute the entire and complete agreement between the Owner and the Contractor with respect to the Project, and supersede all prior negotiations, agreements, understandings and representations.

7.12 Construction Lender: The names and addresses of the construction lenders on this Agreement are: Not Applicable: No construction lender is involved at this time.

7.13 Living Wage and Benefit Guidelines: This Agreement is subject to University’s “Living Wage and Benefit Guidelines for Stanford Contractors,” which can be found at http://fingate.stanford.edu/staff/buypaying/policy_notes/living_wage_benefit_guide.html hereinafter “The Guidelines.”

Contractor represents and warrants that it will comply with The Guidelines as amended by University from time to time. Contractor acknowledges that failure to comply with The Guidelines will be deemed a material breach of this Agreement. Contractor agrees to provide in a timely manner upon University’s written request, but in any event not more than 10 business days, written evidence of compliance satisfactory to the University.

7.14 Original Signatures: The parties hereby agree that facsimile signatures whether transmitted by telephonic facsimile machine or computer transmitted files will be considered original signatures for all purposes including, but not limited to, authentication of this document (or any amendment prepared and executed in accordance with the terms of this document) in any legal proceeding.

ARTICLE 8

TIME LIMIT-SCHEDULE AND PROGRESS OF THE WORK

8.1 Definitions

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the "Agreement" for completion of the Work, including authorized adjustments thereto. It is expressly agreed, by and between the Contractor and the Owner, that the Contract Time is a reasonable time for the completion of the Work under this Agreement, taking into consideration 120% of the average number of rain days for the Contract period, based upon the last twenty-five year records of the U.S. Weather Bureau, and foreseeable industrial conditions prevailing in the locality of the Project.

8.1.2 The date of commencement of the Work is the date established in Owner's Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the "Agreement" or such other date as may be established therein.

8.1.3 The Date of Completion is the date certified by the Owner's Project Manager that the Work is fully completed, including all punch list work.

8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 Progress and Completion

8.2.1 Construction Schedule: Contractor shall submit to the Owner a written Construction Schedule within 21 days after receiving notice of the award of this Agreement, and before the first progress payment is made. The construction Schedule shall be complete in all respects, and shall be in such form and to the level of detail as is required by the Owner. Unless otherwise advised by the Owner, the schedule shall show for each component of the work, the following, listed separately for each subcontractor:

A. Manpower required for crafts
B. Equipment required
C. Earliest start and finish dates
D. Latest start and finish dates
E. Required shutdowns of existing facilities or services
F. Tests and inspections

8.2.2 The schedule shall be reviewed and updated each and every month and when warranted, Contractor shall revise the schedule to conform with the actual situation at the job.

8.2.3 The schedule shall be based on a Critical Path Method Network technique and shall be limited to the construction
time allowed by the Contract Documents. It shall include a sequential list of milestone dates of significant events particular to the Project and shall relate the events to the placement of materials and the procurement and delivery of equipment and testing and inspection. A time scale shall be established in such a way that anyone examining the schedule will know which trades should be represented on the job and what work should be in progress on any workday. If, in the judgment of the Owner, it is necessary to accelerate any part of the Work the Contractor shall, when so directed, concentrate his efforts on such portions of the Work, he will forward the schedule and his comments to the Owner, after review by the Architect. Contractor promptly shall make such revisions of the construction schedule as may be requested by the Owner. Upon Owner's written acceptance of the construction schedule, such schedule shall become a part of this construction Agreement.

Within two weeks after award of the Agreement, the Contractor shall submit to the Owner a Progress Schedule showing for each class of work included in the Schedule of Values, the percentage completion to be obtained and the total dollar value of the work to be completed as of the first of each month until Substantial Completion. All calculations shall be on the basis of work in place, but including the value of materials delivered but not in place, if they have been reviewed and accepted by the Owner.

8.2.4 Contractor shall submit to the Owner a revised (updated) construction schedule within 10 days after each of the following events:

A. Any revision in the schedule necessitated by weather conditions, shortages, labor disputes or any other cause of delay.

B. Changes in the construction schedule resulting from Change Orders in the Work.

C. After a suspension of the Work ordered by the Owner as provided in Paragraph 8.4.

D. Upon request by the Owner.

8.2.5 The acceptance by Owner of any construction schedule or revision thereof shall not constitute an agreement or authorization by the Owner to extend the Contract Time of Completion, to acceleration or delay of Contractor's work, or to any additional compensation of Contractor. All such agreements and authorizations shall be made only by written Change Orders signed by both the Contractor, the Owner and the Architect.

8.2.6 Failure to Progress: If at any time during the progress of the Work, Contractor's actual progress is inadequate to meet the requirements of the Agreement or any construction schedule submitted and approved, Owner may so notify Contractor who shall thereupon take such steps as may be necessary to improve its progress. If within a reasonable period as determined by Owner, Contractor does not sufficiently improve performance to meet the currently approved contract construction schedule, Owner may require an increase in Contractor's labor force, the number of shifts, overtime operations, additional days of work per week and an increase in the amount of construction plant, all without additional cost to Owner. Neither such notice by Owner nor Owner's failure to issue such notice shall relieve Contractor of its obligation to achieve the quality of work and rate of progress required by the Agreement. Failure of Contractor to comply with the instructions of Owner may be grounds for determination by Owner that Contractor is not prosecuting the Work with such diligence as will assure completion within the times specified. Upon such determination, Owner may terminate Contractor's right to proceed with the performance of the Agreement, or any separable part thereof, in accordance with the applicable provisions of this Agreement. In addition, the Contractor will be held liable for all damages to Owner.

8.2.7 All time limits stated in the Contract Documents are of the essence of the Agreement.

8.2.8 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall complete it fully within the Contract Time.

8.2.9 If in any Application for Payment, the total value of the completed Work in place, as certified by the Architect, is less than 90% of the total value of the Work in place estimated in the Progress Schedule, the Owner may, at his option, require the Contractor to accelerate the progress of the Work without cost to the Owner by increasing the work force or hours of work, or by other reasonable means approved by the Architect.

8.2.10 If the Architect has determined that the Contractor should be permitted to extend the time for completion as provided in paragraph 8.3., the calendar dates in the Progress Schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Substantial Completion, and the dollar value of work to be completed as of the first of each months shall be adjusted pro-rata.

8.2.11 If the Contractor fails to submit any Application for Payment in any month, the Architect shall, for the purpose of this evaluation of progress, certify separately to the actual value of the Work in place completed as of the first of the month to the best of his knowledge.

8.3 Delays and Extensions of Time

8.3.1 If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the Owner or by any separate contractor employed by the Owner, or by changes ordered in the Work, or by labor disputes, fire, unusual and unavoidable delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control, or by delay authorized by the Owner pending arbitration, then the Contract Time shall be extended by Change Order for such reasonable time agreed to by the Owner and Contractor.

8.3.2 Any claim for extension of the time, increased cost, or damages, shall be made by notifying Owner within five (5)
days and submitting in writing within 10 days after the commencement of the delay; otherwise it shall be waived. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work, and submit revised construction schedules.

8.3.3 If no agreement is made stating the dates upon which interpretations as provided in Subparagraph 3.5 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until fifteen (15) days after written request is made for them, and not then unless such claim is reasonable.

8.3.4 Extensions of time accepted by the Owner as a result of changes in the Work shall be incorporated in the Change Order for such work or it shall be deemed waived by Contractor.

8.3.5 No damages or compensation of any kind shall be due or paid to Contractor because of delays in the progress or completion of the Work, whether such delays be avoidable or unavoidable, except solely for delays to the extent caused by interference of Owner and those additional criteria included in Article 8.3.1 above. Strikes and other labor disputes of Owner's employees or any others shall not be deemed interference of Owner giving rise to damages or extra compensation to Contractor. Contractor shall make a written claim to Owner for any allowable delay damages within twenty (20) days after occurrence of the event giving rise to such damages, otherwise such damages shall be deemed waived.

8.4 Owner's Right to Stop the Work

8.4.1 Upon notice in writing to Contractor, the Owner, at its sole option, may suspend at any time the performance of all or any portion of Work to be performed under the Agreement. Upon such notice of suspension of Work, Owner may designate the amount and type of plant, labor and equipment to be committed to the Work Site. During the period of suspension, Contractor shall use its best efforts to utilize its plant, labor and equipment in such a manner as to minimize costs associated with suspension.

8.4.2 Upon receipt of any such notice, Contractor shall, unless the notice requires otherwise:

A. immediately discontinue Work on the date and to the extent specified in the notice; and

B. place no further orders or subcontracts for material, services, or facilities with respect to suspended Work other than to the extent required in the notice; and

C. continue to protect and maintain the Work including those portions on which Work has been suspended.

8.4.3 As full compensation for such suspension Contractor shall be reimbursed for his reasonable out-of-pocket expenses directly related to such suspension, but in no event shall Owner be liable or responsible for any consequential or indirect damages. Upon receipt of notice to resume suspended Work, Contractor shall immediately resume performance of the suspended Work to the extent required in the notice. Any claim on the part of Contractor for time or compensation shall be made by notifying Owner within 5 days and submitting in writing within 10 days after receipt of notice to resume Work and Contractor shall submit for review a revised construction schedule. No compensation or extension of time shall be granted if suspension results from Contractor's noncompliance with any provision of this Agreement.

ARTICLE 9

PAYMENTS AND COMPLETION

9.1 Schedule of Values: Before the first Application for Payment, the Contractor shall submit to the Architect for his review a schedule of values allocated to the various portions of the Work, prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. After review by the Architect, he will forward the schedule of Values to the Owner. This schedule, unless objected to by the Owner, shall be used only as a basis for the Contractor's Applications for Payment.

9.2 Applications for Payment

9.2.1 At least ten days before the date for each progress payment established in the "Agreement", the Contractor shall submit to the Owner, through the Architect, an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the Owner may require, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. Prior to submittal of itemized applications for payment, the Contractor will review a preliminary draft of the proposed payment request to determine the percentage of completion on each of the items in the schedule of Values. After agreement the formal application shall be signed by the Contractor and the Owner's representative and forwarded by the Contractor to the Architect.

9.2.2 Unless otherwise provided in the Contract Documents, payments will be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the Owner, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale and such other procedures at Contractor's expense satisfactory to the Owner to establish the Owner's title to such materials or equipment and otherwise protect the Owner's interest, including applicable insurance and storage in a bonded warehouse not subject to seizure by Contractor's bonding agency.

9.2.3 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the Owner either by incorporation in the Construction or upon the receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, claims, security interest or encumbrances, hereinafter referred to in this Article 9 as...
9.2.4 Similarly, title to all property, facilities, etc. furnished by the Owner will be retained by the Owner at completion of work, unless Owner authorizes disposal. See also 4.12.4.

9.3 Certificates for Payment: The Architect will, within seven days after the receipt of the Contractor's Application for Payment, either issue a Certificate for Payment to the Owner, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Owner who will notify the Contractor in writing his reasons for withholding a Certificate as provided in Subparagraph 9.5.1.

9.4 Progress Payments

9.4.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents.

9.4.2 The Contractor shall promptly pay each Subcontractor, upon receipt of payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to his Sub-subcontractors in similar manner.

9.4.3 The Owner may, on request and at his discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Owner on account of Work done by such Subcontractor.

9.4.4 The Owner shall have no obligation to pay or to see to the payment of any moneys to any Subcontractor except as may otherwise be required by law.

9.4.5 No Certificate for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the Owner, shall constitute an acceptance of any Work not in accordance with the Contract Documents, nor a waiver of any claim, nor shall release any surety in any way or to any extent.

9.5 Payments Withheld

9.5.1 The Owner or his representative (the Architect) may decline to certify payment and may withhold his Certificate in whole or in part, to the extent necessary reasonably to protect the Owner. If the Architect is unable to make representations to the Owner as provided in Subparagraph 9.3.1 and to certify payment in the amount of the Application, he will notify the Contractor and the Owner as provided in Subparagraph 9.3.1. If the Contractor and the Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which he is able to make such representations to the Owner. The Architect may also decline to certify payment or, because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of the Certificate for Payment previously issued, to such extent as may be necessary in his opinion to protect the Owner from loss because of:

A. defective work not remedied,
B. third party claims filed or reasonable evidence indicating probable filing of such claims,
C. failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment,
D. reasonable evidence that the Work cannot be completed for the unpaid balance of the Agreement Sum,
E. damage to the Owner or another contractor,
F. reasonable evidence that the Work will not be completed with the Contract Time,
G. persistent failure to carry out the Work in accordance with the Contract Documents,
H. failure to maintain and update Record (as-built) drawings as prescribed herein,
I. non-compliance with the Equal Employment Opportunity requirements of the Agreement, including submission of Monthly Manpower Utilization Reports, or
J. any other reasonable cause.

9.5.2 The Owner may withhold all or part of any payment due to any reason stated in 9.5.1. When the above grounds in Subparagraph 9.5.1 are removed, payment shall be made for amounts withheld because of them.

9.6 Substantial Completion

9.6.1 The Work or a portion thereof is defined as substantially complete, when the Work or portion thereof, is fully acceptable for occupancy by the Owner. When the Contractor considers that the Work or a portion thereof is substantially complete, the Contractor shall inspect the Work and prepare a punch list of items to be corrected. When all corrections have been made, Contractor shall submit in writing to the Architect and the Owner a statement that all corrections and/or completion’s have been made and requesting inspection by the Architect and the Owner's representative. Failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with Contract Documents. When the Owner and the Architect, on the basis of inspection, determines that the Work or a designated portion thereof is substantially complete, the
9.7 Final Completion and Final Payment

9.7.1 Upon receipt of written notice from the Contractor to the Owner that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect and the Owner's representative will promptly make such inspection and, when they find the Work acceptable under the Contract Documents and the Agreement fully performed, the Architect will recommend acceptance of the Work to the Owner. The Owner shall then issue a Notice of Acceptance of the Work, which notice shall establish the date of completion, and the Owner shall file a Notice of Completion of the Work with the appropriate County Recorder's Office. After the Owner's issuance of the Notice of Acceptance of the Work, the Architect shall promptly issue a final Certificate for Payment stating that to the best of his knowledge, information and belief, and on the basis of his observations and inspections, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor, and noted in said final Certificate, is due and payable. The Architect's final Certificate for Payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.7.2 have been fulfilled.

9.7.2 Neither the final payment nor the remaining retained percentage shall become due until fifty-five (55) days after the date of the recording of the Notice of Completion and the Contractor submits to the Architect (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied, (2) consent of surety, if any, to final payment and (3), if required by the Owner, other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Agreement, to the extent and in such form as may be designated by the Owner. If any Subcontractor files a mechanic's lien against the Owner or refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify him against any such lien. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

9.7.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by the issuance of Change Order affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainerage stipulated in the Contract Documents, and if bonds have been furnished as provided in Paragraph 7.3, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

9.7.4 In the event that the completion date specified in the Agreement has passed, the work is not fully completed, and the Owner assumes occupancy but cannot justify filing a Notice of Completion within the statutory 10 day period, then the lien period is extended to 90 days in accordance with California Civil Code Section 3086 (a). In the event of such delay, final payment shall not be due until 115 calendar days after Owner files Notice of Completion.

9.7.5 The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

A. unsettled liens,
B. faulty or defective Work,
C. the Contract Documents,
D. terms of any warranties required by the Contract Documents, or
E. claims reserved by the Owner.

9.7.6 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the making of the final Application for Payment.

9.7.7 Any conflict between above and Section 3260 shall be decided in accordance with the California Civil Code.
GENERAL CONDITIONS

9.8 Records, Accounts and Allowances

9.8.1 Contractor shall keep for three years after Actual Completion such full and detailed books and records as may be necessary for proper financial management under this Agreement. All of Contractor's books and records shall be kept and maintained within the San Francisco Bay Area. At all reasonable times, the Owner and its agents shall be afforded full access to all of the Contractor's books and records. The Contractor shall preserve all books and records for a period of three years after the final payment under this Agreement. As used herein, "books and records" include all of Contractor's books, records, accounts, correspondence, instructions, drawings, receipts, vouchers, memoranda, and all similar data relating to this Agreement.

9.8.2 For cost reimbursement contracts and time and material change orders, immediately upon award of this Agreement, the Contractor shall establish accounting procedures acceptable to the Owner and complying with Generally Accepted Accounting Principles for all costs incurred by the Contractor under this Agreement. Contractor shall permit Owner and its agents to review its accounting procedures and shall make such revisions to its procedures as may reasonably be requested by the Owner to verify and control costs incurred under this Agreement. No change shall be made in such accounting procedures except with the prior written approval of the Owner. With each request for progress payments, the Contractor shall submit all receipts and invoices, including payroll data, justifying the costs incurred by the Contractor. In no event shall the Owner be obligated to reimburse the Contractor for costs in excess of prices reasonably obtainable in the local market at the time the products or services were obtained by the Contractor, including such discounts as are reasonably obtainable. Any overpayments revealed by such audits shall be promptly repaid by the Contractor, and any underpayments revealed by such audits shall be promptly paid by the Owner. If such audit shall reveal an overpayment in excess of 5% for the period involved, then the costs of such audit shall be borne by the Contractor.

9.8.3 The Contractor shall include in the Agreement Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such person as the Owner may direct, but the Contractor shall make such revisions to its procedures as may reasonably be requested by the Owner to verify and control costs incurred under this Agreement. No change shall be made in such accounting procedures except with the prior written approval of the Owner. With each request for progress payments, the Contractor shall submit all receipts and invoices, including payroll data, justifying the costs incurred by the Contractor. In no event shall the Owner be obligated to reimburse the Contractor for costs in excess of prices reasonably obtainable in the local market at the time the products or services were obtained by the Contractor, including such discounts as are reasonably obtainable. Any overpayments revealed by such audits shall be promptly repaid by the Contractor, and any underpayments revealed by such audits shall be promptly paid by the Owner. If such audit shall reveal an overpayment in excess of 5% for the period involved, then the costs of such audit shall be borne by the Contractor.

9.8.4 Unless otherwise provided in the Contract Documents:

If this agreement is for the provision of services with a value of $10,000 or more within a 12-month period, then until the expiration of the agreement, Contractor shall provide services pursuant to this agreement, Contractor shall make available, upon written request from the Secretary of the United States Department of Health and Human Services or the United States Comptroller General, or any of their duly authorized representatives, this Agreement and such books, documents and records of Contractor as are necessary to certify the nature and extent of the reasonable cost of services to Owner. If Contractor enters into an agreement with any related organization to provide services pursuant to this agreement with a value of $10,000 or more within a 12-month period, such agreement shall contain a clause identical in content to the first sentence of this paragraph. This paragraph shall be of force and effect only to the extent required by law.

9.9 Price Reduction for Defective Cost or Pricing Data

9.9.1 This Article 9.9 applies to any portion of the Work, including any change under Article 12, where Contractor's compensation therefor is based in any way on actual cost (whether or not subject to a guaranteed or not-to-exceed maximum), or where Contractor's compensation is based on data submitted by the Contractor or any Subcontractor or Sub-subcontractor (e.g., a negotiated or agreed-upon lump sum, or unit-pricing). This Article does not apply to lump sum compensation selected by the Owner as the result of competitive bidding.

9.9.2 The Agreement Sum, or other amounts payable by the Owner, shall be reduced to the extent the Owner finds that any pricing data or cost is defective, unreasonable, not directly applicable to Work, or not necessary to the Work. Profits, fees and overhead also shall be reduced accordingly. Examples of unreasonable costs include, but shall not be limited to: materials, services or rentals not taking advantage of lowest available price, discounts or other terms reasonably obtainable; work inefficiently or negligently incurred; equipment or materials of a capacity or quality beyond that reasonably necessary; standby charges during delays not caused by the Owner; charges exceeding those prevailing in the industry. Such reductions may be made at any time upon written notice to the Contractor. If the Contractor already has been paid for such costs, then Contractor agrees to refund such amounts promptly.

ARTICLE 10

PROTECTION OF PERSONS AND PROPERTY

10.1 Safety Precautions and Programs

10.1.1 The contractor shall be solely responsible for initiating, maintaining and supervising all health and safety precautions and programs in connection with his operations and the Work of this Agreement. All health and safety requirements shall apply continuously and shall not be limited to normal working hours.

10.1.2 The right or duty of the Owner (or Architect/Engineer) to conduct inspections of the Work or construction review of Contractor's performance is not intended to include review of the adequacy or inadequacy of the Contractor's safety measures on or near the construction site, or elsewhere on the lands of the Owner. However, should Owner, in the course of his other activities, discover or observe any of Contractor's safety measures, or lack of them, which Owner believes are not in compliance with Contract requirements, he will notify Contractor of such deficiencies or discrepancies and Contractor shall promptly correct conditions to comply with all applicable requirements.

10.2 Safety of Persons and Property
10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

A. all employees on the Work and all other persons who may be affected thereby;

B. all the Work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and

C. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 All persons working at the job site shall conduct themselves in a manner appropriate to the academic community, and Contractor agrees to remove any worker deemed objectionable by Owner. Contractor shall prohibit the possession, use and being under the influence of any alcoholic beverage, illegal drug or any substance adversely affecting perception, judgment, ability or performance.

10.3 General and Public Safety

10.3.1 Contractor shall designate in writing a competent person from his organization as "Project Safety Representative" other than the Project Superintendent. The duties of Contractor's Project Safety Representative shall include project responsibility for implementation of the Contractor's safety program and inspecting the conditions of the jobsite and any other areas affected by Contractor's operations on a frequent and regular basis as necessary to insure compliance with all applicable safety standards, orders, and the requirements of the Contract Documents.

10.3.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the health and safety of persons and/or property or their protection from damage, injury or loss. Contractor shall promptly comply with all reasonable requests of the Owner and its agents relating to health, safety and protection of property at no additional expense to Owner.

10.3.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent facilities.

10.3.4 Traffic Control and Access

A. The Contractor shall conduct his operations in a manner which causes the least possible obstruction and inconvenience to the safe flow of pedestrian and vehicular traffic.

B. The Contractor is responsible for coordinating and obtaining approvals of the location of temporary barricades and/or detours of traffic from the Police and Fire Departments.


D. The Contractor shall maintain continued access to parking areas, roads, abutting properties, and other facilities which the construction will cross. Sequenced excavation and steel plate trench covers shall be used as necessary.

E. If traffic is reduced to one way, the Contractor shall provide flag-person(s), as required. A minimum of one lane shall be maintained open to traffic at all times, unless otherwise approved.

F. When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

G. Cone placements for traffic detour channelization and signing shall conform to the 1980 Work Area Handbook (WATCH).

H. All traffic signs which fall within the line of construction or are obstructed by the Contractor's equipment or operations shall be temporarily relocated to an unobstructed area. At no time shall hospital "EMERGENCY" signs be obscured or removed. Temporarily relocated traffic signs shall be returned to their original location at the end of construction.

I. In addition to the necessary standard traffic signs (detour, road closed, keep right, etc.) the Contractor shall furnish a maximum of four (4) custom worded directional signs using 4" block stenciled letters on a 3’ x 3’ half-inch plywood painted white. Spray can lettering without the use of stencils shall not be used. The wording shall be as directed by the Owner.

J. Contractor shall at all times furnish and maintain adequate safety devices and/or personnel including, but not necessarily limited to, barricades, lights, signs, traffic cones, warning tape, temporary roads, flag-persons, etc., as necessary to direct pedestrian, vehicular and bicycle traffic safely through or around the area of Contractor's operations. All barricades remaining in pedestrian, bicycle or vehicular traffic areas between sunset and sunrise shall be equipped with approved and operating flashers. This paragraph is especially important because of the unique character of the University environment.

10.3.5 The use, storage, disposal or abandonment of explosives or other hazardous or toxic materials is not permitted on the lands of Owner, except as expressly authorized and permitted elsewhere in these Contract Documents. Should such materials be so authorized and permitted, Contractor shall submit detailed plans for their care, use and disposal for
10.3.6 The Contractor shall promptly remedy all damage or loss (other than damage or loss fully insured under Article 11) to any property referred to in Clauses 10.2.1.A and 10.2.1.B caused in whole or in part by the Contractor, any subcontractor, any sub-subcontractor, or anyone directly or indirectly employed by any of them who or for which they may be liable and for which the Contractor is responsible under Clauses 10.2.1.A and 10.2.1.B, except damage or loss attributable solely to the acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations under Paragraph 11.3.

10.3.7 The Contractor shall not load or permit any part of the Work to be loaded unsafely.

10.3.8 In addition to any fencing shown or specified elsewhere in the Contract Documents, Contractor shall provide temporary fencing and gates around any laydown or storage area provided by Owner. Such fencing shall be of the temporary chain link type nominally six feet in height with locking gates. Such fencing shall be provided with reflectors, flashers, warning signs, dangles and/or barricades, both during construction and after completion until removal, as required by Owner. Contractor shall, on a daily basis, inspect, maintain, and repair, if necessary, all fencing erected by him. Contractor shall provide night lighting to the job site and immediate adjacent walkways as required by Project Manager.

10.3.9 Contractor shall exercise maximum effort to avoid disruption with the academic environment. This shall include, at a minimum, using all feasible methods and strict discipline to minimize danger, noise, vibration, fumes, duct and other pollution.

10.4 Protection of Work During Inclement Weather or Suspension of Construction: In the event of suspension of construction, or during inclement weather, or whenever the Owner shall direct, the Contractor will, and will cause his Subcontractors, to protect carefully his and their Work and materials against damage or injury from the weather. If, in the opinion of the Owner any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors to protect his or their Work, such Work or materials shall be removed and replaced at the expense of the Contractor.

10.5 Emergencies: In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Article 12 for Changes in the Work.

10.6 Jobsite and Worker Safety

10.7 Archeological Sites

10.7.1 The lands of Owner contain a number of known archeological sites, and additional sites, as yet undiscovered, probably exist. Contractor understands and acknowledges that Owner considers these sites, and any artifacts or human remains contained therein, to be important and valuable academic assets. Contractor shall carefully avoid and protect all known and marked archeological sites near or adjacent to the Work. Where Work is to be performed on or in close proximity to a known site, Contractor shall proceed with extreme care in accordance with instructions provided by the Project Manager and/or the Campus Archeologist. At all times and locations, Contractor shall continuously monitor the Work for any evidence of historic or prehistoric human occupation, whether near a known or marked site or not. Should any such evidence be discovered, Contractor shall immediately notify the Construction Administrator. Any and all artifacts discovered shall remain the property of the Owner.

10.7.2 The Project Manager, the Campus Archeologist, and their designated representatives are authorized to stop the work in accordance with the provisions of Subparagraph 8.4 while evaluation of any evidence discovered takes place and until additional instructions are issued to Contractor. Contractor shall cooperate fully with any archeological contractor or consultants which may be hired by Owner to effect mitigation procedures.

10.8 Discovery of Asbestos or Other Hazardous Materials

In the event that Contractor or any Subcontractor discovers asbestos or other hazardous materials at the job site, Contractor shall immediately stop the Work and notify Owner. Owner shall issue a written work order in accordance with Article 8.4 to confirm work stoppage resulting from the requirements of this subparagraph. Owner shall engage an appropriately licensed specialist to remove the hazardous materials.

10.9 Costs for Protection of Persons and Property


Page 16 of 26
GENERAL CONDITIONS

10.9.1 Except as otherwise specified, all costs in connection with meeting the requirements of Article 10 shall be borne by Contractor. Failure of Contractor to comply with any health and/or safety requirements of the Contract Documents, including, but not necessarily limited to, traffic control items required under Subparagraph 10.2.4, shall be deemed sufficient cause for Owner to, without prior notice to Contractor, take whatever action is, in Owner's opinion, necessary to achieve compliance with such requirements. In lieu of direct reimbursement by Contractor, Owner may, at his option, deduct the costs of any such action by Owner from monies due Contractor. The Owner will notify Contractor of any action taken under the provisions of this subparagraph within five (5) working days.

10.9.2 In addition to other rights and remedies available to Owner, repeated or continued failure of Contractor to comply with any requirement of Article 10 of these General Conditions shall be deemed reasonable and sufficient cause for Owner to temporarily withhold monies due Contractor until compliance is achieved or to permanently deduct monies due Contractor for services required but not provided.

ARTICLE 11
INSURANCE AND INDEMNITY

11.1 Contractor's Liability Insurance

11.1.1 The Contractor shall not commence work under this Agreement until he has obtained all of the insurance required under this Paragraph, and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until the insurance required of the Subcontractor has been so obtained and approved. Insurance required under this paragraph is as follows:

A. Worker's Compensation Insurance: The Contractor shall procure and maintain during the life of this Agreement Worker's Compensation Insurance as required by the laws and regulations of the State of California, as from time to time amended. Such insurance shall cover all persons who the Contractor may employ in connection with the Work. In case any of the Work is sublet, the Contractor shall require the Subcontractor similarly to provide Worker's Compensation Insurance for all of the latter's employees to be engaged in such sublet work, unless such Subcontractor's employees are covered by the protection afforded by the Contractor's Worker's Compensation Insurance. In the event any class of employees engaged in Work under this Agreement is not protected under the Contractor's Worker's Compensation Insurance, the Contractor shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such employees as are not otherwise protected.

B. The Contractor shall procure and maintain during the life of this Agreement Contractor's Comprehensive General Liability (bodily injury, property damage and personal injury) and Vehicle Liability Insurance, with a single limit of not less than the following for a General Liability single occurrence: $2,000,000 per occurrence combined for a single limit covering death, bodily injury, personal injury, property damage and "Any Auto" vehicle liability single occurrence: $1,000,000 per occurrence. Prior to commencement of work hereunder, Contractor shall furnish Owner certificates of such liability insurance.

Commercial General Liability and Automobile Liability insurance policies shall include the following provisions:

B - 1 Additional Insureds: The Board of Trustees of the Leland Stanford Junior University, its officers, agents, representatives, students, employees and volunteers, shall be included as additional insureds, by endorsement.

B - 2 Primary Coverage: Above insurance shall be primary as respects all other insurance or self-insurance in force. Owner's insurance or self-insurance shall be excess and noncontributory.

B - 3Cancellation Notice: Thirty (30) days prior written notice of cancellation or material change in the insurance must be given to the Owner.

B - 4 Waiver of Subrogation: Contractor and Contractor's insurance companies waive their rights to subrogation against the above named insureds, by endorsement.

C. Subcontractor's Commercial Liability Insurance. The Contractor shall either (1) require each of his Subcontractors to procure and to maintain during the life of this subcontract, Subcontractor's Comprehensive Public Liability (Bodily Injury, Property Damage, and Personal Injury) and Vehicle Liability Insurance of the type specified above and satisfying the provisions of 11.1.1.D or (2) insure the activities of his Subcontractors in his policy, specified in the said subparagraphs.

D. All insurance required under Paragraph 11.1.1.B and 11.1.1.C shall specifically cover Contractor's obligations to defend, indemnify and hold Owner harmless as provided in Paragraph 11.3, and shall name Owner as an additional insured. (See special definition of "Owner" in Paragraph 11.6.) Insurance required under this Paragraph shall include a Waiver of Subrogation.

E. Evidence of Insurance: Before beginning performance hereunder, Contractor shall furnish the Owner’s Contracts Advisor, named in the Agreement, the insurance documents (certificates of insurance plus endorsement forms) for all insurance required in the preceding and following paragraphs, however endorsement forms are not required for the Professional Liability and Worker's Compensation policies. The Certificate Holder shall be shown as “The Board of Trustees of the Leland Stanford Junior University, 3145 Porter Drive, Palo Alto, CA 94304-8440”, on all insurance certificates required herein.
GENERAL CONDITIONS

In no event shall acceptance by Owner of any certificate or other document or information relating to insurance hereunder, nor any other act or omission of Owner in any way relieve Contractor from its obligations to defend, indemnify, and provide insurance as stated herein, unless specifically agreed in writing by Owner.

F. Professional Liability: If Contractor or any Subcontractor performs design-build work on the Project, then Contractor shall, and shall cause such Subcontractor to, provide and maintain professional liability insurance covering malpractice and negligence, errors and omissions, in an amount not less than $1,000,000 per claim and in the aggregate and with a deductible acceptable to Owner. Insurance required under this Section F. shall be being written on a “claims made” basis. Contractor shall confirm to Owner's satisfaction that (a) any applicable retroactive date precedes the date the design-build services were first rendered on the Project and (b) continuous coverage will be maintained, or, if Owner so directs, an extended discovery period will be exercised, for a period of five years after the Final Completion and Acceptance Date (and for an additional five years thereafter if available on commercially reasonable terms).

G. Painting Liability Coverage: If Contractor or any Subcontractor provides painting services on the Project, then Contractor shall procure and maintain, during the life of this Agreement, a pollution liability policy as follows: Pollution/Environmental Impairment Liability insurance (including cleanup costs) with limits of not less than $1,000,000 per claim and $2,000,000 annual aggregate for liability resulting in Bodily Injury or Property damage arising out of the work or services to be performed for Owner. Coverage shall be provided for both work performed on site, as well as during the transport of lead-based paint.

11.2 Owner’s Casualty Insurance

11.2.1 Owner shall procure and maintain in effect at all times during construction a standard all-risk builders’ risk insurance policy providing coverage for fire, explosion, vandalism, malicious mischief and collapse, to the maximum extent available at a cost considered reasonable by Owner. Earthquake and flood insurance may be included at Owner's option, exercised in its sole and absolute discretion. Such insurance shall be in an amount equal to the replacement cost of the completed Work (without deduction for depreciation), including the cost of excavations, grading and filling. This insurance, which may be subject to deductibles not to exceed $1,500,000 per occurrence, shall cover building materials to be incorporated into the Work that are stored on-Site, but shall not cover building materials that are off-Site or in transit, and shall not cover loss or damage to the tools, equipment, scaffolding, personal property or other items belonging to or rented by Contractor or any Subcontractor which are not to be incorporated into the Work. Contractor shall be responsible for the first $5,000 of any loss in which Contractor or a Subcontractor of any tier has an insurable interest.

11.2.2 The builder's risk policy shall name Contractor and the Subcontractors of all tiers as loss payees, as their interests may appear. All proceeds of the builder's risk policy shall be payable to Owner, who shall collect, adjust and distribute such proceeds, compromise any and all claims thereunder and apply the proceeds of such insurance to the repair, reconstruction or replacement of the Project.

11.2.3 The Contractor shall provide (and require subcontractors to provide) best efforts to protect the Project from loss or damage by, but not limited to, fire, theft, water, weather, earthquake and dust.

11.3 Indemnity

11.3.1 Contractor agrees to forever indemnify, defend and save harmless Owner from and against any and all claims, suits and demands of liability, loss or damage whatsoever, including attorney's fees, whether direct or consequential, on account of any loss, injury, death or damage to any person or persons or property (including without limitation all agents and employees of Contractor and Owner and all property owned by, leased to or used by either Contractor or Owner or both) or on account of any loss or damage to business or reputation or privacy of any person, arising in whole or in part or in any way from any act, omission or event in any way connected with this Agreement, any work thereunder, or the Project, or in any way related thereto, and regardless of whether such loss, injury, death or damage results in whole or in part from (a) the negligence or omission of Owner or (b) any product liability of Owner or any person or (c) any strict liability of Owner or any person or (d) failure by Owner to adhere to any governmental laws, standards or regulations or interpretations thereof or to any non-governmental standards or guidelines. The defense of any such claims, suits and demands shall be by attorneys acceptable to Owner, and the fees and expenses for such attorneys shall be paid by Contractor.

11.3.2 Infringement The Contractor shall defend, indemnify and save harmless the Owner and its trustees, officers, agents and employees from and against any and all claims and demands which may be made by reason of any infringement, or alleged infringement, of any patent rights, or claims or demands caused, or alleged to have been caused, by the use of any product, article, apparatus or appliance or portion thereof furnished or installed by the Contractor; and the Contractor shall, at his own cost, expense and risk, defend any and all actions, suits, or other legal proceedings that may be brought or instituted against the Owner or its trustees, officers, agents or employees on account of any such claim or demand, and pay and satisfy any judgment or decree that may be rendered or adjudged against the Owner or its trustees, officers, agents or employees in any such action, suit or legal proceeding; except that the Owner shall be responsible for any and all loss when the product, article, apparatus or appliance or portion thereof is particularly specified in the Contract Documents, but if the Contractor has information that the product, article, apparatus or appliance or portion thereof so specified infringes on any patent, he shall be responsible as set forth in the foregoing unless he promptly informs the Owner of such infringement.
11.4 **Waiver**: Contractor hereby waives any and all claims against Owner for damage to or loss of use of property, or loss of or damage to Contractor's business or reputation or privacy, or injury or death to persons (including without limitation all agents and employees of Contractor and all property owned by, leased to or used by Contractor) arising in whole or in part or in any way from any act, omission or event in any way connected with this Agreement, any work thereunder, or the Project, or in any way connected therewith or in any way related thereto, and regardless of whether such loss, injury, death or damage results in whole or in part from (a) the negligence or omission of Owner or (b) any product liability of Owner or any person or (c) any strict liability of Owner or any person or (d) failure by Owner to adhere to any governmental laws, standards or regulations or interpretations thereof or to any non-governmental standards or guidelines or (e) infringement of any United States or foreign patent, trademark, copyright, trade secret or other intellectual property right.

11.5 **Exclusions**: There are excluded from the indemnity provisions of 11.3.1, and the waiver provisions of 11.4, any such claims, suits and demands of liability, loss or damage resulting solely from Owner's active negligence or willful intent to cause injury.

11.6 **Special Definition of "Owner"**: As used in this Article 11 (except Paragraph 11.5), and in any insurance required above, "Owner" shall be deemed to include its Trustees, officers, employees, faculty, students, agents, affiliated organizations and their insurance carriers, and those of the Stanford University Hospital and Clinics. As used in Paragraphs 11.3 and 11.4, "Contractor" shall be deemed to include all Subcontractors and Sub-subcontractors.

**ARTICLE 12**

**CHANGES IN THE WORK**

12.1 **Change Order/Agreement Modification**

12.1.1 A Change Order is a written order to the Contractor signed by the Owner and issued after execution of the Agreement directing a change in the Work, or a suspension of Work, or an adjustment in the Agreement Sum or the Contract Time. The Agreement Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Agreement Sum or the Contract Time.

12.1.2 The Owner, without invalidating the Agreement, may order changes in the Work within the general scope of the Agreement consisting of additions, deletions or other revisions, the Agreement Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable provisions of the Contract Documents.

12.1.3 Charges or credits resulting from a Change in the Work shall be determined in one or more of the following ways:

- **A.** By mutual acceptance of a lump sum properly itemized in a format acceptable to the Owner, but as a minimum shall include legible, clear cost information which will allow calculation of unit costs for each of the various task components, expressed in units that are generally accepted in the construction industry. Such cost information shall include:
  1. Component labor, indicating man-hours and rates by skill, with appropriate fringe benefit rates;
  2. Component materials, with specific description, quantities, and costs of each type;
  3. Subcontractor's prices including specific description of subcontractor work;
  4. List of appropriate equipment rentals, tools and other charges;
  5. Overhead and profit (see 12.1.3.4)
  6. Itemized taxes, bonds, and any insurance premiums special and allocable to the change order work.

- **B.** By unit prices stated in the Contract Documents or subsequently agreed upon;

- **C.** By the reasonable actual cost of the Change in the Work plus a reasonable fee, not to exceed a mutually agreed upon maximum price of $10,000.00 or less. This method will be limited to Field Orders identified in paragraph 12.5 below.

- **D.** The term “overhead and profit” shall mean the full amount of compensation (both direct and indirect) to be paid to Contractor for all costs and expenses not included in the cost of the extra work, whether or not such costs and expenses are specifically defined. Contractor’s overhead and profit shall be as follows:
  1. General Conditions Costs expended or saved as a direct result of a Change in the Work;
  2. Direct Costs expended or saved as a direct result of the Change in the Work;
  3. An allowance for all overhead costs and profit, determined as follows:
    - **i.** For Work performed by Contractor's own forces, Contractor shall be entitled to a fee equal to the Contractor's Fee applied against the increase in Direct Costs; and
    - **ii.** For Work performed by Subcontractors, the maximum fee payable to Contractor shall not exceed the Contractor's Fee, and the maximum fee payable to Subcontractors of any tier shall not exceed 15%, of the aggregate increase or decrease in Direct Costs, and Contractor shall be solely responsible for allocating the overhead and profit to Contractor and all Subcontractors involved in the Change. As a further clarification, the agreed upon fee is intended to cover the same items as Contractor's Fee specified in Article 5 of the Agreement or Contractor's Proposal under Section 9.2 b. of the Agreement. The fee is specifically excluded from the portion of wage which comprises a shift differential or the overtime portion of the labor wage.
GENERAL CONDITIONS

d) Overhead and profit shall NOT be calculated on taxes, bonds, permits, royalties, utility fees and any insurance premiums.

The cost of extra work shall NOT include any of the following:

1) Wages, salaries, fringe benefits and payroll taxes for Contractor’s and all subcontractors’ employees not directly employed at the project site or at fabrication sites off the project site in the performance of extra work.

2) Wages, salaries, fringe benefits and payroll taxes for Contractor’s and all subcontractors’ employees supervisory and administrative personnel not directly employed at the project site in the performance of extra work.

3) Wages, salaries, fringe benefits and payroll taxes for Contractor’s and all subcontractors’ employees supervisory and administrative personnel directly employed at the project site in the performance of extra work, but only (i) if the extra work does not require direct supervision of overtime work and (ii) to the extent such personnel are not solely engaged in supervising and administering such extra work during an extension of the Contract time or periods of overtime.

4) Loss of efficiency or productivity, overhead, administrative or general expenses of any kind including data processing costs incurred in connection with extra work.

12.1.4 If none of the methods set forth above is agreed upon and;

A. Immediate field conditions reveal a change in scope is necessary; which is estimated to exceed $10,000.00.

B. A work stoppage will be created if direction to proceed is delayed, e.g., no work-around plan is practical or feasible.

C. The Construction Manager and Project Manager agree with the scope of the change and the dollar estimate of a Not-to-Exceed figure, proposed by the Contractor (maximum of $25,000.00).

Then, the Contractor, provided he receives a written not-to-exceed Change Order signed by the Owner, shall promptly proceed with the change in the Work involved. However, he must submit a detailed cost proposal within fifteen calendar days after receipt of the Change Order outlining all costs expended to date plus a cost estimate of monies necessary to complete the work added by Change Order. As a minimum this will include items A thru F of Paragraph 12.1.3.1 above. An equitable Lump Sum adjustment shall then be negotiated between the Owner and the Contractor within the next 20 days. A superseding Change Order will then be issued reflecting the agreement between the two parties. Pending final determination of the cost or credit to the Owner, payments on account shall be made pursuant to Article 9. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to the change.

12.1.5 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated are so changed in a proposed Change Order that application of the agreed unit prices to the quantities of Work proposed will cause substantial inequity to the Owner or the Contractor, the applicable unit prices shall be equitably adjusted.

12.2 Concealed Conditions: Should concealed and unforeseeable conditions be encountered in the performance of the Work below the surface of the ground or should concealed and unforeseeable conditions in an existing structure vary materially from conditions indicated by the Contract Documents, or be of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement, then the Agreement Sum shall be equitably adjusted by Change Order upon claim by either party made within twenty days after the first observance of the conditions. No increase in the Agreement sum shall be made, however, for any conditions (whether or not contradicted by the Contract Documents) ascertainable by a careful on-site inspection by the Contractor.

12.3 Claims for Additional Cost and/or Time

12.3.1 If the Contractor wishes to make a claim for an increase in the Contract Sum and/or time, he shall give the Owner written notice thereof within twenty days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall proceed. No such claim shall be valid unless so made. Any change in the Agreement Sum resulting from such claim shall be authorized by Change Order.

12.3.2 If the Contractor claims that additional cost is involved because of, but not limited to, (1) any written interpretation pursuant to any claim or dispute, (2) any order by the Owner to stop the Work, where the Contractor was not at fault, or (3) failure of payment by the Owner, the Contractor shall make such claim as provided in Subparagraph 12.3.1.

12.4 Agreement Modification Proposal: Requests for changes in the work will be submitted with a breakout of costs as identified in Paragraph 12.1.3.1 A through F above. Acceptance of the Contractor's Quotation Summary by the Project Manager or Construction Administrator shall not be binding on the Owner. Rather it is a recommendation for the work and cost to be included in a proposed subsequent Change Order. Agreement Modification Proposals may be initiated by the Contractor, the Architect or the Owner. These shall be sequentially numbered and controlled by the Owner.

12.5 Field Orders: In emergency situations, or to permit orderly progress of the Work, a Field Order may be issued by the Construction Manager. The Field Order may authorize work on a cost reimbursement basis in accordance with 12.1.3 and a not-to-exceed a given dollar estimate. Field Order authority is limited to $10,000, and the work involved must be included in a Change Order as rapidly as possible.
GENERAL CONDITIONS

ARTICLE 13

UNCOVERING AND CORRECTION OF WORK

13.1 Uncovering of Work: If any portion of the Work should be covered contrary to the request of the Owner or his representative or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Owner, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.2 Inspection, Testing, Rejection of Materials and Workmanship

13.2.1 The Contractor shall (1) maintain an adequate inspection system approved by the Owner and perform such inspections that will assure that the work performed under this Agreement conforms to Agreement requirements, and (2) maintain and make available to the Owner adequate records of such inspections, consistent with the test and inspection listed in Paragraph 8.2.1.F.

13.2.2 All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrications of components) shall be subject to inspection and test by the Owner at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Owner and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the Work strictly complies with the Agreement requirements. No inspection or test by the Owner shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance of the completed Work.

13.2.3 The Contractor shall, without charge, replace any material or correct any workmanship found by the Owner not to conform to the Agreement requirements, unless the Owner consents to accept such material or workmanship with an appropriate adjustment in Agreement Price. The Contractor shall promptly segregate and remove rejected material from the Work.

13.2.4 If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Owner (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Agreement, and/or (2) may terminate the Contractor's right to proceed.

13.2.5 If the Contract Documents, laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Work to be inspected, tested or approved, the Contractor shall give the Owner, timely notice of its readiness and of the date arranged so that Owner may observe such inspection, testing, or approval. Unless otherwise specified in the Contract Documents, the Owner shall select the testing agency or agencies for all test work performed at the job site (to include concrete batch plant work). The Owner shall pay for all testing services employing the Owner's selected testing agency or agencies unless specifically noted as otherwise in the specifications. In all cases when testing reveals a failure of the work, retesting after correction of the work shall be paid for by the Contractor.

13.2.6 Should it be considered necessary or advisable by the Owner at any time before acceptance of the entire Work to make an examination of Work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor and material. If such Work is found to be defective or non-conforming in any material respect, Contractor shall pay Owner all the expenses of such examination and of satisfactory reconstruction. If, however, such Work is found to meet the requirements of the Agreement, an equitable adjustment shall be made in the Agreement price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the Work has been delayed thereby, he shall, in addition, be granted a suitable extension of time. Owner shall not be liable for any failure to notify Contractor or any other person of any defective, dangerous or unsuitable Work observed by Owner or any agent or employee.

13.2.7 Required certificates of inspection, testing or approval shall be secured by the Contractor and promptly delivered by him to the Owner.

13.3 Correction of Work

13.3.1 The Contractor shall promptly correct all Work rejected by the Owner or the Architect as defective or as failing to conform to the Contract Documents whether observed before or after Substantial Completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Architect's additional services made necessary thereby.

13.3.2 If, within the later of one year after the Date of Substantial Completion of the Work or designated portion thereof or one year after acceptance by the Owner of designated equipment or such longer period of time as may be prescribed by law or by the terms of any applicable warranty, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt (whether or not after such time period) of a written notice from the Owner to do so unless the Owner has previously given the Contractor a specific written acceptance of such condition. This obligation shall survive termination of the Agreement. The Owner shall give such notice within 90 days after Owner's discovery of the condition.

13.3.3 The Contractor shall remove from the site all portions of the Work which are defective or non-conforming and which have been corrected under Subparagraphs 4.5.1, 13.2.1, and 13.2.2, unless removal is waived by the Owner.

13.3.4 If the Contractor fails to correct defective or non-conforming Work as provided in Subparagraphs 4.5.1, 13.3.1 and 13.3.2, the Owner may correct it in accordance with Paragraph 3.9.

13.3.5 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time
fixed by written notice from the Owner, the Owner may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten days thereafter, such materials and equipment shall be deemed abandoned and the Owner may upon ten additional days’ written notice sell them at auction or at private sale or otherwise use or dispose of them and the proceeds thereof. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner.

13.3.6 The Contractor shall bear the cost of making good all work of the Owner or separate contractors destroyed or damaged by such correction or removal.

13.3.7 Nothing contained in this Paragraph 13.3 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractors’ liability with respect to his obligations other than specifically to correct the Work.

13.4 Acceptance of Defective or Non-Conforming Work If the Owner prefers to accept defective or non-conforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Agreement Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 14

TERMINATION OF THE AGREEMENT

14.1 Termination for Convenience of the Owner

14.1.1 The performance of work under this Agreement may be terminated by the Owner in accordance with this clause in whole, or from time to time in part, whenever Owner determines that such termination is in its best interest. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of work under the Agreement is terminated, and the date upon which such termination becomes effective.

14.1.2 Upon receipt of a Notice of Termination, and except as otherwise directed, the Contractor shall,
14.1.3 After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination claim, in the form and with certification prescribed by the Owner. Such claim shall be submitted promptly but in no event later than six (6) months from the effective date of termination, unless one or more extensions in writing are granted by the Owner, upon request of the Contractor made in writing within such six (6) months period or authorized extension thereof. Any failure of the Contractor to submit his termination claim within the time allowed shall be deemed a waiver of all costs and compensation arising from termination.

14.1.4 Subject to the provisions of Paragraph 14.1.3, the Contractor and the Owner may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total Agreement Sum as reduced by the amount of payments otherwise made and as further reduced by the Agreement Price of work not terminated. The Agreement shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in Paragraph 14.1.5 of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the Contractor pursuant to this Paragraph 14.1.4.

14.1.5 In the event of the failure of the Contractor and the Owner to agree, as provided in Paragraph 14.1.4, upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Owner shall pay to the Contractor the amounts determined by the Owner as follows, but without duplication of any amounts agreed upon in accordance with Paragraph 14.1.4:

A. With respect to all Work performed prior to the effective date of the Notice of Termination, the total (without duplication of any items) of

(i) the cost of such Work;
(ii) the cost of settling and paying claims arising out of the termination of Work under subcontracts or orders as provided in Paragraph 14.1.2 E above, exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the Subcontractor prior to the effective date of the Notice of Termination of Work under this Agreement, which amounts shall be included in the cost on account of which payment is made under (i) above; and
(iii) a sum, as profit on the percentage of Work done as determined by the Owner to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Agreement had it been completed, no profit shall be included or allowed under this subdivision (c) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated loss; and

B. The reasonable cost of the preservation and protection of property incurred pursuant to Paragraph 14.1.2 I; and any other reasonable cost incidental to termination of work under this Agreement, including expense incidental to the determination of the amount due to the Contractor as the result of the termination of work under this Agreement.

The total sum to be paid to the Contractor under (1) above shall not exceed the total Agreement Sum as reduced by the amount of payments otherwise made and as further reduced by the Agreement Price of Work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed in writing the risk of loss, there shall be excluded from the amounts payable to the Contractor under (1) above, the fair value, as determined by the Owner, of property which is destroyed, lost, stolen, or damaged so as to become undeliverable to the Owner, or to a buyer pursuant to Paragraph 14.1.2 G.

14.1.6 In arriving at the amount due the Contractor under this clause there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the terminated portion of this Agreement, (2) any claim which the Owner may have against the Contractor in connection with this Agreement, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold pursuant to the provisions of this clause, and not otherwise recovered by or credited to the Owner.

14.1.7 If the termination hereunder be partial, Contractor may file with the Owner a claim for an equitable adjustment of the price specified in the Agreement relating to the continued portion of the Agreement (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price. Any claim by the Contractor for equitable adjustment under this clause must be asserted within sixty (60) days from the effective date of the termination notice, unless an extension is granted in writing by the Owner.

14.1.8 The Owner may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this Agreement.
whenever in the opinion of the Owner the aggregate of such payments shall be within the amount to which the Contractor will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this clause, such excess shall be paid by the Contractor to the Owner upon demand, together with interest computed at the rate established by the Bank of America, prime rate for the period from the date such excess payment is received by the Contractor to the date on which such excess is repaid to the Owner; provided, however, that no interest shall be charged with respect to any such excess payment attributable to a reduction in the Contractor's claim by reason of retention or other disposition of termination inventory until ten days after the date of such retention or disposition, or such later date as determined by the Owner.

14.1.9 Unless otherwise provided for in this Agreement, or by applicable statute, the Contractor shall - from the effective date of termination until the expiration of three years after final settlement under this Agreement - preserve and make available to the Owner at all reasonable times at the office of the Contractor but without direct charge to the Owner, all his books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this Agreement and relating to the Work terminated hereunder.

14.2 Termination for Default

14.2.1 If the Contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers, equipment or materials, or if he fails to make prompt payment to Subcontractors or for materials or labor, or disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise fails to comply with any provision of the Contract Documents, then the Owner, may, without prejudice to any right or remedy and after giving the Contractor and his surety, if any, thirty days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment and machinery thereon owned by the Contractor and may finish the Work by whatever method it may deem expedient. In such case the Contractor shall not be entitled to receive any further payment.

14.2.2 If the costs of finishing the Work, including compensation for the Architect's additional services made necessary thereby, exceed the unpaid balance of the Agreement Sum, the Contractor promptly shall pay the difference to the Owner. The amount to be paid to the Owner shall be determined in the manner provided in Paragraph 14.1 and this obligation for payment shall survive the termination of the Agreement.

END OF GENERAL CONDITIONS
Special Conditions For
Storm Water Pollution
Prevention
I. PURPOSE OF THESE SPECIAL CONDITIONS
   A. The purpose of these Special Conditions and the requirements herein is to prevent the pollution of Stanford’s storm drainage and sanitary sewer systems and the environment from construction projects and operations & maintenance activities. Following these requirements will facilitate compliance with environmental regulations to reduce discharges of materials and wastes, including metal debris, detergents, pesticides, grease, lubricants, and other contaminants, and reducing erosion and sedimentation. Storm drainage systems discharge surface water runoff directly to creeks and the San Francisco Bay without treatment. Wastewater treatment plants are sensitive to hazardous chemicals, heavy metals loading, and grease. The Contractor shall be liable for any noncompliance or fines related to disregarding applicable laws and the requirements in these Special Conditions.

   B. These requirements are based on the following permits and ordinances applicable to Stanford University from our local and regional permitting agencies (Santa Clara County, City of Palo Alto):
      E. Santa Clara County Ordinance Code (Stanford is located within unincorporated Santa Clara County). http://www.sccgov.org/scc_ordinance/TOC057.HTM
      F. The City of Palo Alto Municipal Code – Sewer Use Ordinance (Stanford discharges wastewater to the City of Palo Alto Regional Water Quality Control Plant and maintains a permit to discharge wastewater). http://www.cityofpaloalto.org/depts/clk/municipal_code.asp (Title 16, Section 09)

II. GENERAL REQUIREMENTS
   A. Non-hazardous Material / Waste Management
      1. Designated Area
         Propose designated areas of the project site, for approval by Stanford's Project Manager, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near project entrances and away from catch basins, gutters, drainage courses, and creeks.
2. Stockpiled Project Materials (e.g., excavated or imported earth, sand, aggregate base, spoils, fly-ash, stucco, hydrated lime, pressure treated lumber, or other similar project materials)
   a. Store stockpiled project material at least ten feet away from catch basins and drainage inlets. Stockpiled material shall be kept clear of gutters, swales and drainage channels.
   b. Do not allow stockpiled material to enter storm drains or creeks.
   c. Cover and berm loose stockpiled project materials that are not actively being used. Covers shall be held securely in place to prevent movement by wind, precipitation, or other means.
   d. Implement best management practices, see “California Storm Water Best Management Practice Handbook - Construction Activity” by the California Stormwater Quality Association (CASQA), to prevent the off-site tracking of loose project and landscape materials. http://www.casqa.org/

3. Dust Control
   Use non-potable water to control dust on a daily basis/as needed or as directed by Stanford’s Project Manager.

4. Street Sweeping
   At the end of each working day or as directed by Stanford Project Manager, clean and sweep roadways, haul routes and on-site paved areas of all materials attributed to or involved in the work. Do not use water to wash or flush down streets in place of street sweeping.

5. Recycling
   a. Recycle aggregate base material, asphalt concrete, and Portland cement concrete when required by provisions of the Specifications or by notes on the Drawings.
   b. In addition, to the maximum extent practicable, reuse or recycle any useful project materials generated during the project subject to approval by Stanford Project Manager.

6. Disposal
   a. At the end of each working day, collect all scrap, debris, and waste material, and dispose of such materials properly.
   b. Cover all waste disposal containers at the end of every business day and during rain events.
   c. Inspect dumpsters for leaks and contact dumpster supplier to replace or repair dumpsters that leak.
   d. Do not discharge water on-site from cleaning dumpsters.
   e. Arrange for regular waste collection before dumpsters overflow.

B. Hazardous Material / Waste Management

1. Storage
   a. Label and store all hazardous materials, such as pesticides, paints, thinners, solvents and fuels; and all hazardous wastes, such as waste oil and antifreeze; in accordance with Owner’s requirements and all applicable Federal, State and County regulations.
   b. Store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations,
   c. Store hazardous materials in watertight containers or in a storage shed (completely enclosed).
d. Keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDS), of hazardous materials and hazardous wastes stored on-site, to assist emergency response personnel in the event of a hazardous materials incident.
e. Prevent the disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
f. Ensure proper placement and containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system.

2. Usage
   a. Chemicals shall not be applied when rain is forecast within 48 hours or during wet weather unless specifically approved by the Stanford Project Manager.
   b. Do not over-apply pesticides or fertilizers and follow material manufacturer’s instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. Over-application of a pesticide constitutes a “label violation” subject to an enforcement action by the Santa Clara County Agriculture Department.

3. Wastewater Disposal
   Wastewater generated from projects or operations & maintenance activities must comply with discharge standards outlined in the City of Palo Alto Municipal Code, Sewer Use Ordinance, 16.09.040. A copy of the Sewer Use Ordinance can be found at: http://www.cityofpaloalto.org/depts/clk/municipal_code.asp

4. Hazardous Waste Disposal
   a. Properly label and arrange for regular hazardous waste collection to comply with time limits (90 days) on storage of hazardous wastes.
   b. Arrange with project manager for hazardous waste pick up and disposal by Environmental Health and Safety.

C. Spill Prevention and Control
   1. Keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on-site.
   2. Immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, Contractor shall handle the waste as described in section II.B.4. above.
   3. Do not wash any spilled material into streets, gutters, storm drains, or creeks and do not bury spilled hazardous materials.
   4. Update and post “Emergency and Spill Response Notifications for Construction and Operations & Maintenance Activities,” see Attachment B.
   5. Immediately report any hazardous material spill greater than one quart to Stanford University Environmental Health and Safety Department (650) 725-9999, and to the Stanford Project Manager.
   6. Immediately report any sewage spills to the Stanford 24-hour operations & maintenance customer service at (650) 723-2281.

D. Vehicle / Equipment Cleaning
   1. Do not perform vehicle or equipment cleaning on site or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods.
   2. Perform vehicle or equipment cleaning with water only, in a designated, bermed area that will not allow rinse water to run off-site or into streets, gutters, storm drains, or creeks.
E. Vehicle / Equipment Maintenance and Fueling
   1. Perform repairs, maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not allow run-on of storm water or runoff of spills.
   2. Keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on-site.
   3. Clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in section II.B.4. above.
   4. Do not wash any spilled material into streets, gutters, storm drains, or creeks and do not bury spilled hazardous materials.
   5. Report any hazardous materials spill (greater than quart) to Stanford University Environmental Health and Safety Department (650) 725-9999, and to the Stanford Project Manager.
   6. Inspect vehicles and equipment arriving on-site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made.
   7. Recycle waste oil and antifreeze, to the maximum extent practicable.
   8. Comply with Federal, State, and County requirements for aboveground storage tanks and portable generators.

F. Contractor Training and Awareness
   1. Train all employees and sub-contractors on the environmental pollution prevention requirements contained in these Special Conditions.
   2. Keep records of all environmental pollution prevention training on site for the duration of the project/contract.
   3. Inform contracted entities of the environmental pollution prevention requirements and include appropriate provisions to ensure that these requirements are met.
   4. Keep records of subcontractor notification of environmental pollution prevention requirements on site for the duration of the project/contract.
   5. Post warning signs in areas treated with chemicals.
   6. Paint new catch basins, constructed as part of the project, with the “NO DUMPING – FLOWS TO BAY” stencil available from Stanford University (650) 723-9747 or 725-7864.

III. ACTIVITY-SPECIFIC REQUIREMENTS

A. Dewatering Operations
   1. Groundwater Dewatering (in general, groundwater is not found at Stanford shallower than 25 feet below natural ground surface)
      a. Notify the Stanford Project Manager at least one month prior to any anticipated groundwater dewatering discharges. Sample and analyze the groundwater to be discharged for pH, turbidity, TSS, TPH, VOCs, and metals and provide the results to the Stanford Project Manager for review to determine appropriate discharge method.
      b. If the project is found to be within an area of groundwater contamination not so identified on the Drawings or in the Specifications, contact the Stanford Project Manager for direction as to if and how to proceed with the dewatering operation.
   2. Construction Site Rainfall Dewatering
a. Comply with site Stormwater Pollution Prevention Plan (SWPPP) dewatering requirements.
b. Check for odors, visible sheen, turbidity or discolored water prior to discharge.
c. Maintain appropriate best management practices to prevent erosion at the discharge point and at rates that avoid scouring to downstream water bodies.
d. Employ appropriate best management practices to ensure the pumped water is free of pollutants. Discharge shall have pH between 6.0 and 9.0 and turbidity no higher than 500 NTU.

3. Utility Infrastructure Dewatering (Vaults)
   a. Follow “Procedure for Planned Discharges of Rainwater or Wastewater” (Attachment A).
   b. Check for odors, visible sheen, turbidity or discolored water prior to discharge.
   c. Suspected contaminated rainwater may not be discharged to the storm drain.

B. Paving Operations
   1. Project Site Management
      a. Obtain Stanford Project Manager’s approval when scheduling paving within 48 hours of, or during, wet weather.
      b. Protect drainage courses by using control measures such as filter fabric, straw waddles, and rock bags as necessary to divert runoff and trap and filter sediment.
      c. Place drip pans or absorbent material under paving equipment when not in use.
      d. Cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
   2. Paving Waste Management
      a. Do not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, either collect the sand and return it to the stockpile or dispose of it in a trash container.
      b. Do not use water to wash down fresh asphalt concrete pavement.

C. Saw Cutting
   1. During saw cutting, cover or barricade all nearby catch basins using control measures, such as filter fabric, straw waddles, and fine gravel dams, as necessary to keep slurry out of the storm drain system. When protecting a catch basin, ensure that the entire opening is covered.
   2. Shovel, absorb, or vacuum saw-cut slurry during or immediately following saw-cutting. Pick up the residual waste slurry prior to opening the area to pedestrian or vehicular traffic or at the end of each working day, whichever is sooner. Do not use water to wash down saw-cut slurry or waste.
   3. If saw cut slurry enters catch basins, remove the slurry from the storm drain system immediately and report the spill to Stanford Maintenance Customer Service at 650-723-2281.

D. Contaminated Soil Management
   1. On all projects involving grading or excavation, visually observe encountered materials and identify contaminated soil, as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. Areas of known soil contamination within the project area will be identified on the Drawings or in the Specifications.
2. If the project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations shall be tested as directed by the Stanford Project Manager. The soil shall be managed as required by the Stanford Project Manager.

3. If the project is found to have contaminated soil not within an area of soil contamination identified on the Drawings, contact the Stanford Project Manager for direction as to how to proceed.

E. Concrete, Grout, Stucco and Mortar Waste Management

1. Material Management
   Store concrete, grout, stucco, and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.

2. Concrete/grout/stucco/mortar wash out.
   a. Do not wash out concrete, grout, stucco, and mortar into streets, gutters, storm drains, or creeks.
   b. Avoid mixing excess amounts of fresh concrete, grout, stucco, and mortar on-site.
   c. Store dry and wet materials away from waterways and storm drains; cover and contain to protect from rainfall and prevent runoff.
   d. Wash out trucks and equipment only in designated wash-out areas that are appropriately sized to handle expected waste and are water-tight.
   e. Establish a location for the washout area away from watercourses and storm drains. The washout area shall be appropriately sized to handle the expected volume at the site. Allow the water to evaporate and dispose of the hardened concrete in a trash container. If a suitable washout area is not available, collect the wash-out water and dispose of it at an off-site facility approved for such use.
   f. Cover all washout areas and containers during rain events.

3. Exposed Aggregate Concrete Wash Water
   a. Contain and manage exposed aggregate concrete wash water as outlined in section III.E.2. above.
   b. Collect and return sweepings from exposed aggregate concrete to a stockpile or dispose of the waste in a trash container.

F. Painting

1. Painting Cleanup
   a. Designated Area
      (1) Clean painting equipment and tools in a designated area that will not allow run-on of storm water or runoff of spills.
      (2) Do not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drains, or creeks.
   b. Water-based Paint
      (1) Remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.
      (2) Dispose of wash water from aqueous cleaning of equipment and tools to the sanitary sewer.
c. Oil-based Paint  
   (1) Remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.  
   (2) To the maximum extent practicable, filter paint thinner and solvents for reuse.  
   (3) Dispose of waste thinner and solvent, and sludge from cleaning of equipment and tools as hazardous waste, as described in section II.B.4. above.

2. Material / Waste Management  
   a. Store paint, solvents, chemicals, and waste materials in compliance with the requirements of the Owner and all applicable Federal, State and County regulations. Store these materials in a designated area that will not allow run-on of storm water or runoff of spills.  
   b. Return usable containers of thinners, solvents, oil and water-based paints to shop or place of business as surplus materials.  
   c. Manage any unusable paints, thinners and solvents, (e.g.: contaminated materials, unknown materials, dried out paints, unlabeled containers), as hazardous waste in accordance with section II.B.4.  
   d. Dispose of dry, empty paint cans/buckets, old brushes, rollers, rags and drop cloths in the trash.

G. Erosion and Sediment Controls - maximize the control of erosion and sediment by using the most current version of Best Management Practices (BMPs) for erosion and sedimentation in the current version of “California Storm Water Best Management Practice Handbook - Construction Activity” by the California Stormwater Quality Association (CASQA).  

1. Storm Water Pollution Prevention Plan (SWPPP)  
   SWPPPs shall be prepared by the Stanford Project Manager for all construction sites 1 acre or larger that will be under construction of exterior improvements or site work. Incorporate all requirements detailed in the developed SWPPP at construction sites.

2. Scheduling  
   a. Incorporate erosion and sediment control items in the construction schedule.  
   b. Avoid or minimize land disturbing activities scheduled between October and April (rainy season). Extra BMPs shall be implemented to protect the site from erosion between those dates.  
   c. Wherever possible, schedule major grading operations in dry-weather months (May – October)  
   d. Schedule enough time before start of rainy season to put additional BMPs in place to protect site from erosion. Campus Storm Water Inspector will visit site at the end of September to ensure proper storm water protection.

3. Perimeter Controls  
   Install effective perimeter controls (e.g., fiber rolls, silt fence, etc.) around the perimeter of the site to prevent rainwater run-on and run-off from the site.

4. Stabilized Construction Entrance/Exit  
   Install a stabilized entrance/exit to minimize the tracking of mud and dirt onto adjacent roads by project vehicles.

5. Storm Drain Inlet Protection/Filters  
   Install temporary storm drain inlet protection or filters within the project fence line to improve the quality of water being discharged to the inlets or catch basins or to prevent
sediment from accumulating during the non-rainy season. Storm Drain protection is required year round.

6. Monitoring
   a. Monitor the effectiveness of the BMPs used on site before, during and after rain events. Inspections should take place weekly during the duration of the project.
   b. Contact the Utilities Environmental Group at 650-723-9747 for monitoring form specifications and/or examples.
   c. Transmit pdf copies of all monitoring forms to the Environmental Group office via email (tracyd@stanford.edu or marty1@bonair.stanford.edu).

H. Pipe Cleaning Discharges (e.g., newly installed pipe systems, heating hot water, chilled water, etc.)
   1. Provide the following information to the Utilities Environmental Group no less than seven working days prior to anticipated discharge:
      a. Cleaning Chemical MSDS
      b. Quantity of product to be used
      c. Concentration of product to be used
   2. Follow “Procedure for Planned Discharges of Rainwater or Wastewater” (Attachment A).

I. Surface Cleaning (e.g., roof tiles, buildings, sidewalks, etc.)
   1. Block all storm drains located in the cleaning area.
   2. Filter cleaning runoff to remove debris.
   3. Collect all wash water from cleaning operation and dispose of to the sanitary sewer.
   4. Follow “Procedure for Planned Discharges of Rainwater or Wastewater” (Attachment A).
   5. If cleaning product is to be used, provide the following information to the Environmental Compliance Group no less than seven working days prior to anticipated discharge:
      a. Chemical MSDS
      b. Quantity/Concentration of product to be used
      c. Total volume of wastewater

J. Potable Water Discharges (e.g., hydrant testing, water main disinfection)
   1. Implement appropriate best management practices for dechlorination, and sediment and erosion controls.
   2. Sample the discharged water once every 30 minutes and maintain a pH between 6.5 – 8.5, Turbidity less than 50 NTU and Chlorine Residual less than 0.05 mg/L.
   3. Follow “Procedure for Planned Discharges of Rainwater or Wastewater” (Attachment A).
Stanford University
Procedure for Planned Discharges of Rainwater or Wastewater

Name of Requester/Discharger:

Phone Number for Requester/Discharger:

Project Name/Number or Utility System:

Date Discharge Request Submitted:

Date(s) of Expected Discharge:

STEP 1: IDENTIFY DISCHARGE TYPE (Page 2):
Identify your discharge type from the list on page 2. Some discharges may have multiple discharge options based on presence or absence of contaminants in the water.

STEP 2: IDENTIFY DISCHARGE OPTIONS:
Review discharge option from list on page 2. Check the box of the preferred discharge option. Identify specific location or manhole number. Fill in discharge details.

<table>
<thead>
<tr>
<th>□ Option 1</th>
<th>□ Option 2</th>
<th>□ Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape Location</td>
<td>Sanitary Sewer Manhole #</td>
<td>Storm Drain Manhole #</td>
</tr>
</tbody>
</table>

Discharge Details
Type of liquid to be discharged:
Current location of liquid to be discharged:
Purpose of discharge:
Approximate volume:
Expected duration of discharge:

STEP 3: COMPLY WITH DISCHARGE REQUIREMENTS:
Follow all discharge requirements associated with your discharge type from the list on the next page. Return this form to the Stanford Water Department or Environmental Quality Group for discharge approval.

STEP 4: RECEIVE APPROVAL FOR DISCHARGE:
Once form has been approved, you may discharge per the requirements specified above.

For Internal Use Only
Date discharge approved:
Name of approver:
Date of field inspection (if necessary)
MSDS reviewed?
Meets sewer discharge requirements?
File copy of discharge procedure at: S:\Groups\Utilities\DischargeProcedures
## DISCHARGE TYPES, OPTIONS, AND REQUIREMENTS

<table>
<thead>
<tr>
<th>Utility vault dewatering</th>
<th>Clean rainwater</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polluted water (e.g. oily layer on top, DriTherm, etc.)</td>
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<tr>
<td>Pipe cleaning wastewater</td>
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<td>Potable dechloraminated water</td>
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<td>Fire hydrant testing</td>
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<td>Fire flow/emergency shower testing</td>
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<td>Potable water pipe flushing</td>
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<tr>
<td>Surface cleaning wastewater (roof tiles, buildings)</td>
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<tr>
<td>Surface cleaning wastewater (sidewalks, plazas, loading docks)</td>
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<tr>
<td>Elevator sump dewatering</td>
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<tr>
<td>Swimming pool/spa wastewater</td>
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<tr>
<td>Decorative fountain wastewater</td>
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<tr>
<td>Mobile business wastewater (car wash, carpet cleaning)</td>
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</tbody>
</table>

### STEP 2: DISCHARGE OPTIONS

<table>
<thead>
<tr>
<th>Discharge to Landscaping</th>
<th>Discharge to Sanitary Sewer</th>
<th>Discharge to Storm Drain</th>
<th>Hazardous Waste Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Option 2</td>
<td>Option 3</td>
<td>Option 4</td>
</tr>
</tbody>
</table>

### STEP 3: DISCHARGE REQUIREMENTS

<table>
<thead>
<tr>
<th>Contact Stanford Water Shop for discharge location approval.</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharger handles setup and traffic control if needed (Public Safety).</td>
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<td>Check for odors, oily layer, turbidity, discolored water prior to discharge.</td>
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<tr>
<td>Protect landscaping and ground from erosion and scouring downstream.</td>
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<tr>
<td>Filter runoff to remove debris/suspended solids.</td>
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<tr>
<td>Dechlorinate potable water discharge, if needed (&gt;0.02mg/L).</td>
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<tr>
<td>Block all storm drains located in discharge area.</td>
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<tr>
<td>Collect wastewater and discharge to sanitary sewer.</td>
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<tr>
<td>Provide volume of discharge.</td>
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<tr>
<td>The following are required for discharges that contain chemicals/contaminants:</td>
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<tr>
<td>Contact Stanford Environmental Group 7 days prior to discharge/project for discharge approval.</td>
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<tr>
<td>Provide product MSDS.</td>
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<tr>
<td>Provide quantity of chemical in use.</td>
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<tr>
<td>Provide dilution factor of chemical in use.</td>
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<tr>
<td>Provide pH of chemical.</td>
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</tbody>
</table>

- Clean water only, no chemicals, debris, or turbidity; dechlorinate potable water discharges.
- Water must meet sanitary sewer discharge requirements. Contact Stanford Environmental Group.
- If wastewater is not sewerable, schedule hazardous waste pick up through Environmental Health and Safety.

### Stanford Contacts for Discharge of Rainwater and Wastewater Approval

- Water Shop: 650-723-1300, 650-723-2281, richards@bonair.stanford.edu
- Environmental Group: 650-725-7864, 650-723-9747, marty@bonair.stanford.edu, tracyd@stanford.edu
- Environmental Health and Safety: 650-723-0448
Emergency and Spill Response Notifications
For
Construction and Operations & Maintenance Activities

IF: Health Threatening Situation - In the event of an imminent or actual emergency that threatens local or public health or safety; or the environment outside the immediate area:
1) CALL 911 (9-911 campus phone; OR 650-321-2231 from a cell phone)
   FOR THE FIRE DEPARTMENT. REMAIN IN THE AREA.
2) ACTIVATE LOCAL ALARM SYSTEM
3) Once personal safety is established, proceed with non-health threatening actions and notifications, below.
4) CALL Stanford’s Maintenance Customer Service at 650-723-2281.

IF: Release to Environment, Non-Health Threatening Situation – In the event of a spill or release to the environment (storm drain, soil) or spill or release greater than one quart of diesel/fuel/oil * see note below:
1) Contain spill with kitty litter or other absorbent material.
2) Look in storm catchment basins, drains, gutters to determine if spilled material was released to storm drain.
3) Protect storm drains from spilled material. Use “Drain Blocker” pad or similar to cover any threatened storm drain.
4) Notify: Stanford EHS as soon as situation allows 650-725-9999
   • State what happened, estimate how much was spilled
   • Your name
   • Location and time of incident
   • What is needed to clean up spill
   • Request containers for waste

Summary Emergency Phone Numbers

<table>
<thead>
<tr>
<th>Emergency Off Campus</th>
<th>911</th>
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<td>Emergency On Campus</td>
<td>9-911</td>
</tr>
<tr>
<td>Emergency From Cell Phone</td>
<td>650-321-2231</td>
</tr>
<tr>
<td>Stanford Environmental Health and Safety</td>
<td>650-725-9999</td>
</tr>
<tr>
<td>Stanford Maintenance Customer Service</td>
<td>650-723-2281</td>
</tr>
<tr>
<td>Stanford Project Manager (Cell Phone)</td>
<td>Contractor to Update</td>
</tr>
</tbody>
</table>

* All spills of any other hazardous materials must be reported to EH&S (650-725-9999)
Stanford University
Environmental Health & Safety
SECTION 01310

ENVIRONMENTAL HEALTH & SAFETY

PART 1 GENERAL

1.01 CONTRACTOR NOTIFICATIONS
1.02 PRODUCT BANS
1.02 INDOOR AIR QUALITY RELATED REQUIREMENTS
1.02 ERGONOMIC RELATED REQUIREMENTS
1.05 EH&S SAFETY REVIEW OF PROJECTS
1.06 INJURY AND ILLNESS PREVENTION PROGRAM
1.07 GENERAL SAFETY REQUIREMENTS
1.08 HAZARDOUS MATERIALS HANDLING AND DISPOSAL
1.08 STANFORD UNIVERSITY LABORATORY STANDARDS & DESIGN GUIDE

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

PART 1 GENERAL

1.01 CONTRACTOR NOTIFICATIONS

A. Asbestos: In accordance with California Health and Safety Code Section 25915 (Connelly Act) and the Cal/OSHA Asbestos Standard, 8 CCR Section 1529, Contractor is hereby notified that in University facilities there are construction materials that are known to contain asbestos. In some areas, asbestos has been identified in one or more of the following construction products: spray-applied fireproofing; pipe, boiler, tank and air duct insulation; air duct seam tape; gaskets; roofing tar, felt and mastic; asbestos-cement pipe, wallboard, and shingles; plaster and acoustical treatments; gypsum board taping compound; vinyl and asphalt floor tile; vinyl sheet flooring; vinyl flooring, basecove, and ceiling tile adhesive; caulking and glazing compound; acoustic ceiling and wall tile; lab fumehood liners, exhaust ducts and counter tops; and fire-rated door core insulation.

Contractor shall review the hazardous materials survey report prepared by the University’s Environmental Health & Safety (EH&S) Department to determine the location and condition of asbestos-containing materials on the project site prior to disturbance of any building material. Contractor shall distribute a copy of the survey report to all subcontractors and shall maintain a list of subcontractors who have received the report. Contractor
shall take all necessary precautions, including the use of labels and signage, to protect Contractor’s employees, subcontractors, vendors, students, visitors and University employees from contact with asbestos-containing materials and, unless otherwise specified, shall not disturb asbestos-containing materials at any time.

B. Proposition 65 Notice: Under California Health and Safety Code Sections 25249.5 through 25249.13, asbestos, lead, mercury and polychlorinated biphenyls have been listed as chemicals known to the State of California to cause cancer or reproductive harm. Contractor will be working in areas in which some or all of these materials may be present. This notice constitutes the warning of the presence of a chemical known to cause cancer or reproductive harm required by Proposition 65. It is Contractor’s duty to follow all requirements of Proposition 65.

1.02 PRODUCT BANS

A. Asbestos: All construction materials, products, equipment and furnishings installed in University facilities or property shall be asbestos-free. Contractor shall indemnify the University for all costs related to regulatory agency citations or litigation and court ordered settlements arising from asbestos exposure lawsuits where the source of asbestos is directly attributed to products installed by Contractor or subcontractors.

B. Lead-Containing Paints and Surface Coatings: All paints, finishes and protective coatings, including coatings designed for residential, commercial, industrial or highway use, applied to University facilities or property shall be lead-free.

C. Urea-Formaldehyde Products: All construction products and furnishings installed in University facilities shall be free of urea-formaldehyde.

D. Contractor shall be responsible for all costs associated with removal, disposal and replacement of materials installed by Contractor or subcontractors and found to be in violation of this subsection.

1.03 INDOOR AIR QUALITY REQUIREMENTS

A. Contractor shall ensure that all construction materials, interior finishes and furnishings installed at the University comply with the most recent industry or regulatory agency Volatile Organic Compound (VOC) emission standards. All architectural coatings shall comply with organic compound emission limits as set forth in BAAQMD Regulation 8, Rule 3.

B. Unless otherwise specified, carpet, carpet cushion, and carpet mastic installed by Contractor shall comply with the most recent emission
standards developed by the United States Carpet and Rug Institute’s (CRI) Carpet Labeling Program and shall carry the CRI “Green Label” or “Green Label Plus” designation.

C. Odor Control: Contractor shall take all means necessary to prevent the migration of odors to public or occupied areas adjacent to the project site. Odor controls may include, but are not limited to: installation of construction barriers; sealing air intakes; shutting down or adjusting ventilation systems; keeping doors and windows closed; installing fans or filtered air machines; product substitution; and performing work during off-hours.

D. Material Conditioning:

1. All “dry” products (e.g., floor coverings, composite wood products, etc.) and “porous” products (e.g., fabric upholstery, carpets, insulation, etc.) shall be stored in a dry, well-ventilated location, away for other VOC sources, and allowed to air out prior to installation.

2. Material conditioning (airing-out) may be conducted at the manufacturing site or at a bonded warehouse before delivery to the construction site.

3. Unless otherwise specified, minimum material conditioning time shall be seven calendar days.

E. Where feasible, Contractor shall ensure that wet products (e.g., paints, adhesives, sealants, waterproofing) are allowed adequate drying time prior to the installation of porous products such as furnishings, carpet, etc., in order to minimize the absorption of VOCs by the porous products.

F. Contractor shall take whatever means necessary, including the use of wet methods where feasible, to reduce dust emissions in occupied buildings during old carpet removal or other dust generating activities. General good housekeeping practices shall be followed at all times to minimize dust generation.

G. HVAC Requirements:

1. To dilute the impacts of particle and VOC emissions Contractor shall ventilate the building during and after installation of new materials and prior to occupant move-in. The building shall be “flushed-out” with 100% fresh makeup air running 24 hours/day for seven days or as long as is feasible.
2. Contractor shall not use “bake-out” procedures (i.e., elevating building temperatures to between 95 and 102 degrees F) as a means to remove VOCs.

3. For renovation projects conducted within occupied buildings, Contractor shall ensure that HVAC systems are isolated between the work site and the occupied areas.

1.04 ERGONOMIC RELATED REQUIREMENTS

A. Office workstations should meet the guidelines listed below. Consult the Americans with Disabilities Act regulations to ensure compliance with facilities designs (i.e. number of ADA workstations per building, dimensions of ADA workstations, etc.).

1. Office task chairs should have all of the following features:
   a. Adjustable seat height (15 – 22 inches [can be accommodated with alternative height pistons]);
   b. Lumbar support height adjustment;
   c. Adjustable, lockable seat back tilt;
   d. Adjustable seat pan depth;
   e. Adjustable armrest height;
   f. Adjustable armrest width;
   g. Ability to remove the armrests;
   h. Waterfall contour of seat pan; and
   i. Minimum five-star base.

1. Keyboard trays should have the following features:
   a. Functional width of tray should be a minimum of 26 inches;
   b. Depth of tray should be a minimum of 11 inches;
   c. Trays should have adjustable and lockable height settings (minimal range of 6 in);
   d. Trays should have an adjustable and lockable tray tilt feature with ability to negatively tilt; and
   e. Trays should accommodate pointing device use on the left or right side.

1. Computer Workstations (used continuously for more than one hour by the same employee) should have the following features:
   a. Surface heights of multi-user stations: Bi-level units should allow the user to easily adjust both keyboard/mouse height and monitor height to proper and comfortable levels. Monitor surface of bi-level workstations should be adjustable down to
a height of 27 inches and up to a height of 36 inches; the keyboard/mouse surface should be adjustable down to 22 inches and up to 30 inches. The keyboard/mouse surface height of standing workstations should be adjustable within a range of 37 to 46 in. The keyboard/mouse surface of bi-level stations should have a functional width of at least 26 in and be at least 11 inches deep.

b. Surface height of single-user stations: Single surface workstations and the keyboard/mouse surface of bi-level workstations should be adjustable down to a height of 22 inches, and up to a height of 30 inches. The keyboard/mouse surface of standing workstations should be adjustable within a range of 37 to 46 inches. The keyboard/mouse surface of bi-level stations should have a functional width of at least 26 in and be at least 11 in deep.

c. Table width should be a minimum of 27 inches to allow the mouse to sit beside the keyboard.

d. Functional work depth should be at least 30 inches. This may be accomplished with the installation of a keyboard tray. Table depth (without a keyboard tray) should be at least 30 inches deep to allow adequate monitor viewing distance.

e. Leg/ Knee clearance (OSHA recommendation): There should be a minimum under-table depth of 17 inches at knee level and 24 inches at foot level. The knee space width should be at least 20 inches.

f. Work surface should be no thicker than 2 inches.

g. Designs that force the keyboard and mouse to be at different heights (e.g. keyboard cutouts) are not allowed.

h. Workstations that are designed for using laptop computers should follow the functional dimensions above. The work surface should provide room to accommodate a separate keyboard, mouse, and monitor (or laptop riser).

i. The work surface should have a matte finish to minimize reflections.

1. Lighting Recommendations

a. Windows that are adjacent to workstations should have blinds/shades installed to control outside light sources.

b. The Illuminating Engineering Society of North America recommends that lighting intensities (at the horizontal work plane) not exceed 500 lx (50 fc) for computer workstations (IESNA, 2000).

B. Laboratory workstations should meet the guidelines listed below. Consult the Americans with Disabilities Act regulations to ensure compliance with facilities designs (i.e. number of ADA workstations per building, dimensions of ADA workstations, etc.).

1. Laboratory stools should have all of the following features:
   a. Adjustable seat height (21 – 28”)
   b. Independently adjustable seat back height;
   c. Adjustable, lockable seat back tilt;
   d. Adjustable armrest height;
   e. Adjustable armrest width;
   f. Ability to remove the armrests;
   g. Waterfall contour of seat pan;
   h. Minimum five star base; and
   i. Chair fabric that resists the absorption of liquids and the effects of cleaning agents (e.g. vinyl).

2. Laboratory Workstations:
   a. Leg/ Knee clearance: There should be a minimum under-table depth of 17 inches at knee level and 24 in at foot level (OSHA). The knee space width should be at least 20 in. Storage areas should be considered when designing labs to prevent equipment storage under seated workstations.
   b. The work surface should have a matte finish to minimize reflections.
   c. Ergonomic considerations should be made when designing specialized laboratory workstations (e.g. microscope stations) to decrease exposure to awkward postures and compressive forces. Consultation with EH&S is recommended.

3. Computer workstations located in a laboratory:
   a. Task chairs should have the same features as office task chairs (Section A.1) as well as chair fabric that resists the absorption of liquids and the effects of cleaning agents (e.g. vinyl).
   b. Workstations should follow the standards for computer workstations (Section A.2, A.3) and should comply with the Stanford University Laboratory Standard and Design Guide ([http://www.stanford.edu/dept/EHS/prod/mainrencon/Labdesign.html](http://www.stanford.edu/dept/EHS/prod/mainrencon/Labdesign.html)).

1.05 EH&S SAFETY REVIEW OF PROJECTS
A. MSDS Review: Contractor shall submit, for review and approval by University, product Material Safety Data Sheets (MSDSs) under the following conditions:

1. Prior to construction for projects that require large scale use of potentially toxic or odor producing products, e.g., roofing material, paint, epoxy, insecticide, etc., or projects conducted in close proximity to occupied areas.

2. During construction for large scale use of new, potentially toxic or odor producing products introduced at the project site.

3. For any product that, when used, will result in the generation of a hazardous waste, e.g., paint strippers, degreasers, etc.

4. University reserves the right to require substitution of toxic or odor producing products with similar products of lesser toxicity or volatility.

B. Injury and Illness Program Document Review: Contractor shall have available at the project site for review by the University a written Injury and Illness Prevention Program as required by 8 CCR Section 1509 and described in the following Section 1.06.

C. Lead Work Plan: If work requires stripping, hand demolition, abrasive blasting or other means of lead-containing surface coating removal, Contractor shall submit to the University for review and approval a Work Plan that includes a description of the removal method, MSDS for all chemical stripping agents, and a description of the control measures that will be used to protect Contractor employees, other individuals in the vicinity of the work and the environment.

D. Fire Alarm and Suppression System Shop Drawing Review: Contractor shall submit all fire alarm and suppression system shop drawings to the University Fire Marshal's Office for review and approval prior to submitting to the County Fire Marshal for review and permitting. Contractor shall comply with all applicable codes and University Facility Design Standards, including those listed below:

1. xxxxx - Water Systems

2. 10523 - Fire Extinguishers
3. 13920 - Motor-Driven Fire Pumps and Controllers

4. 13930 - Automatic Sprinkler Systems

5. 13850 - Fire Alarm and Detection Systems

E. Architectural Drawings Review: Project Manager or architect shall submit architectural drawings to the University Fire Marshal’s Office for California Code compliance review and comments.

1.06 INJURY AND ILLNESS PREVENTION PROGRAM

A. Contractor shall keep on the project site at all times a written Injury and Illness Prevention Program (IIPP) that fulfills the requirements set forth in 8 CCR Section 1509.

B. The IIPP shall address all site specific topics pertinent to maintaining a safe and healthy work environment which may include, but is not limited to: safety organization and responsibilities; meetings and inspections; emergency and evacuation plans; hazardous material spill response; incident investigation, reporting and record keeping; training; first aid; hazard communication; housekeeping; noise; personal protective equipment; fire prevention and protection; confined space entry; electrical safety and lockout/tagout; welding, torch cutting and hot work permitting; hand and portable power tools; cranes, heavy equipment, forklifts and motor vehicles; ladders, scaffolds and elevated platforms; guarding of floor and wall openings; fall protection; excavation and trenching; pressurized cylinders; material handling and storage; ventilation; personal hygiene, sanitation and chemical toilets.

C. The IIPP must include an MSDS for each product used at the project site by Contractor and subcontractors.

D. The IIPP shall include a written Code of Safe Practices as required by 8 CCR Section 1509(b). The Code of Safe Practices shall be posted in a conspicuous location at the project site in accordance with 8 CCR Section 1509(c).

E. The IIPP must describe measures that the Contractor will implement to ensure the safety of students, faculty, staff, and visitors who are in adjacent occupied building spaces, on public thoroughfares, or who are otherwise in close proximity to the construction activities. The IIPP must also address security measures that will be used to prevent unauthorized entry to the site.
F. Contractor shall ensure that all Contractor employees, subcontractors, vendors, visitors or others entering or working at the project site comply with applicable IIPP provisions.

G. Contractor shall comply with Title 87 of the California Fire Code for fire safety during construction, alteration or demolition of a building.

1.07 GENERAL SAFETY REQUIREMENTS

A. Compliance and Enforcement: Contractor shall comply with all federal, state and local laws and regulations pertaining to employee health and safety at its work sites. As a Prime Contractor on a multi-employer work site, Contractor is also charged with certain compliance obligations under Cal/OSHA regulations, 8 CCR Section 336.10, to ensure subcontractors follow safe work practices. The University will enforce contractual obligations contained herein including, but not limited to, the following actions:

1. Any Contractor who does not provide safe working conditions or does not follow safe work practices shall be removed from University's approved bidder list and shall not be considered for further work.

2. Any hazardous condition, as defined by Cal/OSHA, that is created by the Contractor and is allowed to persist on the project site shall be considered a breach of contract.

3. Contractor shall be required to remove and replace any employee who allows an unsafe condition to exist on, or adjacent to, the project site.

4. Contractor shall be required to remove and replace any unsafe equipment used on the project site.

5. If, after due notice, Contractor permits an unsafe, life-threatening condition to exist on the project site and does not correct it in a timely manner, the University will take whatever action is necessary to remedy the condition, including stopping the work or using other forces as may be necessary to complete the work. Contractor shall be responsible for both direct and indirect costs incurred by the University to remedy the unsafe condition.

B. Noise and Vibration Control: Contractor shall take all means necessary to minimize the amount of noise and vibration generated from the project site and shall comply with Santa Clara County Ordinance Sec. B11-190 et seq. Additional project-specific noise
reduction measures or restriction of work hours for noisy work may be required by the University.

C. Dust Control: Contractor shall take all means necessary to minimize the amount of dust generated at the project site and shall use water spray or other means to control visible airborne emissions.

D. Traffic Control: Contractor shall comply with all provisions of the Cal/OSHA construction standard for Traffic Control for Public Streets and Highways, 8 CCR Section 1598.

E. Pest Control: Contractor shall ensure that the quality of work is such that rats and other vermin generally will not have access to the building. New and renovated structures shall be inspected for adequate pest-proofing prior to final acceptance of the work. Particular attention shall be given to floor, wall, ceiling and roof penetrations for piping, vents, etc., to ensure proper finishing.

F. Hazardous and Flammable Material Storage: All hazardous or flammable chemicals, liquids or gases brought onto the project site shall be used and stored in approved containers conforming to applicable federal, state and local codes. Contractor is responsible for securing permits, if applicable, for the temporary storage of hazardous materials on the project site. Hazardous materials shall be used and stored in a manner that will prevent their accidental release. Liquid hazardous materials, including stationary fuel tanks, shall have a secondary containment equal to 110% of the liquid volume. Additional provisions for use and storage of hazardous materials are addressed in the Storm Water Pollution Prevention Plan requirements enclosed in contract documents.

G. Hazardous Material Spill Clean-up and Reporting: Contractor shall ensure that spills and releases of hazardous materials are contained and cleaned-up immediately and that all necessary means and materials are maintained at the project site to accomplish this task. If the release contains a fire, explosion or otherwise threatens the health of any person, Contractor shall immediately request emergency response by calling 911. Any potential or actual non-health threatening releases which may impact the environment such as to soils, creeks or storm drains must be reported to EH&S at 725-9999. Contractor shall clean up all small spills that do not threaten the environment and notify the University as soon as possible. The University reserves the right to require Contractor to provide additional remediation of soils or other porous surfaces found to be contaminated as a result of hazardous material spills. All spill cleanup materials must be properly
Stanford University – Facilities Design Guidelines

contained by the contractor and managed as hazardous waste in accordance with Section 1.08. Follow Stanford University’s Emergency and Spill Response Notifications for Constructions Projects:

Stanford University
Emergency and Spill Response Notifications
For Construction Projects

**IF: Health Threatening Situation** - In the event of an imminent or actual emergency that threatens local or public health or safety; or the environment outside the immediate area:

1) **CALL 911** (9-911 – campus phone; OR 650-321-2231 from a cell phone) FOR THE FIRE DEPARTMENT. REMAIN IN THE AREA.
2) **ACTIVATE LOCAL ALARM SYSTEM**
3) Once personal safety is established, proceed with non-health threatening actions and notifications, below.
4) **CALL Stanford’s Maintenance Customer Service at 650-723-2281.**

**IF: Release to Environment, Non-Health Threatening Situation** – In the event of a spill or release to the environment (storm drain, soil) or spill or release greater than one quart of diesel/fuel/oil * see note below:

1) **Contain spill with kitty litter or other absorbent material.**
2) **Look in storm catchment basins, drains, gutters to determine if spilled material was released to storm/drain.**
3) **Protect storm drains from spilled material. Use “Drain Blocker” pad or similar to cover any threatened storm drain.**
4) **Notify Stanford EH&S as soon as situation allows 650-725-9999**
   - State what happened, estimate how much was spilled
   - Your name
   - Location and time of incident
   - What is needed to clean up spill
   - Request containers for waste
5) **Notify: Stanford’s Maintenance Customer Service at 650-723-2281.**

**Summary Emergency Phone Numbers**

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<th>Service</th>
<th>Phone Number</th>
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<tr>
<td>Emergency Off Campus</td>
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* All spills of any other hazardous materials must be reported to EH&S (650-725-9999)

**IF: Small Fuel or Oil Spill, No Release to Environment**

1) **Clean up drips and small spills with absorbent material.**
2) Put contaminated absorbent materials in a labeled hazardous waste container.
3) Call EH&S at 650-725-9999 to log any fuel/oil spills greater than 1 quart.
4) Replenish absorbent materials for next use.

H. Chemical Toilets: If applicable, Contractor shall supply chemical toilets in sufficient numbers on the Project site. Toilets shall comply with County requirements and shall be cleaned at least weekly by an approved septic tank pumper.

I. Explosives: With the exception of powder-actuated tools and, unless otherwise specified, explosives shall not be used.

1.08 HAZARDOUS MATERIALS HANDLING AND DISPOSAL

A. Hazardous Waste – General

1. Contractor shall make every effort to minimize the amount of hazardous waste generated from construction activities. The University reserves the right to require substitution of products that generate toxic waste, (e.g., paint strippers, degreasers, etc.) with products of lesser toxicity.

2. Unless otherwise specified, all generated hazardous waste shall be disposed of through the EH&S Chemical Waste Program (CWP). Contractor shall properly contain and label such waste as it is generated. Contractor shall notify the Project Manager at least one week in advance to request waste containers and/or labels if necessary. Contractor shall not begin generating hazardous waste until proper waste containers and labels are on site. Contractor shall store waste containers in a secure location on the job site with lids closed. Contractor shall notify the Project Manager to request pickup of hazardous wastes.

B. Universal Waste Recycling

1. Contractor shall comply with California DTSC regulations pertaining to universal waste, 22 CCR §66273.10 et seq. Unless otherwise specified, Contractor shall carefully remove regulated devices and building components scheduled for demolition intact and segregate them from other construction debris. Contractor shall arrange for packaging, labeling, pickup, transport, and recycling of all universal wastes identified in this subsection and shall submit to the University receipt(s) that document compliance with this provision. Contractor shall only use recycling vendors that have been pre-approved by the University.
2. Light Tubes, Bulbs and Lamps: Fluorescent light tubes and bulbs, high intensity discharge (H.I.D.), metal halide, sodium and neon bulbs contain mercury vapor. Such lamps scheduled for demolition shall be removed from their fixtures unbroken and recycled through the following vendor:

   AERC.com Inc.
   30677 Huntwood Ave.
   Hayward, CA 94544
   (510) 429-1129
   (510) 429-1498 (fax)

3. Mercury-Containing Devices: Thermostats, fire alarm pull stations, switches, thermometers, pressure and vacuum gauges may contain mercury. All mercury-containing devices scheduled for demolition shall be removed intact, segregated from other construction debris and recycled through AERC.com Inc.

4. Batteries: Batteries may contain lead, mercury, lithium, cadmium and other toxic metals. Contractor shall remove batteries from devices scheduled for demolition including, but not limited to, emergency lighting and alarms, communication systems, security systems, etc. Batteries shall be removed intact, segregated from other construction debris and recycled through a University pre-approved vendor.

6. Electronic Devices (E-Waste): Electronic devices and components including, but not limited to, televisions and computer monitors, computers, printers, VCRs, CD and DVD players, telephones, radios, microwave ovens, communication, security, fire protection, lighting and mechanical system components may contain heavy metals such as lead, mercury, chromium and cadmium. Electronic devices and components scheduled for demolition shall be removed intact and recycled through a University pre-approved vendor.

C. Treated Wood Waste (TWW)

1. “Treated wood” means wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to
the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136 et seq.). Treated wood includes, but is not limited to, wood treated with alkaline copper quaternary (ACQ); copper azole (CA-B); copper boron azole (CBAA); chromated copper arsenate (CCA); ammoniaal copper zinc arsenate (ACZA); creosote; pentachlorophenol and copper naphthenate.

2. Contractor shall manage, handle, store, label, transport, track and dispose of treated wood waste (TWW) in accordance with DTSC requirements as specified in 22 CCR §67386.1 et seq.

3. Contractor shall not reuse TWW and shall use one of the following methods for on-site storage: 1) covered and off of the ground in a secured area; 2) in closed, water resistant containers; 3) inside a weather tight structure; 4) covered on a pad that is protected from run-off.

4. Contractor shall ensure that any size reduction of TWW is conducted in a manner that prevents the uncontrolled release of hazardous constituents to the environment, and that conforms to applicable Cal/OSHA worker health and safety requirements. All sawdust and other particles generated during size reduction shall be captured and managed as TWW.

5. Disposal of TWW is restricted to landfill(s) pre-approved by the University. Contractor shall provide to University a bill of lading or other documentation with an acceptance signature by the landfill for all TWW shipments.

D. Asbestos-Containing Materials

1. If applicable, University shall provide to Contractor a facility survey report that contains an inventory of confirmed asbestos-containing materials (ACMs) known to be present at the project site.

2. ACMs that will be impacted (disturbed) by renovation or demolition shall be removed prior to, or phased with, other construction activities. No one shall remove, repair, disturb or handle any asbestos-containing materials except University approved, DOSH registered Asbestos Abatement Contractors working in compliance with the University’s Asbestos Abatement Specification.
3. Contractor may encounter hidden ACMs during demolition activities, e.g., asbestos insulated pipes or ducts inside wall cavities, etc. If Contractor observes such ACMs in poor or damaged condition, or if Contractor inadvertently damages or disturbs previously identified ACMs or suspected ACMs, the Project Manager shall be notified immediately. Contractor shall post asbestos warning signs/labels that comply with 8 CCR Section 1529 (k) upon discovery of hidden ACMs. Contractor may request assistance with posting asbestos warning signs or labels from the University.

E. Polychlorinated Biphenyls (PCBs)

1. Fluorescent Light Ballasts: All fluorescent light fixture ballasts manufactured prior to 1978 are assumed to contain PCBs and shall be disposed of as hazardous waste in accordance in Section 1.07(A)(2). With the exception of electronic ballasts, all ballasts manufactured after January 1, 1978 and specifically labeled "No PCBs" may be disposed of as non-hazardous construction debris. All ballasts that do not contain a "No PCBs" label shall be removed from light fixtures, segregated from other construction debris and disposed of as hazardous waste.

2. Insulating Oils: Insulating oils associated with high voltage equipment may contain PCBs. Equipment containing PCB insulating oils shall be decontaminated prior to demolition. Extraction of PCB-containing oils and decontamination of equipment shall be performed in accordance with Cal/OSHA worker protection requirements. Recovered oil containing PCB shall be disposed of as hazardous waste as described in Section 1.07(A)(2).

F. Lead

1. Paint and Other Surface Coatings

   a. Unless otherwise determined by approved testing methods, all paints and surface coatings, e.g., varnish, shellac, stain, lacquer, etc., applied to University structures are presumed to contain some amount of lead.

   b. Contractor shall take all necessary precautions to protect Contractor employees, subcontractors, students, visitors, University employees and the environment from exposure to lead-containing dust
and debris. Contractor shall comply with the Cal/OSHA lead standard for the construction industry, 8 CCR Section 1532.1, which applies to any construction activity that may release lead dust or fume including, but not limited to, manual demolition, manual scraping, manual sanding, heat gun applications, power tool cleaning, rivet busting, abrasive blasting, welding, cutting or torch burning of lead-based coatings.

c. The University shall provide existing lead analysis data of surface coatings where available. However, these data are not intended, and do not represent, an evaluation of all potential lead-containing coatings at the project site and Contractor is solely responsible for determining lead content for Cal/OSHA compliance purposes.

d. With the exception of painted plaster or stucco that has been separated from its underlying substrate, construction debris (with surface coatings in good condition) is generally not categorized as hazardous waste. Paint or other surface coating debris generated as a result of scraping, stripping, blasting or manual demolition of painted plaster or stucco is classified as a hazardous waste and Contractor shall properly package, label and transfer for disposal such waste in accordance with Section 1.07(A)(2).

e. Where feasible, Contractor shall clean sheet plastic used for regulated work area isolation (containment) or drop cloths and discard as non-hazardous waste.

f. Power Washing: Contractor shall protect soil and storm drains from paint chip debris during power washing of building exterior surfaces. All paint chips shall be collected and disposed of hazardous waste as described in Section 1.07(A)(2). Contractor shall be responsible for all direct and indirect costs associated with remediation of soils found to be contaminated with lead-containing paint chips resulting from noncompliance with this provision.

2. Elemental Lead: Products containing lead metal such as plumbing components, lead bricks, counterweights, and sheet goods (e.g., roof flashing, X-ray shielding, drain pans,
etc.) may be encountered during demolition. Unless otherwise specified, Contractor shall remove and segregate lead metal scheduled for demolition from other construction debris and transport it to a scrap metal recycling facility pre-approved by the University.

G. Mechanical System Fluid

1. All fluids associated with mechanical systems and equipment scheduled for demolition or retrofit shall be removed and recycled or disposed as hazardous waste. Contractor shall arrange for recycling of petroleum containing fluids such as hydraulic fluids, lubricating oils, and non-PCB-containing insulating oils through the following Vendor:

   Evergreen Environmental Services
   6880 Smith Avenue
   Newark, CA 94560
   (510) 795-4400

2. Refrigerants shall be removed from equipment and managed by a certified refrigerant technician pursuant to 40 CFR 82.161 (Type I for small appliances, Type II for high-pressure equipment). Venting of refrigerant to the atmosphere is not allowed. All refrigerant removed must be reclaimed, recovered, or recycled in accordance with 40 CFR 82.150-166 and Appendices.

H. Laboratory Decommissioning and Closure

1. The University's laboratory decommissioning protocols require removal of all hazardous chemical, radioactive and biohazardous materials and associated wastes followed by decontamination of surfaces and equipment prior to transfer of such project areas to Contractor. Facilities that have housed radioactive material, or that contain materials activated by radiation beams must be surveyed and cleared by the University prior to release to Contractor.

2. A hazardous materials closure permit is required prior to the renovation or demolition of any designated (permitted) chemical use or storage area, which includes both laboratory and non-laboratory facilities. Depending on project location, closure permits are issued either by the PAFD Hazardous Materials Compliance Bureau or the Santa Clara County Department of Environmental Health. The University is
responsible for securing and managing all closure permits and Contractor shall not start work until notification that a closure permit has been obtained.

3. Laboratory Sink P-Traps: Laboratory sink p-traps are presumed to contain mercury contamination as a result of thermometer breakage. P-traps scheduled for demolition shall be removed by Contractor, placed in leak-tight containers and transferred to the University for disposal in accordance with Section 1.07(A)(2).

4. Unless otherwise specified, Contractor shall not demolish or disturb building components used for chemical transport, treatment or storage unless such systems have been inspected and released by EH&S. Such building components may include, but are not limited to, fumehood and local chemical exhaust ducts, acid vent and neutralization piping, lab waste piping, toxic gas system equipment and piping, and chemical or chemical waste storage tanks. If Contractor encounters on the project site potentially hazardous materials such as abandoned chemical reagents, containers or equipment with radioactive labels, biohazard (red) disposal containers or syringes, Contractor shall contact the Project Manager immediately.

I. Radioactive Building Materials

1. Emergency exit signs scheduled for demolition may contain tritium, a radioactive material. Contractor shall carefully remove such signs intact and transfer them to the University for disposal. A label on the lower edge of the sign that features a radiation symbol can be used to identify tritium exit signs.

2. Ionization smoke detectors may contain small amounts of Americium, a radioactive element. Contractor must create an inventory of all smoke detectors containing Americium. This inventory shall identify the manufacturer and model number of each radioactive smoke detector removed, and shall be provided to the University to facilitate disposal. Contractor shall carefully remove smoke detectors scheduled for demolition intact and transfer to the University for disposal.

J. Mold

1. Unless otherwise specified, if Contractor encounters on the project site significant quantities (> 10 square feet) of mold
growth, Contractor shall report such condition to the Project Manager.

2. Contractor shall protect the project site and new construction products from exposure to excess moisture and shall ensure that construction products are adequately dry prior to installation. Contractor shall remove and replace all porous building materials and replace or disinfect all non-porous building materials that display visible mold growth resulting from moisture intrusion, unless such moisture intrusion was caused by circumstances outside of Contractor's control.

K. Miscellaneous Hazardous Materials

1. If Contractor encounters potentially hazardous materials or waste on the project site not previously addressed under this section such as abandoned paint containers, pesticides, compressed gas cylinders, etc., or if Contractor encounters any unusual odors or colors (staining) during drilling or excavation of soils, Contractor shall report such conditions to the Project Manager.

1.09 LABORATORY STANDARDS & DESIGN GUIDE

A. Stanford University has a continuing need to modernize and upgrade its facilities. The resulting construction projects often have significant health and safety requirements due to regulatory oversight. Since these requirements can impact the design of a project, Environmental Health and Safety (EH&S) prepared this EH&S Laboratory Standard & Design Guide to aid the campus community with planning and design issues. EH&S believes that the Guide, in conjunction with EH&S’s plan review and consultation, improves design efficiency and minimizes changes.

The Laboratory Standard & Design Guide is available at: http://www.stanford.edu/dept/EHS/prod/mainrencon/Labdesign.html

END OF SECTION
Stanford University
Affirmative Action Special Conditions,
dated 6/24/1997
AFFIRMATIVE ACTION SPECIAL CONDITIONS

A. **EQUAL OPPORTUNITY AFFIRMATIVE ACTION**

In connection with its performance under this Contract, Contractor/Consultant will not: (1) discriminate against any employee or applicant for employment because of race, religion, color, sex, age, national origin, or physical or mental disability (unless such disability is job related), and will take affirmative action to insure equal opportunity in all aspects of employment, including, but not limited to recruitment, promotion, demotion, transfer, layoff, termination, compensation and selection for training, including apprenticeship; and (2) will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding a notice stating the terms of the commitment hereunder with respect to equal opportunity.

Contractor/Consultant agrees to comply with the following Federal regulations, incorporated herein by reference: FAR 52.222-26 (Equal Opportunity), FAR 52.222-27 (Affirmative Action Compliance for Construction) - applicable to Construction Contracts only - FAR 52.222-35 (Affirmative Action for Special Disabled and Vietnam Veterans), FAR 52.222-36 (Affirmative Action for Handicapped) and the applicable regulations in 41CFR Part 60.

B. **INCORPORATION OF REGULATIONS**

All applicable and required flow down provisions of the Federal Acquisition Regulations (“FAR”) are hereby incorporated by reference into this Contract.
SECTION 01532

TREE AND SHRUB PROTECTION

PART 1 GENERAL

1.01 SUMMARY

A. As a condition of project approval, all trees within the project limit including lay down or staging areas shall be inventoried and evaluated by the Landscape Architect and/or Stanford Grounds Services Certified Arborist (SGSCA) for saving in place, relocating to other areas, or demolition.

B. All existing trees, shrubs and groundcovers to remain shall be indicated on the drawings. Removal of trees to be relocated shall be scheduled for completion before construction begins to avoid damage to trees, or trees shall be protected in place according to the following guidelines until transplanting is optimal.

C. The project shall be responsible for the health of transplanted trees for at least a 90 day period after transplant, or for a longer period of time as decided during design development with input and approval from an SGSCA.

D. Contractor to protect and insure welfare of all existing trees, shrubs and groundcover to remain or to be relocated, both within the contract limits, and within all adjacent areas used for access to construction site. Contractor to furnish and supply all equipment and personnel necessary for continued protection of tree and planting areas. Scope to include pruning, protection from physical damage including soil compaction in a tree’s root zone (see 1.03 B), pest and disease control, and irrigation management during site work and construction.

E. All tree, shrub and plant pruning and irrigation scheduling to be supervised by an SGSCA (see 1.03 D).

F. Rare, threatened, endangered, or thought to be extinct California native vegetation as determined by Stanford University Campus Planning and Design Office and Grounds Services Department shall be retained and protected.

G. Normally existing California native vegetation including native oaks shall be retained and protected or relocated where possible.

1.02 RELATED WORK


FDG General Design Documents:
Landscape Design Guidelines

FDG Specifications Guidelines:
Section 02200 Site Preparation
Section 02300 Earthwork
Section 02810 Irrigation System
Section 02900 Planting
1.03 DEFINITIONS

A. "Injury" is defined, without limitation, as any burning, singeing, bruising, scarring, tearing, or breaking of foliage, roots, branches, or trunk.

B. "Root zone" is defined as the area from the trunk out to 10 feet beyond the outermost limits of the tree canopy.

C. "Landscape Architect (LA)" is either a licensed Landscape Architect of the Stanford Campus Planning and Design Office or a representative as designated by that office.

D. “Stanford Grounds Services Certified Arborist (SGSCA)” A Stanford Grounds Services Certified Arborist or representative as designated by a SCSCA. A Certified Arborist is defined as a person who has obtained an arborist certification from the International Society of Arboriculture.

E. “Owner” is defined as Stanford University. Owner Representative (OR) is a representative designated by Stanford University.

F. “International Society of Arboriculture (ISA)” is the organization that sets arboricultural guidelines, which often influence the ANSI regulations. This organization also is responsible for the training, education and certification of arborists.

G. “DSH” is defined as the measurement of the diameter of a tree trunk measured at standard height (4.5 feet from ground).

1.04 QUALITY ASSURANCE

A. General Responsibility: The Contractor shall be directly responsible for protection and welfare of existing trees, shrubs and groundcovers within and around the Contract Limits which are noted to remain. This responsibility shall continue throughout the full construction period until the entire Project is completed and accepted by the Owner and through completion of the warranty period of one year for trees and shrubs and shall include but not be limited to providing all barricades as required, watering/irrigation where necessary and providing protection from mechanical damage, soil compaction, pollution from all sources, and
disruption of environmental support which would result in the loss of vigor of said plantings. Contractor shall not take any action leading to the foreseeable death or permanent damage to a tree’s health, including but not limited to excessive pruning, root zone soil compaction, cutting, girdling, poisoning, over watering, unauthorized relocation or transportation of a tree, or machine trenching, excavating, altering the grade, or paving within the root zone of a tree. Exceptions deemed necessary shall be done under the guidance and review of an SGSCA to minimize negative impacts to the health of the tree.

B. Qualifications of Tree Workmen: Trimming shall be supervised by a Stanford Grounds Services Certified Arborist. Not more than 1/4 of the foliage of a tree shall be removed in a 12 month period, except in the case of impending danger or hazardous condition. Provide an SGSCA who shall be present at all times during tree protection and trimming operations, who shall be thoroughly familiar with the type of work involved, and who shall direct all protection and trimming work.

1.05 Reference Standards: Published specifications, standards, tests, or recommended methods of trade, industry, or governmental organizations apply to work of this Section.


B. International Society of Arboriculture (ISA) Best Management Practices Series. These are booklets bundled with ANSI 300 Guidelines:
   a. ANSI A300 - Best Management Practices Fertilization Combo
   b. ANSI A300 - Best Management Practices Integrated Vegetation Management Combo
   c. ANSI A300 - Best Management Practices Planting Combo
   d. ANSI A300 - Best Management Practices Pruning Combo
   e. ANSI A300 - Best Management Practices Support Systems Combo

C. Tree Technical Manual, City of Palo Alto

1.06 JOB CONDITIONS AND CONSTRUCTION REQUIREMENTS

A. Prior to performing any work on any Contract, Contractor shall call for a site meeting with Architect, Stanford Landscape Architect and SGSCA. This meeting shall occur prior to construction, demolition or access route use of any nature on the project site and related areas including access routes, lay down & staging areas. This meeting shall establish the conditions and methods for preserving all existing trees and the plant materials to be saved. The site shall be photographed to document the
condition of the project area and surrounding site, including access routes, lay-down, staging and office trailer areas, existing landscape plantings and irrigation systems. These photographs shall become the basis for future evaluation should damage occur to the landscape planting and irrigation system during the construction. An arborist report shall also be done and be on file prior to construction.

B. Sequencing Schedule: Coordinate and cooperate with other trades to enable the work to proceed as rapidly and efficiently as possible. Protective fencing shall be in place and approved by an SGSCA before any other work begins on site, including materials delivery and storage.

1.07 SUBMITTALS

A. A Tree Protection and Demolition Plan is required as follows:
   1. In preparation for creating the tree protection and demolition plan, contact Stanford Grounds Services for identification of significant and young specimen trees and shrubs.
   2. The plan is required to show an accurate representation of all trees over 3” in DSH (diameter at standard height) existing on site, any Stanford Grounds designated young specimen trees and significant trees and/or shrubs of any diameter, with indications of which are to be removed, relocated and/or retained on the site. This plan shall include botanical names of species, DSH and canopy diameter.
   3. A tree protection fencing plan conforming to the specifications in Part 2, Products shall be included in this plan set.
   4. A tree protection fencing plan shall also be included on laydown and construction logistics plans.
   5. This Tree Protection and Demolition Plan is to be included in field set of drawings, to be on site for reference at all times during construction.
   6. This plan shall be submitted with the project plans for review and must be approved by an SGSCA before construction or pre-construction activity begins, including storage and/or delivery of equipment, temporary construction offices and/or materials, demolition, etc.

B. The following required text shall be included on one sheet in each set of plans:

   Stanford University Tree Protection Procedures Summary

   1. We have strict requirements which include the points listed below and additional procedures as detailed in the FDG Specifications Guideline 01532 Tree and Shrub Protection.
2. The root zone of all trees must be protected on all construction projects, as described below. A tree’s root zone is defined as the area from the trunk out to 10’ beyond the dripline.

3. A Stanford Grounds Services Certified Arborist shall be contacted to evaluate all work within any trees root zones.

4. All trees to remain on a project shall have protective fencing installed per the tree protection drawing included in the plan set.

5. Protective fencing shall be chain link on secure footings, or imbedded as required by the Campus Planning and Design Office or a Stanford Grounds Services Certified Arborist, that will not fall over onto trees.

6. Protective fencing shall be placed at the outer edge of the root zone, 10’ beyond the tree dripline wherever possible as shown on the tree protection drawing. If project constraints do not allow for fencing at the outer edge of the root zone, fencing must be placed as close to this as possible and approved after it is in place by a Stanford University Grounds Services Certified Arborist.

7. Laydown, staging and parking areas shall be approved by the Stanford University Architect/Campus Planning Department and shall be shown on the plans if within the project limit area, or on the Construction Logistics plan if outside the project limit area. All tree protection guidelines apply to trees in laydown, staging and parking areas as well as to trees within the project limits.

8. Construction materials/equipment/personal vehicles shall not be stored, parked or temporarily placed in the root zone of any trees. Nothing shall be stored or placed temporarily within protective fencing, to avoid soil compaction and soil contamination under trees. Root zones of trees shall not be driven over. Provide alternative routes for construction traffic of any kind including cars, people, tractors, equipment, cranes, or any other traffic and all staging or storage areas.

8. Protect overhanging tree canopies from construction damage. If drive aisles are anticipated under low canopies call for an evaluation by a Stanford Grounds Services Certified Arborist to determine appropriate measures.

10. There shall be no grade change within a minimum of ten feet of the trunk of existing trees, and preferably none within the entire root zone. Native oaks are particularly sensitive to grade changes.

11. No rinsing, cleaning equipment or dumping construction liquid materials shall be allowed in the tree root zone, or in an area that drains into the root zone. Care shall be taken in cleaning up equipment. There shall be no storage of dumpsters or accumulated debris from demolition on or around the root zones of existing trees and shrubs.

12. Existing trees shall be monitored weekly and irrigated as needed during the course of construction.
13. No lime or other soil treatment shall be applied without the consent of a Stanford Grounds Services Certified Arborist.

14. All trenching shall conform to the following guidelines.
   a) A Stanford Grounds Services Certified Arborist is required to be present to supervise any trenching, digging or excavation of any kind within a tree’s root zone.
   b) Roots larger than 2 inches in diameter shall not be severed without calling a Stanford Grounds Services Certified Arborist for cutting or review.
   c) Tunneling or boring under roots rather than pruning is preferred.
   d) Digging within a tree’s root zone shall be avoided. If it is necessary, hand digging shall be used for any trenching within the tree’s root zone unless otherwise approved by a Stanford Grounds Services Certified Arborist.
   e) All roots that need to be cut shall be pruned cleanly, not torn.

The preceding guidelines shall be considered minimum requirements. The greater the distance of tree protection provided the greater the instance of tree success in construction areas.

C. Watering schedule, where interruption of irrigation systems will exceed one watering period, as approved by the Stanford Grounds Services Irrigation Supervisor and Horticultural Supervisor.

D. Construction details for tree, shrub and groundcover protective fencing and barricades as required in Part 2 Products.

E. Construction logistics plan including all laydown areas.

1.08 WARRANTY

A. Contractor shall warrant that all trees, shrubs and groundcover covered by the provisions of this Section will be healthy and in flourishing condition of active growth 1 year from the date of Substantial Completion. Where there has been evidence of neglect or violation of tree protection, the warranty shall extend for 2 years.

B. During the warranty period the Contractor shall be liable for damages to all plant material including trees, shrubs and groundcover. Contractor shall pay compensation or replace plant material if a tree or significant shrub to remain is destroyed or damaged, so that in the judgment of the LA, a Stanford Grounds Services horticultural group staff member or SGSCA it is not healthy and thriving or not able to recover, shall be removed and replaced at Contractor’s expense. The replacement plant materials shall closely match in size, color, and variety, the damaged plantings. If replacement of trees is not desired by the LA, liquidated damages will be assessed at the value of the tree.
as determined by ISA’s most current printing of the Guide for Plant Appraisal (listed in 1.05, part A of this Section 01532 document).

C. Damaged shrubs and groundcover shall be replaced in kind and shall match sizes removed or otherwise agreed upon by the Stanford LA.

D. Contractor will not be held responsible for failures due to neglect by the Owner, vandalism, etc., during the warranty period only if such conditions are reported immediately in writing to and reviewed on site by the Stanford Landscape Architect or Stanford Grounds Services and the damage is documented and photographed.

PART 2 PRODUCTS

2.01 A. Tree Protection Fencing

1. All trees retained in place or to be relocated shall be protected with semi-permanent wood or chain link fences on secure footings or imbedded as directed by the Campus Planning and Design Office or SGSCA. The fences shall be placed at the outer edges of the root zone.

2. SGSCA must approve fencing after it is in place and before any construction activity begins including delivery of materials or temporary construction office and its site preparation activities.

3. Fences shall be erected before construction begins and remain in place until final inspection of project unless approval by SGSCA is given for temporary relocation to complete work approved in the plans.

4. If the trees are in a small area and cannot be fenced as described, as determined by and with written prior approval from a SGSCA, the tree trunk must be wrapped with orange plastic snow fencing 2-inches thick, or other protection as agreed upon with a SGSCA. While this protects the trunk, caution must be used not to damage the trunk or any branches. Major scaffold limbs may require the same treatment as the above or as directed by the SGSCA.

B. Water: Provide ample water supply of potable quality and sufficient quantity for all operations required under this Section 01532.

PART 3 EXECUTION

3.01 TREE PROTECTION FENCING

A. Install tree protection fencing as described in section 2.01 Products. The entire root zone of all trees to remain or be relocated shall be protected, including all trees on or near the construction site, laydown, staging and parking areas that may be impacted by construction activity.
B. During the course of construction, if relocation of the fence is required to facilitate construction, the Contractor shall do so only under direction of a SGSCA before any work begins, at no additional expense to the Owner.

C. Metal chain link fencing on secure footings imbedded where required by Campus Planning and Design Office or SGSCA shall be used at all times to protect trees except in areas where it will not physically fit. Only in areas where it cannot physically be placed, as determined by SGSCA, will orange plastic snow fencing wrapped 2” thick around the trunk be allowed, and only as approved by an SGSCA. Refer to section 2.01 Products.

3.02 PROTECTION OF TREES AND SHRUBS

A. During the course of construction the Contractor shall take all necessary precautions, as outlined herein, to protect from stress, injury or death all existing trees, shrubs and groundcovers to be preserved on site or relocated. Protection shall be given to the roots, trunk, and foliage of all existing plant materials to remain.

B. Trees, subject to the provisions of this Section, which have been injured shall be repaired immediately by a SGSCA. All costs associated with mitigation of damage to trees to be paid by contractor.

C. Tree protection fencing for trees to remain shall be installed prior to beginning any site work. No construction, demolition, equipment access, or work of any nature will be allowed within the fenced area without prior written approval by LA and/or SGSCA.

1. Approval by LA/ SGSCA for work within the fenced area shall not release the Contractor from any of the provisions specified herein for the protection of existing trees to be preserved.

D. During the course of construction of approved work within the root zone, no roots larger than two inch in diameter shall be cut without prior written approval by SGSCA.

E. SGSCA shall be contacted to coordinate all work of any kind including any trenching, digging or excavation within any trees root zone.

F. All branches in all trees canopies shall be protected from damage. If branches need to be pruned, pruning shall be accomplished or supervised by SGSCA.

G. “Excessive pruning”, removal of more than one fourth (1/4) of the foliage of a tree in any twelve (12) month period is prohibited.

H. During construction the existing site surface drainage patterns shall not be altered within the area of the root zone.

I. Contractor shall not alter the existing water table within area of root zone.
J. Contractor shall continuously observe existing vegetation on site and complete necessary measures to maintain healthy living conditions for existing trees, shrubs and groundcover to be preserved. Such measures include notifying a SGSCA promptly if any decline is observed, so mitigation measures can be determined by a SGSCA. These shall include but not be limited to periodic washing of leaves for the removal of dust, soil aeration and supplemental or interim irrigation.

K. Where traffic in a tree’s root zone is necessary and approved by a University LA and a SGSCA, the root zone shall be tested for compaction and corrective measures as approved by a SGSCA shall be taken to mitigate necessary construction activities. Two to three inches of mulch or steel plates shall be laid down as specified by a SGSCA prior to traffic to reduce compaction.

L. Do not permit the following within the root zone of any existing tree to be preserved, or on existing or new lawn areas and groundcover areas.

1. Storage, driving or parking of automobiles or other vehicles or equipment. Root zones of trees shall not be driven over. Provide alternative routes for construction traffic of any kind including cars, people, tractors, equipment, cranes, or any other traffic and all staging or storage areas. Any exceptions must be approved by a University LA and a SGSCA and follow the previous point K.

2. Stockpiling or temporary storage of building materials, soils, dumpsters, accumulated debris or refuse of excavated materials.

3. Skinning or bruising of bark.

4. Use of trees as support posts, power poles, or signposts; anchorage for ropes, guy wires, or power lines; or other similar functions.

5. Dumping of materials on or around trees and roots. Such materials include but are not limited to paint, lime, paint thinner, petroleum products, dirty water, or other deleterious materials.

6. Application of lime or other soil treatment without the consent of a SGSCA.

7. Cutting of tree roots greater than 2 inches in diameter by utility trenching, foundation digging, placement of curbs and trenches, and other miscellaneous excavation without prior written approval by an SGSCA. An SGSCA must be present during all digging or root cutting within a tree’s root zone.

8. Damage to trunk, limbs, or foliage caused by maneuvering vehicles or stacking material or equipment too close to the tree.
9. Compaction of shrub areas or tree root zones by excessive foot traffic, movement of trucks or grading machines; storage of equipment, gravel, earth fill, or construction supplies; etc.

10. Excessive water or heat from equipment, utility line construction, or burning of trash under or near bushes or trees.

11. Damage to root system from flooding, erosion, puddling or continuous running water, and excessive wetting and drying resulting from dewatering and other operations.

M. Excavation around Trees and Shrubs:

1. Excavation within root zones of trees shall be done only where absolutely necessary and only with a SGSCA present.

2. Digging, tunneling or boring under or around roots shall be used instead of root pruning wherever possible, as agreed upon by SGSCA. Where trenching for utilities is required within root zone, tunneling under and around roots shall be by hand digging. Roots larger than 2” in diameter shall not be cut without prior on site approval from a SGSCA.

3. Where excavation for new construction is specifically required in approved plans within root zones of trees, hand excavation, or mechanical boring that goes only under roots without breaking the soil surface, shall be employed with the supervision of a SGSCA to minimize damage to root system.

4. Existing grade of tree at its crown shall be marked with a water based non-toxic paint before construction begins.

5. There shall be no grade changes within a minimum of 10 feet of the trunk of existing trees, and preferably none within the entire root zone, as approved by SGSCA.

6. If roots larger than two inches in diameter are encountered, they shall be exposed beyond excavation limits as required for pruning. Roots shall be hand pruned under direction and approval of a SGSCA and treated as exposed roots as stated below in item 8.

7. All roots that need to be cut shall be pruned cleanly, not torn, under direction and approval of a SGSCA. All damaged roots over 2” in diameter shall be pruned leaving a clean face and sealed with non-oil based, alcohol based, wood sealer that disinfects the roots. Sealer
must be pre-approved by the Stanford University Grounds Services Certified Arborist.

8. Exposed, cut or broken roots shall not be allowed to dry out before permanent backfill is placed, as directed by SGSCA. Temporary earth cover shall be provided, or roots shall be packed with wet peat moss or four layers of wet, untreated burlap and temporarily supported and protected from damage until permanently relocated and covered with backfill. The cover over the roots shall be wetted to the point of runoff daily.

3.03 TREE REMOVAL

A. Dead and damaged trees that are determined by SGSCA to be incapable of restoration to normal growth pattern and/or lifespan shall be removed at the expense of the contractor.

B. Trees designated for removal shall be removed to a point at least 1 foot below the lowest level of sub grade upon which fill will be placed.

C. Soil within a radius of 10 feet of the removed tree under paved area shall receive treatment as recommended by a SGSCA before further preparation of the sub grade.

3.04 PRUNING OF TREES

A. In company with the SGSCA ascertain the limbs and roots which are to be trimmed and clearly mark them to designate the approved point of pruning.

B. A SGSCA shall be engaged to direct removal of branches from trees and large bushes which are to remain if required to clear for new construction.

C. Prune limbs evenly, using proper tools and skilled workpersons under supervision of SGSCA, to achieve neat severance with the least possible damage to the trees.

D. In the case of root cuts, apply wet burlap or other protection, approved by SCSCA, to prevent drying out, and maintain in a wet condition as long as necessary for temporary protection as determined by SCSCA. See the previous section M. for more information.

3.05 REPAIR COMPENSATION

A. Damage to existing tree crowns or roots over 2 inches inch in diameter shall be immediately reported to the Stanford Project Manager and Stanford
Landscape Architect in writing, and at the direction of a SGSCA, repaired immediately at the Contractor's expense,

B. A SGSCA shall supervise repair of trees damaged by construction operations. Repairs shall be made promptly after damage occurs to prevent progressive deterioration of damaged trees.

C. Any tree to remain which is damaged beyond repair or destroyed, as determined by a SGSCA, owing to the Contractor's negligence or failure to provide adequate protection shall be compensated for at the Contractor’s expense and paid to Stanford University. Value is dependent on its diameter, species, location, condition and other factors in accordance with the schedule of values in ISA & Council of Trees and Landscape Appraisers most current printing of *Guide for Plant Appraisal* (listed in 1.05, part A of this Section 01532 document).

The following are three examples of the maximum costs that will be expected for a coast live oak (*Quercus agrifolia*) with a 6”, 18” and 24” DSH (trunk diameter at standard height). The costs were calculated by using the Replacement Cost Method Calculation from the *Guide for Plant Appraisal, 9th Edition* published by by ISA & Council of Trees and Landscape Appraisers. Costs rise as time passes and this estimate was calculated in fall of 2008.

<table>
<thead>
<tr>
<th>Diameter</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6”</td>
<td>$2,350</td>
</tr>
<tr>
<td>12”</td>
<td>$21,300</td>
</tr>
<tr>
<td>24”</td>
<td>$26,800</td>
</tr>
</tbody>
</table>

A contractor may be assessed fees of this magnitude if they severely damaged and/or killed a tree as determined by SGSCA or LA. This cost does not include maintenance such as monitoring and watering necessary to re-establish the new tree which would also be the responsibility of the contractor.

D. Damaged tree limbs or trees which have died as a result of injury during construction shall remain the property of Stanford University and shall remain or be removed at the expense of the Contractor as directed by the LA or SGSCA.

3.06 MAINTENANCE

A. During construction: Trees shall be monitored weekly by a SGSCA. Contractor shall monitor and perform maintenance activities as required by LA or SGSCA to ensure that all trees and shrubs to remain are not negatively impacted by construction procedures, throughout the duration of the construction project. This may include, but not be limited to deep watering and or installation of temporary irrigation. Quantities of water to be applied and lengths of time are variable and shall depend upon seasonal rainfall, soil
type and condition, and plant species. Throughout the duration of the project, as deemed necessary by the LA or SGSCA, tree foliage shall be washed down with a hose and water or other means necessary to remove accumulated construction dirt and residues.

B. Contractor shall provide maintenance of trees and shrubs for a maintenance period determined by LA, usually 90 days, to begin after a substantial completion walk-through which includes LA, Grounds Services (including an SGSCA, irrigation supervisor, Grounds maintenance supervisor, and horticultural supervisor); Stanford project manager and contractor.) After 90 days there shall be a final walk through which also includes the preceding people. A final punch list shall be prepared and agreed upon at the final walk through.

C. Upon completion of the punch list, maintenance shall be turned over to the responsible party (typically Stanford Grounds Services).

D. Shrubs and trees shall have a warranty for a period of one year. Trees and/or shrubs that die within their warranty period shall be replaced at the expense of the contractor.

E. During construction and contractor maintenance period: Existing and transplanted trees and shrubs to remain shall be monitored every other week by a Stanford Grounds Services staff appointed by the Horticultural Supervisor or the Grounds Services Manager. Reports of work needed to adequately care for and protect these shrubs and trees shall be sent from Grounds Services to the project manager for implementation. The project manager shall report back to Grounds Services and the LA with projected completion date, or for further discussion and resolution if the work cannot be completed due to project constraints.

3.07 CLEAN-UP

A. At close of construction in each area, all protective barriers and any accumulated debris shall be carefully removed without damaging trees or other vegetation at the direction of the LA or SGSCA. All barrier materials shall be transported off site at no additional expense to Owner.

B. All grades and areas of soil compaction shall be repaired, and all damaged plant materials shall be restored as determined by and in conjunction with the LA and Stanford University Grounds Services Department.

END OF SECTION